**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 June 30, 2023

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: **001-38029**

**AKOUSTIS TECHNOLOGIES, INC.**
(Exact name of registrant as specified in its charter)

| **Delaware** | **33-1229046** |
|---|---|
| (State or other jurisdiction of incorporation or organization) | (IRS Employer Identification No.) |
| **9805 Northcross Center Court, Suite A Huntersville, NC** | **28078** |
| (Address of principal executive offices) | (Postal Code) |

Registrant's telephone number, including area code: **1-704-997-5735**

Securities registered under Section 12(b) of the Act:

| Title of Each Class: | Trading Symbol | Name of each exchange on which registered: |
|---|---|---|
| **Common Stock, $0.001 par value** | **AKTS** | **The Nasdaq Stock Market LLC (Nasdaq Capital Market)** |

Securities registered under 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 Exchange 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 Exchange Act 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 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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

| | | | |
|---|---|---|---|
| Large Accelerated Filer | □ | Accelerated Filer | □ |
| Non-Accelerated Filer | ☒ | Smaller reporting company | ☒ |
| | | Emerging growth company | □ |

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

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

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. □

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). □

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

The aggregate market value of the registrant's common stock, par value $0.001 per share ("Common Stock"), held by non-affiliates on December 31, 2022 was approximately $148.2 million. For purposes of this computation, shares of Common Stock held by all officers, directors, and any beneficial owners of 10% or more of the outstanding Common Stock were excluded because such persons may be deemed to be affiliates of the registrant. Such determination should not be deemed an admission that such persons are, in fact, affiliates of the registrant.

As of September 01, 2023, there were 72,351,827 shares of Common Stock issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The registrant intends to file a definitive proxy statement pursuant to Regulation 14A within 120 days after the end of the fiscal year ended June 30, 2023. Portions of such proxy statement are incorporated by reference into Part III of this Form 10-K.

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## CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This Annual Report on Form 10-K (this "Report") contains forward-looking statements that relate to our plans, objectives, estimates, and goals. Any and all statements contained in this report that are not statements of historical fact may be deemed to be forward-looking statements. Terms such as "may," "will," "might," "would," "should," "could," "project," "estimate," "predict," "potential," "strategy," "anticipate," "attempt," "develop," "plan," "help," "seek," "believe," "continue," "intend," "expect," "future," and terms of similar import (including the negative of any of the foregoing) may identify forward-looking statements. However, not all forward-looking statements may contain one or more of these identifying terms. Forward-looking statements in this report may include, without limitation, statements regarding (i) the plans and objectives of management for future operations, including plans or objectives relating to the development of commercially viable radio frequency ("RF") filters, (ii) projections of income (including income/loss), earnings (including earnings/loss) per share, capital expenditures, dividends, capital structure or other financial items, (iii) our future financial performance, including any such statement contained in the management's discussion and analysis of financial condition or in the results of operations included pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC"), (iv) our ability to efficiently utilize cash and cash equivalents to support our operations for a given period of time, (v) our ability to engage customers while maintaining ownership of our intellectual property, and (vi) the assumptions underlying or relating to any statement described in (i), (ii), (iii), (iv) or (v) above.

Forward-looking statements are not meant to predict or guarantee actual results, performance, events or circumstances and may not be realized because they are based upon our current projections, plans, objectives, beliefs, expectations, estimates and assumptions and are subject to a number of risks and uncertainties and other influences, many of which are beyond our control. Actual results and the timing of certain events and circumstances may differ materially from those described by the forward-looking statements as a result of these risks and uncertainties. Factors that may influence or contribute to the inaccuracy of the forward-looking statements or cause actual results to differ materially from expected or desired results may include, without limitation,

- our limited operating history,
- our inability to generate revenues or achieve profitability,
- the impact of the COVID-19 pandemic, Russian-Ukrainian conflict and other sources of volatility on our operations, financial condition and the worldwide economy, including our ability to access the capital markets,
- increases in prices for raw materials, labor, and fuel caused by rising inflation,
- our inability to obtain adequate financing and sustain our status as a going concern,
- the results of our research and development ("R&D") activities,
- our inability to achieve acceptance of our products in the market,
- general economic conditions, including upturns and downturns in the industry,
- existing or increased competition,
- our inability to successfully scale our New York wafer fabrication facility and related operations while maintaining quality control and assurance and avoiding delays in output,
- contracting with customers and other parties with greater bargaining power and agreeing to terms and conditions that may adversely affect our business,
- the possibility that the anticipated benefits from our business acquisitions (including the acquisitions of RFM Integrated Device, Inc. ("RFMi") and Grinding and Dicing Services, Inc. ("GDSI")) will not be realized in full or at all or may take longer to realize than expected,
- the possibility that costs or difficulties related to the integration of acquired businesses' (including RFMi and GDSI's) operations will be greater than expected and the possibility of disruptions to our business during integration efforts and strain on management time and resources,
- risks related to doing business in foreign countries, including rising tensions between the United States and China,
- any cybersecurity breaches or other disruptions compromising our proprietary information and exposing us to liability,
- our limited number of patents,

- failure to obtain, maintain and enforce our intellectual property rights,
- claims of infringement, misappropriation or misuse of third-party intellectual property, including the lawsuit filed by Qorvo, Inc. in October 2021, that, regardless of merit, could result in significant expense and negatively impact our business results,
- our inability to attract and retain qualified personnel,
- results of any arbitration or litigation that may arise,
- our reliance on third parties to complete certain processes in connection with the manufacture of our products,
- product quality and defects,
- our ability to market and sell our products,
- our failure to innovate or adapt to new or emerging technologies, including in relation to our competitors,
- our failure to comply with regulatory requirements,
- stock volatility and illiquidity,
- our failure to implement our business plans or strategies,
- our failure to maintain effective internal control over financial reporting
- our failure to obtain or maintain a Trusted Foundry accreditation or our New York fabrication facility, and
- shortages in supplies needed to manufacture our products, or needed by our customers to manufacture devices incorporating our products.

A description of the risks and uncertainties that could cause our actual results to differ materially from those described by the forward-looking statements in this Report appears in the section captioned “Risk Factors” and elsewhere in this Report.

Readers are cautioned not to place undue reliance on forward-looking statements because of the risks and uncertainties related to them and to the risk factors. Except as may be required by law, we do not undertake any obligation to update the forward-looking statements contained in this Report to reflect any new information or future events or circumstances or otherwise.

## DEFINITIONS

When used in this Report, the terms, "we," "Akoustis," the "Company," "our," and "us" refers to Akoustis Technologies, Inc., a Delaware corporation, and its wholly owned consolidated subsidiaries, Akoustis, Inc., also a Delaware corporation, RFM Integrated Device, Inc., a Texas corporation ("RFMi"), and Grinding and Dicing Services, Inc., a California corporation ("GDSI").

**Glossary**

The following is a glossary of technical terms used herein:

- **Acoustic wave** - a mechanical wave that vibrates in the same direction as its direction of travel.
- **AlN** - Aluminum Nitride.
- **Acoustic wave filter** - an electromechanical device that provides radio frequency control and selection, in which an electrical signal is converted into a mechanical wave in a device constructed of a piezoelectric material and then back to an electrical signal.
- **Band, channel or frequency band** - a designated range of radio wave frequencies used to communicate with a mobile device.
- **Bulk acoustic wave (BAW)** - an acoustic wave traveling through a material exhibiting elasticity, typically vertical or perpendicular to the surface of a piezoelectric material.
- **Digital baseband** - the digital transceiver, which includes the main processor for the communication device.
- **Duplexer** - a bi-directional device that connects the antenna to the transmitter and receiver of a wireless device and simultaneously filters both the transmit signal and receive signal.
- **Filter** - a series of interconnected resonators designed to pass (or select) a desired radio frequency signal and block unwanted signals.
- **Group III element nitrides** - a dielectric material comprised of group IIIA element, such as boron (B), aluminum (Al) or gallium (Ga), combined with group 5A (or VA nitrogen) to form a compound semiconductor nitride such as BN, AlN, or GaN. For resonators, the dielectric is typically chosen based upon the piezoelectric constant of the material in order to generate the highest electromechanical coupling.

- **Insertion Loss** - the power losses associated with inserting a BAW filter into a circuit.
- **Lossy** - resistive losses that result in heat generation.
- **Metrology** - techniques used to evaluate materials, devices and circuits.
- **Monolithic topology** - a description of an electrical circuit whereby all the elements of the circuit are fabricated at the same time using the same process flow.
- **Power Amplifier Duplexer (PAD)** - an RF module containing a power amplifier and duplex filter components for the RFFE of a smartphone.
- **Piezoelectric materials** - certain solid materials (such as crystals and certain ceramics) that produce a voltage in response to applied mechanical stress, or that deform when a voltage is applied to them.
- **Quality factor, or Q** - energy stored divided by the energy dissipated per cycle. Higher Q represents a higher caliber of resonance and implies mechanical and electrical factors responsible for energy dissipation are minimal. For a given amount of energy stored in a resonator, Q represents the number of cycles resonance will continue without additional input of energy into the system.
- **Resonator** - a device whose impedance sharply changes over a narrow frequency range and is characterized by one or more 'resonance frequency' due to a standing wave across the resonator's electrodes. The vibrations in a resonator can be characterized by mechanical "acoustic" waves which travel without a characteristic sound velocity. Resonators are the building blocks for RF filters used in mobile wireless devices.
- **RF** - radio frequency.
- **RF front-end (RFFE)** - the circuitries in a mobile device responsible for processing the analog radio signals; located between the device's antenna and the digital baseband.
- **RF spectrum** - a defined range of frequencies.
- **Surface acoustic wave (SAW)** - an acoustic sound wave traveling horizontally along the surface of a piezoelectric material.
- **TDD LTE** - Time Division Duplex- Long-Term Evolution or a wireless standard which shares the bandwidth between transmit and receive.
- **Tier one** - a supplier or OEM with substantial market share.
- **Tier two** - a supplier or OEM with an established but not substantial market share.
- **Wafer** - a thin slice of semiconductor material used in electronics for the fabrication of integrated circuits.

## PART I

### ITEM 1. BUSINESS

**Overview**

Akoustis Technologies, Inc., a Delaware corporation, was incorporated in 2013. The Company is an emerging commercial product company focused on developing, designing, and manufacturing innovative RF filter solutions for the wireless industry, including for products such as smartphones and tablets, network infrastructure equipment, Wi-Fi Customer Premise Equipment ("CPE"), and defense applications. Filters are critical in selecting and rejecting signals, and their performance enables differentiation in the modules defining the RF front-end ("RFFE"). Located between the device's antenna and its digital backend, the RFFE is the circuitry that performs the analog signal processing and contains components such as amplifiers, filters and switches. We have developed a proprietary microelectromechanical system ("MEMS") based bulk acoustic wave ("BAW") technology and a unique manufacturing process flow, called "XBAW ®", for our filters produced for use in RFFE modules. Our XBAW® filters incorporate optimized high purity piezoelectric materials for high power, high frequency and wide bandwidth operation. We are developing RF filters for 5G, Wi-Fi and defense bands using our proprietary resonator device models and product design kits ("PDKs"). As we qualify our RF filter products, we are engaging with target customers to evaluate our filter solutions. Our initial designs target UHB, sub-7 GHz 5G, Wi-Fi and defense bands. We expect our RF filter solutions will address problems (such as loss, bandwidth, power handling, and isolation) created by the growing number of frequency bands in the RFFE of mobile devices, infrastructure and premise equipment to support 5G, and Wi-Fi. We have prototyped, sampled and begun commercial shipment of our single-band low loss BAW filter designs for 5G frequency bands and 5 GHz and 6 GHz Wi-Fi bands which are suited to competitive BAW solutions and historically cannot be addressed with low-band, lower power handling surface acoustic wave ("SAW") technology. Additionally, through our wholly owned subsidiary, RFMi, of which we acquired majority ownership in October 2021 and full ownership in April 2023, we operate a fabless business whereby we make sales of complementary SAW resonators, RF filters, crystal ("Xtal") resonators and oscillators, and ceramic products—addressing opportunities in multiple end markets, such as automotive and industrial applications. We also offer back-end semiconductor supply chain services through our wholly owned subsidiary, GDSI, which we acquired in January 2023.

We own and/or have filed applications for patents on the core resonator device technology, manufacturing facility and intellectual property ("IP") necessary to produce our RF filter chips and operate as a "pure-play" RF filter supplier, providing discrete filter solutions direct to Original Equipment Manufacturers ("OEMs") and aligning with the front-end module manufacturers that seek to acquire high performance filters to expand their module businesses. We believe this business model is the most direct and efficient means of delivering our solutions to the market.

*Technology*. Our device technology is based upon bulk-mode acoustic resonance, which we believe is superior to surface-mode resonance for high-band and ultra-high-band ("UHB") applications that include 4G/LTE, 5G, Wi-Fi, and defense applications. Although some of our target customers utilize or manufacture the RFFE module, they may lack access to critical UHB filter technology that we produce, which is necessary to compete in high frequency applications.

*Manufacturing*. We currently manufacture Akoustis' high-performance RF filter circuits, using our first generation XBAW® wafer process, in our 125,000-square foot wafer-manufacturing facility located in Canandaigua, New York (the "New York Facility"), which we acquired in June 2017. Our SAW-based RF filter products are manufactured by a third party and sold either directly or through a sales distributor.

*Intellectual Property.* As of August 25, 2023, our IP portfolio included 104 patents, including a blocking patent that we have licensed from Cornell University. Additionally, as of August 25, 2023, we have 108 pending patent applications. These patents cover our XBAW® RF filter technology from raw materials through the system architectures. Given the significance of the Company's intellectual property to its business, the Company enforces its intellectual property rights and protects its patent portfolio, which may include filing lawsuits against companies that the Company believes are infringing upon its patents. The Company considers protecting its intellectual property rights to be central to its business model and competitive position in the RF filter industry.

By designing, manufacturing, and marketing our RF filter products to mobile phone OEMs, defense OEMs, network infrastructure OEMs, and Wi-Fi CPE OEMs, we seek to enable broader competition among the front-end module manufacturers.

Since we own and/or have filed applications for patents on the core technology and control access to our intellectual property, we expect to offer several ways to engage with potential customers. First, we intend to engage with multiple wireless markets, providing standardized filters that we design and offer as standard catalog components. Second, we expect to deliver unique filters to customer-supplied specifications, which we will design and fabricate on a customized basis. Finally, we may offer our models and design kits for our customers to design their own filters utilizing our proprietary technology.

We expect to continue to incur substantial costs for commercialization of our technology on a continuous basis because our business model involves materials and solid-state device technology development and engineering of catalog and custom filter design solutions. To succeed across our combined portfolio of Akoustis, XBAW, and RFMi products, we must convince customers in a wide range of industries including mobile phone OEMs, RFFE module manufacturers, network infrastructure OEMs, Wi-Fi CPE OEMs, medical device makers, automotive and defense customers to use our products in their systems and modules. For example, since there are two dominant BAW filter suppliers in the industry that have high-band technology, and both utilize such technology as a competitive advantage at the module level, we expect customers that lack access to high-band filter technology will be open to engage with our company for XBAW filters.

To help drive our XBAW filter business, we plan to continue to pursue RF filter design and R&D development agreements and potentially joint ventures with target customers and other strategic partners, although we cannot guarantee we will be successful in these efforts. These types of arrangements may subsidize technology development costs and qualification, filter design costs, and offer complementary technology and market intelligence and other avenues to revenue. However, we intend to retain ownership of our core XBAW technology, intellectual property, designs, and related improvements. Across our combined portfolio of Akoustis, XBAW, and RFMi products, we expect to continue development of catalog designs for multiple customers and to offer such catalog products in multiple sales channels.

***Impact of COVID-19 on our Business***

The COVID-19 pandemic has significantly impacted business activity across the globe. In particular, COVID-19 contributed to delays we observed in certain suppliers' shipment of materials necessary for us to manufacture our products and in certain vendors' ability to deliver equipment for installation at our facilities. Although the effects of COVID-19 and its impact on our supply chain have eased since the peak of the pandemic and related lock-down protocols imposed by local governments, including China, we will continue to actively monitor the situation and may take further actions altering our business operations that we determine are in the best interests of our employees, customers, partners, suppliers, and stakeholders, or as required by federal, state, or local authorities. The effect that any such alterations or modifications may have on our business, including the effects on our customers, employees, and prospects, or on our financial results for fiscal year 2024 or beyond is unclear.

***Recent Developments***

On July 11, 2022, we announced that we had named Kamran Cheema as our new Chief Product Officer.

On August 9, 2022, we announced that we had shipped a second 5G mobile design in a new wafer-level-package to our first foundry customer.

On August 24, 2022, we announced that we had received a development order for two new XBAW® diplexers from a Fortune 100 Internet company.

On September 6, 2022, we announced that Senate Majority Leader Charles E. Schumer toured our New York fabrication facility.

On September 8, 2022, we announced that we entered the gaming market with two design wins in Wi-Fi with two new customers.

On September 14, 2022, we announced that we received a development order for a new XBAW® 5G mobile filter solution for a tier-1 RF module maker.

On September 28, 2022, we announced that we received our fourth design win for a 5G network infrastructure filter.

On October 4, 2022, we announced that we had started sampling two new Wi-Fi 6E and Wi-Fi 7 filter solutions.

On October 6, 2022, we announced that we had become a charter member of the Semiconductor Industry Association.

On October 26, 2022, we announced that we had received three new Wi-Fi 6E design wins for carrier-class applications.

On November 21, 2022, we announced that we had joined the Wi-Fi NOW industry association as an official filter partner.

On December 21, 2022, we announced the completion of qualification of our internally developed wafer-level-packaging (WLP) technology for the 5G mobile, Wi-Fi, timing control, and other markets.

On December 28, 2022, we announced our first design win in 5G mobile from a Tier-1 RF component company customer.

On January 4, 2023, we announced the acquisition of GDSI, a U.S.-based, trusted supplier of semiconductor back-end supply chain services.

On January 18, 2023, we announced that we had received our first high-volume 5G mobile XBAW filter order from a Tier-1 RF component company.

On January 25, 2023, we announced the closing of a public offering of common stock and full exercise of the underwriters' option to purchase additional shares.

On March 23, 2023, we announced the appointment of Michelle L. Petock, CEO of W Greig & Company to our Board of Directors.

On April 4, 2023, we announced that we received a development order for Wi-Fi 6E/7 from a new RF module maker customer.

On April 11, 2023, we introduced a new C-V2X XBAW® filter for the automotive market.

On April 26, 2023, we announced a volume purchase order for Wi-Fi 6E filters for a new, advanced, high-speed line of Wi-Fi 6E fixed infrastructure products.

On May 3, 2023, we announced that we had received our first Wi-Fi 7 design win from a leading enterprise-class customer.

On May 24, 2023, we announced that we had received two new Wi-Fi 6E design wins.

On June 1, 2023, we introduced two new advanced BAW RF filters for Wi-Fi 6E and Wi-Fi 7.

One June 5, 2023, we announced that we would be hosting a booth at the IEEE MTT-S International Microwave Symposium.

On June 13, 2023, we launched our new, state-of-the-art XBAW® foundry services and AI-enabled engineering design services.

On July 20, 2023, we announced that we had shipped two new BAW filters using the XBAW® foundry process to a 5G mobile and Wi-Fi router RF front-end module customer.

On July 27, 2023, we introduced a new, advanced, single-crystal AlScN on Si wafer XBAW® technology.

**Financing**

We have not yet achieved profitability from operations, and so have funded our operations largely with issuances of equity and debt securities, as well as development contracts, RF filter and production orders, government grants, MEMS foundry services (which we exited in 2021) and engineering services. We have historically incurred losses which are primarily the result of material and processing costs associated with developing and commercializing our technology, as well as personnel costs, professional fees (primarily accounting and legal), and other general and administrative ("G&A") expenses. We expect to continue to incur substantial costs for the commercialization of our technology on a continuous basis because our business model involves materials and solid-state device technology development and engineering of catalog and custom filter design solutions.

The Company expects that its current cash and cash equivalents are sufficient to fund its operations beyond the next twelve months from the date of filing of this Form 10-K. These funds will be used to fund the Company's operations, including capital expenditures, R&D, commercialization of our technology, development of our patent strategy and expansion of our patent portfolio, as well as to provide working capital and funds for other general corporate purposes. Except for the $48.0 million of Common Stock remaining available to be sold under its ATM Sales Agreement with Oppenheimer & Co. Inc., Craig-Hallum Capital Group LLC, and Roth Capital Partners, LLC, the Company has no commitments or arrangements to obtain any additional funds, and there can be no assurance such funds will be available on acceptable terms or at all.

In the future, if the Company is unable to obtain additional financing in a timely fashion and on acceptable terms when such financing is needed, its financial condition and results of operations may be materially adversely affected, and it may not be able to continue operations or execute its stated commercialization plan.

*Recent Financing Activity*

Equity Offering Program

On May 2, 2022, the Company entered into an ATM Sales Agreement with Oppenheimer & Co. Inc., Craig-Hallum Capital Group LLC, and Roth Capital Partners, LLC pursuant to which the Company may sell from time-to-time shares of its common stock having an aggregate offering price of up to $50,000,000 (the "2022 Equity Offering Program"). On May 25, 2022, the Company announced that it was suspending sales under the 2022 Equity Offering Program. If, in the future, the Company determines to resume sales pursuant to the 2022 Equity Offering Program, it intends to notify investors by the filing of a Current Report on Form 8-K or other filing with the SEC, or other public announcement.

Convertible Note Offering

On June 9, 2022, the Company issued $44.0 million aggregate principal amount of its 6.0% Convertible Senior Notes due 2027 (the "Notes") guaranteed by its wholly-owned subsidiary, Akoustis, Inc. The Notes were issued pursuant to an indenture (the "Indenture"), dated June 9, 2022, among the Company, the Guarantor and The Bank of New York Mellon Trust Company, N.A., as trustee. The Notes bear interest at a rate of 6.0% per year until maturity on June 15, 2027, payable semi-annually beginning on December 15, 2022. At the Company's option, interest may be paid in cash and/or shares of Common Stock. The initial conversion rate for the Notes is 212.3142 shares of Common Stock (subject to adjustment as provided in the Indenture) per $1,000 principal amount of the Notes, which is equal to an initial conversion price of approximately $4.71 per share.

Underwritten Offering of Common Stock

On January 19, 2023, the Company closed a public offering of 12,545,454 shares of Common Stock at a price to the public of $2.75 per share pursuant to an underwriting agreement with B. Riley Securities, Inc., as representative of the several underwriters named therein. The shares of Common Stock issued at closing included 1,636,363 shares issued pursuant to the underwriters' over-allotment option, which was exercised in full. Gross proceeds totaled $34.5 million before deducting the underwriting discount and offering expenses of approximately $2.5 million, resulting in net proceeds from the offering of approximately $32.0 million. Certain of the Company's directors and officers participated in the offering by purchasing shares on the same terms and conditions as other investors.

**Our XBAW Filter Technology and Business**

Current RF acoustic wave filters utilize piezoelectric material physical properties, the resonator device structure and the manufacturing process technology. Existing BAW filters use an "acoustic wave ladder" that is based on a monolithic topology approach using polycrystalline materials.

XBAW technology encompasses cutting-edge polycrystalline, single-crystal and other high purity piezoelectric materials, which are fabricated into bulk-mode, acoustic wave resonators and RF filters. Our innovative piezoelectric materials contain high-purity Group III element nitride materials and possess a unique signature, which can be detected by conventional material metrology tools. We utilize analytical modeling techniques to aid in the design and internal manufacturing of our materials, whereby the raw substrate materials utilized in our XBAW process are sourced from a third party. Once our filter designs are simulated and ready to manufacture, we supply the NY Facility raw materials, a mask design file, and a unique process sequence to fabricate our resonators and filters. We hold many issued and pending patents on our XBAW wafer process flow, which is compatible with wafer level packaging (WLP) that allows for low-profile, cost- effective filters to be produced.

**Technological Challenges Facing the Mobile Device Industry**

Rising consumer demand for always-on wireless broadband connectivity creates an unprecedented need for high performance RFFE modules for mobile devices. Mobile devices such as smartphones, tablets and wearables are quickly becoming the primary means of accessing the Internet and driving the Internet of Things (IoT). Rapid growth in mobile data traffic tests the limits of existing wireless bandwidth. Carriers and regulators have responded by opening new spectrums of RF frequencies, driving up the number of frequency bands in mobile devices. This substantial increase in frequency bands has created a demand for more filters, as well as a demand for filters with higher selectivity. The global transition to LTE and adoption of LTE-Advanced with more sophisticated carrier aggregation and multiple-input, multiple-output (MIMO) techniques has continued to push the requirements for increased supply of high-performance filters. Furthermore, the introduction of 5G mobile technologies and their associated frequencies has created an even greater need for high-performance, high-frequency filters as the bands being auctioned have primarily been in the 3-6 GHz range, well above the frequencies of current networks.

The new spectrum introduced by 4G/LTE and 5G is driving spectrum licensing at higher frequencies than previous 3G smartphone models. For example, new TDD LTE frequencies allocated for 5G wireless cover frequencies nearly twice as high as those covered in previous generation phones. As a result, the demand for filters represents the single largest opportunity in the RFFE industry, according to a Mobile Experts 2022 report. For traditional "low band" frequencies, SAW filters have been the primary choice, while high band solutions have utilized BAW filters due to their performance and yield. While there are multiple sources of supply for SAW technology, the source of supply for BAW filters is more limited and essentially dominated by two manufacturers worldwide. See "Competition" below.

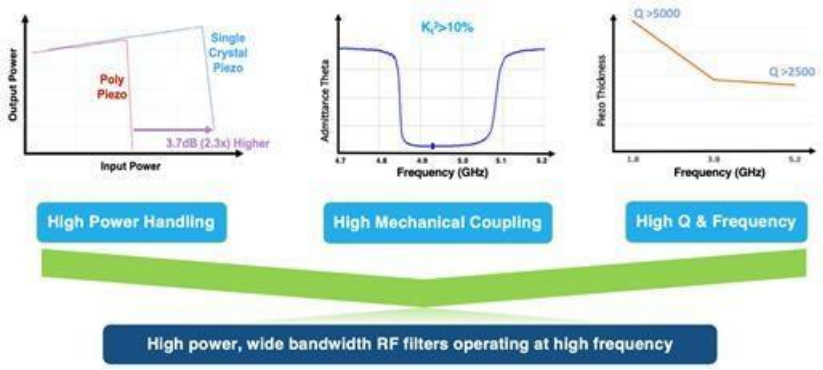
In addition, signal loss of current generation acoustic wave filters is excessively high, and up to half of the transmit power is wasted as heat, which ultimately constrains battery life. Another challenge is that the allocated spectrum for mobile communication bands requires high bandwidth RF filters, which, in turn, requires wide bandwidth core resonator technology. In addition, filters with inferior selectivity either reduce the number or bandwidth of operating bands the mobile device can support or increase the noise in the operating bands. Each of these problems negatively impacts the end-user's experience when using the mobile device.

The RFFE must meet growing data demands while reducing cost and improving battery life. Our solution involves a new approach to RFFE component manufacturing, enabled by XBAW technology. We expect our XBAW technology to produce filters that will reduce the overall system cost and improve performance of the RFFE.

**Our XBAW Filter Solutions**

Our XBAW filter business is focused on the commercialization of wide bandwidth RF filters operating in the high frequency spectrum known as the sub 8 GHz bands. Using our XBAW technology, we believe these filters enable new power amplifier duplexer (PAD) module or RFFE competition for high band modules as well as performance-driven low band applications. Initially, we expect to target select strategic RFFE market leaders as well as tier two mobile phone OEMs and/or RFFE module suppliers. Longer term, the focus of our XBAW filter business will be to expand our market share by engaging with additional mobile phone OEMs and RFFE module manufacturers. We manufacture our XBAW wafers in our Canandaigua, NY fabrication facility where we continue to focus on the commercialization of our filters using our XBAW technology. We plan to continue develop a series of filter designs to be used in the manufacturing of discrete filters, duplexers or more complex multiplexers targeting the 4G/LTE, 5G, Wi-Fi, automotive and defense frequency bands. We believe our filter designs will create an alternative for, and replace, filters currently manufactured using materials with fundamentally inferior performance. Figure 1 below illustrates characterization plots that represent the high power, high bandwidth and high frequency capability of our high purity piezoelectric materials.

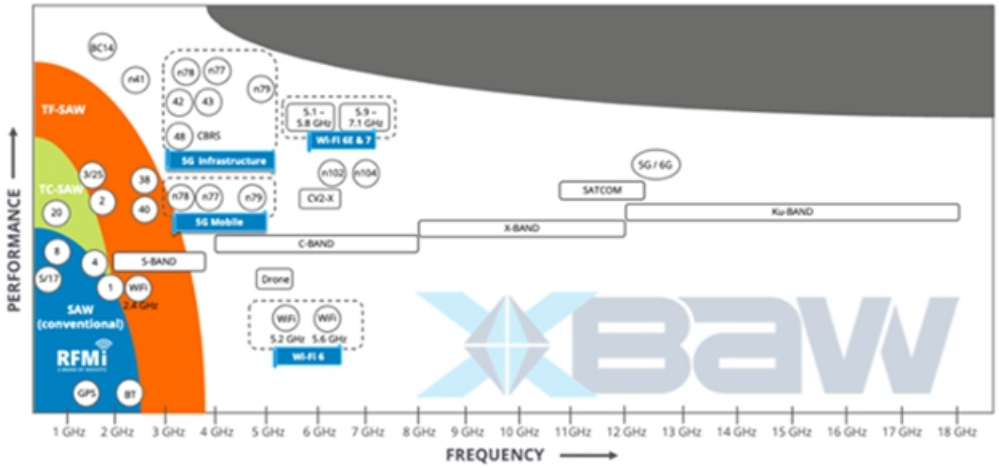
*Figure 1-Characteristics of our high purity piezoelectric materials used to fabricate our BAW RF filters.*




***Single-Band Discrete Designs, Duplexers and Multiplexers***

SAW filters are generally desired in modern RFFE because of their performance, small size and low cost. However, traditional SAW ladder designs do not perform well in high frequency bands or bands with closely spaced receive and transmit channels, typical of many new bands. Therefore, BAW filters are preferred for these bands. In the NY Facility, we fabricate BAW resonators, the building block of BAW filters, that offer high frequency, wide bandwidth and high-power performance. We believe the improved efficiency provided by BAW filters will reduce the total cost of RFFE modules, offer efficient use of shared frequency spectrum as well as reduce the battery demand of mobile devices. Additionally, we believe that our XBAW technology will allow for a single manufacturing method that will support all of the BAW filter band range and a significant portion of the SAW band range. Figure 2 below illustrates what we believe will be the frequency range of our XBAW technology.

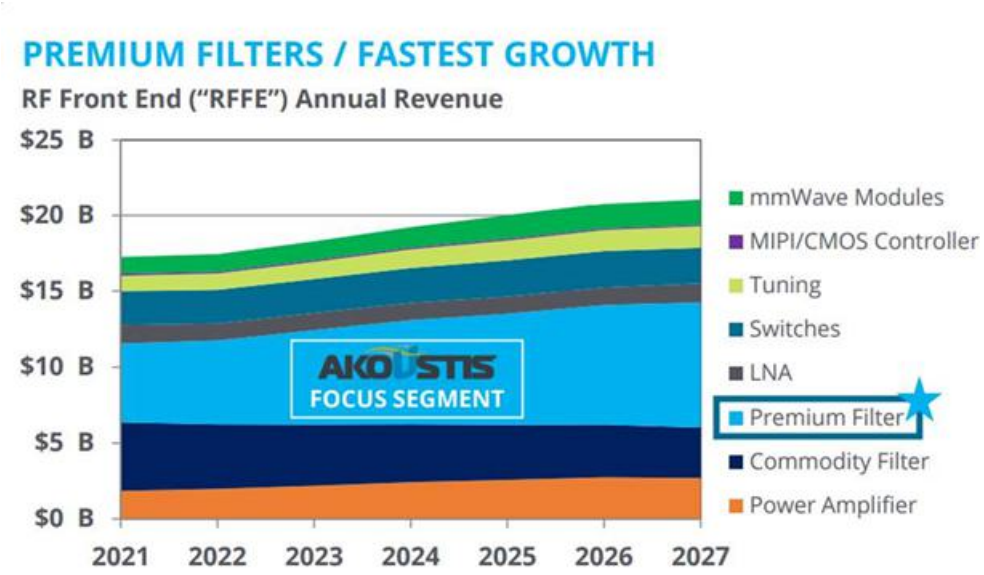
*Figure 2- The potential range of our technology.*




***Pure-Play Filter Provider Enables New Module Competition***

Our XBAW technology allows for a wide range of frequency coverage, and we plan to supply XBAW filters that will support frequency bands from 2 to 20 GHz for 4G/LTE, 5G, Wi-Fi, automotive and defense applications. We have successfully demonstrated resonators that will support the design and fabrication of 4G/LTE filters, Wi-Fi filters and defense filters, with frequencies adjacent to the emerging 5G mobile auctions. We have transitioned our XBAW technology to high volume manufacturing and aim to be a pure-play filter supplier that will address the increasing RF complexity placed on RFFE manufacturers supporting 4G/LTE 5G, and Wi-Fi. Figure 3 illustrates historical and projected growth in RF complexity.

*Figure 3- Projected Increase in Filter content in Mobile Phone Front End Modules (FEMs) from 2021 - 2027 (Source: Mobile Experts 2022).*



**Commercialization of XBAW Filters**

The immediate focus of our XBAW filter business is on the commercialization of wide bandwidth RF filters to address the Wi-Fi, Network Infrastructure and Defense bands with innovative single-band designs using our XBAW sub 8 GHz RF filter technology. We are currently developing commercial single-band XBAW filters through the NY Facility. We are focused on developing fixed-band XBAW filters because we believe these designs present the greatest near-term potential for commercialization of our technology, and that once demonstrated, the facility can be more efficiently readied for production compared to alternative technologies.

Our technology development process consists of the following five phases:

1. Pre-Alpha – Demonstrate basic feasibility/capabilities
2. Alpha – Develop stable recipe (Process freeze) with limited production development
3. Beta – Complete technology qualification (Process qualification) in factory to enable product design
4. Pre-Production – Demonstrate lead product production capabilities, release final design tools
5. Production – Continual improvement of process and parametric performance

We have completed all phases for our first generation XBAW process technology called XB1. Additionally, we have received and delivered orders for pre-production products based on our XBAW process technology, and as of end fiscal 2023, we have shipped more than 65 million XBAW filters to the 5G mobile, Wi-Fi, 5G infrastructure and defense markets.

**Research and Development**

Since inception, the Company's focus has been on developing an innovative wireless filter technology with a compelling value proposition to our potential customers and a significant and noticeable impact to the end user. Compared to legacy polycrystalline material (used to manufacture RF resonators and filters), our patented XBAW technology employs high purity piezoelectric films in our resonators, which are used as the enabler to create high performance BAW RF filters. Our high purity piezoelectric materials are a key differentiator when compared to the incumbent amorphous thin-film technologies because they increase the acoustic velocity, the electromechanical coupling coefficient in the resonator and/or high-power performance. These technology features allow Akoustis to engineer RF filter solutions for a broad spectrum for multiple radio frequencies and thus multiple end markets.

Research and development expense totaled $33.2 million for the year ended June 30, 2023, and $35.7 million for the year ended June 30, 2022. R&D activities focused on high purity piezoelectric materials development and resonator demonstration. Current R&D investments include materials advancement, resonator development, RF filter design, high yield wafer manufacturing and filter packaging.

As a result of our efforts, we have developed and introduced multiple new BAW filters which are currently sampling and in production with multiple customers across multiple markets. Our focus remains on improving the electromechanical coupling and quality factor of our resonator technology and the performance of our fabricated filters through design improvements and process optimization experiments.

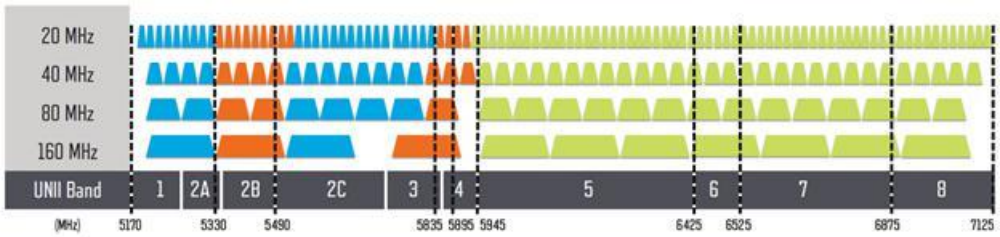
*Recent Developments in R&D*

We concentrated on several products and end markets in fiscal 2023 including 5G mobile, Wi-Fi, CBRS and 5G infrastructure, and the defense market.

In 5G mobile, we have multiple active customer engagements. Our first customer is a tier-2 RF module maker that is designing RF filters using our proprietary and patented XBAW® process that will utilize our new, advanced wafer-level-packaging. This customer is expected to complete three filters designs utilizing Akoustis PDK and enter pre-production in the first half of calendar 2024. Our second customer is a tier-1 RF component company and has engaged Akoustis to develop two filters for 5G connectivity. Akoustis has shipped multiple designs to this customer over the past year in new, advanced wafer-level-packaging. Our third mobile customer is a tier-1 RF module maker that has engaged Akoustis to develop an XBAW® filter to address a challenging coexistence band in 5G mobile. We have provided a complete design to this customer for evaluation and expect to continue to work closely with this customer over next 12–18 months. Finally, our fourth mobile customer is a leading tier-1 RF module maker that has engaged Akoustis to develop a new 5G filter utilizing our new, state-of-the-art wafer-level-packaging technology. Akoustis delivered second iteration engineering samples to this customer in the second half of fiscal 2023 and expects to continue to work closely with this customer over the next 12-18 months.

Advancements in our Wi-Fi portfolio continued in fiscal 2023. With the FCC's decision to increase the available spectrum for Wi-Fi with the ratification of 5.9-7.1 GHz in April 2020, new filters are needed that can operate at high frequency with ultra-wide bandwidth. This has driven investment in the development of both standard and custom XBAW® filters to address this new market over the past several years. We announced our first two Wi-Fi 6E filters in fiscal 2021, including a 5.5 GHz and 6.5 GHz XBAW® filter solution with 675 MHz and 1180 MHz of bandwidth. In early fiscal 2022, we entered the Wi-Fi 6E market with our first design win in August of 2021 for a multiple-in-multiple-out (MIMO) gateway product. By the end of the second quarter, we added multiple new Wi-Fi design wins and added two additional Wi-Fi 6E customers and one additional Wi-Fi 6 customer in production, exiting the quarter with five customers in production, up from one at the end of the prior calendar year.

*Figure 4 –Wi-Fi 6E and emerging Wi-Fi 7 channel frequency spectrum*




In early January 2022, we announced the addition of five additional design wins in Wi-Fi, four in Wi-Fi 6E and one in Wi-Fi 6, bringing the total number of Wi-Fi design wins to thirteen. We added two additional design wins in April 2022, bringing the total number to fifteen, and we received one additional design win in Wi-Fi 6E in the June 2022 quarter. In October 2022, we announced the addition of three new design wins in Wi-Fi 6E bringing total to nineteen. In May 2023, we announced the addition of one design win in Wi-Fi 7 and two additional design wins in Wi-Fi 6 bringing total to twenty-two. We are currently sampling and shipping volume pre-production and production filters with multiple OEMs, ODMs and SoC makers.

In June 2020, we entered into a strategic purchase agreement with a tier 1 enterprise-focused Wi-Fi OEM to create customer Wi-Fi 6E XBAW filters for a MU-MIMO enterprise router product. During fiscal 2021 and 2022, we developed multiple filters for this customer, all of which have been design-locked and successfully completed qualification in the June 2022 quarter. We entered into production with this customer in the first half of fiscal 2023.

In April, 2021, we announced that we had developed two new Wi-Fi 6E XBAW filters, a 5.6 GHz filter and a 6.6 GHz filter. The 5.6 GHz filter module covers the entire UNII 1-4 spectrum and enables an additional 80 MHz and 160 MHz channel in UNII 4, while the 6.6 GHz filter module covers the UNII 5-8 spectrum. Current Wi-Fi 6E configurations allow for the use of six 80 MHz and three 160 MHz channels in the UNII 1-3 spectrum and fourteen 80 MHz and seven 160 MHz channels in the UNII 5-8 spectrum. The XBAW 5.6/6.6 GHz coexistence filter modules allow for the use of seven 80 MHz and three 160 MHz channels in the UNII 1-4 spectrum and twelve 80 MHz and six 160 MHz channels in the UNII 5-8 spectrum. Given that the 6 GHz portion of the Wi-Fi 6E standard has begun to experience utilization relatively recently, this new XBAW coexistence solution allows for an environment of greater capacity in the 5 GHz bands. We received our first order from a tier-1 consumer-focused OEM on the same day we introduced the filters, with the first order for the development of new multi-user, multiple-in-multiple-out mesh routing products for the consumer market. In June 2023, we announced the introduction of next generation 5.6 GHz and 6.6 GHz filters with improved performance in a package greater than 4 times smaller compared to the previous generation of the product.

We have had several significant advancements in our CBRS and 5G mobile infrastructure business during fiscal 2022 and 2023. In the June quarter of fiscal 2022, we entered production with three CBRS infrastructure OEM's, our first production ramps in mobile infrastructure. Also in that quarter, we finished the first phase development of our new 3.8 GHz filter for the US market. In late calendar 2020, the FCC auctioned frequencies between 3.7 GHz and 3.98 GHz for 5G mobile use in the United States. Carriers are currently building networks that operate between 3.7 GHz and 3.98 GHz; we are running second iteration of our filters to address these bands and expect to begin sampling our new 3.8 GHz filter to OEMs in late calendar 2023 for use in small cell base stations.

In the defense market, we built on our early successes in phased array radar and drone filters with the award of a Defense Advanced Research Projects Agency (DARPA) contract to advance XBAW technology in October of 2020, and the award of a second DARPA contract in April 2022 to advance the Company's XBAW technology to 18 GHz. The first program, a Direct-to-Phase-2 (DP2) program, is to facilitate MEMS development, produce novel piezoelectric materials and device designs for both commercial and defense markets. One of the major outcomes from the DP2 program is to develop a piezo MEMS (PDK) for the Company's proprietary and patented XBAW process which is expected to support customer engagements that leverage the PDK to create devices and circuits, including RF filters, using the XBAW process. Under the second program, the Company intends to develop a novel mode overtone approach to circumvent trade-offs inherent in traditional BAW frequency scaling approaches.

Akoustis currently has 17 commercial XBAW filters in its production and greater than 18 XBAW filters in development. Current product catalog filters include a 5.6 GHz Wi-Fi filter, a 5.2 GHz Wi-Fi filter, a 5.5 GHz Wi-Fi-6E filter, a 6.5 GHz Wi-Fi 6E filter, three small cell 5G network infrastructure filters including two Band n77 filters and one Band n79 filter, a 3.8 GHz filter for defense phased-array radar applications, and a 3.6 GHz filter for the CBRS 5G infrastructure market. New developments include standard catalog and custom filters for the sub-7 GHz bands targeting 5G mobile device, network infrastructure, Wi-Fi CPE, automotive and defense markets.

**Our RFMi Technology and Business**

RFMi is focused on supplying SAW and Xtal based frequency components to automotive, industrial IoT, medical, telecom, consumer, and other markets. The team designs, develops and markets under RFMi-branded SAW band pass filters, notch filters, diplexers, duplexers, resonators and delay lines, as well as Xtal resonators, temperature sensing Xtal resonators, temperature compensated crystal oscillators ("TCXO"), voltage controlled temperature compensated crystal oscillators ("VCTCXO"), crystal oscillators ("XO"), voltage controlled crystal oscillators ("VCXO"), oven controlled crystal oscillators ("OCXO") and Xtal filters, etc.

***Technological Challenges Facing Customers for RFMi-branded Solutions***

While wireless spectrum expands to above 3GHz where Akoustis XBAW products are focused, the spectrum under 3GHz is also becoming more and more crowded. Customers are losing "guard bands" next to their operating spectrum to competing applications and operators, and "co-existence" has become necessary for functionality for wireless electronics. LTE applications increasingly need to co-exist with Industrial, Scientific, and Medical ("ISM") band applications, satellite signals are interfered by terrestrial signals, industrial wireless control signals are saturated by communication signals, even medical wireless signals can be interrupted by other RF power outputs. The more traditional filtering technologies, like L-C (inductor – capacitor) and ceramic filters, may not have a Q factor high enough to supply steep roll-off from passband to rejection band. On the other hand, the demand for available data has also exploded, due to the increasing speed of data transmission and digital communication, which requires faster and more accurate piezo-ceramic resonators.

***Our RFMi-branded Solutions for the RFMi Customers***

RFMi is addressing jamming and high data rate problems by focusing on frequency components and supplying diverse and flexible SAW and Xtal products. In its operation spectrum (about 30MHz to 3GHz), SAW technology offers one of the highest Q factors. RFMi provides custom and standard SAW band pass filters to allow a signal spectrum to pass while rejecting the other signals, as well as a SAW diplexer with one input and two output, SAW duplexers that transmit and receive simultaneously for Frequency Division Duplex ("FDD") applications, and SAW resonators for high frequency transmitters, as well as custom delay lines. For Xtal products, instead of only supplying standard Xtal resonators at a few frequencies, RFMi provides a family of Xtal products and supports custom designs to accommodate a wider temperature range than standard products, stable frequency, and low jitter and phase noise.

**Our GDSI Services and Business**

GDSI supplies advanced back-end wafer processing and supply chain services to over 250 customers across multiple industries including automotive, IoT, defense, medical, optical and communications. Its services process multiple materials including silicon, silicon carbide, silicon germanium, fused silica, quartz, alumina, ceramics, MEMS, optical filers and components, gallium nitride and PZT.

***Service Challenges Facing Customers of GDSI-branded Solutions***

Semiconductor manufacturers in North America typically use overseas assembly and test ("OSAT") partners for die preparation, which can take multiple weeks for service and delivery of a finished product. GDSI is an ideal partner for complex die preparation for North American customers as it can offer same day service, in addition to advanced prototyping and production capacity for customers with low lead times. Additionally, GDSI has ISO, ITAR and Trusted Foundry Supplier (CAT 1A rank) accreditations, allowing it to service defense companies in the United States that often cannot outsource production to overseas partners.

***Our GDSI-branded Solutions for GDSI Customers***

GDSI offers wafer-thinning services for wafers up to 300 millimeters, die grinding, ultra-thin wafer grinding at greater than 50um, bonded wafers, and bumped wafers. The services offer tight tolerances for TTV and final thickness accuracy, 3DICs/TSV with via reveal or grinding into interposer, DBG for ultra-thin die or increased die strength. GDSI also offers wafer polishing services for wafers up to 200 millimeters using a chemical mechanical polish with a mirror finish with a Ra<10A, increased die strength, reduced warpage and which removes sub-surface damage. The division also offers a stealth dicing process for wafers up to 300 millimeters, which is a completely dry process with frontside and backside processing capability for wafers with a thickness range of 75um to 800um. Additionally, GDSI can offer coring services, device pick-and-place and automated inspection services.

**Raw Materials**

Within its internal manufacturing operation for XBAW filters, Akoustis sources raw materials, process gases, metals and other miscellaneous supplies to fabricate its BAW RF filter circuits. Materials range from substrates (used to deposit key piezoelectric materials) to standard dielectric-based laminates (used for packaging of the RF filter circuits). The Company sources at least two types of substrate materials for its BAW process and we have more than one supplier for one material and a single source for the other. Multiple process gases are used for material synthesis, process etching and wafer treatment. While there is more than one supplier for most process gases, the purity levels of such gases may change by source. Hence, either purification or process requalification may be required when purchasing from a second source is required. Akoustis sources various high purity metals for electrode formation and interconnect layers for its RF circuits. Such metals are available in various purity levels and are available from more than one supplier. Other process handling hardware common to the semiconductor industry is available in abundance from multiple suppliers. Consistent with other semiconductor manufacturers, the Company may have to work with all its suppliers to ensure adequate supply of raw materials, process gases and metals as the Company ramps from R&D into high volume manufacturing.

***RFMi Supply Chain***

RFMi mainly relies on its contract manufacturer, Tai-Saw Technology Co., Ltd. ("TST") to source raw materials, such as different chemicals and gases for front and back-end manufacturing, quartz, lithium tantalate and certain bonded wafers, metal targets, Xtal blanks, semiconductor IC's, aluminum bonding wires and flip chip gold stub bump supplies, packages and lids. Most raw materials have dual or multi-sources. However, certain materials, e.g., high temperature co-fired ceramic ("HTCC") ceramic packages, bonded wafers and automotive grade TCXO/VCTCXO IC's are single-sourced as there is no alternative supplier or the alternative supplier does not guarantee automotive grade materials. Many of RFMi's customers are automotive and require a Production Part Approval Process ("PPAP"), where using an alternative source may require re-PPAP and take efforts and time. RFMi intends to diversity its supply chain, however, it takes time and resources. Certain raw material, like HTCC ceramic packages, may not have a second source for the foreseeable future.

**Intellectual Property**

We rely on a combination of intellectual property rights, including patents and trade secrets, along with copyrights, trademarks and contractual obligations and restrictions to protect our core technology and business.

In the United States and internationally, as of August 25, 2023, our IP portfolio included 104 patents, including one blocking patent that we have licensed from Cornell University. Additionally, we have 108 active and pending patent applications. These patents cover our XBAW RF filter technology from the substrate level through the system application layer. Where possible, we leverage both federal and state level R&D grants to support development and commercialization of our technology. Our owned patents expire between 2034 and 2040. We intend to continue to innovate and expand our patent portfolio, and when appropriate, we will look to purchase license(s) that grant access to additional intellectual property that enables, enhances or further expands our technical capabilities and/or product.

We believe that Akoustis has competitive advantages from rights granted under our patent applications. Some applications, however, may not result in the issuance of any patents. In addition, any future patent may be opposed, contested, circumvented or designed around by a third party or found to be unenforceable or invalidated. Others may develop technologies that are similar or superior to our proprietary technologies, duplicate our proprietary technologies or design around patents owned or licensed by us.

We generally control access to, and use of, our confidential information through the use of internal and external controls, including contractual protections with employees, contractors and customers. We rely in part on the United States and international copyright laws to protect our intellectual property. All employees and consultants are required to execute confidentiality and intellectual property assignment 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.

**Competition**

The RF filter market is controlled by a relatively small number of RF component suppliers. These companies include, among others, Broadcom Corporation, Murata Manufacturing Co., Ltd.("Murata"), Qorvo, Inc., Skyworks Solutions Inc., Taiyo Yuden Co. Ltd., and Qualcomm Incorporated. Broadcom Corporation and Qorvo, Inc. dominate the high band BAW filter market, controlling a significant portion of the customer base and are increasing capacity to meet the growing RF filter demand of the 4G/5G cellular market.

We compete directly with these companies to secure design slots inside RFFE module targeting companies that procure filters or internally source filters. While many of our competitors have more resources than we have, we believe that our filter designs will be superior in performance, and we approach prospective customers as a pure-play filter supplier, offering advantages in performance over the full frequency range at competitive costs. Our challenges include convincing our customers that we have a strong intellectual property position, we will be able to deliver in volume, we will meet their price targets, and we can satisfy quality, reliability and other requirements. For a list of other competitive factors, see "Item 1A. Risk Factors - We are still developing many of our products, and they may not be accepted in the market."

The Xtal market is more mature and there are many players, including Epson, KDS Daishinku, Kyocera, Murata and NDK from Japan and TXC from Taiwan. Our RFMi products are largely focused on niche markets such as Industrial IoT and professional audio, which may reduce competition with these large, high volume competitors. In addition, our RFMi products primarily consist of TCXO, VCTCXO and VCXO, instead of low cost Xtal. However, we may still compete with market participants with more resources and purchasing power than us.

**Employees**

We place an emphasis on hiring the best talent at the right time to enable our core technology and business growth. This includes establishing a competitive compensation and benefits package, thereby enhancing our ability to recruit experienced personnel and key technologists. As of June 30, 2023, we had a total of 222 full-time employees. We will continue to hire specific and targeted positions to further enable our technology and manufacturing capabilities as and when appropriate.

**Government Regulations**

Our business and products in development are or may become subject to regulation by various federal and state governmental agencies, including the radio frequency emission regulatory activities of the Federal Communications Commission (the "FCC"), the consumer protection laws of the Federal Trade Commission (the "FTC"), the import/export regulatory activities of the Department of Commerce, international traffic in arms regulations (ITAR) administered by the Department of State, the product safety regulatory activities of the Consumer Products Safety Commission, and the environmental regulatory activities of the Environmental Protection Agency (the "EPA").

The rules and regulations of the FCC limit the RF used by, and level of power emitting from, electronic equipment. Our RF filters, as a key element enabling consumer electronic smartphone equipment, are required to comply with these FCC rules and may require certification, verification or registration of our RF filters with the FCC. Certification and verification of new equipment requires testing to ensure the equipment's compliance with the FCC's rules. The equipment must be labeled according to the FCC's rules to show compliance with these rules. Testing, processing of the FCC's equipment certificate or FCC registration and labeling may increase development and production costs and could delay the implementation of our XBAW acoustic wave resonator technology for our RF filters and the launch and commercial productions of our filters into the U.S. market. Electronic equipment permitted or authorized to be used by us through FCC certification or verification procedures must not cause harmful interference to licensed FCC users, and may be subject to RF interference from licensed FCC users. Selling, leasing or importing non-compliant equipment is considered a violation of FCC rules and federal law, and violators may be subject to an enforcement action by the FCC. Any failure to comply with the applicable rules and regulations of the FCC could have an adverse effect on our business, operating results and financial condition by increasing our compliance costs and/or limiting our sales in the United States.

Like our XBAW products, RFMi's SAW and Xtal products are frequency components and are subject to similar FCC rules. For instance, many of RFMi's customers operate in ISM (Industrial, Scientific, and Medical) band, MICS (Medical Implant Communication System), WMTS (Wireless Medical Telemetry Service) and other bands regulated by FCC, in which transmission power level is restricted and products have to pass the FCC, and in certain cases FDA certification to be allowed in the market. Even though RFMi's components do not need to be certified by FCC and/or FDA, our customers modules and systems which incorporate RFMi components may need to be certified. Any failure of RFMi's customers to be certified would affect RFMi's sales.

The semiconductor and electronics industries also have been subject to increasing environmental regulations. A number of domestic and foreign jurisdictions seek to restrict the use of various substances, a number of which have been used in our products in development or processes. While we have implemented a compliance program to ensure our product offering meets these regulations, there may be instances where alternative substances will not be available or commercially feasible, or may only be available from a single source, or may be significantly more expensive than their restricted counterparts. Additionally, if we were found to be non-compliant with any such rule or regulation, we could be subject to fines, penalties and/or restrictions imposed by government agencies that could adversely affect our operating results. We will continue to monitor our quality program and expand as required to maintain compliance and ability to audit our supply chain.

Noncompliance with applicable regulations or requirements could subject us to investigations, sanctions, mandatory product recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties, or injunctions. An adverse outcome in any such litigation could require us to pay contractual damages, compensatory damages, punitive damages, attorneys' fees and costs. These enforcement actions could harm our business, financial condition and results of operations. If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, financial condition and results of operations could be materially adversely affected. In addition, responding to any action will likely result in a significant diversion of management's attention and resources and an increase in professional fees.

**Recent Legislation**

On August 9, 2022, President Biden signed into law the CHIPS and Science Act of 2022, which appropriates funds to support the construction of semiconductor plants in the United States and advancement of United States semiconductor research and development. The Company is seeking to expand its domestic manufacturing footprint including both semiconductors and advanced packaging at our NY campus under the DoC Chips for America program. We are currently awaiting feedback on our pre-application from the DoC and we expect to file a final application by the end of the calendar year.

**ITEM 1A. RISK FACTORS**

This section is a summary of the risks that we presently believe are material to the operations of the Company. Additional risks of which we are not presently aware or which we presently deem immaterial may also impair the Company's business, financial condition or results of operations.

**Risk Factors Summary**

***Risks Related to our Business and the Industry in which we Operate***

- We have a limited operating history upon which investors can evaluate our business and future prospects.
- We may not generate sufficient revenues to achieve profitability.
- We have recently engaged, and may in the future engage, in acquisitions that could disrupt our business, cause dilution to our shareholders and harm our financial condition and operating results.
- We are subject to a number of restrictive covenants relating to our indebtedness, which may restrict our business and financing activities.
- Our business, results of operation and financial condition have been, and could in the future be, adversely affected by a pandemic, epidemic or other public health emergency.
- The industry and the markets in which the Company operates are highly competitive and subject to rapid technological change.
- We are still developing many of our products, and they may not be accepted in the market.
- Winning business in the semiconductor industry is subject to a lengthy process that often requires us to incur significant expense, from which we may ultimately generate no revenue.
- We face risks associated with the operation of our manufacturing facility.
- The ongoing supply shortage experienced by the semiconductor industry has disrupted, and will likely continue to disrupt normal business activity, and may have an adverse effect on our results of operations.
- The average selling prices of semiconductor products in our markets have often decreased rapidly and may do so in the future.
- Problems in scaling our manufacturing operations or poor manufacturing yields could have a material adverse effect on our business.
- Industry overcapacity could cause us to underutilize our manufacturing facilities and have a material adverse effect on our financial performance.
- We face intense competition, which may cause pricing pressures, decreased gross margins and loss of potential market share and may materially and adversely affect our business, financial condition and results of operations.
- We contract with a number of large service providers and product companies that have considerable bargaining power, which may require us to agree to terms and conditions that could have an adverse effect on our business or ability to recognize revenues.
- We may be subject to risks related to doing business in, and having counterparties based in, foreign countries.
- Economic regulation in China could adversely impact our business and results of operations.
- We depend on a few large customers for a substantial portion of our revenue.
- Global shortages in manufacturing capacities could negatively affect our operations and negatively impact our results of operations.
- Changes in general economic conditions, together with other factors, cause significant upturns and downturns in the industry, and our business, therefore, may also experience cyclical fluctuations in the future.
- If we are unable to attract and retain qualified personnel to contribute to the development, manufacture and sale of our products, we may not be able to effectively operate our business.

***Risks Related to Our Intellectual Property***

- If we fail to obtain, maintain and enforce our intellectual property rights, we may not be able to prevent third parties from using our proprietary technologies.
- We have a limited number of patent applications, which may not result in issued patents or patents that fully protect our intellectual property.
- We are and may in the future be involved in lawsuits to protect or enforce our patents, which could be expensive, time-consuming and unsuccessful.
- We need to protect our trademark rights and disclosure of our trade secrets to prevent competitors from taking advantage of our goodwill.
- Development of certain technologies with our customers or manufacturers may result in restrictions on jointly-developed intellectual property.
- We are and may be subject to claims of infringement, misappropriation or misuse of third party intellectual property that, regardless of merit, could result in significant expense and loss of our intellectual property rights.

***Risks Related to our Financial Condition***

- We have a history of losses, will need substantial additional funding to continue our operations and may not achieve or sustain profitability in the future.
- Servicing our debt requires a significant amount of cash or Common Stock, and we may not have sufficient cash flow from our business or have the ability to issue the necessary number of shares of Common Stock to pay our substantial debt.

***Risks Related to Regulatory Requirements***

- Government regulation may adversely affect our business.
- We may incur substantial expenses in connection with regulatory requirements, and any regulatory compliance failure could cause our business to suffer.
- There could be an adverse change or increase in the laws and/or regulations governing our business.

***Investment Risks***

- Our common stock has been thinly traded and its share price in the public markets has experienced, and may in the future experience, extreme volatility.
- Stockholders may experience dilution of their ownership interests because of the future issuance of additional shares of our stock or other securities.

***General Risk Factors***

- Security breaches and other disruptions could compromise our proprietary information and expose us to liability, which would cause our business and reputation to suffer.
- Litigation or legal proceedings, including product liability claims, could expose us to significant liabilities, occupy a significant amount of our management's time and attention and damage our reputation.
- There could be an adverse change or increase in the laws and/or regulations governing our business.

**Risks Related to our Business and the Industry in which we Operate**

***We have a limited operating history upon which investors can evaluate our business and future prospects.***

We are an emerging commercial company that began meaningful commercial operations in 2019 by selling advanced single-crystal BAW filter products for RFFEs for use in the mobile wireless device industry. Historically, we have primarily focused on R&D of high efficiency acoustic wave resonator technology utilizing single-crystal piezoelectric materials, and have not become profitable from operations.

