

## Peraso, Inc.

### Solid Q2 Points to Expanding Revenue Growth Opportunities: Buy, \$3.75 PT

PRSO (NASDAQ)

#### Company & Market Data

Closing Price (as of 08/12/2024)	\$1.50
Rating:	BUY
Price Target:	\$3.75
52 Week Range:	\$1.15 - \$16.96
Avg Daily Volume (M):	64.6
Shares Outstanding (MM):	2.7
Market Capitalization (MM):	\$4
Enterprise Value (MM):	\$2
Fiscal Year End:	Dec

#### Estimates

EPS	2023A	2024E	2025E
1Q	\$(0.08)	\$(0.73)A	—
2Q	\$(0.11)	\$(0.81)A	—
Prior		\$(0.36)	
3Q	\$(0.02)	\$(0.11)	—
Prior		\$(0.25)	
4Q	\$(8.19)	\$0.07	—
Prior		\$(0.07)	
Full Year	\$(8.40)	\$(1.48)	\$(0.17)
Prior		\$(1.40)	\$(0.35)
Revenue (MM)	\$13.7	\$16.5	\$16.0
Prior		\$16.8	
EBITDA (MM)	\$(11.3)	\$(3.9)	\$(1.9)
Prior		\$(8.8)	\$(3.9)

#### Ratios

P/E	NA	NA	NA
EBITDA (M)	(0.0)	(0.0)	(0.0)
EV/EBITDA	(0.2)x	(0.6)x	(1.2)x



Chart data: Bloomberg

**Financial Results:** Peraso, Inc., (PRSO) reported its Q2 2024 results with revenues of \$4.2 million, roughly \$200k above our model. The solid results were from higher revenues in both the memory and mmWave segments. Importantly mmWave revenues climbed 180% sequentially. This is an impressive number especially given that management believes the market is still suffering from the inventory correction that began in Spring 2023. Due to the high percentage of memory revenues margins were notably higher than our model. We anticipate margins to decline as mmWave revenues become a larger percentage of the total. Operating costs were affected by \$2 million charge for severance costs and a charge for unused software licenses. Due to the ongoing lower software license expense going forward we anticipate a ~\$200,000 reduction in quarterly R&D expenses. After backing out depreciation, amortization, and other one-time items the resulting adjusted EBITDA for the quarter totaled a loss of \$1.9 million and the company finished Q2 with a cash balance totaling \$2 million.

**Peraso's Technology:** Since its inception in 2009, Peraso has been solely focused on the development of mmWave solutions and has a core competency in phased-array technology, or beamforming/steering, in which an array of antenna elements work in unison to create a focused RF beam. The company is a leader in the production of mmWave devices. As mmWave technology usages in consumer-related applications make up a relatively new market, this technology is slated to grow rapidly with an expected (CAGR) of nearly 40% through 2030 and exceed \$55 billion by the end of the decade

**Growth Drivers:** On the Q2 earnings call, management highlighted a number of potential growth initiatives including; 1) the company is actively looking to attract Non-recurring Engineering (NRE) revenue opportunities to utilize some of its excess software licensing capacity, 2) new military communications contracts utilizing mmWave technology as these transmissions are virtually impossible to intercept by a foreign entity, and 3) a potential end (later this year) of the current inventory correction. Additionally, in recent weeks the administrator of the Broadband Equity Access and Deployment Program (BEAD) has indicated that a portion of the available \$42.45 billion is likely to be available for unlicensed fixed wireless access tech, including mmWave.

**Earnings Model:** With the results of Q2, we are marking only modest changes to our model of 2024. For 2025 we are maintaining our revenue estimate of \$16 million and continue to model for \$12 million in mmWave revenues, up 150% year over year. In addition, we are adjusting the operating expense line to account for lower R&D expenses. As such, the adjusted EBITDA loss estimate for 2025 is now just \$1.9 million.

**Our Outlook:** Given the current size of the mmWave market and the expected rapid growth, we believe Peraso's market-leading silicon and module solutions position the company for an extended period of notable top and bottom-line growth. We estimate revenue growth near 20% for 2024 and expect mmWave product revenue to expand by 160% year/year in 2025. With the expected growth for mmWave solutions, we believe Peraso should be valued based on a multiple (3x) of its 2025 estimated revenues discounted back to the present at 20%. As such, we maintain our Buy rating and our 12-month price target of \$3.75 (see the Valuation section).

Disclosures and Analyst Certifications can be found in Appendix A.

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## Financial Discussion

As a young pre-revenue company participating in an emerging sector of wireless communications, Peraso initially financed its operations primarily through venture capital channels in Canada. With the business combination with Mosys in 2021, the newly combined company ended the year with a cash balance of roughly \$15 million.

To support ongoing growth initiatives the company completed a \$2.4 million capital raise in November 2022, selling 2.4 million shares at \$1.00/share. Again in May 2023, the company raised an additional \$4 million with the sale of 5.7 million shares at \$0.70 per share. After solid year/year revenue growth in the mmWave product lines through Q1 2023, in the second quarter of 2023 the company experienced a marked slowdown in revenues resulting from a significant inventory correction with its larger mmWave customers. This inventory issue persisted through the end of 2023 and into early 2024. As a result of the unexpected decline in revenues through 2023, the company's cash burn was larger than anticipated, negatively affecting the company's resources and share price. The resulting need for growth financing and with the share price trading well below the required \$1.00 level, the company executed a 40 for-1 reverse stock split late in 2023 and then completed an equity raise selling 480,000 shares of common stock along with pre-funded warrants to purchase up to 1,424,760 shares of common stock. This offering provided the company with \$4 million of new capital ex underwriting fees. The units also included Series A warrants and Series B warrants<sup>1</sup>. With the reverse stock split and the February 2024 capital raise the company now has roughly 2.7 million shares outstanding, however, on a fully diluted basis (including the A and B Series warrants) the share count is roughly 11 million.

