UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☒ **Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the quarterly period ended June 30, 2021

or

☐ **Transition Report Pursuant Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the transition period from to .

Commission file number 001-36467

RESONANT INC.

(Exact name of registrant as specified in its charter)

Delaware	**45-4320930**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

10900 Stonelake Blvd, Suite 100, Office 02-130
Austin, Texas 78759
(Address of principal executive offices, zip code)

(805) 308-9803

(Registrant’s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 par value	RESN	The NASDAQ Stock Market LLC

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 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 the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer	☐	Accelerated filer ☐
Non-accelerated filer	☒	Smaller reporting company ☒
		Emerging growth company ☐

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

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

As of August 9, 2021, the issuer had 63,024,230 shares of common stock issued and outstanding.

RESONANT INC.

TABLE OF CONTENTS

PART I: FINANCIAL INFORMATION

Item 1. Financial Statements

RESONANT INC.
Condensed Consolidated Balance Sheets
(In thousands, except share data)
(Unaudited)

	June 30, 2021	December 31, 2020
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 22,732	$ 24,968
Accounts receivable	258	208
Prepaid expenses and other current assets	458	511
TOTAL CURRENT ASSETS	23,448	25,687
PROPERTY AND EQUIPMENT		
Property and equipment	5,075	4,892
Less: Accumulated depreciation and amortization	(3,734)	(3,309)
PROPERTY AND EQUIPMENT, NET	1,341	1,583
OTHER NONCURRENT ASSETS		
Intangibles, net	2,589	2,119
Restricted cash	105	105
Goodwill	870	911
Operating lease right-of-use assets	1,701	2,012
Finance lease right-of-use asset	181	201
Other assets	50	112
TOTAL OTHER NONCURRENT ASSETS	5,496	5,460
TOTAL ASSETS	$ 30,285	$ 32,730
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	$ 1,141	$ 982
Accrued expenses	272	449
Accrued salaries and payroll related expenses	2,724	1,970
Deferred revenue, current	718	1,721
Operating lease liabilities, current	617	699
Financing lease liabilities, current	40	30
TOTAL CURRENT LIABILITIES	5,512	5,851
LONG-TERM LIABILITIES		
Deferred revenue	48	62
Operating lease liabilities, net of current portion	1,337	1,589
Financing lease liability, net of current portion	155	175
TOTAL LIABILITIES	7,052	7,677
Commitments and contingencies (Note 9)		
STOCKHOLDERS' EQUITY		
Common stock, $0.001 par value, 100,000,000 authorized and 62,959,730 outstanding as of June 30, 2021 and 59,128,356 outstanding as of December 31, 2020	63	59
Preferred stock, $0.001 par value, 3,000,000 authorized and none outstanding as of June 30, 2021 and December 31, 2020	—	—
Additional paid-in capital	191,924	175,813
Accumulated other comprehensive income	44	87
Accumulated deficit	(168,798)	(150,906)
TOTAL STOCKHOLDERS' EQUITY	23,233	25,053
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 30,285	$ 32,730

See Accompanying Notes to Condensed Consolidated Financial Statements

RESONANT INC.
Condensed Consolidated Statements of Comprehensive Loss
(In thousands, except share data)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
REVENUES	$ 614	$ 604	$ 1,222	$ 1,148
OPERATING EXPENSES				
Research and development	5,885	4,845	11,236	10,307
Sales, marketing and administration	3,795	2,976	7,872	6,115
TOTAL OPERATING EXPENSES	9,680	7,821	19,108	16,422
NET OPERATING LOSS	(9,066)	(7,217)	(17,886)	(15,274)
OTHER INCOME (EXPENSE)				
Interest and investment income (expense)	(3)	7	(6)	64
Other expense	—	(5)	—	(9)
TOTAL OTHER INCOME (EXPENSE), NET	(3)	2	(6)	55
LOSS BEFORE INCOME TAXES	(9,069)	(7,215)	(17,892)	(15,219)
Provision for income taxes	—	—	—	1
NET LOSS	$ (9,069)	$ (7,215)	$ (17,892)	$ (15,220)
Foreign currency translation adjustment, net of tax	19	8	(43)	17
COMPREHENSIVE LOSS	$ (9,050)	$ (7,207)	$ (17,935)	$ (15,203)
NET LOSS PER SHARE - BASIC AND DILUTED	$ (0.15)	$ (0.14)	$ (0.30)	$ (0.31)
Weighted average shares outstanding — basic and diluted	**60,820,319**	**52,901,488**	**60,300,883**	**48,367,308**

See Accompanying Notes to Condensed Consolidated Financial Statements

RESONANT INC.
Condensed Consolidated Statements of Stockholders' Equity
(In thousands)
(Unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Amount				
Balance, January 1, 2021	59,128	$ 59	$ 175,813	$ (150,906)	$ 87	$ 25,053
Vesting of restricted stock units	195	—	—	—	—	—
Stock-based compensation	—	—	1,694	—	—	1,694
Sale of common stock net of offering costs	774	1	4,093	—	—	4,094
Exercise of stock options	104	—	291	—	—	291
Net loss	—	—	—	(8,823)	—	(8,823)
Foreign currency translation adjustments, net of tax	—	—	—	—	(62)	(62)
Balance, March 31, 2021	60,201	$ 60	$ 181,891	$ (159,729)	$ 25	$ 22,247
Vesting of restricted stock units	464	—	—	—	—	—
Stock-based compensation	—	—	2,230	—	—	2,230
Sale of common stock net of offering costs	2,295	3	7,803	—	—	7,806
Net loss	—	—	—	(9,069)	—	(9,069)
Foreign currency translation adjustments, net of tax	—	—	—	—	19	19
Balance, June 30, 2021	62,960	$ 63	$ 191,924	$ (168,798)	$ 44	$ 23,233

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Amount				
Balance, January 1, 2020	33,156	$ 33	$ 132,214	$ (122,492)	$ 1	$ 9,756
Vesting of restricted stock units	378	—	—	—	—	—
Stock-based compensation	—	—	1,338	—	—	1,338
Sale of common stock, net of offering costs	19,167	19	26,441	—	—	26,460
Net loss	—	—	—	(8,005)	—	(8,005)
Foreign currency translation adjustment, net of tax	—	—	—	—	9	9
Balance, March 31, 2020	52,701	$ 52	$ 159,993	$ (130,497)	$ 10	$ 29,558
Vesting of restricted stock units	405	1	—	—	—	1
Stock-based compensation	—	—	1,625	—	—	1,625
Additional offering costs in connection with February sale of common stock	—	—	(50)	—	—	(50)
Exercise of warrants	7	—	—	—	—	—
Net loss	—	—	—	(7,215)	—	(7,215)
Foreign currency translation adjustments, net of tax	—	—	—	—	8	8
Balance, June 30, 2020	53,113	$ 53	$ 161,568	$ (137,712)	$ 18	$ 23,927

