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, 2018

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 001-37900

Everspin Technologies, Inc.
(Exact name of Registrant as specified in its Charter)

Delaware	**26-2640654**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

5670 W. Chandler Boulevard, Suite 100
Chandler, Arizona 85226
(Address of principal executive offices including zip code)

Registrant's telephone number, including area code: (480) 347-1111

Securities registered pursuant to Section 12(b) of the Act: Common Stock, Par Value $0.0001 Per Share; Common stock traded on the Nasdaq Stock 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 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 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 such files). YES ☒ NO ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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	☐	Small 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

As of June 29, 2018, the last business day of the Registrant's most recently completed second fiscal quarter, the aggregate market value of the common stock of Registrant held by non-affiliates, based upon the closing sales price for the Registrant's common stock for such date, as quoted on the Nasdaq Global Market, was approximately $116.6 million. Shares of common stock held by each officer, director and entities affiliated with directors have been excluded because such persons may be deemed to be "affiliates" as that term is defined under the rules and regulations of the Exchange Act. This determination of affiliate status is not necessarily a conclusive determination for any other purpose.

The number of shares of Registrant's Common Stock outstanding as of March 6, 2019 was 17,095,552.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement relating to the Annual Meeting of Shareholders, which will be filed with the Securities and Exchange Commission within 120 days after the end of the Registrant's fiscal year ended December 31, 2018, are incorporated by reference into Part III of this Report.

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Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business operations and financial performance and condition. Any statements contained herein that are statements of events or results that may occur in the future are deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “aim,” “anticipate,” “assume,” “believe,” “continue,” “could,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “potential,” “positioned,” “seek,” “should,” “will,” “would,” and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. These forward-looking statements include, but are not limited to, statements about:

- estimates of our future revenue, expenses, capital requirements and our needs for additional financing;
- the implementation of our business model and strategic plans for our products, technologies and businesses;
- competitive companies and technologies and our industry;
- our ability to manage and grow our business by expanding our sales to existing customers or introducing our products to new customers;
- our ability to establish and maintain intellectual property protection for our products or avoid claims of infringement;
- our ability to hire and retain key personnel;
- our financial performance;
- our estimates of the MRAM market opportunity; and
- the volatility of our share price.

Forward-looking statements are based on management’s current expectations, estimates, forecasts, and projections about our business and the industry in which we operate, and management’s beliefs and assumptions are not guarantees of future performance or development and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control. As a result, any or all of our forward-looking statements in this report may turn out to be inaccurate. Furthermore, if the forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under “Risk Factors” and elsewhere in this report. These statements, like all statements in this report, speak only as of their date, and we undertake no obligation to update or revise these statements in light of future developments. We caution investors that our business and financial performance are subject to substantial risks and uncertainties. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

PART I

Item 1. Business.

Overview

We are the leading provider of magnetoresistive random access memory (MRAM) solutions. Our MRAM solutions offer the persistence of non-volatile memory, a type of memory that retains information even in the absence of power, with the speed and endurance of random access memory (RAM). This enables the protection of mission critical data particularly in the event of power interruption or failure. Our MRAM solutions allow our customers in the industrial, automotive and transportation, and enterprise storage markets to design high performance, power efficient and reliable systems without the need for bulky batteries or capacitors.

Our MRAM technology, unlike traditional semiconductor memory technologies, stores data as a magnetic state rather than an electrical charge, and is offered as either a discrete or embedded solution. Our products read and write data at speeds on par with most dynamic RAM (DRAM) and static RAM (SRAM). Our products offer the non-volatility of flash memory but with significantly superior endurance. We offer our MRAM products with different densities and interfaces to address the various needs of our customers. Our lower-density MRAM products, which we define as having bit densities from 128kb to 16Mb, offer write-speeds on par with SRAM, with virtually unlimited endurance. Our higher density products, which we define as having bit densities at or greater than 256Mb, offer write-speeds on par with DRAM and have superior endurance compared to most other non-volatile memory technologies.

Our lower-density products are optimized for use in industrial, automotive and transportation applications, while our higher-density products are optimized for use in enterprise storage applications. In the enterprise storage market, we collaborate with industry-leading memory controller companies to enable compatibility of their controllers with our MRAM products, facilitating the adoption of our solutions into our customers' existing end products. We sell our products directly and through our established distribution channel to industry-leading original equipment manufacturers (OEMs) and original design manufacturers (ODMs)

We leverage both internal and outsourced manufacturing capabilities to produce our MRAM products. We purchase industry-standard complementary metal-oxide semiconductor (CMOS) wafers from semiconductor foundries and complete the processing of our products by inserting our magnetic-bit technology at our 200mm fabrication facility in Chandler, Arizona. We have entered into a manufacturing agreement with GLOBALFOUNDRIES for 300mm high-volume production of our higher-density products. We believe our strategic relationship with GLOBALFOUNDRIES accelerates the development of our MRAM solutions, provides us with leading-edge outsourced manufacturing capabilities, and a financial model with higher variable cost. In addition, GLOBALFOUNDRIES has the ability to embed our technology in its products for sale to its customers, from which we would earn licensing or royalty revenue.

For the years ended December 31, 2018 and 2017 we recorded revenue of $49.4 million and $35.9 million, gross margin of 51.3% and 59.8%, and a net loss of $17.8 million and $21.1 million, respectively. As of December 31, 2018, we had 95 employees, more than half of whom are engaged in research and development. Our headquarters are located in Chandler, Arizona. Our principal design center is in Austin, Texas, and we have additional sales operations in the Americas, Europe and Asia-Pacific regions.

The Opportunity for Fast, Persistent Memory—MRAM

Traditional memory technologies have either fast write-speeds or are non-volatile, but not both. MRAM combines both features into a single solution, making it an ideal memory to protect data in the event of power interruption or failure, and to store data that is frequently written and accessed. We believe customers that employ MRAM in their systems are able to design higher performance, lower power, more reliable and simpler systems than they would be able to design using other existing memory technologies. The following attributes make MRAM an increasingly important application specific memory solution for system architectures that require non-volatile memory with the speed and endurance of RAM:

Non-volatile. MRAM can retain data in the event of power interruption or failure, which enables end-system designers to create products without costly and bulky power-loss protection systems, such as batteries and capacitors.

Fast Write- Speeds. MRAM offers write-speeds that are on par with the fastest available volatile memory technologies, including most DRAM and SRAM and is significantly faster than other non-volatile memories used today. For example, MRAM writes a block over 100,000 times faster than NAND flash, a type of non-volatile flash memory.

Superior Write- Cycle Endurance. MRAM offers superior write-cycle endurance to existing non-volatile solutions, enabling end-systems designers to offer products that are not limited by memory wear-out. For example, MRAM write-cycle endurance is nearly 10 million times greater than NAND flash.

Scalable to Greater Densities and Smaller Process Geometries. MRAM's write-speed and endurance are scalable with increasing bit densities and smaller geometries, which we believe will allow system designers to employ MRAM in applications that require more memory and smaller form factors.

Proven to be Manufacturable at High Volumes. MRAM can be manufactured in high volumes and in advanced nodes, and is compatible with standard CMOS processes.

Low Energy Requirement. MRAM utilizes energy efficiently over the duration of its write and read cycles. It has the ability to be completely powered down, consuming no energy while still retaining data, which data can be accessed quickly once power is restored.

These attributes enable MRAM to be used as a true Persistent Memory, by which we mean a form of memory that has non-volatility that is similar to storage but with performance that is similar to DRAM or SRAM. MRAM has already proven its commercial viability as a discrete and embedded solution in application-specific memory markets and we believe it will become a mainstream memory technology in the future.

Discrete MRAM Market Opportunity

We expect the introduction of increasingly higher density MRAM solutions will result in greater adoption of MRAM technology into a wider range of applications and end markets.

We expect our Toggle MRAM solutions, which have lower bit densities ranging from 128kb to 16Mb, to continue to serve customers in the industrial, automotive and transportation end markets, where products tend to have long product life cycles. As MRAM bit densities increase, MRAM solutions will be well-suited to address a wider range of large and growing markets, such as server and storage, increasing the overall market opportunity for MRAM. We believe our Spin-torque Transfer (STT) MRAM solutions, which are designed to have bit densities at or greater than 256Mb, will drive the rapid adoption of our products into enterprise storage applications. Further, the introduction of MRAM solutions with bit densities of 1Gb or greater should expand the opportunity for MRAM into additional adjacent markets such as server and mobile computing.

Embedded MRAM Technology

In addition to use as a discrete product, MRAM can serve as embedded memory in a variety of CMOS technologies. Memory accounts for a significant portion of the area of System-on-a-Chips (SoCs), application-specific integrated circuits (ASICs), application-specific standard products, microcontrollers, baseband processors, storage controllers, application processors and field-programmable gate arrays. Memory that is integrated in these products is called embedded memory and offers similar performance to its discrete counterparts.

Today's mainstream embedded memory solutions include embedded SRAM (eSRAM), embedded Flash (eFlash), and embedded DRAM (eDRAM). We believe these technologies have process and cost challenges in scaling to advanced CMOS processing nodes at 28nm and below. Embedded MRAM's (eMRAM) compatibility with CMOS processes, combined with its lower leakage, byte addressability, small cell size and high write-cycle endurance make it well-suited as a replacement for eSRAM, eFlash and eDRAM. We believe the use of eMRAM will be more cost effective for foundries by maintaining compatibility with standard CMOS, thus improving manufacturing efficiency.

eSRAM, which uses six transistors (6-T) to construct a memory bit, requires more silicon area and additional power due to leakage current from its multiple-transistor architecture. Embedded MRAM, which uses a single transistor architecture, results in less leakage current and requires a smaller area on an integrated circuit to achieve equivalent or better performance than eSRAM.

eFlash requires relatively high voltage and area overhead to program the memory bits, which is contrary to the trend of scaling down the CMOS process for lower power and less chip area. eFlash also has a limited number of write cycles, which can render it ineffective as working memory on the chip. Compared to eFlash, eMRAM requires lower voltage to program bits, which results in greater power efficiency and it has higher write-cycle endurance. eMRAM is byte-addressable and has symmetric read and write timing, which makes it suitable as working memory. eFlash must be erased and programmed in pages, which is less efficient for intensive writing applications.

eDRAM is a volatile memory that does not retain data when power is off. eDRAM manufacturing requires additional process steps and costs to build a capacitor to store the data. This manufacturing process could diminish the functionality of the memory or logic components in the integrated circuit. eMRAM, however, can be added towards the end of the manufacturing process, which does not impact the overall performance of the integrated circuit.

The versatility of eMRAM can simplify the design and architecture of the overall integrated circuit by providing the ability to have one memory type serve as both working memory and code storage memory.

Our Solutions

We have a strong track record of innovation in MRAM technology, as demonstrated by our successive introduction of MRAM products that address an increasingly broad spectrum of applications. Our MRAM discrete solutions as well as other offerings are described as follows.

Toggle MRAM

Our Toggle products, which we have been shipping since 2008, are primarily designed to address applications in the industrial, and automotive and transportation markets. Our customers in these markets require memory technology that is non-volatile, writes continuously at high speeds to limit data loss, operates in harsh environments, and maintains endurance over long product lifecycles. To address these requirements, we designed our Toggle MRAM products to offer the persistence of non-volatile memory, speeds comparable to SRAM, reliability across a wide temperature range, and virtually unlimited write-cycles. We have designed our Toggle products to be compatible with industry standard interfaces, including standard SRAM, Serial Peripheral Interface (SPI) and Quad SPI (QSPI) interfaces, enabling our customers to replace incumbent memory solutions with our Toggle MRAM solutions. We believe this has been important for the initial success and early adoption of our Toggle products.

Spin-Transfer Torque MRAM

Our STT-MRAM products, which are currently shipping in 256Mb densities, are initially targeted for enterprise storage market, which includes high performance Solid-State Drives (SSDs), Redundant array of independent disks (RAID) and server applications. Our customers require low latency, protection of data against power interruption and failure, high density and reliability. Our STT-MRAM products offer performance comparable to DRAM, and are up to five orders of magnitude faster than flash block writes, non-volatile to protect against power loss, and offer endurance superior to Flash memory. We use our Perpendicular Magnetic Tunnel Junction (PMTJ) technology to deliver bit density and power efficiency increases to create a true Persistent Memory solution. Our STT-MRAM products are designed with derivative standard DDR3 and DDR4 interfaces, which we believe will facilitate market adoption of our products in the enterprise storage and server markets. Our 1Gb density offering is currently in development.

Embedded MRAM

We offer eMRAM to our customers for integration in their SoC solutions. We also enable GLOBALFOUNDRIES to offer eMRAM in the solutions they manufacture for their customers. Our embedded memory solutions offer high performance, low cost and low power and can be manufactured using standard CMOS. eMRAM offers significant advantages over existing embedded memory solutions, particularly in endurance, bandwidth, energy and area requirements, leakage and persistence. We believe our eMRAM solutions offer the performance benefits and process compatibility to become the embedded memory of choice for our current and future foundry partners.

Sensors

We have developed and are currently shipping a high performance, high-reliability magnetic sensor based on our Magnetic Tunnel Junction (MTJ) technology, which is at the core of our memory technology. Our magnetic sensor offers three-axis orientation in a single die, and is integrated into consumer electronics applications as an electronic compass. We believe our magnetic sensor technology can be used for additional power management applications in the industrial, and automotive and transportation end markets. We currently license our magnetic sensor technology to third parties for their commercial use and plan to continue this strategy.

Aerospace

Aerospace and satellite electronic systems require memory that is able to withstand exposure to the levels of radiation encountered in avionics and space applications. MRAM is not susceptible to radiation induced errors because data is stored as a magnetic state rather than as an electrical charge. Aerospace and satellite equipment manufacturers license our technology for use in their electronic systems. Through license agreements, we provide manufacturing service and technology access to certain of our customers, and we sell products to value added subcontractors.

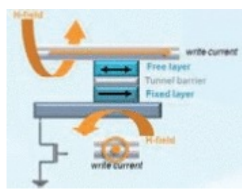
Our Technology

Memory Architecture

Our MRAM solutions are based on our MTJ technology, which writes data by establishing a stable magnetic state, and reads data by measuring the resistance of the MTJ. MTJ devices are multilayered structures, including thin metal and dielectric layers, which are fabricated with methods commonly used in semiconductor manufacturing. The resistance is determined by the orientation of the magnetic field in the free layer relative to the fixed layer.

Toggle MRAM Technology

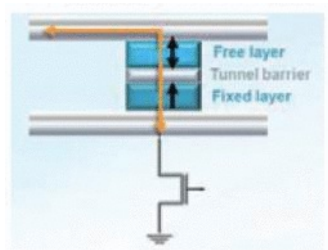
Our Toggle MRAM technology uses a magnetic field to program, or write, bits. A significant advantage of this “field switching” is virtually unlimited write endurance, as reversing the free-layer magnetization with a magnetic field does not have any wear-out mechanism. Field Switched MRAM products are currently in production at the 180nm and 130nm nodes.



Field Switched MRAM bit cell. Each bit cell comprises an MTJ connected in series with a select transistor.

STT-MRAM Technology

Our STT-MRAM technologies use the spin-torque transfer property, which is the manipulation of the spin of electrons with a polarizing current, to establish the desired magnetic state of the free layer to program, or write, the bits in the memory array. Spin-transfer torque MRAM (STT-MRAM), provides a significant reduction in switching energy compared to Field-switched (Toggle) MRAM, and is highly scalable, enabling higher density memory products. Our STT-MRAM uses a Perpendicular MTJ. We have developed materials and Perpendicular MTJ stack designs with high perpendicular magnetic anisotropy, which provides long data retention, small cell size, greater density, high endurance and low power.



Schematic depiction of the Perpendicular MTJ bit cell

Embedded MRAM Technology

MRAM technology is more easily embedded than most other memory technologies, due to the way the MRAM module is integrated in standard CMOS. Since the MRAM module is inserted between metal layers in the back-end-of-line part of the fabrication process, above the transistor layers, it does not disturb the CMOS fabrication process. Integrating MRAM in standard CMOS for SoC applications does not impact the performance of the integrated circuit.

Sales and Marketing

Our MRAM products are used by top-tier customers in the industrial, automotive and transportation, and enterprise storage markets.

We consider our customer to be the end customer purchasing either directly from a distributor, a contract manufacturer or us. An end customer purchasing through a contract manufacturer typically instructs the contract manufacturer to obtain our products and to incorporate our products with other components for sale by the contract manufacturer to the end customer. Although we actually sell the products to, and are paid by the distributors and contract manufacturers, we refer to the end customer as our customer.

During the year ended December 31, 2018, more than 800 end customers purchased our products. One customer accounted for more than 10% of our revenue during 2018. No end customers accounted for more than 10% of our revenue during 2017.

We sell our products through a direct sales channel and a network of representatives and distributors. The majority of our customers, and their associated contract manufacturers, buy our products through our distributors. We maintain sales, supply chain and logistics operations and have distributors in Asia to service the production needs of contract manufacturers such as Flextronics, Foxconn, Inventec and Sanmina. We also maintain direct selling relationships with several strategic customers. Our direct sales representatives are located in North America, the United Kingdom, Germany, Hong Kong, and Taiwan.

Our typical sales cycle consists of a sales and development process in which our field engineers and sales personnel work closely with our customers’ design engineers. This process can take from three to 18 months to complete, and a successful sales cycle culminates in a design win. Note that some customers for our newer STT-MRAM products may need to modify their controllers to integrate our technology, adding additional time to the cycle. Once we establish a relationship with a customer, we continue a sales process to maintain our position and to secure subsequent new design wins at the customer. Each customer lead, whether new or existing, is tracked through our CRM tool and followed in stages of prospect, design in, design win and production. This tracking results in a design win pipeline that provides a measure of the future business potential of the opportunities.

Our technical support personnel have expertise in hardware and software, and have access to our development team to ensure proper service and support for our OEM customers. Our field application and engineering team provides technical training and design support to our customers.

Manufacturing

We rely on third-party suppliers for most phases of the manufacturing process, including initial fabrication and assembly.

Wafer Manufacturing

We manufacture our Toggle MRAM products and provide foundry services for embedded MRAM, licensed MRAM products and MTJ-based sensors in our 200mm manufacturing facility. Our facility is in an ISO-4 clean room and our manufacturing line is ISO 9001:2015 certified. We actively manage inventory, including automated process flows, process controls and recipe management, and we use standard equipment to manufacture our products.

Our STT-MRAM products are produced in a 300mm GLOBALFOUNDRIES fabrication facility.

Assembly and Test

We have designed test protocols to maximize yields at assembly and final test, reduce manufacturing costs and improve quality. Our design and product engineering teams have developed and implemented wafer-level test programs to characterize the behavior of our MRAM devices. We create predictive models and test each of our parts to assure the reliability of the products in the field. We also add unique electronic part identification numbers to provide material traceability.

To protect the Toggle MRAM devices from stray magnetic fields, we developed packaging solutions, which we have qualified at independent, industry-leading sub-contractors, including Amkor, OSE, GTC, ChipMos and UTAC. We have successfully qualified our MRAM devices in various packages at temperatures ranging from commercial to automotive grade. As part of our commitment to quality, our quality management system has been certified to ISO 9001:2015 and ISO 14000 standards. Our foundry vendors and sub-contractors are also ISO 9001 and ISO 14001 certified.

STT-MRAM Joint Development Agreement

On October 17, 2014, we entered into a joint development agreement with GLOBALFOUNDRIES Inc., a semiconductor foundry, for the joint development of our STT-MRAM technology. The term of the agreement is the later of four years from the effective date or until the completion, termination, or expiration of the last statement of work entered into pursuant to the joint development agreement.

The joint development agreement also states that the specific terms and conditions for the production and supply of the developed MRAM technology would be pursuant to a separate manufacturing agreement entered into between the parties. See "—STT-MRAM Manufacturing Agreement" below.

Under the joint development agreement, each party granted licenses to its relevant intellectual property to the other party. For certain jointly developed works, the parties have agreed to follow an invention allocation procedure to determine ownership. In addition, GLOBALFOUNDRIES possesses the exclusive right to manufacture our discrete and embedded Spin Transfer Torque MRAM devices developed pursuant to the agreement until the earlier of three years after the qualification of the MRAM device for a particular technology node or four years after the completion of the relevant statement of work under which the device was developed. For the same exclusivity period associated with the relevant device, GLOBALFOUNDRIES agreed not to license intellectual property developed in connection with the agreement to named competitors of ours.

Generally, unless otherwise specified in the agreement or a statement of work, we and GLOBALFOUNDRIES share defined project costs equally under the joint development agreement. If GLOBALFOUNDRIES manufactures, sells or transfers wafers containing production qualified MRAM devices that utilized certain Everspin design information to its customers, GLOBALFOUNDRIES will pay royalties to us for each such wafer transferred or sold to a customer.

Except for breaches of confidentiality provisions and each party's indemnification obligations to one another under the agreement, liability under the agreement is capped at a range depending on project costs and royalty amounts. Either party may terminate the agreement if the other party materially breaches a term of the agreement, and fails to remedy the breach after receiving notice from the non-breaching party. If a party terminates the manufacturing agreement for material breach in accordance with its terms, that party may also terminate the joint development agreement.

On May 27, 2016, we entered into an amendment to the joint development agreement to modify the payment schedule and to clarify our payment obligations for certain past project costs. Under the amendment, GLOBALFOUNDRIES may terminate the joint development agreement with us if we materially breach a term of the agreement, such as, but not limited to, by our failing to pay any undisputed sum which has been outstanding for 45 or more days from the date of invoice, and fail to remedy the breach within 60 days after receiving notice from GLOBALFOUNDRIES. In October 2018, we entered into the third amendment to the joint development agreement. The third amendment was effective as of January 1, 2018 and extended the term of the joint development agreement until December 2019. This extended agreement also modified our payment obligations for certain ongoing project costs. See “Risk Factors” for further discussion of our agreements with GLOBALFOUNDRIES.

STT-MRAM Manufacturing Agreement

On October 23, 2014, we entered into a manufacturing agreement with GLOBALFOUNDRIES Singapore Pte. Ltd. that sets forth the specific terms and conditions for the production and supply of wafers manufactured using our Spin Transfer Torque MRAM technology developed under the joint development agreement with GLOBALFOUNDRIES. Pursuant to that joint development agreement, GLOBALFOUNDRIES possesses certain exclusive rights to manufacture such wafers for our discrete and embedded STT-MRAM devices. Our manufacturing agreement with GLOBALFOUNDRIES includes a customary forecast and ordering mechanism for the supply of certain of our wafers, and we are obligated to order and pay for, and GLOBALFOUNDRIES is obligated to supply, wafers consistent with the binding portion of our forecast. GLOBALFOUNDRIES also has the ability to discontinue its manufacture of any of our wafers upon due notice and completion of the notice period. The initial term of the manufacturing agreement is for three years, which automatically renews for successive one year periods thereafter unless either party provides sufficient advance notice of non-renewal.

Except for breaches of confidentiality provisions and each party’s indemnification obligations to one another under the agreement, liability under the agreement is capped at the lesser of a set amount or the total purchase price received by GLOBALFOUNDRIES from us in the twelve months immediately preceding the claim for the specific product that caused the damages. Either party may terminate the agreement if the other party materially breaches a term of the agreement, and fails to remedy the breach after receiving notice from the non-breaching party. GLOBALFOUNDRIES may terminate the agreement if we fail to pay any undisputed sum which has been outstanding for sixty or more days from the date of invoice.

Backlog

As of December 31, 2018, our backlog was $13.0 million, compared to $13.7 million as of December 31, 2017, and includes all purchase orders scheduled for delivery within the subsequent 12 months. Our business and, to a large extent, that of the entire semiconductor industry, is characterized by short-term orders and shipment schedules. Orders constituting our current backlog are subject to changes in delivery schedules, or to cancellation at the customer's option without significant penalty. Thus, while backlog is useful for scheduling production, backlog as of any particular date may not be a reliable measure of sales for any future period.

Competition

Our products, all of which offer the persistence of non-volatile memory with the speed and endurance of random access memory, enable the protection of mission critical data particularly in the event of power interruption or failure. Our solutions are designed for use in applications in the industrial, automotive and transportation, and enterprise storage markets where the combination of high write-cycle endurance and fast write-speeds are of critical importance.

Our principal competitors to our Toggle Field Switched MRAM products, which are tailored primarily for the industrial, automotive and transportation, and enterprise storage markets, include companies that offer nonvolatile SRAM (NVSRAM), SRAM, and ferroelectric RAM (FRAM) products, such as Cypress, Fujitsu, Integrated Silicon Solution (ISSI), Macronix, Microchip, Micron, Renesas, Samsung and Toshiba. Our STT-MRAM products are designed primarily for the enterprise storage market, which includes high performance SSDs, RAID systems and servers. Our

STT-MRAM products are intended to replace DRAM-based solutions, which comprised DRAM and additional back-up power supply components, such as super capacitors and batteries that are required to make DRAM persistent. Customers typically purchase DRAM and super capacitors and batteries from separate vendors, and pair them together in order to create a DRAM-based solution capable of protecting data against power interruption or loss. Companies that offer DRAM devices include Hynix, Micron, Samsung, and several other smaller companies. In the future we may also face competition from companies developing MRAM technologies, such as Avalanche, Spin Transfer Technologies, Samsung and other larger and smaller semiconductor companies. We may also face indirect competition from RRAM, 3D XPoint and NAND Flash manufacturers in some market applications.

Our sensor products compete with giant magnetoresistive (GMR), anisotropic magnetoresistive (AMR) and Hall effect sensors supplied by Alps, Asahi Kasei Microdevices, Crocus, Fairchild, Invensys (now Schneider), Kionix and Micronix.

Our ability to compete successfully in the market for our products is based on a number of factors, including:

- our product attributes and specifications;
- customer adoption of MRAM technology despite the price per bit premium of our products verses competing technologies;
- successful controller supplier and customer engagements throughout the product life cycle;
- high quality and reliability as measured by our customers;
- the ease of implementation of our products by customers;
- preferred supplier status at numerous customers and ODMs
- manufacturing expertise and strength;
- reputation and strength of customer relationships;
- competitive pricing in the market against the competition while maintaining our gross margin profile;

and

- our success in meeting the needs of future customer requirements through continued development of new products.

We believe we compete favorably with respect to each of these factors.

Intellectual Property

Our success depends, in part, on our ability to protect our products and technologies from unauthorized third-party copying and use. To accomplish this, we rely on a combination of intellectual property rights, including patents, trade secrets, copyrights and trademarks, as well as customary contractual protections. As of December 31, 2018, we held 426 issued patents that expire at various times between January 2019 and December 2037, and had 162 patent applications pending. Included in our issued patents and pending applications are patents/applications in the United States, China, Europe, France, Germany, Ireland, Italy, Japan, the Netherlands, the Republic of Korea, Singapore, Taiwan, and the United Kingdom.

We seek to file for patents that have broad application in the semiconductor industry and that would be helpful in the magnetoresistive memory and sensor markets. However, there can be no assurance that our pending patent applications or any future applications will be approved, that any issued patents will provide us with competitive advantages or will not be challenged by third parties, or that the patents or applications of others will not have an adverse effect on our ability to do business. In addition, there can be no assurance that others will not independently develop substantially equivalent intellectual property or otherwise gain access to our trade secrets or intellectual property, or disclose such intellectual property or trade secrets, or that we can effectively protect our intellectual property.

We seek to enforce our IP and to monetize our patent portfolio through licensing of third parties in return for cash remuneration, patent cross licenses or both. We recognized revenue from licensing our IP during the first quarter of 2018.

We generally control access to and use of our confidential information through employing internal and external controls, including contractual protections with employees, contractors and customers. We rely in part on U.S. and international copyright laws to protect our mask work. All employees and consultants are required to execute confidentiality agreements in connection with their employment and consulting relationships with us. We also require them to agree to disclose and assign to us all inventions conceived or made in connection with the employment or consulting relationship.

Environmental Regulation

We must comply with many different federal, state, local and foreign governmental regulations related to the use, storage, discharge and disposal of certain chemicals and gases used in our manufacturing processes. Our facilities have been designed to comply with these regulations and we believe that our activities are conducted in material compliance with such regulations. Any changes in such regulations or in their enforcement could require us to acquire costly equipment or to incur other significant expenses to comply with environmental regulations. Any failure by us to adequately control the storage, use, discharge and disposal of regulated substances could result in significant future liabilities.

Increasing public attention has been focused on the environmental impact of electronic manufacturing operations. While we have not experienced any materially adverse effects on our operations from recently adopted environmental regulations, our business and results of operations could suffer if for any reason we fail to control the storage or use of, or to adequately restrict the discharge or disposal of, hazardous substances under present or future environmental regulations.

Employees

At December 31, 2018, we had 95 employees in the United States and 27 full time equivalent contractors and consultants in Singapore, China, Taiwan, Japan, the Republic of Korea, the United Kingdom, the United States and Italy. None of our employees are either represented by a labor union or subject to a collective bargaining agreement. We have not experienced any work stoppages, and we consider our relations with our employees and contractors to be good.

Corporate Information

We were incorporated in Delaware in May 2008. In June 2008, Freescale Semiconductor, Inc. (now a wholly-owned subsidiary of NXP Semiconductors N.V.), spun-out its MRAM business as Everspin. Our offices are located at 5670 W. Chandler Boulevard, Suite 100, Chandler, Arizona 85226. Our telephone number is (480) 347-1111. Our corporate website is at *www.Everspin.com.* Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge on our website. The information contained on or that can be accessed through our website is not incorporated by reference into this report, and you should not consider information on our website to be part of this report.

Item 1A. Risk Factors.

The following are important factors that could cause actual results or events to differ materially from those contained in any forward-looking statements made by us or on our behalf. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we deem immaterial also may impair our business operations. If any of the following risks or such other risks actually occurs, our business could be harmed.

