UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Quarterly Period Ended June 28, 2020

OR

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

For the Transition Period From______ To

COMMISSION FILE NUMBER: 000-22671

QUICKLOGIC CORPORATION
(Exact name of registrant as specified in its charter)

DELAWARE (State or other jurisdiction of incorporation or organization)	**77-0188504** (I.R.S. Employer Identification No.)

2220 Lundy Avenue, San Jose, CA 95131-1816
(Address of principal executive offices including zip code))

(408) 990-4000
(Registrant's telephone number, including area code)

Securities registered pursuant Section 12(b) of the act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $.001 per share	QUIK	The Nasdaq Capital Market

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of “large accelerated filer,” “accelerated filer”, “smaller reporting company” and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated Filer	☒
Non-accelerated filer	☐	Smaller Reporting Company	☒
		Emerging growth company	☐

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

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

As of July 31, 2020, there were 11,055,490 shares of registrant’s common stock, par value $0.001 per share, outstanding.

QUICKLOGIC CORPORATION
FORM 10-Q
JUNE 28, 2020

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Item 1. Financial Statements

QUICKLOGIC CORPORATION
UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except par value amount)

	June 28, 2020	December 29, 2019
ASSETS		
Current assets:		
Cash, cash equivalents and restricted cash	$ 26,398	$ 21,548
Accounts receivable, net of allowances for doubtful accounts of $0	1,124	1,991
Inventories	3,052	3,260
Other current assets	1,162	1,565
Total current assets	31,736	28,364
Property and equipment, net	591	830
Capitalized internal-use software, net	672	333
Right of use assets	2,212	2,370
Intangible assets	934	1,008
Goodwill	185	185
Other assets	291	314
TOTAL ASSETS	$ 36,621	$ 33,404
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Revolving line of credit	$ 15,000	$ 15,000
Trade payables	1,644	1,003
Accrued liabilities	890	1,133
Paycheck protection program loan	461	—
Deferred revenue	56	158
Lease liabilities-current	752	704
Total current liabilities	18,803	17,998
Long-term liabilities:		
Paycheck protection program loan, less current portion	730	—
Lease liabilities-non-current	1,466	1,583
Total liabilities	20,999	19,581
Commitments and contingencies (see Note 15)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 10,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.001 par value; 200,000 authorized; 10,912 and 8,331 shares issued and outstanding as of June 28, 2020 and December 29, 2019, respectively	11	8
Additional paid-in capital	305,013	297,073
Accumulated deficit	(289,402)	(283,258)
Total stockholders' equity	15,622	13,823
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 36,621	$ 33,404

See accompanying Notes to Unaudited Condensed Consolidated Financial Statements.

QUICKLOGIC CORPORATION
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share amounts)

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Revenue	$ 2,196	$ 2,087	$ 4,354	$ 5,281
Cost of revenue	1,192	1,065	2,235	2,280
Gross profit	1,004	1,022	2,119	3,001
Operating expenses:				
Research and development	2,200	3,215	4,019	6,457
Selling, general and administrative	1,665	2,340	3,544	4,786
Restructuring costs	34	—	513	—
Total operating expenses	3,899	5,555	8,076	11,243
Loss from operations	(2,895)	(4,533)	(5,957)	(8,242)
Interest expense	(183)	(124)	(263)	(207)
Interest income and other expense, net	72	50	67	98
Loss before income taxes	(3,006)	(4,607)	(6,153)	(8,351)
(Benefit from) provision for income taxes	(27)	27	(9)	(241)
Net loss	$ (2,979)	$ (4,634)	$ (6,144)	$ (8,110)
Net loss per share:				
Basic and diluted (1)	$ (0.35)	$ (0.65)	$ (0.73)	$ (1.16)
Weighted average shares outstanding:				
Basic and diluted (1)	8,560	7,088	8,461	7,002

Note: Net loss equals to comprehensive loss for all periods presented.
(1) Net loss per share, and weighted average shares outstanding basic and diluted for the three- and six-months ended June 30, 2019 are adjusted to reflect 1-for-14 reverse stock split effected on December 23, 2019**.**

See accompanying Notes to Unaudited Condensed Consolidated Financial Statements.

QUICKLOGIC CORPORATION
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Six Months Ended	
	June 28, 2020	June 30, 2019
Cash flows from operating activities:		
Net loss	$ (6,144)	$ (8,110)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	490	592
Stock-based compensation	343	1,742
Write-down of inventories	43	88
Write-off of equipment	4	2
Tax benefit from acquisition	—	(282)
Changes in operating assets and liabilities:		
Accounts receivable	867	690
Inventories	165	247
Other assets	425	(150)
Trade payables	574	77
Accrued liabilities and deferred revenue	(345)	(850)
Other long-term liabilities	—	(16)
Net cash used in operating activities	(3,578)	(5,970)
Cash flows from investing activities:		
Capital expenditures for property and equipment	(40)	(523)
Capitalized internal-use software	(396)	—
Cash received from business acquisition	—	20
Net cash used in investing activities	(436)	(503)
Cash flows from financing activities:		
Payment of finance lease obligations	(120)	(194)
Proceeds from paycheck protection program loan	1,191	—
Proceeds from line of credit	27,000	20,000
Repayment of line of credit	(27,000)	(20,000)
Proceeds from issuance of common stock, net of issuance costs	7,847	8,548
Taxes paid related to net settlement of equity awards	(54)	(193)
Net cash provided by financing activities	8,864	8,161
Net increase in cash, cash equivalents and restricted cash	4,850	1,688
Cash, cash equivalents and restricted cash at beginning of period	21,548	26,463
Cash, cash equivalents and restricted cash at end of period	$ 26,398	$ 28,151

See accompanying Notes to Unaudited Condensed Consolidated Financial Statements.

QUICKLOGIC CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(In thousands)

	Common Stock		Additional Paid-In	Retained	Total Stockholders'
	Shares	Amount	Capital	Earnings	Equity
Balance at December 29, 2019	8,331	$ 8	$ 297,073	$ (283,258)	$ 13,823
Common stock issued under stock plans and employee stock purchase plan	52	—	(25)	—	(25)
Stock-based compensation	—	—	(398)	—	(398)
Net loss	—	—	—	(3,165)	(3,165)
Balance at March 29, 2020	8,383	8	296,650	(286,423)	10,235
Common stock issued under stock plans and employee stock purchase plan	29	-	(31)	—	(31)
Common stock offering, net of issuance costs of $1.1 million	2,500	3	7,653	—	7,656
Stock-based compensation	—	—	741	—	741
Net loss	—	—	—	(2,979)	(2,979)
Balance at June 28, 2020	10,912	$ 11	$ 305,013	$ (289,402)	$ 15,622

	Common Stock (1)		Additional Paid-In (1)	Retained	Total Stockholders'
	Shares	Amount	Capital	Earnings	Equity
Balance at December 30, 2018	6,823	$ 7	$ 285,062	$ (267,814)	$ 17,255
Common stock issued under stock plans and employee stock purchase plan	35	—	(163)	—	(163)
Common stock issued for SensiML acquisition	84	—	903	—	903
Stock-based compensation	—	—	951	—	951
Net loss	—	—	—	(3,476)	(3,476)
Balance at March 31, 2019	6,942	7	286,753	(271,290)	15,470
Common stock issued under stock plans and employee stock purchase plan	38	—	210	—	210
Common stock offering, net of issuance costs of $1.2 million	1,314	1	8,024	—	8,025
Stock-based compensation	—	—	791	—	791
Net loss	—	—	—	(4,634)	(4,634)
Balance at June 30, 2019	8,294	$ 8	$ 295,778	$ (275,924)	$ 19,862

1) Common stock shares and additional paid-in capital amounts as of December 31, 2018, and in the three-months ended March 31, 2019 and June 30, 2019 are adjusted to reflect 1-for-14 reverse stock split effected on December 23, 2019.

See accompanying Notes to Unaudited Condensed Consolidated Financial Statements

NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — The Company and Basis of Presentation

QuickLogic Corporation ("QuickLogic" or "Company") was founded in 1988 and reincorporated in Delaware in 1999. The Company enables Original Equipment Manufacturers ("OEMs") to maximize battery life for highly differentiated, immersive user experiences with Smartphone, Wearable, Hearable, Tablet and Internet-of-Things ("IoT devices"). QuickLogic delivers these benefits through industry leading ultra-low power customer programmable System on Chip ("SoC") semiconductor solutions, embedded software, and algorithm solutions for always-on voice and sensor processing, and enhanced visual experiences. The Company is a fabless semiconductor provider of comprehensive, flexible sensor processing solutions, ultra-low power display bridges, and ultra-low power Field Programmable Gate Arrays ("FPGAs"). The Company's wholly owned subsidiary, SensiML Corporation ("SensiML") provides Analytics Toolkit, which is used in many of the applications where the Company's ArcticPro™, eFPGA intellectual property ("IP") plays a critical role. SensiML Analytics toolkit is an end-to-end software suite that provides OEMs a straightforward process for developing pattern matching sensor algorithms using machine learning technology that are optimized for ultra-low power consumption.

The accompanying interim condensed consolidated financial statements are unaudited. In the opinion of the Company's management, these statements have been prepared in accordance with the United States generally accepted accounting principles ("U.S. GAAP"), and include all adjustments, consisting only of normal recurring adjustments, necessary to provide a fair statement of results for the interim periods presented. The Company recommends that these interim condensed consolidated financial statements be read in conjunction with the Company's Form 10-K for the year ended December 29, 2019, which was filed with the Securities and Exchange Commission ("SEC") on March 13, 2020. Operating results for the three and six months ended June 28, 2020 are not necessarily indicative of the results that may be expected for the full year.

QuickLogic's fiscal year ends on the Sunday closest to December 31 and each fiscal quarter ends on the Sunday closest to the end of each calendar quarter. QuickLogic's second fiscal quarters for 2020 and for 2019 ended on June 28, 2020 and June 30, 2019, respectively.

COVID-19 Risks and Uncertainties

On January 30, 2020, the World Health Organization ("WHO") declared a global emergency due to the COVID-19 pandemic, and on February 28, 2020, the WHO raised its assessment of the threat from high to very high at a global level. The outbreak has resulted in significant governmental measures being implemented to control the spread of COVID-19, including, among others, restrictions on travel, business operations and the movement of people in many regions of the world in which the Company operates, and the imposition of shelter-in-place or similarly restrictive work-from-home orders impacting many of the Company's offices and employees, including those located in the United States.

As a result, the Company has temporarily closed or substantially limited the presence of personnel in its offices in several impacted locations, implemented travel restrictions and withdrawn from various industry events. The impact of the Company's work-from-home policy that was implemented to protect its global workforce has contributed to delays in certain operational processes, including its routine quarterly financial statement close process for the first quarter of fiscal 2020. The Company has also experienced some disruption and delays in its supply chain, customer deployment plans, and logistics challenges, including certain limitations on its ability to access customer fulfilment and service sites.

The COVID-19 pandemic and its potential effects on the Company's business in its fiscal 2020 remain dynamic, and the broader implications for its business and results of operations remain uncertain. These implications could include further disruptions or restrictions on the Company's ability to source, manufacture or distribute its products, including temporary disruptions to the facilities of its contract manufacturers in China, Taiwan, Philippines and Singapore, or the facilities of its suppliers and their contract manufacturers globally. Additionally, multiple countries have imposed and may further impose restrictions on business operations and movement of people and products to limit the spread of COVID-19. Delays in production or delivery of components or raw materials that are part of the Company's global supply chain due to restrictions imposed to limit the spread of COVID-19 could delay or inhibit its ability to obtain the supply of components and finished goods. If COVID-19 becomes more prevalent in the locations where the Company, its customers or suppliers conduct business, or the Company experiences more pronounced disruptions in its operations, the Company may experience constrained supply or curtailed demand that may materially adversely impact its business and results of operations. In addition, any other widespread health crisis that could adversely affect global and regional economies, financial markets and overall demand environment for the Company's products could have a material adverse effect on the Company's business, cash flows or results of operations.

