

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended
December 31, 2020

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 000-22339

RAMBUS INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

94-3112828

(I.R.S. Employer Identification No.)

**4453 North First Street
Suite 100**

San Jose , California

(Address of principal executive offices)

95134

(Zip Code)

Registrant's telephone number, including area code:
(408) 462-8000

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, \$.001 Par Value	RMBS	The NASDAQ Stock Market LLC (The NASDAQ Global Select Market)

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in

Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the Registrant's Common Stock held by non-affiliates of the Registrant as of June 30, 2020 was approximately \$1.3 billion based upon the closing price reported for such date on The NASDAQ Global Select Market. For purposes of this disclosure, shares of Common Stock held by officers and directors of the Registrant and persons that may be deemed to be affiliates under the Act have been excluded. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the Registrant's Common Stock, \$.001 par value, was 111,730,337 as of January 29, 2021.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information is incorporated into Part III of this report by reference to the Proxy Statement for the Registrant's annual meeting of stockholders to be held on or about April 29, 2021 to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Form 10-K.

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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (“Annual Report on Form 10-K”) contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements include, without limitation, predictions regarding the following aspects of our future:

- Success in the markets of our products and services or our customers’ products;
- Sources of competition;
- Research and development costs and improvements in technology;
- Sources, amounts and concentration of revenue, including royalties;
- Success in signing and renewing license agreements;
- Terms of our licenses and amounts owed under license agreements;
- Technology product development;
- Dispositions, acquisitions, mergers or strategic transactions and our related integration efforts;
- Impairment of goodwill and long-lived assets;
- Pricing policies of our customers;
- Changes in our strategy and business model, including the expansion of our portfolio of inventions, products, software, services and solutions to address additional markets in memory, chip and security;
- Deterioration of financial health of commercial counterparties and their ability to meet their obligations to us;
- Effects of security breaches or failures in our or our customers’ products and services on our business;
- Engineering, sales and general and administration expenses;
- Contract revenue;
- Operating results;
- International licenses, operations and expansion;
- Effects of changes in the economy and credit market on our industry and business;
- Impact of the Novel Coronavirus (“COVID-19”) pandemic on our business operations and financial results;
- Ability to identify, attract, motivate and retain qualified personnel;
- Effects of government regulations on our industry and business;
- Manufacturing, shipping and supply partners and/or sale and distribution channels;
- Growth in our business;
- Methods, estimates and judgments in accounting policies;
- Adoption of new accounting pronouncements;
- Effective tax rates, including as a result of recent U.S. tax legislation;
- Restructurings and plans of termination;
- Realization of deferred tax assets/release of deferred tax valuation allowance;
- Trading price of our common stock;
- Internal control environment;
- The level and terms of our outstanding debt and the repayment or financing of such debt;
- Protection of intellectual property (“IP”);
- Any changes in laws, agency actions and judicial rulings that may impact the ability to enforce our IP rights;
- Indemnification and technical support obligations;
- Equity repurchase plans;
- Issuances of debt or equity securities, which could involve restrictive covenants or be dilutive to our existing stockholders;
- Effects of fluctuations in interest rates and currency exchange rates; and
- Outcome and effect of potential future IP litigation and other significant litigation.

You can identify these and other forward-looking statements by the use of words such as “may,” “future,” “shall,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “intends,” “potential,” “continue,” “projecting” or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements.

Actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Item 1A, “Risk Factors.” All forward-looking statements included in this document are based on our assessment of information available to us at this time. We assume no obligation to update any forward-looking statements.

PART I

Rambus is a trademark of Rambus Inc. Other trademarks or copyrights that may be mentioned in this Annual Report on Form 10-K are the property of their respective owners.

Item 1. *Business*

Overview

Rambus produces products and innovations that address the fundamental challenges of accelerating data. We make industry-leading chips and IP that enable critical performance improvements for data center and other growing markets. The ongoing shift to the cloud, along with the widespread advancement of artificial intelligence (“AI”) across the data center, 5G, automotive and Internet of Things (“IoT”), has led to exponential growth in data usage and tremendous demands on data infrastructure. Creating fast and safe connections, both in and across systems, remains one of the most mission-critical design challenges limiting performance in advanced hardware for these markets.

As an industry pioneer with over 30 years of advanced semiconductor design experience, Rambus is ideally positioned to address the challenges of moving and protecting data. We are a leader in high-performance memory subsystems, providing chips, IP and innovations that maximize the performance and security in data-intensive systems. Whether in the cloud, at the edge or in your hand, real-time and immersive applications depend on data throughput and integrity. Rambus products and innovations deliver the increased bandwidth, capacity and security required to meet the world’s data needs and drive ever-greater end-user experiences.

Our strategic objectives are focusing our product portfolio and research around our core strength in semiconductors, optimizing our operational efficiency, and leveraging our strong cash generation to re-invest for growth. We continue to maximize synergies across our businesses and customer base, leveraging the significant overlap in our ecosystem of customers, partners and influencers. The Rambus product and technology roadmap, as well as our go-to-market strategy, is driven by the application-specific requirements of our focus markets.

2020 was an unprecedented year, with the onset of COVID-19 triggering uncertainty in the global marketplace. Despite that turbulence, Rambus demonstrated great execution and significant product growth. Continued commitment to our customers, careful supply management and the tremendous dedication and agility of the Rambus team worldwide drove this success.

Annual product revenue increased 56% year-over-year between 2019 and 2020. Driven by continued gains in market share from our memory interface chips, we recognized record product revenue of \$114.0 million in 2020. Silicon IP achieved sustained revenue growth with design-win momentum at tier-1 system on chip (“SoC”) customers and strong execution from the businesses acquired in 2019. Rambus successfully closed key patent licensing agreements with DRAM and SoC manufacturers, solidifying our foundation of sustained cash generation.

Memory Interface Chips

Made for high speed, reliability and power efficiency, our DDR memory interface chips for registered, load-reduced and non-volatile dual in-line memory modules (“RDIMM,” “LRDIMM” and “NVDIMM,” respectively) deliver top-of-the-line performance and capacity to the next wave of enterprise and cloud servers. Rambus offers DDR5, DDR4 and DDR3 memory interface chips to enable increased memory capacity, while maintaining peak performance for data-intensive work loads.

We sell our memory interface chips directly and indirectly to memory module manufacturers and OEMs worldwide through multiple channels, including our direct sales force and distributors. We operate direct sales offices in the United States, Japan, Korea, Taiwan and China, where we employ sales personnel who serve our direct customers and manage our channel partners.

We operate a fabless business model and use third-party foundries and manufacturing contractors to fabricate, assemble and test our memory interface chips. We also inspect and test parts in our US-based facilities. This outsourced manufacturing approach allows us to focus our investment and resources on the research, development, design, sale and marketing of our products. Outsourcing also allows us the flexibility needed to respond to new market opportunities, simplifies our operations and significantly reduces our capital requirements.

Silicon IP

Rambus’ Silicon IP offers both Interface and Security IP solutions. Our Interface IP solutions feature both high-speed memory and chip-to-chip interconnect technologies. With the acquisition of Northwest Logic, Inc. (“Northwest Logic”) in August of 2019, Rambus now offers a complementary portfolio of physical interface (“PHY”) and companion digital controller

IPs to create a one-stop-shop for SoC designers. These silicon-proven solutions are critical to high-performance data center, networking, AI, Machine Learning (“ML”) and automotive applications because they enable and optimize the transfer of data between chips and electronic devices.

The Rambus Security IP solutions include crypto cores, hardware roots of trust, high-speed protocol engines and chip provisioning technologies. With the acquisition of the Secure Silicon IP and Protocols business from Verimatrix in December 2019, Rambus offers one of the industry’s most comprehensive portfolio of silicon-proven Security IP. With the growing threat environment, hardware-based, embedded security solutions, are mission-critical for protecting data center, AI, networking, IoT, automotive and government applications.

Architecture Licenses

Rambus patented inventions are foundational to the semiconductor industry and licenses of our portfolio to our customers represent a significant portion of our revenue. Rambus is committed to continuing to innovate and invent, thereby advancing semiconductor technology. With a broad worldwide portfolio of patents covering memory architecture, high-speed serial links, and security, we enhance our value and relevance in our target markets and create a platform for investment in product development.

Our Architecture Licenses enable our customers to use specified portions of our portfolio of patented inventions in the customer’s own digital electronics products, systems or services. These licenses may also define the specific field of use where our customers may use or employ our inventions in their products. License agreements are structured with fixed or variable, or a hybrid of fixed and variable royalty payments over certain periods ranging up to ten years. Leading semiconductor and electronic system companies such as AMD, Broadcom, Cisco, Fujitsu, IBM, Marvell, Mediatek, Micron, Nanya, NVIDIA, Panasonic, Phison, Qualcomm, Renesas, Samsung, SK hynix, Socionext, STMicroelectronics, Toshiba, Western Digital, Winbond, and Xilinx have licensed our patents for use in their own products.

Competition

The semiconductor industry is intensely competitive and is characterized by rapid technological change, short product life cycles, cyclical market patterns, price erosion, increasing foreign and domestic competition and market consolidation. Rambus competes with product offerings from various companies depending upon the particular Rambus product line. In the market for memory interface chips, we compete with international semiconductor companies including Renesas and Montage Technology. In the Silicon IP market, Rambus competes with the in-house design teams at our potential customers, as well as with third-party IP suppliers such as Cadence and Synopsys. Many of our competitors are larger and have better access to financial, technical, sales and marketing resources than we possess.

To the extent that alternative technologies, which might provide comparable system performance at lower or similar cost to our patented technologies, are perceived to require the payment of no or lower fees or royalties, or to the extent other factors influence the industry, our customers and prospective customers may adopt and promote such alternative technologies. Even to the extent we determine that such alternative technologies infringe our patents, there can be no assurance that we would be able to negotiate agreements that would result in royalties being paid to us without litigation, which could be costly and the results of which would be uncertain. As in the past, litigation may be required to enforce and protect our IP rights, as well as the substantial investments undertaken to research and develop our innovations and technologies.

Research and Development

Building upon our foundation of core semiconductor technologies, our research priorities focus on innovation and patent development that enhance the value of our patent portfolio and differentiate our product offerings in the market. Key to our efforts is continuing to hire and retain world-class inventors, scientists and engineers to lead the development and deployment of inventions and technology solutions for our intended markets.

To foster our research and development efforts, we assembled a team of highly-skilled inventors, engineers and scientists whose activities are focused on continually developing new innovations within our chosen technology fields, and thereby securing the IP rights and legal protections for these ground-breaking inventions. Using this foundation of innovation, our technical teams develop new semiconductor solutions that enable increased performance, greater power efficiency and increased levels of security, as well as other improvements and benefits. Our solution design and development process is a multi-disciplinary effort requiring expertise in multiple fields across all of our operational units.

A significant number of our scientists and engineers spend all or a portion of their time on research and development. For the years ended December 31, 2020, 2019 and 2018, research and development expenses were \$139.8 million, \$156.8 million and \$158.3 million, respectively. We expect to continue to invest substantial funds in research and development activities. In

addition, because our customer agreements often call for us to provide engineering support, a portion of our total engineering costs are allocated to the cost of contract and other revenue.

Human Capital Resources

As of December 31, 2020, we had 623 employees, of which approximately 44% were in the United States and 56% in other global regions. Additionally, approximately 67% of our employees were engineers with the remaining employees in sales, general and administrative positions. None of our employees are covered by collective bargaining agreements.

Throughout the COVID-19 pandemic, our primary focus has been on the safety and well-being of our employees and their families. Our global pandemic efforts include instituting a global employee assistance program while leveraging the advice and recommendations of infectious disease experts to establish proper safety standards. As the pandemic continues, the health and well-being of our workforce remains our top priority while we ensure productivity for those employees working from home.

We believe that our future success largely depends upon our continued ability to identify, attract, motivate and retain qualified personnel. We provide our employees with competitive compensation, as well as opportunities for equity ownership and developmental programs that enable continued learning and growth. We also offer employees benefits such as life and health insurance, paid time off, paid parental leave, and retirement savings plans. We utilize successful recruiting practices that yield qualified and dedicated employees who are driven to achieve our vision.

We are an equal opportunity employer and are committed to maintaining a diverse and inclusive work environment. Our commitment to diversity and inclusion helps us attract and retain the best talent, enables employees to realize their full potential and drives high performance through innovation and collaboration. Because we know that diversity is truly a competitive advantage that helps drive innovation, we strive to maintain a best-in-class work environment that fosters respect for individuals, their ideas and contributions. We benefit from the innovation that results when people with differing experiences, perspectives and cultures work together to achieve a common goal.

Intellectual Property

We maintain and support an active program to protect our IP, primarily through the filing of patent applications and the defense of issued patents against potential infringement. As of December 31, 2020, our technologies are covered by 2,407 U.S. and foreign patents, having expiration dates ranging from 2021 to 2039. Additionally, we have 617 patent applications pending. Some of the patents and pending patent applications are derived from a common parent patent application or are foreign counterpart patent applications. We believe our patented innovations provide our customers with the legal rights and licenses to use our inventions to achieve improved performance, greater cost-effectiveness and other technological benefits in their own products and services. We intend to continue our innovation efforts and allocate significant investment in our IP development programs.

We have a program to file applications for and obtain patents in the United States and in selected foreign countries where we believe filing for such protection is appropriate and would further our overall business strategy and objectives. In some instances, obtaining appropriate levels of protection may involve prosecuting continuation and counterpart patent applications based on a common parent application. In addition, we attempt to protect our trade secrets and other proprietary information through agreements with current and prospective customers, and confidentiality agreements with employees and consultants and other security measures. We also rely on copyright, trademarks and trade secret laws to protect our IP and other proprietary assets.

Backlog

Our sales of memory interface chips are generally made pursuant to short-term purchase orders. These purchase orders are made without deposits and may be, and often are, rescheduled, canceled or modified on relatively short notice, without substantial penalty. Therefore, we believe that purchase orders or backlog are not necessarily a reliable indicator of our future product sales.

Corporate and Available Information

Rambus Inc. was founded in 1990 and reincorporated in Delaware in March 1997. Our principal executive offices are located at 4453 North First Street, Suite 100, San Jose, California. Our website is www.rambus.com. We have used, and intend to continue to use, our investor relations website as a means of disclosing material non-public information and for complying with our disclosure obligations under Regulation FD. The inclusion of our website address in this report does not include or incorporate by reference into this report any information on our website. You can obtain copies of our Forms 10-K, 10-Q, 8-K, and other filings with the SEC, and all amendments to these filings, free of charge, from our website as soon as reasonably practicable following our filing of any of these reports with the SEC. In addition, you may read and copy any material we file

with the SEC at the SEC's Public Reference Room at 100 F Street NE, Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy, and information statements, and other information regarding registrants that file electronically with the SEC at www.sec.gov. Further, the Company's references to the URLs for these websites are intended to be inactive textual references only.

Information concerning our revenue, results of operations and revenue by geographic area is set forth in Item 6, "Selected Financial Data," in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and in Note 7, "Segments and Major Customers," of Notes to Consolidated Financial Statements of this Form 10-K, all of which are incorporated herein by reference. Information concerning identifiable assets and segment reporting is also set forth in Note 7, "Segments and Major Customers," of Notes to Consolidated Financial Statements of this Form 10-K. Information on customers that comprise 10% or more of our consolidated revenue and risks attendant to our foreign operations is set forth below in Item 1A, "Risk Factors."

Our Named Executive Officers

Information regarding our named executive officers and their ages and positions as of February 26, 2021, is contained in the table below. Our named executive officers are appointed by, and serve at the discretion of, our Board of Directors. There is no family relationship between any of our named executive officers.

Name	Age	Position and Business Experience
Luc Seraphin	57	<p>Mr. Seraphin is President & Chief Executive Officer. With over 20 years of experience managing global businesses, Mr. Seraphin brings the overall vision and leadership necessary to drive future growth for the company. Prior to this role, Mr. Seraphin was the senior vice president and general manager of the Memory and Interface Division, leading the development of the company’s innovative memory architectures and high-speed serial link solutions. Mr. Seraphin also served as the senior vice president of Worldwide Sales and Operations where he oversaw sales, business development, customer support and operations across the various business units within Rambus.</p> <p>Mr. Seraphin started his career as a field application engineer at NEC and later joined AT&T Bell Labs, which became Lucent Technologies and Agere Systems (now Broadcom Inc.). During his 18 years at Agere, Mr. Seraphin held several senior positions in sales, marketing and general management, culminating in his last position as executive vice president and general manager of the Wireless Business Unit. Following this, Mr. Seraphin held the position of general manager of a GPS startup company in Switzerland and was vice president of Worldwide Sales and Support at Sequans Communications. During his career, Mr. Seraphin has advised and supported companies in both the product and IP markets.</p> <p>Mr. Seraphin holds a bachelor’s degree in Mathematics and Physics and a master’s degree in Electrical Engineering from Ecole Superieure de Chimie, Physique, Electronique, based in Lyon, France where he majored in Computer Architecture. Mr. Seraphin also holds an MBA from the University of Hartford and has completed the senior executive program of Columbia University.</p>
Rahul Mathur	47	<p>Senior Vice President, Finance and Chief Financial Officer. Mr. Mathur joined us in his current position in October 2016. Prior to joining us, Mr. Mathur served as senior vice president of finance at Cypress Semiconductor Corp., a provider of embedded memory, microcontroller, and analog semiconductor system solutions, from March 2015 to September 2016, where he was responsible for financial planning and investor relations. From August 2012 to March 2015, Mr. Mathur served as vice president of finance at Spansion, Inc. (later acquired by Cypress Semiconductor Corp.). Mr. Mathur served as vice president of finance at Picaboo Corporation from January 2012 to August 2012 and vice president of finance at CDNetworks Inc. from January 2011 to December 2011. Prior to January 2011, Mr. Mathur held senior finance positions at Telesis Technologies, Inc., NetSuite Inc. and KLA Corporation. Mr. Mathur holds a Bachelor of Arts in applied mathematics from Dartmouth College and an M.B.A. from the Wharton School of Business at the University of Pennsylvania.</p>
Jae Kim	50	<p>Mr. Kim has served as the senior vice president, general counsel and secretary from February 2013 until February 2021 and as our vice president, corporate legal since July 2010. Prior to his tenure at Rambus, Mr. Kim held senior legal positions at Aricent Inc., a privately-held communications technology company and Electronics for Imaging Inc., a digital printing technology company. Mr. Kim has also had significant experience in private practice with the law firm of Wilson Sonsini Goodrich & Rosati, P.C., where he advised high technology and emerging growth companies on mergers and acquisitions, private financings, public offerings, securities compliance, public company reporting and corporate governance. Mr. Kim began his legal career as an attorney with the United States Securities and Exchange Commission, Division of Corporation Finance, in Washington, D.C. Mr. Kim is a member of both the California State Bar and New York State Bar, and received a J.D. from the American University, Washington College of Law, and his bachelor’s degree from Boston University.</p>
Sean Fan	55	<p>Senior Vice President, Chief Operating Office. Mr. Fan has served as the senior vice president, chief operating office since August 2019. Prior to Rambus from March 2019 to June 2019 he served as Vice President and General Manager at Renesas Electronics Corporation, responsible for the datacenter business unit, a premier supplier of advanced semiconductor solutions. Prior to his role at Renesas, Mr. Fan was Senior Vice President and Corporate General Manager of the Computing and Communications Group at Integrated Device Technology, Inc. (“IDT”), a leading supplier of analog mixed-signal products including sensors, connectivity and wireless power, from May 2017 until March 2019 when IDT was acquired by Renesas Electronics Corporation. Mr. Fan joined IDT in 1999 and held various management roles at IDT, including Vice President and General Manager of the Computing and Communications Division, Vice President and General Manager of the Interface Connectivity Division, Vice President of China Operations, Vice President and General Manager of the Memory Interface Division, General Manager of Standard Product Operations, and Senior Director of Silicon Timing Solutions. Prior to joining IDT, Mr. Fan served in various engineering and management roles with Lucent Microelectronics, Mitel Semiconductor, and the National Lab of Telecom Research in China.</p>

Item 1A. Risk Factors

Because of the following factors, as well as other variables affecting our operating results, past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. See also “Note Regarding Forward-Looking Statements” at the beginning of this report.

Summary Risk Factors

Our business is subject to numerous risks and uncertainties that you should consider before investing in our company, as fully described below. The principal factors and uncertainties that make investing in our company risky include, among others:

- The success of our business depends on sustaining or growing our licensing revenue and the failure to achieve such revenue would lead to a material decline in our results of operations.
- Our licensing cycle is lengthy and costly, and our marketing and licensing efforts may be unsuccessful.
- Some of our license agreements may convert to fully paid-up licenses at the expiration of their terms, or upon certain milestones, and we may not receive royalties after that time.
- Future revenue is difficult to predict for several reasons, and our failure to predict revenue accurately may result in our stock price declining.
- Our revenue is concentrated in a few customers, and if we lose any of these customers through contract terminations or acquisitions, our revenue may decrease substantially.
- Some of our revenue is subject to the pricing policies of our customers over which we have no control.
- We have traditionally operated in, and may enter other, industries that are highly cyclical and competitive.
- We face risks related to the COVID-19 pandemic, which could significantly disrupt our research and development, operations, sales and financial results.
- Our customers often require our products to undergo a lengthy and expensive qualification process which does not assure product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer.
- We may have to invest more resources in research and development than anticipated, which could increase our operating expenses and negatively impact our operating results.
- Our business and operations could suffer in the event of security breaches.
- Failures in our products and services or in the products of our customers, including those resulting from security vulnerabilities, defects, bugs or errors, could harm our business.
- We may fail to meet our publicly announced guidance or other expectations about our business, which would likely cause our stock price to decline.
- Changes in accounting principles and guidance could result in unfavorable accounting charges or effects.
- We have in the past made and may in the future make acquisitions or enter into mergers, strategic investments, sales of assets, divestitures or other arrangements that may not produce expected operating and financial results.
- A substantial portion of our revenue is derived from sources outside of the United States and this revenue and our business generally are subject to risks related to international operations that are often beyond our control.
- Weak global economic conditions may adversely affect demand for the products and services of our customers.
- If our counterparties are unable to fulfill their financial and other obligations to us, our business and results of operations may be affected adversely.
- If we are unable to attract and retain qualified personnel, our business and operations could suffer.
- We are subject to various government restrictions and regulations, including on the sale of products and services that use encryption technology and those related to privacy and other consumer protection matters.
- Participation in standards setting organizations may subject us to IP licensing requirements or limitations that could adversely affect our business and prospects.
- Our operations are subject to risks of natural disasters, acts of war, terrorism, widespread illness or security breach at our domestic and international locations, any one of which could result in a business stoppage and negatively affect our operating results.
- We do not have extensive experience in manufacturing and marketing products and, as a result, may be unable to sustain and grow a profitable commercial market for new and existing products.

- We rely upon the accuracy of our customers' recordkeeping, and any inaccuracies or payment disputes for amounts owed to us under our licensing agreements may harm our results of operations.
- We rely on a number of third-party providers for data center hosting facilities, equipment, maintenance and other services, and the loss of, or problems with, one or more of these providers may impede our growth or cause us to lose customers.
- We rely on third parties for a variety of services, including manufacturing, and these third parties' failure to perform these services adequately could materially and adversely affect our business.
- Warranty, service level agreement and product liability claims brought against us could cause us to incur significant costs and adversely affect our operating results as well as our reputation and relationships with customers.
- Any failure in our delivery of high-quality technical support services may adversely affect our relationships with our customers and our financial results.
- Certain software that we use in certain of our products is licensed from third parties and, for that reason, may not be available to us in the future, which has the potential to delay product development and production or cause us to incur additional expense, which could materially adversely affect our business, financial condition, operating results and cash flow.
- Certain software we use is from open source code sources, which, under certain circumstances, may lead to unintended consequences and, therefore, could materially adversely affect our business, financial condition, operating results and cash flow.
- Our business and operating results could be harmed if we undertake any restructuring activities.
- Problems with our information systems could interfere with our business and could adversely impact our operations.
- We are leveraged financially, which could adversely affect our ability to adjust our business to respond to competitive pressures and to obtain sufficient funds to satisfy our future research and development needs, to protect and enforce our intellectual property, and to meet other needs.
- Adverse litigation results could affect our business.
- We have in the past, and may in the future, become engaged in litigation stemming from our efforts to protect and enforce our patents and intellectual property and make other claims, which could adversely affect our intellectual property rights, distract our management and cause substantial expenses and declines in our revenue and stock price.
- From time to time, we are subject to proceedings by government agencies that may result in adverse determinations against us and could cause our revenue to decline substantially.
- Litigation or other third-party claims of intellectual property infringement could require us to expend substantial resources and could prevent us from developing or licensing our technology on a cost-effective basis.
- If we are unable to protect our inventions successfully through the issuance and enforcement of patents, our operating results could be adversely affected.
- Our inability to protect and own the intellectual property we create would cause our business to suffer.
- Third parties may claim that our products or services infringe on their intellectual property rights, exposing us to litigation that, regardless of merit, may be costly to defend.
- Any dispute regarding our intellectual property may require us to indemnify certain customers, the cost of which could severely hamper our business operations and financial condition.
- We have been party to, and may in the future be subject to, lawsuits relating to securities law matters which may result in unfavorable outcomes and significant judgments, settlements and legal expenses which could cause our business, financial condition and results of operations to suffer.
- The price of our common stock may continue to fluctuate.
- Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses.
- Our certificate of incorporation and bylaws, Delaware law, our outstanding convertible notes and certain other agreements contain provisions that could discourage transactions resulting in a change in control, which may negatively affect the market price of our common stock.
- Unanticipated changes in our tax rates or in the tax laws and regulations could expose us to additional income tax liabilities which could affect our operating results and financial condition.

Risks Associated With Our Business, Industry and Market Conditions

The success of our business depends on sustaining or growing our licensing revenue and the failure to achieve such revenue would lead to a material decline in our results of operations.

A significant portion of our revenue consists of patent and technology license fees paid for access to our patented technologies, existing technology and other development and support services we provide to our customers. Our ability to secure and renew the licenses from which our revenues are derived depends on our customers adopting our technology and using it in the products they sell. Once secured, license revenue may be negatively affected by factors within and outside our control, including reductions in our customers' sales prices, sales volumes, our failure to timely complete engineering deliverables, and the actual terms of such licenses themselves. In addition, our licensing cycle for new licensees as well as for renewals for existing licensees is lengthy, costly and unpredictable. We cannot provide any assurance that we will be successful in signing new license agreements or renewing existing license agreements on equal or favorable terms or at all. If we do not achieve our revenue goals, our results of operations could decline.

Our licensing cycle is lengthy and costly, and our marketing and licensing efforts may be unsuccessful.

The process of persuading customers to adopt and license our Chip interface, data Security IP, and other technologies can be lengthy. Even if successful, there can be no assurance that our technologies will be used in a product that is ultimately brought to market, achieves commercial acceptance or results in significant royalties to us. We generally incur significant marketing and sales expenses prior to entering into our license agreements, generating a license fee and establishing a royalty stream from each customer. The length of time it takes to establish a new licensing relationship can take many months or even years. We may incur costs in any particular period before any associated revenue stream begins, if at all. If our marketing and sales efforts are very lengthy or unsuccessful, then we may face a material adverse effect on our business and results of operations as a result of failure to obtain or an undue delay in obtaining royalties.

Some of our license agreements may convert to fully paid-up licenses at the expiration of their terms, or upon certain milestones, and we may not receive royalties after that time.

From time to time, we enter into license agreements that automatically convert to fully paid-up licenses upon expiration or upon reaching certain milestones. We may not receive further royalties from customers for any licensed technology under those agreements if they convert to fully paid-up licenses because such customers will be entitled to continue using some, if not all, of the relevant intellectual property ("IP") or technology under the terms of the license agreements without further payment, even if relevant patents or technologies are still in effect. If we cannot find another source of royalties to replace the royalties from these license agreements converting to fully paid-up licenses, our results of operations following such conversion could be adversely affected.

Future revenue is difficult to predict for several reasons, and our failure to predict revenue accurately may result in our stock price declining.

Our lengthy license negotiation cycles could make our future revenue difficult to predict because we may not be successful in entering into or renewing licenses with our customers on our anticipated timelines. As we commercially launch each of our products, the sales volume of and resulting revenue from such products in any given period will be difficult to predict.

In addition, while some of our license agreements provide for fixed, quarterly royalty payments, many of our license agreements provide for volume-based royalties and may also be subject to caps on royalties in a given period. The sales volume and prices of our customers' products in any given period can be difficult to predict. In addition, we began applying the new revenue recognition standard ("ASC 606") during the first quarter of 2018, as required, and we anticipate that our revenue will vary greatly from quarter to quarter. As a result of the foregoing items, our actual results may differ substantially from analyst estimates or our forecasts in any given quarter.

Also, a portion of our revenue comes from development and support services provided to our customers. Depending upon the nature of the services, a portion of the related revenue may be recognized ratably over the support period, or may be recognized according to contract revenue accounting. Contract revenue accounting may result in deferral of the service fees to the completion of the contract, or may result in the recognition of service fees over the period in which services are performed on a percentage-of-completion basis.

Our revenue is concentrated in a few customers, and if we lose any of these customers through contract terminations or acquisitions, our revenue may decrease substantially.

We have a high degree of revenue concentration. Our top five customers for each reporting period represented approximately 46%, 46% and 49% of our revenue for the years ended December 31, 2020, 2019 and 2018, respectively. For 2020, revenue from Micron and SK hynix each accounted for 10% or more of our total revenue. For 2019, revenue from Broadcom and SK hynix each accounted for 10% or more of our total revenue. For 2018, revenue from Broadcom and NVIDIA each accounted for 10% or more of our total revenue. We expect to continue to experience significant revenue concentration for the foreseeable future.

In addition, our license agreements are complex and some contain terms that require us to provide certain customers with the lowest royalty rate that we provide to other customers for similar technologies, volumes and schedules. These clauses may limit our ability to effectively price differently among our customers, to respond quickly to market forces, or otherwise to compete on the basis of price. These clauses may also require us to reduce royalties payable by existing customers when we enter into or amend agreements with other customers. Any adjustment that reduces royalties from current customers or licensees may have a material adverse effect on our operating results and financial condition.

We continue to negotiate with customers and prospective customers to enter into license agreements. Any future agreement may trigger our obligation to offer comparable terms or modifications to agreements with our existing customers, which may be less favorable to us than the existing license terms. We expect licensing fees will continue to vary based on our success in renewing existing license agreements and adding new customers, as well as the level of variation in our customers' reported shipment volumes, sales price and mix, offset in part by the proportion of customer payments that are fixed. In particular, under our license agreement with Samsung, the license fees payable by Samsung are subject to certain adjustments and conditions, and we therefore cannot provide assurances that the revenues generated by this license will not decline in the future. In addition, some of our material license agreements may contain rights by the customer to terminate for convenience, or upon certain other events, such as change of control, material breach, insolvency or bankruptcy proceedings. If we are unsuccessful in entering into license agreements with new customers or renewing license agreements with existing customers, on favorable terms or at all, or if they are terminated, our results of operations may decline significantly.

Some of our revenue is subject to the pricing policies of our customers over which we have no control.

We have no control over our customers' pricing of their products and there can be no assurance that licensed products will be competitively priced or will sell in significant volumes. Any premium charged by our customers in the price of memory and controller chips or other products over alternatives must be reasonable. If the benefits of our technology do not match the price premium charged by our customers, the resulting decline in sales of products incorporating our technology could harm our operating results.

We have traditionally operated in, and may enter other, industries that are highly cyclical and competitive.

Our target customers are companies that develop and market high volume business and consumer products in semiconductors, computing, data centers, networks, tablets, handheld devices, mobile applications, gaming and graphics, high-definition televisions, cryptography and data security. The electronics industry is intensely competitive and has been impacted by rapid technological change, short product life cycles, cyclical market patterns, price erosion and increasing foreign and domestic competition. We are subject to many risks beyond our control that influence whether or not we are successful in winning target customers or retaining existing customers, including, primarily, competition in a particular industry, market acceptance of such customers' products and the financial resources of such customers. In particular, DRAM manufacturers, which such customers make up a significant part of our revenue, are prone to significant business cycles and have suffered material losses and other adverse effects to their businesses, leading to industry consolidation from time-to-time that may result in loss of revenues under our existing license agreements or loss of target customers. As a result of ongoing competition in the industries in which we operate and volatility in various economies around the world, we may achieve a reduced number of licenses or may experience tightening of customers' operating budgets, difficulty or inability of our customers to pay our licensing fees, lengthening of the approval process for new licenses and consolidation among our customers. All of these factors may adversely affect the demand for our technology and may cause us to experience substantial fluctuations in our operating results.

We face competition from semiconductor and digital electronics products and systems companies, and other semiconductor IP companies that provide security cores that are available to the market. We believe the principal competition for our

technologies may come from our prospective customers, some of which are evaluating and developing products based on technologies that they contend or may contend will not require a license from us. Some of our competitors use a system-level design approach similar to ours, including activities such as board and package design, power and signal integrity analysis, and thermal management. Many of these companies are larger and may have better access to financial, technical and other resources than we possess.

To the extent that alternative technologies might provide comparable system performance at lower or similar cost to our technologies, or are perceived to require the payment of no or lower royalties, or to the extent other factors influence the industry, our customers and prospective customers may adopt and promote such alternative technologies. Even to the extent we determine that such alternative technologies infringe our patents, there can be no assurance that we would be able to negotiate agreements that would result in royalties being paid to us without litigation, which could be costly and the results of which would be uncertain.

In addition, our expansion into new markets subjects us to additional risks. We may have limited or no experience in new products and markets, and our customers may not adopt our new offerings. These and other new offerings may present new and difficult challenges, which could negatively affect our operating results.

We face risks related to the COVID-19 pandemic, which could significantly disrupt our research and development, operations, sales and financial results.

Our business may be adversely impacted by the effects of the COVID-19 pandemic. In addition to global macroeconomic effects, the COVID-19 pandemic and any other related adverse public health developments may cause disruption to our domestic and international operations and sales activities. Our third-party manufacturers, suppliers, third-party distributors, sub-contractors and customers have been and will be disrupted by worker absenteeism, quarantines and restrictions on our employees' ability to work, office and factory closures, disruptions to ports and other shipping infrastructure, border closures, or other travel or health-related restrictions. For example, government-mandated shelter-in-place and other restrictions on movement may impact our planned headquarters relocation, the ability of our employees to perform their jobs, and our ability to develop and design our products in a timely manner or meet required milestones or customer commitments. Depending on the magnitude of such effects on the operations of our suppliers, third-party distributors, or sub-contractors, our supply chain and product shipments may be delayed, which could adversely affect our business, operations and customer relationships. In addition, the COVID-19 pandemic or other disease outbreak will in the short-run and may over the longer term adversely affect the economies and financial markets of many countries, resulting in an economic downturn that may affect demand for our products and impact our operating results. There can be no assurance that any decrease in sales resulting from the COVID-19 pandemic will be offset by increased sales in subsequent periods. Although the magnitude of the impact of the Novel COVID-19 pandemic on our business and operations remains uncertain, the continued spread of the COVID-19 pandemic or the occurrence of other epidemics and the imposition of related public health measures and travel and business restrictions could adversely impact our business, financial condition, operating results and cash flows.

Our customers often require our products to undergo a lengthy and expensive qualification process which does not assure product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer.

Prior to purchasing our products, our customers often require that our products undergo extensive qualification processes, which involve testing of our products in the customers' systems, as well as testing for reliability. This qualification process may continue for several months. However, qualification of a product by a customer does not assure any sales of the product to that customer. Even after successful qualification and sales of a product to a customer, a subsequent revision in third-party manufacturing processes may require a new qualification process with our customers, which may result in delays and in our holding excess or obsolete inventory. After our products are qualified, it can take several months or more before the customer commences volume production of components or systems that incorporate our products. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing and management efforts, to qualify our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, sales of those products to the customer may be precluded or delayed, which may impede our growth and cause our business to suffer.

We may have to invest more resources in research and development than anticipated, which could increase our operating expenses and negatively impact our operating results.

If new competitors, technological advances by existing competitors, and/or development of new technologies or other competitive factors require us to invest significantly greater resources than anticipated in our research and development efforts,

our operating expenses could increase. If we are required to invest significantly greater resources than anticipated in research and development efforts without an increase in revenue, our operating results would decline. We expect these expenses to increase in the foreseeable future as our technology development efforts continue.

Our business and operations could suffer in the event of security breaches.

Attempts by others to gain unauthorized access to our information technology systems are becoming more sophisticated. These attempts, which might be related to industrial or other espionage, include covertly introducing malware to our computers and networks and impersonating authorized users, among others. We seek to detect and investigate all security incidents and to prevent their recurrence, but in some cases, we might be unaware of an incident or its magnitude and effects. While we have not identified any material incidents of unauthorized access to date, the theft, unauthorized use or publication of our IP and/or confidential business information could harm our competitive position and reputation, reduce the value of our investment in research and development and other strategic initiatives or otherwise adversely affect our business. To the extent that any future security breach results in inappropriate disclosure of our customers' confidential information or any personally-identifiable information of our employees, we may incur liability.

Failures in our products and services or in the products of our customers, including those resulting from security vulnerabilities, defects, bugs or errors, could harm our business.

Our products and services are highly technical and complex, and among our various businesses our products and services are crucial to providing security and other critical functions for our customers' operations. Our products and services have from time to time contained and may in the future contain undetected errors, bugs, defects or other security vulnerabilities. Some errors in our products and services may only be discovered after a product or service has been deployed and used by customers, and may in some cases only be detected under certain circumstances or after extended use. In addition, because the techniques used by hackers to access or sabotage our products and services and other technologies change and evolve frequently and generally are not recognized until launched against a target, we may be unable to anticipate, detect or prevent these techniques and may not address them in our data security technologies. Any errors, bugs, defects or security vulnerabilities discovered in our solutions after commercial release could adversely affect our revenue, our customer relationships and the market's perception of our products and services. We may not be able to correct any errors, bugs, defects, security flaws or vulnerabilities promptly, or at all. Any breaches, defects, errors or vulnerabilities in our products and services could result in:

- expenditure of significant financial and research and development resources in efforts to analyze, correct, eliminate or work around breaches, errors, bugs or defects or to address and eliminate vulnerabilities;
- financial liability to customers for breach of certain contract provisions, including indemnification obligations;
- loss of existing or potential customers;
- product shipment restrictions or prohibitions to certain customers;
- delayed or lost revenue;
- delay or failure to attain market acceptance;
- negative publicity, which would harm our reputation; and
- litigation, regulatory inquiries or investigations that would be costly and harm our reputation.

We may fail to meet our publicly announced guidance or other expectations about our business, which would likely cause our stock price to decline.

We provide guidance regarding our expected financial and business performance including our anticipated future revenues, operating expenses and other financial and operation metrics. We enhanced our guidance following implementation of Accounting Standards Update ("ASU") No. 2014-09, Revenue from Contracts with Customers in Accounting Standards Codification ("ASC") Topic 606 ("ASC 606", "the New Revenue Standard") in the first quarter of 2018.

Correctly identifying the key factors affecting business conditions and predicting future events is an inherently uncertain process. Any guidance that we provide may not always be accurate, or may vary from actual results, due to our inability to correctly identify and quantify risks and uncertainties to our business and to quantify their impact on our financial performance. We offer no assurance that such guidance will ultimately be accurate, and investors should treat any such guidance with appropriate caution. If we fail to meet our guidance or if we find it necessary to revise such guidance, even if such failure or revision is seemingly insignificant, investors and analysts may lose confidence in us and the market value of our common stock could be materially adversely affected.

Changes in accounting principles and guidance could result in unfavorable accounting charges or effects.

We prepare our financial statements in accordance with accounting principles generally accepted in the United States and these principles are subject to interpretation by the SEC and various bodies. A change in these principles or application guidance, or in their interpretations, may have a material effect on our reported results, as well as our processes and related controls, and may retroactively affect previously reported results. For instance, we adopted ASC 842, the New Leasing Standard, effective for us on January 1, 2019, using the alternative transition method and recognized a cumulative-effect adjustment to the opening balance of accumulated deficit on January 1, 2019. We also adopted ASC 606, the New Revenue Standard, effective for us on January 1, 2018, on a modified retrospective basis, with a cumulative-effect adjustment to the opening balance of accumulated deficit on January 1, 2018. The New Revenue Standard materially impacted the timing of revenue recognition for our fixed-fee IP licensing arrangements (including certain fixed-fee agreements that license our existing IP portfolio as well as IP added to our portfolio during the license term) as a majority of such revenue would be recognized at inception of the license term, as opposed to over time as is the case under prior U.S. GAAP, and we are required to compute and recognize interest income over time for certain licensing arrangements as control over the IP generally transfers significantly in advance of cash being received from customers. The impact of the adoption of the New Revenue Standard did not have a material impact on our other revenue streams. We have also enhanced the form and content of some of our guidance metrics that we provide following implementation of the New Revenue Standard. We expect that any change to current revenue recognition practices may significantly increase volatility in our quarterly revenue, financial results and trends, and may impact our stock price.

We have in the past made and may in the future make acquisitions or enter into mergers, strategic investments, sales of assets, divestitures or other arrangements that may not produce expected operating and financial results.

From time to time, we engage in acquisitions, strategic transactions, strategic investments, divestitures and potential discussions with respect thereto. For example, in 2019, we acquired Northwest Logic and the Secure Silicon IP and Protocols business from Verimatrix, formerly Inside Secure. Many of our acquisitions or strategic investments entail a high degree of risk, including those involving new areas of technology and such investments may not become liquid for several years after the date of the investment, if at all. Our acquisitions or strategic investments may not provide the advantages that we anticipated or generate the financial returns we expect, including if we are unable to close any pending acquisitions. For example, for any pending or completed acquisitions, we may discover unidentified issues not discovered in due diligence, and we may be subject to regulatory approvals or liabilities that are not covered by indemnification protection or become subject to litigation. Achieving the anticipated benefits of business acquisitions depends in part upon our ability to integrate the acquired businesses in an efficient and effective manner. The integration of companies that have previously operated independently may result in significant challenges, including, among others: retaining key employees; successfully integrating new employees, business systems and technology; retaining customers of the acquired business; minimizing the diversion of management's and other employees' attention from ongoing business matters; coordinating geographically separate organizations; consolidating research and development operations; and consolidating corporate and administrative infrastructures.

Our strategic investments in new areas of technology may involve significant risks and uncertainties, including distraction of management from current operations, greater than expected liabilities and expenses, inadequate return of capital, and unidentified issues not discovered in due diligence. These investments are inherently risky and may not be successful.

In addition, we may record impairment charges related to our acquisitions or strategic investments. Any losses or impairment charges that we incur related to acquisitions, strategic investments or sales of assets will have a negative impact on our financial results and the market value of our common stock, and we may continue to incur new or additional losses related to acquisitions or strategic investments.

We may have to incur debt or issue equity securities to pay for any future acquisitions, which debt could involve restrictive covenants or which equity security issuance could be dilutive to our existing stockholders. We may also use cash to pay for any future acquisitions which will reduce our cash balance.

From time to time, we may also divest certain assets. These divestitures or proposed divestitures may involve the loss of revenue and/or potential customers, and the market for the associated assets may dictate that we sell such assets for less than what we paid. In addition, in connection with any asset sales or divestitures, we may be required to provide certain representations, warranties and covenants to buyers. While we would seek to ensure the accuracy of such representations and warranties and fulfillment of any ongoing obligations, we may not be completely successful and consequently may be subject to claims by a purchaser of such assets.

A substantial portion of our revenue is derived from sources outside of the United States and this revenue and our business generally are subject to risks related to international operations that are often beyond our control.

For the years ended December 31, 2020, 2019 and 2018, revenues received from our international customers constituted approximately 43%, 40% and 44%, respectively, of our total revenue. We expect that future revenue derived from international sources will continue to represent a significant portion of our total revenue.

To the extent that customer sales are not denominated in U.S. dollars, any royalties which are based on a percentage of the customers' sales that we receive as a result of such sales could be subject to fluctuations in currency exchange rates. In addition, if the effective price of licensed products sold by our foreign customers were to increase as a result of fluctuations in the exchange rate of the relevant currencies, demand for licensed products could fall, which in turn would reduce our royalties. We do not use financial instruments to hedge foreign exchange rate risk.

Trade-related government actions, whether implemented by the US government, China or other countries, that impose barriers or restrictions that would impact our ability to sell or ship products to certain customers may have a negative impact on our financial condition and results of operations. We cannot predict the actions government entities may take in this context and may be unable to quickly offset or effectively react to government actions that restrict our ability to sell to certain customers or in certain jurisdictions. Government actions that affect our customers' ability to sell products or access critical elements of their supply chains may result in a decreased demand for their products, which may consequently reduce their demand for our products.

We currently have international business operations in the United Kingdom, France and the Netherlands, international design operations in Canada, India and Finland, and business development operations in China, Japan, Korea, and Taiwan. Our international operations and revenue are subject to a variety of risks which are beyond our control, including:

- hiring, maintaining and managing a workforce and facilities remotely and under various legal systems, including compliance with local labor and employment laws;
- non-compliance with our code of conduct or other corporate policies;
- natural disasters, acts of war, terrorism, widespread global pandemics or illness, such as the current Novel Coronavirus (COVID-19), or security breaches;
- export controls, tariffs, import and licensing restrictions and other trade barriers;
- profits, if any, earned abroad being subject to local tax laws and not being repatriated to the United States or, if repatriation is possible, limited in amount;
- adverse tax treatment of revenue from international sources and changes to tax codes, including being subject to foreign tax laws and being liable for paying withholding, income or other taxes in foreign jurisdictions;
- unanticipated changes in foreign government laws and regulations;
- increased financial accounting and reporting burdens and complexities;
- lack of protection of our IP and other contract rights by jurisdictions in which we may do business to the same extent as the laws of the United States;
- potential vulnerability to computer system, internet or other systemic attacks, such as denial of service, viruses or other malware which may be caused by criminals, terrorists or other sophisticated organizations;
- social, political and economic instability;
- geopolitical issues, including changes in diplomatic and trade relationships, in particular with China; and
- cultural differences in the conduct of business both with customers and in conducting business in our international facilities and international sales offices.

We and our customers are subject to many of the risks described above with respect to companies which are located in different countries. There can be no assurance that one or more of the risks associated with our international operations will not result in a material adverse effect on our business, financial condition or results of operations.

Weak global economic conditions may adversely affect demand for the products and services of our customers.

Our operations and performance depend significantly on worldwide economic conditions. Future uncertainty about global or regional economic and political conditions poses a risk as consumers and businesses may postpone spending in response to tighter credit, negative financial news and declines in income or asset values, which could have a material negative effect on the demand for the products of our customers in the foreseeable future. If our customers experience reduced demand for their products as a result of global or regional economic conditions or otherwise, this could result in reduced royalty revenue and our business and results of operations could be harmed.

If our counterparties are unable to fulfill their financial and other obligations to us, our business and results of operations may be affected adversely.

Any downturn in economic conditions or other business factors could threaten the financial health of our counterparties, including companies with which we have entered into licensing and/or settlement agreements, and their ability to fulfill their financial and other obligations to us. Such financial pressures on our counterparties may eventually lead to bankruptcy proceedings or other attempts to avoid financial obligations that are due to us. Because bankruptcy courts have the power to modify or cancel contracts of the petitioner which remain subject to future performance and alter or discharge payment obligations related to pre-petition debts, we may receive less than all of the payments that we would otherwise be entitled to receive from any such counterparty as a result of bankruptcy proceedings.

If we are unable to attract and retain qualified personnel, our business and operations could suffer.

Our success is dependent upon our ability to identify, attract, compensate, motivate and retain qualified personnel, especially engineers, senior management and other key personnel. The loss of the services of any key employees could be disruptive to our development efforts, business relationships and strategy, and could cause our business and operations to suffer.

Recently, we have experienced significant changes in our management team, including in the role of chief executive officer and other senior executives. Our future success depends in large part upon the continued service and enhancement of our management team and our employees. If there are further changes in management, such changes could be disruptive and could negatively affect our sales, operations, culture, future recruiting efforts and strategic direction. Competition for qualified executives is intense and if we are unable to compensate our key talent appropriately and continue expanding our management team, or successfully integrate new additions to our management team in a manner that enables us to scale our business and operations effectively, our ability to operate effectively and efficiently could be limited or negatively impacted. In addition, changes in key management positions may temporarily affect our financial performance and results of operations as new management becomes familiar with our business, processes and strategy. The loss of any of our key personnel, or our inability to attract, integrate and retain qualified employees, could require us to dedicate significant financial and other resources to such personnel matters, disrupt our operations and seriously harm our operations and business.

We are subject to various government restrictions and regulations, including on the sale of products and services that use encryption technology and those related to privacy and other consumer protection matters.

Various countries have adopted controls, license requirements and restrictions on the export, import and use of products or services that contain encryption technology. In addition, governmental agencies have proposed additional requirements for encryption technology, such as requiring the escrow and governmental recovery of private encryption keys. Restrictions on the sale or distribution of products or services containing encryption technology may impact our ability to license data security technologies to the manufacturers and providers of such products and services in certain markets or may require us or our customers to make changes to the licensed data security technology that is embedded in such products to comply with such restrictions. Government restrictions, or changes to the products or services our customers to comply with such restrictions, could delay or prevent the acceptance and use of such customers' products and services. In addition, the United States and other countries have imposed export controls that prohibit the export of encryption technology to certain countries, entities and individuals. Our failure to comply with export and use regulations concerning encryption technology could subject us to sanctions and penalties, including fines, and suspension or revocation of export or import privileges.

We are subject to a variety of laws and regulations in the United States, the European Union and other countries that involve, for example, user privacy, data protection and security, content and consumer protection. A number of proposals are pending before federal, state, and foreign legislative and regulatory bodies that could significantly affect our business. For example, in 2016, a new EU data protection regime, the General Data Protection Regulation ("GDPR") was adopted, with it

fully effective on May 25, 2018, and California enacted the California Consumer Privacy Act as of January 1, 2020 (“CCPA”). The GDPR and CCPA may require us to modify our existing practices with respect to the collection, use, and disclosure of data. In particular, the GDPR provides for significant penalties in the case of non-compliance of up to €20 million or four percent of worldwide annual revenues, whichever is greater. The GDPR, CCPA and other existing and proposed laws and regulations can be costly to comply with and can delay or impede the development of new products, result in negative publicity, increase our operating costs and subject us to claims or other remedies.

In accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act, the SEC established new disclosure and reporting requirements for those companies that use “conflict” minerals mined from the Democratic Republic of Congo and adjoining countries in their products, whether or not these products are manufactured by third parties. These requirements could affect the sourcing and availability of minerals that are used in the manufacture of our products. We have to date incurred costs and expect to incur significant additional costs associated with complying with the disclosure requirements, including for example, due diligence in regard to the sources of any conflict minerals used in our products, in addition to the cost of remediation and other changes to products, processes, or sources of supply as a consequence of such verification activities. Additionally, we may face reputational challenges with our customers and other stakeholders if we are unable to sufficiently verify the origins of all minerals used in our products through the due diligence procedures that we implement. We may also face challenges with government regulators and our customers and suppliers if we are unable to sufficiently verify that the metals used in our products are conflict free.

Participation in standards setting organizations may subject us to IP licensing requirements or limitations that could adversely affect our business and prospects.

In the course of our participation in the development of emerging standards for some of our present and future products, we may be obligated to grant to all other participants a license to our patents that are essential to the practice of those standards on reasonable and non-discriminatory, or RAND, terms. If we fail to limit to whom we license our patents, or fail to limit the terms of any such licenses, we may be required to license our patents or other IP to others in the future, which could limit the effectiveness of our patents against competitors.

Our operations are subject to risks of natural disasters, acts of war, terrorism, widespread illness or security breach at our domestic and international locations, any one of which could result in a business stoppage and negatively affect our operating results.

Our business operations depend on our ability to maintain and protect our facilities, computer systems and personnel, which are primarily located in the San Francisco Bay Area in the United States, the Netherlands and India. The San Francisco Bay Area is in close proximity to known earthquake fault zones. Our facilities and transportation for our employees are susceptible to damage from earthquakes and other natural disasters such as fires, floods and similar events. Should a catastrophe disable our facilities, we do not have readily available alternative facilities from which we could conduct our business, so any resultant work stoppage could have a negative effect on our operating results. We also rely on our network infrastructure and technology systems for operational support and business activities which are subject to physical and cyber damage, and also susceptible to other related vulnerabilities common to networks and computer systems. Acts of terrorism, widespread illness, or global pandemics, including the current Novel Coronavirus (COVID-19) pandemic, war and any event that causes failures or interruption in our network infrastructure and technology systems could have a negative effect at our international and domestic facilities and could harm our business, financial condition, and operating results.

We do not have extensive experience in manufacturing and marketing products and, as a result, may be unable to sustain and grow a profitable commercial market for new and existing products.

We do not have extensive experience in creating, manufacturing and marketing products. Our product offerings may present new and difficult challenges, and we may be subject to claims if customers of our offerings experience delays, failures, non-performance or other quality issues. In particular, we may experience difficulties with product design, qualification, manufacturing, marketing or certification that could delay or prevent our development, introduction or marketing and sales of products. Although we intend to design our products to be fully compliant with applicable industry standards, proprietary enhancements may not in the future result in full conformance with existing industry standards under all circumstances.

If we fail to introduce products that meet the demand of our customers, penetrate new markets in which we expend significant resources, or our marketing and sales cycles that we experience are longer than we anticipate, our revenues will be difficult to predict, may decrease over time and our financial condition could suffer. Additionally, if we concentrate resources

on a new market that does not prove profitable or sustainable, it could damage our reputation and limit our growth, and our financial condition could decline.

We rely upon the accuracy of our customers' recordkeeping, and any inaccuracies or payment disputes for amounts owed to us under our licensing agreements may harm our results of operations.

Many of our license agreements require our customers to document the manufacture and sale of products that incorporate our technology and report this data to us on a quarterly basis. While licenses with such terms give us the right to audit books and records of our customers to verify this information, audits rarely are undertaken because they can be expensive, time consuming, and potentially detrimental to our ongoing business relationship with our customers. Therefore, we typically rely on the accuracy of the reports from customers without independently verifying the information in them. Our failure to audit our customers' books and records may result in our receiving more or less royalty revenue than we are entitled to under the terms of our license agreements. If we conduct royalty audits in the future, such audits may trigger disagreements over contract terms with our customers and such disagreements could hamper customer relations, divert the efforts and attention of our management from normal operations and impact our business operations and financial condition.

We are subject to increased inventory risks and costs because we build our products based on forecasts provided by customers before receiving purchase orders for the product.

We rely on a number of third-party providers for data center hosting facilities, equipment, maintenance and other services, and the loss of, or problems with, one or more of these providers may impede our growth or cause us to lose customers.

We rely on third-party providers to supply data center hosting facilities, equipment, maintenance and other services in order to enable us to provide some of our services, and have entered into various agreements for such services. The continuous availability of our services depends on the operations of those facilities, on a variety of network service providers and on third-party vendors. In addition, we depend on our third-party facility providers' ability to protect these facilities against damage or interruption from natural disasters, power or telecommunications failures, criminal acts, cyber-attacks and similar events. If there are any lapses of service or damage to a facility, we could experience lengthy interruptions in our service as well as delays and additional expenses in arranging new facilities and services. Even with current and planned disaster recovery arrangements, our business could be harmed. Any interruptions or delays in our service, whether as a result of third-party error, our own error, natural disasters, criminal acts, security breaches or other causes, whether accidental or willful, could harm our relationships with customers, harm our reputation and cause our revenue to decrease and/or our expenses to increase. Also, in the event of damage or interruption, our insurance policies may not adequately compensate us for any losses that we may incur. These factors in turn could further reduce our revenue, subject us to liability and cause us to issue credits or cause us to lose customers, any of which could materially adversely affect our business.

We rely on third parties for a variety of services, including manufacturing, and these third parties' failure to perform these services adequately could materially and adversely affect our business.

We rely on third parties for a variety of services, including our manufacturing supply chain partners and third parties within our sales and distribution channels. Certain of these third parties are, and may be, our sole manufacturer or sole source of certain production materials. If we fail to manage our relationships with these manufacturers and suppliers effectively, or if they experience delays, disruptions, capacity constraints or quality control problems in their operations, our ability to ship products to our customers could be impaired and our competitive position and reputation could be harmed. In addition, any adverse change in any of our manufacturers and suppliers' financial or business condition could disrupt our ability to supply quality products to our customers. If we are required to change our manufacturers, we may lose revenue, incur increased costs and damage our end-customer relationships. In addition, qualifying a new manufacturer and commencing production can be an expensive and lengthy process. If our third-party manufacturers or suppliers are unable to provide us with adequate supplies of high-quality products for any other reason, we could experience a delay in our order fulfillment, and our business, operating results and financial condition would be adversely affected. In the event these and other third parties we rely on fail to provide their services adequately, including as a result of errors in their systems or events beyond their control, or refuse to provide these services on terms acceptable to us or at all, and we are not able to find suitable alternatives, our business may be materially and adversely affected. In addition, our orders may represent a relatively small percentage of the overall orders received by our manufacturers from their customers. As a result, fulfilling our orders may not be considered a priority in the event our manufacturers are constrained in their ability to fulfill all of their customer obligations in a timely manner. If our manufacturers are unable to provide us with adequate supplies of high-quality products, or if we or our manufacturers are unable to obtain adequate quantities of components, it could cause a delay in our order fulfillment, in which case our business, operating results and financial condition could be adversely affected.

Warranty, service level agreement and product liability claims brought against us could cause us to incur significant costs and adversely affect our operating results as well as our reputation and relationships with customers.

We may from time to time be subject to warranty, service level agreement and product liability claims with regard to product performance and our services. We could incur material losses as a result of warranty, support, repair or replacement costs in response to customer complaints or in connection with the resolution of contemplated or actual legal proceedings relating to such claims. In addition to potential losses arising from claims and related legal proceedings, warranty and product liability claims could affect our reputation and our relationship with customers. We generally attempt to limit the maximum amount of indemnification or liability that we could be exposed to under our contracts, however, this is not always possible.

Any failure in our delivery of high-quality technical support services may adversely affect our relationships with our customers and our financial results.

Our customers depend on our support organization to resolve technical issues and provide ongoing maintenance relating to our products and services. We may be unable to respond quickly enough to accommodate short-term increases in customer demand for support services. Increased customer demand for these services, without corresponding revenues, could increase costs and adversely affect our operating results. In addition, our sales process is highly dependent on our offerings and business reputation and on positive recommendations from our existing customers. Any failure to maintain high-quality technical support, or a market perception that we do not maintain high-quality support, could adversely affect our reputation, our ability to sell our solutions to existing and prospective customers, and our business, operating results and financial position.

Certain software that we use in certain of our products is licensed from third parties and, for that reason, may not be available to us in the future, which has the potential to delay product development and production or cause us to incur additional expense, which could materially adversely affect our business, financial condition, operating results and cash flow.

Some of our products and services contain software licensed from third parties. Some of these licenses may not be available to us in the future on terms that are acceptable to us or allow our products to remain competitive. The loss of these licenses or the inability to maintain any of them on commercially acceptable terms could delay development of future offerings or the enhancement of existing products and services. We may also choose to pay a premium price for such a license in certain circumstances where continuity of the licensed product would outweigh the premium cost of the license. The unavailability of these licenses or the necessity of agreeing to commercially unreasonable terms for such licenses could materially adversely affect our business, financial condition, operating results and cash flow.

Certain software we use is from open source code sources, which, under certain circumstances, may lead to unintended consequences and, therefore, could materially adversely affect our business, financial condition, operating results and cash flow.

We use open source software in our services and we intend to continue to use open source software in the future. From time to time, there have been claims challenging the ownership of open source software against companies that incorporate open source software into their products or alleging that these companies have violated the terms of an open source license. As a result, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software or alleging that we have violated the terms of an open source license. Litigation could be costly for us to defend, have a negative effect on our operating results and financial condition or require us to devote additional research and development resources to change our solutions. In addition, if we were to combine our proprietary software solutions with open source software in certain manners, we could, under certain open source licenses, be required to publicly release the source code of our proprietary software solutions. If we inappropriately use open source software, we may be required to re-engineer our solutions, discontinue the sale of our solutions, release the source code of our proprietary software to the public at no cost or take other remedial actions. There is a risk that open source licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our solutions, which could adversely affect our business, operating results and financial condition.

Our business and operating results could be harmed if we undertake any restructuring activities.

From time to time, we may undertake restructurings of our business, including discontinuing certain products, services and technologies and planned reductions in force. There are several factors that could cause restructurings to have adverse effects on our business, financial condition and results of operations. These include potential disruption of our operations, the

development of our technology, the deliveries to our customers and other aspects of our business. Loss of sales, service and engineering talent, in particular, could damage our business. Any restructuring would require substantial management time and attention and may divert management from other important work. Employee reductions or other restructuring activities also would cause us to incur restructuring and related expenses such as severance expenses. Moreover, we could encounter delays in executing any restructuring plans, which could cause further disruption and additional unanticipated expense.

Problems with our information systems could interfere with our business and could adversely impact our operations.

We rely on our information systems and those of third parties for fulfilling licensing and contractual obligations, processing customer orders, delivering products, providing services and support to our customers, billing and tracking our customer orders, performing accounting operations and otherwise running our business. If our systems fail, our disaster and data recovery planning and capacity may prove insufficient to enable timely recovery of important functions and business records. Any disruption in our information systems and those of the third parties upon whom we rely could have a significant impact on our business. Additionally, our information systems may not support new business models and initiatives and significant investments could be required in order to upgrade them. Delays in adapting our information systems to address new business models and accounting standards could limit the success or result in the failure of such initiatives and impair the effectiveness of our internal controls. Even if we do not encounter these adverse effects, the implementation of these enhancements may be much more costly than we anticipated. If we are unable to successfully implement the information systems enhancements as planned, our operating results could be negatively impacted.

We are leveraged financially, which could adversely affect our ability to adjust our business to respond to competitive pressures and to obtain sufficient funds to satisfy our future research and development needs, to protect and enforce our intellectual property, and to meet other needs.

We have material indebtedness. In November 2017, we issued \$172.5 million aggregate principal amount of our 2023 Notes, the entire amount of which remains outstanding. The degree to which we are leveraged could have negative consequences, including, but not limited to, the following:

- we may be more vulnerable to economic downturns, less able to withstand competitive pressures and less flexible in responding to changing business and economic conditions;
- our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions, litigation, general corporate or other purposes may be limited;
- a substantial portion of our cash flows from operations in the future may be required for the payment of interest and principal when due at maturity in February 2023; and
- we may be required to make cash payments upon any conversion of the 2023 Notes, which would reduce our cash on hand.

A failure to comply with the covenants and other provisions of our debt instruments could result in events of default under such instruments, which could permit acceleration of all of our outstanding 2023 Notes. Any required repurchase of the 2023 Notes as a result of a fundamental change or acceleration of the 2023 Notes would reduce our cash on hand such that we would not have those funds available for use in our business.

If we are at any time unable to generate sufficient cash flows from operations to service our indebtedness when payment is due, we may be required to attempt to renegotiate the terms of the instruments relating to the indebtedness, seek to refinance all or a portion of the indebtedness or obtain additional financing. There can be no assurance that we will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us.

Risks Associated with Litigation, Regulation and Our Intellectual Property

Adverse litigation results could affect our business.

We may be subject to legal claims or regulatory matters involving consumer, stockholder, employment, competition, IP and other issues on a global basis. Litigation can be lengthy, expensive and disruptive to our operations, and results cannot be predicted with certainty. An adverse decision could include monetary damages or, in cases for which injunctive relief is sought, an injunction prohibiting us from manufacturing or selling one or more of our products or technologies. If we were to receive an unfavorable ruling on a matter, our business, operating results or financial condition could be materially harmed.

We have in the past, and may in the future, become engaged in litigation stemming from our efforts to protect and enforce our patents and intellectual property and make other claims, which could adversely affect our intellectual property rights, distract our management and cause substantial expenses and declines in our revenue and stock price.

We seek to diligently protect our IP rights and will continue to do so. While we are not currently involved in IP litigation, any future litigation, whether or not determined in our favor or settled by us, would be expected to be costly, may cause delays applicable to our business (including delays in negotiating licenses with other actual or potential customers), would be expected to discourage future design partners, would tend to impair adoption of our existing technologies and would divert the efforts and attention of our management and technical personnel from other business operations. In addition, we may be unsuccessful in any litigation if we have difficulty obtaining the cooperation of former employees and agents who were involved in our business during the relevant periods related to our litigation and are now needed to assist in cases or testify on our behalf. Furthermore, any adverse determination or other resolution in litigation could result in our losing certain rights beyond the rights at issue in a particular case, including, among other things: our being effectively barred from suing others for violating certain or all of our IP rights; our patents being held invalid or unenforceable or not infringed; our being subjected to significant liabilities; our being required to seek licenses from third parties; our being prevented from licensing our patented technology; or our being required to renegotiate with current customers on a temporary or permanent basis.

From time to time, we are subject to proceedings by government agencies that may result in adverse determinations against us and could cause our revenue to decline substantially.

An adverse resolution by or with a governmental agency could result in severe limitations on our ability to protect and license our IP, and could cause our revenue to decline substantially. Third parties have and may attempt to use adverse findings by a government agency to limit our ability to enforce or license our patents in private litigations, to challenge or otherwise act against us with respect to such government agency proceedings.

Further, third parties have sought and may seek review and reconsideration of the patentability of inventions claimed in certain of our patents by the U.S. Patent and Trademark Office (“USPTO”) and/or the European Patent Office (the “EPO”). Any re-examination or inter parties review proceedings may be initiated by the USPTO’s Patent Trial and Appeal Board (“PTAB”). The PTAB and the related former Board of Patent Appeals and Interferences have previously issued decisions in a few cases, finding some challenged claims of Rambus’ patents to be valid, and others to be invalid. Decisions of the PTAB are subject to further USPTO proceedings and/or appeal to the Court of Appeals for the Federal Circuit. A final adverse decision, not subject to further review and/or appeal, could invalidate some or all of the challenged patent claims and could also result in additional adverse consequences affecting other related U.S. or European patents, including in any IP litigation. If a sufficient number of such patents are impaired, our ability to enforce or license our IP would be significantly weakened and could cause our revenue to decline substantially.

The pendency of any governmental agency acting as described above may impair our ability to enforce or license our patents or collect royalties from existing or potential customers, as any litigation opponents may attempt to use such proceedings to delay or otherwise impair any pending cases and our existing or potential customers may await the final outcome of any proceedings before agreeing to new licenses or to paying royalties.

Litigation or other third-party claims of intellectual property infringement could require us to expend substantial resources and could prevent us from developing or licensing our technology on a cost-effective basis.

Our research and development programs are in highly competitive fields in which numerous third parties have issued patents and patent applications with claims closely related to the subject matter of our programs. We have also been named in the past, and may in the future be named, as a defendant in lawsuits claiming that our technology infringes upon the IP rights of third parties. As we develop additional products and technology, we may face claims of infringement of various patents and other IP rights by third parties. In the event of a third-party claim or a successful infringement action against us, we may be required to pay substantial damages, to stop developing and licensing our infringing technology, to develop non-infringing technology, and to obtain licenses, which could result in our paying substantial royalties or our granting of cross licenses to our technologies. We may not be able to obtain licenses from other parties at a reasonable cost, or at all, which could cause us to expend substantial resources, or result in delays in, or the cancellation of, new products. Moreover, customers and/or suppliers of our products may seek indemnification for alleged infringement of IP rights. We could be liable for direct and consequential damages and expenses including attorneys’ fees. A future obligation to indemnify our customers and/or suppliers may harm our business, financial condition and operating results.

If we are unable to protect our inventions successfully through the issuance and enforcement of patents, our operating results could be adversely affected.

We have an active program to protect our proprietary inventions through the filing of patents. There can be no assurance, however, that:

- any current or future U.S. or foreign patent applications will be approved and not be challenged by third parties;
- our issued patents will protect our IP and not be challenged by third parties;
- the validity of our patents will be upheld;
- our patents will not be declared unenforceable;
- the patents of others will not have an adverse effect on our ability to do business;
- Congress or the U.S. courts or foreign countries will not change the nature or scope of rights afforded patents or patent owners or alter in an adverse way the process for seeking or enforcing patents;
- changes in law will not be implemented, or changes in interpretation of such laws will occur, that will affect our ability to protect and enforce our patents and other IP;
- new legal theories and strategies utilized by our competitors will not be successful;
- others will not independently develop similar or competing chip interfaces or design around any patents that may be issued to us; or
- factors such as difficulty in obtaining cooperation from inventors, pre-existing challenges or litigation, or license or other contract issues will not present additional challenges in securing protection with respect to patents and other IP that we acquire.

If any of the above were to occur, our operating results could be adversely affected.

Furthermore, patent reform legislation, such as the Leahy-Smith America Invents Act, could increase the uncertainties and costs surrounding the prosecution of any patent applications and the enforcement or defense of our licensed patents. The federal courts, the USPTO, the Federal Trade Commission, and the U.S. International Trade Commission have also recently taken certain actions and issued rulings that have been viewed as unfavorable to patentees. While we cannot predict what form any new patent reform laws or regulations may ultimately take, or what impact recent or future reforms may have on our business, any laws or regulations that restrict or negatively impact our ability to enforce our patent rights against third parties could have a material adverse effect on our business.

In addition, our patents will continue to expire according to their terms, with expected expiration dates ranging from 2021 to 2039. Our failure to continuously develop or acquire successful innovations and obtain patents on those innovations could significantly harm our business, financial condition, results of operations, or cash flows.

Our inability to protect and own the intellectual property we create would cause our business to suffer.

We rely primarily on a combination of license, development and nondisclosure agreements, trademark, trade secret and copyright law and contractual provisions to protect our non-patentable IP rights. If we fail to protect these IP rights, our customers and others may seek to use our technology without the payment of license fees and royalties, which could weaken our competitive position, reduce our operating results and increase the likelihood of costly litigation. The growth of our business depends in part on the use of our IP in the products of third-party manufacturers, and our ability to enforce IP rights against them to obtain appropriate compensation. In addition, effective trade secret protection may be unavailable or limited in certain foreign countries. Although we intend to protect our rights vigorously, if we fail to do so, our business will suffer.

