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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2021

OR

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

For the transition period from __________ to _________.

Commission File Number: 001-38324

Casa Systems, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**75-3108867**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
100 Old River Road Andover, Massachusetts (Address of principal executive offices)	**01810 (Zip Code)**

Registrant's telephone number, including area code: (978) 688-6706

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, $0.001 par value per share	CASA	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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See 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 July 23, 2021, the registrant had 85,528,136 shares of common stock, $0.001 par value per share, outstanding.

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Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical fact contained in this Quarterly Report on Form 10-Q, including statements regarding our future results of operations and financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “might,” “should,” “expects,” “plans,” “anticipates,” “would,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these terms or other similar expressions. The forward-looking statements in this Quarterly Report on Form 10-Q are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this Quarterly Report on Form 10-Q and are subject to a number of risks, uncertainties and assumptions described in the “Risk Factors” section and elsewhere in this Quarterly Report on Form 10-Q. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Some of the key factors that could cause actual results to differ from our expectations include:

- our ability to anticipate technological shifts;
- our ability to generate positive returns on our research and development;
- changes in the rate of communication service providers’, or CSPs’, deployment of, and investment in, ultra-broadband network capabilities;
- the lack of predictability of revenue due to lengthy sales cycles and the volatility in capital expenditure budgets of CSPs;
- our ability to maintain and expand gross profit and net income;
- the sufficiency of our cash resources and needs for additional financing;
- our ability to further penetrate our existing customer base and obtain new customers;
- changes in our pricing policies, whether initiated by us or as a result of competition;
- the amount and timing of operating costs and capital expenditures related to the operation and expansion of our business;
- the potential impact of the COVID-19 pandemic, which is highly uncertain and will depend on future developments on our business, our suppliers and our customers;
- the actual or rumored timing and success of new product and service introductions by us or our competitors or any other change in the competitive landscape of our industry, including consolidation among our competitors or customers;
- our ability to successfully expand our business domestically and internationally, including our ability to maintain the synergies we have realized from our acquisition of NetComm Wireless Limited, or NetComm;
- insolvency or credit difficulties confronting our customers, which could adversely affect their ability to purchase or pay for our products and services, or confronting our key suppliers, which could disrupt our supply chain;
- our inability to fulfill our customers’ orders due to supply chain delays, access to key commodities or technologies or events that impact our manufacturers or their suppliers;
- future accounting pronouncements or changes in our accounting policies;
- stock-based compensation expense;

- our overall effective tax rate, including impacts caused by the relative proportion of foreign to U.S. income, the amount and timing of certain employee stock-based compensation transactions, changes in the valuation of our deferred tax assets and any new legislation or regulatory developments;
- increases or decreases in our expenses caused by fluctuations in foreign currency exchange rates;
- the costs and possible outcomes of any legal actions or proceedings against us, including those described under "Part II, Item 1—Legal Proceedings";
- general economic conditions, both domestically and in foreign markets;
- our ability to obtain and maintain intellectual property protection for our products; and
- our use of proceeds from our initial public offering.

Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events or otherwise.

PART I—FINANCIAL INFORMATION
Item 1. Financial Statements

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except per share amounts)
(Unaudited)

	June 30, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 168,654	$ 157,455
Accounts receivable, net of provision for doubtful accounts of $147 and $58 as of June 30, 2021 and December 31, 2020, respectively	65,570	94,124
Inventory	95,782	101,204
Prepaid expenses and other current assets	7,531	3,864
Prepaid income taxes	14,526	14,087
Total current assets	352,063	370,734
Property and equipment, net	25,471	28,880
Accounts receivable, net of current portion	65	143
Deferred tax assets	1,060	1,150
Goodwill	50,177	50,177
Intangible assets, net	34,171	35,844
Other assets	6,196	6,038
Total assets	$ 469,203	$ 492,966
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 26,299	$ 41,203
Accrued expenses and other current liabilities	29,417	39,793
Accrued income taxes	3,821	7,463
Deferred revenue	20,224	15,531
Current portion of long-term debt, net of unamortized debt issuance costs	8,418	15,171
Total current liabilities	88,179	119,161
Accrued income taxes, net of current portion	9,921	9,520
Deferred tax liabilities	7,359	7,282
Deferred revenue, net of current portion	5,328	3,520
Long-term debt, net of current portion and unamortized debt issuance costs	275,153	276,085
Other liabilities, net of current portion	1,306	1,024
Total liabilities	387,246	416,592
Commitments and contingencies (Note 17)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000 shares authorized as of June 30, 2021 and December 31, 2020; no shares issued and outstanding as of June 30, 2021 and December 31, 2020	—	—
Common stock, $0.001 par value; 500,000 shares authorized; 87,116 and 85,329 shares issued as of June 30, 2021 and December 31, 2020, respectively; 85,394 and 83,607 shares outstanding as of June 30, 2021 and December 31, 2020, respectively	87	85
Treasury stock, at cost; 1,722 shares	(4,826)	(4,826)
Additional paid-in capital	185,809	183,041
Accumulated other comprehensive income	594	337
Accumulated deficit	(99,707)	(102,263)
Total stockholders' equity	81,957	76,374
Total liabilities and stockholders' equity	$ 469,203	$ 492,966

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE (LOSS) INCOME
(in thousands, except per share amounts)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue:				
Product	$ 80,469	$ 72,128	$ 174,267	$ 145,886
Service	12,261	11,222	22,740	21,087
Total revenue	92,730	83,350	197,007	166,973
Cost of revenue:				
Product	46,117	39,011	93,143	78,655
Service	1,098	1,209	2,309	2,535
Total cost of revenue	47,215	40,220	95,452	81,190
Gross profit	45,515	43,130	101,555	85,783
Operating expenses:				
Research and development	20,295	20,688	41,901	41,899
Selling, general and administrative	21,583	21,110	43,463	46,101
Total operating expenses	41,878	41,798	85,364	88,000
Income (loss) from operations	3,637	1,332	16,191	(2,217)
Other income (expense):				
Interest income	103	271	217	677
Interest expense	(3,999)	(4,307)	(7,917)	(8,935)
(Loss) gain on foreign currency, net	(231)	528	(978)	680
Other income, net	479	35	551	97
Total other income (expense), net	(3,648)	(3,473)	(8,127)	(7,481)
(Loss) income before provision for (benefit from) income taxes	(11)	(2,141)	8,064	(9,698)
Provision for (benefit from) income taxes	3,182	887	5,508	(7,832)
Net (loss) income	(3,193)	(3,028)	2,556	(1,866)
Other comprehensive (loss) income—foreign currency translation adjustment, net of tax	593	99	257	(418)
Other comprehensive (loss) income—gain on foreign currency hedge, net of tax	—	171	—	527
Comprehensive (loss) income	$ (2,600)	$ (2,758)	$ 2,813	$ (1,757)
Net (loss) income attributable to common stockholders:				
Basic and diluted	$ (3,193)	$ (3,028)	$ 2,556	$ (1,866)
Net (loss) income per share attributable to common stockholders:				
Basic	$ (0.04)	$ (0.04)	$ 0.03	$ (0.02)
Diluted	$ (0.04)	$ (0.04)	$ 0.03	$ (0.02)
Weighted-average shares used to compute net (loss) income per share attributable to common stockholders:				
Basic	85,036	83,068	84,641	83,505
Diluted	85,036	83,068	89,013	83,505

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)
(Unaudited)

	Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balances at March 31, 2021	86,502	$ 86	1,722	$ (4,826)	$ 182,088	$ 1	$ (96,514)	$ 80,835
Exercise of stock options and common stock issued upon vesting of equity awards, net of shares withheld for employee taxes	614	1	—	—	(432)	—	—	(431)
Foreign currency translation adjustment	—	—	—	—	—	593	—	593
Stock-based compensation	—	—	—	—	4,153	—	—	4,153
Net loss	—	—	—	—	—	—	(3,193)	(3,193)
Balances at June 30, 2021	87,116	$ 87	1,722	$ (4,826)	$ 185,809	$ 594	$ (99,707)	$ 81,957

	Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balances at January 1, 2021	85,329	$ 85	1,722	$ (4,826)	$ 183,041	$ 337	$ (102,263)	$ 76,374
Exercise of stock options and common stock issued upon vesting of equity awards, net of shares withheld for employee taxes	1,787	2	—	—	(4,490)	—	—	(4,488)
Foreign currency translation adjustment	—	—	—	—	—	257	—	257
Stock-based compensation	—	—	—	—	7,258	—	—	7,258
Net income	—	—	—	—	—	—	2,556	2,556
Balances at June 30, 2021	87,116	$ 87	1,722	$ (4,826)	$ 185,809	$ 594	$ (99,707)	$ 81,957

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (continued)
(in thousands)
(Unaudited)

	Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balances at March 31, 2020	84,726	$ 85	1,711	$ (4,793)	$ 171,914	$ (2,383)	$ (125,902)	$ 38,921
Exercise of stock options and common stock issued upon vesting of equity awards, net of shares withheld for employee taxes	130	—	—	—	75	—	—	75
Cash flow hedges	—	—	—	—	—	171	—	171
Foreign currency translation adjustment	—	—	—	—	—	99	—	99
Repurchases of treasury shares	—	—	11	(33)	—	—	—	(33)
Stock-based compensation	—	—	—	—	3,507	—	—	3,507
Net loss	—	—	—	—	—	—	(3,028)	(3,028)
Balances at June 30, 2020	84,856	$ 85	1,722	$ (4,826)	$ 175,496	$ (2,113)	$ (128,930)	$ 39,712

	Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balances at January 1, 2020	84,333	$ 84	495	$ (1,795)	$ 169,561	$ (2,222)	$ (127,064)	$ 38,564
Exercise of stock options and common stock issued upon vesting of equity awards, net of shares withheld for employee taxes	523	1	—	—	(73)	—	—	(72)
Cash flow hedges	—	—	—	—	—	527	—	527
Foreign currency translation adjustment	—	—	—	—	—	(418)	—	(418)
Repurchases of treasury shares	—	—	1,227	(3,031)	—	—	—	(3,031)
Stock-based compensation	—	—	—	—	6,008	—	—	6,008
Net loss	—	—	—	—	—	—	(1,866)	(1,866)
Balances at June 30, 2020	84,856	$ 85	1,722	$ (4,826)	$ 175,496	$ (2,113)	$ (128,930)	$ 39,712

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	Six Months Ended June 30,	
	2021	2020
Cash flows provided by operating activities:		
Net income (loss)	$ 2,556	$ (1,866)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	8,197	9,255
Stock-based compensation	7,547	6,016
Deferred income taxes	173	(420)
Increase in provision for doubtful accounts	89	23
Change in provision for excess and obsolete inventory	(6)	1,118
Gain on disposal of assets	4	10
Changes in operating assets and liabilities:		
Accounts receivable	28,433	40,377
Inventory	5,372	6,217
Prepaid expenses and other assets	(3,792)	1,419
Prepaid income taxes	(441)	(7,624)
Accounts payable	(14,456)	1,331
Accrued expenses and other current liabilities	(10,210)	(2,480)
Accrued income taxes	(3,240)	(1,016)
Deferred revenue	6,489	(8,424)
Net cash provided by operating activities	26,715	43,936
Cash flows used in investing activities:		
Purchases of property and equipment	(1,514)	(2,717)
Purchases of software licenses	(1,400)	—
Net cash used in investing activities	(2,914)	(2,717)
Cash flows used in financing activities:		
Principal repayments of debt	(8,275)	(1,660)
Proceeds from exercise of stock options	1,187	414
Employee taxes paid related to net share settlement of equity awards	(5,675)	(487)
Payments of dividends and equitable adjustments	(59)	(622)
Repurchases of treasury stock	—	(3,031)
Net cash used in financing activities	(12,822)	(5,386)
Effect of exchange rate changes on cash and cash equivalents	214	(340)
Net increase in cash, cash equivalents and restricted cash	11,193	35,493
Cash, cash equivalents and restricted cash at beginning of period	158,461	114,657
Cash, cash equivalents and restricted cash at end of period (1)	$ 169,654	$ 150,150
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 7,358	$ 5,502
Cash paid for income taxes	$ 7,564	$ 1,889
Supplemental disclosures of non-cash operating, investing and financing activities:		
Purchases of property and equipment included in accounts payable	$ 265	$ 564
Unpaid equitable adjustments included in accrued expenses and other current liabilities	$ 4	$ 124
Fair value of cash flow hedges	$ —	$ 527

(1) See Note 2 of the accompanying notes for a reconciliation of the ending balance of cash, cash equivalents and restricted cash shown in these unaudited condensed consolidated statements of cash flows.

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

1. Nature of Business and Basis of Presentation

Casa Systems, Inc. (the "Company") was incorporated under the laws of the State of Delaware on February 28, 2003. The Company is a global communications technology company headquartered in Andover, Massachusetts and has wholly owned subsidiaries in China, France, Canada, Ireland, Spain, Colombia, the Netherlands, Hong Kong, Australia, Germany, the United Kingdom and New Zealand.

The Company offers physical, virtual and cloud-native 5G broadband and customer premise networking equipment for public and private high-speed data and multi-service communications networks. The Company's core and edge broadband technology enables communications service providers and enterprises to cost-effectively and dynamically increase data network speed, add bandwidth capacity and new services, reduce network complexity, and reduce operating and capital expenditures.

The Company is subject to a number of risks similar to other companies of comparable size and other companies selling and providing services to the communications service provider ("CSP") industry. These risks include, but are not limited to, the level of capital spending by the CSPs, a lengthy sales cycle, dependence on the development of new products and services, unfavorable economic and market conditions, competition from larger and more established companies, limited management resources, dependence on a limited number of contract manufacturers and suppliers, the rapidly changing nature of the technology used by the CSPs and reliance on resellers and sales agents. Failure by the Company to anticipate or to respond adequately to technological developments in its industry, changes in customer or supplier requirements, changes in regulatory requirements or industry standards, or any significant delays in the development or introduction of products could have a material adverse effect on the Company's operating results, financial condition and cash flows.

