Risk Factors Comparison 2024-02-26 to 2023-02-27 Form: 10-K

Legend: **New Text** ~~Removed Text~~ Unchanged Text Moved Text Section

Risks Related to Our Business and Our Industry Global macroeconomic conditions have harmed and may continue to harm our business. We are a global company and therefore our business, results of operations **,** and financial condition are impacted by global macroeconomic conditions. Macroeconomic events such as rising inflation, recession, equity market volatility, geopolitical tensions, war, declines in income or asset values, decreased spending, changes to fuel and other energy costs, public health crises, supply chain disruptions, trade restrictions and sanctions, and **global banking concerns** ~~the COVID- 19 pandemic~~ have caused economic volatility, which has and may continue to harm our business, financial condition, and results of operations, and may cause an extended downturn in the worldwide economy, which would further harm our business, financial condition and results of operations. Economic volatility and adverse economic conditions have affected and may continue to affect the demand for our products and our customers' products. Reduced demand for our customers' products has led to a ~~build~~ **buildup** ~~- up~~ of inventory at **many of** our customers **, including distributors,** and their affiliates, partners, and contract manufacturers, which has and may continue to adversely affect demand for our products. Reduced demand for our products could result in significant decreases in our sales and margins, and could materially harm our results of operations. The future effects of macroeconomic events on our business and results of operations, including inventory levels at our customers and their affiliates, partners, and contract manufacturers as well as demand for our products, are uncertain and difficult to predict. A deterioration in credit markets as a result of macroeconomic events could also limit our ability to obtain external financing to fund our operations and capital expenditures. We may experience losses on our holdings of cash and investments due to failures of financial institutions and other parties. Further, adverse economic conditions may also result in a higher rate of losses on our accounts ~~receivables~~ - **receivable** due to credit defaults. As a result, global macroeconomic conditions have had and may continue to have a material adverse effect on our business, results of operations, and financial condition. We are subject to the cyclical nature of the semiconductor industry. The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change, rapid product obsolescence, price erosion, evolving standards, short product life cycles, and wide fluctuations in product supply and demand. ~~The~~ **From time to time, these factors, together with changes in macroeconomic conditions, can cause significant upturns and downturns in the semiconductor** industry ~~experienced a significant downturn during past adverse macroeconomic events such as global recessions~~ , and ~~we are currently experiencing a decrease~~ in ~~demand for~~ our ~~products~~ **business** . ~~These downturns~~ **Downturns in the semiconductor industry** have been characterized by diminished product demand, production overcapacity, high inventory levels for us and our customers, and erosion of average selling prices. **For example, in 2023 we experienced, and we may in the future experience, customer inventory adjustments that may adversely affect our results of operations.** Any downturns in the semiconductor industry could harm our business, financial condition, and results of operations ~~. In the last few years, the semiconductor industry experienced an upturn~~ . Any significant upturn in the semiconductor industry could result in increased competition for access to third- party foundry and assembly capacity. We are dependent on the availability of this capacity to manufacture and assemble our products and we can provide no assurance that adequate capacity will be available to us in the future. We cannot predict the duration or timing of any downturn or upturn in the semiconductor industry. We have historically depended on a limited number of customers for a significant portion of our revenue. If we are unable to expand or further diversify our customer base, our business, financial condition, and results of operations could suffer, and the loss of, or a significant reduction in orders from our customers, including a large customer or end customer, could significantly reduce our revenue and adversely impact our operating results. Historically we have derived a significant portion of our revenue from a limited number of customers. We sell our products primarily through distributors, who in turn sell to our end customers. We also sell directly to our end customers. Our top three distributors by revenue together accounted for approximately **51 %,** 49 %, **and** 48 ~~%, and 59~~ % of our revenue for the years ended December 31, **2023,** 2022, **and** 2021 ~~, and 2020~~ , respectively. Based on our shipment information, we believe that revenue attributable to our ten largest end customers accounted for **49 %,** 47 % ~~,~~ **and** 49 ~~% and 58~~ % of our revenue for the years ended December 31, **2023,** 2022, **and** 2021 ~~, and 2020~~ , respectively. Sales attributable to Apple, our largest end customer accounted for approximately **21 %,** 20 %, **and** 22 ~~%, and 40~~ % of our revenue for the years ended December 31, **2023,** 2022, **and** 2021, ~~and 2020,~~ respectively ~~. Revenue attributable to this end customer increased in absolute dollars but decreased as a percentage of revenue from the year ended December 31, 2021 to 2022~~ . We anticipate revenue attributable to this customer will fluctuate from period to period. Although we sell our products to this customer through distributors on a purchase order basis, including Pernas Electronics Co., Ltd. (" Pernas "), Arrow Electronics, Inc. (" Arrow "), and Quantek Technology Corporation (" Quantek "), we have a development and supply agreement, which provides a general framework for certain transactions with Apple. This agreement continues until either party terminates for material breach. Under this agreement, we have agreed to develop and deliver new products to this end customer at its request, provided it also meets our business purposes, and have agreed to indemnify it for intellectual property infringement or any injury or damages caused by our products. This end customer does not have any minimum or binding purchase obligations to us under this agreement and could elect to discontinue making purchases from us with little or no notice. We expect the composition of our largest end customers to vary from period to period, and that revenue attributable to our largest ten end customers in any given period may decline over time. Our relationships with existing customers may deter potential customers who compete with these customers from buying our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions. We believe our operating results for the foreseeable future will continue to depend to a significant extent on sales attributable to a limited number of customers and end customers. If we are unable to expand or further diversify our customer base, it could harm our business, financial condition, and results of operations. If our end customers were to choose to work with other manufacturers or our relationships with our customers are disrupted for any reason, it could have a significant negative impact on our business. Any reduction in sales attributable to our larger customers and end customers, including our largest end customer, would have a significant and disproportionate impact on our business, financial condition, and results of operations. ~~Because most~~ **Geopolitical tensions are leading to an increasing trend** of **customers seeking domestically produced products** ~~our~~ - **or reducing the dependence upon, or use of, products from certain countries, which could limit our ability to make** sales ~~are made pursuant~~ to ~~standard purchase orders, orders may be cancelled, reduced, or rescheduled with little or no notice and without penalty. Cancellations of orders could result in the~~ **these** ~~loss of anticipated sales without allowing us sufficient time to reduce our inventory and operating expenses. In addition, changes in customer or end customer forecasts or the timing of orders from our~~ customers ~~could make demand for our products difficult for us to predict and could expose us to the risks of inventory shortages or excess inventory. This in turn could cause our operating results to fluctuate and could materially harm our results of operations~~ . Our end customers, or the distributors through which we sell to these customers, may choose to use products in addition to ours, use a different product altogether, or develop an in- house solution. In addition, the inability of our customers or their contract manufacturers to obtain sufficient supplies of third- party components used with our products could result in a decline in the demand of our products and a loss of sales. Any of these events could significantly harm our business, financial condition, and results of operations. Further, if our distributors' relationships with our end customers, including our larger end customers, are disrupted for inability to deliver sufficient products or for any other reason, it could have a significant negative impact on our business, financial condition, and results of operations. Because we do not typically have long- term purchase commitments with our customers, orders may be cancelled, reduced, or rescheduled with little or no notice, which in turn exposes us to inventory risk, and may cause our business and results of operations to suffer. We sell our products primarily through distributors, usually with no long- term or minimum purchase commitments from them or their end customers. Substantially all of our sales to date have been made on a purchase order basis, which orders may be cancelled, changed, or rescheduled with little or no notice or penalty. As a result, our revenue and operating results could fluctuate materially and could be materially and disproportionately impacted by purchasing decisions of our customers, including our larger customers. In the future, our distributors or their end customers may decide to purchase fewer units than they have in the past, may alter their purchasing patterns at any time with limited or no notice, or may decide not to continue to purchase our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions at all, any of which could cause our revenue to decline materially and materially harm our business, financial condition, and results of operations. Cancellations of, reductions in, or rescheduling of customer orders could also result in the loss of anticipated sales without allowing us sufficient time to reduce our inventory and operating expenses, as a substantial portion of our expenses are fixed at least in the short term. In addition, forecasts provided by customers **, end customers,** or their affiliates or contract manufacturers may change or may later prove to have been inaccurate which could make demand for our products difficult for us to predict and could expose us to the risks of inventory shortages or excess inventory and materially harm our results of operations. As we no longer intend to acquire inventory to pre- build custom products, we may not be able to fulfill increased demand in the short term. Any of the foregoing events could materially and adversely affect our business, financial condition, and results of operations ~~but it may materially adversely affect our business,financial condition,or results of operations~~ .Our revenue and operating results may fluctuate from period to period,which could cause our stock price to fluctuate.Our revenue and operating results have fluctuated in the past and may fluctuate from period to period in the future due to a variety of factors,many of which are beyond our control.We expect our revenue to fluctuate in the future primarily based on the volume of shipments of our products and average selling price (" ASP") changes. ~~Though our ASP increased in 2022 compared to 2021,we may not be able to sustain ASP increases in the future.~~ Factors relating to our business that may contribute to fluctuations in our operating results include the following factors,as well as other factors described elsewhere in this report:• macroeconomic conditions;• cyclical fluctuations in the semiconductor market;• customer demand and product life cycles;• the receipt,reduction,or cancellation of,or changes in the forecasts or timing of,orders by customers;• fluctuations in the levels of inventories held by our distributors or end customers;• the gain or loss of significant customers;• **changes in our pricing,product cost,and product mix;•** supply chain disruptions,delays,shortages,and capacity limitations;• market acceptance of our products and our customers' products;• our ability to develop,introduce,and market new products and technologies on a timely basis;• the timing and extent of product development costs;• new product announcements and introductions by us or our competitors;• our research and development costs and related new product expenditures and our ability to achieve cost reductions in a timely or predictable manner;• seasonality and fluctuations in sales by product manufacturers that incorporate our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions into their products;• end- market demand into which we have limited insight,including cyclicality,seasonality,and the competitive landscape;• **socioeconomic or political conditions in the countries where we operate or where our products are sold or used;•** the impact **of any pandemic,epidemic,or outbreak of disease,including the emergence of new variants** of the COVID- 19 pandemic **,** on our business,suppliers,and customers;• fluctuations in our manufacturing yields;• significant warranty claims,including those not covered by our suppliers;• new accounting pronouncements or changes in existing accounting standards; **and** • loss of one or more of our executive officers or other key employees; ~~and • changes in our pricing,product cost,and product mix.