Effective protection of trademarks, copyrights, domain names, patent rights, and other IP rights is expensive and difficult to maintain, both in terms of application and maintenance costs, as well as the costs of defending and enforcing those rights. The efforts we have taken to protect our IP rights may not be sufficient or effective. Our IP rights may be infringed, misappropriated, or challenged, which could result in them being narrowed in scope or declared invalid or unenforceable. In addition, the laws or practices of certain countries do not protect our proprietary rights to the same extent as do the laws of the United States. Significant impairments of our IP rights, and limitations on our ability to assert our IP rights against others, could have a material and adverse effect on our business.

Third parties may claim that our products or services infringe on their intellectual property rights, exposing us to litigation that, regardless of merit, may be costly to defend.

Our success and ability to compete are also dependent upon our ability to operate without infringing upon the patent, trademark and other IP rights of others. Third parties may claim that our current or future products or services infringe upon their IP rights. Any such claim, with or without merit, could be time consuming, divert management's attention from our business operations and result in significant expenses. We cannot assure you that we would be successful in defending against any such claims. In addition, parties making these claims may be able to obtain injunctive or other equitable relief affecting our ability to license the products that incorporate the challenged IP. As a result of such claims, we may be required to obtain licenses from third parties, develop alternative technology or redesign our products. We cannot be sure that such licenses would be available on terms acceptable to us, if at all. If a successful claim is made against us and we are unable to develop or license alternative technology, our business, financial condition, operating results and cash flows could be materially adversely affected.

Any dispute regarding our intellectual property may require us to indemnify certain customers, the cost of which could severely hamper our business operations and financial condition.

In any potential dispute involving our patents or other IP, our customers could also become the target of litigation. While we generally do not indemnify our customers, some of our agreements provide for indemnification, and some require us to provide technical support and information to a customer that is involved in litigation involving use of our technology. In addition, we may be exposed to indemnification obligations, risks and liabilities that were unknown at the time that we acquired assets or businesses for our operations. Any of these indemnification and support obligations could result in substantial and material expenses. In addition to the time and expense required for us to indemnify or supply such support to our customers, a customer's development, marketing and sales of licensed semiconductors, mobile communications and data security technologies could be severely disrupted or shut down as a result of litigation, which in turn could severely hamper our business operations and financial condition as a result of lower or no royalty payments.

We have been party to, and may in the future be subject to, lawsuits relating to securities law matters which may result in unfavorable outcomes and significant judgments, settlements and legal expenses which could cause our business, financial condition and results of operations to suffer.

We and certain of our current and former officers and directors, as well as our current auditors, were subject from 2006 to 2011 to several stockholder derivative actions, securities fraud class actions and/or individual lawsuits filed in federal court against us and certain of our current and former officers and directors. The complaints generally alleged that the defendants violated the federal and state securities laws and stated state law claims for fraud and breach of fiduciary duty. Although to date these complaints have either been settled or dismissed, the amount of time to resolve any future lawsuits is uncertain, and these matters could require significant management and financial resources. Unfavorable outcomes and significant judgments, settlements and legal expenses in litigation related to any future securities law claims could have material adverse impacts on our business, financial condition, results of operations, cash flows and the trading price of our common stock.

General Risks Factors

The price of our common stock may continue to fluctuate.

Our common stock is listed on The NASDAQ Global Select Market under the symbol “RMBS.” The trading price of our common stock has at times experienced price volatility and may continue to fluctuate significantly in response to various factors, some of which are beyond our control. Some of these factors include:

- any progress, or lack of progress, real or perceived, in the development of products that incorporate our innovations and technology companies’ acceptance of our products, including the results of our efforts to expand into new target markets;
- our signing or not signing new licenses or renewing existing licenses, and the loss of strategic relationships with any customer;
- announcements of technological innovations or new products by us, our customers or our competitors;
- changes in our strategies, including changes in our licensing focus and/or acquisitions or dispositions of companies or businesses with business models or target markets different from our core;
- positive or negative reports by securities analysts as to our expected financial results and business developments;
- developments with respect to patents or proprietary rights and other events or factors;
- new litigation and the unpredictability of litigation results or settlements;
- repurchases of our common stock on the open market;
- issuance of additional securities by us, including in acquisitions, or large cash payments, including in acquisitions; and
- changes in accounting pronouncements, including the effects of ASC 606 and ASC 842.

In addition, the stock market in general, and prices for companies in our industry in particular, have experienced extreme volatility that often has been unrelated to the operating performance of such companies. These broad market and industry fluctuations may adversely affect the price of our common stock, regardless of our operating performance.

We have outstanding senior convertible notes in an aggregate principal amount totaling \$172.5 million. Because these notes are convertible into shares of our common stock, volatility or depressed prices of our common stock could have a similar effect on the trading price of such notes. In addition, the existence of these notes may encourage short selling in our common stock by market participants because the conversion of the notes could depress the price of our common stock.

Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses.

Changing laws, regulations and standards relating to corporate governance and public disclosure have historically created uncertainty for companies such as ours. Any new or changed laws, regulations and standards are subject to varying interpretations due to their lack of specificity, and as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Our certificate of incorporation and bylaws, Delaware law, our outstanding convertible notes and certain other agreements contain provisions that could discourage transactions resulting in a change in control, which may negatively affect the market price of our common stock.

Our certificate of incorporation, our bylaws and Delaware law contain provisions that might enable our management to discourage, delay or prevent a change in control. In addition, these provisions could limit the price that investors would be willing to pay in the future for shares of our common stock. Pursuant to such provisions:

- our board of directors is authorized, without prior stockholder approval, to create and issue preferred stock, commonly referred to as “blank check” preferred stock, with rights senior to those of common stock, which means that a stockholder rights plan could be implemented by our board;
- our board of directors is staggered into two classes, only one of which is elected at each annual meeting;
- stockholder action by written consent is prohibited;
- nominations for election to our board of directors and the submission of matters to be acted upon by stockholders at a meeting are subject to advance notice requirements;

- certain provisions in our bylaws and certificate of incorporation such as notice to stockholders, the ability to call a stockholder meeting, advance notice requirements and action of stockholders by written consent may only be amended with the approval of stockholders holding 66 2/3% of our outstanding voting stock;
- our stockholders have no authority to call special meetings of stockholders; and
- our board of directors is expressly authorized to make, alter or repeal our bylaws.

We are also subject to Section 203 of the Delaware General Corporation Law, which provides, subject to enumerated exceptions, that if a person acquires 15% or more of our outstanding voting stock, the person is an “interested stockholder” and may not engage in any “business combination” with us for a period of three years from the time the person acquired 15% or more of our outstanding voting stock.

Certain provisions of our outstanding Notes could make it more difficult or more expensive for a third party to acquire us. Upon the occurrence of certain transactions constituting a fundamental change, holders of such Notes will have the right, at their option, to require us to repurchase, at a cash repurchase price equal to 100% of the principal amount plus accrued and unpaid interest on such Notes, all or a portion of their Notes. We may also be required to increase the conversion rate of such Notes in the event of certain fundamental changes.

Unanticipated changes in our tax rates or in the tax laws and regulations could expose us to additional income tax liabilities which could affect our operating results and financial condition.

We are subject to income taxes in both the United States and various foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes and, in the ordinary course of business, there are many transactions and calculations where the ultimate tax determination is uncertain. Our effective tax rate could be adversely affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes in tax laws and regulations as well as other factors. Our tax determinations are regularly subject to audit by tax authorities and developments in those audits could adversely affect our income tax provision, and we are currently undergoing such audits of certain of our tax returns. Although we believe that our tax estimates are reasonable, the final determination of tax audits or tax disputes may be different from what is reflected in our historical income tax provisions which could affect our operating results.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2020, we occupied offices in the leased facilities described below:

Number of Offices Under Lease	Location	Primary Use
4	United States	
	San Jose, CA (Corporate Headquarters)	Executive and administrative offices, research and development, sales and marketing and service functions
	Chapel Hill, NC	Research and development
	Beaverton, OR	Research and development
	Agoura Hills, CA	Research and development
1	Bangalore, India	Administrative offices, research and development and service functions
1	Seoul, Korea	Business development
1	Rotterdam, The Netherlands	Research and development
1	Vught, The Netherlands	Research and development
1	Toronto, Canada	Research and development
1	Espoo, Finland	Research and development

Item 3. *Legal Proceedings*

We are not currently a party to any material pending legal proceeding; however, from time to time, we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. Although the results of litigation and claims cannot be predicted with certainty, we currently believe that the final outcome of these ordinary course matters will not have a material adverse effect on our business, operating results, financial position or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management attention and resources and other factors.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. *Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our Common Stock is listed on The NASDAQ Global Select Market under the symbol “RMBS.” The following table sets forth for the periods indicated the high and low sales price per share of our common stock as reported on The NASDAQ Global Select Market.

	Year Ended December 31, 2020		Year Ended December 31, 2019	
	High	Low	High	Low
First Quarter	\$ 16.98	\$ 9.01	\$ 10.93	\$ 7.55
Second Quarter	\$ 16.50	\$ 10.36	\$ 12.24	\$ 10.50
Third Quarter	\$ 15.61	\$ 13.08	\$ 14.29	\$ 11.23
Fourth Quarter	\$ 18.54	\$ 13.48	\$ 14.83	\$ 12.45

The graph below compares the cumulative 5-year total return of holders of Rambus Inc.'s common stock with the cumulative total returns of the NASDAQ Composite index and the RDG Semiconductor Composite index. The graph tracks the performance of a \$100 investment in our common stock and in each index (with the reinvestment of all dividends) from December 31, 2015 to December 31, 2020.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN Among Rambus Inc, the NASDAQ Composite Index and the RDG Semiconductor Composite Index



Fiscal years ending:

	Base Period 12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20
Rambus Inc.	\$100.00	\$118.81	\$122.69	\$66.18	\$118.85	\$150.65
NASDAQ Composite	\$100.00	\$108.87	\$141.13	\$137.12	\$187.44	\$271.64
RDG Semiconductor Composite	\$100.00	\$131.64	\$177.48	\$164.63	\$242.61	\$351.91

The stock price performance included in this graph is not necessarily indicative of future stock price performance.

Information regarding our securities authorized for issuance under equity compensation plans will be included in Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters," of this report on Form 10-K.

As of January 29, 2021, there were 480 holders of record of our common stock. Since many of the shares of our common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of beneficial stockholders represented by these record holders.

We have never paid or declared any cash dividends on our common stock or other securities.

Share Repurchase Program

On October 29, 2020, our Board approved a new share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the “2020 Repurchase Program”). Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program. The 2020 Repurchase Program replaced the previous program approved by the Board in January 2015 (the “2015 Repurchase Program”) and canceled the remaining shares outstanding as part of the previous authorization. As part of the broader share repurchase program authorized by our Board on October 29, 2020, we entered into an accelerated share repurchase program with Deutsche Bank AG, London Branch as counterparty, through its agent Deutsche Bank Securities Inc. (“Deutsche Bank”) on November 11, 2020 (the “2020 ASR Program”). After giving effect to the 2020 ASR Program, detailed in the table below, we had remaining authorization to repurchase approximately 17.4 million shares.

We record stock repurchases as a reduction to stockholders’ equity. We record a portion of the purchase price of the repurchased shares as an increase to accumulated deficit when the price of the shares repurchased exceeds the average original proceeds per share received from the issuance of common stock.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Number of Shares that May Yet be Purchased Under the Program
October 1, 2020 - December 31, 2020 ⁽¹⁾	2,616,089	N/A ⁽²⁾	2,616,089	17,383,911
Cumulative shares repurchased as of December 31, 2020	2,616,089		2,616,089	

⁽¹⁾ In November 2020, we entered into the 2020 ASR Program with Deutsche Bank to repurchase an aggregate of \$50.0 million of our common stock. We made an upfront payment of \$50.0 million pursuant to the accelerated share repurchase program and received an initial delivery of 2.6 million shares which were retired and recorded as a \$40.0 million reduction to stockholders’ equity. The remaining \$10.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. The number of shares to be ultimately purchased by us will be determined based on the volume-weighted-average price of the common stock during the terms of the transaction, minus an agreed upon discount between the parties. The program is expected to be completed within six months from the beginning of the program. See Note 15, “Stockholders’ Equity,” of Notes to Consolidated Financial Statements of this Form 10-K for further discussion.

⁽²⁾ N/A—The average price paid per share will be determined at the end of the current accelerated share repurchase program.

Unregistered Sales of Equity Securities and Use of Proceeds**Recent Sales of Unregistered Equity Securities**

None.

Item 6. Selected Financial Data

The following selected consolidated financial data as of and for the years ended December 31, 2020, 2019, 2018, 2017 and 2016 was derived from our consolidated financial statements. The following selected consolidated financial data should be read in conjunction with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and Item 8, “Financial Statements and Supplementary Data,” and other financial data included elsewhere in this report. Our historical results of operations are not necessarily indicative of results of operations to be expected for any future period.

(In thousands, except per share amounts)	Years Ended December 31,				
	2020 ⁽³⁾	2019 ⁽¹⁾	2018 ^{(2) (3) (4)}	2017 ^{(2) (3)}	2016 ⁽⁵⁾
Total revenue	\$ 242,747	\$ 224,027	\$ 231,201	\$ 393,096	\$ 336,597
Net income (loss)	\$ (43,609)	\$ (90,419)	\$ (157,957)	\$ (22,862)	\$ 6,820
Net income (loss) per share:					
Basic	\$ (0.39)	\$ (0.81)	\$ (1.46)	\$ (0.21)	\$ 0.06
Diluted	\$ (0.39)	\$ (0.81)	\$ (1.46)	\$ (0.21)	\$ 0.06
Consolidated Balance Sheet Data					
Cash, cash equivalents and marketable securities	\$ 502,649	\$ 407,664	\$ 277,764	\$ 329,376	\$ 172,182
Total assets	\$ 1,243,876	\$ 1,338,986	\$ 1,361,155	\$ 891,072	\$ 783,496
Convertible notes	\$ 156,031	\$ 148,788	\$ 141,934	\$ 213,898	\$ 126,167
Stockholders' equity	\$ 905,113	\$ 970,918	\$ 1,012,112	\$ 571,584	\$ 552,782

- (1) The net loss for the year ended December 31, 2019 included \$7.4 million of impairment of assets held for sale related to the Company's Payments and Ticketing businesses, which was included in operating costs and expenses. Refer to Note 17, "Divestiture," of Notes to Consolidated Financial Statements of this Form 10-K for further discussion.
- (2) The net loss for the year ended December 31, 2018 included a \$113.7 million impact of an increase in our deferred tax asset valuation allowance. The net loss for the year ended December 31, 2017 included a \$21.5 million impact due to the recording of a deferred tax asset valuation allowance and \$20.7 million related to re-measurement of deferred tax assets as a result of the tax law changes.
- (3) Stockholders' equity includes \$50.0 million paid under the accelerated share repurchase programs initiated in November 2020, March 2018 and May 2017.
- (4) Reflects the impact from the adoption of ASC 606 in 2018.
- (5) The net income for the year ended December 31, 2016 included \$18.3 million of impairment of in-process research and development ("IPR&D") intangible asset and a reduction of operating expenses due to the change in our contingent consideration liability of \$6.8 million.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 as described in more detail under "Note Regarding Forward-Looking Statements." Our forward-looking statements are based on current expectations, forecasts and assumptions and are subject to risks, uncertainties and changes in condition, significance, value and effect. As a result of the factors described herein, and in the documents incorporated herein by reference, including, in particular, those factors described under "Risk Factors," we undertake no obligation to publicly disclose any revisions to these forward-looking statements to reflect events or circumstances occurring subsequent to filing this report with the Securities and Exchange Commission.

The following discussion and analysis should be read in conjunction with the consolidated financial statements and related notes that are included elsewhere in this report.

Executive Summary

Highlights from our annual results were as follows:

- Revenue of \$242.7 million;
- Operating expenses of \$228.8 million;
- GAAP diluted net loss per share of \$0.39;
- Net cash provided by operating activities of \$185.5 million

We had record annual product revenue of \$114.0 million in 2020, which was primarily driven by our memory interface chips, and was up 56% as compared to 2019. In addition, our cash provided by operating activities for 2020 was up 44% as compared to 2019.

Business Overview

Rambus produces products and innovations that address the fundamental challenges of accelerating data. We make industry-leading chips and IP that enable critical performance improvements for data center and other growing markets. The ongoing shift to the cloud, along with the widespread advancement of AI across the data center, 5G, automotive and IoT, has led to exponential growth in data usage and tremendous demands on data infrastructure. Creating fast and safe connections, both in and across systems, remains one of the most mission-critical design challenges limiting performance in advanced hardware for these markets.

As an industry pioneer with over 30 years of advanced semiconductor design experience, Rambus is ideally positioned to address the challenges of moving and protecting data. We are a leader in high-performance memory subsystems, providing chips, IP and innovations that maximize the performance and security in data-intensive systems. Whether in the cloud, at the edge or in your hand, real-time and immersive applications depend on data throughput and integrity. Rambus products and innovations deliver the increased bandwidth, capacity and security required to meet the world's data needs and drive ever-greater end-user experiences.

Our strategic objectives are focusing our product portfolio and research around our core strength in semiconductors, optimizing our operational efficiency, and leveraging our strong cash generation to re-invest for growth. We continue to maximize synergies across our businesses and customer base, leveraging the significant overlap in our ecosystem of customers, partners and influencers. The Rambus product and technology roadmap, as well as our go-to-market strategy, is driven by the application-specific requirements of our focus markets.

Revenue Sources

Our patented inventions are offered to our customers through patent, technology, software and IP core licenses, as well as memory interface chips. Today, a significant source of revenue is derived from our Architecture Licenses, through which we provide our customers a license to use a certain portion of our broad worldwide portfolio of patented inventions. Our Architecture Licenses enable our customers to use the licensed portion of our portfolio of patented inventions in the customer's own digital electronics products, systems or services. The licenses may also define the specific field of use where our customers may use or employ our inventions in their products. License agreements are structured with fixed or variable or a hybrid of fixed and variable royalty payments over certain defined periods ranging for periods of up to ten years. Leading semiconductor and electronic system companies such as AMD, Broadcom, Cisco, Fujitsu, IBM, Marvell, Mediatek, Micron, Nanya, NVIDIA, Panasonic, Phison, Qualcomm, Renesas, Samsung, SK hynix, Socionext, STMicroelectronics, Toshiba, Western Digital, Winbond, and Xilinx have licensed our patents. The vast majority of our patents were secured through our internal research and development efforts.

We also offer our customers technology licenses to support the implementation and adoption of our technology in their products or services. Our customers include leading companies such as IBM, Panasonic, Qualcomm, Samsung, Sony and Toshiba. Our technology license offerings include a range of technologies for incorporation into our customers' products and systems. We also offer a range of services as part of our technology licenses which can include know-how and technology transfer, product design and development, system integration, and other services. These technology license agreements may have both a fixed price (non-recurring) component and ongoing use fees and in some cases, royalties. Further, under technology licenses, our customers typically receive licenses to our patents necessary to implement these solutions in their products with specific rights and restrictions to the applicable patents elaborated in their individual contracts with us.

Revenues from royalties accounted for 33%, 41% and 56% of our consolidated revenue for the years ended December 31, 2020, 2019 and 2018, respectively.

The remainder of our revenue is product revenue, contract and other revenue, which includes our product sales, IP core licenses, software licenses and related implementation, support and maintenance fees, and engineering services fees. The timing and amounts invoiced to customers can vary significantly depending on specific contract terms and can therefore have a significant impact on deferred revenue or accounts receivable in any given period. Product revenue accounted for 47%, 33% and 17% of our consolidated revenue for the years ended December 31, 2020, 2019 and 2018, respectively. Contract and other revenue accounted for 20%, 27% and 27% of our consolidated revenue for the years ended December 31, 2020, 2019 and 2018, respectively.

Costs and Expenses

Cost of product revenue for 2020 increased approximately \$10.5 million to \$37.7 million from \$27.2 million as compared to 2019 primarily due to increased cost of sales associated with our memory interface chips.

Cost of contract and other revenue for 2020 decreased approximately \$4.3 million to \$5.6 million from \$9.9 million as compared to 2019 primarily due to incurring lower costs as a result of the divestiture of our former Payments and Ticketing businesses in the fourth quarter of 2019.

Research and development expenses continue to play a key role in our efforts to maintain product innovations. Our research and development expenses for 2020 decreased \$17.0 million as compared to 2019 primarily due to decreased headcount-related expenses of \$11.8 million (which includes the reduction in headcount due to the divestiture of the Payments and Ticketing businesses in 2019), consulting costs of \$5.2 million, travel costs of \$1.9 million and stock-based compensation expense of \$1.0 million, offset by increased retention bonus expense related to acquisitions of \$2.0 million and prototyping costs of \$0.9 million.

Sales, general and administrative expenses for 2020 decreased \$15.8 million as compared to 2019 primarily due to decreased headcount-related expenses of \$5.4 million, acquisition and divestiture-related costs of \$4.1 million, travel costs of \$3.4 million, consulting costs of \$2.7 million and depreciation expense of \$1.2 million, offset by increased bonus accrual expense of \$0.5 million and stock-based compensation expense of \$0.3 million.

Impact of the COVID-19 Pandemic

In December 2019, the Novel Coronavirus (COVID-19) was reported in China, in January 2020 the World Health Organization (“WHO”) declared it a Public Health Emergency of International Concern, and in March 2020 the WHO declared it a pandemic. The COVID-19 pandemic has created significant global economic uncertainty and may adversely impact the business of our customers, partners and vendors. The extent of the impact of the Novel Coronavirus (COVID-19) on our operational and financial performance will depend on certain developments, including the duration and spread of the outbreak, impact on our customers and our sales cycles, and impact on our partners or employees, all of which are uncertain and cannot be predicted. At this point, the extent to which the Novel Coronavirus (COVID-19) may impact our financial condition or results of operations remains uncertain. Actual results could differ from any estimates and any such differences could be material to our financial statements. Furthermore, the effect of the Novel Coronavirus (COVID-19) may not be fully reflected in our results of operations until future periods, if at all.

Trends

There are a number of trends that may have a material impact on us in the future, including but not limited to, the evolution of memory and SerDes technology, adoption of security solutions, the use and adoption of our inventions or technologies generally, industry consolidation, and global economic conditions with the resulting impact on sales of consumer electronic systems.

We have a high degree of revenue concentration. Our top five customers for each reporting period represented approximately 46% of our revenue for 2020 as compared to 46% in 2019 and 49% in 2018. The particular customers which account for revenue concentration have varied from period-to-period as a result of the addition of new contracts, expiration of existing contracts, renewals of existing contracts, industry consolidation, and the volumes and prices at which the customers have recently sold to their customers. These variations are expected to continue in the foreseeable future.

Our revenue from companies headquartered outside of the United States accounted for approximately 43% in 2020 as compared to 40% in 2019 and 44% in 2018. We expect that revenue derived from international customers will continue to represent a significant portion of our total revenue in the future. Currently, our revenue from international customers is denominated in U.S. dollars. For additional information concerning international revenue, refer to Note 7, “Segments and Major Customers,” of Notes to Consolidated Financial Statements of this Form 10-K.

The royalties we receive from our semiconductor customers are partly a function of the adoption of our technologies by system companies. Many system companies purchase semiconductors containing our technologies from our customers and do not have a direct contractual relationship with us. Our customers generally do not provide us with details as to the identity or volume of licensed semiconductors purchased by particular system companies. As a result, we face difficulty in analyzing the extent to which our future revenue will be dependent upon particular system companies.

As a part of our overall business strategy, from time to time, we evaluate businesses and technologies for potential acquisition that are aligned with our core business and designed to supplement our growth, including the 2019 acquisitions of Northwest Logic and the Secure Silicon IP and Protocols business from Verimatrix, formerly Inside Secure. Similarly, we evaluate our current businesses and technologies that are not aligned with our core business for potential divestiture, such as the sale of our Payments and Ticketing businesses to Visa International Service Association in 2019. We expect to continue to evaluate and potentially enter into strategic acquisitions or divestitures which may adversely impact our business and operating results.

Results of Operations

The following table sets forth, for the periods indicated, the percentage of total revenue represented by certain items reflected in our consolidated statements of operations:

	Years Ended December 31,		
	2020	2019	2018
Revenue:			
Royalties	33.3 %	40.5 %	56.4 %
Product revenue	47.0 %	32.6 %	16.7 %
Contract and other revenue	19.7 %	26.9 %	26.9 %
Total revenue	100.0 %	100.0 %	100.0 %
Cost of revenue:			
Cost of product revenue	15.6 %	12.1 %	7.9 %
Cost of contract and other revenue	2.3 %	4.4 %	5.1 %
Amortization of acquired intangible assets	7.1 %	6.4 %	10.2 %
Total cost of revenue	25.0 %	22.9 %	23.2 %
Gross profit	75.0 %	77.1 %	76.8 %
Operating expenses:			
Research and development	57.6 %	70.0 %	68.5 %
Sales, general and administrative	35.3 %	45.3 %	42.5 %
Amortization of acquired intangible assets	0.4 %	1.2 %	2.4 %
Restructuring and other charges	1.7 %	3.9 %	1.0 %
Loss on divestiture	— %	3.3 %	— %
Change in fair value of earn-out liability	(0.7)%	— %	— %
Total operating expenses	94.3 %	123.7 %	114.4 %
Operating loss	(19.3)%	(46.6)%	(37.6)%
Interest income and other income (expense), net	7.2 %	12.2 %	14.1 %
Interest expense	(4.2)%	(4.4)%	(7.0)%
Interest and other income (expense), net	3.0 %	7.8 %	7.1 %
Loss before income taxes	(16.3)%	(38.8)%	(30.5)%
Provision for income taxes	1.7 %	1.5 %	37.8 %
Net loss	(18.0)%	(40.3)%	(68.3)%

(Dollars in millions)	Years Ended December 31,			2019 to 2020 Change	2018 to 2019 Change
	2020	2019	2018		
Total Revenue					
Royalties	\$ 81.0	\$ 90.8	\$ 130.5	(10.8)%	(30.4)%
Product revenue	114.0	73.0	38.7	56.2 %	88.6 %
Contract and other revenue	47.7	60.2	62.0	(20.7)%	(2.9)%
Total revenue	\$ 242.7	\$ 224.0	\$ 231.2	8.4 %	(3.1)%

Royalty revenue

Royalty revenue, which includes patent and technology license royalties, decreased approximately \$9.8 million to \$81.0 million for the year ended December 31, 2020 from \$90.8 million for 2019. The decrease was due primarily to the timing of renewals and the related structure of architecture license agreements which include both fixed and variable components.

Royalty revenue decreased approximately \$39.7 million to \$90.8 million for the year ended December 31, 2019 from \$130.5 million for 2018. The decrease was due primarily to the timing of renewals and the related structure of architecture license agreements which include both fixed and variable components.

We are continuously in negotiations for licenses with prospective customers. We expect patent royalties will continue to vary from period to period based on our success in adding new customers, renewing or extending existing agreements, as well as the level of variation in our customers' reported shipment volumes, sales price and mix, offset in part by the proportion of customer payments that are fixed or hybrid in nature. We also expect that our technology royalties will continue to vary from period to period based on our customers' shipment volumes, sales prices, and product mix.

Product revenue

Product revenue consists of revenue from the sale of memory and security products.

Product revenue increased approximately \$41.0 million to \$114.0 million for the year ended December 31, 2020 from \$73.0 million for 2019. The increase was due to market share gains of our memory interface chips.

Product revenue increased approximately \$34.3 million to \$73.0 million for the year ended December 31, 2019 from \$38.7 million for 2018. The increase was primarily due to greater market share gains of our memory interface chips.

We believe that product revenue will continue to increase in 2021 as compared to 2020, mainly from the sale of our memory interface chips. Our ability to continue to grow product revenue is dependent on, among other things, our ability to continue to obtain orders from customers and our ability to meet our customers' demands.

Contract and other revenue

Contract and other revenue consists of revenue from technology development projects.

Contract and other revenue decreased approximately \$12.5 million to \$47.7 million for the year ended December 31, 2020 from \$60.2 million for 2019. The decrease was primarily due to the divestiture of our former Payments and Ticketing businesses resulting in no corresponding revenue in 2020, offset by growth experienced in our Silicon IP offerings.

Contract and other revenue decreased approximately \$1.8 million to \$60.2 million for the year ended December 31, 2019 from \$62.0 million for 2018. The decrease was primarily due to lower revenue associated with our Payments and Ticketing businesses, which were divested in the fourth quarter of 2019, offset by growth experienced in our Silicon IP offerings.

We believe that contract and other revenue will fluctuate over time based on our ongoing technology development contractual requirements, the amount of work performed, the timing of completing engineering deliverables, and the changes to work required, as well as new technology development contracts booked in the future.

Cost of product revenue

(Dollars in millions)	Years Ended December 31,			2019 to 2020 Change	2018 to 2019 Change
	2020	2019	2018		
Cost of product revenue	\$ 37.7	\$ 27.2	\$ 18.3	39.0 %	48.4 %

Cost of product revenue are costs attributable to the sale of memory and security products. Cost of product revenue also included costs attributable to the sale of lighting products in 2018.

For the year ended December 31, 2020 as compared to 2019, cost of product revenue increased 39.0% primarily due to increased cost of sales associated with higher sales of memory interface chips.

For the year ended December 31, 2019 as compared to 2018, cost of product revenue increased 48.4% primarily due to increased cost of sales associated with higher sales of memory products.

In the near term, we expect costs of product revenue to be higher as we expect higher sales of our various products in 2021 as compared to 2020.

Cost of contract and other revenue

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Cost of contract and other revenue	\$ 5.6	\$ 9.9	\$ 11.7	(43.0)%	(15.4)%

Cost of contract and other revenue reflects the portion of the total engineering costs which are specifically devoted to individual customer development and support services.

For the year ended December 31, 2020 as compared to 2019, cost of contract and other revenue decreased 43.0% primarily due to the divestiture of our Payments and Ticketing businesses in the fourth quarter of 2019.

For the year ended December 31, 2019 as compared to 2018, cost of contract and other revenue decreased 15.4% primarily due to lower revenue associated with our former Payments and Ticketing businesses, which were divested in the fourth quarter of 2019.

In the near term, we expect cost of contract and other revenue to vary from period to period based on varying revenue recognized from contract and other revenue.

Research and development expenses

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Research and development expenses					
Research and development expenses	\$ 129.8	\$ 145.8	\$ 145.7	(11.0)%	0.0 %
Stock-based compensation	10.0	11.0	12.6	(9.1)%	(12.3)%
Total research and development expenses	\$ 139.8	\$ 156.8	\$ 158.3	(10.8)%	(1.0)%

Research and development expenses are those expenses incurred for the development of applicable technologies.

For the year ended December 31, 2020 as compared to 2019, total research and development expenses decreased 10.8% primarily due to decreased headcount-related expenses of \$11.8 million (which includes the reduction in headcount due to the divestiture of the Payments and Ticketing businesses in 2019), consulting costs of \$5.2 million, travel costs of \$1.9 million and stock-based compensation expense of \$1.0 million, offset by increased retention bonus expense related to acquisitions of \$2.0 million and prototyping costs of \$0.9 million.

For the year ended December 31, 2019 as compared to 2018, total research and development expenses decreased 1.0% primarily due to decreased headcount-related expenses of \$3.9 million, allocated information technology costs of \$1.6 million and stock-based compensation expense of \$1.5 million, offset by increased facilities costs of \$2.1 million as discussed below, retention bonus accrual related to acquisitions of \$2.0 million and engineering development tool costs of \$1.2 million.

On January 1, 2019, we adopted the New Leasing Standard using the alternative transition method. In accordance with the New Leasing Standard, we were required to derecognize our previous Sunnyvale and Ohio facilities as imputed facility obligations (as accounted for under the previous leasing guidance) and recognize these facilities as operating leases. This change resulted in no longer recognizing interest expense associated with these imputed facility lease obligations, but instead, recognizing lease expense that was included in operating costs and expenses.

In the near term, we expect research and development expenses to be higher as we continue to make investments in the infrastructure and technologies required to maintain our product innovation in semiconductor, security and other technologies.

Sales, general and administrative costs

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Sales, general and administrative costs					
Sales, general and administrative costs	\$ 69.9	\$ 86.0	\$ 89.1	(18.7)%	(3.6)%
Stock-based compensation	15.7	15.4	9.1	2.0 %	68.8 %
Total sales, general and administrative costs	<u>\$ 85.6</u>	<u>\$ 101.4</u>	<u>\$ 98.2</u>	(15.5)%	3.2 %

Sales, general and administrative expenses include expenses and costs associated with trade shows, public relations, advertising, litigation, general legal, insurance and other sales, marketing and administrative efforts. Consistent with our business model, our licensing, sales and marketing activities aim to develop or strengthen relationships with potential new and current customers. In addition, we work with current customers through marketing, sales and technical efforts to drive adoption of their products that use our innovations and solutions, by system companies. Due to the long business development cycles we face and the semi-fixed nature of sales, general and administrative expenses in a given period, these expenses generally do not correlate to the level of revenue in that period or in recent or future periods.

For the year ended December 31, 2020 as compared to 2019, total sales, general and administrative costs decreased 15.5% primarily due to decreased headcount-related expenses of \$5.4 million, acquisition and divestiture-related costs of \$4.1 million, travel costs of \$3.4 million, consulting costs of \$2.7 million and depreciation expense of \$1.2 million, offset by increased bonus accrual expense of \$0.5 million and stock-based compensation expense of \$0.3 million.

For the year ended December 31, 2019 as compared to 2018, total sales, general and administrative costs increased 3.2% primarily due to increased stock-based compensation expense of \$6.3 million primarily due to the termination of the former chief executive officer at the end of June 2018, acquisition and divestiture related costs of \$5.2 million and facilities costs of \$2.6 million (primarily due to the adoption of the New Leasing Standard beginning in 2019 as discussed above), offset by decreased headcount related expenses of \$3.8 million, depreciation expense of \$1.8 million, sales and marketing costs of \$1.2 million, travel expenses of \$1.2 million, consulting costs of \$1.0 million, bonus accrual expense of \$1.0 million and recruiting costs of \$0.6 million.

In the future, sales, general and administrative expenses will vary from period to period based on the trade shows, advertising, legal, acquisition and other sales, marketing and administrative activities undertaken, and the change in sales, marketing and administrative headcount in any given period. In the near term, we expect our sales, general and administrative expenses to remain relatively flat.

Amortization of acquired intangible assets

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Amortization of acquired intangible assets					
Amortization of acquired intangible assets included in total cost of revenue	\$ 17.4	\$ 14.3	\$ 23.7	21.2 %	(39.6)%
Amortization of acquired intangible assets included in total operating expenses	1.0	2.7	5.7	(61.3)%	(51.5)%
Total amortization of acquired intangible assets	<u>\$ 18.4</u>	<u>\$ 17.0</u>	<u>\$ 29.4</u>	7.9 %	(41.9)%

Amortization expense is related to various acquired IP.

For the year ended December 31, 2020 as compared to 2019, total amortization of acquired intangible assets increased 7.9% primarily due to additional amortization from intangible assets acquired as part of the acquisitions from the second half of 2019, partially offset by certain other intangible assets being fully amortized.

For the year ended December 31, 2019 as compared to 2018, total amortization of acquired intangible assets decreased 41.9% primarily due to certain intangible assets being fully amortized.

Restructuring and other charges

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Restructuring and other charges	\$ 4.1	\$ 8.8	\$ 2.2	(53.6)%	NM*

* NM — percentage is not meaningful

In November 2020, we initiated a restructuring program to reduce overall expenses which is expected to improve future profitability by reducing spending on research and development efforts and sales, general and administrative programs. As a result, we recorded a charge of \$3.3 million primarily related to headcount costs.

During 2019, we initiated a restructuring program to reduce overall expenses. Additionally, we recorded other severance-related charges of \$1.4 million.

During 2018, we closed our lighting division and manufacturing operations in Brecksville, Ohio. As a result, we recorded a charge of \$2.2 million related to employee terminations and severance costs, and facility-related costs.

Refer to Note 18, “Restructuring and Other Charges,” of Notes to Consolidated Financial Statements of this Form 10-K for further discussion.

Loss on divestiture

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Loss on divestiture	\$ —	\$ 7.4	\$ —	— %	100.0 %

During 2020 and 2018, we did not record a charge for loss on divestiture.

During 2019, we entered into a share purchase agreement with Visa International Service Association (the “Purchaser”), pursuant to which the Purchaser had agreed to acquire all of the outstanding shares of our subsidiary, Smart Card Software Limited, which was comprised of our Payments and Ticketing businesses. The decision to sell these businesses reflected our review of our business to focus on products and offerings that are core to our semiconductor business.

Consequently, we measured these businesses at the lower of their carrying value or fair value less any costs to sell, and subsequently recognized a loss of approximately \$7.4 million during the year ended December 31, 2019.

Refer to Note 17, “Divestiture,” of Notes to Consolidated Financial Statements of this Form 10-K for further discussion.

Change in fair value of earn-out liability

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Change in fair value of earn-out liability	\$ (1.8)	\$ —	\$ —	100.0 %	— %

During 2020, we recorded a full reduction in the fair value of the earn-out liability related to the 2019 asset purchase agreement to acquire the Secure Silicon IP and Protocols business from Verimatrix, formerly Inside Secure, since the specified performance milestones were not met for calendar year 2020, which resulted in a gain in our consolidated statements of operations.

Interest and other income (expense), net

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Interest income and other income (expense), net	\$ 17.5	\$ 27.4	\$ 32.6	(36.0)%	(16.1)%
Interest expense	(10.3)	(9.9)	(16.3)	5.0 %	(39.5)%
Interest and other income (expense), net	\$ 7.2	\$ 17.5	\$ 16.3	(59.0)%	7.2 %

Interest income and other income (expense), net, primarily consists of interest income of \$14.2 million, \$20.4 million and \$27.2 million for the years ended December 31, 2020, 2019 and 2018, respectively, due to the significant financing component

of licensing agreements. Interest income and other income (expense), net, also includes interest income generated from investments in high quality fixed income securities and any gains or losses from the re-measurement of our monetary assets or liabilities denominated in foreign currencies.

Interest expense for all periods disclosed primarily consists of interest expense associated with the non-cash interest expense related to the amortization of the debt discount and issuance costs on the 1.375% convertible senior notes due 2023 (the “2023 Notes”) and the 1.125% convertible senior notes due 2018 (the “2018 Notes”), as well as the coupon interest related to these notes. Interest expense decreased in 2019 as compared to the same period in 2018 primarily due to the 2018 Notes maturing in the third quarter of 2018. We expect our non-cash interest expense to increase steadily as the notes reach maturity. Refer to Note 12, “Convertible Notes,” of Notes to Consolidated Financial Statements of this Form 10-K for additional details.

Prior to 2019, interest expense also included the interest expense associated with our previous imputed facility lease obligations on the Sunnyvale and Ohio facilities. For the year ended December 31, 2018, we recognized \$4.3 million of interest expense in connection with the imputed financing obligations in our statements of operations. In accordance with the adoption of ASC 842, the New Leasing Standard, we were required to derecognize our previous Sunnyvale and Ohio facilities as imputed facility obligations (as accounted for under the previous leasing standard) and recognize these facilities as operating leases. This change resulted in no longer recognizing interest expense associated with these imputed facility lease obligations, but instead, recognizing lease expense which would be included in operating costs and expenses.

Provision for income taxes

(Dollars in millions)	Years Ended December 31,			2019 to 2020	2018 to 2019
	2020	2019	2018	Change	Change
Provision for income taxes	\$ 4.0	\$ 3.4	\$ 87.3	16.9 %	(96.1)%
Effective tax rate	(10.0)%	(3.9)%	(123.6)%		

Our effective tax rate for the year ended December 31, 2020 differed from the U.S. statutory rate primarily due to the expiration of foreign tax credits, partially offset by the change in the valuation allowance against U.S. deferred tax assets. Our effective tax rate for the year ended December 31, 2019 was different from the U.S. statutory rate primarily due to the full valuation allowance on the current year tax loss. Our effective tax rate for the year ended December 31, 2018 was different from the U.S. statutory rate primarily due to the establishment of a full valuation allowance on U.S. federal deferred tax assets.

We recorded a provision for incomes taxes of \$4.0 million for the year ended December 31, 2020, which was primarily comprised of taxes on foreign earnings, the full valuation allowance on U.S. federal deferred tax assets, withholding tax expense, tax expense from the amortization of indefinite-lived intangibles, partially offset by a partial California deferred tax asset valuation allowance release. For the year ended December 31, 2020, we paid withholding taxes of \$19.7 million. We recorded a provision for incomes taxes of \$3.4 million for the year ended December 31, 2019, which was primarily comprised of taxes on foreign earnings, the full valuation allowance on U.S. federal deferred tax assets, withholding tax expense, and acquisition-related impacts. For the year ended December 31, 2019, we paid withholding taxes of \$17.1 million. We recorded a provision for incomes taxes of \$87.3 million for the year ended December 31, 2018, which was primarily comprised of the full valuation allowance on U.S. federal deferred tax assets. For the year ended December 31, 2018, we paid withholding taxes of \$20.4 million.

We periodically evaluate the realizability of our net deferred tax assets based on all available evidence, both positive and negative. During the third quarter of 2018, we assessed the changes in our underlying facts and circumstances and evaluated the realizability of our existing deferred tax assets based on all available evidence, both positive and negative, and the weight accorded to each, and concluded a full valuation allowance associated with U.S. federal and California deferred tax assets was appropriate. During 2020, as a result of the enactment of California A.B. 85 and the temporary suspension of California net operating loss utilization for tax years 2020 through 2022, we released \$0.6 million of the valuation allowance on our deferred tax asset for California research and development tax credits. We continue to maintain a full valuation allowance on the remainder of our California and U.S. federal deferred tax assets as we do not expect to be able to fully utilize them.

Liquidity and Capital Resources

(In millions)	December 31, 2020	December 31, 2019
Cash and cash equivalents	\$ 136.1	\$ 102.2
Marketable securities	366.5	305.5
Total cash, cash equivalents, and marketable securities	\$ 502.6	\$ 407.7

(In millions)	Years Ended December 31,		
	2020	2019	2018
Net cash provided by operating activities	\$ 185.5	\$ 128.5	\$ 87.1
Net cash used in investing activities	\$ (90.4)	\$ (141.5)	\$ (68.0)
Net cash used in financing activities	\$ (61.2)	\$ (0.3)	\$ (127.7)

Liquidity

We currently anticipate that existing cash, cash equivalents and marketable securities balances and cash flows from operations will be adequate to meet our cash needs for at least the next 12 months. Additionally, the majority of our cash and cash equivalents is in the United States. Our cash needs for the year ended December 31, 2020 were funded primarily from cash collected from our customers.

We do not anticipate any liquidity constraints as a result of either the current credit environment or investment fair value fluctuations. Additionally, we have the intent and ability to hold our debt investments that have unrealized losses in accumulated other comprehensive gain (loss) for a sufficient period of time to allow for recovery of the principal amounts invested. Further, we have no significant exposure to European sovereign debt. We continually monitor the credit risk in our portfolio and mitigate our credit risk exposures in accordance with our policies.

As a part of our overall business strategy, from time to time, we evaluate businesses and technologies for potential acquisitions that are aligned with our core business and designed to supplement our growth.

To provide us with more flexibility in returning capital to our stockholders, on October 29, 2020, our Board approved the 2020 Repurchase Program authorizing the repurchase of up to an aggregate of 20.0 million shares. Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program. The 2020 Repurchase Program replaced the previous 2015 Repurchase Program approved by our Board in January 2015 and canceled the remaining shares outstanding as part of the previous authorization.

On November 11, 2020, we entered into the 2020 ASR Program with Deutsche Bank. The 2020 ASR Program was part of the broader share repurchase program previously authorized by our Board on October 29, 2020. Under the 2020 ASR Program, we pre-paid to Deutsche Bank the \$50.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 2.6 million shares of our common stock from Deutsche Bank in the fourth quarter of 2020, which were retired and recorded as a \$40.0 million reduction to stockholders' equity. The remaining \$10.0 million of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to our stock.

As of December 31, 2020, there remained an outstanding authorization to repurchase approximately 17.4 million shares of our outstanding common stock under the 2020 Repurchase Plan. Refer to "Share Repurchase Program" below.

Operating Activities

Cash provided by operating activities of \$185.5 million for the year ended December 31, 2020 was primarily attributable to the cash generated from customer licensing, product sales and engineering services fees. Changes in operating assets and liabilities for the year ended December 31, 2020 primarily included decreases in unbilled receivables, accounts receivable, prepaids and other current assets, and an increase in accrued salaries and benefits, offset by a decrease in income taxes payable and an increase in inventories.

Cash provided by operating activities of \$128.5 million for the year ended December 31, 2019 was primarily attributable to the cash generated from customer licensing, technology and software licenses and related implementation, support and maintenance fees, product sales, and engineering services fees. Changes in operating assets and liabilities for the year ended December 31, 2019 primarily included decreases in accounts receivable, unbilled receivables and deferred revenue, offset by increases in prepaids and other current assets, inventories and accrued salaries and benefits.

Cash provided by operating activities of \$87.1 million for the year ended December 31, 2018 was primarily attributable to the cash generated from customer licensing, technology and software licenses and related implementation, support and maintenance fees, product sales and engineering services fees. Changes in operating assets and liabilities for the year ended December 31, 2018 primarily included increases in unbilled receivables, accounts receivable and prepaids and other current assets, offset by decreases in accounts payable and accrued salaries and benefits and other liabilities.

Investing Activities

Cash used in investing activities of \$90.4 million for the year ended December 31, 2020 consisted of purchases of available-for-sale marketable securities of \$899.0 million, \$29.7 million paid to acquire property, plant and equipment, and \$1.1 million paid to settle a net working capital adjustment related to the divestiture of our Payments and Ticketing businesses, offset by proceeds from the maturities and sale of available-for-sale marketable securities of \$817.8 million and \$21.6 million, respectively.

Cash used in investing activities of \$141.5 million for the year ended December 31, 2019 primarily consisted of purchases of available-for-sale marketable securities of \$657.4 million, \$21.9 million paid for the acquisition of Northwest Logic, net of cash acquired of \$0.1 million, \$45.0 million paid for the acquisition of the Secure Silicon IP and Protocols business from Verimatrix, formerly Inside Secure, and \$6.5 million paid to acquire property, plant and equipment, offset by proceeds from the maturities and sale of available-for-sale marketable securities of \$507.4 million and \$6.8 million, respectively, and net proceeds of \$76.0 million from the divestiture of our Payments and Ticketing businesses.

Cash used in investing activities of \$68.0 million for the year ended December 31, 2018 primarily consisted of purchases of available-for-sale marketable securities of \$282.1 million, \$10.8 million paid to acquire property, plant and equipment and \$3.0 million paid for investment in a privately held company, offset by proceeds from the maturities of available-for-sale marketable securities of \$223.1 million, proceeds from the sale of assets held for sale of \$3.8 million and proceeds from the sale of an equity security of \$1.3 million.

Financing Activities

Cash used in financing activities of \$61.2 million for the year ended December 31, 2020 was primarily due to an aggregate payment of \$50.0 million to Deutsche Bank as part of the 2020 ASR Program. We also paid \$13.2 million under installment payment arrangements to acquire fixed assets, \$9.4 million in payments of taxes on restricted stock units and \$0.1 million in fees related to the 2020 ASR Program, offset by \$11.5 million in proceeds from the issuance of common stock under equity incentive plans.

Cash used in financing activities was \$0.3 million for the year ended December 31, 2019 and was primarily due to \$8.4 million in payments under installment payment arrangements to acquire fixed assets and \$7.0 million in payments of taxes on restricted stock units, offset by \$15.1 million proceeds from the issuance of common stock under equity incentive plans.

Cash used in financing activities was \$127.7 million for the year ended December 31, 2018 and was primarily due to the repayment of the remaining aggregate principal of the 2018 Notes amounting to \$81.2 million, which became due in August 2018, an aggregate payment of \$50.0 million to Citibank N.A., as part of our accelerated share repurchase program, and \$6.8 million in payments of taxes on restricted stock units, offset by \$11.4 million proceeds from the issuance of common stock under equity incentive plans.

Contractual Obligations

On December 15, 2009, we entered into a lease agreement for approximately 125,000 square feet of office space located at 1050 Enterprise Way in Sunnyvale, California, which commenced on July 1, 2010 and expired on June 30, 2020. The office space was used for our corporate headquarters, as well as engineering, sales, marketing and administrative operations and activities.

On July 8, 2019, we entered into a definitive triple net space lease agreement with 237 North First Street Holdings, LLC (the "Landlord"), whereby we leased office space located at 4453 North First Street in San Jose, California, (the "Lease"). In April 2020, the lease was amended for certain terms (the "Amended Lease"). The Amended Lease includes approximately 90,000 square feet of office space, which serves as our corporate headquarters and includes engineering, sales, marketing and administrative functions. The Amended Lease has a term of 128 months from the amended commencement date in April 2020. The starting rent of the Amended Lease is approximately \$3.26 per square foot on a triple net basis. The annual base rent increases each year to certain fixed amounts over the course of the term as set forth in the Amended Lease and will be \$4.38 per square foot in the final year of the Amended Lease term. In addition to the base rent, we will also pay operating expenses, insurance expenses, real estate taxes, and a management fee under the Amended Lease. The Amended Lease also allows for an option to expand, wherein we have the right of first refusal to rent additional space in the building. We have a one-time option

to extend the Amended Lease for a period of 60 months and may elect to terminate the Amended Lease, via written notice to the Landlord, in the event the office space is damaged or destroyed. Total required payments under the Amended Lease are approximately \$41 million. Pursuant to the terms of the Amended Lease, the landlord agreed to reimburse us up to \$9.0 million, related to a tenant improvement allowance.

On November 17, 2017, we entered into an Indenture with U.S. Bank, National Association, as trustee, relating to the issuance by us of \$172.5 million aggregate principal amount of the 2023 Notes. Refer to Note 12, “Convertible Notes,” of Notes to Consolidated Financial Statements of this Form 10-K for additional details.

As of December 31, 2020, our material contractual obligations were as follows:

(In thousands)	Total	2021	2022	2023	2024	2025
Contractual obligations ^{(1) (2) (3)}						
Software licenses ⁽⁴⁾	\$ 18,970	\$ 12,541	\$ 6,429	\$ —	\$ —	\$ —
Acquisition retention bonuses ⁽⁵⁾	6,370	3,370	3,000	—	—	—
Convertible notes	172,500	—	—	172,500	—	—
Interest payments related to convertible notes	5,936	2,372	2,372	1,192	—	—
Total	<u>\$ 203,776</u>	<u>\$ 18,283</u>	<u>\$ 11,801</u>	<u>\$ 173,692</u>	<u>\$ —</u>	<u>\$ —</u>

⁽¹⁾ The above table does not reflect possible payments in connection with unrecognized tax benefits of approximately \$25.5 million including \$23.6 million recorded as a reduction of long-term deferred tax assets and \$1.9 million in long-term income taxes payable, as of December 31, 2020. As noted in Note 19, “Income Taxes,” of Notes to Consolidated Financial Statements of this Form 10-K, although it is possible that some of the unrecognized tax benefits could be settled within the next 12 months, we cannot reasonably estimate the outcome at this time.

⁽²⁾ For our lease commitments as of December 31, 2020, refer to Note 10, “Leases,” of Notes to Consolidated Financial Statements of this Form 10-K.

⁽³⁾ Our other contractual obligations as of December 31, 2020 were not material.

⁽⁴⁾ We have commitments with various software vendors for agreements generally having terms longer than one year.

⁽⁵⁾ In connection with the acquisitions of Northwest Logic in August 2019 and the Secure Silicon IP and Protocols business in December 2019, we are obligated to pay retention bonuses to certain employees subject to certain eligibility and acceleration provisions including the condition of employment.

Share Repurchase Program

On January 21, 2015, our Board approved a share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the “2015 Repurchase Program”). Share repurchases under the 2015 Repurchase Program were made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. During the years ended December 31, 2020 and 2019, we did not repurchase any shares of our common stock under the 2015 Repurchase Program.

On October 29, 2020, our Board approved the 2020 Repurchase Program authorizing the repurchase of up to an aggregate of 20.0 million shares. Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program. The 2020 Repurchase Program replaced the previous program approved by the Board in January 2015 and canceled the remaining shares outstanding as part of the previous authorization.

On November 11, 2020, we entered into the 2020 ASR Program with Deutsche Bank. The 2020 ASR Program was part of the broader 2020 Repurchase Program. Under the 2020 ASR Program, we pre-paid to Deutsche Bank the \$50.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 2.6 million shares of our common stock from Deutsche Bank in the fourth quarter of 2020, which were retired and recorded as a \$40.0 million reduction to stockholders’ equity. The remaining \$10.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock.

The number of shares to be ultimately purchased by us will be determined based on the volume-weighted-average price of the common stock during the terms of the transaction, minus an agreed upon discount between the parties. The 2020 ASR

Program is expected to be completed within six months from the beginning of the program. There were no other repurchases of our common stock during 2020.

As of December 31, 2020, there remained an outstanding authorization to repurchase approximately 17.4 million shares of our outstanding common stock under the current share repurchase program.

We record share repurchases as a reduction to stockholders' equity. We record a portion of the purchase price of the repurchased shares as an increase to accumulated deficit when the price of the shares repurchased exceeds the average original proceeds per share received from the issuance of common stock. During the year ended December 31, 2020, the cumulative price of \$31.5 million was recorded as an increase to accumulated deficit.

Warrants

In connection with the 2023 Notes, we separately entered into privately negotiated warrant transactions, whereby we sold to the Counterparties warrants (the "Warrants") to acquire, collectively, subject to anti-dilution adjustments, approximately 9.1 million shares of our common stock at an initial strike price of approximately \$23.30 per share, which represents a premium of 60% over the last reported sale price of our common stock of \$14.56 on November 14, 2017. We received aggregate proceeds of approximately \$23.2 million from the sale of the Warrants to the Counterparties. The Warrants are separate transactions and are not part of the 2023 Notes or Convertible Note Hedge Transactions. Holders of the 2023 Notes and Convertible Note Hedge Transactions will not have any rights with respect to the Warrants. Refer to Note 12, "Convertible Notes," of Notes to Consolidated Financial Statements of this Form 10-K for additional details.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, investments, income taxes, litigation and other contingencies. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

Overview

We recognize revenue upon transfer of control of promised goods and services in an amount that reflects the consideration we expect to receive in exchange for those goods and services. Substantially all of the goods and services are distinct and are accounted for as separate performance obligations.

Where an arrangement includes multiple performance obligations, the transaction price is allocated to these on a relative standalone selling price basis. We have established standalone selling prices for all of our offerings - specifically, the same pricing methodology is consistently applied to all licensing arrangements; all services offerings are priced within tightly controlled bands and all contracts that include support and maintenance state a renewal rate or price that is systematically enforced.

Our revenue consists of royalty, product and contract and other revenue. Royalty revenue consists of patent and technology license royalties. Products primarily consist of memory interface chips sold directly and indirectly to module manufacturers and OEMs worldwide through multiple channels, including our direct sales force and distributors. Contract and other revenue consists of software license fees, engineering fees associated with integration of our technology solutions into our customers' products and support and maintenance fees.

Royalty Revenue

Our patent and technology licensing arrangements generally range between one year and ten years in duration and generally grant the licensee the right to use our entire IP portfolio as it evolves over time. These arrangements do not typically grant the licensee the right to terminate for convenience and where such rights exist, termination is prospective, with no refund of fees already paid by the licensee. There is no interdependency or interrelation between the IP included in the portfolio licensed upon

contract inception and any IP subsequently made available to the licensee, and we would be able to fulfill our promises by transferring the portfolio and the additional IP use rights independently. However, the numbers of additions to, and removals from the portfolio (for example when a patent expires and renewal is not granted to us) in any given period have historically been relatively consistent; as such, we do not allocate the transaction price between the rights granted at contract inception and those subsequently granted over time as a function of these additions.

Patent and technology licensing arrangements result in fixed payments received over time, with guaranteed minimum payments on occasion, variable payments calculated based on the licensee's sale or use of the IP, or a mix of fixed and variable payments.

- For fixed-fee arrangements (including arrangements that include minimum guaranteed amounts), we recognize revenue upon control over the underlying IP use right transferring to the licensee, net of the effect of significant financing components calculated using customer-specific, risk-adjusted lending rates ranging between 3% and 5%, with the related interest income being recognized over time on an effective rate basis. Where a licensee has the contractual right to terminate a fixed-fee arrangement for convenience without any substantive penalty payable upon such termination, we only recognize revenue on contracts in which the parties have present enforceable rights and obligations and that are due and payable.
- For variable arrangements, we recognize revenue based on an estimate of the licensee's sale or usage of the IP during the period of reference, typically quarterly, with a true-up recorded when we receive the actual royalty report from the licensee.

Product Revenue

Product revenue is recognized upon shipment of product to customers, net of accruals for estimated sales returns and allowances, and to distributors, net of accruals for price protection and rights of return on products unsold by the distributors. To date, none of these accruals have been significant. We transact with direct customers primarily pursuant to standard purchase orders for delivery of products and generally allow customers to cancel or change purchase orders within limited notice periods prior to the scheduled shipment date.

Contract and Other Revenue

Contract and other revenue consists of software license fees and engineering fees associated with integration of our technology solutions into our customers' related support and maintenance.

An initial software arrangement generally consists of a term-based or perpetual license, significant software customization services and support and maintenance services that include post-implementation customer support and the right to unspecified software updates and enhancements on a when and if available basis. We recognize license and customization services revenue based on an over time model, measured using the input method. License and customization services revenue is reported as part of contract and other revenue. Due to the nature of the work performed in these arrangements, the estimation of the over time model is complex and involves significant judgment. The key factor reviewed by us to estimate costs to complete each contract is the estimated man-months necessary to complete the project. We recognize license renewal revenue at the beginning of the renewal period.

Significant Judgments

Historically and with the exception noted below, no significant judgment has generally been required in determining the amount and timing of revenue from our contracts with customers.

- We have adequate tools and controls in place, and substantial experience and expertise in timely and accurately tracking man-months incurred in completing customization and other professional services, and quantifying changes in estimates.

Key estimates used in recognizing revenue predominantly consist of the following:

- For fixed-fee arrangements in which cash is being received over a period exceeding a year, we calculate a customer-specific lending rate using a Daily Treasury Yield Curve Rate that changes depending on the date on which the licensing arrangement was entered into and the term (in years) of the arrangement, and take into consideration a licensee-specific risk profile determined based on a review of the licensee's "Full Company View" Dun & Bradstreet report obtained on the date the licensing arrangement was signed by the parties, with a risk premium being added to the Daily Treasury Yield Curve Rate considering the overall business risk, financing strength and risk indicators, as listed.
- We recognize revenue on variable fee licensing arrangements on the basis of estimates.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired in each business combination. Goodwill is not subject to amortization, but is subject to at least an annual assessment for impairment. We perform our impairment analysis of goodwill on an annual basis during the fourth quarter of the year unless conditions arise that warrant a more frequent evaluation.

When goodwill is assessed for impairment, we have the option to perform an assessment of qualitative factors of impairment (optional assessment) prior to necessitating a quantitative impairment test. Should the optional assessment be used for any given year, qualitative factors to consider for a reporting unit include: cost factors; financial performance; legal, regulatory, contractual, political, business, or other factors; entity specific factors; industry and market considerations; macroeconomic conditions; and other relevant events and factors affecting the reporting unit. If we determine in the qualitative assessment that it is more likely than not that the fair value of the reporting unit is less than its carrying value, a quantitative test is then performed. Otherwise, no further testing is required. For a reporting unit tested using a quantitative approach, we compare the fair value of the reporting unit with the carrying amount of the reporting unit, including goodwill. The fair value of the reporting unit is estimated using an income approach.

Under the income approach, we measure fair value of the reporting unit based on a projected cash flow method using a discount rate determined by our management which is commensurate with the risk inherent in its current business model. Our discounted cash flow projections are based on its annual financial forecasts developed internally by management for use in managing our business. If the fair value of the reporting unit exceeds its carrying value, goodwill is not impaired and no further testing is required. If the fair value of the reporting unit is less than the carrying value, then the amount of goodwill impairment will be the amount by which the reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill.

Intangible Assets

Intangible assets are comprised of existing technology, customer contracts and contractual relationships, and other definite-lived and indefinite-lived intangible assets. Identifiable intangible assets resulting from the acquisitions of entities accounted for using the purchase method of accounting are estimated by management based on the fair value of assets received. Identifiable definite-lived intangible assets are being amortized over the period of estimated benefit using the straight-line method and estimated useful lives ranging from six months to ten years.

We amortize definite-lived assets over their estimated useful lives. We evaluate definite-lived and indefinite-lived assets for impairment whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. The carrying value is not recoverable if it exceeds the undiscounted cash flows resulting from the use of the asset and its eventual disposition. Our estimates of future cash flows attributable to our assets require significant judgment based on our historical and anticipated results and are subject to many factors. Factors we consider important which could trigger an impairment review include significant negative industry or economic trends, significant loss of clients, and significant changes in the manner of our use of the acquired assets or the strategy for our overall business.

When we determine that the carrying value of the assets may not be recoverable based upon the existence of one or more of the above indicators of impairment, we measure the potential impairment based on a projected discounted cash flow method using a discount rate determined by our management to be commensurate with the risk inherent in our current business model. An impairment loss is recognized only if the carrying amount of the asset is not recoverable and exceeds its fair value. Different assumptions and judgments could materially affect the calculation of the fair value of our assets.

Acquired indefinite-lived intangible assets related to our IPR&D are capitalized and subject to impairment testing until completion or abandonment of the projects. Upon successful completion of each project, we make a separate determination of the useful life of the acquired indefinite-lived intangible assets and the related amortization is recorded as an expense over the estimated useful life of the specific projects. Indefinite-lived intangible assets are subject to at least an annual assessment for impairment, applying a fair-value based test. Under the income approach, we measure fair value of the indefinite-lived intangible assets based on a projected cash flow method using a discount rate determined by our management which is commensurate with the risk inherent in our current business model. Our discounted cash flow projections are based on our annual financial forecasts developed internally by our management for use in managing our business. If the fair value of the indefinite-lived intangible assets exceeds its carrying value, the indefinite-lived intangible assets are not impaired and no further testing is required. If the implied fair value of the indefinite-lived intangible assets is less than the carrying value, the difference is recorded as an impairment loss.

Income Taxes

As part of preparing our consolidated financial statements, we are required to calculate the income tax expense (benefit) which relates to the pretax income or loss for the period. In addition, we are required to assess the realization of the deferred tax asset or liability to be included on the consolidated balance sheet as of the reporting dates.

As of December 31, 2020, our consolidated balance sheet included net deferred tax assets, before valuation allowance, of approximately \$164.3 million, which consists of net operating loss carryovers, tax credit carryovers, amortization, employee stock-based compensation expenses, certain liabilities and certain assets. As of December 31, 2020, we have a valuation allowance of \$174.3 million resulting in net deferred tax liabilities of \$10.0 million.

We maintain liabilities for uncertain tax positions within our long-term income taxes payable accounts and as a reduction to existing deferred tax assets or other refundable taxes to the extent tax attributes are available to offset such liabilities. These liabilities involve judgment and estimation and are monitored by us based on the best information available including changes in tax regulations, the outcome of relevant court cases and other information.

The calculation of our tax liabilities involves uncertainties in the application of complex tax law and regulations in a multitude of jurisdictions. Although ASC 740, "Income Taxes," provides further clarification on the accounting for uncertainty in income taxes, significant judgment is required by us. If the ultimate resolution of tax uncertainties is different from what is currently estimated, it could materially affect income tax expense.

Stock-Based Compensation

We maintain stock plans covering a broad range of potential equity grants including stock options, nonvested equity stock and equity stock units and performance-based instruments. In addition, we sponsor an Employee Stock Purchase Plan ("ESPP"), whereby eligible employees are entitled to purchase Common Stock semi-annually, by means of limited payroll deductions, at a 15% discount from the fair market value of the Common Stock as of specific dates.

The accounting guidance for share-based payments requires the measurement and recognition of compensation expense in our statement of operations for all share-based payment awards made to our employees, directors and consultants including employee stock options, nonvested equity stock and equity stock units, and employee stock purchase grants. Stock-based compensation expense is measured at grant date, based on the estimated fair value of the award, reduced by an estimate of the annualized rate of expected forfeitures, and is recognized as expense over the employees' expected requisite service period, generally using the straight-line method. In addition, the accounting guidance for share-based payments requires the benefits of tax deductions in excess of recognized compensation expense to be reported as a financing cash flow. Our forfeiture rate represents the historical rate at which our stock-based awards were surrendered prior to vesting. The accounting guidance for share-based payments requires forfeitures to be estimated at the time of grant and revised on a cumulative basis, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Refer to Note 14, "Equity Incentive Plans and Stock-Based Compensation," of Notes to Consolidated Financial Statements of this Form 10-K for more information regarding the valuation of stock-based compensation.

Business Combinations

We account for acquisitions of businesses using the purchase method of accounting, which requires us to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, the estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of operations.

Accounting for business combinations requires us to make significant estimates and assumptions, especially at the acquisition date including our estimates for intangible assets, contractual obligations assumed and pre-acquisition contingencies where applicable. Although we believe the assumptions and estimates made in the past have been reasonable and appropriate, they are based in part on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Significant estimates and assumptions made by us in estimating the fair value of the existing technologies included revenue growth rates, operating expense margins, technology obsolescence rates and discount rates. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

Recent Accounting Pronouncements

Refer to Note 3, “Recent Accounting Pronouncements,” of Notes to Consolidated Financial Statements of this Form 10-K for a full description of recent accounting pronouncements including the respective expected dates of adoption.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

We are exposed to financial market risks, primarily arising from the effect of interest rate fluctuations on our investment portfolio. Interest rate fluctuation may arise from changes in the market’s view of the quality of the security issuer, the overall economic outlook, and the time to maturity of our portfolio. We mitigate this risk by investing only in high quality, highly liquid instruments. Securities with original maturities of one year or less must be rated by two of the three industry standard rating agencies as follows: A1 by Standard & Poor’s, P1 by Moody’s and/or F-1 by Fitch. Securities with original maturities of greater than one year must be rated by two of the following industry standard rating agencies as follows: AA- by Standard & Poor’s, Aa3 by Moody’s and/or AA- by Fitch. By corporate investment policy, we limit the amount of exposure to \$15.0 million or 10% of the portfolio, whichever is lower, for any single non-U.S. Government issuer. A single U.S. Agency can represent up to 25% of the portfolio. No more than 20% of the total portfolio may be invested in the securities of an industry sector, with money market fund investments evaluated separately. Our policy requires that at least 10% of the portfolio be in securities with a maturity of 90 days or less. We may make investments in U.S. Treasuries, U.S. Agencies, corporate bonds and municipal bonds and notes with maturities up to 36 months. However, the bias of our investment portfolio is shorter maturities. All investments must be U.S. dollar denominated. Additionally, we have no significant exposure to European sovereign debt.

We invest our cash equivalents and marketable securities in a variety of U.S. dollar financial instruments such as U.S. Treasuries, U.S. Government Agencies, commercial paper and corporate notes. Our policy specifically prohibits trading securities for the sole purposes of realizing trading profits. However, we may liquidate a portion of our portfolio if we experience unforeseen liquidity requirements. In such a case, if the environment has been one of rising interest rates we may experience a realized loss, similarly, if the environment has been one of declining interest rates we may experience a realized gain. As of December 31, 2020, we had an investment portfolio of fixed income marketable securities of \$441.2 million including cash equivalents. If market interest rates were to increase immediately and uniformly by 1.0% from the levels as of December 31, 2020, the fair value of the portfolio would decline by approximately \$2.3 million. Actual results may differ materially from this sensitivity analysis.

The fair value of our convertible notes is subject to interest rate risk, market risk and other factors due to the convertible feature. The fair value of the convertible notes will generally increase as interest rates fall and decrease as interest rates rise. In addition, the fair value of the convertible notes will generally increase as our common stock price increases and will generally decrease as our common stock price declines in value. The interest and market value changes affect the fair value of our convertible notes but do not impact our financial position, cash flows or results of operations due to the fixed nature of the debt obligation.

We invoice the majority of our customers in U.S. dollars. Although the fluctuation of currency exchange rates may impact our customers, and thus indirectly impact us, we do not attempt to hedge this indirect and speculative risk. Our overseas operations consist primarily of international business operations in the Netherlands and the United Kingdom, design centers in Canada, India and Finland and small business development offices in Australia, China, Japan, Korea and Taiwan. We monitor our foreign currency exposure; however, as of December 31, 2020, we believe our foreign currency exposure is not material enough to warrant foreign currency hedging.

Item 8. *Financial Statements and Supplementary Data*

Refer to Item 15, “Exhibits and Financial Statement Schedules,” of this Form 10-K for required financial statements and supplementary data.

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to ensure that information required to be disclosed in the reports we file or submit pursuant to the Securities and Exchange Act of 1934 as amended (“Exchange Act”) is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management, with the participation of the Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2020, our disclosure controls and procedures were effective.

Management’s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

- (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and dispositions of assets;
- (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with the authorization of our management and directors; and
- (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, our management used the criteria set forth in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on the results of this assessment, management has concluded that, as of December 31, 2020, our internal control over financial reporting was effective based on the criteria in *Internal Control — Integrated Framework (2013)* issued by the COSO.

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by PricewaterhouseCoopers, LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control Over Financial Reporting

There were no changes in internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) during the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance*

The information responsive to this item is incorporated herein by reference to our Proxy Statement for our 2021 annual meeting of stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K. The information under the heading “Our Executive Officers” in Part I, Item 1 of this Annual Report on Form 10-K is also incorporated herein by reference.