Since our expectations of potential customers and future demand for our products are based on only limited experience, it is difficult for our management and our investors to accurately forecast and evaluate our future prospects and our revenues. Our proposed progression of our operations is therefore subject to all of the risks inherent in light of the expenses, difficulties, complications and delays frequently encountered in connection with the growth of any new business and the development of a product, as well as those risks that are specific to our business in particular. The risks include, but are not limited to, our reliance on third parties to complete some processes for the manufacturing and packaging of our products, the possibility that we will not be able to develop functional and scalable products, or that although functional and scalable, our products and/or services will not be accepted in the market. To successfully introduce and market our products at a profit, we must establish brand name recognition and competitive advantages for our products. There are no assurances that the Company can successfully address these challenges. If it is unsuccessful, the Company and its business, financial condition and operating results will be materially and adversely affected.

***We may not generate sufficient revenues to achieve profitability.***

We have incurred operating losses since our inception and expect to continue to have negative cash flow from operations. We have only generated minimal revenues from shipment of product while our primary sources of funds have been R&D grants, MEMS foundry services (which we exited in 2021), issuances of our equity, and debt. Our future profitability will depend on our ability to create a sustainable business model and generate sufficient revenues, which is subject to a number of factors, including our ability to successfully implement our strategies and execute our R&D plan, our ability to implement our improved design and cost reductions into manufacturing of our RF filters, the availability of funding, market acceptance of our products, consumer demand for end products incorporating our products, our ability to compete effectively in a crowded field, our ability to respond effectively to technological advances by timely introducing our new technologies and products, and global economic and political conditions.

Our future profitability also depends on our expense levels, which are influenced by a number of factors, including the resources we devote to developing and supporting our projects and potential products, the continued progress of our research and development of potential products, our ability to improve R&D efficiencies, license fees or royalties we may be required to pay, and the potential need to acquire licenses to new technology, the availability of intellectual property for licensing or acquisition, or the use of our technology in new markets, which could require us to pay unanticipated license fees and royalties in connection with these licenses.

Our development and commercialization efforts may prove more expensive than we currently anticipate, and we may not succeed in increasing our revenues to offset higher expenses. These expenses, among other things, may cause our net income and working capital to decrease. If we fail to generate sufficient revenue and manage our expenses, we may never achieve profitability, which would adversely and materially affect our ability to provide a return to our investors.

***We have recently engaged, and may in the future engage, in acquisitions that could disrupt our business, cause dilution to our shareholders and harm our financial condition and operating results.***

In October 2021, we acquired a majority ownership position in RFM Integrated Device, Inc. (“RFMi”) and, on April 29, 2022, exercised the right to acquire the remaining 49%. In January 2023, we acquired all of the outstanding capital stock of Grinding and Dicing Services, Inc. (“GDSI”). The consideration for the acquisitions has included cash, common stock, a secured promissory note, as well as a possible earn-out payment with respect to RFMi that may be paid in cash or common stock based on its future trading price. We may in the future make additional acquisitions of, or investments in, companies that we believe have products or capabilities that are a strategic or commercial fit with our current business or otherwise offer opportunities for our company. In connection with these acquisitions or investments, we may:

- issue common stock or other forms of equity that would dilute our existing shareholders’ percentage of ownership,
- incur debt and assume liabilities, and
- incur amortization expenses related to intangible assets or incur large and immediate write-offs.

We may not be able to complete acquisitions on favorable terms, if at all. If we do complete an acquisition, such as of RFMi and GDSI, we cannot assure you that it will ultimately strengthen our competitive position, that it will be viewed positively by customers, financial markets or investors or that we will otherwise realize the expected benefits of such an acquisition to the anticipated extent or at all. Furthermore, the acquisitions of RFMi and GDSI and any future acquisitions could pose numerous additional risks to our expected operations, including, but not limited to:

- problems integrating the purchased business, products or technologies,
- challenges in achieving strategic objectives, cost savings and other anticipated benefits,
- increases to our expenses,
- the assumption of significant liabilities, which may have been previously unknown or not discoverable through diligence, that exceed the limitations of any applicable indemnification provisions or the financial resources of any indemnifying party,
- inability to maintain relationships with prospective key customers, vendors and other business partners of the acquired businesses,

- diversion of management's attention from its day-to-day responsibilities,
- difficulty in maintaining controls, procedures and policies during the transition and integration,
- entrance into marketplaces where we have no or limited prior experience and where competitors have stronger marketplace positions,
- potential stockholder litigation challenging the acquisition, which could result in significant costs of defense, indemnification and liability,
- potential loss of key employees, particularly those of the acquired entity, and
- historical financial information may not be representative or indicative of our results as a combined company.

Acquisitions may also have unanticipated tax, legal, regulatory and accounting ramifications, including recording goodwill and non-amortizable intangible assets that are subject to impairment testing on a regular basis and potential periodic impairment charges and incurring amortization expenses related to certain intangible assets.

***If our goodwill and intangible assets on our consolidated balance sheet arising from the RFMi and GDSI acquisitions become impaired, it would require us to record a material charge to earnings in accordance with generally accepted accounting principles.***

As a result of our acquisitions of RFMi and GDSI, we recorded approximately $14.6 million of goodwill and $17.7 million of intangible assets which are currently shown as assets on our consolidated balance sheet at June 30, 2023. Generally Accepted Accounting Principles ("GAAP") require us to test our goodwill and intangible assets for impairment on an annual basis, or more frequently if indicators for potential impairment exist. The testing required by GAAP involves estimates and judgments by management. Although we believe our assumptions and estimates are reasonable and appropriate, any changes in key assumptions, including a failure to meet business plans or other unanticipated events and circumstances, may affect the accuracy or validity of such estimates. If in the future we determine that an impairment exists, we may be required to record a material charge to earnings in our consolidated financial statements during the period in which any impairment of our goodwill or intangible assets is determined.

***We are subject to a number of restrictive covenants relating to our indebtedness, which may restrict our business and financing activities.***

The indenture governing our convertible notes imposes operating and other restrictions on us. Such restrictions may affect, and in many respects limit or prohibit, among other things, our ability to:

- incur or guarantee additional indebtedness;
- issue preferred stock or stock of any subsidiary;
- make investments or acquisitions;
- merge, consolidate, dissolve or liquidate;

- engage in certain asset sales (including the sale of stock of our subsidiary);
- grant liens (except permitted liens);
- pay dividends;
- engage in transactions with our affiliates; and
- enter into a new line of business.

The restrictions in the indenture governing the convertible notes may prevent us from taking actions that we believe would be in the best interests of our business, and may make it difficult for us to successfully execute our business strategy or effectively compete with companies that are not similarly restricted. We also may incur future debt obligations that might subject us to additional restrictive covenants that could affect our financial and operational flexibility. Our ability to comply with these covenants in future periods will largely depend on the pricing of our products and services, and our ability to successfully implement our overall business strategy. We cannot assure you that we will be granted waivers or amendments to these agreements if for any reason we are unable to comply with these agreements. The breach of any of these covenants and restrictions could result in a default under the indenture governing the convertible notes, which could result in an acceleration of our indebtedness.

***Our business, results of operation and financial condition have been, and could in the future be, adversely affected by a pandemic, epidemic or other public health emergency.***

The COVID-19 pandemic had a significant impact on worldwide economic activity and caused disruptions in our supply chain and distribution networks as well as sales activity. Another pandemic, including a new COVID-19 variant, or other public health emergency, together with preventative measures taken to contain or mitigate such crises, could adversely impact our results of operations and financial conditions. In addition, a pandemic or other public health emergency could impact the proper functioning of financial and capital markets, foreign currency exchange rates, product and energy costs, labor supply and costs, and interest rates. Any pandemic or other public health emergency could also amplify the other risks and uncertainties described in this Annual Report on Form 10-K.

We cannot reasonably predict the ultimate impact of any pandemic or other public health emergency, including the extent of any adverse impact on our business, results of operations and financial condition, which will depend on, among other things, the duration and spread, the impact of governmental regulations that may be imposed in response, the effectiveness of actions taken to contain or mitigate the outbreak, the availability, safety and efficacy of vaccines, including against emerging variants of the infectious disease, and global economic conditions.

Our sales efforts typically function by in-person meetings with customers and potential customers to discuss our products. The method and timing of these meetings has been altered due to stay-at-home orders and travel restrictions relating to COVID-19. This limitation on the ability of our sales personnel to maintain their customary interaction with customers may negatively affect demand for our products. We have also found that potential customers have been forced to slow and reprioritize various product development projects as a result of COVID-19. This disruption to our sales activity and our customers' businesses, and the resulting delay in the growth of our business, may have a material adverse effect on our results of operations, financial condition and cash flows. Furthermore, a reduction or delay in revenues will prolong our dependence on capital raising to finance our operations.

***The industry and the markets in which the Company operates are highly competitive and subject to rapid technological change. Therefore, in order for our products to be competitive and achieve market acceptance, we need to keep pace with rapid development of new process technologies.***

The markets in which we compete are intensely competitive. We operate primarily in the industry that designs and produces semiconductor components for wireless communications and other wireless devices, which is subject to rapid changes in both product and process technologies based on demand and evolving industry standards. The markets for our products are characterized by:

- rapid technological developments and product evolution,
- rapid changes in customer requirements,
- frequent new product introductions and enhancements,
- continuous demand for higher levels of integration, decreased size and decreased power consumption,
- short product life cycles with declining prices over the life cycle of the product, and
- evolving industry standards.

The continuous evolutions of these technologies and frequent introduction of new products and enhancements have generally resulted in short product life cycles for wireless semiconductor products, in general, and for RFFEs, in particular. Our R&D activity and resulting products could become obsolete or less competitive sooner than anticipated because of a faster than anticipated change in one or more of the above-noted factors. Therefore, in order for our products to be competitive and achieve market acceptance, we need to keep pace with rapid development of new process technologies, which requires us to:

- respond effectively to technological advances by timely introducing new technologies and products,
- successfully implement our strategies and execute our R&D plan in practice,
- improve the efficiency of our technology, and
- implement our improved design and cost reductions into manufacturing of our RF filters.

***We are still developing many of our products, and they may not be accepted in the market.***

Although we believe that our XBAW acoustic wave resonator technology, which utilizes high purity piezoelectric materials, provides material advantages over existing RF filters technologies, and we have developed and are currently developing various methods of integration suitable for implementation of this technology into RF filters, we cannot be certain that our RF BAW filters will be able to achieve or maintain market acceptance. While we have fabricated R&D filters that demonstrate the performance of our XBAW technology, and this technology has been qualified for mass production, the Company is undergoing a critical production ramp to commercial scale. There are no assurances that we can successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields. In addition to our limited operating history, we will depend on a limited number of manufacturers and customers for a significant portion of our revenue in the future and we cannot guarantee their acceptance of our products. Each of these factors may adversely affect our ability to implement our business strategy and achieve our business goals.

The successful development of our XBAW technology and market acceptance of our RF BAW filters will be highly complex and will depend on the following principal competitive factors, including our ability to:

- comply with industry standards and effectively compete against current technology for producing RF acoustic wave filters,
- differentiate our products from offerings of our competitors by delivering RF BAW filters that are higher in quality, reliability and technical performance,
- anticipate customer and market requirements, changes in technology and industry standards and timely develop improved technologies that meet high levels of satisfaction of our potential customers,
- maintain, grow and manage our internal teams to the extent we increase our operations and develop new segments of our business,
- develop and maintain successful collaborative, strategic, and other relationships with manufacturers, customers and contractors,
- protect, develop or otherwise obtain adequate intellectual property for our technology and our filters; and
- obtain strong financial, sales, marketing, technical and other resources necessary to develop, test, manufacture, commercialize and market our filters.

If we are unsuccessful in accomplishing these objectives, we may not be able to compete successfully against current and potential competitors. As a result, our XBAW technology and our RF filters may not be accepted in the market and we may never attain profitability.

***Winning business in the semiconductor industry is subject to a lengthy process that often requires us to incur significant expense, from which we may ultimately generate no revenue.***

Our business is dependent on us winning competitive bid selection processes, known as “design wins”. These selection processes are typically lengthy and can require us to dedicate significant development expenditures and scarce engineering resources in pursuit of a single customer opportunity. Failure to obtain a particular design win may prevent us from obtaining design wins in subsequent generations of a particular product. This can result in lost revenue and can weaken our position in future selection processes.

Winning a product design does not guarantee sales to a customer. A delay or cancellation of a customer’s plans could materially and adversely affect our financial results, as we incur significant expense in the design process and may generate little or no revenue from it. In addition, the timing of design wins is unpredictable and implementing production for a major design win, or multiple design wins at the same time, may strain our resources and supply chain. In such event, we may be forced to dedicate significant additional resources and incur additional costs and expenses. Further, often customers will only purchase limited numbers of evaluation units until they qualify the products and/or the manufacturing line for those products. The qualification process can take significant time and resources. Delays in qualification or failure to qualify our products may cause a customer to discontinue use of our products and result in a significant loss of revenue. Finally, customers could choose at any time to stop using our products or could fail to successfully market and sell their products, which could reduce demand for our products, and cause us to hold excess inventory, materially adversely affecting our business, financial condition and results of operations. These risks are exacerbated by the fact that many of our products, and the end products into which our products are incorporated, often have very short life cycles.

***We face risks associated with the operation of our manufacturing facility.***

We operate a wafer fabrication facility in Canandaigua, NY that we acquired in June 2017. We currently use several international and domestic suppliers to assemble and test our products, as well as our own test and tape and reel facilities located in the U.S.

A number of factors related to our facilities will affect our business and financial results, including the following:

- our ability to adjust production capacity in a timely fashion in response to changes in demand for our products;
- the significant fixed costs of operating the facilities;
- factory utilization rates;
- our ability to qualify our facilities for new products and new technologies in a timely manner;
- the availability of raw materials, the impact of the volatility of commodity pricing and tariffs imposed on raw materials, including substrates, gold, platinum and high purity source materials such as gallium, aluminum, arsenic, indium, silicon, phosphorous and palladium;
- our manufacturing cycle times;
- our manufacturing yields;
- our ability to hire, train and manage qualified production personnel;
- our compliance with applicable environmental and other laws and regulations; and
- our ability to avoid prolonged periods of down-time in our facilities for any reason.

***We are dependent upon third parties for the supply of raw materials and components.***

Our manufacturing operations depend on obtaining adequate supplies of raw materials and components used in our manufacturing processes at a competitive cost, including silicon wafers, copper lead frames, precious and rare earth metals, ceramic packages and various chemicals and gases. Although we maintain relationships with suppliers located around the world with the objective of ensuring that we have adequate sources for the supply of raw materials and components for our manufacturing needs, increases in demand from the semiconductor industry for such raw materials and components, as well as increased demand for commodities in general, can result in tighter supplies and higher costs. Our suppliers may not be able to meet our delivery schedules, we may lose a significant or sole supplier, a supplier may not be able to meet performance and quality specifications and we may not be able to purchase such supplies or material at a competitive cost. If a supplier were unable to meet our delivery schedules or if we lost a supplier or a supplier were unable to meet performance or quality specifications, our ability to satisfy customer obligations would be materially and adversely affected. In addition, we review our relationships with suppliers of raw materials and components for our manufacturing needs on an ongoing basis. In connection with our ongoing review, we may modify or terminate our relationship with one or more suppliers. We may also enter into sole supplier arrangements to meet certain of our raw material or component needs. While we do not typically rely on a single source of supply for our raw materials, we are currently dependent on a limited number of sole-source suppliers. If we were to lose these sole sources of supply, for any reason, a material adverse effect on our business could result until an alternate source is obtained. As certain materials are highly specialized, the lead time needed to identify and qualify a new supplier is typically lengthy and there is often no readily available alternative source. To the extent we enter into additional sole supplier arrangements for any of our raw materials or components, the risks associated with our supply arrangements would be exacerbated.

***The ongoing supply shortage experienced by the semiconductor industry has disrupted and will likely continue to disrupt normal business activity, and may have an adverse effect on our results of operations.***

The global silicon semiconductor industry is experiencing a shortage in supply and difficulties in ability to meet customer demand. In particular, the government-mandated COVID-19 containment measures in China have impacted supply shipments and created ongoing risk and uncertainty. These issues have led to an increase in lead-times of the production of semiconductor chips and components.

We have experienced, and expect to continue to experience, disruption to parts of our semiconductor supply chain, including procuring necessary components and inputs, such as wafers and substrates, in a timely fashion, with suppliers increasing lead times or placing products on allocation and raising prices. We have also incurred higher costs to secure available inventory, or have extended our purchase commitments or placed non-cancellable orders with suppliers, which introduces inventory risk if our forecasts and assumptions are inaccurate. In addition, disruptions to commercial transportation infrastructure have increased delivery times for materials and components to our facilities and, in some cases, our ability to timely ship our products to customers. We have seen some of our customers become more conservative in response to these complications by reducing their purchases and inventories or postponing capital expenditures, including product orders from us.

We believe the global supply chain challenges and their adverse impact on our business will persist and the degree to which the pandemic ultimately impacts our business and results of operations will depend on future developments beyond our control.

***Social and environmental responsibility regulations, policies and provisions, as well as customer and investor demands, may make our supply chain more complex and may adversely affect our relationships with customers and investors.***

There is an increasing focus on corporate, social and environmental responsibility in the semiconductor industry, particularly with OEMs that manufacture consumer electronics. A number of our customers have adopted, or may adopt, procurement policies that include social and environmental responsibility provisions or requirements that their suppliers should comply with, or they may seek to include such provisions or requirements in their procurement terms and conditions. An increasing number of investors are also requiring companies to disclose corporate, social and environmental policies, practices and metrics. In addition, various jurisdictions are developing climate change-based laws or regulations that could cause us to incur additional direct costs for compliance, as well as indirect costs resulting from our customers, suppliers, or both incurring additional compliance costs that are passed on to us. These legal and regulatory requirements, as well as investor expectations, on corporate environmental and social responsibility practices and disclosure, are subject to change, can be unpredictable, and may be difficult and expensive for us to comply with, given the complexity of our supply chain and our significant outsourced manufacturing. If we are unable to comply, or are unable to cause our suppliers or manufacturers to comply, with such policies or provisions or meet the requirements of our customers and investors, a customer may stop purchasing products from us or an investor may sell their shares, and may take legal action against us, which could harm our reputation, revenue and results of operations.

In recent years, there has been an increased focus from stakeholders, regulators and the public in general on corporate, social and environmental matters, including greenhouse gas emissions and climate-related risks, renewable energy, water stewardship, waste management, diversity, equality and inclusion, responsible sourcing and supply chain, human rights, and social responsibility. We may be unable to satisfactorily meet evolving standards, regulations and disclosure requirements related to corporate, social, and environmental matters. Such matters can affect the willingness or ability of investors to make an investment in our Company, as well as our ability to meet regulatory requirements, including the SEC's proposed rules related to greenhouse gas emissions. Any failure, or perceived failure, to meet evolving stakeholder expectations, additional regulations and industry standards or achieve our corporate, social, and environmental responsibility goals could have an adverse effect on our business, results of operations, financial condition, or stock price.

In addition, as part of their corporate, social and environmental responsibility programs, an increasing number of OEMs are seeking to source products that do not contain minerals sourced from areas where proceeds from the sale of such minerals are likely to be used to fund armed conflicts, such as in the Democratic Republic of Congo. This could adversely affect the sourcing, availability and pricing of minerals used in the manufacture of semiconductor devices, including our products. As a result, we may face difficulties in satisfying these customers' demands, which may harm our sales and operating results.

***The average selling prices of semiconductor products in our markets have often decreased rapidly and may do so in the future, which could harm our revenue and gross profit.***

Certain of the semiconductor products we develop and sell are used for high volume applications. As a result, the prices of those products have often decreased rapidly. Gross profit on our products may be negatively affected by, among other things, pricing pressures from our customers. We have reduced, and may in the future reduce, the average selling prices of our products in response to, or in anticipation of, future competitive pricing pressures, new product introductions by us or our competitors and other factors. In addition, some of our customer agreements provide for volume-based pricing and product pricing roadmaps, which can also reduce the average selling prices of our products over time. Our margins and financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing manufacturing costs, or developing new and higher value-added products on a timely basis.

***If we experience poor manufacturing yields, our operating results may suffer.***

Our products have unique designs and are fabricated using multiple semiconductor process technologies that are highly complex. In many cases, our products are assembled in customized packages. Many of our products consist of multiple components in a single module and feature enhanced levels of integration and complexity. Our customers insist that our products be designed to meet their exact specifications for quality, performance and reliability. Our manufacturing yield is a combination of yields across the entire supply chain, including wafer fabrication, assembly and test yields. Defects in a single component in an assembled module product can impact the yield for the entire module, which means the adverse economic impacts of an individual defect can be multiplied many times over if we fail to discover the defect before the module is assembled. Due to the complexity of our products, we periodically experience difficulties in achieving acceptable yields and other quality issues, particularly with respect to new products.

Our customers test our products once they have been assembled into their products. The number of usable products that result from our production process can fluctuate as a result of many factors, including:

- design errors;
- minute impurities and variations in materials used;
- contamination of the manufacturing environment;
- equipment failure or variations in the manufacturing processes;
- losses from broken wafers or other human error; and
- defects in substrates and packaging.

We constantly seek to improve our manufacturing yields. Typically, for a given level of sales, when our yields improve, our gross margins improve, and when our yields decrease, our unit costs are higher, our margins are lower, and our operating results are adversely affected.

Costs of product defects and deviations from required specifications could include the following:

- writing off inventory;
- scrapping products that cannot be fixed;
- accepting returns of products that have been shipped;
- providing product replacements at no charge;
- reimbursement of direct and indirect costs incurred by our customers in recalling or reworking their products due to defects in our products;
- travel and personnel costs to investigate potential product quality issues and to identify or confirm the failure mechanism or root cause of product defects; and
- defending against litigation.

These costs could be significant and could reduce our gross margins. Our reputation with customers also could be damaged as a result of product defects and quality issues, and product demand could be reduced, which could harm our business and financial results.

***Problems in scaling our manufacturing operations could have a material adverse effect on our business.***

Future customer demand may require us to significantly increase our manufacturing capacity. There are substantial technical challenges to increasing manufacturing capacity, including equipment acquisition lead times, materials procurement, scaling our manufacturing process, manufacturing site expansion, and the need to significantly increase production yields while maintaining or improving quality control and assurance. Developing commercial-scale manufacturing facilities will require the investment of substantial additional funds and the hiring and retention of additional management, quality assurance, quality control and technical personnel who have the necessary manufacturing experience. The scaling of manufacturing capacity is subject to numerous risks and uncertainties and may lead to variability in product quality or reliability, prolonged construction timelines, as well as resources required to acquire, install and maintain manufacturing equipment, among others, all of which can lead to unexpected delays in manufacturing output. Additionally, the production of our products must occur in a highly controlled and clean environment to minimize particles and other yield- and quality-limiting contaminants. Weaknesses in process control or minute impurities in materials may cause a substantial percentage of defective products. We may not be able to maintain stringent quality controls and contamination problems could arise. Material defects in our products could result in loss or delay of revenues, delayed market acceptance, damage to our reputation, lost customers, legal claims, increased insurance costs or increased service and warranty costs. If we are unable to successfully scale up our manufacturing operations to meet customer demand, our business growth could be materially adversely affected.

***Industry overcapacity could cause us to underutilize our manufacturing facilities and have a material adverse effect on our financial performance.***

It is difficult to predict future demand for our products, which makes it difficult to estimate future requirements for production capacity and avoid periods of overcapacity. Fluctuations in the growth rate of industry capacity relative to the growth rate in demand for our products also can lead to overcapacity and contribute to cyclicality in the semiconductor market.

Capacity expansion projects have long lead times and require capital commitments based on forecasted product trends and demand well in advance of production orders from customers. In recent years, we have made significant capital investments to expand our RF filter capacity to address forecasted future demand patterns. In certain cases, these capacity additions may exceed the near-term demand requirements, leading to overcapacity situations and underutilization of our manufacturing facilities.

As many of our manufacturing costs are fixed, these costs cannot be reduced in proportion to the reduced revenues experienced during periods of underutilization. Underutilization of our manufacturing facilities can adversely affect our gross margin and other operating results. If demand for our products experiences a prolonged decrease, we may be required to close or idle facilities and write down our long-lived assets or shorten the useful lives of underutilized assets and accelerate depreciation, which would increase our expenses.

***We face intense competition, which may cause pricing pressures, decreased gross margins and loss of potential market share and may materially and adversely affect our business, financial condition and results of operations.***

We compete with U.S. and international semiconductor manufacturers and mobile semiconductor companies of all sizes in terms of resources and market share, some of whom have significantly greater financial, technical, manufacturing and marketing resources than we do. We expect competition in our markets to intensify as new competitors enter the market, existing competitors merge or form alliances, and new technologies emerge. Our competitors may introduce new solutions and technologies that are superior to our products, are verified on a commercial scale, and have achieved widespread market acceptance. Certain of our competitors may be able to adapt more quickly than we can to new or emerging technologies and changes in customer requirements or may be able to devote greater resources to the development, promotion and sale of their products than we can. This implementation may require us to modify the manufacturing process for our filters, design new products to more stringent standards, and redesign some existing products, which may prove difficult for us and result in delays in product deliveries and increased expenses.

Increased competition could also result in pricing pressures, declining average selling prices for our products, decreased gross margins and loss of potential market share. We will need to make substantial investments to develop these enhancements and technologies, and we cannot assure investors that we will have funds available for these investments or that these enhancements and technologies will be successful. If a competing technology emerges that is, or is perceived to be, superior to our existing technology and we are unable to adapt to these changes and to compete effectively, our market share and financial condition could be materially and adversely affected, and our business, revenue, and results of operations could be harmed.

In addition, from time to time, governments may provide subsidies or make other investments that could give competitive advantages to many semiconductor companies. In August 2022, the United States enacted the CHIPS Act, which, among other things, provides funding to increase domestic production and research and development in the semiconductor industry. Our competitors could receive government funding allocated under the CHIPS Act or otherwise benefit from such investments to a greater extent than we do, which could cause them to gain market share and adversely affect our business, financial condition and results of operations.

***We contract with a number of large service providers and product companies that have considerable bargaining power, which may require us to agree to terms and conditions that could have an adverse effect on our business or ability to recognize revenues.***

Large service providers and product companies comprise a significant portion of our current and target customer bases. These customers generally have greater purchasing and bargaining power than smaller entities and, accordingly, often request and receive more favorable terms from suppliers, including us. As we seek to expand our sales to existing customers and acquire new customers, we may be required to agree to terms and conditions that are favorable to our customers and that may affect the timing of our ability to recognize revenue, increase our costs and have an adverse effect on our business, financial condition, and results of operations. Furthermore, large customers have increased buying power and ability to require onerous terms in our contracts with them, including pricing, warranties, and terms related to indemnification, intellectual property ownership and licensing. If we are unable to satisfy the terms of these contracts, it could result in liabilities of a material nature, including litigation, damages, additional costs, loss of market share, loss of intellectual property rights or exclusive use of such rights, and loss of reputation. Additionally, the terms these large customers may require, such as most-favored customer or exclusivity provisions with respect to specific products, may impact our ability to do business with other customers and generate revenues from such customers.

***We may be subject to risks related to doing business in, and having counterparties based in, foreign countries.***

We engage in operations, and enter into agreements with counterparties, located outside the U.S., which exposes us to political, governmental and economic instability and foreign currency exchange rate fluctuations.

Any disruption caused by these factors could harm our business, results of operations, financial condition, liquidity and prospects. Risks associated with potential operations, commitments and investments outside of the U.S. include but are not limited to risks of:

- global and local economic, social and political conditions and uncertainty, including heightened tensions between the U.S. and China, China and Taiwan, or other countries;
- currency exchange restrictions and currency fluctuations;
- war, including the Russian-Ukrainian conflict, or terrorist attack;
- local outbreak of disease, such as COVID-19;
- renegotiation or nullification of existing contracts or international trade arrangements;
- labor market conditions and workers' rights affecting our manufacturing operations or those of our customers;
- macro-economic conditions impacting key markets and sources of supply;
- changing laws and policies affecting trade, taxation, financial regulation, immigration, and investment;
- compliance with laws and regulations that differ among jurisdictions, including those covering taxes, intellectual property ownership and infringement, imports and exports, anti-corruption and anti-bribery, antitrust and competition, data privacy, and environment, health, and safety; and
- general hazards associated with the assertion of sovereignty over areas in which operations are conducted, transactions occur, or counterparties are located.

As our reporting currency is the U.S. dollar, any operations conducted outside the U.S. or transactions denominated in foreign currencies would face additional risks of fluctuating currency values and exchange rates, hard currency shortages and controls on currency exchange. In addition, we would be subject to the impact of foreign currency fluctuations and exchange rate changes on our financial reports when translating our assets, liabilities, revenues and expenses from operations or transactions outside of the U.S. into U.S. dollars at the then-applicable exchange rates. These translations could result in changes to our results of operations from period to period.

***RFMi relies on third parties outside the U.S., including in Taiwan, for its development and manufacturing activities***.

Our subsidiary, RFMi, depends on contractors for certain of its manufacturing and research and development activities. Specifically, RFMi's contract manufacturer, TST, produces the majority of products sold by RFMi. TST ships some products to RFMi for distribution to end customers and, in some cases, ships products directly to those customers. TST is located in Taiwan and therefore geopolitical changes in China-Taiwan relations could disrupt its operations, which would adversely affect RFMi's ability to manufacture certain products. In addition, we have leased office space and have operations in Taiwan. Accordingly, our business, financial condition and results of operations may be affected by changes in governmental and economic policies in Taiwan, social instability and diplomatic and social developments in or affecting Taiwan due to its unique international political status. We cannot assure that relations between Taiwan and China will not face political, military or economic uncertainties in the future. Any deterioration in the relations between Taiwan and China, and other factors affecting military, political or economic conditions in Taiwan, could disrupt RFMi's and our business operations and materially and adversely affect our results of operations.

***Economic regulation in China could adversely impact our business and results of operations.***

A significant portion of our potential customer base is in China. For many years, the Chinese economy has experienced periods of rapid growth and wide fluctuations in the rate of inflation. In response to these factors, the Chinese government has, from time to time, adopted measures to regulate growth and to contain inflation, including currency controls and measures designed to restrict credit, control prices or set currency exchange rates. Such actions in the future, as well as other changes in Chinese laws and regulations, including actions in furtherance of China's stated policy of reducing its dependence on foreign semiconductor manufacturers as well as China's data localization policies and measures, could increase the cost of doing business in China, foster the emergence of Chinese-based competitors, decrease the demand for our products in China, or reduce the supply of critical materials for our products, which could have a material adverse effect on our business and results of operations.

***Changes in government trade and investment policies, including the imposition of tariffs, export restrictions, sanctions, transaction restrictions, or retaliatory measures could limit our ability to sell our products to certain customers, which may materially adversely affect our sales and results of operations.***

The U.S. or foreign governments may take administrative, legislative or regulatory action that could materially interfere with our ability to sell products in certain countries, particularly Russia and in China. For example, beginning in May 2018, the U.S. imposed tariffs, ranging from 7.5% to 25% on approximately two-thirds of U.S. imports from China, including certain electronic components and equipment. China has taken retaliatory actions, including imposing tariffs on certain U.S. exports effective September, 2019. While the imposition of these tariffs did not have a direct, material adverse impact on our business during fiscal year ended June 30, 2023, the direct and indirect effects of tariffs and other restrictive trade policies are difficult to measure and are only one part of a larger U.S./China economic and trade policy friction.

For example, U.S. government actions targeting exports of certain technologies to and from China are becoming more pervasive. In 2018, the U.S. adopted new laws designed to address concerns about the export of emerging and foundational technologies to China. In 2021, the U.S. Department of Commerce issued regulations implementing former President Trump's executive order invoking national emergency economic powers to implement a framework to regulate the acquisition or transfer of information communications technology in transactions that imposed undue national security risks. In addition, the U.S. Department of Commerce enacted new rules that expanded export license requirements for U.S. companies to sell certain items to companies and other end-users in China that are designated as military end-users or have operations that could support military end uses; has added additional Chinese companies to its restricted entity list and unverified list under suspicion of military-civil fusion, support of Russia, or other factors associated with a broadening scope of national security concerns; and has expanded an existing rule (referred to as the foreign direct product rule) in a manner that could cause foreign-made wafers, chipsets, and certain related items to be subject to U.S. licensing requirements if certain Chinese corporations or their affiliates are parties to a transaction involving the items.

In response to these and other U.S. actions, China could determine to take or appear to have taken countermeasures against U.S. companies doing business in or with China. These series of actions and other types of countermeasures could lead to additional restrictions on the export of products that include or enable certain technologies, including products we could potentially provide to China-based customers. More recently in August 2023, President Biden issued an executive order that provides for the establishment of a new outbound investment program to block and regulate investment in China in sensitive technologies. In addition, the Biden administration has and likely will continue to take action under U.S. export control laws to restrict transfer of goods, technology, information, and the provision of services that could harm U.S. national security.

Furthermore, the imposition of tariffs on our potential customers' products that are imported from China to the U.S. could harm sales of such products, which could indirectly harm our business. We cannot predict what actions may ultimately be taken with respect to tariffs, export controls, countermeasures, or other trade measures between the U.S. and China or other countries, what products may be subject to such actions, or what actions may be taken by the other countries in retaliation.

The loss or temporary loss of potential foreign customers or the imposition of restrictions on our ability to sell products to such customers as a result of tariffs, export restrictions, sanctions or other U.S. executive or regulatory actions could materially adversely affect our sales, business and results of operations.

***We depend on a few large customers for a substantial portion of our revenue.***

A substantial portion of our revenue comes from large purchases by a small number of customers. Our future operating results depend on both the success of our largest customers and on our success in diversifying our products and customer base.

The concentration of our revenue with a relatively small number of customers makes us particularly dependent on factors, both positive and negative, affecting those customers. If demand for their devices incorporating our products increases, our results are favorably impacted, while if demand for their devices decreases, they may reduce their purchases of, or stop purchasing, our products and our operating results would suffer. Even if we achieve a design win, our customers can delay, temporarily suspend, or cancel the manufacture or release of a new device for any reason, such as a shortage of supply of other components needed to manufacture their device. Most of our customers can cease incorporating our products into their devices with little notice to us and with little or no penalty. The loss of a large customer and failure to add new customers to replace lost revenue would have a material adverse effect on our business, financial condition and results of operations.

***Global shortages in manufacturing capacities could negatively affect our operations and negatively impact our results of operations.***

Our business depends in significant part upon manufacturers of products requiring semiconductors, as well as the current and anticipated production of these products. As a supplier to such manufacturers, we are subject to the business cycles that characterize the industry. Recent sharp increases in demand for semiconductor products have resulted in a global shortage of manufacturing capacities and it is unclear how long this shortage may last. If our customers are forced to reduce the amount of their products they manufacture or plan to manufacture due to a limited supply of semiconductors, our business, financial condition and results of operations could be negatively affected.

***Changes in general economic conditions, together with other factors, cause significant upturns and downturns in the industry, and our business, therefore, may also experience cyclical fluctuations in the future.***

From time to time, changes in general economic conditions, together with other factors, may cause significant upturns and downturns in the semiconductor industry. These fluctuations are due to a number of factors, many of which are beyond our control, including:

- levels of inventory in our end markets,
- availability and cost of supply for manufacturing of our products,
- changes in end-user demand for the products manufactured with our technology and sold by our prospective customers,
- exposure to foreign currency exchange rates, import duties and tariffs,
- inflation or a tightening of the credit markets
- industry production capacity levels and fluctuations in industry manufacturing yields,
- market acceptance of our current and future customers' products that incorporate our RF filters,
- the gain or loss of significant customers,
- the effects of competitive pricing pressures, including decreases in average selling prices of products,
- new product and technology introductions by competitors,
- changes in the mix of products produced and sold, and
- intellectual property disputes.

As a result, the demand for our products can change quickly and in ways we may not anticipate, and our business, therefore, may also experience cyclical fluctuations in future operating results. In addition, future downturns in the electronic systems industry could adversely impact our revenue and harm our business, financial condition and results of operations. Macroeconomic weakness and uncertainty also make it more difficult for us to accurately forecast revenue, gross margin and expenses, and may make it more difficult to raise or refinance debt. For example, an escalation of trade tensions between the U.S. and China has resulted in trade restrictions and increased tariffs that harm our ability to participate in Chinese markets or compete effectively with Chinese companies. Sustained uncertainty about, or worsening of, current global economic conditions and further escalation of trade tensions between the U.S. and its trading partners, especially China, and possible decoupling of the U.S. and China economies, could result in a global economic slowdown and long-term changes to global trade.

***If we are unable to attract and retain qualified personnel to contribute to the development, manufacture and sale of our products, we may not be able to effectively operate our business.***

As the source of our technological and product innovations, our key technical personnel represent a significant asset. We believe that our future success is highly dependent on the continued services of our current key officers, employees, and Board members, as well as our ability to attract and retain highly skilled and experienced technical personnel. The loss of their services could have a detrimental effect on our operations. Specifically, the loss of the services of our President and Chief Executive Officer, our Chief Financial Officer, or our Executive Vice President of Business Development, any major changes in our Board or other senior management, or our inability to attract, retain and motivate qualified personnel could have a material adverse effect on our ability to operate our business. The competition for management and technical personnel is intense in the wireless semiconductor industry, and therefore, we cannot assure you that we will be able to attract and retain qualified management and other personnel necessary for the design, development, manufacture and sale of our products.

***If we are unable to establish effective marketing and sales capabilities or enter into additional agreements with third parties to market and sell our products, we may not be able to effectively generate and sustain or increase product revenues.***

We have limited experience selling, marketing or distributing products and currently have a small internal marketing and sales force. To progress the launch and commercialization of our technology and our products, we must build on a territory-by-territory basis marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. Therefore, we may choose to collaborate, either globally or on a territory-by-territory basis, with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. If so, our success will depend, in part, on our ability to enter into and maintain collaborative relationships for such capabilities, such collaborator's strategic interest in the products under development and such collaborator's ability to successfully market and sell any such products.

If we are unable to enter into such arrangements when needed on acceptable terms or at all, we may not be able to successfully commercialize our products. Further, to the extent that we depend on third parties for marketing and distribution, any revenues we receive will depend upon the efforts of such third parties, and there can be no assurance that such efforts will be successful. If we decide in the future to establish an internal sales and marketing team with technical expertise and supporting distribution capabilities to commercialize our products, it could be expensive and time consuming and would require significant attention of our executive officers to manage. We may also not have sufficient resources to allocate to the sales and marketing of our products. Any failure or delay in the development of sales, marketing and distribution capabilities, either through collaboration with one or more third parties or through internal efforts, would adversely impact the commercialization of any of our products that we obtain approval to market. As a result, our future product revenue would suffer, and we may incur significant additional losses.

***We may engage in future acquisitions that could disrupt our business, cause dilution to our shareholders and harm our financial condition and operating results.***

We have in the past acquired other businesses and may, in the future, make acquisitions of, or investments in, companies that we believe have products or capabilities that are a strategic or commercial fit with our current business or otherwise offer opportunities for our company. In connection with these acquisitions or investments, we may:

- issue Common Stock or other forms of equity that would dilute our existing shareholders' percentage of ownership,
- incur debt and assume liabilities, and
- incur amortization expenses related to intangible assets or incur large and immediate write-offs.

We may not be able to complete acquisitions on favorable terms, if at all. If we do complete an acquisition, we cannot assure you that it will ultimately strengthen our competitive position or that it will be viewed positively by customers, financial markets or investors. Furthermore, future acquisitions could pose numerous additional risks to our expected operations, including:

- problems integrating the purchased business, products or technologies,
- challenges in achieving strategic objectives, cost savings and other anticipated benefits,
- increases to our expenses,
- the assumption of significant liabilities that exceed the limitations of any applicable indemnification provisions or the financial resources of any indemnifying party,
- inability to maintain relationships with prospective key customers, vendors and other business partners of the acquired businesses,
- diversion of management's attention from its day-to-day responsibilities,
- difficulty in maintaining controls, procedures and policies during the transition and integration,
- entrance into marketplaces where we have no or limited prior experience and where competitors have stronger marketplace positions,
- potential loss of key employees, particularly those of the acquired entity, and
- historical financial information may not be representative or indicative of our results as a combined company.

***Unsolicited takeover proposals, governance change proposals, proxy contests and certain proposals/actions by activist investors may create additional risks and uncertainties with respect to our financial position, operations, strategies and management, and may adversely affect our ability to attract and retain key employees. Any perceived uncertainties may affect the market price and volatility of our securities.***

Public companies in the technology industry have been the target of unsolicited takeover proposals in the past. In the event that a third party, such as a competitor, private equity firm or activist investor makes an unsolicited takeover proposal, or proposes to change our governance policies or board of directors, or makes other proposals concerning our ownership structure or operations, our review and consideration of such proposals may be a significant distraction for our management and employees, and may require us to expend significant time and resources. Such proposals may create uncertainty for our employees, additional risks and uncertainties with respect to our financial position, operations, strategies and management, and may adversely affect our ability to attract and retain key employees. Any perceived uncertainties as to our future direction also may affect the market price and volatility of our securities.

**Risks Related to Our Intellectual Property**

***If we fail to obtain, maintain and enforce our intellectual property rights, we may not be able to prevent third parties from using our proprietary technologies.***

Our long-term success largely depends on our ability to market technologically competitive products which, in turn, largely depends on our ability to obtain and maintain adequate intellectual property protection and to enforce our proprietary rights without infringing the proprietary rights of third parties. While we rely upon a combination of our patent applications currently pending with the United States Patent and Trademark Office ("USPTO"), our trademarks, copyrights, trade secret protection and confidentiality agreements to protect the intellectual property related to our technologies, there can be no assurance that:

- our currently pending or future patent applications will result in issued patents,
- our limited patent portfolio will provide adequate protection to our core technology,
- we will succeed in protecting our technology adequately in all key jurisdictions,
- we will be able to finalize negotiations to enter into agreements pursuant to which we will license certain patents, or
- we can prevent third parties from disclosure or misappropriation of our proprietary information which could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding any competitive advantage we may derive from the proprietary information.

In addition, we intend to expand our international presence, and effective patent, copyright, trademark and trade secret protection may not be available or may be limited in foreign countries.

***We have a limited number of patent applications, which may not result in issued patents or patents that fully protect our intellectual property.***

In the United States and internationally we had 108 applications as of August 25, 2023; however, there is no assurance that any of the pending applications or our future patent applications will result in patents being issued, or that any patents that may be issued as a result of existing or future applications will provide meaningful protection or commercial advantage to us.

The process of seeking patent protection in the United States and abroad can be long and expensive. Since patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain at the time of filing that we are the first to file any patent application related to our technology. In addition, patent applications are often published as part of the patent application process, even if such applications do not issue as patents. When published, such applications will become publicly available, and proprietary information disclosed in the application will become available to others. While at present we are unaware of competing patent applications, competing applications could potentially surface.

Even if all of our pending patent applications are granted and result in registration of our patents, we cannot predict the breadth of claims that may be allowed or enforced, or that the scope of any patent rights could provide a sufficient degree of protection that could permit us to gain or keep our competitive advantage with respect to these products and technologies. For example, we cannot predict:

- the degree and range of protection any patents will afford us against competitors, including whether third parties will find ways to make, use, sell, offer to sell or import competitive products without infringing our patents;
- if and when patents will be issued;
- if third parties will obtain patents claiming inventions similar to those covered by our patents and patent applications;

- if third parties have blocking patents that could be used to prevent us from marketing our own patented products and practicing our own technology; or

- whether we will need to initiate litigation or administrative proceedings (e.g., at the USPTO) in connection with patent rights, which may be costly whether we win or lose.

As a result, the patent applications we own may fail to result in issued patents in the United States. Third parties may challenge the validity, enforceability or scope of any issued patents or patents issued to us in the future, which may result in those patents being narrowed, invalidated or held unenforceable. Even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from developing similar products that do not infringe the claims made in our patents. If the breadth or strength of protection provided by the patents we hold or pursue is threatened, we may not be able to prevent others from offering similar technology and products in the RFFE mobile market and our ability to commercialize our RF filters with technology protected by those patents could be threatened.

If we fail to obtain issued patents outside of the United States, our ability to prevent misappropriation of our proprietary information or infringement of our intellectual property rights in countries outside of the United States where our filters may be sold in the future may be significantly limited. If we file foreign patent applications related to our pending U.S. patent applications or to our issued patents in the United States, these applications may be contested and fail to result in issued patents outside of the United States or we may be required to narrow our claims. Even if some or all of our patent applications are granted outside of the United States and result in issued patents, effective enforcement of rights granted by these patents in some countries may not be available due to the differences in foreign patent and other laws concerning intellectual property rights, a relatively weak legal regime protecting intellectual property rights in these countries, and because it is difficult, expensive and time-consuming to police unauthorized use of our intellectual property when infringers are overseas. This failure to obtain or maintain adequate protection of our intellectual property rights outside of the United States could have a materially adverse effect on our business, results of operations and financial conditions.

***We are, and may in the future be, involved in lawsuits to protect or enforce our patents, which could be expensive, time-consuming and unsuccessful.***

Competitors may infringe our patents or the patents of our potential licensors. To attempt to stop infringement or unauthorized use, we may file infringement claims from time to time, which can be expensive and time consuming and distract management.

If we pursue any infringement proceeding, a court may decide that a patent of ours or one of our licensors is not valid or is unenforceable or may refuse to stop the other party from using the relevant technology on the grounds that our patents do not cover the technology in question. Additionally, any enforcement of our patents may provoke third parties to assert counterclaims against us. Some of our current and potential competitors have the ability to dedicate substantially greater resources to enforcing their intellectual property rights than we have. Moreover, the legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, which could reduce the likelihood of success of, or the amount of damages that could be awarded resulting from, any infringement proceeding we pursue in any such jurisdiction. An adverse result in any infringement litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing, which could limit the ability of our filters to compete in those jurisdictions.

Interference proceedings could be provoked by third parties or brought by the USPTO to determine the priority of inventions with respect to our patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to use it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms, or at all.

***We need to protect our trademark rights and disclosure of our trade secrets to prevent competitors from taking advantage of our goodwill.***

We believe that the protection of our trademark rights is an important factor in product recognition, protecting our brand, maintaining goodwill, and maintaining or increasing market share. We currently have nineteen registered domestic and international trademarks and two pending domestic trademark applications including the marks AKOUSTIS, XBAW, and RFMi in multiple forms and international classes. We may expend substantial cost and effort in an attempt to register new trademarks and maintain and enforce our trademark rights. If we do not adequately protect our rights in our trademarks from infringement, any goodwill that we have developed in those trademarks could be lost or impaired.

Third parties may claim that the sale or promotion of our products, when and if we have any, may infringe on the trademark rights of others. Trademark infringement problems occur frequently in connection with the sale and marketing of products in the RFFE mobile industry. If we become involved in any dispute regarding our trademark rights, regardless of whether we prevail, we could be required to engage in costly, distracting and time-consuming litigation that could harm our business. If the trademarks we use are found to infringe upon the trademark of another company, we could be liable for damages and be forced to stop using those trademarks, and as result, we could lose all the goodwill that has been developed in those trademarks.

In addition to the protection afforded by patents and trademarks, we seek to rely on copyright, trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and any other elements of our processes that involve proprietary know-how, information or technology that is not covered by patents. For Akoustis, this includes chip layouts, circuit designs, resonator layouts and implementation, and MEMS resonator device engineering. Although we require all of our employees and certain consultants and advisors to assign inventions to us, and all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology to enter into confidentiality agreements, our trade secrets and other proprietary information may be disclosed, or competitors may otherwise gain access to such information or independently develop substantially equivalent information. If we are unable to prevent material disclosure of the intellectual property related to our technologies to third parties, we will not be able to establish or maintain the competitive advantage that we believe is provided by such intellectual property, which would weaken our competitive market position, and materially adversely affect our business and operational results.

***Development of certain technologies with our manufacturers and other suppliers may result in restrictions on jointly-developed intellectual property.***

In order to maintain and expand our strategic relationship with manufacturers of our filters and other suppliers, we may, from time to time, develop certain technologies jointly with these manufacturers and other suppliers and file for further intellectual property protection and/or seek to commercialize such technologies. We may enter into joint development agreements with manufacturers and other suppliers to provide for joint development works and joint intellectual property rights by us and by such manufacturer or supplier. Such agreements may restrict our commercial use of such intellectual property, or may require written consent from, or a separate agreement with, that manufacturer or supplier. In other cases, we may not have any rights to use intellectual property solely developed and owned by such manufacturer, supplier, or another third party. If we cannot obtain commercial use rights for such jointly-owned intellectual property or intellectual property solely owned by these manufacturers or suppliers, our future product development and commercialization plans may be adversely affected.

***We are, and may become, subject to claims of infringement, misappropriation or misuse of third party intellectual property that, regardless of merit, could result in significant expense and loss of our intellectual property rights.***

The semiconductor industry is characterized by the vigorous pursuit and protection of intellectual property rights. We have not undertaken a comprehensive review of the rights of third parties in our field. From time to time, we may be named in lawsuits or receive notices or inquiries from third parties regarding our products or the manner in which we conduct our business suggesting that we may be infringing, misappropriating or otherwise misusing patent, copyright, trademark, trade secret and other intellectual property rights. Any claims that our technology infringes, misappropriates or otherwise misuses the rights of third parties, regardless of their merit or resolution, could be expensive to litigate or settle and could divert the efforts and attention of our management and technical personnel, cause significant delays and materially disrupt the conduct of our business. We may not prevail in such proceedings given the complex technical issues and inherent uncertainties in intellectual property litigation. If such proceedings result in an adverse outcome, we could be required to:

- pay substantial damages, including treble damages if we were held to have willfully infringed;
- cease the manufacture, offering for sale or sale of the infringing technology or processes;
- expend significant resources to develop non-infringing technology or processes;
- obtain a license from a third party, which may not be available on commercially reasonable terms, or may not be available at all; or
- lose the opportunity to license our technology to others or to collect royalty payments based upon successful protection and assertion of our intellectual property against others.

On October 4, 2021, the Company was named as a defendant in a complaint filed by Qorvo, Inc. ("Qorvo") in the United States District Court for the District of Delaware alleging, among other things, patent infringement, false advertising, false patent marking, and unfair competition. The complaint alleges that the defendants misappropriated proprietary information, made misleading statements about the characteristics of certain of its products, and sold products infringing on certain of the plaintiff's patents. The plaintiff seeks an injunction enjoining the Company from the alleged infringement and damages, including punitive and statutory enhanced damages, in an unspecified amount. The Company filed a motion to dismiss all of the claims other than the direct patent infringement claims, but the court permitted the plaintiff to file an amended complaint which the court subsequently determined was sufficient for pleading purposes. The Court denied the Company's motion in May 2022. The Court held a claims construction hearing in November 2022, issuing its claim construction order on March 15, 2023. On February 8, 2023, Qorvo filed a second amended complaint adding allegations of misappropriation of trade secrets, racketeering activities, and civil conspiracy. The Company continues to develop its defenses and mitigation strategies, and intends to proceed in defending itself vigorously against the claims asserted by Qorvo. However, the Company can provide no assurance as to the outcome of such dispute, and such action may result in judgments against the Company for an injunction, significant damages or other relief, such as future royalty payments to Qorvo or restrictions on certain of the Company's activities.

On April 20, 2023, the Company filed a complaint against Qorvo in the United States District Court for the Eastern District of Texas alleging infringement by Qorvo of a patent licensed exclusively to the Company by Cornell University. The complaint alleges Qorvo's willful infringement of the Cornell patent and seeks remedies including enhanced damages and attorneys' fees. On July 24, 2023, Qorvo filed a motion to dismiss the complaint. On August 11, 2023, Qorvo filed a motion to strike Akoustis' infringement contentions. The Company intends to vigorously pursue its claims against Qorvo but can provide no assurance as to the outcome of this dispute.

Resolution of each of the matters described above may be prolonged and costly, and the ultimate result or judgment is uncertain due to the inherent uncertainty in litigation and other proceedings. An adverse result in the matters described above would have a material adverse effect on the Company's business. Even if ultimately settled or resolved in the Company's favor, the matters described above and other possible future actions may result in significant expenses, diversion of management and technical personnel attention and disruptions and delays in the Company's business and product development, and other collateral consequences, all of which could have a material adverse effect on its business, financial condition, and results of operations. Any out-of-court settlement of the above matters or other actions may also have an adverse effect on the Company's business, financial condition and results of operations, including, but not limited to, substantial expenses, the payment of royalties, licensing or other fees payable to third parties, or restrictions on its ability to develop, manufacture, and sell its products.

From time to time, the Company may become involved in other lawsuits, investigations, and claims that arise in the ordinary course of business. The Company believes it has meritorious defenses against such other pending claims and intends to vigorously pursue them. While it is not possible to predict or determine the outcomes of any such other pending actions, the Company believes the amount of liability, if any, with respect to such other pending actions, would not materially affect its financial position, results of operations, or cash flows.

In addition, our agreements with prospective customers and manufacturing partners may require us to indemnify such customers and manufacturing partners for third party intellectual property infringement claims. Pursuant to such agreements, we may be required to defend such customers and manufacturing partners against certain claims that could cause us to incur additional costs. While we endeavor to include as part of such indemnification obligations a provision permitting us to assume the defense of any indemnification claim, not all of our current agreements contain such a provision and we cannot provide any assurance that our future agreements will contain such a provision, which could result in increased exposure to us in the case of an indemnification claim.

**Risks Related to our Financial Condition**

***We have a history of losses, will need substantial additional funding to continue our operations and may not achieve or sustain profitability in the future.***

Our operations have consumed substantial amounts of cash since inception. Our filter business has incurred losses since its inception in May 2014. We anticipate that our operating expenses will increase in the foreseeable future as we continue to pursue the development of our patent-pending high purity piezoelectric materials technology, invest in marketing, sales and distribution of our products to grow our business, acquire customers, commercialize our technology in the mobile wireless market and continue to invest in our manufacturing facility in Canandaigua, NY. These efforts may prove more expensive than we currently anticipate, and we may not succeed in generating sufficient revenues to offset these higher expenses. In addition, we expect to incur significant expenses related to regulatory requirements and our ability to obtain, protect, and defend our intellectual property rights.

We may also encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may increase our capital needs and/or cause us to spend our cash resources faster than we expect. Accordingly, we will need to obtain substantial additional funding in order to continue our operations.

To date, we have financed our operations through a mix of investments from private investors, public offerings of equity and debt securities, foundry services revenue, RF filter revenue, and grant funding, and we expect to continue to utilize such means of financing for the foreseeable future. Additional funding from those or other sources may not be available when or in the amounts needed, on acceptable terms, or at all. If we raise additional capital through the sale of equity, or securities convertible into equity, it would result in dilution to our then existing stockholders, which could be significant depending on the price at which we may be able to sell our securities and the amount of securities we issue. If we raise additional capital through the incurrence of indebtedness, we may become subject to covenants restricting our business activities, and holders of debt instruments may have rights and privileges senior to those of our equity investors. In addition, servicing the interest and principal repayment obligations under debt facilities could divert funds that would otherwise be available to support research and development, or commercialization activities. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate the production and sale of our RF filter products, our R&D programs for our acoustic wave filter technology or any future commercialization efforts. Any of these events could materially and adversely affect our business, financial condition and prospects, and could cause our business to fail.

***Servicing our debt requires a significant amount of cash or Common Stock, and we may not have sufficient cash flow from our business or have the ability to issue the necessary number of shares of Common Stock to pay our substantial debt.***

Pursuant to the convertible note offering we completed in June 2022, we incurred $44.0 million of indebtedness and we issued a $4.0 million promissory note in connection with our acquisition of GDSI. This level of debt could have significant consequences on future operations, including:

- increasing our vulnerability to adverse economic and industry conditions;
- making it more difficult for us to meet our payment and other obligations;
- making it more difficult to obtain any necessary future financing for working capital, capital expenditures, debt service requirements or other purposes;
- requiring the dedication of a substantial portion of any cash flow from operations to service our indebtedness, thereby reducing the amount of cash flow available for other purposes, including capital expenditures;
- placing us at a possible competitive disadvantage with competitors that are less leveraged than us or have better access to capital than we have; and
- limiting our flexibility in planning for, or reacting to, changes in our business and the markets in which we compete.

Accrued interest on our 6.0% Convertible Senior Notes due 2027 is payable semi-annually in cash or freely tradable shares of Common Stock. Our ability to make scheduled payments of interest depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations in the future sufficient to service our debt in cash and make necessary capital expenditures.

If we are unable to generate sufficient cash flow to satisfy payment obligations under our convertible notes, we may be required to adopt one or more alternatives, such as selling assets or obtaining additional equity capital on terms that may be onerous or highly dilutive. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations. If we determine to pay the interest in shares of Common Stock, it could materially dilute our current stockholders.

***Our ability to raise capital may be materially adversely impacted by economic and geopolitical uncertainties.***

A sustained disruption in the capital markets from economic and geopolitical uncertainties such as the COVID-19 pandemic, bank failures, inflation, recession, or higher interest rates could negatively impact our ability to raise capital. In the past, we have financed our operations primarily by the issuance of equity and debt securities. However, we cannot predict if such economic and geopolitical uncertainties will impact the capital markets or if we will be able to raise additional funds on terms acceptable to us. Such macro-economic disruptions may disrupt our ability to raise additional capital to finance our operations in the future, which could materially and adversely affect our business, financial condition and prospects, and could ultimately cause our business to fail.

**Risks Related to Regulatory Requirements**

***Government regulation may adversely affect our business.***

The effects of regulation may materially and adversely impact our business. For example, regulatory policies of the FCC relating to radio frequency emissions, consumer protection laws of the FTC, product safety regulatory activities of the Consumer Products Safety Commission, the import/export regulatory activities of the Department of Commerce, international traffic in arms regulations (ITAR) administered by the Department of State, and environmental regulatory activities of the EPA could impede sales of our products in the United States. We and our customers are also subject to various import and export laws and regulations. If we fail to continue to comply with these regulations, we may be unable to manufacture the affected products or ship these products to certain customers and be subject to investigations, sanctions, mandatory product recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties, or injunctions. Additionally, these rules and regulations may in the future be expanded such that they may have a greater effect on our business than they do currently.

As described above under the risk factor entitled "We may be subject to risks related to doing business in, and having counterparties based in, foreign countries," our business is also increasingly subject to complex foreign and U.S. laws and regulations, including but not limited to, anti-corruption laws, such as the Foreign Corrupt Practices Act and equivalent laws in other jurisdictions, antitrust or competition laws, and data privacy laws, among others. Foreign governments may also impose tariffs, duties and other import restrictions on components that we obtain from non-domestic suppliers and may impose export restrictions on products that we sell internationally. These tariffs, duties or restrictions could materially and adversely affect our business, financial condition and results of operations.

Our product or manufacturing standards could also be impacted by new or revised environmental rules and regulations or other social initiatives. Those rules, or similar rules that may be adopted in other jurisdictions, could adversely affect our costs, the availability of minerals used in our products and our relationships with customers and suppliers.

***We may incur substantial expenses in connection with regulatory requirements, and any regulatory compliance failure could cause our business to suffer.***

The wireless communications industry is subject to ongoing regulatory obligations and review. See "Business - Government Regulations" above. Maintaining compliance with these requirements may result in significant additional expense to us, and any failure to maintain such compliance could cause our business to suffer.

Noncompliance with applicable regulations or requirements could also subject us to investigations, sanctions, mandatory product recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties, or injunctions. An adverse outcome in any such litigation could require us to pay contractual damages, compensatory damages, punitive damages, attorneys' fees and costs. These enforcement actions could harm our business, financial condition and results of operations. If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, financial condition and results of operations could be materially adversely affected. In addition, responding to any action will likely result in a significant diversion of management's attention and resources and an increase in professional fees.

