

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, 2021

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

(State or other jurisdiction of
incorporation or organization)

9805 Northcross Center Court, Suite A
Huntersville, NC

(Address of principal executive offices)

33-1229046

(IRS Employer
Identification No.)

28078

(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

Non-Accelerated Filer

Accelerated Filer

Smaller reporting company

Emerging growth company

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the 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, 2020 was approximately \$470.9 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 August 20, 2021, there were 51,310,014 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, 2021. 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 on our operations, financial condition and the worldwide economy, including our ability to access the capital markets,
- 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,
- risks related to doing business in foreign countries,
- any security 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,
- 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, and
- our failure to obtain or maintain the Trusted Foundry accreditation or our New York fabrication facility,
- 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 subsidiary, Akoustis, Inc., also a Delaware corporation.

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. Akoustis® 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, WiFi 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, WiFi 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, WiFi 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 WiFi. We have prototyped, sampled and shipped commercial production volume of our single-band low loss BAW filter designs for 5G frequency bands and 5 GHz and 6 GHz WiFi bands which are suited to competitive BAW solutions and historically cannot be addressed with low-band, lower power handling surface acoustic wave ("SAW") technology.

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 Design Manufacturers ("ODMs") and 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, WiFi, 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 our high-performance RF filter circuits, using our first generation XBAW wafer process, in our 120,000-square foot wafer-manufacturing facility located in Canandaigua, New York (the "NY Facility"), which we acquired in June 2017.

Intellectual Property. As of August 19, 2021, our IP portfolio included 52 patents, including a blocking patent that we have licensed from Cornell University. Additionally, as of August 19, 2021, we have 82 pending patent applications. These patents cover our XBAW RF filter technology from raw materials through the system architectures.

By designing, manufacturing, and marketing our RF filter products to mobile phone OEMs, defense OEMs, network infrastructure OEMs, and WiFi 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.

device technology development and engineering of catalog and custom filter design solutions. To succeed, we must convince mobile phone OEMs, RFFE module manufacturers, network infrastructure OEMs, WiFi CPE OEMs and defense customers to use our XBAW filter technology in their systems and modules. However, 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 pure-play filter company.

We plan 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 technology, intellectual property, designs, and related improvements. We expect to pursue development of catalog designs for multiple customers and to offer such catalog products in multiple sales channels.

Impact of COVID-19 on our Business

Although the ultimate impact of the COVID-19 pandemic on our business is unknown, in an effort to protect the health and safety of our employees, we have in the past taken, and may in the future take, proactive, precautionary action and adopted social distancing measures, daily self-health attestations, and mandatory mask policies at our locations, including when warranted by state and local guidelines. These measures have in the past included, and may in the future include, the implementation of new staffing plans in our facilities whereby certain employees work remotely and the remaining on-site force was or is divided into multiple shifts or segregated in different parts of the facility. Our actions continue to evolve in response to new government measures, the availability of current or future vaccines, and scientific knowledge regarding COVID-19. To contain COVID-19 or slow its spread, governments around the world have also at times enacted various measures, including orders to close all businesses not deemed “essential,” isolate residents to their homes or places of residence, and practice social distancing when engaging in essential activities. These measures have impacted the method and timing of certain business meetings and deliverables to certain customers, as well as our ability to obtain certain materials, equipment and services from suppliers.

These actions and the global health crisis caused by COVID-19 have negatively impacted business activity across the globe. We observed declining demand and price reductions in the electronics industry as business and consumer activity decelerated during the height of the first wave of the COVID-19 pandemic. Additionally, we have observed delays 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. The duration, severity and future impact of the COVID-19 pandemic, including the possibility of subsequent waves of infection, remains uncertain and may depend on the rate, pace, and effectiveness of vaccination and containment efforts deployed by various national, state, and local governments.

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. It is not clear what the ultimate effects 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 2022 or beyond.

Recent Developments

On August 19, 2020, the Company announced the industry’s first 6.5 GHz BAW filter for the emerging WiFi 6E standard. This filter compliments the 5.5 GHz filter introduced in June of 2020, with the two combining to filter all the new spectrum allotted for WiFi 6E between 5.1 and 7.1 GHz.

On August 24, 2020, Akoustis announced its first order for its 5.5 and 6.5 GHz WiFi 6E filters from a tier-1 enterprise-class customer. The filters are being tested for inclusion in a next-generation multi-user multiple-in-multiple-out (MU-MIMO) platform that is expected to ramp in calendar 2021.

On August 26, 2020, the Company announced that it had received its third design win for 5G small cell network infrastructure equipment from its tier-1 customer.

On September 2, 2020, Akoustis announced that it had added former Grant Thornton CEO J. Michael McGuire to its board of directors.

On September 23, 2020, the Company announced that it received a design win and initial order for a 5G small cell network infrastructure XBAW™ filter from a second customer. The filter operated within the 5G new radio band n79.

On October 13, 2020, the Company announced it shipped its fourth 5G small cell network infrastructure filter to a tier-1 infrastructure customer, operating in the 5G new radio band n79.

On October 27, 2020, the Company announced it was awarded a new DARPA contract to advance XBAW technology through a direct-to-phase 2 (DP2) program.

On October 29, 2020, Akoustis announced that it received an order from a Citizen’s Broadband Radio Service (CBRS) equipment OEM for both network and consumer premise equipment XBAW filter solutions.

On November 2, 2020, the Company announced it received an order from a leading RF front end maker for the development of 5G/WiFi mobile coexistence filters.

On December 7, 2020, Akoustis announced that it issued a redemption notice with respect to \$10 million principal amount of the Company’s outstanding 6.5% convertible senior notes due in 2023.

On December 9, 2020, the Company announced it was awarded a design win for its 5.2/5.6 GHz WiFi 6 coexistence filters for a new customer. The XBAW filters will be used for a tri-band gateway/router using a multi-user, multiple-in, multiple-out (MU-MIMO) architecture.

On December 14, 2020, Akoustis announced it was awarded a third WiFi 6 design win for a tri-band MU-MIMO bridge product.

On December 16, 2020, the Company announced it received an order for new 5G mobile XBAW filters from a tier-1 RF front-end maker for smartphones and other devices.

On January 26, 2021, Akoustis issued a redemption notice on the remaining \$15 million principal amount of the Company’s outstanding 6.5% convertible senior secured notes due in 2023.

On January 27, 2021, the Company announced that it had achieved design-lock on its 5.5 GHz and 6.5 GHz WiFi 6E coexistence filter modules.

On January 29, 2021, Akoustis announced that it had received a volume order from a tier-1 customer for its 5.5 GHz and 6.5 GHz WiFi 6E coexistence filter modules.

On February 1, 2021, the Company announced that it had locked the process flow for its first wafer-level-chip-scale-package for XBAW filters.

On March 3, 2021, the Company announced that it had been awarded a new design win for XBAW filters from a Citizens Broadband Radio Service (CBRS) customer.

On March 8, 2021, Akoustis announced the discharge of the indentures associated with the \$15 million 6.5% convertible senior secured notes due 2023.

On March 29, 2021, the Company announced it had secured a WiFi 6E reference design with a tier-1 WiFi system-on-chip (SoC) maker.

On April 5, 2021, Akoustis announced that its WiFi 6E filters were approved for use in multiple designs by a second tier-1 WiFi SoC maker.

On April 15, 2021, the Company introduced its 5.6 GHz and 6.6 GHz WiFi 6E XBAW filter products and first order from a tier-1 OEM.

On April 27, 2021, Akoustis announced that it had been issued nine new patents covering BAW filter devices and methods for 5G, WiFi 6, WiFi 6E and C-V2X.

On May 3, 2021, the Company announced that it had locked the process flow for its second wafer-level-package for XBAW filters.

On May 17, 2021, Akoustis announced that it secured another WiFi 6E reference design win with a third SoC maker.

On June 2, 2021, CEO Jeff Shealy hosted Senate Majority Leader Chuck Schumer at the New York facility for a press conference discussing the U.S. Innovation and Competition Act. A seminal part of the Endless Frontiers Act.

On June 17, 2021, the Company announced a WiFi 6E design win from a new tier-1 customer.

On Jun 21, 2021, Akoustis entered into its first foundry agreement with a 5G mobile radio-frequency (RF) front-end customer.

On July 14, 2021, the Company received a volume development order from a tier-1 personal computer (PC) chipset company.

On July 29, 2021, Akoustis received two design wins from a Citizens Broadband Radio Service (CBRS) customer.

Financing

We have earned minimal revenue from operations since inception, and we have funded our operations primarily with issuances of equity and debt securities, as well as development contracts, RF filter and production orders, government grants, MEMS foundry and engineering services. We have incurred losses totaling approximately \$147.8 million from our May 2014 inception through June 30, 2021. These losses 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.

As of August 20, 2021, the Company had \$80.2 million of cash and cash equivalents, which the Company expects 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 pursuant to its ATM Equity OfferingSM Sales Agreement with BofA Securities, Inc. and Piper Sandler & Co., 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 the Company is unable to obtain additional financing in a timely fashion and on acceptable terms, 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

On May 8, 2020, the Company entered into an ATM Equity OfferingSM Sales Agreement with BofA Securities, Inc. and Piper Sandler & Co., which was amended on February 19, 2021, pursuant to which the Company may sell from time to time shares of its common stock having an aggregate offering price of up to \$100,000,000 (the “ATM Program”). During the year ended June 30, 2021, the Company sold a total of 5,556,589 shares of its common stock at a weighted average price to the public of \$11.28 per share through the ATM Program for aggregate gross proceeds of approximately \$62.7 million, before deducting compensation paid to the sales agents of approximately \$0.9 million and other offering expenses of approximately \$0.2 million.

During the year ended June 30, 2021, the Company entered into a securities purchase agreement with a limited number of institutional investors for the registered direct offering of an aggregate of 1,500,000 shares of common stock at a purchase price of \$14.3592 per share (the “Registered Direct Offering”). The Registered Direct Offering closed on February 23, 2021, and resulted in gross proceeds of approximately \$21.5 million.

Our Technology

Current RF acoustic wave filters utilize technologies that are limited by the piezoelectric material physical properties, the resonator device structure and/or the manufacturing process technology. Existing BAW filters use an “acoustic wave ladder” that is based on a monolithic topology approach using lossy polycrystalline materials. By contrast, our XBAW technology uses high purity materials, which provides high performance acoustic properties. We have fabricated resonators that demonstrate the feasibility of our approach and believe our technology will yield a new generation of high frequency RF filter products.