We have a Code of Business Conduct and Ethics for all of our directors, officers and employees. Our Code of Business Conduct and Ethics is available on our website at <https://investor.rambus.com/corporate-governance/committee-composition/code-of-business-conduct-and-ethics/default.aspx>. To date, there have been no waivers under our Code of Business Conduct and Ethics. We will post any amendments or waivers, if and when granted, of our Code of Business Conduct and Ethics on our website.

Item 11. *Executive Compensation*

The information responsive to this item is incorporated herein by reference to our Proxy Statement for our 2021 annual meeting of stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The information responsive to this item is incorporated herein by reference to our Proxy Statement for our 2021 annual meeting of stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

The information responsive to this item is incorporated herein by reference to our Proxy Statement for our 2021 annual meeting of stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 14. *Principal Accountant Fees and Services*

The information responsive to this item is incorporated herein by reference to our Proxy Statement for our 2021 annual meeting of stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) (1) Financial Statements

The following consolidated financial statements of the Registrant and Report of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm, are included herewith:

	<u>Page</u>
Report of Independent Registered Public Accounting Firm	49
Consolidated Balance Sheets as of December 31, 2020 and 2019	51
Consolidated Statements of Operations for the years ended December 31, 2020, 2019 and 2018	52
Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2020, 2019 and 2018	53
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2020, 2019 and 2018	54
Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019 and 2018	55
Notes to Consolidated Financial Statements	57
Consolidated Supplementary Financial Data (unaudited)	92

(a) (2) Financial Statement Schedule

All schedules are omitted because they are not applicable or the required information is shown in the Consolidated Financial Statements or the notes thereto.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Rambus Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Rambus Inc. and its subsidiaries (the “Company”) as of December 31, 2020 and 2019, and the related consolidated statements of operations, of comprehensive income (loss), of stockholders’ equity and of cash flows for each of the three years in the period ended December 31, 2020, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Changes in Accounting Principles

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019 and the manner in which it accounts for revenues from contracts with customers in 2018.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and

dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - License and Customization Services Revenue

As described in Note 2 to the consolidated financial statements, the Company recognizes license and customization services revenue based on an over time model, measured using the input method. License and customization services revenue is reported as part of contract and other revenue which was \$19.8 million for the year ended December 31, 2020. Due to the nature of the work performed in these arrangements, the estimation of the over time model is complex and involves significant judgment. The key factor reviewed by management to estimate costs to complete each contract is the estimated man-months necessary to complete the project.

The principal considerations for our determination that performing procedures relating to revenue recognition for license and customization services revenue is a critical audit matter are the significant judgment by management in determining the estimated man-months necessary to contract completion for each contract, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence related to management's estimate of man-months necessary to complete each project.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Company's license and customization services revenue recognition process, including controls over management's determination of the estimate of total man-months to complete each contract. These procedures also included, among others, for a sample of contracts, testing management's process for determining the estimate of total man-months. Evaluating management's assumption related to the estimate of man-months involved (i) performing a comparison of the estimated man-months to completed projects of similar size and (ii) evaluating the timely identification of circumstances which may warrant a modification to a previous cost estimate, including an assessment of total man-months.

/s/ PricewaterhouseCoopers LLP

San Jose, California

February 26, 2021

We have served as the Company's auditor since 1991.

RAMBUS INC.
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2020	2019
	(In thousands, except shares and per share amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 136,146	\$ 102,176
Marketable securities	366,503	305,488
Accounts receivable	27,903	44,039
Unbilled receivables	135,897	184,366
Inventories	14,466	10,086
Prepays and other current assets	15,907	18,524
Total current assets	696,822	664,679
Intangible assets, net	36,487	54,900
Goodwill	183,222	183,465
Property, plant and equipment, net	57,693	44,714
Operating lease right-of-use assets	28,708	37,020
Deferred tax assets	4,353	4,574
Unbilled receivables, long-term	232,056	343,703
Other assets	4,535	5,931
Total assets	\$ 1,243,876	\$ 1,338,986
LIABILITIES & STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 8,993	\$ 9,549
Accrued salaries and benefits	23,326	20,291
Deferred revenue	10,198	11,947
Income taxes payable, short-term	20,064	19,142
Operating lease liabilities	4,724	6,357
Other current liabilities	18,559	18,893
Total current liabilities	85,864	86,179
Convertible notes, long-term	156,031	148,788
Long-term operating lease liabilities	34,305	39,889
Long-term income taxes payable	41,333	60,094
Deferred tax liabilities	14,336	13,846
Other long-term liabilities	6,894	19,272
Total liabilities	338,763	368,068
Commitments and contingencies (Notes 10, 13 and 20)		
Stockholders' equity:		
Convertible preferred stock, \$.001 par value:		
Authorized: 5,000,000 shares; Issued and outstanding: no shares at December 31, 2020 and December 31, 2019	—	—
Common Stock, \$.001 par value:		
Authorized: 500,000,000 shares; Issued and outstanding: 111,697,994 shares at December 31, 2020 and 112,131,352 shares at December 31, 2019	112	112
Additional paid in capital	1,270,426	1,261,142
Accumulated deficit	(365,344)	(290,244)
Accumulated other comprehensive loss	(81)	(92)
Total stockholders' equity	905,113	970,918
Total liabilities and stockholders' equity	\$ 1,243,876	\$ 1,338,986

Refer to Notes to Consolidated Financial Statements

RAMBUS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2020	2019	2018
	(In thousands, except per share amounts)		
Revenue:			
Royalties	\$ 80,985	\$ 90,785	\$ 130,452
Product revenue	113,996	72,972	38,690
Contract and other revenue	47,766	60,270	62,059
Total revenue	<u>242,747</u>	<u>224,027</u>	<u>231,201</u>
Cost of revenue:			
Cost of product revenue	37,749	27,156	18,299
Cost of contract and other revenue	5,647	9,905	11,718
Amortization of acquired intangible assets	17,352	14,314	23,684
Total cost of revenue	<u>60,748</u>	<u>51,375</u>	<u>53,701</u>
Gross profit	<u>181,999</u>	<u>172,652</u>	<u>177,500</u>
Operating expenses:			
Research and development	139,837	156,815	158,339
Sales, general and administrative	85,619	101,373	98,254
Amortization of acquired intangible assets	1,061	2,743	5,657
Restructuring and other charges	4,089	8,821	2,217
Loss on divestiture	—	7,439	—
Change in fair value of earn-out liability	(1,800)	—	—
Total operating expenses	<u>228,806</u>	<u>277,191</u>	<u>264,467</u>
Operating loss	<u>(46,807)</u>	<u>(104,539)</u>	<u>(86,967)</u>
Interest income and other income (expense), net	17,516	27,375	32,621
Interest expense	(10,340)	(9,852)	(16,282)
Interest and other income (expense), net	<u>7,176</u>	<u>17,523</u>	<u>16,339</u>
Loss before income taxes	<u>(39,631)</u>	<u>(87,016)</u>	<u>(70,628)</u>
Provision for income taxes	3,978	3,403	87,329
Net loss	<u>\$ (43,609)</u>	<u>\$ (90,419)</u>	<u>\$ (157,957)</u>
Net loss per share:			
Basic	<u>\$ (0.39)</u>	<u>\$ (0.81)</u>	<u>\$ (1.46)</u>
Diluted	<u>\$ (0.39)</u>	<u>\$ (0.81)</u>	<u>\$ (1.46)</u>
Weighted-average shares used in per share calculations:			
Basic	<u>113,254</u>	<u>110,948</u>	<u>108,450</u>
Diluted	<u>113,254</u>	<u>110,948</u>	<u>108,450</u>

Refer to Notes to Consolidated Financial Statements

RAMBUS INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Net loss	\$ (43,609)	\$ (90,419)	\$ (157,957)
Other comprehensive income (loss):			
Foreign currency translation adjustment	24	10,145	(4,447)
Unrealized gain (loss) on marketable securities, net of tax	(13)	54	(747)
Total comprehensive loss	<u>\$ (43,598)</u>	<u>\$ (80,220)</u>	<u>\$ (163,151)</u>

Refer to Notes to Consolidated Financial Statements

RAMBUS INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Gain (Loss)	Total
	Shares	Amount				
(In thousands)						
Balances at December 31, 2017	109,764	\$ 110	\$ 1,212,798	\$ (636,227)	\$ (5,097)	\$ 571,584
Net loss	—	—	—	(157,957)	—	(157,957)
Foreign currency translation adjustment	—	—	—	—	(4,447)	(4,447)
Unrealized loss on marketable securities, net of tax	—	—	—	—	(747)	(747)
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan	2,616	3	4,627	—	—	4,630
Repurchase and retirement of common stock under repurchase plan	(3,786)	(4)	(12,573)	(37,456)	—	(50,033)
Stock-based compensation	—	—	21,736	—	—	21,736
Issuance of common stock in connection with the maturity of the 2018 Notes related to the settlement of the in-the-money conversion feature of the 2018 Notes	424	—	—	—	—	—
Cumulative effect adjustment from adoption of ASU 2016-01	—	—	—	1,058	—	1,058
Cumulative effect adjustment from the adoption of ASC 606	—	—	—	626,288	—	626,288
Balances at December 31, 2018	109,018	109	1,226,588	(204,294)	(10,291)	1,012,112
Net loss	—	—	—	(90,419)	—	(90,419)
Foreign currency translation adjustment	—	—	—	—	10,145	10,145
Unrealized gain on marketable securities, net of tax	—	—	—	—	54	54
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan	3,113	3	8,078	—	—	8,081
Stock-based compensation	—	—	26,476	—	—	26,476
Cumulative effect adjustment from the adoption of ASC 842	—	—	—	4,469	—	4,469
Balances at December 31, 2019	112,131	112	1,261,142	(290,244)	(92)	970,918
Net loss	—	—	—	(43,609)	—	(43,609)
Foreign currency translation adjustment	—	—	—	—	24	24
Unrealized loss on marketable securities, net of tax	—	—	—	—	(13)	(13)
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan	2,183	3	2,081	—	—	2,084
Repurchase and retirement of common stock under repurchase plan	(2,616)	(3)	(18,575)	(31,491)	—	(50,069)
Stock-based compensation	—	—	25,778	—	—	25,778
Balances at December 31, 2020	111,698	\$ 112	\$ 1,270,426	\$ (365,344)	\$ (81)	\$ 905,113

Refer to Notes to Consolidated Financial Statements

RAMBUS INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Cash flows from operating activities:			
Net loss	\$ (43,609)	\$ (90,419)	\$ (157,957)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Stock-based compensation	25,778	26,476	21,736
Depreciation	28,951	23,507	10,745
Amortization of intangible assets	18,413	17,058	29,341
Non-cash interest expense and amortization of convertible debt issuance costs	7,243	6,854	9,243
Deferred income taxes	685	(1,816)	79,954
Non-cash restructuring	—	—	670
Loss on divestiture	—	7,439	—
Loss on equity investment	747	696	67
Gain from sale of marketable equity security	—	—	(291)
Gain from sale of assets held for sale	—	—	(1,266)
(Gain) loss from disposal of property, plant and equipment	(77)	157	395
Change in fair value of earn-out liability	(1,800)	—	—
Change in operating assets and liabilities, net of effects of acquisitions and divestiture:			
Accounts receivable	16,136	4,994	(24,933)
Unbilled receivables	160,116	151,513	145,164
Prepaid expenses and other assets	2,042	4,064	(4,084)
Inventories	(4,380)	(3,353)	(1,856)
Accounts payable	(2,176)	2,934	(2,268)
Accrued salaries and benefits and other liabilities	3,353	7,135	(3,221)
Income taxes payable	(17,852)	(15,925)	(14,550)
Deferred revenue	(1,486)	(3,497)	228
Operating lease liabilities	(6,625)	(9,282)	—
Net cash provided by operating activities	<u>185,459</u>	<u>128,535</u>	<u>87,117</u>
Cash flows from investing activities:			
Purchases of property, plant and equipment	(29,728)	(6,472)	(10,762)
Acquisition of intangible assets	—	—	(350)
Purchases of marketable securities	(898,957)	(657,433)	(282,117)
Maturities of marketable securities	817,834	507,385	223,079
Proceeds from sale of marketable securities	21,588	6,758	—
Proceeds from divestiture, net of cash disposed	—	76,039	—
Proceeds from sale of assets held for sale	—	—	3,754
Proceeds from sale of property and property, plant and equipment	—	29	10
Settlement of working capital adjustment from disposal of business	(1,131)	—	—
Proceeds from sale of equity security	—	—	1,350
Investment in privately-held companies	—	(1,000)	(3,000)
Acquisition of businesses, net of cash acquired	—	(66,780)	—
Net cash used in investing activities	<u>(90,394)</u>	<u>(141,474)</u>	<u>(68,036)</u>
Cash flows from financing activities:			
Repayment of 1.125% convertible notes	—	—	(81,207)
Proceeds received from issuance of common stock under employee stock plans	11,487	15,104	11,402
Payments under installment payment arrangement	(13,201)	(8,379)	—
Principal payments against financing lease obligation	—	—	(1,080)
Repurchase and retirement of common stock, including prepayment under accelerated share repurchase program	(50,069)	—	(50,033)
Payments of taxes on restricted stock units	(9,403)	(7,023)	(6,766)
Net cash used in financing activities	<u>(61,186)</u>	<u>(298)</u>	<u>(127,684)</u>
Effect of exchange rate changes on cash and cash equivalents	106	(497)	(989)
Net increase (decrease) in cash, cash equivalents and restricted cash	33,985	(13,734)	(109,592)
Cash, cash equivalents and restricted cash at beginning of year	102,518	116,252	225,844
Cash, cash equivalents and restricted cash at end of year	<u>\$ 136,503</u>	<u>\$ 102,518</u>	<u>\$ 116,252</u>

Years Ended December 31,
2020 2019 2018

(In thousands)

Supplemental disclosure of cash flow information:

Cash paid during the period for:

Interest	\$ 2,372	\$ 2,372	\$ 3,044
Income taxes, net of refunds	\$ 21,312	\$ 17,835	\$ 23,581

Non-cash investing and financing activities:

Property, plant and equipment received and accrued in accounts payable and other accrued liabilities	\$ 20,952	\$ 29,844	\$ 8,225
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As of December 31,

2020 2019 2018

(In thousands)

Reconciliation of the cash, cash equivalents and restricted cash balances as shown in the consolidated statement of cash flows:

Cash and cash equivalents	\$ 136,146	\$ 102,176	\$ 115,924
Restricted cash	357	342	328
Cash, cash equivalents and restricted cash	<u>\$ 136,503</u>	<u>\$ 102,518</u>	<u>\$ 116,252</u>

Refer to Notes to Consolidated Financial Statements

RAMBUS INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Formation and Business of the Company

Rambus Inc. (the “Company” or “Rambus”) was incorporated in California in March 1990 and reincorporated in Delaware in March 1997. In addition to licensing, the Company is creating new business opportunities through offering products and services where its goal is to perpetuate strong company operating performance and long-term stockholder value. The Company generates revenue by licensing its inventions and solutions, selling its semiconductor products and providing services to market-leading companies.

Rambus produces products and innovations that address the fundamental challenges of accelerating data. The Company makes industry-leading chips and IP that enable critical performance improvements for data center and other growing markets. The ongoing shift to the cloud, along with the widespread advancement of artificial intelligence (“AI”) across the data center, 5G, automotive and Internet of Things (“IoT”), has led to an exponential growth in data usage and tremendous demands on data infrastructure. Creating fast and safe connections, both in and across systems, remains one of the most mission-critical design challenges limiting performance in advanced hardware for these markets.

2. Summary of Significant Accounting Policies

Financial Statement Presentation

The accompanying consolidated financial statements include the accounts of Rambus and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in the accompanying consolidated financial statements. Investments in entities with more than 20% ownership by Rambus and in which Rambus has the ability to significantly influence the operations of the investee (but not control) are accounted for using the equity method and are included in other assets.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications

Certain prior year balances were reclassified to conform to the current year’s presentation. None of these reclassifications had an impact on reported net income or cash flows for any of the periods presented.

Revenue Recognition

The Company recognizes revenue upon transfer of control of promised goods and services in an amount that reflects the consideration it expects to receive in exchange for those goods and services. Substantially all of the goods and services are distinct and are accounted for as separate performance obligations.

Where an arrangement includes multiple performance obligations, the transaction price is allocated to these on a relative standalone selling price basis. The Company has established standalone selling prices for all of its offerings - specifically, the same pricing methodology is consistently applied to all licensing arrangements; all services offerings are priced within tightly controlled bands and all contracts that include support and maintenance state a renewal rate or price that is systematically enforced.

Rambus’ revenue consists of royalty, product and contract and other revenue. Royalty revenue consists of patent and technology license royalties. Products primarily consist of memory interface chips sold directly and indirectly to module manufacturers and OEMs worldwide through multiple channels, including our direct sales force and distributors. Contract and other revenue consists of software license fees, engineering fees associated with integration of Rambus’ technology solutions into its customers’ products and support and maintenance fees.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Royalty Revenue

Rambus' patent and technology licensing arrangements generally range between one year and ten years in duration and generally grant the licensee the right to use the Company's entire intellectual property ("IP") portfolio as it evolves over time. These arrangements do not typically grant the licensee the right to terminate for convenience and where such rights exist, termination is prospective, with no refund of fees already paid by the licensee. There is no interdependency or interrelation between the IP included in the portfolio licensed upon contract inception and any IP subsequently made available to the licensee, and the Company would be able to fulfill its promises by transferring the portfolio and the additional IP use rights independently. However, the numbers of additions to, and removals from the portfolio (for example when a patent expires and renewal is not granted to the Company) in any given period have historically been relatively consistent; as such, the Company does not allocate the transaction price between the rights granted at contract inception and those subsequently granted over time as a function of these additions.

Patent and technology licensing arrangements result in fixed payments received over time, with guaranteed minimum payments on occasion, variable payments calculated based on the licensee's sale or use of the IP, or a mix of fixed and variable payments.

- For fixed-fee arrangements (including arrangements that include minimum guaranteed amounts), the Company recognizes revenue upon control over the underlying IP use right transferring to the licensee, net of the effect of significant financing components calculated using customer-specific, risk-adjusted lending rates ranging between 3% and 5%, with the related interest income being recognized over time on an effective rate basis. Where a licensee has the contractual right to terminate a fixed-fee arrangement for convenience without any substantive penalty payable upon such termination, the Company applies the guidance in ASU No. 2014-09, Revenue from Contracts with Customers in Accounting Standards Codification (ASC) Topic 606 ("ASC 606") to the duration of the contract in which the parties have present enforceable rights and obligations and only recognizes revenue for amounts that are due and payable.
- For variable arrangements, the Company recognizes revenue based on an estimate of the licensee's sale or usage of the IP during the period of reference, typically quarterly, with a true-up recorded when the Company receives the actual royalty report from the licensee.

Product Revenue

Product revenue is recognized upon shipment of product to customers, net of accruals for estimated sales returns and allowances, and to distributors, net of accruals for price protection and rights of return on products unsold by the distributors. To date, none of these accruals have been significant. The Company transacts with direct customers primarily pursuant to standard purchase orders for delivery of products and generally allows customers to cancel or change purchase orders within limited notice periods prior to the scheduled shipment date.

Contract and Other Revenue

Contract and other revenue consists of software license fees and engineering fees associated with integration of Rambus' technology solutions into its customers' related support and maintenance.

An initial software arrangement generally consists of a term-based or perpetual license, significant software customization services and support and maintenance services that include post-implementation customer support and the right to unspecified software updates and enhancements on a when and if available basis. The Company recognizes license and customization services revenue based on an over time model, measured using the input method. License and customization services revenue is reported as part of contract and other revenue which was approximately \$19.8 million for the year ended December 31, 2020. Due to the nature of the work performed in these arrangements, the estimation of the over time model is complex and involves significant judgment. The key factor reviewed by management to estimate costs to complete each contract is the estimated man-months necessary to complete the project. The Company recognizes license renewal revenue at the beginning of the renewal period.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Significant Judgments

Historically and with the exception noted below, no significant judgment has generally been required in determining the amount and timing of revenue from the Company's contracts with customers.

- The Company has adequate tools and controls in place, and substantial experience and expertise in timely and accurately tracking man-months incurred in completing customization and other professional services, and quantifying changes in estimates.

Key estimates used in recognizing revenue predominantly consist of the following:

- For fixed-fee arrangements in which cash is being received over a period exceeding a year, the Company calculates a customer-specific lending rate using a Daily Treasury Yield Curve Rate that changes depending on the date on which the licensing arrangement was entered into and the term (in years) of the arrangement, and takes into consideration a licensee-specific risk profile determined based on a review of the licensee's "Full Company View" Dun & Bradstreet report obtained on the date the licensing arrangement was signed by the parties, with a risk premium being added to the Daily Treasury Yield Curve Rate considering the overall business risk, financing strength and risk indicators, as listed.
- The Company recognizes revenue on variable fee licensing arrangements on the basis of estimates.

Contract Balances

Timing of revenue recognition may differ from the timing of invoicing to the Company's customers. The Company records contract assets when revenue is recognized prior to invoicing, and a contract liability when revenue is recognized subsequent to invoicing. The contract assets are transferred to receivables when the billing occurs.

Cost of Revenue

Cost of revenue includes cost of professional services, materials, including cost of wafers processed by third-party foundries, cost associated with packaging and assembly, test and shipping, cost of personnel, including stock-based compensation, and equipment associated with manufacturing support, logistics and quality assurance, warranty cost, amortization of existing technology, write-down of inventories, amortization of production mask costs, overhead and an allocated portion of occupancy costs.

Leases

The Company adopted the New Leasing Standard as of January 1, 2019 using the alternative transition method provided by ASU No. 2018-11 and did not recast comparative periods. The Company elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed the Company to carry forward the historical lease classification. Additionally, the Company elected the practical expedient related to non-lease components and made the policy election for the short-term leases exemptions. The Company used its incremental borrowing rate to measure the lease liabilities at the adoption date for its existing operating leases that commenced prior to January 1, 2019, which was based on the remaining lease term and remaining lease payments for such leases.

The Company leases office space, domestically and internationally, under operating leases. The Company's leases have remaining lease terms between one year and ten years. Operating leases are included in operating lease right-of-use ("ROU") assets, operating lease liabilities, and long-term operating lease liabilities in the Company's consolidated balance sheets. The Company does not have any finance leases. The Company determines if an arrangement is a lease, or contains a lease, at inception. The Company assesses all relevant facts and circumstances in making the determination of the existence of a lease. For leases with terms greater than 12 months, the Company records the related asset and obligation at the present value of lease payments over the term. The Company uses its incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments, and uses the implicit rate when readily determinable. Many of the Company's leases include rental escalation clauses, renewal options and/or termination options that are factored into the determination of lease payments when appropriate. Leases with an initial term of 12 months or less are not recorded on the balance sheet, and the Company does not separate non-lease components from lease components. Operating lease costs are included in research and development and selling, general and administrative costs on the statement of operations.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired in each business combination. Goodwill is not subject to amortization, but is subject to at least an annual assessment

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

for impairment. The Company performs its impairment analysis of goodwill on an annual basis during the fourth quarter of the year unless conditions arise that warrant a more frequent evaluation.

When goodwill is assessed for impairment, the Company has the option to perform an assessment of qualitative factors of impairment (optional assessment) prior to necessitating a quantitative impairment test. Should the optional assessment be used for any given year, qualitative factors to consider for a reporting unit include: cost factors; financial performance; legal, regulatory, contractual, political, business, or other factors; entity specific factors; industry and market considerations; macroeconomic conditions; and other relevant events and factors affecting the reporting unit. If the Company determines in the qualitative assessment that it is more likely than not that the fair value of the reporting unit is less than its carrying value, a quantitative test is then performed. Otherwise, no further testing is required. For a reporting unit tested using a quantitative approach, the Company compares the fair value of the reporting unit with the carrying amount of the reporting unit, including goodwill. The fair value of the reporting unit is estimated using an income approach.

Under the income approach, the Company measures fair value of the reporting unit based on a projected cash flow method using a discount rate determined by its management which is commensurate with the risk inherent in its current business model. The Company's discounted cash flow projections are based on its annual financial forecasts developed internally by management for use in managing its business. If the fair value of the reporting unit exceeds its carrying value, goodwill is not impaired and no further testing is required. If the fair value of the reporting unit is less than the carrying value, then the amount of goodwill impairment will be the amount by which the reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill.

The Company performed its annual goodwill impairment analysis as of December 31, 2020 and determined that there was no impairment of its goodwill. For the years ended December 31, 2019 and 2018, the Company did not recognize any goodwill impairment charges.

Intangible Assets

Intangible assets are comprised of existing technology, customer contracts and contractual relationships, and other definite-lived and indefinite-lived intangible assets. Identifiable intangible assets resulting from the acquisitions of entities accounted for using the purchase method of accounting are estimated by management based on the fair value of assets received. Identifiable definite-lived intangible assets are being amortized over the period of estimated benefit using the straight-line method and estimated useful lives ranging from six months to ten years.

Acquired indefinite-lived intangible assets related to the Company's in-process research and development ("IPR&D") are capitalized and subject to impairment testing until completion or abandonment of the projects. Upon successful completion of each project, the Company makes a separate determination of the useful life of the acquired indefinite-lived intangible assets and the related amortization is recorded as an expense over the estimated useful life of the specific projects. Indefinite-lived intangible assets are subject to at least an annual assessment for impairment, applying a fair-value based test. Under the income approach, the Company measures fair value of the indefinite-lived intangible assets based on a projected cash flow method using a discount rate determined by its management which is commensurate with the risk inherent in its current business model. The Company's discounted cash flow projections are based on its annual financial forecasts developed internally by management for use in managing its business. If the fair value of the indefinite-lived intangible assets exceeds its carrying value, the indefinite-lived intangible assets are not impaired and no further testing is required. If the implied fair value of the indefinite-lived intangible assets is less than the carrying value, the difference is recorded as an impairment loss.

Inventories

Inventories are stated at the lower of cost or net realizable value. Cost is computed using standard cost, which approximates actual cost, on a first-in, first-out basis. Inventories are reduced for write-downs based on periodic reviews for evidence of slow-moving or obsolete parts. The write-down is based on comparison between inventory on hand and estimated future sales for each specific product. Once written down, inventory write-downs are not reversed until the inventory is sold or scrapped. Inventory write-downs are also established when conditions indicate that the net realizable value is less than cost due to physical deterioration, obsolescence, changes in price level or other causes.

Property, Plant and Equipment

Property, plant and equipment include computer equipment, computer software, machinery, leasehold improvements, and furniture and fixtures. Computer equipment, computer software, machinery, and furniture and fixtures are stated at cost and generally depreciated on a straight-line basis over an estimated useful life of three years, three years to five years, two years or

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

seven years, and three years, respectively. Refer to Note 11, “Balance Sheet Details,” for additional details. Leasehold improvements are amortized on a straight-line basis over the shorter of their estimated useful lives or the initial terms of the leases. Upon disposal, assets and related accumulated depreciation are removed from the accounts and the related gain or loss is included in the results from operations.

Definite-Lived and Indefinite-Lived Asset Impairment

The Company evaluates definite-lived and indefinite-lived assets (including property, plant and equipment and intangible assets) for impairment whenever events or changes in circumstances indicate the carrying value of an asset group may not be recoverable. The carrying value is not recoverable if it exceeds the undiscounted cash flows resulting from the use of the asset group and its eventual disposition. The Company’s estimates of future cash flows attributable to its asset groups require significant judgment based on its historical and anticipated results and are subject to many factors. Factors that the Company considers important which could trigger an impairment review include significant negative industry or economic trends, significant loss of clients, and significant changes in the manner of its use of the acquired assets or the strategy for its overall business.

When the Company determines that the carrying value of the asset groups may not be recoverable based upon the existence of one or more of the above indicators of impairment, the Company measures the potential impairment based on a projected discounted cash flow method using a discount rate determined by the Company to be commensurate with the risk inherent in the Company’s current business model. An impairment loss is recognized only if the carrying amount of the asset group is not recoverable and exceeds its fair value. The impairment charge is recorded to reduce the pre-impairment carrying amount of the assets based on the relative carrying amount of those assets, though not to reduce the carrying amount of an asset below its fair value. Different assumptions and judgments could materially affect the calculation of the fair value of the assets. During 2020, 2019 and 2018, the Company did not recognize any impairment of its definite-lived and indefinite-lived assets.

Income Taxes

Income taxes are accounted for using an asset and liability approach, which requires the recognition of deferred tax assets and liabilities for expected future tax events that have been recognized differently in Rambus’ consolidated financial statements and tax returns. The measurement of current and deferred tax assets and liabilities is based on provisions of the enacted tax law and the effects of future changes in tax laws or rates are not anticipated. A valuation allowance is established when necessary to reduce deferred tax assets to amounts expected to be realized based on available evidence.

In addition, the calculation of the Company’s tax liabilities involves dealing with uncertainties in the application of complex tax regulations. As a result, the Company reports a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in its tax return. The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Stock-Based Compensation and Equity Incentive Plans

The Company maintained stock plans covering a broad range of equity grants including stock options, nonvested equity stock and equity stock units and performance-based instruments. In addition, the Company sponsors an Employee Stock Purchase Plan (“ESPP”), whereby eligible employees are entitled to purchase Common Stock semi-annually, by means of limited payroll deductions, at a 15% discount from the fair market value of the Common Stock as of specific dates.

The Company determines compensation expense associated with restricted stock units based on the fair value of its common stock on the date of grant. The Company determines compensation expense associated with stock options based on the estimated grant-date fair value method using the Black-Scholes Merton (“BSM”) valuation model. The Company generally recognizes compensation expense using a straight-line amortization method over the respective vesting period for awards that are ultimately expected to vest. Stock-based compensation expense for 2020, 2019 and 2018 has been reduced for estimated forfeitures. When estimating forfeitures, the Company considers voluntary termination behaviors as well as trends of actual option forfeitures.

Cash and Cash Equivalents

Cash equivalents are highly liquid investments with original maturity of three months or less at the date of purchase. The Company maintains its cash balances with high quality financial institutions. Cash equivalents are invested in highly-rated and highly-liquid money market securities and certain U.S. government sponsored obligations.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Marketable Securities

Available-for-sale securities are carried at fair value, based on quoted market prices, with the unrealized gains or losses reported, net of tax, in stockholders' equity as part of accumulated other comprehensive income (loss). The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity, both of which are included in interest and other income, net. Realized gains and losses are recorded on the specific identification method and are included in interest and other income, net. The Company reviews its investments in marketable securities for possible other than temporary impairments on a regular basis. If any loss on investment is believed to be a credit loss, a charge will be recognized in operations. In evaluating whether a credit loss on a debt security has occurred, the Company considers the following factors: 1) the Company's intent to sell the security, 2) if the Company intends to hold the security, whether or not it is more likely than not that the Company will be required to sell the security before recovery of the security's amortized cost basis and 3) even if the Company intends to hold the security, whether or not the Company expects the security to recover the entire amortized cost basis. Due to the high credit quality and short-term nature of the Company's investments, there have been no material credit losses recorded to date. The classification of funds between short-term and long-term is based on whether the securities are available for use in operations or other purposes.

Fair Value of Financial Instruments

The carrying value of cash equivalents, accounts receivable and accounts payable approximate their fair values due to their relatively short maturities as of December 31, 2020 and 2019. Marketable securities are comprised of available-for-sale securities that are reported at fair value with the related unrealized gains and losses included in accumulated other comprehensive income (loss), a component of stockholders' equity, net of tax. Fair value of the marketable securities is determined based on quoted market prices. The fair value of the Company's convertible notes fluctuates with interest rates and with the market price of the common stock, but does not affect the carrying value of the debt on the balance sheet.

Research and Development

Costs incurred in research and development, which include engineering expenses, such as salaries and related benefits, stock-based compensation, depreciation, professional services and overhead expenses related to the general development of Rambus' products, are expensed as incurred. Software development costs are capitalized beginning when a product's technological feasibility has been established and ending when a product is available for general release to customers. Rambus has not capitalized any software development costs since the period between establishing technological feasibility and general customer release is relatively short and as such, these costs have not been material.

Computation of Earnings (Loss) Per Share

Basic earnings (loss) per share is calculated by dividing the net income (loss) by the weighted-average number of common shares outstanding during the period. Diluted earnings (loss) per share is calculated by dividing the earnings (loss) by the weighted-average number of common shares and potentially dilutive securities outstanding during the period. Potentially dilutive common shares consist of incremental common shares issuable upon exercise of stock options, employee stock purchases, restricted stock and restricted stock units, and shares issuable upon the conversion of convertible notes. The dilutive effect of outstanding shares is reflected in diluted earnings per share by application of the treasury stock method. This method includes consideration of the amounts to be paid by the employees, the amount of excess tax benefits that would be recognized in equity if the instrument was exercised and the amount of unrecognized stock-based compensation related to future services. No potential dilutive common shares are included in the computation of any diluted per share amount when a net loss is reported.

Comprehensive Income (Loss)

Comprehensive income (loss) is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources, including foreign currency translation adjustments and unrealized gains and losses on marketable securities. Other comprehensive income (loss), net of tax, is presented in the consolidated statements of comprehensive income (loss).

Credit Concentration

As of December 31, 2020 and 2019, the Company's cash, cash equivalents and marketable securities were invested with various financial institutions in the form of corporate notes, bonds and commercial paper, money market funds, U.S. Treasuries, U.S. Government Agencies, and municipal bonds and notes. The Company's exposure to market risk for changes in interest rates relates primarily to its investment portfolio. The Company places its investments with high credit issuers and, by

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

investment policy, attempts to limit the amount of credit exposure to any one issuer. As stated in the Company's investment policy, it will ensure the safety and preservation of the Company's invested funds by limiting default risk and market risk. The Company has no investments denominated in foreign country currencies and therefore is not subject to foreign exchange risk from these assets.

The Company mitigates default risk by investing in high credit quality securities and by positioning its portfolio to respond appropriately to a significant reduction in a credit rating of any investment issuer or guarantor. The portfolio includes only marketable securities with active secondary or resale markets to enable portfolio liquidity.

The Company's note hedge transactions, entered into in connection with the 1.375% convertible senior notes due 2023 (the "2023 Notes"), expose the Company to credit risk to the extent that its counterparties may be unable to meet the terms of the transactions. The Company mitigates this risk by limiting its counterparties to major financial institutions. Refer to Note 12, "Convertible Notes" for further details.

The Company's accounts receivable are derived from revenue earned from customers located in the U.S. and internationally. Refer to Note 7, "Segments and Major Customers" for further details.

The Company's unbilled receivables are collected from customers located in the U.S. and internationally. Refer to Note 4, "Revenue Recognition" for further details.

Foreign Currency Translation and Re-Measurement

The Company translates the assets and liabilities of its non-U.S. dollar functional currency subsidiaries into U.S. dollars using exchange rates in effect at the end of each period. Revenue and expenses for these subsidiaries are translated using rates that approximate those in effect during the period. Gains and losses from these translations are recognized in foreign currency translation included in Accumulated Other Comprehensive Gain (Loss) in the consolidated statements of stockholders' equity. The Company's subsidiaries that use the U.S. dollar as their functional currency re-measure monetary assets and liabilities at exchange rates in effect at the end of each period, and inventories, property and non-monetary assets and liabilities at historical rates. Additionally, foreign currency transaction gains and losses are included in interest income and other (income) expense, net, in the consolidated statements of operations and were not material in the periods presented. Subsequent to the divestiture of the Company's Payments and Ticketing businesses in 2019, the U.S. dollar is primarily the functional currency of the Company's foreign subsidiaries.

Business Combinations

The Company accounts for acquisitions of businesses using the purchase method of accounting, which requires the Company to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values. While the Company uses its best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, the estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the consolidated statements of operations.

Accounting for business combinations requires management to make significant estimates and assumptions, especially at the acquisition date including the Company's estimates for intangible assets, contractual obligations assumed and pre-acquisition contingencies where applicable. Although, the Company believes the assumptions and estimates made in the past have been reasonable and appropriate, they are based in part on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Significant estimates and assumptions made by management in estimating the fair value of the existing technologies included revenue growth rates, operating expense margins, technology obsolescence rates and discount rates. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

Litigation

Rambus may be involved in certain legal proceedings. Based upon consultation with outside counsel handling its defense in these matters and an analysis of potential results, if Rambus believes that a loss arising from such matters is probable and can be reasonably estimated, Rambus records the estimated liability in its consolidated financial statements. If only a range of estimated losses can be determined, Rambus records an amount within the range that, in its judgment, reflects the most likely outcome; if none of the estimates within that range is a better estimate than any other amount, Rambus records the low end of

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

the range. Any such accrual would be charged to expense in the appropriate period. Rambus recognizes litigation expenses in the period in which the litigation services were provided.

3. Recent Accounting Pronouncements

Recent Accounting Pronouncements Adopted

In December 2019, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2019-12, “Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes.” The amendments in this ASU remove certain exceptions, clarifies and amends existing guidance. This ASU is effective for interim and annual reporting periods beginning after December 15, 2020. Early adoption is permitted. Certain disclosures in ASU No. 2019-12 would need to be applied on a retrospective basis, modified retrospective basis, or prospective basis. The Company elected to early adopt this ASU on January 1, 2020. The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement.” The amendments in this ASU remove certain disclosures, modify certain disclosures and add additional disclosures. This ASU is effective for interim and annual reporting periods beginning after December 15, 2019. Certain disclosures in ASU No. 2018-13 would need to be applied on a retrospective basis and others on a prospective basis. The Company adopted this ASU on January 1, 2020. The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13. The purpose of this ASU is to require a financial asset measured at amortized cost basis to be presented at the net amount expected to be collected. Credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. In April 2019, the FASB issued ASU No. 2019-04, “Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments (ASU 2019-04),” which provided certain improvements to various ASUs, including ASU 2016-13. In May 2019, the FASB issued ASU No. 2019-05, “Financial Instruments—Credit Losses (Topic 326),” which provides an option to irrevocably elect the fair value option for certain financial assets previously measured at amortized cost basis. In November 2019, the FASB issued ASU No. 2019-10, “Financial Instruments—Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842)” which amends certain effective dates. In November 2019, the FASB issued ASU No. 2019-11, “Financial Instruments—Credit Losses (Topic 326),” which provides additional clarifications. In March 2020, the FASB issued ASU No. 2020-03, “Codification Improvements to Financial Instruments,” which provides additional clarifications and improvements. These ASUs and the related amendments are effective for interim and annual reporting periods beginning after December 15, 2019. The Company adopted this ASU on January 1, 2020. The adoption of this ASU did not have a material impact on the Company’s consolidated financial statements.

Recent Accounting Pronouncements Not Yet Adopted

In August 2020, the FASB issued ASU No. 2020-06, “Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity’s Own Equity (Subtopic 815-40).” The amendments in this ASU amend the guidance on convertible instruments and the derivatives scope exception for contracts in an entity’s own equity, including reducing the number of accounting models for convertible debt instruments and convertible preferred stock. This ASU also amends the related earnings (loss) per share guidance for both subtopics, including the diluted earnings (loss) per share calculation for instruments that may be settled in cash or shares and for convertible instruments. This ASU is effective for interim and annual reporting periods beginning after December 15, 2021. Early adoption is permitted but no earlier than fiscal years beginning after December 15, 2020. The amendments in this ASU may be applied on a modified retrospective basis or a fully retrospective basis. The Company is currently evaluating the impact that the adoption of this guidance will have on its consolidated financial statements.

In January 2020, the FASB issued ASU No. 2020-01, “Investments—Equity Securities (Topic 321), Investments—Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815).” The amendments in this ASU clarify the interaction of the accounting for equity securities under Topic 321 and investments accounted for under the equity method of accounting in Topic 323 and the accounting for certain forward contracts and purchased options accounted for under Topic 815. This ASU is effective for interim and annual reporting periods beginning after December 15, 2020. Early adoption is permitted. The amendments in this ASU should be applied on a prospective basis. The Company is currently evaluating the impact that the adoption of this guidance will have on its consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

4. Revenue Recognition**Contract Balances**

The contract assets are primarily related to the Company's fixed fee IP licensing arrangements and rights to consideration for performance obligations delivered but not billed as of December 31, 2020.

The Company's contract balances were as follows:

(In thousands)	As of December 31,	
	2020	2019
Unbilled receivables	\$ 367,953	\$ 528,069
Deferred revenue	10,461	11,947

During the years ended December 31, 2020 and December 31, 2019, the Company recognized \$10.3 million and \$18.3 million, respectively, of revenue that was included in the contract balances as of December 31, 2019 and December 31, 2018, respectively.

Remaining Performance Obligations

Revenue allocated to remaining performance obligations represents the transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied, which includes unearned revenue and amounts that will be invoiced and recognized as revenue in future periods. Contracted but unsatisfied performance obligations were approximately \$17.4 million as of December 31, 2020, which the Company primarily expects to recognize over the next 2 years.

5. Earnings (Loss) Per Share

The following table sets forth the computation of basic and diluted income (loss) per share (in thousands, except per share amounts):

	For the Years Ended December 31,		
	2020	2019	2018
Net loss per share:			
Numerator:			
Net loss	\$ (43,609)	\$ (90,419)	\$ (157,957)
Denominator:			
Weighted-average common shares outstanding - basic	113,254	110,948	108,450
Effect of potential dilutive common shares	—	—	—
Weighted-average common shares outstanding - diluted	113,254	110,948	108,450
Basic net loss per share	\$ (0.39)	\$ (0.81)	\$ (1.46)
Diluted net loss per share	\$ (0.39)	\$ (0.81)	\$ (1.46)

For the years ended December 31, 2020, 2019 and 2018, options to purchase approximately 0.3 million, 1.0 million and 1.6 million shares, respectively, were excluded from the calculation because they were anti-dilutive after considering proceeds from exercise, taxes and related unrecognized stock-based compensation expense.

For the years ended December 31, 2020, 2019 and 2018, an additional 2.3 million, 2.4 million and 2.4 million shares, respectively, have been excluded from the weighted-average dilutive shares because there was a net loss for the periods. These shares do not include the Company's 2023 Notes and the 1.125% convertible senior notes due 2018 (the "2018 Notes"). The par amount of convertible notes is payable in cash equal to the principal amount of the notes plus any accrued and unpaid interest and then the "in-the-money" conversion benefit feature at the conversion price above \$18.93 and \$12.07, respectively, per share is payable in cash, shares of the Company's common stock or a combination of both. The Company has the option to pay cash, issue shares of common stock or any combination thereof for the aggregate amount due upon conversion of the notes. The Company's intent is to settle the principal amount of the notes in cash upon conversion. As a result, upon conversion of the notes, only the amounts payable in excess of the principal amounts of the notes are considered in diluted earnings per share under the treasury stock method. Refer to Note 12, "Convertible Notes" for more details.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

6. Intangible Assets and Goodwill

Goodwill

The following tables present goodwill information for the years ended December 31, 2020 and December 31, 2019:

(In thousands)	December 31, 2019	Adjustment to Goodwill ⁽¹⁾	December 31, 2020
Total goodwill	\$ 183,465	\$ (243)	\$ 183,222

⁽¹⁾ Working capital adjustments related to the acquisition of Northwest Logic, Inc. (“Northwest Logic”).

(In thousands)	As of December 31, 2020		
	Gross Carrying Amount	Accumulated Impairment Losses	Net Carrying Amount
Total goodwill	\$ 204,992	\$ (21,770)	\$ 183,222

(In thousands)	December 31, 2018	Additions to Goodwill	Divestiture of Goodwill	Effect of Exchange Rates ⁽³⁾	December 31, 2019
Total goodwill	\$ 207,178	\$ 30,328	\$ (54,498)	\$ 459	\$ 183,465

⁽¹⁾ In August 2019, the Company acquired Northwest Logic, and in December 2019, the Company acquired the Secure Silicon IP and Protocols business from Verimatrix (the “Secure Silicon IP and Protocols business”), which resulted in the Company recognizing additional goodwill. Refer to Note 21, “Acquisitions,” for additional information.

⁽²⁾ Refer to Note 17, “Divestiture,” for additional information.

⁽³⁾ Effect of exchange rates relates to foreign currency translation adjustments for the period.

(In thousands)	As of December 31, 2019		
	Gross Carrying Amount	Accumulated Impairment Losses	Net Carrying Amount
Total goodwill	\$ 205,235	\$ (21,770)	\$ 183,465

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
Intangible Assets

The components of the Company's intangible assets as of December 31, 2020 and December 31, 2019 were as follows:

		As of December 31, 2020		
(In thousands, except useful life)	Useful Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Existing technology	3 to 10 years	\$ 263,789	\$ (230,950)	\$ 32,839
Customer contracts and contractual relationships	0.5 to 10 years	36,293	(34,245)	2,048
Non-compete agreements and trademarks	3 years	300	(300)	—
IPR&D	Not applicable	1,600	—	1,600
Total intangible assets		\$ 301,982	\$ (265,495)	\$ 36,487

		As of December 31, 2019		
(In thousands, except useful life)	Useful Life	Gross Carrying Amount ^{(1)(a)}	Accumulated Amortization ^{(1)(b)}	Net Carrying Amount
Existing technology	3 to 10 years	\$ 262,789	\$ (213,354)	\$ 49,435
Customer contracts and contractual relationships	0.5 to 10 years	36,293	(33,428)	2,865
Non-compete agreements and trademarks	3 years	300	(300)	—
IPR&D	Not applicable	2,600	—	2,600
Total intangible assets		\$ 301,982	\$ (247,082)	\$ 54,900

(1) In October 2019, the Company disposed of approximately \$20.7 million of net intangible assets in connection with the sale of the legal entities comprising the Company's Payments and Ticketing businesses. Refer to Note 17, "Divestiture," for additional information.

(2) In August 2019, the Company acquired Northwest Logic, and in December 2019, the Company acquired the Secure Silicon IP and Protocols business, which resulted in the Company recognizing additional intangible assets. Refer to Note 21, "Acquisitions," for additional information.

Amortization expense for intangible assets for the years ended December 31, 2020, 2019, and 2018 was \$18.4 million, \$17.1 million, and \$29.3 million, respectively. The estimated future amortization expense of intangible assets as of December 31, 2020 was as follows (in thousands):

Years Ending December 31:	Amount
2021	\$ 14,611
2022	7,644
2023	6,940
2024	5,492
2025	200
Thereafter	—
Total amortizable purchased intangible assets	34,887
IPR&D	1,600
Total intangible assets	\$ 36,487

7. Segments and Major Customers

Operating segments are based upon Rambus' internal organization structure, the manner in which its operations are managed, the criteria used by its Chief Operating Decision Maker ("CODM") to evaluate segment performance and availability of separate financial information regularly reviewed for resource allocation and performance assessment.

The Company has determined its CODM to be the Chief Executive Officer ("CEO"). The CEO reviews financial information presented on a consolidated basis for purposes of managing the business, allocating resources, making operating

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

decisions and assessing financial performance. On this basis, the Company is organized and operates as a single segment within the semiconductor space. As of December 31, 2020, the Company has a single operating and reportable segment. Accordingly, no additional disclosure of segment measures of profit or loss or total assets is applicable for all periods presented.

Accounts receivable from the Company's major customers representing 10% or more of total accounts receivable at December 31, 2020 and 2019, respectively, was as follows:

	As of December 31,	
	2020	2019
Customer 1	14 %	*
Customer 2	13 %	14 %
Customer 3	11 %	*
Customer 4	*	19 %

* Customer accounted for less than 10% of total accounts receivable in the period

Revenue from the Company's major customers representing 10% or more of total revenue for the years ended December 31, 2020, 2019 and 2018 was as follows:

	Years Ended December 31,		
	2020	2019	2018
Customer A	15 %	10 %	*
Customer B	13 %	*	*
Customer C	*	14 %	15 %
Customer D	*	*	11 %

Revenue from customers in the geographic regions based on the location of contracting parties was as follows:

(In thousands)	Years Ended December 31,		
	2020	2019	2018
USA	\$ 137,614	\$ 134,526	\$ 129,567
Taiwan	21,803	24,118	21,749
South Korea	3,664	3,583	13,421
Japan	16,862	11,877	23,222
Europe	7,359	10,262	15,668
Canada	1,162	3,554	4,960
Singapore	28,034	21,751	19,140
Asia-Other	26,249	14,356	3,474
Total	<u>\$ 242,747</u>	<u>\$ 224,027</u>	<u>\$ 231,201</u>

At December 31, 2020, of the \$57.7 million of total property, plant and equipment, approximately \$53.2 million were located in the United States, \$3.3 million were located in India and \$1.2 million were located in other foreign locations. At December 31, 2019, of the \$44.7 million of total property, plant and equipment, approximately \$40.3 million were located in the United States, \$3.4 million were located in India and \$1.0 million were located in other foreign locations.

8. Marketable Securities

Rambus invests its excess cash and cash equivalents primarily in U.S. government-sponsored obligations, commercial paper, corporate notes and bonds, money market funds and municipal notes and bonds that mature within three years.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

All cash equivalents and marketable securities are classified as available-for-sale. Total cash, cash equivalents and marketable securities are summarized as follows:

(Dollars in thousands)	As of December 31, 2020				
	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Weighted Rate of Return
Money market funds	\$ 32,815	\$ 32,815	\$ —	\$ —	0.01 %
U.S. Government bonds and notes	169,880	169,920	3	(43)	0.12 %
Corporate notes, bonds and commercial paper	238,491	238,509	61	(79)	0.21 %
Total cash equivalents and marketable securities	441,186	441,244	64	(122)	
Cash	61,463	61,463	—	—	
Total cash, cash equivalents and marketable securities	\$ 502,649	\$ 502,707	\$ 64	\$ (122)	

(Dollars in thousands)	As of December 31, 2019				
	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Weighted Rate of Return
Money market funds	\$ 10,065	\$ 10,065	\$ —	\$ —	1.48 %
U.S. Government bonds and notes	39,086	39,087	—	(1)	1.49 %
Corporate notes, bonds and commercial paper	314,391	314,435	19	(63)	1.81 %
Total cash equivalents and marketable securities	363,542	363,587	19	(64)	
Cash	44,122	44,122	—	—	
Total cash, cash equivalents and marketable securities	\$ 407,664	\$ 407,709	\$ 19	\$ (64)	

Available-for-sale securities are reported at fair value on the balance sheets and classified as follows:

(In thousands)	As of December 31,	
	2020	2019
Cash equivalents	\$ 74,683	\$ 58,054
Short-term marketable securities	366,503	305,488
Total cash equivalents and marketable securities	441,186	363,542
Cash	61,463	44,122
Total cash, cash equivalents and marketable securities	\$ 502,649	\$ 407,664

The Company continues to invest in highly rated quality, highly liquid debt securities. The Company holds all of its marketable securities as available-for-sale, marks them to market, and regularly reviews its portfolio to ensure adherence to its investment policy and to monitor individual investments for risk analysis, proper valuation, and unrealized losses that may be other than temporary.

The estimated fair value and gross unrealized losses of cash equivalents and marketable securities classified by the length of time that the securities have been in a continuous unrealized loss position at December 31, 2020 and 2019 are as follows:

(In thousands)	Fair Value		Gross Unrealized Loss	
	December 31, 2020	December 31, 2019	December 31, 2020	December 31, 2019
Less than 12 months				
U.S. Government bonds and notes	\$ 72,896	\$ 14,112	\$ (43)	\$ (1)
Corporate notes, bonds and commercial paper	181,354	250,822	(79)	(63)
Total cash equivalents and marketable securities in a continuous unrealized loss position	\$ 254,250	\$ 264,934	\$ (122)	\$ (64)

The gross unrealized loss at December 31, 2020 and 2019 was not material in relation to the Company's total available-for-sale portfolio. The gross unrealized loss can be primarily attributed to a combination of market conditions as well as the demand for and duration of the U.S. government-sponsored obligations and corporate notes and bonds. The Company reasonably

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

believes that there is no need to sell these investments and that it can recover the amortized cost of these investments. The Company has found no evidence of impairment due to credit losses in its portfolio. Therefore, these unrealized losses were recorded in other comprehensive income (loss). However, the Company cannot provide any assurance that its portfolio of cash, cash equivalents and marketable securities will not be impacted by adverse conditions in the financial markets, which may require the Company in the future to record an impairment charge for credit losses which could adversely impact its financial results.

The contractual maturities of cash equivalents (excluding money market funds which have no maturity) and marketable securities are summarized as follows:

(In thousands)	December 31, 2020
Due less than one year	\$ 334,332
Due from one year through three years	74,039
Total	<u>\$ 408,371</u>

Refer to Note 9, "Fair Value of Financial Instruments," for discussion regarding the fair value of the Company's cash equivalents and marketable securities.

9. Fair Value of Financial Instruments

The fair value measurement statement defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining fair value, the Company considers the principal or most advantageous market in which the Company would transact, and the Company considers assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of non-performance.

The Company's financial instruments are measured and recorded at fair value, except for equity method investments and convertible notes. The Company's non-financial assets, such as goodwill, intangible assets, and property, plant and equipment, are measured at fair value when there is an indicator of impairment and recorded at fair value only when an impairment charge is recognized. The Company's equity method investments are initially recognized at cost, and the carrying amount is increased or decreased to recognize the Company's share of the profit or loss of the investee after the date of acquisition. The Company's share of the investee's profit or loss is recognized in the Company's consolidated statements of operations. Distributions received from an investee reduce the carrying amount of the investment.

Fair Value Hierarchy

The fair value measurement statement requires disclosure that establishes a framework for measuring fair value and expands disclosure about fair value measurements. The statement requires that fair value measurement be classified and disclosed in one of the following three categories:

Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.

The Company uses unadjusted quotes to determine fair value. The financial assets in Level 1 include money market funds.

Level 2: Quoted prices in markets that are not active, or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liability.

The Company uses observable pricing inputs including benchmark yields, reported trades, and broker/dealer quotes. The financial assets in Level 2 include U.S. government bonds and notes, corporate notes, commercial paper and municipal bonds and notes.

Level 3: Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

The Company does not have any financial assets in Level 3 as of December 31, 2020 and 2019.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The Company reviews the pricing inputs by obtaining prices from a different source for the same security on a sample of its portfolio. The Company has not adjusted the pricing inputs it has obtained. The following table presents the financial instruments that are carried at fair value and summarizes the valuation of its cash equivalents and marketable securities by the above pricing levels as of December 31, 2020 and 2019:

As of December 31, 2020				
(In thousands)	Total	Quoted Market Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Money market funds	\$ 32,815	\$ 32,815	\$ —	\$ —
U.S. Government bonds and notes	169,880	—	169,880	—
Corporate notes, bonds and commercial paper	238,491	—	238,491	—
Total available-for-sale securities	<u>\$ 441,186</u>	<u>\$ 32,815</u>	<u>\$ 408,371</u>	<u>\$ —</u>

As of December 31, 2019				
(In thousands)	Total	Quoted Market Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Money market funds	\$ 10,065	\$ 10,065	\$ —	\$ —
U.S. Government bonds and notes	39,086	—	39,086	—
Corporate notes, bonds commercial paper	314,391	—	314,391	—
Total available-for-sale securities	<u>\$ 363,542</u>	<u>\$ 10,065</u>	<u>\$ 353,477</u>	<u>\$ —</u>

The Company monitors its investments for other-than-temporary impairment and records appropriate reductions in carrying value when necessary. The Company monitors its investments for other-than-temporary losses by considering current factors, including the economic environment, market conditions, operational performance and other specific factors relating to the business underlying the investment, reductions in carrying values when necessary and the Company's ability and intent to hold the investment for a period of time which may be sufficient for anticipated recovery in the market. Any other-than-temporary loss is reported under "Interest and other income (expense), net" in the consolidated statement of operations. During the years ended December 31, 2020 and 2019, the Company recorded no other-than-temporary impairment charges on its investments.

During the second half of 2018, the Company made an investment in a non-marketable equity security of a private company. This equity investment is accounted for under the equity method of accounting, and the Company accounts for its equity method share of the income (loss) on a quarterly basis. As of December 31, 2020, the Company's 25.0% ownership percentage amounted to a \$2.8 million equity interest in this equity investment. As of December 31, 2019, the Company's 25.0% ownership percentage amounted to a \$3.6 million equity interest in this equity investment. The Company's equity interest was included in other assets on the accompanying consolidated balance sheets. The Company recorded immaterial amounts in its consolidated statements of operations representing its share of the investee's loss for the years ended December 31, 2020 and 2019.

During the years ended December 31, 2020 and 2019, there were no transfers of financial instruments between different categories of fair value.

The following table presents the financial instruments that are not carried at fair value but which require fair value disclosure as of December 31, 2020 and 2019:

(In thousands)	As of December 31, 2020			As of December 31, 2019		
	Face Value	Carrying Value	Fair Value	Face Value	Carrying Value	Fair Value
1.375% Convertible Senior Notes due 2023 (the "2023 Notes")	\$ 172,500	\$ 156,031	\$ 194,709	\$ 172,500	\$ 148,788	\$ 174,239

The fair value of the convertible notes at each balance sheet date is determined based on recent quoted market prices for these notes which is a level 2 measurement. As discussed in Note 12, "Convertible Notes," as of December 31, 2020, the convertible notes are carried at their face value of \$172.5 million, less any unamortized debt discount and unamortized debt

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

issuance costs. The carrying value of other financial instruments, including accounts receivable, accounts payable and other liabilities, approximates fair value due to their short maturities.

Information regarding the Company's goodwill and long-lived assets balances are disclosed in Note 6, "Intangible Assets and Goodwill."

10. Leases

On July 8, 2019, the Company entered into a definitive triple net space lease agreement with 237 North First Street Holdings, LLC (the "Landlord"), whereby the Company leases office space located at 4453 North First Street in San Jose, California, (the "Lease"). In April 2020, the lease was amended for certain terms (the "Amended Lease"). The Amended Lease includes approximately 90,000 square feet of office space, which serves as the Company's corporate headquarters and includes engineering, sales, marketing and administrative functions. The Amended Lease has a term of 128 months from the amended commencement date in April 2020. The starting rent of the Amended Lease is approximately \$3.26 per square foot on a triple net basis. The annual base rent increases each year to certain fixed amounts over the course of the term as set forth in the Amended Lease and will be \$4.38 per square foot in the final year of the Amended Lease term. In addition to the base rent, the Company will also pay operating expenses, insurance expenses, real estate taxes, and a management fee under the Amended Lease. The Amended Lease also allows for an option to expand, wherein the Company has the right of first refusal to rent additional space in the building. The Company has a one-time option to extend the Amended Lease for a period of 60 months and may elect to terminate the Amended Lease, via written notice to the Landlord, in the event the office space is damaged or destroyed. Total required payments under the Amended Lease are approximately \$41 million. Pursuant to the terms of the Amended Lease, the landlord agreed to reimburse the Company up to \$9.0 million, related to a tenant improvement allowance. The lease of the Company's Sunnyvale, California, headquarters expired on June 30, 2020.

Refer to Note 13, "Commitments and Contingencies," for additional information regarding the Company's leases.

The table below reconciles the undiscounted cash flows for the first five years and total of the remaining years to the operating lease liabilities recorded on the consolidated balance sheet as of December 31, 2020 (in thousands):

Years ending December 31,	Amount
2021	\$ 8,616
2022	7,382
2023	4,570
2024	3,925
2025	4,043
Thereafter	21,325
Total minimum lease payments	49,861
Less: amount of lease payments representing interest	(10,832)
Present value of future minimum lease payments	39,029
Less: current obligations under leases	(4,724)
Long-term lease obligations	\$ 34,305

As of December 31, 2020, the weighted-average remaining lease term for the Company's operating leases was 8.1 years, and the weighted-average discount rate used to determine the present value of the Company's operating leases was 4.2%.

Operating lease costs included in research and development and selling, general and administrative costs on the statement of operations were \$9.5 million and \$9.6 million for the years ended December 31, 2020 and 2019, respectively. Rent expense, recorded under accounting guidance in effect prior to January 1, 2019 when the New Leasing Standard became effective for the Company, was approximately \$5.2 million for the year ended December 31, 2018.

Cash paid for amounts included in the measurement of operating lease liabilities was \$7.2 million for the year ended December 31, 2020.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
11. Balance Sheet Details
Inventories

Inventories consisted of the following:

(In thousands)	As of December 31,	
	2020	2019
Raw materials	\$ 7,945	\$ 3,997
Work in process	650	1,455
Finished goods	5,871	4,634
Total	\$ 14,466	\$ 10,086

Property, Plant and Equipment, net

Property, plant and equipment, net is comprised of the following:

(In thousands)	As of December 31,	
	2020	2019
Computer software	\$ 49,862	\$ 50,453
Computer equipment	32,122	36,761
Furniture and fixtures	11,100	16,136
Leasehold improvements	9,658	10,316
Machinery	10,378	10,446
Construction in progress	27,250	1,691
Property, plant and equipment, gross	140,370	125,803
Less accumulated depreciation and amortization	(82,677)	(81,089)
Property, plant and equipment, net	\$ 57,693	\$ 44,714

Depreciation expense for the years ended December 31, 2020, 2019 and 2018 was \$21.2 million, \$15.2 million and \$10.7 million, respectively.

Accumulated Other Comprehensive Gain (Loss)

Accumulated other comprehensive gain (loss) is comprised of the following:

(In thousands)	As of December 31,	
	2020	2019
Foreign currency translation adjustments	\$ 129	\$ 105
Unrealized loss on available-for-sale securities, net of tax	(210)	(197)
Total	\$ (81)	\$ (92)

12. Convertible Notes

The Company's convertible notes are shown in the following table:

(In thousands)	As of December 31,	
	2020	2019
2023 Notes	\$ 172,500	\$ 172,500
Unamortized discount - 2023 Notes	(15,420)	(22,163)
Unamortized debt issuance costs - 2023 Notes	(1,049)	(1,549)
Total convertible notes	156,031	148,788
Less current portion	—	—
Total long-term convertible notes	\$ 156,031	\$ 148,788

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

1.375% Convertible Senior Notes due 2023. On November 17, 2017, the Company issued \$172.5 million aggregate principal amount of 1.375% convertible senior notes pursuant to an indenture (the “2023 Indenture”), by and between the Company and U.S. Bank National Association, as trustee (the “Trustee”). In accounting for the 2023 Notes at issuance, the Company separated the 2023 Notes into liability and equity components pursuant to the accounting standards for convertible debt instruments that may be fully or partially settled in cash upon conversion. As of the date of issuance, the Company determined that the liability component of the 2023 Notes was \$137.3 million and the equity component of the 2023 Notes was \$35.2 million. The fair value of the liability component was estimated using an interest rate for a similar instrument without a conversion feature. The unamortized discount related to the 2023 Notes is being amortized to interest expense using the effective interest method over approximately five years.

The 2023 Notes bear interest at a rate of 1.375% per year, payable semi-annually on February 1 and August 1 of each year, beginning on August 1, 2018. The 2023 Notes will mature on February 1, 2023, unless earlier repurchased by the Company or converted pursuant to their terms.

The Company incurred transaction costs of approximately \$3.3 million related to the issuance of 2023 Notes. In accounting for these costs, the Company allocated the costs to the liability and equity components in proportion to the allocation of proceeds from the issuance of the 2023 Notes to such components. Transaction costs allocated to the liability component of \$2.6 million are netted against the carrying amount of the liability in the consolidated balance sheet and are amortized to interest expense using the effective interest method over the term of the 2023 Notes. The transaction costs allocated to the equity component of \$0.7 million were recorded as additional paid-in capital.

The initial conversion rate of the 2023 Notes is 52.8318 shares of the Company’s common stock per \$1,000 principal amount of 2023 Notes (which is equivalent to an initial conversion price of approximately \$18.93 per share). The conversion rate will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest. In addition, upon the occurrence of a make-whole fundamental change (as defined in the 2023 Indenture), the Company will, in certain circumstances, increase the conversion rate by a number of additional shares for a holder that elects to convert its 2023 Notes in connection with such make-whole fundamental change.

Prior to the close of business on the business day immediately preceding November 1, 2022, the 2023 Notes will be convertible only under the following circumstances: (1) during any calendar quarter commencing after March 31, 2018, and only during such calendar quarter, if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) in a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is more than 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period in which, for each trading day of that period, the trading price per \$1,000 principal amount of 2023 Notes for such trading day was less than 98% of the product of the last reported sale price of the common stock and the conversion rate on each such trading day; (3) upon the occurrence of specified distributions to holders of our common stock; or (4) upon the occurrence of specified corporate transactions. On or after November 1, 2022, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders of the 2023 Notes may convert all or a portion of their 2023 Notes regardless of the foregoing conditions. Upon conversion, the Company will pay cash up to the aggregate principal amount of the 2023 Notes to be converted and pay or deliver, as the case may be, cash, shares of common stock or a combination of cash and shares of common stock, at the Company’s election, in respect of the remainder, if any, of its conversion obligation in excess of the aggregate principal amount of the 2023 Notes being converted.

The Company may not redeem the 2023 Notes prior to the maturity date and no sinking fund is provided for the 2023 Notes. Upon the occurrence of a fundamental change (as defined in the 2023 Indenture) prior to the maturity date, holders may require the Company to repurchase all or a portion of the 2023 Notes for cash at a price equal to 100% of the principal amount of the 2023 Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The 2023 Notes are the Company’s senior unsecured obligations and will rank senior in right of payment to any of the Company’s indebtedness that is expressly subordinated in right of payment to the notes; equal in right of payment with the Company’s existing and future liabilities that are not so subordinated, including its “2018 Notes”; effectively junior in right of payment to any of the Company’s secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to any existing and future indebtedness and other liabilities (including trade payables, but excluding intercompany obligations and liabilities) and any preferred stock of subsidiaries of the Company.

The following events are considered “events of default” with respect to the 2023 Notes, which may result in the acceleration of the maturity of the 2023 Notes:

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- (1) the Company defaults on the payment when due of any principal of any of the 2023 Notes at maturity or upon exercise of a repurchase right or otherwise;
- (2) the Company defaults on the payment of any interest, including additional interest, if any, on any of the 2023 Notes, when the interest becomes due and payable, and continuance of such default for a period of 30 days;
- (3) failure by the Company to comply with its obligation to convert the 2023 Notes in accordance with the 2023 Indenture upon exercise of a holder's conversion right;
- (4) failure by the Company to give a fundamental change notice or notice of a specified corporate transaction when due with respect to the Notes;
- (5) failure by the Company to comply with any of its other agreements contained in the 2023 Notes or the 2023 Indenture for a period of 60 days after written notice from the Trustee or the holders of at least 25% in aggregate principal amount of the Notes then outstanding has been received;
- (6) failure by the Company to pay when due the principal of, or acceleration of, any indebtedness for money borrowed by the Company or any of its Material Subsidiaries (as defined in the 2023 Indenture) in excess of \$40.0 million principal amount, if such indebtedness is not discharged, or such acceleration is not annulled, for a period of 30 days after written notice to the Company by the Trustee or to the Company and the Trustee by holders of 25% or more in aggregate principal amount of the 2023 Notes then outstanding in accordance with the 2023 Indenture; and
- (7) certain events of bankruptcy, insolvency or reorganization of the Company or any of its Material Subsidiaries (as defined in the Indenture).

If such an event of default, other than an event of default described in clause (7) above with respect to the Company, occurs and is continuing, the Trustee by written notice to the Company, or the holders of at least 25% in aggregate principal amount of the outstanding Notes by notice to the Company and the Trustee, may, and the Trustee at the request of such holders shall, declare 100% of the principal of and accrued and unpaid interest, if any, on all the Notes then outstanding to be due and payable. If an event of default described in clause (7) above occurs, 100% of the principal of and accrued and unpaid interest on the Notes then outstanding will automatically become due and payable.

Note Hedges and Warrants. On November 14, 2017 and November 16, 2017, in connection with the 2023 Notes, the Company entered into privately negotiated convertible note hedge transactions (the "Convertible Note Hedge Transactions") with respect to the Company's common stock, par value \$0.001 per share (the "Common Stock"), with certain bank counterparties (the "Counterparties"). The Company paid an aggregate amount of approximately \$33.5 million to the Counterparties for the Convertible Note Hedge Transactions. The Convertible Note Hedge Transactions cover, subject to anti-dilution adjustments substantially similar to those in the 2023 Notes, approximately 9.1 million shares of Common Stock, the same number of shares underlying the 2023 Notes, at a strike price that corresponds to the initial conversion price of the 2023 Notes, and are exercisable upon conversion of the 2023 Notes. The Convertible Note Hedge Transactions will expire upon the maturity of the 2023 Notes. The Convertible Note Hedge Transactions are intended to reduce the potential economic dilution upon conversion of the 2023 Notes. The Convertible Note Hedge Transactions are separate transactions and are not part of the terms of the 2023 Notes. Holders of the 2023 Notes will not have any rights with respect to the Convertible Note Hedge Transactions.

In addition, concurrently with entering into the Convertible Note Hedge Transactions, the Company separately entered into privately negotiated warrant transactions, whereby the Company sold to the Counterparties warrants (the "Warrants") to acquire, collectively, subject to anti-dilution adjustments, approximately 9.1 million shares of the Common Stock at an initial strike price of approximately \$23.30 per share, which represents a premium of 60% over the last reported sale price of the Common Stock of \$14.56 on November 14, 2017. The Company received aggregate proceeds of approximately \$23.2 million from the sale of the Warrants to the Counterparties. The Warrants are separate transactions and are not part of the 2023 Notes or Convertible Note Hedge Transactions. Holders of the 2023 Notes and Convertible Note Hedge Transactions will not have any rights with respect to the Warrants.