Liquidity

The Company has financed its operations and capital investments through sales of common stock, finance and operating leases, a revolving line of credit and cash flows from operations. As of June 28, 2020, the Company's principal sources of liquidity consisted of cash and cash equivalents and restricted cash of $26.4 million, including $15.0 million drawn down from its revolving line of credit ("Revolving Facility") with Heritage Bank of Commerce ("Heritage Bank"), and $1.2 million loan proceeds received under Paycheck Protection Program ("PPP"). On November 6, 2019 the Company entered into a First Amendment to the Revolving Facility with Heritage Bank to extend the maturity date for one year through September 28, 2021. Under this amendment the Revolving Facility advances shall bear interest, on the outstanding daily balance thereof, at a rate per annum equal to the greater of (i) one half of one percentage point (0.50%) above the Prime Rate, or (ii) five and one half of one percentage points (5.50%).

On May 6, 2020, the Company entered into a loan agreement with Heritage Bank for a loan of $1.2 million pursuant to the PPP under the CARES Act enacted on March 27, 2020. See Note 7 to the Unaudited Consolidated Financial Statements for the details.

On June 22, 2020, the Company closed an underwritten public offering of 2.5 million shares of common stock, $0.001 par value per share at a price of $3.50 per share. The Company received net proceeds from the offering of approximately $7.9 million, net of underwriter's commission and other offering expenses. Under the terms of the Underwriting Agreement, the Company granted the Underwriter a 30-day option to purchase up to an additional 375,000 shares of Common Stock to cover overallotments. On July 21, 2020, the Underwriter's partially exercised the option to purchase 141,733 additional shares of Common Stock in connection with the offering, resulting in additional net proceeds to the Company of approximately $461,000 after deduction of underwriting discounts.

Various factors can affect the Company's liquidity, including, among others: the level of revenue and gross profit as a result of the cyclicality of the semiconductor industry; the conversion of design opportunities into revenue; market acceptance of existing and new products including solutions based on its ArcticLink®, PolarPro® platforms, eFPGA, EOS S3 SoC, Quick AI solution, and SensiML software; fluctuations in revenue as a result of product end-of-life; fluctuations in revenue as a result of the stage in the product life cycle of its customers' products; costs of securing access to and availability of adequate manufacturing capacity; levels of inventories; wafer purchase commitments; customer credit terms; the amount and timing of research and development expenditures; the timing of new product introductions; production volumes; product quality; sales and marketing efforts; the value and liquidity of its investment portfolio; changes in operating assets and liabilities; the ability to obtain or renew debt financing and to remain in compliance with the terms of existing credit facilities; the ability to raise funds from the sale of equity in the Company; the ability to capitalize on synergies with our newly acquired subsidiary SensiML; the issuance and exercise of stock options and participation in the Company's employee stock purchase plan; and other factors related to the uncertainties of the industry and global economics.

Over the longer term, the Company anticipates that sales generated from its new product offerings, existing cash and cash equivalents, together with financial resources from its Revolving Facility with the Heritage Bank, assuming renewal of the Revolving Facility or the Company entering into a new debt agreement with an alternative lender prior to the expiration of the revolving line of credit in September 2021, and its ability to raise additional capital in the public capital markets will be sufficient to satisfy its operations and capital expenditures. However, the Company cannot provide any assurance that it will be able to raise additional capital, if required, or that such capital will be available on terms acceptable to the Company. The inability of the Company to generate sufficient sales from its new product offerings and/or raise additional capital if needed could have a material adverse effect on the Company's operations and financial condition, including its ability to maintain compliance with its lender's financial covenants.

Reverse Stock Split

Effective on December 23, 2019, the Company enacted a 1-for-14 reverse stock split of its outstanding common stock, in which, every 14 issued and outstanding shares of common stock of the Company were automatically combined into one issued and outstanding share of common stock without any change in the par value per share. Stockholders who would have otherwise been entitled to fractional shares of common stock as a result of the reverse stock split received a cash payment in lieu of receiving fractional shares. All share, equity awards, and per share amounts contained in this Form 10-Q and the accompanying Condensed Consolidated Financial Statements have been adjusted to reflect the reverse stock split for all prior periods presented. Warrants issued in connection with the May 2018 stock issuance were also adjusted to reflect the reverse stock split for all periods presented.

Principles of Consolidation

The unaudited condensed consolidated financial statements include the accounts of QuickLogic and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated.

Foreign Currency

The functional currency of the Company's non-U.S. operations is the U.S. dollar. Accordingly, all monetary assets and liabilities of these foreign operations are translated into U.S. dollars at current period-end exchange rates and non-monetary assets and related elements of expense are translated using historical exchange rates. Income and expense elements are translated to U.S. dollars using the average exchange rates in effect during the period. Gains and losses from the foreign currency transactions of these subsidiaries are recorded as interest income and other expense, net in the unaudited condensed consolidated statements of operations.

Uses of Estimates

The preparation of these consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosures of contingent assets and liabilities and the reported amounts of revenue and expenses during the period. Actual results could differ materially from those estimates, particularly in relation to revenue recognition, the allowance for doubtful accounts, sales returns, valuation of long-lived assets including mask sets, valuation of goodwill, capitalized internal-use software and related amortizable lives and intangibles related to the acquisition of SensiML, including the estimated useful lives of acquired intangible assets, valuation of inventories including identification of excess quantities, market value and obsolescence, measurement of stock-based compensation awards, accounting for income taxes and estimating accrued liabilities.

Contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment.

Judgment is required to determine the Stand-alone Selling Price (“SSP”) for each distinct performance obligation. The Company uses a range of amounts to estimate SSP when each of the products and services are sold separately and determines the discount to be allocated based on the relative SSP of the various products and services when products and services sold are bundled. In instances where SSP is not directly observable, such as when the Company does not sell the product or service separately, it determines the SSP using information that may include market conditions and other observable inputs. The Company typically has more than one SSP for individual products and services due to the stratification of those products and services by customers. In these instances, the Company may use information such as the size of the customer, customer tier, type of the technology used, customer demographics, geographic region and other factors in determining the SSP.

Concentration of Risk

The Company's accounts receivable are denominated in U.S. dollars and are derived primarily from sales to customers located in North America, Asia Pacific, and Europe. The Company performs ongoing credit evaluations of its customers and generally does not require collateral. See Note 14 for information regarding concentrations associated with accounts receivable.

Note 2 — Significant Accounting Policies

During the six-month period ended June 28, 2020, there were no changes in the Company's significant accounting policies from its disclosures in the Annual Report on Form 10-K for the year ended December 29, 2019, except for the new accounting standards adopted during the six months ended June 28, 2020. For a discussion of the significant accounting policies, please see the Annual Report on Form 10-K for the fiscal year ended December 29, 2019, filed with the SEC on March 13, 2020. For a discussion of the new accounting standards adopted during the first six months of 2020, see “New Accounting Pronouncements” below.

Revenue Recognition

The Company applies Accounting Standards Codification, or ASC, Topic 606, *Revenue from Contracts with Customers*, to recognize revenue. The guidance states that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

Under the new standard revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration it expects to receive in exchange for those products or services.

The Company determines revenue recognition through the following steps:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, a performance obligation is satisfied.

As part of its assessment of each contract, the Company evaluates certain factors including the customer's ability to pay, or credit risk. For each contract, the Company considers the promise to transfer products, each of which is distinct, to be the identified performance obligations. In determining the transaction price, the price stated on the purchase order is typically fixed and represents the net consideration to which the Company expects to be entitled, and therefore there is no variable consideration. As the Company's standard payment terms are less than one year, the Company has elected, as a practical expedient, to not assess whether a contract has a significant financing component. The Company allocates the transaction price to each distinct product based on its relative stand-alone selling price. The product price as specified on the purchase order is considered the stand-alone selling price as it is an observable source that depicts the price as if sold to a similar customer in similar circumstances.

Leases

The Company applies Accounting Standards Update ("ASU") No. 2016-02, *Leases (Topic 842)* and related ASUs, which provide supplementary guidance and clarifications to account operating and finance leases. Under Topic 842, all significant lease arrangements are generally recognized at lease commencement. Operating lease right-of-use ("ROU") assets and lease liabilities are recognized at the commencement date. A ROU asset and corresponding lease liability is not recorded for leases with an initial term of 12 months or less (short term leases) and the Company recognizes lease expense for these leases as incurred over the lease term.

ROU assets represent the Company's right to use an underlying asset during the reasonably certain lease terms and lease liabilities represent the Company's obligation to make lease payments arising from the lease. The Company's lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. The Company primarily uses its incremental borrowing rate, based on the information available at commencement date, in determining the present value of lease payments. The operating lease ROU asset also includes any lease payments related to initial direct cost and prepayments and excludes lease incentives. Lease expense is recognized on a straight-line basis over the lease term. The Company has lease agreements with lease and non-lease components, which are generally accounted for separately. As of June 28, 2020, the Company's right-of-use assets was approximately $2.2 million and lease liability was approximately $2.2 million as presented on the Company's Consolidated Balance Sheet. See Note 8 to the Unaudited Consolidated Financial Statements for more details.

Business Combinations

The Company recognizes assets acquired (including goodwill and identifiable intangible assets) and liabilities assumed at fair value on the acquisition date. Subsequent changes to the fair value of such assets acquired and liabilities assumed are recognized in earnings, after the expiration of the measurement period, a period not to exceed 12 months from the acquisition date. Acquisition-related expenses and acquisition-related restructuring costs are recognized in earnings in the period in which they are incurred

Goodwill and Intangible Assets

Goodwill represents the excess fair value of consideration transferred over the fair value of net assets acquired in business combinations. The carrying value of goodwill and indefinite lived intangible assets are not amortized, but are annually tested for impairment and more often if there is an indicator of impairment. Company recognized goodwill of $185,000 due to tax benefits that arose from intangible assets acquired in the SensiML acquisition.

Intangible assets with finite useful lives are amortized on a straight-line basis over the periods benefited. The Company reviews the recoverability of its long-lived assets when events or changes in circumstances occur that indicate that the carrying value of the asset or asset group may not be recoverable. The assessment of possible impairment is based on the

Company's ability to recover the carrying value of the asset or asset group from the expected future pre-tax cash flows (undiscounted and without interest charges) of the related operations. If these cash flows are less than the carrying value of such asset, an impairment loss is recognized for the difference between estimated fair value and carrying value. The measurement of impairment requires management to estimate future cash flows and the fair value of long-lived assets. No impairment has been recognized to-date.

Restricted cash

Cash, cash equivalent and restricted cash includes an amount of $100,000 pledged as cash security related to the use of credit cards as of June 28, 2020 and December 29, 2019.

New Accounting Pronouncements

Recently adopted accounting pronouncements:

In August 2018, the Financial Accounting Standards Board ("FASB") issued ASU, No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement*. This new standard modifies certain disclosure requirements on fair value measurements. The Company adopted this standard prospectively effective December 30, 2019 with no impact on the Consolidated Financial Statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles - Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementations Costs Incurred in a Cloud Computing Arrangement That is a Service Contract.* Under the new standard, implementations costs related to a cloud computing arrangement will be deferred or expensed as incurred, in accordance with the existing internal-use software guidance for similar costs. The new standard also prescribes the balance sheet, income statement and cash flow classification of the capitalized implementation costs and related amortizations expenses. The effective date for public companies is for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. For all other entities, the effective date is fiscal years beginning after December 15, 2021. The Company adopted this standard prospectively effective December 30, 2019 with no impact on the Consolidated Financial Statements.

In June 2016, FASB issued ASU No. 2016-13 ("ASU 2016-13") *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASU 2016-13 replaces the existing incurred loss impairment model with an expected loss model which requires the use of forward-looking information to calculate credit loss estimates. It also eliminates the concept of other-than-temporary impairment and requires credit losses related to certain available-for-sale debt securities to be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. These changes result in earlier recognition of credit losses. The Company adopted ASU 2016-13 using the modified retrospective approach on December 30, 2019 with no impact on the Condensed Consolidated Financial Statements.