The Company is an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"), and may remain an emerging growth company until the last day of the fiscal year following the fifth anniversary of the Company's initial public offering, subject to specified conditions. The JOBS Act provides that an emerging growth company can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. The Company has elected not to "opt out" of such extended transition period, which means that when a standard is issued or revised, and it has different application dates for public or private companies, the Company is required to adopt the new or revised standard at or prior to the time private companies are required to adopt the new or revised standard, provided that the Company continues to be an emerging growth company. The JOBS Act provides that the decision to take advantage of the extended transition period for complying with new or revised accounting standards is irrevocable.

The accompanying condensed consolidated balance sheet as of June 30, 2021, the condensed consolidated statements of operations and comprehensive (loss) income for the three and six months ended June 30, 2021 and 2020, the condensed consolidated statements of cash flows for the six months ended June 30, 2021 and 2020 and the condensed consolidated statements of stockholders' equity for the three and six months ended June 30, 2021 and 2020 are unaudited. The financial data and other information disclosed in these notes related to the three and six months ended June 30, 2021 and 2020 are also unaudited. The accompanying condensed consolidated balance sheet as of December 31, 2020 was derived from the Company's audited consolidated financial statements for the year ended December 31, 2020 included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on February 25, 2021 (the "Annual Report on Form 10-K"). The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") regarding interim financial reporting. Certain information and note disclosures normally included in the consolidated financial statements prepared in accordance with GAAP have been condensed or omitted. Therefore, these condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes included in the Annual Report on Form 10-K. There have been no changes to the Company's accounting policies from those disclosed in the Annual Report on Form 10-K that would have a material impact on the Company's condensed consolidated financial statements.

The unaudited interim condensed consolidated financial statements have been prepared on a basis consistent with that used to prepare the audited annual consolidated financial statements and, in the opinion of management, include all adjustments, consisting of only normal recurring adjustments, necessary for a fair statement of the financial position, results of operations and cash flows for the interim periods, but are not necessarily indicative of the results of operations and cash flows to be anticipated for the full year ending December 31, 2021 or any future period.

The accompanying condensed consolidated financial statements include the accounts and results of operations of the Company and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods.

Significant estimates and judgments relied upon by management in preparing these condensed consolidated financial statements include revenue recognition, provision for doubtful accounts, reserves for excess and obsolete inventory, valuation of inventory and deferred inventory costs, the expensing and capitalization of software-related research and development costs, amortization and depreciation periods, the recoverability of net deferred tax assets, valuations of uncertain tax positions, warranty allowances, the valuation of equity instruments and stock-based compensation expense.

Although the Company regularly reassesses the assumptions underlying these estimates, actual results could differ materially from these estimates. Changes in estimates are recorded in the period in which they become known. The Company bases its estimates on historical experience and various other assumptions that it believes to be reasonable under the circumstances existing at the time such estimates are made.

The COVID-19 pandemic presents various risks to the Company, not all of which the Company is able to fully evaluate or even to foresee at the current time and could have a material effect upon the estimates and judgments relied upon by management in preparing these condensed consolidated financial statements. While the COVID-19 pandemic did not significantly adversely affect the Company’s financial results and business operations in the three and six months ended June 30, 2021, economic and health conditions in the United States and across most of the globe changed rapidly during the period and are continuing to change after the end of the quarter. Globally, all aspects of the Company’s business remain fully operational. The pandemic has led to increased demand for certain of the Company’s products, resulting in increased order volumes that have created additional pressure on the Company’s supply chain. In addition, certain of the Company’s products utilize components, for which there has been increased global demand. As a result, we have begun to see shortages of supply that have increased the likelihood of an adverse impact on the Company’s future revenue and gross margins and ability to fill orders for customers in a timely manner. The Company continues to work with its supply chain and contract manufacturers, as well as its customers, to minimize the possible extent of such impacts. However, at this time the Company is neither able to estimate the extent of these impacts nor predict whether its efforts to minimize or contain them will be successful. The Company intends to continue to monitor its business very closely for any effects of COVID-19 for as long as necessary.

Subsequent Event Considerations

The Company evaluates events or transactions that occur after the balance sheet date, but prior to the issuance of the financial statements, in order to provide additional evidence for certain estimates or to identify matters that require additional disclosure. The Company has evaluated all subsequent events and determined that there are no material recognized or unrecognized subsequent events requiring disclosure.

Cash, Cash Equivalents and Restricted Cash

Cash and cash equivalents include all highly liquid investments maturing within three months from the date of purchase. As of June 30, 2021 and December 31, 2020, the Company’s cash and cash equivalents consisted of investments in certificates of deposit and money market mutual funds.

Restricted cash as of June 30, 2021 and December 31, 2020 consisted of a certificate of deposit of $1,000 and $1,006, respectively, pledged as collateral for a stand-by letter of credit required to support a contractual obligation.

The following table is a reconciliation of cash, cash equivalents and restricted cash included in the accompanying condensed consolidated balance sheets that sum to the total cash, cash equivalents and restricted cash included in the accompanying condensed consolidated statements of cash flows:

	June 30, 2021	June 30, 2020
Cash and cash equivalents	$ 168,654	$ 149,148
Restricted cash included in other assets	1,000	1,002
	$ 169,654	$ 150,150

Accounts Receivable

Accounts receivable are presented net of a provision for doubtful accounts, which is an estimate of amounts that may not be collectible. Accounts receivable for customer contracts with customary payment terms, which are one year or less, are recorded at invoiced amounts and do not bear interest. The Company may, in limited circumstances, grant payment terms longer than one year. Payments due beyond 12 months from the balance sheet date are recorded as non-current assets. The Company generally does not require collateral, but the Company may, in certain instances based on its credit assessment, require full or partial prepayment prior to shipment.

Accounts receivable as of June 30, 2021 and December 31, 2020 consisted of the following:

	June 30, 2021	December 31, 2020
Current portion of accounts receivable, net:		
Accounts receivable, net	$ 65,497	$ 93,480
Accounts receivable, extended payment terms	73	644
	65,570	94,124
Accounts receivable, net of current portion:		
Accounts receivable, extended payment terms	65	143
	$ 65,635	$ 94,267

The Company performs ongoing credit evaluations of its customers and, if necessary, provides a provision for doubtful accounts and expected losses. When assessing and recording its provision for doubtful accounts, the Company evaluates the age of its accounts receivable, current economic trends, creditworthiness of the customer, customer payment history, and other specific customer and transaction information. The Company writes off accounts receivable against the provision when it determines a balance is uncollectible and no longer actively pursues collection of the receivable. Adjustments to the provision for doubtful accounts are recorded as selling, general and administrative expenses in the condensed consolidated statements of operations and comprehensive (loss) income.

As of June 30, 2021 and December 31, 2020, the Company concluded that all amounts due under extended payment terms were collectible and no reserve for credit losses was recorded. During the six months ended June 30, 2021 and 2020, the Company did not provide a reserve for credit losses and did not write off any uncollectible receivables due under extended payment terms.

Concentration of Risks

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents and accounts receivable. Cash and cash equivalents consist of demand deposits, savings accounts, money market mutual funds, and certificates of deposit with financial institutions, which may exceed Federal Deposit Insurance Corporation limits. The Company has not experienced any losses related to its cash and cash equivalents and does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

Significant customers are those that represent 10% or more of revenue or accounts receivable and are set forth in the following tables:

	Revenue Three Months Ended June 30,		Revenue Six Months Ended June 30,	
	2021	2020	2021	2020
Customer A	13%	*	16%	*
Customer B	*	22%	*	21%
Customer C	15%	*	17%	*
Customer D	*	13%	*	*
Customer E	11%	*	*	*

	Accounts Receivable, Net	
	June 30, 2021	December 31, 2020
Customer A	24%	*
Customer C	10%	*
Customer F	*	17%

* Less than 10% of total

Certain of the components and subassemblies included in the Company's products are obtained from a single source or a limited group of suppliers. Although the Company seeks to reduce dependence on those limited sources of suppliers and manufacturers, the partial or complete loss of certain of these sources could have a material adverse effect on the Company's operating results, financial condition and cash flows and damage its customer relationships.

Stock-Based Compensation

The Company measures stock options and other stock-based awards granted to employees and directors based on the fair value on the date of the grant and recognizes compensation expense of those awards, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award. Generally, the Company issues stock options with only service-based vesting conditions and records the expense for these awards using the straight-line method.

The Company classifies stock-based compensation expense in its consolidated statements of operations and comprehensive (loss) income in the same manner in which the award recipient's payroll costs are classified or in which the award recipient's service payments are classified.

The Company recognizes compensation expense for only the portion of awards that are expected to vest. In developing a forfeiture rate estimate, the Company has considered its historical experience to estimate pre-vesting forfeitures for service-based awards. The impact of a forfeiture rate adjustment will be recognized in full in the period of adjustment, and if the actual forfeiture rate is materially different from the Company's estimate, the Company may be required to record adjustments to stock-based compensation expense in future periods.

The Company estimates the fair value of each stock option grant on the date of grant using the Black-Scholes option pricing model. The Company was a private company until December 14, 2017 and lacks sufficient company-specific historical and implied volatility information for its stock. Therefore, for all options granted in 2020 or before, the Company estimated its expected stock volatility based on the historical volatility of publicly traded peer companies. Beginning with options granted in 2021, the Company estimates its expected stock volatility using a weighted-average calculation based on the historical volatility of the Company and publicly traded peer companies and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The expected term of the Company's stock options has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options. The expected term of stock options granted to non-employees is equal to the contractual term of the option award. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that the Company does not have a history of declaring or paying cash dividends, except for the special cash dividends declared in November 2014, June 2016, December 2016, May 2017 and November 2017 and in those circumstances the board of directors approved cash dividends to be paid to holders of the Company's stock options, stock appreciation rights ("SARs") and restricted stock units ("RSUs") upon vesting as an equitable adjustment to the holders of such instruments.

The Company has also granted SARs to certain employees, which require the Company to pay in cash upon exercise an amount equal to the product of the excess of the per share fair market value of the Company's common stock on the date of exercise over the exercise price, multiplied by the number of shares of common stock with respect to which the SAR is exercised. Because these awards may require the Company to settle the awards in cash, the Company accounts for them as a liability in the Company's consolidated balance sheets. The Company recognizes the liability related to these awards, as well as related compensation expense over the period during which services are rendered until completed. As all SARs are now fully vested, the Company continues to remeasure the fair market value of the liability until the award is either exercised or canceled, with changes in the fair value of the liability recorded in the consolidated statements of operations and comprehensive (loss) income.

Impact of Recently Adopted Accounting Standards

In August 2020, the FASB issued ASU 2020-06, *Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. This guidance simplifies the guidance on certain financial instruments with characteristics of liability and equity, including convertible debt instruments. As a result, entities will not separately present in equity an embedded conversion feature in such debt and will account for a convertible debt instrument wholly as debt, unless certain other conditions are met. The elimination of these models will reduce reported interest expense and increase reported net income for entities that have issued a convertible instrument that is within the scope of ASU 2020-06. The ASU also simplifies the diluted earnings per share calculation in certain areas. The guidance will become effective for fiscal years beginning after December 15, 2021, with early adoption permitted no earlier than fiscal years beginning after December 15, 2020. The Company has elected to early adopt this ASU and the adoption did not have a material impact on the Company's condensed consolidated financial statements and the accompanying notes thereto.

Impact of Recently Issued Accounting Standards

In February 2016, the FASB issued ASU 2016-02, *Leases* (Topic 842): *Amendments to FASB Accounting Standards Codification* ("ASU 2016-02"), which replaces the existing guidance for leases. ASU 2016-02 requires the identification of arrangements that should be accounted for as leases by lessees. In general, for lease arrangements exceeding a twelve-month term, the arrangements must now be recognized as assets and liabilities on the balance sheet of the lessee. Under ASU 2016-02, a right-of-use asset and lease obligation will be recorded for all leases, whether operating or financing, while the income statement will reflect lease expense for operating leases and amortization/interest expense for financing leases. The balance sheet amount recorded for existing leases at the date of adoption of ASU 2016-02 must be calculated using the applicable incremental borrowing rate at the date of adoption. This guidance will become effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual reporting periods beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022. The Company has begun planning for adoption by implementing a new lease accounting software and by working to establish additional changes to internal processes to comply with all requirements upon adoption. The standard allows for, and the Company plans on using, a modified retrospective approach with comparatives under ASC 840, where entities would recognize a cumulative effect to retained earnings at the date of adoption without restating prior period balances or disclosure. Management is continuing to assess the impact of ASU 2016-02 on the Company's condensed consolidated financial statements and the accompanying notes thereto.

In June 2016, the FASB issued ASU 2016-13, *Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). This guidance is intended to provide more decision-useful information about expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. The main provisions include presenting financial assets measured at amortized cost at the amount expected to be collected, which is net of an allowance for expected credit losses, and recording credit losses related to available-for-sale securities through an allowance for credit losses. The effective dates for the amendments in ASU 2016-13 were updated in ASU 2019-10, *Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842)*, and as such ASU 2016-13 will become effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for fiscal years beginning after December 15, 2022, including interim periods within those fiscal periods, and must be applied using a modified retrospective approach. The Company is currently evaluating the impact ASU 2016-13 will have on its consolidated financial statements.