XBAW technology consists of novel 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 our NY fabrication 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 wafer process flow, which is compatible with wafer level packaging (WLP) that allows for low-profile, cost- effective filters to be produced.

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, 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 over the next several years will create 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 2020 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.

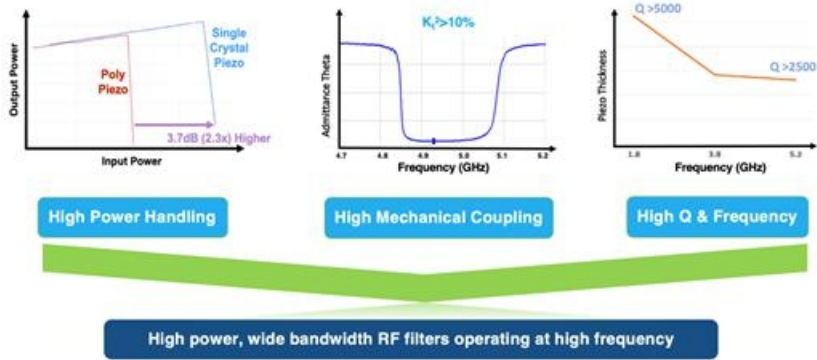
In addition, signal loss of current generation acoustic wave filters is excessively high, and up to half of the transmit power is wasted as heat, which ultimately constrains battery life. Another challenge is that the allocated spectrum for mobile communication bands requires high bandwidth RF filters, 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 technology to produce filters that will reduce the overall system cost and improve performance of the RFFE.

Our Solutions

Our immediate focus is on the commercialization of wide bandwidth RF filters operating in the high frequency spectrum known as the sub 6 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, our focus will be to expand our market share by engaging with additional mobile phone OEMs and RFFE module manufacturers. We manufacture our wafer technology in our Canandaigua, NY fabrication facility where we continue to focus on the commercialization of our filters using our XBAW technology. We plan to 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, WiFi 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 essential single crystal materials.

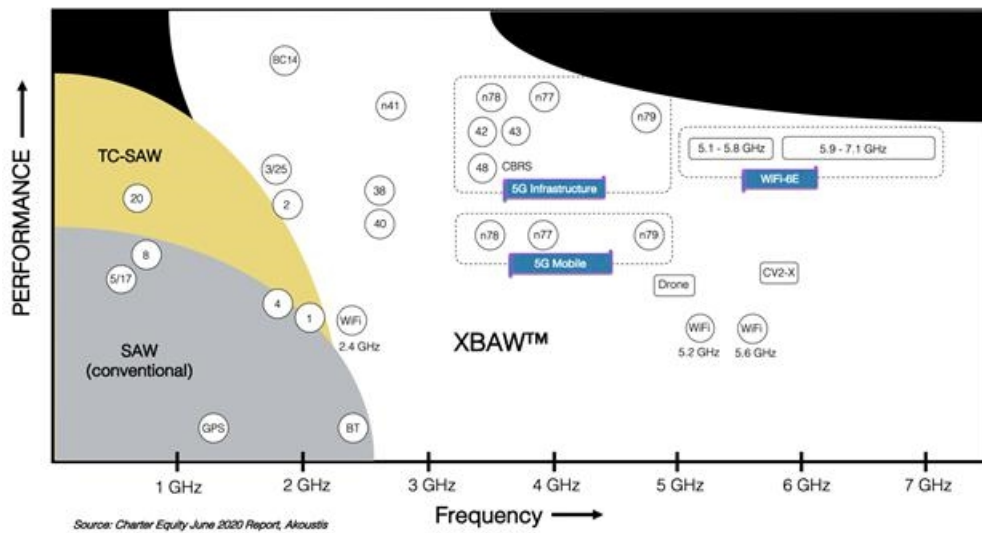
Figure 1-Characteristics of our high purity piezoelectric materials used to fabricate our BAW RF filters.



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 our Canandaigua, NY wafer fabrication 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.

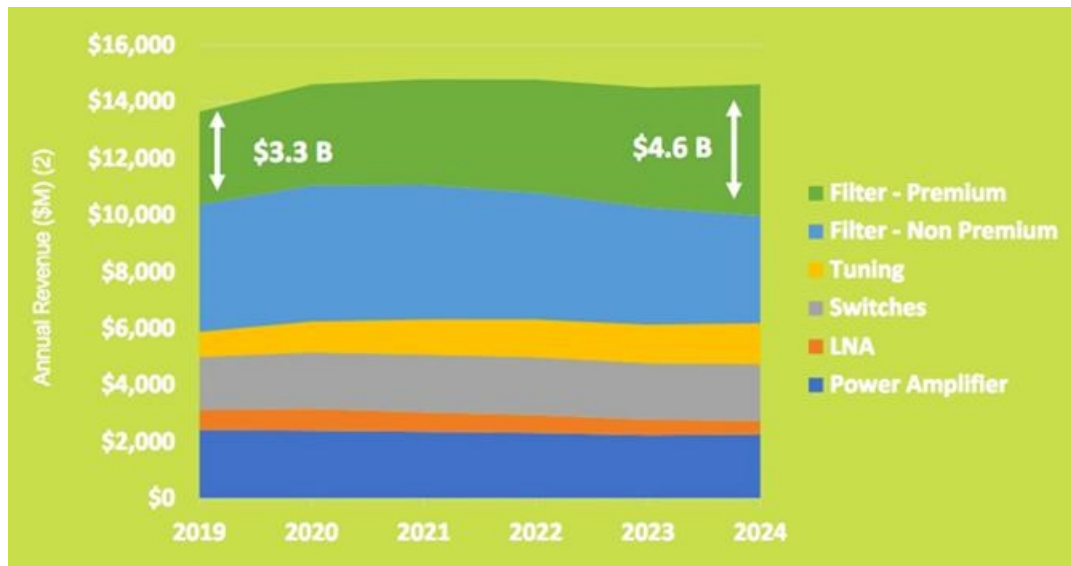
Figure 2- The potential range of our technology.



Pure-Play Filter Provider Enables New Module Competition

Given the high sound velocity in our piezoelectric materials, our technology allows for a wide range of frequency coverage, and we plan to supply filters that will support 4G/LTE, 5G, WiFi and defense bands. We have successfully demonstrated resonators that will support the design and fabrication of 4G/LTE filters, WiFi 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 WiFi. 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 2019 - 2024 (Source: Mobile Experts 2020).



Commercialization

Our immediate focus is on the commercialization of wide bandwidth RF filters to address the WiFi, Network Infrastructure and Defense bands with innovative single-band designs using our XBAW sub 7 GHz RF filter technology. We are currently developing commercial single-band filters through our wafer fabrication facility. We are focused on developing fixed-band 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 both the alpha and beta 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 in the fourth quarter of fiscal year 2020 we began the production ramp for our first high volume tier one customer, supporting its WiFi 6 CPE product.

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. Unlike today's 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 \$24.1 million for the year ended June 30, 2021, and \$20.5 million for the year ended June 30, 2020. 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.

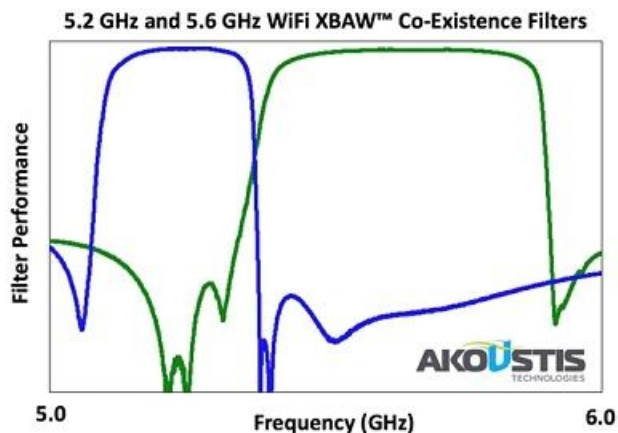
As a result of our efforts, we have developed and introduced multiple new BAW filters which are currently sampling and in production with multiple customers across multiple markets. Our focus remains on improving the electromechanical coupling and quality factor of our resonator technology and the performance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

We concentrated on several products and end markets in fiscal 2021 including 5G mobile, 5G infrastructure, WiFi and the defense market.

In 5G mobile, we announced two new customers during the second quarter including a tier-1 RF component company and a tier-2 RF front-end module maker. For the tier-1 customer, we received an order to develop two new XBAW filters for the mobile device market. We are currently developing these filters with the goal of entering production in the first half of fiscal 2023. For the second customer, we received an order to develop a XBAW filter for a front-end module targeting 5G and WiFi in mobile devices. We completed development of an initial engineering sample at the end of fiscal Q321 and signed a foundry agreement with this customer with the goal of entering production in the first half of fiscal 2023. We expect to ship additional engineering samples to this customer in early fiscal 2022 that utilize our new wafer chip-scale packaging.

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Advancements in our WiFi portfolio were significant in fiscal 2021. Early in the year we received our first design win and commercial production ramp using our 5.2 GHz and 5.6 GHz tandem XBAW WiFi 6 solution. Our customer, a tier-1 consumer focused company, began shipping tri-band MU-MIMO mesh routers with our filters, and continues to ship these routers with our filters today. We announced our 5.2 GHz filter in March 2018, the AKF-1252. The AKF-1252 is a wideband filter for the U-NII-1&2A bands with typical insertion loss of less than 1dB, high rejection and a high-power rating in an ultra-small footprint module. Offering our customers 23-times size reduction over current dielectric resonator technology, our product was the first BAW RF filter targeting the 5.2 GHz WiFi band having achieved pre-production status in November 2018. We announced the sister part to the AKF-1252, called the AKF-1256, which allows the Company to bundle the 5.2 GHz and 5.6 GHz filter solutions to the CPE market in August of 2019. The tandem 5.2 GHz and 5.6 GHz filter solutions allow coexistence of WiFi signals in the 5GHz spectrum as shown below.



With the FCC's decision to increase the available spectrum for WiFi 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 drove investment in the development of both standard and custom XBAW filters to address this new market over the past twelve months. We announced our first two WiFi 6E filters, in fiscal 2021 including a 5.5 GHz and 6.5 GHz XBAW filter solution with 675 MHz and 1190 MHz of bandwidth. We are currently sampling and shipping volume pre-production filters with multiple OEMs, ODMs and SoC makers. We received our first design win for our 5.5GHz/6.5 GHz tandem solution in June 2021, with volume production expected in the second half of fiscal 2022.