The amounts paid and received for the Convertible Note Hedge Transactions and Warrants have been recorded in additional paid-in capital in the consolidated balance sheets. The fair value of the Convertible Note Hedge Transactions and Warrants are not re-measured through earnings each reporting period. The amounts paid for the Convertible Note Hedge Transactions are tax deductible expenses, while the proceeds received from the Warrants are not taxable.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Impact to Earnings per Share. The 2023 Notes will have no impact to diluted earnings per share until the average price of our Common Stock exceeds the conversion price of \$18.93 per share because the principal amount of the 2023 Notes is required to be settled in cash upon conversion. Under the treasury stock method, in periods the Company reports net income, the Company is required to include the effect of additional shares that may be issued under the 2023 Notes when the price of the Company's Common Stock exceeds the conversion price. Under this method, the cumulative dilutive effect of the 2023 Notes would be approximately 9.1 million shares if the average price of the Company's Common Stock is \$18.93. However, upon conversion, there will be no economic dilution from the 2023 Notes, as exercise of the Convertible Note Hedge Transactions eliminates any dilution from the 2023 Notes that would have otherwise occurred when the price of the Company's Common Stock exceeds the conversion price. The Convertible Note Hedge Transactions are required to be excluded from the calculation of diluted earnings per share, as they would be anti-dilutive under the treasury stock method.

The warrants will have a dilutive effect when the average share price exceeds the warrant's strike price of \$23.30 per share. However, upon conversion, the Convertible Note Hedge Transactions would neutralize the dilution from the 2023 Notes so that there would only be dilution from the warrants.

1.125% Convertible Senior Notes due 2018. On August 16, 2013, the Company issued \$138.0 million aggregate principal amount of 1.125% convertible senior notes pursuant to an indenture (the "2018 Indenture") by and between the Company and U.S. Bank National Association, as the trustee. The 2018 Notes matured on August 15, 2018 (the "Maturity Date"), subject to earlier repurchase or conversion. In accounting for the 2018 Notes at issuance, the Company separated the 2018 Notes into liability and equity components pursuant to the accounting standards for convertible debt instruments that may be fully or partially settled in cash upon conversion. As of the date of issuance, the Company determined that the liability component of the 2018 Notes was \$107.7 million and the equity component of the 2018 Notes was \$30.3 million. The fair value of the liability component was estimated using an interest rate for a similar instrument without a conversion feature. The unamortized discount related to the 2018 Notes was amortized to interest expense using the effective interest method over five years through August 2018.

The Company paid cash interest at an annual rate of 1.125% of the principal amount at issuance, semi-annually in arrears on February 15 and August 15 of each year, commencing on February 15, 2014. The Company incurred transaction costs of approximately \$3.6 million related to the issuance of 2018 Notes. In accounting for these costs, the Company allocated the costs to the liability and equity components in proportion to the allocation of proceeds from the issuance of the 2018 Notes to such components. Transaction costs allocated to the liability component of \$2.8 million were recorded as deferred offering costs and were amortized to interest expense using the effective interest method over five years (the expected term of the debt). The transaction costs allocated to the equity component of \$0.8 million were recorded as additional paid-in capital. The 2018 Notes were the Company's general unsecured obligations, ranking equally in right of payment to all of Rambus' existing and future senior unsecured indebtedness, including the 2023 Notes, and senior in right of payment to any of the Company's future indebtedness that is expressly subordinated to the 2018 Notes.

The 2018 Notes were convertible into shares of the Company's common stock at an initial conversion rate of 82.8329 shares of common stock per \$1,000 principal amount of 2018 Notes, subject to adjustment in certain events. This is equivalent to an initial conversion price of approximately \$12.07 per share of common stock. Holders may have surrendered their 2018 Notes for conversion prior to the close of business day immediately preceding May 15, 2018 only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on December 31, 2013 (and only during such calendar quarter), if the closing sale price of the common stock for 20 or more trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is more than 130% of the conversion price per share of common stock on the last trading day of the preceding calendar quarter; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the closing sale price of the Company's common stock and the conversion rate on each such trading day; (3) upon the occurrence of specified distributions to holders of the Company's common stock; or (4) upon the occurrence of specified corporate events. On or after May 15, 2018 until the close of business on the second scheduled trading day immediately preceding the Maturity Date, holders may have converted their notes at any time, regardless of the foregoing circumstances. If a holder elected to convert its 2018 Notes in connection with certain fundamental changes, as that term is defined in the 2018 Indenture, that occurred prior to the Maturity Date, the Company would have, in certain circumstances, increased the conversion rate for 2018 Notes converted in connection with such fundamental changes by a specified number of shares of common stock.

Upon conversion of the 2018 Notes, the Company would have paid cash up to the aggregate principal amount of the notes to have been converted and paid or delivered, as the case may be, cash, shares of the Company's common stock or a combination

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

of cash and shares of the Company's common stock, at the Company's election, in respect of the remainder, if any, of the Company's conversion obligation in excess of the aggregate principal amount of the notes converted, as specified in the Indenture.

During the third quarter of 2018, the Company paid upon maturity the remaining \$81.2 million in aggregate principal amount of the 2018 Notes. Additionally, the Company delivered 423,873 shares of the Company's common stock as settlement related to the in-the-money conversion feature of the 2018 Notes at maturity. The value of the shares delivered was approximately \$5.0 million.

As of December 31, 2020, none of the conversion conditions were met related to the 2023 Notes. Therefore, the classification of the entire equity component for the 2023 Notes in permanent equity is appropriate as of December 31, 2020.

Interest expense related to the notes for the years ended December 31, 2020, 2019 and 2018 was as follows:

(In thousands)	Years Ended December 31,		
	2020	2019	2018
2023 Notes coupon interest at a rate of 1.375%	\$ 2,372	\$ 2,372	\$ 2,372
2023 Notes amortization of discount and debt issuance cost at an additional effective interest rate of 4.9%	7,243	6,854	6,486
2018 Notes coupon interest at a rate of 1.125%	—	—	377
2018 Notes amortization of discount and debt issuance cost at an additional effective interest rate of 5.5%	—	—	2,756
Total interest expense on convertible notes	\$ 9,615	\$ 9,226	\$ 11,991

13. Commitments and Contingencies

On December 15, 2009, the Company entered into a lease agreement for approximately 125,000 square feet of office space located at 1050 Enterprise Way in Sunnyvale, California, which commenced on July 1, 2010 and expired on June 30, 2020. The office space was used for the Company's corporate headquarters, as well as engineering, sales, marketing and administrative operations and activities. Refer to Note 10, "Leases," for information regarding the Company's lease agreement for a new corporate headquarters in San Jose, California.

On November 17, 2017, the Company entered into an Indenture with U.S. Bank National Association, as trustee, relating to the issuance by the Company of \$172.5 million aggregate principal amount of the 2023 Notes. Refer to Note 12, "Convertible Notes," for additional details.

As of December 31, 2020, the Company's material contractual obligations were as follows (in thousands):

	Total	2021	2022	2023	2024	2025
Contractual obligations ^{(1) (2) (3)}						
Software licenses ⁽⁴⁾	\$ 18,970	\$ 12,541	\$ 6,429	\$ —	\$ —	\$ —
Acquisition retention bonuses ⁽⁵⁾	6,370	3,370	3,000	—	—	—
Convertible notes	172,500	—	—	172,500	—	—
Interest payments related to convertible notes	5,936	2,372	2,372	1,192	—	—
Total	\$ 203,776	\$ 18,283	\$ 11,801	\$ 173,692	\$ —	\$ —

⁽¹⁾ The above table does not reflect possible payments in connection with unrecognized tax benefits of approximately \$25.5 million including \$23.6 million recorded as a reduction of long-term deferred tax assets and \$1.9 million in long-term income taxes payable, as of December 31, 2020. As noted below in Note 19, "Income Taxes," although it is possible that some of the unrecognized tax benefits could be settled within the next 12 months, the Company cannot reasonably estimate the outcome at this time.

⁽²⁾ For the Company's lease commitments as of December 31, 2020, refer to Note 10, "Leases."

⁽³⁾ The Company's other contractual obligations as of December 31, 2020 were not material.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- (4) The Company has commitments with various software vendors for agreements generally having terms longer than one year.
- (5) In connection with the acquisitions of Northwest Logic in August 2019 and the Secure Silicon IP and Protocols business in December 2019, the Company is obligated to pay retention bonuses to certain employees subject to certain eligibility and acceleration provisions including the condition of employment.

Indemnifications

From time to time, the Company indemnifies certain customers as a necessary means of doing business. Indemnification covers customers for losses suffered or incurred by them as a result of any patent, copyright, or other IP infringement or any other claim by any third party arising as result of the applicable agreement with the Company. The Company generally attempts to limit the maximum amount of indemnification that the Company could be required to make under these agreements to the amount of fees received by the Company, however, this is not always possible. The fair value of the liability as of December 31, 2020 and 2019 was not material.

14. Equity Incentive Plans and Stock-Based Compensation

Equity Incentive Plans

The Company has three equity incentive plans under which grants are currently outstanding: the 2006 Equity Incentive Plan (the “2006 Plan”), the 2015 Equity Incentive Plan (the “2015 Plan”) and the 2019 Inducement Equity Incentive Plan (the “2019 Inducement Plan”). On April 23, 2015, the Company’s stockholders approved the 2015 Plan, which replaced the 2006 Plan. Additionally, in the third quarter of 2019, the Company adopted the 2019 Inducement Plan and, subject to the adjustment provisions of the 2019 Inducement Plan, reserved 400,000 shares of the Company’s common stock for issuance pursuant to equity awards granted under the 2019 Inducement Plan. The 2015 Plan and 2019 Inducement Plan were the Company’s only plans for providing stock-based incentive awards to eligible employees, executive officers, non-employee directors and consultants as of December 31, 2020. Grants under all plans typically have a requisite service period of 60 months or 48 months, have straight-line vesting schedules and expire not more than 10 years from date of grant. No further awards will be made under the 2006 Plan, but the 2006 Plan will continue to govern awards previously granted under it. In addition, any shares subject to stock options or other awards granted under the 2006 Plan that on or after the effective date of the 2015 Plan are forfeited, cancelled, exchanged or surrendered or terminate under the 2006 Plan will become available for grant under the 2015 Plan. The Board will periodically review actual share consumption under the 2015 Plan and may make a request for additional shares as needed.

The 2019 Inducement Plan provides for the grant of equity-based awards, including nonstatutory stock options, restricted stock units, restricted stock, stock appreciation rights, performance shares and performance units, and its terms are substantially similar to the Company’s 2015 Plan. However, awards under the 2019 Inducement Plan may only be granted to individuals who previously have not been employees or non-employee directors of the Company (or who will become employed following a bona fide period of non-employment or service with the Company), as an inducement material to the individuals’ entry into employment with the Company, or, to the extent permitted by Rule 5635(c)(3) of the Nasdaq Listing Rules, in connection with a merger or acquisition.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

A summary of shares available for grant under the Company's plans is as follows:

	Shares Available for Grant
Total shares available for grant as of December 31, 2017	5,051,147
Increase in shares approved for issuance	5,500,000
Stock options granted	(711,479)
Stock options forfeited	877,803
Nonvested equity stock and stock units granted ⁽¹⁾⁽²⁾	(4,993,802)
Nonvested equity stock and stock units forfeited ⁽¹⁾	4,350,377
Total shares available for grant as of December 31, 2018	10,074,046
Increase in shares approved for issuance ⁽³⁾	400,000
Stock options granted	(80,000)
Stock options forfeited	426,960
Nonvested equity stock and stock units granted ⁽¹⁾⁽⁴⁾	(7,261,845)
Nonvested equity stock and stock units forfeited ⁽¹⁾	3,267,702
Total shares available for grant as of December 31, 2019	6,826,863
Increase in shares approved for issuance ⁽⁵⁾	7,800,000
Stock options granted	(40,000)
Stock options forfeited	101,816
Nonvested equity stock and stock units granted ⁽¹⁾⁽⁶⁾	(3,528,401)
Nonvested equity stock and stock units forfeited ⁽¹⁾	1,252,042
Total shares available for grant as of December 31, 2020	12,412,320

- ⁽¹⁾ For purposes of determining the number of shares available for grant under the 2015 Plan against the maximum number of shares authorized, each restricted stock granted reduces the number of shares available for grant by 1.5 shares and each restricted stock forfeited increases shares available for grant by 1.5 shares.
- ⁽²⁾ Amount includes 0.5 million shares that had been reserved for potential future issuance related to certain performance unit awards discussed under the section titled "Nonvested Equity Stock and Stock Units" below.
- ⁽³⁾ Shares were reserved under the 2019 Inducement Plan adopted in the third quarter of 2019.
- ⁽⁴⁾ Amount includes 1.0 million shares that have been reserved for potential future issuance related to certain performance unit awards discussed under the section titled "Nonvested Equity Stock and Stock Units" below.
- ⁽⁵⁾ On April 30, 2020, the Company's stockholders approved an additional 7,800,000 shares for issuance under the 2015 Plan.
- ⁽⁶⁾ Amount includes 0.5 million shares that have been reserved for potential future issuance related to certain performance unit awards discussed under the section titled "Nonvested Equity Stock and Stock Units" below.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
General Stock Option Information

The following table summarizes stock option activity under the Company's equity incentive plans for the years ended December 31, 2020, 2019 and 2018 and information regarding stock options outstanding, exercisable, and vested and expected to vest as of December 31, 2020:

(In thousands, except per share amounts and years)	Options Outstanding			
	Number of Shares	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of December 31, 2017	4,310,361	\$ 9.78		
Options granted	711,479	\$ 12.84		
Options exercised	(908,146)	\$ 6.70		
Options forfeited	(877,803)	\$ 13.73		
Outstanding as of December 31, 2018	3,235,891	\$ 10.25		
Options granted	80,000	\$ 13.25		
Options exercised	(1,249,785)	\$ 7.79		
Options forfeited	(426,960)	\$ 13.71		
Outstanding as of December 31, 2019	1,639,146	\$ 11.37		
Options granted	40,000	\$ 15.59		
Options exercised	(613,119)	\$ 10.74		
Options forfeited	(101,816)	\$ 19.41		
Outstanding as of December 31, 2020	964,211	\$ 11.08	5.04	\$ 6,151
Vested or expected to vest at December 31, 2020	961,925	\$ 11.08	5.03	\$ 6,143
Options exercisable at December 31, 2020	781,102	\$ 10.51	4.31	\$ 5,432

Employee Stock Purchase Plan

During the years ended December 31, 2020, 2019, and 2018, the Company had one employee stock purchase plan, the 2015 Employee Stock Purchase Plan ("2015 ESPP"). Employees generally will be eligible to participate in the plan if they are employed by Rambus for more than 20 hours per week and more than five months in a fiscal year. The 2015 ESPP provides for six-month offering periods, with a new offering period commencing on the first trading day on or after May 1 and November 1 of each year. Under the plans, employees may purchase stock at the lower of 85% of the beginning of the offering period (the enrollment date), or the end of each offering period (the purchase date). Employees generally may not purchase more than the number of shares having a value greater than \$25,000 in any calendar year, as measured at the purchase date.

The Company issued 467,065 shares at a weighted-average price of \$10.51 per share during the year ended December 31, 2020. The Company issued 629,438 shares at a weighted-average price of \$8.53 per share during the year ended December 31, 2019. The Company issued 541,395 shares at a weighted-average price of \$9.99 per share during the year ended December 31, 2018. On April 30, 2020, the Company's stockholders approved an additional 2,000,000 shares to be reserved for issuance under the 2015 ESPP. As of December 31, 2020, 3,198,375 shares under the ESPP remained available for issuance.

Stock-Based Compensation
Stock Options

During the years ended December 31, 2020 and 2019, the number of stock options granted were not material. During the year ended December 31, 2018, Rambus granted 711,479 stock options with an estimated total grant-date fair value of \$3.0 million. During the years ended December 31, 2020, 2019 and 2018, Rambus recorded stock-based compensation related to stock options of \$0.6 million, \$1.0 million and \$1.7 million, respectively.

As of December 31, 2020, there was \$1.1 million of total unrecognized compensation cost, net of expected forfeitures, related to unvested stock-based compensation arrangements granted under the stock option plans. This cost is expected to be recognized over a weighted-average period of 2.2 years. The total fair value of options vested for the years ended December 31, 2020, 2019 and 2018 was \$3.3 million, \$6.7 million and \$12.9 million, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)*Employee Stock Purchase Plans*

During the years ended December 31, 2020, 2019 and 2018, Rambus recorded stock-based compensation related to the ESPP of \$1.5 million, \$1.5 million and \$1.4 million, respectively. As of December 31, 2020, there was \$0.7 million of total unrecognized compensation cost related to stock-based compensation arrangements granted under the ESPP. That cost is expected to be recognized over four months.

Valuation Assumptions

Rambus estimates the fair value of stock awards using the BSM model. The BSM model determines the fair value of stock-based compensation and is affected by Rambus' stock price on the date of the grant as well as assumptions regarding a number of highly complex and subjective variables. These variables include expected volatility, expected life of the award, expected dividend rate, and expected risk-free rate of return. The assumptions for expected volatility and expected life are the two assumptions that significantly affect the grant-date fair value. If actual results differ significantly from these estimates, stock-based compensation expense and Rambus' results of operations could be materially impacted.

The fair value of stock awards is estimated as of the grant date using the BSM option-pricing model assuming a dividend yield of 0% and the additional weighted-average assumptions as listed in the table below.

The following table presents the weighted-average assumptions used to estimate the fair value of stock options granted that contain only service conditions in the periods presented:

	Stock Option Plan for Years Ended December 31,		
	2020	2019	2018
Stock Option Plan			
Expected stock price volatility	38%	33%-36%	24%-32%
Risk free interest rate	0.2%	1.4%-1.6%	2.6%-2.8%
Expected term (in years)	5.5	5.1-5.2	5.8
Weighted-average fair value of stock options granted	\$5.46	\$4.36	\$4.23
	Employee Stock Purchase Plan for Years Ended December 31,		
	2020	2019	2018
Employee Stock Purchase Plan			
Expected stock price volatility	37%-46%	32%	27%-34%
Risk free interest rate	0.1%	1.6%-2.4%	2.05%-2.5%
Expected term (in years)	0.5	0.5	0.5
Weighted-average fair value of purchase rights granted under the purchase plan	\$3.46	\$3.13	\$2.59

Expected Stock Price Volatility: Given the volume of market activity in its market traded options, Rambus determined that it would use the implied volatility of its nearest-to-the-money traded options. The Company believes that the use of implied volatility is more reflective of market conditions and a better indicator of expected volatility than historical volatility. If there is not sufficient volume in its market traded options, the Company will use an equally weighted blend of historical and implied volatility.

Risk-free Interest Rate: Rambus bases the risk-free interest rate used in the BSM valuation method on implied yield currently available on the U.S. Treasury zero-coupon issues with an equivalent term. Where the expected terms of Rambus' stock-based awards do not correspond with the terms for which interest rates are quoted, Rambus uses an approximation based on rates on the closest term currently available.

Expected Term: The expected term of options granted represents the period of time that options granted are expected to be outstanding. The expected term was determined based on historical experience of similar awards, giving consideration to the contractual terms of the stock-based awards, vesting schedules and expectations of future employee behavior. The expected term of ESPP grants is based upon the length of each respective purchase period.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)***Nonvested Equity Stock and Stock Units***

The Company grants nonvested equity stock units to officers, directors and employees. For the years ended December 31, 2020, 2019 and 2018, the Company granted nonvested equity stock units totaling 2.0 million, 4.2 million and 3.0 million shares, respectively. These awards have a service condition, generally a service period of four years, except in the case of grants to directors, for which the service period is one year. For the years ended December 31, 2020, 2019 and 2018, the fair value of nonvested equity stock units at the date of grant was approximately \$31.0 million, \$43.0 million and \$38.1 million, respectively. During the years ended December 31, 2020, 2019 and 2018, the Company granted performance unit awards to certain Company executive officers with vesting subject to the achievement of certain performance and/or market conditions. The ultimate number of performance units that can be earned can range from 0% to 200% of target depending on performance relative to target over the applicable period. The shares earned will vest on the third anniversary of the date of grant. The Company's shares available for grant has been reduced to reflect the shares that could be earned at the maximum target.

For the years ended December 31, 2020, 2019 and 2018, the Company recorded stock-based compensation expense of approximately \$23.7 million, \$23.9 million and \$18.6 million, respectively, related to all outstanding nonvested equity stock grants. Unrecognized stock-based compensation related to all nonvested equity stock grants, net of an estimate of forfeitures, was approximately \$34.5 million at December 31, 2020. This cost is expected to be recognized over a weighted-average period of 2.1 years.

The following table reflects the activity related to nonvested equity stock and stock units for the three years ended December 31, 2020:

<u>Nonvested Equity Stock and Stock Units</u>	Shares	Weighted-Average Grant-Date Fair Value
Nonvested at December 31, 2017	5,861,349	\$ 12.68
Granted	2,978,558	\$ 12.77
Vested	(1,713,930)	\$ 12.39
Forfeited	(2,266,842)	\$ 12.97
Nonvested at December 31, 2018	4,859,135	\$ 12.71
Granted	4,233,701	\$ 10.17
Vested	(1,896,283)	\$ 12.40
Forfeited	(1,907,070)	\$ 11.33
Nonvested at December 31, 2019	5,289,483	\$ 11.27
Granted	1,986,117	\$ 15.60
Vested	(1,693,659)	\$ 11.70
Forfeited	(730,676)	\$ 11.83
Nonvested at December 31, 2020	<u>4,851,265</u>	\$ 12.82

15. Stockholders' Equity

On January 21, 2015, the Company's Board approved a share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the "2015 Repurchase Program"). Share repurchases under the 2015 Repurchase Program were made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. During the years ended December 31, 2020 and 2019, the Company did not repurchase any shares of its common stock under the 2015 Repurchase Program.

On October 29, 2020, the Company's Board approved a new share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the "2020 Repurchase Program"). Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program. The 2020 Repurchase Program replaced the previous program approved by the Board in January 2015 and canceled the remaining shares outstanding as part of the previous authorization.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

On November 11, 2020, the Company entered into an accelerated share repurchase program with Deutsche Bank AG, London Branch as counterparty, through its agent Deutsche Bank Securities Inc. (“Deutsche Bank”) (the “2020 ASR Program”). The 2020 ASR Program was part of the broader share repurchase program previously authorized by the Company’s Board on October 29, 2020. Under the 2020 ASR Program, the Company pre-paid to Deutsche Bank the \$50.0 million purchase price for its common stock and, in turn, the Company received an initial delivery of approximately 2.6 million shares of its common stock from Deutsche Bank in the fourth quarter of 2020, which were retired and recorded as a \$40.0 million reduction to stockholders’ equity. The remaining \$10.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to the Company’s stock. The number of shares to be ultimately purchased by the Company will be determined based on the volume-weighted-average price of the common stock during the terms of the transaction, minus an agreed upon discount between the parties. The 2020 ASR Program is expected to be completed within six months from the beginning of the program. There were no other repurchases of the Company’s common stock during 2020.

As of December 31, 2020, there remained an outstanding authorization to repurchase approximately 17.4 million shares of the Company’s outstanding common stock under the current share repurchase program.

The Company records share repurchases as a reduction to stockholders’ equity. The Company records a portion of the purchase price of the repurchased shares as an increase to accumulated deficit when the price of the shares repurchased exceeds the average original proceeds per share received from the issuance of common stock. During the year ended December 31, 2020, the cumulative price of \$31.5 million was recorded as an increase to accumulated deficit.

Convertible Note Hedge Transactions

On November 14, 2017 and November 16, 2017, in connection with the 2023 Notes, the Company entered into the Convertible Note Hedge Transactions with respect to the Common Stock, with the Counterparties. The Company paid an aggregate amount of approximately \$33.5 million to the Counterparties for the Convertible Note Hedge Transactions. The Convertible Note Hedge Transactions cover, subject to anti-dilution adjustments substantially similar to those in the 2023 Notes, approximately 9.1 million shares of Common Stock, the same number of shares underlying the 2023 Notes, at a strike price that corresponds to the initial conversion price of the 2023 Notes, and are exercisable upon conversion of the 2023 Notes. The Convertible Note Hedge Transactions will expire upon the maturity of the 2023 Notes.

The Convertible Note Hedge Transactions are expected generally to reduce the potential dilution to the Common Stock upon conversion of the 2023 Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of the converted 2023 Notes, as the case may be, in the event that the market price per share of the Common Stock, as measured under the terms of the Convertible Note Hedge Transactions, is greater than the strike price of the Convertible Note Hedge Transactions.

The Convertible Note Hedge Transactions are separate transactions, entered into by the Company with the Counterparties, and are not part of the terms of the 2023 Notes. Holders of the 2023 Notes will not have any rights with respect to the Convertible Note Hedge Transactions. Refer to Note 12, “Convertible Notes,” for additional details.

Warrant Transactions

On November 14, 2017 and November 16, 2017, in connection with the 2023 Notes, the Company sold the Warrants to the Counterparties to acquire, collectively, subject to anti-dilution adjustments, approximately 9.1 million shares of the Common Stock at an initial strike price of approximately \$23.30 per share, which represents a premium of 60% over the last reported sale price of the Common Stock of \$14.56 on November 14, 2017. The Company received aggregate proceeds of approximately \$23.2 million from the sale of the Warrants to the Counterparties. The Warrants were sold in private placements to the Counterparties pursuant to an exemption from the registration requirements of the Securities Act afforded by Section 4(a)(2) of the Securities Act.

If the market price per share of the Common Stock, as measured under the terms of the Warrants, exceeds the strike price of the Warrants, the Warrants could have a dilutive effect, unless the Company elects, subject to certain conditions, to settle the Warrants in cash.

The Warrants are separate transactions, entered into by the Company with the Counterparties, and are not part of the terms of the 2023 Notes. Holders of the 2023 Notes will not have any rights with respect to the Warrants. Refer to Note 12, “Convertible Notes,” for additional details.

16. Benefit Plans

Rambus has a 401(k) Plan (the “401(k) Plan”) qualified under Section 401(k) of the Internal Revenue Code of 1986. Each eligible employee may elect to contribute up to 60% of the employee’s annual compensation to the 401(k) Plan, up to the Internal Revenue Service limit. Rambus, at the discretion of its Board of Directors, may match employee contributions to the 401(k) Plan. The Company matches 50% of eligible employee’s contribution, up to the first 6% of an eligible employee’s qualified earnings. For the years ended December 31, 2020, 2019 and 2018, Rambus made matching contributions totaling approximately \$1.8 million, \$2.0 million and \$2.1 million, respectively.

17. Divestiture

During the second quarter of 2019, the Company entered into a share purchase agreement with Visa International Service Association (the “Purchaser”), pursuant to which the Purchaser agreed to acquire all of the outstanding shares of the Company’s subsidiary, Smart Card Software Limited, which comprises the Company’s Payments and Ticketing businesses, which was part of the Company’s former Rambus Security Division (RSD) segment. The decision to sell these businesses reflected the Company’s ongoing review of its business to focus on products and offerings that are core to its semiconductor business.

The sale of the legal entities comprising the Company’s Payments and Ticketing businesses was completed in October 2019. The final gross proceeds from the sale amounted to \$82.5 million, which included the selling price of \$75.0 million and approximately \$7.5 million in net working capital adjustments finalized in October 2019. The \$7.5 million in net working capital adjustments is net of a final working capital adjustment due to the buyer of approximately \$1.1 million, which the Company paid in cash to the buyer during the first quarter of 2020. The final gross proceeds were offset by approximately \$3.8 million in transaction costs for the year ended December 31, 2019.

The Company measured these businesses at the lower of their carrying value or fair value less any costs to sell, and recognized a cumulative impairment of approximately \$7.4 million during the year ended December 31, 2019. In the second quarter of 2019, in order to determine the impairment loss, the Company performed a relative fair value measurement to allocate goodwill to the business units between the disposed Payments and Ticketing businesses and the retained business, which includes Cryptography Research Inc., which was part of the former RSD segment. The fair value of the retained business was estimated by management using a discounted cash flow model. The Company’s cash flow projections for the retained business included significant judgments and assumptions relating to revenue growth rates, projected operating income and the discount rate.

The operating results of these businesses did not qualify for reporting as discontinued operations. The reported results and financial position of the businesses did not necessarily reflect the total value of the businesses that the Company realized upon their sale.

18. Restructuring and Other Charges

2020 Restructuring Plan

In November 2020, the Company initiated a restructuring program to reduce overall expenses which is expected to improve future profitability by reducing spending on research and development efforts and sales, general and administrative programs (the “2020 Restructuring Plan”). In connection with this restructuring program, the Company initiated a plan of termination resulting in a reduction of approximately 70 employees. During the year ended December 31, 2020, the Company recorded charges of approximately \$3.3 million related primarily to the reduction in workforce. During the year ended December 31, 2020, the Company paid approximately \$0.9 million of the total charges. As of December 31, 2020, the Company’s accrued restructuring balance was approximately \$2.4 million. The 2020 Restructuring Plan is expected to be substantially completed in the first half of 2021.

2019 Restructuring Plan

In June 2019, the Company initiated a restructuring program to reduce overall expenses which is expected to improve future profitability by reducing spending on research and development efforts and sales, general and administrative programs (the “2019 Restructuring Plan”). In connection with this restructuring program, the Company initiated a plan of termination resulting in a reduction of approximately 80 employees. During the years ended December 31, 2020 and 2019, the Company recorded charges of approximately \$0.8 million and \$8.8 million, respectively, related to the reduction in workforce. The 2019 Restructuring Plan was substantially completed in the second quarter of 2020.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
2018 Restructuring Plan

On January 30, 2018, the Company announced its plans to close its lighting division and manufacturing operations in Brecksville, Ohio, (“the 2018 Restructuring Plan”). The Company believed that such business was not core to its strategy and growth objectives. In connection therewith, the Company terminated approximately 50 employees, and began the process to exit the facilities in Ohio and sell the related equipment. The Company expected to record restructuring charges of approximately \$2.0 million to \$5.0 million related to employee terminations and severance costs and facility related costs. During the year ended December 31, 2018, the Company recorded a net charge of \$2.2 million, primarily related to the reduction in workforce, of which \$2.0 million was related to the lighting division and \$0.2 million was related to corporate support functions. The 2018 Restructuring Plan was completed as of December 31, 2019.

The Company concluded that the closure of its lighting division did not meet the criteria for reporting as discontinued operations. Consequently, the lighting division’s long-lived assets were reclassified as held for sale. As of December 31, 2018, the Company sold all property, plant and equipment from its lighting division reclassified as held for sale on the consolidated balance sheets of approximately \$3.5 million and recognized a gain on the disposal of the held for sale assets of approximately \$1.2 million included in restructuring charges on the consolidated statements of operations.

19. Income Taxes

Income (loss) before taxes consisted of the following:

(In thousands)	Years Ended December 31,		
	2020	2019	2018
Domestic	\$ (43,029)	\$ (81,316)	\$ (63,829)
Foreign	3,398	(5,700)	(6,799)
	<u>\$ (39,631)</u>	<u>\$ (87,016)</u>	<u>\$ (70,628)</u>

The provision for (benefit from) income taxes was comprised of:

(In thousands)	Years Ended December 31,		
	2020	2019	2018
Federal:			
Current	\$ (456)	\$ 2,932	\$ 5,451
Deferred	2,018	2,016	82,726
State:			
Current	652	657	333
Deferred	(1,528)	(1,198)	522
Foreign:			
Current	3,097	1,708	1,592
Deferred	195	(2,712)	(3,295)
	<u>\$ 3,978</u>	<u>\$ 3,403</u>	<u>\$ 87,329</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The differences between Rambus' effective tax rate and the U.S. federal statutory regular tax rate were as follows:

	Years Ended December 31,		
	2020	2019	2018
U.S. federal statutory rate	21.0 %	21.0 %	21.0 %
State income tax (expense)/benefit	(2.5)	0.9	(1.2)
Withholding tax	(3.7)	(3.5)	(7.7)
Foreign rate differential	(4.4)	(1.6)	(0.2)
Research and development credit	(4.4)	1.2	2.2
Executive compensation	(1.7)	(1.2)	(0.1)
Stock-based compensation	0.6	(2.3)	(2.8)
Foreign tax credit	(85.7)	3.4	7.7
Foreign derived intangible income deduction	12.3	4.6	14.8
Divestiture	(18.8)	4.8	—
Other	0.7	0.3	0.7
Valuation allowance	76.6	(31.5)	(158.0)
	<u>(10.0)%</u>	<u>(3.9)%</u>	<u>(123.6)%</u>

The components of the net deferred tax assets (liabilities) were as follows:

(In thousands)	As of December 31,	
	2020	2019
Deferred tax assets:		
Depreciation and amortization	\$ 13,199	\$ 13,995
Lease liabilities	8,716	10,734
Other timing differences, accruals and reserves	5,347	9,522
Deferred equity compensation	4,631	4,456
Net operating loss carryovers	15,756	20,900
Tax credits	169,063	233,407
Total gross deferred tax assets	<u>216,712</u>	<u>293,014</u>
Deferred tax liabilities:		
Lease right-of-use assets	(6,392)	(10,400)
Convertible debt	(130)	(151)
Deferred revenue	(45,845)	(94,763)
Total gross deferred tax liabilities	<u>(52,367)</u>	<u>(105,314)</u>
Total net deferred tax assets	164,345	187,700
Valuation allowance	(174,328)	(196,972)
Net deferred tax liabilities	<u>\$ (9,983)</u>	<u>\$ (9,272)</u>

(In thousands)	As of December 31,	
	2020	2019
Reported as:		
Non-current deferred tax assets	\$ 4,353	\$ 4,574
Non-current deferred tax liabilities	(14,336)	(13,846)
Net deferred tax liabilities	<u>\$ (9,983)</u>	<u>\$ (9,272)</u>

The Company periodically evaluates the realizability of its net deferred tax assets based on all available evidence, both positive and negative. During the third quarter of 2018, the Company assessed the changes in its underlying facts and circumstances and evaluated the realizability of its existing deferred tax assets based on all available evidence, both positive and

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

negative, and the weight accorded to each, and concluded a full valuation allowance associated with U.S. federal and California deferred tax assets was appropriate. During 2020, as a result of the enactment of California A.B. 85 and the temporary suspension of California net operating loss utilization for tax years 2020 through 2022, the Company released \$0.6 million of the valuation allowance on its deferred tax asset for California research and development tax credits. The Company continues to maintain a full valuation allowance on the remainder of its California and U.S. federal deferred tax assets as it does not expect to be able to fully utilize them.

The following table presents the tax valuation allowance information for the years ended December 31, 2020, 2019 and 2018:

(In thousands)	Balance at Beginning of Period	Charged (Credited) to Operations	Charged to Other Account*	Valuation Allowance Release	Valuation Allowance Set up	Balance at End of Period
Tax Valuation Allowance						
Year ended December 31, 2018	\$ 50,911	—	9,238	—	113,729	\$ 173,878
Year ended December 31, 2019	\$ 173,878	23,094	—	—	—	\$ 196,972
Year ended December 31, 2020	\$ 196,972	(22,019)	3	(628)	—	\$ 174,328

* Amounts not charged to operations are charged to other comprehensive income or retained earnings.

As of December 31, 2020, Rambus had California and other state net operating loss carryforwards of \$202.2 million and \$35.8 million, respectively. As of December 31, 2020, Rambus had federal research and development tax credit carryforwards of \$38.8 million and foreign tax credits of \$123.5 million. As of December 31, 2020, Rambus had California research and development tax credit carryforwards of \$30.3 million and California alternative minimum tax credit carryforwards of \$0.2 million. The federal foreign tax credits and research and development credits begin to expire in 2021. Approximately \$9.9 million of federal foreign tax credits will expire in 2021. The California net operating losses begin to expire in 2027. The California research and development credits carry forward indefinitely.

In the event of a change in ownership, as defined under federal and state tax laws, Rambus' net operating loss and tax credit carryforwards could be subject to annual limitations. The annual limitations could result in the expiration of the net operating loss and tax credit carryforwards prior to utilization.

As of December 31, 2020, the Company had \$134.0 million of unrecognized tax benefits including \$23.6 million recorded as a reduction of long-term deferred tax assets, \$109 million recorded as a reduction of other assets associated with refundable withholding taxes previously withheld from licensees in South Korea (Korea), and \$1.9 million recorded in long-term income taxes payable. As a result of recent court rulings in Korea, the Company has determined that they may be entitled to refund claims for foreign taxes previously withheld from licensees in Korea. The Company recognizes that there are numerous risks and uncertainties associated with the ultimate collection of this refund, and has therefore established an offsetting reserve for the entire amount of potentially refundable withholding taxes previously withheld in Korea. If recognized, \$110.9 million would be recorded as an income tax benefit in the consolidated statement of operations. As of December 31, 2019, the Company had \$115.7 million of unrecognized tax benefits including \$22.8 million recorded as a reduction of long-term deferred tax assets, \$91 million recorded as a reduction of other assets associated with refundable withholding taxes previously withheld from licensees in South Korea (Korea), and \$1.8 million recorded in long term income taxes payable.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

A reconciliation of the beginning and ending amounts of unrecognized income tax benefits for the years ended December 31, 2020, 2019 and 2018 was as follows:

(In thousands)	Years Ended December 31,		
	2020	2019	2018
Balance at January 1	\$ 115,653	\$ 23,482	\$ 22,652
Tax positions related to current year:			
Additions	18,600	16,485	1,032
Tax positions related to prior years:			
Additions	—	76,158	115
Reductions	(209)	(472)	(317)
Settlements	—	—	—
Balance at December 31	\$ 134,044	\$ 115,653	\$ 23,482

Rambus recognizes interest and penalties related to uncertain tax positions as a component of the income tax provision (benefit). At December 31, 2020 and 2019, an immaterial amount of interest and penalties are included in long-term income taxes payable.

Rambus files income tax returns for the U.S., California, India, and various other state and foreign jurisdictions. The U.S. federal returns are subject to examination from 2016 and forward. The California returns are subject to examination from 2010 and forward. In addition, any research and development credit carryforward or net operating loss carryforward generated in prior years and utilized in these or future years may also be subject to examination. The India returns are subject to examination from fiscal year ending March 2012 and forward. The Company is currently under examination by California for the 2010, 2011 and 2018 tax years. The Company's India subsidiary is under examination by the Indian tax administration for tax years beginning with 2011, except for 2014, which was assessed in the Company's favor. These examinations may result in proposed adjustments to the income taxes as filed during these periods. Management regularly assesses the likelihood of outcomes resulting from income tax examinations to determine the adequacy of their provision for income taxes and believes their provision for unrecognized tax benefits is adequate. The estimated potential reduction in the Company's unrecognized tax benefits in the next 12 months would not be material.

At December 31, 2020, no other income taxes (state or foreign) have been provided on undistributed earnings of approximately \$16.4 million from the Company's international subsidiaries since these earnings have been, and under current plans will continue to be, indefinitely reinvested outside the United States. However, if such earnings were distributed, the Company would incur approximately \$1.8 million of foreign withholding taxes and an immaterial amount of U.S. taxes.

20. Litigation and Asserted Claims

Rambus is not currently a party to any material pending legal proceeding; however, from time to time, Rambus may become involved in legal proceedings or be subject to claims arising in the ordinary course of its business. Although the results of litigation and claims cannot be predicted with certainty, the Company currently believes that the final outcome of these ordinary course matters will not have a material adverse effect on our business, operating results, financial position or cash flows. Regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management attention and resources and other factors.

The Company records a contingent liability when it is probable that a loss has been incurred and the amount is reasonably estimable in accordance with accounting for contingencies.

21. Acquisitions***Northwest Logic, Inc.***

On July 26, 2019, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with Northwest Logic, a leading supplier of memory, PCIe, and MIPI digital controllers. On August 23, 2019 (the "Closing Date"), the Company completed its acquisition of Northwest Logic by acquiring all issued and outstanding shares of Northwest Logic through the merger of a wholly-owned Rambus subsidiary with Northwest Logic. Under the terms of the Merger Agreement, the Company paid approximately \$21.9 million in cash, including certain bonus payments and adjustments for working capital. Of the purchase price, \$3.0 million of the consideration was deposited into an escrow account to fund indemnification

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

obligations and other contractual provisions, to be released 24 months after the Closing Date. This acquisition allows the Company to further scale, bringing together high-speed design expertise with the physical and digital IP families from renowned market leaders to offer comprehensive memory and SerDes IP solutions for chip designers. The Company integrated Northwest Logic's offerings and design team into its IP cores technology solutions.

As part of the acquisition, the Company agreed to pay \$9.0 million to certain Northwest Logic employees in cash over three years following August 23, 2019 (the "Retention Bonus"), to be paid in three installments of \$3.0 million on each of the dates that are 12 months, 24 months and 36 months following the Closing Date. The Retention Bonus payouts are subject to the condition of continued employment, and therefore treated as compensation and expensed as incurred.

As of December 31, 2019, the Company had incurred approximately \$0.7 million in external acquisition costs in connection with the transaction, which were expensed as incurred.

The fair value of the assets acquired was determined by management primarily by using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the existing technologies less charges representing the contribution of other assets to those cash flows. The Company performed a valuation of the net assets acquired as of the Closing Date.

The total consideration from the business combination was allocated as of the Closing Date, and reflects adjustments made through the measurement period to finalize the purchase price accounting, as follows:

(In thousands)	Total
Cash and cash equivalents	\$ 159
Accounts receivable	1,679
Prepaid expenses and other current assets	65
Identified intangible assets	8,800
Goodwill	13,477
Operating lease right-of-use asset	178
Other asset	9
Accounts payable	(9)
Operating lease liability	(178)
Other current liabilities	(108)
Deferred tax liability, net	(2,133)
Total	<u>\$ 21,939</u>

The goodwill arising from the acquisition is primarily attributed to synergies related to the combination of new and complementary technologies of the Company and the assembled workforce of Northwest Logic. This goodwill is not deductible for tax purposes.

The identified intangible assets assumed in the acquisition of Northwest Logic were recognized as follows based upon their estimated fair values as of the acquisition date:

	Total	Estimated Weighted-Average
	(in thousands)	Useful Life
		(in years)
Existing technology	\$ 8,100	5
Customer contracts and contractual relationships	400	2
Customer backlog	300	0.5
Total	<u>\$ 8,800</u>	

Secure Silicon IP and Protocols Business from Verimatrix

On September 11, 2019, the Company announced it had signed an asset purchase agreement to acquire the Secure Silicon IP and Protocols business from Verimatrix, formerly Inside Secure, for \$65.0 million in cash. On December 8, 2019 (the "Closing Date"), the Company completed its acquisition of the Secure Silicon IP and Protocols business. Under the terms of the Asset

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Purchase Agreement, as amended, the Company paid approximately \$45.0 million in cash at the Closing Date, and may have been required to pay up to an additional \$20.0 million, at that time valued at \$1.8 million (the “fair value of the earn-out liability”), subject to certain revenue targets of the transferred business for the calendar year 2020. Since the specified targets were not met for calendar year 2020, the Company recorded a full reduction in the fair value of the earn-out liability, which resulted in a gain in the consolidated statements of operations. The addition of the embedded security teams, products and expertise from the Secure Silicon IP and Protocols business augments the Company’s portfolio of mission-critical embedded security products and expands its offerings for data center, AI, networking and automotive.

The total adjusted purchase consideration for the acquisition of the Secure Silicon IP and Protocols business was \$46.8 million, which consisted of the following:

(In thousands)	Total
Cash consideration transferred at the Closing Date	\$ 45,000
Fair value of earn-out liability	1,800
Total adjusted purchase price	\$ 46,800

As part of the acquisition, the Company agreed to pay \$1.0 million to certain employees in cash over two years effective January 1, 2020 (the “Retention Bonus”), to be paid in arrears in the fourth quarter of 2020 and 2021, respectively. The Retention Bonus payouts are subject to the condition of continued employment, and therefore treated as compensation and expensed as incurred.

As of December 31, 2019, the Company had incurred approximately \$3.1 million in external acquisition costs in connection with the transaction, which were expensed as incurred.

The fair value of the assets acquired was determined by management primarily by using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the existing technologies less charges representing the contribution of other assets to those cash flows. The Company performed a valuation of the net assets acquired as of the Closing Date.

The Company performed a valuation of the net assets acquired as of the Closing Date. The total consideration from the acquisition was allocated as follows:

(In thousands)	Total
Prepaid expenses and other current assets	\$ 267
Unbilled receivables	6,765
Operating lease right-of-use assets	852
Identified intangible assets	23,500
Goodwill	16,845
Deferred revenue	(310)
Operating lease liabilities	(852)
Other current liabilities	(267)
Total	\$ 46,800

The goodwill arising from the acquisition is primarily attributed to synergies related to the combination of new and complementary technologies of the Company and the assembled workforce of the Secure Silicon IP and Protocols business. Approximately \$15.0 million of the goodwill is deductible for tax purposes.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The identified intangible assets assumed in the acquisition of the Secure Silicon IP and Protocols business were recognized as follows based upon their estimated fair values as of the acquisition date:

	<u>Total</u>	<u>Estimated Weighted-Average Useful Life</u>
	<u>(in thousands)</u>	<u>(in years)</u>
Existing technology	\$ 21,600	3 to 5 years
Customer contracts and contractual relationships	900	5 years
IPR&D	1,000	Not applicable
Total	<u>\$ 23,500</u>	

IPR&D consisted of one project, primarily relating to the development of Media Access Control Security frame engines, which was part of the Silicon IP solutions. During the year ended December 31, 2020, the project was completed and the asset is being amortized over its useful life of five years. During the year ended December 31, 2020, the amortization for the completed project was not material.

Unaudited Pro Forma Combined Consolidated Financial Information

The following unaudited pro forma financial information presents the combined results of operations for the Company and Northwest Logic as if the acquisition had occurred on January 1, 2018. The unaudited pro forma financial information has been prepared for comparative purposes only and does not purport to be indicative of the actual operating results that would have been recorded had the acquisition actually taken place on January 1, 2018, and should not be taken as indicative of future consolidated operating results. Additionally, the unaudited pro forma financial results do not include any anticipated synergies or other expected benefits from the acquisition (unaudited, in thousands, except per share amounts):

	<u>Years Ended December 31,</u>	
	<u>2019</u>	<u>2018</u>
Revenue	\$ 231,492	\$ 241,049
Net loss	\$ (90,688)	\$ (160,742)
Net loss per share - diluted	\$ (0.82)	\$ (1.48)

Pro forma loss for 2019 was adjusted to exclude \$0.7 million of acquisition-related costs incurred in 2019. Consequently, pro forma loss for 2018 was adjusted to include these costs.

Pro forma financial information on the combined results of operations for the Company and the Secure Silicon IP and Protocols business as if the acquisition had occurred on January 1, 2018 has not been presented as it was impracticable to prepare full financial statements for the Secure Silicon IP and Protocols business, given that the Secure Silicon IP and Protocols business had not been managed as a stand-alone business and thus stand-alone financial statements were not readily available.

Additionally, the revenue recognized from the Northwest Logic and Secure Silicon IP and Protocols business acquisitions was not material to the Company's consolidated financial statements during the year ended December 31, 2019, either individually or in the aggregate. Furthermore, the Company does not track operating results from these businesses separately.

Supplementary Financial Data

RAMBUS INC.
CONSOLIDATED SUPPLEMENTARY FINANCIAL DATA
Quarterly Statements of Operations
(Unaudited)

(In thousands, except for per share amounts)	Dec. 31, 2020	Sept. 30, 2020	June 30, 2020	March 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019	March 31, 2019
Total revenue	\$ 61,913	\$ 56,915	\$ 59,930	\$ 63,989	\$ 59,947	\$ 57,399	\$ 58,297	\$ 48,384
Total cost of revenue	\$ 13,451	\$ 15,264	\$ 16,148	\$ 15,885	\$ 14,576	\$ 12,574	\$ 13,027	\$ 11,198
Gross profit	\$ 48,462	\$ 41,651	\$ 43,782	\$ 48,104	\$ 45,371	\$ 44,825	\$ 45,270	\$ 37,186
Total operating expenses	\$ 59,466	\$ 54,151	\$ 56,246	\$ 58,943	\$ 58,582	\$ 67,698	\$ 82,316	\$ 68,595
Operating loss	\$ (11,004)	\$ (12,500)	\$ (12,464)	\$ (10,839)	\$ (13,211)	\$ (22,873)	\$ (37,046)	\$ (31,409)
Net loss	\$ (12,066)	\$ (12,779)	\$ (10,781)	\$ (7,983)	\$ (9,532)	\$ (17,331)	\$ (36,980)	\$ (26,576)
Net loss per share — basic	\$ (0.11)	\$ (0.11)	\$ (0.09)	\$ (0.07)	\$ (0.09)	\$ (0.16)	(0.33)	\$ (0.24)
Net loss per share — diluted	\$ (0.11)	\$ (0.11)	\$ (0.09)	\$ (0.07)	\$ (0.09)	\$ (0.16)	(0.33)	\$ (0.24)
Shares used in per share calculations — basic	112,706	113,828	113,572	112,907	111,883	111,315	110,875	109,692
Shares used in per share calculations — diluted	112,706	113,828	113,572	112,907	111,883	111,315	110,875	109,692

INDEX TO EXHIBITS

Exhibit Number	Description of Document
3.1(1)	Amended and Restated Certificate of Incorporation of Registrant filed May 29, 1997.
3.2(2)	Certificate of Amendment of Amended and Restated Certificate of Incorporation of Registrant filed June 14, 2000.
3.3(3)	Amended and Restated Bylaws of Registrant dated April 25, 2013.
4.1(4)	Form of Registrant's Common Stock Certificate.
4.2(5)	Indenture, dated November 17, 2017, between Rambus Inc and U.S. Bank National Association (including form of 1.375% Convertible Senior Note due 2023).
4.3(12)	Description of Securities.
10.1(6)	Form of Indemnification Agreement entered into by Registrant with each of its directors and executive officers.
10.2(7)*	Form of Change of Control Severance Agreement. Agreement entered into by Registrant with each of its named executive officers other than its chief executive officer.
10.3(8)*	2006 Equity Incentive Plan, as amended.
10.4(8)*	Forms of agreements under the 2006 Equity Incentive Plan, as amended.
10.5(8)*	2006 Employee Stock Purchase Plan, as amended.
10.6(9)*	2015 Equity Incentive Plan, as amended.
10.7(10)*	Form of Restricted Stock Unit Agreement (2015 Equity Incentive Plan).
10.8(10)*	Form of Stock Option Agreement (2015 Equity Incentive Plan).
10.9(9)*	2015 Employee Stock Purchase Plan, as amended.
10.10(11)	Triple Net Space Lease, dated as of December 15, 2009, by and between Registrant and MT SPE, LLC.
10.11+	Settlement Agreement, dated January 19, 2010, among Registrant, Samsung Electronics Co., Ltd, Samsung Electronics America, Inc., Samsung Semiconductor, Inc. and Samsung Austin Semiconductor, L.P.
10.12+	Semiconductor Patent License Agreement, dated January 19, 2010, between Registrant and Samsung Electronics Co., Ltd.
10.13(13)	First Amendment of Lease, dated November 4, 2011, by and between Registrant and MT SPE, LLC.
10.14(14)	Employment Agreement between the Company and Luc Seraphin, dated as of October 25, 2018.
10.15(14)	Amended and Restated Change of Control Severance Agreement between the Company and Luc Seraphin, dated as of October 25, 2018.
10.16+	Settlement Agreement, dated June 11, 2013, among Registrant, SK hynix and certain SK hynix affiliates.
10.17+	Semiconductor Patent License Agreement, dated June 11, 2013, between Registrant and SK hynix.
10.18+	Settlement Agreement, dated December 9, 2013, between Rambus Inc., Micron Technology, Inc., and certain Micron affiliates.
10.19+	Semiconductor Patent License Agreement, dated December 9, 2013, between Rambus, Inc. and Micron Technology, Inc.
10.20(15)**	Amendment to Semiconductor Patent License Agreement, dated December 30, 2013, by and between Rambus Inc. and Samsung Electronics Co., Ltd.
10.21(16)**	Amendment 1 to Semiconductor Patent License Agreement, dated June 17, 2015, by and between Rambus Inc. and SK hynix Inc.
10.22(17)	Asset Purchase Agreement, dated June 29, 2016, by and between Rambus Inc., Bell ID Singapore Ptd Ltd, Inphi Corporation and Inphi International Pte. Ltd.
10.23(18)	Offer Letter, dated September 9, 2016, by and between Rambus Inc. and Rahul Mathur.
10.24(5)	Form of Convertible Note Hedge Confirmation.
10.25(5)	Form of Warrant Confirmation.
10.26(19)	Share Purchase Agreement by and between Rambus Inc. and VISA International Service Association dated June 20, 2019.
10.27(19)	Lease agreement between Rambus Inc. and 237 North First Street Holdings, LLC dated July 8, 2019.
10.28(20)	Offer Letter, dated August 9, 2019, by and between Rambus Inc. and Sean Fan.
10.29(20)	2019 Inducement Equity Incentive Plan.
10.30(20)	Form of Restricted Stock Unit Agreement (2019 Inducement Equity Incentive Plan).
10.31(20)	Form of Performance Based Restricted Stock Unit Agreement (2019 Inducement Equity Incentive Plan).

Exhibit Number	Description of Document
10.32(21)	First Amendment to Net Lease Agreement dated April 22, 2020 relating to the New San Jose Headquarters Location between Rambus Inc. and 237 North First Street Holdings, LLC.
10.33(22)+	Amendment No. 1 to Semiconductor Patent License Agreement, dated September 2, 2020, between Rambus, Inc. and Micron Technology, Inc.
10.34(23)	Master Confirmation between Deutsche Bank AG, London Branch as counterparty, through its agent Deutsche Bank Securities Inc. (“Deutsche Bank”) and Rambus Inc., dated November 11, 2020.
10.35+	Amendment No. 2 dated December 15, 2020, to the Semiconductor Patent License Agreement between Rambus Inc. and Micron Technology, Inc.
21.1	Subsidiaries of Registrant.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included in signature page).
31.1	Certification of Principal Executive Officer, pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer, pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1†	Certification of Principal Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2†	Certification of Principal Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

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- * Management contracts or compensation plans or arrangements in which directors or executive officers are eligible to participate.
- ** Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.
- + Portions of this exhibit have been redacted in compliance with Regulation S-K Item 601(b)(10).
- † The certifications furnished in Exhibit 32.1 and 32.2 hereto are deemed to accompany this Annual Report on Form 10-K and will not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.
- (1) Incorporated by reference to the Form 10-K filed on December 15, 1997.
- (2) Incorporated by reference to the Form 10-Q filed on May 4, 2001.
- (3) Incorporated by reference to the Form 8-K filed on April 30, 2013.
- (4) Incorporated by reference to the Form S-1/A (file no. 333-22885) filed on April 24, 1997.
- (5) Incorporated by reference to the Form 8-K filed on November 17, 2017.
- (6) Incorporated by reference to the Form S-1 (file no. 333-22885) filed on March 6, 1997.
- (7) Incorporated by reference to the Form 8-K filed on March 9, 2015.
- (8) Incorporated by reference to the Form 8-K filed on April 30, 2014.
- (9) Incorporated by reference to the Form 8-K filed on May 6, 2020.
- (10) Incorporated by reference to the Form 10-Q filed on July 23, 2015.

- (11) Incorporated by reference to the Form 10-K filed on February 26, 2010.
- (12) Incorporated by reference to the Form 10-K filed on February 26, 2020.
- (13) Incorporated by reference to the Form 10-K filed on February 24, 2012.
- (14) Incorporated by reference to the Form 8-K filed on October 29, 2018.
- (15) Incorporated by reference to the Form 10-K filed on February 21, 2014.
- (16) Incorporated by reference to the Form 10-Q filed on July 23, 2015.
- (17) Incorporated by reference to the Form 10-Q filed on July 22, 2016.
- (18) Incorporated by reference to the Form 8-K filed on September 21, 2016.
- (19) Incorporated by reference to the Form 10-Q filed on August 2, 2019.
- (20) Incorporated by reference to the Form 8-K filed on August 28, 2019.
- (21) Incorporated by reference to the Form 10-Q filed on August 7, 2020.
- (22) Incorporated by reference to the Form 10-Q filed on November 6, 2020.
- (23) Incorporated by reference to the Form 8-K dated November 12, 2020.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

RAMBUS INC.

By:

/s/ RAHUL MATHUR

Rahul Mathur

Senior Vice President, Finance and Chief Financial Officer

Date: February 26, 2021

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Luc Seraphin and Rahul Mathur as his true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to (i) act on, sign, and file with the Securities and Exchange Commission any and all amendments to this Annual Report on Form 10-K, together with all schedules and exhibits thereto, (ii) act on, sign, and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, and (iii) take any and all actions that may be necessary or appropriate to be done, as fully for all intents and purposes as he might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ LUC SERAPHIN</u> Luc Seraphin	Chief Executive Officer, President and Director (Principal Executive Officer)	February 26, 2021
<u>/s/ RAHUL MATHUR</u> Rahul Mathur	Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)	February 26, 2021
<u>/s/ KEITH JONES</u> Keith Jones	Vice President, Chief Accounting Officer and Corporate Controller (Principal Accounting Officer)	February 26, 2021
<u>/s/ CHARLES KISSNER</u> Charles Kissner	Chairman of the Board of Directors	February 26, 2021
<u>/s/ EMIKO HIGASHI</u> Emiko Higashi	Director	February 26, 2021
<u>/s/ GREGORY LANG</u> Gregory Lang	Director	February 26, 2021
<u>/s/ MEERA RAO</u> Meera Rao	Director	February 26, 2021
<u>/s/ SANJAY SARAF</u> Sanjay Saraf	Director	February 26, 2021
<u>/s/ NECIP SAYINER</u> Necip Sayiner	Director	February 26, 2021
<u>/s/ ERIC STANG</u> Eric Stang	Director	February 26, 2021

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

SETTLEMENT AGREEMENT

THIS SETTLEMENT AGREEMENT (the “Agreement”) is made by and among Rambus Inc., a Delaware corporation (“Rambus”), on the one hand, and Samsung Electronics Co., Ltd., a corporation organized under the laws of Korea (“Samsung Electronics”), Samsung Electronics America, Inc., a Delaware corporation, Samsung Semiconductor, Inc., a California corporation and Samsung Austin Semiconductor, L.P., a Texas limited partnership (collectively, “Samsung,” with Rambus and Samsung each being a “Party” and together the “Parties”), on the other hand, effective as of January 19, 2010 (the “Effective Date”).

WHEREAS, Samsung and its Subsidiaries (as defined in Article 1) are and will continue to be engaged in the manufacture, use, sale and/or importation of various products and devices, including but not limited to memory products and memory interface technologies (collectively, the “Samsung Products”), which utilize diverse and varied technologies;

WHEREAS, Rambus and/or its Subsidiaries have and will continue to have rights under Patents (as defined in Article 1), including but not limited to the right to license such Patents to third parties (collectively, all such patents are the “Rambus Patents”), covering diverse and varied technologies;

WHEREAS, the Parties are currently parties to a number of Disputes (as defined in Article 1) relating to the Samsung Products and the Rambus Patents, including but not limited to disputes as to whether claims of Rambus Patents are infringed by Samsung Products, and disputes relating to the validity, enforceability and use of certain Rambus Patents, and the Antitrust Litigation (as defined in Article 1);

WHEREAS, the Parties acknowledge that the Disputes have been costly, not only in terms of the out-of-pocket costs incurred by each of them, but also in terms of management time and other resources devoted to such efforts;

WHEREAS, the Parties recognize that, without this Agreement, given the diversity of claims of the Rambus Patents, and the breadth of technologies utilized by the Samsung Products, Rambus could, after the Effective Date, assert that other claims of Rambus Patents are infringed by Samsung Products, and that such disputes, if they were to occur would involve similar costs and business disruptions;

WHEREAS, the Parties recognize that litigation of the Disputes, and of other disputes that may arise between them after the Effective Date, is inherently uncertain, and is subject to certain risks, including but not limited to (a) whether the Rambus Patents, including Patents which are known to Samsung but which to date have not been asserted against Samsung, are determined to be valid, enforceable and infringed in various trial and appellate court, Patent and Trademark Office and International Trade Commission proceedings, and (b) whether Rambus prevails in various other court or regulatory proceedings, such as the Antitrust Litigation, and that such events are subject to various possible outcomes;

WHEREAS, the Parties desire to eliminate the risks associated with such litigation and to enter into a comprehensive resolution to compromise, settle and release the Disputes, and to compromise, resolve and avoid other disputes that may arise after the Effective Date with respect to the Samsung Products and the Rambus Patents;

WHEREAS, as part of the comprehensive resolution of other disputes that may arise after the Effective Date with respect to the Samsung Products and the Rambus Patents, Rambus and its Subsidiaries desire to grant Samsung and its Subsidiaries a license to certain of the claims of the Rambus Patents from the Effective Date for a limited term, and to grant Samsung and its Subsidiaries a fully paid-up license for certain of the Samsung Products to certain of the claims of the Rambus Patents, and Samsung and its Subsidiaries desire to grant Rambus and its Subsidiaries a license to certain of the claims of the Samsung Patents;

WHEREAS, the Parties acknowledge that in resolving the Disputes, and other disputes that may arise after the Effective Date, each of them is giving up the possibility of more favorable outcomes in exchange for the promises and covenants it will receive under this Agreement, and the other agreements contemplated hereby, to ensure that they do not ultimately face less favorable outcomes and to avoid the costs, delays and disruptions associated with litigation, and that such promises and covenants represent a package, and are not intended to be severable from each other; in particular, (a) Samsung is receiving a full and final release of the claims asserted against it in the Disputes, and securing a license to claims of the Rambus Patents in exchange for making the license and other payments, and entering into the other agreements, described herein, and (b) Rambus is receiving the Comprehensive Resolution Payments (as defined in Article 1), and the benefit of the other agreements described herein, in exchange for granting the releases and licenses, and entering into the other agreements, described herein;

WHEREAS, the Parties acknowledge that it is therefore essential that their respective obligations under this Agreement and the other agreements described herein be certain and not subject to collateral attack, or otherwise subject to change or modification except on the terms expressly set forth therein; and

WHEREAS, this Agreement is entered into for the purpose of settlement and compromise only;

NOW, THEREFORE, in consideration of the promises and the mutual covenants herein contained and for other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, Rambus and Samsung agree as follows:

Article 1

Definitions

In addition to the terms defined in other parts of this Agreement, the following terms used herein with initial capital letters shall have the respective meanings specified in this Article 1.

1.1 **Agreement**. The term “Agreement” has the meaning set forth in the introductory paragraph.

1.2 **Antitrust Litigation**. The term “Antitrust Litigation” means the matter entitled *Rambus Inc. v. Micron Technology Inc. et al.*, No. 04-431105 (Supr. Ct. Cal., San Fran. Filed May 5, 2004).

1.3 **Comprehensive Resolution Agreements**. The term “Comprehensive Resolution Agreements” means this Agreement, the License Agreement, the Stock Purchase Agreement, and the MOU.

1.4 **Comprehensive Resolution Payments**. The term “Comprehensive Resolution Payments” means the Initial Payment and the License Payments.

1.5 **Control**. The term “Control” (including “Controlled” and other forms) of an entity means (a) beneficial ownership (whether directly or indirectly through entities or other means) of more than fifty percent (50%) of the outstanding voting securities of that entity or (b) in the case of an entity that has no outstanding voting securities, having the power (whether directly or indirectly through entities or other means) presently to designate more than fifty percent (50%) of the directors of a corporation, or in the case of unincorporated entities, of individuals exercising similar functions. Notwithstanding the foregoing sentence, where Samsung has fifty percent (50%) of such beneficial ownership or power to designate with respect to any other entity, Samsung shall be deemed to “Control” such other entity if such other entity is part of the “Samsung Group of Companies” and such entity is lawfully registered under a corporate name, and lawfully operates and generally and routinely conducts its business under a corporate name, that includes “Samsung,” *provided that*, such entity agrees in a writing, delivered to both Parties within thirty (30) days of the Effective Date (or if later, within thirty (30) days after formation of such entity), to be bound by all applicable terms and conditions of this Agreement.

1.6 **DDR/DDR2 Controller Products**. The term “DDR/DDR2 Controller Products” means any controllers capable of interfacing with and controlling any DDR/DDR2 Products.

1.7 **DDR/DDR2 SDRAM Products**. The term “DDR/DDR2 SDRAM Products” means double data rate (DDR), double data rate2 (DDR2), graphics double data rate (GDDR) and graphics

double data rate2 (GDDR2) synchronous dynamic random access memory (SDRAM) chips as well as any mobile or low power versions of any such chips.

1.8 Delaware Litigation. The term “Delaware Litigation” means the matter entitled *Samsung Electronics Co., Ltd. et al v. Rambus Inc.*, No. 6081113 (Del. Chan. Filed June 23, 2005).

1.9 Disputes. The term “Disputes” means the Patent Litigation, the Antitrust Litigation, the Virginia Litigation, the Delaware Litigation and the Patent Actions, and any and all disputes related thereto.

1.10 Effective Date. The term “Effective Date” has the meaning set forth in the introductory paragraph.

1.11 Effective Time Period. The term “Effective Time Period” has the meaning set forth in Section 3.1(b).

1.12 Excluded Entity. The term “Excluded Entity” means Micron Technology, Inc., Micron Semiconductor Products, Inc., Micron Electronics, Inc., Hynix Semiconductor Inc., Hynix Semiconductor America, Inc., Hynix Semiconductor Manufacturing America Inc., Hynix Semiconductor U.K. Ltd., Hynix Semiconductor Deutschland GmbH, Nanya Technology Corporation, Nanya Technology Corporation U.S.A. and NVIDIA Corporation.

1.13 Initial Payment. The term “Initial Payment” has the meaning set forth in Section 2.1.

1.14 License Agreement. The term “License Agreement” has the meaning set forth in Section 3.1.

1.15 License Payments. The term “License Payments” has the meaning set forth in Section 2.3.

1.16 Licensed Product. The term “Licensed Product” has the meaning set forth in the License Agreement.

1.17 MOU. The term “MOU” has the meaning set forth in Section 3.3.

1.18 Other Products. The term “Other Products” means single data rate (SDR), double data rate 3 (DDR3), graphics double data rate 3 (GDDR3), graphics double data rate 4 (GDDR4) and graphics double data rate 5 (GDDR5) synchronous dynamic random access memory (SDRAM) chips, as well as single data rate (SDR) synchronous graphics random access memory (SGRAM) chips, as well as any mobile or low power versions of any such chips and any controllers capable of interfacing with and controlling any of the foregoing.

1.19 Party. The terms “Party” and “Parties” have the meanings set forth in the introductory paragraph.

1.20 Patent Actions. The term “Patent Actions” means all United States Patent and Trademark Office reexamination proceedings, actions or challenges filed, requested or supported by Samsung with respect to any Rambus Patents as of the Effective Date, including without limitation reexaminations of U.S. Patent numbers 6,038,195, 6,182,184, 6,266,285, 6,314,051, 6,324,120, 6,378,020, 6,426,916, 6,452,863, 6,546,446, 6,584,037, 6,697,295, 6,715,020, and 6,751,696.

1.21 Patent Litigation. The term “Patent Litigation” means the matters entitled *Rambus Inc. v. Samsung Electronics Co., Ltd., et al.*, No. C-05-02298 (N.D. Cal. Filed June 6, 2005) and *Rambus Inc. v. Hynix Semiconductor Inc., et al.*, No. C-05-00334 (N.D. Cal. Filed Jan. 25, 2005).

1.22 Patents. The term “Patents” means patents and utility models and applications therefor, including without limitation all continuations, continuations-in-part and divisionals thereof, in all countries of the world that are owned by the applicable Party.

1.23 Rambus. The term “Rambus” has the meaning set forth in the introductory paragraph.

1.24 Rambus Patents. The term “Rambus Patents” has the meaning set forth in the Recitals.

1.25 Release Date. The term “Release Date” means February 4, 2010.

1.26 Samsung. The term “Samsung” has the meaning set forth in the introductory paragraph.

1.27 Samsung Electronics. The term “Samsung Electronics” has the meaning set forth in the introductory paragraph.

1.28 Samsung Patents. The term “Samsung Patents” means Patents as to which Samsung has rights.

1.29 Samsung Products. The term “Samsung Products” has the meaning set forth in the Recitals.

1.30 Stock Purchase Agreement. The term “Stock Purchase Agreement” has the meaning set forth in Section 3.2.

1.31 Subsidiary. The term “Subsidiary” means any entity Controlled by a Party, but such entity shall be deemed to be a Subsidiary only so long as such Control exists. For the avoidance of doubt, in the case of Samsung, the term “Subsidiary” shall include all of the entities described in the last sentence of Section 1.5 so long as the Control described therein exists.

1.32 Third Party. The term “Third Party” means any entity that is not a Party or a Subsidiary of a Party on the Effective Date.

1.33 Virginia Litigation. The term “Virginia Litigation” means the matter entitled *Samsung Electronics Co., Ltd. v. Rambus Inc.*, No. 3:05cv406 (E.D. Va. Filed June 7, 2005).

Article 2

Comprehensive Resolution Payments

2.1 Initial Payment. As a condition to the effectiveness of the releases and covenants not to sue set forth in Article 4 and the Parties’ obligations under Section 4.8, Samsung Electronics will, on or before January 22, 2010 pay Rambus the sum of One Hundred Million Dollars (US \$100,000,000) and will, on or before the Release Date, pay Rambus the sum of One Hundred Million Dollars (US \$100,000,000) (collectively, the “Initial Payment”).

2.2 Allocation of Initial Payment. The Parties agree to allocate the Initial Payment in accordance with the following, which they acknowledge represents a reasonable estimated allocation of the Initial Payment to Rambus’s claims under the Disputes:

- (a) [***] shall be deemed to be paid in consideration for [***];
- (b) [***] shall be deemed to be paid in consideration for [***]; and
- (c) [***] shall be deemed to be paid in consideration for [***].

2.3 License Payments. As described more fully in the License Agreement and as an integral part of the overall consideration received by Rambus in respect of its releases and covenants not to sue under Article 4, and its other obligations under the Comprehensive Resolution Agreements, over the next five (5) years Samsung Electronics will pay Rambus aggregate license fees of Five Hundred Million Dollars (US \$500,000,000), subject to certain adjustments and conditions as described in the License Agreement (the “License Payments”). In the event that Samsung fails to pay any License Payment (and fails to cure such failure within the time period provided for in Section 6.2 of the License Agreement), Samsung will pay to Rambus Five Hundred Million Dollars (US \$500,000,000), less the aggregate License Payments previously paid by Samsung and retained by Rambus, as part of the overall consideration received by Rambus under the Comprehensive Resolution Agreements, in order for Rambus to receive the full amount of the overall consideration intended to be received in respect of its releases, covenants not to sue, and other obligations under the Comprehensive Resolution Agreements. Samsung will apply such amounts to the Quarterly Base Payments due under the License Agreement.

