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DELTA REPORT

10-Q

RMBS - RAMBUS INC

10-Q - MARCH 31, 2024 COMPARED TO 10-Q - SEPTEMBER 30, 2023

The following comparison report has been automatically generated

TOTAL DELTAS	1276
CHANGES	320
DELETIONS	599
ADDITIONS	357

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 September 30, 2023 March 31, 2024

OR

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

For the transition period from to

Commission File Number: 000-22339

RAMBUS INC.

(Exact name of registrant as specified in its charter)

Delaware	**94-3112828**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

4453 North First Street

Suite 100

San Jose, California ,	**California**	**95134**
(Address of principal executive offices)		(ZIP Code)

Registrant's telephone number, including area code:
(408) 462-8000

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, $.001 Par Value	RMBS	The Nasdaq Stock Market LLC (The Nasdaq Global Select Market)

Securities registered pursuant to Section 12(g) of the Act:
None

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 ☒

The number of shares outstanding of the registrant’s Common Stock, par value $.001 per share, was 107,509,241 107,780,744 as of September 30, 2023 March 31, 2024.

RAMBUS INC.
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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q ("Quarterly Report") contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements include, without limitation, predictions regarding the following aspects of our future:

- Success in the markets of our products and services or our customers' products;
- Sources of competition;
- Research and development costs and improvements in technology;
- Sources, amounts and concentration of revenue, including royalties;
- Success in signing and renewing customer agreements, including license agreements;
- The timing of completing engineering deliverables and the changes to work required;
- Success in obtaining new technology development contracts booked in the future;

- Success in adding and maintaining new customers;
- Success in obtaining orders from our customers, and our ability to accurately anticipate and meet our customers' demands;
- Success in entering and growth in new markets;
- Levels of variation in our customers' reported shipment volumes, sales prices and product mix;
- Variation in contract and other revenue, based on varying revenue recognized from contract and other revenue;
- Implications of short-term or long-term increases in our research and development expenses;
- Short-term increases in cost of product revenue;
- Variation in our sales, general and administrative expenses;
- Terms of our licenses and amounts owed under license agreements;
- Technology product development;
- Perceived or actual changes in the quality of our products;
- Dispositions, acquisitions, mergers or strategic transactions and our related integration efforts;
- Impairment of goodwill and long-lived assets;
- Pricing policies of our customers;
- Changes in our strategy and business model, including the expansion of our portfolio of inventions, products, software, services and solutions to address additional markets in memory, chip and security;
- Deterioration of financial health of commercial counterparties and their ability to meet their obligations to us;
- Effects of security breaches or failures in our or our customers' products and services on our business;
- Engineering, sales, legal, advertising, marketing, general and administration, and other expenses;
- Contract revenue;
- Operating results;
- Continued product revenue growth, specifically in connection with the growth in sales of our memory interface chips;
- International licenses, operations and expansion;
- Effects of changes in the economy and credit market on our industry and business;
- Effects of natural disasters, climate change and extreme weather events on our supply chain;
- Ability to identify, attract, motivate and retain qualified personnel;
- Effects of government regulations on our industry and business;
- Manufacturing, shipping and supply partners, supply chain availability and/or sale and distribution channels;
- Growth in our business;
- Methods, estimates and judgments in accounting policies;
- Adoption of new accounting pronouncements;

- Effective tax rates, including as a result of recent U.S. tax legislation;
- Restructurings and plans of termination;
- Realization of deferred tax assets/release of deferred tax valuation allowance;

- Trading price of our common stock;
- Internal control environment;
- Protection of intellectual property (“IP”); property;
- Any changes in laws, agency actions and judicial rulings that may impact the ability to enforce our IP rights;
- Indemnification and technical support obligations;
- Equity repurchase programs;
- Issuances of debt or equity securities, which could involve restrictive covenants or be dilutive to our existing stockholders;
- Effects of fluctuations in interest rates and currency exchange rates;
- Effects of a rising varying rate of inflation;
- Effects of U.S. government restrictions on exports, including with China;
- Effects of current and future uncertainty in the worldwide economy, including major central bank policies and worldwide changes in credit markets;
- Effects of changes in macroeconomic conditions, increased risk of recession and geopolitical issues;
- Management of supply chain risks; and
- Outcome and effect of potential future IP litigation and other significant litigation.

You can identify these and other forward-looking statements by the use of words such as “may,” “future,” “shall,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “intends,” “potential,” “continue,” “projecting” or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements.

Actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Part II, Item 1A, “Risk Factors.” All forward-looking statements included in this document are based on our assessment of information available to us at this time. We assume no obligation to update any forward-looking statements.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements

RAMBUS INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)

(In thousands, except shares and par value)	(In thousands, except shares and par value)	September 30, 2023	December 31, 2022	(In thousands, except shares and par value)	March 31, 2024	December 31, 2023
ASSETS	**ASSETS**			**ASSETS**		
Current assets:	Current assets:			Current assets:		
Cash and cash equivalents	Cash and cash equivalents	$ 131,957	$ 125,334			
Marketable securities	Marketable securities	243,588	187,892			
Accounts receivable	Accounts receivable	65,101	55,368			

Unbilled receivables	Unbilled receivables	64,252	125,698
Inventories	Inventories	34,615	20,900
Prepaids and other current assets	Prepaids and other current assets	11,112	12,022
Prepaids and other current assets			
Prepaids and other current assets			
Total current assets			
Total current assets			
Total current assets	Total current assets	550,625	527,214
Intangible assets, net	Intangible assets, net	32,015	50,880
Goodwill	Goodwill	286,812	292,040
Property, plant and equipment, net	Property, plant and equipment, net	73,466	86,255
Operating lease right-of-use assets	Operating lease right-of-use assets	20,964	24,143
Unbilled receivables	Unbilled receivables	3,479	25,222
Deferred tax assets	Deferred tax assets	131,020	3,031
Income taxes receivable	Income taxes receivable	84,487	1,064
Other assets	Other assets	1,463	2,745
Total assets	Total assets	$1,184,331	$1,012,594
LIABILITIES & STOCKHOLDERS' EQUITY	**LIABILITIES & STOCKHOLDERS' EQUITY**		
LIABILITIES & STOCKHOLDERS' EQUITY			
Current liabilities:	Current liabilities:		
Current liabilities:			
Accounts payable	Accounts payable	$ 15,682	$ 24,815
Accrued salaries and benefits	Accrued salaries and benefits	13,076	20,502
Convertible notes		—	10,378
Deferred revenue	Deferred revenue	17,459	23,861
Deferred revenue			
Deferred revenue			
Income taxes payable			

Income taxes payable				
Income taxes payable	Income taxes payable	8,638	18,137	
Operating lease liabilities	Operating lease liabilities	4,174	5,024	
Other current liabilities	Other current liabilities	25,167	23,992	
Other current liabilities				
Other current liabilities				
Total current liabilities	Total current liabilities	84,196	126,709	
Long-term operating lease liabilities				
Long-term operating lease liabilities				
Long-term operating lease liabilities	Long-term operating lease liabilities	26,117	29,079	
Long-term income taxes payable	Long-term income taxes payable	77,655	5,892	
Deferred tax liabilities	Deferred tax liabilities	5,819	24,964	
Other long-term liabilities	Other long-term liabilities	34,978	46,653	
Total liabilities	Total liabilities	228,765	233,297	
Commitments and contingencies (Notes 8, 10 and 14)				
Commitments and contingencies (Notes 9, 11 and 15)				Commitments and contingencies (Notes 9, 11 and 15)
Stockholders’ equity:	Stockholders’ equity:			Stockholders’ equity:
Convertible preferred stock, $0.001 par value:	Convertible preferred stock, $0.001 par value:			Convertible preferred stock, $0.001 par value:
Authorized: 5,000,000 shares; issued and outstanding: no shares at September 30, 2023 and December 31, 2022		—	—	
Authorized: 5,000,000 shares; issued and outstanding: no shares at March 31, 2024 and December 31, 2023				

Common stock, $0.001 par value:	Common stock, $0.001 par value:		Common stock, $0.001 par value:
Authorized: 500,000,000 shares; issued and outstanding: 107,509,241 shares at September 30, 2023 and 107,610,356 shares at December 31, 2022		108	108
Authorized: 500,000,000 shares; issued and outstanding: 107,780,744 shares at March 31, 2024 and 107,853,778 shares at December 31, 2023			
Additional paid-in capital	Additional paid-in capital	1,301,905	1,297,408
Accumulated deficit	Accumulated deficit	(344,079)	(513,256)
Accumulated other comprehensive loss	Accumulated other comprehensive loss	(2,368)	(4,963)
Total stockholders' equity	Total stockholders' equity	955,566	779,297
Total liabilities and stockholders' equity	Total liabilities and stockholders' equity	$1,184,331	$1,012,594

Refer to Notes to Unaudited Condensed Consolidated Financial Statements

RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

		Three Months Ended			
		Three Months Ended			
		Three Months Ended			
		Three Months Ended September 30,		**Nine Months Ended September 30,**	
(In thousands, except per share amounts)	**(In thousands, except per share amounts)**	**2023**	**2022**	**2023**	**2022**
(In thousands, except per share amounts)					

(In thousands, except per share amounts)					
Revenue:					
Revenue:					
Revenue:	Revenue:				
Product revenue	Product revenue	$ 52,181	$ 58,619	$ 170,934	$ 159,890
Product revenue					
Product revenue					
Royalties					
Royalties					
Royalties	Royalties	28,857	29,878	97,698	108,380
Contract and other revenue	Contract and other revenue	24,260	23,747	70,260	64,156
Contract and other revenue					
Contract and other revenue					
Total revenue					
Total revenue					
Total revenue	Total revenue	105,298	112,244	338,892	332,426
Cost of revenue:	Cost of revenue:				
Cost of revenue:					
Cost of revenue:					
Cost of product revenue					
Cost of product revenue					
Cost of product revenue	Cost of product revenue	19,388	21,953	64,554	60,767
Cost of contract and other revenue	Cost of contract and other revenue	1,295	1,455	4,280	3,053
Cost of contract and other revenue					
Cost of contract and other revenue					
Amortization of acquired intangible assets					
Amortization of acquired intangible assets					
Amortization of acquired intangible assets	Amortization of acquired intangible assets	3,349	3,576	10,472	10,375
Total cost of revenue	Total cost of revenue	24,032	26,984	79,306	74,195
Total cost of revenue					
Total cost of revenue					

Gross profit	Gross profit	81,266	85,260	259,586	258,231
Operating expenses (benefits):					
Gross profit					
Gross profit					
Operating expenses:					
Operating expenses:					
Operating expenses:					
Research and development	Research and development	37,368	39,295	120,842	118,648
Research and development					
Research and development					
Sales, general and administrative					
Sales, general and administrative					
Sales, general and administrative	Sales, general and administrative	25,333	26,198	82,484	79,409
Amortization of acquired intangible assets	Amortization of acquired intangible assets	258	433	1,022	1,259
Restructuring and other charges (benefit)		(100)	—	9,394	—
Gain on divestiture		(90,843)	—	(90,843)	—
Impairment of assets		10,045	—	10,045	—
Amortization of acquired intangible assets					
Amortization of acquired intangible assets					
Change in fair value of earn-out liability	Change in fair value of earn-out liability	(5,666)	2,411	8,134	(1,889)
Total operating expenses (benefits)		(23,605)	68,337	141,078	197,427
Change in fair value of earn-out liability					
Change in fair value of earn-out liability					
Total operating expenses					
Total operating expenses					
Total operating expenses					
Operating income					
Operating income					

Operating income	Operating income	104,871	16,923	118,508	60,804
Interest income and other income (expense), net	Interest income and other income (expense), net	2,715	2,838	7,112	6,936
Gain on fair value of equity security		—	3,547	—	3,547
Loss on extinguishment of debt		—	(17,129)	—	(83,626)
Interest income and other income (expense), net					
Interest income and other income (expense), net					
Loss on fair value adjustment of derivatives, net					
Loss on fair value adjustment of derivatives, net					
Loss on fair value adjustment of derivatives, net	Loss on fair value adjustment of derivatives, net	—	(2,302)	(240)	(10,585)
Interest expense	Interest expense	(356)	(437)	(1,113)	(1,390)
Interest expense					
Interest expense					
Interest and other income (expense), net	Interest and other income (expense), net	2,359	(13,483)	5,759	(85,118)
Income (loss) before income taxes		107,230	3,440	124,267	(24,314)
Provision for (benefit from) income taxes		4,032	2,501	(151,092)	5,945
Net income (loss)		$ 103,198	$ 939	$ 275,359	$ (30,259)
Net income (loss) per share:					
Interest and other income (expense), net					
Interest and other income (expense), net					
Income before income taxes					
Income before income taxes					
Income before income taxes					
Provision for income taxes					
Provision for income taxes					
Provision for income taxes					
Net income					
Net income					

Net income					
Net income per share:					
Net income per share:					
Net income per share:					
Basic					
Basic					
Basic	Basic	$ 0.95	$ 0.01	$ 2.54	$ (0.27)
Diluted	Diluted	$ 0.93	$ 0.01	$ 2.48	$ (0.27)
Diluted					
Diluted					
Weighted-average shares used in per share calculation:					
Weighted-average shares used in per share calculation:					
Weighted-average shares used in per share calculation:	Weighted-average shares used in per share calculation:				
Basic	Basic	108,317	109,968	108,412	110,102
Basic					
Basic					
Diluted	Diluted	110,775	111,962	111,179	110,102
Diluted					
Diluted					

Refer to Notes to Unaudited Condensed Consolidated Financial Statements

RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)

		Three Months Ended			
		Three Months Ended			
		Three Months Ended			
		Three Months Ended		**Nine Months Ended**	
		September 30,		**September 30,**	
(In thousands)	**(In thousands)**	**2023**	**2022**	**2023**	**2022**
Net income (loss)		$ 103,198	$ 939	$ 275,359	$ (30,259)
(In thousands)					
(In thousands)					
Net income					
Net income					

Net income					
Other comprehensive income (loss):					
Other comprehensive income (loss):					
Other comprehensive income (loss):	Other comprehensive income (loss):				
Foreign currency translation adjustment	Foreign currency translation adjustment	(166)	(1,018)	164	(1,987)
Foreign currency translation adjustment					
Foreign currency translation adjustment					
Unrealized gain (loss) on marketable securities, net of tax	Unrealized gain (loss) on marketable securities, net of tax	827	(12)	2,431	(3,329)
Total comprehensive income (loss)		$ 103,859	$ (91)	$ 277,954	$ (35,575)
Unrealized gain (loss) on marketable securities, net of tax					
Unrealized gain (loss) on marketable securities, net of tax					
Total comprehensive income					
Total comprehensive income					
Total comprehensive income					

Refer to Notes to Unaudited Condensed Consolidated Financial Statements

RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

	For the Three Months Ended September 30, 2023				
	Common Stock				
	For the Three Months Ended March 31, 2024				For the Three Months Ended March 31, 2024
	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss		

(In thousands)	(In thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit		Accumulated Other Comprehensive Loss	Total
Balances at June 30, 2023		109,131	$ 109			$945,558		
(In thousands)								
(In thousands)		Shares	Amount					Total
Balances at December 31, 2023								
Net income	Net income	—	—	—	103,198		—	103,198
Foreign currency translation adjustment	Foreign currency translation adjustment	—	—	—	—		(166)	(166)
Unrealized gain on marketable securities, net of tax		—	—	—	—		827	827
Unrealized loss on marketable securities, net of tax								
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan, net of withholding taxes	Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan, net of withholding taxes	233	—	(3,366)	—		—	(3,366)
Repurchase and retirement of common stock under repurchase program								
Repurchase and retirement of common stock under repurchase program								

Repurchase and retirement of common stock under repurchase program	Repurchase and retirement of common stock under repurchase program	(1,855)	(1)	(5,781)	(94,742)	—	(100,524)
Stock-based compensation	Stock-based compensation	—	—	10,039	—	—	10,039
Balances at September 30, 2023		107,509	$ 108	$1,301,905	$ (344,079)	$ (2,368)	$955,566

Balances at March 31, 2024

	For the Three Months Ended September 30, 2022					
	Common Stock		Additional		Accumulated	
			Paid-in	Accumulated	Other	
					Comprehensive	
(In thousands)	Shares	Amount	Capital	Deficit	Loss	Total
Balances at June 30, 2022	110,528	$ 111	$1,283,789	$ (440,004)	$ (5,738)	$838,158
Net income	—	—	—	939	—	939
Foreign currency translation adjustment	—	—	—	—	(1,018)	(1,018)
Unrealized loss on marketable securities, net of tax	—	—	—	—	(12)	(12)
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan, net of withholding taxes	86	—	(980)	—	—	(980)
Repurchase and retirement of common stock under repurchase program	(3,132)	(4)	(30,075)	(70,333)	—	(100,412)
Stock-based compensation	—	—	8,872	—	—	8,872
Retirement of convertible senior note hedges	—	—	16,404	—	—	16,404
Retirement of warrants	—	—	(12,067)	—	—	(12,067)
Balances at September 30, 2022	107,482	$ 107	$1,265,943	$ (509,398)	$ (6,768)	$749,884

Balances at March 31, 2024

	For the Nine Months Ended September 30, 2023				
	Common Stock	Additional	Accumulated	Accumulated	
		Paid-in	Deficit	Other	
		Capital		Comprehensive	
				Loss	

Balances at March 31, 2024

For the Three Months Ended March 31, 2023

For the Three Months Ended March 31, 2023

For the Three Months Ended March 31, 2023

(In thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit		Accumulated Other Comprehensive Loss	Total
Balances at December 31, 2022	107,610	$ 108			$ 779,297		
Net income	—	—	—	275,359		—	275,359
Foreign currency translation adjustment	—	—	—	—		164	164
Unrealized gain on marketable securities, net of tax	—	—	—	—		2,431	2,431
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan, net of withholding taxes	1,556	1	(30,204)	—		—	(30,203)
Repurchase and retirement of common stock under repurchase program	(1,855)	(1)	(5,781)	(94,742)		—	(100,524)
Stock-based compensation							
Stock-based compensation	—	—	34,477	—		—	34,477

Stock-based compensation

Issuance of common stock in connection with the payment of year 1 earn-out related to the PLDA Group acquisition	Issuance of common stock in connection with the payment of year 1 earn-out related to the PLDA Group acquisition	198	—	5,022	—	—	5,022
Issuance of common stock in connection with the maturity of the convertible senior notes related to the settlement of the in-the-money conversion feature of the convertible senior notes	Issuance of common stock in connection with the maturity of the convertible senior notes related to the settlement of the in-the-money conversion feature of the convertible senior notes	284	—	—	—	—	—
Exercise of the convertible senior note hedges in connection with the conversion of convertible senior notes and retirement of the corresponding	Exercise of the convertible senior note hedges in connection with the conversion of convertible senior notes and retirement of the corresponding	(284)	—	11,440	(11,440)	—	—

shares	shares						
Retirement of warrants	Retirement of warrants	—	—	(10,457)	—	—	(10,457)

Balances at September 30, 2023	107,509	$ 108	$1,301,905	$ (344,079)	$ (2,368)	$955,566
Balances at March 31, 2023						
Balances at March 31, 2023						
Balances at March 31, 2023						

	For the Nine Months Ended September 30, 2022						
	Common Stock		Additional			Accumulated	
			Paid-in	Accumulated		Other Comprehensive	
(In thousands)	Shares	Amount	Capital	Deficit	Total	Loss	
Balances at December 31, 2021	109,292	$ 109	$1,298,966	$ (435,227)		$ (1,452)	$862,396
Net loss	—	—	—	(30,259)		—	(30,259)
Foreign currency translation adjustment	—	—	—	—		(1,987)	(1,987)
Unrealized loss on marketable securities, net of tax	—	—	—	—		(3,329)	(3,329)
Issuance of common stock upon exercise of options, equity stock and employee stock purchase plan, net of withholding taxes	1,322	2	(13,681)	—		—	(13,679)
Repurchase and retirement of common stock under repurchase program	(3,132)	(4)	(30,075)	(70,333)		—	(100,412)
Stock-based compensation	—	—	25,286	—		—	25,286
Retirement of convertible senior note hedges	—	—	78,415	—		—	78,415
Retirement of warrants	—	—	(58,423)	—		—	(58,423)
Cumulative effect adjustment from the adoption of ASC 2020-06	—	—	(34,545)	26,421		—	(8,124)
Balances at September 30, 2022	107,482	$ 107	$1,265,943	$ (509,398)		$ (6,768)	$749,884

Refer to Notes to Unaudited Condensed Consolidated Financial Statements

RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

		Nine Months Ended				
		Three Months Ended				Three Months Ended
		September 30,			March 31,	
(In thousands)	(In thousands)	2023	2022	(In thousands)	2024	2023
Cash flows from operating activities:	**Cash flows from operating activities:**			**Cash flows from operating activities:**		
Net income (loss)		$275,359	$ (30,259)			
Adjustments to reconcile net income (loss) to net cash provided by operating activities:						
Net income						
Adjustments to reconcile net income to net cash provided by operating activities:				Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation	Stock-based compensation	34,477	25,286			
Depreciation	Depreciation	26,608	23,107			
Amortization of intangible assets	Amortization of intangible assets	11,494	11,634			
Loss on extinguishment of debt		—	83,626			
Loss on fair value adjustment of derivatives, net		240	10,585			
Impairment of assets		10,045	—			
Gain on divestiture		(90,843)	—			
Deferred income taxes	Deferred income taxes	(147,144)	1,680			
Gain on fair value of equity security		—	(3,547)			
Deferred income taxes						
Deferred income taxes						
Change in fair value of earn-out liability						

Change in fair value of earn-out liability			
Change in fair value of earn-out liability	Change in fair value of earn-out liability	8,134	(1,889)
Other	Other	649	2,187
Change in operating assets and liabilities, net of effects of acquisition/disposition:			
Change in operating assets and liabilities:			
Change in operating assets and liabilities:			
Change in operating assets and liabilities:			
Accounts receivable	Accounts receivable	(10,984)	6,689
Unbilled receivables	Unbilled receivables	81,418	78,914
Prepaids and other current assets	Prepaids and other current assets	785	984
Inventories	Inventories	(13,715)	(5,679)
Income taxes receivable	Income taxes receivable	(83,423)	202
Accounts payable	Accounts payable	(7,436)	8,682
Accrued salaries and benefits and other liabilities	Accrued salaries and benefits and other liabilities	(7,596)	(10,811)
Income taxes payable	Income taxes payable	61,736	(15,352)
Deferred revenue	Deferred revenue	(4,783)	(1,709)
Operating lease liabilities	Operating lease liabilities	(4,085)	(5,226)

Net cash provided by operating activities	Net cash provided by operating activities	140,936	179,104	
Cash flows from investing activities:	**Cash flows from investing activities:**			**Cash flows from investing activities:**
Purchases of property, plant, and equipment	Purchases of property, plant, and equipment	(22,454)	(12,650)	
Acquisition of intangible assets		—	(3,000)	
Purchases of marketable securities				
Purchases of marketable securities				
Purchases of marketable securities	Purchases of marketable securities	(298,289)	(80,969)	
Maturities of marketable securities	Maturities of marketable securities	127,467	53,358	
Proceeds from sales of marketable securities	Proceeds from sales of marketable securities	117,798	276,687	
Proceeds from divestiture		106,347	—	
Proceeds from sales of marketable securities				
Proceeds from sales of marketable securities				
Proceeds from sale of non-marketable equity security				
Acquisition of business, net of cash acquired		—	(15,932)	
Net cash provided by investing activities		30,869	217,494	
Proceeds from sale of non-marketable equity security				
Proceeds from sale of non-marketable equity security				

Net cash provided by (used in) investing activities			
Net cash provided by (used in) investing activities			
Net cash provided by (used in) investing activities			
Cash flows from financing activities:	**Cash flows from financing activities:**		
Proceeds received from issuance of common stock under employee stock plans			
Proceeds received from issuance of common stock under employee stock plans			
Proceeds received from issuance of common stock under employee stock plans	Proceeds received from issuance of common stock under employee stock plans	6,453	3,775
Payments of taxes on restricted stock units	Payments of taxes on restricted stock units	(36,656)	(17,454)
Payments under installment payment arrangements	Payments under installment payment arrangements	(11,323)	(10,472)
Payments for settlement and repurchase of convertible senior notes	Payments for settlement and repurchase of convertible senior notes	(10,381)	(258,060)
Proceeds from retirement of convertible senior note hedges		—	91,729
Payments for settlement of warrants	Payments for settlement of warrants	(10,697)	(69,528)
Payment of deferred purchase consideration from acquisition		(2,450)	—

Repurchase and retirement of common stock, including prepayment under accelerated share repurchase program	(100,325)	(100,412)
Payments for settlement of warrants		
Payments for settlement of warrants		
Repurchase and retirement of common stock		
Repurchase and retirement of common stock		
Repurchase and retirement of common stock		
Net cash used in financing activities	Net cash used in financing activities	(165,379)	(360,422)
Effect of exchange rate changes on cash and cash equivalents	Effect of exchange rate changes on cash and cash equivalents	(163)	(2,519)
Net increase in cash, cash equivalents and restricted cash	6,263	33,657
Cash, cash equivalents and restricted cash at beginning of period	125,694	108,264
Cash, cash equivalents and restricted cash at end of period	$131,957	$141,921
Net increase (decrease) in cash and cash equivalents		
Cash and cash equivalents at beginning of period		
Cash and cash equivalents at end of period		

Non-cash operating, investing and financing activities:	**Non-cash operating, investing and financing activities:**		
Property, plant and equipment received and accrued in accounts payable and other liabilities		$ 26,013	$ 32,540
Non-cash operating, investing and financing activities:			
Non-cash operating, investing and financing activities:			
Property, plant and equipment received and accrued in accounts payable and other liabilities (Cumulative amounts of $22.6 million and $37.5 million as of March 31 2024 and 2023, respectively)			
Operating lease right-of-use assets obtained in exchange for operating lease obligations			
Issuance of common stock in connection with the payment of year 1 earn-out related to the PLDA Group acquisition	Issuance of common stock in connection with the payment of year 1 earn-out related to the PLDA Group acquisition	$ 5,022	$ —
Operating lease right-of-use assets obtained in exchange for operating lease obligations		$ 273	$ 5,663

Reconciliation of the cash, cash equivalents and restricted cash balances as of September 30, 2023 and December 31, 2022:		
	September 30, 2023	December 31, 2022
Cash and cash equivalents	$131,957	$125,334
Restricted cash	—	360
Cash, cash equivalents and restricted cash	$131,957	$125,694

Refer to Notes to Unaudited Condensed Consolidated Financial Statements

RAMBUS INC.

NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Basis of Presentation

The accompanying Unaudited Condensed Consolidated Financial Statements include the accounts of Rambus Inc. ("Rambus" or the "Company") and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in the accompanying Unaudited Condensed Consolidated Financial Statements.

In the opinion of management, the Unaudited Condensed Consolidated Financial Statements include all adjustments (consisting only of normal recurring items) necessary to state fairly the financial position and results of operations for each interim period presented. Interim results are not necessarily indicative of results for a full year.

Financial Statement Preparation

The Unaudited Condensed Consolidated Financial Statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission (the "SEC") applicable to interim financial information. Certain information and note disclosures included in the financial statements prepared in accordance with generally accepted accounting principles ("GAAP") have been omitted in these interim statements pursuant to such SEC rules and regulations. The information included in this Form 10-Q should be read in conjunction with the consolidated financial statements and notes thereto in Form 10-K for the year ended December 31, 2022 December 31, 2023.

Reclassifications Use of Estimates

Certain prior-year balances were reclassified The preparation of financial statements in conformity with generally accepted accounting principles requires management to conform to make estimates and assumptions that affect the current year's presentation. None reported amounts of these reclassifications had an impact on reported net income (loss) or cash flows for any assets and liabilities and disclosure of contingent assets and liabilities at the date of the periods presented. financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Significant Accounting Policies

There were no material changes to Rambus's significant accounting policies disclosed in Note 2, "Summary of Significant Accounting Policies," of Notes to Consolidated Financial Statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2023.

2. Recent Accounting Pronouncements

Recent Accounting Pronouncements Not Yet Adopted

In November 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2023-07, “Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures.” This guidance requires disclosure of incremental segment information on an annual and interim basis, primarily through enhanced disclosures about significant segment expenses that are regularly provided to the chief operating decision maker. In addition, this ASU requires that all existing annual disclosures about segment profit or loss must be provided on an interim basis and clarifies that single reportable segment entities are subject to the disclosure requirement under Topic 280 in its entirety. This ASU is effective for annual reporting periods beginning after December 15, 2023, and interim reporting periods within annual reporting periods beginning after December 15, 2024. Early adoption is permitted. The amendments in this ASU should be applied on a retrospective basis. The Company is currently evaluating the impact that the adoption of this guidance will have on its consolidated financial statements.

In December 2023, the FASB issued ASU No. 2023-09, “Income Taxes (Topic 740): Improvements to Income Tax Disclosures.” This guidance requires additional disclosures related to rate reconciliation, income taxes paid and other disclosures. For each annual period presented, public business entities are required to 1) disclose specific categories in the rate reconciliation and 2) provide additional information for reconciling items that meet a quantitative threshold. In addition, this ASU requires all reporting entities to disclose on an annual basis the amount of income taxes paid disaggregated by federal, state and foreign taxes, as well as the amount of income taxes paid disaggregated by individual jurisdictions which meet a quantitative threshold. This ASU is effective for annual reporting periods beginning after December 15, 2024, with early adoption permitted for annual financial statements that have not yet been issued or made available for issuance. The amendments in this ASU should be applied on a prospective basis, with retrospective application permitted. The Company is currently evaluating the impact that the adoption of this guidance will have on its consolidated financial statements.