Risk Factors Related to Our Business and Our Industry

We have a history of losses which may continue in the future, and we cannot be certain that we will achieve or sustain profitability.

We have incurred net losses since our inception. We incurred net losses of $17.8 million and $21.1 million for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2018, we had an accumulated deficit of $134.0 million. We expect to incur significant expenses related to the continued development and expansion of our business, including in connection with our efforts to develop and improve upon our products and technology, maintain and enhance our research and development and sales and marketing activities and hire additional personnel. While our products offer unique benefits over other industry memory technologies, our per-bit cost to product our product is currently higher than competing technologies. As a result, our ability to capture market share and generate sufficient revenue to transition to profitability and generate consistent positive cash flows is uncertain. We do not know whether our revenue will grow rapidly enough to absorb these costs, and our limited operating history makes it difficult to assess the extent of these expenses, or their impact on our results of operations.

Further, our revenue may not increase or may decline for a number of possible reasons, many of which are outside our control, including a decline in demand for our products, increased competition, business conditions that adversely affect the semiconductor memory industry, including reduced demand for products in the end markets that we serve, or our failure to capitalize on growth opportunities. If we fail to generate sufficient revenue to support our operations, we may not be able to achieve or sustain profitability. If revenue does not grow sufficiently, we may not be able to meet our debt covenants, including the liquidity ratio and sales targets.

Our limited history of making our STT-MRAM products makes it difficult to evaluate our current business and future prospects.

We have been in existence as a stand-alone company since 2008, when Freescale Semiconductor, Inc. (subsequently acquired by NXP Semiconductor) spun-out its MRAM business as Everspin. We have been shipping magnetoresistive random access memory (MRAM) products since our incorporation in 2008. However, we only began to manufacture and ship our Spin Transfer Torque MRAM (STT-MRAM) products in the fourth quarter of 2017.

Our limited experience selling our STT-MRAM products, combined with the rapidly evolving and competitive nature of our market, makes it difficult to evaluate our current business and future prospects. In addition, we have limited insight into emerging trends that may adversely affect our business, financial condition, results of operations and prospects. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries, including unpredictable and volatile revenue and increased expenses as we continue to grow our business. The viability and demand for our products may be affected by many factors outside of our control, such as the factors affecting the growth of the industrial, automotive and transportation, and enterprise storage industries and changes in macroeconomic conditions. If we do not manage these risks and overcome these difficulties successfully, our business will suffer.

We may be unable to match production with customer demand for a variety of reasons including our inability to accurately forecast customer demand or the capacity constraints of our suppliers, which could adversely affect our operating results.

We make planning and spending decisions, including determining production levels, production schedules, component procurement commitments, personnel needs and other resource requirements, based on our estimates of product demand and customer requirements. Our products are typically purchased pursuant to individual purchase orders. While our customers may provide us with their demand forecasts, they are not contractually committed to buy any quantity of products beyond purchase orders. Furthermore, many of our customers may increase, decrease, cancel or delay purchase orders already in place without significant penalty. The short-term nature of commitments by our customers and the possibility of unexpected changes in demand for their products reduce our ability to accurately estimate future customer requirements. On occasion, customers may require rapid increases in production, which can strain our resources, necessitate more onerous procurement commitments and reduce our gross margin. If we overestimate customer demand, we may purchase products that we may not be able to sell, which could result in decreases in our prices or write-downs of unsold inventory. Conversely, if we underestimate customer demand or if sufficient manufacturing capacity is unavailable, we could lose sales opportunities and could lose market share or damage our customer relationships. We manufacture MRAM products at our 200mm facility we lease in Chandler, Arizona and use a single foundry, GLOBALFOUNDRIES for production of higher density products on advanced technology nodes, which may not have sufficient capacity to meet customer demand. The rapid pace of innovation in our industry could also render significant portions of our inventory obsolete. Excess or obsolete inventory levels could result in unexpected expenses or write-downs of inventory values that could adversely affect our business, operating results and financial condition.

We may require additional capital to fund our business, which may not be available to us on favorable terms or at all.

We believe that our existing cash and cash equivalents as of December 31, 2018, coupled with our anticipated growth and sales levels will be sufficient to meet our anticipated cash requirements for at least the next 12 months. Our future capital requirements will depend on many factors, including our growth rate, the timing and extent of our spending to support research and development activities, the timing and cost of establishing additional sales and marketing capabilities, and the introduction of new products. We may be required to seek additional equity or debt financing, and we cannot assure you that any such additional financing will be available to us on acceptable terms or at all. If we are unable to raise additional capital or generate sufficient cash from operations to adequately fund our operations, we will need to curtail planned activities to reduce costs. Doing so will likely harm our ability to execute on our business plan.

If we raise additional funds through issuances of equity, convertible debt securities or other securities convertible into equity, our existing stockholders could suffer significant dilution in their percentage ownership of our company, and any new equity securities we issue could have rights, preferences and privileges senior to those of holders of our common stock. If we are unable to obtain adequate financing or financing on terms satisfactory to us, when we require it, our ability to continue to grow or support our business and to respond to business challenges could be significantly limited.

As we expand into new potential markets, we expect to face intense competition, including from our customers and potential customers, and may not be able to compete effectively, which could harm our business.

We expect that our new and future MRAM products will be applicable to markets in which we are not currently operating. Selling into such new markets, could put us into direct competition with our current or potential customers or other competitors with substantially more resources and experience than us. The markets in which we operate and may operate in the future are extremely competitive and are characterized by rapid technological change, continuous evolving customer requirements and declining average selling prices. We may not be able to compete successfully against current or potential competitors, which include our current or potential customers as they seek to internally develop solutions competitive with ours or as we develop products potentially competitive with their existing products. If we do not compete successfully, our market share and revenue may decline. We compete with large semiconductor manufacturers and designers and others, and our current and potential competitors have longer operating histories, significantly greater resources and name recognition and a larger base of customers than we do. This may allow them to respond more quickly than we can to new or emerging technologies or changes in customer requirements. In addition, these competitors may have greater credibility with our existing and potential customers. Some of our current and potential customers with their own internally developed solutions may choose not to purchase products from third-party suppliers like us.

We rely on third parties to distribute, manufacture, package, assemble and test our products, which exposes us to a number of risks, including reduced control over manufacturing and delivery timing and potential exposure to price fluctuations, which could result in a loss of revenue or reduced profitability.

Although we operate an integrated magnetic fabrication line located in Chandler, Arizona, we purchase wafers from third parties and outsource the manufacturing, packaging, assembly and testing of our products to third-party foundries and assembly and testing service providers. We use a single foundry, GLOBALFOUNDRIES Singapore Pte. Ltd., for production of higher density products on advanced technology nodes. Our primary product package and test operations are located in China, Taiwan and other Asian countries. We also use standard CMOS wafers from third-party foundries, which we process at our Chandler, Arizona, facility.

Relying on third-party distribution, manufacturing, assembly, packaging and testing presents a number of risks, including but not limited to:

- our interests could diverge from those of our foundries, or we may not be able to agree with them on ongoing development, manufacturing and operational activities, or on the amount, timing, or nature of further investments in our joint development;
- capacity and materials shortages during periods of high demand;
- reduced control over delivery schedules, inventories and quality;
- the unavailability of, or potential delays in obtaining access to, key process technologies;
- the inability to achieve required production or test capacity and acceptable yields on a timely basis;
- misappropriation of our intellectual property;
- the third party’s ability to perform its obligations due to bankruptcy or other financial constraints;
- exclusive representatives for certain customer engagements;
- limited warranties on wafers or products supplied to us; and
- potential increases in prices.

We currently do not have long-term supply contracts with our third-party contract manufacturers for our MRAM products, including NXP, United Microelectronics Corporation, Taiwan Semiconductor Manufacturing Company, Limited (TSMC), United Test and Assembly Center (UTAC), Global Testing Corporation (GTC), ChipMos, OSE Taiwan, and Amkor, and we typically negotiate pricing on a per-purchase order basis and in some cases on an annual basis. Therefore, they are not obligated to perform services or supply components to us for any specific period, in any specific quantities, or at any specific price, except as may be provided in a particular purchase order. During periods of high demand and tight inventories, our third-party foundries and packaging, assembly and testing contractors may allocate capacity to the production of other companies’ products while reducing deliveries to us, or significantly raise their prices. In particular, they may allocate capacity to other customers that are larger and better financed than us or that have long-term agreements, decreasing the capacity available to us. Shortages of capacity available to us may be caused by the actions of their other, large customers that may be difficult to predict, such as major product launches.

Our manufacturing agreement with GLOBALFOUNDRIES includes a customary forecast and ordering mechanism for the supply of certain of our wafers, and we are obligated to order and pay for, and GLOBALFOUNDRIES is obligated to supply, wafers consistent with the binding portion of our forecast. However, our manufacturing arrangement is also subject to both a minimum and maximum order quantity that while we believe currently addresses our projected foundry capacity needs, may not address our maximum foundry capacity requirements in the future. We may also be obligated to pay for unused capacity if our demand decreases in the future, or if our estimates prove inaccurate. GLOBALFOUNDRIES also has the ability to discontinue its manufacture of any of our wafers upon due notice and completion of the notice period. This could cause us to have to find another foundry to manufacture those wafers or redesign our core technology and would mean that we may not have products to sell until such time. Any time spent engaging a new manufacturer or redesigning our core technology could be costly and time consuming and may allow potential competitors to take opportunities in the market place. Moreover, if we are unable to find another foundry to manufacture our products or if we have to redesign our core technology, this could cause material harm to our business and operating results.

If we need other foundries or packaging, assembly and testing contractors, or if we are unable to obtain timely and adequate deliveries from our providers, we might not be able to cost-effectively and quickly retain other vendors to satisfy our requirements. Because the lead-time needed to establish a relationship with a new third-party supplier could be several quarters, there is no readily available alternative source of supply for any specific component. In addition, the time and expense to qualify a new foundry could result in additional expense, diversion of resources or lost sales, any of which would negatively impact our financial results.

If any of our current or future foundries or packaging, assembly and testing subcontractors significantly increases the costs of wafers or other materials or services, interrupts or reduces our supply, including for reasons outside of their control, or if any of our relationships with our suppliers is terminated, our operating results could be adversely affected.

Such occurrences could also damage our customer relationships, result in lost revenue, cause a loss in market share or damage our reputation.

Our joint development agreement and strategic relationships involve numerous risks.

We have entered into strategic relationships to manufacture products and develop new manufacturing process technologies and products. These relationships include our joint development agreement with GLOBALFOUNDRIES to develop advanced MTJ technology and STT-MRAM. These relationships are subject to various risks that could adversely affect the value of our investments and our results of operations. These risks include the following:

- our interests could diverge from those of our foundries, or we may not be able to agree with them on ongoing development, manufacturing and operational activities, or on the amount, timing, or nature of further investments in our joint development;
- we may experience difficulties in transferring technology to a foundry;
- we may experience difficulties and delays in getting to and/or ramping production at foundries;
- our control over the operations of foundries is limited;
- due to financial constraints, our joint development collaborators may be unable to meet their commitments to us and may pose credit risks for our transactions with them;
- due to differing business models or long-term business goals, our collaborators may decide not to join us in funding capital investment, which may result in higher levels of cash expenditures by us;
- our cash flows may be inadequate to fund increased capital requirements;
- we may experience difficulties or delays in collecting amounts due to us from our collaborators;
- the terms of our arrangements may turn out to be unfavorable;
- we are migrating toward a fabless model as 300mm production becomes required and this increases risks related to less control over our critical production processes; and
- changes in tax, legal, or regulatory requirements may necessitate changes in our agreements.

In addition, under the terms of our joint development agreement with GLOBALFOUNDRIES, we share the development costs. Further, our joint development agreement expires in December 2019 unless a statement of work is in place at that time, in which case it expires on the date the last statement of work is finished. If GLOBALFOUNDRIES fails to extend or terminates the joint development agreement, our ability to continue to develop our MRAM technology will be significantly impaired.

If our strategic relationships are unsuccessful, our business, results of operations, or financial condition may be materially adversely affected.

The market for semiconductor memory products is characterized by declines in average selling prices, which we expect to continue, and which could negatively affect our revenue and margins.

Our customers for some of our products may see the average selling price of competitive products decrease year-over-year and we expect this trend to continue. When such pricing declines occur, we may not be able to mitigate the effects by selling more or higher margin units, or by reducing our manufacturing costs. In such circumstances, our operating results could be materially and adversely affected. Our stand-alone and embedded MRAM products have experienced declining average selling prices over their life cycle. The rate of decline may be affected by a number of factors, including relative supply and demand, the level of competition, production costs and technological changes. As a result of the decreasing average selling prices of our products following their launch, our ability to increase or maintain our margins depends on our ability to introduce new or enhanced products with higher average selling prices and to reduce our per-unit cost of sales and our operating costs. We may not be able to reduce our costs as rapidly as companies that operate their own manufacturing, assembly and testing facilities, and our costs may even increase because we rely in part on third parties to manufacture, assemble and test our products, which could also reduce our gross margins. In addition, our new or enhanced products may not be as successful or enjoy as high margins as we expect. If we are unable to offset any reductions in average selling prices by introducing new products with higher average selling prices or reducing our costs, our revenue and margins will be negatively affected and may decrease.

The semiconductor memory market is highly cyclical and has experienced severe downturns in the past, generally as a result of wide fluctuations in supply and demand, constant and rapid technological change, continuous new product introductions and price erosion. During downturns, periods of intense competition, or the presence of oversupply in the industry, the selling prices for our products may decline at a high rate over relatively short time periods as compared to historical rates of decline. We are unable to predict selling prices for any future periods and may experience unanticipated, sharp declines in selling prices for our products.

Unfavorable economic and market conditions, domestically and internationally, may adversely affect our business, financial condition, results of operations and cash flows.

We have significant customer sales both in the U.S. and internationally. We also rely on domestic and international suppliers, manufacturing partners and distributors. We are therefore susceptible to adverse U.S. and international economic and market conditions. If any of our manufacturing partners, customers, distributors or suppliers experience serious financial difficulties or cease operations, our business will be adversely affected. In addition, the adverse impact of an unfavorable economy may adversely impact customer spending, which may adversely impact demand for our products.

Further, increasing trade tensions and tariffs, particularly with China, may increase the costs we incur to produce our products. Although we are seeking to qualify alternative suppliers and facilities in the event that it becomes necessary to obtain materials from other sources to limit the effect of tariffs, there is no guarantee that we will be able to do so or, if we are, that these alternative sources will fully mitigate the effect that tariffs and other trade restrictions will have on our business, which may have an adverse effect on our financial condition and results of operations.

We must continuously develop new and enhanced products, and if we are unable to successfully market our new and enhanced products for which we incur significant expenses to develop, our results of operations and financial condition will be materially adversely affected.

To compete effectively in our markets, we must continually design, develop and introduce new and improved technology and products with improved features in a cost-effective manner in response to changing technologies and market demand. This requires us to devote substantial financial and other resources to research and development. We are developing new technology and products, which we expect to be one of the drivers of our revenue growth in the future. However, as it is taking us longer than we expected to develop our 1Gb STT-MRAM product, we may not succeed in developing and marketing this and other new and enhanced products. We also face the risk that customers may not value or be willing to bear the cost of incorporating our new and enhanced products into their products, particularly if they believe their customers are satisfied with current solutions. Regardless of the improved features or superior performance of our new and enhanced products, customers may be unwilling to adopt our solutions due to design or pricing constraints, or because they do not want to rely on a single or limited supply source. Because of the extensive time and resources that we invest in developing new and enhanced products, if we are unable to sell customers our new products, our revenue could decline and our business, financial condition, results of operations and cash flows would be negatively affected. For example, we generated limited revenue from sales of our STT-MRAM products to date. While we expect revenue from our STT-MRAM products to increase, if we are unable to generate more customer adoption of our 256Mb product and scale MRAM to gigabit densities to address applications currently served by DRAM, we may not be able to materially increase our revenue. If we are unable to successfully develop and market our new and enhanced products that we have incurred significant expenses developing, our results of operations and financial condition will be materially and adversely affected.

Our success and future revenue depend on our ability to secure design wins and on our customers' ability to successfully sell the products that incorporate our solutions. Securing design wins is a lengthy, expensive and competitive process, and may not result in actual orders and sales, which could cause our revenue to decline.

We sell to customers that incorporate MRAM into their products. A design win occurs after a customer has tested our product, verified that it meets the customer's requirements and qualified our solutions for their products. We believe we are dependent on the adoption of our 256Mb and 1Gb MRAM products by our customers to secure design wins. In the fourth quarter of 2017, we recorded revenue for our first sale of 40nm 256Mb STT-MRAM products and we ramped up production in 2018 and into 2019. To date we have not sold any of our 1Gb MRAM products. Our customers may need several months to years to test, evaluate and adopt our product and additional time to begin volume production of the product that incorporates our solution. Due to this generally lengthy design cycle, we may experience significant delays from the time we increase our operating expenses and make investments in our products to the time that we generate revenue from sales of these products. Moreover, even if a customer selects our solution, we cannot guarantee that this will result in any sales of our products, as the customer may ultimately change or cancel its product plans, or efforts by our customer to market and sell its product may not be successful. We may not generate any revenue from design wins after incurring the associated costs, which would cause our business and operating results to suffer. Any further delay in the development of our 1Gb MRAM product, or failure of our customers to adopt our 1Gb MRAM products, could inhibit revenue growth or cause declines, which would significantly harm our business and prevent us from becoming profitable.

If a current or prospective customer designs a competitor's solution into its product, it becomes significantly more difficult for us to sell our solutions to that customer because changing suppliers involves significant time, cost, effort and risk for the customer even if our solutions are superior to other solutions and remain compatible with their product design. Our ability to compete successfully depends on customers viewing us as a stable and reliable supplier to mission critical customer applications when we have less production capacity and less financial resources compared to most of our larger competitors. If current or prospective customers do not include our solutions in their products and we fail to achieve a sufficient number of design wins, our results of operations and business may be harmed.

We rely on our relationships with original equipment manufacturers (OEMs) and original design manufacturers (ODMs) to enhance our solutions and market position, and our failure to continue to develop or maintain such relationships in the future would harm our ability to remain competitive.

We develop our products for leading OEMs and ODMs that serve a variety of end markets and are developing devices for automotive and transportation, industrial and storage applications. For each application, manufacturers create products that incorporate specialized semiconductor technology, which makers of memory products use as the basis for their products. These manufacturers set the specifications for many of the key components to be used on each generation of their products and, in the case of memory components, generally qualify only a few vendors to provide memory components for their products. As each new generation of their products is released, vendors are validated in a similar fashion. We must work closely with OEMs and ODMs to ensure our products become qualified for use in their products. As a result, maintaining close relationships with leading OEMs and ODMs that are developing devices for automotive and transportation, industrial and storage applications is crucial to the long-term success of our business. We could lose these relationships for a variety of reasons, including our failure to qualify as a vendor, our failure to demonstrate the value of our new solutions, declines in product quality, or if OEMs or ODMs seek to work with vendors with broader product suites, greater production capacity or greater financial resources. If our relationships with key industry participants were to deteriorate or if our solutions were not qualified by our customers, our market position and revenue could be materially and adversely affected.

The loss of one or several of our customers or reduced orders or pricing from existing customers may have a significant adverse effect on our operations and financial results.

We have derived and expect to continue to derive a significant portion of our revenues from a small group of customers during any particular period due in part to the concentration of market share in the semiconductor industry. Our four largest end customers together accounted for 29% of our total revenue for the year ended December 31, 2018, and one of these customers individually accounted for more than 10% of our total revenue during the period. Our four largest end customers together accounted for 28% of our total revenue for the year ended December 31, 2017, but none of these customers individually accounted for more than 10% of our total revenue during the period. The loss of a significant customer, a business combination among our customers, a reduction in orders or decrease in price from a significant customer or disruption in any of our commercial or distributor arrangements may result in a significant decline in our revenues and could have a material adverse effect on our business, liquidity, results of operations, financial condition and cash flows.

Our results of operations can fluctuate from period to period, which could cause our share price to fluctuate.

Our results of operations have fluctuated in the past and may fluctuate from period to period in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include the following factors, as well as other factors described elsewhere in this report:

- the receipt, reduction, delay or cancellation of orders by large customers;
- the gain or loss of significant customers or distributors;
- the timing and success of our launch of new or enhanced products and those of our competitors;
- market acceptance of our products and our customers' products;
- the level of growth or decline in the industrial, automotive and transportation, enterprise storage and other markets;
- the timing and extent of research and development and sales and marketing expenditures;
- the amount and timing of operating expenses related to the maintenance and expansion of our business, operations and infrastructure;
- changes in our product mix;
- our ability to reduce the manufacturing costs of our products;
- competitive pressures resulting in lower than expected average selling prices;
- fluctuations in sales by and inventory levels of OEMs and ODMs that incorporate our memory products in their products;
- cyclical and seasonal fluctuations in our markets;
- fluctuations in the manufacturing yields of our third-party manufacturers;
- quality issues that arise from manufacturing issues at our third-party manufacturers;
- events that impact the availability of production capacity at our third-party subcontractors and other interruptions in the supply chain including due to geopolitical events, natural disasters, materials shortages, bankruptcy or other causes;
- supply constraints for and changes in the cost of the other components incorporated into our customers' products;
- the timing of expenses related to the acquisition of technologies or businesses;
- product rates of return or price concessions in excess of those expected or forecasted;
- costs associated with the repair and replacement of defective products;
- unexpected inventory write-downs or write-offs;
- costs associated with litigation over intellectual property rights and other litigation;
- the length and unpredictability of the purchasing and budgeting cycles of our customers;
- changes in accounting standards, such as revenue recognition, which we are required to adopt beginning in 2018;
- changes in tax laws, such as the Tax Cuts and Jobs Act of 2017 recently enacted;
- loss of key personnel or the inability to attract qualified engineers; and
- geopolitical events, such as war, threat of war or terrorist actions, or the occurrence of natural disasters.

The semiconductor memory industry is highly cyclical and our markets may experience significant cyclical fluctuations in demand as a result of changing economic conditions, budgeting and buying patterns of customers and other factors. As a result of these and other factors affecting demand for our products and our results of operations in any given period, the results of any prior quarterly or annual periods should not be relied upon as indicative of our future revenue or operating performance. Fluctuations in our revenue and operating results could also cause our stock price to decline.

If sales of our customers' products decline or if their products do not achieve market acceptance, our business and operating results could be adversely affected.

Our revenue depends on our customers' ability to commercialize their products successfully. The markets for our customers' products are extremely competitive and are characterized by rapid technological change. Competition in our customers' markets is based on a variety of factors including price, performance, product quality, marketing and distribution capability, customer support, name recognition and financial strength. As a result of rapid technological change, the markets for our customers' products are characterized by frequent product introductions, short product life cycles, fluctuating demand and increasing product capabilities. As a result, our customers' products may not achieve market success or may become obsolete. We cannot assure you that our customers will dedicate the resources necessary to promote and commercialize their products, successfully execute their business strategies for such products, or be able to manufacture such products in quantities sufficient to meet demand or cost-effectively manufacture products at a high volume. Our customers do not have contracts with us that require them to manufacture, distribute or sell any products. Moreover, our customers may develop internally, or in collaboration with our competitors, technology that they may utilize instead of the technology available to them through us. Our customers' failure to achieve market success for their products, including as a result of general declines in our customers' markets or industries, could negatively affect their willingness to utilize our products, which may result in a decrease in our revenue and negatively affect our business and operating results.

Our revenue also depends on the timely introduction, quality and market acceptance of our customers' products that incorporate our solutions. Our customers' products are often very complex and subject to design complexities that may result in design flaws, as well as potential defects, errors and bugs. We incur significant design and development costs in connection with designing our solutions for customers' products. If our customers discover design flaws, defects, errors or bugs in their products, or if they experience changing market requirements, failed evaluations or field trials, or issues with other vendors, they may delay, change or cancel a project. If we have already incurred significant development costs, we may not be able to recoup those costs, which in turn would adversely affect our business and financial results.

We face competition and expect competition to increase in the future. If we fail to compete effectively, our revenue growth and results of operations will be materially and adversely affected.

The global semiconductor market in general, and the semiconductor memory market in particular, are highly competitive. We expect competition to increase and intensify as other semiconductor companies enter our markets, many of which have greater financial and other resources with which to pursue technology development, product design, manufacturing, marketing and sales and distribution of their products. Increased competition could result in price pressure, reduced profitability and loss of market share, any of which could materially and adversely affect our business, revenue and operating results. Currently, our competitors range from large, international companies offering a wide range of traditional memory technologies to companies specializing in other alternative, specialized emerging memory technologies. Our primary memory competitors include Cypress, Fujitsu, Integrated Silicon Solution, Macronix, Microchip, Micron, Renesas, Samsung, and Toshiba. The main competition for sensor products includes AMR, Crocus, GMR and Hall Effect. These technologies directly compete with our products and are supplied by ALPS Electric, Asahi Kasei Microdevices, Fairchild, Invensys (now Schneider), Kionix and Micronas. In addition, as the MRAM market opportunity grows, we expect new entrants such as Avalanche Technologies may enter this market and existing competitors, including leading semiconductor companies, may make significant investments to compete more effectively against our products. These competitors could develop technologies or architectures that make our products or technologies obsolete.

Our ability to compete successfully depends on factors both within and outside of our control, including:

- the functionality and performance of our products and those of our competitors;
- our relationships with our customers and other industry participants;
- prices of our products and prices of our competitors' products;

- our ability to develop innovative products;
- our competitors' greater resources to make acquisitions;
- our ability to obtain adequate capital to finance operations;
- our ability to retain high-level talent, including our management team and engineers; and
- the actions of our competitors, including merger and acquisition activity, launches of new products and other actions that could change the competitive landscape.

Competition could result in pricing pressure, reduced revenue and loss of market share, any of which could materially and adversely affect our business, results of operations and prospects. In the event of a market downturn, competition in the markets in which we operate may intensify as our customers reduce their purchase orders. Our competitors that are significantly larger and have greater financial, technical, marketing, distribution, customer support and other resources or more established market recognition than us may be better positioned to accept lower prices and withstand adverse economic or market conditions.

Our customers require our products and our third-party contractors to undergo a lengthy and expensive qualification process. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer.

Prior to selecting and purchasing our products, our customers typically 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 or years. However, obtaining the requisite qualifications for a memory product does not assure any sales of the product. Even after successful qualification and sales of a product to a customer, a subsequent revision in our third-party contractors' manufacturing process or our selection of a new contract manufacturer may require a new qualification process, which may result in delays and excess or obsolete inventory. After our products are qualified and selected, it can and often does take several months or years before the customer commences volume production of 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 may be precluded or delayed, which may impede our growth and harm our business.

Our costs may increase substantially if we or our third-party manufacturing contractors do not achieve satisfactory product yields or quality.

The fabrication process is extremely complicated and small changes in design, specifications or materials can result in material decreases in product yields or even the suspension of production. From time to time, we and/or the third-party foundries that we contract to manufacture our products may experience manufacturing defects and reduced manufacturing yields. In some cases, we and/or our third-party foundries may not be able to detect these defects early in the fabrication process or determine the cause of such defects in a timely manner. There may be a higher risk of product yield issues in newer STT-MRAM products.

Generally, in pricing our products, we assume that manufacturing yields will continue to improve, even as the complexity of our products increases. Once our products are initially qualified either internally or with our third-party foundries, minimum acceptable yields are established. We are responsible for the costs of the units if the actual yield is above the minimum set with our third-party foundries. If actual yields are below the minimum we are not required to purchase the units. Typically, minimum acceptable yields for our new products are generally lower at first and gradually improve as we achieve full production, but yield issues can occur even in mature processes due to break downs in mechanical systems, equipment failures or calibration errors. Unacceptably low product yields or other product manufacturing problems could substantially increase overall production time and costs and adversely impact our operating results. Product yield losses will increase our costs and reduce our gross margin. In addition to significantly harming our results of operations and cash flow, poor yields may delay shipment of our products and harm our relationships with existing and potential customers.

The complexity of our products may lead to defects, which could negatively impact our reputation with customers and result in liability.

Products as complex as ours may contain defects when first introduced to customers or as new versions are released. Delivery of products with production defects or reliability, quality or compatibility problems could significantly delay or hinder market acceptance of the products or result in a costly recall and could damage our reputation and adversely affect our ability to retain existing customers and attract new customers. Defects could cause problems with the functionality of our products, resulting in interruptions, delays or cessation of sales of these products to our customers. We may also be required to make significant expenditures of capital and resources to resolve such problems. We cannot assure you that problems will not be found in new products, both before and after commencement of commercial production, despite testing by us, our suppliers or our customers. Any such problems could result in:

- delays in development, manufacture and roll-out of new products;
- additional development costs;
- loss of, or delays in, market acceptance;
- diversion of technical and other resources from our other development efforts;
- claims for damages by our customers or others against us; and
- loss of credibility with our current and prospective customers.

Any such event could have a material adverse effect on our business, financial condition and results of operations.

We may experience difficulties in transitioning to new wafer fabrication process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased expenses.

We aim to use the most advanced manufacturing process technology appropriate for our solutions that is available from our third-party foundries. As a result, we periodically evaluate the benefits of migrating our solutions to other technologies to improve performance and reduce costs. These ongoing efforts require us from time to time to modify the manufacturing processes for our products and to redesign some products, which in turn may result in delays in product deliveries. We may face difficulties, delays and increased expense as we transition our products to new processes, and potentially to new foundries. We will depend on our third-party foundries as we transition to new processes. We cannot assure you that our third-party foundries will be able to effectively manage such transitions or that we will be able to maintain our relationship with our third-party foundries or develop relationships with new third-party foundries. If we or any of our third-party foundries experience significant delays in transitioning to new processes or fail to efficiently implement transitions, we could experience reduced manufacturing yields, delays in product deliveries and increased expenses, any of which could harm our relationships with our customers and our operating results.