Other

Other than the disclosures above, there have been no changes to the significant accounting policies disclosed in Note 2 "Summary of Significant Accounting Policies" to the Company's consolidated financial statements included in the Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

3. Goodwill and Intangible Assets

Intangible assets, net consisted of the following at June 30, 2021 and December 31, 2020:

	Cost	Accumulated Amortization	Net Balance
Developed Technology	$ 25,000	$ (7,144)	$ 17,856
Customer Relationships	18,000	(3,600)	14,400
Trade Name	1,000	(664)	336
Purchased software	1,796	(217)	1,579
Totals as of June 30, 2021	$ 45,796	$ (11,625)	$ 34,171

	Cost	Accumulated Amortization	Net Balance
Developed Technology	$ 25,000	$ (5,358)	$ 19,642
Customer Relationships	18,000	(2,700)	15,300
Trade Name	1,000	(498)	502
Purchased software	432	(32)	400
Totals as of December 31, 2020	$ 44,432	$ (8,588)	$ 35,844

As of June 30, 2021, amortization expense on existing intangible assets for the next five years and beyond is as follows:

Year Ending December 31,	
2021	$ 3,060
2022	5,951
2023	5,753
2024	5,651
2025	5,651
Thereafter	8,105
	$ 34,171

A summary of amortization expense recorded during the three and six months ended June 30, 2021 and 2020 is as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Product cost of revenue	$ 893	$ 893	$ 1,786	$ 1,786
Research and development	103	—	185	—
Selling, general and administrative	533	533	1,066	1,067
Totals	$ 1,529	$ 1,426	$ 3,037	$ 2,853

The Company's goodwill is the result of its acquisition of NetComm on July 1, 2019 and represents the excess of purchase price over the estimated fair value of net assets acquired. There has been no change to the $50,177 carrying amount of goodwill since December 31, 2020.

4. Inventory

Inventory as of June 30, 2021 and December 31, 2020 consisted of the following:

	June 30, 2021	December 31, 2020
Raw materials	$ 43,597	$ 50,904
Work in process	1	19
Finished goods:		
Manufactured finished goods	51,243	49,764
Deferred inventory costs	941	517
	$ 95,782	$ 101,204

5. Property and Equipment

Property and equipment as of June 30, 2021 and December 31, 2020 consisted of the following:

	June 30, 2021	December 31, 2020
Computers and purchased software	$ 24,878	$ 24,865
Leasehold improvements	4,182	4,148
Furniture and fixtures	2,660	2,644
Machinery and equipment	37,161	36,701
Land	3,091	3,091
Building	4,765	4,765
Building improvements	7,255	7,244
Trial systems at customers' sites	4,383	5,300
	88,375	88,758
Less: Accumulated depreciation and amortization	(62,904)	(59,878)
	$ 25,471	$ 28,880

During the six months ended June 30, 2021 and 2020, the Company transferred trial systems into inventory from property and equipment with values of $918 and $574, respectively, net of transfers of trial systems to cost of revenue. In addition, the Company transferred $17 and $328 of equipment into inventory from property and equipment during the six months ended June 30, 2021 and 2020, respectively.

Depreciation and amortization expense on property and equipment totaled $2,459 and $3,055 for the three months ended June 30, 2021 and 2020, respectively and $5,160 and $6,402 for the six months ended June 30, 2021 and 2020, respectively.

6. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities as of June 30, 2021 and December 31, 2020 consisted of the following:

	June 30, 2021	December 31, 2020
Accrued compensation and related taxes	$ 15,505	$ 22,785
Accrued warranty	2,597	2,354
Other accrued expenses	11,315	14,654
	$ 29,417	$ 39,793

Accrued Warranty

Substantially all of the Company's products are covered by warranties for software and hardware for periods ranging from 90 days to one year. In addition, in conjunction with customers' renewals of maintenance and support contracts, the Company offers an extended warranty for periods typically of one to three years for agreed-upon fees. In the event of a failure of a hardware product or software covered by these warranties, the Company must repair or replace the software or hardware or, if those remedies are insufficient, and at the discretion of the Company, provide a refund. The Company's warranty reserve, which is included in accrued expenses and other current liabilities in the condensed consolidated balance sheets, reflects estimated material, labor and other costs related to potential or actual software and hardware warranty claims for which the Company expects to incur an obligation. The Company's estimates of anticipated rates of warranty claims and the costs associated therewith are primarily based on historical information and future forecasts. The Company periodically assesses the adequacy of the warranty reserve and adjusts the amount as necessary. If the historical data used to calculate the adequacy of the warranty reserve are not indicative of future requirements, additional or reduced warranty reserves may be required.

A summary of changes in the amount reserved for warranty costs for the six months ended June 30, 2021 and 2020 is as follows:

	Six Months Ended June 30,	
	2021	2020
Warranty reserve at beginning of period	$ 2,354	$ 2,448
Provisions	1,566	993
Charges	(1,323)	(1,329)
Warranty reserve at end of period	$ 2,597	$ 2,112

7. Fair Value Measurements

The following tables present information about the fair value of the Company's financial assets and liabilities as of June 30, 2021 and December 31, 2020 and indicate the level of the fair value hierarchy utilized to determine such fair values:

	Fair Value Measurements as of June 30, 2021 Using:			
	Level 1	Level 2	Level 3	Total
Assets:				
Certificates of deposit—restricted cash	$ —	$ 1,000	$ —	$ 1,000
Money market mutual funds	135,021	—	—	135,021
Foreign currency forward contracts	—	8	—	8
	$ 135,021	$ 1,008	$ —	$ 136,029
Liabilities:				
SARs	$ —	$ —	$ 646	$ 646
	$ —	$ —	$ 646	$ 646

	Fair Value Measurements as of December 31, 2020 Using:			
	Level 1	Level 2	Level 3	Total
Assets:				
Certificates of deposit—restricted cash	$ —	$ 1,006	$ —	$ 1,006
Money market mutual funds	114,404	—	—	114,404
	$ 114,404	$ 1,006	$ —	$ 115,410
Liabilities:				
SARs	$ —	$ —	$ 493	$ 493
	$ —	$ —	$ 493	$ 493

During the six months ended June 30, 2021 and 2020, there were no transfers between Level 1, Level 2 and Level 3.

There were no changes to the valuation techniques used to measure asset and liability fair values on a recurring basis during the six months ended June 30, 2021 from those included in the Company's consolidated financial statements for the year ended December 31, 2020. The following table provides a summary of changes in the fair values of the Company's stock appreciation rights ("SARs") liability, for which fair value is determined by Level 3 inputs:

	Six Months Ended June 30,	
	2021	2020
Fair value at beginning of period	$ 493	$ 264
Change in fair value	288	7
Exercises	(135)	—
Fair value at end of period	$ 646	$ 271

8. Derivative Instruments

The Company has certain international customers that are billed in foreign currencies. To mitigate the volatility related to fluctuations in the foreign exchange rates for accounts receivable denominated in foreign currencies, the Company enters into foreign currency forward contracts. As of June 30, 2021, the Company had a foreign currency forward contract outstanding with a notional amount totaling 1,129 Euros maturing in the third quarter of 2021. As of December 31, 2020, no foreign currency forward contracts were outstanding.

The Company's foreign currency forward contracts described above economically hedged certain risks but were not designated as hedges for financial reporting purposes, and accordingly, all changes in the fair value of the derivative instruments were recorded as unrealized foreign currency transaction gains or losses and were included in the condensed consolidated statements of operations and comprehensive (loss) income as a component of other income (expense). The Company records derivative instruments in the condensed consolidated balance sheet at their fair values. As of June 30, 2021, the Company recorded an asset of $8 relating to outstanding foreign currency forward contracts. As of December 31, 2020 the Company recorded no asset relating to outstanding foreign currency forward contracts. As of June 30, 2021 and December 31, 2020, the Company recorded no liability relating to outstanding foreign currency forward contracts.

The Company also faces exposure to foreign currency exchange rate fluctuations, as a certain portion of its expenses are denominated in currencies other than U.S. dollars. In certain instances, the Company utilizes forward contracts to hedge against foreign currency fluctuations. These contracts are used to minimize foreign gains or losses, as the gains or losses on the derivative are intended to offset the losses or gains on the underlying exposure. The Company does not engage in foreign currency speculation.

The Company designed its foreign currency risk management strategy principally to mitigate the potential financial impact of changes in the value of transactions and balances denominated in foreign currencies resulting from changes in foreign currency exchange rates. The Company may enter into cash flow hedges that utilize foreign currency forward contracts to hedge specific forecasted transactions of its foreign subsidiaries with the goal of protecting its budgeted expenses against foreign currency exchange rate changes compared to its budgeted rates.

During the six months ended June 30, 2020, the Company entered into a cash flow hedge with a notional amount of 8,500 AUD to hedge certain Australian dollar cash flows incurred during the second quarter of 2020. During the three months ended June 30, 2020, the Company settled this cash flow hedge, reclassifying a gain from other comprehensive (loss) income of $225. The full amount of the fair value of this derivative on the settlement date of $888 was recognized as $67 cost of goods sold, $537 research and development expense and $284 selling, general and administrative expense in the condensed consolidated statement of comprehensive (loss) income.

At June 30, 2020, the Company had one outstanding cash flow hedge with a notional amount of 5,000 AUD to hedge certain Australian dollar cash flows incurred during the third quarter of 2020. As the cash flows which were hedged had not yet occurred, the Company recognized the change in fair value of $396 for the three months ended June 30, 2020 and the full fair value of $527 for the six months ended June 30, 2020 as accumulated other comprehensive income in the accompanying condensed consolidated statement of stockholders' equity. The Company did not have any cash flow hedges outstanding as of June 30, 2021 and December 31, 2020.

9. Income Taxes

The Company's provision for (benefit from) income taxes was $3,182 and $887 for the three months ended June 30, 2021 and 2020, respectively. The change in the provision for (benefit from) income taxes was primarily due to changes in the jurisdictional mix of earnings period over period.

The Company's effective income tax rate was 68.3% and 80.8% for the six months ended June 30, 2021 and 2020, respectively. The provision for (benefit from) income taxes was $5,508 and $(7,832) for the six months ended June 30, 2021 and 2020, respectively. The change in the provision for (benefit from) income taxes was primarily due to a discrete tax benefit of $9,310 recorded during the six months ended June 30, 2021 associated with the enactment of the CARES Act. The change in the provision for (benefit from) income taxes was also impacted by changes in the jurisdictional mix of earnings period over period.

The provision for (benefit from) income taxes for the three and six months ended June 30, 2021 and 2020 differed from the federal statutory rate primarily due to the geographical mix of earnings and related foreign tax rate differential, permanent differences, research and development tax credits, foreign tax credits, the valuation allowance maintained against certain deferred tax assets and withholding taxes.

10. Debt

The aggregate principal amount of debt outstanding as of June 30, 2021 and December 31, 2020 consisted of the following:

	June 30, 2021	December 31, 2020
Term loan	$ 279,725	$ 288,000
Revolving credit facility	6,500	6,500
Total principal amount of debt outstanding	$ 286,225	$ 294,500

Current and non-current debt obligations reflected in the condensed consolidated balance sheets as of June 30, 2021 and December 31, 2020 consisted of the following:

	June 30, 2021	December 31, 2020
Current liabilities:		
Term loan	$ 3,000	$ 9,775
Revolving credit facility	6,500	6,500
Current portion of principal payment obligations	9,500	16,275
Unamortized debt issuance costs, current portion	(1,082)	(1,104)
Current portion of long-term debt, net of unamortized debt issuance costs	$ 8,418	$ 15,171
Non-current liabilities:		
Term loan	$ 276,725	$ 278,225
Unamortized debt issuance costs, non-current portion	(1,572)	(2,140)
Long-term debt, net of current portion and unamortized debt issuance costs	$ 275,153	$ 276,085

As of June 30, 2021, aggregate minimum future principal payments of the Company's debt are summarized as follows:

Year Ending December 31,	
2021	$ 8,000
2022	3,000
2023	275,225
Thereafter	—
	$ 286,225

Term Loan and Revolving Credit Facilities

On December 20, 2016, the Company entered into a credit agreement with JPMorgan Chase Bank, N.A., as administrative agent, various lenders and JPMorgan Chase Bank, N.A. and Barclays Bank PLC providing for (i) a term loan facility of $300,000 and (ii) a revolving credit facility of up to $25,000 in revolving credit loans and letters of credit.

As of June 30, 2021 and December 31, 2020, $279,725 and $288,000 in principal amount, respectively, were outstanding under the term loan facility (the "Term Loans"). As of June 30, 2021 and December 31, 2020, the Company had outstanding borrowings under the revolving credit facility of $6,500. As of June 30, 2021 and December 31, 2020, the Company had also used $1,503 and $1,454 of available credit under the revolving credit facility for two stand-by letters of credit, one which serves as collateral to one of the Company's customers pursuant to a contractual performance guarantee and one which serves as collateral for operating leases in Australia. In addition, the Company may, subject to certain conditions, including the consent of the administrative agent and the institutions providing such increases, increase the facilities by an unlimited amount so long as the Company is in compliance with specified leverage ratios, or otherwise by up to $70,000.

Borrowings under the facilities bear interest at a floating rate, which can be either a Eurodollar rate plus an applicable margin or, at the Company's option, a base rate (defined as the highest of (x) the JPMorgan Chase, N.A. prime rate, (y) the federal funds effective rate, plus one-half percent (0.50%) per annum and (z) a one-month Eurodollar rate plus 1.00% per annum) plus an applicable margin. The applicable margin for borrowings under the term loan facility is 4.00% per annum for Eurodollar rate loans (subject to a 1.00% per annum interest rate floor) and 3.00% per annum for base rate loans. The applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans and 0.75% per annum for base rate loans, subject to reduction based on the Company's maintaining specified net leverage ratios. The interest rates payable under the facilities are subject to an increase of 2.00% per annum during the continuance of any payment default.