2.4 No Refunds. Once made, any Comprehensive Resolution Payment shall not be refunded or refundable to Samsung for any reason except as may be required pursuant to Section 3.3 of the License Agreement. Notwithstanding the foregoing, in case of clerical error with respect to any payment made under the License Agreement, the Parties agree to remedy any such error through proper payment adjustments.

2.5 Currency. All Comprehensive Resolution Payments shall be made in United States dollars.

2.6 Wire Instructions. The Initial Payment shall be made by wire transfer to Rambus as follows:

Rambus Inc. Account: [***]

All other Comprehensive Resolution Payments shall be made in accordance with the terms of the applicable Comprehensive Resolution Agreement.

2.7 Taxes. If the Korean government imposes any withholding tax on any Comprehensive Resolution Payments, such tax shall be borne by Rambus. Samsung agrees, at its reasonable discretion, to assist Rambus in its efforts to minimize Rambus' tax liability. Samsung shall withhold the amount of any such taxes levied on such payments to Rambus imposed by the Korean government, shall promptly effect payment of the taxes so withheld to the Korean tax office, and Samsung shall send to Rambus the official certificate of such payment in a form reasonably sufficient to enable Rambus to support a claim for a foreign tax credit with respect to any such taxes so withheld.

Article 3

Other Agreements

Concurrent with the execution and delivery of this Agreement, and as an integral part of the overall consideration received by the Parties in respect of their releases, covenants not to sue, and other obligations under the Comprehensive Resolution Agreements, the Parties and/or their Subsidiaries shall enter into or deliver the following agreements or documents. For the avoidance of doubt, the MOU described in Section 3.3 is non-binding to the Parties and, while the existence and execution thereof are an integral part of the overall consideration, the contents therein represent solely the understanding between the Parties regarding certain business and technology collaborations, and the failure to enter into any definitive agreement contemplated thereby shall not constitute failure in the consideration hereunder or under any of the other Comprehensive Resolution Agreements.

3.1 License Agreement. Rambus and Samsung Electronics shall enter into the License Agreement in the form attached hereto as Exhibit A (the "License Agreement"), pursuant to which Rambus shall grant Samsung licenses under Rambus Applicable Patent Claims, and Samsung will grant to Rambus licenses under Samsung Applicable Patent Claims, as defined in the License Agreement, on the terms set forth therein.

(a) The Parties acknowledge that the licenses granted under the License Agreement are in respect of claims under multiple Rambus Patents and multiple Samsung Patents, respectively, so that the Parties' rights and obligations under the License Agreement, are not

dependent upon the validity or enforceability of specific Rambus Patents or specific Samsung Patents, or upon any specific use of such patents permitted under the License Agreement. Specifically, Samsung acknowledges that the License Agreement covers a broad array of Rambus Patent claims, and agrees to make the full amount of the Comprehensive Resolution Payments regardless of whether any of the Rambus Patents is determined not to be infringed by any particular Licensed Product or a court or United States, European, or other patent office determines any Rambus Patent to be invalid or unenforceable in any reexamination, action or other proceeding.

(b) Each Party acknowledge that its assessment of the value of the Disputes and the License Agreement may depend on certain events that may occur, or that may not occur, after the Effective Date, that it is aware of and has evaluated and considered the uncertainties associated with such events, and that it has agreed to the amount of the Comprehensive Resolution Payments to eliminate such uncertainties so that, for example, Samsung will be protected from the consequences of Rambus prevailing on infringement and other claims in other proceedings, and Rambus will be protected from the consequences of certain of the Rambus Patents being held to be invalid, unenforceable, and/or not infringed in other proceedings. It is therefore essential that the Parties' obligations under the License Agreement, including but not limited to the amount of the License Payments, be certain and not subject to collateral attack. Accordingly,

(i) Samsung covenants, whether through litigation or otherwise, not to seek to adjust the amount of the License Payments, or to avoid, defer or modify its obligations under the License Agreement, provided that the foregoing shall not prevent Samsung from seeking enforcement of the terms and conditions of the License Agreement or taking any action expressly contemplated in the License Agreement.

(ii) Samsung and its Subsidiaries acknowledge and agree that, for all acts or omissions that occur during the time period up to and including the [***] anniversary of the Effective Date (the "Effective Time Period"), Rambus or its Subsidiaries have patent claims that are valid, enforceable and infringed by a substantial portion of the Licensed Product (as defined under the License Agreement). After the Effective Time Period, Rambus and its Subsidiaries covenant not to rely on such acknowledgement or agreement in any manner against Samsung or its Subsidiaries or their past, present or future distributors or customers in negotiations, and further covenant that no evidence of such acknowledgement or agreement may be introduced in any negotiation by or on behalf of Rambus or its Subsidiaries against Samsung or its Subsidiaries or their past, present or future distributors or customers. Rambus and its Subsidiaries further covenant, with respect to any acts or omissions occurring after the Effective Time Period, not to rely on such acknowledgement or agreement in any manner against Samsung or its Subsidiaries or their past, present or future distributors or customers before any court, government agencies, other regulatory body or arbitrator, and further covenant that no evidence of such acknowledgement or agreement may be introduced in any motion, hearing, trial or other proceeding by or on behalf of Rambus or its Subsidiaries against Samsung or its Subsidiaries or their past, present or future distributors or customers.

3.2 Stock Purchase Agreement. Rambus and Samsung Electronics shall enter into the Stock Purchase Agreement in the form attached hereto as Exhibit B (the “Stock Purchase Agreement”). Concurrent with the execution and delivery of the Stock Purchase Agreement, Rambus and Samsung Electronics shall complete the equity investment in Rambus in accordance with the terms thereof.

3.3 Memorandum of Understanding. Samsung Electronics and Rambus shall enter into a Memorandum of Understanding in the form attached hereto as Exhibit C (the “MOU”).

Article 4

Releases

Effective as of the Release Date but subject to the delivery of the Initial Payment in accordance with Article 2, the execution and delivery of the License Agreement, the Stock Purchase Agreement and the MOU in accordance with Article 3, and the completion of the equity investment in Rambus in accordance with the Stock Purchase Agreement (for the avoidance of doubt, none of the Parties’ releases, covenants not to sue, or other obligations under this Article 4 shall be effective until Samsung has delivered the full amount of the Initial Payment in accordance with Article 2 and the Parties have complied with their other obligations under this sentence):

4.1 Release by Rambus. Rambus, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits, and forever discharges Samsung, its Subsidiaries, its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind arising from or that could have been raised based upon the facts and circumstances alleged or asserted in any pleading, motion, brief or other paper filed by Rambus in the Patent Litigation, the Antitrust Litigation, the Delaware Litigation or the Virginia Litigation up until the Effective Date. To the extent not covered in the preceding sentence, Rambus, on behalf of itself and its Subsidiaries, hereby further irrevocably releases, acquits, and forever discharges Samsung, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind (i) for infringement of the Rambus Patents arising from the manufacture, use, importation, sale and offer for sale of Samsung Products up until the Effective Date to the extent that infringement by such Samsung Products would have been licensed under the License Agreement if such License Agreement had been in existence at the time of such infringing activity or (ii) otherwise relating in any way to any act or omission concerning any anticompetitive, tortious or unfair business practice arising from the manufacture, use, marketing, sale, offer for sale, and/or importation of any Samsung Product up until the Effective Date.

4.2 Release by Samsung. Samsung, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits and forever discharges Rambus, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind arising from or that could have been raised based upon the facts and circumstances

alleged or asserted in any pleading, motion, brief or other paper filed by Samsung in the Patent Litigation, the Antitrust Litigation, the Delaware Litigation or the Virginia Litigation up until the Effective Date. To the extent not covered in the preceding sentence, Samsung, on behalf of itself and its Subsidiaries, hereby further irrevocably releases, acquits, and forever discharges Rambus, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind (i) for infringement of any Samsung Patents arising from the manufacture, use, importation, sale and offer for sale of any Rambus product up until the Effective Date to the extent that infringement by such product would have been licensed under the License Agreement if such License Agreement had been in existence at the time of such infringing activity. or (ii) otherwise relating in any way to any act or omission concerning any anticompetitive, tortious or unfair business practice arising from the manufacture, use, marketing, sale, offer for sale, and/or importation of any Rambus Product up until the Effective Date.

4.3 Additional Release by Samsung. Samsung, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits and forever discharges Rambus from any defenses, claims, counterclaims, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind and nature that Samsung or its Subsidiaries might raise or assert in an effort avoid, defer or modify its obligations under the License Agreement, including but not limited to its obligation to make the License Payments, except as expressly permitted under the License Agreement, including for instance and by way of example, claims or defenses based on the allegation, or on the finding, determination or judgment in any reexamination, action or other proceeding that one or more of the patent claims licensed under the License Agreement is invalid, unenforceable or not infringed, that the License Agreement is not enforceable or should be rescinded or revised, or that Rambus has committed any type of patent misuse.

4.4 Releases Shall Remain Effective. Each of Rambus and Samsung acknowledges that, after entering into this Agreement, they may discover facts different from, or in addition to, those they now believe to be true with respect to the conduct of the other Party. Each of Rambus and Samsung intends that the releases and discharges set forth in this Article 4 shall be, and shall remain, in effect in all respects as written, notwithstanding the discovery of any different or additional facts.

4.5 Waiver of California Civil Code § 1542. In connection with the releases and discharges described in this Article 4, each of Rambus and Samsung acknowledges that it is aware of the provisions of section 1542 of the Civil Code of the State of California, and hereby expressly waives and relinquishes all rights and benefits that it has or may have had under that section (or any equivalent law or rule of any other jurisdiction), which reads as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

4.6 Covenants Not to Sue.

(a) Rambus, on behalf of itself and its Subsidiaries, hereby covenants not to assert any claims of infringement of the Rambus Patents against Samsung, its Subsidiaries, and its and their respective former or current directors, officers, employees, attorneys, distributors and customers solely arising from the use, importation, sale and offer for sale of Samsung Products up until the Effective Date to the extent that Samsung, its Subsidiaries, and such former or current directors, officers, employees, attorneys, distributors or customers would not have been liable for such use, importation, sale and offer for sale of Samsung Products had the License Agreement been in existence at the time of such infringing activity.

(b) Samsung, on behalf of itself and its Subsidiaries, hereby covenants not to assert any claims of infringement of the Samsung Patents against Rambus, its Subsidiaries, and its and their respective former or current directors, officers, employees, attorneys, distributors and customers solely arising from the use, importation, sale or offer for sale of any Rambus product up until the Effective Date to the extent that Rambus, its Subsidiaries, and such former or current directors, officers, employees, attorneys, distributors or customers would not have been liable for such use, importation, sale and offer for sale of Rambus products had the License Agreement been in existence at the time of such infringing activity.

(c) Rambus, on behalf of itself and its Subsidiaries, hereby covenants not to assert against Samsung, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys any action or other proceeding based upon any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action released by Rambus pursuant to clause (ii) of the last sentence of Section 4.1.

(d) Samsung, on behalf of itself and its Subsidiaries, hereby covenants not to assert against Rambus, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys any action or other proceeding based upon any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action released by Samsung pursuant to clause (ii) of the last sentence of Section 4.2.

4.7 Certain Exclusions. For the avoidance of doubt:

(a) The releases and covenants not to sue contained in this Article 4 (other than the releases set forth in Section 4.3) shall apply solely to activities occurring prior to the Effective Date. In no event shall the releases and covenants not to sue contained in this Article 4 apply to (i) any Third Party that may acquire or combine with any Party or its Subsidiaries or (ii) any Third Party, portion of a Third Party, and/or any portion of the assets of business of a Third Party that may be acquired by or combined with any Party or its Subsidiaries, in each case after the Effective Date.

(b) The releases and covenants not to sue contained in this Article 4 are not intended to and do not extend to any defendant in either the Patent Litigation or the Antitrust

Litigation (or any of their Subsidiaries), unless that defendant is explicitly named as a Party to this Agreement, or to any Excluded Entity or its Subsidiaries.

4.8 Dismissals and Other Provisions Terminating the Disputes.

(a) On the Effective Date, Samsung and Rambus, through their respective counsel, shall execute or cause to be executed stipulations for dismissal dismissing with prejudice all of the claims, counterclaims, cross-claims and cross-complaints asserted against one another (but only as to one another and not to the extent asserted against others) in the Patent Litigation and the Antitrust Litigation in the forms attached hereto as Exhibits D-1 through D-6. On the Release Date, Samsung and Rambus, through their respective counsel, shall cause such stipulations for dismissal to be entered, subject to receipt by Rambus of the full amount of the Initial Payment pursuant to Section 2.1.

(b) Samsung shall, within five (5) business days of the Release Date, file a request to withdraw its *Amicus Curiae* Brief in *Hynix Semiconductor, Inc., et al. v. Rambus, Inc.*, United States Court of Appeals for the Federal Circuit Case No. 2009-1299, -1347.

(c) Both Parties shall, within ten (10) business days following the Release Date, withdraw any pending complaints, actions, or other proceedings they may have pending against the other Party or its Subsidiaries before any regulatory body anywhere in the world related to the claims, counterclaims, demands, damages, debts, liabilities, accounts, actions and causes of action released by this Agreement or that relate in any way to the Rambus Patents or the Samsung Patents. For the avoidance of doubt, this provision does not require Rambus to withdraw any complaint or other proceeding as against parties other than other than Samsung or its Subsidiaries, including but not limited to the Patent Litigation and the Antitrust Litigation.

(d) Within ten (10) business days following the Release Date, Samsung shall, to the full extent permitted by applicable law, withdraw, cease to prosecute or pursue and notify the Patent and Trademark Office that it no longer intends to participate in, the Patent Actions.

(e) In the event that Rambus sues Samsung, its Subsidiaries, or its or their respective former or current directors, officers, employees and attorneys for infringement of one or more of the patents asserted by Rambus in the Patent Litigation as a result of the manufacture (or having manufactured), use, importation, sale or offer for sale of Samsung Products, to the extent that such Samsung Products are not Licensed Product under the License Agreement, Rambus agrees that it will not contend that the stipulations for dismissal with prejudice filed in the Patent Litigation pursuant to subparagraph (a) above bar Samsung, its Subsidiaries, or its or their respective former or current directors, officers, employees and attorneys from raising in its or their defense in such action involving Samsung Products that are not Licensed Product under the License Agreement that (i) all or any of such patents are invalid, or that (ii) all or any of such patents are unenforceable by reason of failure to disclose art or other information to the United States Patent and Trademark Office, to the extent such defense was raised in the Patent Litigation.

4.9 Costs and Attorneys' Fees. For all cases, including but not limited to the Patent Litigation and the Antitrust Litigation, the Parties agree that each will pay its own costs and attorneys' fees.

4.10 No Admission. Nothing contained in any of the Comprehensive Resolution Agreements, or done or omitted in connection with any of the Comprehensive Resolution Agreements, is intended as, or shall be construed as, an admission by any Party of any fault, liability or wrongdoing.

4.11 No Further Actions. As part of the settlement of claims and releases contemplated by this Agreement, during the term of the License Agreement, and in each case unless and to the extent required by subpoena or judicial or regulatory agency order or rule:

(a) Samsung covenants not to bring, or aid, assist or participate in, any action challenging or contesting the assertion, enforcement, validity or enforceability of, or any use or infringement by any Third Party of, the Rambus Patents, including but not limited to filing, requesting, participating or assisting in any of the Patent Actions; and

(b) Each Party covenants not to support, cooperate with or otherwise assist any entity in any dispute against the other Party or its Subsidiaries, or any regulatory body in any proceeding involving the other Party or its Subsidiaries, in any matter related to the claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action released by this Agreement, including but not limited to filing, requesting, participating or assisting in any United States, European, or other patent office reexamination proceedings, actions, challenges, oppositions or interferences with respect to Patents of the other Party or its Subsidiaries, and filing *amicus curiae* briefs in the Patent Litigation, the Antitrust Litigation, or any other Dispute.

Article 5

Warranties

Each Party represents, warrants and covenants, on behalf of itself and its Subsidiaries, to the other Party during the term of this Agreement:

5.1 Due Organization. Such Party is duly organized, validly existing and in good standing under the laws of its jurisdiction of formation with the requisite corporate authority to own and use its properties and assets and to carry on its business as currently conducted.

5.2 Due Authorization; Enforceability. Such Party has the requisite corporate or other authority to enter into, and to grant the releases and discharges, make the covenants, and consummate the transactions contemplated by, this Agreement, on behalf of itself and its Subsidiaries, and otherwise to carry out its and its Subsidiaries' obligations hereunder. The execution, delivery and performance of this Agreement by such Party and its Subsidiaries has been duly authorized by all necessary action of such Party and its Subsidiaries, and no other act or proceeding on the part of or on behalf of such Party and its Subsidiaries is necessary to approve the

execution and delivery of this Agreement, the performance by such Party and its Subsidiaries of their obligations hereunder and the consummation of the transactions contemplated hereby. This Agreement has been duly executed and delivered by such Party and constitutes a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and similar laws relating to or affecting creditors generally, by general equity principles or by limitations on indemnification pursuant to public policy.

5.3 No Conflicts; No Consents. The execution, delivery and performance of this Agreement by such Party and its Subsidiaries, including but not limited to the granting of the releases and discharges contemplated hereby, will not infringe any law, regulation, judgment or order applicable to such Party and its Subsidiaries and is not and will not be contrary to the provisions of the constitutional documents of such Party and its Subsidiaries and will not (with or without notice, lapse of time or both) result in any breach of the terms of, or constitute a default under, any instrument or agreement to which such Party and its Subsidiaries is a party or by which it or its property is bound. All consents and approvals of any court, government agencies or other regulatory body required by such Party and its Subsidiaries for the execution, delivery and performance of the terms of this Agreement have been obtained and are in full force and effect.

5.4 No Assignment of Claims. Each Party represents and warrants that it has not assigned, transferred or granted to any Third Party any rights or interests with respect to any claim or cause of action, or any right(s) underlying any claim or cause of action, it had, has, or may have against the other or its Subsidiaries as of, or prior to, the Effective Date of this Agreement.

Article 6

Notices and other Communications

6.1 Any notice or other communication required or permitted to be made or given to either Party pursuant to this Agreement shall be sufficiently made or given within three (3) business days of the date of mailing if sent to such Party by overnight express air courier and by registered First Class mail, postage prepaid, addressed to such Party at the address set forth below, or to such other address as a Party shall designate by written notice given to the other Party:

In the case of Samsung:

Samsung Electronics Co., Ltd.
Jay Shim
Vice President and General Patent Counsel
San #16 Banwol-Dong
Hwaseong-City, Gyeonggi-Do, Korea 445-701

In the case of Rambus:

Rambus Inc.
Thomas R. Lavelle
Senior Vice President and General Counsel
4440 El Camino Real
Los Altos, CA 94022

(with a copy, which shall not constitute notice, to the following:)

Satish Rishi
Chief Financial Officer
Rambus Inc.
4440 El Camino Real
Los Altos, CA 94022

Article 7

Successors and Assigns

7.1 Subject to the limitation in Section 4.7, this Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs, successors and assigns, and upon any corporation, limited liability partnership, limited liability company, or other entity into or with which any Party hereto may merge, combine or consolidate. For the avoidance of doubt, this provision does not govern the rights or obligations of successors or assigns of the Parties under either the License Agreement, the Stock Purchase Agreement or the MOU. The releases, dismissals and covenants granted by each Party and its Subsidiaries under this Agreement (but not any benefits received by such Party or its Subsidiaries under this Agreement) shall run with (i) in the case of Samsung, the Samsung Patents or (ii) in the case of Rambus, the Rambus Patents, and remain in full force and effect regardless of any subsequent assignment, sale or other transfer of any such Samsung Patents or Rambus Patents or any rights or interests therein. Any such assignment, sale, or transfer of rights in contravention of the foregoing shall be null and void *ab initio* and of no force or effect.

Article 8

Dispute Resolution

8.1 **Governing Law**. This Agreement shall be governed by and construed in accordance with the laws of the State of California, without giving effect to any choice-of-law or conflict-of-law provision or rule (whether of the State of California or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of California.

8.2 **English Language**. This Agreement is executed in the English language and no translation shall have any legal effect.

8.3 Jurisdiction and Venue. Any legal action, suit or proceeding arising under, or relating to, this Agreement, shall be brought in the United States District Court for the Northern District of California or, if such court shall decline to accept jurisdiction over a particular matter, in the San Francisco Superior Court, and each Party agrees that any such action, suit or proceeding may be brought only in such courts. Each Party further waives any objection to the laying of jurisdiction and venue for any such suit, action or proceeding in such courts.

Article 9

Miscellaneous

9.1 Entire Agreement. This Agreement, together with the License Agreement, the Stock Purchase Agreement, and the MOU, constitute the entire agreement between the Parties regarding the subject matter hereof, and supersede any and all prior negotiations, representations, warranties, undertakings or agreements, written or oral, between the Parties regarding such subject matter.

9.2 Relationship of the Parties. Nothing contained in this Agreement or any other Comprehensive Resolution Agreement shall be construed as creating any association, partnership, joint venture or the relation of principal and agent between Rambus and Samsung. Each Party is acting as an independent contractor, and no Party shall have the authority to bind any other Party or its representatives in any way.

9.3 Headings and Recitals. The headings of the several articles and sections are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement. The recitals to this Agreement are intended to be a part of and affect the meaning and interpretation of this Agreement.

9.4 Amendment. This Agreement may not be modified or amended except in a writing executed by authorized representatives of each of the Parties.

9.5 No Assignment. This Agreement is personal to the Parties, and the Agreement and/or any right or obligation hereunder is not assignable, whether in conjunction with a change in ownership, merger, acquisition, the sale or transfer of all, or substantially all or any part of either Party's or any of their respective Subsidiaries' business or assets or otherwise, voluntarily, by operation of law, reverse triangular merger or otherwise, without the prior written consent of the other Party, which consent may be withheld at the sole discretion of such other Party. Each Party understands that, as a condition to such consent, the other Party may require it to convey, assign or otherwise transfer its rights and obligations under the other Comprehensive Resolution Agreements to the entity assuming such Party's rights and obligations under this Agreement. Any such purported or attempted assignment or transfer in violation of the foregoing shall be deemed a breach of this Agreement and shall be null and void. A Change of Control of either Party shall be deemed an assignment. For purposes of the foregoing, a Change of Control" means a transaction or a series of related transactions in which (a) one or more Third Parties who did not previously Control a Party obtain Control of such Party, or (b) the subject Party merges with or transfers substantially all of its assets to a Third Party where the shareholders of the assigning Party, immediately before the

transaction or series of related transactions, own less than a fifty percent (50%) interest in the acquiring or surviving entity immediately after the transaction or series of related transactions. Notwithstanding the foregoing, either Party shall be entitled to, and each Party hereby agrees to, assign this Agreement to a successor to all or substantially all of a Party's assets in a transaction entered into solely to change a Party's place of incorporation.

9.6 Interpretation. Each Party confirms that it and its respective counsel have reviewed, negotiated and adopted this Agreement as the agreement and understanding of the Parties hereto and the language used in this Agreement shall be deemed to be the language chosen by the Parties hereto to express their mutual intent. Neither Party shall be considered to be the drafter of this Agreement or any of its provisions for the purpose of any statute, case law, or rule of interpretation or construction that would, or might cause, any provision to be construed against such Party.

9.7 Authority. Each Party represents that it is fully authorized to enter into the terms and conditions of, and to execute, this Agreement.

9.8 No Third Party Beneficiaries. Unless otherwise expressly stated herein, nothing in this Agreement, express or implied, is intended to confer upon any person other than the Parties hereto or their respective permitted assignees, successors in interest, and Subsidiaries any rights or remedies under or by reason of this Agreement. The former and current directors, officers, employees, and attorneys of the Parties and their Subsidiaries are intended beneficiaries of Sections 4.1, 4.2, 4.4, 4.5, 4.6 and 4.7.

9.9 Severability. If any provision of any Comprehensive Resolution Agreement is held to be invalid or unenforceable, the meaning of such provision shall be construed, to the extent feasible, so as to render the provision enforceable and to effectuate the intent and purpose of the Parties with respect to such invalid or unenforceable provision, and if no feasible interpretation shall save such provision, (a) a suitable and equitable provision shall be substituted therefor in order to effectuate, so far as may be valid and enforceable, the intent and purpose of the Parties with respect to such invalid or unenforceable provision, and (b) the remainder of such Comprehensive Resolution Agreement shall remain in full force and effect.

9.10 No Waiver. The failure of either Party to enforce, at any time, any of the provisions of this Agreement shall in no way be construed as a waiver of such provisions, and shall not be deemed in any way to affect the validity of this Agreement or any part thereof, or the right of either Party to later enforce each and every such provision. No waiver of any breach of this Agreement shall be held to be a waiver of any other or subsequent breach.

9.11 Counterparts; Facsimile Transmission. This Agreement may be executed in multiple counterparts, each of which shall constitute an original, but all of which together shall constitute one and the same agreement. Each Party may rely on facsimile or .pdf signature pages as if such facsimile or .pdf pages were originals.

9.12 Further Actions. Each of the Parties hereto agrees to take and cause its Subsidiaries to take any and all actions reasonably necessary in order to effectuate the intent, and to carry out the provisions, of this Agreement.

9.13 Public Disclosures and Confidentiality. The Parties shall issue a press release with respect to the Comprehensive Resolution Agreement in a mutually acceptable form. Each Party agrees that, after the issuance of such press release, each Party shall be entitled to disclose the general nature of this Agreement, but that the terms and conditions of this Agreement, to the extent not already disclosed pursuant to such press release, shall be treated as confidential information and that neither Party will disclose such terms or conditions to any Third Party without the prior written consent of the other Party, provided, however, that each Party may disclose the terms and conditions of this Agreement:

(a) as required by any court or other governmental body;

(b) as otherwise required by law;

(c) as otherwise may be required by applicable securities and other law and regulation, including to legal and financial advisors in their capacity of advising a party in such matters, so long as the disclosing Party shall seek confidential treatment of such terms and conditions to the extent reasonably possible;

(d) to legal counsel, accountants, and other professional advisors of the Parties;

(e) in confidence, to banks, investors and other financing sources and their advisors;

(f) in connection with the enforcement of this Agreement or rights under this Agreement;

(g) during the course of litigation so long as the disclosure of such terms and conditions are restricted in the same manner as is the confidential information of other litigating parties and so long as (A) the restrictions are embodied in a court-entered protective order limiting disclosure to outside counsel and (B) the disclosing party informs the other party in writing at least ten (10) business days in advance of the disclosure and discusses the nature and contents of the disclosure, in good faith, with the other party (for purposes of this provision, the Protective Order entered in the Antitrust Litigation is acceptable, as long as the disclosure is designated as both “Highly Confidential-BP and Highly Confidential-IP”); or

(h) in confidence, in connection with an actual or prospective merger or acquisition or similar transaction.

In addition, upon execution of this Agreement, or thereafter, Rambus, in its discretion, shall be entitled to file a copy of this Agreement with the U.S. Securities and Exchange Commission, so long as Rambus seeks confidential treatment of such agreement to the extent reasonably possible.

IN WITNESS WHEREOF, this Agreement has been duly and executed and delivered by the duly authorized officers of the Parties hereto as of the date first written above.

RAMBUS INC.

By: /s/ Harold Hughes

Name: Harold Hughes

SAMSUNG ELECTRONICS CO., LTD.

By: /s/ Oh-Hyun Kwon

Name: Oh-Hyun Kwon

SAMSUNG ELECTRONICS AMERICA, INC.

By: /s/ Oh-Hyun Kwon for CS Choi

Name: Changsoo Choi

SAMSUNG SEMICONDUCTOR, INC.

By: /s/ Oh-Hyun Kwon for WH Hong

Name: Wanhoon Hong

SAMSUNG AUSTIN SEMICONDUCTOR, L.P.

By: /s/ Oh-Hyun Kwon for WS Han

Name: Woosung Han

The registrant agrees to furnish to the Securities and Exchange Commission upon request a copy of any omitted schedule or exhibit.

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

Semiconductor Patent License Agreement

Between

Rambus Inc.

and

Samsung Electronics Co., Ltd.

SEMICONDUCTOR PATENT LICENSE AGREEMENT

This SEMICONDUCTOR PATENT LICENSE AGREEMENT (“Agreement”) is made and entered into on this 19th day of January, 2010 (“Effective Date”) by and between Rambus Inc., a corporation duly organized and existing under the laws of Delaware, U.S.A., having its principal place of business at 4440 El Camino Real, Los Altos, California 94022, U.S.A., (hereinafter “Rambus”) and Samsung Electronics Co., Ltd., a Korean corporation having its principal place of business at San # 16, Banwol-Dong, Hwasung-City, Gyeonggi-Do, Korea, 445-701 (hereinafter “Samsung”).

WHEREAS, the parties are currently parties to a number of disputes relating to the Samsung products and the Rambus patents, including but not limited to disputes as to whether claims of Rambus patents are infringed by Samsung products and the Antitrust Litigation, and recognize that, without this Agreement, given the diversity of claims of the Rambus patents, and the breadth of technologies utilized by the Samsung products, Rambus could, after the Effective Date, assert that other claims of Rambus patents are infringed by Samsung products;

WHEREAS, the parties recognize that litigation of such is inherently uncertain, and is subject to certain risks and to various possible outcomes, some of which would be more favorable to Rambus, and some of which would be more favorable to Samsung;

WHEREAS, concurrent with the execution and delivery of this Agreement, the parties have entered into a Settlement Agreement (the “Settlement Agreement”) to eliminate the risks associated with such litigation and to enter into a comprehensive resolution to compromise, settle and release certain existing disputes between them, and to compromise, resolve and avoid other disputes that may arise after the Effective Date with respect to the Samsung products and the Rambus patents;

WHEREAS, as part of such comprehensive resolution, the parties have agreed to enter into this Agreement; and

WHEREAS, because this Agreement is part of such comprehensive resolution, the parties acknowledge that it is therefore essential that their respective obligations under this Agreement be certain and not subject to collateral attack, or otherwise subject to change or modification except on the terms expressly set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants and premises contained herein, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties, the parties agree as follows:

1. DEFINITIONS

- 1.1 “Acquired Business” means a Third Party, the portion of a Third Party, and/or any portion of the assets or business of a Third Party that Samsung or its Subsidiaries acquire in an Acquisition.
- 1.2 “Acquisition” means, as to a party, a transaction or a series of related transactions in which such party acquires, through merger (including reverse triangular merger), acquisition of stock, acquisition of assets or otherwise, a Third Party and/or any portion of the assets or business of a Third Party.
- 1.3 “Acquisition Date” means the effective date of any Acquisition completed by Samsung or any of its Subsidiaries as described under Section 3.3.
- 1.4 Antitrust Litigation means the matter entitled *Rambus Inc. v. Micron Technology Inc. et al.*, No. 04-431105 (Supr. Ct. Cal., San Fran. Filed May 5, 2004).
- 1.5 “Change of Control” means a transaction or a series of related transactions in which (i) one or more Third Parties who did not previously Control a party obtain Control of such party, or (ii) the subject party merges with or transfers substantially all of its assets to a Third Party where the shareholders of the assigning party, immediately before the transaction or series of related transactions, own less than a fifty percent (50%) interest in the acquiring or surviving entity immediately after the transaction or series of related transactions.
- 1.6 “Combination Product” means either (a) a Component containing two (2) or more Integrated Circuits at least one of which is a Licensed Product and where all other Integrated Circuits contained in such Component are each either a Licensed Product or a Permitted Third Party Product, or (b) solely that portion of a Component consisting of a combination of two (2) or more Integrated Circuits that are each a Licensed Product (“Eligible Portion”) where such Component also contains an Integrated Circuit that is neither a Licensed Product nor a Permitted Third Party Product. For clarity, an Eligible Portion may not contain any Integrated Circuit that is not a Licensed Product.
- 1.7 “Combination Product License” means the rights and licenses granted under Section 2.1(c).
- 1.8 “Component” means a product comprised of one or more Integrated Circuits physically connected, stacked, or attached to a unitary substrate or other Integrated Circuit where all other elements of such product are passive elements intended to provide physical support, packaging and/or connectivity with respect to such Integrated Circuits. Examples of Components would include DIMMs, SIMMs and other modules, and cards, multi-chip packages (MCP), system-on-chip, system-in-package, system-on-insulator, solid state storage devices, and other form factors.

- 1.9 “Control” (including “Controlled” and other forms) of an entity means (a) beneficial ownership (whether directly or indirectly through entities or other means) of more than fifty percent (50%) of the outstanding voting securities of that entity or (b) in the case of an entity that has no outstanding voting securities, having the power (whether directly or indirectly through entities or other means) presently to designate more than fifty percent (50%) of the directors of a corporation, or in the case of unincorporated entities, of individuals exercising similar functions. Notwithstanding the foregoing sentence, where Samsung has fifty percent (50%) of such beneficial ownership or power to designate with respect to any other entity, Samsung shall be deemed to “Control” such other entity if such other entity is part of the “Samsung Group of Companies” and such entity is lawfully registered under a corporate name, and lawfully operates and generally and routinely conducts its business under a corporate name, that includes “Samsung,” *provided that*, such entity agrees in a writing, delivered to both Parties within thirty (30) days of the Effective Date (or if later, within thirty (30) days after formation of such entity), to be bound by all applicable terms and conditions of this Agreement.
- 1.10 “DDR DRAM” means each double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for DDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x4, x8 and/or x16.
- 1.11 “DDR2 DRAM” means each double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for DDR2 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x4, x8 and/or x16.
- 1.12 “DDR3 DRAM” means each double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for DDR3 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x4, x8 and/or x16.
- 1.13 “DRAM” means a dynamic random access memory Integrated Circuit the primary purpose of which is data storage and retrieval.
- 1.14 “DRAM Controller” means any Integrated Circuit having circuitry integrated thereon or contained therein that is capable through an Interface of transmitting and/or receiving data from a DRAM.

- 1.15 “Effective Date” has the meaning assigned in the first paragraph of this Agreement.
- 1.16 “Existing Agreement” has the meaning ascribed to such term under Section 3.3(b) below.
- 1.17 “Expiration Date” means the fifth (5th) anniversary of the Effective Date.
- 1.18 “Foundry Product” means any product that would constitute a Paid-up Product or Term Product but for the fact that such product does not constitute a Samsung Product.
- 1.19 “Foundry Product License” means the rights and licenses granted under Section 2.1(d) below.
- 1.20 “GDDR DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x16 and x32.
- 1.21 “GDDR2 DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR2 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x16 and x32.
- 1.22 “GDDR3 DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR3 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x16 and x32.
- 1.23 “GDDR4 DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR4 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x16 and x32.
- 1.24 “GDDR5 DRAM” means each graphics double data rate DRAM that (a) implements those interface features, parameters, and protocols in the same manner in all material

respects as the DRAM Sold by Samsung or its Subsidiaries on or before the Effective Date as “GDDR5 DRAM” or implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR5 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol contained in DRAM Sold by Samsung or its Subsidiaries on or before the Effective Date as “GDDR5 DRAM;” and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; (2) with data bit width other than x16 and x32.

- 1.25 “Indirect Infringement” means any form of alleged patent infringement where the accused infringer is not directly infringing the subject patent right(s), but is in some manner liable for a Third Party’s direct infringement of the subject patent right(s) by, for example (without limitation), supplying designs, parts or instructions to the Third Party that enable such Third Party to infringe directly the subject patent right(s). Indirect Infringement includes without limitation contributory infringement and inducing infringement.
- 1.26 “Integrated Circuit” means a single, discrete integrated circuit chip, whether in wafer, cingulated die or packaged die form.
- 1.27 “Interface” means an electrical, optical, RF, mechanical, or software data path that is capable of transmitting and/or receiving information between two or more (a) Integrated Circuits or (b) portions of an Integrated Circuit, in each case together with the set of protocols defining the electrical, physical, timing and/or functional characteristics, sequences and/or control procedures of such data path.
- 1.28 “JEDEC” means the JEDEC Solid State Technology Association, originally known as the Joint Electron Device Engineering Council, a non-stock corporation organized and existing under the laws of the Commonwealth of Virginia.
- 1.29 “Licensed Product” means a Paid-up Product, Term Product, or Combination Product made (including have made), used, Sold, offered for Sale, and/or imported pursuant to the Paid-up Product License, the Term Product License and Combination Product License, respectively.
- 1.30 “Licensed Foundry Product Portion” means that portion of a Foundry Product made, used, Sold, offered for Sale, and/or imported pursuant to the Foundry Product License.
- 1.31 “LPDDR DRAM” means each low-power double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for LPDDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x8, x16 and/or x32.

- 1.32 “LPDDR2 DRAM” means each low-power double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for LPDDR2 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x8, x16 and/or x32.
- 1.33 “Other DRAM” means any DRAM that does not constitute a Paid-up Product.
- 1.34 “Paid-up Product” means each Samsung Product that is SDR DRAM, DDR DRAM, DDR2 DRAM, DDR3 DRAM, GDDR DRAM, GDDR2 DRAM, GDDR3 DRAM, GDDR4 DRAM, GDDR5 DRAM, LPDDR DRAM, and LPDDR2 DRAM. Notwithstanding the foregoing sentence, any product that constitutes a Rambus Leadership Product shall be deemed not to be a Paid-up Product.
- 1.35 “Paid-up Product License” means the rights and licenses granted pursuant to Section 2.1(a).
- 1.36 “Patents” means patents and utility models and applications therefor, including, without limitation, all continuations, continuations-in-part and divisionals thereof, in all countries of the world that now or hereafter are (i) owned or controlled by the applicable party hereto and its Subsidiaries and/or (ii) otherwise licensable by the applicable party hereto and its Subsidiaries, in each case of (i) and (ii) where such party and its Subsidiaries have the right to grant the licenses, sublicenses or other rights and covenants of the scope granted herein.
- 1.37 “Permitted Third Party Product” means any Integrated Circuit that is neither a Samsung Product nor a DRAM, SerDes IC, DRAM Controller, Synchronous Flash Memory or Synchronous Flash Controller.
- 1.38 “Quarterly Acquisition Adjustment Payment” means each quarterly fixed amount initially payable by Samsung under this Agreement upon Samsung’s or any of its Subsidiaries’ Acquisition of any Acquisition Products as provided for under Section 3.3.
- 1.39 “Quarterly Base Payment” means twenty-five million United States Dollars (US\$25,000,000).
- 1.40 “Quarterly Buffer” means, for a subject quarter during this Agreement, the following upper limit (“Ceiling”) and lower limit (“Floor”) for such quarter.

	Quarter <u>5 – 8</u>	Quarter <u>9 – 12</u>	Quarter <u>13 – 16</u>	Quarter <u>17 – 20</u>
Ceiling	[***]	[***]	[***]	[***]
Floor	[***]	[***]	[***]	[***]

- 1.41 “Quarterly DRAM Revenue” means the total amount of revenue Samsung and its Subsidiaries received for Sales of DRAM during a subject quarter as reported by iSuppli Corporation (“iSuppli”) in its DRAM Market Tracker (or in such alternate source as may be used as set forth below) for the subject quarter. Upon the earlier of, either iSuppli (or such alternate source) (1) ceasing to report such information on a quarterly basis, or (2) failing to report such information by the end of the quarter two (2) quarters after the subject quarter, the parties shall negotiate in good faith to determine an alternate source for determining the Quarterly DRAM Revenue for the subject quarter, provided that, if the parties fail to reach agreement on such alternate source within thirty (30) days following the second quarter after the subject quarter for which such Quarterly DRAM Revenue report was not available, then either party may, as its sole and exclusive remedy to resolve such dispute, submit such dispute to binding arbitration pursuant to Section 8 and Samsung’s obligation to remit its Quarterly License Payment pursuant to Section 4.1 for the subject quarter shall be tolled until the earlier of either the final resolution of such arbitration determining such alternate source or the parties’ agreement on an alternate source.
- 1.42 “Quarterly License Payment” has the meaning ascribed to such term in Section 4.1.
- 1.43 “Quarterly Reference DRAM Revenue” means the sum of the Quarterly DRAM Revenue for 2010 divided by four (4).
- 1.44 “Quarterly DRAM Revenue Ratio” means the ratio of the Quarterly DRAM Revenue and the Quarterly Reference DRAM Revenue.
- 1.45 “Rambus Applicable Manufacturing Claims” are defined and determined separately for each specific product. For each such product, a Rambus Applicable Manufacturing Claim means each process or method claim of a Rambus Patent [***] infringed when such product is made (or have made).
- 1.46 “Rambus Applicable Patent Claims” means Rambus Applicable Manufacturing Claims and Rambus Applicable Product Claims.
- 1.47 “Rambus Applicable Product Claims” are defined and determined separately for each specific product. For each such product, a Rambus Applicable Product Claim means each claim of a Rambus Patent [***] infringed by the use, Sale, Offer for Sale, or import of such product in the form first made (or have made).
- 1.48 “Rambus Leadership Product” means any product that implements a Rambus Proprietary Specification.
- 1.49 “Rambus Patents” means Patents of Rambus and its Subsidiaries.
- 1.50 “Rambus Product Design” means any human or machine readable representation of the design, such as a circuit layout in a drawing or a register transfer level description (RTL)

file, for any product, element or instrumentality, including, but not limited to any Rambus Leadership Product.

- 1.51 “Rambus Product Design License” means the rights and licenses granted under Section 2.2.
- 1.52 “Rambus Proprietary Specification” means any Technical Specification that is first designed and developed (as demonstrated by customary means, including, but not limited to, engineering notebooks) by, or on behalf of, Rambus or any of its Subsidiaries, over which Rambus and/or any of its Subsidiaries has exclusive control and that neither Rambus nor any of its Subsidiaries has voluntarily (a) disclosed except under a confidentiality or non-disclosure agreement; or (b) proposed or disclosed to any standards setting organization. In addition to the foregoing sentence, Rambus Proprietary Specification also includes any Technical Specification exclusively acquired by Rambus from a Third Party where such Technical Specification would otherwise meet the definition of a Rambus Proprietary Specification had Rambus, and not the relevant Third Party, been the original developer and owner of such Technical Specification. Notwithstanding the above, a Technical Specification independently developed by or on behalf of Samsung, or by a Third Party and acquired by Samsung, shall not be deemed to be a Rambus Proprietary Specification, even if it describes similar or identical functions. A Technical Specification shall not be deemed to be independently developed for purposes of the preceding sentence to the extent such Technical Specification, or any portion thereof, was developed or derived based on information (i) for which Samsung or any of its Subsidiaries, or any other Third Party, is bound by an obligation of confidentiality or non-use to Rambus; (ii) obtained from any other Third Party in violation of its obligation of confidentiality or non-use to Rambus; or (iii) obtained by Samsung, any of its Subsidiaries or any other Third Party based on reverse engineering of any product that implements a Rambus Proprietary Specification.
- 1.53 “Samsung Applicable Manufacturing Claims” are defined and determined separately for each specific product. For each such product, a Samsung Applicable Manufacturing Claim means each process or method claim of a Samsung Patent [***] infringed when such product is made (or have made).
- 1.54 “Samsung Applicable Patent Claims” means Samsung Applicable Manufacturing Claims and Samsung Applicable Product Claims.
- 1.55 “Samsung Applicable Product Claims” are defined and determined separately for each specific product. For each such product, a Samsung Applicable Product Claim means each claim of a Samsung Patent [***] infringed by the use, Sale, Offer for Sale, or import of such product in the form first made (or have made).
- 1.56 “Samsung Patent” means Patents of Samsung and its Subsidiaries.

- 1.57 “Samsung Product” means, an Integrated Circuit, for which Samsung or any of its Subsidiaries either:
- (a) owns the entire design of such Integrated Circuit with no limitations on how it may use such design; and/or
 - (b) has a license from the party or parties that created or otherwise owns the design of such Integrated Circuit, under which license Samsung and/or its Subsidiaries (i) can make (and/or have made) such Integrated Circuit; (ii) is free to Sell such made (or have made) Integrated Circuit without restriction as to whom Samsung and/or its Subsidiaries may Sell such Integrated Circuit and (iii) is not required or bound to discriminate in price or other terms with respect to such Integrated Circuit.
- 1.58 “SDR DRAM” means each single data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for SDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification and (c) is not Sold or specified as being capable of operating: (1) at a data transfer rate exceeding [***]; or (2) with data bit width other than x4, x8 and/or x16.
- 1.59 “Second Preceding Quarter” means, with respect to a subject quarter, the quarter that is two (2) quarters earlier than the subject quarter. For example, the Second Preceding Quarter to the fourth (4th) quarter of this Agreement would be the second (2nd) quarter.
- 1.60 “Sell” (including “Sale” and “Sold” and other forms) means to sell, lease, or otherwise transfer or dispose of a product, or if the product is transferred and used internally by an entity, then such transfer and use shall also be deemed a Sale.
- 1.61 “SerDes IC” means any Integrated Circuit having circuitry integrated thereon or contained therein that (a) de-serializes data received by such Integrated Circuit from a different Integrated Circuit and/or (b) serializes data originating on such Integrated Circuit prior to transmitting such data to a different Integrated Circuit. Notwithstanding the foregoing, any Integrated Circuit, the primary purpose of which is data storage and/or retrieval shall be deemed not to be a SerDes IC.
- 1.62 “Settlement Agreement” has the meaning assigned in the recitals to this Agreement.
- 1.63 “Subsidiary” means with respect to any identified entity (“Identified Entity”), any entity Controlled by such Identified Entity, but only so long as such Control exists.
- 1.64 “Synchronous Flash Controller” means any Integrated Circuit having circuitry integrated thereon or contained therein that is capable through an Interface of transmitting and/or receiving data from a Synchronous Flash Memory.

- 1.65 “Synchronous Flash Memory” means any Integrated Circuit the primary purpose of which is data storage or retrieval that has a synchronous Interface and memory cells that retain data stored in such memory cells even when it ceases to receive electrical power.
- 1.66 “Technical Specification” means a final specification for an optical, RF, electrical, mechanical, or software component that describes all of the characteristics of such component necessary for such component to operate. As example, the electrical interface (including timing and signaling parameters and characteristics) for a data bus connecting two (2) Integrated Circuits would meet the definition of a Technical Specification provided that such interface specified all of the signals necessary for such data bus to function.
- 1.67 “Term” means, as the case may be, the (a) term of the Paid-Up License, (b) the term of the Term Product License; (c) term of the Combination Product License, and/or (d) term of the Foundry Product License in each case of (a), (b), (c) and (d) as provided for under Section 6.1.
- 1.68 “Term Product” means each Samsung Product that is a (a) Other DRAM; (b) DRAM Controller; (c) Synchronous Flash Memory; (d) Synchronous Flash Controller; (e) SerDes IC; and (f) any other Integrated Circuit other than a Paid-up Product. Notwithstanding the foregoing sentence, any product that constitutes a Rambus Leadership Product shall be deemed not to be a Term Product.
- 1.69 “Term Product License” means the rights and licenses granted under Section 2.1(b).
- 1.70 “Third Party” means with respect to (i) Rambus or any Subsidiary of Rambus, any entity that is not a Subsidiary of Rambus and (ii) with respect to Samsung or any Subsidiary of Samsung, any entity that is not a Subsidiary of Samsung.
- 1.71 “Ultimate Parent” means with respect to any identified entity (“Identified Entity”), any entity that Controls such Identified Entity and where such Controlling entity is not under the Control of any other entity.

2. Grant of Rights

2.1 License to Samsung.

(a) Paid-up Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Samsung and its Subsidiaries, for each product that falls within the definition of a Paid-up Product: a non-exclusive, non-transferable, royalty-bearing, worldwide license, without the right to sublicense, solely under the associated Rambus Applicable Patent Claims for such Paid-up Product, to make (including have made), use, Sell, offer for Sale, and/or import such Paid-up Product until the expiration or termination of this license pursuant to Section 6.1(a).

(b) Term Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Samsung and its Subsidiaries, for each product that falls within the definition of a Term Product: a non-exclusive, non-transferable, royalty-bearing, worldwide license, without the right to sublicense, solely under the associated Rambus Applicable Patent Claims for such Term Product, to make (including have made), use, Sell, offer for Sale, and/or import such Term Product until the expiration or termination of this license pursuant to Section 6.1(b).

(c) Combination Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Samsung and its Subsidiaries, for each product that falls within the definition of a Combination Product: a non-exclusive, non-transferable, royalty-bearing, worldwide license, without the right to sublicense, solely under the associated Rambus Applicable Patent Claims for such Combination Product, to make (including have made), use, Sell, offer for Sale, and/or import such Combination Product until the expiration or termination of this license pursuant to Section 6.1(c). For clarity, the grant of the license to Combination Products pursuant to this Section 2.1(c) does not supersede or otherwise limit the licenses granted to each Term Product and Paid-up Product under Section 2.1(a) and Section 2.1(b), respectively, that may be contained in any such Combination Product.

(d) Foundry Product License. Except as expressly set forth in Sections 2.1(d)(i) and 2.1(d)(ii) below, all Foundry Products are expressly excluded from the licenses granted under Sections 2.1(a), 2.1(b) and 2.1(c) of this Agreement.

- (i) Manufacturing. Rambus, on behalf of itself and its Subsidiaries, hereby grants to Samsung and its Subsidiaries, for any product that constitutes a Foundry Product: a non-exclusive, non-transferable, worldwide license, without the right to sublicense, under the associated Rambus Applicable Manufacturing Claims for such Foundry Product, to make (but not have made), use, Sell, and offer for Sale any such Foundry Product until the expiration or termination of this license pursuant to Section 6.1(d). For the avoidance of doubt, except as expressly set forth in Section 2.1(d)(ii), no license is granted under any Rambus Applicable Product Claims for any Foundry Products.
- (ii) Samsung Supplied Technology. For any portion of a Foundry Product supplied by Samsung and/or its Subsidiaries (“Samsung Supplied Portion”) for which Samsung or any of its Subsidiaries either (1) owns the entire design of such Samsung Supplied Portion with no limitations on how it may use such design; and/or (2) has a license from the Third Party (or Third Parties) that created or otherwise owns the design of such Samsung Supplied Portion, under which license Samsung and/or its Subsidiaries (i) can make (and/or have made) such Samsung Supplied Portion; (ii) is free to Sell such made Samsung Supplied Portion without restriction as to whom Samsung and/or its Subsidiaries may Sell such

Samsung Supplied Portion and (iii) is not required or bound to discriminate in price or other terms with respect to such Samsung Supplied Portion, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Samsung and its Subsidiaries, a non-exclusive, non-transferable, worldwide license, without the right to sublicense, under the associated Rambus Applicable Product Claims for such Samsung Supplied Portion, to use, Sell, offer for Sale, or import any such Samsung Supplied Portion as part of any such Foundry Product until the expiration of termination of this license pursuant to Section 6.1(d).

- 2.2 Rambus Product Design License. Subject to the terms and conditions of this Agreement, Samsung, on behalf of itself and its Subsidiaries, hereby grants to Rambus and its Subsidiaries, for each product that falls within the definition of Rambus Product Design: a non-exclusive, non-transferable, worldwide license, without the right to sublicense, solely under the associated Samsung Applicable Patent Claims for such Rambus Product Design, to make (including have made), use, Sell, offer for Sale, and/or import such Rambus Product Design until the expiration or termination of this license pursuant to Section 6.1(e). For the avoidance of doubt, this license does not in any way, expressly or impliedly, extend, nor is it intended to extend, to any devices or products made essentially based on or incorporating such Rambus Product Design or in combination of such Rambus Product Design.
- 2.3 Obligations When Transferring Patents. Each party agrees that it shall take all actions necessary to ensure that any Third Party to whom any Patents are transferred, assigned or exclusively licensed or any right to enforce is granted (including any successor in interest thereto) is bound in writing to all covenants, licenses and other rights granted hereunder with respect such transferred, assigned or exclusively licensed Patents, *provided further* that if Rambus or any of its Subsidiaries transfers to any Third Party ownership of, or otherwise grants any Third Party the right to enforce, any claim of any Rambus Patent that is subject to the Covenant to Sue Last provided for under Section 2.4 below, such claim shall, upon such transfer of ownership or grant of right to enforce, automatically and immediately be deemed to be included in the rights and licenses granted hereunder with respect to Licensed Products and Licensed Foundry Product Portions notwithstanding the fact that such claim does not constitute a Rambus Applicable Patent Claim.
- 2.4 Covenant [***]. For so long as a product constitutes a Licensed Product or Licensed Foundry Product Portion hereunder, Rambus, on behalf of itself and its Subsidiaries, covenants that [***].
- 2.5 Full Force and Effect. The parties expressly acknowledge and agree that nothing in this Agreement shall in any way limit or alter the effect of the first sale or patent exhaustion doctrines under U.S. law, and any equivalent or similar doctrines under the law of any jurisdiction with respect to Rambus Applicable Patent Claims with respect to any

Licensed Product or Licensed Foundry Product Portion based on the Sale of such Licensed Product or Licensed Foundry Product Portion.

2.6 No Release, No Implied or Other Rights and Licenses.

- (a) The rights and licenses granted and covenants made herein apply solely to those products and activities expressly licensed during the Term. Nothing in this Agreement shall be deemed to, and shall not be construed to, constitute any release, forbearance, forfeiture or other waiver of any rights of either party or their respective Subsidiaries to enforce any of their respective intellectual property rights with respect to any activities undertaken by either party, their respective Subsidiaries and/or any other Third Party to the extent not expressly granted or made hereunder. Nothing in this Agreement is intended to limit or alter any rights under applicable law relating to patent exhaustion.
- (b) Except as expressly provided for under this Agreement, no authorization, release, license, covenant or other right is granted or made, by implication, estoppel, acquiescence or otherwise under this Agreement, to either party, their respective Subsidiaries and/or any other Third Party under any patents, utility models, patent or utility model claims, or other intellectual property rights now or hereafter owned or controlled by either party or their respective Subsidiaries. Nothing in this Agreement is intended to limit or alter any rights under applicable law relating to patent exhaustion.
- (c) Except as expressly provided for under this Agreement, none of the terms of this Agreement shall be deemed to, and shall not be construed to, constitute, whether by implication, estoppel, acquiescence or otherwise, (i) an authorization by either party, their respective Subsidiaries and/or any other Third Party to Sell, offer for Sale and/or import any product (1) in or for combination with any other element (including, but not limited to any function or feature), product or instrumentality; or (2) unconditionally for use in or for combination with any other element (including, but not limited to any function or feature), product or instrumentality; or (ii) a waiver by either party or their respective Subsidiaries of any liability for infringement based on either party's, their respective Subsidiaries and/or any other Third Party's use, Sale, offer for Sale and/or import of any product in combination with any other element (including, but not limited to any function or feature), product or instrumentality. Nothing in this Agreement is intended to limit or alter any rights under applicable law relating to patent exhaustion.

3. Subsidiaries, Former Subsidiaries and Acquisitions

- 3.1 Subsidiaries. The parties intend that this Agreement shall extend to all of each party's Subsidiaries. The parties agree that to the extent they are not already bound, each party shall ensure that all of its Subsidiaries (including without limitation all entities that

become Subsidiaries after the Effective Date (“New Subsidiaries”)) are bound by the terms of this Agreement. Without limiting the foregoing:

- (a) each party shall ensure that each New Subsidiary’s patents, utility models and applications therefor are included within the definition of the applicable party’s Patents; and
- (b) each party shall ensure that each New Subsidiary is bound as applicable, by Section 2.3 and 2.4.

3.2 Former Subsidiaries. All rights and licenses granted and covenants made to any Subsidiary of either party shall immediately and automatically terminate upon a party ceasing to Control such entity (“Former Subsidiary”). However, if a Subsidiary of a party that holds any patent or utility model or applications therefor that are subject to the rights and licenses granted or covenants made hereunder becomes a Former Subsidiary, such rights and licenses granted or covenants made by such Former Subsidiary (including every successor entity in interest to any such patents or utility models and applications therefor) shall continue in accordance with the terms of this Agreement after such entity becomes a Former Subsidiary.

3.3 Acquisitions.

- (a) Acquired Business [***]. If Samsung or any of its Subsidiaries completes an Acquisition where [***] then Samsung shall pay Rambus a fixed quarterly payment (in addition to Samsung’s Quarterly License Payments or any other Quarterly Acquisition Adjustment Payment owed pursuant to Section 3.3(b) in connection with such Acquisition or any other Acquisition), based on such Acquisition, starting, on a prorated basis, with the first calendar quarter during which the Acquisition Date occurred, [***]. If iSuppli data as required for the calculations in this Section 3.3(a) is not available for an Acquired Business or for Samsung, or the most recent version of such data covers a period ending more than twelve (12) months before the Acquisition Date, the parties shall initially meet within thirty (30) days following the associated Acquisition Date and negotiate in good faith an alternate source for the information that was to be provided by iSuppli. If the parties cannot reach agreement on such alternate source within thirty (30) days following the date required for such initial meeting, either party may, as its sole and exclusive remedy to resolve such dispute, submit such dispute to binding arbitration pursuant to the terms of Section 3.3(d). For the avoidance of doubt, any Acquired Business that has revenue attributable from the Sale of Acquisition Products of [***] or less (as reported by iSuppli for the most recent twelve (12) months preceding the Acquisition Date for which iSuppli has reported such Sales) shall be licensed without additional payments of any kind.
- (b) Acquired Business [***]. If Samsung or any of its Subsidiaries completes an Acquisition where [***], Samsung shall pay Rambus a fixed quarterly payment (in addition to Samsung’s Quarterly License Payments or any other Quarterly

Acquisition Adjustment Payment owed pursuant to Section 3.3(a) in connection with such Acquisition or any other Acquisition), based on such Acquisition, starting, on a pro-rated basis with the first calendar quarter during which the Acquisition Date occurred. [***] If the Existing Agreement required payments for less than four (4) quarters prior to the Acquisition Date, the parties shall initially meet within thirty (30) days following the associated Acquisition Date and negotiate in good faith an alternate method to determine the average quarterly payments from the Existing Agreement. If the parties cannot reach agreement on such alternate method within thirty (30) days following the date required for such initial meeting, then either party may, as its sole and exclusive remedy to resolve such dispute, submit such dispute to binding arbitration pursuant to the terms of Section 3.3(d).

(c) Attributable Revenue. For purposes of the calculations in this Section 3.3, [***].

(d) Dispute Resolution. If the parties fail to resolve any dispute identified in this Section 3.3 as subject to binding arbitration, then either party may, as its sole and exclusive remedy, submit such dispute to binding arbitration pursuant to Section 8 and Samsung's obligation to remit its Quarterly Acquisition Adjustment Payment based on such disputed Acquisition pursuant to Section 5.1(a)(ii) shall be tolled until the earlier of either the final resolution of such arbitration or the parties' resolution of such dispute, and in either case within thirty (30) days after such resolution Samsung will make all payments necessary to satisfy its payment obligations under this Section 3.3 from the date such obligations accrued.

3.4 No Release. The releases granted and covenants made under Article IV of the Settlement Agreement shall not apply to any Acquired Business. None of the rights and licenses granted and covenants made under Section 2 shall apply to any activity of any Acquired Business unless and until such Acquired Business becomes licensed hereunder in accordance with this Section 3, and in any case, none of the rights and licenses granted and covenants made under Section 2 shall apply to nor in any way reduce any liability associated with any activity of any Acquired Business that took place prior to the applicable Acquisition Date, provided that nothing in this Section 3.4 shall have the effect of negating or nullifying any release or license granted in any Existing Agreement. Notwithstanding anything to the contrary contained in Section 3.3, for any Acquisition for which Samsung wishes to acquire a release of liability for the Acquired Business for infringement of Rambus' patents and/or utility models that took place prior to the applicable Acquisition Date, the parties will negotiate such release in good faith and may consider the calculations set forth in Section 3.3(a) and/or the total past liability for infringing Rambus' patents and/or utility models incurred by such Acquired Business.

4. CONSIDERATION

- 4.1 Quarterly License Payment. Beginning with the first calendar quarter of 2010, Samsung will pay Rambus the following quarterly payments (each a “Quarterly License Payment”):
- (a) First 6 Quarterly License Payments. Each of the first six (6) Quarterly License Payments due hereunder will be in the amount of the Quarterly Base Payment.
 - (b) Quarterly License Payment for all remaining Quarters. The amount of each Quarterly License Payment for quarters seven (7) through twenty (20) will be calculated as follows.
 - (i) If the Quarterly DRAM Revenue Ratio for the Second Preceding Quarter is [***], then the Quarterly License Payment for the subject quarter will be equal to the Quarterly Base Payment.
 - (ii) If the Quarterly DRAM Revenue Ratio for the Second Preceding Quarter is [***], then the Quarterly License Payment for the subject quarter shall be equal to an amount based on the following calculation.
[***]
 - (iii) If the Quarterly DRAM Revenue Ratio for the Second Preceding Quarter is [***], then the Quarterly License Payment for the subject quarter shall be equal to an amount based on the following calculation.
[***]
 - (iv) Minimum and Maximum Quarterly License Payments. Notwithstanding any adjustment to the Quarterly Base Payment made pursuant to the terms of this Section 4.1(b), in no event shall any Quarterly License Payment (i) be less than ten (10) million United States Dollars (US\$10,000,000) or (ii) be greater than forty (40) million United States Dollars (US\$40,000,000).
 - (c) Final Adjustment. If, in Quarter twenty-one (21) of this Agreement, the Quarterly DRAM Revenue Ratio for the Second Preceding Quarter is [***], then Samsung shall pay Rambus a final, adjustment payment (“Final Adjustment Payment”) based on the following calculation, *provided that*, in no event shall the Final Adjustment Payment exceed [***].
[***]
- 4.2 Quarterly Acquisition Adjustment Payment. To the extent required pursuant to Section 3.3, Samsung shall pay Rambus a Quarterly Acquisition Adjustment Payment for each Acquisition occurring during the Term of this Agreement.

5. PAYMENTS

5.1 Payments.

(a) Timing of Payments.

- (i) Quarterly License Payments and Final Adjustment Payment. Samsung shall pay Rambus each Quarterly License Payment and the Final Adjustment Payment (if any) within ten (10) United States business days of its receipt (as determined for notices under Section 9.2) of Rambus' invoice therefor. Rambus shall invoice Samsung for each of the twenty (20) Quarterly License Payments and the Final Adjustment Payment (if any) no earlier than thirty (30) days after the first day of the quarter to which each such Quarterly License Payment or the Final Adjustment Payment (if any) relates.
- (ii) Quarterly Acquisition Adjustment Payments. Samsung shall pay Rambus each Quarterly Acquisition Adjustment Payment within ten (10) United States business days of its receipt (as determined for notices under Section 9.2) of Rambus' invoice therefor. Rambus shall invoice Samsung for each Quarterly Acquisition Adjustment Payment no earlier than the end of the quarter to which such Quarterly Acquisition Adjustment Payment relates.

- (b) Method of Payment. Samsung's payments to Rambus of all amounts hereunder shall be made by electronic transfer either directly to or via the Federal Reserve Bank of San Francisco for credit to the following account or another designated in writing by Rambus:

Rambus Inc.
[***]

- 5.2 Currency and Late Payments. All payments to Rambus hereunder shall be in United States Dollars. Late payments hereunder shall be subject to interest at the 1-year U.S. Government Treasury Constant Maturity Rate, as published by the Federal Reserve (www.federalreserve.gov) on the date the amount payable was due, plus five percent (5%) (or the maximum interest rate allowed by applicable law, if lower). The amount of interest shall be calculated from the payment due date to the date of electronic transfer.

- 5.3 Taxes. If the Korean government imposes any withholding tax on any amounts paid by Samsung to Rambus hereunder, such tax shall be borne by Rambus. Samsung agrees, at its reasonable discretion, to assist Rambus in its efforts to minimize Rambus' tax liability. Samsung shall withhold the amount of any such taxes levied on such payments to Rambus imposed by the Korean government, shall promptly effect payment of the taxes so withheld to the Korean tax office, and Samsung shall send to Rambus the official

certificate of such payment in a form reasonably sufficient to enable Rambus to support a claim for a foreign tax credit with respect to any such taxes so withheld.

- 5.4 No Escrow. Payment of amounts due under this Agreement to any person, firm or entity, other than Rambus, including without limitation, any escrow fund or escrow agent, unless agreed by Rambus or ordered by any court or government agency of competent jurisdiction or arbitration panel, shall constitute a material breach of this Agreement. Any payment once made by Samsung to Rambus shall not be refunded or refundable to Samsung for any reason except as may be required pursuant to Section 8. Notwithstanding the foregoing, in case of clerical error with respect to any payment made hereunder, the parties agree to remedy any such error through proper payment adjustments.

6. Term & Termination

6.1 Term.

- (a) Paid-up Product License. The Paid-up Product License shall commence on the Effective Date and shall continue in full force and effect unless and until terminated in accordance with this Section 6.
- (b) Term Product License. The Term Product License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6.
- (c) Combination Product License. The Combination Product License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6. Notwithstanding the foregoing, the Combination Product License shall continue in full force and effect solely for combinations consisting solely of two (2) or more Paid-up Products for so long as the Paid-up Product License remains in full force and effect.
- (d) Foundry Product License. The Foundry Product License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6.
- (e) Rambus Product Design License. The Rambus Product Design License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6.

- 6.2 Material Breach. A party may terminate this Agreement upon notice if the other party hereto (or any of its Subsidiaries) commits a material breach of Section 1.41 or Section 3.3(d) with respect to the exclusive resolution through arbitration of disputes regarding alternate sources and/or methods pursuant to Section 8 as provided for in such sections

and does not correct such breach within thirty (30) days after receiving written notice complaining thereof. In addition, Rambus may terminate this Agreement upon notice if Samsung materially breaches its payment obligations under this Agreement and does not correct such breach within thirty (30) days after receiving written notice complaining thereof. Failure of Samsung to remit any payment due and payable in accordance with the terms of this Agreement shall constitute a material breach of this Agreement. For the avoidance of doubt, any payments tolled in accordance with the terms of this Agreement shall not be due and payable during such tolling period.

- 6.3 **Bankruptcy**. Either party may terminate this Agreement effective upon written notice to the other party if the other party becomes the subject of a voluntary or involuntary petition in bankruptcy or any proceeding relating to insolvency, or composition for the benefit of creditors, if that petition or proceeding is not dismissed within sixty (60) days after filing.
- 6.4 **Change of Control**. In addition to the rights set forth in Sections 6.2 and 6.3 above, if prior to the Expiration Date, Samsung undergoes a Change of Control, Rambus may terminate this Agreement effective upon written notice thereof to Samsung or the relevant successor in interest. Notwithstanding the foregoing, if Rambus receives written notice of such Change of Control from Samsung (or its successor in interest) no later than ten (10) business days after such Change of Control, Rambus agrees to negotiate in good faith with such successor in interest, for a period of one hundred and eighty (180) days after receipt of such notice, the application of this Agreement to such successors' business activities prior to terminating this Agreement based on such Change of Control. Rambus' failure to terminate this Agreement after a given Change of Control by Samsung (or any successor in interest) shall not in any way limit Rambus' right to exercise these rights for any subsequent Change of Control. Termination of this Agreement based on a Change of Control shall be deemed to be effective immediately prior to the effective date of such Change of Control.
- 6.5 **Survival**. All payment obligations accruing prior to any termination of this Agreement shall survive any such termination. In addition, the following Sections shall survive and remain in full force and effect after any termination of this Agreement: Section 1 (Definitions), Section 2.3 (Obligations When Transferring Patents), Section 2.5 (Full Force and Effect), 2.6 (No Release, No Implied or Other Rights and Licenses), Section 3.1 (Subsidiaries), 3.2 (Former Subsidiaries), 3.3(d) (Dispute Resolution), Section 3.4 (No Release), Section 4 (Consideration) and Section 5 (Payments) (in each case with respect to amounts incurred prior to termination of this Agreement), this Section 6.4 (Survival), Section 7.2 (Confidentiality), Section 8 (Dispute Resolution), and Section 9 (Miscellaneous).

7. Confidentiality

- 7.1 **Press Release**. The parties intend to issue a press release as set forth in the Settlement Agreement.

- 7.2 **Confidentiality.** Each party agrees that only after the announcement referenced in Section 7.1 above, each party shall be entitled to disclose the general nature of this Agreement but that the terms and conditions of this Agreement, to the extent not already disclosed pursuant to Section 7.1 above, shall be treated as Confidential Information and that neither party will disclose such terms or conditions to any Third Party without the prior written consent of the other party, provided, however, that each party may disclose the terms and conditions of this Agreement:
- (a) as required by any court or other governmental body;
 - (b) as otherwise required by law;
 - (c) as otherwise may be required by applicable securities and other law and regulation, including to legal and financial advisors in their capacity of advising a party in such matters so long as the disclosing party shall seek confidential treatment of such terms and conditions to the extent reasonably possible;
 - (d) to legal counsel, accountants, and other professional advisors of the parties;
 - (e) in confidence, to banks, investors and other financing sources and their advisors;
 - (f) in connection with the enforcement of this Agreement or rights under this Agreement;
 - (g) during the course of litigation so long as the disclosure of such terms and conditions are restricted in the same manner as is the confidential information of other litigating parties and so long as (A) the restrictions are embodied in a court-entered protective order limiting disclosure to outside counsel and (B) the disclosing party informs the other party in writing at least ten (10) business days in advance of the disclosure and discusses the nature and contents of the disclosure, in good faith, with the other party; or
 - (h) in confidence, in connection with an actual or prospective merger or acquisition or similar transaction.

Upon execution of this Agreement, or thereafter, Rambus, in its discretion, shall be entitled to file a copy of this Agreement with the U.S. Securities and Exchange Commission, so long as Rambus seeks confidential treatment of such agreement to the extent reasonably possible.