~~ As a result of these and other factors,you should not rely on the results of any prior quarterly or annual periods,or any historical trends reflected in such results,as indications of our future revenue or operating performance.Fluctuations in our revenue and operating results could cause our stock price to decline and,as a result,you may lose some or all of your **investment** . We depend on third parties for our wafer fabrication, assembly, packaging, and testing operations, which exposes us to certain risks that may harm our business. We operate an outsourced manufacturing business model. As a result, we rely on third parties for all of our manufacturing operations, including wafer fabrication, assembly, packaging, and testing. Although we use multiple third- party supplier sources, we depend on these third parties to supply us with material of a requested quantity in a timely manner that meets our standards for yield, cost, and manufacturing quality. The manufacturing processes of our third- party suppliers for our products require specialized technology that requires certain raw and engineered materials. Many major components, product equipment items, engineered materials, and raw materials, that are procured or subcontracted by our third- party suppliers for manufacturing of our products are procured or subcontracted on a single or sole- source basis. Except for our agreement with Bosch for MEMS wafers, we do not have any long- term supply agreements with any of our other manufacturing suppliers. These third- party manufacturers often serve customers that are larger than us or require a greater portion of their services, which may decrease our relative importance and negotiating leverage with these third parties. If market demand for wafers or production and assembly materials increases, if a supplier of our wafers fails to procure materials needed for manufacture of our products, or if a supplier of our wafers ceases or suspends operations, our supply of wafers and other materials could become limited. We currently have a ten- year supply agreement with Bosch for the fabrication of our MEMS wafers. **The initial term of** ~~This~~ **this supply** agreement ~~expires in~~ **is through February** 2027 and **automatically renews** ~~may be terminated with three years' advance notice beginning in February 2024~~ . We currently rely on Bosch for our MEMS fabrication, and **primarily on** TSMC for our analog circuits fabrication, and any disruption in ~~their~~ -- **the** supply of wafers or any increases in ~~their~~ -- **the** wafer or materials prices could adversely affect our gross margins and our ability to meet customer demands in a timely manner, or at all, and lead to reduced revenue. **In 2021 and the first half of 2022** ~~There~~ **there were** ~~are currently~~ a number of industry- wide supply constraints affecting the supply of analog circuits manufactured by certain foundries, including TSMC, and affecting outsourced semiconductor assembly and test providers (" OSATs "), which ~~in the past has~~ limited ~~and may in the future limit~~ our ability to fully satisfy an increase in demand for some of our products. Moreover, wafers constitute a large portion of our product cost. If we are unable to negotiate volume discounts or otherwise purchase wafers at favorable prices and in sufficient quantities in a timely manner, our ability to ship our solutions to our customers on time and in the quantity required could be adversely affected, which in turn could cause an unanticipated decline in our sales, harm to our customer relationships, and our gross margins to be adversely affected. To ensure continued wafer supply, we may be required to establish alternative wafer supply sources, which could require significant expenditures and limit our negotiating leverage. We currently rely on Bosch and TSMC as our primary foundries and suppliers for our MEMS timing devices and analog circuits, respectively, and only a few foundry vendors have the capability to manufacture our most advanced solutions, in particular with respect to our MEMS solution. If we engage alternative supply sources, we may incur additional costs and encounter difficulties and / or delays in qualifying the supply sources. For example, we have a license agreement with Bosch under which Bosch granted us a license to use certain patents. Under this agreement, we are required to pay a royalty fee to Bosch if we engage third parties to manufacture, or if we decide to manufacture ourselves, certain generations of our MEMS wafers through March 31, 2024. In addition, shipments could be significantly delayed while these sources are qualified for volume production. If we are unable to maintain our relationship with Bosch or TSMC, our ability to produce high- quality products could suffer, which in turn could harm our business, financial condition, and results of operations. We currently primarily rely on Advanced Semiconductor Engineering, Inc. (" ASE "), Carsem (M) Sdn. Bhd. (" Carsem "), and United Test and Assembly Center Ltd. (" UTAC ") for assembly and testing, as well as Daishinku Corp. (" Daishinku "), UTAC, Hana Semiconductor (Ayutthaya) Co., Ltd, and ASE for ceramic packaging for some of our products. We enter into capacity agreements with certain of our OSATs from time to time which may adversely impact our gross margins and results of operations if we do not purchase required minimum quantities. Certain of our manufacturing, packaging, assembly, and testing facilities are located outside of the United States, including Malaysia, Taiwan, and Thailand, where we are subject to increased risk of political and economic instability, difficulties in managing operations, difficulties in enforcing contracts and our intellectual property, severe weather, and employment and labor difficulties. Additionally, public health crises, such as an outbreak of contagious diseases like the COVID- 19 pandemic, may affect the production capabilities of our suppliers, including as a result of quarantines, closures of production facilities, lack of supplies, or delays caused by restrictions on travel or work- from- home orders. Restrictions like these could limit our suppliers' ability to operate their manufacturing facilities. Any of these factors could result in manufacturing and supply problems, and delays in our ability to provide our solutions to our customers on a timely basis, or at all. If we experience manufacturing problems at a particular location, we may be required to transfer manufacturing to a new location or supplier. Converting or transferring manufacturing from a primary location or supplier to a backup facility could be expensive and could take several quarters or more. During such a transition, we would be required to meet customer demand from our then- existing inventory, as well as any partially finished goods that could be modified to the required product specifications. In addition, our end customers may require requalification with a new wafer manufacturer. We typically maintain at least a three- month supply of our MEMS wafers for which Bosch is our primary supplier. We do not otherwise maintain sufficient inventory to address a lengthy transition period. As a result, we may not be able to meet customer needs during such a transition, which could damage our customer relationships. Although we maintain business disruption insurance, this insurance may not be adequate to cover any losses we may experience as a result of such difficulties. If one or more of the third parties we rely on for our manufacturing operations terminates its relationship with us, or if we encounter any problems with our manufacturing supply chain, our ability to ship our solutions to our customers on time and in the quantity required would be adversely affected, which in turn could cause an unanticipated decline in our sales, harm to our customer relationships and loss of customers. A **significant** portion of our operations is located outside of the United States, which subjects us to additional risks, including increased complexity and costs of managing international operations and geopolitical instability. We outsource the fabrication and assembly of all of our products to third parties that are primarily located in Germany and Asia. In addition, we conduct research and development activities in **locations including** the United States, Japan, the Netherlands, Taiwan, Ukraine ~~and~~ **,** Finland **, and India** . We also conduct marketing and administrative functions in the United States, Japan, the Netherlands, China, Taiwan, Malaysia, ~~and~~ Ukraine **, and India** ~~. Certain of the critical functions for our business are performed in locations outside of the United States~~ . Members of our sales force are located in various locations outside of the United States. **Certain of the critical functions for our business are performed in locations outside of the United States.** In addition, approximately **86 %,** 88 %, **and** 94 ~~%, and 93~~ % of our revenue for the years ended December 31, **2023,** 2022, **and** 2021 ~~, and 2020~~ , respectively, was from distributors with ship- to locations outside the United States, although we believe the majority of our end customers are based in the U. S. based on sell- through information provided by these distributors. As a result of our international focus, we face numerous challenges and risks, including: • complexity and costs of managing international operations, including manufacturing, assembly, and testing of our products and associated costs; • geopolitical and military conflicts, including the effects of Russia' s invasion of Ukraine; • economic instability, including the effects of rising inflation and increased interest rates; • limited protection for, and vulnerability to theft of, our intellectual property rights, including our trade secrets; • compliance with local laws and regulations and unanticipated changes in local laws and regulations, including tax laws and regulations; • trade and foreign exchange restrictions and higher tariffs, including the ongoing trade tensions between the U. S. and China that has resulted in higher tariffs on certain semiconductor products **and increased trade restrictions** ; • timing and availability of import and export licenses and other governmental approvals, permits, and licenses, including export classification requirements; • foreign currency fluctuations and exchange losses relating to our international operating activities; • restrictions imposed by the U. S. government or foreign governments on our ability to do business with certain companies or in certain countries as a result of international political conflicts ~~or the COVID- 19 pandemic~~ and the complexity of complying with those restrictions; • transportation delays and other consequences of limited local infrastructure, and disruptions, such as large scale outages or interruptions of service from utilities or telecommunications providers; • difficulties in staffing international operations; • changes in immigration policies which may impact our ability to hire personnel; • local business and cultural factors that differ from our normal standards and practices; • differing employment practices and labor relations; • requirements in foreign countries which may impact availability of personnel, such as mandatory military service in countries such as Ukraine **, Taiwan, and Finland** ; • heightened risk of terrorist acts; • regional health issues and the impact of public health epidemics on employees and the global economy, such as the worldwide COVID- 19 pandemic; • power outages and natural disasters; and • travel, work- from- home or other restrictions or stoppages, like those imposed by governments around the world as a result of the COVID- 19 pandemic. These risks could harm our international operations, delay new product releases, increase our operating costs, and hinder our ability to grow our operations and business and, consequently, our business, financial condition, and results of operations could suffer. For example, we rely on TSMC in Taiwan for the fabrication of our analog circuits and have **engineering personnel in Taiwan and** sales force personnel in ~~Taiwan and~~ China. If political tensions between China and Taiwan were to increase further, it could disrupt our business and adversely affect our financial condition and results of operations ~~given that we rely primarily on TSMC in Taiwan for our analog circuits~~ . In addition, given the current political and military situation in Russia and Ukraine, if the relationship between Russia and the United States worsens further, or we are restricted or precluded from continuing our operations in Ukraine, it could disrupt our business, our costs could increase, and our product development efforts, business, financial condition, and results of operations could be significantly harmed. Further, the COVID- 19 pandemic led to travel, work- from- home, and other restrictions, which significantly impacted our domestic and international operations and the operations of our suppliers, distributors, partners, and customers. At this point, the extent to...... some or all of your investment. Our success and future revenue depend on our ability to achieve design wins and to convince our current and prospective customers to design our products into their product offerings. If we do not continue to win designs or our products are not designed into our customers' product offerings, our results of operations and business will be harmed. We sell our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions to customers who select our solutions for inclusion in their product offerings. This selection process is typically lengthy and may require us to incur significant design and development expenditures and dedicate scarce engineering resources in pursuit of a single design win with no assurance that our solutions will be selected. If we fail to convince our current or prospective customers to include our products in their product offerings or to achieve a consistent number of design wins, our business, financial condition, and results of operations will be harmed. Because of our extended sales cycle, our revenue in future years is highly dependent on design wins we are awarded in prior years. It is typical that a design win will not result in meaningful revenue for a year or more, if at all. If we do not continue to achieve design wins in the short term, our revenue in the following years ~~will~~ **may** deteriorate. Further, a significant portion of our revenue in any period may depend on a single product design win with a large customer. As a result, the loss of any key design win or any significant delay in the ramp of volume production of the customer' s products into which our product is designed could adversely affect our business, financial condition, and results of operations. We may not be able to maintain sales to our key customers or continue to secure key design wins for a variety of reasons, and our customers can stop incorporating our products into their product offerings with limited notice to us and suffer little or no penalty. If we fail to anticipate or respond to technological shifts or market demands, or to ~~timely~~ develop new or enhanced products or technologies in response to the same **in a timely manner** , it could result in decreased revenue and the loss of our design wins to our competitors. Due to the interdependence of various components in the systems within which our products and the products of our competitors operate, customers are unlikely to change to another design, once adopted, until the next generation of a technology. As a result, if we fail to introduce new or enhanced products that meet the needs of our customers or penetrate new markets in a timely ~~fashion~~ **manner** , and our designs do not gain acceptance, we will lose market share and our competitive position. The loss of a key customer or design win, a reduction in sales to any key customer, a significant delay or negative development in our customers' product development plans, or our inability to attract new significant customers or secure new key design wins could seriously impact our revenue and materially and adversely affect our business, financial condition, and results of operations. We may experience difficulties demonstrating the value to customers of newer solutions if they believe existing solutions are adequate to meet end customer expectations. If we are unable to sell new generations of our product, our business would be harmed. As we develop and introduce new solutions, we face the risk that customers may not value or be willing to bear the cost of incorporating these newer solutions into their product offerings, particularly if they believe their customers are satisfied with prior offerings. Regardless of the improved features or superior performance of the newer solutions, customers may be unwilling to adopt our new solutions due to design or pricing constraints. Because of the extensive time and resources that we invest in developing new solutions, if we are unable to sell new generations of our solutions, our revenue could decline and our business, financial condition, and results of operations would be negatively affected. Some of our customer and other third- party agreements provide for joint and / or custom product development, which subject us to a number of risks, and any failure to execute on any of these arrangements could have a material adverse effect on our business, results of operations, and financial condition. We have entered into development, product collaboration and technology licensing arrangements with some of our customers and other third parties, and we expect to enter into new arrangements of these kinds from time to time in the future. These agreements may increase risks for us, such as the risks related to timely delivery of new products, risks associated with the ownership of the intellectual property developed, risks that such activities may not result in products that are commercially successful or available in a timely fashion, and risks that third parties involved may abandon or fail to perform their obligations related to such agreements. In addition, such arrangements may provide for exclusivity periods during which we may only sell specified products or technologies to that particular customer. Any failure to ~~timely~~ develop commercially successful products under such arrangements **in a timely manner** as a result of any of these and other challenges could have a material adverse effect on our business, results of operations, and financial condition. The success of our products is dependent on our customers' ability to develop products that achieve market acceptance, and our customers' failure to do so could negatively affect our business. The success of our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions is heavily dependent on the timely introduction, quality, and market acceptance of our customers' products incorporating our solutions, which are impacted by factors beyond our control. Our customers' products are often very complex and subject to design complexities that may result in design flaws, as well as potential defects, errors, and bugs. We have in the past been subject to delays and project cancellations as a result of design flaws in the products developed by our