New accounting pronouncements not yet adopted:

In December 2019, the FASB issued ASU No. 2019-12, *Simplifying the Accounting for Income Taxes*, which removes certain exceptions to the general principles of ASC 740, in order to reduce the cost and complexity of its application. These changes include elimination to the exceptions for (1) Intra-period tax allocation, (2) Deferred tax liabilities related to outside basis differences, and (3) Year-to-date losses in interim periods. This standard is effective for the fiscal years beginning after December 15, 2020. The Company is currently evaluating the potential impact on its Consolidated Financial Statements.

Note 3 — Net Loss Per Share

Basic loss per share is computed by dividing net loss available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted net loss per share was computed using the weighted average number of common shares outstanding during the period plus potentially dilutive common shares outstanding during the period under the treasury stock method. In computing diluted net loss per share, the weighted average stock price for the period is used in determining the number of shares assumed to be purchased from the exercise of stock options and warrants.

For the three and six months ended June 28, 2020 and June 30, 2019, 626,178 and 571,970 shares of common stock, respectively, associated with equity awards and the estimated number of shares to be purchased under the current offering period of the 2009 Employee Stock Purchase Plan were outstanding. These shares were not included in the computation of diluted net loss per share as they were considered anti-dilutive due to the net losses the Company experienced during these periods. Warrants to purchase up to 386,100 shares were issued in connection with May 29, 2018 stock offering were also not included in the diluted loss per share calculation of the three and six months ended June 28, 2020 and June 30, 2019 as they were also considered anti-dilutive due to the net loss the Company experienced during these periods.

All shares, equity awards, and per share amounts have been adjusted to reflect the 1-for-14 reverse stock split of the Company's outstanding common stock for all periods presented.

Note 4 — Balance Sheet Components

The following table provides details relating to certain balance sheet line items as of June 28, 2020, and December 29, 2019 (in thousands):

	June 28, 2020	December 29, 2019
Inventories:		
Raw materials	$ 222	$ 222
Work-in-process	2,145	2,370
Finished goods	685	668
	$ 3,052	$ 3,260
Other current assets:		
Prepaid taxes, royalties and other prepaid expenses	$ 975	$ 1,296
Other	187	269
	$ 1,162	$ 1,565
Property and equipment, net:		
Equipment	$ 10,676	$ 10,694
Software	1,789	1,789
Furniture and fixtures	36	36
Leasehold improvements	509	474
	13,010	12,993
Less: Accumulated depreciation and amortization	(12,419)	(12,163)
	$ 591	$ 830
Capitalized internal-use software, net:		
Capitalized software	$ 761	$ 365
Less: Accumulated amortization	(89)	(32)
	$ 672	$ 333
Accrued liabilities:		
Employee related accruals	$ 537	$ 713
Other	353	420
	$ 890	$ 1,133

Note 5— Business Acquisition

On January 3, 2019, the Company entered into a stock purchase agreement with SensiML for the purchase of all of its issued and outstanding common stock in exchange for the Company's common stock.

SensiML has a software toolkit enabling IoT developers to quickly and easily create smart devices, transforming rich sensors into actionable event detectors.

The consolidated results of operations for the Company for the three and six months ended June 28, 2020 and June 30, 2019 include operating activities of SensiML.

Note 6 — Intangible Assets

The following table provides the details of the carrying value of intangible assets recorded from the acquisition of SensiML as of June 28, 2020 (in thousands):

	June 28, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Developed technology	$ 959	$ (144)	$ 815
Customer relationships	81	(60)	21
Trade names and trademarks	116	(18)	98
Total acquired identifiable intangible assets	$ 1,156	$ (222)	$ 934

The following table provides the details of expected future annual amortization of intangible assets, based upon the current useful lives as of June 28, 2020 (in thousands):

Annual Fiscal Years	
2020 (remaining period)	$ 75
2021	107
2022	107
2023	107
2024	107
Thereafter	431
Total	$ 934

Note 7 — Debt Obligations

Revolving Line of credit

On September 28, 2018, the Company entered into a Loan and Security Agreement (“Loan Agreement”) with Heritage Bank. The Loan Agreement provided for, among other things, the Revolving Facility with aggregate commitments of $9,000,000.

On December 21, 2018, the Company entered into an Amended and Restated Loan and Security Agreement (“Amended and Restated Loan Agreement”) with Heritage Bank to replace in its entirety the Loan Agreement. The Amended and Restated Loan Agreement increased the Revolving Facility from $9,000,000 to $15,000,000. The Amended and Restated Loan Agreement requires the Company to maintain at least $3,000,000 in unrestricted cash at Heritage Bank.

On November 6, 2019 the Company entered into a First Amendment to the Amended and Restated Loan Agreement (“First Amendment”) to extend the maturity date of the Revolving Facility for one year through September 28, 2021. Under this First Amendment, the Revolving Facility advances shall bear interest, on the outstanding daily balance thereof, at a rate per annum equal to the greater of (i) one half of one percentage point (0.50%) above the Prime Rate, or (ii) five and one half of one percentage points (5.50%).

As of June 28, 2020 and December 29, 2019, the Company had $15.0 million of revolving debt outstanding with an interest rates of 5.5% per annum. The Company was in compliance with all loan covenants under the Amended and Restated Loan Agreement as of the end of the current reporting period. On June 29, 2020, the Company repaid the $15.0 million loan.

The Bank has a first priority security interest in substantially all of the Company’s tangible and intangible assets to secure any outstanding amounts under the Amended and Restated Loan Agreement.

Payroll Protection Program Loan

On May 6, the Company entered into a loan agreement with Heritage Bank (“PPP Loan”) for a loan of $1,191,687.77 pursuant to the PPP under the CARES Act, as implemented by the U.S. Small Business Administration.

The PPP Loan is evidenced by a promissory note (“Note”) dated May 6, 2020, and matures two years from the disbursement date. The Note bears interest at a rate of 1.00% per annum, with the first six months of interest deferred. Principal and interest are payable monthly commencing six months after the disbursement date and may be prepaid by the Company at any time prior to maturity with no prepayment penalties. The Note contains customary events of default relating to, among other things, payment defaults or breaches of the terms of the Note. Upon the occurrence of an event of default, the lender may require immediate repayment of all amounts outstanding under the Note.

The principal and interest of the Loan are repayable in 18 monthly equal installments of $67,065.21 each starting in December 2020. Interest accrued in the first six months is included in the monthly installments. Installments must be paid by the fifth calendar day of each month.

On June 5, 2020, the Paycheck Protection Flexibility Act ("PPPFA") was signed into law. Among other changes, the PPPFA (i) reduces the amount of the loan required to be spent on payroll from 75% to 60%, (ii) extends the covered period to 24 weeks from 8 weeks, and (iii) extends the repayment term of PPP loan from 2 years to 5 years. For the loans disbursed before June 5, 2020, the PPPF provides the option to opt for 24 weeks for spending the loan instead of 8 weeks. The Company has opted for 24 weeks to spend the loan. As of June 28, 2020, the unutilized loan proceeds were $89,322, which is expected to be utilized in the third quarter. The loan amount can be fully or partially forgiven if the funds are used as per revised guidelines under the PPPFA. The Company intends to use the loan proceeds in compliance with the guidelines and will apply for the loan forgiveness, when the funds are fully utilized.

Note 8 — Leases

The Company entered into operating leases for office space for its headquarter, domestic and foreign subsidiaries and sales offices. Finance leases are primarily for engineering design software. Operating leases generally have lease terms of 1 year to 5 years. Finance leases are generally 2 years to 3 years. As of June 28, 2020, the Company recognized right-of-use assets of approximately $2.2 million and lease liability of approximately $2.2 million relating to the operating and finance leases signed for the premises of its headquarters in San Jose, its San Diego office, and its subsidiaries SensiML in Oregon and India. Total rent expense for the three months ended June 28, 2020 and June 30, 2019 was approximately $158,000 and $268,000, respectively. Total rent expense for the six months ended June 28, 2020 and June 30, 2019 was approximately $305,000 and $438,000, respectively.

The following table provides the activity related to operating and finance leases (in thousands):

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Operating lease costs:				
Fixed	$ 153	259	$ 294	$ 411
Variable	-	-	-	-
Short term	5	9	11	27
Total	$ 158	268	$ 305	438
Finance lease costs:				
Amortization of ROU asset	$ 52	91	$ 101	182
Interest	8	5	14	11
Total	$ 60	$ 96	$ 115	$ 193

The following table provides the details of supplemental cash flow information. The right-of-use assets obtained in exchange for new finance and operating lease liabilities represent the new operating and finance leases entered into during the six months ended June 28, 2020 and June 30, 2019 (in thousands):

	Six Months Ended	
	June 28, 2020	June 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows used for operating leases	$ 260	$ 451
Operating cash flows used for finance leases	14	10
Financing cash flows used for financing leases	120	194
Total	$ 394	$ 655
Right-of-use assets obtained in exchange for obligations:		
Operating leases	$ -	$ 2,076
Finance leases	773	341
Total	$ 773	$ 2,417

The following table provides the details of right-of-use assets and lease liabilities as of June 28, 2020 and December 29, 2019 (in thousands):

	June 28, 2020	December 29, 2019
Right-of-use assets:		
Operating leases	$ 1,470	$ 2,200
Finance leases	742	170
Total	$ 2,212	$ 2,370
Lease liabilities:		
Operating leases	1,506	1,816
Finance leases	712	471
Total	$ 2,218	$ 2,287

The following table provided the details of future lease payments for operating and finance leases as of June 28, 2020 (in thousands):

Annual Fiscal Years	Operating	Finance
2020 (Remaining period)	$ 288	$ 200
2021	453	281
2022	409	281
2023	421	—
2024	106	—
Total lease payments	1,677	762
Less: Interest	(171)	(50)
Present value of lease liabilities	$ 1,506	$ 712

The following table provides the details of lease terms and discount rates as of June 28, 2020 and December 29, 2019:

	June 28, 2020	December 29, 2019
Right-of-use assets:		
Weighted-average remaining lease term (years)		
Operating leases	3.46	3.81
Finance leases	2.41	2.65
Weighted-average discount rates:		
Operating leases	6.00 %	6.00 %
Finance leases	6.06 %	5.81 %

Note 9 — Fair Value Measurements

Pursuant to the accounting guidance for fair value measurements and its subsequent updates, fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required or permitted to be recorded at fair value, the Company considers the principal or most advantageous market and assumptions that market participants would use when pricing the asset or liability.

The Company's cash, cash equivalents and restricted cash include money market account balance of $25.9 million and $20.9 million as of June 28, 2020 and December 29, 2019, respectively. Fair value of the Company's money market account balance with Heritage Bank equals to book value.

Note 10 — Stockholders' Equity

Common and Preferred Stock

As of June 28, 2020, the Company was authorized to issue 200 million shares of common stock and had 10 million shares of authorized but unissued undesignated preferred stock. Without any further vote or action by the Company's stockholders, the Board of Directors has the authority to determine the powers, preferences, rights, qualifications, limitations or restrictions granted to or imposed upon any wholly unissued shares of undesignated preferred stock.

Issuance of Common Stock

On March 15, 2019, the Company filed a shelf registration statement on Form S-3, under which the Company may, from time to time, sell securities in one or more offerings up to a total amount of $75 million. The Company's shelf registration statement was declared effective on March 29, 2019.

On June 21, 2019, the Company closed an underwritten public offering of 1.3 million shares of common stock, $0.001 par value per share at a price of $7.00 per share, which included 171,429 shares issued pursuant to the underwriters' full exercise of their over-allotment option. The Company received net proceeds from the offering of approximately $8.0 million, net of underwriter's commission and other offering expenses.

On June 22, 2020, the Company closed an underwritten public offering of 2.5 million shares of common stock, $0.001 par value per share at a price of $3.50 per share. The Company received net proceeds from the offering of approximately $7.9 million, net of underwriter's commission and other offering expenses. Under the terms of the Underwriting Agreement, the Company granted the Underwriter a 30-day option to purchase up to an additional 375,000 shares of Common Stock to cover overallotments. On July 21, 2020, the Underwriter's partially exercised the option to purchase 141,733 additional shares of Common Stock in connection with the Offering, resulting in additional net proceeds to the Company of approximately $461,000 after deduction of underwriting discounts.