In June 2020, we entered into a strategic development agreement with a tier-1 enterprise-focused WiFi OEM to create customer WiFi 6E XBAW filters for a MU-MIMO mesh router product. During fiscal 2021, we developed multiple filters for this customer, all of which have been design-locked and are currently entering qualification. We expect to enter production with this customer in the second half of fiscal 2022.

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On April 15, 2021, we announced that we had developed two new WiFi 6E XBAW filters, a 5.6 GHz filter and a 6.6 GHz filter. The 5.6 GHz filter module covers the entire UNII 1-3 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 WiFi 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 new 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 WiFi 6E standard is just beginning to experience utilization, 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. Commercial production is expected in late calendar 2021 to early calendar 2022.

During fiscal 2021, we made several significant enhancements to our 5G and CBRS infrastructure portfolio. On August 26, 2020, we announced a design win for band n79 with a tier-1 5G small cell infrastructure customer. We received a second design win from a new customer a month later that we announced on September 23, 2020. In October, we received an order for our 3.6 GHz Citizens Broadband Radio Service (CBRS) filter for 5G base station and consumer premise equipment development. We

worked with this customer to develop products that utilize our filters during the fiscal year, which resulted in design wins for both infrastructure and CPE on July 29, 2021, which are expected to enter production in the first half of fiscal 2023.

In the defense market, we built on our early successes in phased array radar and drone filters with the award of a new Defense Advanced Research Projects Agency (DARPA) contract to advance XBAW technology in October of 2020. The 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 process design kit (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.

Akoustis currently has 15 commercial XBAW filters in its product catalog, and recently introduced 5.6 GHz and 6.6 GHz WiFi 6E coexistence filter modules, which when qualified, will bring the number of catalog products to 17. Current product catalog filters include a 5.6 GHz WiFi filter, a 5.2 GHz WiFi filter, a 5.5 GHz WiFi-6E filter, a 6.5 GHz WiFi 6E filter, three small cell 5G network infrastructure filters including two Band n77 filters and one Band n79 filter, a 3.8 GHz filter and five S-Band filters for defense phased-array radar applications, a 3.6 GHz filter for the CBRS 5G infrastructure market and a C-Band filter for the unmanned aircraft systems (UAS) market. The Company is also developing several new filters for the sub-7 GHz bands targeting 5G mobile device, network infrastructure, WiFi CPE and defense markets.

Raw Materials

Within its internal manufacturing operation, 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.

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 19, 2021, our IP portfolio included 52 patents, including one blocking patent that we have licensed from Cornell University. Additionally, we have 82 active and pending patent applications. These patents cover our XBAWTM 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 2039. 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 will have 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., 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.

Upon completion of our product development, we will 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 will approach prospective customers as a pure-play filter supplier, offering advantages in performance over the full frequency range at competitive costs. Our challenges will include convincing our customers that we have a strong intellectual property position, that we will be able to deliver in volume, that we will meet their price targets, and that 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."

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, 2021, we had a total of 156 full-time employees plus 15 part-time and temporary 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 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, 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.

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.

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 are dependent on the proper functioning of our critical facilities, our supply chain and distribution networks and the financial stability of our customers, all of which have been negatively impacted by the COVID-19 pandemic in a manner that may have a materially adverse effect on our business, financial condition or results of 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 RF filters to be competitive and achieve market acceptance, we need to keep pace with rapid development of new process technologies.
- We are still developing many of our products, and they may not be accepted in the market.
- We face risks associated with the operation of our manufacturing facility.
- We are dependent upon third parties for the supply of raw materials and components.
- If we experience poor manufacturing yields, our operating results may suffer.
- 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 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 shares 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.
- Changes in government trade policies, including the imposition of tariffs, export restrictions, sanctions, or other retaliatory measures could limit our ability to sell our products to certain customers, which may materially adversely affect our sales 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 semiconductor 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.
- If we are unable to establish effective marketing and sales capabilities or enter into additional agreements with third parties to market and sell our RF filters, we may not be able to effectively generate and sustain or increase product revenues.

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 may 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 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.
- Our ability to raise capital may be materially adversely impacted by COVID-19.

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.
- 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.

Investment Risks

- You could lose all of your investment.
- 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 Common Stock or preferred stock or other securities that are convertible into or exercisable for our Common Stock or preferred stock.
- We do not anticipate paying dividends on our Common Stock.

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 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.
- 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.
- 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.
- 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.
- There could be an adverse change or increase in the laws and/or regulations governing our business.
- We may engage in future acquisitions that could disrupt our business, cause dilution to our shareholders and harm our financial condition and operating results.
- 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.
- 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.

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

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 recently began commercial operations 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 earned minimal revenue from operations since inception.

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.

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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, issuances of our equity, and debt. We have experienced net losses of approximately \$148 million for the period from May 12, 2014 (inception) to June 30, 2021. 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 are dependent on the proper functioning of our critical facilities, our supply chain and distribution networks and the financial stability of our customers, all of which have been negatively impacted by the COVID-19 pandemic in a manner that may have a materially adverse effect on our business, financial condition or results of operations.

Our ability to manufacture products may be materially adversely impacted by COVID-19.

The COVID-19 pandemic is impacting worldwide economic activity, which has had a corresponding effect on our sales activity. The impact of this pandemic has been and will likely continue to be extensive in many aspects of society, and has resulted in and will likely continue to result in significant disruptions to the global economy, as well as businesses and capital markets around the world. With the ongoing effect of the COVID-19 pandemic in the United States and other countries, and the uncertainty as to potential future waves of COVID-19 infections, it is unclear how economic activity and workflows will continue to be impacted and for how long. Many employers in the United States have in the past or are currently requiring their employees to work from home or not come into their offices or facilities. We manufacture primarily out of one facility in Canandaigua, New York. In order to mitigate the risk posed by COVID-19, we have in the past implemented, and may in the future implement social distancing measures, daily self-health attestations, and mandatory mask policies, including when warranted by state and local guidelines. We also have implemented in the past new staffing plans in our facilities whereby certain employees worked remotely and the remaining on-site force was divided into multiple shifts or segregated in different parts of the facility. Our actions continue to evolve in response to new government measures, available vaccines, and scientific knowledge regarding COVID-19. To date, these protocols have not resulted in a decrease in the production capabilities of our facility. However, if the manufacturing capabilities of this facility are adversely impacted as a result of COVID-19, whether by a decrease in productivity caused by precautionary measures or by one or more employees becoming ill, it may not be possible for us to timely manufacture relevant products at required levels or at all. A reduction or interruption in any of our manufacturing processes could have a material adverse effect on our business, results of operations, financial condition and cash flows.

We also might be unable to obtain certain supplies, product components, or equipment from our suppliers and vendors due to constraints created by COVID-19. For instance, we have observed delays in certain suppliers' deliveries of materials necessary for us to manufacture our products and in certain vendors' ability to manufacture equipment used in our production process. Additionally, travel restrictions and stay-at-home orders or similar mandates of foreign and domestic governments have prevented us from visiting suppliers' facilities as part of our quality control processes and have constrained or delayed visits by out-of-state employees and suppliers to perform installations, maintenance and service. These impacts may delay our launch of new products, adversely affect our ability to deliver customers' orders timely or in the requested quantities and inhibit our ability to ensure the quality of supplies used in our products.

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Our sales may be materially adversely impacted by COVID-19.

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 RF filters 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 RFFE, 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 RF filters 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, 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 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 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 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. 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 (including, but not limited to, precious and rare earth metals), 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. 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 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 cyclicalities 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 RF component market, existing competitors merge or form alliances, and new technologies emerge. Our competitors may introduce new solutions and technologies that are superior to our BAW technology, 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 RF filters, 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.

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;
- currency exchange restrictions and currency fluctuations;
- war 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.

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 policies, including the imposition of tariffs, export restrictions, sanctions, or other 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 in China. For example, beginning in May 2018, the U.S. has 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 1, 2019. While the imposition of these tariffs did not have a direct, material adverse impact on our business during fiscal year ended June 30, 2021, 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 disagreement.

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 addition, in May 2019, President Trump issued an executive order that invoked 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 May 2020, President Trump issued a similar executive order regarding potential foreign threats to the US bulk-power system from foreign adversaries. Also in May 2020, the U.S. Department of Commerce took actions to restrict Chinese entities' access to U.S. technologies. In response to these and other U.S. actions, China could determine to take 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 the Biden Administration has begun work on new outbound investment screening and export control initiatives related to technology transfers 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 RF filters using our design,

- 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,
- 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 our RF filters,
- 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.

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 Interim Chief Financial Officer, our Executive Vice President of Business Development, our Chief Product Officer, 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 RF filters, 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 RF filters, 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 filters. 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 RF filters, 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 filters. 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.

While we currently have no specific plans to acquire any other businesses, we 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 eighty-two pending patent applications as of August 19, 2021; 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 single-crystal acoustic wave filter 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;

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- 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 may 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 need to file infringement claims, 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 five trademarks that we have filed to register with the USPTO including the Akoustis and XBAW trademarks and the XBAW logo - and 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.

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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 may result in restrictions on jointly-developed intellectual property.

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

We 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.

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 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.

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.

Defense of any intellectual property infringement claims against us, regardless of their merit, would involve substantial litigation expense and would be a significant diversion of resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, obtain one or more licenses from third parties, limit our business to avoid the infringing activities, pay royalties and/or redesign our infringing technology or alter related formulations, processes, methods or other technologies, any or all of which may be impossible or require substantial time and monetary expenditure. The occurrence of any of the above events could prevent us from continuing to develop and commercialize our filters and our business could materially suffer.

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 RF filters 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.

Our ability to raise capital may be materially adversely impacted by COVID-19.

A sustained disruption in the capital markets from the COVID-19 pandemic 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 when the macro-economic disruption stemming from COVID-19 will ebb or when the economy will return to pre-COVID-19 levels, if at all. This macro-economic disruption 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, 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.

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 subsidiary 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, 2020 to June 30, 2021, the closing price of our common stock on the Nasdaq Capital Market ranged from \$7.48 to \$18.58 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 development-stage public companies 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 development-stage company 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 development-stage companies. 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 100,000,000 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 August 20, 2021, warrants and options to purchase 167,109 and 2,494,827 shares, respectively, 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 will need to raise additional capital in the near future to meet our working capital needs, and there can be no assurance that we will not be required to 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 could attempt to improperly use or access our computer systems and networks to 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. 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 filters 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 RF filters. 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.

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.

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

We and our operating subsidiary 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.

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

While we currently have no specific plans to acquire any other businesses, we 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.