As smaller line width geometry manufacturing processes become more prevalent, we intend to move our future products to increasingly smaller geometries to integrate greater levels of memory capacity and/or functionality into our products. This transition will require us and our third-party foundries to migrate to new designs and manufacturing processes for smaller geometry products. We may not be able to achieve smaller geometries with higher levels of design integration or to deliver new integrated products on a timely basis. We periodically evaluate the benefits, on a product-by-product basis, of migrating to smaller geometry process technologies to increase product value. We are dependent on our relationships with our third-party foundries to transition to smaller geometry processes successfully. We cannot assure you that our third-party foundries will be able to effectively manage any such transition. If we or our third-party foundries experience significant delays in any such transition or fail to implement a transition, our business, financial condition and results of operations could be materially harmed.

Changes to industry standards and technical requirements relevant to our products and markets could adversely affect our business, results of operations and prospects.

Our products are only a part of larger electronic systems. All products incorporated into these systems must comply with various industry standards and technical requirements created by regulatory bodies or industry participants to operate efficiently together. Industry standards and technical requirements in our markets are evolving and may change significantly over time. For our products, the industry standards are developed by the Joint Electron Device Engineering

Council, an industry trade organization. In addition, large industry-leading semiconductor and electronics companies play a significant role in developing standards and technical requirements for the product ecosystems within which our products can be used. Our customers also may design certain specifications and other technical requirements specific to their products and solutions. These technical requirements may change as the customer introduces new or enhanced products and solutions.

Our ability to compete in the future will depend on our ability to identify and comply with evolving industry standards and technical requirements. The emergence of new industry standards and technical requirements could render our products incompatible with products developed by other suppliers or make it difficult for our products to meet the requirements of certain of our customers in automotive and transportation, industrial, storage and other markets. As a result, we could be required to invest significant time and effort and to incur significant expense to redesign our products to ensure compliance with relevant standards and requirements. If our products are not in compliance with prevailing industry standards and technical requirements for a significant period of time, we could miss opportunities to achieve crucial design wins, our revenue may decline and we may incur significant expenses to redesign our products to meet the relevant standards, which could adversely affect our business, results of operations and prospects.

Failure to protect our intellectual property could substantially harm our business.

Our success and ability to compete depend in part upon our ability to protect our intellectual property. We rely on a combination of intellectual property rights, including patents, mask work protection, copyrights, trademarks, trade secrets and know-how, in the United States and other jurisdictions. The steps we take to protect our intellectual property rights may not be adequate, particularly in foreign jurisdictions such as China. Any patents we hold may not adequately protect our intellectual property rights or our products against competitors, and third parties may challenge the scope, validity or enforceability of our issued patents, which third parties may have significantly more financial resources with which to litigate their claims than we have to defend against them. In addition, other parties may independently develop similar or competing technologies designed around any patents or patent applications that we hold. Some of our products and technologies are not covered by any patent or patent application, as we do not believe patent protection of these products and technologies is critical to our business strategy at this time. A failure to timely seek patent protection on products or technologies generally precludes us from seeking future patent protection on these products or technologies.

In addition to patents, we also rely on contractual protections with our customers, suppliers, distributors, employees and consultants, and we implement security measures designed to protect our trade secrets and know-how. However, we cannot assure you that these contractual protections and security measures will not be breached, that we will have adequate remedies for any such breach or that our customers, suppliers, distributors, employees or consultants will not assert rights to intellectual property or damages arising out of such contracts.

We may initiate claims against third parties to protect our intellectual property rights if we are unable to resolve matters satisfactorily through negotiation. Litigation brought to protect and enforce our intellectual property rights could be costly, time-consuming and distracting to management. It could also result in the impairment or loss of portions of our intellectual property, as an adverse decision could limit our ability to assert our intellectual property rights, limit the value of our technology or otherwise negatively impact our business, financial condition and results of operations. Additionally, any enforcement of our patents or other intellectual property may provoke third parties to assert counterclaims against us. Our failure to secure, protect and enforce our intellectual property rights could materially harm our business.

We may face claims of intellectual property infringement, which could be time-consuming, costly to defend or settle, result in the loss of significant rights, harm our relationships with our customers and distributors, or otherwise materially adversely affect our business, financial condition and results of operations.

The semiconductor memory industry is characterized by companies that hold patents and other intellectual property rights and that vigorously pursue, protect and enforce intellectual property rights. These companies include patent holding companies or other adverse patent owners who have no relevant product revenue and against whom our own patents may provide little or no deterrence. From time to time, third parties may assert against us and our customers' patent and other intellectual property rights to technologies that are important to our business. We have in the past, and may in the future, face such claims.

Claims that our products, processes or technology infringe third-party intellectual property rights, regardless of their merit or resolution, could be costly to defend or settle and could divert the efforts and attention of our management and technical personnel. We may also be obligated to indemnify our customers or business partners in connection with any such litigation, which could result in increased costs. Infringement claims also could harm our relationships with our customers or distributors and might deter future customers from doing business with us. If any such proceedings result in an adverse outcome, we could be required to:

- cease the manufacture, use or sale of the infringing products, processes or technology;
- pay substantial damages for infringement;
- expend significant resources to develop non-infringing products, processes or technology, which may not be successful;
- license technology from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all;
- cross-license our technology to a competitor to resolve an infringement claim, which could weaken our ability to compete with that competitor; or
- pay substantial damages to our customers to discontinue their use of or to replace infringing technology sold to them with non-infringing technology, if available.

Any of the foregoing results could have a material adverse effect on our business, financial condition and results of operations. Furthermore, our exposure to the foregoing risks may also be increased if we acquire other companies or technologies. For example, we may have a lower level of visibility into the development process with respect to intellectual property or the care taken to safeguard against infringement risks with respect to the acquired company or technology. In addition, third parties may make infringement and similar or related claims after we have acquired technology that had not been asserted prior to the acquisition.

We make significant investments in new technologies and products that may not achieve technological feasibility or profitability or that may limit our revenue growth.

We have made and will continue to make significant investments in research and development of new technologies and products, including new and more technically advanced versions of our MRAM technology.

Investments in new technologies are speculative and technological feasibility may not be achieved. Commercial success depends on many factors including demand for innovative technology, availability of materials and equipment, selling price the market is willing to bear, competition and effective licensing or product sales. We may not achieve significant revenue from new product investments for a number of years, if at all. Moreover, new technologies and products may not be profitable, and even if they are profitable, operating margins for new products and businesses may not be as high as the margins we have experienced historically or originally anticipated. Our inability to capitalize on or realize substantial revenue from our significant investments in research and development could harm our operating results and distract management, harming our business.

Our success depends on our ability to attract and retain key employees, and our failure to do so could harm our ability to grow our business and execute our business strategies.

Our success depends on our ability to attract and retain our key employees, including our management team and experienced engineers. Competition for personnel in the semiconductor memory technology field, and in the MRAM space in particular, is intense, and the availability of suitable and qualified candidates is limited. We compete to attract and retain qualified research and development personnel with other semiconductor companies, universities and research institutions. Given our experience as an early entrant in the MRAM space, our employees are frequently contacted by MRAM startups and MRAM groups within larger companies seeking to employ them. The members of our management and key employees are at-will. If we lose the services of any key senior management member or employee, we may not be able to locate suitable or qualified replacements, and may incur additional expenses to recruit and train new personnel, which could severely impact our business and prospects. The loss of the services of one or more of our key employees, especially our key engineers, or our inability to attract and retain qualified engineers, could harm our business, financial condition and results of operations.

We may not be able to effectively manage our growth, and we may need to incur significant expenditures to address the additional operational and control requirements of our growth, either of which could harm our business and operating results.

As we continue to expand our business, we expect our headcount and overall size of our operations to grow significantly. To effectively manage our growth, we must continue to expand our operational, engineering and financial systems, procedures and controls and to improve our accounting and other internal management systems, such as our ERP system. This may require substantial managerial and financial resources, and our efforts in this regard may not be successful. Our current systems, procedures and controls may not be adequate to support our future operations. If we fail to adequately manage our growth, or to improve our operational, financial and management information systems, or fail to effectively motivate or manage our new and future employees, the quality of our products and the management of our operations could suffer, which could adversely affect our operating results.

We may engage in acquisitions of, or investments in, other companies, each of which may divert our management's attention, result in additional dilution to stockholders or use resources that are necessary to operate our business.

We may in the future seek to acquire or invest in businesses, products or technologies that we believe could complement or expand our business, enhance our technical capabilities or otherwise offer growth opportunities. However, our term loan and revolving credit facility prohibits our ability to merge with or acquire any other entity and so we could only do so with the lender's consent. If we were to pursue such acquisitions or investments, they could create risks for us, including:

- difficulties in assimilating acquired personnel, operations and technologies or realizing synergies expected in connection with an acquisition, particularly with acquisitions of companies with large and widespread operations, complex products or that operate in markets in which we historically have had limited experience;
- unanticipated costs or liabilities, including possible litigation, associated with the acquisition;
- incurrence of acquisition-related costs;
- diversion of management's attention from other business concerns;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate an acquisition.

A significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill, which must be assessed for impairment at least annually. If such acquisitions do not yield expected returns, we may be required to take charges to our earnings based on this impairment assessment process, which could harm our results of operations.

We may be unable to complete acquisitions at all or on commercially reasonable terms, which could limit our future growth. Acquisitions could also result in dilutive issuances of equity securities or the incurrence of additional debt, which could adversely affect our operating results and result in a decline in our stock price and further restrict our ability to pursue business opportunities, including potential acquisitions. In addition, if an acquired business fails to meet our expectations, our operating results may suffer.

We maintain operations outside of the United States and intend to expand our international operations, which exposes us to significant risks.

We have limited operations in Europe and Asia. We intend to expand our operations internationally. The success of our business depends, in large part, on our ability to operate successfully from geographically disparate locations and to further expand our international operations and sales. Operating in international markets requires significant resources and management attention and subjects us to regulatory, economic and political risks that are different from those we face in the United States. We cannot be sure that further international expansion will be successful. In addition, we face risks in doing business internationally that could expose us to reduced demand for our products, lower prices for our products or other adverse effects on our operating results. Among the risks we believe are most likely to affect us are:

- difficulties, inefficiencies and costs associated with staffing and managing foreign operations;
- longer and more difficult customer qualification and credit checks;

- greater difficulty collecting accounts receivable and longer payment cycles;
- the need for various local approvals to operate in some countries;
- difficulties in entering some foreign markets without larger-scale local operations;
- compliance with local laws and regulations;
- unexpected changes in regulatory requirements, including the elimination of tax holidays;
- reduced protection for intellectual property rights in some countries;
- adverse tax consequences as a result of repatriating cash generated from foreign operations to the United States;
- adverse tax consequences, including potential additional tax exposure if we are deemed to have established a permanent establishment outside of the United States;
- the effectiveness of our policies and procedures designed to ensure compliance with the Foreign Corrupt Practices Act of 1977 and similar regulations;
- fluctuations in currency exchange rates, which could increase the prices of our products to customers outside of the United States, increase the expenses of our international operations by reducing the purchasing power of the U.S. dollar and expose us to foreign currency exchange rate risk if, in the future, we denominate our international sales in currencies other than the U.S. dollar;
- new and different sources of competition; and
- political and economic instability, and terrorism.

Our failure to manage any of these risks successfully could harm our operations and reduce our revenue.

To comply with environmental laws and regulations, we may need to modify our activities or incur substantial costs, and if we fail to comply with environmental regulations, we could be subject to substantial fines or be required to have our suppliers alter their processes.

The semiconductor memory industry is subject to a variety of international, federal, state and local governmental regulations directed at preventing or mitigating environmental harm, as well as to the storage, discharge, handling, generation, disposal and labeling of toxic or other hazardous substances. Failure to comply with environmental regulations could subject us to civil or criminal sanctions and property damage or personal injury claims. Compliance with current or future environmental laws and regulations could restrict our ability to expand our business or require us to modify processes or incur other substantial expenses which could harm our business. In response to environmental concerns, some customers and government agencies impose requirements for the elimination of hazardous substances, such as lead (which is widely used in soldering connections in the process of semiconductor packaging and assembly), from electronic equipment. For example, the European Union adopted its Restriction on Hazardous Substance Directive which prohibits, with specified exceptions, the sale in the EU market of new electrical and electronic equipment containing more than agreed levels of lead or other hazardous materials and China has enacted similar regulations. Environmental laws and regulations such as these could become more stringent over time, causing a need to redesign technologies, imposing greater compliance costs and increasing risks and penalties associated with violations, which could seriously harm our business.

Some of the facilities of our suppliers are located near known earthquake fault zones, and the occurrence of an earthquake or other catastrophic disaster could damage our facilities, which could cause us to curtail our operations.

Some of our foundries and suppliers' facilities in Asia are located near known earthquake fault zones and, therefore, are vulnerable to damage from earthquakes. We are also vulnerable to damage from other types of disasters, such as power loss, fire, floods and similar events. If any such disaster were to occur, our ability to operate our business could be seriously impaired. In addition, we may not have adequate insurance to cover our losses resulting from disasters or other similar significant business interruptions. Any significant losses that are not recoverable under our insurance policies could seriously impair our business and financial condition.

Provisions of our credit facility may restrict our ability to pursue our business strategies.

Borrowings under our existing credit facility are secured by substantially all of our assets, except for intellectual property. Our term loan facility prohibits our ability to, among other things:

- dispose of or sell assets;
- consolidate or merge with other entities;
- incur additional indebtedness;
- create liens on our assets;
- pay dividends;
- make investments;
- enter into transactions with affiliates; and
- redeem subordinated indebtedness.

These restrictions are subject to certain exceptions. In addition, our existing credit facility requires that we meet certain operating covenants, such as maintaining insurance on the collateral and meeting certain financial covenants, such as a minimum liquidity ratio. The operating restrictions and covenants in the term loan facility, as well as any future financing agreements that we may enter into, may restrict our ability to finance our operations, engage in business activities or expand or fully pursue our business strategies. Our ability to comply with these covenants may be affected by events beyond our control, and we may not be able to meet those covenants. A breach of any of these covenants could result in a default under the credit facility, which could cause all of the outstanding indebtedness thereunder to either become immediately due and payable or increase by five percent of the interest rate charged during the period of the unremedied breach.

The Tax Cuts and Jobs Act could adversely affect our business and financial condition.

In December 2017 the Tax Cuts and Jobs Act (“2017 Tax Act”) became law, which significantly amended the Internal Revenue Code of 1986. The 2017 Tax Act, among other things, reduced the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limits the tax deduction for interest expense to 30% of adjusted earnings, eliminates net operating loss carrybacks, imposes a one-time tax on offshore earnings at reduced rates regardless of whether they are repatriated, allows immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifies or repeals many business deductions and credits. The rate reduction took effect on January 1, 2018. Interpretations of this legislation are being released by various regulatory agencies and it is possible that there could be significant changes in interpretations that we may not be yet aware of, and which could adversely impact our financial results.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the U.S. Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its pre-change net operating losses, or NOLs, to offset future taxable income, and tax credits to offset tax. As of December 31, 2018, we had federal net operating loss carryforwards of approximately $112.3 million, of which $99.7 million will begin to expire in 2028 if not utilized, and $12.6 million will carryover indefinitely. As of December 31, 2018, we had state net operating loss carryforwards of approximately $44.3 million, of which $43.5 million will begin to expire in 2023 if not utilized, and $0.8 million will carryover indefinitely. The federal NOLs generated prior to 2018 will continue to be governed by the NOL tax rules as they existed prior to the adoption of the new Tax Act, which means that generally they will expire 20 years after they were generated if not used prior thereto. The 2017 Tax Act repealed the 20-year carryforward and two-year carryback of NOLs originating after December 31, 2017 and also limits the NOL deduction to 80% of taxable income for tax years beginning after December 31, 2017. Any NOLs generated in 2018 will be carried forward and will not expire. There is no current impact to the us as we continue to be in a tax loss position for US tax purposes. We may experience an ownership change in the future, and our ability to utilize our NOLs and tax credits could be further limited by Section 382 of the Code. Future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Section 382 of the Code. Our net operating losses and tax credits could also be impaired under state laws. As a result, we might not be able to utilize a material portion of our state NOLs and tax credits.

If we fail to retain finance personnel and strengthen our financial reporting systems and infrastructure, we may not be able to timely and accurately report our financial results or comply with the requirements of being a public company, including compliance with the Sarbanes-Oxley Act and SEC reporting requirements.

We have accounting and finance staff members to maintain the effectiveness of our closing and financial reporting processes. Any inability to retain such personnel would have an adverse impact on our ability to accurately and timely prepare our financial statements. We may be unable to locate and hire qualified professionals with requisite technical and public company experience when and as needed. In addition, new employees will require time and training to learn our business and operating processes and procedures. If our finance and accounting organization is unable for any reason to respond adequately to the demands of being a public company, the quality and timeliness of our financial reporting may suffer, which could result in the identification of material weaknesses in our internal controls. Any consequences resulting from inaccuracies or delays in our reported financial statements could cause the trading price of our common stock to decline and could harm our business, operating results and financial condition.

Interruptions in our information technology systems could adversely affect our business.

We rely on the efficient and uninterrupted operation of complex information technology systems and networks to operate our business. Any significant disruption to our systems or networks, including, but not limited to, new system implementations, computer viruses, security breaches, facility issues, natural disasters, terrorism, war, telecommunication failures or energy blackouts, could have a material adverse impact on our operations, sales and financial results. Such disruption could result in a loss of our intellectual property or the release of sensitive competitive information or supplier, customer or employee personal data. Any loss of such information could harm our competitive position, result in a loss of customer confidence, and cause us to incur significant costs to remedy the damages caused by any such disruptions or security breaches. Additionally, any failure to properly manage the collection, handling, transfer or disposal of personal data of employees and customers may result in regulatory penalties, enforcement actions, remediation obligations, litigation, fines and other sanctions.

We may experience attacks on our data, attempts to breach our security and attempts to introduce malicious software into our IT systems. If attacks are successful, we may be unaware of the incident, its magnitude, or its effects until significant harm is done. Any such attack or disruption could result in additional costs related to rebuilding of our internal systems, defending litigation, responding to regulatory actions, or paying damages. Such attacks or disruptions could have a material adverse impact on our business, operations and financial results.

Third-party service providers, such as wafer foundries, assembly and test contractors, distributors and other vendors have access to certain portions of our and our customers' sensitive data. In the event that these service providers do not properly safeguard the data that they hold, security breaches and loss of data could result. Any such loss of data by our third-party service providers could negatively impact our business, operations and financial results, as well as our relationship with our customers.

If we experience material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our common stock.

We are required, under Section 404 of the Sarbanes-Oxley Act to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. A material weakness is a deficiency or combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual and interim financial statements will not be detected or prevented on a timely basis. In connection with the audit of our financial statements as of and for the years ended December 31, 2018, 2016 and 2015, we identified material weaknesses in our internal control over financial reporting, as defined in the standards established by the Public Company Accounting Oversight Board of the United States. Although we enhanced our internal controls, processes and related documentation necessary to remediate our material weakness and to perform the evaluation needed to comply with Section 404, and have concluded that we do not currently have any material weaknesses, there can be no assurances that we will not have any material weaknesses in the future.

When we cease to be an "emerging growth company" under the federal securities laws, our auditors will be required to express an opinion on the effectiveness of our internal controls. If we are unable to confirm that our internal control over financial reporting is effective, or if our auditors are unable to express an opinion on the effectiveness of our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our common stock to decline.

The issuance of new accounting standards or future interpretations of existing accounting standards could adversely affect our operating results.

We prepare our financial statements in accordance with accounting principles generally accepted in the United States of America, or GAAP. A change in those principles could have a significant effect on our reported results and might affect our reporting of transactions completed before a change is announced. GAAP is issued and subject to interpretation by the Financial Accounting Standards Board, the SEC and various other bodies formed to promulgate and interpret accounting principles. A change in these principles or interpretations could have a significant effect on our reported financial results, and could affect the reporting of transactions completed before the announcement of a change. For example, beginning with our first quarter of 2018, we adopted the new revenue recognition standard, which changed the way we recognize revenue. The issuance of new accounting standards or future interpretations of existing accounting standards, or changes in our business practices or estimates, could result in future changes in our revenue recognition or other accounting policies that could have a material adverse effect on our results of operations.

Regulations related to "conflict minerals" may force us to incur additional expenses, may make our supply chain more complex and may result in damage to our reputation with customers.

Pursuant to the Dodd-Frank Act, the SEC has adopted requirements for companies that use certain minerals and metals, known as conflict minerals, in their products, whether or not these products are manufactured by third parties. These requirements require companies to perform diligence and disclose and report whether or not such minerals originate from the Democratic Republic of Congo and adjoining countries. The implementation of these requirements could adversely affect the sourcing, availability and pricing of minerals used in the manufacture of our products, and affect our costs and relationships with customers, distributors and suppliers as we must obtain additional information from them to ensure our compliance with the disclosure requirement. In addition, we will incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals and metals used in our products. Since our supply chain is complex, we may not be able to sufficiently verify the origins for these minerals and metals used in our products through the due diligence procedures that we implement, which may harm our reputation. In such event, we may also face difficulties in satisfying customers who require that all of the components of our products are certified as conflict mineral free and these customers may discontinue, or materially reduce, purchases of our products, which could result in a material adverse effect on our results of operations and our financial condition may be adversely affected.

Risks Related to Our Common Stock

An active trading market may not be sustained.

Although our stock is currently traded on the Nasdaq Stock Market, an active trading market may not be sustained. The lack of an active market may impair the value of your shares and your ability to sell your shares at the time you wish to sell them. An inactive market may also impair our ability to both raise capital by selling shares and acquire other complementary products, technologies or businesses by using our shares as consideration.

We expect that the price of our common stock will fluctuate substantially.

The market price of our common stock is likely to be highly volatile and may fluctuate substantially due to many factors, including:

- the introduction of new products or product enhancements by us or others in our industry;
- disputes or other developments with respect to our or others' intellectual property rights;
- product liability claims or other litigation;
- quarterly variations in our results of operations or those of others in our industry;

- sales of large blocks of our common stock, including sales by our executive officers and directors;
- changes in earnings estimates or recommendations by securities analysts; and
- general market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

Stock markets generally have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may significantly affect the market price of our common stock, regardless of our actual operating performance. These fluctuations may be even more pronounced in the trading market for our common stock.

In addition, in the past, class action litigation has often been instituted against companies whose securities have experienced periods of volatility in market price, or for other reasons. Securities litigation brought against us following volatility in our stock price or otherwise, regardless of the merit or ultimate results of such litigation, could result in substantial costs, which would hurt our financial condition and operating results and divert management's attention and resources from our business.

These and other factors may make the price of our stock volatile and subject to unexpected fluctuation.

Securities analysts may not publish favorable research or reports about our business or may publish no information at all, which could cause our stock price or trading volume to decline.

The trading market for our common stock is influenced to some extent by the research and reports that industry or financial analysts publish about us and our business. We do not control these analysts. If any of the analysts who cover us provide inaccurate or unfavorable research or issue an adverse opinion regarding our stock price, our stock price could decline. If one or more of these analysts cease coverage of our company or fail to publish reports covering us regularly, we could lose visibility in the market, which in turn could cause our stock price or trading volume to decline.

We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to "emerging growth companies" will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we may take advantage of certain exemptions and relief from various reporting requirements that are applicable to other public companies that are not "emerging growth companies." In particular, while we are an "emerging growth company" (1) we will not be required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act, (2) we will be exempt from any rules that may be adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotations or a supplement to the auditor's report on financial statements, (3) we will be subject to reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and (4) we will not be required to hold nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments not previously approved.

We may remain an "emerging growth company" until as late as December 31, 2021, though we may cease to be an "emerging growth company" earlier under certain circumstances, including (1) if the market value of our common stock that is held by nonaffiliates exceeds $700 million as of any June 30, in which case we would cease to be an "emerging growth company" as of the following December 31, or (2) if our gross revenue exceeds $1.07 billion in any fiscal year.

Investors may find our common stock less attractive if we rely on the exemptions and relief granted by the JOBS Act. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may decline or become more volatile.

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

Our directors, officers and principal stockholders have significant voting power and may take actions that may not be in the best interests of our other stockholders.

Our officers, directors and principal stockholders each holding more than 5% of our common stock, collectively, control a significant percentage of our outstanding common stock. As a result, these stockholders, if they act together, will be able to control the management and affairs of our company and most matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. This concentration of ownership may have the effect of delaying or preventing a change of control and might adversely affect the market price of our common stock. This concentration of ownership may not be in the best interests of our other stockholders.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions include that:

- our board of directors has the right to expand the size of our board of directors and to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- our stockholders may not act by written consent or call special stockholders’ meetings; as a result, a holder, or holders, controlling a majority of our capital stock would not be able to take certain actions other than at annual stockholders’ meetings or special stockholders’ meetings called by the board of directors, the chairman of the board, the chief executive officer or the president;
- our certificate of incorporation prohibits cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the affirmative vote of holders of at least 66-2/3% of the voting power of all of the then outstanding shares of voting stock, voting as a single class, will be required (a) to amend certain provisions of our certificate of incorporation, including provisions relating to the size of the board, removal of directors, special meetings, actions by written consent and cumulative voting and (b) to amend or repeal our bylaws, although our bylaws may be amended by a simple majority vote of our board of directors;
- stockholders must provide advance notice and additional disclosures to nominate individuals for election to the board of directors or to propose matters that can be acted upon at a stockholders’ meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror’s own slate of directors or otherwise attempting to obtain control of our company; and
- our board of directors may issue, without stockholder approval, shares of undesignated preferred stock; the ability to issue undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Item 1B Unresolved Staff Comments.

None.

Item 2. Properties.

We lease office space for our corporate headquarters located in Chandler, Arizona and for our design facility located in Austin, Texas. The leases expire in January 2022.

We have an operating lease for our Arizona manufacturing facility, which includes a total of 18,327 square feet of office and fabrication space, which has a term through January 2021.

We have an operating lease for 27,974 square feet of office and laboratory space in Arizona, with an initial term that ends on January 31, 2022, with an option to renew the lease through August 31, 2024.

We believe our existing facilities are well maintained and in good operating condition and they are adequate for our foreseeable business needs.

Item 3. Legal Proceedings.

From time to time, we may become involved in legal proceedings arising from the ordinary course of our business. Management is currently not aware of any matters that will have a material adverse effect on our financial position, results of operations or cash flows.

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.

Trading Market for our Common Stock

Our common stock has been listed on the Nasdaq Global Market under the symbol "MRAM" since October 7, 2016. Prior to that date, there was no public trading market for our common stock.

Holders of Record

As of March 6, 2019, we had 27 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividend Policy

We have never declared or paid cash dividends on our capital stock. We intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors. Under our Loan and Security Agreement with Silicon Valley Bank entered into in May 2017, we are not allowed to pay any cash dividends without the consent of Silicon Valley Bank.

Item 6. Selected Financial Data.

Not required for a smaller reporting company.

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

You should read the following discussion and analysis of our financial condition and results of operations together with the "Selected Financial Data" and our audited financial statements and related notes included elsewhere in this report. This discussion and other parts of this report contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations and intentions. As a result of many factors, including those factors set forth in the "Risk Factors" section of this report, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are the leading provider of MRAM solutions. Our MRAM solutions offer the persistence of non-volatile memory, a type of memory that retains information even in the absence of power, with the speed and endurance of random access memory (RAM). This enables the protection of mission critical data particularly in the event of power interruption or failure. Our MRAM solutions allow our customers in the industrial, automotive and transportation, and enterprise storage markets to design high performance, power efficient and reliable systems without the need for bulky batteries or capacitors.

We derive our revenue from the sale of MRAM-based products in discrete unit form, the sale of services, licenses of and royalties on our MRAM and magnetic sensor technology, the sale of backend foundry services and design services to third parties.

We work directly with our distributors and customers to have our MRAM devices designed into and qualified for their products. Although we maintain direct sales, support, and development relationships with our customers, once our products are designed into a customer's product, we sell a majority of our products to those customers through distributors. We generated 71% and 74% of our revenue from products sold through distributors for the years ended December 31, 2018 and 2017, respectively.

We maintain a direct selling relationship, for strategic purposes, with several key customer accounts. Our sales team and representatives are organized into three primary regions: North America; Europe, Middle East and Africa (EMEA); and Asia-Pacific and Japan (APJ). We recognize revenue by geography based on the region in which our products are sold, and not to where the end products in which they are assembled are shipped. Our revenue by region for the periods indicated was as follows (in thousands):

	Year Ended December 31,	
	2018	2017
North America	$ 9,124	$ 6,340
EMEA	11,175	8,031
APJ	29,118	21,565
	$ 49,417	$ 35,936

Our revenue increased across all regions for the year ended December 31, 2018, compared to the same period in 2017, primarily due to volume growth and new customer wins.

We leverage both internal and outsourced capabilities to manufacture our MRAM products. We purchase industry-standard complementary metal-oxide semiconductor (CMOS) wafers from semiconductor foundries and complete the fabrication by inserting our magnetic-bit technology at our 200mm fabrication facility in Chandler, Arizona. We believe this allows us to streamline research and development, rapidly prototype new products, and bring new products to market quickly and cost effectively. This strategy significantly reduces the capital investment that would otherwise be required to operate manufacturing facilities of our own. We utilize leading semiconductor foundry GLOBALFOUNDRIES to support full turnkey high-volume production of our high density MRAM products on 300mm wafers at advanced process nodes.

During the years ended December 31, 2018 and 2017, we continued to invest in research and development to support the development and production of our Spin Transfer Torque MRAM (STT-MRAM) technology. We believe our continued investment will allow us to continue to develop and deploy products based on our STT-MRAM technology. For the years ended December 31, 2018 and 2017, our research and development expenses were $23.6 million and $25.4 million, respectively. We expect that our research and development expenses will increase in the future as we continue to develop our MRAM technology internally and through our joint development agreement with GLOBALFOUNDRIES.