See Accompanying Notes to Condensed Consolidated Financial Statements

RESONANT INC.
Condensed Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
CASH FLOWS FROM OPERATING ACTIVITIES		
Net Loss	$ (17,892)	$ (15,220)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	469	508
Stock-based compensation	4,304	2,990
Patent write-off	13	8
Operating lease right-of-use asset amortization	311	296
Finance lease right-of-use asset amortization	10	—
Changes in assets and liabilities:		
Accounts Receivable	(50)	(128)
Prepaid expenses and other current assets	53	(71)
Other assets	62	—
Accounts payable	356	149
Accrued expenses	(109)	(163)
Accrued salaries and payroll related expenses	375	62
Operating lease liabilities	(334)	(299)
Deferred revenue	(1,017)	(655)
Net cash used in operating activities	(13,449)	(12,523)
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of property and equipment	(367)	(407)
Expenditures for patents	(611)	(295)
Net cash used in investing activities	(978)	(702)
CASH FLOWS FROM FINANCING ACTIVITIES		
Gross proceeds from sale of common stock	12,303	28,750
Offering costs in connection with sale of common stock	(403)	(2,340)
Proceeds from exercise of stock options	291	—
Net cash provided by financing activities	12,191	26,410
NET INCREASE (DECREASE) IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(2,236)	13,185
CASH, CASH EQUIVALENTS AND RESTRICTED CASH — Beginning of period	25,073	10,838
CASH, CASH EQUIVALENTS AND RESTRICTED CASH — End of period	$ 22,837	$ 24,023
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Taxes Paid	$ 1	$ 1
SUPPLEMENTAL DISCLOSURE OF NON-CASH ACTIVITIES		
Common stock issued in settlement of accrued salaries and payroll related expenses	$ 453	$ 342
Property and equipment included in accounts payable	$ 79	$ 24
Patents included in accounts payable	$ 137	$ 62
Finance lease included in accounts payable	$ 4	$ —

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Condensed Consolidated Balance Sheets to the total of the same such amounts shown above:

	June 30, 2021	December 31, 2020
Cash and cash equivalents	$ 22,732	$ 24,968
Restricted cash	105	105
Total cash, cash equivalents and restricted cash	$ 22,837	$ 25,073

See Accompanying Notes to Condensed Consolidated Financial Statements

RESONANT INC.
Notes to Condensed Consolidated Financial Statements

NOTE 1—ORGANIZATION AND DESCRIPTION OF BUSINESS

Overview

Resonant Inc. is a late-stage development company located in Austin, Texas, with offices in Goleta, California, Burlingame, California, and Anyang, South Korea. We were incorporated in Delaware in January 2012 as a wholly owned subsidiary of Superconductor Technologies Inc., or STI. Resonant LLC, a limited liability company, was formed in California in May 2012. We changed our form of ownership from a limited liability company to a corporation in an exchange transaction in June 2013, when we commenced business. We are the successor of Resonant LLC. We completed our initial public offering, or IPO, on May 29, 2014. On July 6, 2016 we acquired all of the issued and outstanding capital stock of GVR Trade S.A, or GVR. GVR, located in Switzerland, is a wholly owned subsidiary of Resonant Inc. The Company operates in one market and segment, the radio frequency design industry.

The innovative software platform we continue to develop is based on fundamentally new technology that we call WaveX™ (previously Infinite Synthesized Networks®, or ISN®) to configure and connect resonators, the building blocks of radio frequency (RF) filters. Currently, we are leveraging WaveX™ to develop designs targeted for either the Surface Acoustic Wave (SAW) or Temperature Compensated, Surface Acoustic Wave (TC-SAW) manufacturing processes. We also enabled WaveX™ for Bulk Acoustic Wave (BAW) designs, which has resulted in our invention of a novel resonator structure based on a combination of interdigital transducer (IDT) and piezoelectric layer, XBAR®, which exhibits performance parameters suitable for 5G, 5-7GHz WiFi and Ultra Wideband applications - high frequency operation, large bandwidth and high power reliability.

Using WaveX™ we have developed an IP portfolio of more than 375 patents filed or issued, with more than 225 filed or issued targeting XBAR®, 5G and high frequency WiFi applications. In addition, with continued requirements for increasing numbers of filter designs our innovative software platform addresses the need for increased designer efficiency, reduced time to market and lower unit costs in the designs of filters for radio frequency, or RF Front-Ends for the mobile device, Customer Premise Equipment (CPE) and Infrastructure industries. The RF Front-End, or RFFE, is the circuitry responsible for analog signal processing and is located between the device's antenna and its digital circuitry. Filters are a critical component of the RFFE used to select desired radio frequency signals and reject unwanted signals.

We believe licensing our designs is the most direct and effective means of validating our IP and IP related libraries and demonstrating the power and accuracy of our WaveX™ multi-physics electronic design automation (EDA) platform. Our target customers make part, or all of, the RFFE. We intend to retain ownership of our intellectual property (IP), trade secrets and designs, and we expect to be compensated through license fees and royalties either prepaid at contract inception or based on sales of RFFE filters that incorporate our IP, trade secrets and designs.

Capital Resources and Liquidity

As of June 30, 2021, our accumulated deficit totaled $168.8 million. In the six months ended June 30, 2021 our net loss totaled $17.9 million and we used $14.4 million of cash for operating activities, the purchase of property and equipment and expenditures for patents. To date we have not generated significant revenues to enable profitability. We expect to continue to incur significant losses. These factors raise substantial doubt regarding our ability to continue as a going concern. At June 30, 2021 we had cash and cash equivalents of $22.7 million. In the absence of a significant revenue increase these cash resources will provide sufficient funding into the second quarter of 2022. We are subject to the risks and uncertainties associated with a new business. We also have been impacted by the COVID-19 pandemic which has added additional risks and uncertainties. Our continuance as a going concern is dependent on our future profitability. We are actively pursuing expanding our technology portfolio, increasing our revenue opportunities by completing deliverables under current customer contracts and entering into new customer contracts, and efficiently managing operations and exploring cost saving opportunities. We may not be successful in these efforts. We may need to seek to raise additional capital from the sale of equity securities or incurrence of indebtedness. There can be no assurance that additional financing will be available to us on acceptable terms, or at all in which case we might be forced to make substantial reductions in our operating expenses which could adversely affect our ability to implement our business plan and ultimately our viability as a company. Even if available, such capital may be dilutive to existing stockholders. The accompanying condensed consolidated financial statements have been prepared on a going concern basis which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Use of Estimates—The accompanying unaudited condensed consolidated financial statements were prepared in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial information. Certain information and disclosures normally included in consolidated financial statements prepared in accordance with GAAP have been condensed or omitted. Accordingly, these condensed consolidated financial statements should be read in conjunction with our audited consolidated financial statements and the related notes included in our Annual Report for the year ended December 31, 2020 filed with the SEC on March 12, 2021. The year-end condensed balance sheet was derived from our audited consolidated financial statements. Our unaudited interim condensed consolidated financial statements include, in the opinion of management, all adjustments, consisting of normal and recurring items, necessary for the fair statement of the condensed consolidated financial statements. The operating results for the three and six months ended June 30, 2021 are not necessarily indicative of the results expected for the full year ending December 31, 2021. Significant estimates made in preparing these financial statements include (a) assumptions to calculate the fair values of financial instruments, warrants and equity instruments and other liabilities and the deferred tax asset valuation allowance; (b) the useful lives for depreciable and amortizable assets and (c) the estimated efforts to be expended, as well as our ability to achieve milestones, in connection with our revenue contracts. On an ongoing basis, we evaluate our estimates and judgments compared to historical experience and expected trends. Additionally, the global economic effects resulting from the COVID-19 pandemic may cause changes to estimates that would have a material impact on our financial statements, particularly with respect to timing of revenue recognition due to delays in meeting our performance obligations and collectability of our accounts receivable. As of the date of issuance of these financial statements, our results have not been significantly impacted by the COVID-19 pandemic; however, we continue to monitor the situation.

Consolidation —The accompanying financial statements include the accounts of the Company and its wholly-owned subsidiary, GVR Trade, S.A. All significant intercompany balances and transactions have been eliminated.

Cash and Cash Equivalents—We consider all liquid instruments purchased with a maturity of three months or less to be cash equivalents.

Concentration of Credit Risk—We maintain bank accounts at one U.S. financial institution. The U.S. bank accounts are insured by the Federal Deposit Insurance Corporation (FDIC) for up to $250,000 per account owner. GVR Trade S.A., our wholly owned Swiss-based subsidiary maintains checking accounts at one major national financial institution. Additionally, we maintain a checking account with a very minimal balance at one bank in South Korea, which is used to fund payroll and rent in South Korea. Management believes we are not exposed to significant credit risk due to the financial position of the depository institutions in which our deposits are held.