For Eurodollar rate loans, the Company may select interest periods of one, three or six months or, with the consent of all relevant affected lenders, twelve months. Interest will be payable at the end of the selected interest period, but no less frequently than every three months within the selected interest period. Interest on any base rate loan is not set for any specified period and is payable quarterly. The Company has the right to convert Eurodollar rate loans into base rate loans and the right to convert base rate loans into Eurodollar rate loans at its option, subject, in the case of Eurodollar rate loans, to breakage costs if the conversion is effected prior to the end of the applicable interest period. As of June 30, 2021 and December 31, 2020, the interest rate on the Term Loans was 5.00% per annum, which was based on a three-month and six-month Eurodollar rate, respectively, at the applicable floor of 1.00% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans. As of June 30, 2021, the interest rate on the revolving credit facility was 2.01% per annum, which was based on a six-month Eurodollar rate of 0.26% per annum plus the applicable margin of 1.75% per annum for Eurodollar rate loans. As of December 31, 2020, the interest rate on the revolving credit facility was 2.12% per annum, which was based on the six-month Eurodollar rate of 0.37% per annum plus the applicable margin of 1.75% per annum for Eurodollar rate loans.

Upon entering into the term loan facility, the Company incurred debt issuance costs of $7,811, which were initially recorded as a reduction of the debt liability and are amortized to interest expense using the effective interest method from the issuance date of the Term Loan until the maturity date. Principal payments of $7,525 and $750 were made during the three months ended June 30, 2021 and 2020, respectively, and principal payments of $8,275 and $1,500 were made during the six months ended June 30, 2021 and 2020, respectively, under the term loan facility. No principal payments were made under the revolving credit facility during the three and six months ended June 30, 2021. Interest expense for the Term Loan and revolving credit facility, including the amortization of debt issuance costs, totaled $3,933 and $4,026 for the three months ended June 30, 2021 and 2020, respectively and totaled $7,802 and $8,474 for the six months ended June 30, 2021 and 2020, respectively.

The revolving credit facility also requires payment of quarterly commitment fees at a rate of 0.25% per annum on the difference between committed amounts and amounts actually borrowed under the facility and customary letter of credit fees. For the three months ended June 30, 2021 and 2020, interest expense related to the fee for the unused amount of the revolving credit facility totaled $11 and $15, respectively and for the six months ended June 30, 2021 and 2020, interest expense related to the fee for the unused amount of the revolving credit facility totaled $22 and $30, respectively.

The Term Loans mature on December 20, 2023, and the revolving credit facility matures on December 20, 2021. The Term Loans are subject to amortization in equal quarterly installments, which commenced on March 31, 2017, of principal in an annual aggregate amount equal to 1.0% of the original principal amount of the Term Loans of $300,000, with the remaining outstanding balance payable at the date of maturity.

Voluntary prepayments of principal amounts outstanding under the term loan facility are permitted at any time; however, if a prepayment of principal is made with respect to a Eurodollar loan on a date other than the last day of the applicable interest period, the Company is required to compensate the lenders for any funding losses and expenses incurred as a result of the prepayment. Prior to the revolving credit facility maturity date, funds borrowed under the revolving credit facility may be borrowed, repaid and reborrowed, without premium or penalty.

In addition, the Company is required to make mandatory prepayments under the facilities with respect to (i) 100% of the net cash proceeds from certain asset dispositions (including casualty and condemnation events) by the Company or certain of its subsidiaries, subject to certain exceptions and reinvestment provisions, (ii) 100% of the net cash proceeds from the issuance or incurrence of any additional debt by the Company or certain of its subsidiaries, subject to certain exceptions, and (iii) 50% of the Company’s excess cash flow, as defined in the credit agreement, subject to reduction upon its achievement of specified performance targets. In accordance with these provisions, a mandatory early prepayment of $6,775 was paid by the Company on April 2, 2021. This amount was included in the current portion of long-term debt, net of unamortized debt issuance costs on the condensed consolidated balance sheet as of December 31, 2020.

The facilities are secured by, among other things, a first priority security interest, subject to permitted liens, in substantially all of the Company’s assets and all of the assets of certain of its subsidiaries and a pledge of certain of the stock of certain of its subsidiaries, in each case subject to specified exceptions. The facilities contain customary affirmative and negative covenants, including certain restrictions on the Company’s ability to pay dividends, and, with respect to the revolving credit facility, a financial covenant requiring the Company to maintain a specified total net leverage ratio in the event that on the last day of any fiscal quarter the Company has utilized more than 30% of its borrowing capacity under the facility. The Company was in compliance with all covenants as of June 30, 2021 and December 31, 2020.

Commercial Mortgage Loan

On July 1, 2015, the Company entered into a commercial mortgage loan agreement in the amount of $7,950 (the “Mortgage Loan”). Borrowings under the Mortgage Loan bore interest at a rate of 3.5% per annum and were repayable in 60 monthly installments of $46, consisting of principal and interest based on a 20-year amortization schedule. The remaining amount of unpaid principal under the Mortgage Loan was paid on the maturity date of July 1, 2020 utilizing the Company’s revolving credit facility. Upon entering into the Mortgage Loan, the Company incurred debt issuance cost of $45, which was initially recorded as a direct deduction from the debt liability and was amortized to interest expense using the effective interest method from the issuance date of the loan until the maturity date.

The Mortgage Loan was paid on the maturity date of July 1, 2020, utilizing the Company’s revolving credit facility. The Company made principal payments under the Mortgage Loan of $80 and $160 during the three and six months ended June 30, 2020, respectively. Interest expense, including the amortization of debt issuance costs, totaled $60 and $120 during the three and six months ended June 30, 2020, respectively.

11. Stockholders’ Equity

In connection with special dividends previously declared, the board of directors also approved cash payments to be made to holders of the Company’s stock options, SARs and restricted stock units (“RSUs”) as equitable adjustments to the holders of such instruments in accordance with the provisions of the Company’s equity incentive plans. These equitable adjustment payments are equal to an amount per share multiplied by the net number of shares subject to outstanding equity awards after applying the treasury stock method. The below table provides details of these equitable adjustment payments:

			Equitable Adjustment Payments Six Months Ended		Equitable Adjustment Liability(1)	
Dividend Declaration Dates	Equitable Adjustment per share	Year of Final Vesting	June 30, 2021	June 30, 2020	As of June 30, 2021	As of December 31, 2020
November 30, 2017	$ 0.5802	2021	$ 40	$ 121	$ 4	$ 30
May 10, 2017	1.1774	2021	53	171	—	31
December 27, 2016	2.3306	2020	2	276	—	2
June 17, 2016	0.5891	2020	—	54	—	—
Total			$ 95	$ 622	$ 4	$ 63

(1) Net of estimated forfeitures. Actual payouts may vary based on actual forfeitures. Amounts are included in accrued expenses and other current liabilities in the accompanying condensed consolidated balance sheets.

Stock Repurchase Program

On February 21, 2019, the Company announced a stock repurchase program authorizing it to repurchase up to $75,000 of the Company's common stock. There were no repurchases made during the three and six months ended June 30, 2021. During the three and six months ended June 30, 2020, the Company repurchased 11 and 1,227 shares, respectively, for a cost of $33 and $3,031, including commissions. As of June 30, 2021, $70,208 remained authorized for repurchases of the Company's common stock under the stock repurchase program. The stock repurchase program has no expiration date and does not require the Company to purchase a minimum number of shares, and the Company may suspend, modify or discontinue the stock repurchase program at any time without prior notice.

12. Stock-based Compensation

2017 Stock Incentive Plan

The Company's 2017 Stock Incentive Plan (the "2017 Plan") provides for the Company to sell or issue common stock or restricted common stock, or to grant qualified incentive stock options, nonqualified stock options, SARs, performance-based stock units ("PSUs"), RSUs or other stock-based awards to the Company's employees, officers, directors, advisors and outside consultants. The total number of shares authorized for issuance under the 2017 Plan was 21,179 shares as of June 30, 2021, of which 10,456 shares remained available for future grant.

Stock Options

The following table summarizes the outstanding stock option activity and a summary of information related to stock options as of and for the six months ended June 30, 2021:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at January 1, 2021	7,120	$ 8.01	4.88	$ 9,367
Granted	77	8.96		
Exercised	(414)	2.86		
Forfeited	(144)	10.00		
Outstanding at June 30, 2021	6,639	$ 8.30	4.41	$ 16,800
Options exercisable at June 30, 2021	6,197	$ 8.12	4.14	$ 16,086
Vested or expected to vest at June 30, 2021	6,616	$ 8.30	4.39	$ 16,754

The fair value of each option is estimated on the date of grant using the Black-Scholes option-pricing model using the following assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Risk-free interest rate	1.0%	0.4%	1.0%	0.4%-0.7%
Expected term (in years)	6.1	6.1	6.1	6.1
Expected volatility	38.2%	31.4%	38.2%	29.3%-31.4%
Expected dividend yield	0.0%	0.0%	0.0%	0.0%

The weighted-average grant-date fair value of options granted during the six months ended June 30, 2021 and 2020 was $3.42 and $1.15 per share, respectively. Cash proceeds received upon the exercise of options were $1,187 and $414 during the six months ended June 30, 2021 and 2020, respectively. The intrinsic value of stock options exercised during the six months ended June 30, 2021 and 2020 was $2,496 and $373, respectively. The aggregate intrinsic value is calculated as the difference between the exercise price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the Company's common stock.

Restricted Stock Units

A summary of RSU activity under the Company's 2011 Stock Incentive Plan (the "2011 Plan") and the 2017 Plan for the six months ended June 30, 2021 is as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value	Aggregate Fair Value
Unvested balance at January 1, 2021	4,231	$ 5.43	
Granted	756	9.15	
Vested	(1,133)	5.93	$ 9,392
Forfeited	(212)	4.81	
Unvested balance at June 30, 2021	3,642	$ 6.08	

The Company withheld 744 and 117 shares of common stock in settlement of employee tax withholding obligations due upon the vesting of RSUs during the six months ended June 30, 2021 and 2020, respectively.

Performance-Based Stock Units

During the six months ended June 30, 2021 and 2020, the Company granted PSUs to certain employees that vest over a three-year period based on the achievement of performance goals and continued performance of services. The performance goals consist solely of market-based vesting conditions, determined by the Company's level of achievement of pre-established parameters relating to the performance of the Company's stock price as set by the Board of Directors. Vesting may occur at any time during the three-year period.

Compensation expense is based on the estimated value of the awards on the grant date, and is recognized over the period from the grant date through the expected vest dates of each vesting condition, both of which were estimated based on a Monte Carlo simulation model applying the following key assumptions:

	Six Months Ended June 30,	
	2021	2020
Risk-free interest rate	0.2%	1.2%
Volatility	78.6%	70.0%
Dividend yield	0.0%	0.0%
Cost of equity	12.0%	11.0%

A summary of PSU activity for the six months ended June 30, 2021 is as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value	Aggregate Fair Value
Unvested balance at January 1, 2021	737	$ 3.22	
Granted	442	7.89	
Vested	(737)	3.22	$ 6,449
Forfeited	—	—	
Unvested balance at June 30, 2021	442	$ 7.89	

Stock Appreciation Rights

Over time, the Company has granted SARs that allow the holder the right, upon exercise, to receive in cash the amount of the difference between the fair value of the Company's common stock at the date of exercise and the price of the underlying common stock at the date of grant of each SAR. The SARs vested over a four-year period from the date of grant and expire ten years from the date of grant. During the six months ended June 30, 2021, 20 SARs were exercised with a fair value of $6.75 per share. As of June 30, 2021, 200 outstanding and fully vested SARs were exercisable with a weighted-average fair value of $3.23 per SAR. The fair value of the SAR liability as of June 30, 2021 and December 31, 2020 was $646 and $493, respectively, (see Note 7) and was included in accrued expenses and other current liabilities in the accompanying condensed consolidated balance sheets.

Stock-Based Compensation Expense

Stock-based compensation expense related to stock options, RSUs, SARs and PSUs for the three and six months ended June 30, 2021 and 2020 was classified in the condensed consolidated statements of operations and comprehensive (loss) income as follows:

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Cost of revenue	$ 33	$ 39	$ 66	$ 70
Research and development expenses	543	650	1,414	1,087
Selling, general and administrative expenses	3,518	2,890	6,067	4,859
Total stock-based compensation	$ 4,094	$ 3,579	$ 7,547	$ 6,016

The Company recognized stock-based compensation expense for the three and six months ended June 30, 2021 and 2020 in the condensed consolidated balance sheet as follows:

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Change in fair value of SAR Liability	$ (59)	$ 72	$ 289	$ 8
Recognized as additional paid-in capital	4,153	3,507	7,258	6,008
Total stock-based compensation	$ 4,094	$ 3,579	$ 7,547	$ 6,016

As of June 30, 2021, there was $23,345 of unrecognized compensation cost related to outstanding stock options, RSUs, SARs and PSUs, which is expected to be recognized over a weighted-average period of 2.62 years.

13. Net (Loss) Income per Share

Basic and diluted net (loss) income per share attributable to common stockholders was calculated as follows:

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Numerator:				
Net (loss) income attributable to common stockholders, basic and diluted	$ (3,193)	$ (3,028)	$ 2,556	$ (1,866)
Denominator:				
Weighted-average shares used to compute net (loss) income per share attributable to common stockholders, basic	85,036	83,068	84,641	83,505
Dilutive effect of stock options	—	—	2,003	—
Dilutive effect of restricted stock units	—	—	2,369	—
Weighted-average shares used to compute net (loss) income per share attributable to common stockholders, diluted	85,036	83,068	89,013	83,505
Net (loss) income per share attributable to common stockholders:				
Basic	$ (0.04)	$ (0.04)	$ 0.03	$ (0.02)
Diluted	$ (0.04)	$ (0.04)	$ 0.03	$ (0.02)

The following potential common shares, presented based on amounts outstanding at each period end, were excluded from the computation of diluted net (loss) income per share attributable to common stockholders for the periods presented because including them would have been anti-dilutive:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Options to purchase common stock	6,639	7,562	2,358	7,562
Unvested restricted stock units	3,642	4,112	831	4,112
Unvested performance-based stock units	442	983	—	983

14. Revenue from Contracts with Customers

Disaggregation of revenue

The Company disaggregates its revenue by product and service in the condensed consolidated statements of operations and comprehensive (loss) income. Performance obligations related to product revenue are recognized at a point in time, while performance obligations related to service revenue are recognized over time. The Company also disaggregates its revenue based on geographic locations of its customers, as determined by the customer's shipping address, summarized as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
North America:				
United States	$ 23,951	$ 29,349	$ 60,863	$ 58,789
Canada	24,550	4,229	50,788	8,742
Total North America	48,501	33,578	111,651	67,531
Europe, Middle East and Africa:	6,577	7,350	12,931	21,446
Asia-Pacific:				
Australia	20,800	26,255	44,198	47,959
Other	8,893	10,385	15,694	21,870
Total Asia-Pacific	29,693	36,640	59,892	69,829
Latin America	7,959	5,782	12,533	8,167
Total revenue(1)	$ 92,730	$ 83,350	$ 197,007	$ 166,973

(1) Other than the United States, Canada and Australia, no individual countries represented 10% or more of the Company's total revenue for any of the periods presented.