After the merger with Mosys in 2021, the company had two business lines, memory and mmWave. The strategy was always to manage the memory business as a cash cow and focus on the mmWave segment as the future growth engine. The memory product line has entered an End-of-Life phase as the semiconductor fab producing these products is terminating the manufacturing line in early calendar 2025. As a result, we anticipate a loss of roughly \$9 to \$10 million in revenues during 2025. Thus our 2025 revenue estimate of \$16 million is flat with 2024 but includes a notable ramp (~150% year/year) in mmWave revenues and hopefully makes up for most of the lost memory revenues in 2025.

## Valuation

The current market capitalization of Peraso is roughly \$4 million (with a current share count of 2.7 million) with about \$2 million in cash. This market cap number equates to a market cap-to-sales multiple of just 0.4X based on our 2025 estimated revenues of \$16 million. We believe that this modest valuation is primarily the result of a general lack of awareness of the company's emergence as a leader in the expanding mmWave silicon market space. With the focus on WFA, consumer, and military markets Peraso is well positioned to generate impressive top-line growth into 2025 and beyond. We argue that given the expected growth and the fact that the company has limited competition in the mmWave market, the valuation should move more in line with other successful fabless semiconductor enterprises.

We believe a fair yet conservative valuation for the company today would be a Price/Sales ratio of 3X on our 2025 revenue estimate of \$16 million discounted back to the present at 20%. This calculation equates to a fair value of approximately \$3.75. In our view, this valuation accounts for the inherent risks generally associated with managing a relatively small company, but also factors in the dynamic growth metrics within the relatively new mmWave market.

<sup>1</sup> The Series A warrants allow for the purchase of up to 3,809,520 shares of common stock with an exercise price of \$2.25 and an expiration date of February 2029. The Series B warrants allow for the purchase of up to 3,809,520 shares of common stock with an exercise price of \$2.25 and an expiration date of August 2024.

## Investment Risks

Peraso, Inc., has only been a public entity since the merger with Msys, Inc., in 2021, and currently has a very modest market cap of roughly \$3 million. This small market valuation is due in large part to a significant interruption in revenue growth resulting from an ongoing inventory correction at its largest customers. In our opinion, the primary risks to our investment thesis lie in the company's ability to scale the use of its mmWave products in the FWA and 5G markets space. Other risk factors to our investment thesis include, but are not limited to, the following:

- **Customer Concentration:** Peraso's revenue has been highly concentrated, with a few customers accounting for a significant percentage of total revenue. For the years ended December 31, 2023, and 2022, the three largest customers represented approximately 75% and 63% of total revenue, respectively. We expect that a relatively small number of customers will continue to account for a substantial portion of total revenues for the foreseeable future. As a result, operations could be adversely affected by the decision of a single key customer to either cease the use of the company's products or by selling fewer products that incorporate the Peraso technology.
- **Memory Chip End-of-Life:** Peraso intends to discontinue the production of the memory products as TSMC (the sole foundry) will be discontinuing the foundry process used to produce the memory ICs. As a result, the company has initiated an end-of-life process for these IC products and anticipates fulfilling EOL orders at least through December 31, 2024. These memory IC products represented more than 60% of revenues for the year ended December 31, 2023. The discontinuation of the production and sale of our memory IC products will negatively impact future revenues, results of operations, and cash flows.
- **Sales Cycle:** The design win process for Peraso's products is generally lengthy, expensive, and competitive, with no guarantee of future revenues. Winning a design requires both design and development costs and substantial engineering resources. These efforts and costs may never result in product sales and/or provide sufficient revenues to produce a positive ROI.
- **Future Technology Development:** The company's future failure to continue to develop new and competitive products on a timely basis would likely diminish its ability to attract and retain customers and negatively impact future revenue growth.
- **Contract Manufacturing:** Peraso depends on contract manufacturers (semiconductor fabs) for a significant portion of revenues. Many current and prospective OEM customers use third-party contract manufacturers to manufacture their systems. If Peraso is unable to compete effectively for the business of these contract manufacturers, its revenue and business operations could be adversely affected.
- **Intellectual Property:** The company's existing patents might not provide sufficient protection for the integral IP and the ongoing patent applications might not result in the issuance of patents. Either of these outcomes could reduce the value of the core technology and negatively impact the current competitive position and future business operations.
- **Semiconductor Cyclicity:** The semiconductor sector is subject to periodic downturns (at times for sustained periods). As a result, Peraso's business has in the past and could be adversely affected in the future by an industry downturn which could negatively impact future revenue generation and profitability.
- **Competition:** The existing and potential markets for mmWave silicon are characterized by ever-increasing performance requirements, evolving industry standards, rapid technological change, and product obsolescence. These characteristics lead to periodic changes in customer requirements, shorter product life cycles, and changes in industry demands. To remain competitive, Peraso needs to continue to enhance and evolve its products and the underlying proprietary technologies. The failure to keep ahead of evolving technological improvement and develop future products that achieve broad market acceptance would harm the company's competitive position and impede future growth.
- **Internet Usage:** The company is dependent on the continued popularity and demand of the Internet (and increasing bandwidth) for both business and personal use. Any disruption in this current paradigm would likely hinder the demand for the company's products along with its future revenue growth and profitability.