***Compliance with regulations regarding the use of "conflict minerals" could limit the supply and increase the cost of certain metals used in manufacturing our products.***

Regulations in the United States require that we determine whether certain materials used in our products, referred to as conflict minerals, originated in the Democratic Republic of the Congo or adjoining countries, or originated from recycled or scrap sources. We incur costs associated with our policies and procedures to comply with the applicable rules and due diligence procedures. In addition, verification and reporting requirements could affect the sourcing and availability of minerals that are used in the manufacture of our products, and we may face reputational and competitive challenges if we are unable to sufficiently verify the origins of all conflict minerals used in our products. We may also face challenges with government regulators, potential customers, suppliers and manufacturers if we are unable to sufficiently verify that the metals used in our products are conflict free.

***There could be an adverse change or increase in the laws and/or regulations governing our business.***

We and our operating subsidiaries are subject to various laws and regulations in different jurisdictions, and the interpretation and enforcement of laws and regulations are subject to change. We are also subject to different tax regulations in each of the jurisdictions where we conduct our business or where our management or the management of our operating subsidiary is located. We expect that the scope and extent of regulation in these jurisdictions, as well as regulatory oversight and supervision, will generally continue to increase. There can be no assurance that future regulatory, judicial and legislative changes in any jurisdiction will not have a material adverse effect on us or hinder us in the operation of our business. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations applicable to us.

These current or future laws and regulations may impair our research, development or production efforts or impact the research activities we pursue. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions, which could cause our financial condition to suffer.

**Investment Risks**

***You could lose all of your investment.***

An investment in our securities is speculative and involves a high degree of risk. Potential investors should be aware that the value of an investment in the Company may go down as well as up. In addition, there can be no certainty that the market value of an investment in the Company will fully reflect its underlying value.

***Our common stock has been thinly traded and its share price in the public markets has experienced, and may in the future experience, extreme volatility.***

Our common stock has traded on the Nasdaq Capital Market, under the symbol "AKTS," since March 13, 2017. Since that date, our common stock has been relatively thinly traded and at times been subject to price volatility. Recently, from July 1, 2022 to June 30, 2023, the closing price of our common stock on the Nasdaq Capital Market ranged from $2.34 to $5.23 per share.

The trading price of our Common Stock may be significantly affected by various factors, including quarterly fluctuations in our operating results, changes in investors' and analysts' perception of the business risks and conditions of our business, issuance of additional shares in connections with strategic transactions or acquisitions we may make, our ability to meet the earnings estimates and other performance expectations of financial analysts or investors, unfavorable commentary or downgrades of our stock by equity research analysts, and general economic or political conditions. Additionally, the stock market and public companies with relatively smaller public floats in particular have been subject to extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of such companies. Additionally, technical factors in the public trading market for our stock may produce price movements that may or may not comport with macro, industry or company-specific fundamentals, including, without limitation, the sentiment of retail investors (including as may be expressed on financial trading and other social media sites), speculation in the press, in the investment community, or on the internet, including on online forums and social media, about our Company, our industry or our securities, the amount and status of short interest in our securities (including a "short squeeze"), access to margin debt, trading in options and other derivatives on our common stock and other technical trading factors. We may incur rapid and substantial decreases in our stock price in the foreseeable future that are unrelated to our operating performance or prospects. There can be no guarantee that our stock price will remain at current prices or that future sales of our common stock will not be at prices lower than the sales price in this offering.

The daily trading volume of our common stock has historically been relatively low. If we are unable to develop and maintain a liquid market for our common stock, you may not be able to sell your common stock at prices you consider to be fair or at times that are convenient for you, or at all. This situation may be attributable to a number of factors, including but not limited to the fact that we are a company with a smaller public float that is relatively unknown to stock analysts, stockbrokers, institutional investors, and others in the investor community. In addition, investors may be risk averse to investments in companies with smaller public floats. The low trading volume is outside of our control and may not increase or, if it increases, may not be maintained. In addition, following periods of volatility in the market price of a company's securities, litigation has often been brought against that company and we may become the target of litigation as a result of price volatility. Litigation could result in substantial costs and divert our management's attention and resources from our business. This could have a material adverse effect on our business, results of operations and financial condition.

***Stockholders may experience dilution of their ownership interests because of the future issuance of additional shares of our Common Stock or preferred stock or other securities that are convertible into or exercisable for our Common Stock or preferred stock.***

In the future, we may issue our authorized but previously unissued equity securities, resulting in the dilution of the ownership interests of our stockholders. The Company is authorized to issue an aggregate of 125,000,000 shares of Common Stock and 5,000,000 shares of preferred stock. We may issue additional shares of our Common Stock or other securities that are convertible into or exercisable for our Common Stock in connection with hiring or retaining employees, future acquisitions, future sales of our securities for capital raising purposes, or for other business purposes. In addition, as of September 6, 2023, options to purchase 3,156,037 shares of our Common Stock were outstanding. The future issuance of additional shares of our Common Stock may create downward pressure on the trading price of the Common Stock. We may need to raise additional capital in the future to meet our working capital needs, and there can be no assurance that we will not issue additional shares, warrants or other convertible securities in the future in conjunction with these capital raising efforts, including at a price (or exercise prices) below the price you paid for your stock.

***We do not anticipate paying dividends on our Common Stock.***

Cash dividends have never been declared or paid on our Common Stock, and we do not anticipate such a declaration or payment for the foreseeable future. We expect to use future earnings, if any, to fund business growth. Therefore, stockholders will not receive any funds absent a sale of their shares of Common Stock. If we do not pay dividends, our Common Stock may be less valuable because a return on your investment will only occur if our stock price appreciates. We cannot assure stockholders that our stock price will appreciate or that they will receive a positive return on their investment if and when they sell their shares.

**General Risk Factors**

***Security breaches and other disruptions could compromise our proprietary information and expose us to liability, which would cause our business and reputation to suffer.***

We rely on trade secrets, technical know-how and other unpatented proprietary information relating to our product development and manufacturing activities to provide us with competitive advantages. We protect this information by entering into confidentiality agreements with our employees, consultants, strategic partners and other third parties. We also design our computer networks and implement various procedures to restrict unauthorized access to dissemination of our proprietary information.

We face internal and external data security threats. Current, departing or former employees or third parties that improperly use or access our computer systems and networks could copy, obtain or misappropriate our proprietary information or otherwise interrupt our business. Like other businesses, we are also subject to significant system or network disruptions from numerous causes, including computer viruses and other cyber-attacks, facility access issues, new system implementations and energy blackouts.

Security breaches, computer malware, phishing, spoofing, and other cyber-attacks have become more prevalent and sophisticated in recent years. Geopolitical instability, such as Russia's invasion of Ukraine, may increase the likelihood that we will experience direct or collateral consequences from cyber conflicts between nation-states or other politically motivated actors targeting critical technology infrastructure. While we defend against these threats on a daily basis, we do not believe that such attacks to date have caused us any material damage. Because the techniques used by computer hackers and others to access or sabotage networks constantly evolve and generally are not recognized until launched against a target, we may be unable to anticipate, counter or ameliorate all of these techniques. As a result, our and our customers' proprietary information may be misappropriated, and the impact of any future incident cannot be predicted. Any loss of such information could harm our competitive position, result in a loss of customer confidence in the adequacy of our threat mitigation and detection processes and procedures, cause us to incur significant costs to remedy the damages caused by the incident, and divert management and other resources. We routinely implement improvements to our network security safeguards and we are devoting increasing resources to the security of our information technology systems. We cannot, however, assure that such system improvements will be sufficient to prevent or limit the damage from any future cyber-attack or network disruption.

The costs related to cyber-attacks or other security threats or computer systems disruptions typically would not be fully insured or indemnified by others. Occurrence of any of the events described above could result in loss of competitive advantages derived from our R&D efforts or our intellectual property. Moreover, these events may result in the early obsolescence of our products, product development delays, or diversion of the attention of management and key information technology and other resources, or otherwise adversely affect our internal operations and reputation or degrade our financial results and stock price.

***We may be subject to theft, loss, or misuse of personal data by or about our employees, customers or other third parties, which could increase our expenses, damage our reputation, or result in legal or regulatory proceedings.***

In the ordinary course of our business, we have access to sensitive, confidential or personal data or information regarding our employees and others that is subject to privacy and security laws and regulations. The theft, loss, or misuse of personal data collected, used, stored, or transferred by us to run our business, or by our third-party service providers, including business process software applications providers and other vendors that have access to sensitive data, could result in damage to our reputation, disruption of our business activities, significantly increased business and security costs or costs related to defending legal claims.

Global privacy legislation, enforcement, and policy activity in this area are rapidly expanding and creating a complex regulatory compliance environment. For example, the European Union has adopted the General Data Protection Regulation ("GDPR"), which requires companies to comply with rules regarding the handling of personal data, including its use, protection and the ability of persons whose data is stored to correct or delete such data about themselves. Failure to meet GDPR requirements could result in penalties of up to the higher of €20 million or 4% of worldwide revenue. In addition, the interpretation and application of consumer and data protection laws in the U.S., Europe and elsewhere are often uncertain and fluid, and may be interpreted and applied in a manner that is inconsistent with our data practices. Complying with these changing laws has caused, and could continue to cause, us to incur substantial costs, which could have an adverse effect on our business and results of operations. Further, failure to comply with existing or new rules may result in significant penalties or orders to stop the alleged non-compliant activity. Finally, even our inadvertent failure to comply with federal, state, or international privacy-related or data protection laws and regulations could result in audits, regulatory inquiries or proceedings against us by governmental entities or others.

***Our business and operations would suffer in the event of system failures, and our operations are vulnerable to interruption by natural disasters, terrorist activity, power loss and other events beyond our control, the occurrence of which could materially harm our business.***

Despite the implementation of security measures, our internal computer systems and those of our contractors and consultants are vulnerable to damage from computer viruses, unauthorized access as well as telecommunication and electrical failures. While we have not experienced any such system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our R&D. If any disruption or security breach resulted in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and/or the further development of our technology for RF filters could be delayed.

We are also vulnerable to accidents, electrical blackouts, fires, labor strikes, terrorist activities, war, natural disasters, including hurricanes, earthquakes, floods and tornadoes, and other events beyond our control, and we have not undertaken a systematic analysis of the potential consequences to our business as a result of any such events and do not have an applicable recovery plan in place. We carry business interruption insurance that would compensate us for certain actual losses from interruptions of our business that may occur, however that may not fully cover all losses incurred, any losses or damages incurred could cause our business to materially suffer.

***Litigation or legal proceedings, including product liability claims, could expose us to significant liabilities, occupy a significant amount of our management's time and attention and damage our reputation.***

We are from time to time party to various litigation claims and legal proceedings. We evaluate these claims and proceedings to assess the likelihood of unfavorable outcomes and estimate, if possible, the amount of potential losses. If we or any of our manufacturers fails to successfully manufacture wafers that conform to our design specifications and the strict regulatory requirements of the FCC, it may result in substantial risk of undetected flaws in components or other materials used by our manufacturers during fabrication of our products and could lead to product defects and costs to repair or replace these parts or materials, significantly impacting our ability to develop and implement our technology and to improve performance of our products. In addition, claims made or threatened by our suppliers, customers or current or former employees could adversely affect our relationships, damage our reputation or otherwise adversely affect our business, financial condition or results of operations. The costs associated with defending product liability and other claims, and the payment of damages, could be substantial. Our reputation could also be adversely affected by such claims, whether or not successful.

We may establish reserves as appropriate based upon assessments and estimates in accordance with our accounting policies in accordance with U.S. GAAP. We base our assessments, estimates and disclosures on the information available to us at the time and rely on legal and management judgment. Actual outcomes or losses may differ materially from assessments and estimates. Actual settlements, judgments or resolutions of these claims or proceedings may negatively affect our business and financial performance. A successful claim against us that is not covered by insurance or is in excess of our available insurance limits could require us to make significant payments of damages and could materially adversely affect our financial condition, results of operations and cash flows.

***Delaware law, our charter documents and the ability of our Board of Directors to issue additional stock could impede or discourage a takeover or change of control that stockholders may consider favorable.***

As a Delaware corporation, we are subject to certain anti-takeover provisions. Under Delaware law, a corporation may not engage in a business combination with any holder of 15 percent or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Accordingly, our Board of Directors could rely on Delaware law to prevent or delay an acquisition of our company. In addition, certain provisions of our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. These provisions include only our Board of Directors being able to fill vacancies on the Board and various limitations in our bylaws on stockholder meeting, including advance notice requirements for stockholders to make nominations of candidates for election as directors or to bring matters before an annual meeting of stockholders and our stockholders not having the ability to call a special meeting.

Our Board of Directors is authorized to issue up to 5,000,000 shares of preferred stock with powers, rights and preferences designated by it. Shares of voting or convertible preferred stock could be issued, or rights to purchase such shares could be issued, to create voting impediments or to frustrate persons seeking to effect a takeover or otherwise gain control of the Company. The ability of the Board to issue such additional shares of preferred stock, with rights and preferences it deems advisable, could discourage an attempt by a party to acquire control of the Company by tender offer or other means. Such issuances could therefore deprive stockholders of benefits that could result from such an attempt, such as the realization of a premium over the market price for their shares in a tender offer or the temporary increase in market price that such an attempt could cause. Moreover, the issuance of such additional shares of preferred stock to persons supporting of the Board of Directors could make it more difficult to remove incumbent managers and directors from office even if such change were to be favorable to stockholders generally.

***Our bylaws provide, subject to certain exceptions, that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for certain stockholder litigation matters, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or stockholders.***

Our bylaws provide, subject to limited exceptions, that the Court of Chancery of the State of Delaware will, to the fullest extent permitted by law, be the sole and exclusive forum for any claims, including any derivative actions or proceedings brought on our behalf, (1) that are based upon a violation of a duty by a current or former director or officer or stockholder in such capacity or (2) that may be brought in the Court of Chancery pursuant to the Delaware General Corporation Law. Any person or entity purchasing or otherwise acquiring any interest in shares of our Common Stock shall be deemed to have notice of and to have consented to the provisions of our bylaws described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision that is contained in our bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, financial condition and results of operations.

***As a smaller reporting company and a non-accelerated filer, we are subject to scaled disclosure requirements that may make it more challenging for investors to analyze our results of operations and financial prospects and may cause investors to find our Common Stock less attractive.***

As a smaller reporting company, we are subject to scaled disclosure requirements that may make it more challenging for investors to analyze our results of operations and financial prospects. For instance, as a "smaller reporting company," which is generally defined as a company with less than $250 million of public float or a company with less than $100 million in annual revenues and either no public float or a public float of less than $700 million, we may elect to provide simplified executive compensation disclosures in our filings and take advantage of other decreased disclosure obligations in our filings with the SEC, including being required to provide only two years of audited financial statements in our annual reports. Consequently, it may be more challenging for investors to analyze our results of operations and financial prospects. Additionally, under current SEC rules, we are not an "accelerated filer" and so not required to include an auditor attestation of the effectiveness of our internal control over financial reporting in this Annual Report on Form 10-K. We cannot predict if investors will find our Common Stock less attractive because we may rely on these reduced requirements. 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 the price of shares of our Common Stock may be more volatile.

***Being a public company is expensive and administratively burdensome.***

As a public reporting company, we are subject to the information and reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and other federal securities laws, rules and regulations related thereto, including compliance with the Sarbanes-Oxley Act. Complying with these laws and regulations requires the time and attention of our Board of Directors and management and increases our expenses. Among other things, we are required to:

- maintain and evaluate a system of internal control over financial reporting in compliance with the requirements of Section 404 of the Sarbanes-Oxley Act and the related rules and regulations of the SEC and the Public Company Accounting Oversight Board;
- maintain policies relating to disclosure controls and procedures;
- prepare and distribute periodic reports in compliance with our obligations under federal securities laws;
- institute a more comprehensive compliance function, including with respect to corporate governance; and
- involve, to a greater degree, our outside legal counsel and accountants in the above activities.

The costs of preparing and filing annual and quarterly reports, proxy statements and other information with the SEC and furnishing audited reports to stockholders is expensive and much greater than that of a privately-held company, and compliance with these rules and regulations may require us to hire additional financial reporting, internal controls and other finance personnel, and will involve a material increase in regulatory, legal and accounting expenses and the attention of management. There can be no assurance that we will be able to comply with the applicable regulations in a timely manner, if at all. In addition, being a public company makes it more expensive for us to obtain director and officer liability insurance. In the future, we may be required to accept reduced coverage or incur substantially higher costs to obtain this coverage. These factors could also make it more difficult for us to attract and retain qualified executives and members of our Board of Directors, particularly directors willing to serve on the Audit Committee of our Board of Directors.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

**ITEM 2. PROPERTIES**

Our current headquarters in Huntersville, NC is 22,400 square feet, and its base rent is approximately $22,000 per month with a term expiring February 2026. In June 2017, the Company acquired a 120,000 square foot MEMS fabrication facility in Canandaigua, NY (the "NY Facility"). The Company has entered into a Lease and Project Agreement and a Company Lease Agreement with the Ontario County Industrial Development Agency, a public benefit corporation of the State of New York (the "OCIDA"), covering the NY Facility, pursuant to which the Company leases the NY Facility to the OCIDA for nominal consideration and the OCIDA leases the NY Facility back to the Company for annual rent payments set forth in such agreements.

As part of the acquisition of RFMi, the Company assumed a lease in Carrollton, Texas. The lease covering this property is currently scheduled to expire in March 2025.

As part of the acquisition of GDSI, the Company entered into a lease in San Jose, California. The lease covering this property is currently scheduled to expire in December 2025.

During the fourth quarter of fiscal year 2022, the Company entered into a new office lease located in Taiwan. The lease covering this property is currently scheduled to expire in May 2025.

The Company believes that its existing facilities will be suitable and sufficient to meet the Company's needs for the next several years.

**ITEM 3. LEGAL PROCEEDINGS**

From time to time, we may become involved in various lawsuits and legal proceedings that arise in the ordinary course of business. Litigation is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may have an adverse effect on our business, financial condition or results of operations and prospects.

Except for the matters described under "Litigation, Claims and Assessments" in "Note 15 – Commitments and Contingencies" of the consolidated financial statements in Item 8 of Part II of this Annual Report on Form 10-K, which description is incorporated in this "Item 3. Legal Proceedings" by reference, we are currently not aware of any material pending legal proceedings to which we are a party or of which any of our property is the subject, nor are we aware of any such proceedings that are contemplated by any governmental authority.

**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

**Market Information and Holders**

Our Common Stock is currently traded on the Nasdaq Capital Market under the symbol "AKTS."

As of September 01, 2023, 72,351,827 shares of our Common Stock were issued and outstanding and were held by approximately 88 stockholders of record.

**Dividends**

We have never paid any dividends on our capital stock and do not anticipate paying any cash dividends on our Common Stock in the foreseeable future. We intend to retain future earnings to fund ongoing operations and future capital requirements. Any future determination to pay dividends will be at the discretion of our Board of Directors and will be dependent upon financial condition, results of operations, capital requirements and such other factors as the Board of Directors deems relevant.

**Warrants, Options and Restricted Stock Units**

As of June 30, 2023, there were outstanding options to purchase 3,156,037 shares of our Common Stock. Additionally, there were outstanding 3,428,235 restricted stock units.

**Equity Compensation Plan Information as of June 30, 2023**

The following table provides information as of June 30, 2023, relating to our equity compensation plans, under which grants of options, restricted stock, and other equity awards may be made from time to time:

| Plan category | Number of securities to be issued upon exercise of outstanding options, warrants and rights | Weighted-average exercise price of outstanding options, warrants and rights | Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a) |
|---|---|---|---|
| | (a) | (b) | (c) |
| Equity compensation plans approved by security holders - options | 3,156,037(1) | $ 6.61 | 4,638,242(4) |
| Equity compensation plans approved by security holders – restricted stock units | 3,064,882(2) | $ 0.00 | – |
| Equity compensation plans not approved by security holders | 363,353(3) | – | – |
| Total | 6,584,272 | | 4,638,242(4) |

(1) Consists of (i) 130,000 shares of Common Stock issuable upon the exercise of outstanding options issued under the Company's 2015 Equity Incentive Plan (the "2015 Plan"), (ii) 770,502 issuable under the Company's 2016 Stock Incentive Plan (the "2016 Plan"), (iii) and 2,255,535 issuable under the Company's 2018 Stock Incentive Plan (the "2018 Plan").

(2) Consists of 3,064,882 shares of Common Stock to be issued upon the vesting of outstanding restricted stock units issuable under the 2018 Plan.

(3) Consists of 363,353 shares of Common Stock to be issued upon the vesting of outstanding restricted stock units to be issued outside of an approved plan.

(4) As of June 30, 2023, 4,638,242 additional shares of Common Stock remained available for future issuance under the 2018 Plan. No additional grants will be made under the Company's 2014 Stock Plan (the "2014 Plan"), the 2015 Plan or the 2016 Plan.

**Recent Sales of Unregistered Securities**

We did not sell any equity securities during the fiscal year ended June 30, 2023 that were not registered under the Securities Act, other than as previously reported in our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K filed with the SEC.

**ITEM 6. [RESERVED]**

**ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

*The following management's discussion and analysis should be read in conjunction with the historical financial statements and the related notes thereto contained in this Annual Report on Form 10-K. See also the "Cautionary Note Regarding Forward-Looking Information" on page ii of this Report.*

The following discussion highlights the results of operations and the principal factors that have affected our financial condition, as well as our liquidity and capital resources for the periods described, and provides information that management believes is relevant for an assessment and understanding of the statements of financial condition and results of operations presented herein. The following discussion and analysis are based on the audited financial statements contained in this Report, which we have prepared in accordance with United States generally accepted accounting principles. You should read the discussion and analysis together with such financial statements and the related notes thereto.

**Overview**

Akoustis Technologies, Inc., a Delaware corporation, was incorporated in 2013. The Company is an emerging commercial product company focused on developing, designing, and manufacturing innovative RF filter solutions for the wireless industry, including for products such as smartphones and tablets, network infrastructure equipment, Wi-Fi Customer Premise Equipment ("CPE") and defense applications. Filters are critical in selecting and rejecting signals, and their performance enables differentiation in the modules defining the RF front-end ("RFFE"). Located between the device's antenna and its digital backend, the "RFFE" is the circuitry that performs the analog signal processing and contains components such as amplifiers, filters and switches. We have developed a proprietary microelectromechanical system ("MEMS") based bulk acoustic wave ("BAW") technology and a unique manufacturing process flow, called "XBAW", for our filters produced for use in RFFE modules. Our XBAW™ filters incorporate optimized high purity piezoelectric materials for high power, high frequency and wide bandwidth operation. We are developing RF Filters for 5G, Wi-Fi and defense bands using our proprietary resonator device models and product design kits (PDKs). As we qualify our RF filter products, we are engaging with target customers to evaluate our filter solutions.

Our initial designs target UHB, sub-7 GHz 5G, Wi-Fi and defense bands. We expect our filter solutions will address problems (such as loss, bandwidth, power handling, and isolation) created by the growing number of frequency bands in the RFFE of mobile devices, infrastructure and premise equipment to support 5G and Wi-Fi. We have prototyped, sampled and begun commercial shipment of our single-band low loss BAW filter designs for 5G frequency bands and 5 GHz and 6 GHz Wi-Fi bands, which are suited to competitive BAW solutions and historically cannot be addressed with low-band, lower power handling surface acoustic wave ("SAW") technology. Additionally, through our wholly owned subsidiary, RFMi, of which we acquired majority ownership in October 2021 and full ownership in April 2023, we operate a fabless business whereby we make sales of complementary SAW resonators, RF filters, crystal ("Xtal") resonators and oscillators, and ceramic products—addressing opportunities in multiple end markets, such as automotive and industrial applications. We also offer back-end semiconductor supply chain services through our wholly owned subsidiary, GDSI, which we acquired in January 2023.

We expect to continue to incur substantial costs for commercialization of our technology on a continuous basis because our business model involves materials and solid-state device technology development and engineering of catalog and custom filter design solutions. To succeed across our combined portfolio of Akoustis, XBAW, and RFMi products, we must convince customers in a wide range of industries including mobile phone OEMs, RFFE module manufacturers, network infrastructure OEMs, Wi-Fi CPE OEMs, medical device makers, and defense customers to use our products in their systems and modules. For example, since there are two dominant BAW filter suppliers in the industry that have high-band technology, and both utilize such technology as a competitive advantage at the module level, we expect customers that lack access to high-band filter technology will be open to engage with our company for XBAW filters.

To help drive our XBAW filter business, we plan to continue to pursue RF filter design and R&D development agreements and potentially joint ventures with target customers and other strategic partners, although we cannot guarantee we will be successful in these efforts. These types of arrangements may subsidize technology development costs and qualification, filter design costs, and offer complementary technology and market intelligence and other avenues to revenue. However, we intend to retain ownership of our core XBAW technology, intellectual property, designs, and related improvements. Across our combined portfolio of Akoustis, XBAW, and RFMi products, we expect to continue development of catalog designs for multiple customers and to offer such catalog products in multiple sales channels.

Please see Item 1. Business for more information.

***Business Environment and Current Trends***

*Impact of COVID-19*

The COVID-19 pandemic has significantly impacted business activity across the globe. In particular, COVID-19 contributed to delays we observed in certain suppliers' shipment of materials necessary for us to manufacture our products and in certain vendors' ability to deliver equipment for installation at our facilities. Although the effects of COVID-19 and its impact on our supply chain have eased since the peak of the pandemic and related lock-down protocols imposed by local governments, including China, we will continue to actively monitor the situation and may take further actions altering our business operations that we determine are in the best interests of our employees, customers, partners, suppliers, and stakeholders, or as required by federal, state, or local authorities. The effect that any such alterations or modifications may have on our business, including the effects on our customers, employees, and prospects, or on our financial results for fiscal year 2024 or beyond is unclear.

*Semiconductor Shortages and Supply Chain Issues*

The global silicon semiconductor industry continues to experience a shortage in supply and difficulties in ability to meet customer demand. This shortage has led to an increase in lead-times of production of semiconductor chips and components. As our business depends in significant part upon manufacturers of products requiring semiconductors, as well as the current and anticipated production of these products, we have sought to manage the impact of supply shortages though carefully maintaining and increasing key inventory levels. In some cases, we have incurred higher costs to secure available inventory, or have extended our purchase commitments or placed non-cancellable orders with suppliers, which introduces inventory risk if our forecasts and assumptions are inaccurate. We believe the global supply chain challenges and their adverse impact on our business and financial results will persist through calendar year 2024. We expect these constrained supply conditions to increase our costs of goods sold and increase uncertainty with respect to the timing of delivery of specific customer orders.

**Critical Accounting Policies and Estimates**

The following discussion and analysis of our financial condition and results of operations is based upon our financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Certain accounting policies and estimates are particularly important to the understanding of our financial position and results of operations and require the application of significant judgment by our management or can be materially affected by changes from period to period in economic factors or conditions that are outside of our control. As a result, they are subject to an inherent degree of uncertainty. In applying these policies, our management uses its judgment to determine the appropriate assumptions to be used in the determination of certain estimates. Those estimates are based on our historical operations, our future business plans and projected financial results, the terms of existing contracts, our observance of trends in the industry, information provided by our customers and information available from other outside sources, as appropriate.

***Revenue Recognition***

Application of the revenue recognition guidance requires a significant number of judgments and estimates, which may impact the amount and timing of revenue recognition and related disclosures. Refer to Note 3, "Summary of significant accounting policies" of our notes to consolidated financial statements included elsewhere in this Report for additional information regarding our revenue recognition policies, significant judgements, and estimates.

***Derivative Liability***

The Company evaluates its options, warrants, convertible notes, and other contracts, if any, to determine if those contracts or embedded components of those contracts qualify as derivatives to be separately accounted for in accordance with paragraph 815-10-05-4 and Section 815-40-25 of the FASB Accounting Standards Codification. The result of this accounting treatment is that the fair value of the embedded derivative is marked-to-market each balance sheet date and recorded as either an asset or a liability. The change in fair value is recorded in the consolidated statement of operations as other income or expense. Upon conversion, exercise or cancellation of a derivative instrument, the instrument is marked to fair value at the date of conversion, exercise, or cancellation and then the related fair value is reclassified to equity.

In circumstances where the embedded conversion option in a convertible instrument is required to be bifurcated and there are also other embedded derivative instruments in the convertible instrument that are required to be bifurcated, the bifurcated derivative instruments are accounted for as a single, compound derivative instrument.

The classification of derivative instruments, including whether such instruments should be recorded as liabilities or as equity, is re-assessed at the end of each reporting period. Equity instruments that are initially classified as equity that become subject to reclassification are reclassified to liability at the fair value of the instrument on the reclassification date. Derivative instrument liabilities will be classified in the balance sheet as current or non-current based on whether or not net-cash settlement of the derivative instrument is expected within 12 months of the balance sheet date.

The Company adopted Section 815-40-15 of the FASB Accounting Standards Codification ("Section 815-40-15") to determine whether an instrument (or an embedded feature) is indexed to the Company's own stock. Section 815-40-15 provides that an entity should use a two-step approach to evaluate whether an equity-linked financial instrument (or embedded feature) is indexed to its own stock, including evaluating the instrument's contingent exercise and settlement provisions.

The Company utilizes a Monte Carlo simulation to compute the fair value of the derivative liability and to mark to market the fair value of the derivative at each balance sheet date. The Company records the change in the fair value of the derivative as other income or expense in the consolidated statements of operations.

The Company utilizes the with-and-without method, a form of the income approach model to compute the fair value of its embedded derivatives associated with its convertible notes. The fair value of the embedded derivatives represents the difference in the present value of anticipated cash flows assuming the feature is present as compared to a security without the same feature. The Company records the change in the fair value of the derivative as other income or expense in the consolidated statements of operations.

***Fair Value of the Acquired Intangible Assets***

We perform valuations of assets acquired and liabilities assumed on each acquisition accounted for as a business combination and allocate the purchase price of each acquired business to our respective assets and liabilities. Acquired intangible assets include developed technology, customer relationships and tradenames. We use various valuation techniques to value these intangibles assets, with the primary technique being a discounted cash flow analysis. A discounted cash flow analysis requires us to make various assumptions, estimates and judgements including projected revenue, gross margins, operating costs, growth rates, useful lives and discount rates. We believe our assumptions, estimates, and judgements to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Estimates associated with the accounting for acquisitions may change as additional information becomes available regarding the assets acquired and liabilities assumed. Intangible assets are amortized over their estimated useful lives using the straight-line method which approximates the pattern in which the economic benefits of such assets are expected to be consumed.

**Results of Operations**

Our results of operations are presented for the fiscal years ended June 30, 2023 and June 30, 2022.

***Year Ended June 30, 2023 Compared to Year Ended June 30, 2022***

***Revenue***

The Company recorded revenue of $27.1 million for the year ended June 30, 2023 as compared to $15.4 million for the year ended June 30, 2022. The increase of $11.7 million was primarily due to an increase in RF product revenue of $4.6 million or 34%, which includes revenue from sales of RFMi products. Additionally, revenue from fabrication services, which includes revenue from GDSI, increased by $7.1 million or 382%.

***Cost of Revenue***

Cost of revenue includes direct labor, material, net realizable value (NRV) adjustments, and facility costs primarily associated with foundry services revenue, manufacturing of filter products and engineering services. The Company recorded cost of revenue of $30.2 million for the year ended June 30, 2023 as compared to $19.5 million for the year ended June 30, 2022. The $10.7 million increase is primarily due to costs associated with RF product revenue which increased by $7.7 million or 45%, which includes cost of revenue from sales of RFMi products. In addition, costs associated with fabrication services, which includes GDSI, increased by $3.1 million or 125%.

***Research and Development Expenses***

R&D expenses were $33.2 million for the year ended June 30, 2023 and were $2.5 million, or 7% lower than the prior year amount for the same period of $35.7 million. Personnel costs, including stock-based compensation, were $16.5 million compared to $17.9 million in the prior year period, a decrease of $1.4 million or 7.9%. Facility costs, including depreciation, of $7.8 million primarily associated with the NY Facility were $0.1 million lower than the prior period. Lastly, R&D material costs were $0.8 million lower than the prior period.

***General and Administrative Expense***

General and administrative ("G&A") expenses include salaries and wages for executive and administrative staff, stock-based compensation, professional fees, insurance costs and other general costs associated with the administration of our business. G&A expenses for the year ended June 30, 2023 were $29.7 million, which is an increase of $9.0 million compared to the year ended June 30, 2022. Year-over-year changes within G&A expenses include an increase in employee compensation (including stock-based compensation) of $2.6 million as well as increased general expenses of $5.9 million, primarily professional fees and intangible amortization.

***Other Income/(Expense)***

Other income for the year ended June 30, 2023 was $0.1 million compared to other expenses of $0.5 million in fiscal year 2022. The $0.4 million increase in other income was primarily due to an increase in interest expense of $2.2 million which was offset by an increase in income related changes in contingent liabilities and derivative liabilities resulting in income of $2.3 million.

***Net Loss***

The Company recorded a net loss of $63.6 million for the year ended June 30, 2023, compared to a net loss of $59.2 million for the year ended June 30, 2022. The year-over-year incremental loss of $4.4 million, or 7%, was primarily driven by an increase in cost of revenue of $10.7 million, higher R&D and G&A personnel costs, including stock based compensation of $1.2 million, as well as an increase in professional fees and intangible amortization of $6.1 million. These increases were partially offset by decreases in R&D materials and facility costs of $0.9 million as well as an increase in revenue of $11.7 million.

These increases were partially offset by decreases in R&D materials and facility costs of $0.9 million as well as an increase in revenue of $11.7 million.

**Liquidity and Capital Resources**

***Overview***

The Company's short-term and long-term liquidity requirements primarily arise from funding (i) research and development expenses, (ii) general and administrative ("G&A") expenses including salaries, bonuses, commissions and stock-based compensation, (iii) working capital requirements, (iv) business acquisitions and investments we may make from time to time, including potential performance based payments related to our acquisition of RFMi and a note payable issued in connection with our acquisition of GDSI, and (v) interest and principal payments related to our $44.0 million aggregate principal amount of outstanding convertible notes. Additionally, in the near-term, the Company makes capital expenditures in connection with the expansion of the capacity of its manufacturing facility in Canandaigua, New York.

The Company has incurred losses and negative cash flow from operations since inception. Our operations thus far have been funded primarily with sales of equity and debt securities, as well as contract research and government grants, foundry services and engineering services. We expect our operating expenditures to continue to increase to support future growth of our manufacturing capabilities and expansion of our product offerings, as well as an increase in research and development and headcount costs to support this growth. We believe we currently have sufficient resources to fund operations and planned investments for at least the next twelve months from the date of filing of this Form 10-K. However, until we are able to generate sufficient cash flow from operations to achieve and maintain profitability and meet our obligations as they come due, we may need to raise additional capital to support our business. We recently completed an offering of convertible notes resulting in net proceeds to the Company of $43.7 million and have access to an at-the-market offering program pursuant to which we may sell up to $50 million of Common Stock. As of the date of this Annual Report, the Company had sold $2.0 million of Common Stock under such at-the-market offering program and previously announced that it was suspending sales under the at-the-market offering program in light of market conditions. If, in the future, the Company determines to resume sales under the at-the-market offering program, it intends to notify investors by the filing of a Current Report on Form 8-K, other SEC filing or other public announcement. In January 2023, approximately $13.9 million in cash was paid to the sellers in the GDSI acquisition as mentioned in Note 7 to the Financial Statements. Additionally, the Company estimates that approximately $4.0 million of additional cash is needed to complete construction in progress assets that are currently not in service.

The Company had $43.1 million of cash on hand as of June 30, 2023, which reflects a decrease of $37.4 million compared to $80.5 million as of June 30, 2022. The $37.4 million decrease is primarily due to $44.8 million of cash used in operating activities, cash used for purchases of machinery and equipment of $11.3 million and cash used for investment in subsidiary of $13.9 million. Partially offsetting these cash uses was cash proceeds from issuance of common stock of $32.0 million.

***Financing Activities***

On May 2, 2022, the Company entered into an ATM Sales Agreement with Oppenheimer & Co. Inc., Craig-Hallum Capital Group LLC, and Roth Capital Partners, LLC pursuant to which the Company may sell from time-to-time shares of its common stock having an aggregate offering price of up to $50,000,000 (the "2022 Equity Offering Program"). The Company announced on May 25, 2022 that it was suspending sales under the 2022 Equity Offering Program in light of the current market conditions. If, in the future, the Company determines to resume sales pursuant to the 2022 Equity Offering Program, it intends to notify investors by the filing of a Current Report on Form 8-K, other SEC filing or other public announcement. The Company did not make any sales of common stock under the Equity Offering Program in the year ended June 30, 2023.

On June 9, 2022, the Company issued $44.0 million aggregate principal amount of its 6.0% Convertible Senior Notes due 2027 (the "Notes") guaranteed by its wholly-owned subsidiary, Akoustis, Inc. The Notes were issued pursuant to an indenture (the "Indenture"), dated June 9, 2022, among the Company, the Guarantor and The Bank of New York Mellon Trust Company, N.A., as trustee. The Notes bear interest at a rate of 6.0% per year until maturity on June 15, 2027, payable semi-annually beginning on December 15, 2022. At the Company's option, interest may be paid in cash and/or shares of the Company's common stock. The initial conversion rate for the Notes is 212.3142 shares of common stock (subject to adjustment as provided in the Indenture) per $1,000 principal amount of the Notes, which is equal to an initial conversion price of approximately $4.71 per share.

On January 19, 2023, the Company closed an underwritten public offering of 12,545,454 shares of its common stock at a price to the public of $2.75 per share pursuant to an underwriting agreement with B. Riley Securities, Inc., as representative of the several underwriters named therein. The shares of common stock issued at closing included 1,636,363 shares issued pursuant to the underwriters' over-allotment option, which was exercised in full. Gross proceeds totaled $34.5 million before deducting the underwriting discount and offering expenses of approximately $2.5 million resulting in net proceeds from the offering of approximately $32.0 million. Certain of the Company's directors and officers participated in the offering by purchasing shares on the same terms and conditions as other investors.

***Balance Sheet and Working Capital***

***June 30, 2023 Compared to June 30, 2022***

As of June 30, 2023, the Company had current assets of $59.8 million made up primarily of cash on hand of $43.1 million. As of June 30, 2022, current assets were $91.7 million comprised primarily of cash on hand of $80.5 million. The reduction in current assets was primarily a result of the use of cash in operations.

Property, Plant and Equipment was $57.8 million as of June 30, 2023 as compared to a balance of $51.2 million as of the year ended June 30, 2022. The $6.6 million year-over-year increase is primarily due to the purchase of equipment for the NY Facility of $13.2 million offset by depreciation of $9.2 million as well as assets acquired during the acquisition of GDSI amounting to $2.5 million.

Total assets as of June 30, 2023 and June 30, 2022 were $148.9 million and $161.3 million, respectively. The $12.4 million decrease is primarily due to a decrease in cash of $31.9 million which was partially offset by increases in property, plant and equipment as well as increase in intangible assets, including goodwill, related to the acquisition of GDSI.

Current liabilities as of June 30, 2023 were $17.6 million and increased year-over-year by $4.9 million which was primarily due to increases in accounts payable and accrued expenses, primarily due to increases in production activities and, employee compensation accruals and professional fee accruals.

Long-term liabilities totaled $45.1 million as of June 30, 2023, compared to $45.5 million for the prior year period. This decrease was a result of decreases in derivative and contingent liability valuations offset by increases promissory notes payable.

Stockholders' equity was $86.2 million as of June 30, 2023, compared to $103.4 million as of June 30, 2022. Additional paid-in-capital ("APIC") was $356.5 million as of June 30, 2023 and increased by $46.4 million compared to June 30, 2022. The year-over-year increase was primarily due to an increase from net proceeds of $32.0 million for the issuance of common stock during the year, common stock issued for services in the amount of $9.4 million, and common stock issued for the acquisition of a subsidiary of $1.7 million. The $17.2 million decrease in stockholders' equity consisted of the $46.4 million increase in APIC reduced by the $63.6 million net loss recorded for the year ended June 30, 2023.

***Cash Flow Analysis***

***Year Ended June 30, 2023 Compared to the Year Ended June 30, 2022***

***Operating Activities***

Net cash used in operating activities was $44.8 million during the year ended June 30, 2023 and $45.2 million for the 2022 comparative period. The $0.4 million year-over-year decrease in cash used was attributable to an increase in revenue partially offset by higher operating expenses associated with the ramp up of commercialization activities, higher spend on G&A costs for support personnel, and professional fees.

***Investing Activities***

Net cash used in investing activities was $25.1 million for the year ended June 30, 2023 compared to $34.9 million for the comparative year ended June 30, 2022. The $9.8 million year-over-year decrease was primarily due to decreased spend on R&D and manufacturing equipment of $16.3 million offset by a $6.3 million increase in cash used for investment in a subsidiary.

***Financing Activities***

Net cash provided by financing activities was $32.6 million for the year ended June 30, 2023 versus $72.3 million for the 2022 comparative period. The $39.7 million decrease was due to a decrease in proceeds from convertible debt of $43.7 million compared to the prior period, offset by an increase in proceeds from issuance of common stock of $4.4 million.

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

Not applicable

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTAL DATA**

**INDEX TO FINANCIAL STATEMENTS**

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Akoustis Technologies, Inc. (the "Company") as of June 30, 2023 and 2022, the related consolidated statements of operations, changes in stockholders' equity and cash flows for each of the two years in the period ended June 30, 2023, 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 as of June 30, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended June 30, 2023, in conformity with accounting principles generally accepted in the United States of America**.**

**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 audits 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.

**Critical Audit Matters**

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which it relates.

***Valuation of Customer Relationships Acquired in the Business Combination***

*Critical Audit Matter Description*

As described in Note 7 to the financial statements, on January 1, 2023, the Company acquired all of the outstanding capital stock of Grinding and Dicing Services, Inc. ("GDSI") for a total consideration of $13.9 million in cash and approximately $1.7 million shares of the Company's common stock. As of the date of the acquisition, the Company recognized customer relationships acquired at an estimated fair value of $6.1 million. As disclosed by management, the Company valued the acquired customer relationships utilizing the multi-period excess earnings method, a form of income approach. Determining the fair value of the customer relationships acquired required management to make significant judgments, including the revenue growth rate assumption, attrition rate, contributory asset charges, and discount rate.

We identified the valuation of customer relationships acquired in the acquisition of GDSI as a critical audit matter due to the significant judgments made by management to estimate the fair value of the acquired customer relationships and the sensitivity of the fair value to the significant underlying assumptions, which include the revenue growth rate assumption, attrition rate, contributory asset charges, and discount rate. These significant assumptions are forward looking and could be affected by future economic and market conditions. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's fair value measurement of the acquired customer relationships.

*How the Critical Audit Matter Was Addressed in the Audit*

Our audit procedures related to the valuation of acquired customer relationships included the following, among others:

- We obtained an understanding of the design of controls associated with management's process for estimating the fair value of the acquired customer relationships.
- We assessed the reasonableness of management's projections by comparing the projection used to the historical financial results of the acquired business and certain peer companies.
- We evaluated the reasonableness of the attrition rate by assessing the underlying data used in determining the rate and testing mathematical accuracy of the calculation.
- With the assistance of our valuation specialists, we evaluated the reasonableness of the valuation methodology and the following significant valuation assumptions:
    - Discount rate by testing the source information underlying the determination of the discount rate, testing mathematical accuracy of the calculation, and reconciling the weighted average cost of capital, weighted average return on assets and internal rate of return.
    - Contributory asset charges by testing the source information underlying the determination of the contributory asset charges and mathematical accuracy of the calculation.

/s/ Marcum LLP

Marcum LLP

We have served as the Company's auditor since 2015.

New York, NY
September 6, 2023

**Akoustis Technologies, Inc.**
**Consolidated Balance Sheets**
**(In thousands, except per share data)**

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| **Assets** | | |
| **Assets:** | | |
| Cash and cash equivalents | $ 43,104 | $ 80,485 |
| Accounts receivable | 4,753 | 3,793 |
| Inventory | 7,548 | 4,094 |
| Other current assets | 4,440 | 3,359 |
| **Total current assets** | 59,845 | 91,731 |
| Property and equipment, net | 57,826 | 51,157 |
| Goodwill | 14,559 | 8,051 |
| Intangibles, net | 15,241 | 8,994 |
| Operating lease right-of-use asset, net | 1,374 | 1,126 |
| Other assets | 72 | 279 |
| **Total Assets** | **$ 148,917** | **$ 161,338** |
| **Liabilities and Stockholders' Equity** | | |
| **Current Liabilities:** | | |
| Accounts payable and accrued expenses | $ 17,027 | $ 11,204 |
| Contingent consideration | — | 855 |
| Operating lease liability | 439 | 313 |
| Deferred revenue | 105 | 286 |
| **Total current liabilities** | 17,571 | 12,658 |
| **Long-term Liabilities:** | | |
| Convertible notes payable, net | 43,347 | 43,731 |
| Contingent consideration | — | 591 |
| Operating lease liability | 976 | 811 |
| Promissory note payable | 667 | — |
| Other long-term liabilities | 117 | 117 |
| **Total long-term liabilities** | 45,107 | 45,250 |
| **Total Liabilities** | 62,678 | 57,908 |
| Commitments and Contingencies (Note 15) | | |
| **Stockholders' Equity** | | |
| Preferred Stock, par value $0.001: 5,000,000 shares authorized; none issued and outstanding | — | — |
| Common stock, $0.001 par value; 125,000,000 shares authorized; 72,154,647 and 57,079,347 shares issued and outstanding at June 30, 2023 and June 30, 2022, respectively | 72 | 57 |
| Additional paid in capital | 356,522 | 310,171 |
| Accumulated deficit | (270,355) | (206,798) |
| **Total Stockholders' Equity** | 86,239 | 103,430 |
| **Total Liabilities and Stockholders' Equity** | **$ 148,917** | **$ 161,338** |

See accompanying notes to the consolidated financial statements.

**Akoustis Technologies, Inc.**
**Consolidated Statements of Operations**
**(In thousands, except per share data)**

| | For the Year Ended June 30, 2023 | For the Year Ended June 30, 2022 |
|---|---|---|
| **Revenue** | $ 27,121 | $ 15,350 |
| **Cost of revenue** | 30,237 | 19,487 |
| **Gross profit** | (3,116) | (4,137) |
| **Operating expenses** | | |
| Research and development | 33,243 | 35,708 |
| General and administrative expenses | 29,710 | 20,710 |
| **Total operating expenses** | **62,953** | **56,418** |
| **Loss from operations** | **(66,069)** | **(60,555)** |
| **Other (expense) income** | | |
| Interest (expense) income | (2,322) | (77) |
| Change in fair value of contingent liability | 1,446 | (347) |
| Other (expense) income | (8) | — |
| Change in fair value of derivative liabilities | 948 | (48) |
| **Total Other (expense) income** | **64** | **(472)** |
| **Net loss before income taxes** | **$ (66,005)** | **$ (61,027)** |
| **Income tax expense (benefit)** | **$ (2,448)** | **$ (1,833)** |
| Net loss | $ (63,557) | $ (59,194) |
| Net (income) loss attributable to noncontrolling interest | — | 167 |
| Net Loss attributable to common stockholders | (63,557) | (59,027) |
| **Net loss per common share - basic and diluted** | $ (1.00) | $ (1.09) |
| **Weighted average common shares outstanding - basic and diluted** | 63,621,727 | 54,021,205 |

See accompanying notes to the consolidated financial statements.

**Akoustis Technologies, Inc.**
**Consolidated Statements of Changes in Stockholders' Equity**
**For the Years Ended June 30, 2023 and 2022**
**(In thousands)**

| | Common Stock | | Additional Paid In | Accumulated | Total Akoustis Technologies, Inc. | Noncontrolling | Total |
|---|---|---|---|---|---|---|---|
| | Shares | Par Value | Capital | Deficit | Equity | Interest | Equity |
| Balance, June 30, 2021 | 51,236 | $ 51 | $ 265,130 | $ (147,771) | $ 117,410 | $ — | $ 117,410 |
| Common stock issued for cash, net of issuance costs | 4,178 | 4 | 27,574 | — | 27,578 | — | 27,578 |
| Stock-based compensation | 739 | 1 | 10,246 | — | 10,247 | — | 10,247 |
| Common stock issued for exercise of warrants | 21 | — | 67 | — | 67 | — | 67 |
| Common stock issued for exercise of options | 87 | — | 409 | — | 409 | — | 409 |
| ESPP purchase | 135 | 1 | 592 | — | 593 | — | 593 |
| Common stock issued in acquisition | 683 | — | 4,162 | — | 4,162 | — | 4,162 |
| Noncontrolling interest acquired | — | — | 1,991 | — | 1,991 | 167 | 2,158 |
| Net loss | — | — | — | (59,027) | (59,027) | (167) | (59,194) |
| Balance, June 30, 2022 | 57,079 | $ 57 | $ 310,171 | $ (206,798) | $ 103,430 | $ — | $ 103,430 |
| Common stock issued for cash, net of issuance costs | 12,546 | 12 | 32,013 | — | 32,025 | — | 32,025 |
| Stock-based compensation | 1,009 | 1 | 9,406 | — | 9,407 | — | 9,407 |
| ESPP purchase | 89 | — | 560 | — | 560 | — | 560 |
| Common stock issued in acquisition | 606 | 1 | 1,689 | — | 1,690 | — | 1,690 |
| Common stock issued in payment of note interest | 826 | 1 | 2,683 | — | 2,684 | — | 2,684 |
| Net loss | — | — | — | (63,557) | (63,557) | — | (63,557) |
| Balance, June 30, 2023 | 72,155 | $ 72 | $ 356,522 | $ (270,355) | $ 86,239 | $ — | $ 86,239 |

See accompanying notes to the consolidated financial statements.

**Akoustis Technologies, Inc.**
**Consolidated Statements of Cash Flows**
**(In thousands)**

| | For the Year Ended June 30, 2023 | For the Year Ended June 30, 2022 |
|---|---|---|
| **CASH FLOWS FROM OPERATING ACTIVITIES:** | | |
| Net loss | $ (63,557) | $ (59,194) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Depreciation and amortization | 11,256 | 7,853 |
| Stock-based compensation | 9,407 | 10,247 |
| Amortization of debt discount | 564 | 29 |
| Non-cash interest payments | 2,684 | — |
| (Gain)/Loss on disposal of assets | (100) | (210) |
| Change in deferred tax assets | (2,394) | — |
| Amortization of operating lease right of use asset | 395 | 271 |
| Change in fair value of derivative liabilities | (948) | 48 |
| Change in fair value of contingent consideration | (1,446) | 347 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | (79) | (1,639) |
| Inventory | (3,454) | (2,506) |
| Other current asset | (805) | (1,241) |
| Other assets | — | (12) |
| Accounts payable and accrued expenses | 3,522 | 2,975 |
| Lease liabilities | (352) | (274) |
| Other long term liabilities | 667 | (1,980) |
| Deferred revenue | (181) | 91 |
| **Net Cash Used in Operating Activities** | (44,821) | (45,195) |
| **CASH FLOWS FROM INVESTING ACTIVITIES:** | | |
| Cash paid for machinery and equipment | (11,385) | (27,720) |
| Cash received from sale of fixed assets | 121 | 357 |
| Cash paid for investment in subsidiary | (13,882) | (7,579) |
| **Net Cash Used in Investing Activities** | (25,146) | (34,942) |
| **CASH FLOWS FROM FINANCING ACTIVITIES:** | | |
| Proceeds from issuance of common stock | 32,026 | 27,578 |
| Proceeds from exercise of warrants | — | 67 |
| Proceeds from exercise of employee stock options | — | 409 |
| Proceeds from employee stock purchase plan | 560 | 592 |
| Proceeds received from convertible note, net of issuance costs | — | 43,654 |
| **Net Cash Provided by Financing Activities** | 32,586 | 72,300 |
| **Net Increase (Decrease) in Cash, Cash Equivalents** | (37,381) | (7,837) |
| **Cash and Cash Equivalents - Beginning of Period** | 80,485 | 88,322 |
| **Cash and Cash Equivalents - End of Period** | $ 43,104 | $ 80,485 |
| **SUPPLEMENTARY CASH FLOW INFORMATION:** | | |
| Cash Paid During the Period for: | | |
| Income taxes | $ 40 | $ 112 |
| **SUPPLEMENTARY DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:** | | |
| Common stock issued in payment of interest | $ 2,684 | $ — |
| Fixed assets included in accounts payable and accrued expenses | $ — | $ (393) |
| Operating lease right-of-use asset, net | $ 133 | $ — |
| Operating lease liability | $ (133) | $ — |
| Acquisition of Business | | |
| Tangible assets, excluding cash and cash equivalents | $ 3,904 | 1,346 |
| Intangibles | $ 8,289 | 9,452 |
| Goodwill | $ 6,508 | 8,051 |
| Deferred Tax Liability | $ (2,394) | (1,980) |
| Contingent consideration | $ — | 1,099 |
| Liabilities assumed | $ (1,124) | (1,871) |
| Liabilities cancelled | $ 88 | — |
| Issuance of common stock for acquisition | $ 1,690 | 4,162 |
| Noncontrolling interest acquired | $ — | (2,158) |

See accompanying notes to the consolidated financial statements.

**Note 1. Organization**

Akoustis Technologies, Inc. (the "Company") was incorporated on April 10, 2013, and effective December 15, 2016, the Company changed its state of incorporation to the State of Delaware. Through its wholly-owned subsidiary, Akoustis, Inc. (a Delaware corporation), the Company, headquartered in Huntersville, North Carolina, is focused on developing, designing, and manufacturing innovative radio frequency ("RF") filter products for the wireless industry, including for products such as smartphones and tablets, cellular infrastructure equipment, Wi-Fi Customer Premise Equipment ("CPE"), and military and defense communication applications. Located between the device's antenna and its digital backend, the RF front-end ("RFFE") is the circuitry that performs the analog signal processing and contains components such as amplifiers, filters and switches. To construct the resonator devices that are the building blocks for its RF filters, the Company has developed a family of novel, high purity acoustic piezoelectric materials as well as a unique microelectromechanical system ("MEMS") wafer semiconductor process, collectively referred to as XBAW® technology. The Company leverages its integrated device manufacturing ("IDM") business model to develop and sell high performance RF filters using its XBAW® technology. Filters are critical in selecting and rejecting signals, and their performance enables differentiation in the modules defining the RFFE. Additionally, through RFM Integrated Device, Inc. ("RFMi"), a wholly-owned subsidiary of Akoustis, Inc., the Company makes sales of complementary surface acoustic wave ("SAW") resonators, RF filters, crystal (Xtal) resonators and oscillators, and ceramic products branded as "RFMi" products. We also offer back-end semiconductor supply chain services through our wholly owned subsidiary, Grinding & Dicing Services, Inc. ("GDSI"), which we acquired in January 2023.

**Note 2. Liquidity**

As of June 30, 2023, the Company had cash and cash equivalents of $43.1 million and working capital of $42.3 million. The Company has historically incurred recurring operating losses and experienced net cash used in operating activities.

The Company expects its current cash and cash equivalents to be sufficient to fund its operations beyond the next twelve months from the date of filing of this Form 10-K. These funds will be used to fund the Company's operations, including capital expenditures, R&D, commercialization of our technology, development of our patent strategy and expansion of our patent portfolio, as well as to provide working capital and funds for other general corporate purposes. Except for the $48.0 million of common stock remaining available to be sold under its ATM Sales Agreement with Oppenheimer & Co. Inc., Craig-Hallum Capital Group LLC, and Roth Capital Partners, LLC, the Company has no commitments or arrangements to obtain any additional funds, and there can be no assurance such funds will be available on acceptable terms or at all.

If in the future the Company is unable to obtain additional financing in a timely fashion and on acceptable terms when such financing is needed, its financial condition and results of operations may be materially adversely affected and it may not be able to continue operations or execute its stated commercialization plan.

**Note 3. Summary of significant accounting policies**

**Basis of presentation**

The Company's consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and the rules and regulations of the Securities and Exchange Commission ("SEC").

**Principles of Consolidation**

The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, Akoustis, Inc., RFMi, and GDSI. All significant intercompany accounts and transactions have been eliminated in consolidation.

**Use of estimates and assumptions**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date(s) of the financial statements and the reported amounts of revenues and expenses during the reporting period(s). The policies, estimates and assumptions include estimates and assumptions used in valuation of equity instruments, deferred taxes and related valuation allowances, contingent consideration, goodwill, fair value of the acquired intangible assets, initial fair value of the non-controlling interest, revenue recognition, derivative liabilities, and the fair values of long-lived assets. Actual results could differ from the estimates.

***Cash and Cash Equivalents***

The Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents. Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash deposits. The Company maintains its cash in institutions insured by the Federal Deposit Insurance Corporation ("FDIC"). At times, the Company's cash and cash equivalent balances may be uninsured or in amounts that exceed the FDIC insurance limits; as of June 30, 2023, approximately $42.3 million was uninsured.

***Accounts Receivable***

Accounts receivable is recorded at the invoiced amount and do not bear interest. The Company maintains an allowance for doubtful accounts for estimated losses inherent in its accounts receivable portfolio. Management considers an account receivable to be past due when it is not settled under its stated terms. In establishing the required allowance, management considers historical losses adjusted to take into account current market conditions and customers' financial condition, the amount of receivables in dispute, and the current receivables aging and current payment patterns. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. During the years ended June 30, 2023 and 2022, the Company's allowance for doubtful accounts was immaterial. The Company does not have any off balance sheet credit exposure related to its customers.

***Inventory***

Inventory, which consists of raw materials, work-in-process and finished product, is stated at the lower of cost or net realizable value. Inventory is valued on a first-in first-out basis. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.

***Property and equipment, net***

Property and equipment are stated at cost less accumulated depreciation. Depreciation is calculated using the straight–line method on the various asset classes over their estimated useful lives, which range from two to eleven years. Expenditures for major renewals and betterments that extend the useful lives of property and equipment are capitalized. Expenditures for maintenance and repairs, which do not extend the economic useful life of the related assets, are charged to operations as incurred. The Company records gains or losses on the disposal of assets as the difference between net book value of assets and cash received less costs to dispose of assets. Gains or losses on the disposal of assets, as well as impairment of assets held for sale are recorded in operating expenses.

***Leases***

The Company determines if an arrangement is a lease at inception. For each lease, the lease term is determined at the commencement date and includes renewal options and termination options when it is reasonably certain that the Company will exercise that option. Operating leases with the lease terms greater than one year are included in operating lease right-of-use ("ROU") assets and current and long-term operating lease liabilities in the Company's consolidated balance sheets.

Operating lease ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease liabilities are recognized at commencement date based on the present value of lease payments over the lease term using an estimated rate of interest the Company would have to pay to borrow equivalent funds on a collateralized basis at the lease commencement date. The operating lease ROU assets are based on the liability adjusted for any prepaid or deferred rent and lease incentives. The incremental borrowing rate was utilized to discount lease payments over the expected term given that the Company's operating leases do not provide an implicit rate. The Company estimates the incremental borrowing rate to reflect the profile of secured borrowing over the expected term of the leases based on the information available at the later of the date of adoption or the lease commencement date. Rent expense for the operating lease is recognized on a straight-line basis over the lease term.

***Business Combinations***

The Company uses the acquisition method of accounting for business combinations and recognizes assets acquired and liabilities assumed at their fair values on the date acquired. Goodwill represents the excess of the purchase price over the fair value of the acquired identifiable net assets. The fair values of the assets and liabilities acquired are determined based upon the Company's valuation using a combination of market, income, or cost approaches. The valuation involves making significant estimates and assumptions, which are based on detailed financial models including the projection of future cash flows and the weighted average cost of capital.

***Contingent Consideration***

Contingent consideration relates to the potential payment for an acquisition that is contingent upon the achievement by the acquired business of revenue targets. The Company records contingent consideration at fair value based on the consideration expected to be transferred. For potential payments related to revenue target achievements, the Company estimated the fair value based on the probability of achievement of such revenue targets. The assumptions utilized in the calculation of the fair value include the probability assessments of expected future sales revenue of RFMi products in each of calendar year 2022 and 2023 and the volatility of those revenues, appropriately discounted considering the uncertainties associated with the obligation. Contingent consideration is remeasured each reporting period, and subsequent changes in fair value are recognized within other (expense) income in the Company's Statement of Operations.

***Goodwill and Intangible assets, net***

Goodwill is the excess of purchase price over the fair value of identified net assets of businesses acquired. The Company has two operating segments and two reporting units. The Company reviews goodwill at least annually for possible impairment and will test for impairment between annual tests if an event occurs that would more likely than not reduce the fair value of the reporting unit below its carrying value. No impairment charge was recognized for the years ended June 30, 2023 and June 30, 2022.