3. Revenue Recognition

Contract Balances

The contract assets are primarily related to the Company’s fixed fee IP licensing arrangements and rights to consideration for performance obligations delivered but not billed as of September 30, 2023 March 31, 2024.

The Company’s contract balances were as follows:

		As of			As of	
(In thousands)	**(In thousands)**	**September 30, 2023**	**December 31, 2022**	**(In thousands)**	**March 31, 2024**	**December 31, 2023**
Unbilled receivables	Unbilled receivables	$ 67,731	$150,920			
Deferred revenue	Deferred revenue	18,336	25,421			

During the nine three months ended September 30, 2023 March 31, 2024, the Company recognized $19.3 $8.8 million of revenue that was included in the contract balances deferred revenue as of December 31, 2022 December 31, 2023. During the nine three months ended September 30, 2022 March 31, 2023, the Company recognized $21.7 $11.6 million of revenue that was included in the contract balances deferred revenue as of December 31, 2021 December 31, 2022.

Remaining Performance Obligations

Revenue allocated to remaining performance obligations represents the transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied, which includes unearned revenue and amounts that will be invoiced and recognized as revenue in future periods. Contracted but unsatisfied performance obligations were approximately $20.0 $18.1 million as of September 30, 2023 March 31, 2024, which the Company primarily expects to recognize over the next 2 years.

3. 4. Earnings (Loss) Per Share

Basic earnings (loss) per share is calculated by dividing the net income (loss) by the weighted-average number of common shares outstanding during the period. Diluted earnings per share is calculated by dividing the earnings by the weighted-average number of common shares and potentially dilutive securities outstanding during the period. Potentially dilutive common shares consist of incremental common shares issuable upon exercise of stock options, employee stock purchases, and restricted stock and restricted stock units and shares issuable upon the conversion of convertible notes. The dilutive effect of outstanding shares is reflected in diluted earnings per share by application of the treasury stock method, or the if-converted method for the in-the-money conversion feature of the Company's 2023 Notes. Notes ("the 2023 Notes"). This method includes consideration of the amounts to be paid by the employees,

the amount of excess tax benefits that would be recognized in the equity if the instrument was exercised and the amount of unrecognized stock-based compensation related to future services. No potential dilutive common shares are included in the computation of any diluted per share amount when a net loss is reported.

The following table sets forth the computation of basic and diluted net income (loss) per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In thousands, except per share amounts)	**2023**	**2022**	**2023**	**2022**
Net income (loss) per share:				
Numerator:				
Net income (loss)	$ 103,198	$ 939	$ 275,359	$ (30,259)
Denominator:				
Weighted-average shares outstanding - basic	108,317	109,968	108,412	110,102
Effect of potentially dilutive common shares	2,458	1,994	2,767	—
Weighted-average shares outstanding - diluted	110,775	111,962	111,179	110,102
Basic net income (loss) per share	$ 0.95	$ 0.01	$ 2.54	$ (0.27)
Diluted net income (loss) per share	$ 0.93	$ 0.01	$ 2.48	$ (0.27)

During the nine months ended September 30, 2022, the following potentially dilutive securities were excluded from the calculation of diluted net loss per share attributable to the Company's common stockholders because the impact of including them would have been anti-dilutive (in thousands):

	Nine Months Ended September 30,
(In thousands)	**2022**
Stock options	274
Restricted stock units	1,951
Potentially issuable shares related to the in-the-money conversion feature of convertible notes	146
Contingently issuable ESPP shares	12
Total	2,383

The shares in the tables above did not include the principal amount of the Company's 2023 Notes ("the 2023 Notes") as the principal amount of the 2023 Notes must be paid in cash. The Company settled the conversion of the remaining $10.4 million aggregate principal amount of the 2023 Notes in the first quarter of 2023. Accordingly, the Company delivered approximately 0.3 million shares of the Company's common stock as settlement related to the in-the-money conversion feature of the 2023 Notes and received an equal amount of shares due to the settlement of the convertible senior note hedges. The Company included dilutive instruments exercised during the period in the denominator of diluted earnings (loss) per share for the period prior to exercise, and thereafter, the Company included the actual shares issued in the denominator for both basic and diluted earnings (loss) per share.

(In thousands, except per share amounts)	**Three Months Ended March 31, 2024**	**Three Months Ended March 31, 2023**
Net income per share:		
Numerator:		
Net income	$ 32,898	$ 3,281
Denominator:		
Weighted-average shares outstanding - basic	108,090	108,277
Effect of potentially dilutive common shares	1,947	2,876
Weighted-average shares outstanding - diluted	110,037	111,153
Basic net income per share	$ 0.30	$ 0.03
Diluted net income per share	$ 0.30	$ 0.03

4. 5. Intangible Assets and Goodwill

Goodwill

The following tables present goodwill information for the nine three months ended September 30, 2023 March 31, 2024:

(In thousands)	**As of December 31, 2022**	**Divestiture of Goodwill (1)**	**As of September 30, 2023**
Total goodwill	$ 292,040	$ (5,228)	$ 286,812

(1) In September 2023, the Company divested its PHY IP group, which resulted in the Company recognizing a decrease in goodwill based on the relative fair value of the Company's single reporting unit in proportion to the fair value of the divested PHY IP group. Refer to Note 17, "Divestiture," for additional information.

(In thousands)	**As of December 31, 2023**	**Adjustments to Goodwill**	**As of March 31, 2024**
Total goodwill	$ 286,812	$ —	$ 286,812

Intangible Assets, Net

The components of the Company's intangible assets as of September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023 were as follows:

(In thousands)	Useful Life	As of September 30, 2023 Gross Carrying Amount (1)	Accumulated Amortization (1)	Net Carrying Amount
Existing technology (1)	3 to 10 years	$ 286,712	$ (262,663)	$ 24,049
Customer contracts and contractual relationships (1)	0.5 to 10 years	37,496	(36,930)	566
Trademarks	3 years	300	(300)	—
In-process research and development (“IPR&D”) (1)	Not applicable	7,400	—	7,400
Total intangible assets		$ 331,908	$ (299,893)	$ 32,015

(1) In September 2023, the Company disposed of approximately $7.4 million of net intangible assets (including $3.8 million of IPR&D) in connection with the divestiture of the Company’s PHY IP group. Refer to Note 17, “Divestiture,” for additional information.

(In thousands)	Useful Life	As of March 31, 2024 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Existing technology	3 to 10 years	$ 286,712	$ (268,854)	$ 17,858
Customer contracts and contractual relationships	0.5 to 10 years	37,496	(37,236)	260
Trademarks	3 years	300	(300)	—
In-process research and development (“IPR&D”)	Not applicable	7,400	—	7,400
Total intangible assets		$ 331,908	$ (306,390)	$ 25,518

			As of December 31, 2022					As of December 31, 2023		
(In thousands)	(In thousands)	Useful Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	(In thousands)	Useful Life	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Existing technology	Existing technology	3 to 10 years	$ 299,925	$ (261,708)	$ 38,217					
Customer contracts and contractual relationships	Customer contracts and contractual relationships	0.5 to 10 years	37,996	(36,533)	1,463					
Trademarks	Trademarks	3 years	300	(300)	—					
IPR&D	IPR&D	Not applicable	11,200	—	11,200					
Total intangible assets	Total intangible assets		$ 349,421	$ (298,541)	$ 50,880					

Amortization expense for intangible assets for the three and nine months ended September 30, 2023 March 31, 2024 and 2023 was $3.6 $3.3 million and $11.5 million, respectively. Amortization expense for intangible assets for the three and nine months ended September 30, 2022 was $4.0 million and $11.6 $3.9 million, respectively.

The estimated future amortization of intangible assets as of September 30, 2023 March 31, 2024 was as follows (in thousands):

Years Ending December 31:	Years Ending December 31:	Amount	Years Ending December 31:	Amount
2023 (remaining three months)		$ 3,513		
2024		11,468		
2024 (remaining nine months)				
2025	2025	5,430		
2026	2026	3,742		
2027	2027	462		
Thereafter		—		
Total amortizable purchased intangible assets				
Total amortizable purchased intangible assets				
Total amortizable purchased intangible assets	Total amortizable purchased intangible assets	24,615		
IPR&D	IPR&D	7,400		
Total intangible assets	Total intangible assets	$32,015		

5. 6. Segments and Major Customers

Operating segments are based upon the Company's internal organization structure, the manner in which its operations are managed, the criteria used by its Chief Operating Decision Maker ("CODM") to evaluate segment performance and availability of separate financial information regularly reviewed for resource allocation and performance assessment.

The Company has determined its CODM to be the Chief Executive Officer ("CEO"). The CEO reviews financial information presented on a consolidated basis for purposes of managing the business, allocating resources, making operating decisions and assessing financial performance. On this basis, the Company is organized and operates as a single segment within the semiconductor space. As of September 30, 2023 March 31, 2024, the Company has a single operating and reportable segment.

Accounts receivable from the Company's major customers representing 10% or more of total accounts receivable at September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023, respectively, was as follows:

	As of	
As of		As of

Customer	Customer	September 30, 2023	December 31, 2022	Customer	March 31, 2024	December 31, 2023
Customer 1	Customer 1	47 %	*	Customer 1	61 %	49 %
Customer 2	Customer 2	24 %	14 %	Customer 2	*	13 %
Customer 3	Customer 3	*	23 %	Customer 3	*	12 %
Customer 4		*	16 %			

* Customer accounted for less than 10% of total accounts receivable in the period.

Revenue from the Company's major customers representing 10% or more of total revenue for the three and nine months ended September 30, 2023 March 31, 2024 and 2022, 2023, respectively, was as follows:

		Three Months Ended			
		Three Months Ended			
		Three Months Ended			
		Three Months Ended September 30,		Nine Months Ended September 30,	
Customer	**Customer**	**2023**	**2022**	**2023**	**2022**
Customer					
Customer					
Customer A					
Customer A					
Customer A	Customer A	29 %	*	26 %	*
Customer B	Customer B	25 %	20 %	18 %	21 %
Customer B					
Customer B					
Customer C					
Customer C					
Customer C	Customer C	*	20 %	*	16 %
Customer D	Customer D	*	12 %	*	13 %
Customer D					
Customer D					

* Customer accounted for less than 10% of total revenue in the period.

Revenue from customers in the geographic regions based on the location of contracting parties was as follows:

Three Months Ended
Three Months Ended
Three Months Ended

		Three Months Ended September 30,		Nine Months Ended September 30,	
(In thousands)	(In thousands)	2023	2022	2023	2022
(In thousands)					
(In thousands)					
USA					
USA					
USA	USA	$ 32,347	$ 70,284	$ 131,415	$ 193,253
South Korea	South Korea	38,228	1,081	100,985	5,118
South Korea					
South Korea					
Singapore					
Singapore					
Singapore	Singapore	16,325	10,498	42,371	50,262
Other	Other	18,398	30,381	64,121	83,793
Other					
Other					
Total	Total	$ 105,298	$ 112,244	$ 338,892	$ 332,426
Total					
Total					

6. 7. Marketable Securities

Rambus invests its excess cash and cash equivalents primarily in money market funds, time deposits, U.S. government-sponsored obligations, and corporate notes, bonds, and commercial paper and notes, time deposits and money market funds that mature within three years.

All cash equivalents and marketable securities are classified as available-for-sale. Total cash, cash equivalents and marketable securities are summarized as follows:

		As of September 30, 2023 As of March 31, 2024 As of March 31, 2024 As of March 31, 2024			
(In thousands)					
(In thousands)					
(In thousands)	(In thousands)	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses
Cash	Cash	$ 87,745	$ 87,745	$ —	$ —
Cash					
Cash					
Cash equivalents:					

Cash equivalents:					
Cash equivalents:	Cash equivalents:				
Money market funds	Money market funds	14,129	14,129	—	—
U.S. Government bonds and notes		11,885	11,886	1	(2)
Corporate notes, bonds and commercial paper		18,198	18,198	1	(1)
Money market funds					
Money market funds					
Corporate bonds, commercial paper and notes					
Corporate bonds, commercial paper and notes					
Corporate bonds, commercial paper and notes					
Total cash equivalents					
Total cash equivalents					
Total cash equivalents	Total cash equivalents	44,212	44,213	2	(3)
Total cash and cash equivalents	Total cash and cash equivalents	131,957	131,958	2	(3)
Total cash and cash equivalents					
Total cash and cash equivalents					
Marketable securities:					
Marketable securities:					
Marketable securities:	Marketable securities:				
Time deposits	Time deposits	9,746	9,746	—	—
Time deposits					
Time deposits					
U.S. Government bonds and notes	U.S. Government bonds and notes	131,142	131,562	6	(426)
Corporate notes, bonds and commercial paper		102,700	103,464	2	(766)
U.S. Government bonds and notes					
U.S. Government bonds and notes					
Corporate bonds, commercial paper and notes					

Corporate bonds, commercial paper and notes

Corporate bonds, commercial paper and notes

Total marketable securities

Total marketable securities

Total marketable securities	Total marketable securities	243,588	244,772	8	(1,192)
Total cash, cash equivalents and marketable securities	Total cash, cash equivalents and marketable securities	$ 375,545	$ 376,730	$ 10	$ (1,195)

Total cash, cash equivalents and marketable securities

Total cash, cash equivalents and marketable securities

As of December 31, 2022

As of December 31, 2023

As of December 31, 2023

As of December 31, 2023

(In thousands)

(In thousands)

(In thousands)	**(In thousands)**	**Fair Value**	**Amortized Cost**	**Gross Unrealized Gains**	**Gross Unrealized Losses**
Cash	Cash	$ 94,737	$ 94,737	$ —	$ —

Cash

Cash

Cash equivalents:

Cash equivalents:

Cash equivalents:	Cash equivalents:				
Money market funds	Money market funds	15,763	15,763	—	—
Corporate notes, bonds and commercial paper		14,834	14,838	—	(4)

Money market funds

Money market funds

U.S. Government bonds and notes

U.S. Government bonds and notes

U.S. Government bonds and notes

Total cash equivalents

Total cash equivalents

Total cash equivalents	Total cash equivalents	30,597	30,601	—	(4)
Total cash and cash equivalents	Total cash and cash equivalents	125,334	125,338	—	(4)

Total cash and cash equivalents

Total cash and cash equivalents

Marketable securities:

Marketable securities:

Marketable securities:	Marketable securities:				
U.S. Government bonds and notes	U.S. Government bonds and notes	96,371	98,250	1	(1,880)
Corporate notes, bonds and commercial paper		91,521	93,254	7	(1,740)

U.S. Government bonds and notes

U.S. Government bonds and notes

Corporate bonds, commercial paper and notes

Corporate bonds, commercial paper and notes

Corporate bonds, commercial paper and notes

Total marketable securities

Total marketable securities

Total marketable securities	Total marketable securities	187,892	191,504	8	(3,620)
Total cash, cash equivalents and marketable securities	Total cash, cash equivalents and marketable securities	$ 313,226	$ 316,842	$ 8	$ (3,624)

Total cash, cash equivalents and marketable securities

Total cash, cash equivalents and marketable securities		

Available-for-sale securities are reported at fair value on the balance sheets and classified along with cash as follows:

	As of	
(In thousands)	September 30, 2023	December 31, 2022
Cash	$ 87,745	$ 94,737
Cash equivalents	44,212	30,597
Total cash and cash equivalents	131,957	125,334
Marketable securities	243,588	187,892
Total cash, cash equivalents and marketable securities	$ 375,545	$ 313,226

	As of	
(In thousands)	March 31, 2024	December 31, 2023
Cash	$ 107,285	$ 88,486
Cash equivalents	5,329	6,281
Total cash and cash equivalents	112,614	94,767
Marketable securities	278,443	331,077
Total cash, cash equivalents and marketable securities	$ 391,057	$ 425,844

The Company continues to invest in highly rated and highly liquid debt securities. The Company holds all of its marketable securities as available-for-sale, marks them to market, and regularly reviews its portfolio to ensure adherence to its investment policy and to monitor individual investments for risk analysis, proper valuation, and impairment.

The estimated fair value and gross unrealized losses of cash equivalents and marketable securities classified by the length of time that the securities have been in a continuous unrealized loss position at September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023 are as follows:

		Fair Value		Gross Unrealized Losses			Fair Value		Gross Unrealized Losses	
(In thousands)	(In thousands)	September 30, 2023	December 31, 2022	September 30, 2023	December 31, 2022	(In thousands)	March 31, 2024	December 31, 2023	March 31, 2024	December 31, 2023
Less than 12 months	**Less than 12 months**					**Less than 12 months**				
U.S. Government bonds and notes	U.S. Government bonds and notes	$ 58,506	$ 28,893	$ (116)	$ (23)					
Corporate notes, bonds and commercial paper		84,655	45,538	(147)	(35)					

Corporate bonds, commercial paper and notes					
Total cash equivalents and marketable securities in a continuous unrealized loss position for less than 12 months	Total cash equivalents and marketable securities in a continuous unrealized loss position for less than 12 months	143,161	74,431	(263)	(58)
12 months or greater	**12 months or greater**				
U.S. Government bonds and notes	U.S. Government bonds and notes	19,595	62,588	(312)	(1,857)
Corporate notes, bonds and commercial paper		17,168	49,559	(620)	(1,709)
U.S. Government bonds and notes					
U.S. Government bonds and notes					
Corporate bonds, commercial paper and notes					
Total cash equivalents and marketable securities in a continuous unrealized loss position for 12 months or greater	Total cash equivalents and marketable securities in a continuous unrealized loss position for 12 months or greater	36,763	112,147	(932)	(3,566)

Total cash equivalents and marketable securities in a continuous unrealized loss position	Total cash equivalents and marketable securities in a continuous unrealized loss position	$179,924	$186,578	$ (1,195)	$ (3,624)

The gross unrealized losses at September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023 were not material in relation to the Company's total available-for-sale portfolio. The gross unrealized losses can be primarily attributed to a combination of market conditions as well as the demand for and duration of the U.S. government-sponsored obligations and corporate notes bonds, commercial paper and bonds. notes. The Company reasonably believes that there is no need to sell these investments and that it can recover the amortized cost of these investments. The Company has found no evidence of impairment due to credit losses in its portfolio. Therefore, these unrealized losses were recorded in other comprehensive income (loss). The Company cannot provide any assurance that its portfolio of cash, cash equivalents and marketable securities will not be impacted by adverse conditions in the financial markets, which may require the Company in the future to record an impairment charge for credit losses which could adversely impact its financial results.

The contractual maturities of cash equivalents (excluding money market funds which have no maturity) and marketable securities are summarized as follows:

(In thousands)	September 30, 2023 March 31, 2024
Due in less than one year	$ 266,769 209,233
Due from one year through three years	6,902 70,204
Total	$ 273,671 279,437

Refer to Note 7, 8, "Fair Value of Financial Instruments," for a discussion regarding the fair value of the Company's cash equivalents and marketable securities.

7. 8. Fair Value of Financial Instruments

The following table presents the financial instruments and liabilities that are carried at fair value and summarizes their valuation by the respective pricing levels as of September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023:

		As of September 30, 2023					As of March 31, 2024			
(In thousands)	(In thousands)	Total	Quoted Market Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	(In thousands)	Total	Quoted Market Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets carried at fair value	**Assets carried at fair value**									

Money market funds	Money market funds	$ 14,129	$14,129	$ —	$ —
Money market funds					
Money market funds					
Time deposits	Time deposits	9,746	—	9,746	—
U.S. Government bonds and notes	U.S. Government bonds and notes	143,027	—	143,027	—
Corporate notes, bonds and commercial paper		120,898	—	120,898	—
Corporate bonds, commercial paper and notes					
Total assets carried at fair value	Total assets carried at fair value	$287,800	$14,129	$273,671	$ —
Liabilities carried at fair value	**Liabilities carried at fair value**				
Earn-out consideration related to PLDA acquisition	Earn-out consideration related to PLDA acquisition	$ 11,400	$ —	$ —	$ 11,400
Earn-out consideration related to PLDA acquisition					
Earn-out consideration related to PLDA acquisition					
Total liabilities carried at fair value	Total liabilities carried at fair value	$ 11,400	$ —	$ —	$ 11,400

		As of December 31, 2022					As of December 31, 2023			
(In thousands)	**(In thousands)**	**Total**	**Quoted Market Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**(In thousands)**	**Total**	**Quoted Market Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**

Assets carried at fair value	**Assets carried at fair value**				
Money market funds	Money market funds	$ 15,763	$15,763	$ —	$ —
Money market funds					
Money market funds					
U.S. Government bonds and notes	U.S. Government bonds and notes	96,371	—	96,371	—
Corporate notes, bonds and commercial paper		106,355	—	106,355	—
Corporate bonds, commercial paper and notes					
Total available-for-sale securities	Total available-for-sale securities	$218,489	$15,763	$202,726	$ —
Liabilities carried at fair value	**Liabilities carried at fair value**				
Earn-out consideration related to PLDA acquisition	Earn-out consideration related to PLDA acquisition	$ 14,800	$ —	$ —	$ 14,800
Earn-out consideration related to PLDA acquisition					
Earn-out consideration related to PLDA acquisition					
Total liabilities carried at fair value	Total liabilities carried at fair value	$ 14,800	$ —	$ —	$ 14,800

The Company's liabilities related to earn-out consideration are classified within Level 3 of the fair value hierarchy because the fair value is determined using significant unobservable inputs. The following table presents additional information about liabilities measured at fair value for which the Company utilizes Level 3 inputs to determine fair value, as of September 30, 2023 March 31, 2024 and 2022. 2023.

	Three Months Ended	Nine Months Ended

		September 30,		September 30,	
		Three Months Ended			
		Three Months Ended			
		Three Months Ended			
		March 31,			
		March 31,			
		March 31,			
(In thousands)	(In thousands)	2023	2022	2023	2022
(In thousands)					
(In thousands)					
Balance as of beginning of period					
Balance as of beginning of period					
Balance as of beginning of period	Balance as of beginning of period	$ 28,600	$ 12,600	$ 14,800	$ 16,900
Change in fair value of earn-out liability due to remeasurement	Change in fair value of earn-out liability due to remeasurement	(5,666)	2,411	8,134	(1,889)
Change in fair value of earn-out liability due to achievement of revenue target		(11,534)	(5,211)	(11,534)	(5,211)
Change in fair value of earn-out liability due to remeasurement					
Change in fair value of earn-out liability due to remeasurement					
Balance as of end of period	Balance as of end of period	$ 11,400	$ 9,800	$ 11,400	$ 9,800
Balance as of end of period					
Balance as of end of period					

For the three and nine months ended September 30, 2023 March 31, 2024 and 2022, 2023, the changes in the fair value of the earn-out liability related to the 2021 acquisition of PLDA Group ("PLDA"), which is subject to certain revenue targets of the acquired business for a period of three years from the date of acquisition, and which is settled annually in shares of the Company's common stock based on the fair value of that common stock fixed at the time the Company acquired PLDA. The fair value of the earn-out liability is remeasured each quarter, depending on the acquired business's revenue performance relative to target over the applicable period, and adjusted to reflect changes in the per share value of the Company's common stock. The Company has classified its liability for the contingent earn-out consideration related to the PLDA acquisition within Level 3 of the fair value hierarchy because the fair value calculation includes significant unobservable inputs. inputs, such as revenue forecast, revenue volatility, equity volatility and weighted average cost of capital. During the three and nine months ended March 31, 2024 and 2023, the Company

September 30, 2023, the Company remeasured the fair value of the earn-out liability, which resulted in a gain of $5.7 million and additional expense of $8.1 million, respectively, in the Company's Unaudited Condensed Consolidated Statements of Operations. During the three and nine months ended September 30, 2022, the Company remeasured the fair value of the earn-out liability, which resulted in additional expense expenses of $2.4 $0.7 million and a gain of $1.9 $6.9 million, respectively, in the Company's Unaudited Condensed Consolidated Statements of Operations.

The Company monitors its investments for impairment and records appropriate reductions in carrying value when necessary. The Company monitors its investments for other-than-temporary losses impairment by considering current factors, including the economic environment, market conditions, operational performance and other specific factors relating to the business underlying the investment, reductions in carrying values when necessary and the Company's ability and intent to hold the investment for a period of time which may be sufficient for anticipated recovery in the market. Any other-than-temporary loss impairment is reported under "Interest and other income (expense), net" in the Unaudited Condensed Consolidated Statements of Operations.

During the second half of In 2018, the Company made an investment in a non-marketable equity security of a private company. This equity investment is was accounted for under the equity method of accounting, and the Company accounts accounted for its equity method share of the income (loss) on a quarterly basis. As During the fourth quarter of September 30, 2023, 2023, the carrying value of the Company's Company sold its 25.0% ownership percentage share in the equity investment for approximately $25.0 million, which represented a gross gain on this transaction for the same amount. The gross gain was reduced to zero as the carrying value had been adjusted offset by an equal and offsetting amount transaction costs of the Company's share approximately $1.1 million, resulting in a net gain of the investee's cumulative losses. As of December 31, 2022, the carrying value of the Company's 25.0% ownership percentage was $0.5 approximately $23.9 million, which was included in other assets in the accompanying Unaudited Condensed Company's Consolidated Balance Sheets. The Company recorded immaterial amounts in its Unaudited Condensed Consolidated Statements Statement of Operations representing its share of the investee's loss for the nine year ended December 31, 2023. Subsequently, the Company received proceeds, net of tax, of approximately $22.8 million from this transaction during the three months ended September 30, 2023 and 2022. March 31, 2024.

During the three and nine months ended September 30, 2023 March 31, 2024 and 2022, 2023, there were no transfers of financial instruments between different categories of fair value.

The following table presents the financial instruments that are not carried at fair value but require fair value disclosure as of December 31, 2022:

	As of December 31, 2022		
(In thousands)	Face Value	Carrying Value	Fair Value
1.375% Convertible Senior Notes due 2023 (the "2023 Notes")	$ 10,381	$ 10,378	$ 19,625

The fair value of the convertible notes at December 31, 2022 was determined based on recent quoted market prices for these notes which is a Level 2 measurement. As discussed in Note 9, "Convertible Notes,"the Company settled the remaining $10.4 million aggregate principal amount of the 2023 Notes during the first quarter of 2023. As of December 31, 2022, the 2023 Notes were carried at their face value of $10.4 million, less any unamortized debt issuance costs. The carrying value of other financial instruments, including accounts receivable, accounts payable and other liabilities, approximated fair value due to their short maturities.

8. 9. Leases

The Company leases office space, domestically and internationally, under operating leases. The Company's leases have remaining lease terms generally between one year and seven years. Operating leases are included in operating lease right-of-use ("ROU") assets, operating lease liabilities and long-term operating lease liabilities on the Company's Unaudited Condensed Consolidated Balance Sheets. The Company does not have any finance leases.

The table below reconciles the undiscounted cash flows for the first five years and total of the remaining years to the operating lease liabilities recorded on the Unaudited Condensed Consolidated Balance Sheet as of September 30, 2023 March 31, 2024 (in thousands):

Years ending December 31,	Years ending December 31,	Amount	Years ending December 31,	Amount
2023 (remaining three months)		$ 1,412		
2024		5,483		
2024 (remaining nine months)				
2025	2025	5,338		
2026	2026	5,564		
2027	2027	4,742		
2028				
Thereafter	Thereafter	12,996		
Total minimum lease payments	Total minimum lease payments	35,535		
Less: amount of lease payments representing interest	Less: amount of lease payments representing interest	(5,244)		
Present value of future minimum lease payments	Present value of future minimum lease payments	30,291		
Less: current obligations under leases	Less: current obligations under leases	(4,174)		
Long-term lease obligations	Long-term lease obligations	$26,117		

As of September 30, 2023 March 31, 2024, the weighted-average remaining lease term for the Company's operating leases was 6.6 5.9 years and the weighted-average discount rate used to determine the present value of the Company's operating leases was 5.6% 6.7%.

Operating lease costs included in research and development and selling, general and administrative costs on the Unaudited Condensed Consolidated Statements of Operations were $1.3 $1.2 million and $1.9 million for the three months ended September 30, 2023 March 31, 2024 and 2022, respectively. Operating lease costs included in research and development and selling, general and administrative costs on the Unaudited Condensed Consolidated Statements of Operations were $4.7 million and $5.6 million for the nine months ended September 30, 2023 and 2022, 2023, respectively.

Cash paid for amounts included in the measurement of operating lease liabilities were $5.2 $1.5 million and $6.7 $2.2 million for the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, respectively.

9. 10. Convertible Notes

The Company's Company did not have any convertible notes are shown in the following table:

(In thousands)	As of September 30, 2023	As of December 31, 2022
2023 Notes	$ —	$ 10,381
Unamortized debt issuance costs — 2023 Notes	—	(3)
Total convertible notes	—	10,378
Less current portion	—	10,378
Total long-term convertible notes	$ —	$ —

outstanding as of March 31, 2024 and December 31, 2023.

During the first quarter of 2023, the holders of the remaining $10.4 million aggregate principal amount of the 2023 Notes elected to convert the notes pursuant to the original terms of the conversion feature. Accordingly, upon maturity, the Company paid $10.4 million in cash to settle the aggregate principal amount of the 2023 Notes and delivered approximately 0.3 million shares of the Company's common stock to settle the conversion spread.