- **Governmental Regulation:** The company's products are designed for use in both licensed and unlicensed bandwidths. Failure to comply with federal, state, and international regulations and restrictions on the use of these frequency spectrums, or the expansion of current or the enactment of new regulations, could adversely affect product sales and overall operations.
- **History of Losses:** The company has had an uneven history of operating profits/losses and there are no assurances that the company will be able to consistently generate positive net income in future periods. Continued operating losses could negatively impact the share price and require the need for additional capital.
- **Additional Equity Raises:** The company may need to raise additional capital in the future which could result in significant equity dilution for the current shareholders and negatively impact the share price.
- **Memory Products:** The company intends to discontinue the sale of its memory products which will cause a downturn in revenues and could materially affect cash flow and operations.
- **Small Cap Reporting Company:** The company is a "smaller reporting company" and, as a result of the reduced disclosure and governance requirements applicable to smaller reporting companies, the company's common stock may be less attractive to investors.

Table 1: Peraso, Inc. Quarterly Income Statement

QUARTERLY INCOME STATEMENT (000's except per share amounts)												
	CY 2022				CY Ending 2023				CY Ending 2024E			
	3/31/2022	6/30/2022	9/30/2022	12/30/2022	3/31/2023	6/30/2023	9/30/2023	12/31/2023	3/31/2024	6/30/2024	9/30/2024E	12/31/2024E
<i>mmiWave</i>	1,296	2,248	1,312	1,621	2,707	619	878	203	293	821	1,000	1,800
<i>Memory Revenue</i>	1,908	1,872	1,748	2,194	2,181	1,616	3,384	1,265	2,383	3,288	3,000	3,250
<i>Royalty and other</i>	199	164	234	72	145	168	219	364	140	129	100	300
<b>Total Revenue</b>	<b>\$ 3,403</b>	<b>\$ 4,284</b>	<b>\$ 3,294</b>	<b>\$ 3,887</b>	<b>\$ 5,033</b>	<b>\$ 2,403</b>	<b>\$ 4,481</b>	<b>\$ 1,832</b>	<b>\$ 2,816</b>	<b>\$ 4,238</b>	<b>\$ 4,100</b>	<b>\$ 5,350</b>
<b>Cost of Sales</b>	<b>\$ 1,948</b>	<b>\$ 2,799</b>	<b>\$ 2,000</b>	<b>\$ 2,168</b>	<b>\$ 3,106</b>	<b>\$ 1,795</b>	<b>\$ 2,445</b>	<b>\$ 4,531</b>	<b>\$ 1,510</b>	<b>\$ 1,887</b>	<b>\$ 1,890</b>	<b>\$ 2,650</b>
<b>Gross Profit</b>	<b>\$ 1,455</b>	<b>\$ 1,485</b>	<b>\$ 1,294</b>	<b>\$ 1,719</b>	<b>\$ 1,927</b>	<b>\$ 608</b>	<b>\$ 2,036</b>	<b>\$ (2,699)</b>	<b>\$ 1,306</b>	<b>\$ 2,351</b>	<b>\$ 2,210</b>	<b>\$ 2,700</b>
<b>Operating expenses:</b>												