The Company also disaggregates its revenue based on product line summarized as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Product revenue:				
Wireless	$ 33,323	$ 15,510	$ 73,011	$ 36,167
Fixed telco	16,137	23,819	31,022	41,751
Cable	31,009	32,799	70,234	67,968
Total product revenue	80,469	72,128	174,267	145,886
Service revenue:				
Wireless	1,684	1,074	2,275	2,848
Fixed telco	1,043	301	2,649	551
Cable	9,534	9,847	17,816	17,688
Total service revenue	12,261	11,222	22,740	21,087
Total revenue	$ 92,730	$ 83,350	$ 197,007	$ 166,973

Costs to Obtain or Fulfill a Contract

As of June 30, 2021 and December 31, 2020, the Company had short-term capitalized contract costs of $92 and $95, respectively, which are included in prepaid expenses and other current assets and had long-term capitalized contract costs of $63 and $70, respectively, which are included in other assets in the accompanying condensed consolidated balance sheets. During the three months ended June 30, 2021 and 2020, amortization expense associated with capitalized contract costs was $29 and $196, respectively, and during the six months ended June 30, 2021 and 2020 was $52 and $449, respectively, all of which was recorded to selling, general and administrative expenses in the accompanying condensed consolidated statements of operations and comprehensive (loss) income.

Contract Balances

Contract liabilities consist of deferred revenue and include payments received in advance of performance under the contract. Such amounts are recognized as revenue when the Company satisfies its performance obligations, consistent with the above methodology. For the three and six months ended June 30, 2021, the Company recognized $4,969 and $11,979, respectively, of revenue that was included in deferred revenue as of December 31, 2020. For the three and six months ended June 30, 2020, the Company recognized $13,600 and $28,539, respectively, of revenue that was included in deferred revenue as of December 31, 2019.

The Company receives payments from customers based upon contractual billing terms. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract assets include amounts related to the Company's contractual right to consideration for both completed and partially completed performance obligations that may not have been invoiced. As of June 30, 2021 and December 31, 2020, the Company included contract assets of $288 and $771, respectively, which is netted with deferred revenue in the accompanying condensed consolidated balance sheets.

Transaction price allocated to the remaining performance obligations

As of June 30, 2021, the aggregate remaining amount of revenue expected to be recognized related to unsatisfied or partially unsatisfied performance obligations is $25,552, which consists of deferred revenue. The Company expects approximately 79% of this amount to be recognized in the next twelve months with the remaining amounts to be recognized over the next two to five years.

Other Revenue Recognition Policies

The Company's customary payment terms are generally 90 days or less. If the Company provides extended payment terms that represent a significant financing component, the Company adjusts the amount of promised consideration for the time value of money using an appropriate discount rate and recognizes interest income separate from the revenue recognized on contracts with customers. During the three months ended June 30, 2021 and 2020, the Company recorded interest income of $4 and $13, respectively, and during the six months ended June 30, 2021 and 2020, the Company recorded interest income of $8 and $47, respectively, all of which were recorded in the in the condensed consolidated statements of operations and comprehensive (loss) income.

15. Segment Information

The Company operates as one operating segment. Operating segments are defined as components of an enterprise for which separate financial information is regularly evaluated by the Company's chief operating decision maker, or decision-making group, in deciding how to allocate resources and assess performance. The Company has determined that its chief operating decision maker is its President and Chief Executive Officer. The Company's chief operating decision maker reviews the Company's financial information on a consolidated basis for purposes of allocating resources and assessing financial performance. Since the Company operates as one operating segment, all required financial segment information can be found in these condensed consolidated financial statements.

The Company's property and equipment, net by location was as follows:

	June 30, 2021	December 31, 2020
United States	$ 18,657	$ 20,988
China	2,722	2,986
Australia	2,434	2,849
Other	1,658	2,057
Total property and equipment, net	$ 25,471	$ 28,880

16. Related Parties

Employment of Rongke Xie

Rongke Xie, who serves as Deputy General Manager of Guangzhou Casa Communication Technology LTD ("Casa China"), a subsidiary of the Company, is the sister of Lucy Xie, the Company's Senior Vice President of Operations and a member of the Company's board of directors. Casa China paid Rongke Xie $150 and $122 in total compensation during the six months ended June 30, 2021 and 2020, respectively, for her services as an employee.

In March 2020, February 2019 and June 2018, the Company granted to Rongke Xie 90, 8 and 5 RSUs, respectively, which vest over four annual periods. The grant-date fair value of the awards totaled $400, which will be recorded as stock-based compensation expense over the vesting period of the awards. During the three months ended June 30, 2021 and 2020, the Company recognized selling, general and administrative expenses of $25 and $24 related to these awards and during the six months ended June 30, 2021 and 2020, the Company recognized selling, general and administrative expenses of $50 and $37 related to these awards.

17. Commitments and Contingencies

Indemnification

The Company has, in the ordinary course of business, agreed to defend and indemnify certain customers against third-party claims asserting (i) infringement of certain intellectual property rights, which may include patents, copyrights, trademarks or trade secrets, and (ii) certain other harms caused by the acts or omissions on the Company.

As permitted under Delaware law, the Company indemnifies its officers, directors and employees for certain events or occurrences that happen by reason of their relationship with or position held at the Company.

As of June 30, 2021 and December 31, 2020, the Company had not experienced any losses related to these indemnification obligations and no material claims were outstanding where a contingent loss was considered to be probable or reasonably estimable. The Company does not expect significant claims related to these indemnification obligations and, consequently, concluded that the fair value of these obligations is negligible, and no related liabilities were recorded in its condensed consolidated financial statements.

Litigation

The complete response to this section regarding legal proceedings is incorporated by reference herein to Part II Item I in this 10-Q.

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

The following discussion of our financial condition and results of operations should be read together with our condensed consolidated financial statements and related notes and other financial information included elsewhere in this Quarterly Report on Form 10-Q. The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report on Form 10-Q, particularly in the section titled "Risk Factors." For discussion comparing the period ended June 30, 2020 and June 30, 2019, please refer to our Quarterly Report on form 10-Q, filed with the SEC on July 31, 2020.

Overview

Our solutions are conceived, designed and built to enable our CSP customers to offer high bandwidth data services to their subscribers, and to transform their networks to meet the growing demand for bandwidth and the introduction of new services. We offer physical, virtual and cloud-native 5G broadband and customer premise networking equipment for public and private high-speed data and multi-service communications networks. Our core and edge broadband technology enables CSPs and enterprises to cost-effectively and dynamically increase data network speed for their subscribers, add bandwidth capacity and new services, reduce network complexity, and reduce operating and capital expenditures.

We offer scalable solutions that can meet the evolving bandwidth needs of our customers and their subscribers. Our first installation in a service provider's network frequently involves deploying our broadband products in only a portion of the provider's network and, for our cable products, with only a fraction of the capacity of our products enabled at the time of initial installation. Over time, our customers have generally expanded the use of our solutions to other areas of their networks to extend network coverage or increase network capacity.

Our solutions are commercially deployed in over 70 countries by more than 475 customers, including regional service providers as well as some of the world's largest Tier 1 CSPs, serving millions of subscribers.

COVID-19 Pandemic

The COVID-19 pandemic and the accompanying responses of governments and businesses to the pandemic continue to present various risks to us, not all of which we are able to fully evaluate or foresee at the current time. While the COVID-19 pandemic did not significantly adversely affect our financial results, business operations or liquidity during the three and six months ended June 30, 2021, economic and health conditions in the United States and across most of the globe changed rapidly during the period and are continuing to change after the end of the quarter. Globally, all aspects of our business remain fully operational. The pandemic has led to increased demand for certain of our products, resulting in increased order volumes that have created additional pressure on our supply chain. In addition, certain of our products utilize components, for which there has been increased global demand. As a result, we have begun to see shortages of supply that have increased the likelihood of an adverse impact on our future revenue and gross margins and ability to fill orders for customers in a timely manner. We continue to work with our supply chain and contract manufacturers, as well as our customers, to minimize the possible extent of such impacts. However, at this time we are neither able to estimate the extent of these impacts nor predict whether our efforts to minimize or contain them will be successful. We intend to continue to monitor our business very closely for any effects of COVID-19 for as long as necessary.

Additionally, we saw decreases in certain operating expenses, such as travel and trade show expense, and benefited from certain U.S. government tax relief measures, discussed further below, during the year ended December 31, 2020, and the three and six months ended June 30, 2021, due to the COVID-19 pandemic that we expect to gradually diminish as the various geographies in which we operate begin to recover from the pandemic

The Coronavirus Aid, Relief and Economic Security Act ("CARES Act") was signed into law on March 27, 2020. The CARES Act, among other things, includes tax provisions relating to refundable payroll tax credits, deferment of employer's Social Security payments, net operating loss utilization and carryback periods, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property (QIP). For the three and six months ended June 30, 2021, we recognized a reduction to cost of goods sold of $0.3 million and $0.6 million, respectively and a reduction in operating expenses of $2.1 million and $4.3 million, respectively, for a payroll tax credit under the CARES Act. For the three and six months ended June 30, 2020, we recognized an income tax benefit of $9.3 million, respectively (see Note 9 to our accompanying financial statements). We will continue to evaluate the impact of the CARES Act on our financial position, results of operations, and cash flows.

Due to the above circumstances and as described generally in this Quarterly Report on Form 10-Q, our results of operations for the three and six months ended June 30, 2021 are not necessarily indicative of the results to be expected in future periods. Management cannot predict the full impact of the COVID-19 pandemic on our sales channels, supply chain, manufacturing and distribution, or on economic conditions generally, including the effects on our current and potential customers, who may curtail spending on investments in current and/or new technologies, delay new equipment evaluations and trials, and possibly delay payments based on liquidity concerns, all of which could have a material impact on our business in the future. Similarly, our supply chain and our contract manufacturers could be affected, which could cause disruptions to our ability to meet customer demand or delivery schedules. For the three and six months ended June 30, 2021, we did see certain delays in supply chain that adversely impacted a small number of delivery schedules. If COVID-19 were to have such effects in the future, there would likely be a material adverse impact on our financial results, liquidity and capital resource needs. This uncertainty makes it challenging for management to estimate the future performance of our businesses, particularly in the near to medium term. However, the impact of COVID-19 could have a material adverse impact on our results of operations in the near to medium term.

Results of Operations

The following tables set forth our consolidated results of operations in dollar amounts and as percentage of total revenue for the periods shown:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Revenue:				
Product	$ 80,469	$ 72,128	$ 174,267	$ 145,886
Service	12,261	11,222	22,740	21,087
Total revenue	92,730	83,350	197,007	166,973
Cost of revenue(1):				
Product	46,117	39,011	93,143	78,655
Service	1,098	1,209	2,309	2,535
Total cost of revenue	47,215	40,220	95,452	81,190
Gross profit	45,515	43,130	101,555	85,783
Operating expenses:				
Research and development(1)	20,295	20,688	41,901	41,899
Selling, general and administrative(1)	21,583	21,110	43,463	46,101
Total operating expenses	41,878	41,798	85,364	88,000
Income (loss) from operations	3,637	1,332	16,191	(2,217)
Other income (expense), net	(3,648)	(3,473)	(8,127)	(7,481)
(Loss) income before provision for (benefit from) income taxes	(11)	(2,141)	8,064	(9,698)
Provision for (benefit from) income taxes	3,182	887	5,508	(7,832)
Net (loss) income	$ (3,193)	$ (3,028)	$ 2,556	$ (1,866)

(1) Includes stock-based compensation expense related to stock options, stock appreciation rights, restricted stock units and performance-based stock units granted to employees, directors and non-employee consultants as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Cost of revenue	$ 33	$ 39	$ 66	$ 70
Research and development expense	543	650	1,414	1,087
Selling, general and administrative expense	3,518	2,890	6,067	4,859
Total stock-based compensation expense	$ 4,094	$ 3,579	$ 7,547	$ 6,016

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
	(as a percentage of total revenue)		(as a percentage of total revenue)	
Revenue:				
Product	86.8%	86.5%	88.5%	87.4%
Service	13.2	13.5	11.5	12.6
Total revenue	100.0	100.0	100.0	100.0
Cost of revenue:				
Product	49.7	46.8	47.3	47.1
Service	1.2	1.5	1.2	1.5
Total cost of revenue	50.9	48.3	48.5	48.6
Gross profit	49.1	51.7	51.5	51.4
Operating expenses:				
Research and development	21.9	24.8	21.3	25.1
Selling, general and administrative	23.3	25.3	22.1	27.6
Total operating expenses	45.2	50.1	43.3	52.7
Income (loss) from operations	3.9	1.6	8.2	(1.3)
Other income (expense), net	(3.9)	(4.2)	(4.1)	(4.5)
(Loss) income before provision for (benefit from) income taxes	—	(2.6)	4.1	(5.8)
Provision for (benefit from) income taxes	3.4	1.1	2.8	(4.7)
Net (loss) income	(3.4)%	(3.6)%	1.3%	(1.1)%

Percentages in the table above are based on actual values. As a result, some totals may not sum due to rounding.