In connection with the settlement of the conversion of the remaining 2023 Notes, the Company received 0.3 million shares of the Company's common stock for the retirement of the remaining convertible senior note hedges and paid $10.7 million in cash for the retirement of the remaining warrants during the first quarter of 2023. Additionally, the retirement of the remaining warrants was subject to derivative accounting, resulting in a loss on fair value adjustment of derivatives of $0.2 million for the nine three months ended September 30, 2023 March 31, 2023.

Interest expense related to the convertible notes for the three and nine months ended September 30, 2023 and 2022 March 31, 2023 was as follows:

(In thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
2023 Notes coupon interest at a rate of 1.375%	$ —	$ 90	$ 12	$ 575
2023 Notes amortization of debt issuance cost	—	33	3	184
Total interest expense on convertible notes	$ —	$ 123	$ 15	$ 759

immaterial.

10. 11. Commitments and Contingencies

As of September 30, 2023 March 31, 2024, the Company's material contractual obligations were as follows:

(In thousands)	(In thousands)	Total		Remainder of 2023		2024		2025		2026		2027
(In thousands)												
(In thousands)												
Contractual obligations (1) (2)												
Contractual obligations (1) (2)												
Contractual obligations (1) (2)	**Contractual obligations** (1) (2)											
Software licenses (3)	Software licenses (3)	$	29,847	$	5,262	$	16,502	$	8,083	$	—	$ —
Software licenses (3)												
Software licenses (3)												
Other contractual obligations	Other contractual obligations		1,800		600		1,200		—		—	—
Acquisition retention bonuses (4) (5)			879		—		550		329		—	—
Other contractual obligations												
Other contractual obligations												
Acquisition retention bonuses (4)												
Acquisition retention bonuses (4)												
Acquisition retention bonuses (4)												
Total	Total	$	32,526	$	5,862	$	18,252	$	8,412	$	—	$ —
Total												
Total												

(1) The above table does not reflect possible payments in connection with unrecognized tax benefits of approximately $104.4 $116.0 million, including $27.4 $30.4 million recorded as a reduction of long-term deferred tax assets and $77.0 $85.6 million in long-term income taxes payable as of September 30, 2023 March 31, 2024. As noted below in Note 13, 14, "Income Taxes," although it is possible that some of the unrecognized tax benefits could be settled within the next 12 months, the Company cannot reasonably estimate the timing of the outcome at this time.

(2) For the Company's lease commitments as of September 30, 2023 March 31, 2024, refer to Note 8, 9, "Leases."

(3) The Company has commitments with various software vendors for agreements generally having terms longer than one year. As of September 30, 2023, approximately $16.0 million of the fair value of the software licenses was included in other current liabilities and $11.1 million was included in other long-term liabilities, in the accompanying Unaudited Condensed Consolidated Balance Sheet.

(4) In connection with the acquisitions of Hardent in the second quarter of 2022 and PLDA in the third quarter of 2021, the Company is obligated to pay retention bonuses to certain employees subject to certain eligibility and acceleration provisions, including the condition of employment.

(5) In connection with the acquisition of AnalogX in the third quarter of 2021, the Company was obligated to pay retention bonuses to certain employees subject to certain eligibility and acceleration provisions, including the condition of employment. In September 2023, the Company divested its PHY IP group, which includes AnalogX and resulted in the Company recognizing an immaterial decrease related to the remaining AnalogX acquisition retention bonus liability. Refer to Note 17, "Divestiture," for additional information.

Indemnifications

From time to time, the Company indemnifies certain customers as a necessary means of doing business. Indemnification covers customers for losses suffered or incurred by them as a result of any patent, copyright, or other intellectual property ("IP") infringement or any other claim by any third party arising as a result of the applicable agreement with the Company. The Company generally attempts to limit the maximum amount of indemnification that the Company could be required to make under these agreements to the amount of fees received by the Company, however, this may not always be possible. The fair value of the liability as of September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023, respectively, was not material.

11. 12. Equity Incentive Plans and Stock-Based Compensation

A summary of shares available for grant under the Company's plans is as follows:

	Shares Available for Grant
Total shares available for grant as of December 31, 2022 December 31, 2023	7,655,769 11,954,150
Increase in shares approved for issuance Stock options expired (1)	5,210,000 1,125
Nonvested equity stock and stock units granted (2) (3) (1)	(2,022,315) (54,262)
Nonvested equity stock and stock units forfeited (2) (1)	1,070,338 113,108
Total shares available for grant as of September 30, 2023 March 31, 2024	11,913,792 12,014,121

(1) On April 27, 2023, the Company's stockholders approved these additional shares to be reserved for issuance under the 2015 Equity Incentive Plan (the "2015 Plan").

(2) For purposes of determining the number of shares available for grant under the 2015 Plan against the maximum number of shares authorized, each restricted stock unit granted prior to April 27, 2023 reduces the number of shares available for grant by 1.5 shares and each restricted stock unit forfeited increases shares available for grant by 1.5 shares. Each restricted stock unit granted on or after April 27, 2023 reduces the number of shares available for grant by 1.0 shares and each restricted stock unit forfeited increases shares available for grant by 1.0 shares.

(3) Amount includes approximately 0.2 million shares that have been reserved for potential future issuance related to certain performance unit awards granted in the first quarter of 2023 and discussed under the section titled "Nonvested Equity Stock and Stock Units" below.

General Stock Option Information

The following table summarizes stock option activity under the Company's equity incentive plans for the nine three months ended September 30, 2023 March 31, 2024 and information regarding stock options outstanding, exercisable, and vested and expected to vest as of September 30, 2023 March 31, 2024.

(In thousands, except shares, per share amounts and years)	Options Outstanding Number of Shares	Options Outstanding Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2022	432,443	$ 11.60		
Options exercised	(268,289)	$ 11.49		$ 3,082
Outstanding as of September 30, 2023	164,154	$ 11.79	3.70	$ 7,223
Vested or expected to vest at September 30, 2023	164,154	$ 11.79	3.70	$ 7,223
Options exercisable at September 30, 2023	162,487	$ 11.77	3.67	$ 7,153

(In thousands, except shares, per share amounts and years)	Options Outstanding Number of Shares	Options Outstanding Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2023	124,732	$ 11.60		
Options exercised	(25,125)	$ 8.76		$ 1,333
Options expired	(1,125)	$ 8.76		
Outstanding as of March 31, 2024	98,482	$ 12.36	3.97	$ 4,870
Vested or expected to vest at March 31, 2024	98,482	$ 12.36	3.97	$ 4,870
Options exercisable at March 31, 2024	98,482	$ 12.36	3.97	$ 4,870

Employee Stock Purchase Plan

Under No purchases were made under the 2015 Employee Stock Purchase Plan ("2015 ESPP"), the Company issued 120,569 shares at a price of $27.91 per share and 161,254 shares at a price of $19.97 per share during the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, respectively. As of September 30, 2023 March 31, 2024, approximately 2.4 million shares under the 2015 ESPP remained available for issuance.

Stock-Based Compensation

For the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company maintained stock plans covering a broad range of potential equity grants including stock options, nonvested equity stock and equity stock units and performance-based instruments. In addition, the Company sponsors the 2015 ESPP, whereby eligible employees are entitled to purchase common stock semi-annually, by means of limited payroll deductions, at a 15% discount from the fair market value of the common stock as of specific dates.

Stock Options

There were no stock options granted during the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, respectively. All compensation cost net of expected forfeitures, related to unvested stock-based compensation arrangements granted under the stock option plans had been fully recognized as of December 31, 2023. There was no stock-based compensation expense related to stock options for the three months ended March 31, 2024. Stock-based compensation expense related to stock options was immaterial for the nine three months ended September 30, 2023 and 2022. March 31, 2023.

As of September 30, 2023, there was an immaterial amount of total unrecognized compensation cost, net of expected forfeitures, related to non-vested stock-based compensation arrangements granted under the stock option plans. That cost is expected to be recognized over a weighted-average period of one month.

Employee Stock Purchase Plan

For the three and nine months ended September 30, 2023, March 31, 2024 and 2023, the Company recorded stock-based compensation expense related to the 2015 ESPP of $0.5 $0.6 million and $1.5 million, respectively. For the three and nine months ended September 30, 2022, the Company recorded stock-based compensation expense related to the 2015 ESPP of $0.4 million and $1.2 million, respectively. for both periods. As of September 30, 2023 March 31, 2024, there was $0.2 million of total unrecognized compensation cost related to stock-based compensation arrangements granted under the 2015 ESPP. That cost is expected to be recognized over one month.

Nonvested Equity Stock and Stock Units

The Company grants nonvested equity stock units to officers, employees and directors. During the three months ended September 30, 2023, the Company granted an immaterial amount of nonvested equity stock units. During the nine months ended September 30, 2023 March 31, 2024, the Company granted nonvested equity stock units totaling approximately 1.2 million shares. 0.1 million. During the three and nine months ended September 30, 2022 March 31, 2023, the Company granted nonvested equity stock units totaling approximately 0.5 million and 2.2 million shares, respectively. 1.1 million. These awards have a service condition, generally a service period of four years, except in the case of grants to directors, for which the service period is one year. For the three and nine months ended September 30, 2023 March 31, 2024, the nonvested equity stock units were valued at the date of grant giving them a fair value of approximately $2.1 million and $57.3 million, respectively. $3.6 million. For the three and nine months ended September 30, 2022 March 31, 2023, the nonvested equity stock units were valued at the date of grant giving them a fair value of approximately $12.8 million and $61.8 million, respectively. $52.7 million. During the first quarter of 2024, the Company did not grant any performance unit awards. During the first quarter of 2023, and 2022, the Company granted performance unit awards to certain company executive officers with vesting subject to the achievement of certain performance and/or market conditions. The ultimate number of performance units that can be earned can range from 0% to 200% of target depending on performance relative to target over the applicable period. The shares earned will vest on the third or fourth anniversary of the date of grant. The Company's shares available for grant have been reduced to reflect the shares that could be earned at the maximum target.

For the three and nine months ended September 30, 2023 March 31, 2024, the Company recorded stock-based compensation expense of approximately $9.5 $8.9 million and $32.9 million, respectively, primarily related to all outstanding nonvested equity stock grants. For the three and nine months ended September 30, 2022 March 31, 2023, the Company recorded stock-based compensation expense of approximately $8.5 $12.5 million, and $24.0 million, respectively, related to all outstanding nonvested equity stock grants.

Unrecognized stock-based compensation related to all nonvested equity stock grants, net of estimated forfeitures, was approximately $73.0 $57.9 million at September 30, 2023 March 31, 2024. This amount is expected to be recognized over a weighted-average period of 2.1 2.0 years.

The following table reflects the activity related to nonvested equity stock and stock units for the nine three months ended September 30, 2023 March 31, 2024:

Nonvested Equity Stock and Stock Units	Nonvested Equity Stock and Stock Units	Shares	Weighted-Average Grant-Date Fair Value	Nonvested Equity Stock and Stock Units	Shares	Weighted-Average Grant-Date Fair Value

Nonvested at December 31, 2022		4,718,060	$ 22.78
Nonvested at December 31, 2023			
Granted	Granted	1,208,954	$ 46.39
Vested	Vested	(1,718,642)	$ 24.13
Forfeited	Forfeited	(690,141)	$ 28.04
Nonvested at September 30, 2023		3,518,231	$ 32.28
Nonvested at March 31, 2024			

12. 13. Stockholders' Equity

Share Repurchase Program

On October 29, 2020, the Company's board of directors (the "Board") approved a share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the "2020 Repurchase Program"). Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules and regulations. There is no expiration date applicable to the 2020 Repurchase Program. During the nine three months ended September 30, 2023 March 31, 2024, the Company repurchased shares of its common stock under the 2020 Repurchase Program as discussed below.

On August 10, 2023 February 29, 2024, the Company entered into an accelerated share repurchase program with Royal Bank of Canada ("RBC") (the "2024 ASR Program"). The 2024 ASR Program was part of the 2020 Repurchase Program. Under the 2024 ASR Program, the Company pre-paid to RBC the $50.0 million purchase price for its common stock and, in turn, the Company received an initial delivery of approximately 0.7 million shares of its common stock from RBC on March 1, 2024, which were retired and recorded as a $40.0 million reduction to stockholders' equity. The remaining $10.0 million of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to the Company's stock. On

March 18, 2024, the accelerated share repurchase program was completed and the Company received an additional 0.1 million shares of its common stock, which were retired, as the final settlement of the 2024 ASR Program.

On November 2, 2023, the Company entered into a share repurchase plan (the "Buying Plan") with RBC Capital Markets, LLC ("RBCCM"). The Buying Plan was part of the 2020 Repurchase Program. Under the Buying Plan, RBCCM shall commence purchases for a 12-month period starting on November 2, 2023 and ending on November 1, 2024, unless terminated sooner pursuant to the Buying Plan (the "Repurchase Period"). During the Repurchase Period, RBCCM may purchase an aggregate amount of $50.0 million of the Company's common stock, and its execution is dependent on the Company's stock price reaching certain levels. Share repurchases shall not exceed $25.0 million in a quarter. On February 29, 2024, the Buying Plan was amended and as a result, no purchases were made from the Buying Plan during the period from March 1, 2024 to March 28, 2024, while the 2024 ASR Program was in effect. During the first quarter of 2024, an immaterial amount of shares was repurchased, retired and recorded as a reduction to stockholders' equity, from the Buying Plan.

On August 10, 2023, the Company entered into an accelerated share repurchase program with RBC (the "2023 ASR Program"). The 2023 ASR Program was part of the share repurchase program previously authorized by the Board on October 29, 2020. 2020

Repurchase Program. Under the 2023 ASR Program, the Company pre-paid to RBC the $100.0 million purchase price for its common stock and, in turn, the Company received an initial delivery of approximately 1.6 million shares of its common stock from RBC on August 11, 2023, which were retired and recorded as an $80.0 million reduction to stockholders' equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to the Company's stock. On September 22, 2023, the accelerated share repurchase program was completed and the Company received an additional 0.2 million shares of its common stock, which were retired, as the final settlement of the 2023 ASR Program.

Effective January 1, 2023, the Company's share repurchases are subject to a 1% excise tax as a result of the Inflation Reduction Act of 2022. Excise As of March 31, 2024, there was no exercise tax incurred is included in liability as the cost of shares repurchased in the Unaudited Condensed Consolidated Statements of Stockholders' Equity.

On September 9, 2022, the Company entered into an accelerated share repurchase program with Wells Fargo Bank, National Association ("Wells Fargo") (the "2022 ASR Program"). The 2022 ASR Program was part fair market value of the share repurchase program previously authorized by the Board on October 29, 2020. Under the 2022 ASR Program, the Company pre-paid to Wells Fargo the $100.0 million purchase price for its Company's common stock and, in turn, issued exceeded the Company received an initial delivery of approximately 3.1 million shares of its common stock from Wells Fargo in the third quarter of 2022, which were retired and recorded as an $80.0 million reduction to stockholders' equity. The remaining $20.0 million fair market value of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to the Company's stock. During the fourth quarter of 2022, the 2022 ASR Program was completed and the Company received an additional 0.1 million shares of its common stock, which were retired, as the final settlement of the 2022 ASR Program. total repurchases.

As of September 30, 2023 March 31, 2024, there remained an outstanding authorization to repurchase approximately 7.9 7.1 million shares of the Company's outstanding common stock under the 2020 Repurchase Program.

The Company records share repurchases as a reduction to stockholders' equity. The Company records a portion of the purchase price of the repurchased shares as an increase to accumulated deficit when the price of the shares repurchased exceeds the average original proceeds per share received from the issuance of common stock in accordance with its accounting policy.

13. 14. Income Taxes

The Company recorded a provision for income taxes of $4.0 $1.5 million and $2.5 $0.2 million for the three months ended September 30, 2023 March 31, 2024 and 2022, respectively, and a provision for (benefit from) income taxes of $(151.1) million and $5.9 million for the nine months ended September 30, 2023 and 2022, 2023, respectively. The provision for income taxes for the three months ended September 30, 2023 March 31, 2024 was primarily driven by the statutory tax expense for domestic and foreign withholding taxes and adjustments to the valuation allowance release on U.S. deferred tax assets due to a change in forecasted taxable income and expense, jurisdictions for 2024, offset by tax benefits from excess stock-based compensation deductions. The benefit from income taxes for the nine months ended September 30, 2023 was primarily driven by the valuation allowance release on U.S. deferred tax assets, as well as tax benefits from excess stock-based compensation deductions, offset by foreign withholding taxes. The provision for income taxes for the three and nine months ended September 30, 2022 March 31, 2023 was driven by a combination of the valuation allowance recorded on U.S. deferred tax assets, foreign withholding taxes, the statutory tax expense for the foreign jurisdictions for 2022 2023 and indefinite-lived intangible tax amortization expense.

During the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company paid withholding taxes of $5.1 million and $5.4 million, and $5.5 million, respectively. During both the nine months ended September 30, 2023 and 2022, the Company paid withholding taxes of $15.8 million.

The Company periodically evaluates the realizability of its net deferred tax assets based on all available evidence, both positive and negative. The realizability of the Company's net deferred tax assets is dependent on its ability to generate sufficient future taxable income during periods prior to the expiration of tax attributes to fully utilize these assets.

During the second quarter of 2023, based on all available positive and negative evidence, the Company determined that it was appropriate to release the valuation allowance on the majority of the Company's U.S. federal and other state deferred tax assets. The During the third quarter of 2023, the Company recognized a $149.4 million discrete tax benefit during the three and six months ended June 30, 2023 further adjusted its valuation allowance release as a result of a change in forecasted income and tax expense, primarily due to the valuation allowance release.

sale of intangible assets as part of the PHY IP group divestiture. During the second quarter of 2023, the Company reached a cumulative income position over the previous three years. The cumulative three-year income is considered positive evidence, which is considered objective and verifiable, and thus received significant weighting. Additional positive evidence considered by the Company in its assessment included recent utilization of tax attribute carryforwards and future forecasts of continued profitability in the United States. Negative evidence the Company

considered included economic uncertainties, including volatility of the industry, and the possibility of a recession or a decline in the market.

Upon considering the relative impact of all evidence during the second quarter of 2023, both negative and positive, and the weight accorded to each, the Company concluded that it was more likely than not that the majority of its deferred tax assets would be realizable, with the exception of primarily its California research and development credits and certain expiring federal tax credits that have not met the "more likely than not" realization threshold criteria. As a result, the Company released the related valuation allowance against the majority of its federal and state deferred tax assets. The effect of the valuation allowance release is included as a component of the benefit from income taxes in the accompanying Unaudited Condensed Consolidated Statement of Operations.

When a change in valuation allowance is recognized during an interim period, the change in valuation allowance resulting from current year income is included in the annual effective tax rate and the release of valuation allowance supported by projections of future taxable income is recorded as a discrete provision for (benefit from) income taxes in the interim period. During the three months ended September 30, 2023, the Company further adjusted its valuation allowance release as a result of a change in forecasted income and tax expense, primarily due to the sale of intangible assets as part of the PHY IP group divestiture. The Company recognized discrete tax expense of $4.4 million during the three months ended September 30, 2023, and it recognized a $145.1 million discrete tax benefit during the nine months ended September 30, 2023, as a result of the valuation allowance release.

The Company has U.S. federal deferred tax assets related to research and development credits, foreign tax credits and other tax attributes that can be used to offset U.S. federal taxable income in future periods. These credit carryforwards will expire if they are not used within certain time periods. It is possible that some or all of these attributes could ultimately expire unused.

The Company maintains liabilities for uncertain tax positions within its long-term income taxes payable accounts and as a reduction to existing deferred tax assets to the extent tax attributes are available to offset such liabilities. These liabilities involve judgment and estimation and are monitored by management based on the best information available including changes in tax regulations, the outcome of relevant court cases and other information.

As of December 31, 2022 December 31, 2023, the Company had $164.5 $185.7 million of unrecognized tax benefits including $19.6 $31.7 million recorded as a reduction of long-term deferred tax assets, $143.6 $75.0 million recorded as a reduction of other assets associated with refundable withholding taxes previously withheld from licensees in South Korea, and $1.3 $78.9 million recorded to long-term income taxes payable. As of September 30, 2023 March 31, 2024, the Company had approximately $179.5 $191.0 million of unrecognized tax benefits, including $27.4 $30.4 million recorded as a reduction of long-term deferred tax assets, $75.1 $75.0 million recorded as a reduction of other assets associated with refundable withholding taxes previously withheld from licensees in South Korea and $77.0 $85.6 million recorded in long-term income taxes payable. The decrease in the unrecognized tax benefits recorded as a reduction of other assets from December 31, 2022 to September 30, 2023, is due to the Company's determination in the three months ended September 30, 2023, that it is more likely than not to succeed in its decision to request refund of Korean withholding tax for which refund claims were submitted in October 2023. The increase in unrecognized tax benefits recorded to long-term income taxes payable from December 31, 2022 to September 30, 2023 is primarily due to the Company's decision to request refund of Korean withholding tax for which the Company claimed foreign tax credits in the United States. As a result of an analysis of recent court rulings and other settlement activities to date in South Korea, the Company has determined that it may be entitled to refund claims for foreign taxes previously withheld by from licensees in South Korea. If the Company is successful in recovering the $152.6 $169.7 million of refundable withholding taxes from South Korea, the refund will result in an offsetting reduction in U.S. foreign tax credits. The Company recognizes there are numerous risks and uncertainties associated with the ultimate collection of this refund. The Company previously maintained an offsetting reserve for the entire amount of refundable withholding taxes previously withheld in South Korea. During the three months year ended September 30, 2023 December 31, 2023, the Company concluded it is more likely than not it will recover withholding taxes withheld during the past five years and accordingly filed a claim in October 2023 for refund of certain refundable withholding taxes, and recorded an income taxes receivable of $82.7 million with an offsetting long-term income taxes payable of $75.6 $72.6 million and a reduction in long-term deferred tax assets of $7.1 million. $10.1 million for the reduction in U.S. foreign tax credits. The Company has recorded a receivable for the portion of withholding taxes paid subsequent to the third quarter of 2023 for which it intends to file a future refund claim. The Company has not recorded a receivable for the portion of potentially available refunds for which a claim for refund has not been submitted or for which the Company does not intend to pursue at this time, as the Company does not at this time believe recovery of those taxes would be more likely than not if a refund claim were submitted. The Company continues to evaluate the potential for recovery of these taxes. taxes and has therefore established an offsetting reserve for the entire amount of potentially refundable withholding taxes previously withheld in South Korea, for which a claim for refund has not been submitted.

Although it is possible that some of the unrecognized tax benefits could be settled within the next 12 months, the Company cannot reasonably estimate the outcome at this time.

Additionally, the Company's future effective tax rates could be adversely affected by earnings being higher than anticipated in countries where the Company has higher statutory rates or lower than anticipated in countries where it has lower statutory rates, by changes in valuation of its deferred tax assets and liabilities or by changes in tax laws or interpretations of those laws.

14. 15. Litigation and Asserted Claims

Rambus is not currently a party to any material pending legal proceeding; however, from time to time, Rambus may become involved in legal proceedings or be subject to claims arising in the ordinary course of its business. Although the results of such litigation and claims cannot be predicted with certainty, the Company currently believes that the final outcome of these ordinary course matters will not have a material adverse effect on its business, operating results, financial position or cash flows. Regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management attention and resources and other factors.

The Company records a contingent liability when it is probable that a loss has been incurred and the amount is reasonably estimable in accordance with accounting for contingencies.

15. Derivative Instruments and Hedging Activities

In the first quarter of 2023, the Company began using foreign currency forward contracts (the "Contracts") to manage the Company's exposure related to certain foreign currency denominated monetary assets (the "Hedging Program") and to minimize the related impact of foreign currency fluctuations on the Company's earnings. The hedged monetary assets primarily consist of certain euro-denominated cash and accounts receivable balances. The Contracts mitigate the Company's foreign currency exposure when the Contracts are settled at their maturity by generally offsetting the gains and losses generated by the re-measurement of the underlying monetary assets.

The Contracts are entered into at the end of each month and have a duration of approximately one month at inception. Due to the short duration of these Contracts, their fair value is deemed immaterial. As the Contracts are considered derivative instruments that are not designated and do not qualify as hedging instruments, any gains and losses resulting from changes in their fair value are recorded to interest income and other income (expense), net on the Company's Unaudited Condensed Consolidated Statements of Operations. The Company does not use its Hedging Program for speculative or trading purposes.

The Contract outstanding as of September 30, 2023 was entered into by the Company on the last business day of the period. Given the relatively short duration such contracts are outstanding in relation to changes in potential market rates, the change in the fair value was deemed immaterial.

As of September 30, 2023, the total local currency amount of the outstanding Contract was €3.2 million, and its total notional value was $3.4 million. For the three and nine months ended September 30, 2023, any gains and losses resulting from changes in fair value of the Company's Contracts were deemed immaterial.

16. Restructuring and Other Charges

2023 Restructuring Plan

In June 2023, the Company initiated a restructuring program to reduce overall expenses, which is expected to improve future profitability by reducing the Company's overall spending (the "2023 Restructuring Plan"). In connection with this restructuring program, the Company initiated a plan resulting in a reduction of 42 employees. During the nine months ended September 30, 2023, the Company recorded charges of approximately $9.4 million to "Restructuring and other charges" in its Unaudited Condensed Consolidated Statement of Operations, related to the reduction in workforce, as well as write-downs of obligations related to certain IP development costs and software licenses for engineering development tools. The 2023 Restructuring Plan is expected to be substantially completed in the fourth quarter of 2023.

The following table summarizes the 2023 Plan restructuring activities during the nine months ended September 30, 2023:

(In thousands)	Employee Severance and Related Benefits	Other Costs	Total
Liability at December 31, 2022	$ —	$ —	$ —
Charges	4,646	4,748	9,394
Non-cash items*	—	(948)	(948)
Payments	(4,066)	(2,000)	(6,066)
Liability at September 30, 2023	$ 580	$ 1,800	$ 2,380

* The non-cash items of $0.9 million related to the write-down of software licenses for engineering development tools.

During the nine months ended September 30, 2022, the Company did not initiate any restructuring programs.

17. Divestiture

In July 2023, the Company entered into an asset purchase agreement (the "Purchase Agreement") with Cadence Design Systems, Inc. (the "Purchaser"), pursuant to which the Company agreed to sell certain assets and the Purchaser agreed to assume certain liabilities from the Company, in each case with respect to the Company's PHY IP group, for $110.0 million in cash, subject to certain adjustments and certain closing conditions (the "Transaction"). The decision to sell this business reflects the evolution of the Company's core semiconductor business to focus on the development of digital IP and chips, including novel memory solutions for high-performance computing, to support the continued advancement of the data center and artificial intelligence.

The Transaction was completed on September 6, 2023 and resulted in net proceeds of approximately $106.3 million, which consisted of the initial selling price of $110.0 million offset by approximately $3.7 million related to certain purchase price adjustments. The Company recognized a net gain on divestiture of the PHY IP group in the Unaudited Condensed Consolidated Statements of Operations of approximately $90.8 million during the three and nine months ended September 30, 2023. Transaction costs of approximately $1.4 million were included in the net gain of $90.8 million.

The divestiture of the PHY IP group did not represent a strategic shift that would have a major effect on the Company's consolidated results of operations, and therefore its results of operations were not reported as discontinued operations.

Concurrent with the Transaction, the Company also recorded a charge of approximately $10.0 million in the Company's Unaudited Condensed Consolidated Statements of Operations. The charge was primarily related to the accelerated amortization of software licenses that were not part of the PHY IP disposal group.

18. Acquisition

Therewere no acquisitions during the nine months ended September 30, 2023.

2022 Acquisition

Hardent, Inc.

On May 20, 2022, (the "Closing Date"), the Company completed its acquisition of Hardent, a leading electronic design company, by acquiring all of its outstanding shares. The Company acquired Hardent for a total consideration of approximately $16.1 million, which consisted of $14.7 million in initial cash consideration paid at the Closing Date, $1.2 million deposited into an escrow account to fund indemnification obligations to be released within 18 months after the Closing Date, and $0.2 million deposited into an escrow account to fund other contractual provisions related to certain working capital adjustments. The addition of the technology and expertise from Hardent augments the Company's CXL memory interconnect initiative.

As part of the acquisition, the Company agreed to pay certain Hardent employees approximately $1.2 million in cash over three years following the Closing Date (the "Retention Bonus"), to be paid in three equal installments on each of the dates that are 12 months, 24 months and 36 months following the Closing Date. The Retention Bonus payouts are subject to the condition of continued employment, therefore the Retention Bonus payouts will be treated as compensation and will be expensed ratably over the retention period.

The fair value of the intangible assets acquired was determined by management primarily by using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the existing technologies less charges representing the contribution of other assets to those cash flows. The fair values of the remaining assets acquired and liabilities assumed approximated their carrying values at the Closing Date. The Company performed a valuation of the net assets acquired as of the Closing Date.

The total consideration from the acquisition was allocated as of the Closing Date, and reflects adjustments made during the measurement period, as follows:

(In thousands)		Total
Cash and cash equivalents	$	209
Accounts receivable		1,088
Unbilled receivables		239
Prepaid expenses and other current assets		16
Identified intangible assets		5,000
Goodwill		12,069
Accounts payable		(55)
Deferred revenue		(578)
Income taxes payable		(466)
Deferred tax liability		(1,325)
Other current liabilities		(56)
Total	$	16,141

The goodwill arising from the acquisition is primarily attributed to synergies related to the combination of new and complementary technologies of the Company and the assembled workforce of the acquired business. This goodwill was not deductible for tax purposes.