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 22,000 square feet, and its base rent is approximately \$27,000 per month with a term expiring February 2023. On June 26, 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. The Company believes its facility in Huntersville, NC, along with the NY Facility, 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.

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 August 20, 2021, 51,310,014 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, 2021, there were outstanding warrants and options to purchase 167,109 shares of our Common Stock and 2,497,577 shares of our Common Stock, respectively. Additionally, there were outstanding 1,747,608 restricted stock units.

Equity Compensation Plan Information

The following table provides information as of June 30, 2021, 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	2,497,577(1)	\$ 6.49	2,570,911(3)
Equity compensation plans approved by security holders – restricted stock units	1,747,608(2)	\$ 0.00	–
Equity compensation plans not approved by security holders	–	–	–
Total	4,245,185		2,570,911(3)

- (1) Consists of (i) 160,000 shares of Common Stock issuable upon the exercise of outstanding options issued under the Company’s 2015 Equity Incentive Plan (the “2015 Plan”), (ii) 862,515 issuable under the Company’s 2016 Stock Incentive Plan (the “2016 Plan”), (iii) and 1,475,062 issuable under the Company’s 2018 Stock Incentive Plan (the “2018 Plan”).
- (2) Consists of 156,875 shares of Common Stock to be issued upon the vesting of outstanding restricted stock units issuable under the 2016 Plan (the “2016 Plan”) and 1,590,733 issuable under the 2018 Plan.
- (3) As of June 30, 2021, 2,570,911 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 have not sold any equity securities during the fiscal year ended June 30, 2021 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. SELECTED FINANCIAL DATA

Not applicable.

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 and Plan of Operation

Akoustis® 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, WiFi 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 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 designs and operate as a “pure-play” RF filter supplier, aligning with the front-end module manufacturers that seek to acquire high performance filters to expand their module businesses.

Our initial RF filter designs target ultra-high band, sub 7 GHz 5G, WiFi and defense bands and we expect our filter solutions will address problems (such as loss, bandwidth, power handling, and isolation) created by this growing number of frequency bands in the RFFE of mobile devices, infrastructure and premise equipment. We have prototyped, sampled and begun commercial shipments of our single-band low-loss BAW filter designs for 5G frequency bands and 5GHz and 6 GHz WiFi bands, which are suited to competitive BAW solutions and historically cannot be addressed with low-band, lower power handling surface acoustic wave (“SAW”) technology.

We plan 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 technology, intellectual property, designs, and related improvements. We expect to pursue 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.

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.

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 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.

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 utilizing 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.

Results of Operations

Our results of operations are presented for the fiscal years ended June 30, 2021 and June 30, 2020.

Year Ended June 30, 2021 Compared to Year Ended June 30, 2020

Revenue

The Company recorded revenue of \$6.6 million for the year-ended June 30, 2021 as compared to \$1.8 million for the year ended June 30, 2020. The increase of \$4.8 million was primarily due to an increase in filter revenue of \$3.0 million and an increase in engineering services of \$2.1 million. These increases were partially offset by a decrease in MEMS revenue of \$0.3 million, a product line that the Company exited during fiscal year 2020.

Cost of Revenue

The Company recorded cost of revenue of \$10.6 million in fiscal year 2021 as compared to \$2.4 million for fiscal year 2020. The \$8.2 million increase is primarily due to costs associated with filter revenue which increased by \$7.4 million and an increase in engineering services costs of \$0.9 million. Cost of revenue includes direct labor, material, NRV adjustments, and facility costs primarily associated with the foundry services revenue, manufacturing of filter product and engineering services. Gross margin related to filter product revenue has historically been negative primarily due fixed costs in the manufacturing facility. As filter product represented a higher percentage of revenue in for the twelve months ended June 30, 2021 than the same period ending June 30, 2020, total gross margin declined.

Research and Development Expenses

R&D expenses were \$24.1 million for the year ended June 30, 2021, which were \$3.6 million, or 17%, higher than the prior year amount of \$20.5 million. The year-over-year increase was primarily in the areas of R&D personnel, stock-based compensation, depreciation, and facility costs. R&D expenses include personnel costs, stock-based compensation, facility and material costs and depreciation expense. Personnel costs, including stock-based compensation, increased by \$1.4 million over fiscal year 2020 primarily due to R&D personnel in our acquired NY Facility, as well as incremental R&D hires in our North Carolina location. Facility and material costs, which include utilities, repair and maintenance, R&D supplies and equipment parts, increased by \$2.3 million compared to the prior year. These increases were partially offset by a decrease in depreciation expense of \$0.3 million.

General and Administrative Expenses

General and administrative (“G&A”) costs 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. General and administrative expenses for the year ended June 30, 2021 were \$13.3 million versus \$10.9 million for the comparative period ended June 30, 2020. The increase of \$2.4 million, or 22%, was primarily driven by an increase in compensation, including stock-based compensation and severance expense of \$1.8 million, an increase in sales and marketing expense of \$0.2 million and an increase in general expenses of \$0.4 million.

Other Income/(Expense)

Other expenses for the year ended June 30, 2021 were \$2.8 million compared to other expenses of \$4.1 million in fiscal year 2020. The \$1.3 million decrease in expense was primarily due to an increase in forgiveness of debt income of \$1.6 million and changes in the real estate contingent liability and derivative liabilities resulting in a gain of \$0.5 million. These were offset by an increase in interest expense of \$0.6 million and a decrease in rental income of \$0.2 million.

Net Loss

The Company recorded a net loss of \$44.2 million for the year ended June 30, 2021, compared to a net loss of \$36.1 million for the year ended June 30, 2020. The year-over-year incremental loss of \$8.0 million, or 22.2%, was primarily driven by an increase in cost of revenue of \$8.2 million, higher R&D and G&A personnel costs, including stock based compensation of \$3.2 million, an increase in R&D/Fabrication supplies of \$2.3 million, an increase in general expenses of \$0.5 million. These were partially offset by a reduction in other expenses of \$1.3 million and an increase in revenue of \$4.8 million.

Liquidity and Capital Resources

Since inception, the Company has recorded approximately \$1.1 million of revenue from contract research and government grants and \$5.2 million of revenue from microelectromechanical systems (“MEMS”) foundry and engineering review services. 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.

The Company had \$88.3 million of cash on hand as of June 30, 2021, which reflects an increase of \$44.0 million compared to \$44.3 million as of June 30, 2020. The \$44.0 million increase is primarily due to \$82.8 million of cash proceeds from sales of common stock and \$2.9 million received from various equity plans. Offsetting the cash proceeds were cash used in operating activities of \$29.4 million and cash used for capital expenditures of \$12.5 million.

Financing Activities

On May 8, 2020, the Company entered into an ATM Equity OfferingSM Sales Agreement with BofA Securities, Inc. and Piper Sandler & Co. (each, a “Sales Agent” and, together, the “Sales Agents”), which was amended on February 19, 2021 (as amended, the “Sales Agreement”). Pursuant to the terms of the Sales Agreement, the Company may sell from time-to-time through the Sales Agents shares of its common stock having an aggregate offering price of up to \$100,000,000 (the “Equity Offering Program”). Sales, if any, may be made by means of transactions that are deemed to be “at the market” offerings as defined in Rule 415 under the Securities Act, including block trades, ordinary brokers’ transactions on the Nasdaq Capital Market or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices or by any other method permitted by law. During the fiscal year ended June 30, 2021, the Company sold 5,556,589 shares of Common Stock under the Sales Agreement for proceeds of approximately \$62.7 million, net of approximately \$0.9 million of compensation paid to the sales agents, but excluding transaction expenses.

On February 19, 2021, the Company entered into a securities purchase agreement with a limited number of institutional investors for the registered direct offering of an aggregate of 1,500,000 shares of common stock at a purchase price of \$14.3592 per share (the “Registered Direct Offering”). The Registered Direct Offering closed on February 23, 2021 and resulted in gross proceeds of approximately \$21.5 million.

Balance Sheet and Working Capital

June 30, 2021 Compared to June 30, 2020

As of June 30, 2021, the Company had current assets of \$93.2 million made up primarily of cash on hand of \$88.3 million. As of June 30, 2020, current assets were \$46.2 million comprised primarily of cash on hand of \$44.3 million. The \$47.0 million increase is primarily due to an increase in cash on hand of \$44.0 million.

Property, Plant and Equipment was \$30.7 million as of June 30, 2021 as compared to a balance of \$23.6 million as of the year ended June 30, 2020. The approximate \$7.1 million year-over-year increase is primarily due to the purchase of equipment for the NY facility of \$11.7 million primarily offset by depreciation of \$4.6 million.

Total assets as of June 30, 2021 and June 30, 2020 were \$125.0 million and \$71.4 million, respectively.

Current liabilities as of June 30, 2021 were \$7.3 million and increased year-over-year by \$1.2 million which was primarily due to increases in employee compensation accruals offset by decreases in fixed asset purchase commitments.

Long-term liabilities totaled \$0.3 million as of June 30, 2021, compared to \$23.8 million for the prior year period. The decrease of \$23.5 million was primarily due to the reduction in the convertible debt offerings of \$21.6 million, forgiveness of the PPP loan of \$1.6 million and the reduction in the lease liability of \$0.3 million.

Stockholders' equity was \$117.4 million as of June 30, 2021, compared to \$41.5 million as of June 30, 2020. Additional paid-in-capital ("APIC") was \$265.1 million as of June 30, 2021 and increased by \$120.0 million. The year-over-year increase was primarily due to an increase from net proceeds of \$83.1 million for the issuance of common stock during the year, common stock issued in note conversion of \$25.3 million, common stock issued for services in the amount of \$8.2 million, proceeds from exercise of warrants and options of \$2.4 million and common stock issued in payment of convertible note interest of \$0.6 million. The \$75.9 million increase in stockholders' equity consisted of the \$120.1 million increase in APIC reduced by the \$44.2 million net loss recorded for the year ended June 30, 2021.

Cash Flow Analysis

Year Ended June 30, 2021 Compared to the Year Ended June 30, 2020

Operating activities used cash of \$29.4 million during the year ended June 30, 2021 and \$21.3 million for the 2020 comparative period. The \$8.1 million year-over-year increase in cash used was attributable to higher operating expenses associated with the ramp up of development and commercialization activities (primarily R&D personnel and material costs), higher spend on G&A costs for support personnel and professional fees.

Investing activities used cash of \$12.5 million for the year ended June 30, 2021 compared to \$9.9 million for the comparative year ended June 30, 2020. The \$2.6 million year-over-year increase was primarily due to increased spend on R&D and manufacturing equipment.