For the years ended December 31, 2018 and 2017, we recorded revenue of $49.4 million and $35.9, million, gross margin of 51.3% and 59.8%, and a net loss of $17.8 million and $21.1 million, respectively.

Key Metrics

We monitor a variety of key financial metrics to help us evaluate trends, establish budgets, measure the effectiveness of our business strategies and assess operational efficiencies. These financial metrics include revenue, gross margin, operating expenses and operating income determined in accordance with GAAP. Additionally, we monitor and project cash flow to determine our sources and uses for working capital to fund our operations. We also monitor Adjusted EBITDA, a non-GAAP financial measure. We define Adjusted EBITDA as net income or loss adjusted for interest expense, tax, depreciation and amortization, stock-based compensation expense, and compensation expense related to the vesting of common stock held by GLOBALFOUNDRIES resulting from our joint development agreement.

Our management and board of directors use Adjusted EBITDA to understand and evaluate our operating performance and trends, to prepare and approve our annual budget and to develop short-term and long-term operating and financing plans. Accordingly, we believe that Adjusted EBITDA provides useful information for investors in understanding and evaluating our operating results in the same manner as our management and our board of directors. Adjusted EBITDA was $(12.0) million and $(15.6) million in 2018 and 2017, respectively. The changes were primarily a result of increased personnel-related costs, excluding stock-based compensation, contract labor and expenses resulting from our joint development agreement with GLOBALFOUNDRIES. Personnel-related costs and contract labor costs were $20.0 million in 2018 and $18.8 million in 2017. The increase in personnel-related and contract labor is consistent with our strategy to expand our operations and develop our MRAM technologies and products to support future growth. Expenses from our joint development agreement were $5.8 million in 2018 and $5.2 million in 2017.

	Year Ended December 31,	
	2018	2017
Adjusted EBITDA reconciliation:		
Net loss	$ (17,754)	$ (21,100)
Depreciation and amortization	1,450	1,191
Stock-based compensation expense	2,668	2,048
Compensation expense related to vesting of GLOBALFOUNDRIES common stock	753	1,472
Interest expense	890	764
Adjusted EBITDA	$ (11,993)	$ (15,625)

Factors Affecting Our Results of Operations

Design wins. To continue to grow our revenue, we must continue to achieve design wins for our MRAM products. We consider a design win to occur when an original equipment manufacturer (OEM) or contract manufacturer notifies us that it has qualified one of our products as a component in a product or system for production. Because the life cycles for our customers' products can last for many years, if these products have successful commercial introductions, we expect to continue to generate revenues over an extended period of time for each successful design win. Any delay in the development of our products, or failure of our customers to adopt our products, could inhibit revenue growth or cause declines, which would significantly harm our business. In the fourth quarter of 2017, we recorded revenue for our first sale of 40nm 256Mb STT-MRAM products and we ramped up production in 2018.

Customer acceptance of our technology and customer product success. For our customers to use our products, they may have to redesign certain components of their existing designs. We have established relationships with several storage controller and Field Programmable Gate Array (FPGA) companies, including Xilinx, Lattice and Rizwan as well as IP core companies, including Cadence, Synopsys, and Northwest Logic, to facilitate the integration of our MRAM solutions into our customers end products. Delays in our customers' design cycles may have adverse effects on the demand, and therefore sales, of our products.

Customer concentration. A relatively small number of end customers have historically accounted for a significant percentage of our revenue. Revenue, including through distributors, from our four largest end customers, collectively, accounted for 29% and 28% of our total revenue in 2018 and 2017, respectively. One of these customers individually accounted for more than 10% of our total revenue in 2018 and none of these customers individually accounted for more than 10% of our total revenue in 2017. It would be difficult to replace lost revenue resulting from the loss, reduction, cancellation or delay in purchase orders by any one of these end customers. Consolidation among our customers may further concentrate our customer base and expose us to increased risks relating to increased customer concentration. In addition, any significant pricing pressure exerted by a significant customer could adversely affect our operating results.

Pricing, product cost and gross margins of our products. Our gross margin has been, and will continue to be, affected by a variety of factors, including the timing of changes in pricing, shipment volumes, new product introductions, changes in product mix, changes in our purchase price of fabricated wafers, assembly and test service expenses, manufacturing yields and inventory write downs, if any. In general, newly introduced products, and products with higher densities and performance, tend to be priced higher than older, more mature products. Average selling prices in the semiconductor industry typically decline as products mature. Consistent with this historical trend, we expect that the average selling prices of our products will decline as they mature. In the normal course of business, we seek to offset the effect of declining average selling prices on existing products by reducing manufacturing expenses and introducing newer, higher value-added products. If we are unable to maintain overall average selling prices or to offset any declines in average selling prices with savings on product costs, our gross margin will decline.

Gross margin impact of licensing revenue. Our licensing revenue, which we collect as licensing fees and royalty payments, generates significantly higher gross margin than product revenue. Due to the high gross margin profile of this revenue stream, fluctuations in licensing revenue may have a greater impact on gross margin than a corresponding change in the demand for our products. Therefore, as licensing revenue fluctuates, we may see significant variations in gross margin.

Technology, process, and product development investment. We invest heavily to develop our MRAM technology, including the core MRAM technology, the joint development agreement with GLOBALFOUNDRIES, and the design of new and innovative products based on MRAM, to provide solutions to our current and future customers. We anticipate that we will continue to invest in our research and development to achieve our technology and product roadmaps. Our product development is targeted to specific segments of the market where we believe the densities and performance of our products can provide the most benefit. We believe our close coordination with our customers regarding their future product requirements enhances the efficiency of our research and development expenditures.

Components of Results of Operations

Revenue

We derive our revenue from the sale of our MRAM-based products in discrete unit form, the licensing of our MRAM and magnetic sensor technology and related royalties, the sale of backend foundry services, and design services to third parties. We recognize sales of products in discrete unit form at a point in time, we recognize revenue related to licensing agreements when we have delivered rights to the technology, we recognize revenue related to royalty agreements in the period in which sales generated from products sold using our technology occurs, and we recognize sales of backend foundry services and design services to third parties over time.

For some our products, we provide price protection and product return rights. As such, for sales through distributors of our discrete MRAM products, at the time of revenue recognition, which occurs when control of the products has been transferred to the distributor, we estimate product returns and the expected price concessions that will be provided to the distributor, which is included in the transaction price. We estimate the credits to the distributors based on the historical rate of credits provided to distributors relative to sales or, for some customers the credit is based on a previously negotiated fixed rate. Our licensing revenue is largely dependent on a small number of transactions during a given year.

Cost of Sales and Gross Margin

Cost of sales primarily includes the cost of our products including costs to purchase wafers, costs paid for wafer fabrication, costs associated with the assembly and testing of our products, shipping costs and costs of our manufacturing personnel. Cost of sales also includes indirect costs, such as warranty, inventory valuation reserves and overhead costs.

Gross profit is revenue less cost of sales. Gross margin is gross profit expressed as a percentage of total revenue. We expect that our gross margin may fluctuate from period to period, primarily as a result of changes in average selling price, revenue mix among our products, product yields and manufacturing costs. In addition, we may reserve against the value at which we carry our inventory based upon the product's life cycle and conditions in the markets in which we sell. Declines in average selling prices may be paired with improvements in our cost of sales, which may offset some of the gross margin reduction that could result from lower selling prices.

Operating Expenses

Our operating expenses consist of research and development, general and administrative and sales and marketing expenses. Personnel-related expenses, including salaries, benefits, bonuses and stock-based compensation, are among the most significant component of each of our operating expense categories.

Research and Development Expenses

Our research and development expenses consist primarily of personnel-related expenses for the design and development of our products and technologies, development wafers required to validate and characterize our technology, and expenses associated with our joint development agreement with GLOBALFOUNDRIES. Research and development expenses also include consulting services, circuit design costs, materials and laboratory supplies, fabrication and new packaging technology, and an allocation of related facilities and equipment costs. We recognize research and development expenses as they are incurred. We expect our research and development expenses to decrease as a result of less spending in the future in connection with our joint development agreement with GLOBAL FOUNDRIES.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel expenses, allocated facilities costs, expenses for outside professional services, and expenses for personnel and consultants engaged in executive, finance, legal, information technology and administrative activities. We expect our general and administrative expenses to remain flat as we have reached a level of stabilization in staffing and costs of being a public company.

Sales and Marketing Expenses

Our sales and marketing expenses consist primarily of compensation for our sales, marketing, and business development personnel, including bonuses and commissions for our sales representatives. We expect our sales and marketing expenses, excluding variable commissions, to remain flat as we have reached a level of stabilization for staffing of sales personnel and representatives and marketing activities.

Interest Expense

Interest expense consists of cash and non-cash components. The non-cash component consists of interest expense recognized from the amortization of debt discounts derived from the issuance of a warrant, the end of term fee and debt issuance costs capitalized on our balance sheets as a reduction of the debt balance. Interest expense is due to our borrowings under our loan agreements.

Other Income, Net

Other income, net consists primarily of the interest income earned on our cash equivalents and foreign currency exchange gains and losses. Our foreign currency exchange gains and losses relate to transactions and asset and liability balances denominated in currencies other than the U.S. dollar.

Loss on Extinguishment of Debt

In the second quarter of 2017, we repaid the outstanding balance of our revolving loan and term loan at which time we recognized the unamortized balance of the debt discount and a prepayment penalty for the term loan as a loss on extinguishment of debt.

Results of Operations

The following table sets forth our results of operations for the periods indicated:

	Year Ended December 31,			
	2018	2017	2018	2017
	(In thousands)		(As a percentage of revenue)	
Product sales	$ 39,514	$ 30,838	80 %	86 %
Licensing, royalty, and other revenue	9,903	5,098	20	14
Total revenue	49,417	35,936	100	100
Cost of sales	24,083	14,451	49	40
Gross profit	25,334	21,485	51	60
Operating expenses:				
Research and development	23,637	25,437	48	71
General and administrative	12,551	11,516	25	32
Sales and marketing	6,467	4,740	13	13
Total operating expenses	42,655	41,693	86	116
Loss from operations	(17,321)	(20,208)	(35)	(56)
Interest expense	(890)	(764)	(2)	(2)
Other income, net	457	118	1	—
Loss on extinguishment of debt	—	(246)	—	(1)
Net loss	$(17,754)	$(21,100)	(36)%	(59)%

Comparison of the Years Ended December 31, 2018 and 2017

Revenue

	Year Ended December 31,		Change	
	2018	2017	Amount	%
	(Dollars in thousands)			
Product sales	$ 39,514	$ 30,838	$ 8,676	28.1 %
Licensing, royalty, and other revenue	9,903	5,098	4,805	94.3 %
Total revenue	$ 49,417	$ 35,936	$ 13,481	37.5 %

Total revenue increased by $13.5 million, or 37.5%, from $35.9 million during the year ended December 31, 2017, to $49.4 million during the year ended December 31, 2018. Product sales increased by $8.7 million or 28.1% from $30.8 million, to $39.5 million. The increase was primarily due to $10.8 million in increased sales volume and mix in our MRAM products partially offset by a $2.1 million decrease in sales of our legacy products as a result of a decrease in demand for our legacy products.

Licensing, royalty, and other revenue is a highly variable revenue item characterized by a small number of transactions annually with revenue based on size and terms of each transaction. Licensing, royalty, and other revenue increased by $4.8 million in 2018, from $5.1 million to $9.9 million. The increase was due to a non-refundable license fee related to a cross-license agreement entered into with a customer in March 2018, an increase of $0.5 million in royalty revenue, and an increase of $0.3 million in sales of our backend foundry service. These increases were offset in part by a $0.7 million decrease in milestone payments earned for research and development activities performed on behalf of GLOBALFOUNDRIES.

The increase in revenue is also due in part to our adoption of the new revenue accounting standard whereby revenue from sales to distributors is recognized upon delivery of the product to the distributor. In 2017, revenue from sales in which distributors were granted concessions or price protection credits was deferred until the sale of the products to the end customer was completed. This change resulted in a $0.6 million increase in revenue in 2018.

Cost of Sales and Gross Margin

	Year Ended December 31,		Change	
	2018	2017	Amount	%
	(Dollars in thousands)			
Cost of sales	$24,083	$14,451	$ 9,632	66.7 %
Gross margin	51.3 %	59.8 %	*	*

* Not meaningful.

Cost of sales increased by $9.6 million, or 66.7%, from $14.5 million during the year ended December 31, 2017, to $24.1 million during the year ended December 31, 2018. The increase was primarily due to increased sales volume and lower yields on our MRAM products, as well as one time scrapping events in which we scrapped $1.6 million of inventory items, partially offset by lower sales volume of backend foundry services and legacy products.

Gross margin decreased from 59.8% during the year ended December 31, 2017, to 51.3% during the year ended December 31, 2018. The decrease was primarily due to inventory items that were scrapped during 2018, as well as lower yields on our MRAM products that were partially offset by a onetime licensing event in the first quarter of 2018.

Operating Expenses

	Year Ended December 31,		Change	
	2018	2017	Amount	%
	(Dollars in thousands)			
Research and development	$ 23,637	$ 25,437	$ (1,800)	(7.1)%
Research and development as a % of revenue	48 %	71 %		

Research and Development Expenses. Research and development expenses decreased by $1.8 million, or 7.1%, from $25.4 million during the year ended December 31, 2017, to $23.6 million during the year ended December 31, 2018. The decrease was due to a $1.7 million decrease in spending on direct materials and supplies used in research and development activities due to the timing of purchases, a $1.3 million decrease in employee and contract labor costs due to a decrease in headcount, a $0.7 million decrease in the amount attributable to the vesting of shares of common stock issued to GLOBALFOUNDRIES due to revaluing shares, and a $0.5 million decrease in equipment maintenance due to less repairs on machinery. These decreases were partially offset by a $0.8 million increase in process engineering costs due to increasing production capacity, a $0.6 million increase in expenses incurred in our joint development agreement with GLOBALFOUNDRIES due to the use of more technologically advanced materials, a $0.5 million increase in software expenses due to the purchase of software to improve simulations, a $0.2 million increase in rent expense due to increased rent expense for our new headquarters, which we moved into in December 2017, and a $0.2 million dollar increase in depreciation expense.

	Year Ended December 31,		Change	
	2018	2017	Amount	%
	(Dollars in thousands)			
General and administrative	$ 12,551	$ 11,516	$ 1,035	9.0 %
General and administrative as a % of revenue	25 %	32 %		

General and Administrative Expenses. General and administrative expenses increased by $1.0 million, or 9.0%, from $11.5 million during the year ended December 31, 2017, to $12.6 million during the year ended December 31, 2018. The increase was primarily due a $1.4 million increase in employee and contract labor costs due to an increase in headcount, of which $0.5 million was due to increased stock-based compensation expense and the repricing of certain stock options in the year ended December 31, 2018, and an increase of $0.1 million in software expenses. These increases were partially offset by a decrease of $0.5 million in professional services due to costs incurred in 2017 related to recently becoming a public company.

	Year Ended December 31, 2018	Year Ended December 31, 2017	Change Amount	Change %
	(Dollars in thousands)			
Sales and marketing	$ 6,467	$ 4,740	$ 1,727	36.4 %
Sales and marketing as a % of revenue	13 %	13 %		

Sales and Marketing Expenses. Sales and marketing expenses increased by $1.7 million, or 36.4%, from $4.7 million during the year ended December 31, 2017, to $6.5 million during the year ended December 31, 2018. The increase was primarily due to a $1.7 million increase in employee and contract labor costs as a result of higher headcount and an increase in salaries, bonuses and stock-based compensation expense

Interest Expense

	Year Ended December 31, 2018	Year Ended December 31, 2017	Change Amount	Change %
	(Dollars in thousands)			
Interest expense	$ 890	$ 764	$ 126	16.5 %

Interest expense increased by $0.1 million, or 16.5%, from $0.8 million during the year ended December 31, 2017, to $0.9 million during the year ended December 31, 2018. The increase was primarily due to higher interest expense on our 2017 Credit Facility and Amended Credit Facility with Silicon Valley Bank, compared to our prior facility with Ares Venture Finance, due to an increase in the principal outstanding and an increase in the prime rate during the period.

Other Income, Net

	Year Ended December 31, 2018	Year Ended December 31, 2017	Change Amount	Change %
	(Dollars in thousands)			
Other income, net	$ 457	$ 118	$ 339	287.3 %

Other income, net increased by $0.3 million, or 287.3%, from $0.1 million during the year ended December 31, 2017, to $0.5 million during the year ended December 31, 2018. The increase was primarily related to an increase in interest income earned on our cash balances as a result of the increase in our cash balances from the follow-on public offering in February 2018.

Loss on extinguishment of debt

	Year Ended December 31, 2018	Year Ended December 31, 2017	Change Amount	Change %
	(Dollars in thousands)			
Loss on debt extinguishment	$ —	$ 246	$ (246)	*

* Not meaningful.

Loss on extinguishment of debt was $0.2 million during the year ended December 31, 2017, due to the payoff of our prior facility with Ares Venture Finance in May 2017. There was no such loss during the year ended December 31, 2018.

Liquidity and Capital Resources

We have generated significant losses since our inception and had an accumulated deficit of $134.0 million as of December 31, 2018. We have financed our operations primarily through the sale of our common stock in our initial public offering (IPO), sales of our redeemable convertible preferred stock, debt financing and the sale of our products. As of December 31, 2018, we had $23.4 million of cash and cash equivalents, compared to $13.0 million as of December 31, 2017.

In November 2017, we filed a Registration Statement (File No. 333-221331) registering the offer and sale of up to $100.0 million of our securities, and in February 2018 we completed a follow-on underwritten public offering of our common stock under the Registration Statement, completing the sale of 3,722,447 shares at an offering price of $7.00 per share for proceeds of $24.5 million, net of $1.9 million of underwriting discounts and commissions and other offering costs.

In May 2017, we executed a Loan and Security Agreement with Silicon Valley Bank for a $12.0 million term loan, which we amended in July 2018 to extend the interest only payment period until December 31, 2018. The term of the amended loan is two years following the interest only payment period, which would be extended by one year if we achieve certain milestones. The outstanding balance of the loan is to be repaid monthly beginning on January 1, 2019 over the remaining two-year term of the amended loan with an end of term fee of $0.8 million due upon maturity. The amended loan is secured by a first priority perfected security interest in our assets excluding any intellectual property, as described further below under "Credit Facilities."

As of December 31, 2018, and as of March 15, 2019, we believe that our existing cash and cash equivalents, coupled with our anticipated growth and sales levels will be sufficient to meet our anticipated cash requirements for at least the next twelve months. Our future capital requirements will depend on many factors, including our growth rate, the timing and extent of our spending to support research and development activities, the timing and cost of establishing additional sales and marketing capabilities, and the introduction of new products. If we need to raise additional capital to fund our operations, we may be required to seek additional equity or debt financing, and such additional financing may not be available to us on acceptable terms or at all. If we are unable to raise additional capital or generate sufficient cash from operations to adequately fund our operations, we will need to curtail planned activities to reduce costs and extend the time period over which our current resources will be able to fund operations. Doing so will likely harm our ability to execute on our business plan.

The following table summarizes our cash flows for the periods indicated (in thousands):

	Year Ended December 31,	
	2018	2017
	(In thousands)	
Cash used in operating activities	$(14,673)	$(18,888)
Cash used in investing activities	(1,914)	(3,070)
Cash provided by financing activities	27,016	5,181

Cash Used in Operating Activities

During the year ended December 31, 2018, cash used in operating activities was $14.7 million, which consisted of a net loss of $17.8 million, adjusted by non-cash charges of $5.3 million and a change of $2.2 million in our net operating assets and liabilities. The non-cash charges consisted of stock-based compensation of $2.7 million, depreciation and amortization of $1.5 million, compensation expense related to vesting of common stock issued to GLOBALFOUNDRIES under our joint development agreement of $0.8 million, and non-cash interest expense of $0.4 million. The change in our net operating assets and liabilities was primarily due to an increase of $3.8 million in accounts receivable due to an increased sales volume and timing of cash receipts for outstanding balances and a decrease of $0.2 million in accounts payable due to the timing of payments. These were partially offset by an increase of $1.3 million in accrued liabilities primarily due to an increase in inventory purchases in connection with the joint development agreement with GLOBALFOUNDRIES, an increase in accrued payroll, and the timing of payments and a decrease of $0.7 million in inventory due to increased sales.

During the year ended December 31, 2017, cash used in operating activities was $18.9 million, which consisted of a net loss of $21.1 million, adjusted by non-cash charges of $5.2 million and a change of $3.0 million in our net operating assets and liabilities. The non-cash charges consisted of stock-based compensation of $2.0 million, compensation expense related to vesting of common stock issued to GLOBALFOUNDRIES under our joint development agreement of $1.5 million, depreciation and amortization of $1.2 million, non-cash interest expense of $0.3 million and loss on debt extinguishment of $0.2 million. The change in our net operating assets and liabilities was primarily due to an increase in inventory of $3.9 million to meet demands of future sales and growing backlog, an increase of $0.4 million in accounts receivable due to the timing of cash receipts for outstanding balances and a $0.1 million decrease in deferred income on shipments to distributors. These were partially offset by an increase in prepaid expenses and other current assets, accounts payable, and accrued liabilities, of $1.4 million due to the timing of payments.

Cash Used in Investing Activities

Cash used in investing activities during the years ended December 31, 2018 and 2017 was $1.9 million and $3.1 million, respectively, which consisted of capital expenditures primarily for the purchase of manufacturing equipment and purchased software.

Cash Provided by Financing Activities

During the year ended December 31, 2018, cash provided by financing activities was $27.0 million consisting of net proceeds from the issuance of common stock in our February 2018 follow-on underwritten public offering of $24.5 million, proceeds of $1.0 million in borrowings, and $2.5 million from stock option exercises and purchases of shares in our employee stock purchase plan, offset in part by payments of long-term debt of $1.0 million.

During the year ended December 31, 2017, cash provided by financing activities was $5.2 million consisting of $12.0 million from borrowings under our 2017 long-term debt facility, and $1.6 million in proceeds from the exercise of stock options and purchase of shares under the employee stock purchase plan, partially offset by $8.4 million in payments on our 2015 long-term debt facility and capital lease obligations.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

Credit Facilities

Prior Facilities

In June 2015, we entered into a loan and security agreement with Ares Venture Finance for a term loan of $8.0 million and a $4.0 million revolving loan for working capital purposes and to repay our existing debt to another lender. In April 2017, the loan was terminated and we repaid the outstanding balance of $1.1 million on the revolving loan. In May 2017, we repaid the outstanding principal balance of $6.2 million on the term loan.

2017 Credit Facility

In May 2017, we entered into a Loan and Security Agreement with Silicon Valley Bank for a term loan of $12.0 million. The term loan bears for interest at a floating rate equal to the prime rate minus 0.75%. The term loan provided for a period of interest-only payments through April 30, 2018, followed by fixed principal and interest payments based on either a 24-month amortization schedule or a 36-month amortization schedule if we met certain sales milestones, and an additional payment of 6% of the Loan Amount when the loan was prepaid or repaid, whether at maturity or as a result of a prepayment or acceleration or otherwise. As of December 31, 2017, we determined we would not meet the sales milestones and as such the term loan was based on a 24-month amortization schedule.

In July 2018, we entered into the First Amendment to the Loan and Security Agreement with Silicon Valley Bank to extend the interest only payment period until December 31, 2018. The term of the amended loan is two years following the interest only payment period, which would be extended by one year if we achieve certain milestones. The outstanding balance of the loan is to be repaid monthly beginning on January 1, 2019 over the remaining two-year term of the amended loan with an end of term fee of 7% of the Loan Amount due upon maturity. Borrowings under the Amended Credit Facility mature in December 2020.

Security for the Amended Credit Facility includes all of our assets except for intellectual property. The Amended Credit Facility contains customary covenants restricting our activities, including limitations on our ability to sell assets, engage in mergers and acquisitions, enter into transactions involving related parties, incur indebtedness or grant liens or negative pledges on our assets, make loans or make other investments. Under these covenants, we are prohibited from paying cash dividends with respect to our capital stock. The Amended Credit Facility also contains a material adverse effect clause which provides that an event of default will occur if, among other triggers, an event occurs that could reasonably be expected to result in a material adverse effect on our business, operations or condition, or on our ability to perform our obligations under the term loan. We were in compliance with all covenants at December 31, 2018.

Critical Accounting Policies and Significant Judgements and Estimates

Our financial statements have been prepared in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. We base our estimates on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition

On January 1, 2018, we adopted Accounting Standards Update, or ASU, No. 2014-09, Revenue from Contracts with Customers (Topic 606) using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. We present results for reporting periods beginning after January 1, 2018 under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with Topic 605, Revenue.

We recognize revenue when a customer obtains control of the promised products or services, in an amount that reflects the consideration we expect to receive in exchange for those products or services. We recognize revenue net of allowances for returns and price concessions, and any taxes collected from customers, which are subsequently remitted to governmental authorities.

Topic 606 permits the application of certain practical expedients. Our billing practices approximate our performance as measured by an output method, where each output represents the completion of a performance obligation. Accordingly, we utilize the invoice practical expedient as defined in Topic 606, resulting in recognition of revenue in the amount that we have the right to invoice.

We incur direct and incremental costs of obtaining contracts and expense such costs as incurred, as the life of the underlying contract is less than one year. Accordingly, we have concluded, based on the structure of our contracts, no adjustments are necessary under Topic 606.

Nature of Products and Services

We derive our revenue from the sale of MRAM-based products in discrete unit form, licenses of and royalties on our MRAM and magnetic sensor technology, the sale of backend foundry services, and design services to third parties. We recognize sales of products in discrete unit form at a point in time, revenue related to licensing agreements when we have delivered control of the technology, revenue related to royalty agreements in the period in which sales generated from products sold using our technology occurs, sales of backend foundry services over time, and design services to third parties either at a point in time or over time, depending on the nature of the services.

Product Revenue

For products sold in their discrete form, we either sell our products directly to OEMs, original design manufacturers (ODMs), contract manufacturers (CMs), or through a network of distributors, who in turn sell to those customers. For sales directly to OEMs, ODMs and CMs, we recognize revenue when the OEM, ODM or CM obtains control of the product, which occurs at a point in time, generally upon shipment to the customer.

We sell a majority of our products to our distributors at a uniform list price. However, distributors may resell our products to end customers at a very broad range of individually negotiated price points. We provide distributors with price concessions subsequent to the delivery of product to them and such amounts are dependent on the end customer and product sales price. We base the price concessions on a variety of factors, including customer, product, quantity, geography and competitive differentiation. Price protection rights grant distributors the right to a credit in the event of declines in the price of our products. Under these circumstances, we remit back to the distributor a portion of their original purchase price after the resale transaction is completed in the form of a credit against the distributors' outstanding accounts receivable balance. The credits are on a per unit basis and are not given to the distributor until the distributor provides information regarding the sale to their end customer. We estimate these credits and record such estimates in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of an allowance for price concessions for amounts due to distributors. We estimate credits to distributors based on the historical rate of credits provided to distributors relative to sales. Revenue on shipments to distributors is recorded when control of the products has been transferred to the distributor.

We estimate the amount of our product sales that may be returned by our customers and record this estimate as a reduction of revenue in the period the related product revenue is recognized. We estimate our product return liability by analyzing our historical returns, current economic trends and changes in customer demand and acceptance of products. We have received insignificant returns to date and believe that returns of our products will continue to be minimal.

At the time of shipment to distributors, we record a trade receivable for the selling price as there is a legally enforceable obligation of the distributor to pay for the product delivered, an allowance is recorded for the estimated discount that will be provided to the distributor, and the net of these amounts is recorded as revenue on the statement of operations.

License Revenue

For licenses of technology, recognition of revenue is dependent upon whether we have delivered rights to the technology, and whether there are future performance obligations under the contract. In some instances, the license agreements call for future events or activities to occur in order for milestones amounts to become due from the customer. The terms of such agreements include payment to us of one or more of the following: non-refundable upfront fees; and royalties on net sales of licensed products. Historically, these license agreements have not included other future performance obligations once the license has been transferred to the customer.

We allocate the transaction price in each agreement to the identified performance obligations based on the standalone selling price (SSP) of each distinct performance obligation. Judgment is required to determine SSP. In instances where SSP is not directly observable, such as when a license or service is not sold separately, SSP is determined using information that may include market conditions and other observable inputs.

We recognize revenue from non-refundable up-front payments when the license is transferred to the customer and we have no other performance obligations.

Royalties

We recognize revenue from sales-based royalties from licenses of our technology at the later of when (1) the sale occurs or (2) the performance obligation to which some or all of the sales-based royalty has been allocated is satisfied (in whole or in part).

Other Revenue

For certain revenue streams, we recognize revenue based on the pattern of transfer of the services. We use the input method of measuring costs incurred to date compared to total estimated costs to be incurred under the contract as this method most faithfully depicts its performance. We record an unbilled receivable (within accounts receivable, net) for the portion of the work that has been completed but not invoiced at the end of each reporting period.

Revenue from milestone payments must be estimated using either the expected value method or the most likely amount method. At the inception of each agreement that includes milestone payments, we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price by using the most likely amount method. If it is probable that a significant reversal of cumulative revenue would not occur, the associated milestone value is included in the transaction price. At the end of each subsequent reporting period, we re-evaluate the probability or achievement of each such milestone and any related constraint, and if necessary, adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenues and earnings in the period of adjustment.

Inventory

We record inventories at the lower of cost, determined on a first-in, first-out basis or specific identification method, or market. We routinely evaluate quantities and values of inventory on hand and inventory that may be returned from distributors in light of current market conditions and market trends, and record provisions for inventories in excess of demand and subject to obsolescence. This evaluation may take into consideration expected demand, the effect new products may have on the sale of existing products, technological obsolescence and other factors. We record inventory write-downs for the valuation of inventory when required based on the analysis of the information immediately above and inventory balances are not readjusted until sold. Unanticipated changes in technology or customer demand could result in a decrease in demand for our products, which may require additional inventory write-downs that could materially affect our results of operations.