The identified intangible assets assumed in the acquisition of Hardent were recognized as follows based upon their estimated fair values as of the acquisition date:

	Total	Estimated Weighted-Average Useful Life
	(in thousands)	(in years)
Existing technology	$ 4,800	5 years
Customer contracts and contractual relationships	200	2 years
Total	$ 5,000	

Unaudited Pro Forma Combined Consolidated Financial Information

The following pro forma financial information presents the combined results of operations for the Company and Hardent as if the acquisition had occurred on January 1, 2021. The pro forma financial information has been prepared for comparative purposes only and does not purport to be indicative of the actual operating results that would have been recorded had the acquisition actually taken place on January 1, 2021, and should not be taken as indicative of future consolidated operating results. Additionally, the pro forma financial results do not include any anticipated synergies or other expected benefits from the acquisition:

(In thousands)	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2022
Total revenue	$ 112,244	$ 335,485
Net income (loss)	$ 1,170	$ (29,228)

The pro forma net income for 2022 was adjusted to exclude $0.2 million and $1.2 million of acquisition-related costs incurred during the three and nine months ended September 30, 2022. Consequently, the pro forma net income for 2021 was adjusted to include these costs.

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

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 as described in more detail under "Note Regarding Forward-Looking Statements." Our forward-looking statements are based on current expectations, forecasts and assumptions and are subject to risks, uncertainties and changes in condition, significance, value and effect. As a result of the factors described herein, and in the documents incorporated herein by reference, including, in particular, those factors described under "Risk Factors," we undertake no obligation to publicly disclose any revisions to these forward-looking statements to reflect events or circumstances occurring subsequent to filing this report with the Securities and Exchange Commission.

The following discussion and analysis should be read in conjunction with the Unaudited Condensed Consolidated Financial Statements and related notes that are included elsewhere in this report.

Rambus is a trademark of Rambus Inc. Other trademarks that may be mentioned in this quarterly report on Form 10-Q are the property of their respective owners.

Business Overview

Rambus is We are an industry-leading provider of chips, silicon IP and innovations that address the fundamental challenges of accelerating data and enable enabling critical performance improvements for data center and other growing markets. The ongoing growth of the cloud, along with the widespread advancement of artificial intelligence ("AI") and other data-intensive workloads, continue to drive an exponential increase in data usage and demands on data infrastructure. Creating fast and safe connections, both in and across systems, remains one of the most mission-critical design challenges limiting performance in advanced hardware for these markets.

As an industry pioneer with over 30 years of advanced semiconductor design experience, Rambus is we are ideally positioned to address the challenges of moving and protecting data. We are a leader in high-performance memory subsystems, providing chips, silicon intellectual property ("IP") and innovations that maximize the performance and security in data-intensive computationally intensive systems. Whether in the cloud, at the edge or in your hand, real-time and immersive applications depend on data throughput and integrity. Rambus Our products and innovations deliver the increased bandwidth, capacity and security required to meet the world's data needs and drive ever-greater end-user experiences.

Our strategic objectives are include focusing our product portfolio and research around our core strength in semiconductors, optimizing our operational efficiency and leveraging our strong cash generation to re-invest for growth. We continue to maximize synergies across our businesses and customer base, leveraging the significant overlap in our ecosystem of customers, partners and influencers. The Rambus Our product and technology roadmap, as well as our go-to-market strategy, are driven by the application-specific requirements of our focus markets.

Executive Summary

The Company's continued execution delivered strong solid results during the third first quarter of 2023, 2024, driven by the demand for our memory interface chips and our Silicon IP solutions, and continued stability from our royalties revenue.

Key third first quarter 2023 2024 financial results included:

- Revenue of $105.3 $117.9 million;
- Operating benefits expenses of $23.6 $64.1 million; and
- Net cash provided by operating activities of $51.6 $39.1 million.

During the third first quarter, we completed a $100.0 $50.0 million accelerated share repurchase program. We also completed the sale launched an industry-leading family of our PHY IP group, strengthening our focus on chips DDR5 server PMICs for AI and digital IPs. We produced quarterly product revenue of $52.2 million, which was primarily driven by our memory interface chips. other advanced workloads.

Operational Highlights

Revenue Sources

The Company's consolidated revenue is comprised of product revenue, royalties and contract and other revenue.

Product revenue consists primarily of memory interface chips. Our memory interface chips are sold to major DRAM manufacturers, Micron, Samsung and SK hynix, as well as directly to system manufacturers and cloud providers, for integration into server memory modules. Product revenue accounted for 50% 43% of our consolidated revenue for each of the three and nine months ended September 30, 2023 March 31, 2024, as compared to 52% and 48% 56% for the three and nine months ended September 30, 2022 March 31, 2023.

Royalty revenue is derived from our patent licenses, through which we provide our customers certain rights to our broad worldwide portfolio of patented inventions. Our patent licenses enable our customers to use a portion of our patent portfolio in their own digital electronics products. The licenses typically range in term up to ten years and may define the specific field of use where our customers may utilize our inventions in their products. Royalties may be structured as fixed, variable or a hybrid of fixed and variable royalty payments. Leading semiconductor and electronic system companies such as AMD, Broadcom, Cisco, CXMT, IBM, Infineon, Kioxia, Marvell, MediaTek, Micron, Nanya, Nuvoton, NVIDIA, Panasonic, Phison, Qualcomm, Samsung, SK hynix, Socionext, STMicroelectronics, Toshiba, Western Digital, and Winbond have licensed our patents. The vast majority of our patents originate from our internal research and development efforts. Additionally, from time to time, we enter into agreements to sell certain patent assets under agreements which may also include subsequent profit-sharing. The sale of these patents, as well as the subsequent profit-sharing, are included as part of our royalty revenue. Revenue from royalties accounted for 27% and 29% 40% of our consolidated revenue for the three and nine months ended September 30, 2023 March 31, 2024, as compared to 27% and 33% 25% for the three and nine months ended September 30, 2022 March 31, 2023.

Contract and other revenue consists primarily of Silicon IP, which is comprised of our high-speed interface and security IP. Revenue sources under contract and other revenue include our IP core licenses, software licenses and related implementation, support and maintenance fees and engineering services fees. The timing and amounts invoiced to customers can vary significantly depending on specific contract terms and can therefore have a significant impact on deferred revenue or accounts receivable in any given period. Contract and other revenue accounted for 23% and 21% 17% of our consolidated revenue for the three and nine months ended September 30, 2023 March 31, 2024, as compared to 21% and 19% for the three and nine months ended September 30, 2022 March 31, 2023.

Costs and Expenses

Cost of product revenue decreased approximately $2.6 $6.4 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022, 2023, primarily due to lower product revenue and a change in product mix. Cost of product revenue increased approximately $3.8 million for the nine months ended September 30, 2023 as compared to the same period in 2022, primarily due to an increase in sales volumes of our memory interface chips, partially offset by a change in product mix during the period.

Cost of contract and other revenue decreased approximately $0.2 $1.1 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022. Cost of contract and other revenue increased approximately $1.2 million for the nine months ended September 30, 2023 as compared to the same period in 2022. The decrease for the three months ended September 30, 2023 was 2023, primarily due to lower engineering services associated with the contracts. The increase for the nine months ended September 30, 2023 was primarily due to higher engineering services associated with the contracts.

Total research and development expenses for the three months ended September 30, 2023 March 31, 2024 decreased approximately $1.9 $4.5 million as compared to the same period in 2022, 2023, primarily due to decreased prototyping costs of $1.2 million, consulting expenses of $0.5 million, bonus expenses of $0.5 million and software EDA tool subscriptions of $0.5 million, offset by an increase decreases in headcount-related expenses of $0.5 million. Total research and development expenses for the nine months ended September 30, 2023 increased approximately $2.2 million as compared to the same period in 2022, primarily due to increased headcount-related expenses of $2.2 million, stock-based compensation expenses of $1.6 million, depreciation expenses of $1.2 million, software EDA tool subscriptions of $1.0 $1.5 million, facility consulting expenses of $0.6 $1.3 million, bonus expenses of $0.9 million and allocated information technology costs stock-based compensation expenses of $0.5 $0.8 million, offset by a decrease in consulting expenses of $1.4 million, retention bonus expenses related to acquisitions of $1.3 million, an increase decreases in engineering costs allocated to cost of revenue of $1.3 million, prototyping costs of $0.9 $1.1 million and bonus increases in facility expenses of $0.4 $0.6 million. These expense reductions are primarily attributable to the sale of our PHY IP group in the third quarter of 2023 and the timing of the annual equity award grants to employees.

Total sales, general and administrative expenses for the three months ended September 30, 2023 March 31, 2024 decreased approximately $0.9 $5.2 million as compared to the same period in 2022, 2023, primarily due to decreases in acquisition-related costs of $1.3 million, bonus stock-based compensation expenses of $1.2 $2.8 million and due to the timing of the annual equity award grants to employees, rent and facility expenses of $0.5 million, offset by increases in stock-based compensation expenses of $1.5 million and accounting and audit fees of $0.5 million. Total sales, general and administrative expenses for the nine months ended September 30, 2023 increased approximately $3.1 million as compared to the same period in 2022, primarily due to increases in stock-based compensation bonus expenses of $7.6 million, headcount-related expenses of $1.3 million and accounting and audit fees of $0.5 million, offset by decreases in acquisition-related costs of $4.7 million, bonus expenses related to acquisitions of $1.0 million, consulting expenses of $0.5 million, recruiting expenses of $0.5 million and rent and facility expenses of $0.5 $0.9 million.

Intellectual Property

As of September 30, 2023 March 31, 2024, our semiconductor, security and other technologies are covered by 2,215 2,219 U.S. and foreign patents. Additionally, we have 546 536 patent applications pending. Some of the patents and pending patent applications are derived from a common parent patent application or are foreign counterpart patent applications. We file applications for and obtain patents in the United States and in selected foreign countries where we believe filing for such protection is appropriate and would further our overall business strategy and objectives. In some instances, obtaining appropriate levels of protection may involve prosecuting continuation and counterpart patent applications based on a common parent application. We believe our patented innovations provide our customers with the ability to achieve improved performance, lower risk, greater cost-effectiveness, and other benefits in their products and services.

Trends

There are a number of trends that may have a material impact on us in the future, including but not limited to, the evolution of memory technology, adoption of security solutions, the use and adoption of our inventions or technologies generally, industry consolidation and global economic conditions with the resulting impact on sales of consumer electronic systems.

We have a high degree of revenue concentration. Our top five customers represented approximately 63% and 59% 64% of our revenue for the three and nine months ended September 30, 2023 March 31, 2024, as compared to 61% and 57% for the three and nine months ended September 30, 2022 March 31, 2023, respectively. The particular customers which account for revenue concentration have varied from period-to-period as a result of the addition of new contracts, expiration of existing contracts, renewals of existing contracts, industry consolidation and the volumes and prices at which the customers have recently sold to their customers. These variations are expected to continue in the foreseeable future.

Our revenue from companies headquartered outside of the United States accounted for approximately 69% and 61% 56% of our total revenue for the three and nine months ended September 30, 2023 March 31, 2024, as compared to 37% and 42% 44% for the three and nine months ended September 30, 2022 March 31, 2023. We expect that revenue derived from international customers will continue to represent a significant portion of our total revenue in the future. Currently, our revenue from international customers is predominantly denominated in U.S. dollars. For additional information concerning international revenue, refer to Note 5, 6, "Segments and Major Customers," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q.

The royalties we receive from our semiconductor customers are partly a function of the adoption of our technologies by system companies. Many system companies purchase semiconductors containing our technologies from our customers and do not have a direct contractual relationship with us. Our customers generally do not provide us with details as to the identity or volume of licensed semiconductors purchased by particular system companies. As a result, we face difficulty in analyzing the extent to which our future revenue will be dependent upon particular system companies. Several of our licensees have renewed or extended their license agreements with us during the nine three months ended September 30, 2023 March 31, 2024, including SK hynix Kioxia and Socionext. Nanya.

As a part of our overall business strategy, from time to time we evaluate businesses and technologies for potential acquisitions that are aligned with our core business and designed to supplement our growth, including the acquisition of Hardent in the second quarter of 2022 and the acquisitions of AnalogX and PLDA in the third quarter of 2021. 2022. Similarly, we evaluate our current businesses and technologies that are not aligned with our core business for potential divestiture, such as the sale of our PHY IP group to Cadence in the third quarter of 2023. We expect to continue to evaluate and potentially enter into strategic acquisitions or divestitures which will impact our business and operating results.

Results of Operations

The following table sets forth, for the periods indicated, the percentage of total revenue represented by certain items reflected on our Unaudited Condensed Consolidated Statements of Operations:

	Three Months Ended
	Three Months Ended
	Three Months Ended

	March 31,
	March 31,
	March 31,
	2024
	2024
	2024
Revenue:	
Revenue:	
Revenue:	
Product revenue	
Product revenue	
Product revenue	
Royalties	
Royalties	
Royalties	
Contract and other revenue	
Contract and other revenue	
Contract and other revenue	
Total revenue	
Total revenue	
Total revenue	
Cost of revenue:	
Cost of revenue:	
Cost of revenue:	
Cost of product revenue	
Cost of product revenue	
Cost of product revenue	
Cost of contract and other revenue	
Cost of contract and other revenue	
Cost of contract and other revenue	
Amortization of acquired intangible assets	
Amortization of acquired intangible assets	
Amortization of acquired intangible assets	

Total cost of revenue
Total cost of revenue
Total cost of revenue
Gross profit
Gross profit
Gross profit
Operating expenses:
Operating expenses:
Operating expenses:
Research and development
Research and development
Research and development
Sales, general and administrative
Sales, general and administrative
Sales, general and administrative
Amortization of acquired intangible assets
Amortization of acquired intangible assets
Amortization of acquired intangible assets

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2023		2022		2023		2022	
Revenue:								
Product revenue	49.6	%	52.2	%	50.5	%	48.1	%
Royalties	27.4	%	26.6	%	28.8	%	32.6	%
Contract and other revenue	23.0	%	21.2	%	20.7	%	19.3	%
Total revenue	100.0	%	100.0	%	100.0	%	100.0	%
Cost of revenue:								
Cost of product revenue	18.4	%	19.5	%	19.0	%	18.3	%
Cost of contract and other revenue	1.2	%	1.3	%	1.3	%	0.9	%
Amortization of acquired intangible assets	3.2	%	3.2	%	3.1	%	3.1	%
Total cost of revenue	22.8	%	24.0	%	23.4	%	22.3	%
Gross profit	77.2	%	76.0	%	76.6	%	77.7	%
Operating expenses (benefits):								
Research and development	35.5	%	35.0	%	35.6	%	35.7	%

Sales, general and administrative		24.1	%	23.3	%	24.3	%	23.9	%
Amortization of acquired intangible assets		0.3	%	0.4	%	0.3	%	0.4	%
Change in fair value of earn-out liability									
Restructuring charges (benefit)		(0.1)	%	—	%	2.8	%	—	%
Gain on divestiture		(86.3)	%	—	%	(26.8)	%	—	%
Impairment of assets		9.5	%	—	%	3.0	%	—	%
Change in fair value of earn-out liability	Change in fair value of earn-out liability	(5.4)	%	2.1	%	2.4	%	(0.6)	%
Total operating expenses (benefits)		(22.4)	%	60.8	%	41.6	%	59.4	%
Change in fair value of earn-out liability									
Total operating expenses									
Total operating expenses									
Total operating expenses									
Operating income									
Operating income									
Operating income	Operating income	99.6	%	15.2	%	35.0	%	18.3	%
Interest income and other income (expense), net	Interest income and other income (expense), net	2.5	%	2.5	%	2.1	%	2.1	%
Gain on fair value of equity security		—	%	3.2	%	—	%	1.1	%
Loss on extinguishment of debt		—	%	(15.3)	%	—	%	(25.2)	%
Interest income and other income (expense), net									
Interest income and other income (expense), net									
Loss on fair value adjustment of derivatives, net									
Loss on fair value adjustment of derivatives, net									
Loss on fair value adjustment of derivatives, net	Loss on fair value adjustment of derivatives, net	—	%	(2.1)	%	(0.1)	%	(3.2)	%
Interest expense	Interest expense	(0.3)	%	(0.4)	%	(0.3)	%	(0.4)	%
Interest expense									

Interest expense					
Interest and other income (expense), net	Interest and other income (expense), net	2.2 %	(12.1) %	1.7 %	(25.6) %
Income (loss) before income taxes		101.8 %	3.1 %	36.7 %	(7.3) %
Provision for (benefit from) income taxes		3.8 %	2.3 %	(44.6) %	1.8 %
Net income (loss)		98.0 %	0.8 %	81.3 %	(9.1) %

Interest and other income (expense), net

Interest and other income (expense), net

Income before income taxes

Income before income taxes

Income before income taxes

Provision for income taxes

Provision for income taxes

Provision for income taxes

Net income

Net income

Net income

Three Months Ended

Three Months Ended

Three Months Ended

		Three Months Ended September 30,		Change in	Nine Months Ended September 30,		Change in
(Dollars in millions)	**(Dollars in millions)**	**2023**	**2022**	**Percentage**	**2023**	**2022**	**Percentage**
(Dollars in millions)							
(Dollars in millions)							
Total revenue:							
Total revenue:							
Total revenue:	Total revenue:						
Product revenue	Product revenue	$ 52.2	$ 58.6	(11.0) %	$ 170.9	$ 159.9	6.9 %

Product revenue

Product revenue

Royalties

Royalties									
Royalties	Royalties	28.9	29.9	(3.4)	%	97.7	108.4	(9.9)	%
Contract and other revenue	Contract and other revenue	24.2	23.7	2.2	%	70.3	64.2	9.5	%
Contract and other revenue									
Contract and other revenue									
Total revenue	Total revenue	$ 105.3	$ 112.2	(6.2)	%	$ 338.9	$ 332.5	1.9	%
Total revenue									
Total revenue									

Product Revenue

Product revenue consists of revenue from the sale of memory and security products.

Product revenue decreased approximately $6.4 $13.4 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022. 2023. The decrease was due to lower sales of our memory interface chips. Product revenue increased approximately $11.0 million for the nine months ended September 30, 2023 as compared to the same period in 2022. The increase was due to higher sales of our memory interface chips.

Growth in our product revenue is dependent on, among other things, the industry transition to a new generation of memory, as well as our ability to continue to obtain orders from customers, meet our customers' demands and mitigate any supply chain and economic disruption.

Royalties

Royalty revenue, which includes patent and technology license royalties, decreased increased approximately $1.0 $19.3 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022. Our royalty revenue decreased approximately $10.7 million for the nine months ended September 30, 2023 as compared to the same period in 2022. 2023. The decrease in both periods increase was primarily due to the timing and structure of license renewals, partially offset by revenue from the sale of patent assets in the third quarter of 2023. renewals.

We are continuously in negotiations for licenses with prospective customers. We expect royalty revenue will continue to vary from period to period based on our success in adding new customers, renewing or extending existing agreements, as well as the level of variation in our customers' reported shipment volumes, sales price and product mix, offset in part by the proportion of customer payments that are fixed or hybrid in nature.

Contract and Other Revenue

Contract and other revenue consists of revenue from technology development projects. Contract and other revenue increased decreased approximately $0.5 $1.8 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022. Contract and other revenue increased approximately $6.1 million for the nine months ended September 30, 2023 as compared to the same period in 2022. 2023. The increases in both periods decrease was primarily due to higher lower revenue associated with our Silicon IP offerings. offerings, which is primarily attributed to the sale of our PHY IP group in the third quarter of 2023.

We believe that contract and other revenue will fluctuate over time based on our ongoing technology development contractual requirements, the amount of work performed, the timing of completing engineering deliverables and the changes to work required, as well as new technology development contracts booked in the future.

Cost of Product Revenue

		Three Months Ended					
		Three Months Ended					
		Three Months Ended					
		Three Months Ended September 30,		Change in	Nine Months Ended September 30,		Change in
(Dollars in millions)	**(Dollars in millions)**	**2023**	**2022**	**Percentage**	**2023**	**2022**	**Percentage**
(Dollars in millions)							
(Dollars in millions)							
Cost of product revenue	Cost of product revenue	$ 19.4	$ 22.0	(11.7) %	$ 64.6	$ 60.8	6.2 %
Cost of product revenue							
Cost of product revenue							

Cost of product revenue are costs attributable to the sale of memory and security products. Cost of product revenue decreased approximately $2.6 $6.4 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022, 2023, primarily due to lower product revenue shipments of memory products and a change in product mix. Cost of product revenue increased approximately $3.8 million for the nine months ended September 30, 2023 as compared to the same period in 2022, primarily due to an increase in sales volumes of our memory interface chips, partially offset by a change in product mix during the period.

In the near term, we expect costs of product revenue to fluctuate due to changes in product mix and the timing of orders.

Cost of Contract and Other Revenue

		Three Months Ended					
		Three Months Ended					
		Three Months Ended					
		Three Months Ended September 30,		Change in	Nine Months Ended September 30,		Change in
(Dollars in millions)	**(Dollars in millions)**	**2023**	**2022**	**Percentage**	**2023**	**2022**	**Percentage**
(Dollars in millions)							
(Dollars in millions)							
Cost of contract and other revenue	Cost of contract and other revenue	$ 1.3	$ 1.5	(11.0) %	$ 4.3	$ 3.1	40.2 %

Cost of contract and other revenue
Cost of contract and other revenue

Cost of contract and other revenue reflects the portion of the total engineering costs which are specifically devoted to individual customer development and support services. Cost of contract and other revenue decreased approximately $0.2 $1.1 million for the three months ended September 30, 2023 March 31, 2024 as compared to the same period in 2022. Cost of contract and other revenue increased approximately $1.2 million for the nine months ended September 30, 2023 as compared to the same period in 2022. The decrease for the three months ended September 30, 2023 was 2023, primarily due to lower engineering services associated with the contracts. The increase for the nine months ended September 30, 2023 was primarily due to higher engineering services associated with the contracts.

In the near term, we expect costs of contract and other revenue to vary from period to period based on varying revenue recognized from contract and other revenue.

Research and Development Expenses

		Three Months Ended Three Months Ended Three Months Ended										
		Three Months Ended September 30,				Change in		Nine Months Ended September 30,				Change in
(Dollars in millions)	(Dollars in millions)	2023		2022		Percentage		2023		2022		Percentage
(Dollars in millions)												
(Dollars in millions)												
Research and development expenses:												
Research and development expenses:												
Research and development expenses:	Research and development expenses:											
Research and development expenses, excluding stock-based compensation	Research and development expenses, excluding stock-based compensation	$	34.5	$	36.1	(4.4)	%	$	109.6	$	108.9	0.6 %
Research and development expenses, excluding stock-based compensation												
Research and development expenses, excluding stock-based compensation												

Stock-based compensation							
Stock-based compensation							
Stock-based compensation	Stock-based compensation	2.9	3.2	(10.7) %	11.2	9.7	16.2 %
Total research and development expenses	Total research and development expenses	$ 37.4	$ 39.3	(4.9) %	$ 120.8	$ 118.6	1.8 %
Total research and development expenses							
Total research and development expenses							

Research and development expenses are those expenses incurred for the development of applicable technologies.

Total research and development expenses for the three months ended September 30, 2023 March 31, 2024 decreased approximately $1.9 $4.5 million as compared to the same period in 2022, 2023, primarily due to decreased prototyping costs of $1.2 million, consulting expenses of $0.5 million, bonus expenses of $0.5 million and software EDA tool subscriptions of $0.5 million, offset by an increase decreases in headcount-related expenses of $0.5 million.

Total research and development expenses for the nine months ended September 30, 2023 increased approximately $2.2 million as compared to the same period in 2022, primarily due to increased headcount-related expenses of $2.2 million, stock-based compensation expenses of $1.6 million, depreciation expenses of $1.2 million, software EDA tool subscriptions of $1.0 $1.5 million, facility consulting expenses of $0.6 $1.3 million, bonus expenses of $0.9 million and allocated information technology costs stock-based compensation expenses of $0.5 $0.8 million, offset by a decrease in consulting expenses of $1.4 million, retention bonus expenses related to acquisitions of $1.3 million, an increase decreases in engineering costs allocated to cost of revenue of $1.3 million, prototyping costs of $0.9 $1.1 million and bonus increases in facility expenses of $0.4 $0.6 million. These expense reductions are primarily attributable to the sale of our PHY IP group in the third quarter of 2023 and the timing of the annual equity award grants to employees.

We will continue to make investments in the infrastructure and technologies required to maintain our product innovation in semiconductor, security, and other technologies.

Sales, General and Administrative Expenses

		Three Months Ended					
		Three Months Ended					
		Three Months Ended					
		Three Months Ended September 30,		Change in	Nine Months Ended September 30,		Change in
(Dollars in millions)	(Dollars in millions)	2023	2022	Percentage	2023	2022	Percentage
(Dollars in millions)							
(Dollars in millions)							
Sales, general and administrative expenses:	Sales, general and administrative expenses:						

Sales, general and administrative expenses:							
Sales, general and administrative expenses:							
Sales, general and administrative expenses, excluding stock-based compensation							
Sales, general and administrative expenses, excluding stock-based compensation							
Sales, general and administrative expenses, excluding stock-based compensation	Sales, general and administrative expenses, excluding stock-based compensation	$ 18.3	$ 20.7	(11.5) %	$ 59.7	$ 64.2	(7.0) %
Stock-based compensation	Stock-based compensation	7.0	5.5	27.5 %	22.8	15.2	49.8 %
Stock-based compensation							
Stock-based compensation							
Total sales, general and administrative expenses	Total sales, general and administrative expenses	$ 25.3	$ 26.2	(3.3) %	$ 82.5	$ 79.4	3.9 %
Total sales, general and administrative expenses							
Total sales, general and administrative expenses							

Sales, general and administrative expenses include expenses and costs associated with trade shows, public relations, advertising, litigation, general legal, insurance and other sales, marketing and administrative efforts. Consistent with our business model, our licensing, sales, and marketing activities aim to develop or strengthen relationships with potential new and current customers. In addition, we work with current customers through marketing, sales, and technical efforts to drive adoption of their products that use our innovations and solutions, by system companies. Due to the long business development cycles we face and the semi-fixed nature of sales, general and administrative expenses in a given period, these expenses generally do not correlate to the level of revenue in that period or in comparable recent or future periods.

Total sales, general and administrative expenses for the three months ended September 30, 2023 March 31, 2024 decreased approximately $0.9 $5.2 million as compared to the same period in 2022, 2023, primarily due to decreases in acquisition-related costs of $1.3 million, bonus stock-based compensation expenses of $1.2 $2.8 million and due to the timing of the annual equity award grants to employees, rent and facility expenses of $0.5 million, offset by increases in stock-based compensation expenses of $1.5 million and accounting and audit fees of $0.5 million.

Total sales, general and administrative expenses for the nine months ended September 30, 2023 increased approximately $3.1 million as compared to the same period in 2022, primarily due to increases in stock-based compensation bonus expenses of $7.6 million, headcount-related expenses of $1.3 million and accounting and audit fees of $0.5 million, offset by decreases in acquisition-related costs of $4.7 million, bonus expenses related to acquisitions of $1.0 million, consulting expenses of $0.5 million, recruiting expenses of $0.5 million and rent and facility expenses of $0.5 $0.9 million.

In the future, sales, general and administrative expenses will vary from period to period based on the trade shows, advertising, legal, acquisition, and other sales, marketing, and administrative activities undertaken, and the change in sales, marketing, and administrative headcount in any given period.

Amortization of Acquired Intangible Assets

Three Months Ended

Three Months Ended

Three Months Ended

(Dollars in millions)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Change in Percentage	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022	Change in Percentage
Amortization of acquired intangible assets:						
Amortization of acquired intangible assets included in total cost of revenue	$ 3.3	$ 3.6	(6.3) %	$ 10.5	$ 10.4	0.9 %
Amortization of acquired intangible assets included in total operating expenses (benefits)	0.3	0.4	(40.4) %	1.0	1.3	(18.8) %

(Dollars in millions) (Dollars in millions)

(Dollars in millions)

(Dollars in millions)

Amortization of acquired intangible assets:

Amortization of acquired intangible assets:

Amortization of acquired intangible assets:

Amortization of acquired intangible assets included in total cost of revenue

Amortization of acquired intangible assets included in total cost of revenue

Amortization of acquired intangible assets included in total cost of revenue

Amortization of acquired intangible assets included in total operating expenses

Amortization of acquired intangible assets included in total operating expenses

Amortization of acquired intangible assets included in total operating expenses

Total amortization of acquired intangible assets	Total amortization of acquired intangible assets	$ 3.6	$ 4.0	(10.0)	%	$ 11.5	$ 11.7	(1.2) %

Total amortization of acquired intangible assets

Total amortization of acquired intangible assets

Amortization expense is related to various acquired IP.