Three Months Ended June 30, 2021 Compared to the Three Months Ended June 30, 2020

	Three Months Ended June 30, 2021 Amount	2021 % of Total	2020 Amount	2020 % of Total	Change Amount	Change %
	(dollars in thousands)					
Revenue:						
Product	$ 80,469	86.8%	$ 72,128	86.5%	$ 8,341	11.6%
Service	12,261	13.2%	11,222	13.5%	1,039	9.3%
Total revenue	$ 92,730	100.0%	$ 83,350	100.0%	$ 9,380	11.3%
Revenue by geographic region:						
North America	$ 48,501	52.3%	$ 33,578	40.3%	$ 14,923	44.4%
Europe, Middle East and Africa	6,577	7.1%	7,350	8.8%	(773)	(10.5)%
Asia-Pacific	29,693	32.0%	36,640	44.0%	(6,947)	(19.0)%
Latin America	7,959	8.6%	5,782	6.9%	2,177	37.7%
Total revenue	$ 92,730	100.0%	$ 83,350	100.0%	$ 9,380	11.3%

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Change Amount	Change %
Product revenue:				
Wireless	$ 33,323	$ 15,510	$ 17,813	114.8%
Fixed telco	16,137	23,819	(7,682)	(32.3)%
Cable	31,009	32,799	(1,790)	(5.5)%
Total product revenue	80,469	72,128	8,341	11.6%
Service revenue:				
Wireless	1,684	1,074	610	56.8%
Fixed telco	1,043	301	742	246.5%
Cable	9,534	9,847	(313)	(3.2)%
Total service revenue	12,261	11,222	1,039	9.3%
Total revenue	$ 92,730	$ 83,350	$ 9,380	11.3%

The increase in product revenue was primarily attributed to the continued increased demand for our wireless products, including significantly increased sales to certain Tier 1 customers in the North America region, partially offset by decreases in revenue from cable and fixed telco, the latter of which is a product line currently in a transition period, as we diversify our customer base and grow revenue from new fixed telco product offerings.

The increase in service revenue was primarily due to increased product revenues with attached support revenue, and also from new service agreements with certain large wireless customers.

Cost of Revenue and Gross Profit

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Change Amount	Change %
	(dollars in thousands)			
Cost of revenue:				
Product	$ 46,117	$ 39,011	$ 7,106	18.2%
Service	1,098	1,209	(111)	(9.2)%
Total cost of revenue	$ 47,215	$ 40,220	$ 6,995	17.4%

	Three Months Ended June 30, 2021		2020		Change	
	Amount	Gross Margin	Amount	Gross Margin	Amount	Gross Margin (bps)
	(dollars in thousands)					
Gross profit:						
Product	$ 34,352	42.7%	$ 33,117	45.9%	$ 1,235	(320)
Service	11,163	91.0%	10,013	89.2%	1,150	180
Total gross profit	$ 45,515	49.1%	$ 43,130	51.7%	$ 2,385	(260)

The increase in cost of product revenue was attributed to increased revenue. The gross margin decrease was due to product mix, with sales of certain lower gross margin wireless products comprising a higher percentage of total revenue in the three months ended June 30, 2021 as compared to the three months ended June 30, 2020.

The decrease in cost of service revenue and increase in service gross margin were primarily due to a decrease in utilization of third-party professional services.

Research and Development

	Three Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Research and development	$ 20,295	$ 20,688	$ (393)	(1.9)%
Percentage of revenue	21.9%	24.8%		

The decrease in research and development expense was primarily due to a $0.9 million decrease in purchases of research and development materials. This decrease was partially offset by a $0.3 million increase in professional services and a $0.2 million increase in personnel costs, driven by an increase in headcount in 2021, which increased salaries and benefits by $1.5 million, and was partially offset by a reduction in payroll taxes due to a CARES Act credit of $1.3 million during the three months ended June 30, 2021.

Selling, General and Administrative

	Three Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Selling, general and administrative	$ 21,583	$ 21,110	$ 473	2.2%
Percentage of revenue	23.3%	25.3%		

The increase in selling, general and administrative expense was primarily driven by an increase of $0.3 million in trade show expenses in 2021 and a $0.8 million increase in personnel costs, which was driven by a $1.3 million increase in salaries and benefits due to increased headcount in 2021 compared to 2020 and an increase in stock-based compensation of $0.6 million in 2021, partially offset by a decrease of $0.3 million in commissions and a $0.8 million decrease in payroll taxes due to a CARES Act credit during the three months ended June 30, 2021. These increases in selling, general and administrative expense was partially offset by a $0.7 million decrease in depreciation expense as assets that became fully depreciated were not replaced.

Other Income (Expense), Net

	Three Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Other income (expense), net	$ (3,648)	$ (3,473)	$ (175)	5.0%
Percentage of revenue	(3.9)%	(4.2)%		

The change in other income (expense), net was primarily due to a $0.7 million increase in foreign exchange losses due to fluctuations in the Australian dollar and the China Renminbi exchange rates and a $0.2 million decrease in interest income due to lower interest rates, partially offset by a $0.4 million increase in other income due to R&D grant income received in China and a $0.3 million decrease in interest expense due to decreases in both the outstanding principal balance and the interest rate on our term loan facility.

Provision for (benefit from) Income Taxes

	Three Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Provision for (benefit from) income taxes	$ 3,182	$ 887	$ 2,295	258.7%

The change to the income tax provision for the three months ended June 30, 2021 compared to the income tax provision for the three months ended June 30, 2020 was primarily due to changes in the jurisdictional mix of earnings period over period.

Six Months Ended June 30, 2021 Compared to the Six Months Ended June 30, 2020

	Six Months Ended June 30,				Change	
	2021		2020			
	Amount	% of Total	Amount	% of Total	Amount	%
	(dollars in thousands)					
Revenue:						
Product	$ 174,267	88.5%	$ 145,886	87.4%	$ 28,381	19.5%
Service	22,740	11.5%	21,087	12.6%	1,653	7.8%
Total revenue	$ 197,007	100.0%	$ 166,973	100.0%	$ 30,034	18.0%
Revenue by geographic region:						
North America	$ 111,651	56.6%	$ 67,531	40.5%	$ 44,120	65.3%
Europe, Middle East and Africa	12,931	6.6%	21,446	12.8%	(8,515)	(39.7)%
Asia-Pacific	59,892	30.4%	69,829	41.8%	(9,937)	(14.2)%
Latin America	12,533	6.4%	8,167	4.9%	4,366	53.5%
Total revenue	$ 197,007	100.0%	$ 166,973	100.0%	$ 30,034	18.0%

	Six Months Ended June 30,		Change	
	2021	2020	Amount	%
Product revenue:				
Wireless	$ 73,011	$ 36,167	$ 36,844	101.9%
Fixed telco	31,022	41,751	(10,729)	(25.7)%
Cable	70,234	67,968	2,266	3.3%
Total product revenue	174,267	145,886	28,381	19.5%
Service revenue:				
Wireless	2,275	2,848	(573)	(20.1)%
Fixed telco	2,649	551	2,098	380.8%
Cable	17,816	17,688	128	0.7%
Total service revenue	22,740	21,087	1,653	7.8%
Total revenue	$ 197,007	$ 166,973	$ 30,034	18.0%

The increase in product revenue was primarily attributed to continued increased demand for our wireless products, as well as an increase in cable product revenue from significantly increased sales to certain Tier 1 customers in the North America region. These increases were partially offset by a decrease in revenue from fixed telco, which is a product line currently in a transition period, as we diversify our customer base and increase revenue from new fixed telco product offerings.

The increase in service revenue was primarily due to increased product revenues with attached support revenue, and also from new service agreements with certain large wireless customers.

Cost of Revenue and Gross Profit

	Six Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Cost of revenue:				
Product	$ 93,143	$ 78,655	$ 14,488	18.4%
Service	2,309	2,535	(226)	(8.9)%
Total cost of revenue	$ 95,452	$ 81,190	$ 14,262	17.6%

	Six Months Ended June 30,				Change	
	2021		2020			
	Amount	Gross Margin	Amount	Gross Margin	Amount	Gross Margin (bps)
	(dollars in thousands)					
Gross profit:						
Product	$ 81,124	46.6%	$ 67,231	46.1%	$ 13,893	50
Service	20,431	89.8%	18,552	88.0%	1,879	180
Total gross profit	$ 101,555	51.5%	$ 85,783	51.4%	$ 15,772	10

The increase in cost of product revenue was attributed to increased revenue. The product gross margin was consistent in the six months ended June 30, 2021 as compared to the six months ended June 30, 2020.

The decrease in cost of service revenue and increase in service gross margin were primarily due to a decrease in utilization of third-party professional services.

Research and Development

	Six Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Research and development	$ 41,901	$ 41,899	$ 2	0.0%
Percentage of revenue	21.3%	25.1%		

Research and development expense was consistent for the six months ended June 30, 2021 and 2020. Personnel costs remained consistent overall, however salaries and benefits increased $2.6 million in the six months ended June 30, 2021 due to increased headcount, offset by a reduction in payroll taxes due to a CARES Act credit of $2.6 million during the six months ended June 30, 2021. Professional services increased $0.3 million in the six months ended June 30, 2021 and allocated facilities and depreciation costs increased by $0.4 million driven by increased headcount. These increases were offset by a decrease of $0.7 million in purchases of R&D materials.

Selling, General and Administrative

	Six Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Selling, general and administrative	$ 43,463	$ 46,101	$ (2,638)	(5.7)%
Percentage of revenue	22.1%	27.6%		

The decrease in selling, general and administrative expense was primarily driven by a decrease of $1.1 million in professional services due to a reduction in audit and tax consulting fees and a $1.5 million decrease in depreciation expense as assets that became fully depreciated were not replaced. Personnel costs remained overall consistent for the six months ended June 30, 2021 and 2020, with increases in salaries and benefits of $3.5 million, driven by increased headcount, and stock-based compensation of $1.2 million, offset by a $2.2 million decrease in commissions, a $0.9 million decrease in travel due to COVID-19, and a $1.6 million decrease in payroll taxes due to a CARES act credit during the six months ended June 30, 2021.

Other Income (Expense), Net

	Six Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Other income (expense), net	$ (8,127)	$ (7,481)	$ (646)	8.6%
Percentage of revenue	(4.1)%	(4.5)%		

The change in other income (expense), net was primarily due to a $1.6 million increase in foreign exchange losses due to fluctuations in the Australian dollar and the China Renminbi exchange rates and a $0.5 million decrease in interest income due to lower interest rates, partially offset by a $0.4 million increase in other income due to R&D grant income received in China and a $1.0 million decrease in interest expense due to decreases in both the outstanding principal balance and the interest rate on our term loan facility.

Provision for (benefit from) Income Taxes

	Six Months Ended June 30,		Change	
	2021	2020	Amount	%
	(dollars in thousands)			
Provision for (benefit from) income taxes	$ 5,508	$ (7,832)	$ 13,340	(170.3)%
Effective tax rate	68.3%	80.8%		

The change to the income tax provision for the six months ended June 30, 2021 compared to the income tax benefit for the six months ended June 30, 2020 was primarily due to a discrete tax benefit of $9.3 million recorded in the six months ended June 30, 2020 associated with the enactment of the CARES Act. The change in the provision for (benefit from) income taxes was also impacted by changes in the jurisdictional mix of earnings period over period.

Liquidity and Capital Resources

Since our inception, we have primarily funded our operations through issuances of shares of our convertible preferred stock, our long-term debt and cash flows from operations.

The following tables set forth our cash and cash equivalents and working capital as of June 30, 2021 and December 31, 2020 and our cash flows for the six months ended June 30, 2021 and 2020:

	June 30, 2021	December 31, 2020
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash and cash equivalents	$ 168,654	$ 157,455
Working capital	263,884	251,573

	Six Months Ended June 30,	
	2021	2020
	(in thousands)	
Consolidated Cash Flow Data:		
Net cash provided by operating activities	$ 26,715	$ 43,936
Net cash used in investing activities	(2,914)	(2,717)
Net cash used in financing activities	(12,822)	(5,386)

As of June 30, 2021, we had cash, cash equivalents and restricted cash of $169.7 million and net accounts receivable of $65.6 million. We maintain a $25.0 million revolving credit facility, under which we have drawn $6.5 million and utilized $1.5 million of available credit, which we used as collateral for two stand-by letters of credit, leaving $17.0 million of available credit as of June 30, 2021.

Cash Flows

Operating Activities

Our primary source of cash from operating activities has been from cash collections from our customers. We expect cash flows from operating activities to be affected by increases and decreases in sales volumes and timing of collections, and by purchases and shipments of inventory. Our primary uses of cash from operating activities have been for personnel costs and investment in our selling, general and administrative departments and research and development. Future cash outflows from operating activities may increase as a result of further investment in research and development and selling, general and administrative requirements, and increases in personnel costs as we continue to enhance our products and introduce new products in an effort to continue to expand our business.

During the six months ended June 30, 2021, cash provided by operating activities was $26.7 million, primarily resulting from our net income of $2.6 million, net non-cash adjustments of $16.0 million and net cash provided by changes in our operating assets and liabilities of $8.1 million. The net cash provided by changes in our operating assets and liabilities during the six months ended June 30, 2021 was primarily due to a $28.4 million decrease in accounts receivable due to collections during the period; a $6.5 million increase in deferred revenue due to the timing of revenue recognition; and a $5.4 million decrease in inventory due to the high volume of shipments during the period. These sources of cash were partially offset by a $14.5 million decrease in accounts payable due to timing of vendor payments; a $10.2 million decrease in accrued expenses due to the timing of certain accrued expenses; a $3.8 million increase in prepaid expenses and other assets; and a $3.2 million decrease in accrued income taxes.