As of June 28, 2020, warrants exercisable for 386,100 shares of common stock at a price of $19.32 per share remain outstanding.

Note 11 — Employee Stock Plans

2009 Stock Plan

On April 24, 2019, the 2009 Stock Plan was replaced by the 2019 Stock Plan with an extended term of ten years through March 15, 2028. The remaining balance of available shares under the 2009 Plan of 299,070 were cancelled as of April 24, 2019.

2019 Stock Plan

On April 24, 2019, the Company's Board of Directors and shareholders approved the 2019 Stock Plan ("2019 Plan") to replace the 2009 Plan. Under the 2019 Plan, 357,143 shares of common stock are available for grants, plus any shares subject to any outstanding options or other awards granted under the Company's 2009 Plan that expire, are forfeited, cancelled, returned to the Company for failure to satisfy vesting requirements, settled for cash or otherwise terminated without payment being made thereunder.

The 2019 Plan was amended and restated by the Board of Directors on March 5, 2020 and approved by the Company's stockholders on April 22, 2020 to, among other things, reserved an additional 550,000 shares of common stock for issuance under 2019 Plan. As of June 28, 2020, approximately 657,876 shares of the Company's common stock were reserved for issuance under the 2019 Plan.

Employee Stock Purchase Plan

The 2009 Employee Stock Purchase Plan ("2009 ESPP") was adopted in March 2009. The 2009 ESPP was amended by the Board of Directors in January 2015 and in February 2017, and was approved by the Company's stockholders on April 23, 2015 and April 26, 2017, to reserve an additional 71,429 and 107,143 shares of common stock, respectively, for issuance under the 2009 ESPP.

The 2009 ESPP was amended and restated by the Board of Directors on March 5, 2020, and approved by the Company's stockholders on April 22, 2020 to, among other things, extended the term of the plan until March 5, 2029.

Further, 2009 ESPP was amended and restated by the Board of Directors on March 5, 2020 and approved by the Company's stockholders on April 22, 2020 to, among other things reserved an additional 300,000 shares of common stock for issuance under 2009 ESPP. As of June 28, 2020, approximately 362,335 shares of the Company's common stock were reserved for issuance under the 2009 ESPP.

Note 12 — Stock-Based Compensation

Stock-based compensation expense included in the Company's consolidated financial statements for the three and six months ended June 28, 2020 and June 30, 2019 was as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Cost of revenue	$ 31	$ 18	$ 43	$ 44
Research and development	486	532	22	1,187
Selling, general and administrative	224	241	278	511
Total costs and expenses	$ 741	$ 791	$ 343	$ 1,742

During the six months ended June 28, 2020, the Company reversed stock-based compensation expense related to the cancellation of certain unvested performance based RSUs and restructuring related terminations. During the second quarter of 2020, the Company issued fully vested RSUs in lieu of cash for variable compensation to certain employees.

No stock-based compensation was capitalized during any period presented above.

No stock options were granted during the three and six months ended June 28, 2020 and June 30, 2019.

Stock-Based Compensation Award Activity

The following table summarizes the activity in the shares available for grant under the 2019 Plan during the six months ended June 28, 2020 (in thousands):

	Shares Available for Grants
	2019 Plan
Balance at December 29, 2019	272
Authorized shares	550
RSUs granted	(289)
PRSU's granted	(129)
Options cancelled	49
RSUs forfeited or expired	163
PRSUs forfeited or expired	42
Balance at June 28, 2020	658

Stock Options

The following table summarizes stock options outstanding and stock option activity under the 2009 Plan and the 2019 Plan, and the related weighted average exercise price, for the six months ended June 28, 2020:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Term	Aggregate Intrinsic Value
	(in thousands)		(in years)	(in thousands)
Balance outstanding at December 29, 2019	185	$ 32.09	3.32	—
Forfeited or expired	(48)	—		
Exercised	—	—		
Balance outstanding at June 28, 2020	137	$ 29.51	3.81	$ —
Exercisable at June 28, 2020	134	$ 29.93	3.75	$ —
Vested and expected to vest at June 28, 2020	137	$ 29.52	3.81	$ —

There was no intrinsic value for the stock options based on the Company's closing stock price of $3.16 per share as of June 28, 2020, which would have been received by the option holders had all option holders exercised their options as of that date.

The total intrinsic value of options exercised during the six months ended June 28, 2020 and June 30, 2019 was $0. Total cash received from employees as a result of employee stock option exercises during the six months ended June 28, 2020 and June 30, 2019 was $0 and $3,600, respectively. The Company settles employee stock option exercises with newly issued common shares. In connection with these exercises, there was no tax benefit realized by the Company due to the Company's current loss position.

Total stock-based compensation related to stock options was approximately $14,000 and $24,000 for the three months ended June 28, 2020 and June 30, 2019, respectively, and $28,000 and $49,000 for the six months ended June 28, 2020 and June 30, 2018, respectively. As of June 28, 2020, the fair value of unvested stock options, net of forfeitures, was approximately $11,000. This unrecognized stock-based compensation expense is expected to be recorded over a weighted average period of 2.4 months.

Restricted Stock Units

The Company grants restricted stock units ("RSUs") to employees and directors with various vesting terms. RSUs entitle the holder to receive, at no cost, one common share for each RSU as it vests. In general, the Company's policy is to withhold shares in settlement of employee tax withholding obligations upon the vesting of RSUs. The stock-based compensation related to RSUs was approximately $719,000 and $756,000 for the three months ended June 28, 2020 and June 30, 2019 and $306,000 and $1.6 million for the six months ended June 28, 2020 and June 30, 2019, respectively. Due to the cancellation of certain performance based RSUs and cancellations relating to restructuring, which was implemented in January 2020, the Company reversed stock-based compensation previously recorded resulting in a credit to the stock based compensation during the six months ended June 28, 2020. As of June 28, 2020 and June 30, 2019, there was approximately $1.7 million and $3.1 million, respectively, in unrecognized compensation expense related to RSUs. The remaining unrecognized stock-based compensation expense is expected to be recorded over a weighted average period of 1.0 year.

A summary of activity for the Company's RSUs for the six months ended June 28, 2020 is as follows:

	RSUs & PRSUs Outstanding	
	Number of Shares (in thousands)	**Weighted Average Grant Date Fair Value**
Nonvested at December 29, 2019	377	$ 12.55
Granted	418	4.50
Vested	(119)	10.21
Forfeited	(205)	—
Nonvested at June 28, 2020	471	$ 7.99

Employee Stock Purchase Plan

As of June 28, 2020, 362,335 shares remained available for issuance under the 2009 ESPP. For the three months ended June 28, 2020 and June 30, 2019, the Company recorded stock-based compensation expense related to the 2009 ESPP of approximately $8,000 and $11,000, respectively. For the six months ended June 28, 2020 and June 30, 2019, the Company recorded stock-based compensation expense related to the 2009 ESPP of $8,000 and $60,000, respectively. The weighted average estimated fair value, as defined by the amended authoritative guidance, of rights issued pursuant to the Company's 2009 ESPP during the quarter ended June 28, 2020 and June 30, 2019, was $1.83 and $.0.31, respectively, per right, respectively.

The fair value of rights issued pursuant to the Company's 2009 ESPP was estimated on the commencement date of each offering period using the following weighted average assumptions:

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Expected term (months)	6.08	6.00	6.08	6.00
Risk-free interest rate	0.15 %	2.40 %	0.15 %	2.40 %
Volatility	88.35 %	53.77 %	88.35 %	53.77 %
Dividend yield	—	—	—	—

As of June 28, 2020, there was $25,000 an unrecognized stock-based compensation expense relating to the Company's 2009 ESPP, which is expected to be recognized over a period of 4.7 months.

Note 13 — Income Taxes

The Company recorded a net income tax benefit of approximately $27,000 and income tax expense of $27,000 for the three months ended June 28, 2020 and June 30, 2019, respectively. For the six months ended June 28, 2020 and June 30, 2019 the Company recorded net income tax benefits of $9,000 and $241,000 respectively. A majority of the income tax benefit for the second quarter of 2020 and expense for the second quarter of 2019 relates to the Company's foreign subsidiaries, which are cost-plus entities. A majority of the income tax benefit for the six months ended June 28, 2020 relates to foreign subsidiaries and benefit for the six months ended June 30, 2019 relates to the deferred tax benefit arising from Intangible assets acquired from the acquisition of SensiML, which was offset by the income taxes from the Company's foreign subsidiaries, which are cost-plus entities.

The Company believes it is more likely than not that federal and state net deferred tax assets will not be fully realized. In assessing the realizability of deferred tax assets, the Company’s management considers whether it is more likely than not that some portion or all of our deferred tax assets will be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. A valuation allowance is recorded for loss carryforwards and other deferred tax assets where it is more likely than not that such deferred tax assets will not be realized. Accordingly, the Company continues to maintain a valuation allowance against all of U.S. and certain foreign net deferred tax assets as of June 28, 2020. The Company continues to maintain a full valuation allowance against net federal, state and certain foreign deferred tax assets until there is sufficient evidence to support recoverability of the Company’s deferred tax assets.

The Company had no unrecognized tax benefits as of June 28, 2020 and December 31, 2019, which would affect the Company's effective tax rate. The Company does not anticipate any material changes to its unrecognized tax benefits during the next 12 months.

Accrued interest and penalties related to unrecognized tax benefits are recognized as part of the income tax provision in the condensed consolidated statements of operations.

The Company is subject to U.S. federal income tax as well as income taxes in many U.S. states and foreign jurisdictions in which the Company operates. The U.S. tax years from 1999 forward remain effectively open to examination due to the carryover of unused net operating losses and tax credits.

Under the Tax Reform Act of 1986, the amount of and the benefit from net operating loss carryforwards and credit carryforwards may be impaired or limited in certain circumstances. Events which may restrict utilization of a company's net operating loss and credit carryforwards include, but are not limited to, certain ownership change limitations as defined in Internal Revenue Code Section 382 and similar state provisions. In the event the Company has had a change of ownership, utilization of carryforwards could be restricted to an annual limitation. The annual limitation may result in the expiration of net operating loss carryforwards and credit carryforwards before utilization.

The Company has not undertaken a study to determine if its net operating losses are limited. In the event the Company previously experienced an ownership change, or should experience an ownership change in the future, the amount of net operating losses and research and development credit carryovers available in any taxable year could be limited and may expire unutilized.

On March 27, 2020, the “Coronavirus Aid, Relief and Economic Security Act (“CARES”) was signed into law and GAAP requires recognition of the tax effects of new legislation during the reporting period that includes the enacted date. The CARES Act includes provisions relating to refundable payroll tax credits, deferment of the employer portion of certain payroll taxes, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property. The Company is currently analysing the impact of these changes and therefore an estimate of the impact to income taxes is not yet available. The Company will continue to make and refine the calculations as additional analysis is completed.

Note 14 — Information Concerning Product Lines, Geographic Information and Revenue Concentration

The Company identifies its business segment based on business activities, management responsibility and geographic location. For all periods presented, the Company operated in a single reportable business segment.

The following is a breakdown of revenue by product line (in thousands):

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Revenue by product line(1):				
New products	$ 820	$ 711	$ 1,306	$ 1,398
Mature products	1,376	1,376	3,048	3,883
Total revenue	$ 2,196	$ 2,087	$ 4,354	$ 5,281

(1) For all periods presented: New products include all products manufactured on 180 nanometer or smaller semiconductor processes, eFPGA IP license, Quick AI and SensiML AI software as a service ("SaaS") revenues. Mature products include all products produced on semiconductor processes larger than 180 nanometer.