Financing activities provided cash of \$85.8 million for the year ended June 30, 2021 versus \$45.5 million for the 2020 comparative period. The \$40.3 million increase was due to additional proceeds from common stock offset by lower proceeds from loans issued during the period compared to the prior period.

Off-Balance Sheet Transactions

The Company did not engage in any "off-balance sheet arrangements" (as that term is defined in Item 303(a)(4)(ii) of Regulation S-K) as of June 30, 2021.

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

Not applicable

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTAL DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders 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, 2021 and 2020, 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, 2021, 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, 2021 and 2020, and the results of its operations and its cash flows for each of the two years in the period ended June 30, 2021, 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

Critical audit matters are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/ Marcum llp

Marcum llp

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

New York, NY

August 30, 2021

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

	<u>June 30, 2021</u>	<u>June 30, 2020</u>
Assets		
Assets:		
Cash and cash equivalents	\$ 88,322	\$ 44,308
Accounts receivable	1,170	351
Inventory	1,390	136
Other current assets	2,314	1,408
Total current assets	<u>93,196</u>	<u>46,203</u>
Property and equipment, net	30,730	23,605
Intangibles, net	572	544
Operating lease right-of-use asset, net	471	699
Restricted cash	—	100
Other assets	25	282
Total Assets	<u>\$ 124,994</u>	<u>\$ 71,433</u>
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable and accrued expenses	\$ 6,954	\$ 5,899
Operating lease liability-current	270	231
Deferred revenue	41	—
Total current liabilities	<u>7,265</u>	<u>6,130</u>
Long-term Liabilities:		
Convertible notes payable, net	—	21,628
Operating lease liability-non current	202	472
Loans payable	—	1,591
Other long-term liabilities	117	117
Total long-term liabilities	<u>319</u>	<u>23,808</u>
Total Liabilities	<u>7,584</u>	<u>29,938</u>
Stockholders' Equity		
Preferred Stock, par value \$0.001: 5,000,000 shares authorized; none issued and outstanding	—	—
Common stock, \$0.001 par value; 100,000,000 shares authorized; 51,235,764 and 37,990,380 shares issued and outstanding at June 30, 2021 and June 30, 2020, respectively	51	38
Additional paid in capital	265,130	145,072
Accumulated deficit	<u>(147,771)</u>	<u>(103,615)</u>

Total Stockholders' Equity	117,410	41,495
Total Liabilities and Stockholders' Equity	<u>\$ 124,994</u>	<u>\$ 71,433</u>

See accompanying notes to the consolidated financial statements.

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

	For the Year Ended June 30, 2021	For the Year Ended June 30, 2020
Revenue	\$ 6,618	\$ 1,790
Cost of revenue	10,651	2,414
Gross profit	<u>(4,033)</u>	<u>(624)</u>
Operating expenses		
Research and development	24,076	20,523
General and administrative expenses	13,285	10,891
Total operating expenses	<u>37,361</u>	<u>31,414</u>
Loss from operations	<u>(41,394)</u>	<u>(32,038)</u>
Other (expense) income		
Interest (expense) income	(5,130)	(4,573)
Rental income	—	181
Change in fair value of contingent real estate liability	—	445
Gain on extinguishment of debt	1,624	—
Change in fair value of derivative liabilities	744	(155)
Total Other (expense) income	<u>(2,762)</u>	<u>(4,102)</u>
Net loss	<u>\$ (44,156)</u>	<u>\$ (36,140)</u>
Net loss per common share - basic and diluted	<u>\$ (1.02)</u>	<u>\$ (1.07)</u>
Weighted average common shares outstanding - basic and diluted	<u>43,426,602</u>	<u>33,698,502</u>

See accompanying notes to the consolidated financial statements.

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Akoustis Technologies, Inc.
Consolidated Statements of Changes in Stockholders' Equity
For the Years Ended June 30, 2021 and 2020
(In thousands)

	Common Stock		Additional Paid In Capital	Accumulated Deficit	Stockholders' Equity
	Shares	Par Value			
Balance, June 30, 2019	30,141	\$ 30	\$ 93,399	\$ (67,474)	\$ 25,955
Common stock issued for cash, net of issuance costs	6,913	7	42,913	—	42,920
Common stock issued for services	592	1	6,733	—	6,734
Common stock issued for exercise of options	37	—	203	—	203
Common stock issued for exercise of warrants	205	—	139	—	139
ESPP purchase	60	—	367	—	367
Common stock issued for equipment purchase	5	—	40	—	40
Vesting of restricted shares	—	—	303	—	303
Common stock issued in payment of note interest	138	—	975	—	975
Repurchase and retirement of common shares	(101)	—	—	—	—
Net loss	—	—	—	(36,141)	(36,141)
Balance, June 30, 2020	<u>37,990</u>	<u>\$ 38</u>	<u>\$ 145,072</u>	<u>\$ (103,615)</u>	<u>\$ 41,495</u>
Common stock issued for cash, net of issuance costs	7,056	7	83,066	—	83,073
Common stock issued in note conversion	4,984	5	25,265	—	25,270
Common stock issued for services	620	1	8,192	—	8,193

Common stock issued for exercise of options	221	—	1,344	—	1,344
Common stock issued for exercise of warrants	219	—	1,109	—	1,109
ESPP purchase	74	—	473	—	473
Common stock issued in payment of note interest	72	—	609	—	609
Net loss	—	—	—	(44,156)	(44,156)
Balance, June 30, 2021	<u>51,236</u>	<u>\$ 51</u>	<u>\$ 265,130</u>	<u>\$ (147,771)</u>	<u>\$ 117,410</u>

See accompanying notes to the consolidated financial statements.

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

	<u>For the Year Ended June 30, 2021</u>	<u>For the Year Ended June 30, 2020</u>
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	\$ (44,156)	\$ (36,140)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	4,655	3,080
Stock-based compensation	8,192	6,734
Non-cash interest payments	609	975
(Gain)/Loss on disposal of assets	—	14
Gain on extinguishment of debt	(1,625)	—
Change in fair value of derivative liabilities	(744)	155
Amortization of debt discount	4,406	3,258
Amortization of operating lease right of use asset	228	108
Change in fair value of contingent real estate liability	—	(446)
Changes in operating assets and liabilities:		
Accounts receivable	(819)	(66)
Inventory	(1,254)	(42)
Other current asset	(905)	(120)
Other assets	257	—
Accounts payable and accrued expenses	1,983	1,293
Long-term lease liabilities	(232)	(103)
Deferred revenue	41	(5)
Net Cash Used in Operating Activities	<u>(29,364)</u>	<u>(21,305)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Cash paid for machinery and equipment	(12,440)	(9,750)
Cash received from sale of fixed assets	—	60
Cash paid for intangibles	(51)	(201)
Net Cash Used in Investing Activities	<u>(12,491)</u>	<u>(9,891)</u>
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of common stock	82,843	43,150
Proceeds from exercise of warrants	1,109	139
Proceeds from exercise of employee stock options	1,344	203
Proceeds from employee stock purchase plan	473	367
Proceeds received from notes, net	—	1,591
Net Cash Provided by Financing Activities	<u>85,769</u>	<u>45,450</u>
Net Increase (Decrease) in Cash, Cash Equivalents and Restricted Cash	43,914	14,254
Cash, Cash Equivalents and Restricted Cash - Beginning of Period	44,408	30,154
Cash, Cash Equivalents and Restricted Cash - End of Period	<u>\$ 88,322</u>	<u>\$ 44,408</u>
SUPPLEMENTARY CASH FLOW INFORMATION:		
Cash Paid During the Period for:		
Income taxes	\$ —	\$ —
Interest	\$ 325	\$ 650
SUPPLEMENTARY DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Stock compensation payable	\$ —	\$ 303
Reclassification of fixed assets to assets held for sale, net	\$ —	\$ 49
Common stock issued in note conversion	\$ 25,270	\$ —
Asset purchase using common stock	\$ —	\$ 40
Stock issuance costs included in accounts payable and accrued expenses	\$ (230)	\$ 230

See accompanying notes to the consolidated financial statements.

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AKOUSTIS TECHNOLOGIES, INC.
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 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, WiFi 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 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.

Note 2. Liquidity

As of June 30, 2021, the Company had cash and cash equivalents of \$88.3 million and working capital of \$85.9 million. The Company has historically incurred recurring operating losses and experienced net cash used in operating activities.

As of August 20, 2021, the Company had \$80.2 million of cash and cash equivalents, which the Company expects 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 pursuant to its ATM Equity OfferingSM Sales Agreement with BofA Securities, Inc. and Piper Sandler & Co., 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 the Company is unable to obtain additional financing in a timely fashion and on acceptable terms, 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 subsidiary, Akoustis, Inc. 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).

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Critical accounting estimates are estimates for which (a) the nature of the estimate is material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change and (b) the impact of the estimate on financial condition or operating performance is material. The Company’s critical accounting estimates and assumptions affecting the financial statements were:

- (1) *Fair value of long-lived assets:* Fair value is generally determined using the asset’s expected future discounted cash flows or market value, if readily determinable. If long-lived assets are determined to be recoverable, but the newly determined remaining estimated useful lives are shorter than originally estimated, the net book values of the long-lived assets are depreciated over the newly determined remaining estimated useful lives. The Company considers the following to be some examples of important indicators that may trigger an impairment review: (i) significant under-performance or losses of assets relative to expected historical or projected future operating results; (ii) significant changes in the manner or use of assets or in the Company’s overall strategy with respect to the manner or use of the acquired assets or changes in the Company’s overall business strategy; (iii) significant negative industry or economic trends; (iv) increased competitive pressures; (v) a significant decline in the Company’s stock price for a sustained period of time; and (vi) regulatory changes. The Company evaluates acquired assets for potential impairment indicators at least annually and more frequently upon the occurrence of such events.
- (2) *Valuation allowance for deferred tax assets:* Management assumes that the realization of the Company’s net deferred tax assets resulting from its net operating loss (“NOL”) carry forwards for Federal income tax purposes that may be offset against future taxable income was not considered more likely than not and accordingly, the potential tax benefits of the NOL carry forwards are offset by a full valuation allowance. Management made this assumption based on (a) the Company’s incurrence of losses, (b) general economic conditions, and (c) other factors.
- (3) *Estimates and assumptions used in valuation of equity instruments:* Management estimates expected term of share options and similar instruments, expected volatility of the Company’s common shares and the method used to estimate it, expected annual rate of quarterly dividends, and risk-free rate(s) to value share options and similar instruments.
- (4) *Estimates and assumptions used in valuation of derivative liabilities:* Management utilizes a Monte Carlo simulation to estimate the fair value of derivative liabilities, and 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 note. These models include subjective assumptions that can materially affect the fair value estimates.