8. Dispute Resolution

Any dispute submitted to binding arbitration pursuant to Section 1.41 or Section 3.3 shall take place in Santa Clara County, California before one arbitrator, and shall be administered by Judicial Arbitration and Mediation Services, Inc. pursuant to its Streamlined Arbitration Rules and Procedures, except that each party shall submit to the arbitrator and exchange with each other in advance of the hearing their last, best alternate sources and/or methods, as applicable, and the arbitrator shall be limited to awarding only

one or the other of the two alternate sources and/or methods, as applicable, submitted. Judgment on the award may be entered in any court having jurisdiction.

9. Miscellaneous

9.1 Disclaimers. Nothing contained in this Agreement shall be construed as:

- (a) a warranty or representation by either party as to the validity, enforceability, and/or scope of any intellectual property rights;
- (b) imposing upon either party any obligation to institute any suit or action for infringement of any intellectual property right, or to defend any suit or action brought by a Third Party which challenges or concerns the validity, enforceability or scope of any intellectual property rights;
- (c) imposing on either party any obligation to file any application or registration with respect to any intellectual property rights or to secure or maintain in force any intellectual property rights;
- (d) imposing on either party any obligation to furnish any technical information or know-how; or
- (e) imposing or requiring, whether by implication or otherwise, any support, maintenance or any technology deliverable obligations on either party's or their respective Subsidiaries' part under this Agreement (and neither party nor any of their respective Subsidiaries are providing any support, maintenance or technology deliverables under this Agreement).

9.2 Notices. All notices and other communications required or permitted hereunder shall be in writing and shall be mailed by first class air mail (registered or certified if available), postage prepaid, or otherwise delivered by hand, by messenger or by telecommunication, addressed to the addresses first set forth above or at such other address furnished with a notice in the manner set forth herein. Such notices shall be deemed to have been effective when delivered or, if delivery is not accomplished by reason of some fault or refusal of the addressee, when tendered. All notices shall be in English.

9.3 Governing Law & Venue.

- (a) This Agreement shall be governed by and construed in accordance with the laws of the State of California, without giving effect to any choice-of-law or conflict-of-law provision or rule (whether of the State of California or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of California.
- (b) This Agreement is executed in the English language and no translation shall have any legal effect.

- (c) Except for disputes subject to Section 8, any legal action, suit or proceeding arising under, or relating to, this Agreement, shall be brought in the United States District Court for the Northern District of California or, if such court shall decline to accept jurisdiction over a particular matter, in the San Francisco Superior Court, and each Party agrees that any such action, suit or proceeding may be brought only in such courts. Each Party further waives any objection to the laying of jurisdiction and venue for any such suit, action or proceeding in such courts.
- 9.4 No Assignment. This Agreement is personal to the parties, and the Agreement and/or any right or obligation hereunder is not assignable, whether in conjunction with a change in ownership, merger, acquisition, the sale or transfer of all, or substantially all or any part of either party's or any of their respective Subsidiaries business or assets or otherwise, voluntarily, by operation of law, reverse triangular merger or otherwise, without the prior written consent of the other party, which consent may be withheld at the sole discretion of such other party. Any such purported or attempted assignment or transfer in violation of the foregoing shall be deemed a breach of this Agreement and shall be null and void. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the parties and their permitted successors and assigns. Notwithstanding the foregoing, either party shall be entitled to, and each party hereby agrees to, assign this Agreement to a successor to all or substantially all of a party's assets in a transaction entered into solely to change a party's place of incorporation.
- 9.5 No Rule of Strict Construction. Regardless of which party may have drafted this Agreement or any part thereof, no rule of strict construction shall be applied against either party. For the avoidance of doubt "includes", "including", "included", and other variations of such terms shall be deemed to be followed by the phrase "without limitation".
- 9.6 Severability. If any provision of this Agreement is held to be invalid or unenforceable, the meaning of such provision shall be construed, to the extent feasible, so as to render the provision enforceable, and if no feasible interpretation shall save such provision, (a) a suitable and equitable provision shall be substituted therefore in order to carry out, so far as may be valid and enforceable, the intent and purpose of such invalid or unenforceable provision, and (b) the remainder of this Agreement shall remain in full force and effect.
- 9.7 Entire Agreement. This Agreement and the Settlement Agreement embodies the entire understanding of the parties with respect to the subject matter hereof, and merges all prior oral or written communications between them, and neither of the parties shall be bound by any conditions, definitions, warranties, understandings, or representations with respect to the subject matter hereof other than as expressly provided herein. No oral explanation or oral information by either party hereto shall alter the meaning or interpretation of this Agreement.
- 9.8 Modification; Waiver. No modification or amendment to this Agreement, nor any waiver of any rights, will be effective unless assented to in writing by the party to be charged,

and the waiver of any breach or default will not constitute a waiver of any other right hereunder or any subsequent breach or default.

- 9.9 Counterparts. This Agreement may be executed in two (2) or more counterparts, all of which, taken together, shall be regarded as one and the same instrument.
- 9.10 Bankruptcy Code. All rights, licenses, privileges, releases, and immunities granted under this Agreement shall be deemed to be, for the purposes of Section 365(n) of the U.S. Bankruptcy Code, as amended (the “Bankruptcy Code”), licenses of rights to “intellectual property” as defined under Section 101(35A) of the Bankruptcy Code. The parties agree that each of the parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. The parties further agree that, in the event that any proceeding shall be instituted by or against a party seeking to adjudicate it as bankrupt or insolvent, or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief or composition of that party or that party’s debts under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors, or seeking an entry of an order for relief or the appointment of a receiver, trustee or other similar official for that party or any substantial part of its property or if a party hereto shall take any action to authorize any of the foregoing actions, the other party shall have the right to retain and enforce their respective rights under this Agreement.
- 9.11 Non-Controlled Entity. Samsung hereby represents and warrants that on the Effective Date it is not a Subsidiary of any entity or person.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed by duly authorized officers or representatives as of the date first above written.

RAMBUS INC. SAMSUNG ELECTRONICS CO., LTD.

By: /s/ Harold Hughes By: /s/ Oh-Hyun Kwon

Name: Harold Hughes Name: Oh-Hyun Kwon

Title: CEO Title: President

Date: January 19, 2010 Date: January 19, 2010

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

SETTLEMENT AGREEMENT

THIS SETTLEMENT AGREEMENT (the "Agreement") is made and entered into as of the July 1, 2013 by and among Rambus Inc., a Delaware corporation ("Rambus"), on the one hand, and SK hynix Inc., a corporation organized under the laws of Korea ("SK hynix"), SK hynix America Inc., a California corporation ("SK hynix U.S."), Hynix Semiconductor Manufacturing America Inc., a California corporation, SK hynix U.K. Ltd., a corporation organized under the laws of the United Kingdom, and SK hynix Deutschland, GmbH, a corporation organized under the laws of Germany (collectively, "SK hynix," with Rambus and SK hynix each being a "Party" and together the "Parties"), on the other hand.

WHEREAS, SK hynix and its Subsidiaries (as defined in Article 1) are and will continue to be engaged in the manufacture, use, sale and/or importation of various products and devices ("SK hynix Products") which utilize diverse and varied technologies;

WHEREAS, Rambus and/or its Subsidiaries have and will continue to have rights under Rambus Patents (as defined in Article 1) covering diverse and varied technologies;

WHEREAS, the Parties are currently parties to a number of Disputes (as defined in Article 1) relating to the SK hynix Products and the Rambus Patents, including but not limited to disputes as to whether claims of Rambus Patents are infringed by SK hynix Products, and disputes relating to the validity, enforceability and scope of certain Rambus Patents, the Antitrust Litigation, and the Other Actions (as defined in Article 1);

WHEREAS, the Parties acknowledge that the Disputes have been costly, not only in terms of the out-of-pocket costs incurred by each of them, but also in terms of management time and other resources devoted to such efforts;

WHEREAS, the Parties recognize that, without this Agreement, given the diversity of claims of the Rambus Patents, and the breadth of technologies utilized by the SK hynix Products, Rambus could, after the Effective Date (as defined in Article 1), assert that other claims of Rambus Patents are infringed by SK hynix Products, and that such disputes, if they were to occur, would involve similar costs and business disruptions;

WHEREAS, the Parties recognize that litigation of the Disputes, and of other disputes that may arise between them after the Effective Date, is inherently uncertain, and is subject to certain risks, including but not limited to, (a) whether the Rambus Patents, including Patents which are known to SK hynix but which to date have not been asserted against SK hynix, are determined to be valid, enforceable and infringed in various trial and appellate courts, the U.S. Patent and Trademark Office, the European Patent Office, the International Trade Commission proceedings, and in other proceedings, and (b) whether Rambus prevails in various other court or regulatory proceedings, such as the Antitrust Litigation, and that such events are subject to various possible outcomes;

WHEREAS, the Parties desire to eliminate the risks associated with such litigation and to enter into a comprehensive resolution to compromise, settle and release the Disputes, and to compromise, resolve and avoid other disputes that may arise after the Effective Date with respect to the SK hynix Products and the Rambus Patents;

WHEREAS, as part of the comprehensive resolution of other disputes that may arise after the Effective Date with respect to the SK hynix Products and the Rambus Patents, Rambus and its Subsidiaries desire to grant SK hynix and its Subsidiaries a license to certain of the claims of the Rambus Patents from the Effective Date and SK hynix and its Subsidiaries desire to grant Rambus and its Subsidiaries a license to certain of the claims of the SK hynix Patents (as defined in Article 1) from the Effective Date;

WHEREAS, the Parties acknowledge that in resolving the Disputes, and other disputes that may arise after the Effective Date, each of them is giving up the possibility of more favorable outcomes in exchange for the promises and covenants it will receive under this Agreement and the License Agreement (as defined in Article 1), to ensure that they do not ultimately face less favorable outcomes and to avoid the costs, delays and disruptions associated with litigation, and that such promises and covenants represent a package, and are not intended to be severable from each other; in particular, (a) SK hynix is receiving a full and final release of the claims asserted against it in the Disputes, and securing a license to claims of the Rambus Patents, in exchange for making Comprehensive Resolution Payments (as defined in Article 1) and entering into the License Agreement, and (b) Rambus is receiving the Comprehensive Resolution Payments and the benefit of the License Agreement, in exchange for granting the releases and licenses, and entering into the License Agreement;

WHEREAS, the Parties acknowledge that it is therefore essential that their respective obligations under this Agreement and the License Agreement be certain and not subject to collateral attack, or otherwise subject to change or modification except on the terms expressly set forth therein; and

WHEREAS, this Agreement is entered into for the purpose of settlement and compromise only,

NOW, THEREFORE, in consideration of the promises and the mutual covenants herein contained, and for other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, Rambus and SK hynix agree as follows:

Article 1

Definitions

In addition to the terms defined in other parts of this Agreement, the following terms used herein with initial capital letters shall have the respective meanings specified in this Article 1.

- 1.1 **Acquired Business**. The term “Acquired Business” means a Third Party, the portion of a Third Party, and/or any portion of the assets or business of a Third Party that a Party or its Subsidiaries acquire in an Acquisition.
- 1.2 **Acquisition**. The term “Acquisition” means, as to a Party, a transaction or a series of related transactions in which such Party acquires, through merger (including reverse triangular merger), acquisition of stock, acquisition of assets or otherwise,

Control of a Third Party and/or any portion of the assets or business of a Third Party.

- 1.3 Affiliate. The term “Affiliate” means, for an identified entity, any other entity that (a) is a Subsidiary of such identified entity; or (b) Controls or is under common Control with such identified entity, but only so long as such Control exists.
- 1.4 Agreement. The term “Agreement” has the meaning set forth in the introductory paragraph.
- 1.5 Antitrust Litigation. The term “Antitrust Litigation” means the matter entitled *Rambus Inc. v. Micron Technology Inc. et al.*, No. 04-431105 (Supr. Ct. Cal., San Fran. Filed May 5, 2004) and any appeals and remand proceedings therefrom.
- 1.6 Change of Control. The term “Change of Control” means a transaction or a series of related transactions in which (a) one or more Third Parties who did not previously Control a Party obtain Control of such Party, or (b) the subject Party merges with or transfers substantially all of its assets to a Third Party where the shareholders of the assigning Party, immediately before the transaction or series of related transactions, own less than a fifty percent (50%) interest in the acquiring or surviving entity immediately after the transaction or series of related transactions.
- 1.7 Comprehensive Resolution Agreements. The term “Comprehensive Resolution Agreements” means this Agreement and the License Agreement.
- 1.8 Comprehensive Resolution Payments. The term “Comprehensive Resolution Payments” means the License Payments.
- 1.9 Control. The term “Control” (including “Controlled” and other forms) of an entity means (a) beneficial ownership (whether directly or indirectly through entities or other means) of more than fifty percent (50%) of the outstanding voting securities of that entity or (b) in the case of an entity that has no outstanding voting securities, having the power (whether directly or indirectly through entities or other means) presently to designate more than fifty percent (50%) of the directors of a corporation, or in the case of unincorporated entities, of individuals exercising similar functions. Notwithstanding the foregoing sentence, where SK hynix has fifty percent (50%) of such beneficial ownership or power to designate with respect to any other entity, SK hynix shall be deemed to “Control” such other entity if such other entity is part of the SK Group and such entity is lawfully registered under a corporate name, and lawfully operates and generally and routinely conducts its business under a corporate name, that includes “SK,” *provided that*, such entity agrees in a writing, delivered to both parties within thirty (30) days of the Effective Date (or if later, within thirty (30) days after formation of such entity), to be bound by all applicable terms and conditions of this Agreement.
- 1.10 CRI. The term “CRI” means Cryptography Research, Inc., a wholly-owned Subsidiary of Rambus.

- 1.11 Disputes. The term “Disputes” means the Patent Litigation, the German Patent Litigation, the Antitrust Litigation, the Patent Actions, and the Other Actions, and any and all disputes related thereto.
- 1.12 Effective Date. The term “Effective Date” means July 1, 2013 except for “Other Actions” the Effective Date shall be June 15, 2013.
- 1.13 Effective Time Period. The term “Effective Time Period” has the meaning set forth in Section 3.2(b).
- 1.14 Excluded Entity. The term “Excluded Entity” means Broadcom Corporation, LSI Corporation, MediaTek Inc., Micron Technology, Inc., Micron Semiconductor Products, Inc., Micron Electronics, Inc., Micron Semiconductor (Deutschland) GmbH, Micron Technology Italia Srl, Nanya Technology Corporation, Nanya Technology Corporation U.S.A., NVIDIA Corporation, Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Semiconductor, Inc., Samsung Austin Semiconductor, L.P., STMicroelectronics N.V., STMicroelectronics Inc., and any other Third Party (including the Affiliates of such Third Party) that is an adverse party to Rambus or its Subsidiaries in any pending lawsuit, litigation or other similar proceedings.
- 1.15 German Patent Litigation. The term “German Patent Litigation” means the infringement action based on the German part of EP 1 022 642 filed by Rambus Inc. against SK hynix Deutschland, GmbH at the District Court Mannheim/Germany (Court docket 7 O 279/05) on June 2, 2005.
- 1.16 License Agreement. The term “License Agreement” has the meaning set forth in Article 3.
- 1.17 License Payments. The term “License Payments” has the meaning set forth in Section 2.1.
- 1.18 Licensed Product. The term “Licensed Product” has the meaning set forth in the License Agreement.
- 1.19 Other Actions. The term “Other Actions” means (a) Case T-148/10, *SK hynix v Commission*, filed on 25 March 2010, Official Journal of the European Union [2010] C 148/41 and (b) Case T-149/10, *SK hynix v Commission*, filed on 25 March 2010, Official Journal of the European Union [2010] C 148/42.
- 1.20 Party. The terms “Party” and “Parties” have the meanings set forth in the introductory paragraph.
- 1.21 Patent Actions. The term “Patent Actions” means all United States Patent and Trademark Office, all European Patent Office and all other governmental reexamination proceedings, oppositions, actions or challenges filed, requested or supported by SK hynix with respect to any Rambus Patents, and any appeals thereof, as of the Effective Date, including without limitation the reexaminations and/or oppositions of U.S. Patent, European Patent and or other governmental Patent numbers listed in Schedule 1.

- 1.22 Patent Litigation. The term “Patent Litigation” means the matters entitled *SK hynix Inc. et al v. Rambus Inc.*, No. CV 00-20905 (N.D.Cal. Filed Aug. 29, 2000) and *Rambus Inc. v. SK hynix Inc., et al.*, No. C-05-00334 (N.D. Cal. Filed Jan. 25, 2005).
- 1.23 Patents. The term “Patents” means patents, including re-examinations and reissues thereof, and utility models and applications therefor, including, without limitation, all continuations, continuations-in-part and divisionals thereof, in all countries of the world that now or hereafter are (a) owned or controlled by the applicable Party hereto and/or one or more of its Subsidiaries and/or (b) otherwise licensable by the applicable Party hereto and its Subsidiaries, in each case of (a) and (b) where such Party and/or one or more of its Subsidiaries have the right to grant the licenses, sublicenses or other rights and covenants of the scope granted in the License Agreement.
- 1.24 Rambus. The term “Rambus” has the meaning set forth in the introductory paragraph.
- 1.25 Rambus Patents. The term “Rambus Patents” means Patents owned or controlled or otherwise licensable, in each case in accordance with Section 1.23 above, by Rambus or any of its Subsidiaries in each case other than those Patents of CRI that have effective filing dates that are earlier than June 6, 2011 (the effective date of Rambus’ acquisition of CRI).
- 1.26 SK hynix. The term “SK hynix” has the meaning set forth in the introductory paragraph.
- 1.27 SK hynix Patents. The term “SK hynix Patents” means Patents owned or controlled or otherwise licensable, in each case in accordance with Section 1.23 above, by SK hynix or any of its Subsidiaries.
- 1.28 SK hynix U.S. The term “SK hynix U.S.” has the meaning set forth in the introductory paragraph.
- 1.29 Subsidiary. The term “Subsidiary” means, with respect to any identified entity (“Identified Entity”), any entity Controlled by such Identified Entity, but only so long as such Control exists.
- 1.30 Third Party. The term “Third Party” means (a) with respect to Rambus or any Subsidiary of Rambus, any entity that is not a Subsidiary of Rambus and (b) with respect to SK hynix or any Subsidiary of SK hynix, any entity that is not a Subsidiary of SK hynix.

Article 2

Comprehensive Resolution Payments

- 2.1 License Payments. As described more fully in the License Agreement and as an integral part of the overall consideration received by Rambus in respect of its releases and covenants not to sue under Article 4, and its other obligations under the Comprehensive Resolution Agreements, over the next five (5) years SK hynix

will pay Rambus aggregate license fees of Two Hundred Forty Million dollars (US \$240,000,000.00), subject to certain adjustments and conditions as described in the License Agreement (the “License Payments”). In the event that SK hynix fails to pay any License Payment (and fails to cure such failure within the time period provided for in Section 6.2 of the License Agreement), Rambus shall have the option, at its sole discretion, to either:

- (a) exercise its option to terminate the License Agreement in accordance with Section 6.2 therein; or,
- (b) upon providing written notice to SK hynix, exercise its option to have SK hynix pay to Rambus, within one-hundred and eighty (180) days of the date of such notice, one-hundred and ten percent (110%) of the Remaining Balance (where the term “Remaining Balance” means the total amounts other than Quarterly Acquisition Adjustment Payments remaining unpaid, if any, under the License Agreement or the Substitute Agreement (as such term is defined in the License Agreement)) as part of the overall consideration received by Rambus under the Comprehensive Resolution Agreements, in order for Rambus to receive the full amount of the overall consideration intended to be received in respect of its releases, covenants not to sue, and other obligations under the Comprehensive Resolution Agreements, in which case (i.e., Rambus’ exercise of the option set forth in this subsection (b)):
 - (i) SK hynix will continue to be obligated, to pay any amounts that become due under Section 3.3 of the License Agreement prior to the Expiration Date of the License Agreement until terminated;
 - (ii) Rambus and SK hynix agree that it would be impractical and extremely difficult to fix the damages which Rambus may suffer if SK hynix fails to make the License Payments; and,
 - (iii) that such amount is a reasonable estimate under the circumstances existing as of the date hereof of the total net detriment Rambus would suffer in the event SK hynix fails to make such payments. Rambus will apply such amounts to any subsequent License Payments due under the License Agreement.

2.2 No Refunds. Once made, any Comprehensive Resolution Payment shall not be refunded or refundable to SK hynix for any reason except as may be required pursuant to Section 8 of the License Agreement. Notwithstanding the foregoing, in case of clerical error with respect to any payment made under the License Agreement, the Parties agree to remedy any such error through proper payment adjustments.

2.3 Currency. All Comprehensive Resolution Payments shall be made in United States dollars.

2.4 Wire Instructions. All Comprehensive Resolution Payments shall be made in accordance with the terms of the License Agreement.

- 2.5 Taxes. If the Korean government imposes any withholding tax on any Comprehensive Resolution Payments, such tax shall be borne by Rambus. SK hynix agrees, at its reasonable discretion, to assist Rambus in its efforts to minimize Rambus' tax liability. SK hynix shall withhold the amount of any such taxes levied on such payments to Rambus imposed by the Korean government, shall effect payment of the taxes so withheld to the Korean tax office when due, and SK hynix shall send to Rambus the official certificate of such payment in a form reasonably sufficient to enable Rambus to support a claim for a foreign tax credit with respect to any such taxes so withheld.

Article 3

License Agreement

Concurrent with the execution and delivery of this Agreement, and as an integral part of the overall consideration received by the Parties in respect of their respective releases, covenants not to sue, and other obligations under this Agreement, Rambus and SK hynix shall enter into the License Agreement in the form attached hereto as Exhibit A (the "License Agreement").

- 3.1 The Parties acknowledge that the licenses granted under the License Agreement are in respect of claims under multiple Rambus Patents and multiple SK hynix Patents, respectively, so that the Parties' rights and obligations under the License Agreement are not dependent upon the validity or enforceability of specific Rambus Patents or specific SK hynix Patents, or upon any specific use of such patents permitted under the License Agreement. Specifically, SK hynix acknowledges that the License Agreement covers a broad array of Rambus Patent claims, and agrees to make the full amount of the Comprehensive Resolution Payments regardless of whether any of the Rambus Patents is determined not to be infringed by any particular Licensed Product or whether any court, United States, European, or other patent office, or United States, European, or other governmental agency determines any Rambus Patent to be invalid or unenforceable in any reexamination, action or other proceeding.
- 3.2 Each Party acknowledges that its assessment of the value of the Disputes and the License Agreement may depend on certain events that may occur, or that may not occur, after the Effective Date, that it is aware of and has evaluated and considered the uncertainties associated with such events, and that it has agreed to the amount of the Comprehensive Resolution Payments to eliminate such uncertainties so that, for example, SK hynix will be protected from the consequences of Rambus prevailing on infringement and other claims in other proceedings, including the Antitrust Litigation, and Rambus will be protected from the consequences of certain of the Rambus Patents being held to be invalid, unenforceable, and/or not infringed in other proceedings. It is therefore essential that the Parties' obligations under the License Agreement, including but not limited to the amount of the License Payments, be certain and not subject to collateral attack. Accordingly:
- (a) SK hynix covenants not to seek, whether through litigation or otherwise, to adjust the amount of the License Payments, or to avoid, defer or modify its

obligations under the License Agreement, provided that the foregoing shall not prevent SK hynix from seeking enforcement of the terms and conditions of the License Agreement or taking any action expressly contemplated in the License Agreement.

- (b) SK hynix and its Subsidiaries acknowledge and agree that, for all acts or omissions that occur during the time period up to and including the [***] anniversary of the Effective Date (the “Effective Time Period”), Rambus or its Subsidiaries have patent claims that are valid, enforceable and infringed by a substantial portion of the Licensed Products. After the Effective Time Period, Rambus and its Subsidiaries covenant not to rely on such acknowledgement or agreement in any manner against SK hynix or its Subsidiaries or their past, present or future distributors or customers in negotiations, and further covenant that no evidence of such acknowledgement or agreement may be introduced in any negotiation by or on behalf of Rambus or its Subsidiaries against SK hynix or its Subsidiaries or their past, present or future distributors or customers. Rambus and its Subsidiaries further covenant, with respect to any acts or omissions occurring after the Effective Time Period, not to rely on such acknowledgement or agreement in any manner against SK hynix or its Subsidiaries or their past, present or future distributors or customers before any court, government agencies, other regulatory body or arbitrator, and further covenant that no evidence of such acknowledgement or agreement may be introduced in any motion, hearing, trial or other proceeding by or on behalf of Rambus or its Subsidiaries against SK hynix or its Subsidiaries or their past, present or future distributors or customers.

Article 4

Releases

4.1 Release by Rambus.

- (a) Rambus, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits, and forever discharges SK hynix, its Subsidiaries, its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind that were alleged or that could have been alleged by Rambus in any Dispute.
- (b) To the extent not covered in the preceding paragraph, Rambus, on behalf of itself and its Subsidiaries, hereby further irrevocably releases, acquits, and forever discharges SK hynix, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind for infringement of the Rambus Patents arising from the manufacture, use, importation, exportation, sale and offer for sale of any products up until the Effective Date, but only to the extent that such activities would have been (i) licensed under the License

Agreement if such License Agreement had been in existence at the time of such activity and/or (ii) subject to the covenants set forth in Sections 2.4 and/or 2.5 of the License Agreement if such License Agreement had been in existence at the time of such activity.

4.2 Release by SK hynix.

- (a) SK hynix, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits and forever discharges Rambus, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind that were alleged or that could have been alleged by SK hynix in any Dispute.
- (b) To the extent not covered in the preceding paragraph, SK hynix, on behalf of itself and its Subsidiaries, hereby further irrevocably releases, acquits, and forever discharges Rambus, its Subsidiaries, and its and their respective former or current directors, officers, employees, and attorneys from any claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind for infringement of any SK hynix Patents arising from the manufacture, use, importation, exportation, sale and offer for sale of any products up until the Effective Date, but only to the extent that such activities would have been licensed under the License Agreement if such License Agreement had been in existence at the time of such activity.

4.3 Additional Releases.

- (a) SK hynix, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits and forever discharges Rambus and its Subsidiaries from any defenses, claims, counterclaims, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind and nature that SK hynix or its Subsidiaries might raise or assert in an effort to avoid, defer or modify its obligations under the Comprehensive Resolution Agreements, including but not limited to its obligation to make the License Payments, except as expressly permitted under the License Agreement, including for instance and by way of example, claims or defenses based on the allegation, or on the finding, determination or judgment in any reexamination, action or other proceeding, or any appeal thereof, that one or more of the patent claims licensed under the License Agreement is invalid, unenforceable or not infringed, that the License Agreement is not enforceable or should be rescinded or revised, or that Rambus has committed any type of patent misuse.
- (b) Rambus, on behalf of itself and its Subsidiaries, hereby irrevocably releases, acquits and forever discharges SK hynix and its Subsidiaries from any defenses, claims, counterclaims, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind and nature that Rambus or its Subsidiaries might or could raise or assert to avoid, defer or modify its

obligations under the [***] Release attached as Exhibit C hereto, that any provision of the [***] Release is invalid or unenforceable, or that [***] Release should be rescinded or revised. Rambus agrees that it will never, under any circumstances, bring any lawsuit, action or claim of any nature against SK hynix relating to the [***] Release.

4.4 Releases Shall Remain Effective. Each of Rambus and SK hynix acknowledges that, after entering into this Agreement, they may discover facts different from, or in addition to, those they now believe to be true with respect to the conduct of the other Party. Each of Rambus and SK hynix intends that the releases and discharges set forth in this Article 4 and the [***] Release (attached hereto as Exhibit C hereto) shall be, and shall remain, in effect in all respects as written, notwithstanding the discovery of any different or additional facts.

4.5 Waiver of California Civil Code § 1542. In connection with the releases and discharges described in this Article 4, each of Rambus and SK hynix acknowledges that it is aware of the provisions of section 1542 of the Civil Code of the State of California, and hereby expressly waives and relinquishes all rights and benefits that it has or may have had under that section (or any equivalent law or rule of any other jurisdiction), which reads as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

4.6 Covenants Not to Sue.

- (a) Rambus, on behalf of itself and its Subsidiaries, hereby covenants not to assert any claims of infringement of the Rambus Patents against SK hynix's distributors and customers and SK hynix's Subsidiaries' distributors and customers solely arising from the use, importation, sale and offer for sale of any products up until the Effective Date to the extent that such distributors or customers would not have been liable for such use, importation, exportation, sale and offer for sale of such products had the License Agreement been in existence at the time of such infringing activity.
- (b) SK hynix, on behalf of itself and its Subsidiaries, hereby covenants not to assert any claims of infringement of the SK hynix Patents against Rambus' distributors and customers and Rambus' Subsidiaries' distributors and customers solely arising from the use, importation, exportation, sale or offer for sale of any products up until the Effective Date to the extent that such distributors or customers would not have been liable for such use, importation, exportation, sale and offer for sale of such products had the License Agreement been in existence at the time of such infringing activity.

4.7 Certain Exclusions. For the avoidance of doubt:

- (a) The releases and covenants not to sue contained in this Article 4 (other than the releases set forth in Section 4.3) shall apply solely to (i) the activities occurring prior to the Effective Date of each of the Parties, and (ii) the activities occurring prior to the Effective Date of each of the Parties' respective Subsidiaries existing on or prior to the Effective Date. In no event shall the releases and covenants not to sue contained in this Article 4 apply to the activities, whether occurring prior to or after the Effective Date, of (1) any Third Party with or into which a Party merges or combines, whether or not such Party remains the surviving entity, or (2) any Acquired Business, in each case, after the Effective Date.
- (b) Other than as set forth in the [***] Release, the releases and covenants not to sue contained in this Article 4 are not intended to and do not extend to any defendant in either the Patent Litigation or the Antitrust Litigation (or any of their Subsidiaries), unless that defendant is explicitly named as a Party to this Agreement, or to any Excluded Entity.

4.8 Dismissals and Other Provisions Terminating the Disputes.

- (a) On the Effective Date, SK hynix and Rambus, through their respective counsel, shall execute or cause to be executed stipulations for dismissal dismissing with prejudice all of the claims, counterclaims, cross-claims and cross-complaints asserted against one another (but only as to one another and not to the extent asserted against other defendants) in the Patent Litigation and the Antitrust Litigation in the forms attached hereto as Exhibits B-1 through B-3 and within five days, SK hynix and Rambus, through their respective counsel, shall cause such stipulations for dismissal to be entered.
- (b) Both Parties shall, within ten (10) business days following the Effective Date, withdraw or discontinue any formal or informal complaints, requests, petitions, actions, or other proceedings they may have pending against the other Party or its Subsidiaries before any regulatory body anywhere in the world related to the claims, counterclaims, demands, damages, debts, liabilities, accounts, actions and causes of action released by this Agreement or that relate in any way to the Rambus Patents or the SK hynix Patents. For the avoidance of doubt, this provision (i) requires Rambus to withdraw and discontinue the German Patent Litigation, (ii) requires SK hynix to withdraw and discontinue the Other Actions, and (iii) does not require Rambus to withdraw any complaint or other proceeding as against parties other than SK hynix or its Subsidiaries, including but not limited to the Antitrust Litigation.
- (c) Within ten (10) business days following the Effective Date, SK hynix shall, to the full extent permitted by applicable law, withdraw, cease to prosecute or pursue and notify the U.S. Patent and Trademark Office, the European Patent Office, and/or other governmental agency, that it no longer intends to participate in, the Patent Actions.

- 4.9 Costs and Attorneys' Fees. For all cases, including but not limited to the Patent Litigation, German Patent Litigation, the Antitrust Litigation and the Other Actions, the Parties agree that each will pay its own costs and attorneys' fees and that neither will file requests for, or otherwise seek to recover, its costs or fees.
- 4.10 No Admission. Nothing contained in any of the Comprehensive Resolution Agreements, or done or omitted in connection with any of the Comprehensive Resolution Agreements, is intended as, or shall be construed as, an admission by any Party of any fault, liability or wrongdoing.
- 4.11 No Further Actions. As part of the settlement of claims and releases contemplated by this Agreement, prior to the Expiration Date set forth in the License Agreement, and in each case unless and to the extent required by subpoena or judicial or regulatory agency order or rule:
- (a) SK hynix covenants, except to the extent that it is compelled to do otherwise by court order or summons, not to bring, or aid, assist or participate in, any action challenging or contesting the assertion, enforcement, validity or enforceability of, or any use or infringement by any Third Party of, the Rambus Patents, including but not limited to filing, requesting, participating or assisting in any of the Patent Actions, provided that, notwithstanding the foregoing, SK hynix may assist (e.g., provide prior art and/or non-infringement analyses to) each Third Party to whom SK hynix has Sold a Licensed Product, during the term of the license associated with such Licensed Product as set forth in the License Agreement, in its defense of any claim of a Rambus Patent asserted against such Third Party by Rambus to the extent that SK hynix is obligated to provide such Third Party with such assistance pursuant to an indemnification provision; and
 - (b) Each Party covenants not to (i) file or bring a complaint against, or formally or informally request or urge investigation of, the other Party or any of its Subsidiaries before any regulatory body, or (ii) support, cooperate with or otherwise assist any entity in any dispute against the other Party or its Subsidiaries, or any regulatory body in any proceeding involving the other Party or its Subsidiaries, in each case in any matter related to the claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action released by this Agreement, including but not limited to filing, requesting, participating or assisting in any United States, European, or other patent office reexamination proceedings, actions, challenges, oppositions or interferences with respect to Patents of the other Party or its Subsidiaries, and filing amicus curiae briefs in the Patent Litigation, the Antitrust Litigation, the Other Actions or any other Dispute.

Article 5

Warranties

Each Party represents, warrants and covenants, on behalf of itself and its Subsidiaries, to the other Party during the term of this Agreement:

- 5.1 **Due Incorporation**. Such Party is duly incorporated, validly existing and in good standing under the laws of its jurisdiction of formation with the requisite corporate authority to own and use its properties and assets and to carry on its business as currently conducted.
- 5.2 **Due Authorization; Enforceability**. Such Party has the requisite corporate or other authority to enter into, and to grant the releases and discharges, make the covenants, and consummate the transactions contemplated by this Agreement, on behalf of itself and its Subsidiaries, and otherwise to carry out its and its Subsidiaries' obligations hereunder. The execution, delivery and performance of this Agreement by such Party and its Subsidiaries have been duly authorized by all necessary action of such Party and its Subsidiaries, and no other act or proceeding on the part of or on behalf of such Party and its Subsidiaries is necessary to approve the execution and delivery of this Agreement, the performance by such Party and its Subsidiaries of their obligations hereunder and the consummation of the transactions contemplated hereby. This Agreement has been duly executed and delivered by such Party and constitutes a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and similar laws relating to or affecting creditors generally, by general equity principles or by limitations on indemnification pursuant to public policy.
- 5.3 **No Conflicts; No Consents**. The execution, delivery, and performance of this Agreement by such Party and its Subsidiaries, including but not limited to the granting of the releases and discharges contemplated hereby, will not infringe any law, regulation, judgment or order applicable to such Party and its Subsidiaries and are not and will not be contrary to the provisions of the constitutional documents of such Party and its Subsidiaries and will not (with or without notice, lapse of time or both) result in any breach of the terms of, or constitute a default under, any instrument or agreement to which such Party and its Subsidiaries is a party or by which it or its property is bound. All consents and approvals of any court, government agencies or other regulatory body required by such Party and its Subsidiaries for the execution, delivery and performance of the terms of this Agreement have been obtained and are in full force and effect.
- 5.4 **No Assignment of Claims**. Each Party represents and warrants that it has not assigned, transferred or granted to any Third Party any rights or interests with respect to any claim or cause of action, or any right(s) underlying any claim or cause of action, it had, has, or may have against the other Party or its Subsidiaries as of, or prior to, the Effective Date of this Agreement.

Article 6

Notices and other Communications

6.1 All notices or other communication required or permitted hereunder shall be in writing and shall be (a) mailed by first class air mail (registered or certified if available), postage prepaid, or otherwise delivered by hand, by messenger, addressed to the addresses set forth below, or (b) delivered by facsimile to the facsimile number set forth below. Each Party may change its address or facsimile number for notices by providing a notice to the other Party in the manner set forth herein. Such notices shall be deemed to have been effective when delivered or, if delivery is not accomplished by reason of some fault or refusal of the addressee, when tendered (which tender, in the case of mail, shall be deemed to have occurred upon posting, and in the case of facsimile, shall be deemed to have occurred upon transmission). All notices shall be in English.

If to SK hynix:

SK hynix Inc.
Kyunghyun Min
Vice President, Head of IP Group
10F, Daechi Tower, 424, Teheran-ro, Gangnam-gu
Seoul, 135-738, Korea
Fax: 82)-31-645-8171

If to Rambus:

Rambus Inc.
Jae Kim
General Counsel
1050 Enterprise Way, Suite 700
Sunnyvale, CA 94089

(with a copy, which shall not constitute notice, to the following:)

Satish Rishi
Chief Financial Officer
Rambus Inc.
1050 Enterprise Way, Suite 700
Sunnyvale, CA 94089
Telephone: +1-408-462-8000
Facsimile: +1-408-462-8001

Article 7

Successors and Assigns

7.1 Subject to the limitation in Sections 4.7 and 9.5, this Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs,

successors and assigns, and upon any corporation, limited liability partnership, limited liability company, or other entity into or with which any Party hereto may merge, combine or consolidate. For the avoidance of doubt, this provision does not govern the rights or obligations of successors or assigns of the Parties under the License Agreement. The releases, dismissals and covenants granted by each Party and its Subsidiaries under this Agreement (but not any benefits received by such Party or its Subsidiaries under this Agreement) shall run with (a) in the case of SK hynix, the SK hynix Patents or (b) in the case of Rambus, the Rambus Patents, and remain in full force and effect regardless of any subsequent assignment, sale or other transfer of any such SK hynix Patents or Rambus Patents or any rights or interests therein. Any such assignment, sale, or transfer of rights in contravention of the foregoing shall be null and void *ab initio* and of no force or effect.

Article 8

Dispute Resolution

- 8.1 **Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of California, without giving effect to any choice-of-law or conflict-of-law provision or rule (whether of the State of California or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of California.
- 8.2 **English Language.** This Agreement is executed in the English language and no translation shall have any legal effect.
- 8.3 **Jurisdiction and Venue.** Any legal action, suit or proceeding arising under, or relating to, this Agreement, shall be brought in the United States District Court for the Northern District of California or, if such court shall decline to accept jurisdiction over a particular matter, in the Santa Clara County Superior Court, and each Party agrees that any such action, suit or proceeding may be brought only in such courts. Each Party further waives any objection to the laying of jurisdiction and venue for any such suit, action or proceeding in such courts.

Article 9

Miscellaneous

- 9.1 **Entire Agreement.** This Agreement and the License Agreement, and all Exhibits thereto, constitute the entire agreement between the Parties regarding the subject matter hereof, and supersede any and all prior negotiations, representations, warranties, undertakings or agreements, written or oral, between the Parties regarding such subject matter.
- 9.2 **Relationship of the Parties.** Nothing contained in this Agreement or the License Agreement shall be construed as creating any association, partnership, joint venture or the relation of principal and agent between Rambus and SK hynix. Each Party is acting as an independent contractor, and no Party shall have the authority to bind any other Party or its representatives in any way.

- 9.3 Headings and Recitals. The headings of the several articles and sections are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement. The recitals to this Agreement are intended to be a part of and affect the meaning and interpretation of this Agreement.
- 9.4 Amendment. This Agreement may not be modified or amended except in a writing executed by authorized representatives of each of the Parties.
- 9.5 No Assignment. This Agreement is personal to the Parties, and the Agreement and/or any right or obligation hereunder is not assignable, whether in conjunction with a change in ownership, merger, acquisition, the sale or transfer of all, or substantially all or any part of either Party's or any of their respective Subsidiaries' business or assets or otherwise, voluntarily, by operation of law, reverse triangular merger or otherwise, without the prior written consent of the other Party, which consent may be withheld at the sole discretion of such other Party. Each Party understands that, as a condition to such consent, the other Party may require it to convey, assign or otherwise transfer its rights and obligations under the other Comprehensive Resolution Agreements to the entity assuming such Party's rights and obligations under this Agreement. Any such purported or attempted assignment or transfer in violation of the foregoing shall be deemed a breach of this Agreement and shall be null and void. A Change of Control of either Party shall be deemed an assignment, provided that Articles 2, 4, 8, and 9 shall survive any termination of this Agreement arising from such assignment. Notwithstanding the foregoing, either Party shall be entitled to, and each Party hereby agrees to, assign this Agreement to a successor to all or substantially all of a Party's assets in a transaction entered into solely to change a Party's place of incorporation.
- 9.6 Interpretation. Each Party confirms that it and its respective counsel have reviewed, negotiated and adopted this Agreement as the agreement and understanding of the Parties hereto and the language used in this Agreement shall be deemed to be the language chosen by the Parties hereto to express their mutual intent. Neither Party shall be considered to be the drafter of this Agreement or any of its provisions for the purpose of any statute, case law, or rule of interpretation or construction that would, or might cause, any provision to be construed against such Party.
- 9.7 Authority. Each Party represents that it is fully authorized to enter into the terms and conditions of, and to execute, this Agreement.
- 9.8 No Third Party Beneficiaries. Unless otherwise expressly stated herein or as set forth in the [***] Release, nothing in this Agreement, express or implied, is intended to confer upon any person other than the Parties hereto and their respective permitted assignees, successors in interest, and Subsidiaries any rights or remedies under or by reason of this Agreement. The former and current directors, officers, employees, and attorneys of the Parties and their Subsidiaries are intended beneficiaries of Sections 4.1, 4.2, 4.3, 4.4, and 4.5.

- 9.9 Severability. If any provision of any Comprehensive Resolution Agreement is held to be invalid or unenforceable, the meaning of such provision shall be construed, to the extent feasible, so as to render the provision enforceable and to effectuate the intent and purpose of the Parties with respect to such invalid or unenforceable provision, and if no feasible interpretation shall save such provision, (a) a suitable and equitable provision shall be substituted therefor in order to effectuate, so far as may be valid and enforceable, the intent and purpose of the Parties with respect to such invalid or unenforceable provision, and (b) the remainder of such Comprehensive Resolution Agreement shall remain in full force and effect.
- 9.10 No Waiver. The failure of either Party to enforce, at any time, any of the provisions of this Agreement shall in no way be construed as a waiver of such provisions, and shall not be deemed in any way to affect the validity of this Agreement or any part thereof, or the right of either Party to later enforce each and every such provision. No waiver of any breach of this Agreement shall be held to be a waiver of any other or subsequent breach.
- 9.11 Counterparts; Facsimile Transmission. This Agreement may be executed in multiple counterparts, each of which shall constitute an original, but all of which together shall constitute one and the same agreement. Each Party may rely on facsimile or .pdf signature pages as if such facsimile or .pdf pages were originals.
- 9.12 Further Actions. Each of the Parties hereto agrees to take and cause its Subsidiaries to take any and all actions reasonably necessary in order to effectuate the intent, and to carry out the provisions, of this Agreement.
- 9.13 Public Disclosures and Confidentiality. The Parties shall issue a press release with respect to the Comprehensive Resolution Agreement in a mutually acceptable form. Each Party agrees that, after the issuance of such press release, each Party shall be entitled to disclose the general nature of this Agreement, but that the terms and conditions of this Agreement, to the extent not already disclosed pursuant to such press release, shall be treated as confidential information and that neither Party will disclose such terms or conditions to any Third Party without the prior written consent of the other Party, provided, however, that each Party may disclose the terms and conditions of this Agreement:
- (a) as required by any court or other governmental body;
 - (b) as otherwise required by law;
 - (c) as otherwise may be required by applicable securities and other law and regulation, including to legal and financial advisors in their capacity of advising a Party in such matters, so long as the disclosing Party shall seek confidential treatment of such terms and conditions to the extent reasonably possible;
 - (d) to legal counsel, accountants, and other professional advisors of the Parties;
 - (e) in confidence, to banks, investors, and other financing sources and their advisors, and to SK Telecom (provided that at the time of any such disclosure

to SK Telecom, SK Telecom owns at least twenty (20) percent of the outstanding voting securities of SK hynix);

- (f) in connection with the enforcement of this Agreement or rights under this Agreement;
- (g) during the course of litigation so long as the disclosure of such terms and conditions are restricted in the same manner as is the confidential information of other litigating parties and so long as (i) the restrictions are embodied in a court-entered protective order limiting disclosure to outside counsel and (ii) the disclosing Party informs the other Party in writing at least ten (10) business days in advance of the disclosure and discusses the nature and contents of the disclosure, in good faith, with the other Party (for purposes of this provision, the Protective Order entered in the Antitrust Litigation is acceptable, as long as the disclosure is designated as both “Highly Confidential-BP and Highly Confidential-IP”);
- (h) in confidence, in connection with an actual or prospective merger or acquisition or similar transaction.
- (i) in confidence, to the outside legal counsel of Elpida Memory, Inc. (“Elpida”) in connection with a Rambus’s obligation(s), if any, under any most favored nation, or similar clause, whereby Rambus is contractually obligated to disclose and offer terms given to Elpida.

In addition, upon execution of this Agreement, or thereafter, Rambus, in its discretion, shall be entitled to file a copy of this Agreement with the U.S. Securities and Exchange Commission, so long as Rambus seeks confidential treatment of such agreement to the extent reasonably possible.

IN WITNESS WHEREOF, this Agreement has been duly and executed and delivered by the duly authorized officers of the Parties hereto as of the date first written above.

RAMBUS INC.

By: /s/ Kevin Donnelly

Name: Kevin Donnelly

SK HYNIX INC.

By: /s/ Kyunghyun Min

Name: Kyunghyun Min

SCHEDULE 1
PATENT ACTIONS

EP 1 997 111 B1 (Application No. 07 758 147.8); Appeal Number: T0945/12-3.5.04

EP 1 653 374 B1 (Application No. 05 022 021.9); Appeal Number: T0731/12-3.5.06

EP 2 192 494 B1 (Application No. 10 150 033.8)

EP 1 981 033 B1 (Application No. 08 153 150.1)

Farmwald/Horowitz

EP 0 994 420 B1 (Application No. 99 118 308.8); Appeal Number : T 1643/10-3.5.06

EP 1 022 641 B1 (Application No. 00 100 018.1); Appeal Number: T 1643/10-3.5.06

EP 1 022 642 B1 (Application No. 00 108 822.8); Appeal Number: T 1345/11-3.5.06

EP 1 197 830 B1 (Application No. 02 000 378.6); Appeal Number: T 0724/10-3.5.06

EP 1 640 847 B1 (Application No. 05 026 720.2); Appeal Number: T2347/11-3.5.06

EP 1 816 569 B1 (Application No. 06 125 946.1)

EXHIBIT A

LICENSE AGREEMENT

Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2013, filed on July 29, 2013.

EXHIBIT B
FORMS OF DISMISSAL

EXHIBIT B1

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION

SK HYNIX INC., et al.,

CASE NO. CV 00-20905 RMW

Plaintiffs,

STIPULATION AND [PROPOSED] ORDER OF DISMISSAL

vs.

RAMBUS INC.,

Defendant.

Rambus Inc. ("Rambus") and SK hynix Inc. (f/k/a/ Hynix Semiconductor Inc.), SK hynix America Inc. (f/k/a/ Hynix Semiconductor America Inc.), SK hynix U.K. Limited (f/k/a Hynix Semiconductor U.K. Ltd.), and SK hynix Deutschland GmbH (f/k/a/ Hynix Semiconductor Deutschland GmbH) (collectively, "SK hynix") have settled the disputes between them raised in the above-captioned action on mutually-agreeable terms.

The parties stipulate, in accordance with Federal Rule of Civil Procedure 41, as follows:

1. Rambus hereby dismisses all claims and/or counterclaims brought against SK hynix in this action with prejudice;
2. SK hynix hereby dismisses all claims and/or counterclaims brought against Rambus in this action with prejudice; and
3. Each party shall bear its own attorneys' fees and costs.

IT IS SO STIPULATED.

EXHIBIT B2

(All parties and counsel listed on Signature Page)

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION

RAMBUS INC.,

CASE NO. CV 05-00334 RMW

Plaintiff,

**STIPULATION AND [PROPOSED] ORDER OF DISMISSAL AS
TO SK HYNIX**

vs.

HYNIX SEMICONDUCTOR INC., et al.,

Defendants.

Rambus Inc. (“Rambus”) and SK hynix Inc. (f/k/a/ Hynix Semiconductor Inc.), SK hynix America Inc. (f/k/a/ Hynix Semiconductor America Inc.), Hynix Semiconductor Manufacturing America Inc., SK hynix U.K. Limited (f/k/a/ Hynix Semiconductor U.K. Ltd.), and SK hynix Deutschland GmbH (f/k/a/ Hynix Semiconductor Deutschland GmbH) (collectively, “SK hynix”) have settled the disputes between them raised in the above-captioned action on mutually-agreeable terms.

The parties stipulate, in accordance with Federal Rule of Civil Procedure 41, as follows:

1. Rambus hereby dismisses all claims and/or counterclaims brought against SK hynix in this action with prejudice;
2. SK hynix hereby dismisses all claims and/or counterclaims brought against Rambus in this action with prejudice; and
3. Each party shall bear its own attorneys’ fees and costs.

IT IS SO STIPULATED.

EXHIBIT B3

Case No. A135150

**IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA
FIRST APPELLATE DISTRICT, DIVISION TWO**

RAMBUS INC.,

Plaintiff and Appellant,

vs.

MICRON TECHNOLOGY, INC., et al.,

Defendants and Respondents.

Appeal from the Superior Court of the County of San Francisco
Case No. CGC-04-431105
The Honorable James J. McBride
The Honorable Richard A. Kramer

STIPULATION FOR DISMISSAL OF APPEAL AS TO RESPONDENTS HYNIX SEMICONDUCTOR INC. AND HYNIX SEMICONDUCTOR AMERICA INC.

MUNGER, TOLLES & OLSON LLP
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Telephone: 213-683-9100
Facsimile: 213-687-3702

Attorneys for Plaintiff and Appellant
RAMBUS INC.

STIPULATION FOR DISMISSAL OF APPEAL AS TO RESPONDENTS HYNIX SEMICONDUCTOR INC. AND HYNIX SEMICONDUCTOR AMERICA INC.

WHEREAS, on April 2, 2012, Plaintiff-Appellant Rambus Inc. ("Rambus") filed its notice of appeal from the February 15, 2012 judgment entered in this case by the Superior Court in favor of Defendants-Respondents Hynix Semiconductor Inc., Hynix Semiconductor America Inc., Micron Technology, Inc., and Micron Semiconductor Products, Inc.;

WHEREAS, the record in this appeal was filed in this Court on July 10, 2012;

WHEREAS, Rambus has reached a settlement agreement with Hynix Semiconductor Inc. and Hynix Semiconductor America Inc. regarding the causes of action brought by Rambus against Hynix Semiconductor Inc. and Hynix Semiconductor America Inc. in this case;

WHEREAS, Rambus has not reached a settlement agreement with the remaining Defendants-Respondents, Micron Technology, Inc. and Micron Semiconductor Products, Inc., and has not resolved its causes of action against those parties, and therefore intends to continue to litigate with respect to those parties all factual and legal disputes presented in the appeal;

WHEREAS, pursuant to California Rules of Court, rule 8.244(a)(1), Rambus filed its Notice of Settlement With Respondents Hynix Semiconductor Inc. and Hynix Semiconductor America Inc. in this Court on _____ ;

NOW THEREFORE, pursuant to California Rules of Court, rule 8.244(a)(3) and rule 8.244(c)(1), the undersigned parties hereby stipulate that the appeal filed on April 2, 2012 in the

above entitled action should be dismissed solely as to Respondents Hynix Semiconductor Inc. and Hynix Semiconductor America Inc.

Rambus shall not be entitled to recover costs on appeal from Hynix Semiconductor Inc. or Hynix Semiconductor America Inc.; Hynix Semiconductor Inc. and Hynix Semiconductor America Inc. shall not be entitled to recover costs on appeal from Rambus.

The remaining Defendants-Respondents, Micron Technology, Inc. and Micron Semiconductor Products, Inc., are not parties to this stipulation, and this stipulation shall be without prejudice to Rambus continuing to litigate its causes of action against Micron Technology, Inc. and Micron Semiconductor Products, Inc., including litigating with respect to those parties all factual and legal disputes presented in the appeal.

Because the appeal remains pending as to Micron Technology, Inc. and Micron Semiconductor Products, Inc., the remittitur should not issue as to Micron Technology, Inc. or Micron Semiconductor Products, Inc. until this Court's decision is final with respect to those parties.

DATED: June _____, 2013

MUNGER, TOLLES & OLSON LLP
STEVEN M. PERRY
BART H. WILLIAMS
SEAN ESKOVITZ
FRED A. ROWLEY, JR.

By: _____

STEVEN M. PERRY

Attorneys for Plaintiff and Appellant
RAMBUS INC.

DATED: June , 2013

O'MELVENY & MYERS, LLP
CHARLES LIFLAND

By: _____

CHARLES LIFLAND

Attorneys for Defendants and Respondents
HYNIX SEMICONDUCTOR, INC. and HYNIX SEMICONDUCTOR
AMERICA, INC.

EXHIBIT C

[***]

In consideration of all the terms of this Settlement Agreement, and in order to induce SK hynix to enter into this Settlement Agreement, and to permit SK hynix to fully comply with [***] under that [***] between [***] and their respective successors and assigns [***] relating to the [***] the Parties agree as follows. For purposes of this provision, [***] means all of [***] including for any [***], if any, and for [***] in the [***] for which the [***] in the [***] could be [***].

- (a) Subject to subparagraph (d) below, [***] hereby irrevocably releases, acquits and forever discharges [***] to the extent that any [***] based in whole or in part on the [***] is ever included in a [***] after exhaustion of all [***], in the [***].
- (b) Subject to subparagraph (d) below, this [***] and [***] expressly includes the complete [***] of any [***] of any [***] of any [***], after exhaustion of all [***] based in whole or in part on the [***], and [***] will take, or refrain from taking, any and all actions necessary such that it does not [***] against [***] in the [***] after exhaustion of all [***] based in whole or in part on the [***].
- (c) [***] has not provided a copy of the [***] or any portion of the [***], to [***] and has not permitted [***] to review the [***] or any portion of it.
- (d) [***] confirms, to its present knowledge and good faith belief, that it is obligated by the [***] to obtain the [***] contained in [***].
- (e) [***] agrees that however the [***] may be interpreted, applied or enforced in any future proceedings, the [***] in [***] shall remain fully effective and enforceable.
- (f) It is the express intent of the Parties that, upon execution of this Agreement, under no circumstance shall [***] on or in connection with any future [***] in the [***], after exhaustion of all [***], based in whole or in part on the [***].

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

SEMICONDUCTOR PATENT LICENSE AGREEMENT

This SEMICONDUCTOR PATENT LICENSE AGREEMENT (“Agreement”) is effective as of July 1, 2013 (the “Effective Date”) by and between Rambus Inc., a corporation duly organized and existing under the laws of Delaware, U.S.A., having its principal place of business at 1050 Enterprise Way, Suite #700, Sunnyvale, California 94089, U.S.A., (hereinafter “Rambus”) and SK hynix Inc., a corporation duly organized and existing under the laws of Korea., having its principal place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea (hereinafter “SK hynix ”).

WHEREAS, the parties are currently parties to a number of disputes relating to the SK hynix products and the Rambus patents, including but not limited to disputes as to whether claims of Rambus patents are infringed by SK hynix products and the Antitrust Litigation, and recognize that, without this Agreement, given the diversity of claims of the Rambus patents, and the breadth of technologies utilized by the SK hynix products, Rambus could, after the Effective Date, assert other claims of Rambus patents that are infringed by SK hynix products;

WHEREAS, the parties recognize that litigation of such is inherently uncertain, and is subject to certain risks and to various possible outcomes, some of which would be more favorable to Rambus, and some of which would be more favorable to SK hynix;

WHEREAS, concurrent with the execution and delivery of this Agreement, the parties have entered into a Settlement Agreement (the “Settlement Agreement”) to eliminate the risks associated with such litigation and to enter into a comprehensive resolution to compromise, settle and release certain existing disputes between them, and to compromise, resolve and avoid other disputes that may arise after the Effective Date with respect to the SK hynix products and the Rambus patents;

WHEREAS, as part of such comprehensive resolution, the parties have agreed to enter into this Agreement; and

WHEREAS, because this Agreement is part of such comprehensive resolution, the parties acknowledge that it is therefore essential that their respective obligations under this Agreement be certain and not subject to collateral attack, or otherwise subject to change or modification except on the terms expressly set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants and premises contained herein, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties, the parties agree as follows:

1. Definitions

- 1.1 “Acquired Business” means a Third Party, the portion of a Third Party, and/or any portion of the assets or business of a Third Party that SK hynix or its Subsidiaries acquire in an Acquisition.
- 1.2 “Acquisition” means, as to a party, a transaction or a series of related transactions in which such party acquires, through merger (including reverse triangular merger), acquisition of stock, acquisition of assets or otherwise, Control of a Third Party and/or any portion of the assets or business of a Third Party.
- 1.3 “Acquisition Date” means the effective date of any Acquisition completed by SK hynix or any of its Subsidiaries as described under Section 3.3.

- 1.4 “Antitrust Litigation” means the matter entitled *Rambus Inc. v. Micron Technology Inc. et al.*, No. 04-431105 (Supr. Ct. Cal., San Fran. Filed May 5, 2004) and any appeals and remand proceedings therefrom.
- 1.5 “Change of Control” means a transaction or a series of related transactions in which (a) one or more Third Parties who did not previously Control a party obtain Control of such party, or (b) the subject party merges with or transfers substantially all of its assets to a Third Party where the shareholders of the assigning party, immediately before the transaction or series of related transactions, own less than a fifty percent (50%) interest in the acquiring or surviving entity immediately after the transaction or series of related transactions.
- 1.6 “Combination Product” means either (a) a Component containing two (2) or more Integrated Circuits at least one of which is either a Paid-Up Product or a Term Product and where all other Integrated Circuits contained in such Component are each a Paid-Up Product, a Term Product, or a Permitted Third Party Product, or (b) solely that portion of a Component consisting of a combination of two (2) or more Integrated Circuits that are each a Paid-Up Product or a Term Product (“Eligible Portion”) where such Component also contains an Integrated Circuit that is not a Paid-Up Product, a Term Product, or a Permitted Third Party Product. For clarity, an Eligible Portion may not contain any Integrated Circuit that is neither a Paid-Up Product nor a Term Product.
- 1.7 “Combination Product License” means the rights and licenses granted under Section 2.1(c).
- 1.8 “Component” means a product comprised of one or more Integrated Circuits physically connected, stacked, or attached to a unitary substrate or other Integrated Circuit where all other elements of such product are passive elements intended to provide physical support, packaging and/or connectivity with respect to such Integrated Circuits. Examples of Components would include DIMMs, SIMMs and other modules, and cards, multi-chip packages (MCP), system-on-chip, system-in-package, system-on-insulator, solid state storage devices, and other form factors.
- 1.9 “Control” (including “Controlled” and other forms) of an entity means (a) beneficial ownership (whether directly or indirectly through entities or other means) of more than fifty percent (50%) of the outstanding voting securities of that entity or (b) in the case of an entity that has no outstanding voting securities, having the power (whether directly or indirectly through entities or other means) presently to designate more than fifty percent (50%) of the directors of a corporation, or in the case of unincorporated entities, of individuals exercising similar functions. Notwithstanding the foregoing sentence, where SK hynix has fifty percent (50%) of such beneficial ownership or power to designate with respect to any other entity, SK hynix shall be deemed to “Control” such other entity if such other entity is part of the SK Group and such entity is lawfully registered under a corporate name, and lawfully operates and generally and routinely conducts its business under a corporate name, that includes “SK,” *provided that*, such entity agrees in a writing, delivered to both parties within thirty (30) days of the Effective Date (or if later, within thirty (30) days after formation of such entity), to be bound by all applicable terms and conditions of this Agreement.
- 1.10 “CRI” means Cryptography Research, Inc., a wholly-owned Subsidiary of Rambus.
- 1.11 “DDR DRAM” means each double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for DDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x4, x8 and/or x16.

- 1.12 “DDR2 DRAM” means each double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for DDR2 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x4, x8 and/or x16.
- 1.13 “DDR3 DRAM” means each double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for DDR3 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x4, x8 and/or x16.
- 1.14 “DRAM” means a dynamic random access memory Integrated Circuit the primary purpose of which is data storage and retrieval.
- 1.15 “DRAM Controller” means any Integrated Circuit having circuitry integrated thereon or contained therein that is capable through an Interface of transmitting and/or receiving data from a DRAM.
- 1.16 “Effective Date” has the meaning ascribed to such term in the first paragraph of this Agreement.
- 1.17 “Existing Agreement” has the meaning ascribed to such term under Section 3.3(b) below.
- 1.18 “Expiration Date” means the fifth (5th) anniversary of the Effective Date.
- 1.19 “Foundry Product” means any product that would constitute a Paid-Up Product or Term Product but for the fact that such product does not constitute a SK hynix Product.
- 1.20 “Foundry Product License” means the rights and licenses granted under Section 2.1(d) below.
- 1.21 “GDDR DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x16 and x32.
- 1.22 “GDDR2 DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR2 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x16 and x32.
- 1.23 “GDDR3 DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR3 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x16 and x32.
- 1.24 “GDDR4 DRAM” means each graphics double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR4 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published

- specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x16 and x32.
- 1.25 “GDDR5 DRAM” means each graphics double data rate DRAM that (a) implements those interface features, parameters, and protocols in the same manner in all material respects as the DRAM Sold by SK hynix or its Subsidiaries on or before the Effective Date as “GDDR5 DRAM” or implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for GDDR5 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol contained in such DRAM Sold by SK hynix or its Subsidiaries on or before the Effective Date as “GDDR5 DRAM”; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; (ii) with a data bit width other than x16 and x32.
- 1.26 “Indirect Infringement” means any form of alleged patent infringement where the accused infringer is not directly infringing the subject patent right(s), but is in some manner liable for a Third Party’s direct infringement of the subject patent right(s) by, for example (without limitation), supplying designs, parts or instructions to the Third Party that enable such Third Party to infringe directly the subject patent right(s). Indirect Infringement includes without limitation contributory infringement and inducing infringement.
- 1.27 “Integrated Circuit” means a single, discrete integrated circuit chip, whether in wafer, cingulated die or packaged die form.
- 1.28 “Interface” means an electrical, optical, RF, mechanical, or software data path that is capable of transmitting and/or receiving information between two or more (a) Integrated Circuits or (b) portions of an Integrated Circuit, in each case together with the set of protocols defining the electrical, physical, timing and/or functional characteristics, sequences and/or control procedures of such data path.
- 1.29 “JEDEC” means the JEDEC Solid State Technology Association, originally known as the Joint Electron Device Engineering Council, a non-stock corporation organized and existing under the laws of the Commonwealth of Virginia.
- 1.30 “Licensed Product” means a Paid-Up Product, Term Product, or Combination Product made (including have made), used, Sold, offered for Sale, exported and/or imported pursuant to the Paid-Up Product License, the Term Product License and Combination Product License, respectively.
- 1.31 “LPDDR DRAM” means each low-power double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for LPDDR DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x8, x16 and/or x32.
- 1.32 “LPDDR2 DRAM” means each low-power double data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for LPDDR2 DRAM; and (b) is solely capable of communicating with any other Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x8, x16 and/or x32.
- 1.33 “LPSDR DRAM” means each low-power SDR DRAM, but including each such DRAM with a data bit width of x32.

- 1.34 “Opposition Proceedings” means oppositions filed by SK hynix against the Opposed Rambus Patents, to the extent that they are pending before the European Patent Office as of the Effective Date.
- 1.35 “Opposed Rambus Patents” means the following Rambus Patents, each of which is subject to one or more of the Opposition Proceedings:
- EP 1 997 111 B1 (Application No. 07 758 147.8; “MEMORY DEVICE WITH MODE-SELECTABLE PREFETCH AND CLOCK-TO-CORE TIMING”);
- EP 1 653 374 B1 (Application No. 05 022 021.9; “METHOD AND APPARATUS FOR COORDINATING MEMORY OPERATIONS AMONG DIVERSELY-LOCATED MEMORY COMPONENTS”);
- EP 2 192 494 B1 (Application No. 10 150 033.8; “METHOD AND APPARATUS FOR COORDINATING MEMORY OPERATIONS AMONG DIVERSELY-LOCATED MEMORY COMPONENTS”); and,
- EP 1 981 033 B1 (Application No. 08 153 150.1; “APPARATUS AND METHOD FOR PIPELINED MEMORY OPERATIONS”).
- 1.36 “Other DRAM” means any DRAM that does not constitute a Paid-Up Product.
- 1.37 “Paid-Up Product” means each SK hynix Product that is an SDR DRAM, DDR DRAM, DDR2 DRAM, DDR3 DRAM, GDDR DRAM, GDDR2 DRAM, GDDR3 DRAM, GDDR4 DRAM, GDDR5 DRAM, LPDDR DRAM, LPDDR2 DRAM, and LPDDR2 DRAM. Notwithstanding the foregoing sentence, any product that constitutes a Rambus Leadership Product shall be deemed not to be a Paid-Up Product.
- 1.38 “Paid-Up Product License” means the rights and licenses granted pursuant to Section 2.1(a).
- 1.39 “Patents” means patents, including re-examinations and reissues thereof, and utility models and applications therefor, including, without limitation, all continuations, continuations-in-part and divisionals thereof, in all countries of the world that now or hereafter are (a) owned or controlled by the applicable party hereto and its Subsidiaries and/or (b) otherwise licensable by the applicable party hereto and its Subsidiaries, in each case of (a) and (b) where such party and its Subsidiaries have the right to grant the licenses, sublicenses or other rights and covenants of the scope granted herein.
- 1.40 “Permitted Third Party Product” means any Integrated Circuit that is neither a SK hynix Product nor a DRAM, SerDes IC, DRAM Controller, Synchronous Flash Memory or Synchronous Flash Controller.
- 1.41 “Quarterly Acquisition Adjustment Payment” means each quarterly fixed amount initially payable by SK hynix under this Agreement upon SK hynix’s or any of its Subsidiaries’ Acquisition of any Acquired Business as provided for under Section 3.3.
- 1.42 “Quarterly License Payment” has the meaning ascribed to such term in Section 4.1.
- 1.43 “Rambus Applicable Manufacturing Claims” are defined and determined separately for each specific product. For each such product, a Rambus Applicable Manufacturing Claim means each process or method claim of a Rambus Patent [***] infringed when such product is made (or have made).
- 1.44 “Rambus Applicable Patent Claims” means Rambus Applicable Manufacturing Claims and Rambus Applicable Product Claims.

- 1.45 “Rambus Applicable Product Claims” are defined and determined separately for each specific product. For each such product, a Rambus Applicable Product Claim means:
- (a) each claim of each Opposed Rambus Patent that is [***] by the use, Sale, offer for Sale, export, or import of such product in the form first made (or have made), in each case during the pendency of the Opposition Proceeding associated with such Opposed Rambus Patent and any and all appeals therefrom; and,
 - (b) each claim of:
 - (i) each Opposed Rambus Patent that is [***] by the use, Sale, offer for Sale, export, or import of such product in the form first made (or have made), in each case following the pendency of the Opposition Proceeding associated with such Opposed Rambus Patent; and,
 - (ii) each other Rambus Patent that is [***] by the use, Sale, offer for Sale, export, or import of such product in the form first made (or have made).
- 1.46 “Rambus Leadership Product” means any product that implements a Rambus Proprietary Specification.
- 1.47 “Rambus Patents” means Patents owned or controlled or otherwise licenseable, each in accordance with Section 1.39 above by Rambus or any of its Subsidiaries, in each case other than those Patents of CRI that have effective filing dates that are earlier than June 6, 2011 (the effective date of Rambus’ acquisition of CRI).
- 1.48 “Rambus Product Design” means any human or machine readable representation of the design, such as a circuit layout in a drawing or a register transfer level description (RTL) file, for any product, element or instrumentality, including, but not limited to any Rambus Leadership Product.
- 1.49 “Rambus Product Design License” means the rights and licenses granted under Section 2.2.
- 1.50 “Rambus Proprietary Specification” means any Technical Specification that is first designed and developed (as demonstrated by customary means, including, but not limited to, engineering notebooks) by, or on behalf of, Rambus or any of its Subsidiaries, over which Rambus and/or any of its Subsidiaries has exclusive control and that neither Rambus nor any of its Subsidiaries has voluntarily (a) disclosed except under a confidentiality or non-disclosure agreement; or (b) proposed or disclosed to any standards setting organization. In addition to the foregoing sentence, Rambus Proprietary Specification also includes any Technical Specification exclusively acquired by Rambus from a Third Party where such Technical Specification would otherwise meet the definition of a Rambus Proprietary Specification had Rambus, and not the relevant Third Party, been the original developer and owner of such Technical Specification. Notwithstanding the above, a Technical Specification independently developed by or on behalf of SK hynix, or by a Third Party, shall not be deemed to be a Rambus Proprietary Specification, even if it describes similar or identical functions. A Technical Specification shall not be deemed to be independently developed for purposes of the preceding sentence to the extent such Technical Specification, or any portion thereof, was developed or derived based on information (i) for which SK hynix or any of its Subsidiaries, or any other Third Party, is bound by an obligation of confidentiality or non-use to Rambus; (ii) obtained from any other Third Party in violation of its obligation of confidentiality or non-use to Rambus; or (iii) obtained by SK hynix, any of its Subsidiaries or any other Third Party based on reverse engineering of any product that implements a Rambus Proprietary Specification.
- 1.51 “SDR DRAM” means each single data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any final JEDEC-published specification for SDR DRAM; and (b) is solely capable of communicating with any other

- Integrated Circuit through the protocol defined or recommended in any such JEDEC-published specification; and (c) is not Sold or specified as being capable of operating: (i) at a data transfer rate exceeding [***]; or (ii) with data bit width other than x4, x8 and/or x16.
- 1.52 “Sell” (including “Sale” and “Sold” and other forms) means to sell, lease, or otherwise transfer or dispose of a product, or if the product is transferred and used internally by an entity, then such transfer and use shall also be deemed a Sale.
- 1.53 “SerDes IC” means any Integrated Circuit having circuitry integrated thereon or contained therein that (a) de-serializes data received by such Integrated Circuit from a different Integrated Circuit and/or (b) serializes data originating on such Integrated Circuit prior to transmitting such data to a different Integrated Circuit. Notwithstanding the foregoing, any Integrated Circuit, the primary purpose of which is data storage and/or retrieval shall be deemed not to be a SerDes IC.
- 1.54 “Settlement Agreement” has the meaning assigned in the recitals to this Agreement.
- 1.55 “SK hynix Applicable Manufacturing Claims” are defined and determined separately for each specific product. For each such product, a SK hynix Applicable Manufacturing Claim means each process or method claim of a SK hynix Patent [***] when such product is made (or have made).
- 1.56 “SK hynix Applicable Patent Claims” means SK hynix Applicable Manufacturing Claims and SK hynix Applicable Product Claims.
- 1.57 “SK hynix Applicable Product Claims” are defined and determined separately for each specific product. For each such product, a SK hynix Applicable Product Claim means each claim of a SK hynix Patent [***] by the use, Sale, offer for Sale, or import of such product in the form first made (or have made).
- 1.58 “SK hynix Patent” means Patents owned or controlled or otherwise licenseable, each in accordance with Section 1.39 above by SK hynix or any of its Subsidiaries.
- 1.59 “SK hynix Product” means, an Integrated Circuit, for which SK hynix or any of its Subsidiaries either:
- (a) owns the entire design of such Integrated Circuit with no limitations on how it may use such design; and/or,
 - (b) has a license from the party or parties that created or otherwise owns the design of such Integrated Circuit, under which license SK hynix and/or its Subsidiaries (i) can make (and/or have made) such Integrated Circuit; (ii) is free to Sell such made (or have made) Integrated Circuit without restriction as to whom SK hynix and/or its Subsidiaries may Sell such Integrated Circuit; and (iii) is not required or bound to discriminate in price or other terms with respect to such Integrated Circuit.
- 1.60 “SK hynix Supplied Portion” has the meaning ascribed to in Section 2.1(d)(ii) below.
- 1.61 “Subsidiary” means with respect to any identified entity (“Identified Entity”), any entity Controlled by such Identified Entity, but only so long as such Control exists.
- 1.62 “Synchronous Flash Controller” means any Integrated Circuit having circuitry integrated thereon or contained therein that is capable through an Interface of transmitting and/or receiving data from a Synchronous Flash Memory.
- 1.63 “Synchronous Flash Memory” means any Integrated Circuit the primary purpose of which is data storage or retrieval that has a synchronous Interface and Flash memory cells that retain data stored in such Flash memory cells even when it ceases to receive electrical power.