Intangible assets consist of developed technology, trademarks, and customer relationships. Applicable long–lived assets are amortized over the shorter of their estimated useful lives, the estimated period that the assets will generate revenue, or the statutory or contractual term in the case of patents. Estimates of useful lives and periods of expected revenue generation are reviewed for appropriateness and are based upon management's judgment. Developed technology is amortized using the straight-line method over their weighted average useful lives of 10 years, trademarks are amortized using the straight-line method over their useful lives of 5 years and customer relationships are amortized using the straight-line method over their useful lives of 7 years.

***Impairment of Long-Lived Assets***

The Company assesses the recoverability of its long-lived assets, including property and equipment, when there are indications that the assets might be impaired. When evaluating assets for potential impairment, the Company compares the carrying value of the asset to its estimated undiscounted future cash flows. If an asset's carrying value exceeds such estimated undiscounted cash flows, the Company records an impairment charge for the difference between the carrying amount of the asset and its fair value.

***Fair Value of Financial Instruments***

The carrying amounts of cash and cash equivalents and accounts payable approximate fair value due to the short-term nature of these instruments.

The Company measures the fair value of financial assets and liabilities based on the guidance of ASC 820, "*Fair Value Measurements and Disclosures*," which defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements.

ASC 820 defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

Fair value measurements are categorized using a valuation hierarchy for disclosure of the inputs used to measure fair value, which prioritize the inputs into three broad levels:

Level 1 – Quoted prices are available in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.

Level 2 – Pricing inputs are other than quoted prices in active markets included in level 1, which are either directly or indirectly observable as of the reported date, and include those financial instruments that are valued using models or other valuation methodologies.

Level 3 – Pricing inputs include significant inputs that are generally less observable from objective sources. These inputs may be used with internally developed methodologies that result in management's best estimate of fair value.

***Derivative Liability***

The Company evaluates its options, warrants, convertible notes, or other contracts, if any, to determine if those contracts or embedded components of those contracts qualify as derivatives to be accounted for separately. The fair value of any identified embedded derivative is marked-to-market each balance sheet date and recorded as either an asset or a liability. The change in fair value is recorded in the consolidated statement of operations as other income or expense. Upon conversion, exercise or cancellation of a derivative instrument, the instrument is marked to fair value at the date of conversion, exercise or cancellation and then the related fair value is reclassified to equity.

The classification of derivative instruments, including whether such instruments should be recorded as liabilities or as equity, is re-assessed at the end of each reporting period. Equity instruments that are initially classified as equity that become subject to reclassification are reclassified to liability at the fair value of the instrument on the reclassification date. Derivative instrument liabilities will be classified in the balance sheet as current or non-current based on whether or not net-cash settlement of the derivative instrument is expected within 12 months of the balance sheet date.

The Company analyzes whether an instrument (or an embedded feature) is indexed to the Company's own stock and uses a two-step approach to evaluate whether an equity-linked financial instrument (or embedded feature) is indexed to its own stock, including evaluating the instrument's contingent exercise and settlement provisions.

***Revenue Recognition***

The Company derives its revenue primarily from the sale of filter products under individual customer purchase orders, some of which have underlying master sales agreements that specify terms governing the product sales. In the absence of a sales agreement, the Company's standard terms and conditions apply. Revenue is recognized when control of the promised goods or services is transferred to the Company's customers, in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The Company applies a five-step approach as defined in FASB ASC 606, Revenue from Contracts with Customers (Topic 606), in determining the amount and timing of revenue to be recognized: (1) identifying the contract with a customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations in the contract; and (5) recognizing revenue when the corresponding performance obligation is satisfied.

Each distinct promise to transfer products is considered to be an identified performance obligation for which revenue is recognized at a point in time upon transfer of control of the products to the customer. Transfer of control occurs upon shipment to the distributor or direct customer. Returns under the Company's general assurance warranty of products have not been material, and warranty-related services are not considered a separate performance obligation.

Pricing adjustments and estimates of returns are treated as variable consideration for purposes of determining the transaction price. Sales returns are generally accepted at the Company's discretion. Variable consideration is estimated using the expected value method considering all reasonably available information, including the Company's historical experience and its current expectations, and is reflected in the transaction price when sales are recorded. The Company records net revenue excluding taxes collected on its sales to trade customers.

Accounts receivable represents the Company's unconditional right to receive consideration from its customer. Substantially all payments are collected within the Company's standard terms, which do not include a significant financing component. To date, there have been no material impairment losses on accounts receivable.

***Research and Development***

Research and development expenses are charged to operations as incurred.

***Stock–based compensation***

The Company recognizes compensation expense for all equity–based payments in accordance with ASC 718 "*Compensation – Stock Compensation*" based on estimated fair values. The fair value of share-based payment awards is amortized over the requisite service period, which is defined as the period during which an employee is required to provide service in exchange for an award. The Company recognizes the expense for the awards ratably over the service period for each separately vesting tranche.

Awards granted by the Company generally vest over the requisite service periods, typically over a four-year or five-year period. Awards granted to non-employee directors generally vest over a one-year period from the grant date.

The fair value of a restricted stock award is equal to the fair market value of a share of Company stock on the date of grant.

The fair value of an option award is estimated on the date of grant using the Black–Scholes option valuation model. The Black–Scholes option valuation model requires the development of assumptions that are inputs into the model. These assumptions are the value of the underlying share, the expected stock volatility, the risk–free interest rate, the expected life of the option, and the dividend yield on the underlying stock. Expected volatility is calculated using the historical volatilities of the Company's common stock traded on the Nasdaq Capital Market over the expected term. Risk–free interest rates are calculated based on continuously compounded risk–free rates for the appropriate term. The expected life of the option is calculated under the simplified method. The dividend yield is assumed to be zero as the Company has never paid or declared any cash dividends on its Common stock and does not intend to pay dividends on its Common stock in the foreseeable future. The Company accounts for the impact of forfeitures as they occur.

Determining the appropriate fair value model and calculating the fair value of equity–based payment awards requires the input of the subjective assumptions described above. The assumptions used in calculating the fair value of equity–based payment awards represent management's best estimates, which involve inherent uncertainties and the application of management's judgment. As a result, if factors change and the Company uses different assumptions, equity–based compensation could be materially different in the future. In addition, the Company has elected to account for the impact of forfeitures as those forfeitures occur. If the Company's actual forfeitures are material, the equity–based compensation could be significantly different from what the Company has recorded in the current period.

***Income taxes***

The Company accounts for income taxes using the asset and liability approach. Deferred tax assets and liabilities are recognized and represent the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. They are measured using the enacted tax rates expected to apply to taxable income in the years in which the related temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. The Company recognizes interest and penalties related to uncertain tax positions in selling, general and administrative expenses.

As part of the financial process, the Company assesses on a tax jurisdictional basis the likelihood that the Company's deferred tax assets can be recovered. If recovery is not more likely than not (a likelihood of less than 50 percent), the provision for taxes must be increased by recording a reserve in the form of a valuation allowance for the deferred tax assets that are estimated not to ultimately be recoverable. In this process, certain relevant criteria are evaluated including: the amount of income or loss in prior years, the existence of deferred tax liabilities that can be used to absorb deferred tax assets, future expected taxable income, and prudent and feasible tax planning strategies. Changes in taxable income, market conditions, U.S. or international tax laws, and other factors may change the Company's judgment regarding whether the Company will be able to realize the deferred tax assets. These changes, if any, may require material adjustments to the net deferred tax assets and an accompanying reduction or increase in income tax expense which will result in a corresponding increase or decrease in net income in the period when such determinations are made.

As part of the Company's financial process, the Company also assesses the likelihood that the Company's tax reporting positions will ultimately be sustained. To the extent it is determined it is more likely than not (a likelihood of more than 50 percent) that some portion or all of a tax reporting position will ultimately not be recognized and sustained, a provision for unrecognized tax benefit is provided by either reducing the applicable deferred tax asset or accruing an income tax liability. The Company's judgment regarding the sustainability of the Company's tax reporting positions may change in the future due to changes in U.S. or international tax laws and other factors. These changes, if any, may require material adjustments to the related deferred tax assets or accrued income tax liabilities and an accompanying reduction or increase in income tax expense which will result in a corresponding increase or decrease in net income in the period when such determinations are made.

***Recently Issued Accounting Pronouncements***

In November 2021, the Financial Accounting Standards Board issued Accounting Standards Update ("ASU") 2021-10, "Government Assistance (Topic 832) - Disclosures by Business Entities about Government Assistance" to increase transparency about certain government assistance or grants received by a business entity. This new guidance requires the disclosure of (1) the types of assistance, (2) an entity's accounting for the assistance, and (3) the effect of the assistance on an entity's financial statements. The Company adopted ASU 2021-10 on July 1, 2022.

From time to time, the Company receives cash grants and tax abatements from U.S. federal and state governments which, in most cases, attach conditions for a specific duration period and generally relate to hiring employees, the construction or acquisition of assets or to developing specific technologies. If conditions are not satisfied, or the duration period for the agreement is infringed, the incentives are subject to reduction, termination, or recapture.

The Company's accounting policy is to recognize a benefit to the income statement over the duration of the program when the conditions, including the required spending attached to the incentive are achieved and the Company is expected to complete any further requirements. A grant that compensates for operational expenses is recognized as a reduction from the nature of the expense the grant is designated to offset. A grant related to property, plant and equipment investments is recognized as a reduction to the cost-basis of the underlying assets with an ongoing reduction to depreciation expense based on the useful lives of the related assets. During fiscal 2023, the Company received a de-minimis amount related to these programs.

In August 2022, the Creating Helpful Incentives to Produce Semiconductors and Science Act (the "CHIPS Act") was signed into law. The CHIPS Act provides for a 25% refundable tax credit on certain investments in domestic semiconductor manufacturing. The credit is provided for qualifying property, which is placed in service after December 31, 2022. The CHIPS Act also provides for certain other financial incentives to further investments in domestic semiconductor manufacturing. The Company is evaluating the provisions of the new law and its potential impact to the Company.

In August 2022, the Inflation Reduction Act (the "IRA") was signed into law. The IRA establishes a new book minimum tax of 15% on consolidated adjusted GAAP pre-tax earnings for corporations with average income in excess of $1 billion and is effective for tax years beginning after December 31, 2022. In addition, the IRA also introduced a nondeductible 1% excise tax on a publicly traded corporation for the net value of certain stock repurchases during the tax year (effective for repurchases after December 31, 2022). The new law did not have a material impact on the Company's consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments – Credit Losses (Topic 326) – Measurement of Credit Losses on Financial Instruments", which requires entities to measure all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. This replaces the existing incurred loss model and is applicable to the measurement of credit losses on financial assets measured at amortized cost. This guidance is effective for the Company for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2022. The Company is currently assessing the impact that adopting this new accounting standard will have on our consolidated financial statements but does not expect it to have a material impact on the Company's consolidated financial statements.

**Note 4. Revenue Recognition from Contracts with Customers**

*Disaggregation of Revenue*

The Company's primary revenue streams include fabrication services and product sales across multiple geographic regions primarily the Americas, Asia and Europe.

*Fabrication Services*

Fabrication services revenue includes Non-Recurring Engineering ("NRE") and backend packaging services. Under these contracts, products are delivered to the customer at the completion of the service which represents satisfaction of the performance obligation as well as transfer of title. Depending on language with regards to enforceable right to payment for performance completed to date, related revenue will either be recognized over time or at a point in time.

*Product Sales*

Product sales revenue consists of sales of RF filters, which are primarily sold with contract terms stating that title passes, and the customer takes control, at the time of shipment. Revenue is then recognized when the devices are shipped, and the performance obligation has been satisfied. If devices are sold under contract terms that specify that the customer does not take ownership until the goods are received, revenue is recognized when the customer receives the goods.

The following table summarizes the revenues of the Company's reportable segments by geographic region for the year ended June 30, 2023 (in thousands):

| | Fabrication Services Revenue | Product Sales Revenue | Total Revenue with Customers |
|---|---|---|---|
| Americas | $ 7,287 | $ 3,892 | $ 11,179 |
| Asia | 1,503 | 11,493 | 12,996 |
| Europe | 161 | 2,771 | 2,932 |
| Other | — | 14 | 14 |
| Total | **$ 8,951** | **$ 18,170** | **$ 27,121** |

The following table summarizes the revenues of the Company's reportable segments for the year ended June 30, 2022, (in thousands):

| | Fabrication Services Revenue | Product Sales Revenue | Total Revenue with Customers |
|---|---|---|---|
| Americas | $ 1,389 | $ 2,388 | $ 3,777 |
| Asia | 484 | 8,146 | 8,630 |
| Europe | — | 2,930 | 2,930 |
| Other | — | 13 | 13 |
| Total | **$ 1,873** | **$ 13,477** | **$ 15,350** |

*Performance Obligations*

The Company has determined that contracts for product sales revenue and fabrication services revenue involve one performance obligation, which is delivery of the final product.

*Contract Balances*

The Company records a receivable when the title for goods has transferred. Generally, all sales are contract sales (with either an underlying contract or purchase order), resulting in all receivables being contract receivables. When invoicing occurs prior to revenue recognition a contract liability is recorded.

The following table summarizes the changes in the opening and closing balances of the Company's contract asset (included in Other current assets on the Consolidated Balance Sheet) and contract liability (included as Deferred revenue on the Consolidated Balance Sheet) for the years ended June 30, 2023 and 2022 (in thousands):

| | Contract Assets | Contract Liabilities |
|---|---|---|
| Balance, June 30, 2022 | $ 923 | $ 286 |
| Closing, June 30, 2023 | 1,894 | 70 |
| Increase/(Decrease) | 971 | (216) |
| | | |
| Balance, June 30, 2021 | $ 411 | $ 41 |
| Closing, June 30, 2022 | 923 | 286 |
| Increase/(Decrease) | 512 | 245 |

The amount of revenue recognized in the year ended June 30, 2022 that was included in the opening contract liability balance consisted of $0.3 million that related to filter product sales.

Contract assets are recorded when revenue recognized exceeds the amount invoiced. The difference between the opening and closing balances of the Company's contract assets and contract liabilities primarily results from the timing difference between the Company's performance and the customer's payment. The amount of contract assets invoiced in the year ended June 30, 2023 that was included in the opening contract asset balance was $0.9 million, which primarily related to non-recurring engineering business.

*Backlog of Remaining Customer Performance Obligations*

As of June 30, 2023, the Company had partially unsatisfied performance obligations related to contracts with an original expected duration of greater than one year. Revenue expected to be recognized from these performance obligations was $40 thousand as of June 30, 2023. The Company's backlog may vary significantly each reporting period based on the timing of major new contract commitments. In addition, our customers have the right, under some infrequent circumstances, to terminate contracts or defer the timing of the Company's services and their payments to us.

**Note 5: Inventory**

Inventory consisted of the following as of June 30, 2023 and June 30, 2022 (in thousands):

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Raw Materials | $ 1,574 | $ 1,077 |
| Work in Process | 3,741 | 1,061 |
| Finished Goods | 2,233 | 1,956 |
| **Total Inventory** | **$ 7,548** | **$ 4,094** |

**Note 6. Property and equipment, net**

Property and equipment consisted of the following as of June 30, 2023 and 2022 (in thousands):

| | June 30, 2023 | June 30, 2022 | Estimated Useful Life |
|---|---|---|---|
| Land | $ 1,000 | $ 1,000 | n/a |
| Building & leasehold improvements | 9,016 | 7,715 | 11 years * |
| Equipment | 71,151 | 57,750 | 2-10 years |
| Computer equipment and software | 3,168 | 1,966 | 3-5 years |
| **Total** | 84,335 | 68,431 | |
| Less: Accumulated depreciation | (26,509) | (17,274) | |
| **Total** | **$ 57,826** | **$ 51,157** | |

(*) Leasehold improvements which are amortized on a straight-line basis over the term of the lease or the estimated useful lives, whichever is shorter.

The Company recorded depreciation expense of $9.2 million and $6.8 million for the years ended June 30, 2023 and 2022, respectively.

As of June 30, 2023, equipment with a net book value totaling $7.1 million had not been placed in service and therefore was not depreciated during the period. As of June 30, 2022, fixed assets with a net book value totaling $14.5 million had not been placed in service and therefore was not depreciated during the period.

**Note 7. Business Acquisitions**

Grinding & Dicing Services, Inc.

On January 1, 2023 (the "Closing Date"), the Company and its wholly-owned subsidiary, Akoustis, Inc. (the "Purchaser"), entered into a Stock Purchase Agreement (the "Purchase Agreement") with GDSI and the stockholders of GDSI (the "Sellers"). Pursuant to the Purchase Agreement, the Purchaser acquired all of the outstanding capital stock of GDSI (such acquisition, the "Transaction"). The acquisition is expected to support a strategy to reshore operations to the United States, improve rapid prototype and development cycle time, and provide prototype cost savings.

The total consideration paid to the Sellers at closing of the Transaction consisted of $13.9 million in cash and approximately $1.7 million of shares of the Company's common stock. In addition, the Company issued a secured promissory note (the "Promissory Note") in the original principal amount of $4.0 million issued by the Purchaser to the Sellers' representative. The Sellers' representative is a current employee of the Company. The Promissory Note does not bear interest, is subject to partial prepayment (reduction of the outstanding principal amount down to $1.3 million) on the second anniversary of the Closing Date, and is payable in full on the third anniversary of the Closing Date. The Purchaser can reduce the principal amount of the Promissory Note (i) to satisfy certain post-closing adjustments to the Transaction purchase price, (ii) to satisfy the Sellers' indemnification obligations under the Purchase Agreement, and (iii) if GDSI's President is terminated for cause or due to disability or resigns without good reason prior to maturity the Promissory Note will be cancelled in its entirety. The Promissory Note is secured by certain of the Purchaser's and GDSI's assets. In the event of certain events of default, including failure to pay amounts due under the Promissory Note and certain bankruptcy events, the outstanding principal amount of the Promissory Note will become immediately due.

The purchase price was preliminarily allocated based on the estimated fair values of the assets acquired and liabilities assumed as follows (in thousands):

| | | |
|---|---|---|
| Consideration: | | |
| Cash paid | $ | 13,915 |
| Common stock | | 1,690 |
| Liabilities cancelled | | (88) |
| Total consideration | $ | 15,517 |
| | | |
| Cash | $ | 334 |
| Fixed assets | | 2,538 |
| Other tangible assets | | 1,366 |
| Intangible assets | | 8,289 |
| Goodwill | | 6,508 |
| Deferred tax liabilities | | (2,394) |
| Liabilities assumed | | (1,124) |
| Total assets acquired | $ | 15,517 |

The Company will continue to evaluate the fair market value and other estimates of certain assets, liabilities and tax estimates over the measurement period (up to one year from the acquisition date) as provided for in ASC 805-10.

The fair values of the intangible assets acquired included trade names of $0.19 million, developed technology of $1.98 million and customer relationships of $6.11 million and the provisional value of the fixed assets acquired was $2.5 million.

The fair value of the trade names acquired was determined based on an income approach using the "relief-from-royalty" method which estimated the value of the intangible asset by discounting the future cash flows of the asset to present value. Key inputs include a royalty rate of 0.5% and a discount rate of 19.0% as of the valuation date. The acquired trademarks assets are being amortized on a straight-line basis over their estimated useful lives of five years.

The fair value of the developed technology acquired was determined based on an income approach using the "relief-from-royalty" method which estimated the value of the intangible asset by discounting the future cash flows of the asset to present value. Key inputs include a royalty rate of 5% and a discount rate of 19.0% as of the valuation date. The acquired developed technology assets are being amortized on a straight-line basis over their estimated useful lives of seven years.

The fair value of the customer relationships acquired was determined based on an income approach using the "multi-period excess earnings" method in which the value of the intangible asset is determined by discounting the future cash flows of the asset to present value. Key inputs include a discount rate of 19.0% and an attrition rate of 7.5% as of the valuation date. These customer relationships are being amortized on a straight-line basis over their estimated useful life of seven years.

The fair value of the fixed assets acquired was primarily determined using a cost approach and used the original cost of the asset as the key input. The acquired fixed assets are being depreciated over their estimated useful life of 5 years.

The goodwill resulting from the acquisition of GDSI, which has been recorded in the Fabrication Services segment, is attributed to synergies and other benefits that are expected to be generated from this transaction and is not deductible for income tax purposes. During the year ended June 30, 2023, the Company recorded acquisition costs associated with the acquisition of GDSI totaling $0.2 million in "General and administrative expenses" in the Consolidated Statements of Operations.

Revenues included in the consolidated statement of operations for the year ended June 30, 2023 from this acquisition for the period subsequent to the closing of the transaction was approximately $3.8 million. Loss from operations included in the consolidated statement of operations for the year ended June 30, 2023 from this acquisition for the period subsequent to the closing of the transaction was approximately $1.4 million.

RFM Integrated Devices, Inc.

On October 15, 2021, the Company acquired a majority ownership position in RFM Integrated Device, Inc. ("RFMi"), a fabless supplier of acoustic wave RF resonators and filters, to expand product offerings and provide access to new markets. The Company acquired the 51% ownership interest in RFMi from Tai-Saw Technology Co., Ltd. ("TST") in exchange for $6.0 million in cash and approximately $2.3 million payable in common stock of the Company. On April 29, 2022, the Company exercised its option to acquire the remaining 49% ownership interest in RFMi from TST for an additional $3.5 million in cash and approximately 420,053 shares of common stock of the Company with a fair value at closing of $1.9 million.

Additionally, earn-out payments payable in cash and/or shares of common stock of the Company may be payable to TST based on the achievement of sales targets for RFMi products in each of calendar year 2022 and 2023, with potential payouts in the range of $0 to $3.0 million. The estimated fair value of the associated liability was based on the present value of the expected future payouts resulting from the projected RFMi product sales, applying a volatility rate of 30% against those future projected revenues and using a discount rate of 9.9% and 10.2% for the first and second earnouts, respectively, and thus represented a Level 3 fair value measurement. The contingent consideration is re-measured to fair value at each reporting date until the contingency is resolved, and those changes in fair value are recognized in earnings. The Company has determined that the sales targets for calendar year 2022 were not met and the related earnout payment is not owed. The fair value of the contingent consideration decreased $1.4 million during the year ended June 30, 2023.

The purchase price was allocated based on the estimated fair values of the assets acquired and liabilities assumed as follows (in thousands):

| | | |
|---|---|---|
| Consideration: | | |
| Cash paid | $ | 9,500 |
| Common stock | | 4,162 |
| Fair value of contingent consideration | | 1,099 |
| Total consideration | $ | 14,761 |
| | | |
| Cash | $ | 1,921 |
| Other tangible assets | | 1,346 |
| Intangible assets | | 9,452 |
| Goodwill | | 8,051 |
| Liabilities assumed | | (1,871) |
| Deferred tax liability | | (1,980) |
| Noncontrolling interest acquired | $ | (2,158) |
| Total assets acquired | $ | 14,761 |

The fair value of the trademarks acquired was determined based on an income approach using the "relief-from-royalty" method which estimated the value of the intangible asset by discounting the future cash flows of the asset to present value. Key inputs include a royalty rate of 3% and a discount rate of 18.0% as of the valuation date. The acquired trademarks assets are being amortized on a straight-line basis over their estimated useful lives of five years.

The fair value of the developed technology acquired was determined based on an income approach using the "relief-from-royalty" method which estimated the value of the intangible asset by discounting the future cash flows of the asset to present value. Key inputs include a royalty rate of 4% and a discount rate of 18.0% as of the valuation date. The acquired developed technology assets are being amortized on a straight-line basis over their estimated useful lives of seven years.

The fair value of the customer relationships acquired was determined based on an income approach using the "multi-period excess earnings" method in which the value of the intangible asset is determined by discounting the future cash flows of the asset to present value. Key inputs include a discount rate of 18.0%, an attrition rate of 5% and an operating expense adjustment factor of 5% as of the valuation date. These customer relationships are being amortized on a straight-line basis over their estimated useful life of seven years.

The fair value of the noncontrolling interest was determined by applying a lack of control discount of 16.7% to the implied fair value based on the total consideration paid for the 51% ownership.

The goodwill resulting from the acquisition of RFMi, which has been recorded in the RF Product segment, is attributed to synergies and other benefits that are expected to be generated from this transaction and is not deductible for income tax purposes. During the year ended June 30, 2022, the Company recorded acquisition costs associated with the acquisition of RFMi totaling $0.1 million in "General and administrative expenses" in the Consolidated Statements of Operations.

Revenues included in the consolidated statement of operations for the year ended June 30, 2022 from this acquisition for the period subsequent to the closing of the transaction was approximately $5.7 million. Loss from operations included in the consolidated statement of operations for the year ended June 30, 2022 from this acquisition for the period subsequent to the closing of the transaction was approximately $0.4 million. Also included in the loss from operations in the year ended June 30, 2022 is expense of approximately $347 thousand relating to adjustments to the fair value of earnout contingent consideration described below.

***Pro Forma Results***

The following unaudited pro forma financial information summarizes the results of operations for year ended June 30, 2022 and 2023, as if the RFMi and GDSI acquisitions had been completed as of July 1, 2021 (in thousands). The pro forma results were calculated applying the Company's accounting policies and include the effects of adjustments related to the amortization charges from the acquired intangibles. The unaudited pro forma information does not purport to be indicative of the results that would have been obtained if the acquisitions had actually occurred at the beginning of the year prior to acquisition, nor of the results that may be reported in the future.

| | Years Ended June 30, | |
|---|---|---|
| | **2023** | **2022** |
| | Unaudited Proforma | Unaudited Proforma |
| Revenues | $ 30,701 | $ 24,500 |
| Net Loss | $ (65,747) | $ (58,850) |
| Net Loss per share | $ (1.03) | $ (1.07) |

**Note 8: Goodwill**

The Company performs an annual test for goodwill impairment during our last fiscal quarter. Based on a qualitative assessment, the Company determined that there was no impairment to our goodwill as of June 30, 2023. The Company will also test for impairment between annual test dates if an event occurs or circumstances change that would indicate the carrying amount may be impaired.

During the year ended June 30, 2023, the Company did not identify any events or circumstances that would require an interim goodwill impairment test. The Company does not amortize goodwill as it has been determined to have an indefinite useful life. The carrying amount of goodwill as of June 30, 2023 was $14.6 million.

**Note 9: Intangible Assets**

Intangible assets consisted of the following as of June 30, 2023 (in thousands):

| | **Gross Carrying Amount** | **Accumulated Amortization** | **Net Carrying Amount** | **Weighted Average Useful Life in Years** |
|---|---|---|---|---|
| Trademarks | $ 900 | $ (258) | $ 642 | 5 |
| Developed Technology | $ 3,867 | $ (581) | $ 3,286 | 10 |
| Customer Relationships | $ 13,569 | $ (2,256) | $ 11,313 | 7 |
| Total | $ 18,336 | $ (3,095) | $ 15,241 | |

Intangible assets consisted of the following as of June 30, 2022 (in thousands):

| | **Gross Carrying Amount** | **Accumulated Amortization** | **Net Carrying Amount** | **Weighted Average Useful Life in Years** |
|---|---|---|---|---|
| Trademarks | $ 702 | $ (99) | $ 603 | 5 |
| Developed Technology | $ 1,911 | $ (221) | $ 1,690 | 10 |
| Customer Relationships | $ 7,455 | $ (754) | $ 6,701 | 7 |
| Total | $ 10,068 | $ (1,074) | $ 8,994 | |

Amortization expense totaled $2 million for the year ended June 30, 2023. Estimated future amortization expense of intangible assets for each of the next five fiscal years and thereafter are as follows (in thousands):

| | |
|---|---|
| 2024 | $ 2,618 |
| 2025 | $ 2,618 |
| 2026 | $ 2,618 |
| 2027 | $ 2,519 |
| 2028 | 2,458 |
| Thereafter | $ 2,410 |
| **Total** | **$ 15,241** |

**Note 10. Accounts payable and accrued expenses**

Accounts payable and accrued expenses consisted of the following at June 30, 2023 and June 30, 2022 (in thousands):

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Accounts payable | $ 3,979 | $ 3,630 |
| Accrued salaries and benefits | 4,781 | 4,641 |
| Accrued good received not invoiced | 3,700 | 1,472 |
| Accrued professional fees | 2,248 | 704 |
| Other accrued expenses | 2,319 | 757 |
| **Totals** | **$ 17,027** | **$ 11,204** |

**Note 11. Notes Payable**

**Convertible Senior Notes due 2027**

The following table summarizes convertible debt as of June 30, 2023 (in thousands):

| | Maturity Date | Stated Interest Rate | Conversion Price | Face Value | Remaining Debt (Discount) | Fair Value of Embedded Derivatives | Carrying Value |
|---|---|---|---|---|---|---|---|
| **Long Term convertible notes payable** | | | | | | | |
| 6.0% Convertible Senior Notes | 06/15/2027 | 6.00% | $ 4.71 | $ 44,000 | $ (2,733) | $ 2,080 | $ 43,347 |
| Ending Balance as of June 30, 2023 | | | | **$ 44,000** | **$ (2,733)** | **$ 2,080** | **$ 43,347** |

The following table summarizes convertible debt as of June 30, 2022 (in thousands):

| | Maturity Date | Stated Interest Rate | Conversion Price | Face Value | Remaining Debt (Discount) | Fair Value of Embedded Derivatives | Carrying Value |
|---|---|---|---|---|---|---|---|
| **Long Term convertible notes payable** | | | | | | | |
| 6.0% Convertible Senior Notes | 06/15/2027 | 6.00% | $ 4.71 | $ 44,000 | $ (3,297) | $ 3,028 | $ 43,731 |
| Ending Balance as of June 30, 2022 | | | | **$ 44,000** | **$ (3,297)** | **$ 3,028** | **$ 43,731** |

On June 9, 2022, the Company issued $44.0 million aggregate principal amount of its 6.0% Convertible Senior Notes due 2027 (the "Notes") guaranteed by its wholly-owned subsidiary, Akoustis, Inc. (the "Guarantor").

The Notes were issued pursuant to an indenture (the "Indenture"), dated June 9, 2022, among the Company, the Guarantor and The Bank of New York Mellon Trust Company, N.A., as trustee. The Notes bear interest at a rate of 6.0% per year until maturity on June 15, 2027 (the "Maturity Date"). Interest on the Notes accrues from the date of issuance or from the most recent date to which interest has been paid and is payable semi-annually in arrears on June 15 and December 15 of each year, beginning on December 15, 2022. At the Company's option, interest may be paid in cash and/or freely tradable shares of the Company's common stock, subject to certain limitations, valued at 95% of the volume weighted average price of the common stock for the ten trading days ending on and including the trading day immediately preceding the interest payment date. The Company will settle conversions of the Notes through delivery of shares of common stock of the Company in accordance with the terms of the Indenture. The initial conversion price for the Notes is approximately $4.71 per share.

*Conversion*

On or after December 9, 2022, holders of the Notes may convert all or any portion of their Notes, in multiples of $1,000 principal amount, at their option at any time prior to the close of business on the business day immediately preceding the Maturity Date. If any Notes are converted prior to June 9, 2025 (the "Interest Make-Whole Date"), the Company will make a payment to the holder of such Notes equal to the sum of the remaining scheduled payments of interest that would have been made on the Notes to be converted had such Notes remained outstanding from the conversion date through and including the Interest Make-Whole Date. The Company will have the option to pay such Interest Make-Whole Payment in cash and/or common stock, subject to certain limitations, valued at 95% of the volume weighted average price of the common stock for the ten trading days ending on and including the trading day immediately preceding the redemption date.

*Issuer Redemption*

The Company may redeem the Notes, in whole or in part, at any time and from time to time on or after June 9, 2023 at a redemption price equal to 100% of the principal amount plus accrued and unpaid interest on such principal, if any, up to the redemption date. The Notes will become subject to the Company's right to redeem as follows: (i) on or after June 9, 2023, up to one-third of the aggregate principal amount of the Notes initially issued; (ii) on or after June 9, 2024, up to two-thirds of the aggregate principal amount of the Notes initially issued; and (iii) on or after June 9, 2025, up to 100% of the aggregate principal amount of the Notes initially issued; provided, that at any time the Company exercises the redemption right, (1) the closing sale price per share of the Company's common stock is greater than 150% of the then-effective conversion price for each of 20 consecutive days of the 30 consecutive trading day period immediately preceding the Company's redemption notice and (2) a registration statement registering the resale of all shares of common stock into which the principal amount of the Notes is convertible and all shares of common stock issuable as interest or as Interest Make-Whole Payments upon conversion or redemption of any Notes is effective and a current prospectus related thereto remains available throughout the period from the date the redemption notice is delivered to the holders to and including the redemption date. If the Company redeems the Notes prior to the Interest Make-Whole Date, the holder will also receive an interest make-whole payment equal to the remaining scheduled interest payments that would have been made on the notes redeemed had such notes remained outstanding through the Interest Make-Whole Date (an "Interest Make-Whole Payment"). The Company will have the option to pay such Interest Make-Whole Payment in cash and/or common stock, subject to certain limitations, valued at 95% of the volume weighted average price of the common stock for the ten trading days ending on and including the trading day immediately preceding the redemption date.

*Fundamental Change*

If the Company undergoes a "qualifying fundamental change," as defined in the Indenture, under certain circumstances holders who convert their Notes in connection with such a qualifying fundamental change will be entitled to receive, at each holder's option either (i) a "qualifying fundamental change payment" with respect to such converted Notes based on a make-whole table set forth in the Indenture, or (ii) if greater, the amount of any Interest Make-Whole Payment due in respect of the converted Notes. Subject to certain limitations, qualifying fundamental change payments will be made all in shares of common stock unless the Company gives written notice to the Note holders that it intends to make such payments either all or partially in cash. For purposes of determining any cash payment to be made in respect of a qualifying fundamental change payment, each share of common stock will be valued at 95% of the "Stock Price" (as determined in accordance with the Indenture).

The Company analyzed the components of the convertible notes for embedded derivatives and the application of the corresponding accounting treatment. This analysis determined that certain features of the notes represented derivatives that require bifurcation from the host contract. The fair value of these components of $3.0 million was recorded as a debt discount and will be adjusted to fair value at the end of each future reporting period. The Company recorded total debt discount and debt issuance costs of $3.3 million, to be amortized over five years using an effective interest method. Debt discount and debt issuance costs include the fair value of the embedded features at the issuance date of $3.0 million and debt issuance costs paid totaling $0.3 million.

Interest expense on the Notes during the year ended June 30, 2023 included contractual interest of $2,640 thousand and debt discount amortization of $564 thousand. Interest expense on the Notes during the year ended June 30, 2022 included contractual interest of $154 thousand and debt discount amortization of $29 thousand.

**Promissory Note**

The Company issued a secured promissory note (the "Promissory Note") in the original principal amount of $4.0 million issued by the Purchaser to the Sellers' representative. The Sellers' representative is a current employee of the Company. The Promissory Note does not bear interest, is subject to partial prepayment (reduction of the outstanding principal amount down to $1.3 million) on the second anniversary of the Closing Date, and is payable in full on the third anniversary of the Closing Date. The Purchaser can reduce the principal amount of the Promissory Note (i) to satisfy certain post-closing adjustments to the Transaction purchase price, (ii) to satisfy the Sellers' indemnification obligations under the Purchase Agreement, and (iii) if GDSI's President is terminated for cause or due to disability or resigns without good reason prior to maturity the Promissory Note will be cancelled in its entirety. The Promissory Note is secured by certain of the Purchaser's and GDSI's assets. In the event of certain events of default, including failure to pay amounts due under the Promissory Note and certain bankruptcy events, the outstanding principal amount of the Promissory Note will become immediately due. The Promissory Note will be recognized on a straight line basis over the term of the Promissory Note as compensation expense. The Company recorded compensation expense totaling $667 thousand for the year ended June 30, 2023 in "General and administrative expenses" in the Consolidated Statements of Operations with the associated liability included in "Promissory notes payable" in the Consolidated Balance Sheets.

**Note 12. Concentrations**

**Customers**

Customer concentration as a percentage of revenue for the years ended June 30, 2023 and 2022 are as follows:

| | Year Ended 06/30/2023 | Year Ended 06/30/2022 |
|---|---|---|
| Customer 1 | 14% | 26% |
| Customer 2 | 18% | 10% |

Customer concentration as a percentage of accounts receivable for the years ended June 30, 2023 and 2022 are as follows:

| | Year Ended 06/30/2023 | Year Ended 06/30/2022 |
|---|---|---|
| Customer 1 | 15% | 26% |
| Customer 2 | 21% | — |

**Vendors**

Vendor concentration as a percentage of purchases for the years ended June 30, 2023 and 2022 are as follows:

| | Year Ended 06/30/2023 | Year Ended 06/30/2022 |
|---|---|---|
| Vendor 1 | 11% | — |

**Note 13. Stockholders' Equity**

**Equity Offering Program**

On May 2, 2022, the Company entered into an ATM Sales Agreement with Oppenheimer & Co. Inc., Craig-Hallum Capital Group LLC, and Roth Capital Partners, LLC pursuant to which the Company may sell from time-to-time shares of its common stock having an aggregate offering price of up to $50,000,000 (the "2022 Equity Offering Program"), of which $48 million remains available to be sold. On May 25, 2022, the Company announced that it was suspending sales under the 2022 Equity Offering Program. If, in the future, the Company determines to resume sales pursuant to the 2022 Equity Offering Program, it intends to notify investors by the filing of a Current Report on Form 8-K, other SEC filings or other public announcement.

No sales were made through the 2022 Equity Offering Program during the year ended June 30, 2023.

**Underwritten Offering of Common Stock**

On January 19, 2023, the Company closed an underwritten public offering of 12,545,454 shares of its Common Stock at a price to the public of $2.75 per share pursuant to an underwriting agreement with B. Riley Securities, Inc., as representative of the several underwriters named therein. The shares of Common Stock issued at closing included 1,636,363 shares issued pursuant to the underwriters' over-allotment option, which was exercised in full. Gross proceeds totaled $34.5 million before deducting the underwriting discount and offering expenses of approximately $2.5 million resulting in net proceeds from the offering of approximately $32.0 million. Certain of the Company's directors and officers participated in the offering by purchasing shares on the same terms and conditions as other investors.

**Equity incentive plans**

On November 1, 2018, the Board of Directors adopted and approved the Company's 2018 Stock Incentive Plan (as amended, the "2018 Plan"), which authorizes the grant to participants of nonqualified stock options, incentive stock options, restricted stock awards, restricted stock units, performance grants and other stock awards. The 2018 Plan initially reserved a total of 3,000,000 shares of common stock for issuance thereunder. On September 24, 2019, the Company's stockholders approved an amendment to the 2018 Plan increasing the number of shares reserved for issuance thereunder to 6,000,000. On November 10, 2022, the Company's stockholders approved an amendment to the 2018 Plan increasing the number of shares reserved for issuance thereunder to 12,000,000. As of June 30, 2023, 4,638,242, shares remained available for future grants under the 2018 Plan. The Company previously maintained the 2015 Equity Incentive Plan (the "2015 Plan") and the 2016 Stock Incentive Plan (the "2016 Plan"). No additional shares will be issued under the 2015 Plan or the 2016 Plan. The Company settles awards issued under all plans with newly issued common shares.

In addition, the number of shares of our common stock subject to the 2015 Plan, 2016 Plan and 2018 Plan, any number of shares subject to any numerical limit in the Plans, and the number of shares and terms of any incentive awards thereunder would be adjusted in the event of any change in our outstanding common stock by reason of any stock dividend, spin-off, split-up, stock split, reverse stock split, recapitalization, reclassification, merger, consolidation, liquidation, business combination or exchange of shares or similar transaction.

Options granted under the 2015 Plan, 2016 Plan and 2018 Plan vest as determined by the Company's board of directors and expire over varying terms, but not more than ten years from the date of grant. In the case of an Incentive Stock Option that is granted to a 10% shareholder on the date of grant, such Option shall not be exercisable after the expiration of five years from the date of grant.

The fair values of the Company's options were estimated at the dates of grant using a Black-Scholes option pricing model with the following assumptions:

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Exercise price | $ 2.83 - $4.23 | $ 3.79 - $10.15 |
| Expected term (years) | 4.00 - 5.00 | 4.75 - 5.00 |
| Risk-free interest rate | 3.49 - 4.59% | 0.76 - 3.38% |
| Volatility | 67 - 70% | 66 - 67% |
| Dividend yield | 0% | 0% |
| Weighted Average Grant Date Fair Value of Options granted during the period | $ 1.95 | $ 4.71 |

Expected term: The Company's expected term is based on the period the options are expected to remain outstanding. The Company estimated this amount utilizing the "Simplified Method" in that the Company does not have sufficient historical experience to provide a reasonable basis to estimate an expected term.

Risk-free interest rate: The Company uses the risk-free interest rate of a U.S. Treasury Note with a similar term on the date of the grant.

Volatility: The Company calculates the expected volatility of the stock price using the historical volatilities of the Company's common stock traded on the Nasdaq Capital Market.

Dividend yield: The Company uses a 0% expected dividend yield as the Company has not paid dividends to date and does not anticipate declaring dividends in the near future.

The following is a summary of the option activity:

| | Options | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term (in years) | Aggregate Intrinsic Value (in thousands) |
|---|---|---|---|---|
| **Outstanding – June 30, 2022** | 3,020,002 | 6.49 | | |
| Granted | 297,798 | 3.48 | | |
| Exercised | — | — | | |
| Forfeited/Cancelled | (161,763) | 7.12 | | |
| **Outstanding – June 30, 2023** | 3,156,037 | 6.61 | 3.50 | 231 |
| **Exercisable – June 30, 2023** | 2,032,665 | 6.24 | 2.51 | 218 |

The total intrinsic value of options exercised during the fiscal years ended June 30, 2023 and June 30, 2022 was $0 thousand and $286 thousand, respectively.

Unrecognized stock-based compensation expense and weighted-average years to be recognized are as follows (in thousands):

| | As of June 30, 2023 | |
|---|---|---|
| | Unrecognized stock-based compensation | Weighted-average years to be recognized |
| Options | $ 1,771 | 1.91 |
| Restricted stock awards/units | $ 9,838 | 2.06 |

For the years ended June 30, 2023 and 2022, the Company recorded $9.4 million and $10.2 million, respectively, in stock-based compensation which is reflected in total operating expenses in the consolidated statements of operations as follows (in thousands):

| | 2023 | 2022 |
|---|---|---|
| Research and Development | $ 3,692 | $ 5,586 |
| General and Administrative | 5,715 | 4,661 |
| Total | $ 9,407 | $ 10,247 |

**Restricted Stock Units and Restricted Stock Awards**

A summary of unvested restricted stock awards ("RSAs") and restricted stock unit awards ("RSUs") outstanding as of June 30, 2023 and changes during the year ended is as follows:

| | Number of RSAs/RSUs | Weighted Average Fair Value per Share/Unit |
|---|---|---|
| **Outstanding - June 30, 2022** | 2,177,585 | $ 8.30 |
| Granted | 2,135,760 | 3.20 |
| Vested | (1,030,674) | 6.50 |
| Forfeited/Cancelled/Repurchased | (249,436) | 7.54 |
| **Outstanding – June 30, 2023** | 3,033,235 | $ 5.39 |

The weighted average grant date fair value per share for awards granted during the fiscal years ended June 30, 2023 and June 30, 2022 was $3.20 and $8.16, respectively. The total fair value of restricted awards that vested during the fiscal years ended June 30, 2023 and June 30, 2022 was $3.5 million and $5.1 million, respectively.

During the years ended June 30, 2023 and 2022, the Company recorded stock-based compensation expense of $6.5 million and $7.7 million, respectively related to the RSAs and RSUs that have been issued to date.

As of June 30, 2023, the Company had approximately $7.7 million in unrecognized stock-based compensation expense related to the unvested shares.

**Market Value Stock Unit Awards**

During the year ended June 30, 2023 the Company awarded certain employees grants of an aggregate of approximately 0.42 million RSUs with market value appreciation conditions ("MVSUs") with a weighted average grant date fair value of $7.60. The MVSUs will be expensed over the requisite service period. The terms of the MVSUs include vesting provisions based on continued service. The number of shares of the Company's common stock earned at vesting is based on the Company's stock price performance with amounts earned subject to a vesting multiplier ranging from 0% to 200%. If the service criteria are satisfied, the MVSUs will vest over 3 years.

A summary of unvested MVSUs outstanding as of June 30, 2023 and changes during the year ended is as follows:

| | Number of MVSUs | Weighted Average Fair Value per Share/Unit |
|---|---|---|
| **Outstanding - June 30, 2022** | — | $ — |
| Granted | 415,000 | 7.60 |
| Vested | — | — |
| Forfeited/Cancelled/Repurchased | 20,000 | 7.86 |
| **Outstanding – June 30, 2023** | 395,000 | 7.58 |

The weighted average grant date fair value per share for MVSU awards granted during the fiscal year ended June 30, 2023 was $7.60. No MVSU awards were granted during the fiscal year ended June 30, 2022. No MVSU awards vested during the fiscal years ended June 30, 2023 and June 30, 2022.

During the years ended June 30, 2023 and 2022, the Company recorded stock-based compensation expense of $0.9 million and $0.0 million, respectively related to the MVSUs that have been issued to date.

As of June 30, 2023, the Company had approximately $2.1 million in unrecognized stock-based compensation expense related to the unvested MVSU shares.

**Employee Stock Purchase Plan**

Effective November 1, 2018, the Company adopted the Akoustis Technologies, Inc. Employee Stock Purchase Plan 2018 (the "ESPP"), which was approved by the stockholders on the same date, The ESPP is intended to qualify as an "employee stock purchase plan" under Section 423 of the Code. All regular full-time employees of the Company (including officers) and all other employees who meet the eligibility requirements of the plan may participate in the ESPP. The ESPP provides eligible employees an opportunity to acquire the Company's common stock at 85.0% of the lower of the closing price per share of the Company's common stock on the first or last day of each six-month purchase period. At June 30, 2023, 0.02 million shares were available for future issuance under this plan. The Company makes no cash contributions to the ESPP but bears the expenses of its administration. The Company issued 0.09 million, and 0.14 million shares under the ESPP in fiscal years 2023 and 2022, respectively. The Company settles awards issued under the ESPP with newly issued common shares.

For the years ended June 30, 2023 and 2022, the Company recorded $0.25 million and $0.25 million, respectively, in stock-based compensation related to grants of ESPP shares.

**Note 14. Leases**

The Company leases office space in Huntersville, NC, Carrollton, TX, San Jose, CA and Taiwan and leases equipment in Canandaigua, NY. Its leases have remaining lease terms of up to five years, some of which include options to extend the leases for up to twenty-four months. Following adoption of ASC 842, lease expense excludes capital area maintenance and property taxes.

The components of lease expense were as follows (in thousands):

| | Year Ended June 30, 2023 | Year Ended June 30, 2022 |
|---|---|---|
| Operating Lease Expense | $ 519 | $ 348 |

Supplemental balance sheet information related to leases was as follows (in thousands):

| | Classification on the Consolidated Balance Sheet | June 30, 2023 | June 30, 2022 |
|---|---|---|---|
| **Assets** | | | |
| Operating lease assets | Other non-current assets | $ 1,374 | $ 1,126 |
| **Liabilities** | | | |
| Other current liabilities | Current liabilities | 439 | 313 |
| Operating lease liabilities | Other non-current liabilities | 976 | 811 |
| **Weighted Average Remaining Lease Term:** | | | |
| Operating leases | | 2.97 Years | 3.42 Years |
| **Weighted Average Discount Rate:** | | | |
| Operating leases | | 12.77% | 10.03% |

The following table outlines the minimum future lease payments for the next five years and thereafter (in thousands):

| For the year ending June 30, | | |
|---|---|---|
| 2024 | $ | 589 |
| 2025 | | 606 |
| 2026 | | 374 |
| 2027 | | 66 |
| Thereafter | | 79 |
| Total lease payments (Undiscounted cash flows) | | 1,714 |
| Less imputed interest | | (299) |
| Total | $ | 1,415 |

**Note 15. Commitments and Contingencies**

**Ontario County Industrial Development Authority Agreement**

On February 27, 2018, the Company entered into a Lease and Project Agreement (the "Lease and Project Agreement") and a Company Lease Agreement (the "Company Lease Agreement" and together with the Lease and Project Agreement, the "Agreements"), each dated as of February 1, 2018, with the Ontario County Industrial Development Agency, a public benefit corporation of the State of New York (the "OCIDA"). Pursuant to the Agreements, the Company will lease for $1.00 annually to the OCIDA an approximately 9.995 acre parcel of land in Canandaigua, New York, together with the improvements thereon (including the Company's New York fabrication facility), and transfer title to certain related equipment and personal property to the OCIDA (collectively, the "Facility"). The OCIDA will lease the Facility back to the Company for annual rent payments specified in the Lease and Project Agreement for the Company's primary use as research and development, manufacturing, warehouse and professional office space in its business, and to be subleased, in part, by the Company to various existing tenants. The Company estimates substantial tax savings during the term of the Agreements, which expire on December 31, 2028. In addition, subject to the terms of the Lease and Project Agreement, certain purchases and leases of eligible items will be exempt from the imposition of sales and use taxes. Subject to the terms of the Lease and Project Agreement, the OCIDA has also granted to the Company an exemption from certain mortgage recording taxes for one or more mortgages securing an aggregate principal amount not to exceed $12.0 million, or such greater amount as approved by the OCIDA in its sole and absolute discretion. Benefits totaling approximately $0.4 million provided to the Company through June 2023 pursuant to the terms of the Lease and Project Agreement are subject to claw back over the life of the Agreements upon certain recapture events, including certain events of default.

**Litigation, Claims and Assessments**

On October 4, 2021, the Company was named as a defendant in a complaint filed by Qorvo, Inc. ("Qorvo") in the United States District Court for the District of Delaware alleging, among other things, patent infringement, false advertising, false patent marking, and unfair competition. The complaint alleges that the defendants misappropriated proprietary information, made misleading statements about the characteristics of certain of its products, and sold products infringing on certain of the plaintiff's patents. The plaintiff seeks an injunction enjoining the Company from the alleged infringement and damages, including punitive and statutory enhanced damages, in an unspecified amount. The Company filed a motion to dismiss all of the claims other than the direct patent infringement claims, but the court permitted the plaintiff to file an amended complaint which the court subsequently determined was sufficient for pleading purposes. The Court denied the Company's motion in May 2022. The Court held a claims construction hearing in November 2022, issuing its claim construction order on March 15, 2023. On February 8, 2023, Qorvo filed a second amended complaint adding allegations of misappropriation of trade secrets, racketeering activities, and civil conspiracy. The Company continues to develop its defenses and mitigation strategies, and intends to proceed in defending itself vigorously against the claims asserted by Qorvo. However, the Company can provide no assurance as to the outcome of such dispute, and such action may result in judgments against the Company for an injunction, significant damages or other relief, such as future royalty payments to Qorvo or restrictions on certain of the Company's activities.

On April 20, 2023, the Company filed a complaint against Qorvo in the United States District Court for the Eastern District of Texas alleging infringement by Qorvo of a patent licensed exclusively to the Company by Cornell University. The complaint alleges Qorvo's willful infringement of the Cornell patent and seeks remedies including enhanced damages and attorneys' fees. On July 24, 2023, Qorvo filed a motion to dismiss the complaint. On August 11, 2023, Qorvo filed a motion to strike Akoustis' infringement contentions. The Company intends to vigorously pursue its claims against Qorvo but can provide no assurance as to the outcome of this dispute.

Resolution of each of the matters described above may be prolonged and costly, and the ultimate result or judgment is uncertain due to the inherent uncertainty in litigation and other proceedings. An adverse result in the matters described above would have a material adverse effect on the Company and its business. Even if ultimately settled or resolved in the Company's favor, the matters described above and other possible future actions may result in significant expenses, diversion of management and technical personnel attention and disruptions and delays in the Company's business and product development, and other collateral consequences, all of which could have a material adverse effect on its business, financial condition, and results of operations. Any out-of-court settlement of the above matters or other actions may also have an adverse effect on the Company's business, financial condition and results of operations, including, but not limited to, substantial expenses, the payment of royalties, licensing or other fees payable to third parties, or restrictions on its ability to develop, manufacture, and sell its products.

From time to time, the Company may become involved in other lawsuits, investigations, and claims that arise in the ordinary course of business. The Company believes it has meritorious defenses against such other pending claims and intends to vigorously pursue them. While it is not possible to predict or determine the outcomes of any such other pending actions, the Company believes the amount of liability, if any, with respect to such other pending actions, would not materially affect its financial position, results of operations, or cash flows.

**Tax Credit Contingency**

The Company accrues a liability for indirect tax contingencies when it believes that it is both probable that a liability has been incurred and that it can reasonably estimate the amount of the loss. The Company reviews these accruals and adjusts them to reflect ongoing negotiations, settlements, rulings, advice of legal counsel and other relevant information. To the extent new information is obtained and the Company's views on the probable outcomes of claims, suits, assessments, investigations or legal proceedings change, changes in the Company's accrued liabilities would be recorded in the period in which such determination is made.

The Company's gross unrecognized indirect tax credits totaled $0.1 million as of June 30, 2023 and $0.1 million as of June 30, 2022 and are recorded on the Consolidated Balance Sheet as a long-term liability.

**Note 16. Income Taxes**

The components of income tax expense (benefit) for the years ended June 30, 2023 and June 30, 2022 are as follows (in thousands):

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Current: | | |
| Federal | $ (38) | $ 134 |
| State and Local | (16) | 15 |
| Total Current Tax Provision (Benefit) | (54) | 149 |
| | | |
| Deferred: | | |
| Federal | (2,179) | (2,000) |
| State and Local | (215) | 18 |
| Total Deferred Tax Provision (Benefit) | (2,394) | (1,982) |
| | | |
| **Total Tax Provision** (Benefit) | $ (2,448) | $ (1,833) |

The provision for/(benefit from) income tax differs from the amount computed by applying the statutory federal income tax rate to income before the provision for/(benefit from) income taxes. The sources and tax effects of the differences are as follows:

| | For the Year Ended June 30, 2023 | For the Year Ended June 30, 2022 |
|---|---|---|
| Income taxes at Federal statutory rate | (21.00)% | (21.00)% |
| State income taxes, net of Federal income tax benefit | (1.35)% | (0.29)% |
| Tax Credits | (1.56)% | (1.49)% |
| Stock-based compensation | 1.21% | 0.28% |
| Other | (0.53)% | 0.14% |
| Change in Valuation Allowance | 19.15% | 19.32% |
| Effect of changes in income tax rate applied to net deferred taxes | 0.37% | 0.04% |
| **Income Tax Provision** | **(3.71)%** | **(3.00)%** |

The tax effects of temporary differences that give rise to the Company's deferred tax assets and liabilities are as follows, (in thousands):

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Deferred Tax Assets | | |
| Net Operating Loss Carryforwards | $ 53,755 | $ 47,031 |
| Stock-based compensation | 4,373 | 3,680 |
| Credits | 3,753 | 2,725 |
| Research and development expenditures | 8,145 | — |
| Other | 1,387 | 1,022 |
| | 71,413 | 54,458 |
| Deferred Tax Liabilities | | |
| Intangibles | (3,338) | (1,808) |
| Accumulated depreciation/basis differences | (9,945) | (7,158) |
| | (13,283) | (8,966) |
| | | |
| Valuation Allowance | (58,130) | (45,492) |
| **Net Deferred Tax Assets** | **$ —** | **$ —** |

At June 30, 2023, the Company had federal loss carryovers of approximately $34.2 million that will expire in stages beginning in 2034 if unused and federal loss carryovers of $213.1 million that will carry forward indefinitely. The North Carolina, New York, California, Florida, Massachusetts, and Pennsylvania state loss carryovers of approximately $29.9 million, $11.5, $17.1, $0.4, $0.1, and $0.3 million, respectively, will begin to expire in 2029 if unused. Federal research credits of $3.7 million will expire beginning in 2034 if not utilized.

The company has not performed a detailed analysis to determine whether an ownership change under IRC Section 382 has occurred during the year ended June 30, 2023 or during any earlier year. If upon a complete analysis the company were to determine that an ownership change under Section 382 had occurred the effect of the ownership change would be the imposition of annual limitations on the use of NOL carryforwards. Any limitation may result in the expiration of a portion or all of the NOLs before utilization.

Based on a history of cumulative losses at the Company and the results of operations for the years ended June 30, 2023 and 2022, the Company determined that it is more likely than not it will not realize benefits from the deferred tax assets. The Company will not record income tax benefits in the financial statements until it is determined that it is more likely than not that the Company will generate sufficient taxable income to realize the deferred income tax assets. As a result of the analysis, the Company determined that a full valuation allowance against the deferred tax assets is required. The net change in the valuation allowance during the year ended June 30, 2023 was an increase of approximately $12.6 million.

The Company's gross unrecognized tax benefits totaled $0.5 million as of June 30, 2023 and $0.4 million as of June 30, 2021. Of these amounts, $0.5 million and $0.4 million as of June 30, 2023 and June 30, 2022, respectively, represent the amounts of unrecognized tax benefit that, if recognized, would impact the effective tax rate in each of the fiscal years.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits for the years ended June 30, 2023 and June 30, 2022 is as follows (in thousands):

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Beginning Balance | $ 427 | $ 326 |
| Additions based on positions related to the current year | 70 | 80 |
| Additions for tax positions in prior years | 44 | 21 |
| Reductions for tax positions in prior years | — | — |
| Expiration of statute of limitations | — | — |
| Ending Balance | **$ 541** | **$ 427** |

The unrecognized tax benefit of $541 thousand at the end of June 30, 2023 is recorded on the Consolidated Balance Sheet as a reduction to the carrying value of the gross deferred tax assets.

The Company's fiscal 2018 federal and state returns and all subsequent years remain open for examination, as well as all attributes brought forward into those years. The Company is not currently under examination by any taxing authorities.

**Note 17. Segment Information**

Operating segments are defined as components of an enterprise about which separate financial information is available and evaluated regularly by the chief operating decision maker, or decision–making group, in deciding how to allocate resources and in assessing performance. The Company's chief operating decision maker is its Chief Executive Officer. The Company operates in two segments, Fabrication Services, which consists of engineering review services and backend packaging services, and RF Filters which consists of amplifier and filter product sales

The Company evaluates performance of its operating segments based on revenue and operating profit (loss). Segment information for the years ended June 30, 2023 and 2022 are as follows (in thousands):

| | Fabrication Services | RF Filters | Total |
|---|---|---|---|
| **Year ended June 30, 2023** | | | |
| Revenue | $ 8,984 | $ 18,137 | $ 27,121 |
| Cost of revenue | 5,512 | 24,725 | 30,237 |
| Gross margin | 3,472 | (6,588) | (3,116) |
| Research and development | — | 33,243 | 33,243 |
| General and administrative | 3,341 | 26,368 | 29,710 |
| **Income/(Loss) from Operations** | **$ 131** | **$ (66,199)** | **$ (66,069)** |
| | | | |
| **Year ended June 30, 2022** | | | |
| Revenue | $ 1,870 | $ 13,480 | $ 15,350 |
| Cost of Revenue | 2,452 | 17,035 | 19,487 |
| Gross Margin | (582) | (3,555) | (4,137) |
| Research and development | — | 35,708 | 35,708 |
| General and administrative | — | 20,710 | 20,710 |
| **Loss from Operations** | **$ (582)** | **$ (59,973)** | **$ (60,555)** |
| | | | |
| **As of June 30, 2023** | | | |
| Accounts receivable | $ 1,124 | $ 3,629 | $ 4,753 |
| Property and equipment, net | 2,394 | 55,432 | 57,826 |
| | | | |
| **As of June 30, 2022** | | | |
| Accounts receivable | $ 572 | $ 3,221 | $ 3,793 |
| Property and equipment, net | — | 51,157 | 51,157 |

**Note 18. Loss Per Share**

Basic net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net loss per common share is determined using the weighted-average number of common shares outstanding during the period, adjusted for the dilutive effect of common stock equivalents. In periods when losses are reported, which is the case for the years ended June 30, 2023 and 2022 presented in these consolidated financial statements, the weighted-average number of common shares outstanding excludes common stock equivalents because their inclusion would be anti-dilutive.