Stock-based Compensation

We recognize compensation costs related to stock options granted to employees and directors based on the estimated fair value of the awards on the date of grant. We have made an accounting policy election to account for forfeitures as they occur, rather than estimate expected forfeitures. We estimate the grant date fair value and the resulting stock-based compensation expense using the Black-Scholes option-pricing model. We expense the grant date fair value of stock-based awards on a straight-line basis over the period during which the employee is required to provide service in exchange for the award (generally the vesting period).

We estimate the fair value of our stock-based awards using the Black-Scholes option-pricing model, which requires the input of highly subjective assumptions. Our assumptions are as follows:

Expected Term. The expected term represents the period we expect the stock-based awards to be outstanding. We use the simplified method to determine the expected term, which is calculated as the average of the time to vesting and the contractual life of the options.

Expected Volatility. Since we do not have a long trading history for our common stock, we derive the expected volatility from the average historical volatilities of publicly traded companies within our industry that we consider to be comparable to our business over a period approximately equal to the expected term for employees' options and the remaining contractual life for non-employees' options. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available.

Risk-free Interest Rate. We base the risk-free interest rate on the U.S. Treasury yield with a maturity equal to the expected term of the option in effect at the time of grant.

Dividend Yield. We assume the expected dividend to be zero as we have never paid dividends and have no current plans to pay any dividends on our common stock.

In addition to the assumptions used in the Black-Scholes option-pricing model. We will continue to use judgment in evaluating the expected volatility and expected terms utilized for our stock-based compensation calculations on a prospective basis.

We recorded stock-based compensation expense of $2.7 million and $2.0 million for the years ended December 31, 2018 and 2017, respectively.

Historically, for all periods prior to the IPO, the fair value of the shares of common stock underlying our stock-based awards was estimated on each grant date by our board of directors. In order to determine the fair value of our common stock underlying option grants, our board of directors considered, among other things, contemporaneous valuations of our common stock prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Given the absence of a public trading market for our common stock, our board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common stock, including: the rights, preferences and privileges of our preferred stock relative to those of our common stock; our operating results and financial condition; our levels of available capital resources; equity market conditions affecting comparable public companies; general U.S. market conditions; and the lack of marketability of our common stock.

After the completion of the IPO, our board of directors determined the fair value of each share of underlying common stock based on the closing price of our common stock as reported on the date of grant.

JOBS Act Accounting Election

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, and therefore we may take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments. We may take advantage of these exemptions until we are no longer an "emerging growth company." We will cease to be an "emerging growth company" upon the earliest of: (1) December 31, 2021, (2) the last day of the first fiscal year in which our annual gross revenues are $1.07 billion or more, (3) the date on which we have, during the previous rolling three-year period, issued more than $1.0 billion in non-convertible debt securities, and (4) the date on which we are deemed to be a "large accelerated filer" as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Recently Adopted Pronouncements

ASU No. 2014-09, Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606). Areas of revenue recognition that will be affected include, but are not limited to, transfer of control, variable consideration, allocation of transfer pricing, licenses, time value of money, contract costs and disclosures. The new standard permits adoption either by using (i) a full retrospective approach for all periods presented in the period of adoption or (ii) a modified retrospective approach with the cumulative effect of initially applying the new standard recognized at the date of initial application and providing certain additional disclosures. The new standard is effective for annual reporting periods beginning after December 15, 2017. We adopted this standard on January 1, 2018 using the modified retrospective method. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of its accumulated deficit. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

Topic 606 permits the application of certain practical expedients. Our billing practices approximate our performance as measured by an output method, where each output represents the completion of a performance obligation. Accordingly, we utilize the invoice practical expedient as defined in Topic 606, resulting in recognition of revenue in the amount that we have the right to invoice.

We incur direct and incremental costs of obtaining contracts and such costs are expensed as incurred, as the life of the underlying contract is less than one year. Accordingly, we have concluded, based on the structure of our contracts, no adjustments are necessary under Topic 606.

As a result of the adoption of the new standard, we changed our accounting policy for revenue recognition and the details of the significant changes and quantitative impact of the changes are disclosed below.

Distributor sales- Some of our contracts with distributors provide the distributor with certain concessions and price protection credits. Under Topic 605, Revenue, these concessions and price protection credits were not fixed or determinable and, as a result, the associated revenue was deferred until delivery of the product to the end customer. At the time of shipment to distributors, we recorded a trade receivable for the selling price as there was a legally enforceable obligation of the distributor to pay for the product delivered, inventory was reduced by the carrying value of goods shipped, and the net of these amounts, the gross profit, was recorded as deferred income on shipments to distributors on the balance sheet. Under Topic 606, we recognize revenue from sales to distributors when control of the product is transferred to the distributor and estimate the amount of concessions and price protection credits at the point of revenue recognition. Accordingly, the balance of the deferred income on shipments to distributors was eliminated as a cumulative effect adjustment of implementing Topic 606 as of January 1, 2018, net of our estimate of concessions and price protection credits for those contracts.

Performance obligations delivered over time- Topic 605 permitted straight-line recognition of revenue for performance obligations that were delivered over time. The new revenue standard requires an entity to recognize revenue based on the pattern of transfer of the services. Entities must use either an input method or an output method to measure progress toward complete satisfaction of a performance obligation. We determined that the input method of measuring time elapsed to date compared to total estimated time to be incurred under the contract most faithfully depicts our performance. Under Topic 606, we will record an unbilled receivable (within accounts receivable, net) for the portion of the service that has been completed but not invoiced at the end of each reporting period.

Milestone payments – Topic 605 permitted recognition using the milestone method, whereby revenue was recognized upon the completion of substantive milestones once the customers acknowledge the milestones have been met and the collection of the amounts is reasonably assured. The milestone method no longer exists under the new revenue standard. Revenue from milestone payments must be estimated using either the expected value method or the most likely amount method. If it is probable that a significant reversal of cumulative revenue would not occur, the associated milestone value is included in the transaction price. The adoption of Topic 606 did not have an impact on milestone revenue recorded to date as the practical expedient adopted for a single contract resulted in revenue recognition similar to milestone revenue under Topic 605.

Sales-based royalties – Topic 605 permitted recognition of royalties when reported to us, which generally coincided with the receipt of payment. Under the new revenue standard, we record revenue generated from sales-based royalties from licenses of our technology at the later of when (1) the sale occurs or (2) the performance obligation to which some or all of the sales-based royalty has been allocated is satisfied (in whole or in part).

ASU No. 2017-09, Compensation-Stock Compensation

In May 2017, the FASB issued ASU No. 2017-09, Compensation-Stock Compensation (Topic 718) Scope of Modification Accounting, which is intended to amend the scope of modification accounting for share-based payment arrangements. The amendments in the update provide guidance on types of changes to the terms or conditions of share-based payment awards that would require us to apply modification accounting under ASC 718, Compensation-Stock Compensation. This ASU is effective for annual reporting periods beginning after December 15, 2017, and early adoption was permitted. We adopted this standard on January 1, 2018 and the impact of its adoption on our financial statements was not material.

ASU No. 2016-15, Statement of Cash Flows

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU 2016-15 identifies how certain cash receipts and cash payments are presented and classified in the Statement of Cash Flows. The standard is effective for fiscal years and interim periods beginning after December 15, 2017. The standard should be applied retrospectively and early adoption was permitted, including adoption in an interim period. We adopted this standard on January 1, 2018, and the impact of its adoption on our financial statements was not material.

Recently Issued Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, Leases, which establishes a comprehensive new lease accounting model. The new standard: (a) clarifies the definition of a lease; (b) requires a dual approach to lease classification similar to current lease classifications; and (c) causes lessees to recognize leases on the balance sheet as a lease liability with a corresponding right-of-use asset for leases with a lease-term of more than twelve months. This ASU is effective for fiscal years and interim periods within those years beginning after December 15, 2018. In July 2018, the FASB issued ASU 2018-10, Codification Improvements to Topic 842 Leases and ASU No. 2018-11, Leases (Topic 842) Targeted Improvements. ASU 2018-10 clarifies how to apply certain aspects of ASU 2016-02. We will adopt this standard on January 1, 2019 using the modified retrospective method. We are substantially complete with our analysis as to the impact of adoption and estimate that the adoption will result in the recognition of right-of-use assets and lease liabilities for operating leases within the range of approximately \$3.6 million to \$4.0 million on our balance sheet, with no material impact to our statement of operations.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which amends the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019, and requires a cumulative effect adjustment to the balance sheet as of the beginning of the first reporting period in which the guidance is effective. We are evaluating the impact of the adoption of ASU 2016-13 on our financial statements.

In June 2018, the FASB issued ASU No. 2018-07, Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting. ASU 2018-07 is intended to reduce the cost and complexity and to improve financial reporting for nonemployee share-based payments. The ASU expands the scope of Topic 718, (which currently only includes share-based payments to employees) to include share-based payments issued to nonemployees for goods or services. Consequently, the accounting for share-based payments to nonemployees and employees will be substantially aligned. The standard is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than a company's adoption date of Topic 606. We adopted this standard on January 1, 2019, and the impact of its adoption on our financial statements was not material.

In August 2018, the Securities and Exchange Commission (SEC) adopted the final rule under SEC Release No. 33-10532, Disclosure Update and Simplification, amending certain disclosure requirements that were redundant, duplicative, overlapping, outdated or superseded. In addition, the amendments expanded the disclosure requirements on the analysis of stockholders' equity for interim financial statements. Under the amendments, an analysis of changes in each caption of stockholders' equity presented in the balance sheet must be provided in a note or separate statement. The analysis should present a reconciliation of the beginning balance to the ending balance of each period for which a statement of comprehensive income is required to be filed. This final rule is effective on November 5, 2018; however, in light of the proximity of the effective date to the filing date for most filers' quarterly reports, the SEC will allow a filer's first presentation of the changes in stockholders' equity to be included in its Form 10-Q for the quarter that begins after the effective date. We will begin to present a statement of changes in stockholders' equity in our quarterly financial statements beginning on January 1, 2019.

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

Not required for a smaller reporting company.

Item 8. Financial Statements and Supplementary Data.

EVERSPIN TECHNOLOGIES, INC.

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Everspin Technologies, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Everspin Technologies, Inc. (the Company) as of December 31, 2018 and 2017, and the related statements of operations and comprehensive loss, stockholders' equity and cash flows for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Adoption of ASU No. 2014-09

As discussed in Note 2 to the financial statements, the Company changed its method of accounting for revenue from sales to customers in 2018 due to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606).

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2008.

Phoenix, Arizona
March 15, 2019

EVERSPIN TECHNOLOGIES, INC.
Balance Sheets
(In thousands, except share and per share amounts)

	December 31, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 23,379	$ 12,950
Accounts receivable, net	7,522	4,041
Inventory	9,097	9,837
Prepaid expenses and other current assets	688	590
Total current assets	40,686	27,418
Property and equipment, net	4,286	3,946
Other assets	73	73
Total assets	$ 45,045	$ 31,437
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 2,637	$ 2,920
Accrued liabilities	5,001	3,748
Deferred income on shipments to distributors	—	1,720
Current portion of long-term debt	5,977	3,987
Total current liabilities	13,615	12,375
Long-term debt, net of current portion	6,509	8,178
Total liabilities	20,124	20,553
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.0001 par value per share; 5,000,000 shares authorized; no shares issued and outstanding as of December 31, 2018 and December 31, 2017	—	—
Common stock, $0.0001 par value per share; 100,000,000 shares authorized; 17,095,456 and 12,817,201 shares issued and outstanding as of December 31, 2018 and December 31, 2017	2	1
Additional paid-in capital	158,912	128,422
Accumulated deficit	(133,993)	(117,539)
Total stockholders' equity	24,921	10,884
Total liabilities and stockholders' equity	$ 45,045	$ 31,437

The accompanying notes are an integral part of these financial statements.

EVERSPIN TECHNOLOGIES, INC.
Statements of Operations and Comprehensive Loss
(In thousands, except share and per share amounts)

	Year Ended December 31,	
	2018	**2017**
Product sales	$ 39,514	$ 30,838
Licensing, royalty, and other revenue	9,903	5,098
Total revenue	49,417	35,936
Cost of sales	24,083	14,451
Gross profit	25,334	21,485
Operating expenses:		
Research and development	23,637	25,437
General and administrative	12,551	11,516
Sales and marketing	6,467	4,740
Total operating expenses	42,655	41,693
Loss from operations	(17,321)	(20,208)
Interest expense	(890)	(764)
Other income, net	457	118
Loss on extinguishment of debt	—	(246)
Net loss and comprehensive loss	$ (17,754)	$ (21,100)
Net loss per common share, basic and diluted	$ (1.08)	$ (1.69)
Weighted-average shares used to compute net loss per common share, basic and diluted	16,372,638	12,484,984

The accompanying notes are an integral part of these financial statements.

EVERSPIN TECHNOLOGIES, INC.
Statements of Stockholders' Equity
(In thousands, except share amounts)

	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Deficit	Equity
Balance at December 31, 2016	12,498,128	$ 1	$ 123,309	$ (96,439)	$ 26,871
Issuance of common stock upon exercise of stock options	281,483	—	1,337	—	1,337
Issuance of common stock under Employee Stock Purchase Plan	37,590	—	256	—	256
Compensation expense related to vesting of common stock issued to GLOBALFOUNDRIES	—	—	1,472	—	1,472
Stock-based compensation expense	—	—	2,048	—	2,048
Net loss	—	—	—	(21,100)	(21,100)
Balance at December 31, 2017	12,817,201	1	128,422	(117,539)	10,884
Adjustment to opening balance for adoption of new accounting standard	—	—	—	1,300	1,300
Issuance of common stock in secondary offering, net of issuance costs	3,772,447	1	24,523	—	24,524
Issuance of common stock under stock incentive plans	505,808	—	2,503	—	2,503
Issuance of warrant	—	—	43	—	43
Compensation expense related to vesting of common stock issued to GLOBALFOUNDRIES	—	—	753	—	753
Stock-based compensation expense	—	—	2,668	—	2,668
Net loss	—	—	—	(17,754)	(17,754)
Balance at December 31, 2018	17,095,456	$ 2	$ 158,912	$ (133,993)	$ 24,921

The accompanying notes are an integral part of these financial statements.

EVERSPIN TECHNOLOGIES, INC.
Statement of Cash Flows
(In thousands)

	Year Ended December 31, 2018	Year Ended December 31, 2017
Cash flows from operating activities		
Net loss	$ (17,754)	$ (21,100)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,450	1,191
Loss on disposal of property and equipment	19	—
Stock-based compensation	2,668	2,048
Non-cash loss on extinguishment of debt	—	185
Non-cash interest expense	375	297
Compensation expense related to vesting of common stock to GLOBALFOUNDRIES	753	1,472
Changes in operating assets and liabilities:		
Accounts receivable	(3,816)	(385)
Inventory	694	(3,871)
Prepaid expenses and other current assets	(98)	460
Other assets	—	(23)
Accounts payable	(178)	809
Accrued liabilities	1,253	136
Deferred income on shipments to distributors	—	(107)
Shipping term reversal	(39)	—
Net cash used in operating activities	(14,673)	(18,888)
Cash flows from investing activities		
Purchases of property and equipment	(1,914)	(3,070)
Net cash used in investing activities	(1,914)	(3,070)
Cash flows from financing activities		
Proceeds from the issuance of common stock, net of offering costs	24,524	—
Proceeds from debt	1,000	12,000
Payments on debt	(1,000)	(8,356)
Payments of debt issuance costs	—	(49)
Payments on capital lease obligation	(11)	(7)
Proceeds from exercise of stock options and purchase of shares in employee stock purchase plan	2,503	1,593
Net cash provided by financing activities	27,016	5,181
Net increase (decrease) in cash and cash equivalents	10,429	(16,777)
Cash and cash equivalents at beginning of period	12,950	29,727
Cash and cash equivalents at end of period	$ 23,379	$ 12,950
Supplementary cash flow information:		
Interest paid	$ 504	$ 467
Non-cash investing and financing activities:		
Purchases of property and equipment in accounts payable	$ 11	$ 116
Purchases of property and equipment under capital lease obligations	$ —	$ 31
Issuance of warrant in lieu of financing costs	$ 43	$ —

The accompanying notes are an integral part of these financial statements.

EVERSPIN TECHNOLOGIES, INC.
Notes to Financial Statements

1. Organization and Operations

Everspin Technologies, Inc. (the Company) was incorporated in Delaware on May 16, 2008. The Company's magnetoresistive random access memory (MRAM) solutions offer the persistence of non-volatile memory with the speed and endurance of random access memory (RAM) and enable the protection of mission critical data particularly in the event of power interruption or failure. The Company's MRAM solutions allow its customers in the industrial, automotive and transportation, and enterprise storage markets to design high performance, power efficient and reliable systems without the need for bulky batteries or capacitors.

Ability to continue as a going concern

The Company believes that its existing cash and cash equivalents as of December 31, 2018 will be sufficient to meet its anticipated cash requirements for at least the next 12 months from the financial statement issuance date. The Company's future capital requirements will depend on many factors, including its growth rate, the timing and extent of its spending to support research and development activities, the timing and cost of establishing additional sales and marketing capabilities, and the introduction of new products. The Company may be required at some point in the future to seek additional equity or debt financing, to sustain operations beyond that point, and such additional financing may not be available on acceptable terms or at all. If the Company is unable to raise additional capital or generate sufficient cash from operations to adequately fund its operations, it will need to curtail planned activities to reduce costs. Doing so will likely harm its ability to execute on its business plan.

2. Summary of Significant Accounting Policies

Use of Estimates

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition, fair value of assets and liabilities, inventory, product warranty reserves, income taxes, and stock-based compensation. The Company believes its estimates and assumptions are reasonable; however, actual results may differ from the Company's estimates.

Segments

The Company's chief operating decision maker is its Chief Executive Officer who reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance for the entire Company. As a result, the Company has single operating and reportable segment..

Cash and Cash Equivalents

The Company considers all highly liquid, short-term investments with maturity dates of 90 days or less at the date of purchase to be cash equivalents. The Company's cash equivalents consist solely of money market funds.

Accounts Receivable

Accounts receivable are recorded at the invoiced amount and do not bear interest. The Company generally does not require collateral or other security in support of accounts receivable. Allowances are provided for individual accounts receivable when the Company becomes aware of a customer's inability to meet its financial obligations, such as in the case of bankruptcy, deterioration in the customer's operating results or change in financial position. If circumstances related to customers change, estimates of the recoverability of receivables would be further adjusted. The Company also considers a number of factors in evaluating the sufficiency of its allowance for doubtful accounts, including the length of time receivables are past due, significant one-time events, creditworthiness of customers and historical experience. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. At December 31, 2018 and 2017, there was no allowance for doubtful accounts.

The Company establishes an allowance for product returns. The Company analyzes historical returns, current economic trends and changes in customer demand and acceptance of products when evaluating the adequacy of sales returns. As the returns are processed as credits on future purchases, the allowance is recorded against the balance of trade accounts receivable. In addition, the Company establishes an allowance for estimated price concessions related to its distributer agreements. The Company estimates credits to distributors based on the historical rate of credits provided to distributors relative to sales. The allowance for product returns and the allowance for price concessions were $144,000 and $569,000 at December 31, 2018, respectively, and $147,000 and $0 at December 31, 2017, respectively.

Accounts receivable, net consisted of the following (in thousands):

	December 31, 2018	December 31, 2017
Trade accounts receivable	$ 7,297	$ 4,188
Unbilled accounts receivable	938	—
Allowance for accounts receivable	(713)	(147)
Accounts receivable, net	$ 7,522	$ 4,041

Concentration of Credit Risk

Financial instruments that potentially expose the Company to a concentration of credit risk consist principally of cash and cash equivalents that are held by a financial institution in the United States and accounts receivable. Amounts on deposit with a financial institution may at times exceed federally insured limits. The Company maintains its cash accounts with high credit quality financial institutions and accordingly, minimal credit risk exists with respect to the financial institutions.

Significant customers are those which represent more than 10% of the Company's total revenue or net accounts receivable balance at each respective balance sheet date. For the purposes of this disclosure, the Company defines "customer" as the entity that is purchasing the products or licenses directly from the Company, which includes the distributors of the Company's products in addition to end customers that the Company sells to directly. For each significant customer, revenue as a percentage of total revenue and accounts receivable as a percentage of total accounts receivable, net are as follows:

	Revenue Year Ended December 31,		Accounts Receivable, net As of December 31,	
Customers	2018	2017	2018	2017
Customer A	13 %	16 %	*	*
Customer B	11 %	*	*	*
Customer C	10 %	*	*	11 %
Customer D	*	15 %	*	*
Customer E	*	*	23 %	*
Customer F	*	*	21 %	*
Customer G	*	*	11 %	15 %
Customer H	*	*	11 %	*
Customer I	*	*	*	10 %

* Less than 10%

Inventory

Inventory is valued at the lower of cost, using the first-in, first-out or specific identification method, or market. The carrying value of inventory is adjusted for excess and obsolete inventory based on inventory age, shipment history and the forecast of demand over a specific future period. At the point of loss recognition, a new lower cost basis for that inventory is established and subsequent changes in facts and circumstances do not result in the restoration or increase in that new cost basis.

Fair Value of Financial Instruments

Fair value is defined as an exit price, representing the amount that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants. The framework for measuring fair value provides a three-tier hierarchy prioritizing inputs to valuation techniques used in measuring fair value as follows:

Level 1— Observable inputs such as quoted prices for identical assets or liabilities in active markets;

Level 2— Inputs, other than quoted prices for identical assets or liabilities in active markets, which are observable either directly or indirectly; and

Level 3— Unobservable inputs in which there is little or no market data requiring the reporting entity to develop its own assumptions.

The carrying value of accounts receivable, accounts payable, and other accruals readily convertible into cash approximate fair value because of the short-term nature of the instruments. As of December 31, 2018, based on Level 2 inputs and the borrowing rates available to the Company for loans with similar terms and consideration of the Company's credit risk, the carrying value of the Company's variable interest rate debt, excluding unamortized debt issuance costs, approximates fair value. The Company's financial instruments consist of Level 1 assets. Where quoted prices are available in an active market, securities are classified as Level 1. Level 1 assets consist of highly liquid money market funds that are included in cash equivalents.

The following tables sets forth the fair value of the Company's financial assets measured at fair value on a recurring basis (in thousands):

	December 31, 2018			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 23,478	$ —	$ —	$ 23,478
Total assets measured at fair value	$ 23,478	$ —	$ —	$ 23,478

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 13,369	$ —	$ —	$ 13,369
Total assets measured at fair value	$ 13,369	$ —	$ —	$ 13,369

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation begins at the time the asset is placed in service. Maintenance and repairs are charged to operations as incurred. Depreciation is computed using the straight-line method over the following estimated useful lives of the assets:

	Useful Lives
Computer and network equipment	2 years
Manufacturing equipment	2 – 7 years
Furniture and fixtures	7 years
Software	3 years

Leasehold improvements are amortized over the shorter of the lease term or useful life. Upon sale or retirement of assets, the cost and related accumulated depreciation are removed from the balance sheet and the resulting gain or loss is reflected in operations. Amortization expense of assets acquired through capital leases is included in the statements of operations and comprehensive loss.

Impairment of Long-lived Assets

The Company evaluates its long-lived assets, including property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. Recoverability of these assets is measured by comparison of the carrying amount of each asset to the future undiscounted cash flows the asset is expected to generate over its remaining life. If the asset is considered to be impaired, the amount of any impairment is measured as the difference between the carrying value and the fair value of the impaired asset. There have been no impairments of the Company's long-lived assets during any of the periods presented.

Leases

The Company leases office, lab, and manufacturing space in various locations. Rent expense under operating leases is recognized on a straight-line basis over the lease term taking into consideration rent abatements, scheduled rent increases and any lease incentives.

Debt Issuance Costs

The Company defers and amortizes issuance costs, underwriting fees, end of term payments, and related expenses incurred in connection with the issuance of debt instruments using the effective interest method over the terms of the respective instruments. Debt issuance costs are reflected as a direct reduction of the carrying amount of the related debt liability.

Revenue Recognition

The Company recognizes revenue when a customer obtains control of the promised products or services, in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. Revenue is recognized net of allowances for returns and price concessions, and any taxes collected from customers, which are subsequently remitted to governmental authorities.

Nature of Products and Services

The Company's revenue is derived from the sale of MRAM-based products in discrete unit form, licenses of and royalties on its MRAM and magnetic sensor technology, the sale of backend foundry services and design services to third parties. Sales of products in discrete unit form are recognized at a point in time, revenue related to licensing agreements is recognized when the Company has delivered control of the technology, revenue related to royalty agreements is recognized in the period in which sales generated from products sold using the Company's technology occurs, sales of backend foundry services are recognized over time, and design services to third parties are recognized either at a point in time or over time, depending on the nature of the services.

Product Revenue

For products sold in their discrete form, the Company either sells its products directly to original equipment manufacturers (OEMs), original design manufacturers (ODMs) and contract manufacturers (CMs), or through a network of distributors, who in turn sell to those customers. For sales directly to OEMs, ODMs and CMs, revenue is recognized when the OEM, ODM or CM obtains control of the product, which occurs at a point in time, generally upon shipment to the customer.

The Company sells the majority of its products to its distributors at a uniform list price. However, distributors may resell the Company's products to end customers at a very broad range of individually negotiated price points. Distributors are provided with price concessions subsequent to the delivery of product to them and such amounts are dependent on the end customer and product sales price. The price concessions are based on a variety of factors, including customer, product, quantity, geography and competitive differentiation. Price protection rights grant distributors the right to a credit in the event of declines in the price of the Company's products. Under these circumstances, the Company remits back to the distributor a portion of their original purchase price after the resale transaction is completed in the form of a credit against the distributors' outstanding accounts receivable balance. The credits are on a per unit basis and are not given to the distributor until the distributor provides information regarding the sale to their end customer. The Company estimates these credits and records such estimates in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of an allowance for price concessions due to distributors. The Company estimates credits to distributors based on the historical rate of credits provided to distributors relative to sales. Revenue on shipments to distributors is recorded when control of the products has been transferred to the distributor.

The Company estimates the amount of its product sales that may be returned by its customers and records this estimate as a reduction of revenue in the period the related product revenue is recognized. The Company estimates its product return liability by analyzing its historical returns, current economic trends and changes in customer demand and acceptance of products. The Company has received insignificant returns to date and believes that returns of its products will continue to be minimal.

At the time of shipment to distributors, the Company records a trade receivable for the selling price as there is a legally enforceable obligation of the distributor to pay for the product delivered, an allowance is recorded for the estimated discount that will be provided to the distributor, and the net of these amounts is recorded as revenue on the statement of operations.

License Revenue

For licenses of technology, recognition of revenue is dependent upon whether the Company has delivered rights to the technology, and whether there are future performance obligations under the contract. In some instances, the license agreements call for future events or activities to occur in order for milestones amounts to become due from the customer. The terms of such agreements include payment to the Company of one or more of the following: non-refundable upfront fees; and royalties on net sales of licensed products. Historically, these license agreements have not included other future performance obligations for the Company once the license has been transferred to the customer.

Revenue from non-refundable up-front payments is recognized when the license is transferred to the customer and the Company has no other performance obligations.

Royalties

Revenue from sales-based royalties from licenses of the Company’s technology are recognized at the later of when (1) the sale occurs or (2) the performance obligation to which some or all of the sales-based royalty has been allocated is satisfied (in whole or in part).

Other Revenue

For certain revenue streams, the Company recognizes revenue based on the pattern of transfer of the services. The Company uses the input method of measuring costs incurred to date compared to total estimated costs to be incurred under the contract as this method most faithfully depicts its performance. The Company will record an unbilled receivable (within accounts receivable, net) for the portion of the work that has been completed but not invoiced at the end of each reporting period.

Revenue from milestone payments must be estimated using either the expected value method or the most likely amount method. At the inception of each agreement that includes milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price by using the most likely amount method. If it is probable that a significant reversal of cumulative revenue would not occur, the associated milestone value is included in the transaction price. At the end of each subsequent reporting period, the Company re-evaluates the probability or achievement of each such milestone and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenues and earnings in the period of adjustment.

Product Warranty

The Company generally sells products with a limited warranty of product quality and a limited indemnification of customers against intellectual property infringement claims related to the Company’s products. The Company accrues for known warranty and indemnification issues if a loss is probable and can be reasonably estimated, and accrues for estimated losses incurred for unidentified issues based on historical experience. A warranty liability was not recorded at

December 31, 2018 and 2017, as the estimated future warranty costs were not material based on the Company's historical experience.

Research and Development

Research and development expenses are incurred in support of internal development programs or as part of our joint development agreement with GLOBALFOUNDRIES and joint collaboration agreement with Silterra Malaysia Sdn. Bhd. (see Note 10). Research and development expenses include personnel-related costs (including stock-based compensation), circuit design costs, purchases of materials and laboratory supplies, fabrication and packaging of experimental integrated circuit products, depreciation of research and development related capital equipment and overhead, and are expensed as incurred.

Stock-based Compensation

Stock-based compensation arrangements include stock option grants and restricted stock unit (RSU) awards under the Company's equity incentive plans, as well as shares issued under the Company's Employee Stock Purchase Plan (ESPP), through which employees may purchase the Company's common stock at a discount to the market price.

The Company measures its stock option grants made to employees based on the estimated fair value of the options as of the grant date using the Black-Scholes option-pricing model. Stock-based compensation expense is recognized over the requisite service period using the straight-line method. The Company has made an accounting policy election to account for forfeitures as they occur, rather than estimating expected forfeitures at the time of the grant.

Stock-based compensation expense for options granted to non-employees as consideration for services received is measured on the date of performance at the fair value of the consideration received or the fair value of the equity instruments issued, using the Black-Scholes option-pricing model, whichever can be more reliably measured. Compensation expense for options granted to non-employees is periodically remeasured as the underlying options vest.