customers, changing market requirements, such as the customer adding a new feature, or because a customer' s product fails their end customer' s evaluation or field trial. In other cases, customer products are delayed due to incompatible deliverables from other vendors. We incur significant design and development costs in connection with designing our products for customers' products that may not ultimately achieve market acceptance. If our customers discover design flaws, defects, errors, or bugs in their products, or if they experience changing market requirements, failed evaluations or field trials, or incompatible deliverables from other vendors, they may delay, change, or cancel a project, and we may have incurred significant additional development costs and may not be able to recoup our costs, which in turn would adversely affect our business, financial condition, and results of operations. Our target customer and product markets may not grow or develop as we currently expect, and if we fail to penetrate new markets and scale successfully within those markets, our revenue and financial condition would be harmed. Our target markets include the communications **, datacenter,** and enterprise, automotive, industrial, aerospace, and mobile, IoT, and consumer markets. Substantially all of our revenue to date has been attributable to sales of MEMS oscillators. We have expanded our products to include clock IC and timing sync solutions. Any deterioration in our target customer or product markets or reduction in capital spending to support these markets could lead to a reduction in demand for our products, which would adversely affect our revenue and results of operations. Further, if our target customer markets ~~, including the 5G communications or IoT and mobile markets,~~ do not grow or develop in ways that we currently expect, demand for our technology may not materialize as expected, which would also negatively impact our business, financial condition, and results of operations. We may be unable to predict the timing or development of trends in our target markets with any accuracy. If we fail to accurately predict market requirements or market demand for these solutions, our business will suffer. A market shift towards an industry standard that we may not support could significantly decrease the demand for our solutions. Our future revenue growth, if any, will depend in part on our ability to expand within our existing markets and our ability to enter into new markets. Each of our end markets presents distinct and substantial challenges and risks and, in many cases, requires us to develop new customized solutions to address the particular requirements of that market. Meeting the technical requirements and securing future design wins in any of these new markets will require a substantial investment of our time and resources. We cannot assure you that we will secure future design wins from these or other new markets, or that we will achieve meaningful revenue from sales in these markets. If new markets do not develop as we currently anticipate or if we are unable to penetrate them and scale in them successfully, our revenue could decline. Fluctuations in exchange rates between and among the currencies of the countries in which we do business could adversely affect our results of operations. Our sales have been historically denominated in U. S. dollars, even when sold to customers located outside of the U. S. An increase in the value of the U. S. dollar relative to the currencies of the countries in which our customers operate could increase the real cost to our customers of our products and impair the ability of our customers to cost- effectively purchase or integrate our solutions into their product offerings, which may materially affect the demand for our solutions and cause these customers to reduce their orders, or may increase pressure on us to lower our product prices, which in each case would adversely affect our revenue and business. If we increase operations in other currencies in the future, we may experience foreign exchange gains or losses due to the volatility of other currencies compared to the U. S. dollar. Certain of our employees are located in Malaysia, the Netherlands, Taiwan, Japan, Korea, Germany, Finland, France, ~~and~~ Ukraine **, and India** . Accordingly, a portion of our payroll as well as certain other operating expenses are paid in currencies other than the U. S. dollar. Our results of operations are denominated in U. S. dollars, and the difference in exchange rates in one period compared to another may directly impact period- to- period comparisons of our results of operations. Furthermore, currency exchange rates have been especially volatile in the recent past, and these currency fluctuations may make it difficult for us to predict our results of operations. The average selling prices of our individual products have fluctuated historically over time and may do so in the future, which could harm our revenue and gross margins. Although on average selling prices of our products have increased over time as we introduce higher end products, the average selling prices of our individual products generally decrease over time. Our ~~revenue is derived from sales to large distributors and, in some cases, we have agreed in advance to price reductions, generally over a period of time ranging from two months to three years, once the specified product begins to ship in volume. However, our~~ customers may change their purchase orders and demand forecasts at any time with limited notice due in part to fluctuating end- market demand, which can sometimes lead to price renegotiations. Although these price renegotiations can sometimes result in the average selling prices of the specified product fluctuating over the shorter term, we expect average selling prices of individual products generally to decline over the longer term as that product and our end customers' products mature. We seek to offset the anticipated reductions in our average selling prices of individual products by reducing the cost of our products through improvements in manufacturing yields and lower wafer, assembly, and testing costs, developing new products, enhancing lower- cost products on a timely basis, and increasing unit sales. However, if we are unable to offset these anticipated reductions in our average selling prices, our business, financial condition, and results of operations could be negatively affected. If we are not able to successfully introduce and ship in volume new products in a timely manner, our business and revenue will suffer. We have developed products that we anticipate will have product life cycles of ten years or more, as well as other products in more volatile high growth or rapidly changing areas, which may have shorter life cycles. Our future success depends, in part, on our ability to develop and introduce new technologies and products that generate new sources of revenue to replace, or build upon, existing revenue streams. If we are unable to ~~repeatedly~~ **consistently** introduce ~~, in successive years,~~ new products that ship in volume, or if our transition to these new products does not successfully occur prior to any decrease in revenue from our prior products, our revenue will likely decline significantly and rapidly. ~~The~~ **Pandemics, epidemics, or other outbreaks of disease have had and may in the future have an adverse impact upon our business, results of operations, and financial condition. A future pandemic, epidemic, health crisis, or other outbreak of disease, including the emergence of new** COVID- 19 ~~pandemic could adversely affect~~ **variants, may negatively and materially impact** our business, results of operations, and financial condition ~~. The COVID- 19 pandemic has impacted our workforce and the operations of our customers and suppliers. In response to the ongoing COVID- 19 pandemic and related government measures~~ , **due** ~~we implemented safety measures~~ to ~~protect our employees and contractors at our locations around the world. The effects of the ongoing COVID- 19 pandemic on our business are evolving and difficult to predict. To date, the COVID- 19 pandemic has significantly and negatively impacted the global economy and it is unclear how long the pandemic will continue to do so. Among other things, the continued COVID- 19 pandemic may result in~~ : • a global economic recession or depression that could significantly reduce demand and / or prices for our products; • reduced productivity in our product development, operations, marketing, sales, and other activities; • **government mandates, guidance, or recommendations regarding shutdown, closures, or other restrictions; •** disruptions to our supply chain; ~~or~~ • higher rate of losses on our accounts ~~receivables~~ - **receivable** due to credit defaults **; or • volatility in our stock price** . The COVID- 19 pandemic ~~has also~~ **created worldwide uncertainty and significantly and negatively impacted the global economy which** caused significant uncertainty and volatility in global financial markets and the trading prices for the common stock of technology companies, including ~~us~~ **ours** . **As a** ~~Further adverse economic events resulting~~ --- **result** ~~from~~ **of** the COVID- 19 pandemic, ~~including a recession, depression, or~~ **from time to time government authorities imposed lockdowns and** other **restrictions** ~~sustained economic downturn, could materially and adversely affect our business, access to capital markets, and the value of our common stock~~ . **The** ~~Though we believe the production capabilities of our suppliers have been impacted as a result of safety measures, closures of production facilities, lack of supplies, or delays caused by the~~ COVID- 19 pandemic ~~, to date we believe we have experienced minimal impact~~ **impacted** ~~from any delay and disruption in the manufacture, shipment, and sales of~~ our ~~products~~ **workforce and the operations of our customers and suppliers** . ~~However, as~~ **In response to** the COVID- 19 pandemic ~~continues, the effects of the pandemic, including timing~~ and **related government measures** ~~overall demand for our products~~ , **we implemented** ~~and availability of supply chain, may negatively and materially impact our business, results of operations, and financial condition. Further, as~~ safety measures ~~terminate and individuals return~~ to **protect** ~~work in offices, we may experience a reduction in demand for certain of~~ our ~~products~~ **employees and contractors at our locations around the world. The potential impact** that ~~are incorporated in~~ **a future pandemic, epidemic, health crisis,** ~~our~~ - **or** ~~customers' products that experienced higher demand during the~~ **other outbreak of disease, including the emergence of new** COVID- 19 **variants** ~~pandemic. Any disruption in the manufacture, shipment, or sales of our products may negatively and materially impact our operating results. Given the changing nature and continuing uncertainty surrounding COVID- 19 due to public health challenges, governmental directives, and economic disruption, and the duration of the foregoing, the potential impact that the COVID- 19 pandemic~~ could have on our business, results of operations, and financial condition, and on the other risk factors described in this " Risk Factors " section, remain unclear **and difficult to predict** . Our gross margins may fluctuate due to a variety of factors, which could negatively impact our results of operations and our financial condition. Our gross margins may fluctuate due to a number of factors, including customer and product mix, market acceptance of our new products, timing and seasonality of the end- market demand, yield, wafer pricing, packaging, and testing costs, competitive pricing dynamics ~~, the impact of the COVID- 19 pandemic~~ , and geographic and market pricing strategies. To attract new customers or retain existing customers, we have in the past and will in the future offer certain customers favorable prices, which would decrease our average selling prices and likely impact gross margins. Further, we may also offer pricing incentives to our customers on earlier generations of products that inherently have a higher cost structure, which would negatively affect our gross margins. In addition, in the event our customers, including our larger end customers, exert more pressure with respect to pricing and other terms with us, it could put downward pressure on our margins. Because we do not operate our own manufacturing, assembly, or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities, and our costs may even increase, which could further reduce our gross margins. For instance, we ~~continue~~ **continued** to see increases in our manufacturing costs in fiscal year 2023 due to industry wide increases in costs. We rely primarily on obtaining yield improvements and volume- based cost reductions to drive cost reductions in the manufacture of existing products, introducing new products that incorporate advanced features and optimize die size, and other price and performance factors that enable us to increase revenue while maintaining gross margins. To the extent that such cost reductions or revenue increases do not occur at a sufficient level and in a timely manner, our business, financial condition, and results of operations could be adversely affected. In addition, we maintain an inventory of our products at various stages of production and in some cases as finished good inventory. We hold these inventories in anticipation of customer orders. If those customer orders do not materialize in a timely manner, we may have excess or obsolete inventory which we would have to reserve or write- down, and our gross margins would be adversely affected. Our revenue in ~~recent~~ **previous** periods may not be indicative of future performance and our revenue may fluctuate over time. Our ~~recent~~ revenue **has fluctuated over time** ~~should not be considered indicative of our future performance~~. Our revenue was $ **144. 0 million, $** 283. 6 million, **and** $ 218. 8 ~~million, and $ 116. 2~~ million for the years ended December 31, **2023,** 2022, **and** 2021 ~~, and 2020~~, respectively. You should not rely on our revenue for any previous quarterly or annual periods as any indication of our revenue for future fiscal periods. As we grow our business, our revenue may fluctuate in future periods due to a number of reasons, which may include macroeconomic conditions, slowing demand for our products, increasing competition, ~~the impact of the COVID- 19 pandemic,~~ a decrease in the growth of our overall market or market saturation, or our failure to capitalize on growth opportunities. If we are unable to manage our growth effectively, we may not be able to execute our business plan and our operating results could suffer. In order to succeed in executing our business plan, we will need to manage our growth effectively as we make significant investments in research and development and sales and marketing, and expand our operations and infrastructure both domestically and internationally. If our revenue does not increase to offset these increases in our expenses, we may not achieve or maintain profitability in future periods. To manage our growth effectively, we must continue to expand our operations, engineering, financial accounting, internal management, and other systems, procedures, and controls. This may require substantial managerial and financial resources, and our efforts may not be successful. Any failure to successfully implement systems enhancements and improvements will likely have a negative impact on our ability to manage our expected growth, as well as our ability to ensure uninterrupted operation of key business systems and compliance with the rules and regulations applicable to public companies. If we are unable to manage our growth effectively, we may not be able to take advantage of market opportunities or develop new ~~precision~~ **Precision** ~~timing~~ **Timing** solutions, and we may fail to satisfy customer product or support requirements, maintain the quality of our solutions, execute our business plan or respond to competitive pressures, any of which could negatively affect our business, financial condition, and results of operations. Our customers require our products and our third- party contractors to undergo a lengthy and expensive qualification process, which does not assure product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer. Prior to purchasing our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions, our customers require that both our solutions and our third- party contractors undergo extensive qualification processes, which involve testing of our products in the customers' systems, as well as testing for reliability. This qualification process may continue for several months. However, qualification of a product by a customer does not assure any sales of the product to that customer. Even after successful qualification and sales of a product to a customer, a subsequent revision in our third- party contractors' manufacturing process or our selection of a new supplier may require a new qualification process with our customers, which may result in delays and in our holding excess or obsolete inventory. After our products are qualified, it can take several months or more before the customer commences volume production of components or systems that incorporate our products. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing, and management efforts, to qualifying our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, sales of those products to the customer may be precluded or delayed, which would cause our business, financial condition, and results of operations to suffer. We provide a lifetime warranty on our products and may be subject to warranty or product liability claims, which could result in unexpected expenses and loss of market share. We provide a lifetime warranty on our products and generally agree to indemnify our customers for defects in our products or failure of our products to meet our product specifications. Defects in our products could make our products unsafe and create a risk of property damage or personal injury. These risks may increase where our products are incorporated into specialized end products in industries such as automotive, aerospace, defense, and medical device. We may be subject to warranty or product liability claims. These claims may require us to make significant expenditures to defend those claims, replace our solutions, refund payments, or pay damage awards. This risk is exacerbated by the lifetime warranty of our products, which exposes us to warranty claims for the entire product lifecycle. Our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions have only been incorporated into end products since 2008. Accordingly, the operation of our products and technology has not been validated over longer periods. If a customer' s product fails in use, the customer may incur significant monetary damages, including a product recall or associated replacement expenses as well as lost revenue. The customer may claim that a defect in our product caused the product failure and assert a claim against us to recover monetary damages. In certain situations, circumstances might warrant that we consider incurring the costs or expenses related to a recall of one of our products in order to avoid the potential claims that may be raised should a customer reasonably rely upon our product and suffer a failure due to a design or manufacturing process defect. In addition, the cost of defending these claims and satisfying any arbitration award or judgment with respect to these claims would result in unexpected expenses, which could be substantial, and could harm our business, financial condition, and results of operations. Although we carry product liability insurance, this insurance is subject to significant deductibles and may not adequately cover our costs arising from defects in our products or otherwise. Defects in our products or failures to meet product specifications could harm our relationships with our customers and damage our reputation. Our products must meet demanding specifications for quality, performance, and reliability. Defects in our products or failure of our products to meet required product specifications may cause our customers to be reluctant to buy our products, which could harm our ability to retain existing customers and attract new customers and adversely impact our reputation. The process of identifying a defective or potentially defective product in systems that have been widely distributed may be lengthy and require significant resources. Further, if we are unable to determine the root cause of a problem or find an appropriate solution, we may delay shipment to customers. As a result, we may incur significant replacement costs and contract damage claims from our customers, and our reputation, business, financial condition, and results of operations may be adversely affected. Though we are not currently aware of any occurrences, from time to time our products may be diverted from our supply chain or authorized distribution channels and sold on the " black market " or " gray market. " Customers purchasing our products on the black market or the gray market may use our products for purposes for which they were not intended, or may purchase counterfeit or substandard products, for instance that have been altered or damaged, which could result in damage to property or persons which could harm our business and cause our reputation to be adversely affected. If we fail to accurately anticipate and respond to rapid technological change in the industries in which we operate, our ability to attract and retain customers could be impaired and our competitive position could be harmed. We operate in industries characterized by rapidly changing technologies as well as technological obsolescence. The introduction of new products by our competitors, the delay or cancellation of any of our customers' product offerings for which our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions are designed, the market acceptance of products based on new or alternative technologies, or the emergence of new industry standards could render our existing or future products uncompetitive, obsolete, and otherwise unmarketable. Our failure to anticipate or ~~timely~~ develop new or enhanced products or technologies **in a timely manner** in response to changing market demand, whether due to technological shifts or otherwise, could result in the loss of customers and decreased revenue and have an adverse effect on our business, financial condition, and results of operations. If our products do not conform to, or are not compatible with, existing or emerging industry standards, demand for our existing solutions may decrease, which in turn would harm our business and operating results. We design certain of our products to conform to current industry standards. Some industry standards may not be widely adopted or implemented uniformly and competing standards may emerge that may be preferred by our distributors or our end customers. Our ability to compete in the future will depend on our ability to identify and ensure compliance with evolving industry standards in our target markets, as well as in the timing IC industry. The emergence of new industry standards could render our products incompatible with products developed by third- party suppliers or make it difficult for our products to meet the requirements of certain OEMs. If our customers or our third- party suppliers adopt new or competing industry standards with which our solutions are not compatible, or if industry groups fail to adopt standards with which our solutions are compatible, our products would become less desirable to our current or prospective customers. As a result, our sales would suffer, and we could be required to make significant expenditures to develop new products. Although we believe our products are compliant with applicable industry standards, proprietary enhancements may not in the future result in conformance with existing industry standards under all circumstances. If our products do not conform to, or are not compatible with, existing or emerging standards, it would harm our business, financial condition, and results of operations. We may be unable to make the substantial investments that are required to remain competitive in our business. The semiconductor industry requires substantial and continuous investment in research and development in order to bring to market new and enhanced solutions. We expect our research and development expenditures to increase in the future as part of our strategy to increase demand for our solutions in our current markets and to expand into additional markets. We are a smaller company with limited resources, and we may not have sufficient resources to maintain the level of investment in research and development required to remain competitive. In addition, we cannot assure you that the technologies, which are the focus of our research and development expenditures, will become commercially successful or generate any revenue. If we fail to compete effectively, we may lose or fail to gain market share, which could negatively impact our operating results and our business. The global semiconductor market in general, and the timing market in particular, is highly competitive. We expect competition to increase and intensify as additional companies enter our target markets, and as internal silicon design resources of large OEMs grow. Increased competition could result in price pressure, reduced gross margins and loss of market share, any of which could harm our business, financial condition, and results of operations. Our competitors range from large, international companies offering a wide range of timing products to smaller companies, including start- ups, specializing in narrow market verticals. Companies that we primarily compete with include, but are not limited to, Abracon LLC, Daishinku Corporation **, Diodes Incorporated** , Kyocera Corporation, Microchip Technology Inc., Murata Manufacturing Co., Ltd., Nihon Dempa Kogyo Co., Ltd., Rakon Limited, Renesas Electronics Corporation, Seiko Epson Corporation, Skyworks Solutions, Inc., Texas Instruments Incorporated, and TXC Corporation. We expect competition in our current markets to increase in the future as existing competitors improve or expand their technology and product offerings and as new competitors enter these markets. In addition, our future growth will depend in part on our ability to successfully enter and compete in new markets. Some of these markets will likely be served by only a few large, multinational OEMs with substantial negotiating and buying power relative to us and, in some instances, with internally developed silicon solutions that can be competitive to our products. Our ability to compete successfully depends, in part, on factors that are outside of our control, including industry and general economic trends. Many of our competitors are substantially larger, have greater financial, technical, marketing, distribution, customer support, government support, and other resources, are more established than we are, and have significantly better brand recognition and broader product offerings. This may enable them to better withstand downturns in the timing market in which we compete, as well as adverse economic or market conditions. Our ability to compete successfully will depend on a number of factors, including: • our ability to define, design, and regularly introduce new products that anticipate the functionality and integration needs of our customers' next- generation products and applications; • our ability to build strong and long- lasting relationships with our customers and other industry participants; • our ability to capitalize on, and prevent losses due to, vertical integration by significant customers; • our solutions' performance and cost- effectiveness relative to those of competing products; • our ability to achieve design wins; • the effectiveness and success of our customers' products utilizing our solutions within their competitive end markets; • our research and development capabilities to provide innovative solutions and maintain our product roadmap; • the strength of our sales and marketing efforts, including those of our distributors, and our brand awareness and reputation; • our ability to secure capacity with our foundry and assembly partners to manufacture and assemble our products; • our ability to deliver products in volume on a timely basis at competitive prices; • our ability to withstand or respond to significant price competition; • our ability to build and expand international operations in a cost- effective manner; • our ability to obtain, maintain, protect, and enforce our intellectual property rights, including obtaining intellectual property rights from third- parties that may be necessary to meet the evolving demands of the market; • our ability to defend potential patent infringement claims arising from third- parties; • our ability to promote and support our customers' incorporation of our solutions into their products; and • our ability to retain high- level talent, including our management team and engineers. Our competitors may also establish cooperative relationships among themselves or with third- parties or may acquire companies that provide similar products to ours. As a result, new competitors or alliances may emerge that could capture significant market share. Additionally, timing suppliers, especially resonator suppliers, may engage directly with our customers to help the customer build timing products, and eliminate the need for an external timing supplier in some of their applications. Any of these factors, alone or in combination with others, could harm our business, financial condition, and results of operations and result in a loss of market share and an increase in pricing pressure. We depend on our executive officers and other key employees, and the loss of one or more of these employees or an inability to attract or retain highly skilled employees could adversely affect our business. Our success depends largely upon the continued services of our executive officers and other highly skilled key employees, including in engineering, product development, operations, sales, and marketing. From time to time, there may be changes in our executive management team or other key personnel, which could disrupt our business. We do not have employment agreements with our executive officers or other key personnel that require them to continue to work for us for any specified period and, therefore, they could terminate their employment with us at any time. The loss of one or more of our executive officers or other key employees, including due to adverse business conditions, could have an adverse effect on our business. In addition, to execute our growth plan, we must attract and retain highly qualified personnel. Competition for these personnel is intense, especially for engineers with MEMS technology and advanced clock IC design expertise. We have from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. Many of the companies with which we compete for experienced personnel have greater resources than we have. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached legal obligations, resulting in a diversion of our time and resources. In addition, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. If the perceived value of our equity awards declines, it may adversely affect our ability to recruit and retain highly skilled employees. Further, changes in immigration policies may negatively impact our ability to attract and retain personnel, including personnel with specialized technical expertise. If we fail to attract new personnel or fail to retain or motivate our current personnel, our business and future growth prospects could be adversely affected. Our company culture has contributed to our success and if we cannot maintain this culture ~~as we grow~~ , our business could be harmed. We believe that our company culture, which promotes innovation, open communication, and teamwork, has been critical to our success. We face a number of challenges that may affect our ability to sustain our corporate culture, including: • the potential failure to identify, attract, reward, and retain people in leadership positions in our organization who share and further our culture, values, and mission; • the increasing size and geographic diversity of our workforce; • competitive pressures to move in directions that may divert us from our mission, vision, and values; • the continued challenges of a rapidly- evolving industry; and • the increasing need to develop expertise in new areas of business that affect us. If we are not able to maintain our culture, our business, financial condition, and results of operations could be adversely affected. **Our acquisition of certain assets and an exclusive license to certain intellectual property of Aura involves a number of risks. On December 1, 2023, we closed the acquisition of certain assets and an exclusive license to certain intellectual property of Aura. The payment obligations in connection with the acquisition have and will continue to reduce our liquidity, and may limit our flexibility in responding to other business opportunities, as well as increase our vulnerability to adverse economic and industry conditions. We entered into the transaction with Aura with the expectation that the transaction would result in various benefits to us, including the expansion of our product portfolio, and growth of our business. To realize the anticipated benefits of the acquisition, the products of Aura must be successfully completed, delivered to us, and then integrated. Product completion can be complex and time consuming, and Aura may not be able to deliver the products on time or deliver products that meet the agreed specified criteria. Further, we may face significant challenges in integrating the technologies and products. If the products are not successfully completed and integrated, the anticipated benefits of the transactions may not be realized fully or may take longer to realize than expected. The acquisition may not further our business strategy as we expected and we may experience unanticipated costs or liabilities associated with the acquisition, which could adversely affect our business or operating results and potentially cause impairment to assets that we recorded as a part of the acquisition including intangible assets and goodwill. In addition, if we are unable to integrate and retain personnel that joined us as part of the transaction with Aura, we may not be able to fully capitalize on the benefits. Any of the above could decrease the benefits we expect to receive from the agreement with Aura and adversely affect our financial condition and operating results.