Amortization of acquired intangible assets recognized in cost of revenue and operating expenses (benefits) for the three and nine months ended months ended September 30, 2023 March 31, 2024 remained relatively flat as compared to the same periods period in 2022. 2023. In the third quarter of 2023, we divested our PHY IP group and as a result, we disposed of approximately $7.4 million of net intangible assets, which are expected to reduce reduced our amortization expense in future periods. Refer to Note 4, “Intangible Assets and Goodwill,” of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

Restructuring and Other Charges (Benefit)

(Dollars in millions)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Change in Percentage	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022	Change in Percentage
Restructuring and other charges (benefit)	$ (0.1)	$ —	(100.0)%	$ 9.4	$ —	100.0 %

In June 2023, we initiated a restructuring program to reduce overall expenses which is expected to improve future profitability by reducing our overall spending (the “2023 Restructuring Plan”). In connection with this restructuring program, we initiated a plan resulting in a reduction of 42 employees. During the nine months ended September 30, 2023, we recorded charges of approximately $9.4 million, which included an immaterial benefit during the three months ended September 30, 2023, to “Restructuring and other charges (benefit)” in our Unaudited Condensed Consolidated Statement of Operations, related to the reduction in workforce, as well as write-downs of obligations related to certain IP development costs and software licenses for engineering development tools. The 2023 Restructuring Plan is expected to be substantially completed in the fourth quarter of 2023. Refer to Note 16, “Restructuring and Other Charges,” of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

During the nine months ended September 30, 2022, we did not initiate any restructuring programs.

Gain on Divestiture

	Three Months Ended	Nine Months Ended

(Dollars in millions)	September 30, 2023	2022	Change in Percentage	September 30, 2023	2022	Change in Percentage
Change in fair value of earn-out liability	$ (90.8)	$ —	(100.0)%	$ (90.8)	$ —	(100.0)%

In July 2023, we entered into an asset purchase agreement (the "Purchase Agreement") with Cadence Design Systems, Inc. (the "Purchaser"), pursuant to which we agreed to sell certain assets and the Purchaser agreed to assume certain liabilities from us in each case with respect to our PHY IP group. The decision to sell this business reflects the ongoing review of our core semiconductor business to focus on our development of digital IP and chips, including novel memory solutions for high-performance computing, to support the continued evolution of the data center and artificial intelligence.

Consequently, we recognized a gain of approximately $90.8 million during the three and nine months ended September 30, 2023. Refer to Note 17, "Divestiture," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

Impairment of Assets

(Dollars in millions)	Three Months Ended September 30, 2023	2022	Change in Percentage	Nine Months Ended September 30, 2023	2022	Change in Percentage
Impairment of assets	$ 10.0	$ —	100.0 %	$ 10.0	$ —	100.0 %

Concurrent with the sale of our PHY IP group to Cadence, we recorded a charge of approximately $10.0 million in our Unaudited Condensed Consolidated Statement of Operations for the three and nine months ended September 30, 2023. The charge was primarily related to the accelerated amortization of software licenses that were not part of the PHY IP disposal group, but where acceleration is warranted due to the lower headcount and corresponding excess capacity for such licenses. Refer to Note 17, "Divestiture," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

Change in Fair Value of Earn-Out Liability

(Dollars in millions)	Three Months Ended September 30, 2023	2022	Change in Percentage	Nine Months Ended September 30, 2023	2022	Change in Percentage
Change in fair value of earn-out liability	$ (5.7)	$ 2.4	NM*	$ 8.1	$ (1.9)	NM*

NM* — percentage is not meaningful

(Dollars in millions)	Three Months Ended March 31, 2024	2023	Change in Percentage
Change in fair value of earn-out liability	$ 0.7	$ 6.9	(89.9)%

The changes in the fair value of the earn-out liability related to the 2021 acquisition of the PLDA acquisition, Group ("PLDA"), which is subject to certain revenue targets of the acquired business for a period of three years from the date of acquisition, and which is settled annually in shares of our common stock based on the fair value of that common stock fixed at the time we acquired PLDA. The fair value of the earn-out liability is remeasured each quarter, depending on the acquired business's revenue performance relative to target over the applicable period, and adjusted to reflect changes in the per share value of our common stock.

During the three and nine months ended September 30, 2023, we remeasured the fair value of the earn-out liability, which resulted in a gain of $5.7 million March 31, 2024 and additional expense of $8.1 million, respectively, in our Unaudited Condensed Consolidated Statements of Operations. During the three and nine months ended September 30, 2022, 2023, we remeasured the fair value of the earn-out liability, which resulted in additional expense expenses of $2.4 $0.7 million and a gain of $1.9 $6.9 million, respectively, in our Unaudited Condensed Consolidated Statements of Operations.

Interest and Other Income (Expense), Net

		Three Months Ended					
		Three Months Ended					
		Three Months Ended					
		Three Months Ended September 30,		Change in	Nine Months Ended September 30,		Change in
(Dollars in millions)	(Dollars in millions)	2023	2022	Percentage	2023	2022	Percentage
(Dollars in millions)							
(Dollars in millions)							
Interest income and other income (expense), net	Interest income and other income (expense), net	$ 2.7	$ 2.8	(4.3) %	$ 7.1	$ 6.9	2.5 %
Gain on fair value of equity security		—	3.5	(100.0) %	—	3.5	(100.0) %
Loss on extinguishment of debt		—	(17.1)	(100.0) %	—	(83.6)	(100.0) %
Interest income and other income (expense), net							
Interest income and other income (expense), net							
Loss on fair value adjustment of derivatives, net							
Loss on fair value adjustment of derivatives, net							
Loss on fair value adjustment of derivatives, net	Loss on fair value adjustment of derivatives, net	—	(2.3)	(100.0) %	(0.2)	(10.6)	(97.7) %
Interest expense	Interest expense	(0.3)	(0.4)	(18.5) %	(1.1)	(1.3)	(19.9) %
Interest expense							
Interest expense							

Interest and other income (expense), net	Interest and other income (expense), net	$ 2.4	$ (13.5)	(117.5) %	$ 5.8	$ (85.1)	(106.8) %
Interest and other income (expense), net							
Interest and other income (expense), net							

Interest income and other income (expense), net, includes interest income from our investment portfolio and from the significant financing component of licensing agreements, as well as any gains or losses from the re-measurement of our monetary assets or liabilities denominated in foreign currencies. For the three and nine months ended September 30, 2023 March 31, 2024, interest income and other income (expense), net, consisted primarily of interest income from our investment portfolio of $2.5 million and $6.4 million, respectively. $4.4 million. For the three and nine months ended September 30, 2022 March 31, 2023, interest income and other income (expense), net, consisted primarily of interest income from our investment portfolio of $1.7 million and interest income due to the significant financing component of licensing agreements of $1.2 million $0.9 million. Interest income and $4.5 million, respectively. other income (expense), net increased in the three months ended March 31, 2024 as compared to the same period in 2023, primarily due to higher interest rates within our investment portfolio, which generated a higher interest income.

The gain on fair value of equity security of $3.5 $0.2 million related to the sale of an equity security during the third quarter of 2022.

The losses on extinguishment of debt of $17.1 million and $83.6 million, as well as the $2.3 million and $10.6 million losses on fair value adjustment of derivatives, net, for the three and nine months ended September 30, 2022, respectively, related to the repurchases of $162.1 million aggregate principal amount of our 2023 Notes and the settlement of the related convertible senior note hedges and warrants.

The $0.2 million loss on fair value adjustment of derivatives, net, for the nine months ended September 30, 2023, related to the settlement of the remaining outstanding warrants in the first quarter of 2023.

Interest expense consists primarily of interest expense associated with long term software licenses licenses. Interest expense remained flat for the three and nine months ended September 30, 2023. Prior to the second quarter of 2023, interest expense consisted primarily of interest expense associated with long term software licenses, the non-cash interest expense related to the amortization of the debt issuance costs on the 2023 Notes, as well as the coupon interest related to these notes. The remaining outstanding 2023 Notes were paid in full upon maturity in the first quarter of March 31, 2024 and 2023. Refer to Note 9, “Convertible Notes,” of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

Provision for (Benefit from) Income Taxes

		Three Months Ended					
		Three Months Ended					
		Three Months Ended					
		Three Months Ended September 30,		**Change in**	**Nine Months Ended September 30,**		**Change in**
(Dollars in millions)	**(Dollars in millions)**	**2023**	**2022**	**Percentage**	**2023**	**2022**	**Percentage**
Provision for (benefit from) income taxes		$ 4.0	$ 2.5	61.2%	$ (151.1)	$ 5.9	NM*
(Dollars in millions)							

(Dollars in millions)									
Provision for income taxes									
Provision for income taxes									
Provision for income taxes									
Effective tax rate	Effective tax rate	3.8	%	72.7	%	(121.6)	%	(24.5)	%
Effective tax rate									
Effective tax rate									

NM* — percentage is not meaningful

The Our income tax provision for income taxes for the three months ended September 30, 2023 March 31, 2024 was primarily driven by the statutory tax expense for domestic and foreign withholding taxes and adjustments to the valuation allowance release on our U.S. deferred tax assets due to a change in our forecasted taxable income and expense, jurisdictions for 2024, offset by tax benefits from excess stock-based compensation deductions. The benefit from income taxes for the nine months ended September 30, 2023 was primarily driven by the valuation allowance release on our U.S. deferred tax assets, as well as tax benefits from excess stock-based compensation deductions, offset by foreign withholding taxes. Our income tax provision for the three months ended September 30, 2023 March 31, 2024 and income tax benefit for the nine months ended September 30, 2023 2023 reflected an effective tax rate of 3.8% 4.2% and (121.6)%, respectively. Our income tax provision for the three and nine months ended September 30, 2022 reflected an effective tax rate of 72.7% and (24.5)% 5.8%, respectively. Our effective tax rate for the three and nine months ended September 30, 2023 March 31, 2024 differed from the U.S. statutory rate primarily due to the valuation allowance release on our U.S. deferred tax assets. benefits from excess stock-based compensation deductions. Our effective tax rate for the three and nine months ended September 30, 2022 March 31, 2023, differed from the statutory rate primarily due to foreign tax credits and the full valuation allowance against our U.S. deferred tax assets.

During the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, we paid withholding taxes of $5.1 million and $5.4 million, and $5.5 million, respectively. During both the nine months ended September 30, 2023 and 2022, we paid withholding taxes of $15.8 million.

We periodically evaluate the realizability of our net deferred tax assets based on all available evidence, both positive and negative. The realizability of our net deferred tax assets is dependent on our ability to generate sufficient future taxable income during periods prior to the expiration of tax attributes to fully utilize these assets.

During the second quarter of 2023, based on all available positive and negative evidence, we determined that it was appropriate to release the valuation allowance on the majority of our U.S. federal and other state deferred tax assets. We recognized a $149.4 million discrete tax benefit during During the three and six months ended June 30, 2023 third quarter of 2023, we further adjusted our valuation allowance release as a result of a change in forecasted income and tax expense, primarily due to the valuation allowance release.

sale of intangible assets as part of our PHY IP group divestiture. During the second quarter of 2023, we reached a cumulative income position over the previous three years. The cumulative three-year income is considered positive evidence, which is considered objective and verifiable, and thus received significant weighting. Additional positive evidence considered by us in our assessment included recent utilization of tax attribute carryforwards and future forecasts of continued profitability in the United States. Negative evidence we considered included economic uncertainties, including volatility of the industry, and the possibility of a recession or a decline in the market.

Upon considering the relative impact of all evidence during the second quarter of 2023, both negative and positive, and the weight accorded to each, we concluded that it was more likely than not that the majority of our deferred tax assets would be realizable, with the exception of primarily our California research and development credits and certain expiring federal tax credits that have not met the "more likely than not" realization threshold criteria. As a result, we released the related valuation allowance against the majority of our federal and state deferred tax assets. The effect of the valuation allowance release is included as a component of the benefit from income taxes in the accompanying Unaudited Condensed Consolidated Statements of Operations of this Form 10-Q.

When a change in valuation allowance is recognized during an interim period, the change in valuation allowance resulting from current year income is included in the annual effective tax rate and the release of valuation allowance supported by projections of future taxable income is recorded as a discrete provision for (benefit from) income taxes in the interim period. During the three months ended September 30, 2023, we further adjusted our valuation allowance release as a result of a change in our forecasted income and tax expense, primarily due to the sale of intangible assets as part of our PHY IP group divestiture. We recognized discrete tax expense of $4.4 million during the three months ended September 30, 2023, and we recognized a $145.1 million discrete tax benefit during the nine months ended September 30, 2023, as a result of our valuation allowance release.

We have U.S. federal deferred tax assets related to research and development credits, foreign tax credits and other tax attributes that can be used to offset U.S. federal taxable income in future periods. These credit carryforwards will expire if they are not used within certain time periods. It is possible that some or all of these attributes could ultimately expire unused.

Liquidity and Capital Resources

		As of			As of	
(In millions)	(In millions)	September 30, 2023	December 31, 2022	(In millions)	March 31, 2024	December 31, 2023
Cash and cash equivalents	Cash and cash equivalents	$ 131.9	$ 125.3			
Marketable securities	Marketable securities	243.6	187.9			
Total cash, cash equivalents and marketable securities	Total cash, cash equivalents and marketable securities	$ 375.5	$ 313.2			

		Nine Months Ended				
		Three Months Ended				Three Months Ended
		September 30,			March 31,	
(In millions)	(In millions)	2023	2022	(In millions)	2024	2023

Net cash provided by operating activities	Net cash provided by operating activities	$ 140.9	$ 179.1
Net cash provided by investing activities		$ 30.9	$ 217.5
Net cash provided by (used in) investing activities			
Net cash used in financing activities	Net cash used in financing activities	$(165.4)	$(360.4)

Liquidity

We currently anticipate that existing cash, cash equivalents and marketable securities balances and cash flows from operations will be adequate to meet our cash needs for at least the next 12 months. Additionally, the majority of our cash and cash equivalents is in the United States. Our cash needs for the nine three months ended September 30, 2023 March 31, 2024, were funded primarily from cash collected from our customers.

We do not anticipate any liquidity constraints as a result of either the current credit environment or investment fair value fluctuations. Additionally, we have the intent and we believe we have the ability to hold our debt investments that have unrealized losses in accumulated other comprehensive gain (loss) for a sufficient period of time to allow for recovery of the principal amounts invested. We continually monitor the credit risk in our portfolio and mitigate our credit risk exposures in accordance with our policies.

As a part of our overall business strategy, from time to time, we evaluate businesses and technologies for potential acquisitions that are aligned with our core business and designed to supplement our growth.

To provide us with more flexibility in returning capital to our stockholders, on October 29, 2020, our Board approved a share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the “2020 Repurchase Program”). Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program. The 2020 Repurchase Program replaced the previous program approved by our Board in January 2015 and canceled the remaining shares outstanding as part of the previous authorization.

On August 10, 2023 During the three months ended March 31, 2024, we entered into an accelerated share repurchase program with Royal Bank of Canada (“RBC”) (the “2023 ASR Program”). The 2023 ASR Program was part of the share repurchase program previously authorized by our Board on October 29, 2020. Under the 2023 ASR Program, we pre-paid to RBC the $100.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 1.6 million repurchased shares of our common stock from RBC on August 11, 2023, which were retired and recorded as an $80.0 million reduction to stockholders’ equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. On September 22, 2023, the accelerated share repurchase program was completed and we received an additional 0.2 million shares of our common stock, which were retired, as the final settlement of the 2023 ASR Program.

On September 9, 2022, we entered into the 2022 ASR Program with Wells Fargo. The 2022 ASR Program was part of the share repurchase program previously authorized by our Board on October 29, 2020. Under the 2022 ASR Program, we pre-paid to Wells Fargo the $100.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 3.1 million shares of our common stock from Wells Fargo in the third quarter of 2022, which were retired and recorded as an $80.0 million reduction to stockholders' equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to our stock. During the fourth quarter of 2022, the 2022 ASR Program was completed and we received an additional 0.1 million shares of our common stock, which were retired, as the final settlement of the 2022 ASR Program.

As of September 30, 2023, there remained an outstanding authorization to repurchase approximately 7.9 million shares of our outstanding common stock under the 2020 Repurchase Program. Refer to Program as discussed in the "Share Repurchase Program" section below.

Operating Activities

Cash provided by operating activities of $140.9 $39.1 million for the nine three months ended September 30, 2023 March 31, 2024, was primarily attributable to the cash generated from customer licensing, product sales and engineering services fees. Changes in operating assets and liabilities for the nine three months ended September 30, 2023 March 31, 2024 primarily included a decrease decreases in unbilled receivables and increase prepaids and other current assets, as well as increases in income taxes payable and accounts payable, offset by increases in income taxes receivable, inventories, and accounts receivable, as well as and decreases in accounts payable, accrued salaries and benefits and deferred revenue. other liabilities.

Cash provided by operating activities of $179.1 $38.9 million for the nine three months ended September 30, 2022 March 31, 2023, was primarily attributable to the cash generated from customer licensing, product sales and engineering services fees. Changes in operating

assets and liabilities for the nine three months ended September 30, 2022, March 31, 2023 primarily included decreases in unbilled receivable and accounts receivable and an increase in accounts payable, receivables, offset by decreases in income taxes accounts payable, accrued salaries and benefits, deferred revenue and other liabilities, and deferred revenue, as well as an increase increases in inventory. inventories, accounts receivable, and prepaids and other current assets.

Investing Activities

Cash provided by investing activities of $30.9 $71.4 million for the nine three months ended September 30, 2023 March 31, 2024, consisted of proceeds from the maturities and sales of available-for-sale marketable securities of $127.5 million $100.7 million and $117.8 million $63.4 million, respectively, and net proceeds from the sale of our PHY IP group a non-marketable equity security of $106.3 million $22.8 million, offset by purchases of available-for-sale marketable securities of $298.3 million $112.5 million and $22.5 million $3.0 million paid to acquire property, plant and equipment.

Cash provided by used in investing activities of $217.5 $10.7 million for the nine three months ended September 30, 2022 March 31, 2023, consisted of purchases of available-for-sale marketable securities of $45.6 million and $7.7 million paid to acquire property, plant and equipment, offset by proceeds from the sale and maturities of available-for-sale marketable securities of $276.7 million $24.5 million and $53.4 million $18.1 million, respectively, offset by purchases of available-for-sale marketable securities of $81.0 million, the acquisition of Hardent for $16.1 million, net of cash acquired of $0.2 million, $12.7 million paid to acquire property, plant and equipment and the acquisition of intangible assets for $3.0 million. respectively.

Financing Activities

Cash used in financing activities of $165.4 $92.3 million for the nine three months ended September 30, 2023 March 31, 2024, was primarily due to an aggregate payment of $100.3 million $50.8 million as part of our 2023 2024 ASR program and the Buying Plan (includes $0.3 million $0.2 million in fees related to the ASR program), $36.7 $37.7 million in payments of taxes on restricted stock units, $11.3 $4.0 million paid under installment payment arrangements to acquire fixed assets, $10.7 million paid for the retirement of the remaining outstanding warrants, $10.4 million in aggregate principal amount paid upon maturity of the remaining outstanding 2023 Notes, offset by $6.5 $0.2 million in proceeds from the issuance of common stock under equity incentive plans.

Cash used in financing activities of $360.4 $54.2 million for the nine three months ended September 30, 2022 March 31, 2023, was primarily due to $258.1 30.7 million paid in connection with the partial repurchases of our 2023 Notes in the first and third quarters of 2022, an aggregate payment of $100.4 million as part of our 2022 ASR program (includes $0.4 million in fees related to the ASR program), $69.5 million paid in connection with the settlement of warrants associated with the partial repurchases of our 2023 Notes, $17.5 million in payments of taxes on restricted stock units, $10.7 million paid for the retirement of the remaining outstanding warrants, $10.4 million in aggregate principal amount paid upon maturity of the remaining outstanding 2023 Notes, and $10.5 million $3.2 million paid under installment payment arrangements to acquire fixed assets, offset by proceeds of $91.7 million from the settlement of senior convertible note hedges associated with the partial repurchases of our 2023 Notes and $3.8 million $0.8 million in proceeds from the issuance of common stock under equity incentive plans.

Contractual Obligations

As of September 30, 2023 March 31, 2024, our material contractual obligations were as follows:

(In thousands)	(In thousands)	Total	Remainder of 2023	2024	2025	2026	2027
(In thousands)							
(In thousands)							
Contractual obligations (1) (2)							
Contractual obligations (1) (2)							
Contractual obligations (1) (2)	**Contractual obligations** (1) (2)						
Software licenses (3)	Software licenses (3)	$ 29,847	$ 5,262	$ 16,502	$ 8,083	$ —	$ —
Software licenses (3)							
Software licenses (3)							
Other contractual obligations	Other contractual obligations	1,800	600	1,200	—	—	—
Acquisition retention bonuses (4) (5)		879	—	550	329	—	—
Other contractual obligations							
Other contractual obligations							
Acquisition retention bonuses (4)							
Acquisition retention bonuses (4)							
Acquisition retention bonuses (4)							

Total	Total	$ 32,526	$ 5,862	$ 18,252	$ 8,412	$ —	$ —
Total							
Total							

(1) The above table does not reflect possible payments in connection with unrecognized tax benefits of approximately $104.4 $116.0 million, including $27.4 $30.4 million recorded as a reduction of long-term deferred tax assets and $77.0 $85.6 million in long-term income taxes payable as of September 30, 2023 March 31, 2024. As noted in Note 13, 14, "Income Taxes," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q, although it is possible that some of the unrecognized tax benefits could be settled within the next 12 months, we cannot reasonably estimate the timing of the outcome at this time.

(2) For our lease commitments as of September 30, 2023 March 31, 2024, refer to Note 8, 9, "Leases," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q.

(3) We have commitments with various software vendors for agreements generally having terms longer than one year. As of September 30, 2023, approximately $16.0 million of the fair value of the software licenses was included in other current liabilities and $11.1 million was included in other long-term liabilities, in the accompanying Unaudited Condensed Consolidated Balance Sheet of this Form 10-Q.

(4) In connection with the acquisition acquisitions of Hardent in the second quarter of 2022 and the acquisition of PLDA in the third quarter of 2021, we are obligated to pay retention bonuses to certain employees subject to certain eligibility and acceleration provisions, including the condition of employment.

(5) In connection with the acquisition of AnalogX in the third quarter of 2021, we were obligated to pay retention bonuses to certain employees subject to certain eligibility and acceleration provisions, including the condition of employment. In September 2023, we divested our PHY IP group, which includes AnalogX and resulted in us recognizing an immaterial decrease related to the remaining AnalogX acquisition retention bonus liability. Refer to Note 17, "Divestiture," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

Share Repurchase Program

On October 29, 2020, our Board approved the 2020 Repurchase Program authorizing the repurchase of up to an aggregate of 20.0 million shares. Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program. The 2020 Repurchase Program replaced the previous program approved by the Board in January 2015 and canceled the remaining shares outstanding as part of the previous authorization. During the nine three months ended September 30, 2023 March 31, 2024, we repurchased shares of our common stock under the 2020 Repurchase Program as discussed below.

On August 10, 2023 February 29, 2024, we entered into an accelerated share repurchase program with Royal Bank of Canada ("RBC") (the "2024 ASR Program"). The 2024 ASR Program was part of the 2020 Repurchase Program. Under the 2024 ASR Program, we pre-paid to RBC the $50.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 0.7 million shares of our common stock from RBC on March 1, 2024, which were retired and recorded as a $40.0 million reduction to stockholders' equity. The remaining $10.0 million of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to our stock. On March 18, 2024, the accelerated share repurchase program was completed and we received an additional 0.1 million shares of our common stock, which were retired, as the final settlement of the 2024 ASR Program.

On November 2, 2023, we entered into a share repurchase plan (the “Buying Plan”) with RBC Capital Markets, LLC (“RBCCM”). The Buying Plan was part of the 2020 Repurchase Program. Under the Buying Plan, RBCCM shall commence purchases for a 12-month period starting on November 2, 2023 and ending on November 1, 2024, unless terminated sooner pursuant to the Buying Plan (the “Repurchase Period”). During the Repurchase Period, RBCCM may purchase an aggregate amount of $50.0 million of our common stock, and its execution is dependent on our stock price reaching certain levels. Share repurchases shall not exceed $25.0 million in a quarter. On February 29, 2024, the Buying Plan was amended and as a result, no purchases were made from the Buying Plan during the period from March 1, 2024 to March 28, 2024, while the 2024 ASR Program was in effect. During the first quarter of 2024, an immaterial amount of shares was repurchased, retired and recorded as a reduction to stockholders’ equity, from the Buying Plan.

On August 10, 2023, we entered into an accelerated share repurchase program with RBC (the “2023 ASR Program”). The 2023 ASR Program was part of the share repurchase program previously authorized by our Board on October 29, 2020. 2020 Repurchase Program. Under the 2023 ASR Program, we pre-paid to RBC the $100.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 1.6 million shares of our common stock from RBC on August 11, 2023, which were retired and recorded as an $80.0 million reduction to stockholders’ equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. On September 22, 2023, the accelerated share repurchase program was completed and we received an additional 0.2 million shares of our common stock, which were retired, as the final settlement of the 2023 ASR Program.

Effective January 1, 2023, our share repurchases are subject to a 1% excise tax as a result of the Inflation Reduction Act of 2022. Excise As of March 31, 2024, there was no exercise tax incurred is included in liability as the cost of shares repurchased in the Unaudited Condensed Consolidated Statement of Stockholders’ Equity of this Form 10-Q.

On September 9, 2022, we entered into the 2022 ASR Program with Wells Fargo. The 2022 ASR Program was part of the share repurchase program previously authorized by our Board on October 29, 2020. Under the 2022 ASR Program, we pre-paid to Wells Fargo the $100.0 million purchase price for our common stock and, in turn, we received an initial delivery of approximately 3.1 million shares fair market value of our common stock from Wells Fargo in issued exceeded the third quarter of 2022, which were retired and recorded as an $80.0 million reduction to stockholders’ equity. The remaining $20.0 million fair market value of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. During the fourth quarter of 2022, the 2022 ASR Program was completed and we received an additional 0.1 million shares of our common stock, which were retired, as the final settlement of the 2022 ASR Program. total repurchases.

As of September 30, 2023 March 31, 2024, there remained an outstanding authorization to repurchase approximately 7.9 7.1 million shares of our outstanding common stock under the 2020 Repurchase Program.

We record share repurchases as a reduction to stockholders’ equity. We record a portion of the purchase price of the repurchased shares as an increase to accumulated deficit when the price of the shares repurchased exceeds the average original proceeds per share received from the issuance of common stock in accordance with our accounting policy.

Warrants

In the first quarter of 2023, subsequent to the settlement of the remaining 2023 Notes upon their maturity, we entered into agreements with the bank counterparties (the “Counterparties”) to retire the remaining outstanding warrants that we had previously entered into with the Counterparties in connection with the issuance of the 2023 Notes. Upon settlement, we paid $10.7 million in cash for the retirement of the remaining warrants.

Refer to Note 9, “Convertible Notes,” of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations are based upon our Unaudited Condensed Consolidated Financial Statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, investments, income taxes, litigation and other contingencies. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Our critical accounting estimates include those regarding (1) revenue recognition, (2) goodwill, (3) intangible assets, (4) income taxes, (5) stock-based compensation and (6) business combinations. For a discussion of our critical accounting estimates, see "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates" in our Annual Report on Form 10-K for the year ended December 31, 2022 December 31, 2023.

Recent Accounting Pronouncements

Refer to Note 2, "Recent Accounting Pronouncements," of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for discussion of recent accounting pronouncements including the respective expected dates of adoption.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial market risks, primarily arising from the effect of interest rate fluctuations on our investment portfolio. Interest rate fluctuation may arise from changes in the market's view of the quality of the security issuer, the overall economic outlook and the time to maturity of our portfolio. We mitigate this risk by investing only in high quality, highly rated, liquid instruments. Securities with original maturities of one year or less must be rated by two of the three industry standard rating agencies as follows: A1 by Standard & Poor's, P1 by Moody's and/or F-1 by Fitch. Securities with original maturities of greater than one year must be rated by two of the following industry standard rating agencies as follows: AA- by Standard & Poor's, Aa3 by Moody's and/or AA- by Fitch. By corporate investment policy, we limit the amount of exposure to $15.0 million or 10% of the portfolio, whichever is lower, for any single non-U.S. Government issuer. A single U.S. Agency can represent up to 25% of the portfolio. No more than 20% of the total portfolio may be invested in the securities of an industry sector, with money market fund investments evaluated separately. Our policy requires that at least 10% of the portfolio be in securities with a maturity of 90 days or less. We may make investments in time deposits, U.S. government-sponsored obligations and corporate notes, bonds, and commercial paper and notes with maturities up to 36 months. However, we We bias our investment portfolio to shorter maturities. The majority of our investments are U.S. dollar denominated.

Our policy specifically prohibits trading securities for the sole purpose of realizing trading profits. However, profits, however, we may liquidate a portion of our portfolio if we experience unforeseen liquidity requirements. In such a case, if the environment has been one of rising interest rates, we may experience a realized loss, similarly, loss. Similarly, if the environment has been one of declining interest rates, we may experience a realized gain. As of September 30, 2023 March 31, 2024, we had an investment portfolio of fixed income marketable securities of $287.8 $283.8 million, including cash equivalents and time deposits. If market interest rates were to increase immediately and uniformly by 1.0% from the levels as of September 30, 2023 March 31, 2024, the fair value of the portfolio would decline by approximately $1.0 $1.8 million. Actual results may differ materially from this sensitivity analysis.

We invoice the majority of our customers in U.S. dollars. Although the fluctuation of currency exchange rates may impact our customers, and thus indirectly impact us, we do not attempt to hedge this indirect and speculative risk, other than as noted in the paragraph below. Our overseas operations consist primarily of international business operations in France, the

Netherlands and the United Kingdom, design centers in Bulgaria, Canada, India, Bulgaria and Finland and small business development offices in Australia, China, Japan, South Korea and Taiwan. We monitor our foreign currency exposure and, as disclosed below, we have entered into foreign currency forward contracts to partially mitigate the exposure in currencies where we believe this is appropriate.