The following is a breakdown of revenue by shipment destination (in thousands):

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Revenue by geography:				
Asia Pacific (1)	$ 779	$ 537	$ 1,185	$ 1,968
North America (2)	1,282	1,066	2,234	2,229
Europe	135	484	935	1,084
Total revenue	$ 2,196	$ 2,087	$ 4,354	$ 5,281

(1) Asia Pacific includes revenue from Japan of $771,000, or 35% of total revenue and $330,000 or 16% of total revenue for the quarters ended June 28, 2020, and June 30, 2019, respectively. For the six months ended June 28, 2020 and June 30, 2019, revenue from Japan was $1.2 million, or 27% of total revenue, and $764,000, or 14% of total revenue, respectively.

(2) North America includes revenue from the United States of $1.3 million, or 58% of total revenue, and $1.1 million, or 51% of total revenue, for the three months ended June 28, 2020 and June 30, 2019, respectively. For the six months ended June 28, 2020 and June 30, 2019 revenue from the United States was $2.2 million, or 51% of total revenue, and $2.2 million, or 42% of total revenue, respectively.

The following distributors and customers accounted for 10% or more of the Company's revenue for the periods presented:

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Distributor "A"	25%	40%	31%	38%
Distributor "C"	10%	*	17%	12%
Distributor "E"	29%	*	21%	*
Distributor "G"	*	*	*	16%
Customer "B"	12%	18%	13%	13%
Customer "E"	*	18%	*	*
Customer "F"	29%	*	21%	*
Customer "I"	*	*	*	16%
Customer "M"	12%	*	*	*

The following distributors and customers accounted for 10% or more of the Company's accounts receivable as of the dates presented:

	June 28, 2020	December 29, 2019
Distributor "A"	15 %	20 %
Distributor "C"	*	23 %
Distributor "E"	35 %	12 %
Distributor "J"	*	31 %
Distributor "K"	11 %	*
Customer "M"	24 %	*

* Represents less than 10% of revenue and accounts receivable as of the date presented.

As of June 28, 2020, 7% of the Company's long-lived assets, including property and equipment and other assets, were located outside the United States.

Note 15 — Commitments and Contingencies

Commitments

The Company's manufacturing suppliers require the forecast of wafer starts several months in advance. The Company is required to take delivery of and pay for a portion of forecasted wafer volume. As of June 28, 2020, and December 29, 2019, the Company had $35,000 and $57,000, respectively, of outstanding commitments for the purchase of wafer and finished goods inventory.

The Company has purchase obligations with certain suppliers for the purchase of other goods and services entered into in the ordinary course of business. As of June 28, 2020, total outstanding purchase obligations for other goods and services were $817,000, which are due within the next twelve months.

Note 16 — Litigation

From time to time, the Company may become involved in legal actions arising in the ordinary course of business including, but not limited to, intellectual property infringement and collection matters. Absolute assurance cannot be given that any such third party assertions will be resolved without costly litigation; in a manner that is not adverse to the Company's financial position, results of operations or cash flows; or without requiring royalty or other payments which may adversely impact gross profit. As of June 28, 2020, the Company was not involved in any litigation.

Note 17 — Restructuring

In January 2020, the Company implemented a restructuring plan to lower annual operating expenses. The restructuring plan was approved by the Company's Board of Directors on January 24, 2020. Pursuant to the restructuring plan, the Company recorded $513,000 of restructuring charges during the six-month period ended June 28, 2020, consisting primarily of employee severance related costs. There are no accruals remaining as of June 28, 2020 as all amounts were disbursed during the six-month period ended June 28, 2020.

Note 18 – Subsequent Event

On July 21, 2020, the Company completed the sale of 141,733 additional shares of common stock pursuant to the partial exercise of the underwriter's option to purchase additional shares of common stock for the purpose of covering over-allotments in connection with the public offering closed on June 22, 2020, resulting in additional net proceeds to the Company of approximately $461,000 after deduction of underwriting discounts. See Note 10 to the Unaudited Condensed Consolidated Financial Statements for more details.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Forward-Looking Statements

The following Management's Discussion and Analysis of Financial Condition and Results of Operations, as well as information contained in "Risk Factors" in Part II, Item 1A and elsewhere in this Quarterly Report on Form 10-Q, contain "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. We intend that these forward-looking statements be subject to the safe harbor created by those provisions. Forward-looking statements are generally written in the future tense and/or are preceded by words such as "will," "may," "should," "forecast," "could," "expect," "suggest," "believe," "anticipate," "intend," "plan," "future," "potential," "target," "seek," "continue," "if" or other similar words. Forward-looking statements include statements regarding our strategies as well as (1) our revenue levels, including the commercial success of our solutions and new products, (2) the conversion of our design opportunities into revenue, (3) our liquidity, (4) our gross profit and breakeven revenue level and factors that affect gross profit and the break-even revenue level, (5) our level of operating expenses, (6) our research and development efforts, (7) our partners and suppliers, (8) industry and market trends, (9) our manufacturing and product development strategies and (10) our competitive position.

The following discussion should be read in conjunction with the attached unaudited condensed consolidated financial statements and notes thereto, and with our audited consolidated financial statements and notes thereto for the fiscal year ended December 29, 2019, found in our Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 13, 2020. Although we believe that the assumptions underlying the forward-looking statements contained in this Quarterly Report are reasonable, any of the assumptions could be inaccurate, and therefore there can be no assurance that such statements will be accurate. The risks, uncertainties and assumptions referred to above that could cause our results to differ materially from the results expressed or implied by such forward-looking statements include, but are not limited to, those discussed under the heading "Risk Factors" in Part II, Item 1A hereto and the risks, uncertainties and assumptions discussed from time to time in our other public filings and public announcements. All forward-looking statements included in this document are based on information available to us as of the date hereof. In light of the significant uncertainties inherent in the forward-looking statements included herein, the inclusion of such information should not be regarded as a representation by us or any other person that the results or conditions described in such statements or our objectives and plans will be achieved. Furthermore, past performance in operations and share price is not necessarily indicative of future performance. We disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise that may arise after the date of this Quarterly Report on Form 10-Q.

Overview

We develop low power, multi-core semiconductor platforms and intellectual property ("IP") for artificial intelligence ("AI") voice and sensor processing. The solutions include an eFPGA for hardware acceleration and pre-processing, and heterogeneous multi-core System on Chip ("SoCs") that integrate eFPGA with other processors and peripherals. The SensiML Analytics Toolkit from wholly owned subsidiary, SensiML Corporation ("SensiML") completes the "full stack" end-to-end solution with accurate sensor algorithms using AI technology. The full range of platforms, software tools and eFPGA IP enables the practical and efficient adoption of AI, voice and sensor processing across mobile, wearable, hearable, consumer, industrial, edge and endpoint IoT applications.

Our solutions are created from our new silicon platforms including our EOS™, QuickAI™, SensiML Analytics Studio, ArcticLink® III, PolarPro®3, PolarPro II, PolarPro, and Eclipse II products (which together comprise our new product category). Our mature products include primarily FPGA families named pASIC®3 and QuickRAM® as well as programming hardware and design software. In addition to delivering our own semiconductor solutions, we have an IP business that licenses our eFPGA technology for use in other semiconductor companies SoCs. We began delivering our eFPGA IP product ArcticPro™ in 2017, which is included in the new product revenue category. Through our wholly owned subsidiary SensiML, we now have an AI software platform that includes Software-as-a-Service ("SaaS") subscriptions for development, per unit license fees when deployed in production, and proof-of-concept services, all of which are also included in the new product revenue category.

Our solutions typically fall into one of three categories: Sensor Processing, Display and Visual Enhancement, and Smart Connectivity. Our solutions include a unique combination of our silicon platforms, IP cores, software drivers, and in some cases, firmware and application software. All of our silicon platforms are standard devices and must be programmed to be effective in a system. Our IP that enables always-on context-aware sensor applications includes our Flexible Fusion Engine, our Sensor Manager and Communications Manager technologies as well as IP that (i) improves multimedia content, such as our Visual Enhancement Engine technology, and Display Power Optimizer technology; and (ii) implements commonly used mobile system interfaces, such as Low Voltage Differential Signalling, Mobile Industry Processor Interface, and Secure Digital Input Output.

We provide complete solutions by first architecting the solution jointly with our customer's or ecosystem partner's engineering group, selecting the appropriate solution platform and Proven System Blocks ("PSBs"), providing custom logic, integrating the logic, programming the device with the PSBs and/or firmware, providing software drivers or application software required for the customer's application, and supporting the customer on-site during integration, verification and testing. In many cases, we deliver software algorithms that have been optimized for use in a QuickLogic silicon platform.

Our core IP also includes the SensiML AI Toolkit that enables original equipment manufacturers ("OEMs") to develop AI software for a broad array of resource-constrained time-series sensor endpoint applications. These include a wide range of consumer and industrial sensing applications.

We also work with mobile processor manufacturers, sensor manufacturers, and voice recognition, sensor fusion and context awareness algorithm developers in the development of reference designs. Through reference designs that incorporate our solutions, we believe mobile processor manufacturers, sensor manufacturers, and sensor and voice algorithm companies can expand the available market for their respective products. Furthermore, should a solution developed for a processor manufacturer or sensor and/or sensor algorithm company be applicable to a set of common OEMs or Original Design Manufacturers ("ODMs"), we can amortize our Research and Development ("R&D") investment over that set of OEMs or ODMs. There may also be cases when platform providers that intend to use always-on voice recognition will dictate certain performance requirements for the combined software/hardware solution before the platform provider certifies and/or qualifies our product for use by end customers.

Our ArcticPro eFPGA IP is currently developed on 65nm, 40nm and 22nm process nodes. The licensable IP is generated by a compiler tool that enables licensees to create an eFPGA block that they can integrate into their SoC without significant involvement by us. We believe this flow enables a scalable support model for us.

In addition to working directly with our customers, we partner with other companies that are experts in certain technologies to develop additional IP, reference platforms and system software to provide application solutions, particularly in the area of hardware acceleration for AI-type applications.

In June 2020, we announced the QuickLogic Open Reconfigurable Computing ("QORC") Initiative, developed in conjunction with Google and Antmicro. The QORC initiative encompasses QuickLogic device support via multiple open source tools, including: the SymbiFlow open source FPGA toolchain, the Renode open source simulation framework for rapid prototyping, development and testing of multi-node systems, the Zephyr Real-Time Operating System (RTOS), and an open source development kit.

We also work with mobile processor and communications semiconductor device manufacturers and companies that supply sensor, algorithms and applications. The depth of these relationships vary depending on the partner and the dynamics of the end market being targeted, but they are typically a co-marketing relationship that includes joint account calls, promotional activities and/or engineering collaboration and developments, such as reference designs. For our sensor processing solutions, we collaborate with sensor manufacturers to ensure interface compatibility. We also collaborate with sensor and voice/audio software companies, helping them optimize their software technology on our silicon platforms in terms of performance, power consumption and user experience.

For our eFPGA strategy, we work with semiconductor manufacturing partners to ensure our eFPGA IP is proven for a given foundry and process node before it is licensed to an SoC company.

In order to grow our revenue from its current level, we depend upon increased revenue from our new products including existing new product platforms, eFPGA IP and platforms currently in development. We expect our business growth to be driven mainly by our silicon solutions, eFPGA IP, open source tools, and SensiML AI Software. Therefore, our revenue growth needs to be strong enough to enable us to sustain profitability while we continue to invest in the development, sales and marketing of our new solution platforms, IP and software.

During the second quarter of 2020, we generated total revenue of $2.2 million, which represents an increase of 2% compared to the first quarter of 2020 and 5% compared to the second quarter of 2019. Our new product revenue in the second quarter was $820,000, which represents an increase of 69% from the prior quarter and 15% from the second quarter of 2019. Our mature product revenue was $1.4 million in the second quarter of 2020, which represents a decrease of 18% from the prior quarter and flat compared to the second quarter of 2019. We expect our mature product revenue to continue to fluctuate over time.