- 1.64 “Technical Specification” means a final specification for an optical, RF, electrical, mechanical, or software component that describes all of the characteristics of such component necessary for such component to operate. As example, the electrical interface (including timing and signaling parameters and characteristics) for a data bus connecting two (2) Integrated Circuits would meet the definition of a Technical Specification provided that such interface specified all of the signals necessary for such data bus to function.
- 1.65 “Term” means, as the case may be, the (a) term of the Paid-Up License, (b) the term of the Term Product License; (c) term of the Combination Product License, and/or (d) term of the Foundry Product License in each case of (a), (b), (c) and (d) as provided for under Section 6.1.
- 1.66 “Term Product” means each SK hynix Product that is an (a) Other DRAM; (b) DRAM Controller; (c) Synchronous Flash Memory; (d) Synchronous Flash Controller; (e) SerDes IC; and (f) any other Integrated Circuit other than a Paid-Up Product. Notwithstanding the foregoing sentence, any product that constitutes a Rambus Leadership Product shall be deemed not to be a Term Product.
- 1.67 “Term Product License” means the rights and licenses granted under Section 2.1(b).
- 1.68 “Third Party” means (a) with respect to Rambus or any Subsidiary of Rambus, any entity that is not a Subsidiary of Rambus and (b) with respect to SK hynix or any Subsidiary of SK hynix, any entity that is not a Subsidiary of SK hynix.

2. Grant of Rights

2.1 License to SK hynix.

- (a) Paid-Up Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to SK hynix and its Subsidiaries, for each product that falls within the definition of a Paid-Up Product: a non-exclusive, non-transferable, royalty-bearing, worldwide license, without the right to sublicense, solely under the associated Rambus Applicable Patent Claims for such Paid-Up Product, to make (including have made), use, Sell, offer for Sale, export, and/or import such Paid-Up Product until the expiration or termination of this license pursuant to Section 6.1(a).
- (b) Term Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to SK hynix and its Subsidiaries, for each product that falls within the definition of a Term Product: a non-exclusive, non-transferable, royalty-bearing, worldwide license, without the right to sublicense, solely under the associated Rambus Applicable Patent Claims for such Term Product, to make (including have made), use, Sell, offer for Sale, export, and/or import such Term Product until the expiration or termination of this license pursuant to Section 6.1(b).
- (c) Combination Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to SK hynix and its Subsidiaries, for each product that falls within the definition of a Combination Product: a non-exclusive, non-transferable, royalty-bearing, worldwide license, without the right to sublicense, solely under the associated Rambus Applicable Patent Claims for such Combination Product, to make (including have made), use, Sell, offer for Sale, export, and/or import such Combination Product until the expiration or termination of this license pursuant to Section 6.1(c). For clarity, the grant of the license to Combination Products pursuant to this Section 2.1(c) does not supersede or otherwise limit the licenses granted to each Term Product and Paid-Up Product under Section 2.1(a) and Section 2.1(b), respectively, that may be contained in any such Combination Product.

- (d) Foundry Product License. Except as expressly set forth in Sections 2.1(d)(i) and 2.1(d)(ii) below, all Foundry Products are expressly excluded from the licenses granted under Sections 2.1(a), 2.1(b) and 2.1(c) of this Agreement.
- (i) Manufacturing. Rambus, on behalf of itself and its Subsidiaries, hereby grants to SK hynix and its Subsidiaries, for any product that constitutes a Foundry Product: a non-exclusive, non-transferable, worldwide license, without the right to sublicense, under the associated Rambus Applicable Manufacturing Claims for such Foundry Product, to make (but not have made), use, Sell, offer for Sale, import, and export any such Foundry Product until the expiration or termination of this license pursuant to Section 6.1(d). For the avoidance of doubt, except as expressly set forth in Section 2.1(d)(ii), no license is granted under any Rambus Applicable Product Claims for any Foundry Products.
- (ii) SK hynix Supplied Technology. For any portion of a Foundry Product supplied by SK hynix and/or its Subsidiaries (“SK hynix Supplied Portion”) for which SK hynix or any of its Subsidiaries either (A) owns the entire design of such SK hynix Supplied Portion with no limitations on how it may use such design; and/or (B) has a license from the Third Party (or Third Parties) that created or otherwise owns the design of such SK hynix Supplied Portion, under which license SK hynix and/or its Subsidiaries (I) can make (and/or have made) such SK hynix Supplied Portion; (II) is free to Sell such made SK hynix Supplied Portion without restriction as to whom SK hynix and/or its Subsidiaries may Sell such SK hynix Supplied Portion and (III) is not required or bound to discriminate in price or other terms with respect to such SK hynix Supplied Portion, Rambus, on behalf of itself and its Subsidiaries, hereby grants to SK hynix and its Subsidiaries, a non-exclusive, non-transferable, worldwide license, without the right to sublicense, under the associated Rambus Applicable Product Claims for such SK hynix Supplied Portion, to use, Sell, offer for Sale, or import any such SK hynix Supplied Portion as part of any such Foundry Product until the expiration or termination of this license pursuant to Section 6.1(d).
- 2.2 Rambus Product Design License. Subject to the terms and conditions of this Agreement, SK hynix, on behalf of itself and its Subsidiaries, hereby grants to Rambus and its Subsidiaries, for each product that falls within the definition of Rambus Product Design: a non-exclusive, non-transferable, worldwide license, without the right to sublicense, solely under the associated SK hynix Applicable Patent Claims for such Rambus Product Design, to make (including have made), use, Sell, offer for Sale, and/or import such Rambus Product Design until the expiration or termination of this license pursuant to Section 6.1(e). For the avoidance of doubt, this license does not in any way, expressly or impliedly, extend, nor is it intended to extend, to any devices or products made essentially based on or incorporating such Rambus Product Design or in combination of such Rambus Product Design.
- 2.3 Obligations When Transferring Patents. Each party agrees that it shall take all actions necessary to ensure that any Third Party to whom any Patents are transferred, assigned or exclusively licensed or any right to enforce is granted (including any successor in interest thereto) is bound in writing to all covenants, licenses and other rights granted hereunder with respect such transferred, assigned or exclusively licensed Patents, *provided further* that if Rambus or any of its Subsidiaries transfers to any Third Party ownership of, or otherwise grants any Third Party the right to enforce, any claim of any Rambus Patent that is subject to the Covenant to Sue Last provided for under Section 2.4 below, such claim shall, upon such transfer of ownership or grant of right to enforce, automatically and immediately be deemed to be included in the rights and licenses granted hereunder with respect to Licensed Products and SK hynix Supplied Portions notwithstanding the fact that such claim does not constitute a Rambus Applicable Patent Claim.

- 2.4 Covenant [***]. For so long as a product constitutes a Licensed Product or a SK hynix Supplied Portion hereunder, Rambus, on behalf of itself and its Subsidiaries, covenants that [***].
- 2.5 Further Covenant. For so long as a product or portion thereof Sold by SK hynix:
- (a) [***];
 - (b) [***]; or,
 - (c) [***];
- Rambus, on behalf of itself and its Subsidiaries, covenants that [***].
- 2.6 Full Force and Effect. The parties expressly acknowledge and agree that nothing in this Agreement shall in any way limit or alter the effect of the first sale or patent exhaustion doctrines under U.S. law, and any equivalent or similar doctrines under the law of any jurisdiction with respect to Rambus Applicable Patent Claims with respect to any Licensed Product or SK hynix Supplied Portion based on the Sale of such Licensed Product or SK hynix Supplied Portion.
- 2.7 No Release, No Implied or Other Rights and Licenses.
- (a) The rights and licenses granted and covenants made herein apply solely to those products and activities expressly licensed during the Term. Nothing in this Agreement shall be deemed to, and shall not be construed to, constitute any release, forbearance, forfeiture or other waiver of any rights of either party or their respective Subsidiaries to enforce any of their respective intellectual property rights with respect to any activities undertaken by either party, their respective Subsidiaries and/or any other Third Party to the extent not expressly granted or made hereunder. Nothing in this Agreement is intended to limit or alter any rights under applicable law relating to patent exhaustion.
 - (b) Except as expressly provided for under this Agreement, no authorization, release, license, covenant or other right is granted or made, by implication, estoppel, acquiescence or otherwise under this Agreement, to either party, their respective Subsidiaries and/or any other Third Party under any patents, utility models, patent or utility model claims, or other intellectual property rights now or hereafter owned or controlled by either party or their respective Subsidiaries. Nothing in this Agreement is intended to limit or alter any rights under applicable law relating to patent exhaustion.
 - (c) Except as expressly provided for under this Agreement, none of the terms of this Agreement shall be deemed to, and shall not be construed to, constitute, whether by implication, estoppel, acquiescence or otherwise, (i) an authorization by either party, their respective Subsidiaries and/or any other Third Party to Sell, offer for Sale and/or import any product (A) in or for combination with any other element (including, but not limited to any function or feature), product or instrumentality; or (B) unconditionally for use in or for combination with any other element (including, but not limited to any function or feature), product or instrumentality; or (ii) a waiver by either party or their respective Subsidiaries of any liability for infringement based on either party's, their respective Subsidiaries and/or any other Third Party's use, Sale, offer for Sale and/or import of any product in combination with any other element (including, but not limited to any function or feature), product or instrumentality. Nothing in this Agreement is intended to limit or alter any rights under applicable law relating to patent exhaustion.

3. Subsidiaries, Former Subsidiaries, and Acquisitions

- 3.1 Subsidiaries. The parties intend that this Agreement shall extend to all of each party's Subsidiaries. The parties agree that to the extent they are not already bound, each party shall ensure that all of its

Subsidiaries (including without limitation all entities that become Subsidiaries after the Effective Date (“New Subsidiaries”)) are bound by the terms of this Agreement. Without limiting the foregoing:

- (a) each party shall ensure that each New Subsidiary’s patents, utility models and applications therefor are included within the definition of the applicable party’s Patents; and
- (b) each party shall ensure that each New Subsidiary is bound as applicable, by Sections 2.3, 2.4, and 2.5.

3.2 Former Subsidiaries. All rights and licenses granted and covenants made to any Subsidiary of either party shall immediately and automatically terminate upon a party ceasing to Control such entity (“Former Subsidiary”). However, if a Subsidiary of a party that holds any patent or utility model or applications therefor that are subject to the rights and licenses granted or covenants made hereunder becomes a Former Subsidiary, such rights and licenses granted or covenants made by such Former Subsidiary (including every successor entity in interest to any such patents or utility models and applications therefor) shall continue in accordance with the terms of this Agreement after such entity becomes a Former Subsidiary.

3.3 Acquisitions.

- (a) Acquired Business [***]. If SK hynix or any of its Subsidiaries completes an Acquisition [***], then SK hynix shall pay Rambus a fixed quarterly payment (in addition to SK hynix’s Quarterly License Payments or any other Quarterly Acquisition Adjustment Payments owed under this Section 3.3(a) and/or pursuant to Section 3.3(b) below in connection with such Acquisition or any other Acquisition) for each calendar quarter remaining in the Term, based on such Acquisition, starting, on a prorated basis, with the first calendar quarter during which the Acquisition Date occurred, [***]. If iSuppli data as required for the calculations in this Section 3.3(a) is not available for an Acquired Business or for SK hynix, or the most recent version of such data covers a period ending more than twelve (12) months before the Acquisition Date, the parties shall initially meet within thirty (30) days following the associated Acquisition Date and negotiate in good faith an alternate source for the information that was to be provided by iSuppli. If the parties cannot reach agreement on such alternate source within thirty (30) days following the date required for such initial meeting, either party may, as its sole and exclusive remedy to resolve such dispute, submit such dispute to binding arbitration pursuant to the terms of Section 8. For the avoidance of doubt, any Acquired Business that has revenue attributable from the Sale of Acquisition Products of [***] or less (as reported by iSuppli for the most recent twelve (12) months preceding the Acquisition Date for which iSuppli has reported such Sales) shall be licensed without additional payments of any kind.
- (b) Acquired Business [***]. If SK hynix or any of its Subsidiaries completes an Acquisition [***], SK hynix shall pay Rambus a fixed quarterly payment (in addition to SK hynix’s Quarterly License Payments or any other Quarterly Acquisition Adjustment Payment owed pursuant to Section 3.3(a) above and/or under this Section 3.3(b) in connection with such Acquisition or any other Acquisition) for each calendar quarter remaining in the Term, based on such Acquisition, starting, on a pro-rated basis with the first calendar quarter during which the Acquisition Date occurred. [***]. If the Existing Agreement required payments for less than four (4) quarters prior to the Acquisition Date, the parties shall initially meet within thirty (30) days following the associated Acquisition Date and negotiate in good faith an alternate method to determine the average quarterly payments from the Existing Agreement. If the parties cannot reach agreement on such alternate method within thirty (30) days following the date required for such initial meeting, then either party may, as its sole and

exclusive remedy to resolve such dispute, submit such dispute to binding arbitration pursuant to the terms of Section 8.

(c) Attributable Revenue. For purposes of the calculations in this Section 3.3, [***].

(d) Dispute Resolution. If the parties fail to resolve any dispute identified in this Section 3.3 as subject to binding arbitration, then either party may, as its sole and exclusive remedy, submit such dispute to binding arbitration pursuant to Section 8 and SK hynix's obligation to remit its Quarterly Acquisition Adjustment Payment based on such disputed Acquisition pursuant to Section 5.1(a)(iii) shall be tolled until the earlier of either the final resolution of such arbitration or the parties' resolution of such dispute, and in either case within thirty (30) days after such resolution SK hynix will make all payments necessary to satisfy its payment obligations under this Section 3.3 from the date such obligations accrued.

3.4 No Release. The releases granted and covenants made under Article 4 of the Settlement Agreement shall not apply to any Acquired Business. None of the rights and licenses granted and covenants made under Section 2 shall apply to any activity of any Acquired Business unless and until such Acquired Business becomes licensed hereunder in accordance with this Section 3, and in any case, none of the rights and licenses granted and covenants made under Section 2 shall apply to nor in any way reduce any liability associated with any activity of any Acquired Business that took place prior to the applicable Acquisition Date, provided that nothing in this Section 3.4 shall have the effect of negating or nullifying any release or license granted in any Existing Agreement. Notwithstanding anything to the contrary contained in Section 3.3, for any Acquisition for which SK hynix wishes to acquire a release of liability for the Acquired Business for infringement of Rambus' patents and/or utility models that took place prior to the applicable Acquisition Date, the parties will negotiate such release in good faith and may consider the calculations set forth in Section 3.3(a) and/or the total past liability for infringing Rambus' patents and/or utility models incurred by such Acquired Business.

4. Consideration

4.1 Quarterly License Payment. For each of the first twenty calendar quarters that occur during the Term, beginning with the third calendar quarter of 2013, SK hynix will pay to Rambus a quarterly license payment of twelve million United States Dollars (US\$12,000,000; each such payment, a "Quarterly License Payment").

4.2 Quarterly Acquisition Adjustment Payment. To the extent required pursuant to Section 3.3, SK hynix shall pay, for each Acquisition occurring during the Term, to Rambus a Quarterly Acquisition Adjustment Payment for each of the calendar quarters that occur between [***].

5. Payments

5.1 Payment Terms.

(a) Timing of Payments.

(i) First Quarterly License Payment. SK hynix shall pay to Rambus the first Quarterly License Payment within ten (10) United States business days of its receipt (as determined for notices under Section 9.2) of Rambus' invoice therefor. Rambus shall invoice SK hynix for such first Quarterly License Payment no earlier than July 1, 2013.

(ii) Subsequent Quarterly License Payments. Starting with the Quarterly License Payment associated with the fourth calendar quarter of 2013, SK hynix shall pay Rambus each subsequent Quarterly License Payment within ten (10) United States business days of its receipt (as determined for notices under Section 9.2) of Rambus' invoice therefor. Rambus shall invoice SK hynix for each of the nineteen (19) subsequent Quarterly

License Payments no earlier than thirty (30) days after the first day of the quarter to which each such Quarterly License Payment relates.

(iii) Quarterly Acquisition Adjustment Payments. SK hynix shall pay Rambus each Quarterly Acquisition Adjustment Payment within ten (10) United States business days of its receipt (as determined for notices under Section 9.2) of Rambus' invoice therefor. Rambus shall invoice SK hynix for each Quarterly Acquisition Adjustment Payment no earlier than thirty (30) days after the first day of the quarter to which each such Quarterly Acquisition Adjustment Payment relates, provided that any prorated portion of such payment due in accordance with Section 3.3 above may not be invoiced by Rambus earlier than thirty (30) days after the first day of the calendar quarter following the respective Acquisition Date.

(b) Method of Payment. SK hynix's payments to Rambus of all amounts hereunder shall be made by electronic transfer either directly to or via the Federal Reserve Bank of San Francisco for credit to the following account or another designated in writing by Rambus:

Rambus Inc.
[***]

5.2 Currency and Late Payments. All payments to Rambus hereunder shall be in United States Dollars. Late payments hereunder shall be subject to interest at the 1-year U.S. Government Treasury Constant Maturity Rate, as published by the Federal Reserve (www.federalreserve.gov) on the date the amount payable was due, plus five percent (5%) (or the maximum interest rate allowed by applicable law, if lower). The amount of interest shall be calculated from the payment due date to the date of electronic transfer.

5.3 Taxes. If the Korean government imposes any withholding tax on any amounts paid by SK hynix to Rambus hereunder, such tax shall be borne by Rambus. SK hynix agrees, at its reasonable discretion, to assist Rambus in its efforts to minimize Rambus' tax liability. SK hynix shall withhold the amount of any such taxes levied on such payments to Rambus imposed by the Korean government, shall effect payment of the taxes so withheld to the Korean tax office when due, and SK hynix shall send to Rambus the official certificate of such payment in a form reasonably sufficient to enable Rambus to support a claim for a foreign tax credit with respect to any such taxes so withheld.

5.4 No Escrow. Payment of amounts due under this Agreement to any person, firm or entity, other than Rambus, including without limitation, any escrow fund or escrow agent, unless agreed by Rambus or ordered by any court or government agency of competent jurisdiction or arbitration panel, shall constitute a material breach of this Agreement by SK hynix. Any payment once made by SK hynix to Rambus shall not be refunded or refundable to SK hynix for any reason except as may be required pursuant to Section 8. Notwithstanding the foregoing, in case of clerical error with respect to any payment made hereunder, the parties agree to remedy any such error through proper payment adjustments.

6. Term & Termination

6.1 Term.

(a) Paid-up Product License. The Paid-Up Product License shall commence on the Effective Date and shall continue in full force and effect unless and until terminated in accordance with this Section 6.

- (b) Term Product License. The Term Product License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6.
- (c) Combination Product License. The Combination Product License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6. Notwithstanding the foregoing, the Combination Product License shall continue in full force and effect solely for combinations consisting solely of two (2) or more Paid-Up Products for so long as the Paid-Up Product License remains in full force and effect.
- (d) Foundry Product License. The Foundry Product License shall:
 - (i) with respect to Foundry Products that are, or contain, products that would constitute Paid-Up Products but for the fact that such products do not constitute SK hynix Products, commence on the Effective Date and shall continue in full force and effect unless and until terminated in accordance with this Section 6; and,
 - (ii) otherwise commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6.
- (e) Rambus Product Design License. The Rambus Product Design License shall commence on the Effective Date and shall continue in full force and effect until the Expiration Date unless earlier terminated in accordance with this Section 6.

The parties shall, starting no later than six (6) months prior to the Expiration Date, negotiate in good faith renewal terms, if any, for the licenses associated with subsections (b)-(e) above.

- 6.2 Material Breach. A party may terminate this Agreement upon notice if the other party hereto (or any of its Subsidiaries) commits a material breach of Section 3.3(d) with respect to the exclusive resolution through arbitration of disputes regarding alternate sources and/or methods pursuant to Section 8 as provided for in such section and does not correct such breach within thirty (30) days after receiving written notice complaining thereof. In addition, unless it has exercised its option under Section 2.1(b) of the Settlement Agreement and received timely payment thereunder, Rambus may terminate this Agreement upon notice if SK hynix materially breaches its payment obligations under this Agreement and does not correct such breach within thirty (30) days after receiving written notice complaining thereof. Failure of SK hynix to remit any payment due and payable in accordance with the terms of this Agreement shall constitute a material breach of this Agreement. For the avoidance of doubt, any payments tolled in accordance with the terms of this Agreement shall not be due and payable during such tolling period.
- 6.3 Bankruptcy. Either party may terminate this Agreement effective upon written notice to the other party if the other party becomes the subject of a voluntary or involuntary petition in bankruptcy or any proceeding relating to insolvency, or composition for the benefit of creditors, if that petition or proceeding is not dismissed within sixty (60) days after filing.
- 6.4 Change of Control. In addition to the rights set forth in Sections 6.2 and 6.3 above, if prior to the Expiration Date, SK hynix undergoes a Change of Control, then Rambus may terminate this Agreement effective upon written notice thereof to SK hynix or the relevant successor in interest.

If Rambus receives written notice of such Change of Control from SK hynix (or its successor in interest) no later than ten (10) business days after such Change of Control, Rambus agrees to negotiate in good faith with such successor in interest, for a period of one hundred and eighty (180) days after receipt of such notice, the application of this Agreement to such successor in interest's business activities prior to terminating this Agreement based on such Change of Control.

Rambus' failure to terminate this Agreement after a given Change of Control by SK hynix (or any successor in interest) shall not in any way limit Rambus' right to exercise these rights for any subsequent Change of Control.

Notwithstanding the foregoing, if prior to the Expiration Date or during any renewal term, SK hynix undergoes a Change of Control pursuant to which another member of the SK Group obtains Control of SK hynix (such member, the "Controlling Member"), then Rambus shall have no right to terminate this Agreement in accordance with the preceding sentence, but, in the event that such Controlling Member and/or one or more of its Subsidiaries had revenue from the Sale of Acquisition Products (as defined above) during the most recent twelve (12) calendar months preceding the date of the Change of Control, then:

- (i) SK hynix shall provide written notice of such Change of Control to Rambus;
- (ii) this Agreement shall automatically be assigned by SK hynix to such Controlling Member (notwithstanding the provisions set forth in Section 9.4 below);
- (iii) each reference to SK hynix in this Agreement (including those in the definitions) shall, as of the date of such Change of Control, be deemed to be a reference to such Controlling Member; and,
- (iv) such Controlling Member and its Subsidiaries shall be subject to Section 3.3 above as if it (such Controlling Member and such Subsidiaries, collectively) were an Acquired Business (e.g., a Quarterly Acquisition Adjustment Payment will be calculated by using the Sale, if any, by such Controlling Member and its Subsidiaries of Acquisition Products during the twelve (12) calendar months preceding the Acquisition Date).

6.5 Survival. All payment obligations accruing prior to any termination of this Agreement shall survive any such termination. In addition, the following Sections shall survive and remain in full force and effect after any termination of this Agreement: Section 1 (Definitions), Section 2.3 (Obligations When Transferring Patents), Section 2.6 (Full Force and Effect), 2.7 (No Release, No Implied or Other Rights and Licenses), Section 3.1 (Subsidiaries), 3.2 (Former Subsidiaries), 3.3(d) (Dispute Resolution), Section 3.4 (No Release), Section 4 (Consideration) and Section 5 (Payments) (in each case with respect to amounts incurred prior to termination of this Agreement), this Section 6.5 (Survival), Section 7.2 (Confidentiality), Section 8 (Dispute Resolution), and Section 9 (Miscellaneous).

7. Confidentiality

- 7.1 Press Release; Additional Obligations. The parties intend to issue a press release as set forth in the Settlement Agreement. The parties shall perform the obligations set forth in Exhibit A in accordance with the terms and conditions contained therein.
- 7.2 Confidentiality. Each party agrees that only after the announcement referenced in Section 7.1 above, each party shall be entitled to disclose the general nature of this Agreement but that the terms and conditions of this Agreement, to the extent not already disclosed pursuant to Section 7.1 above, shall be treated as Confidential Information and that neither party will disclose such terms or conditions to any Third Party without the prior written consent of the other party, provided, however, that each party may disclose the terms and conditions of this Agreement:
- (a) as required by any court or other governmental body;
 - (b) as otherwise required by law;
 - (c) as otherwise may be required by applicable securities and other law and regulation, including to legal and financial advisors in their capacity of advising a party in such matters so long as

the disclosing party shall seek confidential treatment of such terms and conditions to the extent reasonably possible;

- (d) to legal counsel, accountants, and other professional advisors of the parties;
- (e) in confidence, to banks, investors and other financing sources and their advisors or to SK Telecom (provided that at the time of any such disclosure to SK Telecom, SK Telecom owns at least twenty (20) percent of the outstanding voting securities of SK hynix);
- (f) in connection with the enforcement of this Agreement or rights under this Agreement;
- (g) during the course of litigation so long as the disclosure of such terms and conditions are restricted in the same manner as is the confidential information of other litigating parties and so long as (i) the restrictions are embodied in a court-entered protective order limiting disclosure to outside counsel and (ii) the disclosing party informs the other party in writing at least ten (10) business days in advance of the disclosure and discusses the nature and contents of the disclosure, in good faith, with the other party;
- (h) in confidence, to a Third Party to whom either party assigns one or more of its Patents, but solely to the extent necessary to inform such Third Party of the encumbrances contained herein on such Patents;
- (i) in confidence, in connection with an actual or prospective merger or acquisition or similar transaction; and,
- (j) by Rambus, in confidence, to the outside legal counsel of Elpida Memory, Inc. (“Elpida”) in connection with Rambus’ obligation(s) under any most favored nation, or similar clause, whereby Rambus is contractually obligated to disclose and offer terms agreed upon herein with SK hynix.

Upon execution of this Agreement, or thereafter, Rambus, in its discretion, shall be entitled to file a copy of this Agreement with the U.S. Securities and Exchange Commission, so long as Rambus seeks confidential treatment of such agreement to the extent reasonably possible.

8. Dispute Resolution

Any dispute submitted to binding arbitration pursuant to Section 3.3(d) or as otherwise identified herein as subject to binding arbitration shall take place in Santa Clara County, California before one arbitrator, and shall be administered by Judicial Arbitration and Mediation Services, Inc. pursuant to its Streamlined Arbitration Rules and Procedures, except that, if such dispute was submitted in accordance with Section 3.3(d), each party shall submit to the arbitrator and exchange with each other in advance of the hearing their last, best alternate sources and/or methods, as applicable, and the arbitrator shall be limited to awarding only one or the other of the two alternate sources and/or methods, as applicable, submitted. Judgment on such award may be entered in any court having jurisdiction.

9. Miscellaneous

9.1 Disclaimers. Nothing contained in this Agreement shall be construed as:

- (a) a warranty or representation by either party as to the validity, enforceability, and/or scope of any intellectual property rights;
- (b) imposing upon either party any obligation to institute any suit or action for infringement of any intellectual property right, or to defend any suit or action brought by a Third Party which challenges or concerns the validity, enforceability or scope of any intellectual property rights;

- (c) imposing on either party any obligation to file any application or registration with respect to any intellectual property rights or to secure or maintain in force any intellectual property rights;
- (d) imposing on either party any obligation to furnish any technical information or know-how; or
- (e) imposing or requiring, whether by implication or otherwise, any support, maintenance or any technology deliverable obligations on either party's or their respective Subsidiaries' part under this Agreement (and neither party nor any of their respective Subsidiaries are providing any support, maintenance or technology deliverables under this Agreement).

9.2 Notices. All notices or other communication required or permitted hereunder shall be in writing and shall be (a) mailed by first class air mail (registered or certified if available), postage prepaid, or otherwise delivered by hand, by messenger, addressed to the addresses set forth below, or (b) delivered by facsimile to the facsimile number set forth below. Each Party may change its address or facsimile number for notices by providing a notice to the other Party in the manner set forth herein. Such notices shall be deemed to have been effective when delivered or, if delivery is not accomplished by reason of some fault or refusal of the addressee, when tendered (which tender, in the case of mail, shall be deemed to have occurred upon posting, and in the case of facsimile, shall be deemed to have occurred upon transmission). All notices shall be in English.

If to SK hynix:

SK hynix Inc.
Kyunghyun Min
Vice President, Head of IP Group
10F, Daechi Tower, 424, Teheran-ro, Gangnam-gu
Seoul, 135-738, Korea
Fax: 82)-31-645-8171

If to Rambus:

Rambus Inc.
Jae Kim
General Counsel
1050 Enterprise Way, Suite 700
Sunnyvale, CA 94089

with a copy, which shall not constitute notice, to the following:

Satish Rishi
Chief Financial Officer
Rambus Inc.
1050 Enterprise Way, Suite 700
Sunnyvale, CA 94089
Telephone: +1-408-462-8000
Facsimile: +1-408-462-8001

9.3 Governing Law & Venue.

- (a) This Agreement shall be governed by and construed in accordance with the laws of the State of California, without giving effect to any choice-of-law or conflict-of-law provision or rule (whether of the State of California or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of California.

- (b) This Agreement is executed in the English language and no translation shall have any legal effect.
- (c) Except for disputes subject to Section 8, any legal action, suit or proceeding arising under, or relating to, this Agreement, shall be brought in the United States District Court for the Northern District of California or, if such court shall decline to accept jurisdiction over a particular matter, in the Santa Clara County Superior Court, and each party agrees that any such action, suit or proceeding may be brought only in such courts. Each party further waives any objection to the laying of jurisdiction and venue for any such suit, action or proceeding in such courts.
- 9.4 No Assignment. This Agreement is personal to the parties, and the Agreement and/or any right or obligation hereunder is not assignable, whether in conjunction with a change in ownership, merger, acquisition, the sale or transfer of all, or substantially all or any part of either party's or any of their respective Subsidiaries business or assets or otherwise, voluntarily, by operation of law, reverse triangular merger or otherwise, without the prior written consent of the other party, which consent may be withheld at the sole discretion of such other party. Any such purported or attempted assignment or transfer in violation of the foregoing shall be deemed a breach of this Agreement and shall be null and void. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the parties and their permitted successors and assigns. Notwithstanding the foregoing, either party shall be entitled to, and each party hereby agrees to, assign this Agreement to a successor to all or substantially all of a party's assets in a transaction entered into solely to change a party's place of incorporation.
- 9.5 No Rule of Strict Construction. Regardless of which party may have drafted this Agreement or any part thereof, no rule of strict construction shall be applied against either party. For the avoidance of doubt "includes", "including", "included", and other variations of such terms shall be deemed to be followed by the phrase "without limitation".
- 9.6 Severability. If any provision of this Agreement is held to be invalid or unenforceable, the meaning of such provision shall be construed, to the extent feasible, so as to render the provision enforceable, and if no feasible interpretation shall save such provision, (a) a suitable and equitable provision shall be substituted therefore in order to carry out, so far as may be valid and enforceable, the intent and purpose of such invalid or unenforceable provision, and (b) the remainder of this Agreement shall remain in full force and effect.
- 9.7 Entire Agreement. This Agreement and the Settlement Agreement embody the entire understanding of the parties with respect to the subject matter hereof, and merges all prior oral or written communications between them, and neither of the parties shall be bound by any conditions, definitions, warranties, understandings, or representations with respect to the subject matter hereof other than as expressly provided herein. No oral explanation or oral information by either party hereto shall alter the meaning or interpretation of this Agreement.
- 9.8 Modification; Waiver. No modification or amendment to this Agreement, nor any waiver of any rights, will be effective unless assented to in writing by the party to be charged, and the waiver of any breach or default will not constitute a waiver of any other right hereunder or any subsequent breach or default.
- 9.9 Counterparts. This Agreement may be executed in two (2) or more counterparts, all of which, taken together, shall be regarded as one and the same instrument.
- 9.10 Bankruptcy Code. All rights, licenses, privileges, releases, and immunities granted under this Agreement shall be deemed to be, for the purposes of Section 365(n) of the U.S. Bankruptcy Code, as amended (the "Bankruptcy Code"), licenses of rights to "intellectual property" as defined under

Section 101(35A) of the Bankruptcy Code. The parties agree that each of the parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. The parties further agree that, in the event that any proceeding shall be instituted by or against a party seeking to adjudicate it as bankrupt or insolvent, or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief or composition of that party or that party's debts under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors, or seeking an entry of an order for relief or the appointment of a receiver, trustee or other similar official for that party or any substantial part of its property or if a party hereto shall take any action to authorize any of the foregoing actions, the other party shall have the right to retain and enforce their respective rights under this Agreement.

- 9.11 Non-Controlled Entity. SK hynix hereby represents and warrants that on the Effective Date it is not a Subsidiary of any entity or person.
- 9.12 CRI Representation. Rambus represents and warrants that, to the best of its knowledge, SK hynix does not currently infringe or otherwise need a license under those Patents of CRI that have an effective filing date that are earlier than June 6, 2011.

REMAINDER OF PAGE INTENTIONALLY BLANK; SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed by duly authorized officers or representatives as of the date first above written.

RAMBUS INC.

SK HYNIX INC.

By: /s/ Kevin Donnelly By: /s/ Kyunghyun Min

Name: Kevin Donnelly Name: Kyunghyun Min

Title: SVP Title: VP

Date: June 11, 2013 Date: June 10, 2013

EXHIBIT A
ADDITIONAL OBLIGATIONS

A “Triggering Agreement” means, for this Exhibit A, an agreement or a series of agreements, in which each agreement in such series of agreements is fully-executed by the parties within a thirty-day period, entered into between (a) Rambus and/or one or more of its Subsidiaries and (b) [***] or one of its Subsidiaries pursuant to which Rambus grants [***] and each of its Subsidiaries (collectively, “[***]”) a license, under the Rambus Patents, to Sell [***], at any time between the Effective Date of this Agreement and the expiration or termination of the Term Product License contained herein, whether or not such license also covers the Sale of other products and pursuant to which:

- (a) in the event that [***] **has not**, as of the date of the later authorized signature of Rambus or [***] to such agreement or such series of agreements, [***], the actual average (mean) annual payments due under such agreement or such series of agreements from [***] (or if such payments are based on a running per unit royalty or percentage of total sales, the projected annual average (mean) amount that [***] will pay to Rambus) during the first [***] years of such agreement or such series of agreements immediately following the date of the later authorized signature of Rambus or [***] to such agreement or such series of agreements, irrespective of the term of such agreement or such series of agreements (such average, the “[***] Only Annual Average Payment”) is less than the multiple of [***] dollars (USD [***]) and (w/x), where “w” is the total amount of revenue of [***] and each of its Subsidiaries attributable to the Sale of [***] for the calendar year [***] as reported by iSuppli (USD [***]) and “x” is the total amount of revenue of SK hynix and each of its Subsidiaries attributable to the Sale of [***] for the calendar year [***] as reported by iSuppli (USD [***]) (such agreement or such series of agreements, the “[***] Triggering Agreement”; such (w/x) ratio the “[***] Ratio” ([***] %)); **or**,
- (b) in the event that [***] **has**, as of the date of the later authorized signature of Rambus or [***] to such agreement or such series of agreements, [***], the actual average (mean) annual payments due under such agreement or such series of agreements from [***] (or if such payments are based on a running per unit royalty or percentage of total sales, the projected annual average (mean) amount that [***] will pay to Rambus) during the first [***] years of such agreement or such series of agreements immediately following the date of the later authorized signature of Rambus or [***] to such agreement or such series of agreements, irrespective of the term of such agreement or such series of agreements (such average, the “[***] Annual Average Payment”) is less than the multiple of [***] (USD [***]) and (y/z), where “y” is the total amount of revenue of [***] and each of its Subsidiaries attributable to the Sale of [***] for (i) a half of calendar year [***] (as determined by halving the total such revenue for such calendar year as reported by Gartner) and (ii) calendar years [***] through [***] (as reported by iSuppli) (USD [***]) and “z” is the total amount of revenue of SK hynix and each of its Subsidiaries attributable to the [***] for (i) a half of calendar year [***] (as determined by halving the total such revenue for such calendar year as reported by Gartner) and (ii) calendar years [***] through [***] (as reported by iSuppli) (USD [***]) (such agreement or such series of agreements, the “[***] Triggering Agreement”; such (x/z) ratio, the “[***] Ratio” ([***] %)).

If Rambus enters into a Triggering Agreement at any time between the Effective Date of this Agreement and the earlier of the expiration or the termination of the Term Product License contained herein, Rambus shall, within [***] days after the full execution of the Triggering Agreement, deliver to SK hynix a draft of an agreement that Rambus believes reasonably and in good faith, includes all terms and conditions of such Triggering Agreement that are applicable to the Sales of [***] (“Substitute Agreement”), provided that:

- (a) the term of such Substitute Agreement shall extend until the expiration date of the Term Product License contained herein; and,

- (b) the Substitute Agreement will contain adjusted quarterly payment obligations as calculated by dividing the [***] Annual Average Payment by the [***] Ratio (if the Triggering Agreement is a [***] Triggering Agreement) or the [***] Annual Average Payment by the [***] Ratio (if the Triggering Agreement is a [***] Triggering Agreement).

If the Triggering Agreement contains any [***] agreed to by [***] in connection with the Sale of [***] by [***] during the term of the Triggering Agreement, and Rambus believes, reasonably and in good faith, that such [***] cannot be fulfilled by SK hynix, Rambus may provide substitute terms for such [***] [***] for such [***] that Rambus believes, reasonably and in good faith, are [***] in the Triggering Agreement and/or [***] in the Triggering Agreement.

SK hynix shall have [***] days after receipt of such Substitute Agreement to (i) accept, in writing, such Substitute Agreement and request, in writing, the signature of the same, in which case the parties shall exchange originally executed signature pages of the Substitute Agreement within [***] days of such request, or (ii) reject in writing such Substitute Agreement, in which case this Agreement shall remain in full force and effect in accordance with its terms. Upon SK hynix's acceptance or rejection of the Substitute Agreement, SK hynix shall no longer have any right to have its payments restructured (including under most favored customer or similar clauses), even if such restructure provision exists in the Triggering Agreement on which such Substitute Agreement is based.

Upon the first day of the calendar quarter in which the Substitute Agreement is fully executed, the Substitute Agreement shall become effective and this Agreement shall automatically and immediately terminate and, except as set forth in Section 6.5, shall be of no further force or effect, provided that any payments made by SK hynix in accordance with the terms and conditions of this Agreement in such quarter (e.g., the scheduled Quarterly License Payment), less any amounts owed or paid by SK hynix in accordance with the terms and conditions of the Substitute Agreement in such quarter, shall be credited against future amounts due under the Substitute Agreement.

SK hynix agrees that the existence of, and the terms and condition contained in, such Substitute Agreement shall be deemed Rambus Confidential Information subject to Section 7.2.

[***]

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

SETTLEMENT AGREEMENT

THIS SETTLEMENT AGREEMENT (the “Agreement”) is made and entered into as of the 9th day of December, 2013 (the “Effective Date”) by and among Rambus Inc., a Delaware corporation (“Rambus”), on the one hand, and Micron Technology, Inc., a Delaware corporation, together with its Subsidiaries (as defined in Article 1), Micron Semiconductors Products, Inc., an Idaho corporation, Micron Semiconductor (Deutschland) GmbH, a corporation organized under the laws of Germany, and Micron Technology Italia Srl, a corporation organized under the laws of Italy (collectively, “Micron”), on the other hand. Rambus and Micron may hereinafter be referred to collectively as the “Parties” and individually as a “Party.”

WHEREAS, Micron and its Subsidiaries and Rambus and its Subsidiaries are currently parties to a number of Disputes (as defined in Article 1) relating to certain products of Micron and certain Rambus Patents (as defined in Article 1), including but not limited to disputes as to whether claims of such Rambus Patents are infringed by Micron’s products, and disputes relating to the validity, enforceability and scope of such Rambus Patents, and the Antitrust Litigation (as defined in Article 1);

WHEREAS, the Parties desire to eliminate the risks associated with such litigation and to enter into a comprehensive resolution to compromise, settle and release the Disputes, and to compromise, resolve and avoid other disputes that may arise after the Effective Date with respect to Micron’s products and the Rambus Patents;

WHEREAS, the Parties acknowledge that in resolving the Disputes, and other disputes that may arise after the Effective Date, the promises and covenants each will receive under this Agreement and the Patent License Agreement (as defined in Article 1) represent a package, and are not intended to be severable from each other; in particular (a) Micron is receiving a full and final release of the claims asserted or that could be or could have been asserted against it in the Disputes and securing a license to certain claims of the Rambus Patents, in exchange for the Initial Payment and other payments set forth in the Patent License Agreement, and (b) Rambus is receiving the Initial Payment and other payments set forth in the Patent License Agreement, in exchange for granting such releases and licenses, as well as other benefits provided for in this Agreement and the Patent License Agreement;

WHEREAS, the Parties acknowledge that it is therefore essential that their respective obligations under this Agreement be certain and not subject to collateral attack, or otherwise subject to change or modification except on the terms expressly set forth therein;

WHEREAS, this Agreement is entered into for the purpose of settlement and compromise only,

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the Parties, the Parties agree as follows:

Article 1

Definitions

In addition to the terms defined in other parts of this Agreement, the following terms used herein with initial capital letters shall have the respective meanings specified in this Article 1.

- 1.1 Affiliate. The term “Affiliate” means, for an identified entity, any other entity that (a) is a Subsidiary of such identified entity; or (b) Controls or is under common Control of such identified entity, but only so long as such Control exists.
 - 1.2 Agreement. The term “Agreement” has the meaning set forth in the introductory paragraph.
 - 1.3 Antitrust Litigation. The term “Antitrust Litigation” means the matter entitled *Rambus Inc. v. Micron Technology Inc. et al.*, No. 04-431105 (Supr. Ct. Cal., San Fran. Filed May 5, 2004) and any appeals therefrom and related proceedings, including specifically the appeal in *Rambus Inc. v. Micron Technology, Inc., et al.*, in the Court of Appeal of the State of California, First Appellate District, Division Two, Case No. A135150.
 - 1.4 Change of Control. The term “Change of Control” has the meaning set forth in the Patent License Agreement.
 - 1.5 Comprehensive Resolution Agreements. The term “Comprehensive Resolution Agreements” means this Agreement and the Patent License Agreement.
 - 1.6 Control. The term “Control” has the meaning set forth in the Patent License Agreement.
 - 1.7 Design. The term “Design” has the meaning set forth in the Patent License Agreement.
 - 1.8 Disputes. The term “Disputes” means any and every litigation, lawsuit, or similar proceeding pending between the Parties as of the Effective Date in any court, governmental body, or agency in any jurisdiction, including the Patent Litigation, the German Patent Litigation, the Italian Patent Litigation, the Antitrust Litigation, and the Patent Actions, and any and all disputes related thereto.
 - 1.9 Effective Date. The term “Effective Date” has the meaning set forth in the introductory paragraph.
 - 1.10 Excluded Entity. The term “Excluded Entity” means Broadcom Corporation, LSI Corporation, MediaTek Inc., SK hynix Inc., SK hynix America Inc., Hynix Semiconductor Manufacturing America Inc., SK hynix U.K. Ltd., SK hynix Deutschland, GmbH, Nanya Technology Corporation, Nanya Technology Corporation U.S.A., NVIDIA Corporation, Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Semiconductor, Inc., Samsung Austin Semiconductor, L.P., STMicroelectronics N.V., STMicroelectronics Inc. and any other Third Party (including the Affiliates of such Third Party) that is an adverse party to Rambus or its Subsidiaries in any lawsuit, litigation or other similar proceedings pending as of the Effective Date.
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- 1.11 German Patent Litigation. The term "German Patent Litigation" means (a) the infringement action based on the German part of EP 0 525 068 and based on the German utility model DE 19 17 296.9 filed by Rambus Inc. against Micron Semiconductor (Germany) GmbH at the District Court Mannheim/Germany (Court docket 7 O 451/00) on August 31, 2000, which claim has been withdrawn on June 18, 2004 and April 28, 2006, respectively, (b) the infringement action based on the German part of EP 1 022 642, filed by Rambus Inc. against Micron Semiconductor (Deutschland) GmbH at the District Court Mannheim/Deutschland (Court docket 7 O 452/01) on August 9, 2001, which proceedings are stayed (decision dated July 29, 2002), and (c) the infringement suit based on the German part of EP 1 022 642 filed by Rambus Inc. against Micron Technology at the Administrative Court Karlsruhe/Deutschland (Court docket 6 K 2021/01), which proceedings have been continued with the District Court Mannheim/Germany (Court docket 7 O 131/02) and stayed (decision dated July 26, 2002) (the "value in dispute" for such decision has preliminarily been fixed to EUR 2.500.000 (decision dated March 3, 2003)).
- 1.12 Initial Payment. The term "Initial Payment" has the meaning set forth in the Patent License Agreement.
- 1.13 Italian Patent Litigation. The term "Italian Patent Litigation" means the matters entitled (a) *Micron Technology Inc. and Micron Technology Italia Srl v. Rambus Inc.*, Docket nos. 33560/01 and 61500/09, District Court of Milan (J. Bichi), and (b) *Micron Technology Inc. and Micron Technology Italia Srl v. Rambus Inc.*, Docket no. 18700/2011, Supreme Court.
- 1.14 Licensed Product. The term "Licensed Product" has the meaning set forth in the Patent License Agreement.
- 1.15 Micron. The term "Micron" has the meaning set forth in the introductory paragraph.
- 1.16 Micron Patents. The term "Micron Patents" has the meaning set forth in the Patent License Agreement.
- 1.17 Micron Product. The term "Micron Product" has the meaning set forth in the Patent License Agreement.
- 1.18 Party. The terms "Party" and "Parties" have the meanings set forth in the introductory paragraph.
- 1.19 Patent Actions. The term "Patent Actions" means all United States Patent and Trademark Office, all European Patent Office and all other governmental reexamination proceedings, oppositions, actions or challenges filed, requested or supported by Micron with respect to any Rambus Patents, and any appeals thereof, as of the Effective Date, including without limitation all such reexaminations and/or oppositions of U.S. Patent, European Patent and or other governmental Patent numbers.
- 1.20 Patent License Agreement. The term "Patent License Agreement" has the meaning set forth in Article 2.
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- 1.21 Patent Litigation. The term “Patent Litigation” means the matters entitled *Micron Technology, Inc. v. Rambus Inc.*, No. 00-792 (D. Del. Filed Aug. 28, 2000) and *Rambus Inc. v. Micron Technology, Inc., et al.*, No. C-06-00244 (N.D. Cal. Filed Jan. 13, 2006), and any appeals therefrom and related proceedings, including specifically the appeal in *Micron Technology, Inc. v. Rambus, Inc.*, Federal Circuit No. 13-1294 (“Delaware Appeal”).
- 1.22 Patents. The term “Patents” has the meaning set forth in the Patent License Agreement.
- 1.23 Rambus. The term “Rambus” has the meaning set forth in the introductory paragraph.
- 1.24 Rambus Patents. The term “Rambus Patents” has the meaning set forth in the Patent License Agreement.
- 1.25 Rambus Leadership Products. The term “Rambus Leadership Products” has the meaning set forth in the Patent License Agreement.
- 1.26 [***]
- 1.27 Subsidiary. The term “Subsidiary” has the meaning set forth in the Patent License Agreement.
- 1.28 Third Party. The term “Third Party” means with respect to a specified Party, or any Subsidiary of such specified Party, any entity that is not the specified Party or an Affiliate or Subsidiary of such specified Party.

Article 2

Patent License Agreement

Concurrent with the execution and delivery of this Agreement, and as an integral part of the overall consideration received by the Parties in respect of their respective releases, covenants not to sue, and other obligations under this Agreement, Rambus and Micron shall enter into the Patent License Agreement in the form attached hereto as Exhibit A (the “Patent License Agreement”).

Article 3

Releases

Subject to the delivery of the Initial Payment in accordance with the Patent License Agreement, and the execution and delivery of the Patent License Agreement in accordance with Article 2 (for the avoidance of doubt, none of the Parties’ releases, covenants not to sue, or other obligations under this Article 3 shall be effective until Rambus has received the full amount of the Initial Payment in accordance with the Patent License Agreement and the execution and delivery of the Patent License Agreement in accordance with Article 2):

3.1 Release by Rambus.

Effective upon Rambus’ receipt of the Initial Payment as set forth in the Patent License Agreement, Rambus, on behalf of itself and its Subsidiaries, and its and their respective

former and current agents, representatives, directors, officers, employees, predecessors, successors, and attorneys (collectively, "Rambus Group") hereby irrevocably releases, acquits, and forever discharges Micron, its Subsidiaries, its and their respective former and current agents, representatives, directors, officers, employees, predecessors, successors, and attorneys (collectively, "Micron Group") from any and all claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind, [***], including but not limited to (i) any and all claims of any kind for infringement of the Rambus Patents arising from the manufacture, use, importation, exportation, sale or offer for sale of any products up until the Effective Date and (ii) any and all claims that were alleged or could have been alleged by Rambus Group in any Disputes.

3.2 Release by Micron.

Effective upon Rambus' receipt of the Initial Payment as set forth in the Patent License Agreement, Micron, on behalf of Micron Group, hereby irrevocably releases, acquits, and forever discharges Rambus Group from any and all claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action of any kind, known or unknown, suspected or unsuspected, that arise or arose from or relate in any way to any act of Rambus Group prior to the Effective Date, where such act gives or gave rise to a cause of action that Micron Group had standing to assert against Rambus Group, or against any other Person as to whom Rambus Group was then obliged by written agreement to indemnify, including but not limited to (i) any and all claims of any kind for infringement of the Micron Patents arising from the manufacture, use, importation, exportation, sale or offer for sale of any Design up until the Effective Date and (ii) any and all claims that were alleged or could have been alleged by Micron Group in any Disputes.

3.3 Releases Shall Remain Effective. Each of Rambus and Micron acknowledges that, after entering into this Agreement, they may discover facts different from, or in addition to, those they now believe to be true with respect to the conduct of the other Party. Each of Rambus and Micron intends that the releases and discharges set forth in this Article 3 shall be, and shall remain, in effect in all respects as written, notwithstanding the discovery of any different or additional facts.

3.4 Waiver of California Civil Code § 1542. In connection with the releases and discharges described in this Article 3, each of Rambus and Micron acknowledges that it is aware of the provisions of section 1542 of the Civil Code of the State of California, and hereby expressly waives and relinquishes all rights and benefits that it has or may have had under that section (or any equivalent law or rule of any other jurisdiction), which reads as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

3.5 [***]

Rambus, on behalf of itself and its Subsidiaries, hereby covenants not to assert any claims of infringement of the Rambus Patents against Micron's distributors and customers or against Micron's Subsidiaries' distributors and customers solely arising from the use, importation, sale or offer for sale up until the Effective Date of any Micron Products.

3.6 Certain Exclusions. For the avoidance of doubt:

- (a) The releases and covenants not to sue contained in this Article 3 shall apply solely to (i) the activities occurring prior to the Effective Date of each of the Parties, (ii) the activities occurring prior to the Effective Date of each of the Parties' respective Subsidiaries existing on or prior to the Effective Date [***]. In no event shall the releases and covenants not to sue contained in this Article 3 apply to the activities, whether occurring prior to or after the Effective Date, of (1) any Third Party with or into which a Party merges or combines, whether or not such Party remains the surviving entity, or (2) any Third Party and/or portion of the assets of any business of a Third Party that may be acquired by a Party, through merger (including reverse triangular merger), acquisition of stock, acquisition of assets or otherwise, in each case, after the Effective Date.
- (b) The releases and covenants not to sue contained in this Article 3 are not intended to and do not extend to any Excluded Entity.

3.7 Dismissals and Other Provisions Terminating the Disputes.

- (a) [***], Micron and Rambus, through their respective counsel, shall take all necessary and permissible actions to obtain dismissal with prejudice of all claims, counterclaims, cross-claims and cross-complaints asserted against one another and/or one another's Subsidiaries in the Patent Litigation and the Antitrust Litigation and the withdrawal or dismissal with prejudice of all appeals therefrom. Such dismissals are final and not appealable.
 - (b) [***]. Both Parties shall, [***], withdraw or discontinue any formal or informal complaints, requests, petitions, actions, or other proceedings they may have pending against the other Party or its Subsidiaries before any court or regulatory body anywhere in the world related to the claims, counterclaims, demands, damages, debts, liabilities, accounts, actions and causes of action released by this Agreement or that relate in any way to the Rambus Patents or the Micron Patents. For the avoidance of doubt, this provision (i) requires Micron to withdraw and discontinue the German Patent Litigation, (ii) requires the Parties, through their respective counsel, to withdraw the Italian Patent Litigation by executing, delivering and submitting such documents as may be necessary to dismiss those cases, and (iii) does not require Rambus to withdraw any complaint or other proceeding as against parties other than Micron or its Subsidiaries.
 - (c) [***], Micron shall, to the full extent permitted by applicable law, withdraw, cease to prosecute or pursue and notify the U.S. Patent and Trademark Office, the
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European Patent Office, and/or other applicable governmental agency, that it no longer intends to participate in, the Patent Actions.

- (d) The Parties and their counsel shall cooperate in good faith to effect the dismissals and withdrawals required by Sections 3.7(a), (b), and (c) herein.

- 3.8 Costs and Attorneys' Fees. For any and all cases, lawsuits, proceedings, Disputes and Patent Actions, including but not limited to the Patent Litigation, German Patent Litigation, the Italian Patent Litigation and the Antitrust Litigation, the Parties agree that each will pay its own costs and attorneys' fees and that neither will file requests for costs or fees or otherwise seek to recover its fees and/or costs. Without limiting the foregoing, Micron shall not seek to recover any costs previously awarded to it in the Antitrust Litigation. Any bills of costs, judgments or other requests previously filed or awarded in such cases that have not yet been paid including without limitation the judgment for costs awarded to Micron in the Antitrust Litigation shall be withdrawn or vacated.
- 3.9 No Admission. Nothing contained in any of the Comprehensive Resolution Agreements, or done or omitted in connection with any of the Comprehensive Resolution Agreements, is intended as, or shall be construed as, an admission by any Party of any fault, liability or wrongdoing.
- 3.10 No Further Actions. During the Initial Term-Product License Period (as defined in the Patent License Agreement) and each Term-Product License Renewal Period (as defined in the Patent License Agreement) , if any, and as part of the settlement of claims and releases contemplated by this Agreement, during the term of the Patent License Agreement, and in each case unless and to the extent required by court order, summons, subpoena or judicial or regulatory agency order or rule:
- (a) Micron covenants not to bring, or aid, assist or participate in, any action or proceeding challenging or contesting the assertion, enforcement, validity or enforceability of, or any use or infringement by any Third Party of, the Rambus Patents, including but not limited to filing, requesting, participating or assisting in any of the Patent Actions, provided that, notwithstanding the foregoing, Micron may assist (e.g., provide prior art and/or non-infringement analyses to) each Third Party to whom Micron has distributed or sold a Micron Product before the Effective Date or a Licensed Product during the term of the license associated with such Licensed Product as set forth in the Patent License Agreement, in its defense of any claim of a Rambus Patent asserted against such Third Party by Rambus to the extent that Micron is obligated to provide such Third Party with such assistance pursuant to an indemnification provision;
 - (b) [***]; and
 - (c) Each Party covenants not to (i) file or bring a complaint against, or formally or informally request or urge investigation of, the other Party or any of its Subsidiaries before any regulatory body, or (ii) support, cooperate with or otherwise assist any Third Party in any dispute against the other Party or any of its Subsidiaries, or any regulatory body in any proceeding involving the other Party or any of its
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Subsidiaries, in each case in any matter related to the claims, counterclaims, defenses, demands, damages, debts, liabilities, accounts, actions and causes of action released by this Agreement, including but not limited to filing, requesting, participating or assisting in any United States, European, or other patent office reexamination proceedings, actions, challenges, oppositions or interferences with respect to Patents of the other Party or any of its Subsidiaries, and filing *amicus curiae* briefs in the Patent Litigation, the Antitrust Litigation, or any other Dispute.

Article 4

Warranties

Each Party represents, warrants and covenants, on behalf of itself and its Subsidiaries, to the other Party during the term of this Agreement:

- 4.1 **Due Incorporation**. Such Party is duly incorporated, validly existing and in good standing under the laws of its jurisdiction of formation with the requisite corporate authority to own and use its properties and assets and to carry on its business as currently conducted.
 - 4.2 **Due Authorization; Enforceability**. Such Party has the requisite corporate or other authority to enter into, and to grant the releases and discharges, make the covenants, and consummate the transactions contemplated by, this Agreement, on behalf of itself and its Subsidiaries, and otherwise to carry out its and its Subsidiaries' obligations hereunder. The execution, delivery and performance of this Agreement by such Party and its Subsidiaries has been duly authorized by all necessary action of such Party and its Subsidiaries, and no other act or proceeding on the part of or on behalf of such Party and its Subsidiaries is necessary to approve the execution and delivery of this Agreement, the performance by such Party and its Subsidiaries of their obligations hereunder and the consummation of the transactions contemplated hereby. This Agreement has been duly executed and delivered by such Party and constitutes a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and similar laws relating to or affecting creditors generally, by general equity principles or by limitations on indemnification pursuant to public policy.
 - 4.3 **No Conflicts; No Consents**. The execution, delivery and performance of this Agreement by such Party and its Subsidiaries, including but not limited to the granting of the releases and discharges contemplated hereby, will not infringe any law, regulation, judgment or order applicable to such Party and its Subsidiaries and is not and will not be contrary to the provisions of the constitutional documents of such Party and its Subsidiaries and will not (with or without notice, lapse of time or both) result in any breach of the terms of, or constitute a default under, any instrument or agreement to which such Party and its Subsidiaries is a party or by which it or its property is bound. All consents and approvals of any court, government agencies or other regulatory body required by such Party and its Subsidiaries for the execution, delivery and performance of the terms of this Agreement have been obtained and are in full force and effect.
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4.4 No Assignment of Claims. Each Party represents and warrants that it has not assigned, transferred or granted to any Third Party any rights or interests with respect to any claim or cause of action, or any right(s) underlying any claim or cause of action, it had, has, or may have against the other or its Subsidiaries as of, or prior to, the Effective Date of this Agreement.

4.5 Micron Electronics, Inc. Micron represents and warrants that Micron Electronics, Inc. is not a Subsidiary of Micron.

Article 5

Notices and other Communications

5.1 All notices or other communication required or permitted hereunder shall be in writing and shall be (a) mailed by first class air mail (registered or certified if available), postage prepaid, or otherwise delivered by hand, by messenger, addressed to the addresses set forth below, or (b) delivered by facsimile to the facsimile number set forth below. Each Party may change its address or facsimile number for notices by providing a notice to the other Party in the manner set forth herein. Such notices shall be deemed to have been effective when delivered or, if delivery is not accomplished by reason of some fault or refusal of the addressee, when tendered (which tender, in the case of mail, shall be deemed to have occurred upon posting, and in the case of facsimile, shall be deemed to have occurred upon transmission). All notices shall be in English.

If to Micron:

Micron Technology, Inc.
8000 S. Federal Way
Boise, Idaho 83716-9632
Telephone: 208-368-4500
Facsimile: 208-368-4540
Attention: General Counsel

If to Rambus:

Rambus Inc.
1050 Enterprise Way, Suite 700
Sunnyvale, CA 94089
Telephone: 408-462-8000
Facsimile: 408-462-8001
Attention: General Counsel

(with a copy, which shall not constitute notice, to the following:)

Satish Rishi
Chief Financial Officer
Rambus Inc.
4440 El Camino Real
Los Altos, CA 94022
Telephone: 408-462-8000
Facsimile: 408-462-8001

Article 6

Successors and Assigns

- 6.1 Subject to the limitation in Section 3.6 and 8.5, this Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs, successors and assigns, and upon any corporation, limited liability partnership, limited liability company, or other entity into or with which any Party hereto may merge, combine or consolidate. For the avoidance of doubt, this provision does not govern the rights or obligations of successors or assigns of the Parties under the Patent License Agreement. The releases, dismissals and covenants granted by each Party and its Subsidiaries under this Agreement (but not any benefits received by such Party or its Subsidiaries under this Agreement) shall run with (a) in the case of Micron, the Micron Patents or (b) in the case of Rambus, the Rambus Patents, and remain in full force and effect regardless of any subsequent assignment, sale or other transfer of any such Micron Patents or Rambus Patents or any rights or interests therein. Any such assignment, sale, or transfer of rights in contravention of the foregoing shall be null and void *ab initio* and of no force or effect.

Article 7

Dispute Resolution

- 7.1 **Governing Law**. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any choice-of-law or conflict-of-law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.
- 7.2 **English Language**. This Agreement is executed in the English language and no translation shall have any legal effect.
- 7.3 **Jurisdiction and Venue**. Any legal action, suit or proceeding arising under, or relating to, this Agreement, shall be brought in State or Federal Courts located in the State of Delaware, and each Party agrees that any such action, suit or proceeding may be brought only in such courts. Each Party further waives any objection to the laying of jurisdiction and venue for any such suit, action or proceeding in such courts.

Article 8

Miscellaneous

- 8.1 **Entire Agreement**. This Agreement and the Patent License Agreement embody the entire understanding of the Parties with respect to the subject matter hereof, and merges all prior oral or written communications between them, and neither of the Parties shall be bound by any conditions, definitions, warranties, understandings, or representations with respect to the subject matter hereof other than as expressly provided herein.
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- 8.2 Relationship of the Parties. Nothing contained in this Agreement or the Patent License Agreement shall be construed as creating any association, partnership, joint venture or the relation of principal and agent between Rambus and Micron. Each Party is acting as an independent contractor, and no Party shall have the authority to bind any other Party or its representatives in any way.
- 8.3 Headings and Recitals. The headings of the several articles and sections are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement. The recitals to this Agreement are intended to be a part of and affect the meaning and interpretation of this Agreement.
- 8.4 Modification; Waiver. No modification or amendment to this Agreement, nor any waiver of any rights, will be effective unless assented to in writing by the Party to be charged, and the waiver of any breach or default will not constitute a waiver of any other right hereunder or any subsequent breach or default.
- 8.5 No Assignment. This Agreement is personal to the Parties, and the Agreement and/or any right or obligation hereunder is not assignable, whether in conjunction with a change in ownership, merger, acquisition, the sale or transfer of all, or substantially all or any part of either Party's or any of their respective Subsidiaries' business or assets or otherwise, voluntarily, by operation of law, reverse triangular merger or otherwise, without the prior written consent of the other Party, which consent may be withheld at the sole discretion of such other Party. Each Party understands that, as a condition to such consent, the other Party may require it to convey, assign or otherwise transfer its rights and obligations under the other Comprehensive Resolution Agreements to the entity assuming such Party's rights and obligations under this Agreement. Any such purported or attempted assignment or transfer in violation of the foregoing shall be deemed a breach of this Agreement and shall be null and void. Notwithstanding the foregoing, either Party shall be entitled to, and each Party hereby agrees to, assign this Agreement to a successor to all or substantially all of a Party's assets in a transaction entered into solely to change a Party's place of incorporation.
- 8.6 Interpretation. Each Party confirms that it and its respective counsel have reviewed, negotiated and adopted this Agreement as the agreement and understanding of the Parties hereto and the language used in this Agreement shall be deemed to be the language chosen by the Parties hereto to express their mutual intent. Regardless of which Party may have drafted this Agreement or any part thereof, no rule of strict construction shall be applied against either Party. For the avoidance of doubt "includes", "including", "included", and other variations of such terms shall be deemed to be followed by the phrase "without limitation".
- 8.7 No Third Party Beneficiaries. Unless otherwise expressly stated herein, nothing in this Agreement, express or implied, is intended to confer upon any person other than the Parties hereto or their respective permitted assignees, successors in interest, and Subsidiaries any rights or remedies under or by reason of this Agreement. The former and current agents, representatives, directors, officers, employees, and attorneys of the Parties and their Subsidiaries are intended beneficiaries of Sections 0, 0, 0, 3.4, and 3.5.
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- 8.8 Severability. If any provision of any Comprehensive Resolution Agreement is held to be invalid or unenforceable, the meaning of such provision shall be construed, to the extent feasible, so as to render the provision enforceable and to effectuate the intent and purpose of the Parties with respect to such invalid or unenforceable provision, and if no feasible interpretation shall save such provision, (a) a suitable and equitable provision shall be substituted therefor in order to effectuate, so far as may be valid and enforceable, the intent and purpose of the Parties with respect to such invalid or unenforceable provision, and (b) the remainder of such Comprehensive Resolution Agreement shall remain in full force and effect.
- 8.9 Counterparts; Facsimile Transmission. This Agreement may be executed in two (2) or more counterparts, all of which, taken together, shall be regarded as one and the same instrument. Each Party may rely on facsimile or .pdf signature pages as if such facsimile or .pdf pages were originals.
- 8.10 Bankruptcy Code. All rights, licenses, privileges, releases, and immunities granted under this Agreement shall be deemed to be, for the purposes of Section 365(n) of the U.S. Bankruptcy Code, as amended (the “Bankruptcy Code”), licenses of rights to “intellectual property” as defined under Section 101(35A) of the Bankruptcy Code. The Parties agree that each of the Parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. [***].
- 8.11 Further Actions. Each of the Parties hereto agrees to take and cause its Subsidiaries to take any and all actions reasonably necessary in order to effectuate the intent, and to carry out the provisions, of this Agreement.
- 8.12 Public Disclosures and Confidentiality. The Parties shall issue a press release with respect to the Comprehensive Resolution Agreement in a mutually acceptable form. Each Party agrees that, after the issuance of such press release, each Party shall be entitled to disclose the general scope and nature of this Agreement, but that the terms and conditions of this Agreement, to the extent not already disclosed pursuant to such press release, shall be treated as confidential information and that neither Party will disclose such terms or conditions to any Third Party without the prior written consent of the other Party, provided, however, that each Party may disclose the terms and conditions of this Agreement:
- (a) as required by any court or other governmental body;
 - (b) as otherwise required by law;
 - (c) as otherwise may be required by applicable securities and other law and regulation, including to legal and financial advisors in their capacity of advising a party in such matters, so long as the disclosing Party shall seek confidential treatment of such terms and conditions to the extent reasonably possible;
 - (d) to legal counsel, accountants, and other professional advisors of the Parties;
 - (e) in confidence, to banks, investors and other financing sources and their advisors;
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- (f) in connection with the enforcement of this Agreement or rights under this Agreement;
- (g) during the course of litigation so long as the disclosure of such terms and conditions are restricted in the same manner as is the confidential information of other litigating parties and so long as (i) the restrictions are embodied in a court-entered protective order limiting disclosure to outside counsel and (ii) the disclosing party informs the other party in writing at least ten (10) business days in advance of the disclosure and discusses the nature and contents of the disclosure, in good faith, with the other party (for purposes of this provision, the Protective Order entered in the Antitrust Litigation is acceptable, as long as the disclosure is designated as both "Highly Confidential-BP and Highly Confidential-IP");
- (h) in confidence, in connection with an actual or prospective merger or acquisition or similar transaction; or
- (i) in confidence, in connection with a Party's obligation(s) under any most favored nation, or similar clause, whereby such Party is contractually obligated to disclose and offer terms given to Third Parties.

In addition, upon execution of this Agreement, or thereafter, Rambus, in its discretion, shall be entitled to file a copy of this Agreement with the U.S. Securities and Exchange Commission, so long as Rambus seeks confidential treatment of such agreement to the extent reasonably possible. In addition, [***].

IN WITNESS WHEREOF, this Agreement has been duly and executed and delivered by the duly authorized officers of the Parties hereto as of the date first written above.