Restricted Cash—Restricted cash consists of a pledged mutual fund account which is held as collateral against a letter of credit issued in May 2018 in connection with the lease of our offices in Goleta, California. The letter of credit was reissued in November 2020 due to a change in the property owner. No changes were made to the terms of the letter of credit. The balance as of June 30, 2021 and December 31, 2020 was $105,000. The terms of the letter of credit allow for a step-down of $50,000 annually upon performance of certain events, primarily no late or defaulted payments. See also Note 8- Leases, for further details.

Fair Value of Financial Instruments—We measure certain financial assets and liabilities at fair value based on the exit price notion, or price that would be received for an asset or paid to transfer a liability, in an orderly transaction between the market participants at the measurement date. The carrying amounts of our financial instruments, including cash equivalents, restricted cash, accounts payable, and accrued liabilities, approximate fair value due to their short maturities.

Accounts Receivable—Trade accounts receivable are stated net of allowances for doubtful accounts. Management estimates the allowance for doubtful accounts based on review and analysis of specific customer balances that may not be collectible, customer payment history and any other customer-specific information that may impact ability to collect the receivable. Accounts are considered for write-off when they become past due and when it is determined that the probability of collection is remote. There was no allowance for doubtful accounts at June 30, 2021 or December 31, 2020.

Property and Equipment—Property and equipment consists of leasehold improvements associated with our corporate offices, software purchased during the normal course of business, equipment and office furniture and fixtures, all of which are recorded at cost. Depreciation and amortization is recorded using the straight-line method over the respective useful lives of the assets ranging from two to five years. Leasehold improvements are amortized over the shorter of lease term or useful life. Long-lived assets are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable.

Intangibles, net —Intangible assets are recorded at cost and amortized over the useful life. In the case of business combinations, intangible assets are recorded at fair value. At June 30, 2021 and December 31, 2020, intangible assets, net includes patents and a domain name and other intangible assets purchased as part of our acquisition of GVR, including customer relationships, technology and a trademark. We capitalize certain patent filing costs up to the point of issuance and then amortize the costs over the life of the patent. Costs associated with maintenance or renewal of existing patents are expensed as incurred. Intangible assets are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable. In certain cases, patents may expire or be abandoned as they no longer have a probable economic value. In such cases we write off the capitalized patent costs as patent abandonment costs which are included in research and development expenses.

Goodwill—Goodwill represents the difference between the price paid to acquire GVR and the fair value of the assets acquired, net of assumed liabilities. We review goodwill for impairment annually and whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable.

Revenue Recognition—Revenue is recognized upon the transfer of control of promised goods or services to the customers, generally over time, in an amount that reflects the consideration we expect to receive in exchange for those products or services. Revenue consists primarily of the recognized portion of upfront, non-refundable, prepaid royalties received in connection with filter design projects with customers. Our performance obligation is to design a licensable filter in accordance with customer specifications. The license of the completed design is considered part of this performance obligation as the design and licensing of the filter are highly interdependent. We recognize revenue from our design services based on efforts expended to date. At the end of each reporting period, we reassess our measure of progress and adjust revenue when appropriate. We record the expenses related to these projects in the periods incurred and they are generally included in research and development expense.

In most cases, upfront non-refundable payments related to design development are recognized over a period of 12 months to 18 months as that is the amount of time it generally takes to develop a design; however, the actual amount of time depends on the complexity of the filter being designed. Contracts generally include non-refundable fees, or prepaid royalties, and may include milestone payments based upon the successful completion of certain deliverables. Milestone payments represent variable consideration, and we use the "most likely amount" approach to determine the amount we ultimately expect to receive.

Upon completion of design services, our customers retain a license over the completed design. The license will typically last for a minimum of two years, and in many cases for the life of the design. Some contracts also include royalties that are sales-based, and we recognize royalty revenue upon shipment, by our customer, of products that include our licensed design. Payment is generally due within 30 days.

We apply the exemptions available in ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606, to not disclose information about 1) remaining performance obligations that have original expected durations of one year or less and 2) variable consideration that is a sales-based or usage-based royalty.

Research and Development—Costs and expenses that can be clearly identified as research and development are charged to expense as incurred in accordance with ASC Topic 730-10, *Research and Development*.

Operating Leases—We lease office space and research facilities under operating leases. Certain lease agreements contain free or escalating rent payment provisions.

We determine if an arrangement is a lease at lease inception. Operating leases are included in right-of-use (“ROU”) lease assets, other current liabilities (current portion of lease obligations), and long term lease obligations on our balance sheets. ROU lease assets represent our right to use an underlying asset for the lease term and lease obligations represent our obligation to make lease payments arising from the lease. Operating ROU lease assets and obligations are recognized at the commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use an incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The ROU lease asset also includes any lease payments made and excludes lease incentives. We evaluate renewal options at lease inception and on an ongoing basis and include renewal options which we are reasonably certain to exercise in our expected lease term when classifying leases and measuring lease liabilities. We allocate the consideration between lease and nonlease components and exclude nonlease components from our recognized lease assets and liabilities.

Minimum lease payments, including scheduled rent increases, are recognized as lease expenses on a straight-line basis over the applicable lease term. We recognize lease expenses within research and development and sales, marketing and administration expenses on a straight-line basis over the lease term.

We are not party to any leases for which we are the lessor.

Finance Lease—The finance lease asset represents our right to use an underlying asset for the lease term and the finance lease liability represents the present value of lease payments not yet paid. Interest expense on the finance lease is recorded over the lease term and is presented in interest expense, based on the effective interest method. The right of use asset is amortized over the term of the related lease.

Stock-Based Compensation—We account for stock options in accordance with ASC Topic 718, *Compensation-Stock Compensation*. We use the Black-Scholes option valuation model for estimating fair value at the date of grant.

We account for restricted stock units issued at fair value, based on the market price of our stock on the date of grant. Compensation expense is recognized over the period during which the recipient renders the required services to the Company generally using the straight-line single option method.

We recognize compensation expense for restricted stock units with market conditions using a graded vesting model, based on the probability of the market condition being met.

In the case of award modifications, we account for the modification in accordance with ASU No. 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting*, whereby we recognize the effect of the modification in the period the award is modified.

Stock-based compensation expense is included in research and development expenses and general and administrative expenses.

Earnings Per Share, or EPS—EPS is computed in accordance with ASC Topic 260, *Earnings per Share*, and is calculated using the weighted average number of common shares outstanding during each period. Diluted EPS assumes the conversion, exercise or issuance of all potential common stock equivalents unless the effect is to reduce a loss or increase the income per share. Potential common shares consist of the incremental common shares issuable upon the exercise of stock options, the exercise of warrants and the vesting of restricted stock unit awards.

Income Taxes—We account for income taxes in accordance with ASC Topic 740, *Income Taxes*, or ASC 740, which requires the recognition of deferred tax assets and liabilities for the future consequences of events that have been recognized in our condensed consolidated financial statements or tax returns. The measurement of the deferred items is based on enacted tax laws. In the event the future consequences of differences between financial reporting bases and the tax bases of our assets and liabilities result in a deferred tax asset, ASC 740 requires an evaluation of the probability of being able to realize the future benefits indicated by such asset. A valuation allowance related to a deferred tax asset is recorded when it is more likely than not that some portion or the entire deferred tax asset will not be realized. As part of the process of preparing our consolidated financial statements, we are required to estimate our income tax expense in each of the jurisdictions in which we operate. We also assess temporary differences resulting from differing treatment of items for tax and accounting differences. We record a valuation allowance to reduce the deferred tax assets to the amount of future tax benefit that is more likely than not to be realized.