<i>Research and development</i>	5,486	5,643	4,509	4,130	3,887	3,668	3,484	3,359	2,835	2,644	2,400	2,425
<i>Selling, general and administrative</i>	2,705	2,878	3,353	2,172	2,242	1,977	2,112	2,174	2,102	2,141	2,125	2,175
<i>Software license and severance</i>	-	-	(2,557)	-	(406)	-	-	-	-	2,041	-	-
<i>Gain on license and asset sale</i>	-	-	-	9,946	-	-	-	-	-	-	-	-
<i>Impairment of goodwill</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 8,191</b>	<b>\$ 8,521</b>	<b>\$ 5,305</b>	<b>\$ 16,248</b>	<b>\$ 5,723</b>	<b>\$ 5,645</b>	<b>\$ 5,596</b>	<b>\$ 5,533</b>	<b>\$ 4,937</b>	<b>\$ 6,826</b>	<b>\$ 4,525</b>	<b>\$ 4,600</b>
<b>Operating Profit (Loss)</b>	<b>\$ (6,736)</b>	<b>\$ (7,036)</b>	<b>\$ (4,011)</b>	<b>\$ (14,529)</b>	<b>\$ (3,796)</b>	<b>\$ (5,037)</b>	<b>\$ (3,560)</b>	<b>\$ (8,232)</b>	<b>\$ (3,631)</b>	<b>\$ (4,475)</b>	<b>\$ (2,315)</b>	<b>\$ (1,900)</b>
<b>Other income (expense):</b>												
<i>Change in fair value of warrant liability</i>	-	-	-	-	658	966	2,615	(746)	1,591	54	-	-
<i>Expenses related to conversion of Preferred C</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Interest and other income</i>	(18.0)	(7.0)	3.0	(64.0)	(10)	(15)	322	40	9	(4)	20	20
<b>Income Before Income Tax Provision</b>	<b>\$ (6,754)</b>	<b>\$ (7,043)</b>	<b>\$ (4,008)</b>	<b>\$ (14,593)</b>	<b>\$ (3,148)</b>	<b>\$ (4,086)</b>	<b>\$ (623)</b>	<b>\$ (8,938)</b>	<b>\$ (2,031)</b>	<b>\$ (4,425)</b>	<b>\$ (2,295)</b>	<b>\$ (1,880)</b>
<i>Income tax provision (benefit)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Net Income (Loss)</b>	<b>\$ (6,754)</b>	<b>\$ (7,043)</b>	<b>\$ (4,008)</b>	<b>\$ (14,593)</b>	<b>\$ (3,148)</b>	<b>\$ (4,086)</b>	<b>\$ (623)</b>	<b>\$ (8,938)</b>	<b>\$ (2,031)</b>	<b>\$ (4,425)</b>	<b>\$ (2,295)</b>	<b>\$ (1,880)</b>
<b>Weighted Average Shares Outstanding</b>	19,769	21,636	20,039	20,534	21,561	24,338	28,589	716	1,907	2,358	2,700	2,700
<b>EPS - fully diluted</b>	<b>\$ (0.34)</b>	<b>\$ (0.33)</b>	<b>\$ (0.20)</b>	<b>\$ (0.71)</b>	<b>\$ (0.15)</b>	<b>\$ (0.17)</b>	<b>\$ (0.02)</b>	<b>\$ (12.48)</b>	<b>\$ (1.07)</b>	<b>\$ (1.88)</b>	<b>\$ (0.85)</b>	<b>\$ (0.70)</b>
<i>Depreciation and amortization</i>	776.0	762.0	750.0	768.0	694	958	1,051	1,279	992	991	900	925
<i>Stock-based compensation</i>	1,171.0	1,739.0	1,447.0	1,373.0	1,307	1,319	1,308	1,047	1,222	1,155	1,100	1,150
<i>Other one time charges</i>	(18.0)	(1.0)	8.0	(78.0)	(4)	(9)	327	4	13	424	-	-
<b>Non-GAAP Cash Earnings</b>	<b>\$ (4,825)</b>	<b>\$ (4,543)</b>	<b>\$ (1,803)</b>	<b>\$ (2,584)</b>	<b>\$ (1,809)</b>	<b>\$ (2,784)</b>	<b>\$ (552)</b>	<b>\$ (5,862)</b>	<b>\$ (1,395)</b>	<b>\$ (1,909)</b>	<b>\$ (295)</b>	<b>\$ 195</b>