RAMBUS INC.

By: /s/ Kevin Donnelly
Name: Kevin Donnelly

MICRON TECHNOLOGY, INC.

By: /s/ Brian M. Shirley
Name: Brian M. Shirley

MICRON SEMICONDUCTOR PRODUCTS, INC.

By: /s/ Thomas L. Laws Jr.
Name: Thomas L. Laws Jr.

MICRON TECHNOLOGY ITALIA, SRL

By: /s/ Thomas L. Laws Jr.
Name: Thomas L. Laws Jr.

MICRON SEMICONDUCTOR (DEUTSCHLAND) GMBH

By: /s/ Thomas L. Laws Jr.
Name: Thomas L. Laws Jr.

EXHIBIT A

PATENT LICENSE AGREEMENT

SEMICONDUCTOR PATENT LICENSE AGREEMENT

Incorporated by reference to Exhibit 10.16 to the Annual Report on Form 10-K for the fiscal year ended
December 31, 2013

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

SEMICONDUCTOR PATENT LICENSE AGREEMENT

This SEMICONDUCTOR PATENT LICENSE AGREEMENT (“Agreement”) is effective as of December 1, 2013 (“Effective Date”) by and between Rambus Inc., a corporation duly organized and existing under the laws of Delaware, U.S.A., having its principal place of business at 1050 Enterprise Way, Suite #700, Sunnyvale, California 94089, U.S.A., (hereinafter “Rambus”) and Micron Technology, Inc., a corporation duly organized and existing under the laws of Delaware, U.S.A., having its principal place of business at 8000 S. Federal Way, Boise, Idaho 83716, U.S.A., (hereinafter “Micron”). Micron and Rambus shall be referred to herein individually as a Party, and collectively as the Parties.

WHEREAS, Rambus and Micron are currently parties to a number of disputes, including, but not limited to, the Antitrust Litigation and disputes relating to Rambus Patents;

WHEREAS, the Parties recognize that litigation of such disputes is inherently uncertain, and is subject to certain risks and to various possible outcomes, some of which may be more favorable to Rambus, and some of which may be more favorable to Micron;

WHEREAS, concurrent with the execution and delivery of this Agreement, the Parties have entered into a Settlement Agreement (the “Settlement Agreement”) to eliminate the risks associated with such litigation and to enter into a comprehensive resolution to compromise, settle and release certain existing claims and disputes between them, and to resolve and avoid other disputes that may arise after the Effective Date;

WHEREAS, as part of such comprehensive resolution, the Parties have agreed to enter into this Agreement; and,

WHEREAS, because this Agreement is part of such comprehensive resolution, the Parties acknowledge that it is essential that their respective obligations under this Agreement be certain and not subject to collateral attack, or otherwise subject to change or modification except on the terms expressly set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants and premises contained herein, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the Parties, the Parties, on behalf of themselves and of each of their respective Subsidiaries, agree as follows:

1. Definitions

1.1 “Acquired Business” means (a) a Third Party, (b) substantially all of the business or assets of a Third Party, (c) any business unit and/or product line of a Third Party, or (d) substantially all of the business and assets used by a Third Party in connection with a Qualified Product Line, that either Party or any of its Subsidiaries acquires in an Acquisition.

1.2 “Acquisition” means, as to a Party, a transaction or a series of related transactions in which such Party acquires, through merger (including reverse triangular merger), acquisition of stock, acquisition of assets or otherwise, (i) the Control of a Third Party, (ii) ownership of substantially all of the assets or business of a Third Party, (iii) ownership of any business unit and/or product line of a Third Party, or (iv) ownership of substantially all of the business and assets used by a Third Party in connection with a Qualified Product Line.

1.3 “Acquisition Date” means the closing date of any Acquisition.

- 1.4 “Acquisition Products” means DRAMs, DRAM Controllers, SerDes ICs, Resistive RAMs, and RAM Flash Memories.
- 1.5 “Affiliate” means, for an identified entity, any other entity that (a) is a Subsidiary of such identified entity or (b) Controls or is under common Control with such identified entity, but only for so long as such Control exists.
- 1.6 “Antitrust Litigation” means the matter entitled *Rambus Inc. v. Micron Technology Inc.*, No. 04-431105 (Sup. Ct. Cal., San Fran. Filed May 5, 2004).
- 1.7 “Change of Control” as applied to any specified entity means a transaction or a series of related transactions in which (a) a Third Party or Related Parties who did not previously Control such entity obtain(s) Control of such entity, or (b) such entity merges with or transfers substantially all of its assets to a Third Party and the shareholders of such entity immediately before the transaction or series of related transactions own less than a fifty percent (50%) interest in the acquiring or surviving entity immediately after the transaction or series of related transactions.
- 1.8 “Component” means any product comprised of one or more Integrated Circuits physically connected, stacked, or attached to a unitary substrate, directly, or through supporting material such as silicon interposers, or the like, or other Integrated Circuit where all other elements of such product operate primarily to provide physical support, packaging and/or connectivity with respect to such Integrated Circuits. Examples of Components include DIMMs, SIMMs and other modules, and cards, multi-chip packages (MCP), system-on-chip, system-in-package, system-on-insulator, solid state storage devices, and other form factors.
- 1.9 “Control” (including “Controlled” and other forms) of an entity means (a) beneficial ownership (whether directly or indirectly through entities or other means) of more than fifty percent (50%) of the outstanding voting securities of that entity or (b) in the case of an entity that has no outstanding voting securities, having (whether directly or indirectly) more than fifty percent (50%) of the power to direct the management and control of such entity.
- 1.10 “CRI” means Cryptography Research, Inc., a Subsidiary of Rambus.
- 1.11 “CRI Patents” means Patents of CRI or its Subsidiaries.
- 1.12 “Custom Memory IC” means each Memory IC that substantially implements the minimum set of features, parameters, and protocols defined in a Technical Specification developed by Micron for a specific customer, by such specific customer, or jointly by Micron and such specific customer, in each case where such Memory IC is Sold by Micron or a Subsidiary of Micron as a Micron Product solely to such customer.
- 1.13 “DDR DRAM” means each double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for DDR DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x4, x8, x16, and/or x32.
- 1.14 “DDR Mobile RAM” means each low-power DDR DRAM.
- 1.15 “DDR2 DRAM” means each double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for DDR2 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being
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capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x4, x8, x16 and/or x32.

1.16 “DDR2 Mobile RAM” means each low-power DDR2 DRAM.

1.17 “DDR3 DRAM” means each double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for DDR3 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x4, x8, x16 and/or x32.

1.18 “DDR4 DRAM” means each double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for DDR4 DRAM, (b) is solely capable of communicating with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x4, x8, x16 and/or x32.

1.19 “Design” means any human or machine readable representation of a design, such as a circuit layout in a drawing or a register transfer level description (RTL) file, for any product.

1.20 “DRAM” means a random-access Memory IC which requires periodic refresh for the maintenance of the bits stored within its memory cells at least every ten (10) seconds, and which does not guarantee said bits to be retained within the memory cells when they cease to receive electrical power. The term “DRAM” shall not include RAM Flash Memory or Resistive RAM.

1.21 “DRAM Controller” means any Integrated Circuit having circuitry integrated thereon or contained therein that is capable through an Interface of transmitting and/or receiving data from a DRAM.

1.22 “Effective Date” has the meaning assigned in the first paragraph of this Agreement.

1.23 “Elpida” means Elpida Memory, Inc., a Subsidiary of Micron, and also known as Micron Memory Japan, Inc.

1.24 “Elpida Patent License Agreement” means that certain Memory Products Patent License Agreement entered into by and between Rambus and Elpida as of January 1, 2010, as amended by that certain Amendment No. 1 to Memory Products Patent License Agreement dated August 12, 2012 and that certain Amendment No. 2 to Memory Products Patent License Agreement dated September 14, 2013.

1.25 “Elpida Technology License Agreement” means that certain Direct Rambus DRAM Semiconductor Technology License Agreement entered into by and between Rambus and Elpida as of the later of (a) May 26, 2006 or (b) the date upon which Elpida became an Ultimate Parent Entity (as such term is defined in such agreement) and provided Rambus with written notice thereof in accordance with Section 9.3 of such agreement.

1.26 “Elpida XDR License Agreement” means that certain Yellowstone DRAM Semiconductor Technology License Agreement entered into by and between Rambus and Elpida effective as of March 18, 2003.

1.27 “Existing Rambus Agreement” has the meaning assigned in Section 5.2(b).

1.28 “Expiration Date” means the seventh (7th) anniversary of the Effective Date.

1.29 “Former Subsidiary” has the meaning assigned to it in Section 4.2.

- 1.30 “GDDR DRAM” means each graphics double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for GDDR DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x16 and x32.
- 1.31 “GDDR2 DRAM” means each graphics double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for GDDR2 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x16 and x32.
- 1.32 “GDDR3 DRAM” means each graphics double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for GDDR3 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x16 and x32.
- 1.33 “GDDR4 DRAM” means each graphics double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for GDDR4 DRAM, (b) is solely capable of communicating with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x16 and x32.
- 1.34 “GDDR5 DRAM” means each graphics double data rate DRAM that (a) substantially implements those interface features, parameters, and protocols in the same manner in all material respects as the DRAM Sold by Micron or its Subsidiaries on or before the Effective Date as “GDDR5 DRAM” or implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for GDDR5 DRAM, (b) contains features enabling communication with any other Integrated Circuit either, prior to the publication of such Technical Specification, through the protocol contained in such DRAM Sold by Micron or its Subsidiaries on or before the Effective Date as “GDDR5 DRAM” or, after the publication of such Technical Specification, in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with a data bit width other than x16 and x32.
- 1.35 “Hybrid Memory Cube 1.X DRAM” means each DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by the Hybrid Memory Cube Consortium as HMC Specification 1.X, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating at a data transfer rate exceeding [***].
- 1.36 “Hybrid Memory Cube 2.X DRAM” means each DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined or recommended in any Technical
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Specification published by the Hybrid Memory Cube Consortium as HMC Specification 2.X, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating at a data transfer rate exceeding [***].

- 1.37 “IMFT” means IM Flash Technologies, LLC, a Micron Joint Venture that is jointly owned by Micron and Intel Corporation.
- 1.38 “Indirect Infringement” means any form of patent infringement where the accused infringer is not directly infringing the subject patent right(s), but who contributes to or induces the direct infringement of the subject patent right(s) by a Third Party by, for example (without limitation), and with knowledge of the subject patent right(s) alleged to be infringed, supplying designs, parts or instructions to the Third Party that enable such Third Party to infringe directly the subject patent right(s).
- 1.39 “Industry Standards Setting Body” means any industry standards setting organization (e.g., a collection of companies that cooperate, under contract or applicable law, in the drafting and publication of a Technical Specification that is intended, if implemented, to increase the compatibility between various products), including, but not limited to, JEDEC and the Hybrid Memory Cube Consortium, that publishes for industry adoption one or more Technical Specifications that define a minimum set of features, parameters and protocols for one or more Interfaces for Memory ICs.
- 1.40 “Initial Paid-Up Product” means each Micron Product that is an SDR DRAM, DDR DRAM, DDR2 DRAM, DDR3 DRAM, GDDR DRAM, GDDR2 DRAM, GDDR3 DRAM, GDDR4 DRAM, GDDR5 DRAM, LPDDR DRAM, LPDDR2 DRAM, LPDDR3 DRAM, RDRAM, DDR Mobile RAM, DDR2 Mobile RAM, Wide I/O Mobile DRAM, and Hybrid Memory Cube 1.X DRAM. Notwithstanding the foregoing sentence, any product that constitutes a Rambus Leadership Product shall be deemed not to be an Initial Paid-Up Product.
- 1.41 “Initial Paid-Up Product License” means the rights and licenses granted pursuant to Section 2.1(b).
- 1.42 “Initial Payment” has the meaning assigned to it in Section 5.1(a).
- 1.43 “Initial Term-Product License Period” means the period of time that starts on the Effective Date and ends on the earlier of (a) the Expiration Date or (b) the date, if any, on which the Term-Product License is terminated.
- 1.44 “Initial Term-Product License Renewal Period” has the meaning assigned to it in Section 7.1(d).
- 1.45 “Inotera” means Inotera Memories, Inc. (華亞科技股份有限公司), a company incorporated under the laws of the Republic of China.
- 1.46 “Integrated Circuit” means a single, discrete integrated circuit chip, whether in wafer, singulated die or packaged die form. For clarity, the term “Integrated Circuit” specifically excludes any substrate on which or to which such integrated circuit chip in packaged form may be physically attached.
- 1.47 “Interface” means an electrical, optical, RF, mechanical, or software data path that is capable of conveying information between two or more (a) Integrated Circuits or (b) portions of an Integrated Circuit, in each case together with the set of protocols defining the electrical, physical, timing and/or functional characteristics, sequences and/or control procedures of such data path.
- 1.48 “JEDEC” means the JEDEC Solid State Technology Association, originally known as the Joint Electron Device Engineering Council, a non-stock corporation organized and existing under the laws of the Commonwealth of Virginia. The term “JEDEC” shall include any Industry Standards Setting Body that displaces or replaces JEDEC as the entity primarily responsible for the publication of Technical Specifications formerly published by JEDEC with respect to any Memory IC or any other product.
- 1.49 “JEDEC Minor Update” means a Technical Specification published by JEDEC that (a) updates or revises any Technical Specification that was published by JEDEC as of the Effective Date, (b) corrects,
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clarifies, or enhances such previously published Technical Specification without adding any significant new features or functionality to such Technical Specification, and (c) in no way reduces interoperability between and among any versions of such Technical Specification (e.g., JEDEC's LPDDR3-E Technical Specification is a JEDEC Minor Update to JEDEC's LPDDR3 Technical Specification.)

1.50 "[***] Acquisition Products" has the meaning assigned to it in Section 5.2(b).

1.51 "Licensed Product" means, individually, a given Term Product, a given Initial Paid-Up Product, or a given Subsequent Paid-Up Product; "Licensed Products" means, collectively, each Term Product, each Initial Paid-Up Product, and each Subsequent Paid-Up Product.

1.52 "LPDDR DRAM" means each low-power double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for LPDDR DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x8, x16 and/or x32.

1.53 "LPDDR2 DRAM" means each low-power double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for LPDDR2 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x8, x16 and/or x32.

1.54 "LPDDR3 DRAM" means each low-power double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for LPDDR3 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x8, x16 and/or x32.

1.55 "LPDDR4 DRAM" means each low-power double data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for LPDDR4 DRAM, (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x8, x16 and/or x32.

1.56 "LPSDR DRAM" means each low-power SDR DRAM.

1.57 "Memory IC" means any Integrated Circuit that is configured to store bits of data in memory cells within a memory array and that has as its primary purpose the storage and retrieval of such electronic data. For clarity, a Memory IC shall include any logic functions on such Integrated Circuit necessary for such storage and retrieval.

1.58 "Memory Module" means a Component that has as its primary purpose the storage and retrieval of electronic data.

1.59 "Micron Applicable Patent Claims" are defined and determined separately for each specific product. For each such product, a Micron Applicable Patent Claim means each claim of a Micron Patent that, absent a license, is [***] infringed by the making (including having made), use, Sale, offer for Sale or

importation of such product, in each case, on a stand-alone basis and not in combination with any other circuits, products or components.

1.60 “Micron JV Partner” means any Third Party(ies) with whom Micron or a Micron Subsidiary owns a joint venture entity that is directly or indirectly at least twenty-five percent (25%) owned by Micron or by a Micron Subsidiary, and whereby such joint venture entity is subject to one or more joint venture agreements by and among the joint venture entity, Micron, and at least one of the other such Third Party(ies) setting forth the ongoing governance and operating relationships regarding such joint venture entity.

1.61 “Micron Joint Venture” means any entity owned by Micron or by a Subsidiary of Micron, in combination with one or more Micron JV Partners.

1.62 “Micron Patents” means Patents of Micron and Patents of its Subsidiaries.

1.63 “Micron Product” means any product Sold by Micron or by a Micron Subsidiary under a Micron Trademark, and for which Micron or any of its Subsidiaries either:

- (a) owns or co-owns the entire design of such product and are free to set the price and other terms with respect to such product and not subject to limitation on how it may use and exploit such design except for field of use limitations agreed at arms-length with one or more JV Partners; or,
- (b) owns, or co-owns, only a portion of the entire design of such product with no limitations on how it may use and exploit such portion and where, with respect to the remaining portion(s) of such design, (i) Micron or any of its Subsidiaries has a license from the entity or entities that own(s) such remaining portion(s) of the design to (A) make (and/or have made) such remaining portion(s) as embodied in such product and (B) Sell such made (or have made) remaining portion(s) as embodied in such product without restriction as to whom Micron and/or its Subsidiaries may Sell such remaining portion(s) as embodied in such product and (ii) Micron and/or its Subsidiaries are free to set the price and other terms with respect to such remaining portion(s) as embodied in such product; or,
- (c) has a license from the entity or entities that own(s) the entire design of such product to (i) make (and/or have made) such product and (ii) Sell such made (or have made) product without restriction as to whom Micron and/or its Subsidiaries may Sell such product and Micron and/or its Subsidiaries are free to set the price and other terms with respect to such product.

[***]

1.64 “Micron Trademark” means a trademark, trade name, logo or other indicia of origin of Micron or Micron Subsidiaries.

1.65 “Net Sales” means, for a given Quarter and for one or more given products, the gross amount received in such Quarter from Third Parties by Micron and/or by one or more of its Subsidiaries for the Sale of such products anywhere in the world by Micron and/or its Subsidiaries, less (a) amounts credited in such Quarter for returns of such products by Third Parties to Micron and (b) insurance, handling, duty, freight and taxes where such items are separately invoiced to and paid for by a Third Party. Where a product is transferred by Micron through one or more Subsidiaries for Sale to a Third Party, Net Sales shall be calculated only on the Sale to such Third Party, except as otherwise provided herein.

1.66 “New Subsidiaries” has the meaning assigned to it in Section 4.1.

1.67 “Patents” means, with respect to an identified entity, patents and utility models and applications therefor, including, without limitation, all continuations, continuations-in-part and divisionals thereof, in all countries of the world that now or hereafter are (a) owned or controlled by such entity and/or one or more of its Subsidiaries and/or (b) otherwise licensable by such entity and/or one or more of its

Subsidiaries, in each case of (a) and (b) where such entity and/or one or more of its Subsidiaries have the right to grant the licenses, sublicenses or other rights and covenants of the scope granted herein.

- 1.68 “Qualified Product Line” means a portion of a business transferred by a Third Party to a Party in an Acquisition, [***]
- 1.69 “Quarter” shall mean each successive period of three consecutive calendar months (the first of which begins on the Effective Date).
- 1.70 “Quarterly Payment” has the meaning ascribed to such term in Section 5.1(b).
- 1.71 “Quarterly Payment Cap” has the meaning assigned to it in Section 5.1(b).
- 1.72 “Quarterly Payment Cap Increase” has the meaning assigned to it in Section 5.2(a).
- 1.73 “RAM Flash Memory” means a Memory IC that (a) stores bits of data in memory cells by storing charges within a transistor, (b) is capable of retaining, for more than 10 seconds, data stored in such memory cells when they cease to receive electrical power, (c) has an Interface which is capable of transferring data in a synchronous fashion relative to both the rising and falling edges of a timing signal, such as a clock or strobe, and (d) has an Interface over which commands, operation codes, and addresses are transferred primarily by one or more buses that are separate from the data bus.
- 1.74 “Rambus Applicable Patent Claims” are defined and determined separately for each specific product. For each such product, a Rambus Applicable Patent Claim means each claim of a Rambus Patent that, absent a license, is [***] infringed by the making (including having made), use, Sale, offer for Sale or importation of such product, in each case, on a stand-alone basis and not in combination with any other circuits, products or components.
- 1.75 “Rambus Leadership Product” means (a) any Design of RDRAM[®], XDR[™], XDR^{™2} and/or Mobile XDR[™], (b) any other Design that implements a Rambus Proprietary Specification, and (c) any Rambus Proprietary Specification, including, without limitation, the Technical Specifications for RDRAM[®], XDR[™], XDR^{™2} and/or Mobile XDR[™]. For clarity, the term “Rambus Leadership Product” specifically excludes any physical embodiment of such Design, including any Integrated Circuit or device.
- 1.76 “Rambus Patents” means Patents of Rambus and its Subsidiaries, in each case other than the CRI Patents.
- 1.77 “Rambus Proprietary Specification” means any Technical Specification that is first designed and developed (as demonstrated by customary means, including, but not limited to, engineering notebooks) by, or on behalf of, Rambus or any of its Subsidiaries, over which Rambus and/or any of its Subsidiaries has exclusive control and that neither Rambus nor any of its Subsidiaries has voluntarily (a) disclosed except under a confidentiality or non-disclosure agreement or (b) proposed or disclosed to any standards setting organization. In addition to the foregoing sentence, Rambus Proprietary Specification also includes any Technical Specification exclusively acquired by Rambus from a Third Party where such Technical Specification would otherwise meet the definition of a Rambus Proprietary Specification had Rambus, and not the relevant Third Party, been the original developer and owner of such Technical Specification. Notwithstanding the above, a Technical Specification developed independently of Rambus by or on behalf of Micron, by an Industry Standards Setting Body, or by one or more Third Parties, shall not be deemed to be a Rambus Proprietary Specification, even if it describes similar or identical functions. A Technical Specification shall not be deemed to be developed independently of Rambus for purposes of the preceding sentence to the extent such Technical Specification, or any portion thereof, was developed or derived based on information (i) which Micron, such Industry Standards Setting Body, or such one or more Third Parties received in confidence from Rambus and with respect to which Micron, any of its Subsidiaries, such Industry Standards Setting Body, or such one or more Third Parties, is bound by an obligation of confidentiality or non-use to
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Rambus; (ii) obtained from any other Third Party in violation of such Third Party's obligation of confidentiality or non-use to Rambus; or (iii) obtained by Micron, any of its Subsidiaries or any other Third Party based on reverse engineering of any product that instantiates a Rambus Proprietary Specification.

1.78 "Related Parties" means two or more entities (a) who are Affiliates of one another or (b) who, through contract, arrangement or agreement, are bound or have otherwise agreed to exercise their aggregate beneficial ownership, rights and/or contractual power under any of the circumstances as described under Section 1.7 with respect to any subject entity in order to Control such subject entity.

1.79 "Released Design" means each Design subject to the releases as provided for under Section 3.2 of the Settlement Agreement.

1.80 "Released Product" means each product subject to the releases as provided for under Section 3.1 of the Settlement Agreement.

1.81 "Resistive RAM" means a Memory IC that is capable of storing bits of data in memory cells by changing the resistance of a storage element, other than a transistor, and is capable of retaining, for more than 10 seconds, data stored in such memory cells when they cease to receive electrical power. Resistive RAM shall not include RAM Flash Memory or DRAM.

1.82 "RLDRAM" means each reduced-latency DRAM that is incapable of communicating with any DDR4 DRAM, LPDDR3 DRAM, LPDDR4 DRAM, Wide I/O 2.X DRAM, Wide I/O Mobile DRAM, Hybrid Memory Cube 1.X DRAM, Hybrid Memory Cube 2.X DRAM, and/or any other DRAM and that (a) is configured to support a read/write addressing mode that does not distinguish row and column addresses, (b) is configured to use a simplified command set that omits activate/precharge commands, and (c) is not Sold or specified as being capable of operating at a data transfer rate exceeding [***].

1.83 "SDR DRAM" means each single data rate DRAM that (a) implements the minimum set of features, parameters, and protocols defined or recommended in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for SDR DRAM, (b) is solely capable of communicating with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating (i) at a data transfer rate exceeding [***] or (ii) with data bit width other than x4, x8, x16 and/or x32.

1.84 "Sell" (including "Sale" and "Sold" and other forms) means to sell, lease, or otherwise transfer or dispose of a product, by a Party to a Third Party or by a Subsidiary of a Party to a Third Party.

1.85 "SerDes IC" means any Integrated Circuit having circuitry integrated thereon or contained therein that is configured to (a) de-serialize data received by such Integrated Circuit from a different Integrated Circuit and/or (b) serialize data originating on such Integrated Circuit prior to transmitting such data to a different Integrated Circuit. Notwithstanding the foregoing, any Memory IC shall be deemed not to be a SerDes IC.

1.86 "Settlement Agreement" has the meaning assigned in the recitals to this Agreement.

1.87 "Subsequent Paid-Up Product" means:

(a) for the Initial Term-Product License Period, [***]; and,

(b) for each Term-Product License Renewal Period, [***].

Notwithstanding the foregoing, any product that constitutes a Rambus Leadership Product shall be deemed not to be a Subsequent Paid-Up Product.

1.88 "Subsequent Paid-Up Product License" means the rights and licenses granted pursuant to Section 2.1(c).

- 1.89 “Subsequent Term-Product License Renewal Period” has the meaning assigned to it in Section 7.1(d).
- 1.90 “Subsidiary” means, with respect to an identified entity, any entity Controlled by such identified entity, but only for so long as such Control exists.
- 1.91 “Technical Specification” means a final specification for an optical, RF, electrical, mechanical or software product that describes substantially all of the characteristics of such product necessary for such product to operate. As an example, the written description of an electrical interface (including timing and signaling parameters and characteristics) for a data bus connecting two (2) Integrated Circuits would meet the definition of a Technical Specification, provided that such interface specified all of the signals necessary for such data bus to function.
- 1.92 “Term Product” means each Micron Product that is either an Integrated Circuit (including each Micron Product that is a Memory IC) or a Component (including each Micron Product that is a Memory Module), but that is neither an Initial Paid-Up Product nor a Subsequent Paid-Up Product. Notwithstanding the foregoing sentence, any product that constitutes a Rambus Leadership Product shall be deemed not to be a Term Product.
- 1.93 “Term-Product License” means the rights and licenses granted under Section 2.1(a).
- 1.94 “Term-Product License Renewal Period” means, generically, the Initial Term-Product License Renewal Period and each Subsequent Term-Product License Renewal Period.
- 1.95 “Third Party” means with respect to a specified Party, or any Subsidiary of such specified Party, any entity that is not the specified Party or a Subsidiary of such specified Party.
- 1.96 “Ultimate Parent” means with respect to an identified entity, any entity that Controls such identified entity and where such Controlling entity is not under the Control of any other entity.
- 1.97 “[***] Acquisition Products” has the meaning assigned to it in Section 5.2(a)(ii).
- 1.98 “Wide I/O Mobile DRAM” means each single data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for WIDE I/O SINGLE DATA RATE (WIDE I/O SDR), (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating at a data transfer rate exceeding [***].
- 1.99 “Wide I/O 2.X DRAM” means each single data rate DRAM that (a) substantially implements the minimum set of features, parameters, and protocols defined in any Technical Specification published by JEDEC as of the Effective Date, as well as any JEDEC Minor Updates thereto, for WIDE I/O DOUBLE DATA RATE (WIDE I/O DDR-TBC), (b) contains features enabling communication with any other Integrated Circuit in accordance with substantially all of the mandatory requirements in such Technical Specification, and (c) is not Sold or specified as being capable of operating at a data transfer rate exceeding [***].

2. Grant of Rights

2.1 License to Micron.

- (a) Term-Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Micron and, subject to Section 5.2 below, its Subsidiaries, for each product that falls within the definition of a Term Product, a non-exclusive, non-transferable, worldwide license, without the right to sublicense, solely under the Rambus Applicable Patent Claims applicable to such Term Product, to make (including have made), use, Sell, offer for Sale, transfer from Micron and its Subsidiaries to their Affiliates, and import such
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Term Product until the expiration or termination of this license pursuant to Section 7.1(a) below, provided that such license:

(i) is expressly conditioned upon Rambus' receipt of the Initial Payment in accordance with Section 6.2 below or during the cure period set forth in Section 7.2 below; and,

(ii) shall be renewable in accordance with Section 7.1(d) below.

(b) Initial Paid-Up Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Micron and, subject to Section 5.2 below, its Subsidiaries, for each product that falls within the definition of an Initial Paid-Up Product, a non-exclusive, non-transferable, worldwide license, without the right to sublicense, solely under the Rambus Applicable Patent Claims applicable to such Initial Paid-Up Product, to make (including have made), use, Sell, offer for Sale, transfer from Micron and its Subsidiaries to their Affiliates, and import such Initial Paid-Up Product until the termination of this license pursuant to Section 7.1(b) below, provided that such license, is expressly conditioned upon Rambus' receipt, in accordance with Section 6.2 below or during the cure period set forth in Section 7.2 below, of (i) the Initial Payment and (ii) each Quarterly Payment that becomes due on or before the Expiration Date.

(c) Subsequent Paid-Up Product License. Subject to the terms and conditions of this Agreement, Rambus, on behalf of itself and its Subsidiaries, hereby grants to Micron and, subject to Section 5.2 below, its Subsidiaries, for each product that falls within the definition of a Subsequent Paid-Up Product, a non-exclusive, non-transferable, worldwide license, without the right to sublicense, solely under the Rambus Applicable Patent Claims applicable to such Subsequent Paid-Up Product, to make (including have made), use, Sell, offer for Sale, transfer from Micron and its Subsidiaries to their Affiliates, and import such Subsequent Paid-Up Product until the expiration or termination of this license pursuant to Section 7.1(c), provided that such license, in its entirety and with respect to such Subsequent Paid-Up Product, is expressly conditioned upon Rambus' receipt, in accordance with Section 6.2 below or during the cure period set forth in Section 7.2 below, of (i) the Initial Payment and (ii) each Quarterly Payment that becomes due on or before the date of the expiration of the Term-Product License Renewal Period that immediately follows the Qualifying Term-Product License Renewal Period for such Subsequent Paid-Up Product.

2.2 License to Rambus. Subject to the terms and conditions of this Agreement, Micron, on behalf of itself and its Subsidiaries, hereby grants to Rambus and its Subsidiaries a non-exclusive, non-transferable, worldwide license, without the right to sublicense, solely under the associated Micron Applicable Patent Claims to make (including have made), use, Sell, offer for Sale and import Rambus Leadership Products during the Initial Term-Product License Period and each Term-Product License Renewal Period (if any).

2.3 Obligations When Transferring Patents. Each Party agrees that it shall take all actions reasonably necessary to ensure that any Third Party to whom any Patents containing one or more claims that are licensed hereunder are transferred, assigned or exclusively licensed or any right to enforce is granted (including any successor or assignee in interest thereto) is bound in writing to all covenants, licenses and other rights granted hereunder with respect to such transferred, assigned or exclusively licensed Patents.

2.4 Previously Divested Rambus Patents].

(a) Rambus, on behalf of itself and its Subsidiaries, represents and warrants that Exhibit A sets forth all patents and patent applications that have been assigned, between [***] and the Effective Date, to one or more Third Parties by Rambus and its Subsidiaries.

(b) Rambus, on behalf of itself and its Subsidiaries, represents and warrants that:

(i) [***]; and,

(ii) such assignment is subject to the following covenant:

(A) [***]; and,

(B) [***]

[***]

2.5 CRI Representation [***]. Rambus represents and warrants that, to the best of its knowledge, Micron does not currently infringe or otherwise need a license under those Patents of CRI that have an effective filing date earlier than the Effective Date. [***]

2.6 No Implied or Other Rights and Licenses.

- (a) The rights and licenses granted herein apply solely to those products and activities expressly provided for under this Agreement. Nothing in this Agreement shall be deemed to, and shall not be construed to, constitute any release, forbearance, forfeiture or other waiver of any rights of either Party or their respective Subsidiaries to enforce any of their respective intellectual property rights with respect to any activities undertaken by the other Party, its Subsidiaries, and/or any other Third Party to the extent not expressly granted or made hereunder.
- (b) Except as expressly provided for under this Agreement, no authorization, release, license, covenant or other right is granted or made, by implication, estoppel, acquiescence or otherwise under this Agreement, to either Party, its respective Subsidiaries, and/or any other Third Party under any patents, utility models, patent or utility model claims, or other intellectual property rights now or hereafter owned or controlled by either Party or their respective Subsidiaries.
- (c) Except as expressly provided for under this Agreement, none of the terms of this Agreement shall be deemed to, and shall not be construed to, constitute, whether by implication, estoppel, acquiescence or otherwise, (i) an authorization by either Party, its Subsidiaries, and/or any Third Party to Sell, offer for Sale and/or import any product (A) in or for combination with any other element (including, but not limited to any function or feature), product or instrumentality; or (B) unconditionally for use in or for combination with any other element (including, but not limited to any function or feature), product or instrumentality or (ii) a waiver by either Party or its Subsidiaries of any liability for infringement based on the other Party's, its respective Subsidiaries, and/or any other Third Party's making, use, Sale, offer for Sale and/or import of any product in combination with any other element (including, but not limited to, any function or feature), product or instrumentality.

3. [*] and Covenants**

3.1 Rambus [***] and Covenants.

- (a) [***]. Provided that and for so long as Micron and its Subsidiaries are not in breach of either this Agreement or the Settlement Agreement, and subject to Sections 3.4, 3.5, and 3.6 below, Rambus, for itself and on behalf of its Subsidiaries, agrees that [***].
 - (b) [***]. Provided that and for so long as Micron and its Subsidiaries are not in breach of either this Agreement or the Settlement Agreement, and subject to Sections 3.4, 3.5, and 3.6 below, Rambus, for itself and on behalf of its Subsidiaries, agrees that, [***].
 - (c) Covenants [***].
 - (i) Components. Provided that and for so long as Micron and its Subsidiaries are not in breach of either this Agreement or the Settlement Agreement and subject to subsection (iii) below and Sections 3.4, 3.5, and 3.6 below, Rambus, on behalf of itself and its Subsidiaries, covenants, that [***].
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(ii) [***]. Provided that and for so long as Micron and its Subsidiaries are not in breach of either this Agreement or the Settlement Agreement and subject to subsection (iii) below and Sections 3.4, 3.5, and 3.6 below, Rambus, on behalf of itself and its Subsidiaries, covenants that [***].

(iii) Conditions on Covenants. The foregoing covenants are personal and cannot be assigned, transferred or delegated to any Third Party (except as otherwise set forth in Section 9.5 below). For the avoidance of doubt, the foregoing covenants are not and shall not be construed to be (A) an authorization by Rambus for any Third Party, including any Third Party customers of Micron or of any of its Subsidiaries, [***] (B) a covenant by Rambus that [***].

(d) Benefits Not Transferable. The benefits under Sections 3.1(a), 3.1(b), and 3.1(b) above are personal and cannot be assigned, transferred, or delegated by Micron to any Third Party.

3.2 Micron [***].

(a) Designs and Released Designs. Provided that Rambus and its Subsidiaries are not in breach of either this Agreement or the Settlement Agreement, and subject to Sections 3.4, 3.5, and 3.6 below, Micron, for itself and on behalf of its Subsidiaries, agrees that [***].

(b) Other Rambus Designs. Provided that Rambus and its Subsidiaries are not in breach of either this Agreement or the Settlement Agreement, and subject to Sections 3.4, 3.5, and 3.6 below, Micron, for itself and on behalf of its Subsidiaries, agrees that, [***].

(c) Benefits Not Transferable. The benefits under Sections 3.2(a) and 3.2(b) above are personal and cannot be assigned, transferred, or delegated by Rambus to any Third Party.

3.3 No Waiver of Liability. Rambus and Micron each agrees that Sections 3.1 and 3.2 above do not grant, and shall not be construed, argued, or relied upon as granting (a) any license, covenant [***] or the like under any Patent of the other Party (by implication, estoppel or otherwise) or (b) any release or waiver with respect to any liability, damages or claims for infringement of any Patent of the other Party. Furthermore, each Party, on behalf of itself and its Subsidiaries, hereby irrevocably [***], all applicable statutes of limitations shall be tolled upon the Effective Date and shall remain tolled until the expiration or termination of the Term-Product License. Nothing in this Section 3.3 shall operate to impact or limit the application of 35 U.S.C. § 287.

3.4 Notice of [***]. Notwithstanding the [***] as described above, either Party shall be free during the Initial Term-Product License Period and each Term-Product License Renewal Period (if any) to put the other Party on notice or otherwise engage in discussions regarding any [***].

3.5 Patent [***]. A Party (and its Subsidiaries) is [***].

3.6 [***]. Nothing in this Agreement or in the Settlement Agreement shall preclude either Party, during the Initial Term-Product License Period and each Term-Product License Renewal Period (if any), [***].

4. **Subsidiaries**

4.1 Subsidiaries. Subject to the terms and conditions of this Agreement (including Sections 4.3 and 5.2 below), the Parties intend that this Agreement, and the licenses and benefits granted herein, shall extend to all of each Party's Subsidiaries. The Parties agree that, to the extent they are not already bound, each Party shall ensure that all of its Subsidiaries (including, without limitation, all entities that become Subsidiaries after the Effective Date ("New Subsidiaries")) are bound by the terms of this Agreement. Without limiting the foregoing:

(a) Each Party shall ensure that the Patents of each New Subsidiary are included within the definition of the applicable Party's Patents; and,

(b) Each Party shall ensure that each New Subsidiary is bound as applicable, by this Agreement.

4.2 Former Subsidiaries. All rights and licenses granted and covenants made to any Subsidiary of either Party shall immediately and automatically terminate upon a Party ceasing to Control such entity (“Former Subsidiary”). However, if a Subsidiary of a Party that holds any Patent that is subject to the rights, licenses and covenants granted hereunder becomes a Former Subsidiary, such rights, licenses and covenants granted by such Former Subsidiary (including every successor entity in interest to any such Patents) shall continue in accordance with the terms of this Agreement after such entity becomes a Former Subsidiary.

4.3 No Release. The releases granted and covenants made under the Settlement Agreement shall not apply to any Acquired Business of Micron.

4.4 Prior Agreements.

- (a) Rambus agrees that the Elpida Technology License Agreement and the Elpida XDR License Agreement are each hereby amended such that, from and after the Effective Date, Elpida will be licensed (i) to sell Direct Rambus DRAMs and Direct Rambus Multichip Modules to Micron, as a Semiconductor Company, for resale as an integrated circuit, in the case of Direct Rambus DRAMs, or Direct Rambus Multichip Module, and (ii) to make, use and sell Yellowstone Rambus DRAMs, alone or incorporated into Yellowstone Rambus Multichip Modules, Yellowstone Rambus Boards, and Yellowstone Rambus Systems to Micron as a Semiconductor Company, for resale by Micron to Third Parties, where the meaning of each of the foregoing capitalized terms has the meaning ascribed to in the Elpida Technology License Agreement or the Elpida XDR License Agreement, as the case may be.
- (b) The Elpida Patent License Agreement shall be deemed to have terminated on September 30, 2013 and, for the avoidance of doubt, Elpida shall be licensed hereunder as a Subsidiary of Micron. Notwithstanding Section 7.6 (Survival) of the Elpida Patent License Agreement, the following provisions of the Elpida Patent License Agreement are hereby terminated and shall not survive this termination: Section 5.2 (Quarterly License Payment), Section 6 (Payments), and Section 9.1 (DRAM Revenue).
- (c) The Semiconductor Technology License Agreement entered into by and between Rambus and Micron, effective March 24, 1997 shall be deemed to have terminated on the Effective Date, if and to the extent such agreement is still in place and effective as of the Effective Date.

5. Consideration

5.1 Payments.

(a) Initial and Fixed 28th Quarterly Payments.

- (i) Micron shall pay to Rambus five-million five-hundred and thirty-three thousand and three-hundred and thirty-four United States Dollars (US \$5,533,334.00; the “Initial Payment”).
- (ii) In lieu of a Quarterly Payment based on Net Sales that occur within the twenty-eighth (28th) Quarter of the Initial Term-Product License Period, Micron shall pay to Rambus for such Quarter the fixed amount of four-million four-hundred and sixty-six thousand and six-hundred and sixty-six United States Dollars (US \$4,466,666.00; the “Fixed 28th Quarterly Payment”).

(b) Quarterly Payments. Subject to Section 5.3 below, Micron shall pay to Rambus:

- (i) an amount equal to six-tenths of a percent (0.6%) of the Net Sales that Micron and each of its Subsidiaries received during the first twenty-seven (27) Quarters that occur within the Initial Term-Product License Period for the Sale worldwide of (A) DRAMs, (B) DRAM Controllers, (C) SerDes ICs, (D) Resistive RAMs, and (E) RAM Flash Memories;
 - (ii) an amount equal to six-tenths of a percent (0.6%) of the Net Sales that Micron and each of its Subsidiaries received during each Quarter that occurs within the Initial Term-Product License
-

Renewal Period (if any) for the Sale worldwide of (A) DRAMs, (B) DRAM Controllers, (C) SerDes ICs, (D) Resistive RAMs, and (E) RAM Flash Memories, in each case of (A) through (E), excluding the Sale of each Initial Paid-Up Product; and,

- (iii) an amount equal to six-tenths of a percent (0.6%) of the Net Sales that Micron and each of its Subsidiaries received during each Quarter that occurs within each Subsequent Term-Product License Renewal Period (if any) for the Sale worldwide of (A) DRAMs, (B) DRAM Controllers, (C) SerDes ICs, (D) Resistive RAMs, and (E) RAM Flash Memories, in each case of (A) through (E), excluding the Sale of (I) each Initial Paid-Up Product and (II) each Subsequent Paid-Up Product for which the Qualifying Term-Product License Renewal Period preceded such Subsequent Term-Product License Renewal Period (each such amount associated with the Sales for a given Quarter set forth in (i) through (iii), a “Quarterly Payment”);

provided that:

- (A) each given Quarterly Payment shall not exceed an amount of ten-million United States Dollars (US \$10,000,000), as such ten-million dollar amount may be increased by one or more Quarterly Payment Cap Increases in accordance with Section 5.2(a) below (such ten-million dollar amount limit, as it may be increased by one or more Quarterly Payment Cap Increases in accordance with Section 5.2(a) below, the “Quarterly Payment Cap”); and,
- (B) the cumulative amount of any four consecutive Quarterly Payments shall not exceed the greater of (I) forty-million United States Dollars (US \$40,000,000) or (II) the sum of the four Quarterly Payment Caps (as one or more may have been increased by one or more Quarterly Payment Cap Increases in accordance with Section 5.2(a) below) associated with each Quarter of such four consecutive Quarterly Payments, provided that if any Quarterly Payment would have, absent the Quarterly Payment Cap, exceeded the Quarterly Payment Cap, the amount in excess of the Quarterly Payment Cap that would have otherwise been due shall be added to each subsequent Quarterly Payment that is less than the Quarterly Payment Cap (as if such excess was attributable to Sales that had occurred in the Quarter associated with such subsequent Quarterly Payment).

5.2 Acquired Businesses.

- (a) Acquisition of Business with [***] Products. If (i) Micron or any of its Subsidiaries completes an Acquisition for which:

(A) [***]; and,

(B) [***]; and,

(ii) [***];

[***] For the avoidance of doubt, [***].

- (b) Acquisition of Business with [***] Products [***]. If Micron or any of its Subsidiaries completes an Acquisition for which [***], then:

(i) [***];

(ii) [***]; and,

(iii) [***]

For absence of doubt, [***].

- (c) Acquisition Report and Audit Rights. Within thirty (30) days after the end of each Quarter (until all Quarterly Payments payable hereunder have been reported and paid) in which one or more Acquisition Dates occurred, Micron shall notify Rambus in writing of such event and Micron’s determination of the associated Quarterly Payment Cap Increase, if any, and provide Rambus with a

written detailed statement (in suitable form) containing all information necessary to calculate such Quarterly Payment Cap Increase. Each Quarterly Payment Cap Increase will become effective in the Quarter following the Quarter in which the associated Acquisition Date occurred. If, for any reason, Rambus disagrees with Micron's determination of the associated Quarterly Payment Cap Increase, Rambus may conduct an audit pursuant to subsection (e) below. If the Parties cannot reach agreement on the determination of the associated Quarterly Payment Cap Increase within thirty (30) days following the conclusion of such audit, either Party may, as its sole and exclusive remedy to resolve such dispute, submit such dispute to binding arbitration pursuant to the terms of Section 9.1. Unless and until the Parties resolve such disagreement, none of the rights, licenses and covenants granted under Section 2.1 shall apply to any activity of any such Acquired Business ("Audited Acquired Business").

(d) [***]

(e) [***]

(f) [***]

5.3 Revenue Attributable [***].

5.4 Rates and Collateral Attack.

(a) Given the worldwide scope of this Agreement, the impracticality of monitoring by Micron of the movement of Licensed Products through international markets, and that Rambus will be issued new patents and/or utility models continually in various countries throughout the Initial Term-Product License Period and the Term-Product License Renewal Periods (if any) that will be licensed hereunder, it is agreed and recognized that paying Quarterly Payments based on the worldwide Sales of certain DRAMs, DRAM Controllers, SerDes ICs, Resistive RAMs, and RAM Flash Memories at the rates set forth in this Agreement, is fair and reasonable, representing a balance between the concerns and interests of both Parties and resulting in a convenience for both Parties.

(b) The Parties acknowledge that it is essential that their respective obligations under this Agreement be certain and not subject to collateral attack. Accordingly, each Party agrees that it will not seek, through litigation or otherwise, to adjust the amount of payments required under this Agreement, or to avoid, defer or modify their respective obligations hereunder, and that Micron shall make the full amount of such payments regardless of whether any of the Rambus Patents is determined not to be infringed by any particular Licensed Product, or whether any court, patent office or other governmental agency determines any Rambus Patent to be invalid or unenforceable in any reexamination, action or other proceeding, provided that the foregoing shall not prevent the Parties from seeking enforcement of the terms or conditions of the this Agreement or taking any action expressly contemplated by this Agreement.

6. Reports; Payments; Records and Audits

6.1 Reports. Within thirty (30) days after the end of each Quarter and until all Quarterly Payments payable hereunder have been reported and paid, Micron shall furnish to Rambus a statement, in a form acceptable to Rambus, that shows:

(a) the total revenue and Net Sales, each in United States Dollars, that Micron and each of its Subsidiaries invoiced or otherwise charged during such Quarter for the Sale worldwide of DRAMs, DRAM Controllers, SerDes ICs, Resistive RAMs, and RAM Flash Memories (excluding Initial Paid-Up Products and Subsequent Paid-Up Products to the extent that they are so excluded under Section 5.1(b) above), provided that if no such revenue and/or Net Sales were invoiced or otherwise charged during such Quarter, that fact shall be shown on such statement;

- (b) an itemized accounting of the number of DRAMs, DRAM Controllers, SerDes ICs, Resistive RAMs, and RAM Flash Memories (excluding Initial Paid-Up Products and Subsequent Paid-Up Products to the extent that they are so excluded under Section 5.1(b) above) Sold worldwide during such Quarter by Micron and each of its Subsidiaries; and,
- (c) an itemized accounting (by associated customer and associated Technical Specification) of the number of Custom Memory ICs Sold worldwide during such Quarter by Micron and each of its Subsidiaries and the total revenue and Net Sales, each itemized (by associated customer and associated Technical Specification) and in United States Dollars, that Micron and each of its Subsidiaries invoiced or otherwise charged during such Quarter for the Sale worldwide of each such Custom Memory IC (excluding Initial Paid-Up Products and Subsequent Paid-Up Products to the extent that they are so excluded under Section 5.1(b) above), provided that if no such revenue and/or Net Sales were invoiced or otherwise charged during such Quarter, that fact shall be shown on such statement;
- (d) the associated Quarterly Payment payable thereon (each such itemized statement, a “Quarterly Itemized Sales Report”).

6.2 Payments.

- (a) Micron shall, by electronic transfer, pay to Rambus the Initial Payment by the earlier of (i) the tenth (10th) day immediately following the date of the later signature below or (ii) December 31, 2013. The Initial Payment paid under this Agreement shall not be, in whole or part, refundable, cancellable or subject to any credit against any amounts, including future Quarterly Payments, that are owed under this Agreement, provided that, in the case of a material breach of this Agreement by Rambus, Micron may seek monetary compensation for damages arising from such breach.
- (b) Within thirty (30) days after the end of each Quarter, Micron shall pay to Rambus by electronic transfer, as applicable, the Quarterly Payment or the Fixed 28th Quarterly Payment payable hereunder for such Quarter. No Quarterly Payment, in whole or part, paid under this Agreement shall be refundable, cancellable or subject to any credit against any amounts, including future Quarterly Payments, that are owed under this Agreement, provided that, in the case of a material breach of this Agreement by Rambus, Micron may seek monetary compensation for damages arising from such breach.
- (c) Each such electronic transfer shall be made in United States Dollars either directly to or via the Federal Reserve Bank of San Francisco for credit to the following account or another designated in writing by Rambus:

Rambus Inc.
[***]

- ## 6.3 Records and Audits.
- With respect to the Quarterly Payments set forth herein, Micron shall keep complete and accurate records. These records shall be retained for a period of at least five (5) years following the date of each corresponding payment, notwithstanding the termination of this Agreement. Except with respect to Quarters in which Micron’s Quarterly Payment equaled or exceeded the Quarterly Payment Cap, Rambus, through its designated independent accounting or licensing audit firm, shall have the right, upon thirty (30) days’ prior written notice, to initiate an examination and audit, not more than [***], and during normal business hours, of all such records and such other records and accounts as may contain, under recognized accounting practices, information bearing upon the amount of Quarterly Payments payable to Rambus under this Agreement. In addition to the results of any such audit, the auditor shall be permitted to disclose to Rambus the progress of the audit and may identify to Rambus any materials required, but not furnished, to complete the audit. Micron shall
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provide all reasonable access to such applicable information in both electronic and tangible form. Micron shall promptly make Rambus whole for any underpayments of the Quarterly Payments that are disclosed by such examination or audit. To the extent that any underpayments revealed by such audit exceed [***] percent ([***]%) of the total Quarterly Payments due for the period under audit, then Micron shall also [***].

6.4 Currency and Late Payments. All payments to Rambus hereunder shall be in United States Dollars. Late payments hereunder shall be subject to interest at the one-year United States Government Treasury Constant Maturity Rate, as published by the Federal Reserve (www.federalreserve.gov) on the date the amount payable was due, plus five percent (5%) (or the maximum interest rate allowed by applicable law, if lower). The amount of interest shall be calculated from the payment due date to the date of electronic transfer.

6.5 No Escrow. Payment of amounts due under this Agreement to any person, firm or entity, other than Rambus, including, without limitation, any escrow fund or escrow agent, unless agreed to by Rambus or ordered by any court or government agency of competent jurisdiction or arbitration panel, shall constitute a material breach of this Agreement. Any payment once made by Micron to Rambus shall not be refunded or refundable to Micron for any reason, provided that, in the case of a material breach of this Agreement by Rambus, Micron may seek monetary compensation for damages arising from such breach.

7. Term and Termination of Licenses and Agreement

7.1 Term and Renewal of Licenses.

- (a) Term-Product License. The Term-Product License shall, unless earlier terminated in accordance with Section 7.1(e) below, continue in full force and effect until:
- (i) the Expiration Date if Micron fails to renew the Term-Product License for the Initial Term-Product License Renewal Period in accordance with Section 7.1(d) below; or,
 - (ii) the expiration of any Term-Product License Renewal Period (if any) in which Micron fails to further renew the Term-Product License in accordance with Section 7.1(d) below.

For avoidance of doubt, the Term-Product License shall automatically be rendered null, void, and without effect as if never granted if Micron breaches this Agreement by failing to pay Rambus the Initial Payment in a timely manner and fails to cure such failure in accordance with Section 7.2 below.

- (b) Initial Paid-Up Product License. The Initial Paid-Up Product License shall, continue in full force and effect unless and until terminated in accordance with Section 7.1(e). For avoidance of doubt, the Initial Paid-Up Product License shall automatically be rendered null, void, and without effect as if never granted if Micron breaches this Agreement by failing to pay Rambus (A) the Initial Payment in a timely manner and (B) each Quarterly Payment that becomes due on or before the Expiration Date in a timely manner and fails to cure such failure in accordance with Section 7.2 below.
- (c) Subsequent Paid-Up Product License. The Subsequent Paid-Up Product License shall, with respect to each given Subsequent Paid-Up Product qualifying as such under Section 1.87(a), unless earlier terminated in accordance with Section 7.1(e) below, continue in full force and effect until the date of the expiration of the Initial Term-Product License Period, if Micron fails to renew the Term-Product License for the Initial Term-Product License Renewal Period in accordance with Section 7.1(d) below, and in perpetuity following the date of the expiration of the Initial Term-Product License Renewal Period, if Micron renews the Term-Product License for the Initial Term-Product License Renewal Period in accordance with Section 7.1(d) and Micron has satisfied all of its payment obligations set forth in this Agreement during such Initial Term-Product License Renewal
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Period. The Subsequent Paid-Up Product License shall, with respect to each given Subsequent Paid-Up Product qualifying as such under Section 1.87(b), unless earlier terminated in accordance with Section 7.1(e), below, continue in full force and effect until:

- (i) the date of the expiration of the Qualifying Term-Product License Renewal Period for such Subsequent Paid-Up Product, if Micron fails to renew the Term-Product License for an immediately following Term-Product License Renewal Period in accordance with Section 7.1(d) below; or,
- (ii) in perpetuity, following the date of the expiration of the Term-Product License Renewal Period immediately following the Qualifying Term-Product License Renewal Period for such Subsequent Paid-Up Product, if Micron renews the Term-Product License for such an immediately following Term-Product License Renewal Period in accordance with Section 7.1(d) below.

For avoidance of doubt, the Subsequent Paid-Up Product License for Subsequent Paid-Up Products shall automatically be rendered null, void, and without effect as if never granted if Micron breaches this Agreement by failing to pay Rambus the Initial Payment in accordance with Section 6.2 below and fails to cure such failure in accordance with Section 7.2 below, and each Quarterly Payment that becomes due on or before the date of the expiration of the Initial Term-Product License Renewal Period (if any) in accordance with Section 6.2 and fails to cure such failure in accordance with Section 7.2 below.

(d) Term-Product License Renewal. Micron shall have the option to:

- (i) renew the Term-Product License for a single three-year renewal term upon the expiration of the Initial Term-Product License Period, in accordance with its terms, on the Expiration Date (such renewal term, the “Initial Term-Product License Renewal Period”); and,
- (ii) upon the expiration of the Initial Term-Product License Renewal Period in accordance with its terms, successively renew the Term-Product License for additional five-year terms (each such five-year period in which the Term-Product License has been renewed by Micron in accordance with this subsection (ii), a “Subsequent Term-Product License Renewal Period”),

provided that, in each case of (i) and (ii), Micron delivers to Rambus, no later than ninety (90) days prior to, as applicable, the Expiration Date, the expiration date of the Initial Term-Product License Renewal Period (if any), or the then-current Subsequent Term-Product License Renewal Period (if any), a written notice of Micron’s election to exercise such option to renew the Term-Product License for an additional, as applicable, three-year or five-year term.

(e) Effect of Termination of Agreement.

- (i) Upon any termination of this Agreement that occurs between the Effective Date and the Expiration Date (inclusive of both dates), the Term-Product License, the Initial Paid-Up License, and the Subsequent Paid-Up License for Subsequent Paid-Up Products will each immediately terminate.
 - (ii) Upon any termination of this Agreement that occurs during the Initial Term-Product License Renewal Period (if any), the Term-Product License and the Subsequent Paid-Up License for Subsequent Paid-Up Products will each immediately terminate.
 - (iii) Upon any termination of this Agreement that occurs during any Subsequent Term-Product License Renewal Period (if any), the Term-Product License and the Subsequent Paid-Up Product License for any Subsequent Paid-Up Product for which such Subsequent Term-Product License Renewal Period is the Qualifying Term-Product License Renewal Period will each immediately terminate.
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7.2 Material Breach. Rambus may terminate this Agreement upon notice if Micron materially breaches its payment obligations under this Agreement and does not correct or cure such breach within ninety (90) days after receiving written notice complaining thereof. Failure of Micron to pay any payment due and payable in accordance with the terms of this Agreement shall constitute a material breach of this Agreement. For the avoidance of doubt, any payments tolled in accordance with the terms of this Agreement shall not be due and payable during such tolling period.

7.3 Bankruptcy. Either Party may terminate this Agreement effective upon written notice to the other Party if the other Party is adjudicated insolvent or bankrupt at the conclusion of proceedings initiated by a voluntary or involuntary petition in bankruptcy or any proceeding relating to insolvency, or composition for the benefit of creditors, and such Party undergoes a Change of Control during or following the pendency of such proceedings.

7.4 [***].

7.5 Change of Control.

(a) In General. [***] in the event of [***] Change of Control, Rambus may, in addition to the rights set forth in Sections 7.2, 7.3, and 7.4 above, terminate this Agreement effective upon written notice thereof to Micron or the relevant successor or assignee in interest. Notwithstanding the foregoing, if Rambus receives written notice of such Change of Control from Micron (or its successor or assignee in interest) no later than ten (10) business days after such Change of Control, Rambus agrees to negotiate in good faith with such successor or assignee in interest, for a period of one hundred and eighty (180) days after receipt of such notice, the application of this Agreement to such successor's or assignee's business activities prior to terminating this Agreement based on such Change of Control. Rambus' failure to terminate this Agreement after a given Change of Control by Micron (or any successor or assignee in interest) shall not in any way limit Rambus' right to exercise these rights for any subsequent Change of Control. Termination of this Agreement based on a Change of Control shall be deemed to be effective immediately prior to the effective date of such Change of Control.

(b) [***]

7.6 Survival. All payment obligations accruing prior to any termination of this Agreement shall survive any such termination. In addition, the following sections shall survive and remain in full force and effect after any termination of this Agreement, but only to extent relevant to rights, obligations, benefits, or liabilities that had accrued under such sections prior to such termination of this Agreement: Section 1 (Definitions), Section 2.6 (No Implied or Other Rights and Licenses), Section 3.3 (No Waiver of Liability), Section 4.1 (Subsidiaries), Section 4.2 (Former Subsidiaries), Section 4.3 (No Release), Section 5 (Consideration), Section 6 (Reports; Payments; Records and Audits), this Section 7.6 (Survival), Section 8.2 (Confidentiality), and Section 9 (Miscellaneous).

8. Confidentiality

8.1 Press Release. The Parties intend to issue a press release as set forth in the Settlement Agreement in the form and as agreed by the Parties.

8.2 Confidentiality. Each Party agrees that only after the announcement referenced in Section 8.1 above, each Party shall be entitled to disclose the general nature of this Agreement but that the terms and conditions of this Agreement, to the extent not already disclosed pursuant to Section 8.1 above, shall be treated as Confidential Information and that neither Party will disclose such terms or conditions to any Third Party without the prior written consent of the other Party, provided, however, that each Party may disclose the terms and conditions of this Agreement:

(a) as required by any court or other governmental body;

- (b) as otherwise required by law;
- (c) as otherwise may be required by applicable securities and other law and regulation, including to legal and financial advisors in their capacity of advising a Party in such matters so long as the disclosing Party shall seek confidential treatment of such terms and conditions to the extent reasonably possible;
- (d) in confidence to legal counsel, accountants, and other professional advisors of the Parties;
- (e) in confidence, to banks, investors and other financing sources and their advisors;
- (f) during the course of litigation so long as the disclosure of such terms and conditions are restricted in the same manner as is the confidential information of other litigating entities and so long as (A) the restrictions are embodied in a court-entered protective order limiting disclosure to outside counsel and (B) the disclosing Party informs the other Party in writing at least ten (10) business days in advance of the disclosure and discusses the nature and contents of the disclosure, in good faith, with the other Party;
- (g) in confidence, to a Third Party to whom either Party assigns one or more of its Patents, but solely to the extent necessary to inform such Third Party of the encumbrances contained herein on such Patents;
- (h) in confidence, in connection with an actual or prospective merger or acquisition or similar transaction,
- (i) in confidence, by Rambus to [***]; or,
- (j) in confidence, in connection with a Party's obligation(s) under any most favored nation, or similar clause, whereby such Party is contractually obligated to disclose and offer terms given to Third Parties.

Upon execution of this Agreement, or thereafter, Rambus, in its discretion, shall be entitled to file a copy of this Agreement with the United States Securities and Exchange Commission, so long as Rambus seeks confidential treatment of such agreement to the extent reasonably possible.

9. Miscellaneous

9.1 Dispute Resolution. Any dispute submitted to binding arbitration pursuant to the terms of this Agreement shall take place in New York City, NY before one arbitrator, and shall be administered by Judicial Arbitration and Mediation Services, Inc. pursuant to its Streamlined Arbitration Rules and Procedures. Judgment on the award may be entered in any court having jurisdiction.

9.2 Disclaimers. Nothing contained in this Agreement shall be construed as:

- (a) a warranty or representation by either Party as to the validity, enforceability, and/or scope of any intellectual property rights;
 - (b) imposing upon either Party any obligation to institute any suit or action for infringement of any intellectual property right, or to defend any suit or action brought by a Third Party which challenges or concerns the validity, enforceability or scope of any intellectual property rights;
 - (c) imposing on either Party any obligation to file any application or registration with respect to any intellectual property rights or to secure or maintain in force any intellectual property rights;
 - (d) imposing on either Party any obligation to furnish any technical information or know-how; or,
 - (e) imposing or requiring, whether by implication or otherwise, any support, maintenance or any technology deliverable obligations on either Party's or their respective Subsidiaries' part under this Agreement (and neither Party nor any of their respective Subsidiaries are providing any support, maintenance or technology deliverables under this Agreement).
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9.3 Notices. All notices and other communications required or permitted hereunder shall be in writing and shall be (a) mailed by first class air mail (registered or certified if available), postage prepaid, or otherwise delivered by hand, by messenger, addressed to the addresses set forth below, or (b) delivered by facsimile to the facsimile number set forth below. Each Party may change its address or facsimile number for notices by providing a notice to the other Party in the manner set forth herein. Such notices shall be deemed to have been effective when delivered or, if delivery is not accomplished by reason of some fault or refusal of the addressee, when tendered (which tender, in the case of mail, shall be deemed to have occurred upon posting, and in the case of facsimile, shall be deemed to have occurred upon transmission). All notices shall be in English.

If to Rambus:

Rambus Inc.
1050 Enterprise Way, Suite 700
Sunnyvale, California 94089
U.S.A.
Telephone: +1-408-462-8000
Facsimile: +1-408-462-8001
Attention: SVP, Licensing
With copy to: General Counsel

If to Micron:

Micron Technology, Inc.
8000 S. Federal Way
Boise, Idaho 83716-9632
Telephone: 208-368-4500
Facsimile: 208-368-4540
Attention: General Counsel

9.4 Governing Law & Venue.

- (a) This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any choice-of-law or conflict-of-law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.
- (b) This Agreement is executed in the English language and no translation shall have any legal effect.
- (c) Any legal action, suit or proceeding arising under, or relating to, this Agreement, shall be brought in the State or Federal Courts located in the State of Delaware, and each Party agrees that any such action, suit or proceeding may be brought only in such courts. Each Party further waives any objection to the laying of jurisdiction and venue for any such suit, action or proceeding in such courts.

9.5 No Assignment. Subject to Section 7.5, this Agreement is personal to the Parties, and the Agreement and/or any right or obligation hereunder is not transferable, assignable, and/or delegatable whether in conjunction with a change in ownership, merger, acquisition, the sale or transfer of all, or substantially all or any part of either Party's or any of their respective Subsidiaries business or assets or otherwise, voluntarily, by operation of law, reverse triangular merger or otherwise, without the prior written consent of the other Party, which consent may be withheld at the sole discretion of such other Party. Any such purported or attempted assignment or transfer in violation of the foregoing shall be deemed a breach of this Agreement and shall be null and void. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the Parties and their permitted successors and assigns. Notwithstanding the foregoing, either Party shall be entitled to, and each Party hereby agrees to, assign

this Agreement to a successor to all or substantially all of a Party's assets in a transaction entered into solely to change a Party's place of incorporation.

- 9.6 No Rule of Strict Construction. Regardless of which Party may have drafted this Agreement or any part thereof, no rule of strict construction shall be applied against either Party. For the avoidance of doubt "includes", "including", "included", and other variations of such terms shall be deemed to be followed by the phrase "without limitation".
- 9.7 Severability. If any provision of this Agreement is held to be invalid or unenforceable, the meaning of such provision shall be construed, to the extent feasible, so as to render the provision enforceable, and if no feasible interpretation shall save such provision, (a) a suitable and equitable provision shall be substituted therefore in order to carry out, so far as may be valid and enforceable, the intent and purpose of such invalid or unenforceable provision, and (b) the remainder of this Agreement shall remain in full force and effect.
- 9.8 Entire Agreement. This Agreement and the Settlement Agreement embodies the entire understanding of the Parties with respect to the subject matter hereof, and merges all prior oral or written communications between them, and neither of the Parties shall be bound by any conditions, definitions, warranties, understandings, or representations with respect to the subject matter hereof other than as expressly provided herein. No oral explanation or oral information by either Party hereto shall alter the meaning or interpretation of this Agreement.
- 9.9 Modification; Waiver. No modification or amendment to this Agreement, nor any waiver of any rights, will be effective unless assented to in writing by the Party to be charged, and the waiver of any breach or default will not constitute a waiver of any other right hereunder or any subsequent breach or default.
- 9.10 Counterparts. This Agreement may be executed in two (2) or more counterparts, all of which, taken together, shall be regarded as one and the same instrument.
- 9.11 Bankruptcy Code. All rights, licenses, privileges, releases, and immunities granted under this Agreement shall be deemed to be, for the purposes of Section 365(n) of the United States Bankruptcy Code, as amended (the "Bankruptcy Code"), licenses of rights to "intellectual property" as defined under Section 101(35A) of the Bankruptcy Code. The Parties agree that each of the Parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. The Parties further agree that, in the event that any proceeding shall be instituted by or against a Party seeking to adjudicate it as bankrupt or insolvent, or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief or composition of that Party or that Party's debts under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors, or seeking an entry of an order for relief or the appointment of a receiver, trustee or other similar official for that Party or any substantial part of its property or if a Party hereto shall take any action to authorize any of the foregoing actions, the other Party shall have the right to retain and enforce their respective rights under this Agreement.
- 9.12 Ultimate Parent Entity. Each of Micron and Rambus hereby represents and warrants that on the Effective Date it is an Ultimate Parent.

REMAINDER OF PAGE INTENTIONALLY BLANK; SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be signed by duly authorized officers or representatives as of the date first above written.

RAMBUS INC.

By: /s/ Kevin Donnelly
Name: Kevin Donnelly
Title: Senior Vice President
Date: December 9, 2013

MICRON TECHNOLOGY, INC.

By: /s/ Brian M. Shirley
Name: Brian M. Shirley
Title: Vice President of DRAM Solutions
Date: December 9, 2013

EXHIBIT A
ASSIGNED RAMBUS PATENTS (BETWEEN [*] AND THE EFFECTIVE DATE)**

ASSIGNED UNITED STATES PATENTS

[***]

ASSIGNED FOREIGN PATENTS

[***]

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [*] INDICATES THAT INFORMATION HAS BEEN REDACTED.**

AMENDMENT NUMBER 2

TO SEMICONDUCTOR PATENT LICENSE AGREEMENT

This Amendment Number 2 (“Amendment 2”) amends that certain Semiconductor Patent License Agreement between Rambus Inc., and Micron Technology, Inc. effective December 1, 2013, as amended on September 2, 2020 (collectively, the “Patent License Agreement”), and is effective as of December 1, 2020 (the “Amendment 2 Effective Date”). Rambus, on behalf of itself and all of its subsidiaries (collectively, “Rambus”) and Micron Technology, Inc., on behalf of itself and all of its subsidiaries (collectively, “Micron”) (Rambus and Micron together, the “Parties”), and in consideration of the covenants set forth below, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby agree as follows:

TERMS AND CONDITIONS

- 1. Capitalized terms in this Amendment 2 shall have the meaning assigned to them in the Patent License Agreement.
- 2. Section 5.1(b)(B) of the Patent License Agreement is hereby amended to delete the following language in such Section 5.1(b)(B):

[***]

- 3. Except as set forth in this Amendment No. 2, all other terms and provisions of the Agreement shall remain in full force and effect in accordance with its terms.

IN WITNESS WHEREOF, the undersigned Parties have executed this Agreement effective as of December 1, 2020.

Micron Technology, Inc.

Rambus Inc.

/s/ JOEL POPPEN

/s/ JAE KIM

Signature

Signature

Joel Poppen

Jae Kim

Printed Name

Printed Name

SVP, Legal Affairs, GC & Corp Secretary

SVP - GC/HR

Title

Title

12/15/2020

12/15/2020

Date

Date

SUBSIDIARIES OF REGISTRANT

Rambus Canada Inc.
Rambus Controllers, Inc.
Rambus Delaware LLC
Rambus International Ltd.
Rambus K.K. (Japan)
Rambus Ltd. (Grand Cayman Islands, BWI)
Rambus Chip Technologies (India) Private Limited
Rambus Korea, Inc. (Korea)
Rambus France SAS
Rambus Global Inc.
Rambus Information Technology Consulting (Shanghai) Co. Ltd.
Rambus UK Ltd.
Rambus ROTW Holding B.V.
Cryptography Research, Inc.
Mozaik Multimedia, Inc.
Unity Semiconductor Corporation

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-28597, 333-38855, 333-67457, 333-93427, 333-48730, 333-52158, 333-86140, 333-103789, 333-115015, 333-124513, 333-146770, 333-159516, 333-181072, 333-191432, 333-195656, 333-203708, 333-225186, 333-233533 and 333-238809) of Rambus Inc. of our report dated February 26, 2021 relating to the consolidated financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

San Jose, California
February 26, 2021

**CERTIFICATION PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Luc Seraphin, certify that:

1. I have reviewed this Annual Report on Form 10-K of Rambus Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 26, 2021

By: /s/ Luc Seraphin

Name: Luc Seraphin

Title: *Chief Executive Officer and President
(Principal Executive Officer)*

**CERTIFICATION PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Rahul Mathur, certify that:

1. I have reviewed this Annual Report on Form 10-K of Rambus Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 26, 2021

By: /s/ Rahul Mathur

Name: Rahul Mathur

Title: *Senior Vice President, Finance and Chief Financial Officer
(Principal Financial Officer)*