Income Taxes

The Company uses the liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and the tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company must then assess the likelihood that the resulting deferred tax assets will be realized. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

The Company recognizes benefits of uncertain tax positions if it is more likely than not that such positions will be sustained upon examination based solely on their technical merits, as the largest amount of benefit that is more likely than not to be realized upon the ultimate settlement. The Company's policy is to recognize interest and penalties related to the underpayment of income taxes as a component of income tax expense or benefit. The Company does not have any unrecognized tax benefits.

Net Loss per Common Share

Basic net loss per common share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period less shares subject to repurchase, without consideration of potentially dilutive securities. Diluted net loss per common share is the same as basic net loss per common share since the effect of potentially dilutive securities is anti-dilutive.

Prior Period Reclassifications

Certain amounts in the prior period have been reclassified to conform with current period presentation. There was no impact on total revenue or net loss for the prior period.

Recently Adopted Pronouncements

ASU No. 2014-09, Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606). Areas of revenue recognition that will be affected include, but are not limited to, transfer of control, variable consideration, allocation of transfer pricing, licenses, time value of money, contract costs and disclosures. The new standard permits adoption either by using (i) a full retrospective approach for all periods presented in the period of adoption or (ii) a modified retrospective approach with the cumulative effect of initially applying the new standard recognized at the date of initial application and providing certain additional disclosures. The new standard is effective for annual reporting periods beginning after December 15, 2017. The Company adopted this standard on January 1, 2018 using the modified retrospective method. The Company recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of its accumulated deficit. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

Topic 606 permits the application of certain practical expedients. The Company’s billing practices approximate the Company’s performance as measured by an output method, where each output represents the completion of a performance obligation. Accordingly, the Company utilizes the invoice practical expedient as defined in Topic 606, resulting in recognition of revenue in the amount that the Company has the right to invoice.

Unsatisfied performance obligations primarily represent contracts for products with future delivery dates and with an original expected duration of one year or less. As allowed under Topic 606, the Company has opted to not disclose the amount of unsatisfied performance obligations as these contracts have original expected durations of less than one year.

The Company incurs direct and incremental costs of obtaining contracts and such costs are expensed as incurred, as the life of the underlying contract is less than one year. Accordingly, the Company has concluded, based on the structure of its contracts, no adjustments are necessary under Topic 606.

As a result of the adoption of the new standard, the Company changed its accounting policy for revenue recognition and the details of the significant changes and quantitative impact of the changes are disclosed below.

Distributor sales – Some of the Company's contracts with distributors provide the distributor with certain concessions and price protection credits. Under Topic 605, Revenue, these concessions and price protection credits were not fixed or determinable and, as a result, the associated revenue was deferred until delivery of the product to the end customer. At the time of shipment to distributors, the Company recorded a trade receivable for the selling price as there was a legally enforceable obligation of the distributor to pay for the product delivered, inventory was reduced by the carrying value of goods shipped, and the net of these amounts, the gross profit, was recorded as deferred income on shipments to distributors on the balance sheet. Under Topic 606, the Company recognizes revenue from sales to distributors when control of the product is transferred to the distributor and estimates the amount of the concessions and price protection credits at the point of revenue recognition. Accordingly, the balance of the deferred income on shipments to distributors was eliminated as a cumulative effect adjustment of implementing Topic 606 as of January 1, 2018, net of the Company’s estimate of concessions and price protection credits for those contracts.

Performance obligations delivered over time – Topic 605 permitted straight-line recognition of revenue for performance obligations that were delivered over time. The new revenue standard requires an entity to recognize revenue based on the pattern of transfer of the services. Entities must use either an input method or an output method to measure progress toward complete satisfaction of a performance obligation. The Company determined that the input method of measuring time elapsed to date compared to total estimated time to be incurred under the contract most faithfully depicts its performance. Under Topic 606, the Company will record an unbilled receivable (within accounts receivable, net) for the portion of the service that has been completed but not invoiced at the end of each reporting period.

Milestone payments – Topic 605 permitted recognition using the milestone method, whereby revenue was recognized upon the completion of substantive milestones once the customers acknowledge the milestones have been met and the collection of the amounts is reasonably assured. The milestone method no longer exists under the new revenue standard. Revenue from milestone payments must be estimated using either the expected value method or the most likely amount method. If it is probable that a significant reversal of cumulative revenue would not occur, the associated milestone value is included in the transaction price. The adoption of Topic 606 did not have an impact on milestone revenue recorded to date as the practical expedient adopted for a single contract resulted in revenue recognition similar to milestone revenue under Topic 605.

Sales-based royalties – Topic 605 permitted recognition of royalties when reported to the Company, which generally coincided with the receipt of payment. Under the new revenue standard, revenue generated from sales-based royalties from licenses of technology are recognized at the later of when (1) the sale occurs or (2) the performance obligation to which some or all of the sales-based royalty has been allocated is satisfied (in whole or in part).

There was no impact to the recognition of revenue for non-refundable, up-front payments for licenses of the Company's technology, which occurs when the license is transferred to the customer and there are no other performance obligations.

The change in revenue recognition upon adoption of Topic 606 resulted in a decrease in the accumulated deficit balance of $1.3 million on January 1, 2018.

The following table summarizes the impact of adopting Topic 606 on select balance sheet line items (in thousands):

December 31, 2018	**As reported**	**Adjustments**	**Balances without the adoption of Topic 606**
Accounts receivable, net	$ 7,522	$ (1,211)	$ 6,311
Inventory	9,097	190	9,287
Total current assets	40,686	(1,021)	39,665
Total assets	45,045	(1,021)	44,024
Deferred income on shipments to distributors	—	3,017	3,017
Total current liabilities	13,615	3,017	16,632
Total liabilities	20,124	3,017	23,141
Accumulated deficit	(133,993)	(4,038)	(138,031)
Total liabilities and stockholders' equity	45,045	(1,021)	44,024

The following table summarizes the impact of adopting Topic 606 on select statement of operations line items (in thousands, except per share data):

Year Ended December 31, 2018	**As reported**	**Adjustments**	**Results without the adoption of Topic 606**
Product sales	$ 39,514	$ (2,915)	$ 36,599
Licensing, royalty, and other revenue	9,903	(577)	9,326
Total revenue	49,417	(3,492)	45,925
Cost of sales	24,083	(754)	23,329
Gross profit	25,334	(2,738)	22,596
Loss from operations	(17,321)	(2,738)	(20,059)
Net loss and comprehensive loss	(17,754)	(2,738)	(20,492)
Net loss per common share, basic and diluted	(1.08)	(0.17)	(1.25)

The adoption had no impact to cash used in operating, investing or financing activities in the statement of cash flows.

ASU No. 2017-09, Compensation-Stock Compensation

In May 2017, the FASB issued ASU No. 2017-09, Compensation-Stock Compensation (Topic 718) Scope of Modification Accounting, which is intended to amend the scope of modification accounting for share-based payment arrangements. The amendments in the update provide guidance on types of changes to the terms or conditions of share-based payment awards that would require the Company to apply modification accounting under ASC 718, Compensation-Stock Compensation. This ASU is effective for annual reporting periods beginning after December 15, 2017, and early adoption was permitted. The Company adopted this standard on January 1, 2018, and the impact of its adoption on the Company's financial statements was not material.

ASU No. 2016-15, Statement of Cash Flows

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU 2016-15 identifies how certain cash receipts and cash payments are presented and classified in the Statement of Cash Flows. The standard is effective for fiscal years and interim periods beginning after December 15, 2017. The standard should be applied retrospectively and early adoption was permitted, including adoption in an interim period. The Company adopted this standard on January 1, 2018, and the impact of its adoption on the Company's financial statements was not material.

Recently Issued Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, Leases, which establishes a comprehensive new lease accounting model. The new standard: (a) clarifies the definition of a lease; (b) requires a dual approach to lease classification similar to current lease classifications; and (c) causes lessees to recognize leases on the balance sheet as a lease liability with a corresponding right-of-use asset for leases with a lease-term of more than twelve months. This ASU is effective for fiscal years and interim periods within those years beginning after December 15, 2018. In July 2018, the FASB issued ASU 2018-10, Codification Improvements to Topic 842 Leases and ASU No. 2018-11, Leases (Topic 842) Targeted Improvements. ASU 2018-10 clarifies how to apply certain aspects of ASU 2016-02. The Company will adopt this standard on January 1, 2019 using the modified retrospective method. The Company is substantially complete with its analysis as to the impact of adoption and estimates that the adoption will result in the recognition of right-of-use assets and lease liabilities for operating leases within the range of approximately $3.6 million to $4.0 million on its balance sheet, with no material impact to its statement of operations.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which amends the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019, and requires a cumulative effect adjustment to the balance sheet as of the beginning of the first reporting period in which the guidance is effective. The Company is evaluating the impact of the adoption of ASU 2016-13 on its financial statements.

In June 2018, the FASB issued ASU No. 2018-07, Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting. ASU 2018-07 is intended to reduce the cost and complexity and to improve financial reporting for nonemployee share based payment. The ASU expands the scope of Topic 718, (which currently only includes share-based payments to employees) to include share-based payments issued to nonemployees for goods or services. Consequently, the accounting for share-based payments to nonemployees and employees will be substantially aligned. The standard is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than a company's adoption date of Topic 606. The Company adopted this standard on January 1, 2019, and the impact of its adoption on the Company's financial statements was not material.

In August 2018, the Securities and Exchange Commission (SEC) adopted the final rule under SEC Release No. 33-10532, Disclosure Update and Simplification, amending certain disclosure requirements that were redundant, duplicative, overlapping, outdated or superseded. In addition, the amendments expanded the disclosure requirements on the analysis of stockholders' equity for interim financial statements. Under the amendments, an analysis of changes in each caption of stockholders' equity presented in the balance sheet must be provided in a note or separate statement. The analysis should present a reconciliation of the beginning balance to the ending balance of each period for which a statement of comprehensive income is required to be filed. This final rule is effective on November 5, 2018, however in light of the proximity of the effective date to the filing date for most filers' quarterly reports, the SEC will allow a filer's first presentation of the changes in stockholders' equity to be included in its Form 10-Q for the quarter that begins after the effective date. The Company will begin to present a statement of changes in stockholders' equity in its quarterly financial statements beginning on January 1, 2019.

3. Revenue

The Company sells the majority of its products to its distributors, but does recognize some revenue under licensing and royalty agreements. The following table presents the Company's revenues disaggregated by sales channel, (in thousands):

	Year Ended December 31, 2018
Distributor	$ 35,126
Non-distributor	14,291
Total revenue	$ 49,417

The following table presents the Company's revenues disaggregated by timing of recognition (in thousands):

	Year Ended December 31, 2018
Point in time	$ 45,102
Over time	4,315
Total revenue	$ 49,417

The following table presents the Company's revenues disaggregated by type (in thousands):

	Year Ended December 31, 2018
Product sales	$ 39,514
License fees	5,000
Royalties	588
Other revenue	4,315
Total revenue	$ 49,417

The Company recognizes revenue in three primary geographic regions: North America; Europe, Middle East and Africa (EMEA); and Asia-Pacific and Japan (APJ). The following table presents the Company's revenues disaggregated by the geographic region to which the product is delivered or licensee is located (in thousands):

	Year Ended December 31, 2018
North America	$ 9,124
EMEA	11,175
APJ	29,118
Total revenue	$ 49,417

4. Balance Sheet Components

Inventory

Inventory consisted of the following (in thousands):

	December 31, 2018	December 31, 2017
Raw materials	$ 288	$ 682
Work-in-process	6,759	7,970
Finished goods	2,050	1,185
Total inventory	$ 9,097	$ 9,837

Property and Equipment, Net

Property and equipment, net consisted of the following (in thousands):

	December 31, 2018	December 31, 2017
Manufacturing equipment	$ 11,723	$ 10,465
Computer and network equipment	820	710
Furniture and fixtures	110	218
Software	680	455
Leasehold improvements	1,432	1,474
Total property and equipment, gross	14,765	13,322
Less: accumulated depreciation	(10,479)	(9,376)
Total property and equipment, net	$ 4,286	$ 3,946

Depreciation and amortization expense during the years ended December 31, 2018 and 2017 was $1.5 million and $1.2 million, respectively.

Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	December 31, 2018	December 31, 2017
Accrued payroll-related expenses	$ 1,558	$ 1,331
Accrued joint development agreement expenses	661	749
Accrued inventory	1,678	897
Deferred rent	390	230
Accrued sales commissions payable to sales representatives	51	75
Other	663	466
Total accrued liabilities	$ 5,001	$ 3,748

5. Commitments and Contingencies

Operating Leases

During 2017, the Company entered into a lease for 27,974 square feet of office space for its corporate headquarters located in Chandler, Arizona. The lease expires in January 2022, however the Company has the option to renew the lease through August 2024. Rent expense is recognized on a straight-line basis over the term of the leases and, accordingly, the Company records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability.

In April 2018, the Company entered into a lease termination agreement that released the Company from any further obligations on its previous headquarters' space in Chandler, Arizona. The remaining unamortized balance of deferred rent of $18,000 was written off and a lease termination fee of $43,000 was recognized as rent expense on the statement of operations and comprehensive loss.

The Company leases office and lab space for its design facility located in Austin, Texas. The lease expires in January 2022.

The Company has another operating lease for its Arizona manufacturing facility, which includes office and fabrication space. This lease is cancellable upon 24 months' notice by either of the parties. In March 2017, the Company amended the premises covered to remove laboratory space, decrease fabrication space and expand office space. In October 2017, the Company extended the lease through January 31, 2020, which could be further extended through January 31, 2021 if an option to extend is initiated by the lessor. In August 2018, the Company amended its lease agreement for its Arizona manufacturing facility to extend the lease term through January 2021.

The following is a schedule of minimum rental commitments under the Company's operating leases at December 31, 2018 (in thousands):

Year Ending December 31,	Amount
2019	$ 1,645
2020	1,701
2021	846
2022	47
2023	—
Thereafter	—
Total minimum lease payments	$ 4,239

Total rent expense was $1.6 million and $1.4 million for the years ended December 31, 2018 and 2017, respectively.

Legal Proceedings

From time to time, the Company may become involved in legal proceedings arising from the ordinary course of its business. Management is currently not aware of any matters that it expects will have a material adverse effect on the financial position, results of operations or cash flows of the Company.

Indemnifications

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has never incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

6. Debt and Related Warrants

Prior Facilities

In June 2015, the Company executed a Loan and Security Agreement with Ares Venture Finance (2015 Credit Facility) comprising an $8.0 million term loan and a $4.0 million revolving loan. In April 2017, the Company repaid the outstanding balance of $1.1 million on the revolving loan at which time the unamortized balance of the debt discount of $10,000 was recognized as a loss on extinguishment of debt. In May 2017, the Company repaid the outstanding principal balance of $6.2 million on the term loan at which time the unamortized balance of the debt discount was $175,000, and paid a prepayment penalty of $61,000. The unamortized debt discount balance and the prepayment penalty were recognized as a loss on extinguishment of debt in the statements of operations and comprehensive loss.

2017 Credit Facility

On May 4, 2017, the Company entered into a Loan and Security Agreement with Silicon Valley Bank (2017 Credit Facility) for a $12.0 million term loan. The term loan provided for interest at a floating rate equal to the prime rate minus 0.75%. The term loan provided for a period of interest-only payments through April 30, 2018, followed by fixed principal and interest payments based on either a 24-month amortization schedule or a 36-month amortization schedule if the Company met certain sales milestones. As of December 31, 2017, the Company determined it would not meet the sales milestones and as such the term loan was based on a 24-month amortization schedule. An end of term fee of 6% of the amount borrowed must be made when the loan is prepaid or repaid, whether at maturity or as a result of a prepayment or acceleration or otherwise.

On July 6, 2018, the Company entered into the First Amendment to the 2017 Credit Facility (the Amended Credit Facility). The Amended Credit Facility extends the period of interest-only payments through December 31, 2018, followed by fixed principal and interest payments based on either a 24-month or a 36-month amortization schedule if the Company achieves certain milestones. The Company determined it would not meet the milestones, as such the Amended Credit Facility is based on a 24-month amortization schedule. The Amended Credit Facility provides for interest at a floating rate equal to the prime rate minus 0.75%. As of December 31, 2018, the interest rate was 4.75%. The terms of the Amended Credit Facility include the refund of $1.0 million in principal payments previously made by the Company. An end of term fee of 7% of the amount borrowed must be made when the loan is prepaid or repaid, whether at maturity or as a result of a prepayment or acceleration or otherwise. The additional payment is being accreted using the effective interest method. As of December 31, 2018, the effective interest rate under the Amended Credit Facility was 7.77%. Borrowings under the Amended Credit Facility mature in December 2020.

Security for the Amended Credit Facility includes all of the Company's assets except for intellectual property. The Company is required to comply with certain covenants under the Amended Credit Facility, including requirements to maintain a minimum liquidity ratio, meet certain revenue targets, and restrictions on certain actions without the consent of the lender, such as limitations on its ability to engage in mergers or acquisitions, sell assets, enter into transactions involving related parties, incur indebtedness or grant liens or negative pledges on its assets, make loans or make other investments. Under these covenants, the Company is prohibited from paying cash dividends with respect to its capital stock. The Company was in compliance with all covenants at December 31, 2018. The Amended Credit Facility contains a material adverse effect clause which provides that an event of default will occur if, among other triggers, an event occurs that could reasonably be expected to result in a material adverse effect on the Company's business, operations or condition, or on the Company's ability to perform its obligations under the term loan. As of December 31, 2018, management believes that it is remote that the clause will be triggered within the next twelve months, and therefore the term loan is classified as long-term.

The carrying value of the Company's Amended Credit Facility at December 31, 2018, was as follows (in thousands):

	Current Portion	Long-Term Debt	Total
Credit Facility	$ 6,000	$ 6,840	$ 12,840
Unamortized debt discounts	(33)	(341)	(374)
Net carrying value	$ 5,967	$ 6,499	$ 12,466

The carrying value of the Company's 2017 Credit Facility at December 31, 2017, was as follows (in thousands):

	Current Portion	Long-Term Debt	Total
Credit Facility	$ 4,000	$ 8,720	$ 12,720
Unamortized debt discounts	(23)	(563)	(586)
Net carrying value	$ 3,977	$ 8,157	$ 12,134

The table below includes the principal repayments due under the Amended Credit Facility as of December 31, 2018 (in thousands):

	Principal Repayment as of December 31, 2018
2019	$ 6,000
2020	6,840
2021	—
2022	—
2023	—
Total principal repayments	$ 12,840

Capital Lease Obligations

The Company leases certain equipment under capital lease obligations expiring in October 2020. The balance of the capital lease obligations was $20,000 and $31,000 at December 31, 2018 and 2017, respectively.

Property and equipment under capital leases amounted to $31,000 at December 31, 2018 and 2017. Accumulated depreciation and amortization on these assets was $13,000 and $2,000 at December 31, 2018 and 2017, respectively.

Future minimum rental commitments under the Company's capital lease obligations are $10,000 for each of the years ended December 31, 2019 and 2020.

7. Stockholders' Equity

Common Stock

Common stockholders are entitled to dividends if and when declared by the board of directors. As of December 31, 2018, no dividends on common stock had been declared by the board of directors.

In February 2018, the Company completed a follow-on underwritten public offering of its common stock under its Registration Statement filed in November 2017 (File No. 333-221331), selling 3,772,447 shares of its common stock at an offering price of $7.00 per share for proceeds of $24.5 million, net of $1.9 million of underwriting discounts and commissions and other offering costs.

The Company had reserved shares of common stock for future issuance as follows:

	December 31, 2018	December 31, 2017
Options issued and outstanding	1,475,299	1,593,195
Shares available for future option grants	764,145	83,929
RSUs subject to future vesting	93,560	30,680
Common stock warrants	27,836	27,690
Total	2,360,840	1,735,494

Warrants

In connection with a credit facility, Silicon Valley Bank held warrants to purchase 9,229 shares of the Company's common stock at an exercise price of $26.00 per share. These warrants were cancelled when the Company entered into the Amended Credit Facility (see Note 6) and the Company subsequently issued a warrant to SVB for the purchase of 9,375 shares of the Company's common stock at an exercise price of $8.91 per share. The warrant can be exercised at any time and expires five years after the date of issuance. The Company estimated the fair value of the warrant as $43,000 on the date of issuance using the Black-Scholes option pricing model. The warrant was recorded as a discount to the debt and will be amortized into interest expense over the remaining term of the loan using the effective interest method.

In connection with the 2015 Credit Facility, Ares Venture Finance holds a warrant to purchase 18,461 shares of the Company's common stock at an exercise price of $26.00 per share. The warrant can be exercised at any time and expires 10 years after the date of issuance.

8. Stock-Based Compensation

2016 Employee Incentive Plan

The Company's board of directors adopted the 2016 Equity Incentive Plan (the 2016 Plan) on April 25, 2016, which was subsequently approved on September 20, 2016 by the Company's stockholders. The 2016 Plan became effective on October 7, 2016, the date the Company's registration statement was declared effective by the SEC.

The Company's 2016 Plan provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other forms of equity compensation to employees, directors and consultants. In addition, the Company's 2016 Plan provides for the grant of performance cash awards to employees, directors and consultants.

The maximum number of shares of common stock that may be issued under the Company's 2016 Plan is 500,000 subject to an automatic increase on January 1 of each year, beginning on January 1, 2017, and continuing through and including January 1, 2026, by 3% of the total number of shares of capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by the Company's board of directors.

2008 Employee Incentive Plan

The 2008 Equity Incentive Plan (the 2008 Plan) provided for the issuance of incentive stock options (ISO), nonqualified stock options, and other stock compensation awards. Under the terms of the 2008 Plan, the exercise price of an ISO shall be not less than 100% of the fair value of the stock at the date of grant, as determined by the board of directors, or in the case of certain ISOs, at 110% of the fair market value at the date of grant.

The term and vesting periods for options granted under the 2008 Plan were determined by the Company's board of directors. Options granted generally vest over four years. Options must be exercised within a 10-year period or sooner if so specified within the option agreement.

No further grants will be made under the Company's 2008 Plan. However, any outstanding stock awards granted under the 2008 Plan will remain outstanding, subject to the terms of the Company's 2008 Plan and the applicable stock award agreements, until such outstanding stock awards that are stock options are exercised or until they terminate or expire by their terms, or until such stock awards are fully settled, terminated or forfeited. At December 31, 2018, 407,780 options under the 2008 Plan remained outstanding.

Summary of Stock Option Activity

The following table summarizes the stock option and award activity for all grants under the 2008 Plan and 2016 Plan:

	Options and Awards Available for Grant	Options Outstanding: Number of Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (In thousands)
Balance—December 31, 2017	83,929	1,593,195	$ 8.88	6.6	$ 1,997
Immaterial prior period adjustment	(1,026)	11,477	4.84		
Authorized	1,084,516	—	—		
RSUs granted	(80,950)	—	—		
RSUs cancelled/forfeited	3,000	—	—		
Options granted	(434,665)	434,665	8.52		
Options exercised	—	(448,411)	4.99		$ 1,915
Options cancelled/forfeited	109,341	(115,627)	8.68		
Balance—December 31, 2018	764,145	1,475,299	$ 7.60	7.8	$ 284
Options exercisable—December 31, 2018		617,718	$ 6.79	6.4	$ 276

During the years ended December 31, 2018 and 2017, the Company granted options with a weighted-average grant date fair value of $4.45 and $6.48 per share, respectively.

The total fair value of options vested during the year was $1.9 million and $1.5 million, for the years ended December 31, 2018, and 2017, respectively.

2016 Employee Stock Purchase Plan

The Company’s board of directors adopted the 2016 Employee Stock Purchase Plan (the ESPP) on April 25, 2016, which was subsequently approved on September 20, 2016 by the Company’s stockholders. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees and to provide incentives for such individuals to exert maximum efforts toward the Company’s success and that of the Company’s affiliates. The ESPP is intended to qualify as an “employee stock purchase plan” within the meaning of Section 423 of the Code. The board of directors, or a duly authorized committee thereof, will administer the Company’s ESPP.

The maximum aggregate number of shares of common stock that may be issued pursuant to the exercise of purchase rights under the Company’s ESPP that are granted to employees or to employees of any of the Company’s designated affiliates is 96,153 shares, subject to annual increases. The number of shares of common stock reserved for issuance under the Company’s ESPP will increase automatically each year, beginning on January 1, 2017, and continuing through and including January 1, 2026, by 1% of the total number of shares of common stock outstanding on December 31 of the preceding calendar year, or a lesser number as determined by the board of directors. In 2018 and 2017, there was an increase of 128,172 and 124,981 shares, respectively, reserved for issuance under the Company’s ESPP due to this provision. Shares subject to purchase rights granted under the Company’s ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under the Company’s ESPP. There are two offering periods each year and each offering under the ESPP will consist of two purchase periods of approximately six months in duration and will run concurrently. The Company had 269,389 shares available for issuance under the Company’s ESPP as of December 31, 2018. Employees purchased 42,327 shares for $266,000 during the year ended December 31, 2018 and 37,590 shares for $256,000 during the year ended December 31, 2017.

The following table summarizes the assumptions used in the Black-Scholes option-pricing model to determine fair value of the Company's common shares issued under the ESPP:

	Year Ended December 31,	
	2018	2017
Expected volatility	59.5 – 87.8 %	49.3 – 72.7 %
Risk-free interest rate	0.94 – 2.11 %	0.49 – 1.02 %
Expected term (in years)	0.5 – 1.0	0.5 – 1.0
Dividend yield	— %	— %

Modification of Stock-Based Awards

In February 2018, the Company modified the terms of 400,000 vested and unvested stock option awards granted to the Chief Executive Officer, by reducing their exercise price from $16.25 per share to $7.64 per share. There was no change to any of the other terms of the option awards. The modification resulted in an incremental value of $600,000 being allocated to the options, of which $63,000 was recognized to expense immediately based on options that were vested at the time of the modification. The remaining incremental value of $537,000 attributable to unvested options will be recognized over the remaining vesting term through September 2021.

In August 2017, the Company entered into a Separation Agreement with its former Chief Executive Officer which resulted in the acceleration in the vesting of certain unvested stock options as well as the extension of the exercise period for all vested options. As a result of the modification, the Company recorded stock-based compensation expense of $310,000 during the year ended December 31, 2017 to reflect the revised service period for the stock options and related vesting of shares that would otherwise not have vested.

Restricted Stock Units

In September 2017, the Company's board of directors authorized the issuance of Restricted Stock Units (RSUs), under the 2016 Plan and adopted a form of Restricted Stock Unit Award Agreement, which is intended to serve as a standard form agreement for RSU grants issued to employees, executive officers, directors and consultants. The fair value of the RSUs is recognized as expense ratably over the vesting period, as determined by the board of directors on the date of grant.

The following table summarizes RSU activity for the year ended December 31, 2018:

	RSUs Outstanding	
	Number of Restricted Stock Units	Weighted-Average Grant Date Fair Value Per Share
Balance—December 31, 2017	30,680	$ 10.55
Granted	80,950	8.48
Vested	(15,070)	13.41
Cancelled/forfeited	(3,000)	8.10
Balance—December 31, 2018	93,560	$ 8.38

The fair value of RSUs is determined on the date of grant based on the market price of the Company's common stock on that date. As of December 31, 2018, there was $594,000 of unrecognized stock-based compensation expense related to RSUs to be recognized over a weighted-average period of 2.7 years.

Stock-based Compensation Expense

The Company recognized stock-based compensation expense from awards granted to employees and non-employees under its equity incentive plans and from its ESPP as follows, excluding amounts related to GLOBALFOUNDRIES, Inc. (GF) (in thousands):

	Year Ended December 31,	
	2018	**2017**
Research and development	$ 492	$ 488
General and administrative	1,811	1,297
Sales and marketing	365	263
Total	$ 2,668	$ 2,048

As of December 31, 2018, there was $4.8 million of total unrecognized compensation expense related to unvested options which the Company expects recognize over a weighted-average period of 2.7 years. Compensation cost capitalized within inventory at December 31, 2018 and 2017 was not material.

Employee Stock-based Compensation

Stock-based compensation expense for employees was $2.6 million and $2.0 million, for the years ended December 31, 2018 and 2017, respectively.

The Company estimated the fair value of each option grant using the Black-Scholes option-pricing model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The fair value of employee stock options was estimated using the assumptions below.

	Year Ended December 31,	
	2018	**2017**
Expected volatility	51.9 – 56.6 %	46.7 – 52.0 %
Risk-free interest rate	2.64 - 2.94 %	1.85 - 2.14 %
Expected term (in years)	5.7 – 6.1	5.3 – 6.1
Dividend yield	— %	— %

Expected volatility. Since the Company does not have a sufficient trading history for its common stock, the expected volatility was derived from the average historical volatilities of publicly traded companies within a similar industry that are considered to be comparable to the Company’s business over a period approximately equal to the expected term for employees’ options.

Risk-free interest rate. The risk-free interest rate is based on the U.S. Treasury yield with a maturity equal to the expected term of the option in effect at the time of grant.

Expected term. The expected term represents the period that the stock-based awards are expected to be outstanding. The Company used the simplified method to determine the expected term, which is calculated as the average of the time to vesting and the contractual life of the options.

Dividend yield. The Company has never paid dividends on its common stock and is prohibited from paying dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Non-employee Stock-based Compensation

Stock-based compensation expense related to stock options granted to non-employees is recognized as the stock options vest. During the year ended December 31, 2018, the Company granted options to purchase 8,400 shares of common stock to non-employees with a weighted-average exercise price of $8.91 per share. During the year ended December 31, 2017, the Company granted options to purchase 16,800 shares of common stock to non-employees with a weighted-average exercise price of $13.74 per share.