Investing Activities

Our investing activities have consisted primarily of expenditures for lab and computer equipment and software to support the development of new products. In addition, our investing activities include expansion of and improvements to our facilities. As our business expands, we expect that we will continue to invest in these areas.

Net cash used in investing activities during the six months ended June 30, 2021 was $2.9 million, consisting of purchases of property and equipment and software licenses.

Financing Activities

Net cash used in financing activities during the six months ended June 30, 2021 was $12.8 million, consisting primarily of debt principal repayments of $8.3 million and employee taxes paid related to net share settlement of equity awards of $5.7 million, primarily due to the vestings of PSUs during the six months ended June 30, 2021. These payments were partially offset by proceeds from the exercise of stock options of $1.2 million.

Commercial Mortgage Loan

In July 2015, we entered into an $8.0 million commercial mortgage loan agreement, which matured on July 1, 2020. On July 1, 2020, we paid in full the remaining $6.5 million in unpaid principal and accrued interest under the mortgage loan with funds drawn upon our revolving credit facility. The annual interest rate on the loan was 3.5%, and the loan was repayable in 60 monthly installments of principal and interest based on a 20-year amortization schedule.

Term Loan and Revolving Credit Facilities

On December 20, 2016, we entered into a credit agreement with JPMorgan Chase Bank, N.A., as administrative agent, various lenders and JPMorgan Chase Bank, N.A. and Barclays Bank PLC, as joint lead arrangers and joint bookrunners, providing for:

- a term loan facility of $300.0 million; and
- a revolving credit facility of up to $25.0 million in revolving credit loans and letters of credit.

As of June 30, 2021 and December 31, 2020, we had borrowings of $279.7 million and $288.0 million, respectively, outstanding under the term loan facility. As of June 30, 2021 and December 31, 2020 we had borrowings of $6.5 million under the revolving credit facility, which were drawn down to fund the repayment of our commercial mortgage loan. As of June 30, 2021 and December 31, 2020, we had also used $1.5 million of available credit under the revolving credit facility for two stand-by letters of credit, one which serves as collateral to one of our customers pursuant to a contractual obligation and one which is used as collateral for operating leases in Australia. In addition, we may, subject to certain conditions, including the consent of the administrative agent and the institutions providing such increases, increase the facilities by an unlimited amount so long as we are in compliance with specified leverage ratios, or otherwise by up to $70.0 million.

Borrowings under the facilities bear interest at a floating rate, which can be either a Eurodollar rate plus an applicable margin or, at our option, a base rate (defined as the highest of (x) the JPMorgan Chase, N.A. prime rate, (y) the federal funds effective rate, plus one-half percent (0.50%) per annum and (z) a one-month Eurodollar rate plus 1.00% per annum) plus an applicable margin. The applicable margin for borrowings under the term loan facility is 4.00% per annum for Eurodollar rate loans (subject to a 1.00% per annum interest rate floor) and 3.00% per annum for base rate loans. The applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans and 0.75% per annum for base rate loans, subject to reduction based on our maintaining specified net leverage ratios. The interest rates payable under the facilities are subject to an increase of 2.00% per annum during the continuance of any payment default.

For Eurodollar rate loans, we may select interest periods of one, three or six months or, with the consent of all relevant affected lenders, twelve months. Interest will be payable at the end of the selected interest period, but no less frequently than every three months within the selected interest period. Interest on any base rate loan is not set for any specified period and is payable quarterly. We have the right to convert Eurodollar rate loans into base rate loans and the right to convert base rate loans into Eurodollar rate loans at our option, subject, in the case of Eurodollar rate loans, to breakage costs if the conversion is effected prior to the end of the applicable interest period. As of June 30, 2021 and December 31, 2020, the interest rate on the term loans was 5.00% per annum, which was based on a three-month and six-month Eurodollar rate, respectively, at the applicable floor of 1.00% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans. As of June 30, 2021, the interest rate on the revolving credit facility was 2.01% per annum, which was based on a six-month Eurodollar rate of 0.26% per annum plus the applicable margin of 1.75% per annum for Eurodollar rate loans. As of December 31, 2020, the interest rate on the revolving credit facility was 2.12% per annum, which was based on the six-month Eurodollar rate of 0.37% per annum plus the applicable margin of 1.75% per annum for Eurodollar rate loans.

The revolving credit facility also requires payment of quarterly commitment fees at a rate of 0.25% per annum on the difference between committed amounts and amounts actually borrowed under the facility and customary letter of credit fees.

The term loan facility matures on December 20, 2023 and the revolving credit facility matures on December 20, 2021. The term loan facility is subject to amortization in equal quarterly installments, which commenced on March 31, 2017, of principal in an annual aggregate amount equal to 1.0% of the original principal amount of the term loans of $300.0 million, with the remaining outstanding balance payable at the date of maturity.

Voluntary prepayments of principal amounts outstanding under the term loan facility are permitted at any time; however, if a prepayment of principal is made with respect to a Eurodollar loan on a date other than the last day of the applicable interest period, we are required to compensate the lenders for any funding losses and expenses incurred as a result of the prepayment. Prior to the revolving credit facility maturity date, funds borrowed under the revolving credit facility may be borrowed, repaid and reborrowed, without premium or penalty.

In addition, we are required to make mandatory prepayments under the facilities with respect to (i) 100% of the net cash proceeds from certain asset dispositions (including casualty and condemnation events) by us or certain of our subsidiaries, subject to certain exceptions and reinvestment provisions, (ii) 100% of the net cash proceeds from the issuance or incurrence of any additional debt by us or certain of our subsidiaries, subject to certain exceptions, and (iii) 50% of our excess cash flow, as defined in the credit agreement, subject to reduction upon our achievement of specified performance targets. In accordance with these provisions, a mandatory prepayment of $6.8 million was paid on April 2, 2021.

The facilities are secured by, among other things, a first priority security interest, subject to permitted liens, in substantially all of our assets and all of the assets of certain of our subsidiaries and a pledge of certain of the stock of certain of our subsidiaries, in each case subject to specified exceptions. The facilities contain customary affirmative and negative covenants, including certain restrictions on our ability to pay dividends, and, with respect only to the revolving credit facility, a financial covenant requiring us to maintain a specified total net leverage ratio, in the event that on the last day of any fiscal quarter, we have utilized more than 30% of our borrowing capacity under the revolving credit facility (subject to certain exceptions). The term loan facility contains a cross-default provision, whereby, if repayment of borrowings under the revolving credit facility are accelerated due to a default of the net leverage ratio covenant, repayment of the outstanding term loan balance could also be accelerated. Because the financial covenant under the revolving credit facility only applies if outstanding utilization thereunder exceeds 30% of the total borrowing capacity on the last day of each fiscal quarter, this cross-default provision has the effect of limiting our ability to utilize more than 30% of our total borrowing capacity under the revolving credit facility of $25.0 million if both our net leverage ratio exceeds the maximum permitted by the agreement and we would not otherwise be able to reduce our outstanding utilization of the revolving credit facility to below the 30% testing threshold prior to the last day of any quarter. As of June 30, 2021 and December 31, 2020, we were in compliance with all applicable covenants of the facilities. We do not expect to require the use of the revolving credit facility to fund operations during the next 12 months.

Tax Cuts and Jobs Act

Of our total cash and cash equivalents of $168.7 million as of June 30, 2021, $145.0 million was held by our foreign subsidiaries. The Tax Cuts and Jobs Act, or TCJA, established a modified territorial system requiring a mandatory deemed repatriation tax on undistributed earnings of foreign subsidiaries. As of June 30, 2021, we had $26.4 million of undistributed earnings in China that are not indefinitely reinvested. The remaining unremitted earnings of our foreign subsidiaries are either indefinitely reinvested or could be remitted with an immaterial tax cost.

We believe our existing cash and cash equivalents, anticipated cash flows from future operations and liquidity available from our revolving credit facility will be sufficient to meet our working capital and capital expenditure needs and debt service obligations for at least the next 12 months. Our future capital requirements may vary materially from those currently planned and will depend on many factors, including our rate of revenue growth, the timing and extent of spending on research and development efforts and other business initiatives, purchases of capital equipment to support our growth, the expansion of sales and marketing activities, expansion of our business through acquisitions or our investments in complementary products, technologies or businesses, the use of working capital to purchase additional inventory, the timing of new product introductions, market acceptance of our products and overall economic conditions. To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and requirements, we may be required to seek additional equity or debt financing. In the event additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all.

Stock Repurchase Program

On February 21, 2019, we announced a stock repurchase program under which we were authorized to repurchase up to $75.0 million of our common stock. During the six months ended June 30, 2020, we repurchased approximately 1.2 million shares for a total cost of approximately $3.0 million. During the six months ended June 30, 2021 we did not repurchase any shares. As of June 30, 2021, approximately $70.2 million remained authorized for repurchases of our common stock under the stock repurchase program. The stock repurchase program has no expiration date and does not require us to purchase a minimum number of shares, and we may suspend, modify or discontinue the stock repurchase program at any time without prior notice.

Contractual Obligations and Commitments

Our material contractual obligations include our term loan facility, revolving credit facility, operating leases and purchase agreements with our contract manufacturers and suppliers. There have been no material changes to our contractual obligations and commitments from those disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Critical Accounting Policies and Significant Judgments and Estimates

We prepare our condensed consolidated financial statements in accordance with generally accepted accounting principles in the United States. The preparation of condensed consolidated financial statements also requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ significantly from the estimates made by our management.

Other than our policies related to Stock-based Compensation and our adoption of ASU 2020-06, as described in Note 2 of the above notes to the condensed consolidated financial statements, there have been no material changes to our critical accounting policies and estimates from those disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Off-Balance Sheet Arrangements

As of June 30, 2021 and December 31, 2020, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K, such as the use of unconsolidated subsidiaries, structured finance, special purpose entities or variable interest entities.

Recent Accounting Pronouncements

Refer to the "Summary of Significant Accounting Policies" footnote within our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for our analysis of recent accounting pronouncements that are applicable to our business.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Market risk is the risk of loss to future earnings, values or future cash flows that may result from changes in the price of a financial instrument. The value of a financial instrument may change as a result of changes in interest rates, exchange rates, commodity prices, equity prices and other market changes. We are exposed to market risk related to changes in foreign currency exchange rates and interest rates. We currently mitigate certain foreign currency exchange rate risks with derivative instruments and enter into exchange rate hedging arrangements to manage certain of the risks described below. We do not engage in foreign currency speculation.

Foreign Currency Exchange Risk

We have accounts receivables denominated in foreign currencies, and our operations outside of the United States incur their operating expenses in foreign currencies. To date, the majority of our product sales and inventory purchases have been denominated in U.S. dollars. For our subsidiaries in Ireland and Australia, the U.S. dollar is the functional currency. For each of our other foreign subsidiaries, the functional currency is the local currency. During the six months ended June 30, 2021 and 2020, we incurred foreign currency transaction (losses) gains of $(1.0) million and $0.7 million, respectively, primarily related to unrealized and realized foreign currency (losses) gains for accounts receivable denominated in foreign currencies and operating expenses that are denominated in local currencies. We recorded these foreign currency transaction (losses) gains as a component of other income (expense), net in our condensed consolidated statements of operations and comprehensive (loss) income. We believe that a 10% change in the exchange rate between either the U.S. dollar and Euro or the U.S. dollar and Australian dollar would not materially impact our operating results or financial position.

Our foreign currency risk management practices are principally intended to mitigate the potential financial impact of changes in the value of transactions and balances denominated in foreign currencies resulting from changes in foreign currency exchange rates. From time to time we enter into cash flow hedges, which utilize foreign currency forward contracts to hedge specific forecasted transactions of our foreign subsidiaries with the goal of protecting our budgeted revenues and expenses against foreign currency exchange rate changes compared to our budgeted rates. During the three and six months ended June 30, 2020, we settled one cash flow hedge which was used to hedge specific operating cash flows denominated in Australian dollars. No cash flow hedges were settled or outstanding during the three or six months ended June 30, 2021.

Additionally, from time to time, we enter into other foreign currency forward contracts with the goal of protecting outstanding receivables denominated in currencies other than the U.S. dollar. As of June 30, 2021 we had a currency forward contract outstanding with a notional amount totaling 1.1 million Euros that will mature in the third quarter of 2021, and we expect to continue to hedge certain significant transactions denominated in currencies other than the U.S. dollar in the future.

The success of our foreign currency risk management program depends upon forecasts of transaction activity denominated in various currencies. To the extent that these forecasts are overstated or understated during periods of currency volatility, we could experience unanticipated foreign currency gains or losses that could have a material impact on our results of operations. Furthermore, our failure to identify new exposures and hedge against them in an effective manner may result in material foreign currency gains or losses.

Interest Rate Sensitivity

Our cash and cash equivalents as of June 30, 2021 and December 31, 2020 consisted of cash maintained in FDIC-insured operating accounts as well as investments in money market mutual funds and certificates of deposit. We also have policies requiring us to invest in high-quality issuers, limit our exposure to any individual issuer, and ensure adequate liquidity. Our primary exposure to market risk for our cash equivalents is interest income sensitivity, which is primarily affected by changes in the general level of U.S. interest rates. However, we do not believe a sudden change in the interest rates for our cash equivalents would have a material impact on our financial condition, results of operations or cash flows.

We have a credit agreement that provides us with a term loan facility of $300.0 million and a revolving credit facility of up to $25.0 million in revolving credit loans and letters of credit. Borrowings under the facilities bear interest at a floating rate, which can be either a Eurodollar rate plus an applicable margin or, at our option, a base rate (defined as the highest of (x) the JPMorgan Chase, N.A. prime rate, (y) the federal funds effective rate, plus one-half percent (0.50%) per annum and (z) a one-month Eurodollar rate plus 1.00% per annum) plus an applicable margin. The applicable margin for borrowings under the term loan facility is 4.00% per annum for Eurodollar rate loans (subject to a 1.00% per annum interest rate floor) and 3.00% per annum for base rate loans. The applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans and 0.75% per annum for base rate loans, subject to reduction based on our maintaining of specified net leverage ratios.