Since the first quarter of 2023, we enter We have on occasion, entered into foreign currency forward contracts (the "Contracts") to manage our exposure related to certain foreign currency denominated monetary assets (the "Hedging Program") and to minimize the related impact of foreign currency fluctuations on our earnings. The hedged monetary assets primarily consist consisted of certain euro-denominated cash and accounts receivable balances. We enter Contracts are typically entered into Contracts at the end of each a month, and they have a duration of with an approximately one month duration at inception. As of September 30, 2023 March 31, 2024, the total local currency amount of the outstanding Contract was €3.2 million, and its total notional value was $3.4 million. Given the short duration such contracts are outstanding in relation to changes in potential market rates, the change in their fair value was deemed immaterial and was not reflected either as an asset or a liability in the accompanying Unaudited Condensed Consolidated Balance Sheet of this Form 10-Q. Additionally, the effect of a hypothetical 1% change in the euro as compared to the U.S. dollar as of September 30, 2023 would not have a material impact on our financial statements as the effect of foreign currency rate changes on our no Contracts is expected to offset the effect of foreign currency rate changes on the hedged items. Actual results may differ materially from this sensitivity analysis. Refer to Note 7, “Fair Value of Financial Instruments,” and Note 15, “Derivative Instruments and Hedging Activities,” of Notes to Unaudited Condensed Consolidated Financial Statements of this Form 10-Q for additional information. were outstanding.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to ensure that information required to be disclosed in the reports we file or submit pursuant to the Securities and Exchange Act of 1934, as amended (the “Exchange Act”), is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management, with the participation of the Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of September 30, 2023 March 31, 2024, 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 identified in management’s evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the quarter ended September 30, 2023 March 31, 2024, that materially affected, or that we believe are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently a party to any material pending legal proceeding; however, from time to time, we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. Although the results of litigation and claims cannot be predicted with certainty, we currently believe that the final outcome of these ordinary course matters will not have a material adverse effect on our business, operating results, financial position or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management attention and resources and other factors.

Item 1A. Risk Factors

Because of the following factors, as well as other variables affecting our operating results, past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. See also “Note Regarding Forward-Looking Statements” at the beginning of this report.

Summary Risk Factors

Our business is subject to numerous risks and uncertainties that you should consider before investing in our company, as fully described below. The principal factors and uncertainties that make investing in our company risky include, among others:

- We have traditionally operated in, and may enter other, industries that are highly cyclical and competitive.
- Much of our revenue is concentrated in a few customers, and if we lose any of these customers through contract terminations, acquisitions or other means, our revenue may decrease substantially.
- Products that fail to meet their specifications or are defective could impose significant costs on us or result in loss of business.
- If we do not keep pace with technological innovations or customers' increasing technological requirements, we may not be able to enhance our existing products and our products may not be competitive, and our revenue and operating results may suffer.
- If our customers do not incorporate our technologies into their products, or if our customers' products are not commercially successful, our business would suffer.
- Our products may not be successful in new markets.
- We purchase inventory in advance based on expected demand for our products, and if demand is not as expected, we may have insufficient or excess inventory, which could adversely impact our financial condition.
- Our The markets for semiconductor products are cyclical, and increased levels of inventory may lead to overcapacity and lower prices, and conversely, we may not be able to satisfy unexpected demand for our products.
- A meaningful portion of our future revenue depends in meaningful part on sustaining or growing our licensing revenue and the failure to achieve such revenue would lead to a material decline in our results of operations.
- Our licensing cycle is lengthy and costly, and our marketing and licensing efforts may be unsuccessful.
- Some of our license agreements may convert from royalty generating to fully paid-up licenses at the expiration of their terms, or upon certain milestones, and we may not receive royalties after that time.
- Future revenue is difficult to predict for several reasons, and our failure to predict revenue or revenue trends accurately may result in our stock price declining.
- We may fail to meet our publicly announced guidance or other expectations about our business, which would likely cause our stock price to decline.
- A substantial portion of our revenue is derived from sources outside of the United States and this revenue and our business generally are subject to risks related to international operations that are often beyond our control.
- Weak global economic conditions may adversely affect demand for the products and services of our customers and could otherwise harm our business.
- Our operations are subject to the effects of a rising rate of inflation.
- We rely on third parties for a variety of services, including manufacturing, and these third parties' failure to perform these services adequately or change the our allocation of their services/capacity due to industry or other pressures could materially and adversely affect our business.
- Our business and operations could suffer in the event of physical and cybersecurity breaches and incidents.
- We have in the past made and may in the future make acquisitions or enter into mergers, strategic investments, sales of assets, divestitures or other arrangements that may not produce expected operational benefits or operating and financial results.
- If we are unable to attract and retain qualified personnel globally, our business and operations could suffer.

- Our operations are subject to risks of natural disasters, acts of war, terrorism, widespread illness or security breaches or incidents at our domestic and international locations, any one of which could result in a business stoppage and negatively affect our operating results.

- In the future, we may fail to maintain an effective system of internal control over financial reporting or adequate disclosure controls and procedures, which may result in material misstatements of our consolidated financial statements or cause us to fail to meet our periodic reporting obligations.

- Unanticipated changes in our tax rates or in the tax laws, treaties and regulations could expose us to additional income tax liabilities, which could affect our operating results and financial condition.
- We are subject to various government restrictions and regulations, including on the sale of products and services that use encryption and other technology and those related to privacy and other consumer protection matters.
- Litigation and government proceedings could affect our business in materially negative ways.
- If we are unable to protect our inventions successfully through the issuance and enforcement of patents, our operating results could be adversely affected.
- Third parties may claim that our products or services infringe on their intellectual property ("IP") rights, exposing us to litigation that, regardless of merit, may be costly to defend.
- Warranty, service level agreement and product liability claims brought against us could cause us to incur significant costs and adversely affect our operating results, as well as our reputation and relationships with customers.
- Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses.

Risks Associated with Our Business, Industry and Market Conditions

We have traditionally operated in, and may enter other, industries that are highly cyclical and competitive.

Our target customers are companies that develop and market high volume business and consumer products in semiconductors, computing, data centers, networks, tablets, handheld devices, mobile applications, gaming and graphics, high-definition televisions, cryptography and data security. The electronics industry is intensely competitive and has been impacted by rapid technological change, short product life cycles, cyclical market patterns, price erosion and increasing foreign and domestic competition. We are subject to many risks beyond our control that influence whether or not we are successful in winning target customers or retaining existing customers, including, primarily, competition in a particular industry, market acceptance of such customers' products and the financial resources of such customers. In particular, DRAM manufacturers, which such customers make up a significant part of our revenue, are prone to significant business cycles and have suffered material losses and other adverse effects to their businesses, leading to industry consolidation from time-to-time that may result in loss of revenue under our existing license agreements or loss of target customers. As a result of ongoing competition in the industries in which we operate and volatility in various economies around the world, we may achieve reduced market share, a reduced number of licenses or may experience tightening of customers' operating budgets, difficulty or inability of our customers to pay our licensing fees, reduction in downstream demand, lengthening of the approval process for new products and licenses and consolidation among our customers. All of these factors may adversely affect the demand for our products and technologies and may cause us to experience substantial fluctuations in our operating results and financial condition.

We face competition from semiconductor and digital electronics products and systems companies, and other semiconductor IP companies that provide security and interface IP that are available to the market. We believe some of the competition for our technologies may come from our prospective customers, some of which are internally evaluating and developing products based on technologies that they contend or may contend will not require a license from us. Many of these companies are larger and may have better access to financial, technical and other resources than we possess and may be able to develop and advance competitive products more effectively.

To the extent that alternative technologies might provide comparable system performance at lower or similar cost to our technologies, or are perceived to require the payment of no or lower fees and/or royalties, or to the extent other factors influence the industry, our customers and prospective customers may adopt and promote such alternative technologies. Even to the extent we determine that such alternative technologies infringe our patents, there can be no assurance that we would be able to negotiate agreements that would result in royalties being paid to us without litigation, which could be costly and the results of which would be uncertain.

In addition, our efforts to expand into new markets subject us to additional risks. We may have limited or no experience in new products and markets, and our customers may not adopt our new offerings. These and other new offerings may present new and difficult challenges, which could negatively affect our operating results.

Much of our revenue is concentrated in a few customers, and if we lose any of these customers through contract terminations or acquisitions, our revenue may decrease substantially.

We have a high degree of revenue concentration. Our top five customers represented approximately 59% 64% and 57% 61% of our revenue for the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, respectively. Additionally, our top five customers represented approximately 58% 62% and 56% 58% of our revenue for the years ended December 31, 2022 December 31, 2023 and 2021, 2022, respectively. We expect to continue to experience significant revenue concentration for the foreseeable future. Our customers' demand for our products may fluctuate due to factors beyond our control. We could experience fluctuations in our customer base or the mix of revenue by customer as markets and strategies evolve. A disruption in our relationship with any of our customers could adversely affect our business. In addition, any consolidation of our customers could reduce the number of customers to whom our products may be sold or the demand for our products. Our inability to meet our customers' requirements or to qualify our products with them could adversely impact our revenue. The loss of, or restrictions on our ability to sell to, one or more of our major customers or any significant reduction in orders from, or a shift in product mix by customers, could have a material adverse effect on our operating results and financial condition.

In addition, our license agreements are complex and some contain terms that require us to provide certain customers with the lowest royalty rate that we provide to other customers for similar technologies, volumes and schedules. These clauses may limit our ability to effectively price differently among our customers, to respond quickly to market forces, or otherwise to compete on the basis of price. These clauses may also require us to reduce royalties payable by existing customers when we enter into or amend agreements with other customers. Any adjustment that reduces royalties from current customers or licensees may have a material adverse effect on our operating results and financial condition.

We continue to negotiate with customers and prospective customers to enter into license agreements. Any future agreement may trigger our obligation to offer comparable terms or modifications to agreements with our existing customers, which may be less favorable to us than the existing license terms. We expect licensing fees will continue to vary based on our success in renewing existing license agreements and adding new customers, as well as the level of variation in our customers' reported shipment volumes, sales price and mix, offset in part by the proportion of customer payments that are fixed. In addition, some of our material license agreements may contain rights by the customer to terminate for convenience, or upon certain other events, such as change of control, material breach, insolvency or bankruptcy proceedings. If we are unsuccessful in entering into license agreements with new customers or renewing license agreements with existing customers, on favorable terms or at all, or if they these agreements are terminated, our results of operations may decline significantly.

Some of our revenue is subject to the pricing policies of our customers over which we have no control.

We have no control over our customers' pricing of their products and there can be no assurance that licensed products will be competitively priced or will sell in significant volumes. Any premium charged by our customers in the price of memory and controller chips or other products over alternatives must be reasonable. If the benefits of our technology do not match the price premium charged by our customers, the resulting decline in sales of products incorporating our technology could harm our operating results.

Our customers often require our products to undergo a lengthy and expensive qualification process which does not assure product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer.

Prior to purchasing our products, our customers often require that our products undergo extensive qualification processes, which involve testing of our products in the customers' systems, as well as testing for reliability. This qualification process may continue for several months. However, qualification of a product by a customer does not assure any sales of the product to that customer. Even after successful qualification and sales of a product to a customer, a subsequent revision in third-party manufacturing processes may require a new qualification process with our customers, which may result in delays and in our holding excess or obsolete inventory. After our products are qualified, it can take several months or more before the customer commences volume production of components or systems that incorporate our products. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing and management efforts, to qualify our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, sales of those products to the customer may be precluded or delayed, which may impede our growth and cause our business to suffer.

Products that fail to meet their specifications or are defective could impose significant costs on us or result in loss of business.

Products that do not meet their specifications or that contain, or are perceived by our customers to contain, defects could impose significant costs on us or otherwise materially adversely affect our operating results and financial condition. From time to time, we experience problems with nonconforming, defective, or incompatible products after we have shipped such products. In recent periods, we have further expanded our product offerings, which could potentially increase the chance that one or more of our products could fail to meet specifications in a particular application. Our products and technologies may be deemed fully or partially responsible for functionality in our customers' products and may result in sharing or shifting of product or financial liability from our customers to us for costs incurred by the end user as a result of our customers' products failing to perform as specified. In addition, if our products and technologies perform critical functions in our customers' products or are used in high-risk consumer end products, such as automotive products, our potential liability may increase. We could be adversely affected in several ways, including the following:

- we may be required or agree to compensate customers for costs incurred or damages caused by defective or incompatible products and to replace products;
- we could incur a decrease in revenue or adjustment to pricing commensurate with the reimbursement of such costs or alleged damages;
- we may encounter adverse publicity, which could cause a decrease in sales of our products or harm our reputation or relationships with existing or potential customers; and
- our customers may reduce or cancel their orders with us or exclude us from further consideration as a supplier.

Any of the foregoing items could have a material adverse effect on our operating results and financial condition.

If we do not keep pace with technological innovations or customers' increasing technological requirements, we may not be able to enhance our existing products and our products may not be competitive, and our revenue and operating results may suffer.

We operate in rapidly changing, highly competitive markets. Technological advances, the introduction of new products and new design techniques could adversely affect our business unless we are able to adapt to changing conditions. Technological advances could render our products and technologies less competitive or obsolete, and we may not be able to respond effectively to the technological requirements of evolving markets. Therefore, we We may therefore be required to commit significant resources to enhancing and developing new technology, which may include purchasing or licensing advanced design tools and test equipment, hiring additional highly qualified engineering and other technical personnel, and continuing and expanding research and development activities on existing and potential technologies.

Our existing product offerings may present new and difficult challenges, and we may be subject to claims if customers of our offerings experience delays, failures, non-performance or other quality issues. In particular, we may experience difficulties with product design, qualification, manufacturing, including supply chain disruptions or shortages that might lead to an inability to meet customer demand, marketing or certification that could delay or prevent our development, introduction or marketing and sales of products. Although we intend to design our products to be fully compliant with applicable industry standards, proprietary enhancements may not in the future result in full conformance with existing industry standards under all circumstances. Further, our products must be enhanced periodically to keep up with evolving system requirements. Our introduction of new products could reduce the demand and revenue of our older products or affect their pricing.

Our research and development efforts with respect to new technologies may not result in customer or market acceptance. Some or all of those technologies may not successfully make the transition from the research and development stage to cost-effective production as a result of technology problems, competitive cost issues, yield problems, and other factors. Even if we successfully complete a research and development effort with respect to a particular technology, our customers may decide not to introduce or may terminate products utilizing the technology for a variety of reasons, including difficulties with other suppliers of components for the products, superior technologies developed by our competitors and unfavorable comparisons of our products with these technologies, price considerations and lack of anticipated or actual market demand for the products.

Our business model continues to transform towards greater reliance on product revenue. We have recently experienced both growth and decline in sales of our memory interface chips quarter over quarter. We could experience a slowdown in our customers' demand for our products in the near term, however, we anticipate our memory interface chips will contribute to continued long-term growth. If sales of our memory interface chips do not grow as anticipated, then our business could suffer as a result. Our business could be harmed if we are unable to develop and utilize new technologies that address the needs of our customers, or our competitors or customers develop and utilize new technologies more effectively or more quickly than we can. A transition by our customers to different business models could also result in reduced revenue. We cannot guarantee that we will be successful in keeping pace with all, or any, of the customer trends. Any investments made to enhance or develop new technologies that are not successful could have an adverse effect on our operating results and financial condition.

If our customers do not incorporate our technologies into their products, or if our customers' products are not commercially successful, our business would suffer.

We sell our memory interface chips directly and indirectly to memory module manufacturers and OEMs worldwide for integration into server memory modules. We cannot be assured that our customer's customers' products will be commercially successful over time or at all as a result of factors beyond our control. If products incorporating our technologies are not commercially successful or experience rapid decline, our revenue and business will suffer. Further, we are continuing to expand into new segments and if our memory interface chips fail to achieve acceptance by customers in such segments, then our business could suffer as a result. Changes in our customers' order patterns could result in us holding excess quantities of inventory which could result in us recording reserves for excess and obsolete inventory. Any such reserves would have an adverse effect on our operating results and financial condition.

We purchase inventory in advance based on expected demand for our products, and if demand is not as expected, we may have insufficient or excess inventory, which could adversely impact our financial condition condition.

As a fabless semiconductor company, we purchase our inventory from third-party manufacturers in advance of selling our products. We place orders with our manufacturers based on existing and expected orders from our customers for particular products. We are also subject to increased inventory risks and costs because we build our products based on forecasts provided by customers before receiving purchase orders for the product. While most of our contracts with our customers and distributors include lead time requirements and cancellation penalties that are designed to protect us from misalignment between customer orders and inventory levels, we must nonetheless make some predictions when we place orders with our manufacturers and we are not always able to make adjustments to align with our inventory needs. Our customers and distributors may also fail to place orders or cancel orders for many reasons, including but not limited to the impacts of trends in the global economic downturn, economy, business challenges, supply chain constraints, longer than expected inventory digestion or other changes in their business requirements. In the event that our predictions are inaccurate due to unexpected increases in orders or our manufacturers are unable to provide the inventory that we require, we may have insufficient inventory to meet our customers' demands. In addition, a perceived negative trend in market conditions could lead us to decrease the manufacturing volume of our products to avoid excess inventory. If we inaccurately assess market conditions for our products, we could have insufficient inventory to meet our customer demands resulting in loss of revenue. In the event that we order products that we are unable to sell due to a decrease in orders, unexpected order cancellations, import/export restrictions or product returns, we may have excess inventory which, if not sold, may need to be written down or would result in a decrease in our revenue in future periods. If any of these situations were to arise, it could have a material impact on our business, financial condition and results of operations.

The markets for semiconductor products are cyclical, and increased levels of inventory may lead to overcapacity and lower prices, and conversely, if we do not hold sufficient inventory, we may not be able to satisfy unexpected demand for our products.

The cyclical nature of the semiconductor industry has resulted in periods when demand for our products has increased or decreased rapidly. If we overbuild inventory in a period of decreased demand, or we expand our operations too rapidly or procure excessive resources in anticipation of increased demand for our products, and that demand does not materialize at the pace at which we expect, or declines, our operating results may be adversely affected as a result of charges related to obsolete inventory, inventory write-downs, increased operating expenses or reduced margins.

We may in the future experience periods of customer inventory adjustments that may adversely affect our operating results. In addition, we may not be able to expand our operations in a sufficiently timely manner, procure adequate resources and raw materials, locate suitable third-party suppliers or respond effectively to changes in demand for our existing products or to demand for new products requested by our customers, and our current or future business could be materially and adversely affected.

We periodically transition to newer generations of our semiconductor products as the market shifts to demand for such products. While we have managed prior product transitions and have previously sold multiple generations of products at the same time, these transitions are difficult to forecast and may result in under-supply or over-supply of inventory by product generation, which may negatively impact revenue and inventory reserves.

Our products may not be successful in new markets.

Various target markets for our products, such as AI, may develop slower than anticipated or could utilize competing technologies. The markets for some of these products depend in part upon the continued development and deployment of wireless and various other technologies, which may or may not address the needs of the users of these products. We cannot predict the size or growth rate of these markets or the market share we will achieve or maintain in these markets in the future.

Our ability to generate significant revenue from new markets will depend on various factors, including the development and growth of these markets; the ability of our technologies and products to address the needs of these markets; the price and performance requirements of our customers, and the preferences of end users; and our ability to provide our customers with products that provide advantages compared with alternative products.

Our ongoing success in these markets will require us to offer better performance alternatives to other products at competitive costs. The failure of any of these target markets to develop as we expect, or our failure to serve these markets to a significant extent, will impede the sales growth of products incorporating our technology, which could harm our operating results.

Our A meaningful portion of our future revenue depends in meaningful part on sustaining or growing our licensing revenue and the failure to achieve such revenue would lead to a material decline in our results of operations.

While our business model continues to transform towards greater reliance on product revenue, a large portion of our revenue still consists of fees paid for access to our patented technologies, existing technology and other development and support services we provide to our customers. Our ability to secure and renew the licenses from which our that revenue is derived depends on our customers adopting our technology and using it in the products they sell. If customers do not upgrade or enhance their product offerings to include such technologies, our revenue and operating results may be adversely affected. Once secured, license revenue may be negatively affected by factors within and outside our control, including reductions in our customers' sales prices, sales volumes, our failure to timely complete engineering deliverables and the actual terms of such licenses themselves. In addition, our licensing cycle for new licensees, as well as for renewals for existing licensees is lengthy, costly and unpredictable. We cannot provide any assurance that we will be successful in signing new license agreements or renewing existing license agreements on equal or favorable terms or at all. If we do not achieve our revenue goals, our results of operations could decline.

Our licensing cycle is lengthy and costly, and our marketing and licensing efforts may be unsuccessful.

The process of persuading customers to adopt and license our chip interface, data security IP and other technologies can be lengthy. Even if successful, there can be no assurance that our technologies will be used in a product that is ultimately brought to market, achieves commercial acceptance or results in significant royalties to us. We generally incur significant marketing and sales expenses prior to entering into our license agreements, generating a license fee and establishing a royalty stream from each customer. The length of time it takes to establish a new licensing relationship can take many months or even years. We may incur costs in any particular period before any associated revenue stream begins, if at all. If our marketing and sales efforts are very lengthy or unsuccessful, then we may face a material adverse effect on our business and results of operations as a result of failure to obtain, or an undue delay in obtaining, royalties.

Some of our license agreements may convert from royalty generating to fully paid-up licenses at the expiration of their terms, or upon certain milestones, and we may not receive royalties after that time.

From time to time, we enter into license agreements that automatically convert from royalty generating arrangements to fully paid-up licenses under which the customer is no longer required to make payments for all or certain components of the licensed technology or IP upon expiration or upon reaching certain milestones. We may not receive further royalties from customers for any licensed technology under those agreements if they convert to fully paid-up licenses because such customers will be entitled to continue using some, if not all, of the relevant IP or technology under the terms of the license agreements without further payment, even if relevant patents or technologies are still in effect. If we cannot find another source of royalties to replace the royalties from these those license agreements converting that convert to fully paid-up licenses, our results of operations following such conversion could be adversely affected.

Future revenue is difficult to predict for several reasons, and our failure to predict revenue or revenue trends accurately may result in our stock price declining.

As we commercially launch each of our products, the sales volume of and resulting revenue from such products in any given period will be difficult to predict. Our lengthy license negotiation cycles could make a considerable portion of our future revenue difficult to predict because we may not be successful in entering into or renewing licenses with our customers on our anticipated timelines.

In addition, while some of our license agreements provide for fixed, quarterly royalty payments, many of our license agreements provide for volume-based royalties and may also be subject to caps on royalties in a given period. The sales volume and prices of our customers' products in any given period can be difficult to predict. Under revenue recognition standard ("ASC 606") adopted during the first quarter of 2018, our revenue varies greatly from quarter to quarter. As a result of the foregoing items, For these reasons, our actual results may differ substantially from analyst estimates or our forecasts in any given quarter.

Also, a portion of our revenue comes from development and support services provided to our customers. Depending upon the nature of the services, a portion of the related revenue may be recognized ratably over the support period, or may be recognized according to contract revenue accounting. Contract revenue accounting may result in deferral of the service fees until the completion of the contract, or may result in the recognition of service fees over the period in which services are performed on a percentage-of-completion basis.

We may fail to meet our publicly announced guidance or other expectations about our business, which would likely cause our stock price to decline.

We provide guidance regarding our expected financial and business performance including our anticipated future revenue, operating expenses and other financial and operation metrics. Correctly identifying the key factors affecting business conditions and predicting future events is an inherently uncertain process. Any guidance that we provide may not always be accurate, or may vary from actual results, due to our inability to correctly identify and quantify risks and uncertainties to our business and to quantify their impact on our financial performance. We offer no assurance that such guidance will ultimately be accurate, and investors should treat any such guidance with appropriate caution. If we fail to meet our guidance or if we find it necessary to revise such guidance, even if such failure or revision is seemingly insignificant, investors and analysts may lose confidence in us and the market value of our common stock could be materially adversely affected.

A substantial portion of our revenue is derived from sources outside of the United States and this revenue and our business generally are subject to risks related to international operations that are often beyond our control.

For the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, revenue received from our international customers constituted approximately 61% 56% and 42% 44%, respectively, of our total revenue. Additionally, for the years ended December 31, 2022 December 31, 2023 and 2021, 2022, revenue received from our international customers constituted approximately 39% 62% and 36% 39%, respectively, of our total revenue. We expect that future revenue derived from international sources will continue to represent a significant portion of our total revenue.

To the extent that customer sales are not denominated in U.S. dollars, any royalties which that are based on a percentage of the customers' sales that and which we receive as a result of such sales could be subject to fluctuations in currency exchange rates. In addition, if the effective price of licensed products sold by our foreign customers were to increase as a result of fluctuations in the exchange rate of the relevant currencies, demand for licensed products could fall, which in turn would reduce our royalties. We From time to time, we use limited financial instruments to hedge foreign exchange rate risk, however such instruments may not be sufficient to cover such risk.

Trade-related government actions, whether implemented by the United States, China, the European Union or other countries, that impose barriers or restrictions that would impact impacting our ability to sell or ship products to certain customers may have a negative impact on our financial condition and results of operations. We cannot predict the actions government entities may take in this context and may be unable to quickly offset or effectively react to government actions that restrict our ability to sell to certain customers or in certain jurisdictions. Government actions that affect our customers' ability to sell products or access critical elements of their supply chains may result in a decreased demand for their products, which may consequently reduce their demand for our products.

In addition, the U.S. government has announced controls affecting the ability to send certain products and technology related to semiconductors, semiconductor manufacturing and supercomputing to China without an export license and added additional entities to restricted party lists. While the Company currently has not been materially adversely impacted by these new restrictions, we may be impacted in the future if such controls are expanded to cover our key products/markets.

We currently have international business, business development, and design operations in Bulgaria, Canada, China, India, Finland, France, Japan, the Netherlands, South Korea, Taiwan, and Bulgaria. Taiwan. Our international operations and revenue are subject to a variety of risks which that are beyond our control, including:

- hiring, maintaining and managing a workforce and facilities remotely and under various legal systems, including compliance with local labor and employment laws;
- non-compliance with our code of conduct or other corporate policies;
- compliance with and international laws involving international operations, including the Foreign Corrupt Practices Act of 1977, as amended, sanctions and anti-corruption laws, export and import laws and similar rules and regulations;
- natural disasters, acts of war, terrorism, widespread global pandemics or illness, such as COVID-19 and its variants, or security breaches or incidents;
- export controls, tariffs, import and licensing restrictions, climate-change regulations and other trade barriers;
- profits, if any, earned abroad being subject to local tax laws and not being repatriated to the United States or, if repatriation is possible, limited in amount;
- adverse tax treatment of revenue from international sources and changes to tax laws and regulations, including being subject to foreign tax laws and being liable for paying withholding, income or other taxes in foreign jurisdictions;
- longer payment cycles and greater difficulty in collecting accounts receivable;
- unanticipated changes in foreign government laws and regulations including imposition of bans on sales of goods or services to one or more of our significant foreign customers;
- increased financial accounting and reporting burdens and complexities;
- lack of protection of our IP and other contract rights by jurisdictions in which we may do business to the same extent as the laws of the United States;
- potential vulnerability to computer system, internet or other systemic attacks, such as denial of service, viruses or other malware which may be caused by criminals, terrorists or other groups or sophisticated organizations;

- social, political and economic instability;
- geopolitical instability, including changes in diplomatic and trade relationships, in particular with China and Taiwan; Taiwan, and potentially in Israel and the Middle East;
- disruptions in global logistics, including air, waterway and other delivery methods; and

- cultural differences in the conduct of business both with customers and in conducting business in our international facilities and international sales offices.

We and our customers are subject to many of the risks described above with respect to companies which are located in different countries. There can be no assurance that one or more of the risks associated with our international operations will not result in a material adverse effect on our business, financial condition or results of operations.

Weak global economic conditions may adversely affect demand for the products and services of our customers and could otherwise harm our business.

Our operations and performance depend significantly on worldwide economic conditions. Current and future uncertainty in the worldwide economy due to inflation, geopolitics, major central bank policies including interest rate increases or related changes, public health crises or other global factors could adversely affect our business. Adverse economic conditions could also affect demand for our products and our customers' products. If our customers experience reduced demand or excess inventory as a result of global or regional economic conditions or otherwise, this could result in reduced royalty revenue and/or product sales and our business and results of operations could be harmed. Inflationary pressures and shortages have increased, and may continue to increase, costs for materials, supplies and labor, and which could cause our expenses to increase at a rate faster than our product pricing to recover such increases, which may further result in a material adverse effect on our business, financial condition or results of operations.

Additionally, deterioration of conditions in worldwide credit markets could limit our ability to obtain external financing, if needed, to fund our operations and capital expenditures. In addition, we may experience losses on our holdings of cash and investments due to failures of financial institutions and other parties. Difficult economic conditions may also result in a higher rate of losses on our accounts receivable due to credit defaults. As a result, downturns in the worldwide economy could have a material adverse effect on our business, results of operations or financial condition.

Any failure in our delivery of high-quality technical support services may adversely affect our relationships with our customers and our financial results.