Foreign Currency Translation—The Swiss Franc has been determined to be the functional currency for the net assets of our Swiss-based subsidiary. We translate the assets and liabilities to U.S. dollars at each reporting period using exchange rates in effect at the balance sheet date and record the effects of the foreign currency translation in accumulated other comprehensive loss in shareholders' equity. We translate the income and expenses to U.S. dollars at each reporting period using the average exchange rate in effect for the period and record the effects of the foreign currency translation as other comprehensive income (loss) in the condensed consolidated statements of comprehensive loss. Gains and losses resulting from foreign currency transactions are included in net loss in the condensed consolidated statements of comprehensive loss.

Recent Accounting Pronouncements

Credit Losses—In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments- Credit Losses (Topic 326)*. In April and November 2019, and February 2020, the FASB issued implementation amendments to the June 2016 ASU (collectively, the amended guidance). The amended guidance replaced the current incurred loss methodology for credit losses with a current expected credit loss ("CECL") model, which requires the measurement of all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. The amended guidance expanded the information that an entity must consider in developing its expected credit loss estimates. Additionally, the updates amended the accounting for credit losses for purchased financial assets with a more-than-significant amount of credit deterioration since origination. The amended guidance requires enhanced disclosures to help investors and other financial statement users better understand significant estimates and judgments used in estimated credit losses. Early adoption is permitted. The guidance is effective for us in January 2023. We have no plan to early adopt the guidance and are currently evaluating the impact, which we believe will be immaterial to our condensed consolidated financial statements.

With the exception of the new standards discussed above, there have been no other new accounting pronouncements that have significance, or potential significance, to our condensed consolidated financial statements.

NOTE 3—REVENUE RECOGNITION

We record contract assets and contract liabilities in connection with revenue recognized for filter design projects.

Contract Assets - Contract assets, other than accounts receivable, consist of unbilled revenue and generally arise when revenue is recognized ahead of invoicing the customer. Contract asset balances, if any, are included in prepaid expenses and other current assets in our condensed consolidated balance sheets. We had no contract assets during each of the six months ended June 30, 2021 and 2020.

Contract Liabilities - Our contract liabilities consist of deferred revenue, which represents the revenue associated with remaining performance obligations within our customer contracts. We classify contract liabilities as current or long-term based on the expected timing of the remaining performance obligations. Generally, our contract liabilities are expected to be recognized in one year or less. Customer deposits and deferred revenue are separately stated in our condensed consolidated balance sheets.

Summary of changes in contract liabilities for the six months ended June 30, 2021 and 2020 (in thousands):

	Six Months Ended June 30,	
	2021	2020
Contract liabilities, beginning	$ 1,783	$ 1,731
Recognition of revenue included in beginning of year contract liabilities	(1,088)	(1,082)
Contract liabilities, net of revenue recognized on contracts during the period	71	427
Contract liabilities, ending	$ 766	$ 1,076

We derive a substantial majority of our revenue from a single customer. Effective September 30, 2019 we entered into a collaboration and license agreement with Murata Manufacturing Co., Ltd. Pursuant to the collaboration agreement, we have agreed with Murata to collaborate on the development of proprietary circuit designs using our XBAR® technology, and we licensed to Murata rights for products in four specific radio frequencies, or bands. Murata has agreed to pay us up to an aggregate of $9.0 million of total consideration in the form of pre-paid royalties for the licensed designs and certain other intellectual property developed in the collaboration, payable in installments over a multi-year development period, with each installment conditional upon our achievement of certain milestones and deliverables acceptable to Murata in its discretion. Murata may terminate the collaboration agreement at any time upon thirty (30) days prior written notice to us.

Murata's rights to our XBAR® technology are exclusive for a period of 30 months, through March 2022, during which period we may not grant to any third party the right to develop, make, have made, use, sell, offer for sale or import any filter or resonator produced through the use of the XBAR® technology for use in mobile communication devices.

Under the collaboration agreement, the first payment of $2.0 million was a non-refundable upfront payment received in October 2019 and the second payment of $2.5 million was collected in September 2020 upon the achievement of the second milestone.

In accordance with the guidance of ASC 606, we are required to evaluate the variable consideration within the contract, primarily the milestone payments, and assess the likelihood of achievement in determining our transaction price. Additionally, we must assess whether the variable consideration is constrained and whether recording such variable revenue may result in a significant reversal of revenue due to uncertainties. We continue to evaluate variable consideration for inclusion in the transaction price, and ultimately the revenue recognized, at each reporting period. We recognize revenue for the Murata contract over the estimated design development period, based on the level of effort expended over total expected costs, as the services are performed. For the periods ended June 30, 2021 and 2020, we have determined that some of the milestone payments due upon achievement of certain performance criteria are constrained and are thus not included in the transaction price. Therefore, revenue related to those milestone payments has not been recognized. Revenue recognition related to each milestone payment will commence once the constraint is lifted. Consequently, revenue recognition related to the Murata contract will vary from quarter to quarter. During each of the six months ended June 30, 2021 and 2020, we recognized $0.9

million and $1.0 million, respectively, of revenue related to the collaboration and license agreement. During each of the three months ended June 30, 2021 and 2020, we recognized $0.4 million and $0.5 million, respectively, of revenue related to the collaboration and license agreement.

NOTE 4—INTANGIBLE ASSETS, NET

Intangible assets include patent filing costs and other assets (domain name and other intangibles purchased from GVR, including customer relationships, technology and a trademark). Some of the patents were acquired from STI as a result of an asset contribution and were recorded at their carryover basis of $216,000 and are being amortized over the remaining useful life of 1 to 10 years as of June 30, 2021. Intangibles acquired as part of the purchase of GVR were initially recorded at their fair value and are being amortized over a period of 1 to 5 years. Patent filing costs related to issued patents are amortized over the estimated life of the patent, 12 to 20 years, once they are approved by their respective regulatory agency. The domain name is being amortized over the approximate useful life of 10 years.

Intangible assets, net, consists of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Cost:		
Patents	$ 2,783	$ 2,399
Other [(1)]	283	291
	3,066	2,690
Less: Accumulated amortization	(477)	(571)
Intangible assets, net	$ 2,589	$ 2,119

(1) Includes the impact of foreign currency translation. The total impact at June 30, 2021 and December 31, 2020, was $8,000 and $17,000, respectively.

During the three and six months ended June 30, 2021, we wrote off $7,000 and $13,000, respectively, of patents we abandoned. During both the three and six months ended June 30, 2020, we wrote off $8,000 of patents we abandoned. The write-offs are included in research and development expense.

Amortization of intangible assets was $21,500 and $42,000 for the three and six months ended June 30, 2021, respectively. Amortization of intangible assets was $24,000 and $48,000 for the three and six months ended June 30, 2020, respectively. The following table summarizes the estimated remaining amortization expense relating to the intangible assets as of June 30, 2021 (in thousands):

July 1, 2021-December 31, 2021	$ 37
2022	71
2023	70
2024	68
2025	68
2026	68
2027 and thereafter	644
Total amortization expense	$ 1,026

NOTE 5—WARRANTS

From time to time, we have issued warrants to purchase shares of common stock. These warrants were issued in connection with financing transactions or in exchange for consulting services. Our warrants were subject to standard anti-dilution provisions applicable to shares of our common stock. All of the warrants issued have been either exercised, cancelled, or expired as of December 31, 2020 and no warrants have been issued in 2021.

A roll-forward of warrant share activity from January 1, 2020 to June 30, 2020 is shown in the following table:

	Exercise Price	Expiration Date	Issued and Outstanding Warrants as of January 1, 2020	Warrants Exercised/ Expired		Issued and Outstanding Warrants as of June 30, 2020
Consulting Warrants	$0.01	6/17/2020	6,667	(6,667)	(1)	—
Financing Warrants	$3.35	6/17/2020	62,530	(62,530)	(2)	—
Private Placement Warrants - September 2017	$4.85	9/28/2020	1,966,319	—		1,966,319
Placement Agent Warrants	$4.85	9/28/2020	98,846	—		98,846
			2,134,362	(69,197)		2,065,165

(1) During the six months ended June 30, 2020, there were 6,667 warrants that were exercised through a cashless exercise which netted 6,640 shares being issued.