The Company had the following common stock equivalents at June 30, 2023 and 2022:

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Convertible Notes | 9,341,825 | 9,341,825 |
| Options | 3,156,037 | 3,020,002 |
| Warrants | — | 41,103 |
| Total | 12,497,862 | 2,664,686 |

**Note 19. Fair Value Measurement**

Fair value is defined as the price that would be received upon selling an asset or the price paid to transfer a liability on the measurement date. It focuses on the exit price in the principal or most advantageous market for the asset or liability in an orderly transaction between willing market participants. A three-tier fair value hierarchy is established as a basis for considering such assumptions and for inputs used in the valuation methodologies in measuring fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair values are as follows:

Level 1: Observable prices in active markets for identical assets and liabilities.

Level 2: Observable inputs other than quoted prices in active markets for identical assets and liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets and liabilities.

The following table classifies the liabilities measured at fair value on a recurring basis into the fair value hierarchy as of June 30, 2023 and 2022:

| | Fair value at June 30, 2023 | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|
| Contingent consideration | $ — | $ — | $ — | $ — |
| Derivative liabilities | 2,080 | — | — | 2,080 |
| Total fair value | $ 2,080 | $ — | $ — | $ 2,080 |

| | Fair value at June 30, 2022 | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|
| Contingent consideration | $ 1,446 | $ — | $ — | $ 1,446 |
| Derivative liabilities | 3,028 | — | — | 3,028 |
| Total fair value | $ 4,474 | $ — | $ — | $ 4,474 |

There were no transfers between levels during the year ended June 30, 2023.

The following table sets forth a summary of the changes in the fair value of Level 3 contingent consideration that are measured at fair value on a recurring basis:

| Contingent consideration | June 30, 2023 |
|---|---|
| Beginning balance | $ 1,446 |
| Change in fair value of contingent consideration | (1,446) |
| **Ending balance** | **$ —** |

The fair value of contingent consideration liabilities that was classified as Level 3 in the table above was estimated using a Monte Carlo simulation in an option pricing framework with significant inputs that are not observable in the market and thus represents a Level 3 fair value measurement as defined in ASC 820. The significant inputs in the Level 3 measurement not supported by market activity include the probability assessments of expected future sales revenue of RFMi products in each of calendar year 2022 and 2023 and the volatility of those revenues, appropriately discounted considering the uncertainties associated with the obligation, and as calculated in accordance with the terms of the acquisition agreements. The development and determination of the unobservable inputs for Level 3 fair value measurements and the fair value calculations are the responsibility of the Company's chief financial officer and are approved by the chief executive officer.

During the year ended June 30, 2023, the Company reduced the contingent consideration liabilities to zero as the Company determined that the sales targets for calendar year 2022 were not met and the related earnout payment is not owed and the Company has estimated that the sales targets for calendar year 2023 will not be met.

The fair value of the contingent consideration liabilities on the balance sheet dates were valued with the following assumptions:

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Discount Rate | — | 14.3% – 14.5% |
| Revenue volatility | 30% | 30% |
| Risk free interest rate | — | 1.71% – 3.04% |
| Remaining term (years) | 0.50 | 1.29 – 2.29 |

| Fair Value of Embedded Derivatives | June 30, 2023 |
|---|---|
| Beginning balance | $ 3,028 |
| Initial fair value of make whole provision in convertible note | — |
| Initial fair value of change in control provision in convertible note | — |
| Change in fair value of convertible note derivatives | (948) |
| **Ending balance** | **$ 2,080** |

The fair value of the embedded derivatives in our convertible note that were classified as Level 3 in the table above were estimated using a with and without approach on a lattice model framework with significant inputs that are not observable in the market and thus represent a Level 3 fair value measurement as defined in ASC 820. The significant inputs in the Level 3 measurement not supported by market activity include the probability and timing assessments of expected future change of control events, the volatility of our share price and the discount rate used to present value future cash payments under the convertible debt obligation. The development and determination of the unobservable inputs for Level 3 fair value measurements and the fair value calculations are the responsibility of the Company's chief financial officer and are approved by the chief executive officer.

The fair value of the embedded derivatives in our convertible notes on the issuance date and at the balance sheet date were valued with the following assumptions:

| | June 30, 2023 | June 30, 2022 |
|---|---|---|
| Stock Price | $ 3.18 | $ 3.70 |
| Volatility of stock price | 70% | 70% |
| Risk free interest rate | 4.32% | 3.01% |
| Debt yield | 40.6% | 41.5% |
| Remaining term (years) | 4.0 | 5.0 |

**Note 20. Subsequent Events**

The Company performed a review of events subsequent to the balance sheet date through the date the financial statements were issued and determined that there were no such events requiring recognition or disclosure in the financial statements.

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

**ITEM 9A. CONTROLS AND PROCEDURES**

**Managements Evaluation of Disclosure Controls and Procedures**

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 is (1) recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure.

As of June 30, 2023, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost- benefit relationship of possible controls and procedures. Our Chief Executive Officer and Chief Financial Officer have concluded based upon the evaluation described above that, as of June 30, 2023, our disclosure controls and procedures were effective at the reasonable assurance level.

**Management's Report on Internal Control over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Our internal control over financial reporting is designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. Under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control—Integrated Framework (2013 Framework) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on our evaluation under the framework in Internal Control—Integrated Framework, our management concluded that our internal control over financial reporting was effective as of June 30, 2023.

The audited financial statements of the Company included in this annual report on Form 10-K include the results of acquisitions from their respective dates of acquisition. Management's assessment of internal control over financial reporting for the year ended June 30, 2023 does not include an assessment of GDSI, a majority owned subsidiary of the Company that was acquired on January 01, 2023. The financial statements of GDSI reflect total assets and net revenues constituting 14% and 14%, respectively, of the related consolidated financial statement amounts as of and for the year ended June 30, 2023. Refer to "Note 7 – Business Acquisitions" for a description of the acquisition of GDSI.

A control system, no matter how well designed and operated, can only provide reasonable, not absolute, assurance that the objectives of the control system are met. Because of these inherent limitations, management does not expect that our internal controls over financial reporting can prevent all error and all fraud. Our system contains self-monitoring mechanisms, and actions are taken to correct deficiencies as they are identified.

As we are not an "accelerated filer" under SEC rules, we are not required to provide an auditor's attestation of management's assessment of internal control over financial reporting as of June 30, 2023.

**Changes in Internal Control over Financial Reporting**

During the quarter ended June 30, 2023, there were no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Securities Exchange Act of 1934, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting

**ITEM 9B. OTHER INFORMATION**

None.

**ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS**

Not applicable.

## PART III

### ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is incorporated by reference to our Proxy Statement on Schedule 14A relating to our 2023 annual meeting of stockholders.

### ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference to our Proxy Statement on Schedule 14A relating to our 2023 annual meeting of stockholders.

### ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDERS MATTERS

The information required by this Item is incorporated by reference to our Proxy Statement on Schedule 14A relating to our 2023 annual meeting of stockholders.

### ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated by reference to our Proxy Statement on Schedule 14A relating to our 2023 annual meeting of stockholders.

### ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item is incorporated by reference to our Proxy Statement on Schedule 14A relating to our 2023 annual meeting of stockholders.

## PART IV

### ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following Consolidated Financial Statements as set forth in Part II, Item 8 of this report are filed herein.

**Consolidated Financial Statements**



**Financial Statement Schedules**

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

**Exhibits**

**EXHIBIT INDEX**

| Exhibit Number | Description |
|---|---|
| 2.1 | Plan of Conversion, dated December 15, 2016 *(incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)* |
| 2.2 | Definitive Asset Purchase Agreement dated March 23, 2017 by and between The Research Foundation for the State University of New York and the Company *(incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the SEC on March 24, 2017)* |
| 2.3 | Definitive Real Property Purchase Agreement dated March 23, 2017, by and between Fuller Road Management Corporation and the Company *(incorporated by reference to Exhibit 2.2 to the Company's Current Report on Form 8-K filed with the SEC on March 24, 2017)* |
| 3.1 | Articles of Conversion of the Company, filed with the Nevada Secretary of State on December 15, 2016 *(incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)* |
| 3.2 | Certificate of Conversion of the Company, filed with the Delaware Secretary of State on December 15, 2016 *(incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)* |
| 3.3 | Certificate of Incorporation, filed with the Delaware Secretary of State on December 15, 2016 *(incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)* |
| 3.4 | Amended and Restated Bylaws of the Company *(incorporated by reference to Exhibit 3.5 to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 1, 2020)* |
| 3.5 | Certificate of Amendment to the Certificate of Incorporation of the Company, filed with the Delaware Secretary of State on November 4, 2019 *(incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on November 6, 2019)* |
| 3.6 | Certificate of Amendment to the Certificate of Incorporation of the Company, filed with the Delaware Secretary of State on November 10, 2022 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on November 14, 2022) |

| Exhibit Number | Description |
|---|---|
| 4.1 | Description of Common Stock of the Registrant Registered Pursuant to Section 12 of the Securities Exchange Act of 1934 (*incorporated by reference to Exhibit 4.8 to the Company's Annual Report on Form 10-K filed with the SEC on August 21, 2020)* |
| 4.2 | Indenture, dated as of June 9, 2022 by and among the Company, Akoustis, Inc. and The Bank of New York Mellon Trust Company, N.A. (*incorporated by reference to Exhibit 4.1 to the Company' Current Report on Form 8-K filed with the SEC on June 10, 2022*) |
| 4.3 | Form of 6.0% Convertible Senior Note due 2027 (*included in Exhibit 4.2*) |
| 4.4* | Secured Promissory Note issued to the representative of sellers of Grinding & Dicing Services, Inc. |
| 10.1.1† | Akoustis, Inc. 2014 Stock Plan *(incorporated by reference to Exhibit 10.10 to the Company's Transition Report on Form 10-K filed with the SEC on October 31, 2016)* |
| 10.1.2† | Declaration of Amendment to the Akoustis, Inc. 2014 Stock Plan *(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)* |
| 10.2.1† | Akoustis Technologies, Inc. 2015 Equity Incentive Plan *(incorporated by reference to Exhibit 10.10 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)* |
| 10.2.2† | Form of Stock Option Agreement under the Akoustis Technologies, Inc. 2015 Equity Incentive Plan *(incorporated by reference to Exhibit 10.11 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)* |
| 10.2.3† | Form of Restricted Stock Agreement, under the Akoustis Technologies, Inc. 2015 Equity Incentive Plan *(incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed with the SEC on June 29, 2016)* |
| 10.3† | Employment Agreement between the Company and Jeffrey Shealy dated as of June 15, 2015 *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 19, 2015)* |
| 10.4† | Offer Letter from the Company to David M. Aichele *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 30, 2017)* |
| 10.5.1† | Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)* |
| 10.6.2† | Form of Restricted Stock Award Agreement under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)* |
| 10.7.3† | Revised Form of Restricted Stock Award Agreement under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 23, 2017)* |

| Exhibit Number | Description |
|---|---|
| 10.8.1 | Akoustis Technologies, Inc. Director Compensation Program, effective September 7, 2020 *(incorporated by reference to Exhibit 10.8.1 to the Company's Annual Report on Form 10-K filed with the SEC on September 12, 2022)* |
| 10.8.2 | Akoustis Technologies Inc. Director Compensation Program, effective August 26, 2022 *(incorporated by reference to Exhibit 10.8.2 to the Company's Annual Report on Form 10-K filed with the SEC on September 12, 2022)* |
| 10.09 | Grant Agreement, dated as of July 24, 2018, by and among Akoustis Technologies, Inc., Akoustis, Inc. and the Town of Canandaigua *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on July 27, 2018)* |
| 10.10.1 | Akoustis Technologies, Inc. 2018 Stock Incentive Plan *(incorporated by reference to Exhibit 10.40 of the Company's Annual Report on Form 10-K filed with the SEC on September 13, 2019)* |
| 10.10.2† | Amendment to 2018 Stock Incentive Plan *(incorporated by reference to Appendix B of the Company's definitive proxy statement for its 2019 Annual Meeting of Stockholders, filed September 24, 2019)* |
| 10.10.3† | Amendment to 2018 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed November 14, 2022) |
| 10.10.4† | Form of Restricted Stock Unit Award Agreement under the Akoustis Technologies, Inc. 2018 Stock Incentive Plan *(incorporated by reference to Exhibit 4.10 to the Company's Registration Statement on Form S-8 filed with the SEC on November 16, 2018)* |
| 10.10.5† | Form of Performance-Based Restricted Stock Unit Award Agreement under the Akoustis Technologies, Inc. 2018 Stock Incentive Plan *(incorporated by reference to Exhibit 4.11 to the Company's Registration Statement on Form S-8 filed with the SEC on November 16, 2018)* |
| 10.10.6† | Form of Nonqualified Option Award Agreement under the Akoustis Technologies, Inc. 2018 Stock Incentive Plan (incorporated by reference to Exhibit 4.12 to the Company's Registration Statement on Form S-8 filed with the SEC on November 16, 2018) |
| 10.11† | Akoustis Technologies, Inc. Employee Stock Purchase Plan *(incorporated by reference to Exhibit 10.41 of the Company's Annual Report on Form 10-K filed with the SEC on September 13, 2019)* |
| 10.12 | Registration Rights Agreement, dated as of June 9, 2022, by and among the Company, Akoustis Inc. and the purchasers named therein (*incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 10, 2022*) |
| 10.13 | Separation Agreement & Release, dated as of July 5, 2022, by and between the Company and Rohan Houlden *(incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K filed with the SEC on September 12, 2022)* |
| 10.14 | Independent Contractor Agreement, dated as of July 5, 2022, by and between the Company and Rohan Houlden *(incorporated by reference to Exhibit 10.15 to the Company's Annual Report on Form 10-K filed with the SEC on September 12, 2022)* |
| 10.15 | Lease Agreement, dated November 2019, by and between CB Office 10, Ltd. and RFM Integrated Device Inc. *(incorporated by reference to Exhibit 10.16 to the Company's Annual Report on Form 10-K filed with the SEC on September 12, 2022)* |
| 10.16* | Lease Agreement, dated January 1, 2023, by and among Saira Haq, Trustee of the Haq Family Trust, and Saira Haq, Trustee of the Non-Exempt Marital Trust dated May 26, 2006, and Grinding and Dicing Services, Inc. |
| 10.17* | Stock Purchase Agreement, dated January 1, 2023, by and among the Company, Akoustis, Inc., Grinding & Dicing Services, Inc. and its stockholders |
| 21.1* | Subsidiaries of the Company |
| 23.1* | Consent of Marcum LLP |
| 31.1* | Rule 13(a)-14(a)/15(d)-14(a) Certification of Principal Executive Officer |
| 31.2* | Rule 13(a)-14(a)/15(d)-14(a) Certification of Principal Financial and Accounting Officer |
| 32.1* | Section 1350 Certification of Principal Executive Officer |
| 32.2* | Section 1350 Certification of Principal Financial and Accounting Officer |
| 101* | Interactive Data Files of Financial Statements and Notes. |

| Exhibit Number | Description |
|---|---|
| 101.INS* | Inline XBRL Instance Document |
| 101.SCH* | Inline XBRL Taxonomy Extension Schema Document. |
| 101.CAL* | Inline XBRL Taxonomy Extension Calculation Linkbase Document. |
| 101.DEF* | Inline XBRL Taxonomy Extension Definition Linkbase Document. |
| 101.LAB* | Inline XBRL Taxonomy Extension Label Linkbase Document. |
| 101.PRE* | Inline XBRL Taxonomy Extension Presentation Linkbase Document. |
| 104* | Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101). |

* Filed herewith
† Management contract or compensatory plan or arrangement
†† Confidential portions of this exhibit have been omitted.

**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.

**AKOUSTIS TECHNOLOGIES, INC.**

Dated: September 6, 2023

By: */s/ Jeffrey B. Shealy*
Jeffrey B. Shealy
President and Chief Executive Officer

In accordance with the Exchange Act, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

| SIGNATURE | TITLE | DATE |
|---|---|---|
| */s/ Jeffrey B. Shealy*<br>Jeffrey B. Shealy | Chief Executive Officer<br>(Principal Executive Officer), Director | September 6, 2023 |
| */s/ Kenneth E. Boller*<br>Kenneth E. Boller | Chief Financial Officer<br>(Principal Financial and Accounting Officer) | September 6, 2023 |
| */s/ Arthur E. Geiss*<br>Arthur E. Geiss | Co-Chairman of the Board | September 6, 2023 |
| */s/ Jerry D. Neal*<br>Jerry D. Neal | Co-Chairman of the Board | September 6, 2023 |
| */s/ Steven P. DenBaars*<br>Steven P. DenBaars | Director | September 6, 2023 |
| */s/ Jeffrey K. McMahon*<br>Jeffrey K. McMahon | Director | September 6, 2023 |
| */s/ Suzanne B. Rudy*<br>Suzanne B. Rudy | Director | September 6, 2023 |
| */s/ J. Michael McGuire*<br>J. Michael McGuire | Director | September 6, 2023 |
| */s/ Michelle Petock*<br>Michelle Petock | Director | September 6, 2023 |

**Exhibit 4.4**

**THIS SECURED PROMISSORY NOTE (THIS "NOTE") HAS NOT BEEN REGISTERED OR QUALIFIED FOR SALE UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY STATE SECURITIES LAW AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED, HYPOTHECATED OR OTHERWISE TRANSFERRED ABSENT SUCH REGISTRATION OR QUALIFICATION OR AN EXEMPTION THEREFROM UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND APPLICABLE STATE SECURITIES LAWS.**

**AKOUSTIS, INC.**

**Secured Promissory Note**

$4,000,000 January 1, 2023

**SECTION 1. General.**

AKOUSTIS, INC., a Delaware corporation (the "Obligor"), for value received, hereby promises to pay, subject to the further provisions hereof, to JOSEPH COLLINS (together with its successors and permitted assigns, the "Holder"), in its capacity as Sellers' Representative (as defined in that certain Stock Purchase Agreement, dated as January 1, 2023, by and among the Obligor, Akoustis Technologies, Inc., a Delaware corporation ("Parent"), the Holder and the other sellers named therein, and Grinding and Dicing Services, Inc., a California corporation ("GDSI") (as the same may be amended, modified or supplemented from time to time, the "Purchase Agreement")), the aggregate principal amount of FOUR MILLION DOLLARS ($4,000,000) (as reduced by payments made thereon and the exercise of rights of set-off with respect thereto, the "Principal"), in such coin or currency of the United States of America. This Note is issued in connection with, and pursuant to, the Purchase Agreement. Capitalized terms used and not otherwise defined herein shall have the meanings assigned to them in the Purchase Agreement.

**SECTION 2. The Note; Interest-Free Instrument.**

This Note is delivered pursuant to Section 1.2(b) of the Purchase Agreement, and the term "Note" as used herein also refers to any Note or Notes executed and delivered by the Obligor in replacement hereof pursuant to Section 11 hereof. This Note is an interest-free instrument and the Obligor shall at no time be obligated to pay in excess of the stated Principal amount hereof on this Note.

**SECTION 3. Scheduled Payments; Maturity Date; Mandatory Prepayments.**

(a) **Principal Payment; Maturity Date**. Subject to Sections 3(b), 3(c), 3(d), 5 and Section 7(b), payment of the full amount of the unpaid Principal shall be due and payable in full on January 1, 2026 (the "Maturity Date").

(b) **Mandatory Prepayment**. On the First Payment Date, subject to the terms and conditions of the Purchase Agreement, the Obligor shall pay to the Holder the First Note Payment.

(c) **Optional Prepayments**. The Obligor may, at its sole option at any time, prepay this Note, without penalty or premium, in whole or in part.

(d) **Payments Generally**. Notwithstanding anything to the contrary contained herein, whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day except that in the event the Maturity Date is a day other than a Business Day, the Maturity Date shall be deemed the immediately preceding Business Day.

(e) **Acceleration**. The entire unpaid Principal balance due under this Note shall become immediately due and payable to Holder upon a Change in Control. For purposes of this Note, a "Change in Control" means the occurrence after the date hereof of any of (a) an acquisition by an individual or legal entity or "group" (as described in Rule 13d-5(b)(1) promulgated under the Securities Exchange Act of 1934, as amended) of effective control (whether through legal or beneficial ownership of capital stock of Parent, by contract or otherwise) of in excess of 50% of the voting securities of Parent, (b) Parent merges into or consolidates with any other Person, or any Person merges into or consolidates with Parent and, after giving effect to such transaction, the stockholders of Parent immediately prior to such transaction own, directly or indirectly, less than 50% of the aggregate voting power of Parent or the successor entity of such transaction, (c) Parent sells or transfers all or substantially all of its assets to another Person and the stockholders of Parent immediately prior to such transaction own, directly or indirectly, less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a three year period of more than one-half of the members of Parent's Board of Directors which is not approved by a majority of those individuals who are members of such Board of Directors on January 1, 2023 (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the date hereof), (e) Parent ceases to own, directly or indirectly, 100% of the capital stock of the Obligor, or (f) the execution by Parent or the Obligor of an agreement to which Parent or the Obligor is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (e) above.

**SECTION 4. Non-Negotiability; Non-Transferability.**

This Note shall not be negotiable, assignable or transferrable by the Holder, and no such negotiation, assignment or transfer shall be effective, except with the prior written consent of the Obligor.

**SECTION 5. Right of Set-Off.**

This Note is subject to the rights of set-off to the full extent provided in Section 1.4(c) of the Purchase Agreement. Any valid exercise of the right of set-off as provided in Section 1.4(c) of the Purchase Agreement shall be deemed a prepayment of the Obligations hereunder in the amount so set-off and such amount shall be immediately applied to the outstanding Principal balance.

**SECTION 6. Security Interest.**

(a) **Grant of Security Interest to the Holder**. As collateral security for the due and punctual Payment in Full (as hereafter defined) when due (whether at stated maturity, by acceleration or otherwise) of the Principal, and all other obligations of the Obligor arising under this Note (collectively, the "Obligations"), the Obligor hereby pledges and assigns to the Holder, and grants to the Holder for its benefit, a lien on and continuing first priority security interest in all of the Obligor's right, title and interest in and to Obligor's personal property specified on Schedule I hereto, whether now owned or existing or hereafter acquired or arising (collectively, the "Collateral"). Obligor represents and warrants to Holder that it has not granted a security interest in any of the Collateral to any other Person, except for (i) any security interests on property, plant or equipment securing indebtedness represented by capital lease obligations or purchase money obligations incurred for the purpose of financing the purchase price or cost of equipment used in the production lines of Obligor or for the purpose of financing all or any part of the purchase price or cost of design, construction, installation or improvement of property, plant or equipment used in the Obligor's business, or (ii) security interests securing the performance of statutory obligations, performance bonds or other obligations of a like nature incurred in the ordinary course of business.

(b) **Description of Collateral as All Assets**. The Obligor hereby irrevocably authorizes the Holder at any time and from time to time in Holder's reasonable discretion to file in any applicable filing office prescribed under the applicable Uniform Commercial Code ("UCC"), any financing statement (i) describing the Collateral and (ii) that contains any information required by part 5 of Article 9 of the UCC as adopted by any relevant jurisdiction for the sufficiency or filing office acceptance.

(c) **Further Assurances**. The Obligor further agrees, upon the request of the Holder, to take any and all other actions as the Holder may determine to be reasonably necessary for the attachment, perfection and first priority of the Holder's security interest in any and all of the Collateral, including without limitation, (i) executing and delivering and where appropriate filing financing statements and amendments relating thereto under the UCC to the extent, if any, that the Obligor's signature thereon is required therefor and (ii) complying with any provision of any statute, regulation or treaty as to any Collateral if compliance with such provision is a condition to attachment, perfection or priority of, or ability of the Holder to enforce, its security interest in such Collateral.

(d) **Attorney in Fact**. Upon the occurrence and during the continuance of an Event of Default, the Obligor hereby irrevocably constitutes and appoints the Holder and any officer or agent thereof, with full power of substitution, as its true and lawful attorney-in-fact with full irrevocable power and authority in the place and stead of the Obligor or in the Obligor's own name, for the purpose of carrying out the terms of this Note, to take any and all appropriate action and to execute any and all documents and instruments that may be necessary to accomplish the purposes of this Note and, without limiting the generality of the foregoing, hereby gives said attorney the power and right, on behalf of the Obligor with notice to but without assent by the Obligor, to, upon the occurrence and during the continuance of an Event of Default, (i) sell, transfer, pledge, make any arrangement with respect to or otherwise dispose of or deal with any of the Collateral in accordance with applicable law and (ii) do acts and things which the Holder reasonably deems necessary to protect, preserve or realize upon the Collateral and the Holder's security interest therein. The powers granted herein, being coupled with an interest, are irrevocable until termination of this Note in accordance with Section 6(e). The powers conferred on the Holder hereunder are solely to protect its interests in the Collateral and shall not impose any duty upon him to exercise any such powers. Neither Holder nor any other attorney-in-fact shall be liable for any act or omission, error in judgment or mistake of law.

(e) **Termination; Release.**

(i) This Note and that certain Guaranty and Security Agreement, dated as of the date hereof by GDSI in favor of the Holder, as amended, restated, supplemented or otherwise modified from time to time (the "Guaranty Agreement") and the security interest in the Collateral created hereby and any security interest created by the Guaranty Agreement shall terminate automatically (x) when all of the outstanding Obligations have been paid in full in cash and/or satisfied by set-off pursuant to Section 5 (the "Payment in Full") or, (y) if earlier, in accordance with Section 1.4(d) of the Purchase Agreement. Upon termination as aforesaid, the Holder shall promptly return to the Obligor the original of this Note marked cancelled and deliver any possessory collateral in its possession to the Obligor, and execute and deliver such releases and discharges as the Obligor may reasonably request to evidence the foregoing. To the extent that applicable law requires Holder's affirmative consent, should the Holder fail to deliver any UCC-3 termination statements within 3 Business Days of termination of this Note under this Section 6(e), the Obligor shall hereby be authorized to file such financing statements on behalf of the Holder.

(ii) Except for a sale of all or substantially all of the assets of the Obligor prior to the Maturity Date, or the sale of a material asset of Obligor, in the event that any part of the Collateral is disposed of or assets included in the Collateral are the subject of a capital lease or other purchase money financing entered into by the Obligor in the normal and ordinary course of Obligor's business, the lien and security interest created by this Note on such Collateral shall be automatically released effective simultaneously with the occurrence of such event, and the Holder, at the request of the Obligor, will promptly execute and deliver to the Obligor a proper instrument of release (including UCC termination statement or amendment).

**SECTION 7. Event of Default.**

(a) The occurrence of any one or more of the following conditions or events shall constitute an "Event of Default". Upon the occurrence of an Event of Default, the entire unpaid Principal balance due under this Note shall become immediately due and payable to Holder:

(i) failure by the Obligor, within five (5) days after the date when due, to pay any Principal;

(ii) the Obligor (A) applies for or consents to the appointment of a receiver, trustee, custodian, intervenor or liquidator or other similar official for itself or all or substantially all of its assets, (B) files a voluntary petition in bankruptcy, admits in writing that it is unable to pay its debts as they become due, (C) makes a general assignment for the benefit of creditors, (D) files a petition or answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy or insolvency laws, (E) files an answer admitting the material allegations of, or consent to, or default in answering, a petition filed against it in any bankruptcy, reorganization, or insolvency proceeding, or (F) takes any action for the purpose of effecting any of the foregoing;

(iii) (A) an involuntary proceeding is commenced against the Obligor seeking bankruptcy or reorganization of the Obligor or the appointment of a receiver, trustee, custodian, intervenor, liquidator or other similar official for the Obligor or all or substantially all of the Obligor's assets or (B) an order, order for relief, judgment or decree is entered by any court of competent jurisdiction approving a petition or complaint seeking reorganization of the Obligor or appointing a receiver, trustee, custodian, intervenor, liquidator or other similar official for the Obligor or all or substantially all of the Obligor's assets, and, in the case of clauses (A) or (B), such proceeding or order is not dismissed within sixty (60) days after the commencement or entry thereof (as applicable); or

(iv) if at any time after the execution and delivery of this Note, (A) this Note ceases to be in full force and effect, or shall be declared null and void, or (B) the Obligor or any other Person shall contest in writing the validity or enforceability of this Note, or deny in writing that it has any further liability.

(v) Obligor fails to cure a material breach of any other provision of this Note or the Security Agreement within five (5) days of written notice from Holder asserting a material breach of this Note or the Security Agreement.

(b) **Remedies.**

(i) Upon the occurrence and during the continuance of any Event of Default, the Holder may, subject to Section 7(b)(iv):

(A) exercise all rights and remedies available to it under the Note or applicable law;

(B) exercise in respect to the Collateral, any one or more of the rights and remedies available under the UCC and other applicable law; and

(C) sell or otherwise assign, give an option or options to purchase or dispose of and deliver the Collateral (or contract to do so), or any part thereof, in one or more parcels at public or private sale or sales, at any exchange, broker's board or at any of the Obligor's offices or elsewhere upon such terms and conditions as it may deem advisable and at such prices as it may deem best, for cash, on credit or for future delivery without assumption of any credit risk, free of any claim or right of whatsoever kind (including any right or equity of redemption) of the Obligor, which claim, right and equity are hereby expressly waived and released. The Holder shall have the right to the extent permitted by applicable law, upon any such sale or sales, public or private, to purchase the whole or any part of the Collateral so sold. In case of any sale of all or any part of the Collateral on credit or for future delivery, the Collateral so sold may be retained by the Obligor until the selling price is paid by the purchaser thereof, but the Obligor shall incur no liability in case of the failure of such purchaser to pay for the Collateral so sold and, in case of such failure, the Collateral may again be sold as herein provided.

(ii) The Obligor hereby waives, to the fullest extent permitted by applicable law, diligence, presentment, protest and demand and notice of protest and demand, dishonor and nonpayment of this Note, and expressly agrees that this Note, or the payment of any portion of the Principal or other obligations hereunder, may be extended from time to time, without in any way affecting the liability of the Holder hereunder.

(iii) The Obligor shall not be obligated to make any sale or other disposition of the Collateral, or any part thereof unless the terms thereof shall, in its sole discretion, be satisfactory to it. The Obligor may, if it deems it reasonable, postpone or adjourn the sale of any of the Collateral, or any part thereof, from time to time by an announcement at the time and place of such sale or by announcement at the time and place of such postponed or adjourned sale, without being required to give a new notice of sale.

(iv) Prior to exercising any right or remedy under Section 7(b)(i)(A), (B) or (C) with respect to the Collateral, the Holder must first look to enforce, exhaust or execute against the assets GDSI under the Guaranty Agreement. If, after the expiration of not less than fifteen (15) days, Obligations are still outstanding following the exercise of the Holder's rights against such assets of GDSI, the Holder may foreclose on or execute against the items of Collateral and assets of Obligor. GDSI shall be a third-party beneficiary under this Section 7(b)(iv).

**SECTION 8. Amendments and Waivers.**

(a) With the written consent of the Holder, any covenant, agreement or condition contained in this Note may be waived (either generally or in a particular instance and either retroactively or prospectively), and the Holder and the Obligor may from time to time enter into written agreements for the purpose of amending any covenant, agreement or condition of this Note or changing in any manner the rights of the Holder of this Note. Any such amendment or waiver shall be binding upon each future payee of this Note and upon the Obligor. Upon the request of the Obligor, the Holder hereof shall submit this Note to the Obligor so that this Note may be marked to indicate such amendment or waiver, and any Note issued thereafter shall bear a similar notation referring to any such amendment or continuing waiver.

(b) Unless otherwise expressly provided hereunder, (i) no amendment, modification, termination or waiver of any term or condition of this Note, (ii) no consent to any departure by the Obligor from the terms hereof or thereof, and (iii) no discretionary action or exercise any discretionary powers or exercise of remedies shall be exercised, in each case, without the consent of the Holder.

**SECTION 9. Third Party Beneficiaries.**

Except as expressly set forth herein or in the Purchase Agreement, this Note shall not confer any rights or remedies upon any Person.

**SECTION 10. Successors and Assigns.**

No party hereto may assign its rights or delegate its duties under this Note without the prior written consent of the other party. This Note will be binding upon and will inure to the benefit of the parties and their respective successors and permitted assigns, and any reference to a party will also be a reference to the successors and permitted assigns thereof.

**SECTION 11. Replacement of Note.**

Upon surrender and cancellation of this Note, and in all cases (other than pursuant to clauses (i) or (ii) of this Section 11) upon reimbursement by the Holder to the Obligor of all reasonable expenses incidental thereto, the Obligor will make and deliver a new Note or Notes of like tenor and in the applicable Principal amount in lieu of this Note in the following circumstances (i) in the event the right of set-off contemplated by Section 5 hereof shall have been exercised, (ii) in the event of a prepayment or partial prepayment of the Principal in accordance with Section 3 hereof, (iii) upon receipt by the Obligor of evidence satisfactory to it of the loss, theft, destruction or mutilation of this Note and, in case of loss, theft, destruction or mutilation, of indemnity reasonably satisfactory to it, or (iv) the assignment by the Obligor or the Holder of its rights hereunder to the extent permitted hereby.

**SECTION 12. Notices.**

All notices and other communications required or permitted hereunder shall be deemed to have been properly given and delivered if in writing by such Party and delivered personally or sent by email transmission or nationally recognized overnight courier service guaranteeing overnight delivery, to address of the Holder or the Obligor, as applicable, as set forth in the Purchase Agreement, or to such other representative or at such other address of a Party as such Party may furnish to the other Parties in writing. Any such notice, communication or delivery shall be deemed given or made (a) on the date of delivery, if delivered in person or by email transmission, or (b) on the first Business Day following timely delivery to a national overnight courier service or (c) on the fifth Business Day following it being mailed by registered or certified mail.

**SECTION 13. Governing Law; Incorporation by Reference.**

(a) This Note shall be governed by the laws of the State of Delaware, excluding choice of law principles that would require the application of the Laws of a jurisdiction other than the State of Delaware. Holder and Obligor expressly submit to the state and federal courts in and for Contra Costa County, CA, as the sole and exclusive jurisdiction for the resolution of any dispute arising pursuant to this Note. In the event that any action or proceeding is commenced to enforce or interpret this Agreement, then, in addition to all other remedies to which it is entitled, but without duplication, the prevailing party shall be awarded its reasonable attorneys' fees and costs.

(b) The terms and provisions of Sections 7.6 (*Waiver of Jury Trial*) of the Purchase Agreement are hereby incorporated herein by reference, and shall apply to this Note and the parties hereto *mutatis mutandis* as if fully set forth herein.

**SECTION 14. Tax Treatment.**

All payments under this Note shall be treated for income tax purposes as payments of additional Purchase Price under the Purchase Agreement, except to the extent such amounts are required to be treated as interest under Section 483 of the Code or any analogous provision of the Code or state, local or other tax laws.

**SECTION 15. Withholding.**

All payments hereunder and under this Note must, except as required by applicable law, be made without setoff, offset, deduction or counterclaim, free and clear of all taxes (other than those based on the income of the Holder), levies, imports, duties, fees and charges, and without any withholding, restriction or conditions imposed by any governmental authority.

**SECTION 16. Severability.**

Any provision of this Note which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions of this Note, and any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. To the extent permitted by law, the Obligor waives any provision of law which renders any such provision prohibited or unenforceable in any respect.

**SECTION 17. Revival and Restatement.**

If the incurrence or payment of the Obligations by the Obligor or the transfer by the Obligor to the Holder of any property of the Obligor should for any reason subsequently be declared to be void or voidable under any state or federal law relating to creditors' rights, including provisions of the Debtor Relief Laws relating to fraudulent conveyances, preferences, or other voidable or recoverable payments of money or transfers of property (collectively, a "Voidable Transfer"), and if the Holder is required to repay or restore, in whole or in part, any such Voidable Transfer, or elects to do so upon the reasonable advice of its counsel, then, as to any such Voidable Transfer, or the amount thereof that the Holder is required or elects to repay or restore, the liability of the Obligor automatically shall be revived, reinstated, and restored and shall exist as though such Voidable Transfer had never been made. For purposes of this paragraph, "Debtor Relief Laws" means Title 11 of the United States Code entitled "Bankruptcy," as now and hereafter in effect, or any successor statute, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief laws of the United States or other applicable jurisdictions from time to time in effect.

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**IN WITNESS WHEREOF**, the Obligor has duly executed and delivered this Note as of the date first written above.

**AKOUSTIS, INC.**

By: /s/ Jeffrey B. Shealy
Name: Jeffrey B. Shealy
Title: President and Chief Executive Officer

ACCEPTED AND AGREED
This 1st day of January 2023

By: /s/ Joseph Collins
Name: Joseph Collins

**Schedule I**

The Collateral consists of the following personal property of the Obligor, whether now owned or existing or hereafter acquired or arising (as each of the following terms are used in the UCC):

(i) investment property;

(ii) goods;

(iii) equipment;

(iv) inventory;

(v) instruments;

(vi) accounts;

(vii) documents;

(viii) chattel paper;

(ix) general intangibles;

(x) all "proceeds" (as defined in the UCC) of any of the items listed in subsections (i) through (ix), above; and

(xi) any and all additions, accessions and attachments to any of the foregoing and any substitutions, replacements, products and supporting obligations of the foregoing.

**Exhibit 10.16**

**LEASE**

THIS LEASE ("**Lease**") is made as of January 1, 2023 (the "**Effective Date**") by and between Saira Haq, Trustee of the Haq Family Trust, and Saira Haq, Trustee of the Non-Exempt Marital Trust dated May 26, 2006 (collectively "**Landlord**"), and Grinding and Dicing Services, Inc., a California corporation ("**Tenant**").

Simultaneous with the execution of this Lease, Akoustis Technologies, Inc. ("**Buyer**") purchased all of the outstanding stock of Tenant, pursuant to that certain Stock Purchase Agreement of even date herewith (the "**Purchase Agreement**") which Purchase Agreement is conditioned upon, among other things, the execution of this Lease by Landlord and Tenant, and Landlord acknowledging and confirming the termination of any and all prior leasehold interest granted in the Leased Premises (defined below) pursuant to any previously existing lease (whether written or oral) at the Leased Premises (the "**Original Lease**") and releasing Tenant from any prior liabilities of its predecessor in interests to the Original Lease and the associated obligations under the Original Lease.

Accordingly, Landlord and Tenant hereby agree as follows:

ARTICLE I

DEMISE

Section 1.1 Leased Premises. In consideration of the rents and covenants to be paid and performed by Tenant, Landlord does hereby lease to Tenant, and Tenant does hereby accept and lease from Landlord, for the term, at the rent and upon the covenants, provisions and conditions hereinafter set forth, all that certain real property, buildings and improvements located at 925 Berryessa Road, San Jose, CA 95133 which real property is more particularly described on **Exhibit "A"**, attached hereto and incorporated herein ("**Leased Premises**"). The approximately 10,043 square foot building that is part of the Leased Premises is hereinafter sometimes referred to as the "**Building**." The land that is part of the Leased Premises is hereinafter sometimes referred to as the "**Land**."

Section 1.2 Reservation of Landlord. Landlord hereby reserves the right (at Landlord's sole cost and not subject to reimbursement by Tenant) to place, maintain, repair and replace such utility lines, pipes, tunneling, and the like, in, under, over and upon the Leased Premises as may be reasonably necessary or advisable for the servicing of the Leased Premises and for the purposes of complying with certain obligations set forth in this Lease, if any; provided, however, in the exercise of any such rights, Landlord shall not unreasonably interfere with the operations of Tenant at the Leased Premises and shall promptly repair (at Landlord's sole cost and not subject to reimbursement by Tenant) any damage caused by the exercise of any such rights.

Section 1.3 Possession. Landlord shall deliver exclusive possession of the Leased Premises to Tenant on the Commencement Date (hereinafter defined).

Section 1.4 Condition of Leased Premises. As of the Commencement Date, Landlord represents and warrants and covenants to Tenant that: (a) Landlord owns good and marketable title to the Leased Premises free and clear of any and all liens and encumbrances which would prohibit Tenant's use, occupancy and enjoyment of the Leased Premises for the Permitted Use; (b) the execution, delivery and performance of this Lease by Landlord does not conflict with or cause a breach or default under any agreement to which Landlord is a party; (c) there are no real estate taxes and assessments and/or impositions assessed against the Leased Premises which are due and unpaid; (d) Landlord is not in default under the terms and conditions of any agreements, loans, mortgages, deeds of trust, or any other loan documents in favor of any mortgagee with a security interest in the Leased Premises, nor is Landlord aware of any matter which with the passage of time or the giving of notice would constitute a default; (e) the Original Lease, if any, has been terminated, is void ab initio and Tenant or its predecessor in interest, as applicable, has satisfied all of their obligations under the Original Lease and has no liability thereunder as of the date hereof; (f) the CC&Rs (as hereinafter defined) do not prohibit the Permitted Use and the Leased Premises are in compliance with the CC&Rs; (g) to Landlord's knowledge, the Leased Premises are in good condition, do not presently require any material repairs and are sufficient for the uses to which they have been put prior to the Effective Date; and (h) to Landlord's knowledge, the Leased Premises are in compliance with Laws and Requirements (as hereinafter defined). Except as otherwise set forth in this Lease, the Leased Premises is leased "as is" and "where is" without warranty or representation as to title, condition or suitability for any purpose.

Section 1.5 Covenants, Conditions and Restrictions. Tenant agrees that as to its leasehold estate, Tenant and all persons in possession or holding under Tenant will conform to and will not violate the terms of any covenants, conditions or restrictions of record which may now or hereafter encumber the Building or the project in which the Building is located (collectively, the "**CC&Rs**"). This Lease is subordinate to such restrictions and any amendments or modifications thereto.

## ARTICLE II

## TERM.

Section 2.1 Term. The initial term of this Lease ("**Initial Term**") shall commence on the Effective Date (the "**Commencement Date**") and shall expire on the last day of the thirty-sixth (36th) full calendar month following the Commencement Date.

Section 2.2 Extension Term. Provided that Tenant is not in material default beyond any applicable notice and cure period of this Lease at the time of exercise or as of the date immediately preceding the scheduled commencement date of the Extension Term (hereinafter defined), Tenant shall have the right to extend the term of this Lease for two (2) additional periods of three (3) years each (each, an "**Extension Term**") by giving Landlord notice of such extension not less than 120 days prior to the expiration of the Initial Term or then expiring Extension Term, as applicable. Each Extension Term shall be upon the same terms, provisions, covenants and conditions as are in effect under this Lease at the time of such extension. As used in this Lease, the term "**Term**" or "**term**" shall mean the Initial Term and an Extension Term as the context so requires.

Section 2.3 Lease Year. As used in this Lease, the term "**Lease Year**" shall mean a period of twelve (12) consecutive calendar months, commencing on Commencement Date and each successive anniversary of the Commencement Date during the Term; provided, however, that if the Commencement Date is not the first day of a calendar month, then such twelve (12) month period shall be deemed to commence on the first day of the first full calendar month following the Commencement Date and each successive anniversary thereof during the Term. In such event, the first Lease Year shall be deemed to also include the partial month that commences on the Commencement Date and ends on the last day of that calendar month ("**Stub Period**").

ARTICLE III

RENT

Section 3.1 Base Rent.

(a) Tenant hereby covenants and agrees to pay to Landlord, at its office or at such other place as Landlord may from time to time designate, as "**Base Rent**" for the Leased Premises during the Initial Term of this Lease, without deduction, set off or demand, except as otherwise set forth in this Lease:

(i) For Lease Year 1 of the Initial Term, the annual amount of Two Hundred Thirty-Five Thousand Six and 20/100 Dollars ($235,006.20) payable in equal monthly installments of Nineteen Thousand Five Hundred Eighty-Three and 85/100 Dollars ($19,583.85) (based on 10,043 square feet of space in the Building (the "**Initial Building Square Footage**") and $1.95 per rentable square foot per month (the "**Initial Rate**")), which shall be due and payable in advance on the first day of each and every calendar month during the first Lease Year of the Initial Term (subject to Section 3.1(b) and Section 3.1(d));

(ii) For Lease Year 2 of the Initial Term, the sum of the annual Base Rent for Lease Year 1 (as it may have been adjusted pursuant to Section 3.1(d)) plus an increase equal to three percent (3%) of the annual Base Rent for Lease Year 1 (as it may have been adjusted pursuant to Section 3.1(d)), payable in equal monthly installments, which shall be due and payable in advance on the first day of each and every calendar month during the second Lease Year of the Initial Term; and

(iii) For Lease Year 3 of the Initial Term, Base Rent shall increase (the "**Annual CPI Increase**") on the first day of the third Lease Year of the Initial Term (the "**Adjustment Date**") to equal an annual amount equal to (a) the annual Base Rent for Lease Year 2 multiplied by (b) the number one (1) plus a fraction, the numerator of which is equal to the positive difference, if any, between (A) the Index (defined below) for the calendar month two (2) months prior to the calendar month in which the Adjustment Date occurs (the "**Comparison Index**"), and (B) the Index for the calendar month two (2) months prior to month 12 of the Term (the "**Reference Index**"), and the denominator of which shall be the Reference Index. The Consumer Price Index for All Urban Consumers, All Items (1982-84=100) for San Francisco-Oakland-San Jose, as published by the United States Department of Labor, Bureau of Labor Statistics (the "**Index**"), shall be used in computing the increase in Base Rent on the Adjustment Date.

(b) If the Commencement Date does not occur on the first day of a calendar month, then Tenant shall pay on the Commencement Date a prorated amount of the monthly installment of Base Rent for the Stub Period calculated on a per diem basis. Thereafter, Base Rent shall be paid in equal monthly installments on the first day of each and every month during the Term in advance, as herein provided.

(c) Commencing on the first (1st) day of an Extension Term, if applicable, and on each anniversary thereafter during the Extension Term, the Base Rent shall be increased by 3% from the Base Rent for the prior Lease Year.

(d) Promptly following the Effective Date, Landlord and Tenant shall cooperate in good faith to select a mutually acceptable third party appraiser (the "**Appraiser**") to determine the market base rental rate (per rentable square foot per month) (the "**Determined Rate**") for the Building.

(i) Landlord and Tenant each shall be responsible for fifty percent (50%) of the cost the Appraiser.

(ii) The Appraiser shall undertake to deliver its written determination of the Determined Rate within sixty (60) days following the selection of the Appraiser (or within such extended time as reasonably required by the Appraiser). The Determined Rate shall be final and binding upon Landlord and Tenant but shall be subject to a floor of $1.25 per rentable square foot per month (the "**Floor Rate**") and a ceiling of $2.40 per rentable square foot per month (the "**Ceiling Rate**"). In the event that the Determined Rate exceeds the Ceiling Rate, the Determined Rate shall be adjusted to equal the Ceiling Rate. In the event that the Determined Rate is less than the Floor Rate, the Determined Rate shall be adjusted to equal the Floor Rate.

(iii) The Base Rent for the first Lease Year of the Initial Term shall be adjusted based on the Determined Rate and the square footage of the Building (taking into account any revisions by the Appraiser to the Initial Building Square Footage). Such adjustment to Base Rent shall be retroactive to the Commencement Date and shall be memorialized in a writing (materially in the form attached hereto as **Exhibit "B"**) signed by Landlord and Tenant promptly following the determination of the Determined Rate. The Base Rent for the first Lease Year of the Initial Term (as so adjusted) is referred to herein as the "**Adjusted Lease Year 1 Base Rent**".

(iv) In the event that the Adjusted Lease Year 1 Base Rent is less than the initial Base Rent for the first Lease Year of the Initial Term (the "**Initial Lease Year 1 Base Rent**"), Landlord promptly shall reimburse Tenant for the resulting prior overpayment of monthly installments of Base Rent. In the event that the Adjusted Lease Year 1 Base Rent exceeds the Initial Lease Year 1 Base Rent, Tenant promptly shall pay to Landlord the amount of the resulting prior underpayment of monthly installments of Base Rent.

Section 3.2 Real Estate Taxes. Tenant shall pay prior to delinquency all real estate taxes and assessments that are levied or assessed on the Land and Building during the Term (hereinafter referred to as "**Real Estate Taxes**"); provided, however, that Real Estate Taxes levied against the Land and Building shall be prorated between Landlord and Tenant as of the Commencement Date for the first year of the Term and as of the expiration date of the Term for the last year of the Term (on the basis of Landlord's reasonable estimate thereof). Upon request Tenant shall provide Landlord with evidence of payment of such Real Estate Taxes. If Landlord pays such Real Estate Taxes (due to Tenant's failure to pay same), Landlord shall notify Tenant of such payment, and Tenant shall promptly reimburse Landlord for such amounts upon demand. Tenant may take the benefit of the provisions of any statute or ordinance permitting any assessment to be paid over a period of years, and Tenant shall be obligated to pay only those installments falling due during the Term. Tenant shall not be required to pay any Real Estate Taxes so long as Tenant shall, in good faith and with due diligence, contest the same or the validity thereof by appropriate legal proceeding which shall have the effect of preventing the collection of the Real Estate Taxes so contested; provided that, pending any such legal proceedings, Tenant shall give Landlord such security as may be deemed reasonably satisfactory to Landlord to insure payment of the amount of the Real Estate Taxes and all interest and penalties thereon. If, at any time during the continuance of such contest, the Leased Premises or any part thereof is, in the judgment of Landlord, in imminent danger of being forfeited or lost, Landlord may use such security for the payment of such Real Estate Taxes. Any proceeding referred to in this Section may be brought by Tenant in the name of Tenant or Landlord, but Landlord shall not be subjected to any liability for the payment of any costs or expenses in connection with any proceeding brought by Tenant, and Tenant covenants to indemnify and save harmless Landlord from any such costs or expenses. At Tenant's request, Landlord agrees to sign any petition or protest and reasonably to cooperate in such other acts as may be required to enable Tenant to engage in any proceedings referred to in this Section, provided Landlord does not thereby incur any material expense or obligation. Notwithstanding anything to the contrary contained in this Lease, there shall be excluded from Real Estate Taxes and Tenant shall have no obligation to pay (or to reimburse Landlord for the payment of) any of the following, all of which shall be Landlord's sole obligation hereunder: (a) income (as opposed to rental taxes described in Section 3.3), business, profit, inheritance, estate, succession, gift, franchise or documentary transfer tax which are or may be imposed on Landlord, its successors or assigns, by whatever authority imposed or however designated; (b) any tax, assessment, charge or levy imposed or levied upon or assessed against any premises of Landlord other than the Leased Premises; and (c) any interest or penalties payable as a result of Landlord's failure to pay any taxes or assessments prior to delinquency, except real estate taxes and assessments for which Tenant may be responsible if they are separately billed to Tenant.

Section 3.3 Rental Taxes. If any governmental taxing authority levies, assesses, or imposes any tax, excise or assessment (other than income or franchise taxes) upon or against the rentals payable by Tenant to Landlord, then Tenant shall be responsible for and shall pay such tax, excise or assessment, or, if Landlord pays same, Tenant shall reimburse Landlord for the amount thereof within thirty (30) days after demand by Landlord which demand shall be accompanied by reasonable supporting documentation.

Section 3.4 Late Charge. Notwithstanding anything in this Lease to the contrary, if Tenant fails to pay any Base Rent, additional rent or any other charges within ten (10) days after the due date thereof, then in addition to and not in lieu of any other right or remedy available to Landlord, Tenant shall pay an additional sum of five percent (5%) of such rent or other charge as a late charge. The parties agree that this late charge represents a fair and reasonable estimate of the cost that Landlord will incur by reason of late payment by Tenant. Acceptance of any late charge shall not constitute a waiver of Tenant default with respect to the overdue amount, or prevent Landlord from exercising any other rights or remedies available to Landlord.

Section 3.5 Interest. Any amount owed by Tenant to Landlord which is not paid when due shall bear interest at the lesser of ten percent (10%) per annum or the maximum rate of interest permitted to be contracted for by law. However, interest shall not be payable on late charges to be paid by Tenant under this Lease, and any late charge paid by Tenant pursuant to Section 3.4 shall be an offset against interest due under this Section. The payment of interest on such amounts shall not excuse or cure any default by Tenant under this Lease.

## ARTICLE IV

## USE OF LEASED PREMISES BY TENANT

Section 4.1 Permitted Use of Leased Premises. Tenant shall use the Leased Premises for wafer grinding and polishing, automated inspection, dicing, pick and place, general back-end wafer processing and packaging, and quality assurance services and ancillary and related services and uses (the "**Permitted Use**").

Section 4.2 Nature of Use.

(a) Tenant shall use and occupy the Leased Premises in a commercially reasonable manner in accordance with all applicable laws, statutes, ordinances, codes, rules, regulations, requirements, orders and approvals of all federal, state, county and municipal governmental agencies or public authorities having jurisdiction over the Leased Premises and relating to Tenant's use (collectively, "**Laws and Requirements**"). Tenant, at Tenant's expense, shall obtain, and shall keep in force during the term hereof, and during any holding over by Tenant, all approvals, certificates, consents, licenses and permits required under any Laws and Requirements for any of Tenant's business activities being carried on in the Leased Premises.

(b) Tenant shall, at its sole cost and expense, comply with all Laws and Requirements, now in force or which may hereafter be in force, pertaining to Tenant's use and occupancy of the Leased Premises.

Section 4.3 Signs. Tenant may, without the prior written consent of Landlord, attach to the Leased Premises or the Building, signs of reasonable size displaying Tenant's name and business. Tenant agrees to have said signs comply with all applicable requirements of appropriate governmental authorities and to obtain all necessary permits or licenses with respect to said signs. At the termination of this Lease, Tenant agrees to remove, at Tenant's sole expense, all signs erected by Tenant and to repair any damage caused by such removal. All existing signage in place on the Commencement Date shall be exempt from these requirements, including, without limitation, any requirement that Tenant maintain or remove the same, and such signage shall not be subject to removal upon Tenant vacating the Leased Premises.

Section 4.4 Environmental Matters.

(a) From and after the Commencement Date, Tenant shall, with respect to the Leased Premises (i) not cause, allow or permit any Hazardous Material (as defined below) to be brought upon, kept, used, handled, or managed in or about the Leased Premises, except in full compliance with applicable Environmental Requirements and in types and quantities consistent with Tenant's ordinary operations; (ii) cause any and all Hazardous Materials delivered to or removed from the Leased Premises by or on behalf of Tenant to be removed and transported solely by licensed haulers to duly licensed facilities for recycling or final disposal of such materials and wastes; and (iii) not release any Hazardous Material at or near the Leased Premises, except as permitted by Environmental Requirements and as would not result in contamination at the Leased Premises. Notwithstanding anything to the contrary contained in this Lease, Tenant may use any ordinary and customary materials reasonably required to be used in the normal course of the Permitted Use of the Leased Premises, ordinary office supplies (copier toner, liquid paper, glue, etc.) and common household or office materials (including cleaning supplies), so long as such use is conducted in full compliance with applicable Environmental Requirements and does not expose the Leased Premises or neighboring property to any risk of contamination or damage, or expose Landlord to any liability therefore.

(b) As used herein "**Environmental Requirements**" shall mean all federal, state, local and foreign statutes, regulations, ordinances and other provisions having the force or effect of law, all judicial and administrative orders and determinations, all contractual obligations and all common law concerning public health and safety, worker health and safety, pollution or protection of the environment, including without limitation all those relating to the presence, use, production, generation, handling, transportation, treatment, storage, disposal, distribution, labeling, testing, processing, discharge, release, threatened release, control, or cleanup of any hazardous materials, substances or wastes, chemical substances or mixtures, pesticides, pollutants, contaminants, toxic chemicals, petroleum products or byproducts, asbestos, polychlorinated biphenyls, noise or radiation, each as amended and as in effect prior to, on, or after the date of this Lease. As used herein, the term "**Hazardous Material**" means petroleum, any hazardous or toxic substance, material or waste that is or becomes regulated by any governmental authority because of its toxic, hazardous, deleterious, or dangerous properties and includes, without limitation, any material or substance which is: (i) defined as a "hazardous substance" under the environmental, health, or safety laws of the state in which the Leased Premises are located; (ii) petroleum; (iii) asbestos; (iv) designated as a "hazardous substance" pursuant the Federal Water Pollution Control Act, 33 U.S.C. Section 401 et seq.; (v) defined as a "hazardous waste" pursuant to the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq.; (vi) defined as a "hazardous substance" pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq.; (vii) defined as a "regulated substance" pursuant to Subchapter IX, Solid Waste Disposal Act (Regulation of Underground Storage Tanks), 42 U.S.C. Section 6991 et seq.; or (viii) defined as a "toxic substance" pursuant to the Toxic Substance Control Act, 15 U.S.C. Section 2601 et seq. As used herein, "Environmental Liabilities" shall mean all liabilities, obligations, claims, damages, penalties, costs, and expenses (including the fees and expenses of attorneys and consultants) relating to or arising under Environmental Requirements.

(c) Landlord shall have the right at all times during the Term of this Lease to (i) inspect the Leased Premises and to (ii) conduct tests and investigations to determine whether Tenant is in compliance with the provisions of this Article. Landlord shall give reasonable notice to Tenant before conducting any inspections, tests, or investigations, and same shall be conducted during normal business hours in a manner that will not interrupt or unreasonably interfere with Tenant's business operations. The cost of all such inspections, tests and investigations shall be borne by Tenant if Tenant is in breach of this Article. Neither any action nor inaction on the part of Landlord pursuant to this Article shall be deemed in any way to release Tenant from, or in any way modify or alter, Tenant's responsibilities, obligations, and/or liabilities under this Lease.

(d) As of the Commencement Date and except as disclosed in any environmental reports delivered by Landlord to Tenant, Landlord hereby represents and warrants to Tenant that, to Landlord's actual knowledge without investigation, there are no Hazardous Materials present in the Leased Premises in violation of Environmental Requirements. Tenant shall have no liability with respect to any contamination existing prior to the Commencement Date. Landlord hereby agrees to defend, indemnify and hold harmless Tenant from and against any and all claims, demands, liabilities, causes of action, suits, judgments, damages and expenses arising from the use, release or disposal by Landlord of Hazardous Materials at the Leased Premises.

## ARTICLE V

## TRIPLE NET LEASE

Landlord and Tenant acknowledge that, except for Landlord's obligations in ARTICLE VI below and except as otherwise expressly set forth herein, it is their intent and agreement that this Lease be a "TRIPLE NET" lease and that as such, the provisions contained in this Lease are intended to pass on to Tenant or reimburse Landlord for the costs and expenses associated with this Lease and the Lease Premises and Tenant's operation therefrom. To the extent such costs and expenses payable by Tenant cannot be charged directly to, and paid by, Tenant, such costs and expenses shall be paid by Landlord but reimbursed by Tenant as additional rent. Notwithstanding the foregoing, the costs and expenses described in **Exhibit "C"** shall not be passed through to Tenant and shall not be required to be paid or reimbursed by Tenant.

## ARTICLE VI

## MAINTENANCE OF LEASED PREMISES

Section 6.1 Landlord's Obligations.

(a) Landlord shall, at Landlord's sole cost and expense (and not subject to reimbursement by Tenant), maintain, repair and replace (if necessary) the load bearing-components of the Building's footings, foundations, exterior structural walls, interior structural columns and other load-bearing elements of the Building, excluding windows and doors.

(b) Landlord shall, at Landlord's cost and expense, be responsible for any repair or replacement to the Leased Premises characterized as "capital" in nature under generally accepted accounting principles consistently applied. If such repair or replacement is outside the scope of Section 6.1(a), Tenant shall be required to pay the pro rata share of the cost of the applicable repair or replacement falling due within the Term based upon the amortization of the same over the useful life of such item, such amount to be payable in substantially equal monthly installments over the then-remaining balance of the Term.

(c) Notwithstanding anything herein to the contrary, in the event a capital improvement or other structural, unforeseen or extraordinary change to the Leased Premises is required by Laws and Requirements during the first Lease Year of the Initial Term, then Landlord shall be responsible for such work at Landlord's sole cost and expense (and not subject to reimbursement by Tenant).

Section 6.2 Tenant's Repairs and Maintenance. Subject to Landlord's obligations in Section 6.1 above, Tenant shall, at Tenant's sole cost and expense (subject to the final sentence of this Section 6.2), maintain, repair and replace (if necessary) the Leased Premises, including, without limitation, the Building, building systems, parking lot, driveways, windows, skylights, doors, roof, sewage booster system, security system, heating, ventilating and air conditioning systems ("**HVAC**"), clean rooms and associated systems, plumbing, electrical, process piping, chillers, equipment, fixtures, flooring, life safety equipment, and all other portions of the Leased Premises, in good and sanitary condition and compliance with all Laws and Requirements, subject to ordinary wear and tear and casualty. Tenant shall periodically inspect the Leased Premises to identify any conditions that are dangerous or in need of maintenance, repair or replacement. Tenant shall promptly provide Landlord with notice of any such conditions which are significant in nature or which will require action by Landlord. Tenant hereby waives all right to make repairs at the expense of Landlord or in lieu thereof to vacate the Leased Premises and its other similar rights as provided in California Civil Code Sections 1932(1), 1941 and 1942 or any other Laws and Requirements (whether now or hereafter in effect).