Options to purchase 43,865 shares and 37,872 shares of common stock were outstanding with a weighted-average exercise price of $9.25 and $9.16 per share as of December 31, 2018 and 2017, respectively. Stock-based compensation expense for non-employees was $31,000 and $69,000 for the years ended December 31, 2018 and 2017, respectively.

The Company believes that the fair value of the stock options is more reliably measurable than the fair value of services received. The fair value of the stock options granted is calculated at each reporting date using the Black-Scholes option pricing model with the following assumptions:

	Year Ended December 31,	
	2018	2017
Expected volatility	52.9 – 54.8 %	46.7 – 60.5 %
Risk-free interest rate	2.68 - 2.97 %	2.09 – 2.44 %
Expected term (in years)	8.0 – 8.8	7.2 – 9.6
Dividend yield	— %	— %

9. 401(k) Plan

The Company has a defined contribution employee benefit plan pursuant to Section 401(k) of the Internal Revenue Code. The plan allows eligible employees to defer a portion of their annual compensation up to certain statutory limits. At the election of the Board of Directors, the Company may elect to match employee contributions but has not done so to date.

10. Significant Agreements

GLOBALFOUNDRIES, Inc. Joint Development Agreement

On October 17, 2014, the Company entered into a Joint Development Agreement (JDA) with GF for the joint development of the Company's Spin Transfer Torque MRAM (STT-MRAM) technology. The term of the agreement is the later of four years from the effective date or until the completion, termination or expiration of the last statement of work entered into pursuant to the JDA. The JDA also states that the specific terms and conditions for the production and supply of the developed STT-MRAM technology would be pursuant to a separate manufacturing agreement entered into between the parties. In October 2018, the Company entered into the Third Amendment to the JDA with GF, which extended the term of the JDA until December 2019.

Under the JDA, each party licenses its relevant intellectual property to the other party. For certain jointly developed works, the parties have agreed to follow an invention allocation procedure to determine ownership. In addition, GF possesses the exclusive right to manufacture the Company's discrete and embedded STT-MRAM devices developed pursuant to the agreement until the earlier of three years after the qualification of the MRAM device for a particular technology node or four years after the completion of the relevant statement of work under which the device was developed. For the same exclusivity period associated with the relevant device, GF agreed not to license intellectual property developed in connection with the JDA to named competitors of the Company.

Generally, unless otherwise specified in the agreement or a statement of work, the Company and GF share project costs, which do not include personnel or production qualification costs, under the JDA. If GF manufactures, sells or transfers to customers wafers containing production quantified STT-MRAM devices that utilize certain design information, GF will be required to pay the Company a royalty.

The Company incurred project costs, recognized as research and development expense, of $5.8 million and $5.2 million during the years ended December 31, 2018 and 2017, respectively. The Company entered into a Statement of Work (SOW) and an Amendment to the SOW, under the JDA with GF effective August 2016 and June 2018 respectively. The Company is entitled to revenues under the SOW and its Amendment upon delivery and acceptance of product. The Company recognized revenue from GF of $1.0 million and $1.6 million for the year ended December 31, 2018 and 2017 respectively.

On October 21, 2014, GF participated, along with other investors, in the Company's Series B redeemable convertible preferred stock financing and purchased 192,307 shares at $26.00 per share. Contemporaneously, the Company sold 461,538 shares of its common stock to GF at a discounted price of $0.00026 per share. The common shares vest upon the achievement of a goal as set forth in the Statement of Work #1 (the SOW) under the JDA. The Company has determined that the issuance of these shares of common stock to GF represents compensation for services to be provided under the JDA. Accordingly, the shares are accounted for similar to a stock award granted to a non-employee of the Company and are remeasured to their fair value as they vest. A total of 211,538 shares of common stock became vested on August 21, 2016, the designated Initial Measurement Date. The remaining shares vest on a monthly basis thereafter through October 21, 2018. As of December 31, 2018, all shares issued to GF were fully vested.

During the years ended December 31, 2018 and 2017, the Company recognized non-cash compensation expense of $0.8 million and $1.5 million, respectively, in research and development expense, related to the vesting of the shares of common stock.

Silterra Malaysia Sdn. Bhd. Joint Collaboration Agreement

In September 2018, the Company entered into a Joint Collaboration Agreement (JCA) with Silterra Malaysia Sdn. Bhd. (Silterra), and another third party. The JCA will create additional manufacturing capacity for the Company's Toggle MRAM products. Initial production is expected to start in 2020. Under the JCA the Company will pay non-recurring engineering costs of $1.0 million. During the year ended December 31, 2018, the Company paid $0.8 million of JCA costs.

License Agreement

In March 2018, the Company entered into a global cross-license agreement with a customer pursuant to which the Company granted a worldwide, non-exclusive, non-transferable, irrevocable, royalty-bearing license under the Company's patents to use, sell, import and export the Company's products. Under the cross-license agreement, the Company received a non-refundable license fee and is entitled to quarterly royalty payments based upon low single digits of the average selling price of products covered under the license agreement. The license was transferred to the customer and the Company recognized revenue related to the non-refundable license fee during the year ended December 31, 2018. The cross-license agreement will remain in effect until the licensed patents have expired, been abandoned, or ruled invalid.

11. Geographic Information

Property and equipment, net by country was as follows (in thousands):

	December 31,	
	2018	2017
United States	$ 2,714	$ 2,594
Singapore	912	696
Taiwan	258	656
Other	402	—
	$ 4,286	$ 3,946

Revenue from customers is designated based on the geographic region or country to which the product is delivered or licensee is located. Revenue by country was as follows (in thousands):

	Year Ended December 31,	
	2018	2017
Japan	$ 10,254	$ 4,128
Germany	6,724	2,964
United States	6,746	4,759
China	5,083	2,588
Singapore	3,818	8,067
All other	16,792	13,430
Total revenue	$ 49,417	$ 35,936

12. Income Taxes

For the years ended December 31, 2018 and 2017, the Company recorded no provision or benefit for income taxes primarily due to losses incurred. The Company has incurred net operating losses for all the periods presented.

The reconciliation of the statutory federal income tax rate to the Company's effective tax rate is as follows:

	Year Ended December 31,	
	2018	2017
Tax at statutory federal rate	(21.0)%	(34.0)%
State taxes, net of federal benefit	(1.7)	(1.4)
Stock-based compensation	1.5	(0.8)
Nondeductible executive compensation	0.9	—
Change in valuation allowance	20.6	(34.2)
Federal tax rate change	—	70.2
Other	(0.3)	0.2
Provision for income taxes	(0.0)%	(0.0)%

The tax effects of temporary differences and carryforwards that give rise to significant portions of the deferred tax assets are as follows (in thousands):

	December 31,	
	2018	2017
Deferred tax assets:		
Net operating loss carryforwards	$ 25,359	$ 22,586
Inventory	1,442	1,520
Accruals	760	401
Depreciation and amortization	88	60
Limitation on business interest	96	—
Stock-based compensation	1,416	1,228
Gross deferred tax assets	29,161	25,795
Valuation allowance	(29,073)	(25,721)
Deferred tax assets	88	74
Deferred tax liabilities:		
Prepaid expenses	(88)	(74)
Deferred tax liabilities	(88)	(74)
Net deferred tax assets	$ —	$ —

The Company is required to reduce its deferred tax assets by a valuation allowance if it is more likely than not that some or all of its deferred tax assets will not be realized. Management must use judgment in assessing the potential need for a valuation allowance, which requires an evaluation of both negative and positive evidence. The weight given to the potential effect of negative and positive evidence should be commensurate with the extent to which it can be objectively verified. In determining the need for and amount of the valuation allowance, if any, the Company assesses the likelihood that it will be able to recover its deferred tax assets using historical levels of income, estimates of future income and tax planning strategies. As a result of historical cumulative losses, the Company determined that, based on all available evidence, there was substantial uncertainty as to whether it will recover recorded net deferred taxes in future periods. Accordingly, the Company recorded a valuation allowance against all of its net deferred tax assets as of December 31, 2018 and 2017. In 2018, there was no utilization of the valuation allowance and the net valuation allowance increased by $3.4 million. In 2017, the valuation allowance decreased by $7.1 million, from the December 31, 2016 balance of $32.8 million, due to the Tax Cuts and Jobs Act, which was enacted in December 2017 and reduced the corporate tax rate from 34% to 21%. The rate reduction took effect on January 1, 2018. The carrying value of the Company's deferred tax assets is also determined by the enacted US corporate income tax rate.

As of December 31, 2018, the Company had federal net operating loss carryforwards of approximately $112.3 million, of which $99.7 million will begin to expire in the year of 2028 if not utilized, and $12.6 million will carryover indefinitely. In addition, the Company had state net operating loss carryforwards of approximately $44.3 million, of which $43.5 million will begin to expire in 2023 if not utilized, and $0.8 million will carryover indefinitely.

The Tax Reform Act of 1986 (the Act) provides for a limitation on the annual use of net operating loss and research and development tax credit carryforwards following certain ownership changes (as defined by the Act) that could limit the Company's ability to utilize these carryforwards.

The Company files income tax returns in the U.S. federal and various state jurisdictions. The Company is subject to U.S. federal and state income tax examinations by authorities for all tax years beginning in 2008, due to the accumulated net operating losses that are being carried forward for tax purposes.

The Company has not identified any unrecognized tax benefits as of December 31, 2018 and 2017. As the Company has a full valuation allowance on its deferred tax assets, any unrecognized tax benefits would reduce the deferred tax assets and the valuation allowance in the same amount. The Company does not expect the amount of unrecognized tax benefits to materially change in the next twelve months.

13. Net Loss Per Common Share

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

	Year Ended December 31,	
	2018	**2017**
Numerator:		
Net loss	$ (17,754)	$ (21,100)
Denominator:		
Weighted-average common shares outstanding	16,413,733	12,640,094
Less: weighted-average unvested common shares subjected to repurchase	(41,095)	(155,110)
Weighted-average common shares outstanding used to calculate net loss per common share, basic and diluted	16,372,638	12,484,984
Net loss per common share, basic and diluted	$ (1.08)	$ (1.69)

The following outstanding shares of potentially dilutive securities have been excluded from diluted net loss per common share for the periods presented, because their inclusion would be anti-dilutive:

	Year Ended December 31,	
	2018	**2017**
Options to purchase common stock	1,475,299	1,593,195
Restricted stock units	93,560	30,680
Common stock subject to repurchase	—	96,153
Common stock warrants	27,836	27,690
Total	1,596,695	1,747,718

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.

Our management, with the participation of our management team, including our Chief Executive Officer (CEO) and Chief Financial Officer (CFO) 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) under the Securities Exchange Act of 1934, as amended) as of December 31, 2018.

Based on this evaluation, our CEO and CFO concluded that, our disclosure controls and procedures were not effective at the reasonable assurance level as of December 31, 2018, based on the material weakness described below.

Management's Annual Report on Internal Control Over Financial Reporting

This Annual Report on Form 10-K includes a report of management's assessment regarding internal control over financial reporting. This Annual Report on Form 10-K does not include an attestation report of our independent registered public accounting firm because, as an "emerging growth company" under the JOBS Act, our independent registered public accounting firm is not required to issue such an attestation report.

The following report is provided by management in respect of our internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act):

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our management used the Committee of Sponsoring Organizations of the Treadway Commission Internal Control - Integrated Framework (2013), or the COSO framework, to evaluate the effectiveness of internal control over financial reporting. Management believes that the COSO framework is a suitable framework for its evaluation of financial reporting because it is free from bias, permits reasonably consistent qualitative and quantitative measurements of our internal control over financial reporting, is sufficiently complete so that those relevant factors that would alter a conclusion about the effectiveness of our internal control over financial reporting are not omitted and is relevant to an evaluation of internal control over financial reporting. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2018 and has concluded that such internal control over financial reporting was not effective, based on the material weakness described below.

Material weakness in internal control over financial reporting.

In connection with the preparation of our unaudited condensed financial statements for the quarter ended September 30, 2018, we identified an error in the previously filed financial statements that caused us to restate and amend our previously issued condensed financial statements and related financial information as of and for the three and six months ended June 30, 2018. This error was the result of a material weakness in our internal control over financial reporting, which continued to exist at December 31, 2018. Specifically, (i) our information technology systems did not provide management the ability to accurately monitor inventory movements and quantities at third-party locations, (ii) internal processes to provide for clear communication between operational and financial personnel within the company were insufficient, and (iii) we had insufficient personnel with the appropriate level of experience to prevent and detect errors on a timely basis in our financial statements.

To remediate this material weakness, we are taking the following actions:

- We are currently updating our information technology tools, including our ERP system to enhance our ability to monitor inventory and its movement through our manufacturing process and provide checks and balances to third-party reports.
- We have, and continue to put in place, management dashboard tools to alert all involved as to the performance of inventory against our business goals.

- We are establishing multi-discipline processes to actively manage and make decisions regarding our inventory to support our business objectives.
- We are providing additional training to our Operations Teams and updating procedures with our third-party Assembly Houses.
- We have hired additional qualified personnel to assist management with its financial statement close process and provide oversight of our financial reporting.

Changes in internal control over financial reporting.

Except for the actions to remediate the material weakness described above, there were no changes in our internal control over financial reporting (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) that occurred during the year ended December 31, 2018 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent limitation on the effectiveness of internal control.

The effectiveness of any system of internal control over financial reporting, including ours, is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting, including ours, no matter how well designed and operated, can only provide reasonable, not absolute assurances. In addition, 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. We intend to continue to monitor and upgrade our internal controls as necessary or appropriate for our business, but cannot assure you that such improvements will be sufficient to provide us with effective internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information required by this item will be contained in our definitive proxy statement to be filed with the Securities and Exchange Commission on Schedule 14A in connection with our 2019 Annual Meeting of Stockholders, or the Proxy Statement, which will be filed not later than 120 days after the end of our fiscal year ended December 31, 2018, under the headings "Management," "Proposal 1 - Election of Directors," "Board Committees and Meetings," and "Section 16(a) Beneficial Ownership Reporting Compliance," and is incorporated herein by reference.

We have adopted a Code of Business Conduct and Ethics that applies to our officers, directors and employees which is available on our website at www.everspin.com. The Code of Business Conduct and Ethics is intended to qualify as a "code of ethics" within the meaning of Section 406 of the Sarbanes-Oxley Act of 2002 and Item 406 of Regulation S-K. In addition, we intend to promptly disclose (1) the nature of any substantive amendment to our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions and (2) the nature of any waiver, including an implicit waiver, from a provision of our code of ethics that is granted to one of these specified officers, the name of such person who is granted the waiver and the date of the waiver, on our website in the future.

Item 11. Executive Compensation.

The information required by this item regarding executive compensation is incorporated by reference to the information set forth in the sections titled "Executive Compensation" and "Compensation of Non-Employee Board Members" in our Proxy Statement.

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

The information required by this item regarding security ownership of certain beneficial owners and management is incorporated by reference to the information set forth in the sections titled "Security Ownership of Certain Beneficial Owners and Management" and "Securities Authorized for Issuance Under Equity Compensation Plans" in our Proxy Statement.

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

The information required by this item regarding certain relationships and related transactions and director independence is incorporated by reference to the information set forth in the sections titled "Certain Relationships and Related Party Transactions" and "Proposal 1 - Election of Directors", respectively, in our Proxy Statement.

Item 14. Principal Accounting Fees and Services.

The information required by this item regarding principal accountant fees and services is incorporated by reference to the information set forth in the section titled "Principal Accountant Fees and Services" in our Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of this report:

1. Financial Statements

Information in response to this Item is included in Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules

All schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

3. Exhibits

EXHIBIT INDEX

Exhibit Number	Description	Incorporation By Reference Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation.	8-K	001-37900	3.1	10/13/2016
3.2	Amended and Restated Bylaws.	S-1	333-213569	3.6	9/09/2016
4.1	Form of Common Stock Certificate of the registrant.	S-1	333-213569	4.1	9/09/2016
4.2	Warrant to Purchase Common Stock, dated as of July 6, 2018, between the registrant and Silicon Valley Bank.	10-Q	001-37900	4.2	08/09/2018
4.3	Reference is made to Exhibits 3.1 and 3.2.				
10.1†	Form of Indemnity Agreement between the registrant and its directors and officers.	S-1	333-213569	10.1	9/09/2016
10.2†	2008 Equity Incentive Plan, as amended, and Form of Stock Option Grant Notice, Option Agreement and Form of Notice of Exercise.	S-1/A	333-213569	10.2	9/26/2016
10.3†	Amended and Restated 2016 Equity Incentive Plan.	8-K	001-37900	10.1	5/22/2018
10.4†	Form of Stock Option Grant Notice, Option Agreement and Form of Notice of Exercise used with the 2016 Equity Incentive Plan.	S-1/A	333-213569	10.3	9/26/2016
10.5†	Form of Restricted Stock Unit Award Agreement under the 2016 Equity Incentive Plan.	10-Q	001-37900	10.3	11/13/2017
10.6†	2016 Employee Stock Purchase Plan.	S-1/A	333-213569	10.4	9/26/2016
10.7	Lease, dated as of June 6, 2008, by and between the registrant and Freescale Semiconductor, Inc.	S-1	333-213569	10.5	9/09/2016
10.8	Amendment No. 1 to Lease, dated as of February 2, 2009, by and between the registrant and Freescale Semiconductor, Inc.	S-1	333-213569	10.6	9/09/2016
10.9	Amendment No. 2 to Lease, dated as of February 18, 2010, by and between the registrant and Freescale Semiconductor, Inc.	S-1	333-213569	10.7	9/09/2016
10.10	Amendment No. 3 to Lease, dated as of July 20, 2011, by and between the registrant and Freescale Semiconductor, Inc.	S-1	333-213569	10.8	9/09/2016
10.11	Amendment No. 4 to Lease, dated as of June, 2014 by and between the registrant and Freescale Semiconductor, Inc.	S-1	333-213569	10.9	9/09/2016
10.12	Amendment No. 5 to Lease, dated as of March 22, 2017 by and between the registrant and Freescale Semiconductor, Inc.	8-K	001-37900	10.1	3/28/2017
10.13	Amendment No. 6 to Lease, dated as of October 31, 2017 by and between the registrant and NXP USA, Inc. (formerly Freescale Semiconductor, Inc.)	10-K	001-37900	10.40	3/15/2018

10.14	Amendment No. 7 to Lease, effective as of June 30, 2018 by and between the registrant and NXP USA, Inc. (formerly Freescale Semiconductor, Inc.)	10-Q	001-37900	10.1	11/14/2018
10.15	Loan and Security Agreement, dated as of May 4, 2017 by and between the registrant and Silicon Valley Bank.	8-K	001-37900	10.1	5/9/2017
10.16	First Amendment to Loan and Security Agreement, dated as of July 6, 2018 by and between the registrant and Silicon Valley Bank.	10-Q	001-37900	10.2	8/9/2018
10.17	Office Lease Agreement, dated as of January 7, 2011 by and between the registrant and Jutland 4141 Investments, Ltd dba Chandler Office Center.	S-1	333-213569	10.16	9/09/2016
10.18	Lease Termination Agreement, dated as of April 12, 2018, by and between the registrant and Jutland 4141 Investments, Ltd.	10-Q	001-37900	10.4	8/9/2018
10.19	Commercial Industrial Lease Agreement, dated as of May 18, 2012 by and between the registrant and Principal Life Insurance Company.	S-1	333-213569	10.17	9/09/2016
10.20	Amendment No. 1 to Commercial Industrial Lease Agreement, dated August 12, 2016 by and between the registrant and Legacy Stonelake JV-T, LLC, successor in interest to Principal Life Insurance Company.	S-1	333-213569	10.22	9/09/2016
10.21	Sublease Agreement, dated January 31, 2017 by and between the registrant and NXP USA, Inc. and Consent to of Landlord to Sublease, dated March 10, 2017, by and among the registrant, NXP USA, Inc. and VWP-BV CM 5670, LLC.	8-K	001-37900	10.1	3/28/2017
10.22	First Amendment to Sublease Agreement, dated February 13, 2017, by and between the registrant and NXP USA, Inc. and Consent to of Landlord to Amendment to Sublease, dated March 10, 2017, by and among the registrant, NXP USA, Inc. and VWP-BV CM 5670, LLC.	8-K	001-37900	10.2	3/28/2017
10.23	Second Amendment to Sublease Agreement dated March 2, 2017 by and between the Company and NXP USA, Inc. and Consent of Landlord to Sublease, dated March 10, 2017, by and among the registrant, NXP USA, Inc. and VWP-BV CM 5670, LLC.	8-K	001-37900	10.3	3/28/2017
10.24	Third Amendment to Sublease Agreement, dated October 17, 2017 by and between the registrant and NXP USA, Inc. and Consent of Landlord to Sublease, dated March 10, 2017, by and among the registrant, NXP USA, Inc. and VWP-BV CM 5670, LLC.	10-K	001-37900	10.39	3/15/2018
10.25+	STT-MRAM Joint Development Agreement, dated as of October 17, 2014 by and between the registrant and GLOBALFOUNDRIES Inc.	S-1	333-213569	10.18	9/09/2016
10.26+	Amendment No. 1 to the STT-MRAM Joint Development Agreement, dated as of May 27, 2016 by and between the registrant and GLOBALFOUNDRIES Inc.	S-1	333-213569	10.19	9/09/2016

10.27*++	Amendment No. 3 to the STT-MRAM Joint Development Agreement, effective as of January 1, 2018 by and between the registrant and GLOBALFOUNDRIES Inc.				
10.28+	Manufacturing Agreement, dated as of October 23, 2014 by and between the registrant and GLOBALFOUNDRIES Singapore Pte. Ltd.	S-1	333-213569	10.20	9/09/2016
10.29	Restricted Stock Purchase Agreement, dated as of October 21, 2014 by and between the registrant and GLOBALFOUNDRIES Inc.	S-1	333-213569	10.21	9/09/2016
10.30	Common Stock Purchase Agreement, dated as of September 23, 2016 by and between the registrant and GigaDevice (HK) Limited.	S-1/A	333-213569	10.23	9/26/2016
10.31†	Non-employee Director Compensation.	10-Q	001-37900	10.4	11/18/2016
10.32†	Executive Compensation Information.	8-K	001-37900	Item 5.02	1/23/2017
10.33†	Executive Employment Agreement, dated as of April 25, 2016 by and between the registrant and Phillip LoPresti.	S-1	333-213569	10.14	9/09/2016
10.34†	Separation and Consulting Agreement, dated as of August 23, 2017 by and between the registrant and Phillip LoPresti.	10-Q	001-37900	10.2	11/13/2017
10.35†	Executive Employment Agreement, dated as of April 25, 2016 by and between the registrant and Dr. Jon Slaughter.	10-K	001-37900	10.25	3/29/2017
10.36†	Executive Employment Agreement, dated as of April 26, 2017 by and between the registrant and Annie Flaig.	10-Q	001-37900	10.2	8/11/2017
10.37†*	Separation Agreement, dated November 8, 2018 by and between the registrant and Annie Flaig.				
10.38†	Executive Employment Agreement, dated as of August 18, 2017 between the registrant and Kevin Conley.	8-K	001-37900	10.1	8/23/2017
10.39†	Executive Employment Agreement, dated as of January 9, 2017 by and between the registrant and Patrick Patla.	10-K	001-37900	10.38	3/15/2018
10.40	Separation Agreement, dated as of June 6, 2018 by and between the registrant and Patrick Patla.	10-Q	001-37900	10.3	8/9/2018
23.1*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.				
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended.				
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended.				

32.1**	Certification of Principal Executive Officer and 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
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith.

** Furnished herewith. Exhibit 32.1 is being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section, nor shall such exhibit be deemed to be incorporated by reference in any registration statement or other document filed under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise specifically stated in such filing.

\+ Confidential treatment has been granted for certain portions of this exhibit.

++ Confidential treatment has been requested for certain portions of this exhibit.

† Indicates a management contract or compensatory plan.

(b) We have filed, or incorporated into this Annual Report on Form 10-K by reference, the exhibits listed on the Exhibit Index immediately above.

(c) See Item 15(a)2 above.

Item 16. Form 10-K Summary

Not provided.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, in Chandler, Arizona, on March 15, 2019.

Everspin Technologies, Inc.

By: /s/ Kevin Conley
Kevin Conley
President and Chief Executive Officer
(Duly Authorized Officer and Principal Executive Officer)

By: /s/ Jeffrey Winzeler
Jeffrey Winzeler
Chief Financial Officer
(Principal Financial and Accounting Officer)

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kevin Conley and Jeffrey Winzeler, and each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him and in his name, place or stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ Kevin Conley Kevin Conley	President and Chief Executive Officer (Principal Executive Officer)	March 15, 2019
/s/ Jeffrey Winzeler Jeffrey Winzeler	Chief Financial Officer (Principal Financial and Accounting Officer)	March 15, 2019
/s/ Lawrence G. Finch Lawrence G. Finch	Director	March 15, 2019
/s/ Ronald C. Foster Ronald C. Foster	Director	March 15, 2019
/s/ Stephen J. Socolof Stephen J. Socolof	Director	March 15, 2019
/s/ Peter Hébert Peter Hébert	Director	March 15, 2019
/s/ Geoffrey R. Tate Geoffrey R. Tate	Director, Lead Director	March 15, 2019
/s/ Mike Gustafson Mike Gustafson	Director	March 15, 2019
/s/ Darin Billerbeck Darin Billerbeck	Director	March 15, 2019
/s/ Geoff Ribar Geoff Ribar	Director	March 15, 2019

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

AMENDMENT #3 TO

STT-MRAM JOINT DEVELOPMENT AGREEMENT

This Amendment #3 (the "**Amendment No. 3**") is entered into by and between Everspin Technologies, Inc. ("**Everspin**"), and GLOBALFOUNDRIES Inc. ("**GLOBALFOUNDRIES**"), and amends and supplements that certain STT-MRAM Joint Development Agreement between the parties dated October 17, 2014, as amended (the "**Agreement**"). This Amendment No. 3 is effective as of January 1, 2018 (the "**Amendment Effective Date**").

WHEREAS Everspin and GLOBALFOUNDRIES have agreed to modify the cost sharing associated with 28nm and 22nm Project Costs; and

WHEREAS Everspin and GLOBALFOUNDRIES wish to reduce the royalty percentages due for MRAM products manufactured by GLOBALFOUNDRIES;

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby amend the Agreement as follows:

1 . All capitalized terms used in this Amendment but not otherwise defined herein shall have the meanings given such terms in the Agreement and, unless otherwise specified, references to Sections refer to Sections of the Agreement.

2. Section 1.1 is deleted in its entirety and replaced with the following:

"The term of this Agreement shall have a period lasting five (5) years from the Effective Date; provided, however, that if the term of a duly executed Statement of Work extends beyond the term of this Agreement, this Agreement shall end three (3) months after such Statement of Work is completed, expires or is terminated. During this three (3) month time frame, the Parties will discuss in good faith either a new development agreement for advanced STT-MRAM development or additional SOW's to be executed under this Agreement."

3. The following shall be appended to the end of Section 2.4:

"Notwithstanding the escalation path described above, [*] and [*] shall [*]; provided it is consistent with [*], such as [*], and/or [*]."

4. The following shall be appended to the end of Section 3.2:

"Beginning in 2019, unless otherwise agreed upon by the Parties, Everspin will bear and pay exclusively for all Project Costs incurred for the [*] and GLOBALFOUNDRIES will bear and pay for all the Project Costs for the [*]."

5. Section 3.7 is deleted in its entirety and replaced with the following:

"For Project Costs incurred in 2018 ("2018 Project Costs"), Everspin shall pay GLOBALFOUNDRIES a maximum of [*] pursuant to the business processes and terms outlined in Section 3.4 of the Agreement."

6. Section 7.1.3 is deleted in its entirety and replaced with the following:

"7.1.3 grant sublicenses thereunder (to the extent contained in the Design Information) solely to its customers, contractors, university collaborators and IP providers/EDA vendors, and to such customers' contractors and IP providers/EDA vendors (collectively, "Everspin Sublicensees"), the sublicenses so granted to be of scope that includes only the GLOBALFOUNDRIES IP that is necessary to design, develop and test, or assist Everspin or Everspin customers with designing, developing and testing, STT-MRAM Devices to be manufactured solely by GLOBALFOUNDRIES, and that restricts such Everspin Sublicensees from using such GLOBALFOUNDRIES IP for any purposes other than designing, developing and testing, or assisting Everspin or Everspin customers with designing, developing and testing, such STT-MRAM Devices. If such Everspin Sublicensees are universities, Everspin will notify GLOBALFOUNDRIES and any publication related to STT-MRAM design, development or testing allowed under this Section 7.1.3 shall include an acknowledgement to Everspin and/or GLOBALFOUNDRIES as relevant, and;"

7. Section 7.2.3 is deleted in its entirety and replaced with the following:

"7.2.3 grant sublicenses thereunder (to the extent contained in the Design Information) to its Customers, contractors, university collaborators and IP providers/EDA vendors, and to such customers' contractors and IP providers/EDA vendors, (collectively, "GLOBALFOUNDRIES Sublicensees"), the sublicenses so granted to be of scope that includes only the Everspin IP that is necessary to design, develop and test, or assist GLOBALFOUNDRIES or GLOBALFOUNDRIES Customers with designing, developing and testing, STT-MRAM Devices to be manufactured solely by GLOBALFOUNDRIES, and that restricts such GLOBALFOUNDRIES Sublicensees from using such Everspin IP for any purposes other than designing, developing and testing, or assisting GLOBALFOUNDRIES or GLOBALFOUNDRIES Customers with designing, developing and testing, such STT-MRAM Devices; provided that during the Exclusivity Period for any STT-MRAM Device no sublicense granted pursuant to this Section 7.2.3 shall include the ability for the third party to design and develop STT-MRAM Devices which [*]. If such GLOBALFOUNDRIES Sublicensees are universities, GLOBALFOUNDRIES will notify Everspin and any publication related to STT-MRAM design, development or testing allowed under this Section

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

7.2.3 shall include an acknowledgement to Everspin and/or GLOBALFOUNDRIES as relevant, and"

8. The following shall be added as Section 7.4.3:

"7.4.3. In the event that, prior to the expiration of the relevant Exclusivity Period, GLOBALFOUNDRIES unilaterally and without prior warning, issues an end of life notice as permitted under the MA for an Everspin Discrete STT-MRAM Device, the Parties mutually agree (acting in good faith) to negotiate either (i) a have-made license, which may include either license fees and/or royalties, to Everspin under the GLOBALFOUNDRIES IP to enable the manufacture of Discrete STT-MRAM Devices for Everspin, such license to include transition support if needed to enable another foundry, or (ii) another commercially reasonable plan to continue manufacture of such Discrete STT-MRAM Device by GLOBALFOUNDRIES for a minimum of [*] or until such date as another foundry has been identified and qualified for volume production. Failure to come to mutual agreement on (i) or (ii) above shall not constitute a breach of the Agreement. Neither Party will rely on the successful conclusion of such negotiations and any business decision either Party makes in anticipation of reaching agreement is at the sole risk of the Party making the decision, even if the other Party is aware of, or has indicated approval of, such decision. Each Party will be responsible for its own expenses and costs related to these discussions and neither Party is authorized to make any commitments or statements on behalf of the other."