Our customers depend on our support organization to resolve technical issues and provide ongoing maintenance relating to our products and services. We may be unable to respond quickly enough to accommodate short-term increases in customer demand for support services. Increased customer demand for these services, without corresponding revenue, could increase costs and adversely affect our operating results. In addition, our sales process is highly dependent on our offerings and business reputation and on positive recommendations from our existing customers. Any failure to maintain high-quality technical support, or a market perception that we do not maintain high-quality support, could adversely affect our reputation, our ability to sell our solutions to existing and prospective customers and our business, operating results and financial position.

Our operations are subject to the effects of a rising rate of inflation.

The United States has recently experienced historically high levels of inflation. If While inflation rates have moderated in recent quarters, if the inflation rate increases or remains high, such again as a result of increases in the costs of labor and supplies, it will affect our expenses, such as employee compensation and research and development charges. Research and development expenses account for a significant portion of our operating expenses. Additionally, the United States is experiencing an acute workforce shortage of qualified applicable talent, which in turn has created a competitive wage environment that may increase the Company's our operating costs. To the extent inflation results in rising interest rates and has other adverse effects on the market, it may adversely affect our consolidated financial condition and results of operations.

Risks Associated with Our Supply and Third Party Manufacturing

We rely on third parties for a variety of services, including manufacturing, and these third parties' failure to perform these services adequately or change the our allocation of their services/capacity due to industry or other pressures could materially and adversely affect our business.

We rely on third parties for a variety of services, including our manufacturing supply chain partners and third parties within our sales and distribution channels. Some of these third parties are, and may be, our sole manufacturer or sole source of certain production materials and may be located in regions subject to geopolitical uncertainty (e.g. (*e.g.*, tensions between China and Taiwan) Taiwan and evolving export/import restrictions). If we fail to manage our relationships with these manufacturers and suppliers effectively, or if they experience delays, disruptions, geopolitical changes, capacity constraints/allocation pressures or quality

control problems in their operations, our ability to ship products to our customers could be impaired and our competitive position and reputation could be harmed. In addition, any adverse change in any of our manufacturers and suppliers' financial or business condition could disrupt our ability to supply quality products to our customers. If we are required to change our manufacturers, we may lose revenue, incur increased costs and damage our end-customer relationships. In addition, porting to and qualifying a new manufacturer and commencing production can be an expensive and lengthy process. If our third-party manufacturers or suppliers are unable to provide us with adequate supplies of high-quality products for any other reason, we could experience a delay in our order fulfillment, and our business, operating results and financial condition would be adversely affected. In the event these and other third parties we rely on fail to provide their services adequately, including as a result of errors in their systems, industry pressures or events beyond their control, or refuse to provide these services on terms acceptable to us, and we are not able to find suitable alternatives, our business may be materially and adversely affected. In addition, our orders may represent a relatively small percentage of the overall orders received by our manufacturers from their customers. As a result, fulfilling our orders may not be considered a priority in the event our manufacturers are constrained in their ability to fulfill all of their customer obligations in a timely manner. If our manufacturers are unable to provide us with adequate supplies of high-quality products, or if we or our manufacturers are unable to obtain adequate quantities of components, it could cause a delay in our order fulfillment, in which case our business, operating results and financial condition could be adversely affected.

Semiconductor supply chain disruptions have been well publicized in the recent past. We believe that we could experience various supply constraints related to our memory interface chip business in the future. In particular, to the extent we do not have sufficient wafer and packaging substrate firm commitments from our third-party suppliers or they are otherwise unable to provide such services and materials, we may not obtain the materials needed on our desired timelines or at reasonable prices. Large swings in demand could exceed our contracted supply and/or our suppliers' capacity to meet those demand changes resulting in a shortage of parts, materials or capacity needed to manufacture our products. While we continually work with our suppliers to mitigate the impact of the supply constraints to our customer deliveries, in the event of a shortage or supply interruption from suppliers of our components, we may not be able to develop alternate sources quickly, cost-effectively or at all. An extended period of global supply chain and economic disruption could have a material negative impact on our business, results of operations, access to sources of liquidity and financial condition, though the full extent and duration is uncertain.

Additionally, various sources of supply-chain risk, including strikes or shutdowns at delivery ports or loss of or damage to our products while they are in transit or storage, IP theft, losses due to tampering, third-party vendor issues with quality or sourcing control, failure by our suppliers to comply with applicable laws and regulations, potential tariffs or other trade restrictions, geopolitical uncertainty and related military actions or other similar problems could limit or delay the supply of our products. Any interruption or delay in manufacturing or component supply, any increases in manufacturing or component costs, or the inability to obtain these services or components from alternate sources at acceptable prices and within a reasonable amount of time would harm our ability to provide our products to customers on a timely basis. This could harm our relationships with our customers, prevent us from acquiring new customers and materially and adversely affect our business.

If the manufacturing and/or packaging process for our products is disrupted by operational issues, natural disasters or other events, our business, results of operations or financial condition could be materially adversely affected.

We rely on subcontractors to manufacture and package our products using highly complex processes that require technologically advanced equipment and continuous modification. Our subcontractors maintain operations and continuously implement new product and process technology at facilities which are dispersed in multiple locations in Asia. As a result of the necessary interdependence within our network of manufacturing and packaging facilities, an operational disruption at one of our or a subcontractor's facilities may have a disproportionate impact on our ability to produce many of our products.

From time to time, there have been disruptions in our subcontractors' operations as a result of power outages, improperly functioning equipment, disruptions in supply of raw materials or components or equipment failures. Our subcontractors have manufacturing and other operations in locations subject to natural disasters and possible climate changes, such as severe and variable weather and geological events resulting in increased costs, or disruptions to our manufacturing operations or those of our suppliers or customers. In addition, climate change may pose physical risks to our manufacturing facilities or our suppliers' facilities, including increased extreme weather events that could result in supply delays or disruptions. Other events, including political or public health crises, such as an outbreak of contagious diseases like COVID-19, may also affect our subcontractors' production capabilities.

If production is disrupted for any reason, manufacturing yields may be adversely affected, or we may be unable to meet our customers' requirements and they may purchase products from other suppliers. This could result in a significant increase in manufacturing costs, loss of revenue or damage to customer relationships, any of which could have a material adverse effect on our business.

We rely on a number of third-party providers for data center hosting facilities, equipment, maintenance and other services, and the loss of, or problems with, one or more of these providers may impede our growth or cause us to lose customers.

We rely on third-party providers to supply data center hosting facilities, equipment, maintenance and other services in order to enable us to provide some of our services and have entered into various agreements for such services. The continuous availability of our services depends on the operations of those facilities, on a variety of network service providers and on third-party vendors. In addition, we depend on our third-party facility providers' ability to protect these facilities against damage or interruption from natural disasters, power or telecommunications failures, criminal acts, cyber-attacks and similar events. If there are any lapses of service or damage to a facility, we could experience lengthy interruptions in our service, as well as delays and additional expenses in arranging new facilities and services. Even with current and planned disaster recovery arrangements, our business could be harmed. Any interruptions or delays in our service, whether as a result of third-party error, our own error, natural disasters, criminal acts, security breaches or other causes, whether accidental or willful, could harm our relationships with customers, harm our reputation and cause our revenue to decrease and/or our expenses to increase. Also, in the event of damage or interruption, our insurance policies may not adequately compensate us for any losses that we may incur. These factors in turn could further reduce our revenue, subject us to liability and cause us to issue credits or cause us to lose customers, any of which could materially adversely affect our business.

Certain software and/or IP blocks that we use in or with some of our products is licensed from third parties and, for that reason, may not be available to us in the future, which has the potential to delay product development and production or cause us to incur additional expense, which could materially adversely affect our business, financial condition, operating results and cash flow.

Some of our products and services contain or function with software and/or IP blocks licensed from third parties. Some of these licenses may not be available to us in the future on terms that are acceptable to us or allow our products to remain competitive. The loss of these licenses or the inability to maintain any of them on commercially acceptable terms could delay development of future offerings or the enhancement of existing products and services. We may also choose to pay a premium price for such a license in certain circumstances where continuity of the licensed product would outweigh the premium cost of the license. The unavailability of these licenses or the necessity of agreeing to commercially unreasonable terms for such licenses could materially adversely affect our business, financial condition, operating results and cash flow.

Risks Associated with Our Business Operations

Our business and operations could suffer in the event of physical and cybersecurity breaches and incidents.

Attempts by others to gain unauthorized access to and disrupt our information technology systems are becoming more sophisticated. These attempts, which might be related to industrial or other espionage, may include covertly introducing malware to our computers and networks (or those of our customers) and impersonating authorized users, phishing attempts and other forms of social engineering, employee or contractor malfeasance, denial of service attacks and ransomware attacks, among others. We seek to detect and investigate all security incidents impacting our systems and to prevent their recurrence, but in some cases, we might be unaware of an incident or its magnitude and effects. We also utilize third-party service providers to host, transmit or otherwise process electronic data in connection with our business activities, including our supply chain processes, operations and communications. Our customers also often have access to and host our confidential IP and business information on their own internal and directed third party third-party systems. We, our customers, and/or our third-party service providers have faced and may continue to face security threats and attacks from a variety of sources. Our data, corporate systems, third-party systems and security measures and those of our customers or the third parties that support us or our services may be subject to breaches or intrusions due to the actions of outside parties, employee error, malfeasance, a combination of these or otherwise, including social engineering and employee and contractor error or malfeasance, especially as certain of our employees engage in work from home arrangements, and, as a result, an unauthorized party may obtain access to our systems, networks or data, including IP and confidential business information of ourselves and our customers. There have been and may continue to be significant supply chain attacks, and we cannot guarantee that our or our third-party service providers' systems and networks have not been breached or that they do not contain exploitable defects or bugs that could result in a breach of or disruption to our systems and networks or the systems and networks of our customers or of third parties that support us and our services. Geopolitical tensions, instability and conflicts may increase the cybersecurity risks that we, our customers, and the third parties that support us face. We and our service providers may face difficulties or delays in identifying or responding to any actual or perceived security breach or incident. The theft or other unauthorized acquisition of, unauthorized use, publication or publication other processing of or access to our IP and/or confidential business information could harm our competitive position and reputation, reduce the value of our investment in research and development and other strategic initiatives or otherwise adversely affect our business. In the event of any security breach or incident, including any breach or incident that results in inappropriate access to, or loss, corruption, unavailability or unauthorized acquisition, disclosure or other processing of our or our customers' confidential information or any personally-identifiable personal information we or our third-party service providers maintain, including that of our employees, we could suffer a loss of IP or loss of data, may be subject to claims, liability and proceedings and may incur liability and otherwise suffer financial harm.

Any actual, alleged or perceived breach of security in our systems or networks, or any other actual, alleged or perceived data security incident we or our third-party service providers or customers suffer, could result in damage to our reputation, negative publicity, loss of customers and sales, harm to our market position, increased costs to remedy any problems and otherwise respond to any incident, regulatory investigations and enforcement actions, claims, litigation, proceedings and other liability. In addition, we may incur significant costs and operational consequences of investigating, remediating, eliminating and putting in place additional tools and devices designed to prevent actual or perceived security breaches and other security incidents, as well as the costs to comply with any notification or other legal obligations resulting from any security incidents. Any of these negative outcomes could result in substantial costs and diversion of resources, distract management and technical personnel, adversely impact our sales and reputation and seriously harm our business or operating results.

Although we maintain insurance coverage that may cover certain liabilities in connection with some security breaches and other security incidents, we cannot be certain our insurance coverage will be adequate for liabilities actually incurred, that insurance will continue to be available to us on commercially reasonable terms (if at all) or that any insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, or denials of coverage, could have a material adverse effect on our business, including our financial condition, results of operations and reputation.

Failures in our products and services or in the products of our customers, including those resulting from security vulnerabilities, defects, bugs or errors, could harm our business.

Our products and services are highly technical and complex, and among our various businesses our products and services are crucial to providing security and other critical functions for our customers' operations. Our products and services have from time to time contained and may in the future contain undetected errors, bugs, defects or other security vulnerabilities. Some errors in our products and services may only be discovered after a product or service has been deployed and used by customers and may in some cases only be detected under certain circumstances or after extended use. In addition, because the techniques used by hackers to access or sabotage our products and services and other technologies change and evolve frequently and generally are not recognized until launched against a target, we may be unable to anticipate, detect or prevent these techniques and may not address them in our data security technologies. Any errors, bugs, defects or security vulnerabilities discovered in our solutions after commercial release could adversely affect our revenue, our customer relationships and the market's perception of our products and services. We may not be able to correct any errors, bugs, defects, security flaws or vulnerabilities promptly or at all. Any breaches, defects, errors or vulnerabilities in our products and services could result in:

- expenditure of significant financial and research and development resources in efforts to analyze, correct, eliminate or work around breaches, errors, bugs or defects or to address and eliminate vulnerabilities;

- financial liability to customers for breach of certain contract provisions, including indemnification obligations;
- loss of existing or potential customers;
- product shipment restrictions or prohibitions to certain customers;
- delayed or lost revenue;
- delay or failure to attain market acceptance;
- negative publicity, which would harm our reputation; and
- litigation, regulatory inquiries or investigations that would be costly and harm our reputation.

Changes in accounting principles and guidance could result in unfavorable accounting charges or effects.

We prepare our financial statements in accordance with accounting principles generally accepted in the United States and these principles are subject to interpretation by the SEC, the Financial Accounting Standards Board ("FASB") and various bodies formed to interpret and create appropriate accounting principles and guidance. A change in these principles or application guidance, or in their interpretations, may have a material effect on our reported results, as well as our processes and related controls, and may retroactively affect previously reported results. For instance, we adopted ASC 606, the Revenue Standard, effective for us on January 1, 2018, on a modified retrospective basis, with a cumulative-effect adjustment to the opening balance of accumulated deficit on January 1, 2018. The Revenue Standard materially impacted the timing of revenue recognition for our fixed-fee IP licensing arrangements (including certain fixed-fee agreements that license our existing IP portfolio, as well as IP added to our portfolio during the license term) as a majority of such revenue would be recognized at inception of the license term (as opposed to over time as was the case under prior U.S. GAAP). We have enhanced the form and content of some of our guidance metrics that we provide following implementation of the Revenue Standard. We expect that any change to current revenue recognition practices may significantly increase volatility in our quarterly revenue, financial results and trends, and may impact our stock price.

We have in the past made and may in the future make acquisitions or enter into mergers, strategic investments, sales of assets, divestitures or other arrangements that may not produce expected operational benefits or operating and financial results.

From time to time, we engage in acquisitions, strategic transactions, strategic investments, divestitures and potential discussions with respect thereto. For example, in 2019, we acquired Northwest Logic, Inc. ("Northwest Logic") and the Secure Silicon IP and Protocols business from Verimatrix, formerly Inside Secure. Further, we acquired AnalogX Inc. ("AnalogX") in July 2021, PLDA Group ("PLDA") in August 2021, and Hardent, Inc. ("Hardent") in May 2022. In July 2023, we entered into an asset purchase agreement with Cadence Design Systems to sell We also divested our PHY IP group and the sale was completed in

September 2023. Many of our acquisitions or strategic investments entail a high degree of risk, including those involving new areas of technology and such investments may not become accretive for several years after the date of the investment, if at all. Our acquisitions or strategic investments may not provide the advantages that we anticipated or generate the financial returns we expect, including if we are unable to close any pending acquisitions. For example, for any pending or completed acquisitions, we may discover unidentified issues not discovered in due diligence, and we may be subject to regulatory approvals or liabilities that are not covered by indemnification protection or become subject to litigation.

Achieving the anticipated benefits of business acquisitions depends in part upon our ability to integrate the acquired businesses in an efficient and effective manner and achieve anticipated synergies, and we may not be successful in these efforts. The integration of companies that have previously operated independently is complex and time consuming and may result in significant challenges, including, among others: retaining key employees; successfully integrating new employees, facilities, products, processes, operations, business models and systems, technology and sales and distribution channels; retaining customers and suppliers of the acquired business; minimizing the diversion of management's and other employees' attention from ongoing business matters; coordinating geographically separate organizations; consolidating research and development operations; consolidating corporate and administrative infrastructures; implementing controls, processes and policies appropriate for a public company at acquired companies that may have previously lacked such controls, processes and policies; and managing the increased scale, complexity and globalization of our business, operations and employee base.

Additional risks related to our acquisitions or strategic investments include, but are not limited to:

- difficulty in combining the technology, products or operations of the acquired business with our business;
- difficulty in integrating and retaining the acquired workforce, including key employees;
- diversion of capital and other resources, including management's attention;
- assumption of liabilities and incurring amortization expenses, impairment charges to goodwill or write-downs of acquired assets;
- integrating financial forecasting and controls, procedures and reporting cycles;
- coordinating and integrating operations in countries in which we have not previously operated;
- acquiring business challenges and risks, including, but not limited to, disputes with management and integrating international operations and joint ventures;
- difficulty in realizing a satisfactory return, if any return at all;
- difficulty in obtaining or inability to obtain governmental and regulatory consents and approvals, other approvals or financing;
- the potential impact of complying with governmental or other regulatory restrictions placed on an acquisition;
- the potential impact on our stock price and financial results if we are unable to obtain regulatory approval for an acquisition, are required to pay reverse breakup fees or are otherwise unable to close an acquisition;
- failure and costs associated with the failure to consummate a proposed acquisition or other strategic investment;
- legal proceedings initiated as a result of an acquisition or investment;
- the potential for our acquisitions to result in dilutive issuances of our equity securities;
- the potential variability of the amount and form of any performance-based consideration;
- uncertainties and time needed to realize the benefits of an acquisition or strategic investment, if at all;
- negative changes in general economic conditions in the regions or the industries in which we or our acquired business operate;
- the need to determine an alternative strategy if an acquisition or strategic investment does not meet our expectations;
- potential failure of our due diligence processes to identify significant issues with the acquired assets or company; and
- impairment of relationships with, or loss of our acquired business' employees, vendors and customers, as a result of our acquisition or investment.

Our strategic investments in new areas of technology may involve significant risks and uncertainties, including distraction of management from current operations, greater than expected liabilities and expenses, inadequate return of capital and unidentified issues not discovered in due diligence. These investments are inherently risky and may not be successful.

In addition, we may record impairment charges related to our acquisitions or strategic investments. Any losses or impairment charges that we incur related to acquisitions, strategic investments or sales of assets will have a negative impact on our financial results and the market value of our common stock, and we may continue to incur new or additional losses related to acquisitions or strategic investments.

We may have to incur debt or issue equity securities to pay for any future acquisitions, which debt could involve restrictive covenants or which equity security issuance could be dilutive to our existing stockholders. We may also use cash to pay for any future acquisitions which will reduce our cash balance.

From time to time, we may also divest certain assets. These divestitures or proposed divestitures may involve the loss of revenue and/or potential customers, and the market for the associated assets may dictate that we sell such assets for less than what we paid. In addition, in connection with any asset sales or divestitures, we may be required to provide certain representations, warranties, licenses and/or covenants to buyers. While we would seek to ensure the accuracy of such representations and warranties and fulfillment of any ongoing obligations, we may not be completely successful and consequently may be subject to claims by a purchaser of such assets or related erosion of revenue or loss of customers.

If our counterparties are unable to fulfill their financial and other obligations to us, our business and results of operations may be affected adversely.

Any downturn in economic conditions or other business factors could threaten the financial health of our counterparties, including companies with which we have entered into licensing, asset/product sale and/or settlement agreements, and their ability to fulfill their financial and other obligations to us. Such financial pressures on our counterparties may eventually lead to bankruptcy proceedings or other attempts to avoid financial obligations that are due to us. Because bankruptcy courts have the power to modify or cancel contracts of the petitioner which remain subject to future performance and alter or discharge payment obligations related to pre-petition debts, we may receive less than all of the payments that we would otherwise be entitled to receive from any such counterparty as a result of bankruptcy proceedings.

If we are unable to attract and retain qualified personnel globally, our business and operations could suffer.

Our success is dependent upon our ability to identify, attract, compensate, motivate and retain qualified personnel, especially engineers, senior management and other key personnel. The loss of the services of any key employees could be disruptive to our development efforts, business relationships and strategy and could cause our business and operations to suffer.

All of our officers and other U.S. employees are at-will employees, which means they may terminate their employment relationship with us at any time, and their knowledge of our business and industry would be extremely difficult to replace. Any changes in our senior management team in particular, even in the ordinary course of business, may be disruptive to our business. While we seek to manage these transitions carefully, including by establishing strong processes and procedures and succession planning, such changes may result in a loss of institutional knowledge and cause disruptions to our business. If our senior management team fails to work together effectively or execute our plans and strategies on a timely basis as a result of management turnover or otherwise, our business could be harmed.

Our future success depends in large part upon the continued service and enhancement of our management team and our employees. If there are further unexpected changes in management, such changes could be disruptive and could negatively affect our sales, operations, culture, future recruiting efforts and strategic direction. Competition for qualified executives is intense, and if we are unable to compensate our key talent appropriately and continue expanding our management team, or successfully integrate new additions to our management team in a manner that enables us to scale our business and operations effectively, our ability to operate effectively and efficiently could be limited or negatively impacted. In addition, changes in key management positions may temporarily affect our financial performance and results of operations as new management becomes familiar with our business, processes and strategy. The loss of any of our key personnel, or our inability to attract, integrate and retain qualified employees who join us organically and through acquisitions, could require us to dedicate significant financial and other resources to such personnel matters, disrupt our operations and seriously harm our operations and business.

Our operations are subject to risks of natural disasters, acts of war, terrorism, widespread illness or security breaches or incidents at our domestic and international locations, any one of which could result in a business stoppage and negatively affect our operating results.

Our business operations depend on our ability to maintain and protect our facilities, computer systems and personnel, which are primarily located in the San Francisco Bay Area in the United States, Bulgaria, Canada, France, India, the Netherlands, France, Bulgaria, Taiwan South Korea, and India. Taiwan. The San Francisco Bay Area is in close proximity to known earthquake fault zones and sites of recent historic wildfires. Our facilities and transportation for our employees are susceptible to damage from earthquakes and other natural disasters such as fires, floods, droughts, extreme temperatures and similar events. Should a catastrophe disable our facilities, we do not have readily available alternative facilities from which we could conduct our business, so any resultant work stoppage could have a negative effect on our operating results. We also rely on our network infrastructure and technology systems for operational support and business activities which are subject to physical and cyber damage, and also susceptible to other related vulnerabilities common to networks and computer systems.

New epidemics, pandemics or outbreaks of novel diseases may arise at any time. The COVID-19 pandemic or other disease outbreak may continue to adversely affect the economies and financial markets of many countries, resulting in an economic downturn that may impact overall technology spending, adversely affecting demand for our products and impacting our operating results. Furthermore, such disruption in the global financial markets may reduce our ability to access capital or our customers' ability to pay us for past or future purchases, which could negatively affect our liquidity.

We and our suppliers could be affected by laws and regulations enacted in response to concerns regarding climate change, conflict minerals, responsible sourcing practices, public health crises, contagious disease outbreaks or other matters, which could limit the supply of our materials and/or increase the cost. Environmental regulations could limit our ability to procure or use certain chemicals or materials in our operations or products. In addition, disruptions in transportation lines could delay our receipt of materials.

Acts of terrorism, climate-change related risk, widespread illness or global pandemics, international conflict, war and any event that causes failures or interruption in our network infrastructure and technology systems could have a negative effect at our international and domestic facilities and could harm our business, financial condition and operating results.

We rely upon the accuracy of our customers' recordkeeping, and any inaccuracies or payment disputes for amounts owed to us under our licensing agreements may harm our results of operations.

Many of our license agreements require our customers to document the manufacture and sale of products that incorporate our technology and report this data to us on a quarterly basis. While licenses with such terms give us the right to audit books and records of our customers to verify this information, audits rarely are undertaken because they can be expensive, time consuming and potentially detrimental to our ongoing business relationship with our customers. Therefore, we typically rely on the accuracy of the reports from customers without independently verifying the information in them. Our failure to audit our customers' books and records may result in our receiving more or less royalty revenue than we are entitled to under the terms of our license agreements. If we conduct royalty audits in the future, such audits may trigger disagreements over contract terms with our customers and such disagreements could hamper customer relations, divert the efforts and attention of our management from normal operations and impact our business operations and financial condition.

We are subject to increased inventory risks and costs because we build our products based on forecasts provided by customers before receiving purchase orders for the product.

Our business and operating results could be harmed if we undertake any restructuring activities.

From time to time, we may undertake restructurings of our business, including discontinuing certain products, services and technologies and planned reductions in force. There are several factors that could cause restructurings to have adverse effects on our business, financial condition and results of operations. These include potential disruption of our operations, the development of our technology, the deliveries to our customers and other aspects of our business. Loss of sales, service and engineering talent, in particular, could damage our business. Any restructuring would require substantial management time and attention and may divert management from other important work. Employee reductions or other restructuring activities also would cause us to incur restructuring and related expenses such as severance expenses. Moreover, we could encounter delays in executing any restructuring plans, which could cause further disruption and additional unanticipated expense.

Problems with our information systems could interfere with our business and could adversely impact our operations.

We rely on our information systems and those of third parties for fulfilling licensing and contractual obligations, processing customer orders, delivering products, providing services and support to our customers, billing and tracking our customer orders, performing accounting operations and otherwise running our business. If our systems fail, our disaster and data recovery planning and capacity may prove insufficient to enable timely recovery of important functions and business records. Any disruption in our information systems and those of the third parties upon whom we rely could have a significant impact on our business. For example, in the third quarter of 2023, we commenced operating a new ERP system. Any failures of this system to operate as intended could impact our ability to timely and accurately manage our business and publicly report our financial results. Additionally, our information systems may not support new business models and initiatives and significant investments could be required in order to upgrade them. Delays in adapting our information systems to address new business models and accounting standards could limit the success or result in the failure of such initiatives and impair the effectiveness of our internal controls. Even if we do not encounter these adverse effects, the implementation of these enhancements may be much more costly than we anticipated. If we are unable to successfully implement the information systems enhancements as planned, our operating results could be negatively impacted.

Certain software we use is from open source code sources, which, under certain circumstances, may lead to unintended consequences and, therefore, could materially adversely affect our business, financial condition, operating results and cash flow.

We use open source software in our services and we intend to continue to use open source software in the future. From time to time, there have been claims challenging the ownership of open source software against companies that incorporate open source software into their products or alleging that these companies have violated the terms of an open source license. As a result, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software or alleging that we have violated the terms of an open source license. Litigation could be costly for us to defend, have a negative effect on our operating results and financial condition or require us to devote additional research and development resources to change our solutions. In addition, if we were to combine our proprietary software solutions with open source software in certain manners, we could, under certain open source licenses, be required to publicly release the source code of our proprietary software solutions. If we inappropriately use open source software, we may be required to re-engineer our solutions, discontinue the sale of our solutions, release the source code of our proprietary software to the public at no cost or take other remedial actions. There is a risk that open source licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our solutions, which could adversely affect our business, operating results and financial condition.

In the future, we may fail to maintain an effective system of internal control over financial reporting or adequate disclosure controls and procedures, which may result in material misstatements of our consolidated financial statements or cause us to fail to meet our periodic reporting obligations.

If we are not able to comply with the requirements of the Sarbanes-Oxley Act or if we are unable to maintain effective internal control over financial reporting and disclosure controls and procedures, we may not be able to produce timely and accurate financial statements or guarantee that information required to be disclosed by us in the reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms. In connection with the audit of our consolidated financial statements as of and for the year ended December 31, 2020, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting that impacted our consolidated financial statements and related disclosures as of and for the years ended December 31, 2020 and 2019, and revised our consolidated financial statements for the year ended December 31, 2018. While we believe this material weakness has been remediated, we cannot assure you that we have identified all of our existing material weaknesses, or that we will not in the future have additional material weaknesses. Any failure of our internal control over financial reporting or disclosure controls and procedures could result in material misstatements of our consolidated financial statements, which could cause our investors to lose confidence in our publicly reported information, cause the market price of our stock to decline, expose us to sanctions or investigations by the SEC or other regulatory authorities, or impact our results of operations.

Unanticipated changes in our tax rates or in the tax laws, treaties and regulations could expose us to additional income tax liabilities, which could affect our operating results and financial condition.

We are subject to income taxes in both the United States and various foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes and, in the ordinary course of business, there are many transactions and calculations where the ultimate tax determination is uncertain. Our effective tax rate could be adversely affected by several factors, many of which are outside of our control, including changes in the mix of earnings and losses in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes in tax laws, rates, treaties and regulations or the interpretation of the same, changes to the financial accounting rules for income taxes, the outcome of current and future tax audits, examinations or administrative appeals and certain non-deductible expenses. Our tax determinations are regularly subject to audit by tax authorities and developments in those audits could adversely affect our income tax provision, and we are currently undergoing such audits of certain of our tax returns. Although we believe that our tax estimates are reasonable, the final determination of tax audits or tax disputes may be different from what is reflected in our historical income tax provisions, which could affect our operating results.

The Organization for Economic Cooperation and Development has proposed imposing a 15% global minimum tax, and the Council of the European Union adopted this proposal for implementation has been adopted or is being considered by member states by December 31, 2023. Further, the United States has recently enacted the a number of countries. The Inflation Reduction Act, which includes, among other changes, imposes a 1% excise tax on certain stock repurchases and a 15% alternative minimum tax on adjusted financial statement income. If we are subject to additional tax liabilities, our financial performance may be adversely affected. In addition, many jurisdictions are actively considering changes to existing tax laws or have proposed or enacted new laws that could increase our tax obligations in countries where we do business or cause us to change the way we operate our business. Any of these developments or changes in federal, state or international tax laws or tax rulings could adversely affect our effective tax rate and our operating results.