Section 6.3 Maintenance Contracts. Tenant shall, at Tenant's sole cost and expense, enter into and keep in full force and effect during the Term, maintenance contracts with the following vendors: Office cleaning service (Townsend & Styer), Burglar Alarm (Bay Alarm), Fire Alarm and Sprinkler (ADT Commercial), Trane (Chiller maintenance and smart pumps for Di), Atlas Copco (compressed air, air dryer, house vacuum), W2 Systems (acid waste neutralization), DeIonized water plant (Evoqua Technologies), HVAC (J&J Air Systems Inc.), Common Area (Wills Property Management c/o Berryessa Industrial Complex), or other companies approved by Landlord in Landlord's sole discretion (the "**Maintenance Contracts**"); provided, however, with respect to Fire Alarm and Sprinkler (ADT Commercial) maintenance, Tenant shall retain the existing 36-month contract with ADT Commercial executed on June 23, 2022. Tenant shall provide copies of the Maintenance Contracts to Landlord within ten (10) days after the Commencement Date, and within ten (10) days after such contracts are modified or renewed, and at other times upon Landlord's request.

Section 6.4 Landlord's Access. Tenant will permit Landlord and its authorized representatives to enter upon the Leased Premises at all reasonable times, upon reasonable advance notice, during usual business hours, in a manner so as to not unreasonably interfere with Tenant's business, and subject to Tenant's security and privacy policies, for the purpose of (i) inspecting the same and making any necessary repairs thereto, (ii) showing the same to existing and prospective mortgagees, purchasers, vendors and other interested parties, and (iii) during the 120 days prior to the expiration of the term of this Lease, showing the same to prospective tenants.

Section 6.5 Roof Reimbursement. During the Term, Tenant shall reimburse Landlord in the amount of $261.67 per month, which is the cost of the new roof installed by Landlord amortized over a 20-year period.

Section 6.6 Common Area Maintenance. Landlord is charged common area and maintenance expenses by Berryessa Industrial Complex in connection with the Leased Premises. Tenant shall pay prior to delinquency all assessments that are levied or assessed on the Land and Building by the Berryessa Industrial Complex during the Term and are applicable to the period of Tenant's occupancy, provided, however, that any such assessments shall be prorated between Landlord and Tenant as of the Commencement Date for the first year of the Term and as of the expiration date of the Term for the last year of the Term. Upon request, Tenant shall provide Landlord with evidence of payment of such amounts. If Landlord pays such amounts (due to Tenant's failure to pay same), Landlord shall notify Tenant of such payment, and Tenant shall promptly reimburse Landlord for such amounts upon demand.

Section 6.7 Surrender of Premises. Tenant shall on the last day of the Term or earlier termination of this Lease, quit and surrender the Leased Premises, in good working order, condition and repair, normal wear and tear and casualty excepted, broom clean and otherwise in the condition required under this Lease, together with all Alterations which may have been made in, on, or to the Leased Premises by Tenant (without compensation to Tenant); provided, however, Tenant shall remove its personal property, furniture, trade fixtures, wiring and cabling. Tenant shall repair damage caused by such removal.

ARTICLE VII

UTILITIES

Section 7.1 Charges. Commencing on the date of delivery of possession of the Leased Premises to Tenant, Tenant shall pay for all utilities that may be furnished to it or used by it in or about the Leased Premises including, but not limited to, water, fuel, gas, oil, heat, electricity, sewer charges and rents, together with all taxes, levies or other charges on such utilities and governmental charges based on utility consumption at the rates of the utility company or municipality supplying the service and according to the readings of meters measuring the quantity of the service furnished. Tenant shall pay all such charges directly to the applicable utility provider when due. All utilities for the Leased Premises attributable to periods prior to the Commencement Date shall be the responsibility of and paid for by Landlord.

ARTICLE VIII

ALTERATIONS

Section 8.1 Alterations. Tenant shall not make any additions, alterations or improvements of any kind to the Leased Premises or any part thereof (collectively, "**Alterations**") without the prior written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. Any such Alterations shall be subject to the terms and conditions of this Lease. Notwithstanding the foregoing, Tenant shall be permitted to make non-structural cosmetic Alterations to the Leased Premises (that do not exceed $25,000 per year in the aggregate) without Landlord's consent. Any Alterations made by Tenant shall be in accordance with the building code and ordinances of the city in which the Leased Premises is located and all other applicable Laws and Requirements pertaining to such work. All Alterations shall be made promptly in a good and workmanlike manner free and clear of all mechanics' and materialmen's liens. Tenant shall promptly repair any damage to the Leased Premises caused by any Alterations undertaken by Tenant. Tenant shall give Landlord at least fifteen (15) days' prior written notice of any commencement of any material Alterations in the Leased Premises so that Landlord may post notices of non-responsibility in or upon the Leased Premises as provided by law. Upon completion of such work, Tenant shall provide Landlord with a copy of all "as-built" plans (in the case of structural Alterations).

Section 8.2 Removal of Trade Fixtures and Improvements. Trade fixtures and equipment placed or installed upon or within the Leased Premises by Tenant shall remain the personal property of Tenant. With Landlord's advance written consent, Tenant may abandon such fixtures, alterations, modifications or improvements, and such items shall become the property of Landlord without compensation to Tenant. If any of Tenant's personal property or trade fixtures remain on the Leased Premises after the expiration or earlier termination of the Lease without Landlord's consent, Landlord shall have the right (but no obligation) to remove the same, and Tenant shall pay Landlord on demand for all costs of removal and storage thereof. Any and all such property of Tenant not removed by such date shall, at the option of Landlord, irrevocably become the sole property of Landlord. Tenant waives all rights to notice and all common law and statutory claims and causes of action which it may have against Landlord subsequent to such date as regards the storage, destruction, damage, loss of use and ownership of the personal property affected by the terms of this Section 8.2.

Section 8.3 Mechanics' Liens. Tenant agrees to indemnify, protect, defend and hold Landlord harmless from and against any and all mechanic's liens or other liens and claims in connection with any construction by Tenant and shall, within twenty (20) days after notice from Landlord, bond or discharge any such liens or claims.

## ARTICLE IX

## ASSIGNMENT AND SUBLETTING

Section 9.1 Assigning and Subletting. Except as hereinafter provided, Tenant shall not assign this Lease in whole or in part, nor sublet (or license) the Leased Premises in whole or in part, without the prior consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. Any assignment or sublease of the Leased Premises without such consent in violation hereof shall (a) be voidable, and/or (b) terminate this Lease, in either case, at the option of Landlord. Landlord may reasonably withhold consent for any reasonable basis, including, without limitation, the following considerations: (i) the financial strength of the proposed transferee; (ii) the proposed transferee's impact or effect on the common facilities or the utility, efficiency or effectiveness of any utility or telecommunication system serving the Building; (iii) a proposed transferee whose occupancy would require a variation in the terms of this Lease; (iv) the existence of any default by Tenant under any provision of this Lease; (v) a proposed transferee who is or is likely to be, or whose business is or is likely to be, subject to compliance with additional laws or other governmental requirements beyond those to which Tenant or Tenant's business is subject; (vi) the proposed transferee is a governmental agency or unit, a non-profit or charitable entity or organization; and/or (vii) the proposed transferee will use, store or handle Hazardous Materials in or about the Leased Premises of a type, nature or quantity not then acceptable to Landlord. Tenant shall reimburse Landlord as additional rent for Landlord's reasonable costs and attorneys' fees incurred in conjunction with the processing and documentation of any proposed assignment or sublease of the Leased Premises, whether or not consent is granted, in an amount not to exceed $2,500.

Section 9.2 Permitted Transfer. Notwithstanding the foregoing, if Tenant is not in default of the Lease beyond any applicable cure period, Tenant shall have the right, without Landlord's consent, to assign this Lease or sublet the Leased Premises, in whole or in part: (x) to an affiliate of Tenant controlled by or under common control with Tenant; (y) in connection with the sale of all or substantially all of the stock or assets of Tenant; and/or (z) in connection with the sale of any of the group(s), division(s) or section(s) or substantially all of the assets of any of such groups(s), division(s) or section(s) of Tenant occupying the Leased Premises. If Tenant assigns the Lease to any entity listed in (x), (y) or (z) in the preceding sentence, then Tenant shall provide Landlord with ten (10) days advance notice of such transfer, to include the form of written assumption agreement in favor of Landlord whereby the transferee assumes Tenant's obligations under this Lease on and after the date of transfer, and information and documentation showing that each of the above conditions has been satisfied. No transfer shall relieve Tenant of its obligations under the Lease.

## ARTICLE X

## DAMAGE OR DESTRUCTION

If the Leased Premises are damaged in whole or in part by casualty, Landlord shall promptly repair and replace the same at Landlord's sole cost and expense (and not subject to reimbursement by Tenant) to as near the condition as existed prior to the property loss as practicable. While such restoration is in progress, Tenant shall be entitled to a fair and appropriate abatement of the rental to be paid, said abatement to be based on the amount and value of the Leased Premises that remains useable by Tenant for the Permitted Use during the restoration period. Notwithstanding the foregoing, in the event the damage cannot reasonably be repaired by Landlord within 120 days after the occurrence of such casualty, then either Landlord or Tenant shall have the right to terminate this Lease by delivering written notice of termination to the other party within thirty (30) days after the casualty occurs (or, in the case of a notice by Tenant, within thirty (30) days after Landlord informs Tenant in writing of the projected time for the repairs), whereupon this Lease shall end on the date of such damage as if the date of such damage were the date originally fixed in this Lease for the expiration of the Term, the obligation of Tenant to pay Base Rent and other charges hereunder shall end as of the date of such damage and any charges prepaid by Tenant shall be adjusted between the parties. Tenant waives (for itself and all persons claiming under Tenant) the provisions of Civil Code Sections 1932(2) and 1933(4) with respect to the destruction of the Leased Premises.

ARTICLE XI

EMINENT DOMAIN

Section 11.1 Award. If the Leased Premises or any part thereof shall be taken or condemned, either permanently or temporarily, for any public or quasi-public use or purpose by any competent authority in appropriation proceedings or by any right of eminent domain, or by agreement in lieu thereof, then the entire compensation award therefor, both leasehold and reversion, shall belong to Landlord without any deduction therefrom for any present or future estate of Tenant and Tenant hereby assigns to Landlord all its right, title and interest to any such award.

Section 11.2 Tenant's Damages. Although all damages in the event of any condemnation are to belong to Landlord, whether such damages are awarded as compensation for diminution in value of the leasehold or the fee of the Land and the Building, Tenant shall have the right to claim and recover directly from the condemning authority, but not from Landlord, such compensation as may be separately awarded and separately recoverable by Tenant in Tenant's own right on account of any and all damage to, for or on account of any cost or loss to which Tenant may be put in removing Tenant's merchandise, furniture, trade fixtures and trade equipment, provided any such award does not directly or indirectly reduce Landlord's award. Tenant waives (for itself and all persons claiming under Tenant) the provisions of Code of Civil Procedure Section 1265.130, allowing either party to petition the Superior Court to terminate this Lease in the event of a partial taking of the Leased Premises by condemnation.

Section 11.3 Abatement of Rent. If the entire Leased Premises shall be taken as aforesaid, or if, in the Tenant's discretion, the remaining portion of the Leased Premises is insufficient for Tenant's use and Tenant provides Landlord written notice of the same and Tenant's determination to terminate the Lease, then this Lease shall terminate and shall become null and void from the time possession thereof is required for public use and from that date, the parties hereto shall be released from further obligation hereunder; but in the event a portion only of the Leased Premises shall be so taken or condemned and Tenant does not terminate this Lease as provided above then the Base Rent to be paid by Tenant shall be equitably adjusted, and Landlord (at its sole cost and expense and not subject to reimbursement by Tenant) shall promptly repair and restore the Leased Premises in a good and workmanlike manner and in compliance with applicable law to the condition that existed immediately before the taking, except for the part taken, to render the Leased Premises a complete architectural unit (provided, however, that Landlord shall not be required to expend more that the condemnation proceeds received by Landlord with respect to such taking).

ARTICLE XII

DEFAULT

Section 12.1 Events of Default. Any one or more of the following events shall be an "**Event of Default**" under this Lease:

(a) Tenant fails to pay within ten (10) days of when due and after written notice thereof from Landlord the full amount of any installment of Base Rent, additional rent or other charges payable under this Lease.

(b) Tenant fails to fully perform and comply with any of the agreements, terms, covenants or conditions in this Lease provided (other than those referred to in the foregoing Subsection of this Section) for a period of thirty (30) days after written notice from Landlord to Tenant specifying the items in default or, in the case of a default or a contingency that cannot with due diligence, in good faith, be cured within said thirty (30) day period, Tenant fails to promptly commence within said thirty (30) day period to cure the same and thereafter to prosecute continuously the curing of such default with due diligence, in good faith, it being intended in connection with a default not susceptible of being cured with due diligence within said thirty (30) day period that the time of Tenant within which to cure the same shall be extended for such period as may be necessary to complete the same in the ordinary course, but not more than seventy-five (75) days after Landlord's initial written notice from Landlord to Tenant specifying the items in default.

(c) Tenant shall file a voluntary petition in bankruptcy or shall be adjudicated a bankrupt or insolvent, or shall file any petition or answer seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under the present or future federal, state, or other bankruptcy or insolvency statutes or laws, or shall seek or consent to or acquiesce in the appointment of any bankruptcy or insolvency trustee, receiver or liquidator of Tenant of all or any substantial part of its properties or of the Leased Premises.

(d) A failure by Tenant to provide evidence of Tenant's insurance under this Lease within five (5) days of Landlord's request.

(e) Tenant abandons the Leased Premises.

(f) Tenant shall make an assignment for the benefit of creditors of all or any substantial part of its properties or of the Leased Premises, or if any trustee, receiver or liquidator of Tenant shall be appointed in any action, suit or proceeding, or if the leasehold estate hereby created shall be taken in execution or by other process of law.

Section 12.2 Termination and Damages. Upon the occurrence of any Event of Default, then in addition to any other remedies available to Landlord herein or at law or in equity, Landlord shall have the immediate option to terminate this Lease and all rights of Tenant hereunder by giving written notice of such intention to terminate. In the event that Landlord shall elect to so terminate this Lease, then Landlord shall be entitled to recover damages from Tenant as provided in California Civil Code Section 1951.2 or any other applicable existing or future laws providing for recovery of damages for such breach, including but not limited to the following:

(a) The worth at the time of award of any unpaid rent which had been earned at the time of such termination; plus

(b) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss Tenant proves could have been reasonably avoided; plus the worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of award exceeds the amount of such rental loss that Tenant proves could be reasonably avoided; plus

(c) Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of events would be likely to result therefrom; and

(d) At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by the applicable law in the state in which the Leased Premises are located.

As used in subsections 12.2 (a) and (b) above, the "worth at the time of award" is computed by allowing interest at the rate of ten percent (10%) per annum. As used in subsection 12.2(c) above, the "worth at the time of award" is computed by discounting such amount at the discount rate of the Federal Reserve Bank for the region in which the Building is located at the time of award plus one percent (1%).

Section 12.3 Recovery of Rent; Reletting.

(a) If Landlord does not elect to terminate this Lease as provided in Section 12.2 above, this Lease shall continue in effect for so long as Landlord does not terminate Tenant's right to possession, and Landlord may enforce all its rights and remedies under this Lease, including, without limitation, Landlord's right from time to time, without terminating this Lease, to either recover all rental as it becomes due or relet the Leased Premises or any part thereof for such term or terms and at such rental or rentals and upon such other terms and conditions as Landlord, in its sole discretion, may deem advisable with the right to make alterations and repairs to the Leased Premises. Acts of maintenance or preservation or efforts to relet the Leased Premises or the appointment of a receiver upon initiation of Landlord or other legal proceeding granting Landlord or its agent possession to protect Landlord's interest under this Lease shall not constitute a termination of Tenant's right to possession.

(b) In the event that Landlord shall elect to so relet, then rentals received by Landlord from such reletting shall be applied: first, to the payment of any indebtedness other than rent due hereunder from Tenant to Landlord; second, to the payment of any cost of such reletting; third, to the payment of the cost of any alterations and repairs to the Leased Premises ; fourth, to the payment of rent due and unpaid hereunder; and the residue, if any, shall be held by Landlord and applied in payment of future rent as the same may become due and payable hereunder. Should that portion of such rentals received from such reletting during any month, which is applied by the payment of rent hereunder, be less than the rent payable during that month by Tenant hereunder, then Tenant shall pay such deficiency to Landlord immediately upon demand therefor by Landlord. Such deficiency shall be calculated and paid monthly. Tenant shall also pay to Landlord, as soon as ascertained, any costs and expenses incurred by Landlord in such reletting or in making such alterations and repairs not covered by the rentals received from such reletting.

(c) No reentry or taking possession of the Leased Premises or any other action under this Section shall be construed as an election to terminate this Lease unless a written notice of such intention be given to Tenant or unless the termination thereof be decreed by a court of competent jurisdiction. Notwithstanding any reletting without termination by Landlord because of any default by Tenant, Landlord may at any time after such reletting elect to terminate this Lease for any such default.

(d) Landlord has the remedy described in California Civil Code Section 1951.4 (Landlord may continue Lease in effect after Tenant's breach and abandonment and recover rent as it becomes due, if Tenant has right to sublet or assign, subject only to reasonable limitations).

Section 12.4 Landlord Self-Help. If Tenant fails to pay, when due, for any repairs or improvements to the Leased Premises made by Tenant (to the extent that such repairs were the responsibility of Tenant hereunder), or if Tenant fails to pay any of the charges that Tenant is obligated to pay by the terms of this Lease, or if Tenant fails to make repairs that are Tenant's responsibility as herein provided, then in addition to all other remedies provided by this Lease, Landlord may, but is not obligated to, upon Tenant's failure to cure such default within thirty (30) days after Tenant's receipt of notice from Landlord that specifies the particular default complained of, pay any such charges and make such repairs, and the amount or amounts so paid or expended therefor shall become due and payable immediately upon demand by Landlord; and if Tenant shall not repay any such amount or amounts upon demand, said amount or amounts (plus a 15% administrative fee) shall be added to, and become a part of, the Base Rent to be paid by Tenant when the next regular installment of Base Rent becomes due.

Section 12.5 Tenant Self-Help. Landlord shall be in default if it shall fail to perform or observe any term, condition, covenant or obligation as required under this Lease for a period of thirty (30) days after written notice thereof from Tenant to Landlord specifying the items in default or, in the case of a default or a contingency that cannot with due diligence, in good faith, be cured within said thirty (30) day period, then within such extended period as may be necessary to complete the same in the ordinary course, but not more than sixty (60) days after Tenant's initial written notice from Tenant to Landlord specifying the items in default. Upon the occurrence of any such default, Tenant may (but is not obligated to) cure such default on behalf of Landlord and in Tenant's discretion, Tenant may offset and deduct the reasonable costs and expenses incurred by Tenant in curing such default (plus a 15% administrative fee) from Base Rent and/or any other amounts owed to Landlord under this Lease, or, if requested by Tenant, Landlord shall reimburse Tenant for the reasonable cost and expense incurred by Tenant in curing such default (plus a 15% administrative fee) upon written request. In addition to any of the foregoing remedies, if Landlord is in default or breach of the terms of this Lease, Tenant may sue for specific performance, injunctive relief or to recover damages for any loss resulting from such breach, and Tenant may terminate this Lease and/or pursue any remedies available at law or in equity.

ARTICLE XIII

INDEMNITY AND INSURANCE

Section 13.1 Indemnity. Tenant covenants and agrees to indemnify, protect, defend and save harmless Landlord and its managers, members, officers, employees and contractors (collectively, "**Landlord Parties**") against and from all liabilities, obligations, damages, suits, causes of action, fines, penalties, claims, costs, charges and expenses, including without limitation, which may be imposed upon or incurred by or asserted against any of the Landlord Parties by reason of any of the following: (i) any violation of any Laws and Requirements by Tenant, its officers, employees, contractors and invitees or otherwise attributable to the failure of Tenant to perform or comply with any provision of this Lease; (ii) any accident or other occurrence on or about the Leased Premises which causes injury to any person or property whomsoever or whatsoever; or (iii) any act or omission of Tenant or its officers, employees, contractors and invitees related to its use of Leased Premises. Under no circumstances shall Tenant be obligated to indemnify any party to the extent that the injury, loss or damage was caused by the negligence or willful misconduct of the party to be indemnified. Landlord covenants and agrees to indemnify, protect, defend and save harmless Tenant and its managers, members, officers, employees and contractors (collectively, "**Tenant Parties**") against and from all liabilities, obligations, damages, suits, causes of action, fines, penalties, claims, costs, charges and expenses, including without limitation, which may be imposed upon or incurred by or asserted against any of the Tenant Parties by reason of any of the following: (a) any violation of any Laws and Requirements by Landlord, its officers, employees, contractors and invitees or otherwise attributable to the failure of Landlord to perform or comply with any provision of this Lease; or (b) any act or omission of Landlord or its officers, employees, contractors and invitees related to its activities in connection with the Leased Premises.

Section 13.2 Liability Insurance. Tenant shall, at its expense, keep and maintain in full force and effect during the entire Term of this Lease, broad form commercial general liability insurance with a contractual liability endorsement naming Landlord as additional insured, in an amount of not less than Two Million and 00/100 Dollars ($2,000,000.00) for injury to persons and/or for property damage, to insure and indemnify Landlord and Tenant against any and all claims for injury to persons or property, incurred in and about the Leased Premises and shall furnish Landlord with a memorandum certificate of said insurance policy, together with an appropriate additional insured endorsement, on or before the date that Landlord delivers possession of the Leased Premises to Tenant. Such policy shall bear an endorsement to the effect that the insurer agrees to notify Landlord not less than ten (10) days in advance of any modification or cancellation thereof. The policy shall insure performance by Tenant of the indemnity provisions of this Lease and shall be primary, not contributing with, and not in excess of coverage which Landlord may carry.

Section 13.3 Casualty Insurance. Landlord shall, at all times during the term of this Lease, keep all buildings, improvements and equipment now or hereafter located upon the Leased Premises (as the same may be expanded, improved, modified or upgraded from time to time) insured for the Full Replacement Value (as hereinafter defined) thereof on an "all risk" of physical loss or damage basis "special perils" form. The term "**Full Replacement Value**" shall mean actual replacement cost, including building code upgrade coverage. For periods during the Term, Tenant shall reimburse Landlord for the cost of such insurance related to the Leased Premises promptly following Tenant's receipt of a written invoice (and reasonable supporting documentation) from Landlord for same.

Section 13.4 Contents Insurance. Tenant shall, at its expense, keep and maintain in full force and effect during the entire period of this Lease, special form or so-called "all-risk" property casualty insurance written at full replacement cost value and with replacement cost endorsement, including coverage against sprinkler damage, vandalism and malicious mischief, covering all personal property of Tenant at the Leased Premises (including, without limitation, equipment, trade fixtures, merchandise, inventory, supplies, parts, wall and floor coverings, furniture, furnishings, decorations, and property removable by Tenant under the provisions of this Lease). Tenant shall also maintain insurance for all plate glass upon the Leased Premises.

Section 13.5 Waiver of Right of Recovery. Neither party nor its representatives, agents or employees shall be liable to the other party or to anyone claiming through the other party or to any insurance company (by way of subrogation or otherwise) insuring the other party for any business interruption or for any loss or damage to any building, structure or other tangible property occurring in, on or about the Leased Premises, even though such business interruption, loss or damage might have been occasioned by the negligence of such party, its agents or employees to the extent that: (i) such business interruption, loss or damage is or could be covered by a special form or "all risk" property insurance policy, by a contents insurance policy or by a sprinkler leakage or water damage policy in the State where the Leased Premises are located, regardless of whether such insurance policies are actually carried, or (ii) recovery is had under any other insurance carried covering such business interruption, loss or damage. Each insurance policy carried by the parties hereto shall contain a clause to the effect that the foregoing waiver shall not affect the right of the insured party to recover under such policy.

Section 13.6 Policy Requirements. Any insurance which a party is required to keep and maintain pursuant to this Article XIII may be a combination of "primary" and "umbrella" coverage. The company or companies writing any insurance which a party is required to keep and maintain pursuant to this Article XIII shall be authorized to do business and issue insurance in the State where the Leased Premises are located. Each such policy, or a certificate thereof, shall be deposited with Landlord or Tenant, as the case may be, promptly upon commencement of a party's obligation to procure the same, together with evidence that the premiums therefor have been paid in full. Prior to the expiration or termination of any such policy, the procuring party shall deliver to the other party a new or renewal policy (or a certificate thereof), together with evidence that the premiums therefor have been paid in full. If Tenant fails to obtain any insurance required of it under the terms of this Lease, Landlord may, at its option, but is not obligated to, obtain such insurance on behalf of Tenant and bill Tenant, as additional rent, for the cost thereof.

## ARTICLE XIV

## QUIET ENJOYMENT

Section 14.1 Quiet Enjoyment. Tenant, on paying the rent and observing, performing and keeping, in all material respects, all of the provisions of this Lease on its part to be observed, performed and kept, shall lawfully, peaceably and quietly have, hold and enjoy the Leased Premises during the term without hindrance, ejection or molestation by any person(s) lawfully claiming under Landlord.

## ARTICLE XV

## SUBORDINATION AND ATTORNMENT

Section 15.1 Subordination. Unless a Mortgagee (as defined in Section 15.3) shall otherwise elect as provided in Section 15.2, Tenant's rights under this Lease are and shall remain subject and subordinate to the operation and effect of any Mortgage (as defined in Section 15.3) and to any extensions, modifications or amendments of any Mortgage, provided that the Mortgagee shall agree in the Mortgage or otherwise that this Lease shall not be terminated or otherwise affected by the enforcement of such Mortgage if at the time thereof Tenant is not in default under this Lease beyond any applicable cure period.

Section 15.2 Mortgagee's Unilateral Subordination. If a Mortgagee shall so elect by written notice to Tenant or by the recording of a unilateral declaration of subordination, then this Lease and Tenant's rights hereunder shall be superior and prior in right to the Mortgage of which such Mortgagee has the benefit, with the same force and effect as if this Lease had been executed, delivered and recorded prior to the execution, delivery and recording of such Mortgage, subject, nevertheless, to such conditions as maybe set forth in any such notice or declaration.

Section 15.3 "Mortgage" and "Mortgagee" Defined. "**Mortgage**" means (a) any lease of land only or of land and buildings in a sale-leaseback transaction involving all or any portion of the Land and the Building, or (b) any mortgage, deed of trust or other security instrument constituting a lien upon all or any portion of the Land and the Building, whether the same shall be in existence as of the date hereof or created hereafter. "**Mortgagee**" means a party having the benefit of a Mortgage, whether as lessor, mortgagee, trustee or noteholder.

Section 15.4 Estoppel Certificates. At any time and from time to time, Landlord and Tenant agree, within twenty (20) days of request in writing from either party to the other party, to execute, acknowledge and deliver to such requesting party a statement in writing certifying to the extent true that this Lease is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as modified and stating the modifications), the dates to which rent and other charges have been paid and containing such other matters and certifications reasonably requested by such requesting party.

## ARTICLE XVI

## HOLDING OVER AND SUCCESSORS

Section 16.1 Holding Over. Tenant shall pay Landlord for each day Tenant retains possession of the Leased Premises or part of them after termination of this Lease by lapse of time or otherwise at the rate ("**Holdover Rate**") which shall be One Hundred Fifty Percent (150%) of the monthly Base Rent for the last month prior to the date of such termination. Acceptance by Landlord of Base Rent after such termination shall not act to extend the Term of this Lease and any occupancy shall be on a month-to-month basis unless otherwise agreed in writing between Landlord and Tenant. Nothing contained in this Section shall be construed or operate as a waiver of Landlord's right of reentry or any other right or remedy of Landlord, provided, however, that Tenant shall not be liable for indirect or consequential damages resulting from holdover. In the event that Landlord has entered into a lease with a replacement tenant for the Leased Premises and has notified Tenant of such lease no later than thirty (30) days prior to the end of the Term, if Tenant fails to surrender the Leased Premises within thirty (30) days after the termination or expiration of this Lease, Tenant shall protect, defend, indemnify and hold Landlord harmless from and against any claims made by such replacement tenant founded upon such failure to surrender and any lost profits to Landlord resulting therefrom. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

Section 16.2 Successors and Assigns. The terms and provisions of this Lease shall be binding upon and inure to the benefit of Landlord, its successors and assigns, and Tenant, its successors and assigns.

## ARTICLE XVII

## GENERAL PROVISIONS

Section 17.1 Brokers. Each of Landlord and Tenant warrant, which warranty shall survive the execution of this Lease, that Landlord on behalf of itself, and Tenant on behalf of itself, has not had any dealings with any realtors, brokers or agents in connection with the negotiation of this Lease, and each of Landlord and Tenant agrees to hold the other harmless from any cost, expense or liability for any compensation, commission or charges claimed by any other realtors, brokers or agents with respect to this Lease or the negotiation thereof.

Section 17.2 Notices. All notices, demands, and requests required or permitted to be made under this Lease shall be made in writing and shall be delivered by one or more of the following methods: (i) certified mail, return receipt requested or (ii) nationally-recognized overnight courier, such as Federal Express, UPS or Airborne. Such notices, demands and requests shall be sent to the following addresses:

| | |
|---|---|
| If to Landlord: | Saira Y Haq<br>[*****]<br>[*****]<br>Email: [*****] |
| And required copies to: | Hanson Bridgett LLP<br>1676 North California Blvd., Suite 620<br>Walnut Creek, CA 94596<br>Attention: Eric Clarke<br>Email: eclarke@hansonbridgett.com |
| If to Tenant: | c/o Akoustis Technologies, Inc.<br>985 Northcross Center Court, Suite A<br>Huntersville, NC 28078<br>Attention: General Counsel<br>Email: dwright@akoustis.com |
| And required copies to: | K&L Gates LLP<br>300 South Tryon Street, Suite 1000<br>Attention: Sean M. Jones; Coleman Wombwell<br>Email: sean.jones@klgates.com;<br>coleman.wombwell@klgates.com |

All notices given under this Section shall also be given by email to the email addresses provided above (which emails shall not themselves constitute notice). Notices sent in accordance with this Section shall be deemed to have been given on the date three (3) postal days after deposited in the U.S. mail or one (1) business day after deposited with the overnight courier (as applicable). Any party may change its notice address hereunder by giving written notice to the other party in accordance with this Section; provided, however, that such change of address shall not be effective until notice thereof is actually received by the other party.

Section 17.3 Joint and Several Liability. If at any time the term "Landlord" or "Tenant" shall include more than one person or entity, the obligations of all such persons or entities hereunder shall be joint and several.

Section 17.4 Injunctive Relief. In the event of any breach or threatened breach by Landlord or Tenant of any of the agreements, terms, covenants, or conditions contained in this Lease, the non-breaching party shall be entitled to enjoin such breach or threatened breach and shall have the right to invoke any right and remedy allowed at law or in equity or by statute or otherwise as though re-entry, summary proceedings and other remedies were not provided for in this Lease.

Section 17.5 Captions and Exhibits. As used in this Lease and when required by the context, each number (singular or plural) shall include all numbers, and each gender shall include all genders. The captions and headings throughout this Lease are for convenience of reference only and the words contained therein shall in no way be held or deemed to define, limit, explain, modify, amplify or add to the interpretation, construction or meaning of any provision of, or the scope or intent of, this Lease, nor in any way affect this Lease. The term "person" as used herein means person, firm, association or corporation, as the case may be. All exhibits referred to in, and attached to, this Lease are hereby made a part of this Lease.

Section 17.6 Entire Agreement. There are no oral agreements between the parties hereto affecting this Lease, and this Lease supersedes and cancels any and all previous negotiations, arrangements, agreements and understandings, if any, between the parties hereto with respect to the subject matter thereof, and none thereof shall be used to interpret or construe this Lease.

Section 17.7 Memorandum of Lease. Neither Landlord nor Tenant shall record this Lease. Upon the request of either party, the parties shall execute and deliver a Memorandum of Lease in substantially the form attached hereto as **Exhibit "D"**, containing such information as shall be required by the appropriate state statutes, provided that the recording costs shall be paid by the requesting party.

Section 17.8 Consent. No consent or approval pursuant to this Lease shall be valid or binding unless set forth in a writing signed by the party giving such consent or approval. Unless otherwise expressly set forth in this Lease, any consent or approval of Landlord or Tenant under this Lease may not be unreasonably withheld, conditioned or delayed.

Section 17.9 Attorneys' Fees. In the event of any litigation or arbitration (if each party in its sole and absolute discretion elects to use arbitration) proceeding between the parties with respect to this Lease, then all costs and expenses, including without limitation, all reasonable professional fees such as appraisers', accountants' and attorneys' fees, incurred by the prevailing party therein shall be paid or reimbursed by the other party. The "**prevailing party**" means the party determined by the court or arbitrator (if the parties elected to use arbitration) to have most nearly prevailed, even if such party did not prevail in all matters, not necessarily the one in whose favor a judgment is rendered.

Section 17.10 Severability. If any term or provision of this Lease or any portion of a term or provision hereof or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term or provision or portion thereof to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Lease and each portion thereof shall be valid and be enforced to the fullest extent permitted by law.

Section 17.11 Force Majeure. The time for performance of any act to be performed by Landlord under this Lease, or for the performance of any act to be performed by Tenant (except for the payment of Base Rent, additional rent and other charges under this Lease and the maintenance of insurance that Tenant is required to maintain under this Lease), shall be subject to delays caused by unavoidable accidents, acts of God, strikes, war or national emergency, pandemic, epidemic, decisions, determinations, rules or regulations of any governmental agencies having jurisdiction, or any acts beyond the reasonable control of Landlord (with respect to Landlord's obligations) or Tenant (with respect to Tenant's obligations) (hereinafter collectively called "**unavoidable delays**").

Section 17.12 Statutory CASp Disclaimer. Pursuant to Civil Code section 1938, Landlord states that, as of the Commencement Date, the Leased Premises has not undergone inspection by a "Certified Access Specialist" ("**CASp**") to determine whether the Leased Premises meet all applicable construction-related accessibility standards under California Civil Code section 55.53. Landlord hereby discloses pursuant to California Civil Code Section 1938 as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." Landlord and Tenant hereby acknowledge and agree that in the event that Tenant elects to perform a CASp inspection of the Leased Premises hereunder, such CASp inspection shall be performed at Tenant's sole cost and expense, and Tenant shall be solely responsible for the performance and cost of any repairs, upgrades, alterations and/or modifications to the Leased Premises or the Building necessary to correct any such violations of construction-related accessibility standards identified by such CASp inspection as required by law.

Section 17.13 Limited Liability. The term "Landlord," as used in this Lease, shall mean only the owner or owners of the Leased Premises at the time in question. Notwithstanding any other provision of this Lease, the liability of Landlord for its obligations under this Lease is limited solely to Landlord's interest in the Leased Premises (and any proceeds thereof) as the same may from time to time be encumbered, and no personal liability shall at any time be asserted or enforceable against any other assets of Landlord or against the constituent shareholders, partners, members, or other owners of Landlord, or the directors, officers, employees and agents of Landlord or such constituent shareholder, partner, member or other owner, on account of any of Landlord's obligations or actions under this Lease. Redress for any claim against Landlord under this Lease shall be limited to and enforceable only against and to the extent of Landlord's interest in the Leased Premises (and any proceeds thereof). The obligations of Landlord shall not be personally binding on, nor shall any resort be had to the private properties of, any of its or its investment manager's trustees, directors, officers, partners, beneficiaries, members, stockholders, employees, or agents. In no case shall Landlord or Tenant be liable to the other party hereunder for any lost profits, damage to business, or any form of special, indirect or consequential damages. If, during the term of this Lease, Landlord shall sell its interest in the Leased Premises, then from and after the effective date of the sale or conveyance, Landlord shall be released and discharged from any and all obligations and responsibilities under this Lease, except those already accrued as of the date of such sale or other transfer, provided that the buyer or other transferee shall have assumed all obligations and responsibilities under this Lease from and after the date of such sale or other transfer.

Section 17.14 No Offer. Until this Lease has been executed by the parties hereto, it shall not be binding or effective as to any of the parties, nor shall the negotiations or correspondence between the parties, nor the preparation of this Lease by one or any of them be considered as an agreement to execute a Lease; it being the intention of the parties that only the execution of this Lease shall make it a binding and enforceable agreement.

Section 17.15 Governing Law. The laws of the State of California shall govern this Lease.

Section 17.16 Execution in Counterparts. This Lease may be executed in multiple identical counterparts, each of which shall be binding upon the party executing such counterpart, and all of which together shall be deemed to be a single document. The parties may deliver their respective counterparts to each other by electronic means, including by fax or by PDF attachment to an email and such delivery shall be deemed effective and binding and such copy shall be considered an original.

Section 17.17 Survival of Obligations. All obligations of Landlord and Tenant which may accrue or arise during the term of this Lease or as a result of any act or omission of such party during said term shall, to the extent they have not been fully performed, satisfied or discharged, survive the expiration or termination of this Lease.

Section 17.18 Termination of Prior Leases. Landlord and Tenant acknowledge and agree that, effective as of the Effective Date, this Lease replaces and supersedes any previously existing leases (whether written or oral) between Landlord and Tenant (or any predecessor in interest of Tenant) for the Leased Premises, including, without limitation, that certain Lease Agreement dated as of January 1, 2020 (collectively, the "**Prior Leases**"). Effective as of the Effective Date, the Prior Leases are hereby terminated and Tenant (and any predecessor in interest of Tenant) is released from any liabilities or obligations under the Prior Leases. Any rent or other amounts prepaid under the Prior Leases shall be applied to Base Rent or other amounts due hereunder.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK. THE SIGNATURES FOLLOW.]

IN WITNESS WHEREOF, the parties have executed this Lease as of the date first set forth above.

LANDLORD:

/s/ Saira Haq

**Saira Haq, Trustee of the Haq Family Trust (as a 86.4167% undivided tenant in common)**

**/s/ Saira Haq**

**Saira Haq, Trustee of the Non-Exempt Marital Trust dated May 26, 2006 (as a 13.5833% undivided tenant in common)**

TENANT:

**Grinding and Dicing Services, Inc.**

By: /s/ Jeffrey B. Shealy
Name: Jeffrey B. Shealy
Title: Chief Executive Officer

**Exhibit 10.17**

# STOCK PURCHASE AGREEMENT

**BY AND AMONG**

**AKOUSTIS, INC.,**

**AKOUSTIS TECHNOLOGIES, INC.,**

**JOE COLLINS,**

**LAILA HAQ COLLINS,**

**SAIRA Y. HAQ, TRUSTEE, NON-EXEMPT MARITAL TRUST CREATED MAY 26, 2006 UNDER THE TERMS OF THE HAQ LIVING TRUST DATED APRIL 12, 1989,**

**NABILA HAQ,**

**YOUSUF HAQ,**

**AND**

**GRINDING AND DICING SERVICES, INC.,**

**dated as of**

**January 1, 2023**

**STOCK PURCHASE AGREEMENT**

THIS STOCK PURCHASE AGREEMENT (this "Agreement") is dated as of January 1, 2023 (the "Effective Date") by and among Akoustis, Inc., a Delaware corporation ("Purchaser"), Akoustis Technologies, Inc., a Delaware corporation ("Purchaser Parent"), Joe Collins ("Collins"), Laila Haq Collins, SAIRA Y. HAQ, TRUSTEE, NON-EXEMPT MARITAL TRUST CREATED MAY 26, 2006 UNDER THE TERMS OF THE HAQ LIVING TRUST DATED APRIL 12, 1989, Nabila Haq, and Yousuf Haq (collectively with Collins, each a "Seller", and collectively the "Sellers"), Collins, as Sellers' Representative, and Grinding and Dicing Services, Inc., a California corporation (the "Company"). Each of Purchaser, Purchaser Parent, the Sellers, Sellers' Representative and the Company are sometimes individually referred to herein as a "Party" and, collectively, as the "Parties". Capitalized terms used in this Agreement have the meanings set forth herein and as specified in Exhibit A.

**RECITALS**

**WHEREAS**, the Company is engaged in wafer grinding and polishing, automated inspection, dicing, pick and place, general back-end silicon wafer processing and packaging, and quality assurance services (the "Business");

**WHEREAS**, the Sellers own all of the issued and outstanding shares of capital stock of the Company (the "Company Shares"); and

**WHEREAS**, pursuant to the terms of this Agreement, the Sellers desire to sell, and Purchaser desires to purchase from the Sellers, all of the Company Shares as follows:

**AGREEMENT**

In consideration of the foregoing and the representations, warranties, covenants, agreements and conditions contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

**ARTICLE I**
**PURCHASE AND SALE**

Section 1.1 Sale and Purchase of the Company Shares; Purchase Price. On the Effective Date (the "Closing Date"), at a closing of transactions taking place by conference call and the electronic exchange of signature pages by email (the "Closing"), subject to and on the terms and conditions set forth in this Agreement, (i) each Seller shall sell, assign, contribute, transfer, convey and deliver the number of Company Shares set forth opposite such Seller's name on Schedule I under the column titled "Company Shares Amount" to Purchaser; and (ii) Purchaser shall purchase and accept from each Seller the Company Shares, free and clear of all Encumbrances on the terms and subject to the conditions set forth in this Agreement.

Section 1.2 Closing Payments; Closing Deliverables. The aggregate purchase price for the Company Shares shall be $20,000,000 (the "Purchase Price"). The Closing shall be deemed to occur as of 12:01 a.m. New York time on the Closing Date.

(a) On the first Business Day following the Closing, (i) Purchaser shall pay or cause to be paid to the Sellers by wire transfer of immediately available funds in the respective amounts, and to the accounts, set forth on Schedule II hereto an aggregate amount of cash equal to $14,0000,000 less the aggregate amount of the Repaid Indebtedness and Closing Date Transaction Costs (the "Closing Cash Payment") and (ii) Purchaser Parent shall issue by book entry to the Sellers an aggregate of 605,589 shares of Common Stock, allocated to each Seller as set forth on Schedule III (the "Closing Share Payment" and, together with the Closing Cash Payment, the "Closing Payment").

(b) At the Closing, Purchaser shall deliver to the Sellers' Representative a secured promissory note in the principal amount of $4,000,000, in the form agreed by Purchaser and the Sellers' Representative (the "Note" and the Note's principal amount, as adjusted pursuant to the terms of the Note and this Agreement, the "Note Amount", and together with the Closing Cash Payment, the "Aggregate Cash Payment"). The Note Amount may be reduced by Purchaser to satisfy the Sellers' obligations pursuant to Sections 1.3, 5.1(c), and 6.1 below. Purchaser covenants and agrees that it will not reduce the Note Amount except in accordance with this Agreement and upon not less than five (5) Business Days' prior written notice to the Sellers' Representative. If the Sellers' Representative disagrees with such reduction, the Sellers' Representative must deliver to Purchaser, within three (3) Business Days of receiving notice of such reduction, a written statement describing the dispute in reasonable detail. In the event of timely receipt of such written statement, Purchaser shall not make the subject reduction (as proposed by Purchaser or as modified following discussion between the parties) to the Note Amount unless and until mutually agreed in writing by Purchaser and the Sellers' Representative; *provided, however*, that any reduction to the Note Amount made to satisfy the Sellers' obligations pursuant to Section 1.3 shall be made following the final determination of Actual Working Capital in accordance with such Section 1.3. In the event of the payment of any of the Note Amount pursuant to the Note, within one Business Day after receipt of such funds, the Sellers' Representative shall distribute such funds to Sellers by delivery of wire transfer of immediately available funds in the proportions set forth on Schedule III.

(c) Contemporaneously with the Closing, each of the following documents shall be delivered to the Sellers' Representative:

(i) the Lease, executed by the Purchaser;

(ii) the CEO Employment Agreement, executed by the Purchaser;

(iii) the Note, executed by the Purchaser; and

(iv) the Guaranty Agreement, executed by the Company.

(d) Contemporaneously with the Closing, each of the following documents shall be delivered to Purchaser:

(i) the Lease, executed by Saira Haq, Trustee of the Haq Family Trust and Non-Exempt Marital Trust dated May 26, 2006;

(ii) stock certificates evidencing the Company Shares, duly endorsed in blank or accompanied by stock powers or instruments of transfer duly executed in blank, with all required stock transfer tax stamps affixed thereto;

(iii) a Restrictive Covenant Agreement duly executed and delivered by each Seller that is a natural Person;

(iv) the CEO Employment Agreement, duly executed and delivered by Collins;

(v) the Note, executed by the Sellers' Representative;

(vi) the Guaranty Agreement, executed by the Sellers' Representative;

(vii) true and accurate copies of bank account statements of the Company showing an aggregate cash balance in such bank accounts of not less than $350,000 as of the Closing and confirmation, satisfactory to Purchaser, of Purchaser's control of the Company Bank Accounts and ability to direct the disbursement of funds therein effective as of the Closing Date;

(viii) (1) a certification from the Company, dated the Closing Date and signed by a responsible corporate officer of the Company, that the Company is not, and has not been at any time during the five years preceding the date of such certification, a United States real property holding company, as defined in Section 897(c)(2) of the Code, and (2) proof reasonably satisfactory to Purchaser that the Company has provided notice of such certification to the IRS in accordance with the provisions of Treasury Regulations Section 1.897-2(h)(2);

(ix) a certificate of the secretary of the Company, in form and substance reasonably satisfactory to the Purchaser, certifying that (A) attached thereto is a true, correct and complete copy of (1) the Organizational Documents of the Company (certified, in the case of the Articles of Incorporation of the Company, as of a recent date by the Secretary of State of California), (2) resolutions duly adopted by the board of directors of the Company authorizing the performance of the Transactions and the execution and delivery of the Transaction Documents to which it is a party and (3) a certificate of good standing as of a recent date of the Company from the State of California and a certificate of authority (or comparable certificate) as of a recent date of the Company from each state or foreign jurisdiction in which it is qualified to conduct business; (B) the resolutions referenced in subsection (A)(2) are still in effect and have not been amended; and (C) nothing has occurred since the date of the issuance of the certificate(s) referenced in subsection (A)(3) that would adversely affect the Company's existence, good standing or authority in any such jurisdiction;

(x) evidence, in form and substance satisfactory to Purchaser, of the termination of each Related Party Agreement;

(xi) copies of all consents, notices, approvals, waivers and authorizations referred to in Schedule 1.2(d)(xi);

(xii) written resignations, effective as of the Closing, from and duly executed by Collins, Laila Haq Collins and Saira Haq, from their respective positions as directors and officers of the Company;

(xiii) a duly executed IRS Form W-9 or Form W-8BEN-E from each Seller; and

(xiv) the Payoff Letters and copies of Form UCC-3 or other applicable forms of release, releasing all Encumbrances on the Company's Assets and the Company Shares, in form and substance reasonably acceptable to the Purchaser.

Section 1.3 Post-Closing Purchase Price Adjustment.

(a) The Aggregate Cash Payment shall be increased or decreased as set forth below:

(i) if the Actual Working Capital exceeds $750,000 (the "Target Working Capital"), the amount of such excess shall be added to the Closing Cash Payment; and

(ii) if the Actual Working Capital is less than the Target Working Capital, the amount of such deficit shall be subtracted from the Closing Cash Payment.

"Working Capital" means the current assets of the Company minus the current liabilities of the Company, in each case as of the Closing Date and calculated in accordance with the accounting practices and policies used to prepare the Financial Statements. An example of the calculation of Working Capital is set forth on Schedule 1.3(a).

(b) Within 60 days after the Closing, Purchaser will prepare and deliver to Sellers' Representative a statement (the "Closing Statement") setting forth a calculation of Working Capital as of the Closing ("Actual Working Capital") in a manner consistent with the requirements of this Section 1.3. Purchaser shall provide to Sellers' Representative and include with the Closing Statement all information and calculations reasonably necessary or useful to evaluate the Closing Statement. Purchaser also shall send notice to Sellers' Representative of Purchaser's determination of any resulting changes to the Purchase Price.

(c) Within five Business Days after the final determination of Actual Working Capital in accordance with Section 1.3(b): (i) if Actual Working Capital exceeds the Target Working Capital, Purchaser will pay (or cause to be paid) to Sellers' Representative, by wire transfer of immediately available funds to a bank account designated by Sellers' Representative, the amount of such excess, which, within one Business Day after receipt of such funds, the Sellers' Representative shall distribute such funds to Sellers by delivery of wire transfer of immediately available funds in the proportions set forth on Schedule III; or (ii) if Actual Working Capital is less than the Target Working Capital, the Note Amount shall be reduced by the amount of such deficit. Any payments made pursuant to this Section 1.3 shall be treated as an adjustment to the Purchase Price for tax purposes, unless otherwise required by applicable law.

(d) If Sellers disagree with the calculation of Actual Working Capital in the Closing Statement, the Sellers' Representative must deliver to Purchaser, within 60 days after the date Purchaser delivers the Closing Statement to Sellers' Representative, as applicable, a written statement describing the dispute in reasonable detail (the "Dispute Notice"), which statement shall also contain Sellers' proposed alternative calculation of Actual Working Capital. Sellers' Representative shall provide to Purchaser and include with the Dispute Notice all information and calculations reasonably necessary or useful to evaluate the Dispute Notice. In connection with a Dispute Notice relating to Actual Working Capital, Sellers also shall send notice to Purchaser of Sellers' determination of any resulting changes to the Purchase Price. If Sellers' Representative does not deliver the Dispute Notice to Purchaser within such 60-day time period and if Purchaser has complied with all of its obligations under this Section 1.3, the calculation of Actual Working Capital set forth in the Closing Statement shall be deemed accepted by Sellers and will be conclusive and binding on the parties.

(e) Purchaser and Sellers' Representative will negotiate in good faith to resolve any disagreements set forth in the Dispute Notice. During this period, Purchaser and Sellers' Representative shall promptly deliver to the other party any documentation reasonably requested by such party pertaining to the Closing Statement or Dispute Notice, as applicable. If any items or amounts set forth in the Dispute Notice are not finally resolved within 30 days following the date on which the Dispute Notice is delivered to Purchaser, then either Purchaser or Sellers' Representative will be entitled to submit such unresolved items or amounts to an independent accounting firm mutually agreed upon by Purchaser and Sellers' Representative (the "Resolution Accountants") to make the final determination with respect to such unresolved items or amounts. Purchaser and Sellers' Representative will cooperate with the Resolution Accountants in all reasonable respects, and each will be afforded the opportunity to present to the Resolution Accountants any material relating to the determination and to discuss the determination with such accountants, but no party will have ex parte meetings, teleconferences or other correspondence with the Resolution Accountants as it is intended that both Purchaser and Sellers' Representative be included in all discussions and correspondence with the Resolution Accountants. The Resolution Accountants will determine the amount claimed by Sellers' Representative or Purchaser or any amount in between, and will endeavor to resolve such disagreements within 30 days after the date on which the Resolution Accountants are engaged or as soon thereafter as possible. The calculation of Actual Working Capital by the Resolution Accountants (which will be delivered in writing to Purchaser and Sellers' Representative) will be conclusive and binding on the parties, except in the case of fraud or manifest clerical error. The fees and expenses of the Resolution Accountants will be borne by Sellers, on the one hand, and Purchaser, on the other hand, based upon the inverse proportion of the dollar value of the disputed items and amounts resolved in favor of such party(ies), such that the more successful party(ies) bears a lesser amount of such fees and expenses.

Section 1.4 Payments of the Note Amount.

(a) On the second (2nd) anniversary of the Closing Date (the "First Note Payment Date"), subject to Sections 1.4(c) and 1.4(d), the Purchaser shall, as payment of principal under the Note, pay to the Sellers' Representative, by wire transfer of immediately available funds to the bank account designated in writing by Sellers' Representative cash in an amount equal to the difference between (1) $1,300,000 and (2) an amount equal to the Note Amount, less any amounts then subject to any claims against the Note Amount disputed by the Sellers' Representative in accordance with Section 1.2(b) or with respect to which insurance proceeds are then being sought in accordance with Section 6.4(h) (such disbursed amount, the "First Note Payment"); *provided*, that if the amount determined pursuant to the preceding clause (2) is less than $1,300,000, then no payment on the First Note Payment Date shall be made pursuant to this Section 1.4(a). Within one Business Day after receipt of any First Note Payment, the Sellers' Representative shall distribute such funds to Sellers by delivery of wire transfer of immediately available funds in the proportions set forth on Schedule III. To the extent there are any claims for set-off against the Note Amount disputed by the Sellers' Representative in accordance with Section 1.2(b) or with respect to which insurance proceeds are then being sought in accordance with Section 6.4(h) as of the First Note Payment Date, the amount of such disputed claim or sought insurance proceeds shall not be paid to the Sellers' Representative or deducted from the Note Amount by the Purchaser until such time as the applicable dispute is settled in accordance with the terms of this Agreement or such insurance proceeds are received, at which time, the Purchaser shall, if applicable, deduct the amount from the Note Amount or pay the funds held relating to such dispute (or such applicable portion there) in accordance with such settlement or the amount of such insurance proceeds so received.

(b) On the third (3rd) anniversary of the Closing Date (the "Second Note Payment Date"), subject to Sections 1.4(c) and 1.4(d), the Purchaser shall, as payment of principal under the Note, pay to the Sellers' Representative, by wire transfer of immediately available funds to the bank account designated in writing by the Sellers' Representative the then remaining Note Amount not then subject to any claims disputed by the Sellers' Representative in accordance with Section 1.2(b) or with respect to which insurance proceeds are then being sought in accordance with Section 6.4(h) (such amount, the "Second Note Payment"). Within one Business Day after receipt of any Second Note Payment, the Sellers' Representative shall distribute such funds to Sellers by delivery of wire transfer of immediately available funds in the proportions set forth on Schedule III. To the extent there are any claims for set-off against the Note Amount disputed by the Sellers' Representative in accordance with Section 1.2(b) or with respect to which insurance proceeds are then being sought in accordance with Section 6.4(h) as of the Second Note Payment Date, the amount of such disputed claim or sought insurance proceeds shall not be paid to the Sellers' Representative or deducted from the Note Amount by the Purchaser until such time as the applicable dispute is settled in accordance with the terms of this Agreement or such insurance proceeds are received, at which time, the Purchaser shall, if applicable, deduct the amount from the Note Amount or pay the funds held relating to such dispute (or such applicable portion there) in accordance with such settlement or the amount of such insurance proceeds so received.

(c) The Note Amount shall be decreased by any amounts used to (i) support the indemnification obligations of the Sellers in accordance with Section 6.5 hereof or (ii) support the Sellers' obligations pursuant to Section 1.3 and Section 5.1(c) hereof.

(d) If Collins is terminated by the Company for Cause (as such term is defined in the CEO Employment Agreement) or due to his Disability (as such term is defined in the CEO Employment Agreement), or resigns from his role with the Company without Good Reason (as such term is defined in, and as determined in accordance with, the CEO Employment Agreement) at any time prior to the Second Note Payment Date when no Event of Default (as defined in the Note) has occurred and is continuing, the Note shall be cancelled its entirety. The Note Amount then remaining at the time of such cancellation shall be a reduction to the Purchase Price. The parties acknowledge and agree that the cancellation of the Note resulting from the events described in the immediately preceding sentence does not constitute a penalty and that, having negotiated in good faith for the retention of such funds and having agreed that such amount is reasonable in light of the anticipated harm caused and the difficulties of proof of loss and inconvenience or nonfeasibility of obtaining any adequate remedy, are estopped from contesting the validity or enforceability of such agreed-upon damages.

(e) Purchaser acknowledges that in the event that the Sellers exercise their right pursuant to the Guaranty and Security Agreement to foreclose upon the collateral of the Company as a result of a breach by Purchaser of its obligations pursuant to the Note, then the Company's inability to continuously operate its business based upon the lawful exercise of the Sellers' rights to foreclose upon the Company's collateral pursuant to the Guaranty and Security Agreement shall not constitute grounds for termination by the Company of Collins for Cause (as defined in the CEO Employment Agreement) or a resignation by Collins without Good Reason (as defined in the CEO Employment Agreement).

Section 1.5 Tax Withholding. Notwithstanding anything in this Agreement to the contrary, the Purchaser shall be entitled to deduct and withhold, or cause to be deducted or withheld, from any amounts otherwise payable pursuant to this Agreement to any Person such amounts as it is required to deduct and withhold with respect to the making of such payment under the Code and the rules and regulations promulgated thereunder, or any provision of state, local or foreign Tax Law. To the extent that amounts are so withheld, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Person in respect of which such deduction and withholding was made.

## ARTICLE II
## REPRESENTATIONS AND WARRANTIES OF THE COMPANY

In order to induce Purchaser to enter into this Agreement and consummate the transactions contemplated hereby and by the other Transaction Documents (the "Transactions"), the Company represents and warrants to Purchaser that as of the Closing Date:

Section 2.1 Organization and Power of the Company; Capitalization.

(a) The Company is a corporation duly incorporated, validly existing and in good standing under the laws of California. The Company has all necessary power and authority to own, lease and operate its assets and properties and conduct its Business as it is presently being conducted. The Company has made available to Purchaser true, correct and complete copies of its Organizational Documents in effect as of the Closing. The Company is duly qualified or registered as a foreign entity to transact Business under the Laws of each jurisdiction where it holds any assets, property or otherwise conducts the Business. Schedule 2.1(a) contains a true, correct and complete list of the jurisdictions in which the Company is qualified or registered to do Business as a foreign entity.

(b) Schedule 2.1(b) accurately and completely sets forth the capital structure of the Company, including the number and classes of shares of capital stock (or any other securities that are convertible or exchangeable into equity interests of the Company or other agreements giving any Person rights to acquire or vote any equity interests of the Company) which are authorized and which are issued and outstanding and the names of the holders of such issued and outstanding equity interests. The Company does not own, directly or indirectly, any equity interests or other securities in any other Person.

(c) Except as set forth on Schedule 2.1(c), there is no: (i) outstanding subscription, option, call, conversion right, phantom equity, warrant or any other related right (whether or not currently exercisable) to acquire any equity interest of the Company; (ii) outstanding security, instrument, or obligation that is or may become convertible into or exchangeable for any equity interests of the Company; (iii) contract under which the Company is or may become obligated to sell or otherwise issue any ownership interest in, or any other securities or equity interests of, the Company; or (iv) condition or circumstance that may directly or indirectly give rise to or provide a basis for the assertion of a claim by any Person to the effect that such Person is entitled to acquire or receive any ownership interest in, or other securities or equity interests of, the Company. Except for this Agreement, each Seller has not granted any Person any proxy or other right with respect to the equity interests of the Company. The Company does not own or control, directly or indirectly, equity interests in any Person.

Section 2.2 Due Authorization; Enforceability. The execution and delivery by the Company of this Agreement and each of the other Transaction Documents to which the Company is a party and the performance by the Company of its obligations hereunder and thereunder and the consummation of the Transactions have been duly and validly authorized by all necessary actions, including by the Company's board of directors and its shareholders. This Agreement and each of the other Transaction Documents to which the Company is a party constitutes a valid and binding agreement of the Company, enforceable against the Company in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar laws affecting creditors' rights and remedies generally, and subject, as to enforceability, to general principles of equity, including principles of commercial reasonableness, good faith and fair dealing (regardless of whether enforcement is sought in a proceeding at law or in equity).

Section 2.3 No Conflict; Consents. The execution and delivery by the Company of this Agreement and the other Transaction Documents to which it is a party and the consummation by the Company of the Transactions do not and will not: (a) except as provided in Schedule 2.3, violate the terms of any contract or Permit to which the Company is a party or by which the Company is bound, or be in conflict with, result in a breach of, constitute (upon the giving of notice or lapse of time or both) a default under or give rise to any termination or acceleration rights (or any other rights adverse to the Company) under any such Contract or Permit or result in the creation of any Encumbrance upon any of the Company's assets; (b) violate any Law applicable to the Company; or (c) violate or conflict with any provision of the Organizational Documents of the Company. The Company is not required to obtain any consent from or provide any notice to any third party (including any Governmental Entity) in connection with the execution and delivery of this Agreement or any other Transaction Document to which it is a party or the consummation of the Transactions.