(2) During the six months ended June 30, 2020, there were 62,530 warrants that expired.

NOTE 6—STOCKHOLDERS' EQUITY AND LOSS PER SHARE

Common Stock

Pursuant to our amended and restated certificate of incorporation, we are authorized to issue 100,000,000 shares of common stock. Holders of our common stock are entitled to dividends as and when declared by the Board of Directors, subject to rights and holders of all classes of stock outstanding having priority rights to dividends. There have been no dividends declared to date. Each share of common stock is entitled to one vote.

On February 6, 2020, we entered into an underwriting agreement relating to an underwritten public offering of 16,666,667 shares of the Company's common stock, $0.001 par value, at an offering price to the public of $1.50 per share. Pursuant to the underwriting agreement, the Company granted the underwriters a 30-day option to purchase up to an additional 2,500,000 shares of common stock on the same terms and conditions. The underwriters exercised their option with respect to all 2,500,000 additional shares on February 10, 2020. We consummated the sale of an aggregate of 19,166,667 shares of our common stock, including the 2,500,000 shares subject to the underwriters' over-allotment option, on February 11, 2020. We received gross proceeds of approximately $28.8 million, including $201,000 for 134,000 shares purchased by Park City Capital, a significant shareholder. Net proceeds were approximately $26.4 million after deducting the underwriting discount and expenses paid by us.

On August 14, 2020, we entered into an At-The-Market Equity Offering Sales Agreement pursuant to which we may offer and sell shares of our common stock from time to time (the "ATM equity program"). We initially registered the offer and sale of up to $25.0 million of our common stock under the ATM equity program using our existing shelf registration statement on Form S-3 that we filed with the Securities and Exchange Commission ("SEC") in November 2018 and an additional registration statement on Form S-3 that we filed with the SEC in August 2020 in order to increase the number of shares of common stock available for sale under the November 2018 registration statement. As of December 31, 2020, we sold an aggregate of 4,609,701 shares of common stock under the ATM equity program, at an average price of $2.48 per share, for gross proceeds of $11.4 million and net proceeds of $11.0 million, after deducting commissions and other offering expenses. During the six months ended June 30, 2021, we sold an aggregate of 3,068,370 shares of common stock under the ATM equity program, at an average price of $4.01 per share, for gross proceeds of $12.3 million and net proceeds of $11.9 million, after deducting commissions and other offering expenses. As of June 30, 2021, we had $1.3 million of common stock available for sale under the ATM equity program and these registration statements.

In May 2021, we filed a universal shelf registration statement on Form S-3 permitting us to sell, in one or more public offerings, shares of our common stock, shares of preferred stock or debt securities, or any combination of such securities and warrants to purchase securities, for proceeds in an aggregate amount of up to $100.0 million. Concurrent with our filing of the May 2021 universal shelf registration statement, we filed a prospectus supplement to that registration statement to provide for the offer and sale of up to an additional $50.0 million of our common stock under the ATM equity program. As of June 30, 2021, we have not sold any shares of common stock or other securities using the May 2021 shelf registration statement.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation, we are authorized to issue 3,000,000 shares of preferred stock. The Board of Directors has the authority, without action by our stockholders, to designate and issue shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. To-date, no preferred shares have been issued.

Loss Per Share

The following table presents the number of shares excluded from the calculation of diluted net loss per share attributable to common stockholders for the periods below:

	Six Months Ended June 30,	
	2021	2020
Common stock warrants	—	2,065,165
Common stock options	1,027,572	1,174,760
Non-vested restricted stock unit awards	4,625,782	3,645,968
Total shares excluded from net loss per share attributable to common stockholders	5,653,354	6,885,893

NOTE 7— STOCK-BASED COMPENSATION

2014 Omnibus Incentive Plan

In January 2014, our board of directors approved the 2014 Omnibus Incentive Plan and amended and restated the plan in March 2014. Our stockholders approved the Amended and Restated 2014 Omnibus Incentive Plan, or the 2014 Plan, in March 2014. Our 2014 Plan initially permitted for the issuance of equity-based instruments covering up to a total of 1,400,000 shares of common stock. Our board of directors and stockholders approved an increase of 1,300,000 shares in June 2016, an increase of 3,250,000 shares in June 2017, an increase of 4,000,000 shares in June 2019, and an increase of 5,000,000 shares in June 2020, bringing the total shares allowed under the plan to 14,950,000. As of June 30, 2021 there were 3,494,217 shares available to award under the 2014 Plan.

The table below represents stock option award activity for the six months ended June 30, 2021:

	Outstanding	Exercisable
January 1, 2021	1,140,975	955,302
Granted/Vested	5,000	39,610
Exercised	(104,465)	(104,465)
Cancelled or expired	(13,938)	(8,786)
June 30, 2021	1,027,572	881,661

The weighted-average exercise price as of June 30, 2021 for stock options outstanding and stock options exercisable was $4.64 and $4.91, respectively.

The table below represents restricted stock activity for the six months ended June 30, 2021:

	Number of Restricted Share Units
Outstanding at January 1, 2021	3,038,785
Granted	2,259,983
Vested	(658,539)
Forfeited	(14,447)
Outstanding at June 30, 2021	4,625,782

Total stock-based compensation recorded in the condensed consolidated statements of comprehensive loss is allocated as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Research and development	$ 1,085	$ 870	$ 2,057	$ 1,518
Sales, marketing and administration	1,072	741	2,247	1,472
Total stock-based compensation	$ 2,157	$ 1,611	$ 4,304	$ 2,990

NOTE 8— LEASES

We lease facilities under two non-cancelable operating leases. The leases expire between January 2022 and November 2024 and include renewal provisions for two to five years, provisions which require us to pay taxes, insurance, maintenance costs or provisions for minimum rent increases. We also lease facilities and equipment under short-term agreements for a period of 12 months or less and recognize the payments straight-line over the lease term. All of the information presented below, with the exception of total lease costs, relates to our two non-cancelable operating leases and a finance lease.

On May 1, 2020 we entered into an amendment for one of our non-cancelable facilities operating leases, under which certain rent payments were deferred and the term of the lease was extended by three months to November 30, 2024. The base rent was deferred for three months and the deferred amount will be repaid over the remaining balance of the modified lease term. In addition, operating expenses were deferred for three months with the deferred amount due upon the annual true-up of operating expenses, which occurred in April 2021. As a result of the lease amendment, we recorded additional ROU assets, and related lease liabilities, of $115,000.

One facility lease requires us to maintain a cash security deposit of $50,000 and also a $105,000 letter of credit in favor of the lessor. The letter of credit was originally for $200,000 at lease inception and steps down $50,000 at each anniversary date if there have been no monetary defaults. The letter of credit is secured by a pledge in favor of the issuing bank of a mutual fund account which is classified as restricted cash in our balance sheet.

Lease renewal options are at our discretion. No renewal options have been recognized in our right-of-use assets and lease liabilities as of June 30, 2021. Our lease agreements do not require material variable minimum lease payments, residual value guarantees or restrictive covenants.

In December 2020, we entered into a lease for lab equipment. The lease is for 60 months and bears an interest rate of 5.99%. After evaluation of the lease under ASU No. 2016-02, *Leases (Topic 842)*, we determined the lease to be a finance lease. We recorded a right-of-use asset and lease liability of $204,000 upon inception of the lease.