Risks Associated with Litigation, Regulation and Our Intellectual Property

We are subject to various government restrictions and regulations, including on the sale of products and services that use encryption and other technology and those related to privacy and other consumer protection matters.

Various countries have adopted controls, license requirements and restrictions on the export, import and use of products or services that contain encryption technology. In addition, governmental agencies have proposed additional requirements for encryption technology, such as requiring the escrow and governmental recovery of private encryption keys. Restrictions on the sale or distribution of products or services containing encryption technology may impact our ability to license data security technologies to the manufacturers and providers of such products and services in certain markets or may require us or our customers to make changes to the licensed data security technology that is embedded in such products to comply with such restrictions. Government restrictions, or changes to the products or services of our customers to comply with such restrictions, could delay or prevent the acceptance and use of such customers' products and services. In addition, the United States and other countries have imposed export controls that prohibit the export of encryption and other technology to certain countries, entities and individuals. Our failure to comply with export and use regulations concerning encryption technology could subject us to sanctions and penalties, including fines, and suspension or revocation of export or import privileges. Additionally, climate change concerns and the potential resulting environmental impact may result in new environmental, health and safety laws and regulations that may affect us, our suppliers and our customers. Such laws or regulations could cause us to incur additional direct costs for compliance, as well as increased indirect costs resulting from our customers, suppliers or both incurring additional compliance costs that are passed on to us. These costs may adversely impact our results of operations and financial condition.

We are subject to a variety of laws and regulations in the United States, the European Union and other countries that involve, for example, user privacy, data protection and security, content and consumer protection. For example, in 2016, a new EU European Union data protection regime, the General Data Protection Regulation ("GDPR") was adopted, with it fully effective on May 25, 2018. The GDPR includes significant penalties for noncompliance, which may result in monetary penalties of up to the higher of €20 million or 4% of a group's worldwide turnover for the preceding financial year for the most serious violations. The United Kingdom's version of the GDPR, which it maintains along with its Data Protection Act, also provides for substantial penalties that, for the most serious violations, can go up to the greater of £17.5 million or 4% of a group's worldwide turnover for the preceding financial year. In the United States, California enacted the California Consumer Privacy Act ("CCPA"), which became effective on January 1, 2020. The CCPA includes a framework with potentially severe statutory damages and private rights of action. Moreover, a new privacy law, the California Privacy Rights Act ("CPRA"), was approved by California voters in November 2020. The CPRA significantly modifies the CCPA, effective as of January 1, 2023. Numerous other states have passed laws that share similarities with the CCPA and CPRA, and other states are considering such legislation. The U.S. federal government also is contemplating federal privacy legislation. The GDPR and CCPA, and new and evolving laws such as the CPRA and other future changes in laws or regulations relating to cross-border data transfer, data localization and other aspects of privacy, data protection and information security may require us to modify our existing practices with respect to the collection, use, disclosure and other processing of data. The GDPR, CCPA and other existing and proposed laws and regulations can be costly and challenging to comply with and can delay or impede the development of new products, result in negative publicity, increase our operating costs and subject us to claims or other remedies.

We are subject to disclosure and reporting requirements for companies that use "conflict" minerals mined from the Democratic Republic of Congo and adjoining countries in their products, whether or not these products are manufactured by third parties. These requirements could affect the sourcing and availability of minerals that are used in the manufacture of our products. We have to date incurred costs and expect to incur significant additional costs associated with complying with the disclosure requirements, including for example, due diligence in regard to the sources of any conflict minerals used in our products, in addition to the cost of remediation and other changes to products, processes or sources of supply as a consequence of such verification activities. Additionally, we may face reputational challenges with our customers and other stakeholders if we are unable to sufficiently verify the origins of all minerals used in our products through the due diligence procedures that we implement. We may also face challenges with government regulators and our customers and suppliers if we are unable to sufficiently verify that the metals used in our products are conflict free.

Litigation and government proceedings could affect our business in materially negative ways.

We may be subject to legal claims or regulatory matters involving consumer, stockholder, employment, competition, IP and other issues on a global basis. Litigation can be lengthy, expensive and disruptive to our operations, and results cannot be predicted with certainty. An adverse decision could include monetary damages or, in cases for which injunctive relief is sought, an injunction prohibiting us from manufacturing or selling one or more of our products or technologies. If we were to receive an unfavorable ruling on a matter, our business, operating results or financial condition could be materially harmed.

We have in the past, and may in the future, become engaged in litigation stemming from our efforts to protect and enforce our patents and IP and make other claims, which could adversely affect our IP rights, distract our management and cause substantial expenses and declines in our revenue and stock price.

We seek to diligently protect our IP rights and will continue to do so. While we are not currently involved in IP litigation, any future litigation, whether or not determined in our favor or settled by us, would be expected to be costly, may cause delays applicable to our business (including delays in negotiating licenses with other actual or potential customers), would be expected to discourage future design partners, would tend to impair adoption of our existing technologies and would divert the efforts and attention of our management and technical personnel from other business operations. In addition, we may be unsuccessful in any litigation if we have difficulty obtaining the cooperation of former employees and agents who were involved in our business during the relevant periods related to our litigation and are now needed to assist in cases or testify on our behalf. Furthermore, any adverse determination or other resolution in litigation could result in our losing certain rights beyond the rights at issue in a particular case, including, among other things: our being effectively barred from suing others for violating certain or all of our IP rights; our patents being held invalid or unenforceable or not infringed; our being subjected to significant liabilities; our being required to seek licenses from third parties; our being prevented from licensing our patented technology; or our being required to renegotiate with current customers on a temporary or permanent basis.

From time to time, we are subject to proceedings by government agencies that may result in adverse determinations against us and could cause our revenue to decline substantially.

An adverse resolution by or with a governmental agency could result in severe limitations on our ability to protect and license our IP and could cause our revenue to decline substantially. Third parties have and may attempt to use adverse findings by a government agency to limit our ability to enforce or license our patents in private litigation, to challenge or otherwise act against us with respect to such government agency proceedings.

Further, third parties have sought and may seek review and reconsideration of the patentability of inventions claimed in certain of our patents by the U.S. Patent and Trademark Office (“USPTO”) and/or the European Patent Office (the “EPO”). Any re-examination or inter partes review proceedings may be initiated by the USPTO’s Patent Trial and Appeal Board (“PTAB”). The PTAB and the related former Board of Patent Appeals and Interferences have previously issued decisions in a few cases, finding some challenged claims of our patents to be valid and others to be invalid. Decisions of the PTAB are subject to further USPTO proceedings and/or appeal to the Court of Appeals for the Federal Circuit. A final adverse decision, not subject to further review and/or appeal, could invalidate some or all of the challenged patent claims and could also result in additional adverse consequences affecting other related U.S. or European patents, including in any IP litigation. If a significant number of such patents are impaired, our ability to enforce or license our IP would be significantly weakened and could cause our revenue to decline substantially.

The pendency of any governmental agency acting as described above may impair our ability to enforce or license our patents or collect royalties from existing or potential customers, as any litigation opponents may attempt to use such proceedings to delay or otherwise impair any pending cases and our existing or potential customers may await the final outcome of any proceedings before agreeing to new licenses or to paying royalties.

Litigation or other third-party claims of IP infringement could require us to expend substantial resources and could prevent us from developing or licensing our technology on a cost-effective basis.

Our research and development and product programs are in highly competitive fields in which numerous third parties have issued patents and patent applications with claims closely related to the subject matter of our programs. We and/or our customers also may be named as a defendant in lawsuits claiming that our technology infringes upon the IP rights of third parties. As we develop additional products and technology, we may face claims of infringement of various patents and other IP rights by third parties. In the event of a third-party claim or a successful infringement action against us, we may be required to pay substantial damages, to stop developing and licensing our infringing technology, to develop non-infringing technology and to obtain licenses, which could result in our paying substantial royalties or our granting of cross licenses to our technologies. We may not be able to obtain licenses from other parties at a reasonable cost, or at all, which could cause us to expend substantial resources, or result in delays in, or the cancellation of, new products. Moreover, customers and/or suppliers of our products may seek indemnification for alleged infringement of IP rights. We could be liable for direct and consequential damages and expenses including attorneys' fees. A future obligation to indemnify our customers and/or suppliers may harm our business, financial condition and operating results.

If we are unable to protect our inventions successfully through the issuance and enforcement of patents, our operating results could be adversely affected.

We have an active program to protect our proprietary inventions through the filing of patents. There can be no assurance, however, that:

- any current or future U.S. or foreign patent applications will be approved and not be challenged by third parties;
- our issued patents will protect our IP and not be challenged by third parties;
- the validity of our patents will be upheld;
- our patents will not be declared unenforceable;
- the patents of others will not have an adverse effect on our ability to do business;
- Congress or the U.S. courts or foreign countries will not change the nature or scope of rights afforded patents or patent owners or alter in an adverse way the process for seeking or enforcing patents;
- changes in law will not be implemented, or changes in interpretation of such laws will occur, that will affect our ability to license, protect and and/or enforce our patents and other IP;
- new legal theories and strategies utilized by our competitors will not be successful;
- others will not independently develop similar or competing chip interfaces or design around any patents that may be issued to us; or
- factors such as difficulty in obtaining cooperation from inventors, pre-existing challenges or litigation or license or other contract issues will not present additional challenges in securing protection with respect to patents and other IP that we acquire.

If any of the above were to occur, our operating results could be adversely affected.

Furthermore, patent reform legislation, such as the Leahy-Smith America Invents Act, could increase the uncertainties and costs surrounding the prosecution of any patent applications and the enforcement or defense of our licensed patents. The federal courts, the USPTO, the Federal Trade Commission, and the U.S. International Trade Commission have also recently taken certain actions and issued rulings that have been viewed as unfavorable to patentees. While we cannot predict what form any new patent reform laws or regulations may ultimately take, or what impact recent or future reforms may have on our business, any laws or regulations that restrict or negatively impact our ability to enforce our patent rights against third parties could have a material adverse effect on our business.

In addition, our patents will continue to expire according to their terms, with expected expiration dates ranging from 2023 2024 to 2042. 2043. Our failure to continuously develop or acquire successful innovations and obtain patents on those innovations could significantly harm our business, financial condition, results of operations, or cash flows.

Our inability to protect the IP we create and own would cause our business to suffer.

We rely primarily on a combination of license, development and nondisclosure agreements, trademark, trade secret and copyright law and contractual provisions to protect our non-patentable IP rights. If we fail to protect these IP rights, our customers and others may seek to use our technology without the payment of license fees and royalties, which could weaken our competitive position, reduce our operating results and increase the likelihood of costly litigation. The growth of our business depends in part on the use of our IP in the products of third-party manufacturers, and our ability to enforce IP rights against them to obtain appropriate compensation. In addition, effective trade secret protection may be unavailable or limited in certain foreign countries. Although we intend to protect our rights vigorously, if we fail or are otherwise unable to do so, our business will suffer.

Effective protection of trademarks, copyrights, domain names, patent rights and other IP rights is expensive and difficult to maintain, both in terms of application and maintenance costs, as well as the costs of defending and enforcing those rights. The efforts we have taken to protect our IP rights may not be sufficient or effective. Our IP rights may be infringed, misappropriated or challenged, which could result in them being narrowed in scope or declared invalid or unenforceable. In addition, the laws or practices of certain countries do not protect our proprietary rights to the same extent as do the laws of the United States. Significant impairments of our IP rights, and limitations on our ability to assert our IP rights against others, could have a material and adverse effect on our business.

Third parties may claim that our products or services infringe on their IP rights, exposing us to litigation that, regardless of merit, may be costly to defend.

Our success and ability to compete are also dependent upon our ability to operate without infringing upon the patent, trademark and other IP rights of others. Third parties may claim that our current or future products or services infringe upon their IP rights. Any Defense of any such claim, with or without merit, could be time consuming, divert management's attention from our business operations and result in significant expenses. We cannot assure you that we would be successful in defending against any such claims. In addition, parties making these claims may be able to obtain injunctive or other equitable relief affecting our ability to license commercialize the products that incorporate the challenged IP. As a result of such claims, we may be required to obtain licenses from third parties, develop alternative technology or redesign our products. We cannot be sure that such licenses would be available on terms acceptable to us, if at all. We also may not have sufficient indemnification from our applicable vendors, if any. If a successful claim is made against us and we are unable to develop or license alternative technology, our business, financial condition, operating results and cash flows could be materially adversely affected.

Any dispute regarding our products or services may require us to indemnify certain customers, the cost of which could severely hamper our business operations and financial condition.

In any potential dispute involving our products, our customers could also become the target of litigation. Some of our agreements provide for indemnification, and some require us to provide technical support and information to a customer that is involved in litigation involving use of our technology. In addition, we may be exposed to indemnification obligations, risks and liabilities that were unknown at the time that we acquired assets or businesses for our operations. Any of these indemnification and support obligations could result in substantial and material expenses. In addition to the time and expense required for us to indemnify or supply such support to our customers, a customer's development, marketing and sales of licensed semiconductors, mobile communications and data security technologies could be severely disrupted or shut down as a result of litigation, which in turn could severely hamper our business operations and financial condition as a result of lower or no royalty payments.

Warranty, service level agreement and product liability claims brought against us could cause us to incur significant costs and adversely affect our operating results, as well as our reputation and relationships with customers.

We may from time to time be subject to warranty, service level agreement and product liability claims with regard to product performance and our services. We could incur material losses as a result of warranty, support, repair or replacement costs in response to customer complaints or in connection with the resolution of contemplated or actual legal proceedings relating to such claims. In addition to potential losses arising from claims and related legal proceedings, warranty and product liability claims could affect our reputation and our relationship with customers. We also may not have sufficient indemnification from our applicable vendors, if any. We generally attempt to limit the maximum amount of indemnification or liability that we could be exposed to under our contracts, however, this is not always possible.

We have been party to, and may in the future be subject to, lawsuits relating to securities law matters which may result in unfavorable outcomes and significant judgments, settlements and legal expenses which could cause our business, financial condition and results of operations to suffer.

We and certain of our current and former officers and directors as well as our current independent auditors, have been subject to several stockholder derivative actions, securities fraud class actions and/or individual lawsuits filed in federal court. The complaints generally alleged that the defendants violated the federal and state securities laws and stated state law claims for fraud and breach of fiduciary duty. Although to date these complaints have either been settled or dismissed, the amount of time to resolve any future lawsuits is uncertain, and these matters could require significant management and financial resources. Unfavorable outcomes and significant judgments, settlements and legal expenses in litigation related to any future securities law claims could have material adverse impacts on our business, financial condition, results of operations, cash flows and the trading price of our common stock.

Participation in standards setting organizations may subject us to IP licensing requirements or limitations that could adversely affect our business and prospects.

In the course of our participation in the development of emerging standards for some of our present and future products, we may be obligated to grant to all other participants a license to our patents that are essential to the practice of those standards on reasonable and non-discriminatory, or RAND, terms. terms, or on a royalty-free basis. As a result of such obligations, we may be required to license our patents or other IP to others in the future, which could limit the value of the patents and effectiveness of our patents against competitors.

Risks Associated with Capitalization Matters

The price of our common stock may continue to fluctuate.

Our common stock is listed on The Nasdaq Global Select Market under the symbol “RMBS.” The trading price of our common stock has at times experienced price volatility and may continue to fluctuate significantly in response to various factors, some of which are beyond our control. Some of these factors include:

- any progress, or lack of progress, real or perceived, in the development of products that incorporate our innovations and technology companies’ acceptance of our products, including the results of our efforts to expand into new target markets;
- our signing or not signing new licenses or renewing existing licenses, and the loss of strategic relationships with any customer;
- announcements of technological innovations or new products by us, our customers or our competitors;
- changes in our strategies, including changes in our licensing focus and/or acquisitions or dispositions of companies or businesses with business models or target markets different from our core;
- changes in macroeconomic conditions, increased risk of recession and geopolitical issues, including the effects of tensions between China and Taiwan; Taiwan, and potentially in Israel and the Middle East;
- positive or negative reports by securities analysts as to our expected financial results and business developments;
- developments with respect to patents or proprietary rights and other events or factors;
- new litigation and the unpredictability of litigation results or settlements;
- repurchases of our common stock on the open market;
- issuance of additional securities by us, including in acquisitions, or large cash payments, including in acquisitions; and
- changes in accounting pronouncements.

In addition, the stock market in general, and prices for companies in our industry in particular, have experienced extreme volatility that often has been unrelated to the operating performance of such companies. The trading price of our common stock may fluctuate widely due to various factors, including, but not limited to, actual or anticipated fluctuations in our financial condition and operating results, changes in financial forecasts or estimates by us or financial or other market estimates and ratings by securities and other analysts, changes in our capital structure, including issuance of additional debt or equity to the public, interest rate changes, regulatory changes, news regarding our products or products of our competitors and broad market and industry fluctuations. While the trading price of our common stock has been trending upward, there is no guarantee that the trading price will continue to increase.

Investors in our common stock may not realize any return on their investment in us and may lose some or all of their investment. Volatility in the trading price of our common stock could also result in the filing of securities class action litigation matters, which could result in substantial costs and the diversion of management time and resources.

Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses.

Changing laws, regulations and standards relating to corporate governance and public disclosure have historically created uncertainty for companies such as ours. Any new or changed laws, regulations and standards are subject to varying interpretations due to their lack of specificity, and as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Our amended and restated certificate of incorporation and amended and restated bylaws, Delaware law, and certain other agreements contain provisions that could discourage transactions resulting in a change in control, which may negatively affect the market price of our common stock.

Our amended and restated certificate of incorporation, our amended and restated bylaws and Delaware law contain provisions that might enable our management to discourage, delay or prevent a change in control. In addition, these provisions could limit the price that investors would be willing to pay in the future for shares of our common stock. Pursuant to such provisions:

- our board of directors is authorized, without prior stockholder approval, to create and issue preferred stock, commonly referred to as “blank check” preferred stock, with rights senior to those of common stock, which means that a stockholder rights plan could be implemented by our board;
- our board of directors is staggered into two classes, only one of which is elected at each annual meeting;
- stockholder action by written consent is prohibited;
- nominations for election to our board of directors and the submission of matters to be acted upon by stockholders at a meeting are subject to advance notice requirements, including compliance with the “universal proxy rules” under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings;
- certain provisions in our amended and restated certificate of incorporation and amended and restated bylaws, such as notice to stockholders, the ability to call a stockholder meeting, advance notice requirements and action of stockholders by written consent may only be amended with the approval of stockholders holding 66 2/3% of our outstanding voting stock;
- our stockholders have no authority to call special meetings of stockholders; and
- our board of directors is expressly authorized to make, alter or repeal our bylaws.

We are also subject to Section 203 of the Delaware General Corporation Law, which provides, subject to enumerated exceptions, that if a person acquires 15% or more of our outstanding voting stock, the person is an “interested stockholder” and may not engage in any “business combination” with us for a period of three years from the time the person acquired 15% or more of our outstanding voting stock.

Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware and the federal district courts of the United States will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, another State state court in Delaware or the federal district court for the District of Delaware) is the exclusive forum for the following (except for any claim as to which such court determines that there is an indispensable party not subject to the jurisdiction of such court (and the indispensable party does not consent to the personal jurisdiction of such court within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than such court or for which such court does not have subject matter jurisdiction):

- any derivative action or proceeding brought on behalf of us;
- any action asserting a claim of breach of a fiduciary duty;
- any action asserting a claim against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws (as either may be amended from time to time); and
- any action asserting a claim against us that is governed by the internal affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim for which the U.S. federal courts have exclusive jurisdiction.

Our amended and restated bylaws further provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act of 1933, as amended.

These exclusive-forum provisions may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage lawsuits against us and our directors, officers and other employees. Any person or entity purchasing or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to these provisions. There is uncertainty as to whether a court would enforce such provisions, and the enforceability of similar choice of forum provisions in other companies’ charter documents has been challenged in legal proceedings. It is possible that a court could find these types of provisions to be inapplicable or unenforceable, and if a court were to find either exclusive-forum provision in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could seriously harm our business.

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

Share Repurchase Program

On October 29, 2020, our Board approved a new share repurchase program authorizing the repurchase of up to an aggregate of 20.0 million shares (the “2020 Repurchase Program”). Share repurchases under the 2020 Repurchase Program may be made through the open market, established plans or privately negotiated transactions in accordance with all applicable securities laws, rules, and regulations. There is no expiration date applicable to the 2020 Repurchase Program.

As part of the broader share repurchase program authorized by our Board on October 29, 2020, we entered into an accelerated share repurchase program with Deutsche Bank AG, London Branch as counterparty, through its agent Deutsche Bank Securities Inc. (“Deutsche Bank”) on November 11, 2020 (the “2020 ASR Program”), which was completed 2020 Repurchase Program, in the second quarter of 2021. Also in the second quarter of 2021, we entered into another accelerated share repurchase program with Deutsche Bank on June 15, 2021 (the “2021 ASR Program”), which was completed in the fourth quarter of 2021. In the third quarter of 2022, we entered into an accelerated share repurchase program with Wells Fargo on September 9, 2022 (the “2022 ASR Program”), which was completed in the fourth quarter of 2022. In the third quarter of 2023, we entered into an accelerated share repurchase program with Royal Bank of Canada (“RBC”) on August 10, 2023, (the “2023 ASR Program”), which was also completed in the third quarter of 2023. In the first quarter of 2024, we entered into an accelerated share repurchase program with RBC on February 29, 2024 (the “2024 ASR Program”), which was also completed in the first quarter of 2024.

On November 2, 2023, we entered into a share repurchase plan (the “Buying Plan”) with RBC Capital Markets, LLC (“RBCCM”) as part of the broader share repurchase program authorized by our Board on October 29, 2020. During the fourth quarter of 2023 and first quarter of 2024, an immaterial amount of shares was repurchased, retired and recorded as a reduction to stockholders’ equity.

After giving effect to the 2020, 2021, 2022 ASR programs and 2023 ASR programs, the Buying Plan, detailed in the table below, there remained an outstanding authorization to repurchase approximately 7.9 7.1 million shares of our outstanding common stock under the 2020 Repurchase Program.

We record stock repurchases as a reduction to stockholders' equity. We record a portion of the purchase price of the repurchased shares as an increase to accumulated deficit when the price of the shares repurchased exceeds the average original proceeds per share received from the issuance of common stock.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Number of Shares that May Yet be Purchased Under the Program
Cumulative shares repurchased as of December 31, 2022 (1) (2) (3)	10,261,922	$ 24.36	10,261,922	9,738,078
August 1, 2023 - September 30, 2023(4)	1,854,832	$ 53.91	1,854,832	7,883,246
Cumulative shares repurchased as of September 30, 2023	12,116,754		12,116,754	

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Number of Shares that May Yet be Purchased Under the Program
Cumulative shares repurchased as of December 31, 2023	12,120,419	$ 28.89	12,120,419	7,879,581
February 1, 2024- February 29, 2024(1)	11,284	$ 54.73	11,284	7,868,297
March 1, 2024 - March 31, 2024(2)	805,340	$ 62.09	805,340	7,062,957
Cumulative shares repurchased as of March 31, 2024	12,937,043		12,937,043	

(1)In November 2023, we entered into a share repurchase plan (the "Buying Plan") with RBC Capital Markets, LLC ("RBCCM"). The Buying Plan was part of the 2020 Repurchase Program. During the first quarter of 2024, an immaterial amount of shares was repurchased, retired and recorded as a reduction to stockholders' equity.

(2) In February 2024, we entered into the 2020 2024 ASR Program with Deutsche Bank RBC to repurchase an aggregate of $50.0 million of our common stock. We made an upfront payment of $50.0 million $50.0 million pursuant to the accelerated share repurchase program and received an initial delivery of 2.6 approximately 0.7 million shares, which were retired and recorded as a $40.0 million reduction to

stockholders' stockholders' equity. The remaining $10.0 million of the initial payment was recorded as a reduction to stockholders' equity as an unsettled forward contract indexed to our stock. During the second quarter of 2021, On March 18, 2024, the accelerated share repurchase program was completed and we received an additional 0.1 million shares of our common stock, which were retired, as the final settlement of the accelerated share repurchase program. The total shares of our common stock received and retired under the terms of the accelerated share repurchase program were 2.7 0.8 million, with an average price paid per share of $18.63.

(2) $62.09. In June 2021, we entered into the 2021 ASR Program with Deutsche Bank to repurchase an aggregate of $100.0 million of our common stock. We made an upfront payment of $100.0 million pursuant to the accelerated share repurchase program and received an initial delivery of 3.9 million shares, which were retired and recorded as an $80.0 million reduction to stockholders' equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. In October 2021, the accelerated share repurchase program was completed and we received an additional 0.4 million shares of our common stock, which were retired, as the final settlement of the accelerated share repurchase program. The total shares of our common stock received and retired under the terms of the accelerated share repurchase program were 4.4 million, with an average price paid per share of $22.82.

(3) In September 2022, we entered into the 2022 ASR Program with Wells Fargo to repurchase an aggregate of $100.0 million of our common stock. We made an upfront payment of $100.0 million pursuant to the accelerated share repurchase program and received an initial delivery of approximately 3.1 million shares, which were retired and recorded as an $80.0 million reduction to stockholders’ equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. During the fourth quarter of 2022, the accelerated share repurchase program was completed and we received an additional 0.1 million shares of our common stock, which were retired, as the final settlement of the accelerated share repurchase program. The total shares of our common stock received and retired under the terms of the accelerated share repurchase program were 3.2 million, with an average price paid per share of $31.30.

(4) In August 2023, we entered into the 2023 ASR Program with RBC to repurchase an aggregate of $100.0 million of our common stock. We made an upfront payment of $100.0 million pursuant to the accelerated share repurchase program and received an initial delivery of approximately 1.6 million shares, which were retired and recorded as an $80.0 million reduction to stockholders’ equity. The remaining $20.0 million of the initial payment was recorded as a reduction to stockholders’ equity as an unsettled forward contract indexed to our stock. On September 22, 2023, the accelerated share repurchase program was completed and we received an additional 0.2 million shares of our common stock, which were retired, as the final settlement of the accelerated share repurchase program. The total shares of our common stock received and retired under the terms of the accelerated share repurchase program were 1.8 million, with an average price paid per share of $53.91.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Securities Trading Plans of Directors and Executive Officers

During the third quarter of 2023, the below From time to time, our directors and/or officers, as defined in Rule 16a-1(f), adopted may adopt and/or terminated terminate a “Rule 10b5-1 trading arrangement” and/or a “non-Rule 10b5-1 trading arrangement,” each as defined in Item 408 of Regulation S-K. The Rule 10b5-1 trading arrangements are each intended to satisfy the affirmative defense in Rule 10b5-1(c)(1).

Name	Title	Adopted or Terminated	Adoption Date	Termination Date	Total Number of Shares of Commor Stock to be Sold
Desmond M. Lynch	Senior Vice President, Finance and Chief Financial Officer	Adopted	September 7, 2023	September 7, 2024	8,36
Sean Fan	Senior Vice President, Chief Operating Officer	Adopted	September 11, 2023	September 11, 2024	Up to 135,75

No other During the first quarter of 2024, no directors or officers, as defined in Rule 16a-1(f), adopted, modified, and/or terminated a "Rule 10b5-1 trading arrangement," and no directors or officers, as defined in Rule 16a-1(f), adopted, modified, and/or terminated a "non-Rule 10b5-1 trading arrangement," each as defined in Item 408 of Regulation S-K.

Item 6. Exhibits

INDEX TO EXHIBITS

Exhibit Number	Description of Document
2.1(1)	Asset Purchase Agreement by and between Rambus Inc. and Cadence Design Systems, Inc., dated as of July 19, 2023.*
10.1(2) (1)	Form of ASR Agreement.
31.1	Certification of Principal Executive Officer, pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer, pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended, 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	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	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

† The certifications furnished in Exhibit 32.1 and 32.2 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.

(1) Incorporated by reference to the Form 8-K filed on July 20, 2023.

(2) Incorporated by reference to the Form 8-K filed on August 11, 2023 March 1, 2024.

SIGNATURE

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.

RAMBUS INC.

Date:	November 3, 2023 May 2, 2024	By:	/s/ Desmond Lynch
			Desmond Lynch
			Senior Vice President, Finance and Chief Financial Officer
			(Principal Financial Officer and Duly Authorized Officer)

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Exhibit 31.1

CERTIFICATION PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Luc Seraphin, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Rambus 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: November 3, 2023 May 2, 2024

By:	/s/ Luc Seraphin
Name:	Luc Seraphin
Title:	Chief Executive Officer (Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO

SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Desmond Lynch, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Rambus 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: November 3, 2023 May 2, 2024

By:	/s/ Desmond Lynch
Name:	Desmond Lynch
Title:	Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)

Exhibit 32.1

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

I, Luc Seraphin, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of Rambus Inc. for the quarter ended September 30, 2023 March 31, 2024, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Rambus Inc.

Date: November 3, 2023 May 2, 2024

By:	/s/ Luc Seraphin
Name:	Luc Seraphin
Title:	Chief Executive Officer (Principal Executive Officer)

Exhibit 32.2

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

I, Desmond Lynch, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of Rambus Inc. for the quarter ended September 30, 2023 March 31, 2024, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Rambus Inc.

Date: November 3, 2023 May 2, 2024

By:	/s/ Desmond Lynch
Name:	Desmond Lynch
Title:	Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)

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