Section 2.4 Compliance with Laws; Permits.

(a) Since January 1, 2020, the Company has been and has conducted its Business in material compliance with all applicable Laws. The Company has not received any notice of being in violation of, or under any investigation with respect to, any applicable Law, agency agreement, order, proceeding penalty or fine entered by any Governmental Entity relating to the operations of its Business. The Company has not, and the Sellers have not on behalf of the Company, directly or indirectly engaged in any transactions with, or exported, reexported, or transferred any items or services, whether whole or in part, to, Crimea, Cuba, Donetsk People's Republic, Iran, Luhansk People's Republic, North Korea, and Syria, or parties subject to restrictions under U.S. international trade Laws, including the Export Administration Regulations (15 C.F.R. Part 730 et seq.) and the economic sanctions regulations administered by the U.S. Department of Treasury's Office of Foreign Assets Control, in violation of such Laws.

(b) Schedule 2.4(b) is a true, correct and complete list of all Permits held by the Company. The Company possesses and is in compliance with all Permits required to conduct its Business, except where such non-compliance would not have an adverse effect on the Company or the ability of the Company to maintain or renew the Permit. All such Permits are valid, binding and in full force and effect and free and clear of any Encumbrance. The Company is not in default under, and no condition exists that, with notice or lapse of time or both, would constitute a default under, any such Permit. There has occurred no violation of, default under or any other event or circumstance giving any Person any right to terminate, revoke, amend, cancel or refuse to renew any Permit and the Company has taken all actions to maintain the Permits of the Company (including by making all necessary filings and paying all necessary fees to maintain such Permit). There are no Actions pending or, to the Knowledge of the Company, threatened, that could be reasonably expected to result in the termination, revocation, rescission, cancellation or suspension, failure to renew or any adverse modification of any Permit.

Section 2.5 Financial Statements; Undisclosed Liabilities; Current Liabilities.

(a) Attached hereto as Schedule 2.5(a) are true, correct and complete copies of the balance sheets of the Company as of November 30, 2022 (the "Balance Sheet") and December 31, 2021 (such date, the "Financial Statements Date") and income statement and statement of cash flows of the Company for the eleven-month period ended November 30, 2022 and the year ended December 31, 2021. The financial statements referred to herein are collectively referred to as the "Financial Statements." The Financial Statements do not include the financial results of any other business other than the Company.

(b) The Financial Statements (i) have been prepared from the books and records of the Company, which such books and records have been maintained on a basis consistent with the historical accounting methods of the Company's past practices, and (ii) fairly present in all material respects the financial condition of the Company as of the dates indicated, and the results of its operations for the periods indicated, in each case, in accordance with the historical accounting methods of the Company consistently applied and the Company's past practices. The books and records of the Company are true, correct and complete and have been maintained in accordance with sound business practices sufficient to provide reasonable assurances regarding the reliability of financial reporting and the preparation of the Financial Statements.

(c) The Company has no Liability that is not fully reflected or reserved against in the Balance Sheet, except for Liabilities that have been incurred since the date of the Balance Sheet in the Ordinary Course consistent with past practices and that are not, individually or in the aggregate, material in amount.

(d) All accounts receivable of the Company (i) are valid, existing and collectible in a manner consistent with the Company's past practice (without resort to Actions or collection agencies), (ii) represent monies due for goods sold and delivered or services rendered in the Ordinary Course and (iii) except to the extent consistent in all material respects with the Company's past collection practices, are not and will not be subject to any refund or adjustment or any defense, right of set-off, assignment, restriction, security interest or other Encumbrance. To the Knowledge of the Company, the debtors to which the accounts receivables relate are not in or subject to a bankruptcy or insolvency proceeding and none of the accounts receivables has been made subject to an assignment for the benefit of creditors. All such accounts receivables are current and there are no disputes regarding the collectability of any such accounts receivables. All of the accounts receivable and payable of the Company arose from bona fide transactions in the Ordinary Course.

Section 2.6 Real Property. The Company is not, and has never been, the owner of any real property. Except as set forth on Schedule 2.6 (the "Leased Real Property"), the Company is not, and has never been, party to a Contract to lease real property and has never leased real property. The Company has no Liabilities relating to real property.

Section 2.7 Change in Business. Except as set forth in Schedule 2.7, since the Financial Statements Date and through the Closing Date,

(a) the Business has been operated in the Ordinary Course;

(b) there has not been a material adverse effect on the Business;

(c) there has not been any material damage, destruction, loss or casualty to any assets or properties of the Company, whether or not covered by insurance;

(d) the Company has not (i) incurred any Indebtedness or issued any long-term debt securities or assumed, guaranteed or endorsed such obligations of any other Person, (ii) made any loans, capital contributions, investments or advances to, or made any guarantees or other endorsements or incurred any liabilities (whether directly, contingently or otherwise) for the benefit of, any Persons, (iii) issued any equity securities, warrants, stock options or other equity awards or (iv) increased any reserves for contingent liabilities (excluding any adjustment to bad debt reserves in the Ordinary Course);

(e) the Company has not (i) acquired, or disposed of, any material property or assets; or (ii) mortgaged or encumbered any of its assets, other than with respect to Permitted Encumbrances;

(f) the Company has not forgiven any loans of, released from Liability, or made any payments to any Affiliated Person of the Sellers, or such Person's Affiliates, shareholders, partners, directors, officers, employees or agents;

(g) except to the extent required by Law or any existing Contracts, the Company has not entered into, adopted, amended or terminated any Contract relating to the compensation or severance of any employee of the Company, other than pursuant to annual compensation reviews in the Ordinary Course;

(h) the Company has not made any change to its accounting (including Tax accounting) methods, principles or practices, except as may be required by GAAP or applicable Law;

(i) except as set forth on Schedule 2.7(i), the Company has not (i) made or granted any material bonus or any material compensation (including incentive compensation) or salary increase, or paid or agreed to pay any material benefit to, including severance or termination pay (except as may be required by any existing Employee Benefit Plan), to any current (or former) manager, director, officer or employee, (ii) made or granted any material increase in the coverage or benefits under any Employee Benefit Plan, or amended or terminated any existing Employee Benefit Plan (except as required by Law), (iii) adopted any new Employee Benefit Plan or (iv) terminated the employment of any of its officers or key employees;

(j) the Company has not (i) written off as uncollectible any material guaranteed check, note or account receivable or portion thereof, except in the Ordinary Course or (ii) written down the value of any material asset or material investment on the books or records of the Company, except for depreciation and amortization in the Ordinary Course;

(k) the Company has maintained its books and records and working capital, cash management and collections practices in the Ordinary Course;

(l) the Company has not (i) cancelled or compromised Indebtedness or claim, (ii) waived or released any material right of material value or (iii) instituted, settled or agreed to settle any material Action;

(m) the Company has not (i) agreed to provide a labor organization access to its employees, (ii) agreed to any neutrality Contract or other similar Contract with any labor organization, (iii) agreed to any voluntary recognition of, or card check with, any labor organization or the National Labor Relations Board or (iv) effectuated a "plant closing" or "mass layoff" (as those terms are defined under the WARN Act) affecting in whole or in part any site of employment, facility, operating unit or employees of the Company;

(n) the Company has not made, amended or revoked any Tax elections, changed any Tax accounting method, filed any amended Tax Returns, entered into any closing agreement, settled any Tax claim, audit or assessment, consented to the extension or waiver of the limitation period applicable to any claim or assessment in respect of Taxes, or surrendered any right to claim a Tax refund;

(o) the Company has not declared, paid or set aside for payment any dividend or distribution on its capital stock or other ownership interests; and

(p) the Company has not agreed to do any of the foregoing.

Section 2.8 Litigation. Commencing from the date of Company's incorporation, there have been, and there are, no Actions brought by or pending or, to the Knowledge of the Company, threatened against the Company, any or its respective officers, managers, members, directors, employees, agents or Affiliates, or the Business, nor, to the Knowledge of the Company, does there exist any fact which might reasonably be expected to give rise to any such Action. Neither the Company nor any of its assets is subject to any order, writ, judgment, award, injunction or decree of any Governmental Entity.

Section 2.9 Title; Sufficiency of Assets.

(a) All of the Company's Assets are set forth in Schedule 2.9(a)(i). The Company has good and marketable title to, or in the case of leased property has a valid leasehold interest in, all of its assets free and clear of any Encumbrances (other than any Permitted Encumbrances), except as set forth in Schedule 2.9(a)(ii). All certificates of title and registrations for any automobiles, trucks, trailers, equipment, and other vehicles owned by the Company are in the name of the Company or used in the Business.

(b) No Person (other than the Purchaser by reason of this Agreement) has any contractual or other right of first refusal or any other right or option to acquire any assets of the Company or any portion thereof.

(c) All of the Tangible Property (i) is located as set forth in Schedule 2.9(c); (ii) is in good operating condition and repair (ordinary wear and tear excepted) and has been adequately maintained; (iii) is adequate for the purposes for which it is being used without present need for repair or replacement except for ordinary, routine maintenance and repairs that are not material in nature or cost; and (iv) conforms in all material respects with all applicable Legal Requirements.

(d) The Company's assets are sufficient for the continued conduct of the Company and operation of the Business after the Closing in substantially the same manner as conducted prior to the Closing and constitute all of the rights, property, and assets necessary to conduct or operate the Company's Business as currently conducted or operated. Except for Leased Real Property and assets to which Purchaser is acquiring requisite rights under the Transaction Documents, no assets (including any Intellectual Property), rights, Contracts or employees of any Affiliate of any Seller are used in the Business as currently or historically conducted or are required to operate the Business after the Closing in the same manner as conducted prior to the Closing.

Section 2.10 Contracts.

(a) Set forth on Schedule 2.10(a) is true, correct and complete list of the following Contracts to which the Company is a party or by which the Company or the assets of the Company are bound (all such listed contracts required to be so listed, the "Material Contracts"):

(i) all Contracts for Indebtedness (including any contracts for the guarantee of any other Person's Indebtedness) and all contracts granting any Person an Encumbrance on any part of any Asset;

(ii) all leases relating to personal property and the Leased Real Property;

(iii) all Contracts relating to any Company Intellectual Property;

(iv) all Contracts that (A) limit or restrict the Company or any of its officers, directors, members, managers, employees, partners or other equityholders, agents or representatives (in their capacity as such) from engaging in any business or other activity in any jurisdiction; (B) create or purport to create any exclusive or preferential relationship or arrangement; (C) otherwise restrict or limit the ability of the Company to operate or expand the Business; (D) limit the freedom of the Company to solicit, hire or employ any Person; (E) contain a "most favored nation" provision; or (F) impose, or purport to impose, any such obligations or restrictions on Affiliates of the Company;

(v) all Contracts for the sale of any assets of the Company, or granting any Person an option or first refusal, first-offer or similar preferential right to purchase or acquire any such assets;

(vi) all Contracts with customers and all contracts otherwise contemplating payment to the Company in excess of $50,000 on an annual basis (other than work or purchase orders);

(vii) all Contracts with vendors, suppliers and subcontractors and all requiring payment to any Person in excess of $50,000 on an annual basis (other than work or purchase orders);

(viii) all Contracts for the granting or receiving of a license, sublicense or franchise or under which any Person is obligated to pay or has the right to receive a royalty, license fee, franchise fee or similar payment;

(ix) all Contracts with Governmental Entities;

(x) all contracts with Affiliates or Affiliated Persons of the Company or any Seller (including all inter-company contracts between the Company and any Seller);

(xi) all Contracts with employees, directors, consultants or contractors of the Company;

(xii) all powers of attorney or similar grant of agency executed by the Company;

(xiii) all collective bargaining agreements or any similar Contracts;

(xiv) all Contracts which commit the Company to enter into any of the foregoing; and

(xv) all other Contracts that are material to the operation of the Company.

(b) True, correct and complete copies of all Material Contracts (including all amendments thereto), or true, correct and complete written descriptions of all material terms of all oral Material Contracts (including all amendments thereto), have been made available to Purchaser by the Company. All of the Material Contracts are in full force and effect and are valid, binding and enforceable against the parties thereto in accordance with their terms. No default or event of default by the Company, or, to the Knowledge of the Company, any other party thereto exists under any of the Material Contracts and there are no discussions regarding the modification of any Material Contract or the entrance into any new Contract that would have been a Material Contract if entered into prior to the Closing. The Company is not participating in any discussions or negotiations regarding (i) the modification of, or amendment to, any Material Contract, or (ii) the entering into of any new Material Contract, other than in the Ordinary Course. No event or circumstance has occurred that, with notice or lapse of time or both, would constitute an event of default under any Material Contract or result in a termination thereof or would cause or permit the acceleration or other changes of any right or obligation or the loss of any benefit thereunder.

Section 2.11 Tax Returns and Payments; Tax Liens.

(a) All Tax Returns of the Company required to have been filed in accordance with any applicable Law have been timely filed and are true, correct and complete in all material respects. The Company has paid all Taxes due and payable by it (whether or not shown or required to be shown on any Tax Return), or pursuant to any assessment received by the Company.

(b) Schedule 2.11(b) contains a true, correct and complete list of all Tax Returns of the Company for any Taxable period beginning on or after the formation of the Company that have been audited, or that are currently under audit and accurately describes any deficiencies or other amounts that have been asserted and whether such deficiencies or other amounts were paid or are currently being contested, and, to the Knowledge of the Company, no undisclosed deficiencies are expected to be asserted with respect to any such audit. With respect to any Taxable period of the Company, no other claims have been asserted and no proposals or deficiencies for any Taxes of the Company are being asserted, proposed or, to the Knowledge of the Company, threatened, and no audit or investigation of any Tax Return of the Company is currently underway, pending or, to the Knowledge of the Company, threatened. No claim has ever been made by a Taxing authority in a jurisdiction in which the Company does not file Tax Returns that it is or may be subject to taxation by that jurisdiction.

(c) The Company has withheld and paid all Taxes required to have been withheld and paid in connection with amounts paid or owing to any employee, independent contractor, creditor, equity holder or other third party and has complied in all material respects with any information reporting requirement in connection with such payments.

(d) There are no waivers or Contracts by or on behalf of the Company for the extension of time for the assessment of any Taxes or deficiency thereof, nor are there any requests for rulings, subpoenas or requests for information, notice of proposed reassessment of any property owned or leased by the Company or any other material matter pending between the Company and any Taxing authority.

(e) There are no, and there are not any pending or, to the Knowledge of the Company, threatened Encumbrances against any property of the Company for Taxes (other than Encumbrances for Taxes not yet due and payable).

(f) The Company has made available to Purchaser true, correct and complete copies of all Tax Returns (together with any examination or audit work papers) for the all Taxable years from Company's date of incorporation.

(g) The Company has not been a member of an affiliated group filing a consolidated U.S. federal income Tax return. The Company has no liability for Taxes of another Person under Treasury Regulation Section 1.1502-6 (or any corresponding provisions of state, local or foreign Tax law), as a transferee or successor, or otherwise by operation of Law. The Company is not party to any Tax allocation, Tax sharing, or other similar agreement with any person the subject of which is indemnification for Taxes (other than arrangements entered into in the ordinary course of business the principal purpose of which is not primarily related to Taxes).

(h) The Company has not been a "distributing corporation" or a "controlled corporation" in a distribution intended to qualify in whole or in part under Section 355 of the Code.

(i) The Company has not participated in a "listed transaction" within the meaning of Treasury Regulation Section 1.6011-4(b)(2). The Company has properly disclosed on its Tax Returns any participation in a "reportable transaction" within the meaning of Treasury Regulation Section 1.6011-4(b).

(j) The Company will not be required to include any item of income in, or exclude any item of deduction from, taxable income for any period (or any portion thereof) beginning after the Closing Date as a result of (i) a change in or incorrect method of accounting occurring prior to the Closing, (ii) an installment sale or open transaction arising or entered into in a taxable period (or portion thereof) ending on or before the Closing Date, (iii) a prepaid amount received or deferred revenue realized on or prior to the Closing Date, (iv) a "closing agreement" as described in Section 7121 of the Code (or any corresponding or similar provision of state or local income Tax Law) executed on or prior to the Closing Date, (v) any intercompany transactions or any excess loss account described in Treasury Regulations under Section 1502 of the Code (or any corresponding or similar provision of state or local income Tax Law), or (vi) any election under Section 108(i) or 965 of the Code.

(k) The Company uses the accrual method of accounting for income Tax purposes.

(l) The Company does not own an interest, directly or indirectly, in any joint venture, partnership, limited liability company, association, or other entity or arrangement that is treated as a partnership for federal, state or local income Tax purposes.

(m) No Tax holiday or Tax incentive granted by a Governmental Entity in any jurisdiction with respect to the Company will terminate (or be subject to a clawback or recapture that is payable by Purchaser) as a result of the transactions contemplated by this Agreement.

(n) The Company has not deferred any payroll Taxes or availed itself of any of the Tax deferral, credits or benefits pursuant to any change in applicable Law in connection with COVID-19 that has the result of temporarily reducing (or temporarily delaying the due date of) otherwise applicable payment obligations of any Person to any Governmental Entity.

Section 2.12 No Broker or Finder; Fees. Except as otherwise provided in Schedule 2.12, the Company has not employed any broker, finder or investment banker or incurred any Liability for any investment banking fees, financial advisory fees, brokerage fees or finders' fees in connection with the Transactions.

Section 2.13 Intellectual Property.

(a) Schedule 2.13(a) sets forth a true, correct and complete list of all Company-Owned Intellectual Property Rights that are Registered Intellectual Property Rights ("Company Registered Intellectual Property Rights"), including for each item: (i) the current owner; (ii) the jurisdiction of application or registration; (iii) the application or registration number, and where applicable, the title; and (iv) the date of filing or registration. The Company is current in the payment of all registration, maintenance and renewal fees with respect to the Company Registered Intellectual Property Rights. There are no actions that must be taken by the Company or Seller within one hundred and twenty (120) days of the date hereof, including the payment of any registration, maintenance or renewal fees, or the filing of any documents, applications or certificates, for the purposes of maintaining, perfecting, preserving or renewing any Company Registered Intellectual Property Rights. The Company owns and has good and exclusive title to all Company-Owned Intellectual Property Rights free and clear of any Encumbrances. Without limiting the foregoing, (A) the Company has sole, clear and unencumbered title to each item of material Company Registered Intellectual Property Rights, (B) all such Company Registered Intellectual Property Rights have been assigned in writing to the Company, and (C) all assignments of Company Registered Intellectual Property Rights to the Company have been properly executed and recorded. To the Knowledge of the Company, the Company Registered Intellectual Property Rights are valid and enforceable.

(b) The Company owns or otherwise possesses legally enforceable and sufficient licenses or rights to all Intellectual Property Rights and other intangible assets necessary to conduct the Business of the Company immediately following the Closing in all material respects in substantially the same manner as such Business is conducted as of the date hereof. The Company may exercise, transfer, or license the Company-Owned Intellectual Property Rights and such other intangible assets owned, or purported to be owned, by, or licensed to, the Company without material restriction or material payment to any Person and no Person other than the Company has the right to license or grant rights to any Company-Owned Intellectual Property Rights to any third Person. Neither this Agreement nor any of the transactions contemplated hereby will restrict or impair the right of the Company to transfer, alienate, enforce or license any Company-Owned Intellectual Property Rights or other such material intangible asset owned, or purported to be owned, by the Company as such right exists as of the date hereof.

(c) To the Knowledge of the Company, the operation of the Business of the Company as currently conducted as of the date hereof, and as will be conducted immediately following the Closing, and the operation of the Business of the Company as previously conducted since January 1, 2016, does not infringe, misappropriate or otherwise violate, and has not infringed, misappropriated or otherwise violated, the Intellectual Property Rights of any other Person. Except as set forth on Schedule 2.13(c), neither the Company nor any Seller has received any written notice since January 1, 2016 alleging that the operation of the Business of the Company infringes, misappropriates, violates or otherwise conflicts with the Intellectual Property Rights of any other Person. There is no pending or, to the Knowledge of the Company, threatened Proceeding, and since January 1, 2016 there has been no Proceeding, whether against the Company or any third party, (i) involving any Company Intellectual Property Rights; (ii) alleging that the activities or the conduct of the Company, or the possession or use of any Company Intellectual Property Rights by any customer or other licensee of the Company, does or will infringe upon, violate or constitute the unauthorized use of the Intellectual Property Rights of any third party; or (iii) opposing or challenging the ownership, use, validity, enforceability or registrability of any Company Intellectual Property Rights, and, to the Knowledge of the Company, nor is there any reasonable basis for any such Proceeding. There are no settlements, forbearances to sue, consent judgments or Orders or similar obligations binding upon the Company or, to the Knowledge of the Company, upon any third party, which (A) adversely affect the Company's rights in or the Company's rights to use any Company Intellectual Property Rights, (B) restrict the Company or any of the Company's customers or licensees in any way in order to accommodate a third party's Intellectual Property Rights, or (C) permit a third party to use any Company-Owned Intellectual Property Rights. To the Knowledge of the Company, since January 1, 2020 there has not been, and as of the date hereof, there is not, any unauthorized use, infringement, misappropriation, or other violation by any other Person, or written allegation thereof made by the Company or Sellers, of any Company-Owned Intellectual Property Rights. The Company and Sellers have taken commercially reasonable steps to protect and maintain all Trade Secrets included in the Company Intellectual Property Rights, and to the Knowledge of the Company, there have been no material unauthorized uses or disclosures of any such Trade Secrets.

(d) There are no royalties, fees, honoraria or other payments payable by the Company to any Person by reason of the ownership, development, use, license, sale or disposition of any Company Intellectual Property Rights, other than license fees owed pursuant to those written agreements listed in Schedule 2.13(d) and non-exclusive licenses to off-the-shelf software available for an aggregate fee of less than $10,000, in each case, in the ordinary course of business consistent with past practices.

(e) Except as set forth on Schedule 2.13(e), the Company has written agreements with all current and former advisors, employees, founders, independent contractors and consultants who independently or jointly contributed to or participated in the conception, reduction to practice, development, or other creation of any Company-Owned Intellectual Property Rights (each, a "Contributor"), pursuant to which such Contributors have all assigned to Company unencumbered and unrestricted exclusive ownership of all the Contributor's right, title, and interest in such contribution (to the extent such rights did not otherwise vest with Company under applicable law). No Contributor owns or, to the Knowledge of the Company, claims any rights, licenses, claims or interest whatsoever with respect to any material Company-Owned Intellectual Property Rights developed by the Contributor for the Company.

(f) Neither this Agreement nor any of the transactions contemplated hereby will cause (i) the forfeiture or termination of, or give rise to a right of forfeiture or termination of any Company Intellectual Property Right, (ii) the grant of any rights or licenses to any Company-Owned Intellectual Property Right or any Intellectual Property Rights owned by any Seller and used in the Business, or (iii) additional payment obligations by the Company in order to use or exploit any Intellectual Property Rights to the same extent as the Company was before the date of this Agreement.

(g) To the Knowledge of the Company, the IT Assets do not contain any undisclosed disabling code or instruction, "time bomb," "Trojan horse," "back door," "trap door," "worm," virus, malware, bug, fault, security vulnerability or other software routine, in any case that would reasonably be expected to interfere with the conduct of the Business or present a risk of unauthorized access, disclosure, use, corruption, destruction or loss of any Protected Information. The Company and its Affiliates have implemented and maintained organizational, administrative, physical and technical safeguards reasonably necessary to ensure the continued, uninterrupted and error-free operation of the IT Assets, including employing commercially reasonable security, maintenance, disaster recovery, redundancy, backup, archiving and virus or malicious device scanning/protection measures.

(h) The Business and Sellers' and their respective Affiliates' receipt, collection, monitoring, maintenance, hosting, creation, transmission, use, analysis, disclosure, storage, disposal, security and other processing, as the case may be, of Protected Information and, to the Knowledge of each Seller, any such activities performed or handled by authorized third parties on behalf of any Seller or any of its Affiliates, is, and at all times has been, in material compliance, with: (i) all Privacy Policies, (ii) all applicable Privacy Laws, (iii) any consents, authorizations, and privacy choices (including opt-out preferences) communicated to Seller or its Affiliates in writing with respect to the conduct of the Business, (iv) the PCI-DSS, and (v) provisions governing privacy, data protection, or information security matters in any Contracts to which Seller or any of its Affiliates is a party. Each Seller and its Affiliates have taken commercially reasonable measures designed to ensure that Protected Information in their possession, custody or control in connection with the conduct of the Business is protected against loss, damage, and unauthorized access, use or modification. Seller and its Affiliates do not sell, rent, or otherwise make available to third parties any Protected Information submitted by individuals in connection with the conduct of the Business. Seller and its Affiliates have all rights, authority, consents and authorizations necessary to receive, access, use and disclose the Protected Information in their possession or under their control in connection with the conduct of the Business as presently conducted. Other than as constrained by the Privacy Policy or Privacy Laws, Seller and its Affiliates are not restricted in their use or distribution of Personal Information in connection with the conduct of the Business.

(i) To the Knowledge of the Company, no Person has gained unauthorized access to or engaged in unauthorized processing of: (i) any Protected Information related to the conduct of the Business in the possession or control of the Company or any other Person on its behalf; or (ii) any databases, computers, servers, storage media (e.g., backup tapes), network devices or other devices or systems that process Protected Information owned or maintained by the Company, its consumers, customers, subcontractors or vendors, or any other Persons on their behalf (each, a "Security Breach").

(j) No Person has, to the Knowledge of Seller, as of the date hereof, made any written complaint or claim against Seller or any of its Affiliates or commenced any proceeding by or before any Governmental Authority or arbitration body against Seller or any of its Affiliates, in each case, with respect to (i) any alleged violation of Privacy Laws by Seller or any of its Affiliates or any third party in relation to such third party's collection, maintenance, storage, use, processing, disclosure, security, transfer or disposal of Protected Information on behalf of Seller or any of its Affiliates, (ii) any of Seller's or any of its Affiliates' privacy or data security policies, representations or practices with respect to Protected Information, including any loss, damage or unauthorized access, acquisition, use, disclosure, modification, processing, or other misuse of any Protected Information, or (iii) any provisions governing privacy, data protection, or information security matters in any Contracts to which Seller or any of its Affiliates is a party.

(k) Seller and its Affiliates have contractually obligated in writing each third party service provider and subcontractor they engage to service, host, manage, access or otherwise process Protected Information in connection with the conduct of the Business to: (i) take reasonable steps to protect and secure from unauthorized disclosure such Protected Information acquired from or with respect to Seller and its Affiliates, including implementing an appropriate information security program that includes reasonable administrative, technical and physical safeguards to protect the applicable data and/or systems; (ii) restrict use of such Protected Information acquired from or with respect to Seller and its Affiliates to those authorized to use such Protected Information or who require the use of such Protected Information in order to perform the applicable services for Seller and its Affiliates; (iii) prohibit third parties from further outsourcing services or transferring such Protected Information outside of the United States; (iv) afford Seller, its Affiliates and their respective representatives access to the places of business and systems of such third party to audit compliance with such contractual obligation; (v) comply with applicable Privacy Laws; (vi) comply with all terms and conditions of any Contracts to which Seller or any of its Affiliates is a party that are applicable to the activities performed by such third party service provider; and (vii) certify or guarantee the return or adequate disposal or destruction of such Protected Information.

Section 2.14 Employees.

(a) Schedule 2.14(a) sets forth a true, correct and complete list of all employees and independent contractors of the Company, including any employees or independent contractor of any Affiliate of the Company used in the Business, as of the date hereof (the "Business Employees"), including thereon the name, date of hire or engagement, work location by city and state, job title, the current hourly or annualized aggregate compensation of each employee, any accrued bonuses, commissions or other forms of incentive compensation, if applicable, amounts of sick and vacation leave that is accrued and unused and whether the Company classifies the employee as exempt or nonexempt under the Fair Labor Standards Act and any other applicable wage and hour Law. For all workers engaged as independent contractors of the Company as of the Closing Date, Schedule 2.14(a) also sets forth a brief description of the nature of the services provided. Except those specified on Schedule 2.7, there are no outstanding obligations of the Company relating to severance or termination pay to any employees of the Company. All individuals employed by the Company have timely, accurately and properly completed Form I-9s indicating that they are lawfully permitted to work in the United States. All individuals employed by the Company are lawfully permitted to work in the United States. Commencing from the Company's date of incorporation, the Company has not received a notification from the U.S. Department of Homeland Security, the Social Security Administration or any other Governmental Entity that the social security number it has for one or more employees does not match the records of such Governmental Entity. The Company is and has been in compliance with all applicable Laws regarding employment, fair labor practices, wage, hours, discrimination, occupational safety and health standards, immigration and employment of non-citizen workers (including all Form I-9 requirements and other documentation requirements with respect thereto). There are no outstanding agreements, understandings, or commitments of the Company with respect to any compensation, commissions, or bonuses that have not been made available to Purchaser.

(b) Except as set forth on Schedule 2.14(b), (i) the Company has not been a party to any collective bargaining or similar agreement, (ii) the Company has not engaged in any unfair labor practice within the meaning of the National Labor Relations Act, and there is no pending or, to the Knowledge of the Company, threatened complaint regarding any alleged unfair labor practices as so defined, (iii) to the Knowledge of the Company, there has not been any employees seeking to organize for the purpose of collective bargaining, (iv) there is no strike, labor dispute, work slowdown or stoppage pending or, to the Knowledge of the Company, threatened against the Company, (v) there is no grievance or arbitration proceeding arising out of or under any collective bargaining agreement which is pending or, to the Knowledge of the Company, threatened against the Company, (vi) the Company has not experienced any material work stoppage, (vii) the Company is not the subject of any union organization effort, (viii) there are no Action pending or, to the Knowledge of the Company, threatened against the Company related to the status of any individual as an independent contractor or employee and (ix) the Company has complied in all respects with the WARN Act and the Company has not implemented or been involved in any "mass layoff" or "plant closing" (as defined under the WARN Act). All employees of the Company that are classified as exempt under applicable employment Laws satisfy the requirements of such Laws to be classified as exempt and no employee classified as exempt is entitled to overtime pay under such applicable Laws or any other Laws.

(c) The Company is and has been in compliance with all applicable Laws, Contracts, policies, plans and programs relating to labor and employment, including employment practices, hiring, discharge or terms and conditions of employment, wages, hours, overtime compensation, collective bargaining, labor relations, unemployment insurance, worker's compensation, equal employment opportunity, age and disability discrimination, privacy, the payment withholding of Taxes and the termination of employment, occupational safety and health standards, immigration and similar foreign, state or local Law. All individuals characterized and treated by the Company as independent contractors or consultants are properly treated as independent contractors under all applicable Laws and Contracts. There are no internal complaints or investigations or Actions against the Company or any of its officers, managers, members or directors pending, or to the Knowledge of the Company, threatened to be brought or filed, by or with any Governmental Entity or arbitrator in connection with the employment of any current or former applicant, employee, consultant or independent contractor of the Company, including, without limitation, any claim relating to unfair labor practices, employment discrimination, harassment, retaliation, equal pay, wage and hours or any other employment-related matter arising under applicable Laws. There are no pending claims against the Company under any workers' compensation plan or policy or for long-term disability. The Company has not entered into any settlement agreement related to allegations of sexual harassment or sexual misconduct by or regarding any employee or other representative of the Company.

(d) Except as set forth in Schedule 2.14(d), the employment of each employee of the Company is "at will," and can be terminated at any time without Liability to the Company. The Company is not a recipient of any outsourced or temporary labor from any third party or contracts with a professional employer organization or similar entity. No officer, director or management level employee of the Company has informed the Company of any plan to terminate employment, and, to the Knowledge of Seller, no such person has any plans to terminate employment with the Company. To the Knowledge of Seller, no employee is a party to or bound by any Contract that (i) could adversely affect the performance of his or her duties other than for the benefit of the Company, (ii) could adversely affect the ability of the Acquired Company to conduct its businesses, (iii) restricts or limits in any way the scope or type of work in which he or she may be engaged other than for the benefit of the Acquired Company, or (iv) requires him or her to transfer, assign or disclose information concerning his or her work to anyone other than the Acquired Company.

Section 2.15 Employee Benefit Plans.

(a) Schedule 2.15(a) sets forth a true, correct and complete list of each Employee Benefit Plan maintained or contributed to by the Company or any ERISA Affiliate (the "Company Benefit Plans"). With respect to each Company Benefit Plan, the Company has made available to Purchaser correct and complete copies of each of the following: (i) the plan document, together with all amendments, or if unwritten, a written summary of all material plan terms; (ii) where applicable, any trust Contracts, custodial Contracts, insurance policies and other documents establishing other funding arrangements; (iii) any summary plan descriptions, summary of material modifications and employee handbooks; (iv) in the case of any Company Benefit Plan that is intended to be qualified under Section 401(a) of the Code, a copy of the most recent determination or opinion letter issued by the Internal Revenue Service (the "IRS"); (v) all filings required to be made with any Governmental Entity during the five calendar years preceding the Closing Date; (vi) the two most recent financial statements and actuarial valuation reports thereof; (vii) all coverage and nondiscrimination testing results for the prior three plan years; and (viii) any materials relating to any government investigation or audit or any submission under any voluntary compliance procedures.

(b) Except as set forth in Schedule 2.15(b), neither the Company nor any ERISA Affiliate has ever maintained or been required to contribute to, or has any liability, whether contingent or otherwise, with respect to, any Company Benefit Plan subject to Title IV of ERISA, maintained by more than one employer within the meaning of Section 413(c) of the Code, subject to Section 412 of the Code or Section 302 of ERISA or subject to Sections 4063 or 4064 of ERISA. Neither the Company nor any ERISA Affiliate has ever been required to contribute to, or has any liability, whether contingent or otherwise, with respect to, any "multiemployer plan" as defined in Section 4001(a)(3) of ERISA or a "multiple employer welfare arrangement" as defined in Section 3(40) of ERISA. No liability under Title IV of ERISA has been or is expected to be incurred by the Company or any ERISA Affiliate.

(c) Each Company Benefit Plan, including any associated trust or fund, has been administered in compliance in all material respects with its terms and the applicable requirements of ERISA, the Code and any other applicable Laws. Each Company Benefit Plan that is intended to be qualified under Section 401(a) of the Code has received a favorable determination letter or is entitled to rely on a favorable opinion letter from the IRS with respect to the tax-qualified status of such Company Benefit Plan and the tax-exempt status of the associated trust, and, to the Knowledge of the Company, no event has occurred and no facts or circumstances exist that would cause the IRS to revoke or fail to issue such letter. The Company has not filed, and is not considering filing, an application under the IRS Employee Plans Compliance Resolution System or the Department of Labor's Voluntary Fiduciary Correction Program with respect to any Company Benefit Plan.

(d) Neither the Company, nor, to the Knowledge of the Company, any other "disqualified person" or "party in interest" (as defined in Section 4975(e)(2) of the Code and Section 3(14) of ERISA, respectively) has engaged in any transaction with respect to any Company Benefit Plan that would be reasonably likely to subject the Company to any Taxes or penalty (civil or otherwise) imposed by ERISA, the Code or other applicable Law.

(e) All contributions, assessments and premium payments required to be made on account of each Company Benefit Plan have either been made or accrued on the financial statements of the Company, and the Company has timely deposited all amounts withheld from employees into appropriate trusts or accounts, and no event has occurred or condition exists that would reasonably be expected to result in a material increase in the level of such amounts paid or accrued for the most recently ended fiscal year. There are no pending or, to the Knowledge of the Company, threatened Actions relating to a Company Benefit Plan, other than claims for information or benefits in the Ordinary Course and, to the Knowledge of the Company, there is no reasonable basis for any such Actions (other than such claims in the Ordinary Course).

(f) Other than as required under Section 601 et seq. of ERISA or Section 4980B of the Code, no Company Benefit Plan provides for post-employment or retiree health, life insurance and/or other welfare benefits, and the Company does not have any obligation to provide any such benefits to any retired or former employees or active employees following such employees' retirement or termination of service. Any Company Benefit Plan may be amended or terminated at any time by the Company without any material liability (except Ordinary Course administration expenses).

(g) Neither the execution and delivery of this Agreement nor any other Transaction Document nor the consummation of the Transactions could (either alone or in conjunction with any other event) (i) result in, or cause the accelerated vesting, payment, funding or delivery of, or increase the amount or value of, any payment or benefit to any employee, officer, member, manager, director or other service provider of the Company under any Company Benefit Plan, (ii) result in any severance, change in control, termination or similar types of payments or benefits, (iii) result in a requirement to pay any tax "gross-up" or similar "make-whole" payments to any employee, member, manager, director or consultant of the Company or (iv) result in, either alone or together with any other payments or benefits, the payment of any amount or benefit constituting a "parachute payment" within the meaning of Section 280G(b)(2) of the Code (or any comparable provision of other Applicable Law).

(h) Each Company Benefit Plan or Employment Contract that constitutes in any part a nonqualified deferred compensation plan within the meaning of Section 409A of the Code has, at all times, been operated and maintained in all material respects in operational and documentary compliance with Section 409A of the Code and applicable guidance thereunder. The Company does not have any obligation (whether pursuant to a Company Benefit Plan or otherwise) to indemnify, "gross-up", reimburse or otherwise compensate any individual with respect to the additional Taxes or interest imposed pursuant to Section 409A or 4999 of the Code.

(i) No event has occurred, and no condition or circumstance exists, that would reasonably be expected to subject the Company or any "group health plan" as defined in Section 733(a)(1) of ERISA to penalties or excise Taxes under Sections 4980D, 4980H, or 4980I of the Code or any other provision of the Patient Protection and Affordable Care Act, Pub. L. No. 111-148, the Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, and all regulations and guidance issued thereunder.

Section 2.16 Related Party Transactions. Schedule 2.16 lists all existing or pending transactions, including any payables and receivables, and Contracts between the Company, on one hand, and any Seller or any Affiliated Person of any Seller, on the other hand (collectively, the "Related Party Agreements"). As of the Closing Date, neither the Company nor any Seller has any Liability or owes any amounts to any Person under any Related Party Agreement except as disclosed in Schedule 2.16.

Section 2.17 Product and Service Warranties. Other than the standard terms and conditions as well as those terms that are expressly published or delivered to clients, true, correct and complete copies of which standard terms and conditions and published or delivered terms are attached as Schedule 2.17, the Company has not made any express or implied warranty or guaranty as to goods sold or services provided by the Company to any other Person (a "Warranty"), and there is no pending or, to the Knowledge of the Company, threatened Action alleging any breach of any Warranty. The Company has no exposure to, or Liability under, any Warranty beyond that which is typically assumed in the ordinary course of business by Persons engaged in businesses comparable in size and scope of the Company.

Section 2.18 Key Customers and Suppliers. With respect to the fiscal year ended December 31, 2021 and the year-to-date period ended on the date of the Balance Sheet, Schedule 2.18(a) sets forth the 15 largest customers (by dollar volume) of the Company (collectively, the "Key Customers") during each such period (showing the approximate dollar volume for each) and Schedule 2.18(b) sets forth the 15 largest suppliers (by dollar volume) of the Company (collectively, the "Key Suppliers") during each such period (showing the approximate dollar volume for each). To both the Company's Knowledge and each Seller's Knowledge there has not been any indication by any Key Customer or Key Supplier that such Key Customer or Key Supplier intends to terminate or discontinue its business relationship with the Company or to limit or adversely alter its business relationship with the Company, including by (i) a material decrease in the volume of products or services that any Key Customer or Key Supplier will purchase from, or sell to, the Company, (ii) by any decrease in the pricing of any products or services that any Key Customer purchases or will purchase from the Company, (iii) by any increase in the pricing of any products, materials, or services that any Key Supplier sells or will sell to the Company, or (iv) of the bankruptcy or liquidation of any such Key Customer or Key Supplier. The Company's current relationships with the Key Customers are presently maintained in the Ordinary Course. To the Knowledge of the Company, no event has occurred or circumstance exists that would reasonably be expected to give rise to or serve as a basis for any adverse change to relationship between the Company and any Key Customer or Key Supplier.

Section 2.19 Insurance. Schedule 2.19 sets forth a true, correct and complete list of all policies of insurance maintained, owned or held by the Company, or that covers the Business or that lists the Company as a beneficiary, as of the date of this Agreement (collectively, the "Insurance Contracts"), true, correct and complete copies of which have been made available to Purchaser. All such Insurance Contracts are valid and binding in accordance with their terms, are in full force and effect, all premiums with respect thereto covering all periods up to and including the Closing Date will have been paid, and no notice of cancellation or termination has been received by the Company with respect to any such policy. The Company has not received written notice that (a) there has been a breach or default under any of such Insurance Contracts or (b) that any event has occurred that would permit termination, modification, acceleration or repudiation of such Insurance Contracts. The Company is not in default (including a failure to pay an insurance premium when due) in any material respect with respect to any Insurance Contract, nor has the Company failed to give any notice of any material claim under such Insurance Contract as and when required by such Insurance Contract nor has the Company ever been denied or turned down for insurance coverage. The Company has not made any claim under any such policy during the three-year period prior to the Effective Date with respect to which an insurer has, in a written notice to the Company, questioned, denied or disputed or otherwise reserved its rights with respect to coverage and no insurer has threatened in writing to cancel any Insurance Contract.

Section 2.20 Environmental.

(a) The Company possesses all material Permits and approvals required under, and each is in compliance in all material respects with, all Environmental Laws, and the Company is, and the Leased Real Property has been operated in compliance in all material respects with all applicable limitations, restrictions, conditions, standards, prohibitions, requirements, obligations, schedules and timetables contained in all Environmental Laws or contained in any other Law, or any notice or demand letter issued thereunder.

(b) The Company has not entered into or agreed to enter into any consent decree or order, and the Company is not subject to any judgment, decree or judicial or administrative order relating to compliance with, including any Remediation, any applicable Environmental Law. From Company's date of incorporation to the Closing Date, the Company has not been alleged to be in violation of, and has not been subject to, any Action pursuant to applicable Environmental Laws and has not been required to perform any Remediation. The Company is, and has been at all times, in material compliance with all Environmental Laws and there are no environmental conditions affecting or that could reasonably be expected to affect the Company or the Assets.

(c) Neither the Company nor any of its Affiliates have treated, stored, disposed of, arranged for or permitted the disposal or recycling of, transported, handled or Released any Hazardous Substance in a manner that has given or could reasonably be expected to give rise to any Liability, nor is any property owned, leased or operated by the Company now, or in the past, contaminated with any Hazardous Substance in a manner that has given, or could reasonably be expected to give, rise to any Liability.

(d) To the Knowledge of the Company, no underground storage tanks or Hazardous Substance disposal facilities are currently present or have in the past existed at any facility owned, operated, or leased (or formerly owned, operated or leased) by the Company and the Company has not closed in place or removed any underground storage tanks or Hazardous Substance disposal facilities from any current or former facility used in the Company's Business. The Company has in place all training and employee protection programs required by occupational, health, and safety requirements under Environmental Laws.

(e) The Company has made available true, correct and complete copies of all material reports, studies, or investigations relating to their respective current or former businesses or properties and relating to environmental conditions, liabilities, or compliance matters, Environmental Laws or Hazardous Substances.

(f) Except as set forth on Schedule 2.20(f), the Company has not agreed to indemnify anyone for any violations of Environmental Laws.

Section 2.21 Undisclosed Payments. Neither the Company nor any of its officers, members, managers, directors or employees, nor anyone acting on behalf of any of them, has made or received any payment not correctly categorized and fully disclosed in the Company's books and records in connection with or in any way relating to or affecting the Company.

Section 2.22 COVID-19.

(a) Except as set forth on Schedule 2.22(a), since March 1, 2020, there has been no material impact (directly or indirectly) as a result of COVID-19 on: (i) the Company's operation of the its Business (including the financial results of such operations) or; (ii) any of the relationships between the Company and its customers, suppliers, vendors, landlords or Governmental Entities having jurisdiction over the Company (including (A) any default, or circumstances existing that are reasonably likely to give rise to, or serve as a basis for any default by the Company under any Contract related to any of the foregoing, (B) the Company suspending performance or payment under any Contract to which it is a party, and/or (C) extension of credit to any customers).

(b) Except as set forth on Schedule 2.22(b), the Company has not experienced, nor is the Company subject to, any COVID-19 Effects.

(c) The Company has at all times during the COVID-19 pandemic operated in material compliance with the requirements of all applicable Laws, including any Laws enacted in response to COVID-19, including, without limitation, the CARES Act, the Families First Coronavirus Response Act, Section 1981 of the Civil Rights Act of 1866, Title VII of the Civil Rights Act of 1964, Americans with Disabilities Act, Age Discrimination in Employment Act, Equal Pay Act, Fair Labor Standards Act, Family Medical Leave Act, National Labor Relations Act, and the Occupational Safety and Health Act. Schedule 2.22(c) sets forth the actions taken by the Company with respect to employees, compensation and Company Benefit Plans in response to the COVID-19 pandemic, including employee terminations, furloughs, salary or other pay reductions, pay increases, deferrals of compensation, deferrals of employer funding contributions to or amendments to any Company Benefit Plan. To the Knowledge of the Company, no employee that is critical to the day-to-day operations of the Company is unable to perform his or her duties and responsibilities as a result (directly or indirectly) of COVID-19.

(d) Except as set forth on Schedule 2.22(d), none of the Key Customers or the Key Suppliers (i) has changed, amended, or altered (or requested to alter) its relationship, contractual or otherwise, with the Company as a result (directly or indirectly) of any COVID-19 Effect; (ii) has defaulted, nor does any circumstances exist that are reasonably likely to give rise to, or serve as a basis for any default, in any material respect under any Contract or relationship with the Company; or (iii) to the Knowledge of the Company, has entered into bankruptcy, involuntary bankruptcy, or receivership proceedings.

(e) PPP Loan. The Company received a PPP Loan on May 4, 2020 in the principal amount of $375,360.00 from US Bank (the "PPP Lender") (the "PPP Loan"). The Company was eligible to apply for and receive its PPP Loan and the Company has complied with all Legal Requirements applicable to its PPP Loan. The Company has expended all of the proceeds of the PPP Loan and used the proceeds of its PPP Loan solely to pay for eligible costs and expenses under the Legal Requirements applicable to its PPP Loan. The Company did not claim an employment retention tax credit under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") with respect to any payroll costs that were necessary to support the full forgiveness of the Company's PPP Loan. The Company properly completed a forgiveness application reflecting its use of its PPP Loan proceeds and submitted it, together with all required supporting documentation, to the PPP Lender. The Company's PPP Loan application, forgiveness application, and any other documents provided by the Company in connection with the PPP Loan, including all information contained in supporting documents and forms of such applications or documents, were true and correct in all respects. The Company's PPP Loan was completely forgiven pursuant to the CARES Act on November 13, 2020.

Section 2.23 Proceedings; Orders.

(a) There is no pending Proceeding, and, to the Knowledge of the Company, no Person has threatened to commence any Proceeding, that involves the Company, any Seller or any of the Assets or that challenges, or that could be reasonably expected to have the effect of preventing, delaying or making illegal any of the Transactions. To the Knowledge of the Company, no event has occurred, and no claim, dispute or other condition or circumstance exists, that could be reasonably expected to give rise to or serve as a basis for the commencement of any such Proceeding. The Company made available to the Purchaser accurate and complete copies of all pleadings, correspondence and other written materials to which the Company has access that relate to Proceedings identified in Schedule 2.23(a).

(b) There is no Order to which the Company or any of the Assets is subject.

(c) To the Knowledge of the Company, no director, officer or employee of the Company is subject to any Order that prohibits such director, officer or employee from engaging in or continuing any conduct, activity or practice relating to the Business of the Company.

(d) To the Knowledge of the Company, there is no proposed Order that, if issued or otherwise put into effect, could reasonably be expected to have a material adverse effect on the Business or may have the effect of preventing, delaying, making illegal or otherwise interfering with any of the Transactions.

Section 2.24 Certain Payments, Etc.

(a) Neither the Company, any officer, director, or, to the Knowledge of the Company, any employee, agent or other Person associated with or acting for or on behalf of the Company or any Seller with respect to the Business, has taken any of the following actions:

(i) used any corporate funds (A) to make any unlawful political contribution or gift or for any other unlawful purpose relating to any political activity, (B) to make any unlawful payment to any governmental official or employee, or (C) to establish or maintain any unlawful or unrecorded fund or account of any nature;

(ii) made any payoff, influence payment, bribe, rebate, kickback or unlawful payment to any Person, or taken any action which would cause it to be in violation of any Anti-Corruption or Anti-Bribery Law;

(iii) made any unlawful payment to any Person (whether in the form of property or services, or in any other form) to any Person, for the purpose of obtaining or paying for (A) favorable treatment in securing business, or (B) any other special concession; or

(iv) agreed, committed, offered or attempted to take any of the actions described in clauses (i) through (iii) above.

Section 2.25 Full Disclosure. No representation or warranty or other statement made by the Company in this Agreement (including in the Disclosure Schedules) contains any untrue statement of a material fact or omits to state any material fact necessary to make any of the statements made, in light of the circumstances in which it was made, not misleading in any respect.

## ARTICLE III
## REPRESENTATIONS AND WARRANTIES OF THE SELLERS

In order to induce Purchaser to enter into this Agreement and consummate the Transactions, each Seller, severally and not jointly, hereby represents and warrants to Purchaser, as of the Closing Date, as follows:

Section 3.1 Power and Authority. Such Seller has all necessary power, authority and capacity to execute and deliver this Agreement and the other Transaction Documents to which such Seller is a party and to consummate the Transactions and to perform each of its obligations under this Agreement and such Transaction Documents. The Transaction Documents have been duly executed and delivered, to the extent such Seller is party thereto, by such Seller.

Section 3.2 Enforceability. The execution and delivery of this Agreement and each of the other Transaction Documents by such Seller and the performance by such Seller of the obligations hereunder and thereunder and the consummation of the Transactions have been duly and validly authorized by all necessary action of such Seller. Each of the Transaction Documents to which such Seller is a party constitutes a valid and binding agreement of such Seller enforceable against such Seller in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar Laws affecting creditors' rights and remedies generally, and subject, as to enforceability, to general principles of equity, including principles of commercial reasonableness, good faith and fair dealing (regardless of whether enforcement is sought in a proceeding at law or in equity).

Section 3.3 Ownership of Company Stock. The Sellers are the only Persons owning, directly or indirectly, any equity or other ownership interests or other securities in the Company. All of such shares will be validly transferred hereunder at the Closing to Purchaser, free and clear of any and all Encumbrances. Such Seller has not granted any Person any proxy or other right with respect to the Closing Company Shares.

Section 3.4 No Conflict; Consents. The execution and delivery by such Seller of the Transaction Documents and the consummation by such Seller of the Transactions do not and will not: (a) violate or result in the breach of the terms or provisions of any Contract to which such Seller is a party or by which such Seller or the Shares are bound, or be in conflict with, result in a breach of, constitute (upon the giving of notice or lapse of time or both) a default under or give rise to any termination or acceleration rights (or any other rights adverse to such Seller or the Company) under any such Contract or result in the creation of any Encumbrance upon any of the Assets; or (b) violate any Law applicable to such Seller or the Company. Such Seller is not required to obtain any consent from or provide any notice to any third party (including any Governmental Entity) in connection with the execution and delivery of this Agreement or the consummation of the Transactions.

Section 3.5 Litigation. There are no Actions pending or, to the Knowledge of such Seller, threatened, brought by or against such Seller or its real or personal property or assets involving or affecting such Seller's ability to consummate the Transactions.

Section 3.6 No Broker or Finder Fees. Except as disclosed on Schedule 3.6, such Seller has not employed any broker, finder or investment banker or incurred any Liability for any investment banking fees, financial advisory fees, brokerage fees or finders' fees in connection with the Transactions.

Section 3.7 Amounts Owed to the Sellers. The Company does not owe or is not obligated to pay such Seller or any of its respective Affiliates any amount prior to the Closing except pursuant to the Transaction Documents and any Related Party Agreements listed on Schedule 2.16.

Section 3.8 Restricted Securities. Such Seller understands that the shares of Common Stock to be issued as the Closing Share Payment have not been, nor will be, registered under the Securities Act of 1933, as amended (the "Securities Act") by reason of a specific exemption from the registration provisions of the Securities Act. Such Seller understands that such shares of Common Stock are characterized as "restricted securities" under applicable U.S. federal and state securities Laws and that, pursuant to these Laws, each Seller must hold the shares of Common Stock indefinitely unless such shares are subsequently registered with the SEC and qualified by state authorities, or an exemption from such registration and qualification requirements is available.

Section 3.9 Restrictive Legend. Such Seller understands that certificates evidencing the shares of Common Stock to be issued as the Closing Share Payment may bear the following or substantially similar legends, reflecting the restricted nature of the shares to which such Seller has agreed in this Agreement:

> THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE TRANSFERRED, SOLD OR OTHERWISE DISPOSED OF UNLESS (I) SOLD PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, (II) SOLD OR ELIGIBLE TO BE SOLD PURSUANT TO RULE 144 OR 144A OF SAID ACT, OR (III) AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT IS PROVIDED TO THE COMPANY. THE SECURITIES REPRESENTED HEREBY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY SUCH SECURITIES.

Section 3.10 Accredited Investor. Each Seller represents that such Seller is an "accredited investor" as such term is defined in Rule 501(a)(5), (6) or (7) of Regulation D under the Securities Act, and acknowledges that the issuance of Purchaser Parent Common Stock contemplated hereby is being made in reliance, among other things, on a private placement exemption to "accredited investors" under the Securities Act and similar exemptions under state law. Each Seller is acquiring the shares of Purchaser Common Stock issued pursuant to this Agreement for its own account and not with a view to the distribution or resale thereof within the meaning of Section 2(11) of the Securities Act.

## ARTICLE IV
## REPRESENTATIONS AND WARRANTIES OF PURCHASER AND PURCHASER PARENT

In order to induce the Sellers to enter into this Agreement and consummate the Transactions, Purchaser or Purchaser Parent, as applicable, represents and warrants to each Seller, as of the Closing Date, as follows:

Section 4.1 Organization and Authority. Each of Purchaser and Purchaser Parent is a corporation duly formed, validly existing and in good standing under the laws of the State of Delaware. Each of Purchaser and Purchaser Parent has all necessary power and authority to execute and deliver this Agreement and the other Transaction Documents to which it is a party and to consummate the Transactions and to perform each of its obligations under this Agreement and the other Transaction Documents.

Section 4.2 Due Authorization; Enforceability. The execution and delivery of this Agreement and each of the other Transaction Documents to which it is a party by each of Purchaser and Purchaser Parent and the performance by each of Purchaser and Purchaser Parent of the obligations hereunder and thereunder and the consummation of the Transactions have been duly and validly authorized by all necessary action of each of Purchaser and Purchaser Parent. Each of the other Transaction Documents to which Purchaser is a party constitutes a valid and binding agreement of Purchaser, as applicable, enforceable against Purchaser in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar Laws affecting creditors' rights and remedies generally, and subject, as to enforceability, to general principles of equity, including principles of commercial reasonableness, good faith and fair dealing (regardless of whether enforcement is sought in a proceeding at law or in equity).

Section 4.3 Valid Issuance of Shares. Assuming the accuracy of each Seller's representations in Section 3.10, the shares of Common Stock issuable as the Closing Share Payment, when issued, sold and delivered by Purchaser Parent in accordance with the terms of this Agreement for the consideration set forth herein, will be duly and validly issued, fully paid, and nonassessable.

Section 4.4 No Broker or Finder; Fees. Neither Purchaser nor Purchaser Parent has employed any broker, finder or investment banker or incurred any Liability for any investment banking fees, financial advisory fees, brokerage fees or finders' fees in connection with the Transactions.

Section 4.5 No Conflict; Consents. Assuming the accuracy of the representations and warranties of the Company and the Sellers in Article II and Article III, the execution and delivery by Purchaser of this Agreement and the Transaction Documents to which it is a party and the consummation by Purchaser of the Transactions do not and will not violate any Law applicable to Purchaser and Purchaser is not required to obtain any consent from or provide any notice to any Governmental Entity in connection with the execution and delivery of this Agreement or the consummation of the Transactions.

## ARTICLE V
## CERTAIN COVENANTS AND AGREEMENTS

Section 5.1 Tax Covenants.

(a) Payment of Transfer Taxes and Fees. All transfer, documentary, sales, use, stamp, registration, value added and other such Taxes and fees (including any penalties and interest) incurred in connection with this Agreement (including any real property transfer Tax and any other similar Tax) ("Transfer Taxes") shall be borne and paid by the Sellers when due. The Sellers' Representative shall, at his own expense, timely file any Tax Return or other document with respect to such Transfer Taxes (and Purchaser shall cooperate with respect thereto as necessary).

(b) Cooperation on Tax Matters. Purchaser, the Company, and the Sellers will cooperate, as and to the extent reasonably requested by any other parties, in connection with the filing and preparation of Tax Returns, and any Tax audit, litigation or other proceeding with respect to Taxes and payments in respect thereof. Such cooperation shall include the retention and (upon the other parties' request) the provision of records and information which are reasonably relevant to any such Tax audit, litigation or other proceeding and making employees available on a mutual convenient basis to provide additional information and explanation of any material provided hereunder. Purchaser, the Company, and the Sellers shall retain all books and records with respect to Tax matters pertinent to the Company relating to any taxable period beginning before the Closing Date until the expiration of the statute of limitations (and, to the extent notified by Purchaser, any extensions thereof) of the respective taxable periods, and to abide by all record retention agreements entered into with any Governmental Entity. Each of the parties shall furnish the other parties with copies of all relevant correspondence received from any Governmental Entity in connection with any Tax audit or information request with respect to any Taxes for which any other Party may have an indemnification obligation under this Agreement.

(c) Tax Returns; Allocation of Taxes.

(i) Following the Closing Date, the Company shall prepare, or cause to be prepared, all Tax Returns for the Company for all Taxable periods ending on or prior to the Closing Date or for Straddle Periods that are, in each case, due after the Closing Date. Such Tax Returns shall be prepared in a manner consistent with prior practice, except to the extent otherwise required by applicable Tax Law. The Company shall deliver such Tax Returns to the Sellers' Representative not less than 30 days prior to the required filing date for the Sellers' Representative's review, comment and approval (not to be unreasonably withheld, conditioned, or delayed). Without limiting Purchaser's right to indemnification, the Sellers shall timely remit to the Company (or cause to be timely remitted to the Company) the Pre-Closing portion (as determined pursuant to Section 5.1(c)(ii)) of any Taxes shown as due on such Tax Returns at least five Business Days prior to the required payment date of such Taxes.

(ii) In the case of any Taxes that are imposed on a periodic basis and are payable for the Straddle Period, the portion of such Taxes that are treated as Pre-Closing Taxes for purposes of this Agreement, shall: (1) in the case of any Taxes other than Taxes imposed on income or receipts, be deemed to be the amount of such Tax for the entire taxable period multiplied by a fraction the numerator of which is the number of days in the taxable period ending on the day prior to the Closing Date, and the denominator of which is the number of days in the entire Straddle Period, and (2) in the case of any Taxes imposed on income or receipts, be deemed equal to the amount which would be payable if the relevant Straddle Period ended on the day prior to the Closing Date.

Section 5.2 Reasonable Efforts; Further Assurances; Cooperation. From time to time and after the Closing Date, each Party shall (without further consideration) cooperate with the other Parties (and their respective officers, directors, members, managers, employees, agents and advisors) and use its reasonable, good faith efforts (a) to take, or cause to be taken, and do, or cause to be done, all things necessary, proper or advisable under applicable Law to obtain all consents required as described in Section 2.3 and Section 3.3 and all regulatory approvals, (b) to execute and deliver to the other Party any additional Contracts reasonably requested by such other Party in order to transfer, convey or assign the Assets to Purchaser and (c) to otherwise effect the Transactions. The Sellers agree to cause the Company to perform its obligations under this Agreement and the other Transaction Documents.

Section 5.3 Confidentiality. The terms of the Transaction Documents and all confidential information disclosed by the Parties in connection with the Transactions shall be kept confidential in accordance with that certain Mutual Non-Disclosure Agreement, dated as of July 19, 2022, by and between Purchaser and the Company (the "NDA"), and shall not be used by any Person, other than in connection with the Transactions. The Sellers hereby agree to become bound by and a party to the NDA and subject to all of the covenants, terms and conditions thereof (including as a "Disclosing Party" or "Receiving Party" thereunder) as though an original party thereto.