The Company's weighted average remaining lease term and weighted average discount rate as of June 30, 2021 is shown below:

Weighted average remaining term (years)	
Operating leases	3.23
Finance lease	4.42
Weighted average discount rate (%)	
Operating leases	4.75 %
Finance lease	5.99 %

Minimum future maturities of lease liabilities recognized on the condensed consolidated balances sheets as of June 30, 2021 (in thousands):

	Operating Leases	Finance Lease
July 1, 2021 - December 31, 2021	$ 392	$ 25
2022	586	50
2023	584	50
2024	544	50
2025	—	46
Total minimum lease payments	$ 2,106	$ 221
Less: imputed interest	(152)	(26)
Total lease liabilities	$ 1,954	$ 195

Operating lease costs were $315,000 for the three months ended June 30, 2021, of which $204,000 and $111,000 are included in research and development expenses and sales, marketing and administration expenses, respectively. Operating lease costs were $279,000 for the three months ended June 30, 2020, of which $203,000 and $76,000 are included in research and development expenses and sales, marketing and administration expenses, respectively.

Operating lease costs were $601,000 for the six months ended June 30, 2021, of which $397,000 and $204,000 are included in research and development expenses and sales, marketing and administrative expenses, respectively. Operating lease costs were $562,000 for the six months ended June 30, 2020, of which $412,000 and $150,000 are included in research and development expenses and sales, marketing and administrative expenses, respectively.

Cash paid for amounts included in the measurement of operating lease liabilities were $385,000 and $276,000 for the six months ended June 30, 2021 and 2020, respectively, which is included in operating activities in the condensed consolidated statements of cash flows.

Finance lease amortization for the three and six months ended June 30, 2021 was $10,000 and $20,000, respectively, and is included in research and development expenses. There was no finance lease amortization for the three and six months ended June 30, 2020 as the lease was not in effect during that period.

NOTE 9—RELATED PARTY TRANSACTIONS

In August 2019, we entered into a consulting agreement with a member of our board of directors. Under the agreement, the board member would provide technical advisory services for cash payments totaling $50,000 paid in twelve equal monthly installments as well as an award of restricted stock units equal in value to $100,000 as of the grant date. In the event the board member continues to perform services in subsequent years, the Company will issue new grants equal to no less than $100,000 worth of restricted stock units in January of each additional year with such grants vesting at the end of each year so long as the services are still being provided. The agreement is cancelable at any time by either the Company or the board member. Services have continued to be provided since inception of the agreement. During the three months ended June 30, 2021, we recorded expenses of $37,500 in connection with the consulting agreement, of which $12,500 is included in research and development expenses and $25,000 is included in general and administrative expenses. During the six months ended June 30, 2021, we recorded expenses of $74,000, of which $25,000 is included in research and development expenses and $49,000 is included in general and administrative expenses. During the three months ended June 30, 2020, we recorded expenses of $37,500 in connection with the consulting agreement, of which $12,500 is included in research and development expenses and $25,000 is included in general and administrative expenses. During the six months ended June 30, 2020, we recorded expenses of $74,000 in connection with the consulting agreement, of which $25,000 is included in research and development expenses and $49,000 is included in general and administrative expenses. As of June 30, 2021, there was $4,000 due to the board member under this consulting agreement.

NOTE 10— COMMITMENTS AND CONTINGENCIES

Legal Proceedings—We are not party to any legal proceedings. We may, from time to time, be party to litigation and subject to claims incident to the ordinary course of business. As our growth continues, we may become party to an increasing number of litigation matters and claims. The outcome of litigation and claims cannot be predicted with certainty, and the resolution of any future matters could materially affect our future financial position, results of operations or cash flows.

Legal fees and other costs associated with legal proceedings are expensed as incurred. We assess, in conjunction with our legal counsel, the need to record a liability for litigation and contingencies. Litigation accruals are recorded when and if it is determined that a loss related matter is both probable and reasonably estimable. Material loss contingencies that are reasonably possible of occurrence, if any, are subject to disclosure. We evaluate developments in legal proceedings and other matters on a quarterly basis. As of June 30, 2021 and 2020, there was no litigation or contingency with at least a reasonable possibility of a material loss. No losses have been recorded during the three and six months ended June 30, 2021 and 2020, respectively, with respect to litigation or loss contingencies.

Intellectual Property Indemnities—We indemnify certain customers and manufacturers against liability arising from third-party claims of intellectual property rights infringement related to our products. These indemnities may appear in license agreements, development agreements and manufacturing agreements, may not be limited in amount or duration and generally survive the expiration date of the contract. Given that the amount of any potential liabilities related to such indemnities cannot be determined until an infringement claim has been made, we are unable to determine the maximum amount of losses that we could incur related to such indemnifications.

Director and Officer Indemnities and Contractual Guarantees—We have entered into indemnification agreements with our directors and executive officers, which require us to indemnify such individuals to the fullest extent permitted by Delaware law. Our indemnification obligations under such agreements are not limited in amount or duration. Certain costs incurred in connection with such indemnifications may be recovered under certain circumstances under various insurance policies. Given that the amount of any potential liabilities related to such indemnities cannot be determined until a lawsuit has been filed, we are unable to determine the maximum amount of losses that we could incur relating to such indemnities.

We have also entered into severance and change in control agreements with certain of our executives. These agreements provide for the payment of specific compensation benefits to such executives upon the termination of their employment with us.

Guarantees and Indemnities—In the normal course of business, we are occasionally required to undertake indemnification for which we may be required to make future payments under specific circumstances. We review our exposure under such obligations no less than annually, or more frequently as required. The amount of any potential liabilities related to such obligations cannot be accurately determined until a formal claim is filed. Historically, any such amounts that become payable have not had a material negative effect on our business, financial condition or results of operations. We maintain general and product liability insurance which may provide a source of recovery to us in the event of an indemnification claim.

NOTE 11— SEGMENTS AND GEOGRAPHIC INFORMATION

We operate in a single segment to design radio frequency filters. In making operating decisions, the Chief Operating Decision Maker, our Chief Executive Officer, primarily considers consolidated financial performance and allocates resources accordingly.

The table below presents our revenue by geographic area (in thousands) and is categorized based on the location of the customer.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Japan	$ 448	$ 522	$ 942	$ 1,023
China	82	71	175	107
Other	84	11	105	18
Total revenue	$ 614	$ 604	$ 1,222	$ 1,148

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

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. The words "believe," "may," "will," "potentially," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," "expect" and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements. These forward-looking statements speak only as of the date of this Form 10-Q and are subject to uncertainties, assumptions and business and economic risks. As such, our actual results could differ materially from those set forth in the forward-looking statements as a result of the factors referenced in the subsection "Risk Factors" set forth in Part II, Item 1A of this Report and Part I, Item 1A of our Annual Report, and similar discussions in our other reports filed with the Securities and Exchange Commission. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this Form 10-Q to conform these statements to actual results or to changes in our expectations, except as required by law.

The following discussion should be read in conjunction with our unaudited condensed consolidated financial statements and notes thereto appearing elsewhere in this Quarterly Report on Form 10-Q with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

Overview

We are a late-stage development company that develops technology for the RF front-end market. Our focus is on continuing to create innovative technology, engage new customers, expand the number of license contracts for filter designs and build the necessary infrastructure to support anticipated growth.

We plan to continue to develop IP associated with high frequency/wide bandwidth filters (XBAR®-based filters), to expand our IP and trade secret libraries, and further the development of our WaveX™ multi-physics EDA platform. While we remain a filter design licensing company, we are also investigating the potential of licensing part or all of our WaveX™ software design suite and certain patents to potential customers in the RFFE industry. During the third quarter of 2019, we completed an investment and commercial agreement with Murata Manufacturing Co., Ltd., the first collaboration agreement leveraging our XBAR® IP. In all licensing arrangements with our customers we intend to retain ownership of our technology, software, designs and related improvements. Our goal is to establish and leverage alliances with new and existing customers, who will help grow the market for our designs by integrating them with their own proprietary technology and products, or by using our software products for their own designs, thus combining their own particular strengths with ours to provide an extensive array of solutions. We continue to expand our foundry program, which allows fabless companies to enter into the filter business quickly and efficiently. It is through this foundry program that we expect to engage with OEM's and Independent Design House's (IDH's) directly to provide a significant cost and time to market advantage.