As of June 30, 2021, we had borrowings of $279.7 million outstanding under the term loan facility, bearing interest at a rate of 5.00% per annum, which was based on a three-month Eurodollar rate at the applicable floor of 1.00% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans. Changes in interest rates could cause interest charges on our term loan facility to fluctuate. Based on the amount of borrowings outstanding as of June 30, 2021, an increase or decrease of 10% in the Eurodollar rate would have no impact on our earnings and cash flows, as the interest rate in effect at June 30, 2021 on the term loan facility was at the applicable floor of 1.00% per annum and would continue to be in effect with a change of 10%.

On July 1, 2020, we drew down upon our revolving credit facility under our term loan agreement in the amount of $6.5 million. As noted in Note 10, *Debt*, borrowings under the revolving credit facility mature on December 21, 2021 and the applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans. The interest rate on the outstanding borrowings as of June 30, 2021, was 2.01%, which was based on a six-month Eurodollar rate of 0.26% per annum plus the applicable margin of 1.75% per annum for Eurodollar rate loans. An increase or decrease of 10% in the one-month Eurodollar rate would result in a pre-tax change to our earnings and cash flows of less than $0.1 million per year, assuming that such rate was to remain in effect for a year.

Inflation Risk

We do not believe that inflation has had a material effect on our business to date. However, as more fully described in Item 2 above, global demand for the base materials utilized by our suppliers and supply chain risks could result in significant increases in the costs of the components we purchase, and we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, operating results and financial condition.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a- 15(e) and 15d- 15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this Quarterly Report on Form 10-Q. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q, our Chief Executive Officer and Chief Financial Officer have concluded that as of such date, our disclosure controls and procedures were effective.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during our most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we are a party to various litigation matters and subject to claims that arise in the ordinary course of business including, for example, patent infringement lawsuits by non-practicing entities. In addition, third parties may from time to time assert claims against us in the form of letters and other communications.

On May 29, 2019, John Shen filed a putative shareholder class action complaint in the Massachusetts Superior Court of Essex County, *John Shen v. Casa Systems, Inc, et al., Civil Action No. 1977CV00787*, against us; certain of our current and former executive officers and directors; Summit Partners, our largest investor; and the underwriters from our December 15, 2017, initial public offering, or IPO. On July 3, 2019, Mirza R. Baig filed a similar putative shareholder class action complaint in the Massachusetts Superior Court of Essex County, *Mirza R. Baig v. Casa Systems, Inc., Civil Action No. 1977CV00961*, against the same defendants. Pursuant to plaintiffs' motion filed on July 26, 2019, and accepted September 3, 2019, the two matters were consolidated and transferred to the Business Litigation Session of the Massachusetts Superior Court, Suffolk County, *John Shen v. Casa Systems, Inc, et al., Civil Action No. 19-CV-03203-BLS2* and *Mirza R. Baig v. Casa Systems, Inc., Civil Action No. 19-CV-03204-BLS2*. The complaints purported to be brought on behalf of all purchasers of our common stock in and/or traceable to the IPO. The complaints generally alleged that (i) each of the defendants violated Section 11 and/or Section 12(a)(2) of the Securities Act of 1933, as amended, or the Securities Act, because documents related to the IPO, including our registration statement and prospectus were materially misleading by containing untrue statements of material fact and/or omitting to state material facts necessary to make such statements not misleading and (ii) the individual defendants and Summit Partners acted as controlling persons within the meaning and in violation of Section 15 of the Securities Act. On November 12, 2019, plaintiffs filed an amended shareholder class action complaint, purportedly on behalf of all purchasers of our common stock in and/or traceable to the IPO, which contained substantially similar allegations and asserted the same claims as the two initial complaints, described above. Plaintiffs sought, among other things compensatory damages, costs and expenses, including counsel and expert fees, rescission or a rescissory measure of damages, and equitable and injunctive relief. On January 14, 2020, the defendants filed motions to dismiss the amended complaint with prejudice. On January 12, 2021, the court granted the motions to dismiss. On February 22, 2021, plaintiffs filed notice of appeal. The appeal has not yet been docketed by the appellate court, and no filing has been made.

On August 9, 2019, Donald Hook filed a putative shareholder class action lawsuit in the Supreme Court of the State of New York, County of New York, *Donald Hook, et al., v. Casa Systems, Inc. et al., Index No. 654548/2019*, against the same defendants named in the Shen and Baig matters. The complaint purports to be brought on behalf of all purchasers of our common stock in and/or traceable to our IPO and generally alleges that (i) each of the defendants violated Section 11 and/or Section 12(a)(2) of the Securities Act because documents related to our IPO including our registration statement and prospectus were materially misleading by containing untrue statements of material fact and/or omitting to state material facts necessary to make such statements not misleading and (ii) the individual defendants and Summit Partners acted as controlling persons within the meaning and in violation of Section 15 of the Securities Act. On November 22, 2019, plaintiff filed an amended complaint, which contains substantially similar allegations as the initial complaint, described above, and asserts claims for violations of Sections 11 and 15 of the Securities Act. Plaintiff seeks, among other things, compensatory damages, costs and expenses, including counsel and expert fees, rescission or a rescissory measure of damages, disgorgement, and equitable and injunctive relief. On January 21, 2020, the defendants filed motions to dismiss the amended complaint, which remain pending.

On August 13, 2019, Panther Partners, Inc. filed a putative shareholder class action lawsuit in the Supreme Court of the State of New York, New York County, *Panther Partners, Inc., et al., v. Jerry Guo et al., Index No 654585/2019*, against us, certain of our current and former executive officers and directors, and the underwriters from our April 30, 2018 follow-on offering of common stock, which we refer to as our "Follow-on Offering." The complaint purports to be brought on behalf of all purchasers of our common stock in our Follow-on Offering and generally alleges that (i) each of the defendants, other than Abraham Pucheril, violated Section 11 of the Securities Act, and each of the defendants violated Section 12(a)(2) of the Securities Act, because documents related to our Follow-on Offering, including our registration statement and prospectus, were materially misleading by containing untrue statements of material fact and/or omitting to state material facts necessary to make such statements not misleading and (ii) the individual defendants acted as controlling persons within the meaning and in violation of Section 15 of the Securities Act. On November 22, 2019, plaintiff filed an amended complaint, which contains substantially similar allegations and asserts the same claims as the initial complaint, described above. Plaintiff seeks, among other things, compensatory damages, costs and expenses, including counsel and expert fees, rescission or a rescissory measure of damages, and equitable and injunctive relief. On January 21, 2020, the defendants served motions to dismiss the amended complaint, which remain pending.

No amounts have been accrued for any of the putative class action lawsuits referenced above as of June 30, 2021, as we do not believe the likelihood of a material loss is probable. Although the ultimate outcome of these matters cannot be predicted with certainty, the resolution of any of these matters could have a material impact on our results of operations in the period in which such matter is resolved.

Item 1A. Risk Factors.

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed in "Part I, Item 1A Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, or the 2020 10-K, which could materially affect our business, financial condition or future results. Other than the updated risk factors described below, there have been no material changes from the risk factors previously disclosed in the 2020 10-K.

Risks Related to COVID-19 Pandemic

The coronavirus outbreak could negatively impact our operations and have an adverse effect on our revenues and/or results of operations.

The COVID-19 pandemic and the accompanying responses of governments and businesses to the pandemic continue to present various risks to us, not all of which we are able to fully evaluate or even to foresee at the current time and could have a material effect upon the estimates and judgments relied upon by management. While the COVID-19 pandemic did not significantly adversely affect our financial results, business operations or liquidity during the three and six months ended June 30, 2021, economic and health conditions in the United States and across most of the globe changed rapidly during the period and are continuing to change after the end of the quarter. Globally, all aspects of our business remain fully operational. The pandemic has led to increased demand for certain of our products, resulting in increased order volumes that have created additional pressure on our supply chain. In addition, certain of our products utilize components, for which there has been increased global demand. As a result, we have begun to see shortages of supply that have increased the likelihood of an adverse impact on our future revenue and gross margins and ability to fill orders for customers in a timely manner. We continue to work with our supply chain and contract manufacturers, as well as our customers, to minimize the possible extent of such impacts. However, at this time we are neither able to estimate the extent of these impacts nor predict whether our efforts to minimize or contain them will be successful. We intend to continue to monitor our business very closely for any effects of COVID-19 for as long as necessary.

Due to the above circumstances and as described generally in our 2020 Annual Report on Form 10-K, our results of operations for the three and six months ended June 30, 2021, and the year ended December 31, 2020, are not necessarily indicative of the results to be expected in future periods. Management cannot predict the full impact of the COVID-19 pandemic on our sales channels, supply chain, manufacturing and distribution, or on economic conditions generally, including the effects on our current and potential customers, who may curtail spending on investments in current and/or new technologies, delay new equipment evaluations and trials, and possibly delay payments based on liquidity concerns, all of which could have a material impact on our business in the future. Similarly, our supply chain and our contract manufacturers could be affected, which could cause disruptions to our ability to meet customer demand or delivery schedules. For the three and six months ended June 30, 2021, we did see certain delays in the supply chain that adversely impacted a small number of delivery schedules. If COVID-19 were to continue to cause such impacts in the future, there could likely be a material adverse impact on our financial results, liquidity and capital resource needs. This uncertainty makes it challenging for management to estimate the future performance of our businesses, particularly over the near to medium term. However, the impact of COVID-19 could have a material adverse impact on our results of operations over the near to medium term.

The coronavirus outbreak has resulted in an increase in demand for certain of our solutions, which may subside or decrease when the pandemic ends.

The pandemic, and resulting lockdowns, has resulted in an increase in demand for residential broadband services, which has in turn lead to an increase in demand for certain of our solutions, including our fiber extension home network connection devices and our Fixed Wireless Access CPE devices. We also saw a shift in demand from our cable customers toward more I-CCAP chassis each quarter. That increase in demand contributed to our strong revenue performance in 2020. We cannot guarantee that the heightened demand for residential broadband services will continue for the duration of the pandemic or after the pandemic ends. We similarly cannot guarantee that even to the extent the heightened demand for residential broadband services continues that we will continue to see heightened demand for our solutions. A decrease in demand for our solutions could have a material adverse impact on our revenue and results of operations.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Use of Proceeds

On December 14, 2017, the Securities and Exchange Commission, or the SEC, declared our registration statement on Form S-1 (File No. 333-221658) for our initial public offering, or IPO, effective. The net offering proceeds to us from the IPO, after deducting underwriting discounts of $6.3 million and offering expenses payable by us totaling $4.1 million, were approximately $79.3 million. No offering discounts, commissions or expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning 10.0% or more of any class of our equity securities or to any other affiliates. There has been no material change in the planned use of proceeds from our IPO as described in our final prospectus filed with the SEC on December 15, 2017 pursuant to Rule 424(b)(4). As of June 30, 2021, we had not used any of the net offering proceeds and we have invested the proceeds into an investment portfolio with the primary objective of preserving principal and providing liquidity without significantly increasing risk.

Stock Repurchase Program

The following table sets forth information with respect to repurchases of shares of our common stock during the three-month period ended June 30, 2021:

Casa Systems, Inc. Purchase of Equity Securities

Period	Total Number of Shares Purchased	Average Price Paid per Share (1)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
	(In thousands)		(In thousands)	(In thousands)
April 1 - April 30, 2021	—	$ —	—	$ 70,208
May 1 - May 31, 2021	—	$ —	—	$ 70,208
June 1 - June 30, 2021	—	$ —	—	$ 70,208

(1) The calculation of average price included above excludes the cost of commissions.

(2) On February 21, 2019, we announced that our board of directors authorized the repurchase of up to $75.0 million of our common stock under a stock repurchase program. From inception through June 30, 2021, we repurchased approximately 1.7 million shares under the program. The stock repurchase program has no expiration date and does not require us to purchase a minimum number of shares. We may suspend, modify or discontinue the stock repurchase program at any time without prior notice.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit Index

Exhibit Number	Description
3.1	Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-38324) filed on December 19, 2017)
3.2	By-laws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-38324) filed on December 19, 2017)
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101)

* Furnished herewith.

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.

	CASA SYSTEMS, INC.
Date: July 30, 2021	By: /s/ Jerry Guo
	Jerry Guo
	President, Chief Executive Officer and Chairman
	(Principal Executive Officer)
Date: July 30, 2021	By: /s/ Scott Bruckner
	Scott Bruckner
	Chief Financial Officer
	(Principal Financial Officer)

Exhibit 31.1

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Jerry Guo, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Casa Systems, 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: July 30, 2021

By: /s/ Jerry Guo
Jerry Guo
President, Chief Executive Officer and Chairman

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Scott Bruckner, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Casa Systems, 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: July 30, 2021

By: /s/ Scott Bruckner
Scott Bruckner
Chief Financial Officer

Exhibit 32.1

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

In connection with this Quarterly Report on Form 10-Q of Casa Systems, Inc. (the "Company") for the period ended June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jerry Guo, as President, Chief Executive Officer and Chairman of the Company, hereby certify, as of the date hereof, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

Date: July 30, 2021

By: /s/ Jerry Guo
Jerry Guo
President, Chief Executive Officer and Chairman

Exhibit 32.2

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

In connection with this Quarterly Report on Form 10-Q of Casa Systems, Inc. (the “Company”) for the period ended June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Scott Bruckner, as Chief Financial Officer of the Company, hereby certify, as of the date hereof, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

Date: July 30, 2021	By:	/s/ Scott Bruckner
		Scott Bruckner
		Chief Financial Officer