Section 5.4 Misdirected Payments and Communications. If any Seller or any of its Affiliated Persons receives any payment or communications related to the Company or the Business after the Closing, such Seller agrees to promptly remit (or cause to be promptly remitted) such funds or communications to the Company.

Section 5.5 Benefit Plan Matters. At least one day before the Closing Date, the Company will terminate each Employee Benefit Plan that is intended to constitute a cash or deferred arrangement under Section 401(k) of the Code, including to the extent necessary, terminating its participation in any multiple employer plan (within the meaning of Section 413 of the Code), spinning off the assets and liabilities attributable to the Company thereunder into a newly established plan and immediately terminating such newly-established plan. The Company will adopt such amendments and take such other actions as are necessary to effectuate the termination in compliance with Applicable Law and the terms of such Employee Benefit Plan and, together with the termination, to be effective no later than the day immediately preceding the Closing Date and reflected in resolutions of Company's board of directors. Additionally, at Purchaser's request, and immediately before the Closing Date, the Company will terminate or amend any other Employee Benefit Plans specified by Purchaser at the time and in such manner as Purchaser may direct. Purchaser will have sole and exclusive authority to determine the continuation, termination or amendment of such other Company Benefit Plans in accordance with Applicable Law and the terms of such Employee Benefit Plans. The form and substance of any resolutions or amendments require pursuant to this Section 5.6 will be subject to the prior review and approval of Purchaser, which approval will not be unreasonably conditioned, withheld or delayed. Nothing contained in this Section 5.6, express or implied, will be construed to establish, amend or modify any Employee Benefit Plan or any other plan, program, arrangement, agreement, policy or commitment.

Section 5.6 Employee Retention. Purchaser shall offer employment to commence as of the Closing Date to all Business Employees of the Company, with a base salary or wage rate, as applicable that is no less favorable than that in effect immediately prior to the Closing Date, and such salary or wage rate shall not be reduced for a period of at least twelve months after the Closing Date, *provided*, *that*, Purchaser may reduce such salary or wage rate in connection with the dismissal, demotion or suspension of a Business Employee when Purchaser makes a good-faith determination that such dismissal, demotion or suspension is appropriate. Additionally, Purchaser shall credit all Business Employees with service with the Company prior to the Closing for purposes of Purchaser's employee benefit plan and vacation policy. This Section 5.6 shall not create any obligation of Purchaser to retain such Business Employees for any length of time or prevent the Purchaser from changing the terms of employment for any Business Employee after the Closing Date, except as provided in this Section 5.6.

Section 5.7 Repaid Indebtedness. With respect to the Closing Date Indebtedness set forth on Schedule 5.7 (the "Repaid Indebtedness"), the Company has obtained an executed payoff letter (each, a "Payoff Letter") in form and substance reasonably satisfactory to the Purchaser from the applicable lender or creditor, each of which Payoff Letters includes: (a) the balance required to pay off all obligations arising in connection with such Indebtedness in whole as of the Closing (including outstanding principal, all accrued and unpaid interest, prepayment penalties or interest and the per-diem interest amount (such amounts through and including the Closing Date, the "Payoff Amounts")); (b) a statement from each secured creditor that upon payment of the applicable Payoff Amount, any related Encumbrance or security interest in the Assets, the Transferred Shares or Equity Interests of the Company shall immediately be released; and (c) confirmations of the payments of the Payoff Amounts as of the Closing.

Section 5.8 Lock-Up. During the applicable Lock-Up Period, the Sellers will not, without the prior written consent of the Purchaser Parent (which consent may be withheld at the sole discretion of the Purchaser Parent), directly or indirectly offer, sell (including, without limitation, any short sale), assign, transfer, pledge, contract to sell, or otherwise dispose of, any of the shares of Common Stock issued as the Closing Share Payment. The "Lock-Up Period" shall be the period commencing on and including the date that the applicable shares of Purchaser Parent Common Stock are issued and ending on the day that is six months after the date of such issuance.

**ARTICLE VI**
**INDEMNIFICATION**

Section 6.1 Indemnification.

(a) By the Sellers. Subject to the limitations herein, including but not limited to Section 6.1(b) below, the Sellers shall jointly and severally indemnify, defend and hold harmless Purchaser and its Affiliated Persons (the "Purchaser Parties") from and against any and all Indemnifiable Losses suffered by Purchaser Parties arising out of, due to, or in connection with:

(i) any breach or inaccuracy of any representation or warranty made by the Company or such Seller in Article II or Article III of this Agreement or in any other Transaction Document or any allegation of any third party that, if true, would constitute such a breach or inaccuracy;

(ii) any breach of any covenant, agreement or undertaking made by such Seller in this Agreement or any allegation of any third party that, if true, would constitute such a breach;

(iii) any Closing Date Indebtedness or Closing Date Transaction Costs, to the extent not paid or satisfied in full prior to the Closing;

(iv) any demand, claim, Action, suit, cause of Action or the like made by any Person claiming to be an owner of any Company Shares which arises out of, or is based upon, having been or allegedly been the owner of any such Company Shares at or prior to the applicable Closing;

(v) any Indemnified Taxes; and

(vi) events or circumstances occurring or existing with respect to the ownership, operation and maintenance of the Business or the Assets prior to the Closing.

(b) Limitation on Sellers' Indemnification.

(i) The indemnification obligations under Section 6.1(a)(i) with respect to the representations and warranties of the Sellers contained in Article II are joint and several obligations; *provided, however*, subject to all other terms and conditions contained herein, if any Seller is required to indemnify a Purchaser Party arising from a breach of Article II such Seller's individual indemnity obligation shall be capped at its Proportional Share of any such Indemnifiable Losses. Each Seller's "Proportional Share" of any Indemnifiable Losses suffered by any Purchaser Party as to such Seller shall equal such Seller's proportional ownership of the Company as of the Closing, as reflected on Schedule 2.1(b). Notwithstanding the foregoing, nothing in this Section 6.1(b)(i) shall limit Purchaser's right to set off the full Note Amount pursuant to Section 6.5.

(ii) The indemnification obligations under Section 6.1(a)(i) with respect to the representations and warranties of the Sellers contained in Article III and under Section 6.1(a)(ii) with respect to the covenants of the Sellers contained herein, are several and not joint obligations. Notwithstanding the foregoing, nothing in this Section 6.1(b)(ii) shall limit Purchaser's right to set off the full Note Amount pursuant to Section 6.5.

(c) By Purchaser and Purchaser Parent. From and after the Closing, Purchaser and Purchaser Parent shall indemnify, defend and hold harmless each Seller and each of its respective Affiliated Persons (the "Seller Parties") from and against any and all Indemnifiable Losses arising out of or due to:

(i) any breach of any covenant, agreement or undertaking made by Purchaser or Purchaser Parent in this Agreement or any allegation of any third party that, if true, would constitute such a breach; and

(ii) any breach or inaccuracy of any representation or warranty made by Purchaser or Purchaser Parent in Article IV of this Agreement or in any other Transaction Document or any allegation of any third party that, if true, would constitute such a breach or inaccuracy.

Section 6.2 Indemnification Procedure.

(a) If an Indemnified Party claims a right to payment pursuant to this Agreement, such Indemnified Party shall send written notice of such claim to the Indemnifying Party (in the case of a claim for indemnification by any Seller or its Affiliates, such notice shall be sent to the Sellers' Representative). Such notice shall specify the basis for such claim. The failure by any Indemnified Party to so notify the Indemnifying Party shall not relieve the Indemnifying Party from any Liability that it may have to such Indemnified Party with respect to any such claim. If the Indemnifying Party does not notify the Indemnified Party within 30 days following its receipt of such notice that the Indemnifying Party disputes its Liability to the Indemnified Party under this Article VI or the amount thereof, the claim specified by the Indemnified Party in such notice shall be conclusively deemed an Indemnifiable Loss under this Article VI.

(b) Within five Business Days following the final determination of any claim for Indemnifiable Losses made by any of the Purchaser Parties (by mutual agreement or by arbitration pursuant to Section 7.5), such Seller shall be required to promptly pay to Purchaser, by wire transfer of immediately available funds to an account designated in advance by Purchaser, the amount of such Indemnifiable Losses.

(c) Within five Business Days following the final determination of any claim for Indemnifiable Losses made by a Seller, Purchaser shall be required to promptly pay to such Seller, by wire transfer of immediately available funds to an account designated in advance by such Seller, the amount of such Indemnifiable Losses.

Section 6.3 Defense of Claims. In case any third party claim, Action or proceeding is brought against any Indemnified Party in respect of which indemnification may be sought by the Indemnified Party pursuant to this Article VI (a "Claim"), the Parties shall discuss in good faith whether the Indemnifying Party or the Indemnified Party shall control the defense of such Claim; *provided, that* the Indemnifying Party shall not be able to control such defense without the consent of the Indemnified Party (which shall not be unreasonably withheld, conditioned or delayed). If the Indemnifying Party controls the Claim, it shall not settle or compromise such Claim without the prior written consent of the Indemnified Party (which shall not be unreasonably withheld, conditioned or delayed) unless such settlement includes as an unconditional term thereof the giving by the claimant or the plaintiff of a release of the Indemnified Party, reasonably satisfactory to the Indemnified Party, from all Liability with respect to such Claim, and the Indemnifying Party acknowledges that the Claim is fully indemnifiable hereunder. Each Party shall cooperate with the other Parties in the defense of any Claims and keep the other Parties apprised on a reasonably prompt basis of all material developments with respect to such Claims. This Section 6.3 shall not apply with respect to Claims for Taxes by a Governmental Entity. Costs relating to the defense of Claims pursuant to this Section 6.3 shall be borne by the Indemnifying Party.

Section 6.4 Survival of Representations and Warranties; Limits on Indemnification.

(a) The representations, warranties, covenants and agreements of the Parties contained in this Agreement shall survive the Closing for purposes of this Article VI as follows:

(i) all covenants and agreements of the Parties shall survive the Closing indefinitely, or for such shorter period as shall apply in accordance with their respective terms; and

(ii) the representations and warranties contained in Article II and Article III shall survive until January 1, 2025 (the "Survival Date"); *provided*, *however*, that the Fundamental Representations shall survive until the date that is ninety (90) days after the expiration of the applicable statute of limitations; *provided further* the representations and warranties forming the basis of any Pending Claims existing as of the applicable survival date shall survive (solely with respect to such Pending Claim) until the final resolution of such Pending Claim.

(b) Notwithstanding the foregoing, if, prior to the close of business on the last day of the applicable survival period, an Indemnifying Party shall have been properly notified of a claim for indemnity hereunder and such claim shall not have been finally resolved or disposed of at such date, such claim (and the basis for such claim) shall continue to survive and shall remain a basis for indemnity hereunder until such claim is finally resolved or disposed of in accordance with the terms hereof.

(c) Notwithstanding anything in this Section 6.4 to the contrary, in the event that any breach of any representation, warranty, covenant or agreement by a Party results from the criminal activity of such Party or constitutes fraud, intentional misrepresentation or willful misconduct, such representation, warranty, covenant or agreement shall survive the Closing and continue in full force and effect without any time limitation with respect to such breach.

(d) The Sellers shall not have any indemnification obligation under Section 6.1(a)(i) unless the aggregate of all Losses for which such indemnifying party would, but for this Section 6.4(d), be liable thereunder exceeds on a cumulative basis an amount equal to $150,000, subject to the Cap (as defined in the Section 6.4(e) below) and any and all other limitations provided herein; *provided*, *however*, that this Section 6.4(d) shall not apply with respect to Fundamental Representations or to claims based on or involving fraud, intentional misrepresentation, willful misconduct, or bad faith.

(e) Notwithstanding anything contained in this Agreement to the contrary, the maximum aggregate amount of Indemnifiable Losses that may be recovered by the Purchaser Parties pursuant to Section 6.1(a)(i) shall be $6,000,000 (the "Cap"); *provided,* that for purposes of this Section 6.4(e), the Cap shall not apply to any claim for Indemnifiable Losses arising from (i) fraud, intentional misrepresentation, willful misconduct, or bad faith (for which Purchaser Parties shall be entitled to recover all Losses) or (ii) any breach or inaccuracy of any Fundamental Representation (for which Purchaser Parties shall be entitled to recover all Losses up an amount equal to the aggregate amount of the Closing Payment including, in respect of any shares of Common Stock issued as such payments, the dollar amount of such shares based on the volume weighted average price per share used in the calculation of the number of such shares issued at the Closing).

(f) Notwithstanding anything contained in this Agreement to the contrary, the maximum aggregate amount of Indemnifiable Losses that may be recovered by Seller Parties under this Agreement shall be an amount equal to the Cap; *provided, that* that for purposes of this Section 6.4(f) the Cap shall not apply to any claim for Indemnifiable Losses arising from fraud, intentional misrepresentation or willful misconduct.

(g) For purposes of this Article VI, "material", "materiality", "in all material resects" and similar qualifiers and the "Knowledge of the Company" shall be disregarded for purposes of determining the amount of Indemnifiable Losses from any breach of representation or warranty.

(h) If any Indemnifiable Losses sustained by an Indemnified Party are covered by an insurance policy, the Indemnified Party shall use commercially reasonable efforts to collect such insurance proceeds. The amount of any Indemnifiable Losses payable by an Indemnifying Party under this Article VI shall be net of any amounts actually received by the Indemnified Party under applicable insurance policies. If the Indemnified Party receives any amounts under applicable insurance policies for any Indemnifiable Losses subsequent to an indemnification payment by an Indemnifying Party, then such Indemnified Party shall promptly reimburse the Indemnifying Party for any payment made or expense incurred by such Indemnifying Party in connection with providing such indemnification payment up to the amount received by the Indemnified Party (so long as the Indemnified Party is first made whole for all Indemnifiable Losses).

(i) The right to indemnification, reimbursement or other remedy based upon the representations, warranties, covenants and obligations set forth herein shall not be affected by any investigation conducted with respect to, or any knowledge acquired (or capable of being acquired) at any time, whether before or after the Closing Date, with respect to the accuracy or inaccuracy of or compliance with any such representation, warranty, covenant or obligation. The waiver of any condition based upon the accuracy of any representation or warranty, or on the performance of or compliance with any covenant or obligation, will not affect the right to indemnification, reimbursement or other remedy based upon such representations, warranties, covenants and obligations.

Section 6.5 Right of Set Off. Purchaser may set off any amount to which any Purchaser Party may be entitled under this Article VI against any amount otherwise payable by Purchaser or its Affiliates to the Sellers or any of their Affiliates pursuant to this Agreement; *provided*, *however* that to the extent that an indemnification claim arises before the Second Note Payment Date, the Purchaser must first satisfy such claims by reducing any remaining Note Amount before seeking payment directly from the Sellers; *provided further*, that if, and for so long as, Sellers' Representative objects in good faith to the amount or validity of such set off prior to final adjudication of any such dispute, Purchaser may not set off against any amount otherwise payable by Purchaser or its Affiliates to the Sellers or any of their Affiliates pursuant to this Agreement without an order from a court of competent jurisdiction. Purchaser and Sellers agree that pending final adjudication of any such dispute pursuant to this Section 6.5, Note Amount shall not be reduced with respect to such amount in dispute. The exercise of such set off right or the retention of any amount in dispute in good faith will not constitute a breach or event of default under this Agreement relating to any amount against which the set off is applied. If such claim arises after the Second Note Payment Date or if the amount to which the Purchaser Party is entitled exceeds the then-remaining Note Amount, Purchaser may seek payment directly from the Sellers. Other than as described in this Section 6.5, Purchaser's rights to indemnification under this Article VI shall not be in any manner limited by or to this right of set off.

Section 6.6 Adjustment to Purchase Price. Each of the Parties hereto agrees that any indemnification payments received pursuant to this Article VI are an adjustment to the purchase price payable to such Seller pursuant to Article I for Tax purposes.

**ARTICLE VII**
**MISCELLANEOUS PROVISIONS**

Section 7.1 Entire Agreement; Amendment; Waiver. This Agreement, the NDA and the other Transaction Documents constitute the entire agreement between the Parties pertaining to the subject matter contained herein and supersedes all prior agreements, representations and understandings, both written and oral, of the Parties and the rights and remedies of the Parties hereto with respect to the subject matter of this Agreement shall be governed by the express terms hereof. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the Parties. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver. No waiver shall be binding unless executed in writing by the Party making the waiver. This Agreement shall be binding on and shall inure to the benefit of the Parties hereto and their respective permitted legal representatives, heirs, successors and assigns.

Section 7.2 Counterparts; Copies. This Agreement and any amendments hereto may be executed by the Parties hereto in several counterparts, all of which together shall constitute one agreement binding on all Parties hereto, notwithstanding that all Parties have not signed the same counterpart, it being understood and agreed that delivery of a signed counterpart signature page to this Agreement by facsimile transmission, by electronic mail in portable document format (".pdf") form, or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document shall constitute valid and sufficient delivery thereof.

Section 7.3 Expenses. Except as otherwise specifically provided herein, Purchaser and the Sellers shall each respectively be responsible for their own fees and expenses regarding the Transactions.

Section 7.4 Notices. Any notice or other communication required or permitted hereunder shall be deemed to have been properly given and delivered if in writing by such Party and delivered personally or sent by email transmission or nationally recognized overnight courier service guaranteeing overnight delivery, addressed as follows:

| | |
|---|---|
| To Purchaser, Purchaser Parent or the Company: | c/o Akoustis Technologies, Inc.<br>985 Northcross Center Court, Suite A<br>Huntersville, NC 28078<br>Attention: General Counsel<br>Email: dwright@akoustis.com |
| with a copy (which shall not constitute notice) to: | K&L Gates LLP<br>300 South Tryon Street, Suite 1000<br>Charlotte, NC 28202<br>Attention: Sean M. Jones; Coleman Wombwell<br>Telephone: (704) 331-7406; (704) 331-7551<br>Email: sean.jones@klgates.com; coleman.wombwell@klgates.com |
| To Sellers' Representative or any Seller: | c/o Joe Collins<br>[****]<br>[****]<br>Email: [****] |
| with a copy (which shall not constitute notice) to: | Hanson Bridgett LLP<br>1676 North California Blvd., Suite 620<br>Walnut Creek, CA 94596<br>Attention: Eric Clarke<br>Telephone: (925) 746-8470<br>Email: eclarke@hansonbridgett.com |

or to such other representative or at such other address of a Party as such Party may furnish to the other Parties in writing. Any such notice, communication or delivery shall be deemed given or made (a) on the date of delivery, if delivered in person or by email transmission, or (b) on the first Business Day following timely delivery to a national overnight courier service or (c) on the fifth Business Day following it being mailed by registered or certified mail.

Section 7.5 Governing Law; Attorneys' Fees. This Agreement shall be construed in accordance with, and governed by, the laws of the State of Delaware without regard to conflicts of laws. In the event that any action or proceeding is commenced to enforce or interpret this Agreement, then, in addition to all other remedies to which it is entitled, but without duplication, the prevailing party shall be awarded its reasonable attorneys' fees and costs.

Section 7.6 Waiver of Jury Trial. EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY ACTION THAT MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND THEREFORE IT HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY ACTION.

Section 7.7 Exhibits. All exhibits, schedules and attachments to this Agreement and all exhibits, schedules and attachments thereto are hereby incorporated by reference into this Agreement and hereby made a part hereof (whether or not physically attached hereto or thereto). A list of disclosure schedules so incorporated by reference is attached hereto as Exhibit B.

Section 7.8 Captions; Headings. Articles, titles and headings to Sections herein are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement. Disclosure of any fact or item in any Disclosure Schedule hereto referenced by a particular section in this Agreement shall be deemed to be disclosed and incorporated into any other section of the Disclosure Schedules to which such disclosure is referenced or cross-referenced or to where the relevance of such disclosure is readily apparent.

Section 7.9 No Third-Party Beneficiary. Except for the Seller Parties and the Purchaser Parties as provided in Article VI, the Parties do not intend to confer any benefit under this Agreement on anyone other than the Parties hereto, and nothing contained in this Agreement shall be deemed to confer any such benefit on any such other Person.

Section 7.10 Assignment. No Party may assign its rights or delegate its duties under this Agreement without the prior written consent of the other Parties. This Agreement will be binding upon and will inure to the benefit of the Parties and their respective successors and permitted assigns, and any reference to a Party will also be a reference to the successors and permitted assigns thereof.

Section 7.11 Severability. If any provision of this Agreement is capable of two constructions, only one of which would render the provision valid, legal and enforceable, the provision shall have the meaning which so renders it valid, legal and enforceable. If any provision of this Agreement or the application of any provision hereof to any person or circumstance is determined to be invalid, unenforceable or illegal under present or future laws, such determination shall not affect any other provision of this Agreement or the application of such provision to any other person or circumstance, all of which shall remain in full force and effect. If any provision of this Agreement is deemed invalid, illegal or unenforceable, the Parties hereby agree to submit to as similar a provision as possible that is valid, legal and enforceable.

Section 7.12 Drafting. The Parties acknowledge and confirm that they or their respective attorneys have participated jointly in the review and revision of this Agreement and that it has not been written solely by any one Party or counsel for any one Party. In interpreting and enforcing this Agreement, each representation and warranty will be given independent significance of fact and will not be deemed superseded or modified by any other representation or warranty. The Parties therefore stipulate and agree that the rule of construction to the effect that any ambiguities are to be or may be resolved against the drafting Party shall not be employed in the interpretation of this Agreement to favor any Party against another. As used herein, the terms "include," "includes," and "including" are not limiting, the word "or" is disjunctive, but not necessary exclusive and the words "hereof," "herein" and "hereunder" and words of similar import shall refer to this Agreement as a whole and not to any particular provision of this Agreement. Any materials "made available" or "provided" to Purchaser shall mean that such materials were posted to the electronic dataroom created by the Sellers or the Company for the Transactions at least two Business Days prior to the Closing Date.

Section 7.13 Currency. Unless otherwise specified in this Agreement, all references to currency, monetary values and dollars set forth herein shall mean United States (U.S.) dollars and all payments hereunder shall be made in United States dollars.

Section 7.14 Relationship Among Sellers.

(a) Each Seller hereby irrevocable appoints Collins (such person, when acting in such capacity, the "Sellers' Representative") as the sole representative of the Sellers to act as the agent and on behalf of Sellers regarding any matter relating to the Transaction or Transaction Documents, including for the purposes of (i) making decisions with respect to the determination of the Closing Payment (and the components thereof) and any other amounts due or determinations made under Section 1.2, including any determinations and settling any matter in connection with the adjustments to the Closing Payment, (ii) determining whether the Closing deliverables required under Section 1.2 have been satisfied and supervising the Closing, including waiving any condition, as determined by the Sellers' Representative in his sole discretion, (iii) interpreting the terms and provisions of the Transaction Documents, (iv) executing and delivering and receiving deliveries of all agreements, certificates, statements, notices, approvals, extensions, waivers, undertakings, amendments and other documents required or permitted to be given in connection with the consummation of the Transactions, (v) agreeing to any amendment of any Transaction Documents or any waiver of any right under any Transaction Documents, (vi) receiving service of process in connection with any claims under the Transaction Documents, (vii) taking any and all actions that may be necessary or desirable, as determined by the Sellers' Representative, in his sole discretion, in connection with a claim for indemnification under Article VI hereof, including negotiating or entering into settlements or compromises of any indemnification claim, (viii) taking all actions necessary or appropriate, as determined by the Sellers' Representative, in his sole discretion, in connection with the Transaction Documents and the Transactions, and (ix) exercising such rights, power or authority as are incidental to the foregoing. The Purchaser may conclusively rely upon, without independent verification or investigation, all decisions made by the Sellers' Representative in connection with the Transaction Documents in writing and signed by the Sellers' Representative.

(b) Each Seller hereby appoints the Sellers' Representative as such Seller's true and lawful attorney-in-fact and agent, with full powers of substitution and resubstitution, in such Seller's name, place and stead, in any and all capacities, in connection with the Transactions, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection with the Transactions, including the sale of such Seller's portion of the Company Shares as fully to all intents and purposes as such Seller might or could do in person. The Sellers' Representative hereby acknowledges and accepts such appointment to act as the agent and attorney-in-fact for the Sellers as outlined in this Section 7.14.

(c) Except for actual, intentional fraud or willful misconduct on his part, the Sellers' Representative shall have no liability to any Seller under the Transaction Documents or any other document executed or delivered in connection with the Transactions, or in connection herewith, for any action or omission by the Sellers' Representative on behalf of Sellers. The Sellers' Representative may, in all questions arising under this Agreement, rely on the advice of counsel, and, without limiting the generality of the foregoing provisions of this Section 7.14(c), for anything done, omitted or suffered in good faith by the Sellers' Representative in accordance with such advice, the Sellers' Representative shall not be liable to any Seller or any other Person in connection therewith. IN NO EVENT SHALL THE SELLERS' REPRESENTATIVE BE LIABLE TO ANY SELLER HEREUNDER OR IN CONNECTION HEREWITH FOR ANY SPECIAL, PUNITIVE, INDIRECT, REMOTE, SPECULATIVE OR CONSEQUENTIAL DAMAGES (INCLUDING WITH RESPECT TO ANY LOST REVENUES OR LOST PROFITS).

(d) The Sellers' Representative shall be indemnified by Sellers for and shall be held harmless by the Sellers against any damages incurred by the Sellers' Representative relating to his conduct as Sellers' Representative, other than any damages that have been finally determined by a court of competent jurisdiction to result from the Sellers' Representative's actual, intentional fraud or willful misconduct in connection with his performance hereunder.

(e) All of the immunities, powers, authority and rights to indemnification, granted or provided to the Sellers' Representative under this Agreement shall survive the Closing. The grant of authority provided for herein is coupled with an interest and shall be irrevocable without the consent of the Sellers' Representative and survive the death, incapacity, bankruptcy, dissolution, winding up or liquidation of any Seller; provided, however, that, in the event of the death of the Sellers' Representative, the executor of the Sellers' Representative's estate may appoint a successor to the Sellers' Representative, which successor shall have all the immunities, powers, authority and rights to indemnification of the Sellers' Representative provided for in this Section 7.14.

(f) After Closing, a decision, act, consent or instruction of the Sellers' Representative with respect to this Agreement, will constitute a decision of all the Sellers and will be final, binding and conclusive upon each Seller, and the Company, Purchaser and Purchaser Parent may rely upon any decision, act, consent or instruction of the Sellers' Representative as being the decision, act, consent or instruction of each Seller. Any notice or communication delivered by the Purchaser, or the Company to the Sellers' Representative in accordance with the provisions of this Agreement shall be deemed to have been delivered to all Sellers. The Purchaser, Purchaser Parent and the Company, and their respective Affiliates, shall be entitled to rely exclusively upon any communication or writings given or executed by the Sellers' Representative in connection with actions taken pursuant to Section 1.2 hereof and any claims for indemnity pursuant to this Agreement and shall not be liable in any manner whatsoever for any action taken or not taken in reliance upon the actions taken or not taken or communications or writings given or executed by the Sellers' Representative.

***[signatures follow on next page]***

**IN WITNESS WHEREOF**, the parties have caused this Agreement to be executed, under seal, by their respective duly authorized officers, effective on the date and year first above written.

**PURCHASER:**

**AKOUSTIS, INC.**

By: /s/ Jeffrey B. Shealy
Name: Jeffrey B. Shealy
Title: Chief Executive Officer

**PURCHASER PARENT**:

**AKOUSTIS TECHNOLOGIES, INC.**

By: /s/ Jeffrey B. Shealy
Name: Jeffrey B. Shealy
Title: Chief Executive Officer

**IN WITNESS WHEREOF**, the parties have caused this Agreement to be executed, under seal, by their respective duly authorized officers, as applicable, effective on the date and year first above written.

**SELLERS' REPRESENTATIVE:**

By: /s/ Joseph Collins
Name: Joseph Collins

**SELLERS:**

SAIRA Y. HAQ, TRUSTEE, NON-EXEMPT MARITAL TRUST CREATED MAY 26, 2006 UNDER THE TERMS OF THE HAQ LIVING TRUST DATED APRIL 12, 1989

By: /s/ Saira Y. Haq
Name: Saira Y. Haq
Title: Trustee

By: /s/ Laila Collins
Name: Laila Collins

By: /s/ Nabila Haq
Name: Nabila Haq

By: /s/ Yousuf Haq
Name: Yousuf Haq

By: /s/ Joseph Collins
Name: Joseph Collins

**IN WITNESS WHEREOF**, the parties have caused this Agreement to be executed, under seal, by their respective duly authorized officers, effective on the date and year first above written.

**COMPANY:**

**GRINDING AND DICING SERVICES, INC.**

By: /s/ Joseph Collins
Name: Joseph Collins
Title: Chief Executive Officer

**EXHIBIT A**

**DEFINED TERMS**

Definitions. The following terms, as used herein, have the following meanings:

"Action" means any action, suit, arbitration, claim, complaint, charge, mediation, proceeding, audit or investigation by or before, or could be brought by or before (for threatened Actions), any Governmental Entity.

"Actual Working Capital" shall have the meaning provided in Section 1.3(b).

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For purposes of this definition, control of a Person means the power, direct or indirect, to direct or cause the direction of the management and policies of such Person whether by Contract or otherwise and, in any event and without limitation of the previous sentence, any Person owning fifty percent (50%) or more of the voting securities of another Person shall be deemed to control that Person.

"Affiliated Persons" of any specified Person means (i) any Affiliate of such Person or any other Person in which such Person has an equity interest, (ii) if such Person is an individual, such Person's immediate family members and their respective Affiliates, and (iii) any of the Affiliates, equityholders, successors, assigns, officers, managers, directors, agents or employees of any of the foregoing.

"Aggregate Cash Payment" means, together, the Closing Cash Payment and the Note Amount.

"Agreement" shall have the meaning provided in the section title STOCK PURCHASE AGREEMENT.

"Anti-Corruption or Anti-Bribery Law" means, collectively (a) the U.S. Foreign Corrupt Practices Act of 1977; and (b) any other applicable U.S. or non-U.S. anti-corruption or anti-bribery law or regulation; and (c) any rules, regulations or directives related to any of the foregoing.

"Asset" shall mean any real, personal, mixed, tangible or intangible property of any nature of the Company, including cash, readily marketable securities, cash-equivalent liquid assets, prepayments, deposits, security deposits under any leases, escrows, Receivables, Tangible Property, or Contracts to which the Company is a party, intangibles of the Company, Company Intellectual Property Rights, goodwill and other intangibles, and claims, causes of Action other legal rights and remedies of the Company.

"Balance Sheet" shall have the meaning provided in Section 2.5(a).

"Business" shall have the meaning provided in the section titled RECITALS.

"Business Day" means any day except Saturday, Sunday or any day on which banks are generally not open for business in the city of New York City, New York.

"Business Employees" shall have the meaning provided in Section 2.14(a).

"Cap" shall have the meaning provided in Section 6.4(d).

"CARES Act" shall have the meaning provided in Section 2.22(e).

"CEO Employment Agreement" means the employment agreement entered into between the Purchaser and Collins, dated as of the Closing Date in substantially the form as attached hereto as Exhibit C.

"Closing" shall have the meaning provided in Section 1.1.

"Closing Cash Payment" shall have the meaning provided in Section 1.2(a).

"Closing Company Shares" shall have the meaning provided in Section1.1.

"Closing Date" shall have the meaning provided in Section 1.1.

"Closing Date Indebtedness" means any Indebtedness of the Company outstanding as of immediately prior to the Closing.

"Closing Date Transaction Costs" means any costs, payables, fees, disbursements and expenses incurred by the Company or the Sellers in connection with the negotiation, preparation or execution of the Transaction Documents and the consummation of the Transactions, including fees and expenses of the Company's or any Seller's financial advisors, legal counsel, investment bankers, accountants and auditors, whether accrued for or not, that are unpaid immediately prior to the Closing, and including, for clarity, bonuses, discretionary payments, severance payments, retention payments or change-in-control payments payable by the Company or any of its Affiliates to any employee arising in connection with or related to the Transactions, including the employer portion of any payroll, social security, unemployment or similar Taxes attributable to any compensatory payment made in connection therewith.

"Closing Payment" shall have the meaning provided in Section 1.2(a).

"Closing Share Payment" shall have the meaning provided in Section 1.2(a).

"Closing Statement" shall have the meaning provided in Section 1.3(b).

"Code" means the United States Internal Revenue Code of 1986, as amended.

"Collins" shall have the meaning provided in the Section titled STOCK PURCHASE AGREEMENT.

"Common Stock" means the common stock, par value $0.001 per share, of Purchaser Parent.

"Company" shall have the meaning provided in the section titled STOCK PURCHASE AGREEMENT.

"Company Bank Accounts" means the Company's accounts with US Bank having account numbers ending in 6289.

"Company Benefit Plans" shall have the meaning provided in Section 2.15(a).

"Company Intellectual Property Rights" means (a) all Intellectual Property Rights for which the Company holds or purports to hold any license or rights, and (b) all Company-Owned Intellectual Property Rights.

"Company-Owned Intellectual Property Rights" means all Intellectual Property Rights that the Company owns or purports to own.

"Company Registered Intellectual Property Rights" shall have the meaning provided in Section 2.13(a).

"Company Shares" shall have the meaning provided in the section titled RECITALS.

"Company Shares Amount" shall have the meaning provided in Section 1.1.

"Contracts" means all contracts, leases, licenses, arrangements, indentures, notes, bonds, mortgages, loans, instruments, guaranties and other agreements (including any amendments and other modifications thereto, but excluding all purchase orders) to which the Company is a party or which is otherwise binding on the Company (whether oral, written or otherwise).

"Contributor" shall have the meaning provided in Section 2.13(e).

"COVID-19" means the diseases caused by SARS-CoV-2 virus or COVID-19, and any evolutions or mutations thereof or related and/or associated epidemics, pandemic or disease outbreaks.

"COVID-19 Effect" means any event, condition, state of facts, change, occurrence, circumstance or development related to: (a) the presence, transmission, threat or fear of COVID-19; or (b) any mandatory or advisory restriction, quarantine, "shelter in place", "stay at home", workforce reduction, remote or telework policy, social distancing, shut down, closure, sequester or other Law issued by any Governmental Entity in connection with or in response to COVID.

"Disclosure Schedules" means the disclosure schedules delivered by the Sellers concurrently with the execution and delivery of this Agreement.

"Dispute Notice" shall have the meaning provided in Section 1.3(d).

"Effective Date" shall have the meaning provided in the section titled STOCK PURCHASE AGREEMENT.

"Employee Benefit Plan" means (i) each employee benefit plan as defined in Section 3(3) of ERISA, whether or not subject to ERISA; (ii) all Contracts with employees, consultants or contractors entered into in connection with such individual's provision of services to the Company, (iii) any equity bonus, equity purchase, option, restricted equity, appreciation right, profits interest, profit sharing, retention, severance, change in control, transaction, bonus, deferred compensation, incentive or similar equity-based plan or agreement and (iv) each retirement, welfare, insurance or fringe benefit plan or arrangement, whether or not subject to ERISA and whether or not funded, including, without limitation, deferred compensation, severance, change of control, bonus, vacation, paid time off, incentive, health, disability and other welfare benefit plans.

"Employment Contract" means the, collectively, the offer letters and the Confidentiality, Non-Compete and Non-Solicitation Agreements, each dated as of the date hereof, by and between Purchaser and certain employees of the Company.

"Encumbrance" shall mean any lien, pledge, hypothecation, charge, mortgage, security interest, encumbrance, equity, trust, equitable interest, claim, preference, right of possession, lease, tenancy, license, encroachment, covenant, infringement, interference, Order, proxy, option, right of first refusal, preemptive right, community property interest, legend, defect, impediment, exception, reservation, limitation, impairment, imperfection of title, condition or restriction of any nature (including any restriction on the voting of any security, any restriction on the transfer of any security or other asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset), except, with respect to equity interests, restrictions on transfer under applicable securities laws.

"Environmental Law" means any Law or Permit relating to the regulation or protection of the environment, occupational or human health and safety, or to emissions, discharges, releases or threatened releases of Hazardous Substances into the environment (including, without limitation, ambient air, soil, surface water, ground water, wetlands, land or subsurface strata) or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Substances, including without limitation the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. §§ 9601 et seq.), the Clean Air Act (42 U.S.C. § 7401 et seq.), the Federal Water Pollution Control Act (33 U.S.C. §§ 1251 et seq.), the Oil Pollution Act of 1990 (33 U.S.C. § 2701 et seq.), the Resource Conservation and Recovery Act of 1976 ("RCRA") (42 U.S.C. §6901 et seq.), the Safe Drinking Water Act (42 U.S.C. §300f et seq.), the Toxic Substances Control Act (15 U.S.C. §2601 et seq.), and the Pollution Prevention Act of 1990, (42 U.S.C. § 13101 et seq.) and the state and local counterparts thereof..

"ERISA" means the United States Employee Retirement Income Security Act of 1974, as amended, and the rules and regulations promulgated thereunder.

"ERISA Affiliate" means any Person (whether incorporated or unincorporated) that together with the Company would be deemed a "single employer" within the meaning of Section 414 of the Code.

"Financial Statements" shall have the meaning provided in Section 2.5(a).

"Financial Statements Date" shall have the meaning provided in Section 2.5(a).

"First Note Payment" shall have the meaning provided in Section 1.4(a).

"First Note Payment Date" shall have the meaning provided in Section 1.4(a).

"Fundamental Representations" shall mean Section 2.1 (Organization and Power of the Company; Capitalization), Section 2.2 (Due Authorization; Enforceability), Section 2.12 (No Broker or Finder; Fees), Section 2.16 (Related Party Transactions), Section 2.20 (Environmental), Section 3.1 (Power and Authorization), Section 3.2 (Enforceability), Section 3.5 (No Broker or Finder; Fees) and Section 3.6 (Amounts Owed to the Sellers).

"Governmental Entity" means any federal, state, local or foreign government, any political subdivision thereof, or any arbitrator, court, administrative or regulatory agency, department, instrumentality, body or commission or other governmental authority or agency, domestic or foreign.

"Guaranty Agreement" means the Guaranty and Security Agreement entered into between the Purchaser and the Sellers' Representative, dated as of the Closing Date, in the form agreed by the Purchaser and the Sellers' Representative.

"Hazardous Substance" means any waste, pollutant, contaminant, toxic substance or hazardous substance or waste regulated by, or for which liability or standards of care are imposed by, any Environmental Law, including, without limitation, petroleum, including crude oil or any fraction thereof, any radioactive material, polychlorinated biphenyls and asbestos in any form or condition.

"Indebtedness" means with respect to the Company, without duplication, any and all (i) indebtedness for money borrowed from others and purchase money indebtedness, in each case whether secured or unsecured or evidenced by notes, debentures, bonds or other debt instruments; (ii) all obligations evidenced by bonds, debentures, notes, letters of credit, or similar instruments; (iii) all obligations in respect of any interest rate swap, hedge, collars or cap agreement (including any amounts payable in connection with the termination or settlement of hedging obligations); (iv) accrued but unpaid interest expense and unpaid penalties, fees, fines, charges and prepayment premiums; (v) capital lease obligations of the Company, including all vehicle and equipment leases of the Company; (vi) off-balance sheet financing, including synthetic leases and project financing; (vii) obligations for the deferred purchase price of property or services, including all earn out, installment and similar contingent payment obligations arising from the acquisition of any business; (viii) purchase price indebtedness created or arising under any conditional sale or other title retention agreement with respect to property acquired; (ix) indebtedness secured by a mortgage, security interest or other Encumbrance; (x) all obligations in respect of any deferred compensation, bonus or incentive plan, agreement, arrangement or policy sponsored or maintained by the Company, including the employer portion of any payroll, social security, unemployment or similar Taxes attributable thereto; (xi) any credit balances owed to customers; (xii) amounts or obligations in respect of any capital expenditures to be made or paid prior to Closing that are not made or paid in full prior to the Closing; (xiii) reimbursement obligations under any letter of credit, banker's acceptance or similar credit transaction; (xiv) guarantees of any of the items set forth in the foregoing clauses (i) through (xiii) or any other guarantee of any indebtedness or obligation of a third party; (xv) all outstanding principal, accrued and unpaid interest (or interest equivalent), expenses, fees, penalties, prepayment premiums or penalties, make-whole payments, consent or breakage fees, and other amounts payable, with respect to the items in each of the foregoing clauses (i) through (xiv).

"Indemnifiable Losses" with respect to any claim by an Indemnified Party for indemnification pursuant to this Agreement, means any and all losses, Liabilities, claims, penalties, damages, obligations, decline in value, payments, fines, costs and expenses (including the costs and expenses of any and all Actions, demands, assessments, judgments, settlements and compromises relating thereto and costs of investigation and reasonable attorneys' fees actually incurred in connection therewith), including without limitation all consequential and incidental damages of any kind (including with respect to financial earnings, diminution of value and multiple of earnings) suffered by such Indemnified Party (it being understood that in calculating Indemnifiable Losses incurred by the Purchaser Parties no discount shall be applied in light of any proportional equity interest.

"Indemnified Party" means the Seller Parties having a right to be indemnified by Purchaser on the one hand, or the Purchaser Parties having a right to be indemnified by the Sellers on the other hand, as the case may be, pursuant to Section 6.1.

"Indemnified Taxes" means (a) any and all Taxes (or the non-payment thereof) of the Company for all taxable periods (or portions thereof) ending on or prior to the Closing Date, (b) any liability for the payment of any amounts of the type described in clause (a) of this definition as a result of the Company being a member of an affiliated, consolidated, combined or unitary group for any Tax period, including pursuant to Treasury Regulations Section 1.1502-6 (or any analogous or similar applicable state, local or foreign Tax Law), and (c) any liability for the payment of any amounts of the type described in clause (a) or (b) as a result of the Company being liable for another Person's Taxes as a transferee or successor, by Contract or otherwise by operation of Law.

"Indemnifying Party" means a Seller having an obligation to indemnify the Purchaser Parties on the one hand, or Purchaser having an obligation to indemnify the Seller Parties on the other hand, as the case may be, pursuant to Section 6.1.

"Insurance Contracts" shall have the meaning provided in Section 2.19.

"Intellectual Property Rights" means any and all common law or statutory rights anywhere in the world arising under or associated with (i) patents, patent applications, patent disclosures, statutory invention registrations, registered designs, and similar or equivalent rights in inventions and designs, and all rights therein provided by international treaties and conventions ("Patents"), (ii) trademarks, service marks, trade dress, trade names, logos, corporate names, and other designations of origin and registrations and applications for registration thereof together with all of the goodwill associated therewith ("Marks"), (iii) copyrights (registered or unregistered) and any other equivalent rights in works of authorship (including rights in software as a work of authorship) and any other related rights of authors, and registrations and applications for registration thereof ("Copyrights"), (iv) mask works and registrations and applications for registration thereof, (v) computer software programs, applications, data, data bases and related technical documentation, (vi) trade secrets (including, without limitation, ideas, formulas, compositions, inventions (whether patentable or unpatentable and whether or not reduced to practice), know-how, manufacturing and production processes and techniques, research and development information, drawings, specifications, designs, plans, proposals, technical data, financial and marketing plans and customer and supplier lists and information), in each case, that derives independent economic value, whether actual or potential, from not being known to other Persons ("Trade Secrets"), (vii) Internet domain names, uniform resource locators, Internet Protocol addresses, social media handles, and other names, identifiers, and locators associated with Internet addresses, sites, and services, and (viii) other similar or equivalent intellectual property rights anywhere in the world.

"IRS" shall have the meaning provided in Section 2.15(a).

"IT Assets" means all software, computer systems, personal computers, laptops, notebook computers, mobile phones and other personal computing devices, telecommunications equipment, databases, Internet Protocol addresses, data rights and documentation, reference and resource materials relating thereto, and associated contracts and contract rights (including software license agreements, source code escrow agreements, support and maintenance agreements, electronic database access contracts, website hosting agreements, software or website development agreements, outsourcing agreements, service provider agreements, interconnection agreements and telecommunications agreements).

"Key Customers" shall have the meaning provided in Section 2.18.

"Key Suppliers" shall have the meaning provided in Section 2.18.

"Knowledge" means (i) with respect to the Company, all facts known by Collins, Laila Collins, Yuriko Haq and Company management on the date hereof or which would be known after reasonable inquiry and the exercise of reasonable diligence with respect to the matters at hand and (ii) with respect to the Sellers, all facts known by any Seller on the date hereof or which would be known after reasonable inquiry and the exercise of reasonably diligence with respect to the matters at hand.

"Laws" mean all statutes, laws, rules, codes, regulations, rulings, restrictions, ordinances, orders, decrees, approvals, directives, judgments, injunctions, writs, awards and decrees of, or issued by, any Governmental Entity.

"Lease" means the three-year lease agreement by and between the Company and the lessor of the Company's current facilities with the terms of such lease to be acceptable to Purchaser including the option for the Company to extend the lease for up to two additional three-year terms.

"Leased Real Property" shall have the meaning provided in Section 2.6.

"Legal Requirements" shall mean any federal, state, local, municipal, foreign or other law, statute, legislation, constitution, principle of common law, resolution, ordinance, code, edict, decree, proclamation, treaty, convention, rule, regulation, ruling, directive, pronouncement, requirement, specification, determination, decision, opinion or interpretation that is or has been issued, enacted, adopted, passed, approved, promulgated, made, implemented or otherwise put into effect by or under the authority of any Governmental Entity.

"Liability" means any liability, Indebtedness, obligation, damages, loss, expense or commitment of any kind or nature, whether known or unknown, asserted or unasserted, absolute or contingent, accrued or unaccrued, liquidated or unliquidated, or due or to become due.

"Lock-Up Period" shall have the meaning provided in Section 5.8.

"Market Disruption Event" means (a) a material adverse change in, or a material adverse effect upon, the operations, business, properties or condition (financial or otherwise) of the Company; (b) a material impairment of the ability of the Company to perform in any material respect its obligations under any Transaction Document; or (c) a material adverse effect upon the legality, validity, binding effect or enforceability of any material provision of any Transaction Document.

"Material Contracts" shall have the meaning provided in Section 2.10(a).

"NDA" shall have the meaning provided in Section 5.3.

"Note" shall have the meaning provided in Section 1.2(b).

"Note Amount" shall have the meaning provided in Section 1.2(b).

"Restrictive Covenant Agreement" means the restrictive covenant agreement to be executed by each Seller in substantially the form as attached hereto as Exhibit D.

"Order" shall mean any: (a) order, judgment, injunction, edict, decree, ruling, pronouncement, determination, decision, opinion, verdict, sentence, subpoena, writ or award that is or has been issued, made, entered, rendered or otherwise put into effect by or under the authority of any court, administrative agency or other Governmental Entity or any arbitrator or arbitration panel; or (b) Contract with any Governmental Entity that is or has been entered into in connection with any Proceeding.

"Ordinary Course" means the ordinary course of business consistent with past practices of the Company.

"Organizational Documents" means the certificate of incorporation, bylaws (or equivalent organizational or governing documents), and other organizational or governing documents, agreements or arrangements, each as amended to date of a Person.

"Party" shall have the meaning provided in the section titled STOCK PURCHASE AGREEMENT.

"Payoff Amounts" shall have the meaning provided in Section 5.7.

"Payoff Letter" shall have the meaning provided in Section 5.7.

"PCI-DSS" means all applicable portions of the set of comprehensive requirements for enhancing payment account data security developed by the founding payment brands of the PCI Security Standards Counsel (i.e., the Payment Card Industry Data Security Standards), as amended from time to time.

"Pending Claims" means claims for recovery of Indemnifiable Losses pursuant to Section 6.1(a) that are pending at any time prior to the Survival Date.

"Permits" means all notifications, licenses, permits (including but not limited to those required by all Environmental Laws, as well as construction and operation related permits), consents, qualifications, franchises, certificates, approvals, exemptions, classifications, registrations, clearances, consents and other similar documents and authorizations issued by any Governmental Entity, and applications therefor.

"Permitted Encumbrances" means (i) Encumbrances for Taxes not yet due and payable and (ii) Encumbrances of carriers, warehousemen, mechanics, materialmen and repairmen incurred in the Ordinary Course, for which payment of monies is not yet delinquent.

"Person" means any individual, corporation, partnership, joint venture, limited liability company, trust, labor union, unincorporated organization or Governmental Entity.

"Personal Information" means any information that identifies a particular individual and, when referring to a Law concerning the privacy or security of Personal Information, has the same meaning as the similar or equivalent term defined under such Law.

"PPP Lender" shall have the meaning provided in Section 2.22(e).

"PPP Loan" shall have the meaning provided in Section 2.22(e).

"Pre-Closing Tax Period" means any taxable period ending on or before the Closing Date and, with respect to any taxable period beginning before and ending after the Closing Date, the portion of such taxable period ending on and including the Closing Date.

"Privacy Laws" means (a) all applicable Laws and contractual and fiduciary obligations related to data privacy, data protection, data security or marketing, including the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (applicable as of 25 May 2018), as amended, including any nation's implementing legislation and the equivalent laws of Switzerland, and the E-Privacy Directive (i.e., Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002, and as amended in 2009, including any nation's implementing legislation), the California Consumer Privacy Act of 2018, as amended (Cal. Civ. Code §§ 1798.100 to 1798.199), the Children's Online Privacy Protection Act, the Gramm-Leach-Bliley Act, state data security laws, state social security number protection laws, state data breach notification laws, state consumer protection laws, state biometric privacy laws, the requirements and guidance set forth in regulations, guidelines and agreements containing consent orders published by regulatory authorities such as the U.S. Federal Trade Commission, U.S. Federal Communications Commission, and applicable European Union and EU member state data protection authorities, and all other applicable data protection laws of the jurisdictions in which Seller or any of its Affiliates operate the Business or from which Seller or any of its Affiliates receive Protected Information in connection with the Business, as currently in effect and as may be amended from time to time; (b) the internal privacy policy of Seller and its Affiliates and any public statements that Seller and its Affiliates have made regarding its privacy policies and practices; (c) third party privacy policies with which Seller or its Affiliates have been or is contractually obligated to comply with respect to the conduct of the Business; and (d) any rules of any applicable self-regulatory organizations in which Seller or its Affiliates are or have been a member and/or with which Seller or its Affiliates are or have been contractually obligated to comply.

"Privacy Policy" means any past or current written internal or external data privacy and security policies and statements of Seller and its Affiliates applicable to the Business.

"Proceeding" shall mean any Action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding and any informal proceeding), prosecution, contest, hearing, inquiry, inquest, audit, examination or investigation that is or has been commenced, brought, conducted or heard by or before, or that otherwise has involved or may involve, any Governmental Entity or any arbitrator or arbitration panel.

"Protected Information" means (a) Personal Information, (b) any other information that is governed, regulated or protected by one or more Privacy Laws, and (c) any information that is covered by PCI-DSS.

"Purchase Price" shall have the meaning provided in Section 1.2.

"Purchaser" shall have the meaning provided in in the section titled STOCK PURCHASE AGREEMENT.

"Purchaser Parent" shall have the meaning provided in in the section titled STOCK PURCHASE AGREEMENT.

"Purchaser Parties" shall have the meaning provided in Section 6.1(a).

"Receivables" shall include all receivables or rights to payment of any nature arising from the sale of any products or services offered by the Company.

"Registered Intellectual Property Rights" means all United States, international or foreign (i) issued Patents and Patent applications, (ii) registered Marks and applications to register Marks, (iii) registered Copyrights and applications for Copyright registration, (iv) domain name registrations, and (v) all other Intellectual Property that are registered with, issued by or applied for by or with any Governmental Entity or other public or quasi-public legal authority (including domain name registrars).

"Related Party Agreement" shall have the meaning provided in Section 2.16.

"Release" means any release, spill, emission, leaking, pumping, injection, deposit, disposal, discharge, dispersal, leaching or migration into the indoor or outdoor environment or into or out of any property, including the movement of Hazardous Substances through or in the air, soil, surface water or groundwater.

"Relevant Stock Exchange" means the Nasdaq Capital Market or, if the Common Stock is not then listed on the Nasdaq Capital Market, the principal other national or regional securities exchange or market on which the Common Stock is listed or admitted for trading.

"Remediation" means any action required by a Governmental Entity or necessary pursuant to Environmental Law to (a) clean up, remove, treat or in any other way address Hazardous Substances in the indoor or outdoor environment; (b) prevent the Release or threat of Release or minimize the further Release of Hazardous Substances; or (c) perform pre remedial studies and investigations and post remedial monitoring and inspection.

"Repaid Indebtedness" shall have the meaning provided in Section 5.7.

"Resolution Accountants" shall have the meaning provided in Section 1.3(e).

"SEC" means the U.S. Securities and Exchange Commission.

"Second Note Payment" shall have the meaning provided in Section 1.4(b).

"Second Note Payment Date" shall have the meaning provided in Section 1.4(b).

"Securities Act" shall have the meaning provided in Section 3.8.

"Security Breach" shall have the meaning provided in Section 2.13(i).

"Seller" shall have the meaning provided in the section titled STOCK PURCHASE AGREEMENT.

"Seller Parties" shall have the meaning provided in Section 6.1(b).

"Sellers' Representative" shall have the meaning provided in Section 7.14.

"Straddle Period" means a Taxable period that begins on or before, and ends after the Closing Date.

"Survival Date" shall have the meaning provided in Section 6.4(a)(ii).

"Tangible Property" shall mean all equipment, leaselines, materials, inventory, prototypes, tools, supplies, furniture, fixtures, improvements and all other tangible assets of the Company.

"Target Working Capital" shall have the meaning provided in Section 1.3(a)(i).

"Tax Return" means any report, return, bill, claim for refund, declaration or other information return or statement required to be supplied to a Governmental Entity relating to Taxes, including any schedule or attachment thereto and any estimated returns and any amendment thereof.

"Taxes" (and with correlative meanings, "Tax", "Taxable" and "Taxing") means (i) any and all federal, state, local, foreign or other taxes, assessments, charges, duties, fees, levies and other governmental charges (however denominated or computed, and including interest, penalties or additions associated therewith), including income, franchise, capital stock, real property, personal property, tangible, withholding, employment, payroll, social security, social contribution, unemployment, worker's compensation, unclaimed property and escheat, disability, transfer, sales, use, production, lease, transaction privilege, excise, severance, windfall profits, profits, license, occupation, registration, stamp, premium, environmental, natural resources, documentary or documentation, customs duties, tariff, import, alternative or add-on minimum, ad valorem, net worth, estimated, gross receipts, value-added and all other taxes of any kind imposed by any Governmental Entity, in each case whether disputed or not and (ii) Liability for the payment of any amounts of the type described in clause (i) as a transferee or successor, by Contract, from any express or implied obligation to indemnify, assume or succeed to the Liability of any other Person, or otherwise.

"Transfer Taxes" shall have the meaning provided in Section 5.1(a).

"Transaction Documents" means this Agreement, the Note, the Guaranty Agreement, and any certificates, Contracts or documents contemplated to be delivered hereunder or in connection herewith.

"Transactions" shall mean (a) the execution and delivery of this Agreement and the respective Transaction Documents and (b) all of the transactions contemplated by this Agreement and the respective Transaction Documents, including, but not limited to: (i) the transfer of the Closing Company Shares by the Sellers to Purchaser, (ii) the payment of the Closing Payment by Purchaser to the Sellers in accordance with this Agreement; and (iii) the performance by the Sellers, the Company and Purchaser of their respective obligations under this Agreement and the Transaction Documents and the exercise by the Sellers, the Company and the Purchaser of their respective rights under this Agreement and the Transaction Documents.

"Treasury Regulations" means the Income Tax Regulations, promulgated under the Code.

"WARN Act" means the Workers Adjustment and Retraining Notification Act and all similar state Laws.

"Warranty" shall have the meaning provided in Section 2.17.

"Working Capital" shall have the meaning provided in Section 1.3(a).

**EXHIBIT B**

**DISCLOSURE SCHEDULES**

A list of Disclosure Schedules is set forth below for convenience of reference:

1. Schedule 1.2(c)(vii): Related Party Agreements to be Retained
2. Schedule 1.2(c)(x): Consents, Notices, Approvals, Waivers, and Authorizations
3. Schedule 1.3(a): Working Capital Example
4. Schedule 2.1(a): List of Jurisdictions
5. Schedule 2.1(b): Capitalization
6. Schedule 2.1(c): Outstanding Options, Warrants, Etc.
7. Schedule 2.3: Conflicts; Consents
8. Schedule 2.4(b): Permits
9. Schedule 2.5(a): Financial Statements
10. Schedule 2.6: Leased Real Property
11. Schedule 2.7: Change in Business
12. Schedule 2.7(i): Bonuses and Salary Increases
13. Schedule 2.9(a)(i): Assets
14. Schedule 2.9(a)(ii): Encumbrances
15. Schedule 2.9(c): Location of Tangible Property
16. Schedule 2.10(a): Material Contracts
17. Schedule 2.11(b): Audited Tax Returns
18. Schedule 2.12: Broker or Finder; Fees
19. Schedule 2.13(a): Company Registered Intellectual Property Rights
20. Schedule 2.13(c): Notices of Intellectual Property Infringements

21. Schedule 2.13(d): License Fees
22. Schedule 2.13(e): Contributors
23. Schedule 2.14(a): Employees and Contractors
24. Schedule 2.14(b): Collective Bargaining Agreements
25. Schedule 2.14(d): At-Will Employees
26. Schedule 2.15(a): Company Benefits Plans
27. Schedule 2.15(b): Contributions to Title IV of ERISA Company Benefit Plans
28. Schedule 2.16: Related Party Agreements
29. Schedule 2.17: Product and Service Warranties
30. Schedule 2.18(a): List of Key Customers
31. Schedule 2.18(b): List of Key Suppliers
32. Schedule 2.19: Insurance Policies
33. Schedule 2.20(f): Environmental Indemnification
34. Schedule 2.22(a): COVID-19 Material Impacts
35. Schedule 2.22(b): COVID-19 Effects
36. Schedule 2.22(c): COVID-19 Actions
37. Schedule 2.22(d): COVID-19 Effects on Customers and Suppliers
38. Schedule 2.23(a): Proceedings, Orders
39. Schedule 3.6: Broker; Finder Fees
40. Schedule 5.7: Repaid Indebtedness

**Exhibit 21.1**

**SUBSIDIARIES OF AKOUSTIS TECHNOLOGIES, INC.**

Akoustis, Inc., a Delaware corporation

Grinding & Dicing Services, Inc., a California corporation

RFM Integrated Device Inc., a Texas corporation

**Exhibit 23.1**

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in the Registration Statement of Akoustis Technologies, Inc. on Form S-3 (File Nos. 333-262540, 333-218245, 333-222552, and 333-267394), Form S-1 (File No. 333-225870), and Form S-8 (File Nos. 333-269110, 333-235665, 333-228451, 333-222917, and 333-215153), of our report dated September 6, 2023, with respect to our audits of the consolidated financial statements of Akoustis Technologies, Inc. as of June 30, 2023 and 2022 and for each of the two years in the period ended June 30, 2023, which report is included in this Annual Report on Form 10-K of Akoustis Technologies, Inc. for the year ended June 30, 2023.

/s/ Marcum LLP

Marcum LLP
New York, NY
September 6, 2023

**Exhibit 31.1**

**CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a)**
**OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Jeffrey B. Shealy, certify that:

1. I have reviewed this Annual Report on Form 10-K of Akoustis 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 6, 2023

*/s/ Jeffrey B. Shealy*
Jeffrey B. Shealy
President and Chief Executive Officer
(Principal Executive Officer)

**Exhibit 31.2**

**CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a)**
**OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Kenneth E. Boller, certify that:

1. I have reviewed this Annual Report on Form 10-K of Akoustis 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 6, 2023

*/s/ Kenneth E. Boller*
Kenneth E. Boller
Chief Financial Officer
(Principal Financial and Accounting 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 Akoustis Technologies, Inc. (the "Company") on Form 10-K for the fiscal year ended June 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jeffrey B. Shealy, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; 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: September 6, 2023

*/s/ Jeffrey B. Shealy*
Jeffrey B. Shealy
President and Chief Executive Officer
(Principal Executive Officer)

*A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.*

**Exhibit 32.2**

**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 Akoustis Technologies, Inc. (the "Company") on Form 10-K for the fiscal year ended June 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kenneth E. Boller, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; 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: September 6, 2023

*/s/ Kenneth E. Boller*
Kenneth E. Boller
Chief Financial Officer
(Principal Financial and Accounting Officer)

*A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.*