Our costs include employee salaries and benefits, compensation paid to consultants, capital costs for research and other equipment, costs associated with development activities including travel and administration, legal expenses, sales and marketing costs, general and administration expenses, and other costs associated with a late-stage development, publicly-traded technology company. We continue to add employees, as needed, to support the development of our WaveX™ platform, applications and system test, research and development, as well as sales, marketing and administration functions, to support our efforts.

The amounts that we actually spend for any specific purpose may vary significantly and will depend on a number of factors including, but not limited to, our expected cash resources, the pace of progress of our commercialization and development efforts, actual needs with respect to product testing, research and development, market conditions, and changes in or revisions to our marketing strategies. In addition, we may invest in complementary products, technologies or businesses.

Recent Developments

COVID-19-- The ongoing COVID-19 pandemic has negatively impacted the United States, Asia and Europe, the major markets in which we operate. Although we have seen improvements in the United States, the major markets in which we operate continue to experience COVID-19 cases and recurring shutdowns. The pandemic's ultimate impact on our operations and financial performance depends in part on many factors not within our control and that vary by region, including, without limitation: restrictive governmental and business actions that continue to be taken in response (including travel restrictions and other workforce limitations); economic stimulus, funding and relief programs and other governmental economic responses; the effectiveness of governmental actions; economic uncertainty in key global markets; levels of economic contraction or growth; the impact of the pandemic on health and safety; the emergence of new strains of the virus; the impact of vaccine efforts; the pace of recovery if and when the pandemic ultimately subsides; and how significantly the number of cases increases as economies reopen and restrictive governmental and business actions are relaxed.

Restrictions on travel and the imposition of stay-at-home or work remote conditions have impacted our operations and those of our clients. While we have not experienced major disruptions, clients have requested engagement deferrals and our employees' ability to deliver our products and services has been impacted. We continue to actively communicate with and listen to our customers to best ensure that we are responding to their needs in the current environment with innovative solutions that will not only be beneficial now but also over the long-term. However, our ability to interact with customers has been impacted by the current environment. For example, we believe that our inability to meet in-person with current or prospective customers, as well as the cancellation or postponement of Company-sponsored events or third-party events at which our products are featured, may have a negative impact on our business.

If restrictions continue for an extended period of time, we may, among other issues, experience delays in product development, a decreased ability to support our customers, further disruptions in sales and marketing activities and an overall lack of productivity. Similarly, significant outbreaks, continued travel restrictions, stay-at-home or work remote conditions, or other restrictions may impact our customers' ability to manufacture or deliver raw materials or provide key components or services, which could result in delays in the demand from our customers to produce designs. The pandemic may also impact the expansion of current and/or the roll out of new services which could impact our customers' demand for their products, which could reduce their demand for our products or services. While we don't know and cannot quantify specific impacts, we expect we may be negatively affected if we encounter delays in our product development efforts, reductions in demand due to disruptions in the operations of our customers or their end customers, disruptions in local and global economies, volatility in the global financial markets, overall reductions in demand, or other COVID-19 ramifications.

Results of Operations

Comparison of the Three and Six Months Ended June 30, 2021 and 2020

Revenues. Revenues consist primarily of the recognized portion of the transaction price associated with our contracts from customers recognized over time as the obligations under the terms of the contract are satisfied. Generally, the transaction price includes both upfront and milestone payments which we expect to receive in exchange for providing services. Revenues also include royalties from shipments of our licensed designs. For each of the three months ended June 30, 2021 and 2020, we recognized a total of $0.6 million of revenue. For the six months ended June 30, 2021 and 2020, we recognized a total of $1.2 million and $1.1 million, respectively, of revenue. Overall revenue remained flat over the periods as we continue to work on our current contracts, primarily our collaboration and license agreement with Murata Manufacturing Co., Ltd., a major Tier 1 RF filter manufacturer. We derive a substantial majority of our revenues from a single customer. Additionally, during 2021, there have been nominal increases in our sales-based royalty revenue. We have recorded $0.8 million of deferred revenue as of June 30, 2021, which we expect to recognize over the remainder of the contracts.

Research and Development. These expenses relate to direct engineering and other costs associated with the development and commercialization of our technology, including the development of filter designs for our customers and consist primarily of the compensation costs of employees and consultants, including stock-based compensation, and to a lesser extent, development related costs for facilities, equipment, software and supplies. We also include the costs for our intellectual property development program under research and development. This program focuses on patent strategy and invention extraction.

Research and development expenses increased $1.1 million from $4.8 million in the second quarter of 2020 to $5.9 million in the second quarter of 2021 and increased $0.9 million, from $10.3 million in the first half of 2020 to $11.2 million in the first half of 2021. The increases in the three and six month periods were primarily a result of increased costs related to development of our WaveX™ and XBAR® technology, increases in stock based compensation and increased costs associated with expanding our patent portfolio. For the remainder of the year we expect research and development expenses to increase due to higher development costs and additional headcount.

Sales, Marketing and Administration Expenses. These expenses relate to our sales and marketing efforts and our back-office support and include compensation costs of employees and consultants, including stock-based compensation. They also include expenses for facilities, travel expenses, telecommunications, investor relations, insurance and professional fees.

Sales, marketing and administration expenses were $3.8 million for the second quarter of 2021 compared to $3.0 million in the second quarter of 2020, and $7.9 million in the first half of 2021 compared to $6.1 million in the first half of 2020. The increase in the three month period is primarily related to increased compensation expenses for employees and consultants of $0.5 million, increased travel expenses of $0.1 million and other increased expenses of $0.1 million. The increase for the six month period was primarily related to increased compensation expenses for employee and consultants of $1.0 million, costs related to the filing of our universal shelf registration statement of $0.1 million and other increased operating expenses, including insurance, legal, accounting and marketing of $0.6 million. We anticipate that our sales, marketing and administration expenses will remain consistent with the current quarter.

Interest and Investment Income (Expense). Interest and investment expense for the three and six months ended June 30, 2021 was $3,000 and $6,000, respectively. Interest and investment income for the three and six months ended June 30, 2020 was $7,000 and $64,000, respectively. The income in 2020 represented interest income on our cash and investment balances while the expense in 2021 represented interest expense recorded in connection with a finance lease for equipment.

Income Taxes. We have earned minimal revenues and are currently operating at a loss. In the three and six months ended June 30, 2021 and 2020, our only tax liability was for minimum taxes in the states where we conduct business.

Liquidity and Capital Resources

Financing Activities

We have earned minimal revenues since inception. Our operations have been funded with initial capital contributions and proceeds from the sale of equity securities and debt.

As of June 30, 2021, we have raised aggregate gross proceeds of $149.6 million through the use of loans and convertible debt, and sales of equity pursuant to our initial public offering, secondary underwritten offerings, an at-the-market equity program, private placement financings, and the exercise of stock options and warrants.

We had current assets of $23.4 million and current liabilities of $5.5 million at June 30, 2021, resulting in working capital of $17.9 million. This compares to working capital of $19.1 million at June 30, 2020 and $19.8 million at December 31, 2020. The change in working capital is primarily the result of cash used in our normal business operations, offset by proceeds from the issuance of equity securities.