<b>Non-GAAP Cash Earnings Per Share</b>	<b>\$ (0.24)</b>	<b>\$ (0.21)</b>	<b>\$ (0.09)</b>	<b>\$ (0.13)</b>	<b>\$ (0.08)</b>	<b>\$ (0.11)</b>	<b>\$ (0.02)</b>	<b>\$ (8.19)</b>	<b>\$ (0.73)</b>	<b>\$ (0.81)</b>	<b>\$ (0.11)</b>	<b>\$ 0.07</b>
<b>EBITDA</b>	<b>\$ (4,807)</b>	<b>\$ (4,536)</b>	<b>\$ (1,806)</b>	<b>\$ (2,520)</b>	<b>\$ (1,799)</b>	<b>\$ (2,769)</b>	<b>\$ (874)</b>	<b>\$ (5,902)</b>	<b>\$ (1,404)</b>	<b>\$ (1,905)</b>	<b>\$ (315)</b>	<b>\$ 175</b>
<b>% of TOTAL REVENUE</b>												
<b>Gross Profit</b>	42.8%	34.7%	39.3%	44.2%	38.3%	25.3%	45.4%	-147.3%	46.4%	55.5%	53.9%	50.5%
<i>Research and development</i>	161.2%	131.7%	136.9%	106.3%	77.2%	152.6%	77.8%	183.4%	100.7%	62.4%	58.5%	45.3%
<i>Selling, general, and administration</i>	79.5%	67.2%	101.8%	55.9%	44.5%	82.3%	47.1%	118.7%	74.6%	50.5%	51.8%	40.7%
<b>Total Operating Expenses</b>	240.7%	198.9%	161.1%	418.0%	113.7%	234.9%	124.9%	302.0%	175.3%	161.1%	110.4%	86.0%
<b>Operating Profit (Loss)</b>	-197.9%	-164.2%	-121.8%	-373.8%	-75.4%	-209.6%	-79.4%	-449.3%	-128.9%	-105.6%	-56.5%	-35.5%
<b>Net Income (Loss)</b>	-198.5%	-164.4%	-121.7%	-375.4%	-62.5%	-170.0%	-13.9%	-487.9%	-72.1%	-104.4%	-56.0%	-35.1%
<b>% YEAR OVER YEAR INCREASE</b>												
<b>Total Revenue</b>	87156.4%	40700.0%	25634.4%	27664.3%	47.9%	-43.9%	36.0%	-52.9%	-44.0%	76.4%	-8.5%	192.0%
<b>Gross Profit</b>	-2639.3%	-5992.9%	-920.0%	-1238.4%	32.4%	-59.1%	57.3%	-257.0%	-32.2%	286.7%	8.5%	-200.0%
<b>Total Operating Expenses</b>	434.4%	326.6%	103.4%	496.9%	-30.1%	-33.8%	5.5%	-65.9%	-13.7%	20.9%	-19.1%	-16.9%
<b>Operating Profit (Loss)</b>	323.6%	247.9%	45.0%	405.7%	-43.6%	-28.4%	-11.2%	-43.3%	-4.3%	-11.2%	-35.0%	-76.9%
<b>Net Income (Loss)</b>	323.6%	258.8%	50.9%	424.9%	-53.4%	-42.0%	-84.5%	-38.8%	-35.5%	8.3%	268.4%	-79.0%
<b>Non-GAAP Cash Earnings</b>	254.1%	187.2%	-17.1%	11.9%	-62.5%	-38.7%	-69.4%	126.9%	-22.9%	-31.4%	-46.6%	-103.3%
<b>% SEQUENTIAL INCREASE</b>												
<b>Total Revenue</b>	24207.1%	25.9%	-23.1%	18.0%	29.5%	-52.3%	86.5%	-59.1%	53.7%	50.5%	-3.3%	30.5%
<b>Gross Profit</b>	-1063.6%	2.1%	-12.9%	32.8%	12.1%	-68.4%	234.9%	-232.6%	-148.4%	80.0%	-6.0%	22.2%
<b>Total Operating Expenses</b>	200.9%	4.0%	-37.7%	206.3%	-64.8%	-1.4%	-0.9%	-1.1%	-10.8%	38.3%	-33.7%	1.7%
<b>Operating Profit (Loss)</b>	134.5%	4.5%	-43.0%	262.2%	-73.9%	32.7%	-29.3%	131.2%	-55.9%	23.2%	-48.3%	-17.9%
<b>Net Income (Loss)</b>	142.9%	4.3%	-43.1%	264.1%	-78.4%	29.8%	-84.8%	1334.7%	-77.3%	117.9%	-48.1%	-18.1%
<b>Non-GAAP Cash Earnings</b>	109.0%	-5.8%	-60.3%	43.3%	-30.0%	53.9%	-80.2%	962.0%	-76.2%	36.8%	-84.5%	-166.1%