** We may make acquisitions in the future that could disrupt our business, cause dilution to our stockholders, reduce our financial resources, and harm our business. In the future, we may acquire other businesses, products, or technologies. Our ability to make acquisitions and successfully integrate personnel, technologies, or operations of any acquired business is unproven. If we complete acquisitions, we may not achieve the combined revenue, cost synergies, or other benefits from the acquisition that we anticipate, strengthen our competitive position, or achieve our other **strategic** goals in a timely manner, or at all, and these acquisitions may be viewed negatively by our customers, financial markets, or investors. In addition, any acquisitions we make may create difficulties in integrating personnel, technologies, and operations from the acquired businesses and in retaining and motivating key personnel. Acquisitions may disrupt our ongoing operations, divert management from their primary responsibilities, **cause us to forgo other potential transactions or internal projects,** subject us to additional liabilities, increase our expenses, and adversely impact our business, financial condition, and results of operations. Acquisitions may also reduce our cash available for operations and other uses, and could result in an increase in amortization expense related to identifiable assets acquired, potentially dilutive issuances of equity securities, or the incurrence of debt, any of which could harm **our business, financial condition, and results of operations. Further, acquisitions may result in charges such as acquisition- related expenses, write- offs, restructuring charges, or future impairment of goodwill, as well as contingent liabilities, adverse tax consequences, additional share- based compensation expense, and other charges that could adversely affect our results of operations. If we enter into an agreement for an acquisition, the transaction, or parts of the transaction, may fail to be completed due to factors such as: failure to obtain regulatory or other required approvals, disputes or litigation, or difficulties obtaining financing for the transaction. Even if we fail to complete an acquisition, we may have incurred significant expenses in connection with such transaction and the failure to complete a pending acquisition may result in negative publicity and a negative perception of us among the investment community. For the foregoing reasons, pursuit of an acquisition of other businesses, products, or technologies could adversely impact** our business, financial condition, and results of operations. If the foundries with which we contract do not achieve satisfactory yields or quality, our reputation and customer relationships could be harmed. We depend on satisfactory wafer foundry manufacturing capacity, wafer prices, and production yields, as well as timely wafer delivery to meet customer demand and enable us to maintain gross margins. The fabrication of our products is a complex and technically demanding process. Minor deviations in the manufacturing process can cause substantial decreases in yields and, in some cases, cause production to be suspended. Our foundry vendors may experience manufacturing defects and reduced manufacturing yields from time to time. Further, any new foundry vendors we employ may present additional and unexpected manufacturing challenges that could require significant management time and focus. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by the foundries that we employ could result in lower than anticipated production yields or unacceptable performance of our devices. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time- consuming and expensive to correct. Poor production yields from the foundries that we employ, or defects, integration issues, or other performance problems in our solutions could significantly harm our customer relationships and financial results and give rise to financial or other damages to our customers. Any product liability claim brought against us, even if unsuccessful, would likely be time- consuming and costly to defend. Manufacturing yields for new products initially tend to be lower as we complete product development and commence volume manufacturing, and typically increase as we bring the product to full production. Our business model includes this assumption of improving manufacturing yields and, as a result, material variances between projected and actual manufacturing yields will have a direct effect on our gross margin and profitability. The difficulty of accurately forecasting manufacturing yields and maintaining cost competitiveness through improving manufacturing yields will continue to be magnified by the increasing process complexity of manufacturing semiconductor products. Raw material and engineered material availability and price fluctuations have in the past and may in the future increase the cost of our products, impact our ability to meet customer commitments, and may adversely affect our results of operations. The cost of raw and engineered materials is a key element in the cost of our products. Our inability to offset material price inflation through increased prices to customers, suppliers, productivity actions, or through commodity hedges could adversely affect our results of operations. Many major components, product equipment items, engineered materials, and raw materials, are procured or subcontracted on a single or sole- source basis. Although we maintain a qualification and performance surveillance process and we believe that sources of supply for engineered materials, raw materials, and components are generally adequate, it is difficult to predict what effects ~~shortages~~ **limited or delayed availability,** or price increases may have in the future. Our inability to fill our supply needs would jeopardize our ability to ship our solutions to our customers on time and in the quantity required, which could, in turn, result in reduced sales and profits, and damage to our customer relationships. Furthermore, increases in the price of silicon wafers, testing costs, and commodities, which may result in increased production costs, mainly assembly and packaging costs, may result in a decrease in our gross margins. Moreover, our suppliers may pass the increase in engineered materials, raw materials and commodity costs onto us which would further reduce the gross margin of our products. In addition, as we are a fabless company, global market trends such as a shortage of capacity to fulfill our fabrication needs also may increase our raw material costs and thus decrease our gross margin. We rely on our relationships with industry and technology leaders to enhance our product offerings and our inability to continue to develop or maintain such relationships in the future would harm our ability to remain competitive. We develop many of our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions for applications in systems that are driven by industry and technology leaders in the communications and computing markets. We work with distributors, OEMs, and system manufacturers to define industry conventions and standards within our target markets. We believe that these relationships enhance our ability to achieve market acceptance and widespread adoption of our products. If we are unable to continue to develop or maintain these relationships, our ~~precision~~ **Precision** ~~timing~~ **Timing** solutions could become less desirable to our customers, our sales could suffer and our competitive position could be harmed. Our ability to receive timely payments from, or the deterioration of the financial conditions of, our distributors or our end customers could adversely affect our operating results. Our ability to receive timely payments from or the deterioration of the financial condition of, our distributors or our end customers could adversely impact our collection of accounts receivable, and, as a result, our revenue. We regularly review the collectability and creditworthiness of our customers to determine an appropriate allowance for credit losses. Based on our review of our customers annually and as of December 31, ~~2022~~ **2023** , substantially all of which are large distributors, OEMs, and system manufacturers, we had $ 0. 1 million and $ 0. 1 million in allowance for credit losses as of December 31, ~~2022~~ **2023** and December 31, ~~2021~~ **2022** , respectively. If our credit losses, however, were to exceed our current or future allowance for credit losses, our business, financial condition, and results of operations would be adversely affected. We may not be able to accurately predict our future capital needs, and we may not be able to obtain additional financing to fund our operations. We may need to raise additional funds in the future. Any required additional financing may not be available on terms acceptable to us, or at all. If we raise additional funds by issuing equity securities or convertible debt, stockholders may experience significant dilution of their ownership interest, and the newly- issued securities may have rights senior to those of the holders of our common stock. If we raise additional funds by obtaining loans from third parties, the terms of those financing arrangements may include negative covenants or other restrictions on our business that could impair our operational flexibility and would also require us to incur additional interest expense. If additional financing is not available when required or is not available on acceptable terms, we may have to scale back our operations or limit our production activities, and we may not be able to expand our business, develop or enhance our solutions, take advantage of business opportunities, or respond to competitive pressures, which could negatively impact our revenue and the competitiveness of our products. **Our cash and cash equivalents could be adversely affected if the financial institutions in which we hold our cash and cash equivalents fail. We regularly maintain cash balances at third- party financial institutions in excess of the Federal Deposit Insurance Corporation (" FDIC ") insurance limit. If a depository institution fails to return our deposits or if a depository institution is subject to other adverse conditions in the financial or credit markets, there is no guarantee that the U. S. Department of Treasury, FDIC or Federal Reserve Board will provide access to uninsured deposits, which could restrict access to our cash or cash equivalents and could adversely impact our operating liquidity, financial condition, and results of operations. As of December 31, 2023, a majority of our cash and short- term investment balances were maintained with Wells Fargo & Co., Morgan Stanley, and U. S. Bancorp.** We may seek, or be required to seek, debt financing ~~in the immediate or near term~~. We may seek, or be required to seek, debt financing. Any required financing may not be available on terms acceptable to us, or at all. The terms of any financing arrangements may include negative covenants or other restrictions on our business that could impair our operational flexibility and would also require us to incur additional interest expense. If financing is not available when required or is not available on acceptable terms, it could harm our liquidity position and we may have to scale back our operations or limit our production activities, which in turn would harm our business, operating results, and financial condition. If significant tariffs or other trade restrictions are placed on our products or third- party suppliers, our revenue and results of operations may be materially harmed. Most of our revenue has been from sales of products to distributors with ship- to locations outside of the United States. Many of our third- party suppliers are located outside of the United States. If significant tariffs or other restrictions are placed on certain goods, existing tariffs are increased, or any related counter- measures are taken by other countries, our revenue and results of operations may be materially and adversely affected. For example, beginning in July 2018, the U. S. Trade Representative imposed tariffs on products from China and China then imposed certain retaliatory tariffs. It is uncertain what further alterations to trade terms between China and the United States may occur, including limiting trade with China and imposing additional tariffs on imports from China. In the event that ~~these or~~ future tariffs are imposed on imports of our products or on our third- party suppliers, or that China or other countries take retaliatory trade measures in response to existing or future tariffs or other trade restrictions, or that the United States imposes further restrictions on trade with China, our business may be impacted, and we may be required to raise prices or make changes to our operations, or we may not be able to sell our products to customers in China, any of which could materially harm our revenue or operating results. Failure to comply with the laws associated with our activities outside of the United States could subject us to penalties and other adverse consequences. We face significant risks if we fail to comply with anti- corruption laws and anti- bribery laws, including, without limitation, the U. S. Foreign Corrupt Practices Act of 1977, as amended (the " FCPA "), the U. S. Travel Act, and the UK Bribery Act 2010, that prohibit improper payments or offers of payment to foreign governments and political parties by us for the purpose of obtaining or retaining business. In many foreign countries, particularly in countries with developing economies, it may be a local custom that businesses operating in such countries engage in business practices that are prohibited by the FCPA or other applicable laws and regulations. Any violation of these laws could result in severe criminal or civil sanctions and, in the case of the FCPA, suspension or debarment from U. S. government contracting, which could have an adverse effect on our reputation, business, financial condition, and results of operations. We are subject to government regulation, including import, export and economic sanctions laws and regulations that may expose us to liability and increase our costs. Our products and technology are subject to U. S. export controls, including the U. S. Department of Commerce' s Export Administration Regulations (" EAR ") and economic and trade sanctions regulations administered by the U. S. Treasury Department' s Office of Foreign Assets Controls. These regulations may limit the export of our products and technology, and provision of our services outside of the United States, or may require export authorizations, including by license, a license exception, or other appropriate government authorizations and conditions, including annual or semi- annual reporting. Export control and economic sanctions laws may also include prohibitions on the sale or supply of certain of our products to embargoed or sanctioned countries, regions, governments, persons, and entities. For example, we sell to markets in Asia where multiple companies have been added to the Entity List, requiring license for exports of items subject to control under the EAR. To our knowledge, we have not sold products subject to the EAR to Entity List persons. In addition, various countries regulate the importation of certain products, through import permitting and licensing requirements, and have enacted laws that could limit our ability to distribute our products. The exportation, re- exportation, and importation of our products and technology and the provision of services, including by our partners, must comply with U. S. and other laws or else we may be adversely affected through reputational harm, government investigations, penalties, and a denial or curtailment of our ability to export our products and technology. Although we take precautions to prevent our products and technology from being provided in violation of such laws, our products and technology may have previously been, and could in the future be, provided inadvertently in violation of such laws, despite the precautions we take. Changes in export or import laws or sanctions policies also may adversely impact our operations, delay the introduction and sale of our products in international markets, or, in some cases, prevent the export or import of our products and technology to certain countries, regions, governments, persons, or entities altogether, which could adversely affect our business, financial condition, and results of operations. **We identified a material weakness in our internal control over financial reporting, and we may identify additional material weaknesses**