We devote substantially all of our development, sales and marketing efforts to our new sensor processing solutions using our EOS™ S3 platforms, derivative products based on software-driven features, development of additional new products and solution platforms, our new eFPGA IP licensing and QuickAI initiatives. Overall, we reported a net loss of $3.0 million for the second quarter of 2020, a decrease of 6% compared with the prior quarter and a decrease of 36% compared with the second quarter of 2019.

COVID-19 Response

Our top priority during the ongoing COVID-19 pandemic remains the health and safety of our employees and their families. As global governments institute restrictions on commercial operations, we are working to ensure our compliance while also maintaining business continuity for operations.

Our Employees

We are in the midst of what is a historic deployment of remote work and digital access to services. Most of our personnel continue to work from home except few personnel, who are required for minimum operations. We only allow employees in our facilities who are essential to the facilities' operations under best practices guidelines on maintaining physical distancing, utilizing enhanced cleaning protocols and usage of personal protective equipment.

Our Customers

We are committed to our customers to enable the support they need to continue providing vital services and tools. Our global offices remain operational to meet customer needs during the pandemic in compliance with the orders and restrictions imposed by local authorities in each of our locations, and we are working with our customers to meet their specific shipment needs. While the pandemic has created delays on the inbound supply chain at our partners and our own facilities and both inbound and outbound logistical challenges, we have been able to identify alternative solutions such that none of the issues have had a material impact on our ability to fulfil demand.

Liquidity

In anticipation of further COVID-19 related disruptions to our business, we have undertaken a comprehensive review of our spending plans and expect to reduce discretionary spending in future periods while maintaining an ongoing focus on key initiatives. Our balance sheet is well positioned and had $26.4 million of cash, cash equivalents and restricted cash as of June 28, 2020, including the draw-down of $15.0 million from revolving credit facility maturing in September 2021 and net proceeds of $7.9 million received after deducting the commissions and other expenses from the equity offering closed on June 22, 2020. On July 21, 2020, the Underwriter's partially exercised the option to purchase 141,733 additional shares of Common Stock in connection with the Offering, resulting in additional net proceeds to the Company of approximately $461,000 after deduction of underwriting discounts.

On May 6, 2020 we entered into a loan agreement with Heritage Bank for a loan of $1.2 million pursuant to the Paycheck Protection Program ("PPP Loan") under the Coronavirus Aid, Relief, and Economic Security Act enacted on March 27 ("CARES Act"). On June 5, 2020, the President of the United States of America signed into law the Paycheck Protection Flexibility Act ("PPPFA") to address many concerns expressed by the small business community around the Paycheck Protection Program. PPPFA among other changes (i) reduces the amount of the loan required to be spent on payroll from 75% to 60%, thus increasing the amount of funds available for other expenses from 25% to 40%, (ii) extends the period to spend the loans to 24 weeks from 8 weeks, (iii) amends the June 30 deadline to rehire workers to December 31, 2020, (iv) eases rehire requirements, and (v) extends the repayment term of the PPP Loan from 2 years to 5 years. For the loans disbursed before June 5, 2020, PPPFA provides the option to opt for 24 weeks for spending the loan instead of 8 weeks. The Company has opted for 24 weeks to spend the loan. As of June 28, 2020, the unutilized PPP loan funds were $89,322, which is expected to be utilized within the Company's third fiscal quarter.

The extent of the impact of COVID-19 on our operational and financial performance, including our ability to meet the sales targets will depend on future developments, including the duration and spread of the pandemic, restrictions on travel, transportation and other containment measures, our compliance with these measures and the impact on our customers, partners, contract manufacturers and supply chain, all of which are uncertain and cannot be predicted.

The COVID-19 pandemic and its potential effects on the Company's business in its fiscal 2020 remain dynamic, and the broader implications for its business and results of operations remain uncertain. These implications could include further disruptions or restrictions on the Company's ability to source, manufacture or distribute its products, including temporary disruptions to the facilities of its contract manufacturers in China, Taiwan, Philippines and Singapore, or the facilities of its suppliers and their contract manufacturers globally. Additionally, multiple countries have imposed and may further impose restrictions on business operations and movement of people and products to limit the spread of COVID-19. Delays in production or delivery of components or raw materials that are part of the Company's global supply chain due to restrictions imposed to limit the spread of COVID-19 could delay or inhibit its ability to obtain the supply of components and finished goods. If COVID-19 becomes more prevalent in the locations where the Company, its customers or suppliers conduct business, or the Company experiences more pronounced disruptions in its operations, the Company may experience constrained supply or curtailed demand that may materially adversely impact its business and results of operations. In addition, any other widespread health crisis that could adversely affect global and regional economies, financial markets and overall demand environment for the Company's products could have a material adverse effect on the Company's business, cash flows or results of operations.

Critical Accounting Estimates

The methods, estimates and judgments we use in applying our most critical accounting policies have a significant impact on the results we report in our consolidated financial statements. The SEC has defined critical accounting policies as those that are most important to the portrayal of our financial condition and results of operations and require us to make difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. Based on this definition, our critical policies include revenue recognition, valuation of inventories, including identification of excess quantities and product obsolescence, valuation of investments, valuation of long-lived assets, valuation of goodwill, capitalized internal-use software and related amortizable lives and intangibles related to the acquisition of SensiML, including the estimated useful lives of acquired intangible assets, measurement of stock-based compensation and estimation of accrued liabilities. We believe that we apply judgments and estimates in a consistent manner and that this consistent application results in consolidated financial statements and accompanying notes that fairly represent all periods presented. However, any factual errors or errors in these judgments and estimates may have a material impact on our financial statements. During the three and six months ended June 28, 2020, there were no changes in our critical accounting policies from our disclosure in our Annual Report on Form 10-K for the fiscal year ended December 29, 2019, filed with the SEC on March 13, 2020, except for the new accounting standards adopted in the first quarter of 2020 as described in Note 2 to the condensed consolidated financial statements as of and for the three and six months ended June 28, 2020. For a discussion of critical accounting policies and estimates, please see Item 7 in our Annual Report on Form 10-K for the fiscal year ended December 29, 2019, filed with the SEC on March 13, 2020. See also Note 2 to the Unaudited Condensed Consolidated Financial Statements as of and for the three months ended March 29, 2020 for the details of the newly adopted accounting standards.

Results of Operations

The following table sets forth the percentage of revenue for certain items in our condensed consolidated statements of operations for the periods indicated:

	Three Months Ended		Six Months Ended	
	June 28, 2020	June 30, 2019	June 28, 2020	June 30, 2019
Revenue	100 %	100 %	100 %	100 %
Cost of revenue	54 %	51 %	51 %	43 %
Gross profit	46 %	49 %	49 %	57 %
Operating expenses:				
Research and development	100 %	154 %	92 %	122 %
Selling, general and administrative	76 %	112 %	81 %	91 %
Restructuring	2 %	—	12 %	82 %
Loss from operations	(132)%	(217)%	(136)%	(156)%
Interest expense	(8)%	(6)%	(6)%	(4)%
Interest income and other (expense), net (1)	3 %	2 %	2 %	2 %
Loss before income taxes	(137)%	(221)%	(140)%	(158)%
(Benefit from) provision for income taxes	(1)%	1 %	—	(5)%
Net loss	(136)%	(222)%	(140)%	(153)%

Three Months Ended June 28, 2020 Compared to Three Months Ended June 30, 2019

Revenue

The table below sets forth the changes in revenue for the three months ended June 28, 2020, as compared to the three months ended June 30, 2019 (in thousands, except percentage data):

	Three Months Ended				Change	
	June 28, 2020		June 30, 2019			
	Amount	% of Total Revenues	Amount	% of Total Revenues	Amount	Percentage
Revenue by product line(1):						
New products	$ 820	37 %	$ 711	34 %	$ 109	15 %
Mature products	1,376	63 %	1,376	66 %	-	—
Total revenue	$ 2,196	100 %	$ 2,087	100 %	$ 109	5 %

(1) For all periods presented: New products include all products manufactured on 180 nanometer or smaller semiconductor processes, eFPGA IP license, QuickAI and SensiML AI SaaS revenues. Mature products include all products produced on semiconductor processes larger than 180 nanometer.

The net increase of $109,000 in the revenue of new products was primarily due to an increase of EOS S3 product revenue, which was partially offset by decrease in other new products. Mature product revenue was flat compared to the second quarter of 2019.

Gross Profit

The table below sets forth the changes in gross profit for the three months ended June 28, 2020 as compared to the three months ended June 30, 2019 (in thousands, except percentage data):

	Three Months Ended				Change	
	June 28, 2020		June 30, 2019			
	Amount	% of Total Revenues	Amount	% of Total Revenues	Amount	Percentage
Revenue	$ 2,196	100 %	$ 2,087	100 %	$ 109	5 %
Cost of revenue	1,192	54 %	1,065	51 %	127	12 %
Gross profit	$ 1,004	46 %	$ 1,022	49 %	$ (18)	(2)%

In the second quarter of 2020, gross profit was lower by $18,000 or 2% as compared to the same quarter in the prior year. This was primarily due to the product mix shipped during the quarter. The sale of previously reserved inventory was $16,000 and $32,000 in the second quarters of 2020 and 2019, respectively.

Our semiconductor products have historically had long product life cycles and obsolescence has not been a significant factor in the valuation of inventories. However, as we continue to pursue opportunities in the mobile market and develop new solutions and products, our product life cycle will be shorter and the risk of obsolescence will increase. In general, our standard manufacturing lead times are longer than the binding forecasts we receive from customers.

Operating Expenses

The table below sets forth the changes in operating expenses for the three months ended June 28, 2020, as compared to the three months ended June 30, 2019 (in thousands, except percentage data):

	Three Months Ended				Change	
	June 28, 2020		June 30, 2019			
	Amount	% of Total Revenues	Amount	% of Total Revenues	Amount	Percentage
R&D expense	$ 2,200	100 %	$ 3,215	154 %	$ (1,015)	(32)%
SG&A expense	1,665	76 %	2,340	112 %	(675)	(29)%
Restructuring Expense	34	2 %	-	0 %	34	100 %
Total operating expenses	$ 3,899	178 %	$ 5,555	266 %	$ (1,656)	(30)%

Research and Development

Our R&D expenses consist primarily of personnel, overhead and other costs associated with System on Chip (SoC) and software development, programmable logic design, AI and eFPGA development. The $1.0 million decrease in R&D expenses in the second quarter of 2020, as compared to the second quarter of 2019, was primarily attributable to the restructuring plan implemented in January 2020. Lower travel expenses due to COVID-19 also contributed to the decrease of R&D expenses.

Selling, General and Administrative Expense

Our selling, general and administrative ("SG&A") expenses consist primarily of personnel and related overhead costs for sales, marketing, finance, administration, human resources and general management. The $675,000 decrease in SG&A expenses in the second quarter of 2020, as compared to the second quarter of 2019 was primarily attributable to lower compensation costs, including stock-based compensation, due to the restructuring plan implemented in January 2020 and lower travel costs due to COVID-19 and lower facility related costs.

Restructuring

In January 2020, the Company implemented a restructuring plan to lower annual operating expenses. The restructuring plan was approved by the Company's Board of Directors on January 24, 2020. Pursuant to the restructuring plan, the Company recorded $513,000 of restructuring charges during the first half of fiscal year 2020, including $34,000 in the second quarter, consisting primarily of employee severance related costs. See Note 17 to the Condensed Consolidated Financial Statements for details.

Interest Expense and Interest Income and Other Expense, Net

The table below sets forth the changes in interest expense and interest income and other (expense), net for the three months ended June 28, 2020 as compared to the three months ended June 30, 2019 (in thousands, except percentage data):

	Three Months Ended		Change	
	June 28, 2020	June 30, 2019	Amount	Percentage
Interest expense	$ (183)	$ (124)	$ (59)	48 %
Interest income and other expense, net	72	50	22	44 %
	$ (111)	$ (74)	$ (37)	50 %

Interest expense relates primarily to the Company's line of credit facility and the PPP Loan. Interest income and other expenses, net, relates to the interest earned on our money market accounts and foreign exchange gain or losses recorded.