Source: Ladenburg Thalmann Estimates and Company Filings

Table 2: Peraso, Inc. Annual Income Statement

ANNUAL INCOME STATEMENTS (000's except per share amounts)						
	2020	2021	2022	2023	2024E	2025E
<i>mmWave</i>	1,540.0	4,906.0	6,477	4,407	3,914	12,000
<i>Memory Revenue</i>			7,722	8,446	11,921	3,000
<i>Royalty and other</i>	7,550.0	773.0	669	896	669	1,000
<b>Total Revenue</b>	<b>\$ 9,090</b>	<b>\$ 5,679</b>	<b>\$ 14,868</b>	<b>\$ 13,749</b>	<b>\$ 16,504</b>	<b>\$ 16,000</b>
<b>Cost of Sales</b>	<b>\$ 1,748</b>	<b>\$ 3,270</b>	<b>\$ 8,915</b>	<b>\$ 11,877</b>	<b>\$ 7,937</b>	<b>\$ 8,500</b>
<b>Gross Profit</b>	<b>\$ 7,342</b>	<b>\$ 2,409</b>	<b>\$ 5,953</b>	<b>\$ 1,872</b>	<b>\$ 8,567</b>	<b>\$ 7,500</b>
<b>Operating expenses:</b>						
<i>Research and development</i>	8,289	11,471	19,768	14,398	10,304	10,000
<i>Selling, general and administrative</i>	7,198	7,016	11,108	8,505	8,543	8,500
<i>Software license and severance</i>					2,041	
<i>Gain on license and asset sale</i>	-	-	(2,557)	(406)	-	-
<i>Impairment of goodwill</i>	-	-	9,946	-	-	-
<b>Total Operating Expenses</b>	<b>\$ 15,487.0</b>	<b>\$ 18,487.0</b>	<b>\$ 38,265.0</b>	<b>\$ 22,497.0</b>	<b>\$ 20,888.0</b>	<b>\$ 18,500.0</b>
<b>Operating Profit (Loss)</b>	<b>\$ (8,145.0)</b>	<b>\$(16,078.0)</b>	<b>\$(32,312.0)</b>	<b>\$(20,625.0)</b>	<b>\$ (12,321.0)</b>	<b>\$ (11,000.0)</b>
<b>Other income (expense):</b>						
<i>Change in fair value of warrant liability</i>	-	-	-	3,493	-	-
<i>Expenses related to conversion of Preferred C</i>	(5,044)					
<i>Interest and other income</i>	(2,082)	5,167	(86)	337	45	-
<b>Income Before Income Tax Provision</b>	<b>\$(15,271.0)</b>	<b>\$(10,911.0)</b>	<b>\$(32,398.0)</b>	<b>\$(16,795.0)</b>	<b>\$ (12,276.0)</b>	<b>\$ (11,000.0)</b>
<i>Income tax provision (benefit)</i>	-	-	-	-	-	-
<b>Net Income (Loss)</b>	<b>\$ (15,271)</b>	<b>\$ (10,911)</b>	<b>\$ (32,398)</b>	<b>\$ (16,795)</b>	<b>\$ (12,276)</b>	<b>\$ (11,000)</b>
<b>Weighted Average Shares Outstanding</b>	4,242	5,869	20,500	1,310	2,300	11,000
<b>EPS - fully diluted</b>	<b>\$ (3.60)</b>	<b>\$ (1.86)</b>	<b>\$ (1.58)</b>	<b>\$ (12.82)</b>	<b>\$ (5.34)</b>	<b>\$ (1.00)</b>
<i>Depreciation and amortization</i>	1,436	1,115	3,056	3,982	3,808	3,900
<i>Stock-based compensation</i>	1,711	4,473	5,730	4,981	4,627	5,250
<i>Other one time charges</i>	(77)	1,672	(89)	318	\$ 437	
<b>Non-GAAP Cash Earnings</b>	<b>\$ (12,201)</b>	<b>\$ (3,651)</b>	<b>\$ (13,755)</b>	<b>\$ (11,007)</b>	<b>\$ (3,404)</b>	<b>\$ (1,850)</b>
<b>Non-GAAP Cash Earnings Per Share</b>	<b>\$ (2.88)</b>	<b>\$ (0.62)</b>	<b>\$ (0.67)</b>	<b>\$ (8.40)</b>	<b>\$ (1.48)</b>	<b>\$ (0.17)</b>
<b>EBTDA</b>	<b>\$ (5,075)</b>	<b>\$ (8,818)</b>	<b>\$ (13,669)</b>	<b>\$ (11,344)</b>	<b>\$ (3,886)</b>	<b>\$ (1,850)</b>
<b>% of TOTAL REVENUE</b>						
<b>Gross Profit</b>	<b>80.8%</b>	<b>42.4%</b>	<b>40.0%</b>	<b>13.6%</b>	<b>51.9%</b>	<b>46.9%</b>
<i>Research and development</i>	91.2%	202.0%	133.0%	104.7%	62.4%	62.5%
<i>Selling, general, and administration</i>	79.2%	123.5%	74.7%	61.9%	51.8%	53.1%
<b>Total Operating Expenses</b>	<b>170.4%</b>	<b>325.5%</b>	<b>257.4%</b>	<b>163.6%</b>	<b>126.6%</b>	<b>115.6%</b>
<b>Operating Profit (Loss)</b>	<b>-89.6%</b>	<b>-283.1%</b>	<b>-217.3%</b>	<b>-150.0%</b>	<b>-74.7%</b>	<b>-68.8%</b>
<b>Net Income (Loss)</b>	<b>-168.0%</b>	<b>-192.1%</b>	<b>-217.9%</b>	<b>-122.2%</b>	<b>-74.4%</b>	<b>-68.8%</b>
<b>% YEAR OVER YEAR INCREASE</b>						
<b>Total Revenue</b>	<b>NM</b>	<b>-37.5%</b>	<b>161.8%</b>	<b>-7.5%</b>	<b>20.0%</b>	<b>-3.1%</b>
<b>Gross Profit</b>	<b>NM</b>	<b>-67.2%</b>	<b>147.1%</b>	<b>-68.6%</b>	<b>357.6%</b>	<b>-12.5%</b>
<b>Total Operating Expenses</b>	<b>NM</b>	<b>19.4%</b>	<b>107.0%</b>	<b>-41.2%</b>	<b>-7.2%</b>	<b>-11.4%</b>
<b>Operating Profit (Loss)</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>
<b>Net Income (Loss)</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>
<b>Non-GAAP Cash Earnings</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>