These significant accounting estimates or assumptions bear the risk of change due to the fact that there are uncertainties attached to these estimates or assumptions, and certain estimates or assumptions are difficult to measure or value.

Management bases its estimates on various assumptions that are believed to be reasonable in relation to the financial statements taken as a whole under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those 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, 2021, approximately \$88 million was uninsured.

Inventory, net

Inventory is stated at the lower of cost or net realizable value using the first-in, first-out (FIFO) valuation method.

Inventory, net of reserves, consisted of the following as of June 30, 2021 and June 30, 2020 (in thousands):

	June 30, 2021	June 30, 2020
Raw Materials	\$ 124	\$ 24
Work in Process	1,188	69
Finished Goods	78	43
Total Inventory	\$ 1,390	\$ 136

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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.

Intangible assets, net

Intangible assets consist of patents, and trademarks. 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. Patents are amortized on the straight-line method over their useful lives of 15 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.

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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 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 note. 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.

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

In determining income for financial statement purposes, the Company must make certain estimates and judgments in the calculation of tax expense, the resultant tax liabilities, and in the recoverability of deferred tax assets that arise from temporary differences between the tax and financial statement recognition of revenue and expense.

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. The Company recognizes interest and penalties related to uncertain tax positions in selling, general and administrative expenses.

Shares Outstanding

Shares outstanding include shares of restricted stock with respect to which restrictions have not lapsed. Shares of restricted stock are included in the calculation of weighted average shares outstanding. Restricted stock included in reportable shares outstanding were as follows as of June 30, 2021 and 2020.

	June 30, 2021	June 30, 2020
Shares of restricted stock included in reportable shares outstanding	—	109,250

Recently Issued Accounting Pronouncements

The Company has evaluated the recently issued accounting pronouncements and does not believe that any of these pronouncements will have a significant impact on the Company's consolidated financial statements and related disclosures.

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Note 4. Revenue Recognition from Contracts with Customers

Disaggregation of Revenue

The Company's primary revenue streams include foundry fabrication services and product sales.

Foundry Fabrication Services

Foundry fabrication services revenue includes microelectromechanical systems ("MEMS") foundry services, which the Company exited in fiscal year 2020, and Non-Recurring Engineering ("NRE"). 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 and amps, which are 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 for the year ended June 30, 2021, (in thousands):

	Foundry Fabrication Services Revenue	Product Sales Revenue	Total Revenue with Customers
NRE - RF Filters	2,848	—	2,848
Filters/Amps	—	3,770	3,770
Total	<u>\$ 2,848</u>	<u>\$ 3,770</u>	<u>\$ 6,618</u>

The following table summarizes the revenues of the Company's reportable segments for the year ended June 30, 2020, (in thousands):

	Foundry Fabrication Services Revenue	Product Sales Revenue	Total Revenue with Customers
MEMS	\$ 265	—	\$ 265
NRE - RF Filters	726	—	726
Filters/Amps	—	799	799
Total	<u>\$ 991</u>	<u>\$ 799</u>	<u>\$ 1,790</u>

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Performance Obligations

The Company has determined that contracts for product sales revenue and foundry 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 (as deferred revenue on the Consolidated Balance Sheet).

The following table summarizes the changes in the opening and closing balances of the Company's contract asset and liability for the years ended June 30, 2021 and 2020 (in thousands):

	<u>Contract Assets</u>	<u>Contract Liabilities</u>
Balance, June 30, 2020	\$ 125	\$ —
Closing, June 30, 2021	411	41
Increase/(Decrease)	286	41
Balance, June 30, 2019	\$ 140	\$ 5
Closing, June 30, 2020	125	—
Increase/(Decrease)	(15)	(5)

The amount of revenue recognized in the year ended June 30, 2020 that was included in the opening contract liability balance consisted of \$ thousand 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, 2021 that was included in the opening contract asset balance was \$125 thousand, which primarily related to non-recurring engineering business.

Backlog of Remaining Customer Performance Obligations

Revenue expected to be recognized and recorded as sales during the next fiscal year from the backlog of performance obligations that are unsatisfied (or partially unsatisfied) was \$2.5 million at June 30, 2021.

Grant Revenue

From time to time the Company applies for grants from various government bodies (state & federal), such as the National Science Foundation ("NSF") or the Department of Defense (DoD), to support research and development. In addition, the Company may be eligible for "matching awards" from state boards to provide additional funds to the Company to supplement the funds awarded under the federal grant program. The Company records grant revenue as a part of revenue from operations given that grant revenue is viewed as an ongoing function of its intended operations. The revenue from grants is not viewed as "incidental" or "peripheral" which would result in the presentation of grant revenue as "Other income". The Company recognizes non-refundable grant revenue when the performance obligations have been met, application has been submitted and approval is reasonably assured.

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Note 5. Property and equipment

Property and equipment consisted of the following as of June 30, 2021 and 2020 (in thousands):

	<u>June 30, 2021</u>	<u>June 30, 2020</u>	<u>Estimated Useful Life</u>
Land	\$ 1,000	\$ 1,000	n/a
Building	3,000	3,000	11 years
Equipment	35,120	24,746	2-10 years
Leasehold Improvements	1,946	964	*
Software	580	294	3 years
Furniture & Fixtures	73	11	5 years
Computer Equipment	310	267	3 years
Total	42,029	30,282	
Less: Accumulated depreciation	(11,299)	(6,677)	
Total	\$ 30,730	\$ 23,605	

(*) 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 \$4.6 million and \$3.0 million for the years ended June 30, 2021 and 2020, respectively.

As of June 30, 2021, equipment with a net book value totaling \$4.9 million had not been placed in service and therefore was not depreciated during the period. As of June 30, 2020, fixed assets with a net book value totaling \$5.6 million had not been placed in service and therefore was not depreciated during the period.

Note 6. Accounts payable and accrued expenses

Accounts payable and accrued expenses consisted of the following at June 30, 2021 and June 30, 2020 (in thousands):

	June 30, 2021	June 30, 2020
Accounts payable	\$ 1,188	\$ 2,135
Accrued salaries and benefits	4,415	2,478
Accrued professional fees	49	193
Accrued utilities	127	138
Accrued interest	—	137
Accrued good received not invoiced	761	396
Other accrued expenses	414	422
Totals	\$ 6,954	\$ 5,899

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Note 7. Derivative Liabilities

The table below provides a summary of the changes in fair value, including net transfers in and/or out, of all financial assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during the year ended June 30, 2021 and 2020 (in thousands):

	Fair Value Measurement Using Level 3 Inputs Total
Balance, June 30, 2019	\$ 955
Change in fair value of derivative liabilities (included in other (expense) income)	155
Balance, June 30, 2020	\$ 1,110
Change in fair value of derivative liabilities (included in other (expense) income)	(1,110)
Balance, June 30, 2021 (see footnote 8)	\$ —

The fair value of the derivative features of the convertible note at the balance sheet dates were calculated using the with-and-without method, a form of the income approach, valued with the following weighted average assumptions:

	June 30, 2020
Remaining term (years)	2.92-3.42
Expected volatility	70%
Risk free interest rate	0.18%-0.20%
Dividend yield	0.00%

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

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.

Volatility: The Company estimated the expected volatility of the stock price based on a blend of the Company's own historic volatility and the corresponding volatility of the Company's peer group stock price for a period consistent with the convertible notes' expected term.

Remaining term: The Company's remaining term is based on the remaining contractual term of the convertible notes.

Note 8. Convertible Notes

On December 4, 2020, the Company provided a notice of redemption to the holders of the Company's outstanding \$10,000,000 aggregate principal amount of 6.5% Convertible Senior Notes due 2023 (the "October 2018 Notes") regarding the Company's exercise of its option to redeem all October 2018 Notes on February 1, 2021 (the "October Redemption Date"), unless earlier converted as described below, pursuant to the indenture governing the October 2018 Notes. Pursuant to the notice of redemption, the Company would pay holders of the October 2018 Notes that are redeemed a redemption price equal to 100% of the aggregate principal amount of October 2018 Notes being redeemed, plus accrued and unpaid interest as well as an interest make-whole payment with respect to those October 2018 Notes that are redeemed.

All of the holders of the October 2018 Notes elected to convert the October 2018 Notes into shares of common stock of the Company prior to the October Redemption Date at a conversion rate equal to 196.08 shares of common stock per \$1,000 principal amount of Notes (equivalent to a conversion price of approximately \$5.10 per share).

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During the year ended June 30, 2021, the Company converted approximately \$10.0 million of principal into approximately 1.96 million shares of the Company's common stock. The Company also recognized \$96 thousand of unamortized debt discount as a reduction to equity.

On January 25, 2021, the Company provided a notice of redemption to the holders of the Company's outstanding \$15,000,000 aggregate principal amount of 6.5% Convertible Senior Secured Notes due 2023 (the "May 2018 Notes") regarding the Company's exercise of its option to redeem all Notes on March 1, 2021 (the "May Redemption Date"), unless earlier converted as described below, pursuant to the indenture governing the Notes. Pursuant to the notice of redemption, the Company would pay holders of the Notes that are redeemed a redemption price equal to 100% of the aggregate principal amount of Notes being redeemed, plus accrued and unpaid interest.

All of the holders of the May 2018 Notes elected to convert the May 2018 Notes into shares of common stock of the Company prior to the May Redemption Date at a conversion rate equal to 200 shares of common stock per \$1,000 principal amount of notes (equivalent to a conversion price of \$5.00 per share). The holders of the May 2018 Notes also received an interest make-whole payment at a weighted average rate of 1.52 shares per \$1,000 principal amount of notes with respect to those May 2018 Notes that were converted.

During the year ended June 30, 2021, the Company converted approximately \$15.0 million of principal and \$366 thousand of make whole payment liability into approximately 3.02 million shares of the Company's common stock. The Company also recognized \$477 thousand of unamortized debt discount as additional interest expense during the conversion.