Provision for Income Taxes

The table below sets forth the changes in the provisions for income tax for the three months ended June 28, 2020 as compared to the three months ended June 30, 2019 (in thousands, except percentage data):

	Three Months Ended		Change	
	June 28, 2020	June 30, 2019	Amount	Percentage
(Benefit from) / provision for income taxes	$ (27)	$ 27	$ (54)	(200)%

The majority of the income tax expense for the quarter ended June 28, 2020 and June 30, 2019 relates to the Company's foreign subsidiaries, which are cost-plus entities.

The Company is subject to U.S. federal income tax as well as income taxes in many U.S. states and foreign jurisdictions in which the Company operates. The U.S. tax years from 1999 forward remain effectively open to examination due to the carryover of unused net operating losses and tax credits.

Six Months Ended June 28, 2020 and June 30, 2019

Revenue

The table below sets forth the changes in revenue for the six months ended June 28, 2020, as compared to the six months ended June 30, 2019 (in thousands, except percentage data):

	Six Months Ended					
	June 28, 2020		June 30, 2019		Change	
	Amount	% of Total Revenues	Amount	% of Total Revenues	Amount	Percentage
Revenue by product line (1):						
New products	$ 1,306	30 %	$ 1,398	26 %	$ (92)	(7)%
Mature products	3,048	70 %	3,883	74 %	(835)	(22)%
Total revenue	$ 4,354	100 %	$ 5,281	100 %	$ (927)	(18)%

(1) For all periods presented: New products include all products manufactured on 180 nanometer or smaller semiconductor processes, eFPGA IP license, QuickAI and SensiML AI SaaS revenues. Mature products include all products produced on semiconductor processes larger than 180 nanometers.

The $92,000 decrease in the revenue of new products was primarily due to decreased shipment of connectivity and display products, which was partially offset by the increase in EOS S3 and SaaS revenue recognized in the first six months of 2020. The $835,000 decrease in the revenue of mature products was primarily due to decreased orders from our customers in the aerospace, military and industrial sectors.

Gross Profit

The table below sets forth the changes in gross profit for the six months ended June 28, 2020, as compared to the six months ended June 30, 2019 (in thousands, except percentage data):

	Six Months Ended				Change	
	June 28, 2020		June 30, 2019			
	Amount	% of Total Revenues	Amount	% of Total Revenues	Amount	Percentage
Revenue	$ 4,354	100 %	$ 5,281	100 %	$ (927)	(18)%
Cost of revenue	2,235	51 %	2,280	43 %	(45)	(2)%
Gross profit	$ 2,119	49 %	$ 3,001	57 %	$ (882)	(29)%

The $882,000 or 29% decrease in gross profit was primarily due to product mix changes and additional test costs to support the higher volume of products shipped to our primary smartphone customer in the first six months of 2020 compared to the first six months of 2019. The sale of previously reserved inventory was $33,000 and $64,000 in the first six months of 2020 and 2019, respectively.

Operating Expenses

The table below sets forth the changes in operating expenses for the six months ended June 28, 2020, as compared to the six months ended June 30, 2019 (in thousands, except percentage data):

	Six Months Ended				Change	
	June 28, 2020		June 30, 2019			
	Amount	% of Total Revenues	Amount	% of Total Revenues	Amount	Percentage
R&D expense	$ 4,019	92 %	$ 6,457	122 %	$ (2,438)	(38)%
SG&A expense	3,544	81 %	4,786	91 %	$ (1,242)	(26)%
Restructuring expenses	513	12 %	-	0 %	$ 513	100 %
Total Operating Expenses	$ 8,076	185 %	$ 11,243	213 %	$ (3,167)	(28)%

Research and Development

Our R&D expenses consist primarily of personnel, overhead and other costs associated with, sensor processing and algorithm development, programmable logic design, SoC software and eFPGA development. The $2.4 million decrease in R&D expenses in the first six months of 2020, as compared to the first six months of 2019 was primarily attributable to the restructuring plan implemented in January 2020. Decrease in travel expenses due to COVID-19 also contributed to lower R&D expenses.

Selling, General and Administrative Expense

Our SG&A expenses consist primarily of personnel and related overhead costs for sales, marketing, finance, administration, human resources and general management. The $1.2 million decrease in SG&A expenses in the first six months of 2020, as compared to the first six months of 2019, was primarily due to a decrease of compensation-related costs, including stock-based compensation expenses and lower outside services expenses due to restructuring plan implemented in January 2020. Decrease in travel expenses due to COVID-19 also contributed to lower SG&A expenses.

Interest Expense and Interest Income and Other Expense, Net

The table below sets forth the changes in interest expense and interest income and other (expense), net for the six months ended June 28, 2020 as compared to the six months ended June 30, 2019 (in thousands, except percentage data):

	Six Months Ended		Change	
	June 28, 2020	June 30, 2019	Amount	Percentage
Interest expense	$ (263)	$ (207)	$ (56)	27 %
Interest income and other expense, net	67	98	(31)	(32)%
	$ (196)	$ (109)	$ (87)	80 %

Interest expense relates primarily to the Company's line of credit facility and the PPP Loan. Interest income relates to the interest earned on our money market account and foreign exchange gains or losses recorded.

Provision for Income Taxes

The table below sets forth the changes in the income tax provisions for the six months ended June 28, 2020 as compared to the six months ended June 30, 2019 (in thousands, except percentage data):

	Six Months Ended		Change	
	June 28, 2020	June 30, 2019	Amount	Percentage
Benefit from income taxes	$ (9)	$ (241)	$ 232	(96)%

Income tax benefit for the six months ended June 30, 2020 relates to the relates to the Company's foreign subsidiaries, which are cost-plus entities. A majority of the income tax benefit for the six months ended June 30, 2019 relates to the deferred tax benefit arising from Intangible assets acquired from the acquisition of SensiML.

As of June 28, 2020, our ability to utilize our income tax loss carryforwards in future periods is uncertain, and accordingly, we recorded a full valuation allowance against the related U.S. tax provision. We will continue to assess the realizability of deferred tax assets in future periods.

Liquidity and Capital Resources

We have financed our operating losses and capital investments through sales of common stock, finance leases, a revolving line of credit and cash flows from operations. As of June 28, 2020, the Company's principal sources of liquidity consisted of cash, cash equivalents and restricted cash of $26.4 million, including $15.0 million line of credit with Heritage Bank. We repaid the $15.0 million outstanding under our Revolving Facility in July 2020.

On June 22, 2020, the Company closed an underwritten public offering of 2.5 million shares of common stock, $0.001 par value per share at a price of $3.50 per share. The Company received net proceeds from the offering of approximately $7.9 million, net of underwriter's commission and other offering expenses. Under the terms of the Underwriting Agreement, the Company granted the Underwriter a 30-day option to purchase up to an additional 375,000 shares of Common Stock to cover overallotments. On July 21, 2020, the Underwriter's partially exercised the option to purchase 141,733 additional shares of Common Stock in connection with the Offering, resulting in additional net proceeds to the Company of approximately $461,000 after deduction of underwriting discounts.

On June 5, 2020, the President of the United States of America signed into law the PPPFA, to address many concerns expressed by the small business community around the Paycheck Protection Program. See Note 7 to the Unaudited Condensed Consolidated Financial Statements and COVID-19 Response above for more details. For the loans disbursed before June 5, 2020, PPPFA provides the option to opt for 24 weeks for spending the loan instead of 8 weeks. The Company has opted for 24 weeks to spend the loan. As of June 28, 2020, the unutilized PPP loan balance was $89,322, which is expected to be utilized within the third fiscal quarter.

On May 6, 2020 we entered into a loan agreement with Heritage Bank for a loan of $1.2 million pursuant to the Paycheck Protection Program under the CARES Act enacted on March 27, 2020. The principal and interest of the PPP Loan are repayable in 18 monthly equal installments of $67,065.21 each starting in December 2020. Interest accrued in the first six months is included in the monthly installments. Installments must be paid by the fifth calendar day of each month.

On November 6, 2019, the Company entered into a First Amendment to the Amended and Restated Loan Agreement ("First Amendment") with Heritage Bank to extend the maturity date of the Revolving Facility for one year through September 28, 2021. Under this First Amendment the Revolving Facility advances shall bear interest, on the outstanding daily balance thereof, at a rate per annum equal to the greater of (i) one half of one percentage point (0.50%) above the Prime Rate, or (ii) five and one half of one percentage points (5.50%). We were in compliance with all loan covenants under the Amended and Restated Loan Agreement as of the end of the current reporting period.

On June 21, 2019, we completed an underwritten public offering of 1.3 million shares of common stock, at a price of $7.00 per share, which included 171,429 shares issued pursuant to the underwriters' full exercise of their over-allotment option. We received net proceeds from the offering of approximately $8.0 million, net of underwriter's commission and other offering expenses. See Note 10 to the Unaudited Condensed Consolidated Financial Statements for the details.

On December 21, 2018, we entered into an Amended and Restated Loan and Security Agreement ("Amended and Restated Loan Agreement") with Heritage Bank to replace in its entirety the Loan and Security Agreement entered into with Heritage Bank on September 28, 2018. The Amended and Restated Loan Agreement increased the Revolving Facility from $9,000,000 to $15,000,000. The Amended and Restated Loan Agreement requires us to maintain at least $3,000,000 in unrestricted cash at Heritage Bank. As of June 28, 2020, we had $15.0 million of outstanding revolving line of credit with an interest rate of 5.5%.

We believe that our existing cash, cash equivalents and restricted cash, together with available financial resources from the Revolving Facility with Heritage Bank, and the funds raised from our equity offering that closed in June and July 2020 will be sufficient to fund our operations and capital expenditure and provide adequate working capital for the next twelve months. The PPP loan obtained in May 2020, and the proceeds from our equity offering in June and July 2020 helped us to remain in compliance with our debt covenants. See Note 7 to the Unaudited Condensed Consolidated Financial Statements for details.

Over the longer term, we anticipate that the generation of sales from our new and mature product offerings, existing cash and cash equivalents, together with financial resources from our Revolving Facility with Heritage Bank and our ability to raise additional capital in the public capital markets will be sufficient to satisfy our operations and capital expenditures. Our Revolving Facility with Heritage Bank matures in September 2021, which we plan to renew or find an alternative lender prior to the maturity date. Further, any violations of debt covenants may restrict our access to any additional cash draws from the revolving line of credit, and may require our immediate repayment of the outstanding debt amounts. We believe that we will be able to either renew the Revolving Facility or obtain alternative financing on the acceptable terms. However, we cannot provide any assurance that PPP loan will be forgiven or we cannot provide any assurance that we will be able to raise additional capital, if required, or that such capital will be available on terms acceptable to us. Our inability to generate sufficient sales from our new product offerings and/or raise additional capital if needed could have a material adverse effect on our operations and financial condition, including our ability to maintain compliance with our lender's financial covenants.

As of June 28, 2020, most of our cash, cash equivalents and restricted cash were invested in the money market account of Heritage Bank. As of June 28, 2020, our interest-bearing debt consisted of $712,000 outstanding under finance leases, $1.2 million of PPP loan and $15.0 million outstanding under our Revolving Facility. We repaid the $15.0 million outstanding under our Revolving Facility in July 2020. See Note 7 and 8 to the Unaudited Consolidated Financial Statements for more details.

Cash balances held at our foreign subsidiaries were approximately $239,000 and $548,000 as of June 28, 2020 and December 29, 2019, respectively. Earnings from our foreign subsidiaries are currently deemed to be indefinitely reinvested. We do not expect such reinvestment to affect our liquidity and capital resources, and we continually evaluate our liquidity needs and ability to meet global cash requirements as a part of our overall capital deployment strategy. Factors that affect our global capital deployment strategy include anticipated cash flows, the ability to repatriate cash in a tax-efficient manner, funding requirements for operations and investment activities, acquisitions and divestitures and capital market conditions.