in the future that may cause us to fail to meet our reporting obligations or result in material misstatements of our financial statements. If we fail to remediate any material weaknesses or if we otherwise fail to establish and maintain effective control over financial reporting, our ability to accurately and timely report our financial results could be adversely affected. As discussed elsewhere in this Annual Report on Form 10- K, we identified a material weakness in our internal control over financial reporting related to the misclassification of " interest received upon maturity of held- to- maturity securities " as an investing activity instead of as an operating activity in the respective condensed consolidated statements of cash flows for the periods ended March 31, 2023, June 30, 2023, and September 30, 2023. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. Management, under the oversight from the Audit Committee, is implementing additional review procedures to enhance our internal control over financial reporting with respect to the statement of cash flows in order to remediate the material weakness. These review procedures include the development of a review checklist to ensure that we will apply the applicable accounting guidance under Accounting Standards Codification (" ASC") 230, Statement of Cash Flows. As a result of the material weakness described above or any in future periods, we face potential for adverse regulatory consequences, including investigations, penalties or suspensions by the SEC or Nasdaq, litigation or other disputes which may include, among others, claims invoking the federal and state securities laws, contractual claims, or other claims arising from the restatement and material weakness in our internal control over financial reporting and the preparation of our consolidated financial statements. Any such regulatory consequences, litigation, claim, or dispute, whether successful or not, could subject us to additional costs, divert the attention of our management, or impair our reputation. Each of these consequences could have a material adverse effect on our business, results of operations and financial condition. We may identify future material weaknesses in our internal controls over financial reporting or fail to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes- Oxley Act of 2002, and we may be unable to accurately report our financial results, or report them within the timeframes required by law or stock exchange regulations. We cannot assure that our existing material weakness will be remediated or that additional material weaknesses will not exist or otherwise be discovered, any of which could adversely affect our reputation, financial condition, and results of operations. Our internal control over financial reporting may not prevent or detect misstatements because of its inherent limitations, including the possibility of human error, failure or interruption of information technology systems, the circumvention or overriding of controls, or fraud. Even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we fail to maintain the adequacy of our internal controls, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business and operating results could be harmed, and we could fail to meet our financial reporting obligations. Changes in environmental laws or regulations, ~~including conflict minerals rules~~ **as well as environmental, social, and governance initiatives** , could ~~impair~~ **impose substantial costs and may adversely affect** our **business** ~~ability to compete in international markets~~ . Our product or manufacturing standards could be impacted by new or revised environmental rules and regulations or other social initiatives. For example, **a significant portion of our revenue comes from international sales. Environmental laws or regulations in** ~~the~~ **those countries or** ~~SEC adopted disclosure requirements~~ in ~~2012 relating to~~ **the countries of our end customers may increase our cost of doing business and adversely affect our business and results of operations. Increasingly customers, regulators, investors, employees, and** ~~the~~ **other** ~~sourcing of~~ **stakeholders are focusing on environmental, social, and governance (" ESG") matters. While we have** certain ~~minerals from~~ **ESG initiatives,** ~~the~~ **there** ~~Democratic Republic of Congo~~ **is no assurance that customers, regulators, investors,** and **employees will determine that these programs are sufficient. Any actual or perceived shortcomings with respect to our ESG initiatives and reporting can impact our ability to retain** certain **customers or increase our customer base, reelect our board of directors, attract and retain certain types of investors, or hire and retain employees. Collecting, measuring, and reporting ESG information and metrics can be costly, difficult and time consuming, is subject to evolving reporting standards, and can present numerous operational, reputational, financial, legal, and** other **risks** ~~adjoining countries. These rules~~ , **any of** which ~~required reporting starting in 2014,~~ could adversely affect our **business as well as on** ~~costs, the availability of minerals used in~~ our ~~products, and our relationships with customers and suppliers. Also, since our supply chain is complex, we may face reputational~~ -- **reputation** ~~challenges with our customers, stockholders,~~ and **stock price** ~~other stakeholders if we are unable to sufficiently verify the origins for any conflict minerals used in the products that we sell~~ . New or future changes to U. S. and non- U. S. tax laws could materially adversely affect us. New or future changes in tax laws, regulations, and treaties, or the interpretation thereof, in addition to tax regulations enacted but not in effect, tax policy initiatives and reforms under consideration in the United States or related to the Organization for Economic Co- operation and Development' s (" OECD "), Base Erosion and Profit Shifting Project (" BEPSP "), the European Commission' s state aid investigations, and other initiatives could have an adverse effect on the taxation of international businesses. Furthermore, countries where we are subject to taxes, including the United States, are independently evaluating their tax policy and we may see significant changes in legislation and regulations concerning taxation. Certain countries have already enacted legislation, including those related to BEPSP, which could affect international businesses, and other countries have become more aggressive in their approach to audits and enforcement of their applicable tax laws. In addition, we are unable to predict what future tax reform may be proposed or enacted or what effect such changes would have on our business, but any changes, to the extent they are brought into tax legislation, regulations, policies, or practices, could increase our effective tax rates in the countries where we have operations and have an adverse effect on our overall tax rate, along with increasing the complexity, burden and cost of tax compliance, all of which could impact our business, financial condition, and results of operations. If we fail to comply with government contracting regulations, we could suffer a loss of revenue or other penalties. Some of our revenue is derived from contracts with agencies of the U. S. government and subcontracts with its prime contractors. As a result, we are subject to federal contracting regulations, including the Federal Acquisition Regulations. In connection with our business with the U. S. government, we are also subject to audits and review and approval of our policies, procedures, and internal controls for compliance with procurement regulations and applicable laws. In certain circumstances, if we do not comply with the terms of a government contract or with regulations or statutes, we could be subject to downward contract price adjustments or refund obligations or could in extreme circumstances be assessed civil and criminal penalties or be debarred or suspended from obtaining future contracts for a specified period of time, which could have an adverse effect on our business. Tax regulatory authorities may disagree with our positions and conclusions regarding certain tax positions resulting in unanticipated costs or non- realization of expected benefits. A tax authority may disagree with tax positions that we have taken. For example, the Internal Revenue Service (“ IRS ”), or another tax authority could challenge our allocation of income by tax jurisdiction and the amounts paid between our affiliated companies pursuant to our intercompany arrangements and transfer pricing policies, including amounts paid with respect to our intellectual property in connection with our intercompany research and development cost sharing arrangement and legal structure. A tax authority may take the position that material income tax liabilities, interest, and penalties are payable by us, in which case, we expect that we might contest such assessment. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the implications could be materially adverse to us and affect our anticipated effective tax rate or operating income, and we could be required to pay substantial penalties and interest where applicable. Catastrophic events may disrupt our business. Our corporate headquarters and some of our suppliers and foundry vendors are located in areas that are in active earthquake zones or are subject to power outages, natural disasters, political, social, or economic unrest, and other potentially catastrophic events. In the event of a major earthquake, hurricane, flooding, or other catastrophic event **, including with respect to climate change,** such as fire, power loss, telecommunications failure, cyber- attack, war, terrorist attack, political, social, or economic unrest **, pandemic, epidemic, health crisis** , or disease outbreak, such as the COVID- 19 pandemic, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our product development, breaches of data security, or loss of critical data, any of which could have an adverse effect on our future results of operations. State, federal, and foreign laws and regulations **and other legal obligations** related to privacy, data ~~use~~ **protection** , and **data** security could adversely affect us. We are subject to ~~state and federal~~ **a variety of** laws and regulations **worldwide** related to privacy, data ~~use~~ **protection** , and ~~security. In addition, in recent years, there has been a heightened legislative and regulatory focus on~~ data security, **such** ~~including requiring consumer notification in the event of a data breach. Legislation has~~ **as** ~~been introduced in Congress and there have been several Congressional hearings addressing these issues. From time to time, Congress has considered, and may do so again, legislation establishing requirements for data security and response to data breaches that, if implemented, could affect us by increasing our costs of doing business. In addition, several states have enacted privacy or security breach legislation requiring varying levels of consumer notification in the event of a security breach. For example, California passed the California Consumer Privacy Act (“ CCPA ”), which enhances consumer protection and privacy rights by granting consumers resident in California new rights with respect to the collection of their personal data and imposing new operational requirements on businesses, and went into effect in January 2020. The CCPA includes a statutory damages framework and private rights of action against businesses that fail to comply with certain CCPA terms or implement reasonable security procedures and practices to prevent data breaches. Additionally, in November 2020, California voters passed the California Privacy Rights Act of 2020 (“ CPRA ”) which went into effect in January 2023. The CPRA imposes additional obligations on companies covered by the legislation and will significantly modify the CCPA, including by expanding the CCPA with additional data privacy compliance requirements that may impact our business. Several other states are considering similar legislation. Foreign governments are raising similar privacy and data security concerns. In particular,~~ the European Union **’ s** ~~has enacted a~~ General Data Protection Regulation (~~“~~ GDPR ~~”~~) **or California’ s Consumer Privacy Act of 2018 and Privacy Rights Act of 2020. These laws and regulations are continuously and rapidly evolving, and the scope and interpretation of the laws and regulations that are or may be applicable to us are often uncertain and may be conflicting. As a result, these laws and regulations may be interpreted and applied in a manner inconsistent with our practices or policies and we could face fines, lawsuits, regulatory investigations, and other claims and penalties, and we could be required to fundamentally change our practices** , which **could adversely affect our business** ~~became effective in May 2018. China, Russia, Japan,~~ and **operating results** ~~other countries in Latin America and Asia are also strengthening their privacy laws and the enforcement of privacy and data security requirements~~ . Complying with such laws and regulations may be time- consuming and require additional resources, and could therefore adversely affect our business **and results of operations. Any failure or perceived failure by us or our third- party service providers to comply with our privacy, data protection, or data security policies, or legal or contractual obligations, even if unfounded, may result in governmental enforcement actions, litigation, liability, or negative publicity, and could adversely affect our business** , financial condition, and results of operations. **Security** ~~Breaches~~ **breaches** ~~or~~ **, cyberattacks, and** other disruptions ~~of our security~~ **to information technology** systems **owned** ~~may damage our~~ **or** ~~reputation~~ **maintained by us or third parties, such as vendors or suppliers, could disrupt our operations, compromise the confidentiality of private customer data or our intellectual property,** and adversely affect our business **, reputation, operations, and financial results** . ~~Our security~~ **We rely on our information technology** systems **,** ~~are designed to protect our~~ and **those of** our **vendors, suppliers, and** customers ~~’~~ , ~~suppliers’~~ **including hardware** , **software, cloud services, infrastructure, networks,** and ~~employees’~~ **systems, for the effective operation of our business and for secure maintenance and storage of** confidential **data relating to our business. Additionally, in the ordinary course of business we collect and store sensitive data, including intellectual property and proprietary business** information ~~,~~ as well as **personal information** ~~maintain the physical security~~ of our **customers** ~~facilities.~~