The following table summarizes convertible debt as of June 30, 2020 (in thousands):

	<u>Maturity Date</u>	<u>Stated Interest Rate</u>	<u>Conversion Price</u>	<u>Face Value</u>	<u>Remaining Debt (Discount)</u>	<u>Fair Value of Embedded Conversion Option</u>	<u>Carrying Value</u>
Long Term convertible notes payable							
6.5% convertible senior secured notes	5/31/2023	6.50%	\$ 5.00	\$ 15,000	\$ (3,918)	\$ 894	\$ 11,976
6.5% convertible senior notes	11/30/2023	6.50%	\$ 5.10	\$ 10,000	\$ (564)	\$ 216	\$ 9,652
Ending Balance as of June 30, 2020				<u>\$ 25,000</u>	<u>\$ (4,482)</u>	<u>\$ 1,110</u>	<u>\$ 21,628</u>

Note 9. Loans Payable

Paycheck Protection Program Loan

On May 20, 2020, Akoustis, Inc., the operating subsidiary of the Company, issued a promissory note (the "Promissory Note") in favor of Bank of America, NA (the "Lender") that provided for a loan in the principal amount of \$1.6 million pursuant to the Paycheck Protection Program (the "PPP") under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"). The Promissory Note accrued interest at a rate of 1.00% per annum. The Company treated the Promissory Note as debt and included the future monthly repayment amounts payable within 12 months as a short-term liability and the remainder of the Promissory Note debt as a long-term liability on the balance sheet.

On April 9, 2021, Akoustis, Inc. received notice from the Lender that the full amount of the Promissory Note was forgiven pursuant to the PPP. The Company recorded approximately \$1.6 million of debt extinguishment gain as a result of this forgiveness.

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The following table summarizes the Promissory Note debt as of June 30, 2020 (in thousands):

	<u>Maturity Date</u>	<u>Stated Interest Rate</u>	<u>Face Value</u>	<u>Remaining Debt (Discount)</u>	<u>Carrying Value</u>
Long Term Loans payable					
Promissory Note	05/20/2022	1.00%	\$ 1,633	\$ (42)	\$ 1,591
Ending Balance as of June 30, 2020			<u>\$ 1,633</u>	<u>\$ (42)</u>	<u>\$ 1,591</u>

The amortization of the Promissory Note debt discount of \$19.7 thousand and \$2.8 thousand for the years ended June 30, 2021 and 2020, respectively, was treated as interest expense on the statement of operations.

Note 10. Concentrations

Vendors

Vendor concentration as a percentage of purchases for the years ended June 30, 2021 and 2020 are as follows:

	<u>Year Ended 06/30/2021</u>	<u>Year Ended 06/30/2020</u>
Vendor 1	—	12%

Customers

Customer concentration as a percentage of revenue for the years ended June 30, 2021 and 2020 are as follows:

	<u>Year Ended 06/30/2021</u>	<u>Year Ended 06/30/2020</u>
Customer 1	47%	19%
Customer 2	29%	—

Note 11. Stockholders' Equity

Equity Issuances

On May 8, 2020, the Company entered into an ATM Equity OfferingSM Sales Agreement with BofA Securities, Inc. and Piper Sandler & Co., which was amended on February 19, 2021, (the "Sales Agreement") pursuant to which the Company may sell from time-to-time shares of its common stock having an aggregate offering price of up to \$100,000,000 (the "Equity Offering Program").

The following table summarizes sales through the Equity Offering Program during the year ended June 30, 2021:

Three months ended	Avg price per share	Number of Shares	Gross Proceeds (in millions)	Offering Expenses (in millions)	Net Proceeds (in millions)
September 30, 2020	\$ 8.09	416,221	\$ 3.4	\$ 0.1	\$ 3.3
December 31, 2020	\$ 8.93	2,296,023	\$ 20.5	\$ 0.4	\$ 20.1
March 31, 2021	\$ 14.99	2,082,148	\$ 31.2	\$ 0.5	\$ 30.7
June 30, 2021	\$ 10.01	762,197	\$ 7.6	\$ 0.1	\$ 7.5
Total	\$ 11.28	5,556,589	\$ 62.7	\$ 1.1	\$ 61.6

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February 2021 Registered Direct Offering

On February 19, 2021, the Company entered into securities purchase agreements to sell a total of 1,500,000 shares of its common stock to a limited number of institutional investors in a registered direct offering at a purchase price of \$14.3592 per share for aggregate gross proceeds of \$21.5 million. The offering closed on February 23, 2021. The Company expects to use the proceeds of the offering to fund the Company's operations and growth of its business, including for capital expenditures, working capital, research and development, the commercialization of its technology and other general corporate purposes.

Equity incentive plans

On November 1, 2018, the Board of Directors adopted, and on the same date 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. As of June 30, 2021, 2,570,911 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 weighted average assumptions:

	June 30, 2021	June 30, 2020
Exercise price	\$7.72 – \$17.61	\$4.71 – \$8.15
Expected term (years)	4.00 – 5.00	4.75 – 5.00
Risk-free interest rate	0.25 – 0.78%	0.32 – 1.74%
Volatility	67 – 68%	65 – 69%
Dividend yield	0%	0%
Weighted Average Grant Date Fair Value of Options granted during the period	\$5.09	\$4.31

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.

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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, 2020	2,294,415	5.84		
Granted	520,604	9.32		
Exercised	(219,192)	6.10		
Forfeited/Cancelled	(98,250)	7.07		
Outstanding – June 30, 2021	2,497,577	6.49	4.54	10,911
Exercisable – June 30, 2021	1,294,098	5.44	3.87	6,826

The total intrinsic value of options exercised during the fiscal years ended June 30, 2021 and June 30, 2020 was \$,590 thousand and \$104 thousand, respectively.

As of June 30, 2021, the Company has \$2.5 million in unrecognized stock-based compensation expense attributable to the outstanding options, which will be amortized over a period of 2.2 years.

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

	As of June 30, 2021	
	Unrecognized stock- based compensation	Weighted- average years to be recognized
Options	\$ 2,502	2.18
Restricted stock awards/units	\$ 8,081	2.21

For the years ended June 30, 2021 and 2020, the Company recorded \$8.2 million and \$6.7 million, respectively, in stock-based compensation which is reflected in total operating expenses in the consolidated statements of operations as follows (in thousands):

	2021	2020
Research and Development	\$ 4,037	\$ 3,454
General and Administrative	4,155	3,280
Total	\$ 8,192	\$ 6,734

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, 2021 and changes during the year ended is as follows:

	Number of RSAs/RSUs	Weighted Average Fair Value per Share/Unit
Outstanding - June 30, 2020	1,689,836	\$ 7.07
Granted	856,961	9.77
Vested	(707,189)	6.87
Forfeited/Cancelled/Repurchased	(92,000)	7.49
Outstanding – June 30, 2021	1,747,608	8.45

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The weighted average grant date fair value per share for awards granted during the fiscal years ended June 30, 2021 and June 30, 2020 was \$9.77 and \$7.70, respectively. The total fair value of restricted awards that vested during the fiscal years ended June 30, 2021 and June 30, 2020 was \$6.9 million and \$4.0 million, respectively.

During the years ended June 30, 2021 and 2020, the Company recorded stock-based compensation expense of \$6.1 million and \$4.7 million, respectively related to the RSAs and RSUs that have been issued to date.

As of June 30, 2021, the Company had approximately \$8.1 million in unrecognized stock-based compensation expense related to the unvested 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, 2021, 0.35 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 0.07 million, and 0.06 million shares under the ESPP in fiscal years 2021 and 2020, respectively. The Company settles awards issued under the ESPP with newly issued common shares.

For the years ended June 30, 2021 and 2020, the Company recorded \$0.17 million and \$0.14 million, respectively, in stock-based compensation related to grants of ESPP shares.

Note 12. Commitments and contingencies

Leases

The Company leases office space and office equipment in Huntersville, NC as well as equipment in Canandaigua, NY. On January 7, 2020, the Company entered into an amended lease agreement with the current lessor in order to extend the lease term and increase office space at our Huntersville, NC corporate office. The amended lease expands our space to 22,000 square feet and extends the term to February 2023. This resulted in a remeasurement of the previous right of use asset and liability, which resulted in an increase of approximately \$0.2 million.

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, 2021	Year Ended June 30, 2020
Operating Lease Expense	\$ 310	\$ 219

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

	Classification on the Consolidated Balance Sheet	June 30, 2021
Assets		
Operating lease assets	Other non-current assets	\$ 471
Liabilities		
Other current liabilities	Current liabilities	270
Operating lease liabilities	Other non-current liabilities	202
Weighted Average Remaining Lease Term:		
Operating leases		1.76 Years
Weighted Average Discount Rate:		
Operating leases		12.5%

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

For the year ending June 30,	
2022	312
2023	204
2024	7
2025	—
2026	—
Thereafter	—
Total lease payments (Undiscounted cash flows)	524
Less imputed interest	(52)
Total	\$ 472

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. The benefits provided to the Company 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

From time to time, the Company may become involved in lawsuits, investigations and claims that arise in the ordinary course of business. The Company believes it has meritorious defenses against all pending claims and intends to vigorously pursue them. While it is not possible to predict or determine the outcomes of any pending actions, the Company believes the amount of liability, if any, with respect to such 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, 2021 and \$0.1 million as of June 30, 2020 and are recorded on the Consolidated Balance Sheet as a long-term liability.

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Note 13. Related Party Transactions

Asset Purchase and Sale

On September 30, 2020, Akoustis, Inc. sold to a third party certain of its inventory, together with related warranty obligations, delivery commitments and design data and files (the "Designs") for \$215,000. This transaction was enabled by the purchase by Akoustis, Inc. under an Asset Purchase Agreement dated September 30, 2020 with Big Red, LLC of the Designs for \$25,000. Members of Big Red, LLC include the brother of the Company's Chief Executive Officer and two non-executive employees of the Company.

Note 14. Income Taxes

On March 27, 2020, the CARES Act was enacted in response to COVID-19 pandemic. Under ASC 740, the effects of changes in tax rates and laws are recognized in the period which the new legislation is enacted. The CARES Act made various tax law changes including among other things (i) increased the limitation under IRC Section 163(j) for 2019 and 2020 to permit additional expensing of interest (ii) enacted a technical correction so that qualified improvement property can be immediately expensed under IRC Section 168(k) and (iii) made modifications to the federal net operating loss rules including permitting federal net operating losses incurred in 2018, 2019, and 2020 to be carried back to the five preceding taxable years in order to generate a refund of previously paid income taxes (iv) enhanced recoverability of AMT tax credits. Given the Company's full valuation allowance position, the CARES Act did not have a material impact on the financial statements.