In summary, our cash flows were as follows (in thousands):

	Six Months Ended	
	June 28, 2020	June 30, 2019
Net cash used in operating activities	$ (3,578)	$ (5,970)
Net cash used in investing activities	(436)	(503)
Net cash provided by financing activities	8,864	8,161

Net cash used in operating activities

For the six months ended June 28, 2020, net cash used in operating activities was $3.6 million, which was primarily due to the net loss of $6.1 million, adjusted for non-cash charges of $880,000. Non-cash charges consisted primarily of $343,000 of stock-based compensation and depreciation and amortization expenses of $490,000. Cash inflows from changes in operating assets and liabilities were $1.7 million, primarily due to decrease of accounts receivable due to lower sales and better collections, decrease of inventory due to shipping existing inventory, decrease of prepaid assets due to amortizations and VAT receipts and increase of trade payable due to timing of payments.

For the six months ended June 30, 2019, net cash used in operating activities was $6.0 million, which was primarily due to the net loss of $8.1 million, adjusted for non-cash charges of $2.1 million. Non-cash charges consisted primarily of stock-based compensation of $1.7 million, depreciation, amortization of property, equipment, intangible assets, and right of use lease assets, and a write-down of inventory. Cash outflows from changes in operating assets and liabilities were offset by an equal amount of cash inflows from the operating assets and liabilities.

Net cash used in investing activities

For the six months ended June 28, 2020 cash used in investing activities was $436,000, which was primarily attributable to the capitalized internal-use software and capital expenditure relating to leasehold improvements and computer equipment.

For the six months ended June 30, 2019 cash used in investing activities was $503,000, which was primarily attributable to the leasehold improvements and computer equipment at the new office premises.

Net cash provided by financing activities

For the six months ended June 28, 2020 cash provided by financing activities was $8.9 million, which was primarily derived from the net proceeds of $7.9 million from the stock issuance of 2.5 million shares of common stock in June 2020, proceeds from the PPP Loan of $1.2 million and scheduled repayments of $120,000 for finance lease obligations.

For the six months ended June 30, 2019 cash provided by financing activities was $8.2 million, primarily attributable to the net proceeds of $8.0 million received from the issuance of common stock in June 2019, and net proceeds from the issuance of common stock under our equity plans. These inflows were partially offset by scheduled repayments of finance lease obligations and tax payments related to net settlement of stock awards.

Contractual Obligations and Commercial Commitments

The following table summarizes our contractual obligations and commercial commitments as of June 28, 2020 including the PPP Loan received in May 2020and the effect such obligations and commitments are expected to have on our liquidity and cash flows in future fiscal periods (in thousands):

	Payments Due by Period			
	Total	**Less than 1 Year**	**1-3 Years**	**4-5 Years**
Contractual obligations:				
Operating leases	$ 1,677	$ 287	$ 862	$ 528
Finance and software lease obligations	762	200	562	—
Wafer purchases (1)	35	35	—	—
Other purchase commitments	817	817	—	—
Total contractual cash obligations	$ 3,291	$ 1,339	$ 1,424	$ 528
Other commercial commitments:				
Revolving line of credit	15,000	15,000	—	—
PPP Loan	1,204	468	736	—
Total commercial commitments	16,204	15,468	736	—
Total contractual cash obligations	$ 19,495	$ 16,807	$ 2,160	$ 528

(1) Certain of our wafer manufacturers require us to forecast wafer starts several months in advance. We are committed to accept the delivery of and pay for a portion of forecasted wafer volume.

Concentration of Suppliers

We depend on a limited number of contract manufacturers, subcontractors, and suppliers for wafer fabrication, assembly, programming and testing, and for the supply of programming equipment. These services are typically provided by one supplier for each of our devices. We generally purchase these single or limited source services through standard purchase orders. Because we rely on independent subcontractors to perform these services, we cannot directly control product delivery schedules, costs or quality levels. Our future success also depends on the financial viability of our independent subcontractors. The decision not to provide these services to us or the inability to supply these services to us, such as in the case of a natural or financial disaster, would have a significant impact on our business. In addition, these subcontracted manufacturers produce products for other companies and we must place orders up to several months in advance of expected delivery. Increased demand from other companies could result in these subcontract manufacturers allocating available capacity to customers that are larger or have long-term supply contracts in place and we may be unable to obtain adequate foundry and other capacity at acceptable prices, or we may experience delays or interruption in supply. As a result, we have only a limited ability to react to fluctuations in demand for our products, which could cause us to have an excess or a shortage of inventories of a particular product. Additionally, volatility of economic, market, social and political conditions in countries where these suppliers operate may be unpredictable and could result in a reduction in product revenue or increase our cost of revenue and could adversely affect our business, financial condition and results of operations.

Off-Balance Sheet Arrangements

We do not maintain any off-balance sheet partnerships, arrangements or other relationships with unconsolidated entities or others, often referred to as structured finance or special purpose entities, which are established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Recently Issued Accounting Pronouncements

See Note 2 to the Unaudited Condensed Consolidated Financial Statements for a description of recent accounting pronouncements, including the respective dates of adoption and expected effects on the results of our operations and financial condition.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

Our exposure to market rate risk for changes in interest rates relates primarily to our investment portfolio and variable rate debt. We do not use derivative financial instruments to manage our interest rate risk. We are averse to principal loss and ensure the safety and preservation of invested funds by limiting default, market risk and reinvestment risk. Our investment portfolio is generally comprised of investments that meet high credit quality standards and have active secondary and resale markets. Since these securities are subject to interest rate risk, they could decline in value if interest rates fluctuate or if the liquidity of the investment portfolio were to change. Due to the short duration and conservative nature of our investment portfolio, we do not anticipate any material loss with respect to our investment portfolio. A 10% move in interest rates as of the end of the first quarter of 2020 would have had an immaterial effect on our financial position, results of operations and cash flows.

Foreign Currency Exchange Rate Risk

All of our sales and costs of manufacturing are transacted in U.S. dollars. We conduct a portion of our research and development activities in India and have sales and marketing offices in several locations outside of the United States. We use the U.S. dollar as our functional currency. Most of the costs incurred at these international locations are in local currency. If these local currencies strengthen against the U.S. dollar, our payroll and other local expenses will be higher than we currently anticipate. Since our sales are transacted in U.S. dollars, this negative impact on expenses would not be offset by any positive effect on revenue. Operating expenses denominated in foreign currencies were approximately 19% of total operating expenses for the six months of 2020 and 2019. A currency exchange rate fluctuation of 10% would have caused our operating expenses to change by approximately $155,000 in the six months of 2020.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Based on management's evaluation as of June 28, 2020, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) were effective at the reasonable assurance level to ensure that the information required to be disclosed by us in this Quarterly Report on Form 10-Q was (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and regulations and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal controls over financial reporting will prevent all errors and frauds. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part II. Other Information

Item 1. Legal Proceedings

None. See Note 16 of the Unaudited Condensed Consolidated Financial Statements for a description of legal proceedings.

Item 1A. Risk Factors

Except as set forth below, there have been no material changes to the risk factors set forth in our 2019 Annual Report on Form 10-K for the year ended December 29, 2019, filed with the SEC on March 13, 2020, which includes a detailed discussion of our risk factors at Part I, Item 1A, Risk Factors, which discussion is hereby incorporated by reference into this Part II, Item 1A.

The COVID-19 pandemic could have a material adverse effect on our business, cash flows and results of operations.

On January 30, 2020, the World Health Organization ("WHO") declared a global emergency due to the COVID-19 pandemic, and on February 28, 2020, the WHO raised its assessment of the threat from high to very high at a global level. The outbreak has resulted in significant governmental measures being implemented to control the spread of COVID-19, including, among others, restrictions on travel, business operations and the movement of people in many regions of the world in which the Company operates, and the imposition of shelter-in-place or similarly restrictive work-from-home orders impacting many of the Company's offices and employees, including those located in the United States.

As a result, the Company has temporarily closed or substantially limited the presence of personnel in its offices in several impacted locations, implemented travel restrictions and withdrawn from various industry events. The impact of the Company's work-from-home policy that was implemented to protect its global workforce has contributed to delays in certain operational processes, including its routine quarterly financial statement close process for the first quarter of fiscal 2020. The Company has also experienced some disruption and delays in its supply chain, customer deployment plans, and logistics challenges, including certain limitations on its ability to access customer fulfillment and service sites. The Company expects these existing conditions to have an adverse impact on its revenue and results of operations for the third quarter of fiscal 2020 and, possibly, in future quarters during the current and next fiscal year.

The COVID-19 pandemic and its potential effects on the Company's business in its fiscal 2020 remain dynamic, and the broader implications for its business and results of operations remain uncertain. These implications could include further disruptions or restrictions on the Company's ability to source, manufacture or distribute its products, including temporary disruptions to the facilities of its contract manufacturers in China, Taiwan, Philippines and Singapore, or the facilities of its suppliers and their contract manufacturers globally. Additionally, multiple countries have imposed and may further impose restrictions on business operations and movement of people and products to limit the spread of COVID-19. Delays in production or delivery of components or raw materials that are part of the Company's global supply chain due to restrictions imposed to limit the spread of COVID-19 could delay or inhibit its ability to obtain the supply of components and finished goods. If COVID-19 becomes more prevalent in the locations where the Company, its customers or suppliers conduct business, or the Company experiences more pronounced disruptions in its operations, the Company may experience constrained supply or curtailed demand that may materially adversely impact its business and results of operations. In addition, any other widespread health crisis that could adversely affect global and regional economies, financial markets and overall demand environment for the Company's products could have a material adverse effect on the Company's business, cash flows or results of operations.

The risks in our Annual Report on Form 10-K are not the only risks facing our Company. Additional risks not currently known to us or that we currently deem to be immaterial may also adversely affect our business and results from operations.

Item 6. Exhibits

a. Exhibits

The following Exhibits are filed or incorporated by reference into this report:

Exhibit Number	Description	Form	Exhibit	Filing Date
1.1	Underwriting agreement.	8-K	1.1	6-22-2020
10.1	Promissory note between QuickLogic and Heritage bank dated May 6, 2020	8-K	10.1	5-11-2020
10.2	2009 ESPP Plan as amended	8-K	10.2	4-24-2020
10.3	2019 Stock Plan as amended	8-K	10.3	4-24-2020
31.1	Certification of Brian C. Faith, Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			
31.2	Certification of Suping (Sue) Cheung, Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			
32.1	Certification of Brian C. Faith, Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			
32.2	Certification of Suping (Sue) Cheung, Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.			
101.SCH	Inline XBRL Taxonomy Extension Schema Document			
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document			
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document			
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document			
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document			
140	The cover page from the Company’s quarterly report on Form 10-Q for the quarter ended June 28, 2020, has been formatted in Inline XBRL.			

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

QUICKLOGIC CORPORATION

/s/ Suping (Sue) Cheung

Date: August 7, 2020

Suping (Sue) Cheung
Chief Financial Officer
(as Principal Accounting and Financial Officer and on behalf of the Registrant)

Exhibit 31.1

CERTIFICATIONS

I, Brian C. Faith, certify that:

1. I have reviewed this quarterly report on Form 10-Q of QuickLogic Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2020

/s/ Brian C. Faith

Brain C. Faith

President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Suping (Sue) Cheung, certify that:

1. I have reviewed this quarterly report on Form 10-Q of QuickLogic Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2020

/s/ Suping (Sue) Cheung

Suping (Sue) Cheung

Vice President, Finance and Chief Financial Officer

Exhibit 32.1

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, Brian C. Faith, the President and Chief Executive Officer of QuickLogic Corporation (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- the Quarterly Report on Form 10-Q of the Company for the quarter ended June 28, 2020 (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date:	August 7, 2020	By:	/s/ Brian C. Faith
		Name:	Brian C. Faith
		Title:	*President and Chief Executive Officer*

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Suping (Sue) Cheung, Chief Financial Officer of QuickLogic Corporation (the "Company") do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- the Quarterly Report on Form 10-Q of the Company for the quarter ended June 28, 2020 (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date:	August 7, 2020	By:	/s/ Suping (Sue) Cheung
		Name:	Suping (Sue) Cheung
		Title:	*Vice President, Finance and Chief Financial Officer*