~~We continue to assess~~ and **employees** ~~improve the quality of our networks~~ , ~~endpoints, security~~ **in data centers and on information technology** systems, **including systems** ~~and policies and procedures related to cybersecurity risks and incidents. We are not aware of any past cybersecurity incidents~~ that ~~have materially impacted our business. We may not have current capability to detect new or unknown security vulnerabilities. Cybersecurity threats, which include computer viruses, spyware, malware, ransomware, attempts to access information, denial of service attacks, and other electronic security breaches, are persistent and evolve quickly. Such threats have recently increased in frequency, scope, magnitude, and cost. Since the techniques used to obtain unauthorized access or to sabotage systems change frequently and are often not recognized until after they are launched against a target, we~~ may be **controlled** ~~unable to anticipate these techniques~~ or **maintained** ~~to implement adequate preventative measures. Accidental or willful security breaches or other unauthorized access~~ by third parties ~~to our~~ **. The secure operation of these** information **technology** systems **, and the processing and maintenance of the information processed by these systems, is critical to** ~~or~~ **our** ~~facilities~~ **business operations. While we and others have implemented various controls and defenses** , **cybersecurity attacks and threats have continued to become more prevalent and sophisticated. These threats are constantly evolving, making it increasingly difficult to successfully defend against or implement adequate preventive measures. Geopolitical tensions or conflicts have in the past led to, and may in the future lead to, increased risk of cybersecurity attacks. Notwithstanding defensive measures, experienced programmers, hackers, state actors, or others may be able to penetrate** ~~or~~ **our security controls, or** ~~the~~ **those** ~~existence~~ of ~~computer~~ **our vendors, suppliers, or customers, through attacks such as, but not limited to, phishing or other forms of social engineering, impersonating authorized users, ransomware, spyware,** viruses ~~in~~ **, worms and other malicious software programs, software supply chain attacks, exploitation of compromised commercial software, bugs and other security weaknesses and vulnerabilities, covert introduction of malware to computers and networks. Any attack on the information technology systems of us** ~~our~~ **or one of our vendors, suppliers, or customers may be difficult to detect, designed to remain dormant until a triggering event, or may continue undetected for an extended period of time. In addition, our information technology systems and those of our vendors, suppliers, and customers may be vulnerable to damage, disruptions, or shutdowns due to errors, negligence or malfeasance by employees, contractors, or others who have access to these systems. Security breaches, cyberattacks, and other disruptions to our information technology systems or those of our vendors, suppliers, or customers could compromise the confidentiality, operational integrity, and accessibility of our information technology systems, or those of our vendors, suppliers, or customers, which could result in the compromise, unauthorized publication, or loss of proprietary** data ~~or software~~ , **intellectual property** ~~could expose us to a risk of information loss~~ , **or personal** ~~misappropriation of proprietary and confidential~~ information, as well as ~~work stoppages~~ **interruptions or delays in** ~~or~~ **our** ~~disruptions~~ **business operations, loss of existing or future customers, and damage to our reputation, which could adversely affect our business, reputation, and financial results. In addition, such events could result in violations of privacy or other laws, increase the risk of litigation or regulatory investigation, or cause us to incur direct losses if attackers initiate wire transfers or access our bank or investment accounts** . We **expect ongoing** ~~also rely on third- party cloud- based service providers of corporate infrastructure services relating to, among other things, human resources, electronic communication services,~~ and ~~finance functions~~ **increasing costs related to investments in technology** , **controls** ~~and we are~~ , **processes** ~~of necessity~~ , **and practices, however** ~~dependent on the security systems of~~ these **investments** ~~providers. These technologies are subject to failure, including as a result of an inability to have such technologies properly supported, updated, expanded, or integrated into other technologies. These technologies~~ may **not be sufficient** ~~also contain open source and third- party software which may unbeknownst~~ to **shield** us ~~contain defects~~ **from significant losses** or ~~viruses. Any~~ **liability in the event of** security breaches **, cyberattacks,** or other **disruptions** ~~unauthorized access by third parties~~ to ~~the~~ **our information technology** systems ~~of our cloud- based service providers or the existence of computer viruses in their data or software could expose us to a risk of information loss and misappropriation of confidential information. Any loss, theft, or misuse of this information could result in, among other things, unfavorable publicity, damage to our reputation, difficulty in marketing our products, allegations by our customers that we have not performed our contractual obligations, regulatory fines or penalties, litigation by affected parties, and possible financial obligations for liabilities and damages related to the theft or misuse of this information, any of which could have an adverse effect on our business, financial condition, results of operations, reputation, and relationships with our customers and suppliers~~ . Our business may be impacted by information technology system failures or network disruptions, and lack of redundancy. Our ability to operate our business depends on the efficient operation of internal and third- party information technology systems, including cloud computing, data centers, hardware, software, and applications, to manage our company. We strive to use quality and secure systems, work with reputable system vendors, and implement procedures intended to enable us to protect our systems. Our information technology systems and operations could be damaged or interrupted due to events such as natural or human- caused disasters, extreme weather, geopolitical events and security issues, computer viruses, cybersecurity incidents, telecommunication failures, and similar events, which could adversely affect our business, financial condition, and results of operations. Our systems are not fully redundant and depending on the severity of the damage or interruption, our disaster recovery plans may be inadequate or ineffective. These events could also damage our reputation, and result in increased costs or loss of sales. We might not be able to utilize a significant portion of our net operating loss carryforwards and research and development tax credit carryforwards. As of December 31, ~~2022~~ **2023** , we had U. S. federal, state and foreign net operating loss (" NOL "), carryforwards of approximately $ ~~213~~ **230** . ~~3~~ **2** million, $ ~~65~~ **83** . ~~3~~ **7** million and $ 1. 7 million, respectively, and U. S. federal and state research and development tax credit carryforwards of approximately $ 3. 9 million and $ 3. 6 million, respectively. The U. S. federal ~~NOL carryforwards begin to expire in 2025~~ , ~~the~~ state ~~NOL carryforwards begin to expire in 2028~~ , and the foreign NOL carryforwards begin to expire in 2028. The U. S. federal research and development tax credit carryforwards begin to expire in 2025 and the state research and development tax credit carryforwards carry forward indefinitely. These net operating loss and

U. S. federal tax credit carryforwards could expire unused and / or be unavailable to offset future income tax liabilities. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended (the " Code "), and corresponding provisions of California state law, if a corporation undergoes an " ownership change, " which is generally defined as a greater than 50 % change, by value, in its equity ownership over a three- year period, the corporation' s ability to use its pre- change net operating loss carryforwards and other pre- change tax attributes to offset its post- change income may be limited. We completed a Section 382 analysis and determined an ownership change occurred in 2014 and concluded that it had no impact on U. S. federal and California net operating losses or on U. S. federal research and development credits. Our initial public offering in November 2019 did not result in a change in ownership of greater than 50 % under Section 382. We also had a follow- on offering on June 16, 2020, which resulted in greater than 50 % change under Section 382. We completed an updated Section 382 analysis based on this new change event and determined that it will not prohibit us from eventually utilizing our carryforwards. We updated the Section 382 analysis through December 31, ~~2022~~ **2023** and concluded there have not been any additional ownership changes as defined under Section 382 since the June 16, 2020 follow- on offering. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. If we determine that an ownership change has occurred and our ability to use our historical net operating loss and tax credit carryforwards is materially limited, it would harm our future business, financial condition, and results of operations by effectively increasing our future tax obligations. In addition, under the Tax Act, federal NOLs incurred in 2018 and in future years may be carried forward indefinitely but generally may not be carried back and the deductibility of such NOLs is limited to 80 % of taxable income. Under the ~~CARES~~ **Coronavirus Aid, Relief, and Economic Security** Act, which was signed into law in 2020, an NOL from a tax year beginning in 2018, 2019 or 2020 can be carried back five years and would not be subject to the 80 %- of- income limitation if they are exhausted during the five- year carryback period or during 2018, 2019 or 2020. The Company will not carry back any NOLs as they did not have taxable income in prior years. Risks Related to Intellectual Property Our failure to adequately protect our intellectual property rights could impair our ability to compete effectively or defend ourselves from litigation, which could harm our business, financial condition, and results of operations. Our success depends, in part, on our ability to protect our intellectual property. We rely primarily on patent, copyright, trademark, and trade secret laws, as well as confidentiality and non- disclosure agreements, and other contractual protections, to protect our technologies and proprietary know- how, all of which offer only limited protection. The steps we have taken to protect our intellectual property rights may not be adequate to prevent the misappropriation, infringement, or other violation of our proprietary information or infringement of our intellectual property rights, and our ability to prevent such misappropriation, infringement, or other violation is uncertain, particularly in countries outside of the United States. As of December 31, ~~2022~~ **2023** , we had ~~99~~ **119** issued U. S. patents, expiring generally between 2026 and ~~2039~~ **2040** and ~~43~~ **42** pending U. S. patent applications (including ~~12~~ **13** provisional applications). We also had ~~three~~ **four** foreign issued patents expiring in 2036 and four pending foreign patent applications. Our issued patents and pending patent applications generally relate to our MEMS fabrication process, MEMS resonators, circuits, packaging, and oscillator systems. We cannot assure you that any patents from any pending patent applications (or from any future patent applications) will be issued, and even if the pending patent applications are granted, the scope of the rights granted to us may not be meaningful or provide us with any commercial advantage. For example, these patents could be opposed, contested, circumvented, designed around by third parties, be narrowed or declared invalid or unenforceable in judicial or administrative proceedings including re- examination, inter partes review, post- grant review, interference and derivation proceedings and equivalent proceedings in foreign jurisdictions, or be subject to ownership claims by third parties. The failure of our patents to adequately protect our technology might make it easier for our competitors to offer similar products or technologies. Our foreign patent protection is less comprehensive than our U. S. patent protection and may not protect our intellectual property rights in some countries where our products are sold or may be sold in the future. Even if foreign patents are granted, effective enforcement in foreign countries may not be available. Further, we are currently unable to take advantage of selling our products online in certain countries where we do not own trademarks for our corporate name. Many U. S.- based companies have encountered substantial third- party intellectual property infringement in foreign countries, including countries where we sell products. If such an impermissible use of our intellectual property or trade secrets were to occur, our ability to sell our solutions at competitive prices may be adversely affected and our business, financial condition, and results of operations could be adversely affected. The legal standards relating to the validity, enforceability, and scope of protection of intellectual property rights are uncertain and evolving. We cannot assure you that others will not develop or patent similar or superior technologies or solutions, or that our patents, trademarks, and other intellectual property will not be challenged, invalidated, or circumvented by others. We also have a license to certain patents from Bosch relating to the design and manufacture of MEMS- based timing applications. The patent rights obtained under the license agreement expire between 2021 and 2029, and the license agreement expires upon expiration of the last patent licensed under the agreement. We do not believe there will be any significant impact upon expiration of these patents. We believe that the success of our business depends more on proprietary technology, information and processes, and know- how than on our patents or trademarks. Much of our proprietary information and technology related to manufacturing processes is not patented and may not be patentable. Unauthorized copying or other misappropriation of our proprietary technologies could enable third parties to benefit from our technologies without paying us for doing so, which could harm our business. Monitoring unauthorized use of our intellectual property is difficult and costly. It is possible that unauthorized use of our intellectual property may have occurred or may occur without our knowledge. We cannot assure you that the steps we have taken will prevent unauthorized use of our intellectual property, or that others will not develop technologies similar or superior to our technology or design around our intellectual property. Our failure to effectively protect our intellectual property could reduce the value of our technology in licensing arrangements or in cross- licensing negotiations. In addition, we also rely on contractual protections with our customers, suppliers, distributors, employees, and consultants, and we implement security measures designed to protect our trade secrets and know- how. However, we cannot assure you that we have entered into such agreements with every such party, that these contractual protections and security measures will not be breached, that we will have adequate remedies for any such breach, or that our customers, suppliers, distributors, employees, or consultants will not assert rights to intellectual property or damages arising out of such contracts. We may in the future need to initiate infringement claims or litigation in order to try to protect or enforce our intellectual property rights. Litigation, whether we are a plaintiff or a defendant, can be expensive and time- consuming and may divert the efforts of our management and other personnel, which could harm our business, whether or not such litigation results in a determination favorable to us. Litigation also puts our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing. Additionally, any enforcement of our patents or other intellectual property may provoke third parties to assert counterclaims against us. If we are unable to meaningfully protect our proprietary rights or if third parties independently develop or gain access to our or similar technologies, our business, financial condition, results of operations, reputation, and competitive position could be harmed. We may face intellectual property infringement, misappropriation, or other claims, which could be time- consuming and costly to defend or settle and which could result in the loss of significant rights and harm our relationships with our customers and distributors. The semiconductor industry in which we operate is characterized by companies that hold patents and other intellectual property rights and vigorously pursue, protect, and enforce intellectual property rights. From time to time, third parties may assert against us and our customers and distributors their patent and other intellectual property rights to technologies that are important to our business. ~~For example, in March 2019, VTT Technical Research Centre of Finland, Ltd. filed suit in the United States District Court for the Northern District of California alleging infringement by us of a patent. The District Court ruled in our favor, VTT filed an appeal with the U. S. Court of Appeals for the Federal Circuit (" CAFC "), on June 9, 2021, a hearing was held at the CAFC, and on June 10, 2021 the CAFC affirmed the District Court' s judgment.