Income Tax Expense

	June 30, 2021	June 30, 2020
Current:		
Federal	\$ —	\$ —
State and Local	—	—
Total Current Tax Provision	—	—
Deferred:		
Federal	—	—
State and Local	—	—
Total Deferred Tax Provision	—	—
Total Tax Provision	\$ —	\$ —

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, 2021	For the Year Ended June 30, 2020
Income taxes at Federal statutory rate	(21.00)%	(21.00)%
State income taxes, net of Federal income tax benefit	(0.15)%	(1.92)%
Tax Credits	(2.15)%	(1.10)%
Stock-based compensation	(1.30)%	(0.28)%
Other	(0.30)%	0.04%
Change in Valuation Allowance	24.92%	24.31%
Effect of changes in income tax rate applied to net deferred taxes	(0.02)%	(0.05)%
Income Tax Provision	0.00%	0.00%

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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, 2021	June 30, 2020
Deferred Tax Assets		
Net Operating Loss Carryforwards	\$ 32,688	\$ 20,542
Stock-based compensation	2,804	2,422
Credits	1,817	869
Other	1,010	484
	38,319	24,317
Deferred Tax Liabilities		
Convertible debt discount	—	(472)
Accumulated depreciation/basis differences	(4,620)	(1,150)
	(4,620)	(1,622)
Valuation Allowance	(33,699)	(22,695)
Net Deferred Tax Assets	\$ —	\$ —

At June 30, 2021, 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 \$115.5 million that will carry forward indefinitely. The North Carolina, New York, and California state loss carryovers of approximately \$28.1 million, \$11.0 and \$10.0 million, respectively, will begin to expire in 2029 if unused. Federal research credits of \$1.8 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, 2021 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, 2021 and 2020, 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, 2021 was an increase of approximately \$11.0 million.

The Company's gross unrecognized tax benefits totaled \$0.3 million as of June 30, 2021 and \$0.2 million as of June 30, 2020. Of these amounts, \$0.3 million and \$0.2 million as of June 30, 2021 and June 30, 2020, 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 June 30, 2020 through June 30, 2021 beginning and ending amount of gross unrecognized tax benefits is as follows (in thousands):

	June 30, 2021	June 30, 2020
Beginning Balance	\$ 200	\$ 148
Additions based on positions related to the current year	60	50
Additions for tax positions in prior years	66	2
Reductions for tax positions in prior years	—	—
Expiration of statute of limitations	—	—
Ending Balance	<u>\$ 326</u>	<u>\$ 200</u>

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The unrecognized tax benefit of \$326 thousand at the end of June 30, 2021 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 15. 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, Foundry Fabrication Services, which consists of engineering review services and STC-MEMS foundry services, and RF Filters which consists of amplifier and filter product sales, and grant revenue. The Company records all general and administrative costs in the RF Filters segment.

The Company evaluates performance of its operating segments based on revenue and operating profit (loss). Segment information for the years ended June 30, 2021 and 2020 are as follows (in thousands):

	Foundry Fabrication Services	RF Filters	Total
Year ended June 30, 2021			
Revenue	\$ 2,848	\$ 3,770	\$ 6,618
Cost of revenue	1,507	9,144	10,651
Gross margin	1,341	(5,374)	(4,033)
Research and development	-	24,076	24,076
General and administrative	-	13,285	13,285
Income/(Loss) from Operations	\$ 1,341	\$ (42,735)	\$ (41,394)
Year ended June 30, 2020			
Revenue	\$ 991	\$ 799	\$ 1,790
Cost of Revenue	703	1,711	2,414
Gross Margin	288	(912)	(624)
Research and development	-	20,523	20,523
General and administrative	14	10,877	10,891
Loss from Operations	\$ 274	\$ (32,312)	\$ (32,038)
As of June 30, 2021			
Accounts receivable	\$ 242	\$ 928	\$ 1,170
Property and equipment, net	-	30,730	30,730
As of June 30, 2020			
Accounts receivable	\$ 71	\$ 280	\$ 351
Property and equipment, net	-	23,605	23,605

Note 16. 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, 2021 and 2020 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, 2021 and 2020:

	June 30, 2021	June 30, 2020
Convertible Notes	—	4,960,800
Options	2,497,577	2,294,415
Warrants	167,109	395,700

Total

2,664,686

7,650,915

Note 17. 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.

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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, 2021, our management, with the participation of our Chief Executive Officer and Interim 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 Interim Chief Financial Officer have concluded based upon the evaluation described above that, as of June 30, 2021, 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 Interim 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, 2021.

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, 2021.

Changes in Internal Control over Financial Reporting

During the year ended June 30, 2021, 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.

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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 2021 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 2021 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 2021 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 2021 annual meeting of stockholders.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

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

Consolidated Balance Sheets	F-3
Consolidated Statements of Income and Comprehensive Income	F-4
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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)
4.1	Indenture, dated as of May 14, 2018, by and among Akoustis Technologies Inc., Akoustis, Inc. and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2018)
4.2	Indenture, dated as of October 23, 2018, by and between the Company and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on October 23, 2018)
4.3	First Supplemental Indenture, dated as of October 23, 2018, by and between the Company and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed with the SEC on October 23, 2018)
4.4	Form of 6.5% Convertible Senior Note due November 30, 2023 (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed with the SEC on October 23, 2018)
4.5	First Supplemental Indenture, dated as of October 18, 2018, among the Company, Akoustis, Inc. and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.4 to the Company's Current Report on Form 8-K filed with the SEC on October 23, 2018)
4.6	Second Supplemental Indenture, dated as of April 17, 2020, by and among Akoustis Technologies, Inc., Akoustis, Inc. and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on April 21, 2020)

Exhibit Number	Description
4.7	<u>Second Supplemental Indenture, dated as of April 17, 2020, by and between Akoustis Technologies, Inc. and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed with the SEC on April 21, 2020)</u>
4.8	<u>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)</u>
10.1.1†	<u>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)</u>
10.1.2†	<u>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)</u>
10.2.1†	<u>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)</u>
10.2.2†	<u>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)</u>
10.2.3†	<u>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)</u>
10.3†	<u>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)</u>
10.4†	<u>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)</u>
10.5	<u>Form of 2016 Placement Agent Warrant for Common Stock of the Company in connection with the Company's 2016 private placement offering (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on April 20, 2016)</u>
10.6	<u>Form of Placement Agent Warrant in the 2016-2017 Offering (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the SEC on December 28, 2016)</u>
10.7	<u>Form of Amended and Restated Placement Agent Warrant for Common Stock of the Company in connection with the Company's 2015 private placement offering and 2016 private placement offering (incorporated by reference to Exhibit 10.12 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)</u>
10.8.1†	<u>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)</u>
10.8.2†	<u>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)</u>
10.8.3†	<u>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)</u>
10.9	<u>Form of Placement Agent Warrant in the 2017 Offering (incorporated by reference to Exhibit 10.38 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)</u>

Exhibit Number	Description
10.10†	<u>Summary of Akoustis Technologies, Inc. Director Compensation Program, effective October 3, 2017 (incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)</u>
10.11	<u>Form of Placement Agent Warrant in the 2017 Offering (incorporated by reference to Exhibit 10.34 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)</u>
10.12	<u>Pledge and Security Agreement, dated as of May 14, 2018, by and among Akoustis Technologies, Inc., Akoustis, Inc. and The Bank of New York Mellon Trust Company, N.A., as Collateral Agent (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2018)</u>
10.13	<u>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)</u>
10.14††	<u>Price Quotation, dated January 14, 2019, by and between the Company and ASML US, LLC (incorporated by reference to Exhibit 10.39 of the Company's Annual Report on Form 10-K filed with the SEC on September 13, 2019)</u>
10.15†	<u>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)</u>
10.16†	<u>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)</u>

10.17†	<u>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)</u>
10.18	<u>Agreement of Sale, dated October 25, 2019, by and between the Company and EV Group, Inc.(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 7, 2019)</u>
10.19	<u>Promissory Note, dated as of May 20, 2020, issued by Akoustis, Inc. in favor of Bank of America, NA.(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 26, 2020)</u>
21.1	<u>Subsidiaries of the Company (incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K filed with the SEC on August 21, 2020)</u>
23.1*	<u>Consent of Marcum LLP</u>
31.1*	<u>Rule 13(a)-14(a)/15(d)-14(a) Certification of Principal Executive Officer</u>
31.2*	<u>Rule 13(a)-14(a)/15(d)-14(a) Certification of Principal Financial and Accounting Officer</u>
32.1*	<u>Section 1350 Certification of Principal Executive Officer</u>
32.2*	<u>Section 1350 Certification of Principal Financial and Accounting Officer</u>
101§*	Interactive Data Files of Financial Statements and Notes.

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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.

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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: August 30, 2021

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
<u>/s/ Jeffrey B. Shealy</u> Jeffrey B. Shealy	Chief Executive Officer (Principal Executive Officer), Director	August 30, 2021
<u>/s/ Kenneth E. Boller</u> Kenneth E. Boller	Interim Chief Financial Officer (Principal Financial and Accounting Officer)	August 30, 2021
<u>/s/ Arthur E. Geiss</u> Arthur E. Geiss	Co-Chairman of the Board	August 30, 2021
<u>/s/ Jerry D. Neal</u> Jerry D. Neal	Co-Chairman of the Board	August 30, 2021

<u>/s/ Steven P. DenBaars</u> Steven P. DenBaars	Director	August 30, 2021
<u>/s/ Jeffrey K. McMahon</u> Jeffrey K. McMahon	Director	August 30, 2021
<u>/s/ Suzanne B. Rudy</u> Suzanne B. Rudy	Director	August 30, 2021
<u>/s/ J. Michael McGuire</u> J. Michael McGuire	Director	August 30, 2021

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. 333-238130, 333-218245, and 333-222552), Form S-1 (File No. 333-225870), and Form S-8 (File Nos. 333-235665, 333-228451, 333-222917, and 333-215153), of our report dated August 30, 2021, with respect to our audits of the consolidated financial statements of Akoustis Technologies, Inc. as of June 30, 2021 and 2020 and for each of the two years in the period ended June 30, 2021, which report is included in this Annual Report on Form 10-K of Akoustis Technologies, Inc. for the year ended June 30, 2021.

/s/ Marcum llp

Marcum llp
New York, NY
August 30, 2021

**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: August 30, 2021

/s/ Jeffrey B. Shealy

Jeffrey B. Shealy
President and Chief Executive Officer
(Principal Executive Officer)

**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: August 30, 2021

/s/ Kenneth E. Boller

Kenneth E. Boller
Interim Chief Financial Officer
(Principal Financial and Accounting Officer)

**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, 2021, 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: August 30, 2021

/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.

**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, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kenneth E. Boller, Interim 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: August 30, 2021

/s/ Kenneth E. Boller

Kenneth E. Boller
Interim 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.