9. The following shall be added as Section 12.5:

"12.5. Should Everspin terminate this Agreement for cause pursuant to Section 12.1.1 solely as a result of GLOBALFOUNDRIES' breach of Section 7.4.3, then Sections 2.4, 3.4, 3.7, 4, 6 through 9 (other than 7.2, 7.3, 7.4, 7.6, 8.2 and 8.3), and 12 through 17 (other than 13.2), 20, 21.4, and 21.8 will survive expiration of this Agreement."

10. Section 17.1 is deleted in its entirety and replaced with the following :

"In the event GLOBALFOUNDRIES manufactures and sells or transfer wafers containing production qualified Embedded STT-MRAM Devices that utilize Design Information to Customers ("Royalty Wafer"), then pursuant to Section 17.4 GLOBALFOUNDRIES shall pay Everspin a royalty percentage of the net selling price, excluding all amounts for bump, packaging and test, for each Royalty Wafer as shown below ("Royalty Amount").

17.1.1 For the first one thousand (1,000) Royalty Wafers sold or transferred to Customers, a royalty of [*]%.

17.1.2 For all Royalty Wafers sold or transferred to Customers during the [*] years following the period set forth in Section 17.1.1, a royalty of [*]%.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

17.1.3 For all Royalty Wafers sold or transferred to Customers during the [*] years following the period set forth in Section 17.1.2, a royalty of [*]%.

GLOBALFOUNDRIES' obligation to pay any royalties to Everspin pursuant to this Agreement will terminate when the time period set forth in Section 17.1.3 has passed."

11. Miscellaneous

All references to the Agreement in any other document shall be deemed to refer to the Agreement as modified by this Amendment No. 3. Except as modified by this Amendment No. 3, all of the terms and conditions of the Agreement shall remain in full force and effect. In the event that the terms of this Amendment No. 3 conflict with the terms of the Agreement, the terms of this Amendment No. 3 shall control.

12. EXECUTION

This Amendment No. 3 may be executed in any number of counterpart originals, each of which shall be deemed an original instrument for all purposes, but all of which shall comprise one and the same instrument. This Amendment No. 3 may be delivered by electronic mail or facsimile, and a scanned version of this Amendment No. 3 shall be binding as an original.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed by their duly authorized representatives, effective as of the Amendment Effective Date.

Everspin Technologies, Inc.		**GLOBALFOUNDRIES Inc.**	
By:	/s/ Angelo Ugge	By:	/s/ David Bennett
Printed Name:	Angelo Ugge	Printed Name:	David Bennett
Title:	Vice President, Corp. Business Dev.	Title:	VP, Strategic Agreements & Initiatives

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

November 8, 2018

Anne Flaig
401 Harrison St. Apt # 30e
San Francisco, CA 94105

Dear Anne:

This letter sets forth the substance of the separation agreement (the "**Agreement**") that Everspin Technologies, Inc. (the "**Company**") is offering to you.

1. **SEPARATION.** Your employment termination date will be December 31, 2018 (the "**Separation Date**"), though you will not be expected to perform duties after November 16, 2018 at the latest, except to make yourself reasonably available to answer inquiries regarding the transition of your duties prior to the Separation Date as requested by the Company.

2. **ACCRUED SALARY.** On the Separation Date, the Company will pay you all accrued salary earned through the Separation Date, subject to standard payroll deductions and withholdings.

3. **SEVERANCE BENEFITS.** If you timely sign this Agreement, allow it to become effective, and remain in compliance with your legal and contractual obligations to the Company, then the Company will deem your termination from the Company to be a termination without Cause, as defined in your Executive Employment Agreement with the Company dated April 26, 2014 (the "**Employment Agreement**"), and provide you with the following severance benefits in accordance with the terms of the Employment Agreement:

a. **Cash Severance.** The Company will pay you six (6) months of your base salary (for a total of $137,500.00), which will be paid (less deductions and withholdings) over the course of six (6) months following the Separation Date in accordance with the Company's regular payroll schedule; provided, however, that no payments will be made to you before March 1, 2019 (the "**Payment Start Date**"). On the Payment Start Date, the Company will pay you a lump sum of $45,833.33 which is equivalent to the salary continuation payments that you would have received from the Separation Date until the Payment Start Date had the Company begun making payments under this paragraph on the Separation Date.

b. **Lump Sum Payment.** Within ten (10) days after your Separation Date (as defined above), the Company will pay you a one-time $50,000.00 severance payment, less deductions and withholdings.

c. **Bonus.** Within ten (10) days after your Separation Date (as defined above), the Company will pay you your remaining 2018 quarterly bonus, in the amount of $17,181.50 less deductions and withholdings.

d. **Key Sales Objective Payment.** Within ten (10) days after your Separation Date (as defined above), the Company will pay you $39,187.50 which represents your full KSO target for the period of October through December 2018.

e. **Paid COBRA.** Provided that you timely elect continued coverage under COBRA, then the Company shall reimburse you for the COBRA premiums to continue your health insurance coverage (including coverage for eligible dependents, if applicable) through the period starting on the Separation Date and ending on June 14th, 2019. You must timely pay your premiums, and then provide the Company with proof of same to obtain reimbursement for your COBRA premiums under this Section 3.d.

f. **Accelerated Vesting.** During your employment, you were granted certain equity interests (the "**Awards**"). The Company will accelerate the vesting of the Awards such that, as of the Separation Date, you will be deemed vested in those Awards that would have vested in the six (6) months following the Separation Date had you remained employed.

4. OTHER COMPENSATION OR BENEFITS. You acknowledge that, except as expressly provided in this Agreement, you will not receive any additional compensation, severance, or benefits after the Separation Date. You further expressly acknowledge and agree that the severance benefits being provided to you under this Agreement are in full satisfaction of any severance benefits you are eligible to receive under the Employment Agreement.

5. EXPENSE REIMBURSEMENTS. You agree that, within ten (10) days after the Separation Date, you will submit your final documented expense reimbursement statement reflecting all business expenses you incurred through the Separation Date, if any, for which you seek reimbursement. The Company will reimburse you for these expenses pursuant to its regular business practice.

6. RETURN OF COMPANY PROPERTY. By the Separation Date, you agree to return to the Company all Company documents (and all copies thereof) and other Company property within your possession, custody or control, including, but not limited to, Company files, notes, drawings, records, business plans and forecasts, financial information, specifications, computer-recorded information, tangible property (including, but not limited to), credit cards, entry cards, identification badges, and keys; and, any materials of any kind that contain or embody any proprietary or confidential information of the Company (and all reproductions thereof).

7. PROPRIETARY INFORMATION OBLIGATIONS. You acknowledge your continuing obligations under your Employee Proprietary Information and Inventions Assignment Agreement, a copy of which is attached hereto as **Exhibit A.**

8. MUTUAL NON-DISPARAGEMENT. You agree not to disparage the Company, its officers, directors, employees, shareholders, and agents, in any manner likely to be harmful to its or their business, business reputation or personal reputation; and the Company (through its officers and directors) agrees not to disparage you in any manner likely to be harmful to you or your business, business reputation or personal reputation; provided that you and the Company will respond accurately and fully to any question, inquiry or request for information when required by legal process. In response to inquiries from potential future employers, Company will only confirm your dates of employment and position held. Nothing herein is intended to prevent you from responding accurately to interview questions with potential future employers *under the condition that it does not violate your proprietary information obligation.*

9. NO ADMISSIONS. You understand and agree that the promises and payments in consideration of this Agreement shall not be construed to be an admission of any liability or obligation by the Company to you or to any other person, and that the Company makes no such admission.

10. RELEASE OF CLAIMS. In exchange for the consideration under this Agreement to which you would not otherwise be entitled, you hereby generally and completely release the Company and its directors, officers, employees, shareholders, partners, agents, attorneys, predecessors, successors, parent and subsidiary entities, insurers, affiliates, and assigns from any and all claims, liabilities and obligations, both known and unknown occurring at any time prior to and including the date you sign this Agreement, that arise out of or are in any way related to: (a) all claims arising out of or in any way related to your employment with the Company or the termination of that employment; (b) all claims related to your compensation or benefits from the Company, including salary, bonuses, commissions, vacation pay, expense reimbursements, severance pay, fringe benefits, stock, stock options, or any other ownership interests in the Company; (c) all claims for breach of contract, wrongful termination, and breach of the implied covenant of good faith and fair dealing; (d) all tort claims, including claims for fraud, defamation, emotional distress, and discharge in violation of public policy; and (e) all federal, state, and local statutory claims, including claims for discrimination, harassment, retaliation, attorneys' fees, or other claims arising under the federal Civil Rights Act of 1964 (as amended), the federal Americans with Disabilities Act of 1990, the Age Discrimination in Employment Act ("**ADEA**") the Arizona Wage Act, the Arizona Employment Protection Act, the Arizona Civil Rights Act, the Arizona Revised Statutes, the Arizona Administrative Rules, the Texas Human Rights Act and the Texas Labor Code. Notwithstanding the foregoing, you are not releasing the Company hereby from any obligation to indemnify you pursuant to the Articles and Bylaws of the Company, any valid fully executed indemnification agreement with the Company, applicable law, or applicable directors and officers' liability insurance. Also, excluded from this Agreement are any claims that cannot be waived by law.

11. ADEA RELEASE. You acknowledge that you are knowingly and voluntarily waiving and releasing any rights you have under the ADEA, and that the consideration given for the waiver and releases you have given in this Agreement is in addition to anything of value to which you were already entitled. You further acknowledge that you have been advised, as required by the ADEA, that: (a) your waiver and release does not apply to any rights or claims that arise after the date you sign this Agreement; (b) you should consult with an attorney prior to signing this Agreement (although you may choose voluntarily not to do so); (c) you have twenty-one (21) days to consider this Agreement (although you may choose voluntarily to sign it sooner); (d) you have seven (7) days following the date you sign this Agreement to revoke this Agreement (in a written revocation sent to me); and (e) this Agreement will not be effective until the date upon which the revocation period has expired, which will be the eighth day after you sign this Agreement provided that you do not revoke it (the "**Effective Date**").

12. PROTECTED RIGHTS. You understand that nothing in this Agreement limits your ability to file a charge or complaint with the Equal Employment Opportunity Commission, the Department of Labor, the National Labor Relations Board, the Occupational Safety and Health Administration, the Securities and Exchange Commission or any other federal, state or local governmental agency or commission ("**Government Agencies**"). You further understand this Agreement does not limit your ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agency, including providing documents or other information, without notice to the Company. While this Agreement does not limit your right to receive an award for information provided to the Securities and Exchange Commission, you understand and agree that, to maximum extent permitted by law, you are otherwise waiving any and all rights you may have to individual relief based on any claims that you have released and any rights you have waived by signing this Agreement.

13. REPRESENTATIONS. You hereby represent that you have been paid all compensation owed and for all hours worked, have received all the leave and leave benefits and protections for which you are eligible pursuant to the Family and Medical Leave Act or otherwise, and have not suffered any on-the-job injury for which you have not already filed a workers' compensation claim.

14. MISCELLANEOUS. This Agreement, including **Exhibit A**, constitutes the complete, final and exclusive embodiment of the entire agreement between you and the Company with regard to its subject matter. It is entered into without reliance on any promise or representation, written or oral, other than those expressly contained herein, and it supersedes any other such promises, warranties or representations. This Agreement may not be modified or amended except in a writing signed by both you and a duly authorized officer of the Company. This Agreement will bind the heirs, personal representatives, successors and assigns of both you and the Company, and inure to the benefit of both you and the Company, their heirs, successors and assigns. If any provision of this Agreement is determined to be invalid or unenforceable, in whole or in part, this determination will not affect any other provision of this Agreement and the provision in question will be modified so as to be rendered enforceable. This Agreement will be deemed to have been entered into and will be construed and enforced in accordance with the laws of the State of Arizona without regard to conflict of laws principles. Any ambiguity in this Agreement shall not be construed against either party as the drafter. Any waiver of a breach of this Agreement shall be in writing and shall not be deemed to be a waiver of any successive breach. This Agreement may be executed in counterparts and facsimile signatures will suffice as original signatures.

If this Agreement is acceptable to you, please sign below and return the original to me. You have twenty-one (21) calendar days to decide whether you would like to accept this Agreement, and the Company's offer contained herein will automatically expire if you do not sign and return it within this timeframe.

Sincerely,

By: /s/ Jim Everett
Jim Everett
Vice President of Global Human Resources

Exhibit A – Employee Proprietary Information and Inventions Assignment Agreement

I HAVE READ, UNDERSTAND AND AGREE FULLY TO THE FOREGOING AGREEMENT:

/s/ Anne Flaig	11/14/18
Anne Flaig	Date

EXHIBIT A

EMPLOYEE PROPRIETARY INFORMATION AND INVENTIONS ASSIGNMENT AGREEMENT

EMPLOYEE PROPRIETARY INFORMATION AND INVENTIONS ASSIGNMENT AGREEMENT

In consideration of my employment or continued employment by Everspin Technologies, Inc. ("**Company**"), and the compensation paid to me now and during my employment with the Company, I agree to the terms of this Agreement as follows:

1. CONFIDENTIAL INFORMATION PROTECTIONS.

1.1 Nondisclosure; Recognition of Company's Rights. At all times during and after my employment, I will hold in confidence and will not disclose, use, lecture upon, or publish any of Company's Confidential Information (defined below), except as may be required in connection with my work for Company, or as expressly authorized by the Chief Executive Officer (the "**CEO**") of Company. I will obtain the CEO's written approval before publishing or submitting for publication any material (written, oral, or otherwise) that relates to my work at Company and/or incorporates any Confidential Information. I hereby assign to Company any rights I may have or acquire in any and all Confidential Information and recognize that all Confidential Information shall be the sole and exclusive property of Company and its assigns.

1.2 Confidential Information. The term "**Confidential Information**" shall mean any and all confidential knowledge, data or information related to Company's business or its actual or demonstrably anticipated research or development, including without limitation (a) trade secrets, inventions, ideas, processes, computer source and object code, data, formulae, programs, other works of authorship, know-how, improvements, discoveries, developments, designs, and techniques; (b) information regarding products, services, plans for research and development, marketing and business plans, budgets, financial statements, contracts, prices, suppliers, and customers; (c) information regarding the skills and compensation of Company's employees, contractors, and any other service providers of Company; and (d) the existence of any business discussions, negotiations, or agreements between Company and any third party.

1.3 Third Party Information. I understand that Company has received and in the future will receive from third parties confidential or proprietary information ("**Third Party Information**") subject to a duty on Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. During and after the term of my employment, I will hold Third Party Information in strict confidence and will not disclose to anyone (other than Company personnel who need to know such information in connection with their work for Company) or use. Third Party Information, except in connection with my work for Company or unless expressly authorized by an officer of Company in writing.

1.4 No Improper Use of Information of Prior Employers and Others. I represent that my employment by Company does not and will not breach any agreement with any former employer, including any noncompete agreement or any agreement to keep in confidence or refrain from using information acquired by me prior to my employment by Company. I further represent that I have not entered into, and will not enter into, any agreement, either written or oral, in conflict with my obligations under this Agreement. During my employment by Company, I will not improperly make use of, or disclose, any information or trade secrets of any former employer or other third party, nor will I bring onto the premises of Company or use any unpublished documents or any property belonging to any former employer or other third party, in violation of any lawful agreements with that former employer or third party. I will use in the performance of my duties only information that is generally known and used by persons with training and experience comparable to my own, is common knowledge in the industry or otherwise legally in the public domain, or is otherwise provided or developed by Company.

2. INVENTIONS.

2.1 Inventions and Intellectual Property Rights. As used in this Agreement, the term **"Invention"** means any ideas, concepts, information, materials, processes, data, programs, know-how, improvements, discoveries, developments, designs, artwork, formulae, copyrightable works, and techniques and all Intellectual Property Rights in any of the items listed above. The term "**Intellectual Property Rights**" means all trade secrets, copyrights, trademarks, mask work rights, patents and other intellectual property rights recognized by the laws of any jurisdiction or country.

2.2 Prior Inventions. I have disclosed on **Exhibit A** a complete list of all Inventions that (a) I have, or I have caused to be, alone or jointly with others, conceived, developed, or reduced to practice prior to the commencement of my employment by Company; (b) in which I have an ownership interest or which I have a license to use; (c) and that I wish to have excluded from the scope of this Agreement (collectively referred to as "**Prior Inventions**"). If no Prior Inventions are listed in **Exhibit A**, I warrant that there are no Prior Inventions. I agree that I will not Incorporate, or permit to be incorporated, Prior Inventions in any Company Inventions (defined below) without Company's prior written consent. If, in the course of my employment with Company, I incorporate a Prior Invention into a Company process, machine or other work, I hereby grant Company a non-exclusive, perpetual, fully-paid and royalty-free, Irrevocable and worldwide license, with rights to sublicense through multiple levels of sublicenses, to reproduce, make derivative works of, distribute, publicly perform, and publicly display in any form or medium, whether now known or later developed, make, have made, use, sell, import, offer for sale, and exercise any and all present or future rights in, such Prior Invention.

2.3 Assignment of Company Inventions. Inventions assigned to the Company or to a third party as directed by the Company pursuant to the section titled "Government or Third Party" are referred to in this Agreement as "**Company Inventions**." Subject to the section titled "Government or Third Party" and except for Inventions that I can prove qualify fully under the provisions of a Specific Inventions Law (as defined below) and I have set forth in Exhibit A, I hereby assign and agree to assign in the future (when any such Inventions or Intellectual Property Rights are first reduced to practice or first fixed in a tangible medium, as applicable) to Company all my right, title, and interest in and to (i) any and all Inventions (and all Intellectual Property Rights with respect thereto) made, conceived, reduced to practice, or learned by me, either alone or with others, during the period of my employment by Company and (ii) any and all priority rights corresponding to any patent applications of such Intellectual Property Rights, Including the right to claim priority, provided by any International Convention, including the Paris Convention. To the extent necessary, company accepts all such assignments.

2.4 Specific Inventions Law. I recognize that, in the event of a specifically applicable state law, regulation, rule or public policy ("**Specific Inventions Law**"), this Agreement will not be deemed to require assignment of any invention which qualifies fully for protection under a Specific Inventions Law by virtue of the fact that any such invention was, for example, developed entirely on my own time without using the company's equipment, supplies, facilities, or trade secrets and neither related to the company's actual or anticipated business, research or development, nor resulted from work performed by me for the Company. Examples of Specific Inventions Laws include California Labor Code Section 2870 and the Revised Code of Washington Section 49.44.140.

2.5 Obligation to Keep Company Informed. While employed with the Company and for one (1) year after my employment ends, I will promptly and fully disclose to the Company in writing (a) all Inventions I author, conceive or reduce to practice, either alone or with others and including any that might be covered under a Specific Inventions Law, and (b) all patent applications I file or in which I am named as an inventor or co-inventor.

2.6 Government or Third Party. I agree that, as directed by the Company, I will assign to a third party, including without limitation the United States, all my right, title, and interest in and to any particular Company Invention.

2.7 Enforcement of Intellectual Property Rights and Assistance. During and after the period of my employment, I will assist Company in every proper way to obtain and enforce United States and foreign Intellectual Property Rights relating to Company Inventions in all countries. If the Company is unable to secure my signature on any document needed in connection with such purposes, I hereby irrevocably designate and appoint Company and its duly authorized officers and agents as my agent end attorney in fact, which appointment is coupled with an interest, to act on my behalf to execute and file any such documents and to do all other lawfully permitted acts to further such purposes with the same legal force and effect as if executed by me.

2.8 Incorporation of Software Code. I agree that I will not incorporate into any Company software or otherwise deliver to Company any software code licensed under the GNU General Public License or Lesser General Public License or any other license that, by its terms, requires or conditions the use or distribution of such code on the disclosure, licensing, or distribution of any source code owned or licensed by Company.

3. RECORDS. I agree to keep and maintain adequate and current records (in the form of notes, sketches, drawings and in any other form that is required by the Company) of all Inventions made by me during the period of my employment by the Company, which records shall be available to, and remain the sole property of, the Company at all times.

4. ADDITIONAL ACTIVITIES. I agree that (a) during the term of my employment by Company, I will not, without Company's express written consent, engage in any employment or business activity that is competitive with, or would otherwise conflict with my employment by, Company, and (b) for the period of my employment by Company and for one (1) year thereafter, I will not, either directly or indirectly, solicit or attempt to solicit any employee, independent contractor, or consultant of Company to terminate his, her or its relationship with Company in order to become an employee, consultant, or independent contractor to or for any other person or entity.

5. RETURN OF COMPANY PROPERTY. Upon termination of my employment or upon Company's request at any other time, I will deliver to Company all of Company's property, equipment, and documents, together with all copies thereof, and any other material containing or disclosing any Inventions, Third Party Information or Confidential Information and certify in writing that I have fully complied with the foregoing obligation. I agree that I will not copy, delete, or alter any information contained upon my Company computer or Company equipment before I return it to Company. In addition, If I have used any personal computer, server, or e-mail system to receive, store, review, prepare or transmit any Company Information, including but not limited to, Confidential Information, I agree to provide the Company with a computer-useable copy of all such Confidential Information and then permanently delete and expunge such Confidential Information from those systems; and I agree to provide the Company access to my system as reasonably requested to verify that the necessary copying and/or deletion is completed. I further agree that any property situated on Company's premises and owned by Company is subject to inspection by Company's personnel at any time with or without notice. Prior to the termination of my employment or promptly after termination of my employment, I will cooperate with Company in attending an exit interview and certify in writing that I have complied with the requirements of this section.

6. NOTIFICATION OF NEW EMPLOYER. If I leave the employ of Company, I consent to the notification of my new employer of my rights and obligations under this Agreement, by Company providing a copy of this Agreement or otherwise.

7. GENERAL PROVISIONS.

7.1 Governing Law and Venue. This Agreement and any action related thereto will be governed and interpreted by and under the laws of the State of Arizona; without giving effect to any conflicts of laws principles that require the application of the law of a different state. I expressly consent to personal jurisdiction and venue in the state and federal courts for the county in which Company's principal place of business is located for any lawsuit filed there against the by Company arising from or related to this Agreement.

7.2 Severability. If any provision of this Agreement is, for any reason, held to be invalid or unenforceable, the other provisions of this Agreement will remain enforceable and the invalid or unenforceable provision will be deemed modified so that it is valid and enforceable to the maximum extent permitted by law.

7.3 Survival. This Agreement shall survive the termination of my employment and the assignment of this Agreement by Company to any successor or other assignee and be binding upon my heirs and legal representatives.

7.4 Employment. I agree and understand that nothing in this Agreement shall give me any right to continued employment by Company, and it will not interfere in any way with my right or Company's right to terminate my employment at any time, with or without cause and with or without advance notice.

7.5 Notices. Each party must deliver all notices or other communications required or permitted under this Agreement in writing to the other party at the address listed on the signature page, by courier, by certified or registered mail (postage prepaid and return receipt requested), or by a nationally-recognized express mail service. Notice will be effective upon receipt or refusal of delivery. If delivered by certified or registered mail, notice will be considered to have been given five (5) business days after it was mailed, as evidenced by the postmark. If delivered by courier or express mail service, notice will be considered to have been given on the delivery date reflected by the courier or express mail service receipt. Each party may change its address for receipt of notice by giving notice of the change to the other party.

7.6 Injunctive Relief. I acknowledge that, because my services are personal and unique and because I will have access to the Confidential Information of Company, any breach of this Agreement by me would cause irreparable injury to Company for which monetary damages would not be an adequate remedy and, therefore, will entitle Company to injunctive relief (including specific performance). The rights and remedies provided to each party in this Agreement are cumulative and in addition to any other rights and remedies available to such party at law or in equity.

7.7 Waiver. Any waiver or failure to enforce any provision of this Agreement on one occasion will not be deemed a waiver of that provision or any other provision on any other occasion.

7.8 Export. I agree not to export, directly or indirectly, any U.S. technical data acquired from Company or any products utilizing such data, to countries outside the United States, because such export could be in violation of the United States export laws or regulations.

7.9 Entire Agreement. If no other agreement governs nondisclosure and assignment of inventions during any period in which I was previously employed or am in the future employed by Company as an independent contractor, the obligations pursuant to sections of this Agreement titled "Confidential Information Protections" and "Inventions" shall apply. This Agreement is the final, complete and exclusive agreement of the parties with respect to the subject matter hereof and supersedes and merges all prior communications between us with respect to such matters. No modification of or amendment to this Agreement, or any waiver of any rights under this Agreement, will be effective unless in writing and signed by me and the CEO of Company. Any subsequent change or changes in my duties, salary or compensation will not affect the validity or scope of this Agreement.

This Employee Proprietary Information and Inventions Assignment Agreement shall be effective as of the first day of my employment with Company.

EMPLOYEE:	**COMPANY: EVERSPIN TECHNOLOGIES, INC.**
I HAVE READ, UNDERSTAND, AND ACCEPT THIS AGREEMENT AND HAVE BEEN GIVEN THE OPPORTUNITY TO REVIEW IT WITH INDEPENDENT LEGAL COUNSEL.	**ACCEPTED AND AGREED:**
/s/ Annie Flaig *(Signature)*	/s/ Jim Everett *(Signature)*
By: /s/ Annie Flaig	By: /s/ Jim Everett
Title: SVP, WW Sales	Title: Director of Human Resources
Date: 5/12/17	Date: April 26, 2017
Address: 301 Mission ST #10E San Francisco, CA 94105	Address: 1347 N. Alma School Rd. Suite #220 Chandler, AZ 85224

EXHIBIT A

INVENTIONS

1. **Prior Inventions Disclosure.** The following is a complete list of all Prior Inventions (as provided in Section 2.2 of the attached Employee Proprietary Information and Inventions Assignment Agreement, defined herein as the "**Agreement**"):

☒ None

☐ See immediately below:

____

____

2. **Limited Exclusion Notification.**

THIS IS TO NOTIFY you in accordance with any applicable Specific Inventions Law that the foregoing Agreement between you and Company does not require you to assign or offer to assign to Company any Invention that you develop entirely on your own time without using Company's equipment, supplies, facilities or trade secret information, except for those Inventions that either:

a. Relate at the time of conception or reduction to practice to Company's business, or actual or demonstrably anticipated research or development; or

b. Result from any work performed by you for Company.

To the extent a provision in the foregoing Agreement purports to require you to assign an Invention otherwise excluded from the preceding paragraph, the provision is against the public policy of this state and is unenforceable.

This limited exclusion does not apply to any patent or Invention covered by a contract between Company and the United States or any of its agencies requiring full title to such patent or Invention to be in the United States.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 No. 333-214018) pertaining to the Everspin Technologies, Inc. 2008 Equity Incentive Plan, 2016 Equity Incentive Plan and the 2016 Employee Stock Purchase Plan,
(2) Registration Statement (Form S-8 No. 333-219938) pertaining to the Everspin Technologies, Inc. 2016 Equity Incentive Plan and the 2016 Employee Stock Purchase Plan,
(3) Registration Statement (Form S-3 No. 333-221331) of Everspin Technologies, Inc.,
(4) Registration Statement (Form S-8 No. 333-225119) pertaining to the Everspin Technologies, Inc. 2016 Equity Incentive Plan and the 2016 Employee Stock Purchase Plan;

of our report dated March 15, 2019, with respect to the financial statements of Everspin Technologies, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2018.

/s/ Ernst & Young LLP

Phoenix, Arizona
March 15, 2019

Exhibit 31.1

Certification of the Principal Executive Officer

I, Kevin Conley, certify that:

1. I have reviewed this Form 10-K of Everspin Technologies, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e), 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 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: March 15, 2019

/s/ Kevin Conley
Kevin Conley
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification of Principal Financial Officer

I, Jeffrey Winzeler, certify that:

1. I have reviewed this Form 10-K of Everspin Technologies, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e), 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 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: March 15, 2019

/s/ Jeffrey Winzeler

Jeffrey Winzeler
(Principal Financial Officer)

Exhibit 32.1

**Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Annual Report of Everspin Technologies, Inc. (the "Company") on Form 10-K for the year ended December 31, 2018 (the "Report"), Kevin Conley, President and Chief Executive Officer of the Company, and Jeffrey Winzeler, Chief Financial Officer of the Company, each hereby certifies, pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. Section 1350), as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his knowledge:

1. The Report fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 15, 2019

/s/ Kevin Conley
Kevin Conley
President and Chief Executive Officer
(*Principal Executive Officer)*

/s/ Jeffrey Winzeler
Jeffrey Winzeler
Chief Financial Officer
(*Principal Financial Officer)*

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Everspin Technologies, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.