Source: Ladenburg Thalmann Estimates and Company Filings

Table 3: Peraso, Inc. Balance Sheet

BALANCE SHEET (000's)									
	CY 2020	CY 2021	CY 2022	CY 2023				CY 2024	
	12/31/2020	12/31/2021	12/31/2022	3/31/2023	6/30/2023	9/30/2023	12/31/2023	3/31/2024	6/3/2024
<b>ASSETS</b>									
<b>Current Assets:</b>									
Cash and cash equivalents	1,712	15,160	2,906	1,392	2,740	689	1,583	2,435	1,868
Accounts receivable, net	922	2,436	3,244	2,881	1,497	3,064	731	1,482	1,460
Inventories	1,274	3,824	5,348	4,853	5,160	5,697	2,606	2,756	2,606
Tax credits & receivables	1,711	1,099	-	-	-	-	-	-	-
Deferred cost of net revenue	-	-	600	-	-	-	-	-	-
Prepaid expenses and other current assets	963	1,159	615	742	729	780	620	785	810
<b>Total current assets</b>	<b>\$ 6,582</b>	<b>\$ 23,678</b>	<b>\$ 12,713</b>	<b>\$ 9,868</b>	<b>\$ 10,126</b>	<b>\$ 10,230</b>	<b>\$ 5,540</b>	<b>\$ 7,458</b>	<b>\$ 6,744</b>
Long-term investments	\$ -	\$ 2,928	-	-	-	-	-	-	-
Property and equipment, net	2,621	2,349	2,225	2,078	1,850	1,624	1,156	981	807
Operating lease rights of use	731	617	1,147	986	820	647	615	524	441
Intangible assets, net	-	8,355	6,278	5,754	5,031	4,209	3,280	2,464	1,647
Goodwill	-	9,946	-	-	-	-	-	-	-
Other assets	53	78	123	122	123	121	123	121	120
<b>Total assets</b>	<b>\$ 9,987</b>	<b>\$ 47,951</b>	<b>\$ 22,486</b>	<b>\$ 18,808</b>	<b>\$ 17,950</b>	<b>\$ 16,831</b>	<b>\$ 10,714</b>	<b>\$ 11,548</b>	<b>\$ 9,759</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>									
<b>Current Liabilities:</b>									
Accounts payable	1,086	1,937	1,844	1,364	1,142	2,583	2,448	2,221	2,318
Deferred revenue	-	375	332	244	175	74	1,105	1,110	797
Short term lease liabilities	225	379	687	579	464	348	370	328	272
Loan facility	581	-	-	-	-	-	-	-	-
Accrued and other	456	2,903	1,817	1,366	1,161	689	611	748	2,213
<b>Total current liabilities</b>	<b>\$ 2,348</b>	<b>\$ 5,594</b>	<b>\$ 4,680</b>	<b>\$ 3,553</b>	<b>\$ 2,942</b>	<b>\$ 3,694</b>	<b>\$ 4,534</b>	<b>\$ 4,407</b>	<b>\$ 5,600</b>
Operating lease liabilities	532	288	470	404	348	379	349	277	496
Convertible debentures	4,322	-	-	-	-	-	-	-	-
Warrant liabilities	6,706	-	2,079	1,421	3,618	1,003	1,748	158	103
<b>Total liabilities</b>	<b>\$ 13,908</b>	<b>\$ 5,882</b>	<b>\$ 7,229</b>	<b>\$ 5,378</b>	<b>\$ 6,908</b>	<b>\$ 5,076</b>	<b>\$ 6,631</b>	<b>\$ 4,842</b>	<b>\$ 6,199</b>
<b>Total stockholders' equity</b>	<b>\$ (3,921)</b>	<b>\$ 42,069</b>	<b>\$ 15,257</b>	<b>\$ 13,430</b>	<b>\$ 11,042</b>	<b>\$ 11,755</b>	<b>\$ 4,083</b>	<b>\$ 6,706</b>	<b>\$ 3,560</b>
<b>Total Liabilities and Stockholders' Equity</b>	<b>\$ 9,987</b>	<b>\$ 47,951</b>	<b>\$ 22,486</b>	<b>\$ 18,808</b>	<b>\$ 17,950</b>	<b>\$ 16,831</b>	<b>\$ 10,714</b>	<b>\$ 11,548</b>	<b>\$ 9,759</b>

Source: Company Filings

# APPENDIX A: IMPORTANT RESEARCH DISCLOSURES

## ANALYST CERTIFICATION

I, Jon R. Hickman, attest that the views expressed in this research report accurately reflect my personal views about the subject security and issuer. Furthermore, no part of my compensation was, is, or will be directly or indirectly related to the specific recommendation or views expressed in this research report, provided, however, that:

The research analyst primarily responsible for the preparation of this research report has or will receive compensation based upon various factors, including the volume of trading at the firm in the subject security, as well as the firm's total revenues, a portion of which is generated by investment banking activities.

Additional information regarding the contents of this publication will be furnished upon request. Please contact Ladenburg Thalmann, Compliance Department, 640 Fifth Avenue, 4th floor, New York, New York 10019 (or call 212-409-2000) for any information regarding current disclosures, and where applicable, relevant price charts, in regard to companies that are the subject of this research report.

## COMPANY BACKGROUND

Peraso, inc, is a fabless semiconductor company focused on the development and sale of mmWave semiconductor devices and antenna modules based on its proprietary semiconductor devices and non-recurring engineering, services and licensing of intellectual property. The company's primary focus is on the development of mmWave, which is generally described as the frequency bands from 24 Gigahertz, or GHz, to 300 GHz. The product line of mmWave products enables a range of applications including: multi-gigabit point-to-point, wireless links with a range of up to 25 kilometers and operating in the 60 GHz frequency band; multi-gigabit point-to-multi-point links in the 60 GHz frequency band used to provide fixed wireless access (FWA). The company also has silicon to provide FWA in the 5G operating bands from 24 GHz to 43 GHz to provide multi-gigabit capability and low latency connections; military communications; and consumer applications, such as high performance wireless video streaming and untethered augmented reality and virtual reality. The company is headquartered in California and trades on the NASDAQ under symbol "PRSO".

## VALUATION METHODOLOGY

Our valuation is based on a Price/Sales ratio of 3X on our 2025 revenue estimate of \$16 million discounted back to the present at 20%. This calculation equates to a fair value of approximately \$3.75 with a fully diluted share count of 11 million.

## RISKS

Peraso, Inc., has only been a public entity since the merger with Mosis, Inc., in 2021, and currently has a very modest market cap of roughly \$3 million. This small market valuation is due in large part to a significant interruption in revenue growth resulting from an ongoing inventory correction at its largest customers. In our opinion, the primary risks to our investment thesis lie in the company's ability to scale the use of its mmWave products in the FWA and 5G markets space. Other risk factors to our investment thesis include, but are not limited to, the following:

- **Customer Concentration:** Peraso's revenue has been highly concentrated, with a few customers accounting for a significant percentage of total revenue. For the years ended December 31, 2023, and 2022, the three largest customers represented approximately 75% and 63% of total revenue, respectively. We expect that a relatively small number of customers will continue to account for a substantial portion of total revenues for the foreseeable future. As a result, operations could be adversely affected by the decision of a single key customer to either cease the use of the company's products or by selling fewer products that incorporate the Peraso technology.
- **Memory Chip End-of-Life:** Peraso intends to discontinue the production of the memory products as TSMC (the sole foundry) will be discontinuing the foundry process used to produce the memory ICs. As a result, the company has initiated an end-of-life process for these IC products and anticipates fulfilling EOL orders at least through December 31, 2024. These memory IC products represented more than 60% of revenues for the year ended December 31, 2023. The discontinuation of the production and sale of memory IC products will negatively impact future revenues, results of operations, and cash flows.
- **Sales Cycle:** The design win process for Peraso's products is generally lengthy, expensive, and competitive, with no guarantee of future revenues. Winning a design requires both design and development costs and substantial engineering resources. These efforts and costs may never result in product sales and/or provide sufficient revenues to produce a positive ROI.
- **Future Technology Development:** The company's future failure to continue to develop new and competitive products on a timely basis would likely diminish its ability to attract and retain customers and negatively impact future revenue growth.
- **Contract Manufacturing:** Peraso depends on contract manufacturers (semiconductor fabs) for a significant portion of revenues. Many current and prospective OEM customers use third-party contract manufacturers to manufacture their systems. If Peraso is unable to compete effectively for the business of these contract manufacturers, its revenue and business operations could be adversely affected.
- **Intellectual Property:** The company's existing patents might not provide sufficient protection for the integral IP and the ongoing patent applications might not result in the issuance of patents. Either of these outcomes could reduce the value of the core technology and negatively impact the current competitive position and future business operations.



- **Semiconductor Cyclicity:** The semiconductor sector is subject to periodic downturns (at times for sustained periods). As a result, Peraso's business has in the past and could be adversely affected in the future by an industry downturn which could negatively impact future revenue generation and profitability.
- **Competition:** The existing and potential markets for mmWave silicon are characterized by ever-increasing performance requirements, evolving industry standards, rapid technological change, and product obsolescence. These characteristics lead to periodic changes in customer requirements, shorter product life cycles, and changes in industry demands. To remain competitive, Peraso needs to continue to enhance and evolve its products and the underlying proprietary technologies. The failure to keep ahead of evolving technological improvement and develop future products that achieve broad market acceptance would harm the company's competitive position and impede future growth.
- **Internet Usage:** The company is dependent on the continued popularity and demand of the Internet (and increasing bandwidth) for both business and personal use. Any disruption in this current paradigm would likely hinder the demand for the company's products along with its future revenue growth and profitability.
- **Governmental Regulation:** The company's products are designed for use in both licensed and unlicensed bandwidths. Failure to comply with federal, state, and international regulations and restrictions on the use of these frequency spectrums, or the expansion of current or the enactment of new regulations, could adversely affect product sales and overall operations.
- **History of Losses:** The company has had an uneven history of operating profits/losses and there are no assurances that the company will be able to consistently generate positive net income in future periods. Continued operating losses could negatively impact the share price and require the need for additional capital.
- **Additional Equity Raises:** The company may need to raise additional capital in the future which could result in significant equity dilution for the current shareholders and negatively impact the share price.

## STOCK RATING DEFINITIONS

Buy: The stock's return is expected to exceed 12.5% over the next twelve months.

Neutral: The stock's return is expected to be plus or minus 12.5% over the next twelve months.

Sell: The stock's return is expected to be negative 12.5% or more over the next twelve months.

Investment Ratings are determined by the ranges described above at the time of initiation of coverage, a change in risk, or a change in target price. At other times, the expected returns may fall outside of these ranges because of price movement and/or volatility. Such interim deviations from specified ranges will be permitted but will become subject to review.

## RATINGS DISPERSION AND BANKING RELATIONSHIPS AS OF (August 13, 2024)

Rating	%	IB %
BUY	72.3	60.8
NEUTRAL	27.7	32.6
SELL	0.0	0.0

## COMPANIES UNDER JON'S COVERAGE

Blade Air Mobility, Inc. (BLDE)	Bridgeline Digital, Inc. (BLIN)
Byrna Technologies, Inc. (BYRN)	Core Scientific, Inc. (CORZ)
Inuvo, Inc. (INUV)	IZEA, Inc. (IZEA)
LiveOne, Inc. (LVO)	Paysign, Inc. (PAYS)
Peraso, Inc. (PRSO)	Synchronoss Technologies, Inc. (SNCR)
SuRo Capital Corp. (SSSS)	Usio, Inc. (USIO)
Energous Corporation (WATT)	

## COMPANY SPECIFIC DISCLOSURES

Ladenburg Thalmann & Co. Inc. has managed or co-managed a public offering for Peraso, Inc. within the past 12 months.

Ladenburg Thalmann & Co. Inc. intends to seek compensation for investment banking and/or advisory services from Peraso, Inc. within the next 3 months.

Ladenburg Thalmann & Co. Inc received compensation for investment banking services from Peraso, Inc. within the past 12 months.

Ladenburg Thalmann & Co. Inc had an investment banking relationship with Peraso, Inc. within the last 12 months.

Ladenburg Thalmann & Co. Inc. acted as Sole Book Running Manager in a securities offering for Peraso Inc (PRSO) in the last 12 months.

## INVESTMENT RATING AND PRICE TARGET HISTORY

## Peraso, Inc. Rating History as of 08/12/2024

powered by: BlueMatrix



B=Buy N=Neutral S=Sell D=Drop Coverage I=Initiate NR=Not Rated

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