As of June 30, 2021, our accumulated deficit totaled $168.8 million. In the six months ended June 30, 2021 our net loss totaled $17.9 million and we used $14.4 million of cash for operating activities, the purchase of property and equipment and expenditures for patents. To date we have not generated significant revenues to enable profitability. We expect to continue to incur significant losses. These factors raise substantial doubt regarding our ability to continue as a going concern. At June 30, 2021 we had cash and cash equivalents of $22.7 million. In the absence of a significant revenue increase these cash resources will provide sufficient funding into the second quarter of 2022. We are subject to the risks and uncertainties associated with a new business. We also have been impacted by the COVID-19 pandemic which has added additional risks and uncertainties. Our continuance as a going concern is dependent on our future profitability. We are actively pursuing expanding our technology portfolio, increasing our revenue opportunities by completing deliverables under current customer contracts and entering into new customer contracts, and efficiently managing operations and exploring cost saving opportunities. We may not be successful in these efforts. We may need to seek to raise additional capital from the sale of equity securities or incurrence of indebtedness. There can be no assurance that additional financing will be available to us on acceptable terms, or at all, in which case we might be forced to make substantial reductions in our operating expenses which could adversely affect our ability to implement our business plan and ultimately our viability as a company. Even if available, such capital may be dilutive to existing stockholders. The accompanying condensed consolidated financial statements have been prepared on a going concern basis which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

Cash Flow Analysis

Operating activities used cash of $13.4 million in the first six months of 2021 and $12.5 million in the first six months of 2020. The increase is primarily the result of our higher net loss and working capital changes, partially offset by higher non-cash expenses.

Investing activities used cash of $1.0 million in the first six months of 2021 and $0.7 million in the first six months of 2020 as a result of purchases of property and equipment and expenditures for patents.

Financing activities provided cash of $12.2 million in the first six months of 2021 as a result of the net proceeds from our at-the-market equity program and exercises of stock options. Financing activities provided cash of $26.4 million in the first six months of 2020 as a result of the net proceeds from the underwritten sale of equity securities completed in February 2020.

Off-Balance Sheet Transactions

We do not have any off-balance sheet arrangements.

Critical Accounting Policies and Estimates

Our discussion and analysis of financial condition and results of operations is based upon our condensed consolidated financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. Certain accounting policies and estimates are particularly important to the understanding of our financial position and results of operations and require the application of significant judgment by our management or can be materially affected by changes from period to period in economic factors or conditions that are outside of our control. As a result, they are subject to an inherent degree of uncertainty. In applying these policies, our management uses their judgment to determine the appropriate assumptions to be used in the determination of certain estimates. Those estimates are based on our historical operations, our future business plans and projected financial results, the terms of existing contracts, our observance of trends in the industry, information provided by our customers and information available from other outside sources, as appropriate. While the nature of the COVID 19 situation is dynamic, we have considered its impact when developing our estimates and assumptions. Actual results and outcomes may differ from management's estimates and assumptions.

A description of our critical accounting policies that represent the more significant judgments and estimates used in the preparation of our financial statements was provided in the Management’s Discussion and Analysis of Financial Condition and Results of Operations section of our Annual Report on Form 10-K for the year ended December 31, 2020. There have been no changes to our critical accounting policies and estimates described in the Annual Report on Form 10-K for the year ended December 31, 2020 that have had a material impact on our condensed consolidated financial statements and related notes.

Recently Issued and Adopted Accounting Pronouncements

Recent accounting pronouncements are detailed in Note 2 to our condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Not Applicable

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The phrase "disclosure controls and procedures" refers to controls and procedures designed to ensure that information required to be disclosed in our reports filed or submitted under the Securities Exchange Act of 1934, as amended, or the Exchange Act, such as this Quarterly Report on Form 10-Q, is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the U.S. Securities and Exchange Commission, or SEC. Disclosure controls and procedures are also designed to ensure that such information is accumulated and communicated to our management, including our chief executive officer, or CEO, and chief financial officer, or CFO, as appropriate to allow timely decision regarding required disclosure.

Our management, with the participation of our CEO and CFO, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of June 30, 2021, the end of the period covered by this Quarterly Report on Form 10-Q. Based on such evaluation, our CEO and CFO have concluded that as of June 30, 2021, our disclosure controls and procedures were designed at a reasonable assurance level and were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Controls over Financial Reporting

There was no change in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the quarter ended June 30, 2021 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

PART II: OTHER INFORMATION

Item 1. Legal Proceedings

We are not party to any legal proceedings. We may, from time to time, be party to litigation and subject to claims incident to the ordinary course of business. As our product offerings continue to develop, we may become party to an increasing number of litigation matters and claims. The outcome of litigation and claims cannot be predicted with certainty, and the resolution of any future matters could materially affect our future financial position, results of operations or cash flows.

Item 1A. Risk Factors

This Quarterly Report on Form 10-Q contains forward-looking statements, which are subject to a variety of risks and uncertainties. Other actual results could differ materially from those anticipated in those forward-looking statements as a result of various factors, including those set forth in the risk factors relating to our business and common stock contained in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2020. There have been no material changes to such risk factors during the period ended June 30, 2021.

Item 5. Other Information

On August 9, 2021, the Compensation Committee of our Board of Directors approved quarterly bonus awards to our executive officers pursuant to our 2021 Incentive Bonus Program for their performance during the second quarter of 2021. The bonus awards were paid in the form of restricted stock units for shares of our common stock in the amounts set forth below. The restricted stock units vest in full on August 17, 2021.

Executive Officers	Number of RSU Shares
Neal Fenzi	6,952
Dylan Kelly	6,261
Martin McDermut	8,115
Lisa Wolf	6,346

Item 6. Exhibits

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File Number	Exhibit	Filing Date	
3.1.1	Amended and Restated Certificate of Incorporation of the Registrant	8-K	001-36467	3.1	6/5/2014	
3.1.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Registrant	8-K	001-36467	3.1	6/12/2019	
3.2	Amended and Restated Bylaws of the Registrant	8-K	001-36467	3.2	6/5/2014	
31.1	Certification of Principal Executive Officer Pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
31.2	Certification of Principal Financial Officer Pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1#	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
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.					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					X

The information in this exhibit is furnished and deemed not filed with the Securities and Exchange Commission for purposes of section 18 of the Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of Resonant Inc. under the Securities Act of 1933, as amended, or the Exchange Act of 1934, as amended, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

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.

Date:	August 11, 2021	**Resonant Inc.**	
		By:	/s/ Martin S. McDermut
			Martin S. McDermut
			Chief Financial Officer

Exhibit 31.1

Certification of Principal Executive Officer Pursuant To
Exchange Act Rules 13a-14(a) and 15d-14(a),
As Adopted Pursuant To
Section 302 of Sarbanes-Oxley Act of 2002

I, George B. Holmes, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Resonant Inc.;

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

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

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

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

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

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

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

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

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

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

Date: August 11, 2021

/s/ George B. Holmes
George B. Holmes
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification of Principal Financial Officer Pursuant To
Exchange Act Rules 13a-14(a) and 15d-14(a),
As Adopted Pursuant To
Section 302 of Sarbanes-Oxley Act of 2002

I, Martin S. McDermut, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Resonant Inc.;

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

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

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

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

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

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

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

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

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

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

Date: August 11, 2021

/s/ Martin S. McDermut
Martin S. McDermut
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

Certifications of Principal Executive Officer and Principal Financial Officer
Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant To
Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. 1350), George B. Holmes, Chief Executive Officer (Principal Executive Officer) and Martin S. McDermut, Chief Financial Officer (Principal Financial Officer) of Resonant Inc. (the "Company"), hereby certifies that, to the best of his knowledge:

1. Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, to which this Certification is attached as Exhibit 32.1 (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

Date: August 11, 2021

/s/ George B. Holmes
George B. Holmes
Chief Executive Officer
(Principal Executive Officer)

/s/ Martin S. McDermut
Martin S. McDermut
Chief Financial Officer
(Principal Financial Officer)