~~ Any litigation, regardless of success or merit, could cause us to incur substantial expenses, reduce our sales, and divert the efforts of our management and other personnel. In the event we receive an adverse result in any litigation, we could be required to pay substantial damages, seek licenses from third parties, which may not be available on reasonable terms or at all, cease sale of products, expend significant resources to develop alternative technology, or discontinue the use of processes requiring the relevant technology. In addition, our commercial success depends upon our ability to manufacture and sell our products without infringing, misappropriating, or otherwise violating the intellectual property rights of others. Claims that our products, processes, or technology infringe, misappropriate, or otherwise violate third- party intellectual property rights, regardless of their merit or resolution, could be costly to defend or settle and could divert the efforts and attention of our management and other personnel. We may in the future, particularly as a public company with an increased profile and visibility, receive communications from others alleging our infringement, misappropriation, or other violation of patents, trade secrets, or other intellectual property rights. We cannot assure you that, if made, these claims will not be successful, and lawsuits resulting from such allegations, even if we believe they are invalid, could subject us to significant liability for damages, invalidate our proprietary rights, and prevent us from selling specific products. Moreover, there could be public announcements of the results of hearings, motions, or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Intellectual property claims could also harm our relationships with our customers or distributors and might deter future customers from doing business with us. We do not know whether we will prevail in any such proceedings given the complex technical issues and inherent uncertainties in intellectual property litigation. If any future proceedings result in an adverse outcome, we could be required to: • cease the manufacture, use or sale of the applicable products, processes, or technology; • pay substantial damages for infringement by us or our customers; • expend significant resources to develop non- infringing products, processes, or technology, which may not be successful; • license technology from the third- party claiming infringement, which license may not be available on commercially reasonable terms, or at all; • cross- license our technology to a competitor to resolve an infringement claim, which could weaken our ability to compete with that competitor; • lose the opportunity to license our technology to others or to collect royalty payments based upon successful protection and assertion of our intellectual property rights against others; or • pay substantial damages to our customers or end users to discontinue their use of or to replace infringing technology sold to them with non- infringing technology, if available. Any of the foregoing results could adversely affect our business, financial condition, and results of operations. Any potential dispute involving patents or other intellectual property could affect our customers, which could trigger our indemnification obligations to them and result in substantial expense to us. In any potential dispute involving patents or other intellectual property, our customers could also become the target of litigation. Our agreements with customers and other third- parties generally include indemnification or other provisions under which we agree to indemnify or otherwise be liable to them for losses suffered or incurred as a result of claims of intellectual property infringement, damages caused by us to property or persons, or other liabilities relating to or arising from our solutions included in their products. Large indemnity payments or damage claims from contractual breach could harm our business, financial condition, and results of operations. From time to time, customers may require us to indemnify or otherwise be liable to them for breach of confidentiality or failure to implement adequate security measures with respect to their intellectual property and trade secrets. Although we normally contractually limit our liability with respect to such obligations, we may still incur substantial liability related to them. Any litigation against our customers could trigger technical support and indemnification obligations under some of our agreements, which could result in substantial expense to us. In addition, other customers, or end customers with whom we do not have formal agreements requiring us to indemnify them may ask us to indemnify them if a claim is made as a condition to awarding future design wins to us. Because some of our customers are larger than we are and have greater resources than we do, they may be more likely to be the target of an infringement claim by third parties than we would be, which could increase our chances of becoming involved in a future lawsuit. If any such claims were to succeed, we might be forced to pay damages on behalf of our customers that could increase our expenses, disrupt our ability to sell our solutions and reduce our revenue and profit. Any dispute with a customer with respect to such obligations could have adverse effects on our relationship with that customer and other current and prospective customers and reduce demand for our solutions. In addition to the time and expense required for us to supply support or indemnification to our customers, any such litigation could severely disrupt or shut down the business of our customers, which in turn could hurt our relations with our customers and cause the sale of our products to decrease. Any of the foregoing could harm our business, financial condition, and results of operations. Risks Related to MegaChips Corporation' s Ownership Position in Our Common Stock As long as MegaChips holds a significant amount of our stock, our other shareholders' ability to influence matters requiring stockholder approval will be limited. MegaChips owns ~~5~~ **4** , ~~000~~ **700** , 000 shares of our common stock, representing approximately ~~23~~ **20** . ~~0~~ **7** % of our outstanding common stock as of December 31, ~~2022~~ **2023** . For so long as MegaChips or its successors in interest continue to hold the largest ownership position in our outstanding common stock, we expect MegaChips to continue to hold at least one out of eight seats on our board of directors, and to be influential in electing members of our board of directors. As long as MegaChips continues to be our largest stockholder, it will continue to have significant influence over us. For example, as long as MegaChips continues to hold a significant or the largest ownership position in our outstanding common stock, MegaChips may have the ability to affect the outcome of any stockholder vote during this period. As a result, MegaChips will have the ability to exert significant influence over many matters affecting us, either through its board representative or as a stockholder, including: • determinations with respect to our business plans and policies, including the appointment and removal of our officers; • any determinations with respect to mergers and other business combinations; • our acquisition or disposition of assets; • our financing activities; • the allocation of business opportunities that may be suitable for us and MegaChips; • the payment of dividends on our common stock; and • the number of shares available for issuance under our stock plans. MegaChips' ~~voting control~~ **significant ownership position** may discourage transactions involving a change of control of us, including transactions in which other holders of our common stock might otherwise receive a premium for their shares over the then current market price. In addition, as a result of this voting control and representations on our board of directors, persons who we would like to invite to join our board of directors may decline to do so. Our inability to resolve any disputes that arise between us and MegaChips with respect to our past and ongoing relationships may adversely affect our operating results. Disputes may arise between MegaChips and us in a number of areas relating to our past and ongoing relationships, including: • sales or distributions by MegaChips of all or any portion of its ownership interest in us; and • business opportunities that may be attractive to both MegaChips and us. We may not be able to resolve any potential conflicts, and even if we do, the resolution may be less favorable than if we were dealing with an unaffiliated party. We have entered into an integration and purchase agreement with MegaChips for the sale of resonators by us to MegaChips. The agreements we entered into with MegaChips may be amended upon agreement between the parties. Because MegaChips is a major stockholder with representatives on our board of directors, we may not have the leverage to negotiate amendments to these agreements on terms as favorable to us compared to those we would negotiate with an unaffiliated third party. There could be potential conflicts of interest between us and affiliates of MegaChips, which could impact our business and operating results. Some of our directors have or had affiliations with MegaChips. Affiliations of directors with MegaChips could create, or appear to create, conflicts of interest with respect to matters involving both us and MegaChips. For example, corporate opportunities may arise that concern both of our businesses, such as the potential acquisition of a particular business or technology that is complementary to both of our businesses. Our Board has adopted a Related Persons Transactions Policy to address actual or perceived conflicts of interest of directors, officers and greater than 5 % stockholders on a case- by- case basis. If any corporate opportunity arises and if our directors and officers do not pursue it on our behalf, we may not become aware of, and may potentially lose, a significant business opportunity. Risks Related to Our Common Stock Substantial future sales of our common stock could cause the market price of our common stock to decline. The market price of our common stock could decline as a result of substantial sales of our common stock, particularly sales by our directors, executive officers, and significant stockholders, including MegaChips, or the perception in the market that holders of a large number of shares intend to sell their shares. Anti- takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock. Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and bylaws include provisions that: • authorize our board of directors to issue, without further action by the stockholders, shares of undesignated preferred stock with terms, rights, and preferences determined by our board of directors that may be senior to our common stock; • require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent; • specify that special meetings of our stockholders can be called only by our board of directors, the Chairman of our board of directors, or our Chief Executive Officer; • establish an advance notice procedure for stockholder proposals to be brought before an annual meeting, including proposed nominations of persons for election to our board of directors; • establish that our board of directors is divided into three classes, with each class serving three- year staggered terms; • prohibit cumulative voting in the election of directors; • provide that our directors may be removed only for cause; • provide that vacancies on our board of directors may be filled by a majority of directors then in office, even if less than a quorum; and • require the approval of our board of directors or the holders of at least 66 2 / 3 % of our outstanding shares of capital stock to amend our bylaws and certain provisions of our certificate of incorporation. These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder. Any delay or prevention of a change of control transaction or changes in our management could cause our stock price to decline. Our bylaws designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, and federal district courts will be the sole and exclusive forum for Securities Act claims, which could limit our stockholders' ability to obtain what they believe to be a favorable judicial forum for disputes with us or our directors, officers, or other employees. Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (a) any derivative action or proceeding brought on our behalf, (b) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to us or our stockholders, (c) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws, or (d) any action asserting a claim against us governed by the internal affairs doctrine. Section 27 of the Securities Exchange Act of 1934, or the Exchange Act, creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. As a result, the exclusive forum provision will not apply to suits brought to enforce any duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Our bylaws further provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts are the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in our capital stock shall be deemed to have notice of and 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 our directors, officers, or other employees, which may discourage such lawsuits against us and our directors, officers, or other employees. Alternatively, if a court were to find these provisions of our bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition, and results of operations and result in a diversion of the time and resources of our management and board of directors. Our stock price may be volatile and may decline, resulting in a loss of some or all of our stockholder investment. The trading price and volume of our common stock is likely to be volatile and could fluctuate significantly in response to numerous factors, many of which are beyond our control, including: • macroeconomic conditions, • actual or anticipated fluctuations in our results of operations due to, among other things, changes in customer demand, product life cycles, pricing, ordering patterns, and unforeseen operating costs; • the financial projections we may provide to the public, any changes in these projections, or our failure to meet these projections; • ~~announcements with respect to developments, status, and impact on us, our competition, our constituents, and our suppliers of the COVID-19 global pandemic; •~~ failure of securities analysts to initiate or maintain coverage of us, changes in financial estimates or ratings by any securities analysts who follow us, or our failure to meet these estimates or the expectations of investors; • announcements by our significant customers of changes to their product offerings, business plans, or strategies; • announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, joint ventures, or capital commitments; • changes in operating performance and stock market valuations of other technology companies generally, or those in the semiconductor industry; • timing and seasonality of the end- market demand; • price and volume fluctuations in the overall stock market from time to time, including as a result of trends in the economy as a whole; • actual or anticipated developments in our business or our competitors' businesses or the competitive landscape generally; • new laws or regulations or new interpretations of existing laws or regulations applicable to our business; • any major change in our management; • lawsuits threatened or filed against us; and • other events or factors, including those resulting from **geopolitical activities,** war, incidents of terrorism, **natural disasters,** ~~the COVID- 19 pandemic~~ **pandemics** , or responses to these events. In addition, the market for technology stocks and the stock markets in general have experienced extreme price and volume fluctuations. Stock prices of many technology companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have instituted securities class action litigation following periods of market volatility. If we were to become involved in securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business, and adversely affect our business, financial condition, and results of operations.