# PERASO WIRELESS UNLEASHED™



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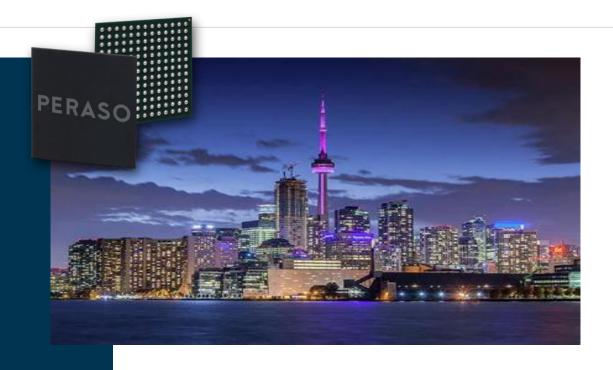
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## **Company Overview**

- 12 years of pioneering experience in mmWave RF/Antenna design
- Field Proven high-performance mmWave phased array - Advanced Beamforming
- Fully integrated solutions; mmWave antennas, RF
   phased array transceivers, on-the-fly calibration and
   adaptable beam steering
- Capturing design wins today in both existing and new mmWave hardware
- Multiple Tier-1 design wins



Ticker: PRSO (NASDAQ)

Headquarters: San Jose, CA

**Founded: 2008** 

**Employees:** 80 (as of Mar 31, 2022)

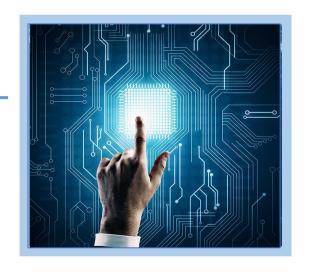
Patents: 160



### **TECHNOLOGY BACKED BY STRONG IP & PATENT PORTFOLIO**

#### mmWave RF in Silicon

High-performance, highly integrated mmWave RF circuits and systems in silicon





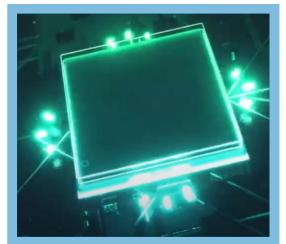
#### **Essential Claims**

Peraso has participated in mmWave standard development and has essential claim patents



mmWave phased array antennas, advanced beamforming and beam steering algorithms





# Most Comprehensive Software Support

Full software stack enables a host of new applications such as point to multipoint and wireless USB



### **ESTABLISHED AND SUSTAINABLE ADVANTAGES**











Performance

Experience

Customer Relationships Switching Costs

Customers
shipping
equipment
providing 10X
the range of their
competition

Proven execution in mmWave RF circuits where potential competitors have failed

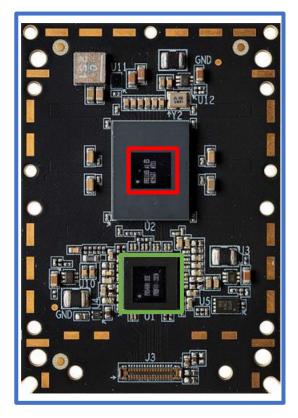
Deep
engagement with
customers
provides visibility
to long term
roadmaps

Platform of mmWave RF circuits coupled with proprietary software platform creates longterm customer commitment

Volume
production of
mmWave RF
circuits leads to
opportunity for
further cost
reductions



### **VERTICAL INTEGRATION >> PREMIER MODULE SOLUTIONS**





System Design PERASO

Software Stack **PERASO** mmWave Antenna **PERASO** mmWave RF circuits **PERASO** mmWave Baseband **PERASO** PCB/BOM Design **PERASO** 

Production Test **PERASO** 

Vertical Integration offers competitive cost structure, reduced time-to-market



## Peraso Roadmap Unlocks High-Growth TAMs

#### Current

## Roadmap

#### mmWave Fixed Wireless Access

TAM: \$335M

Performance: 3 Gbps Range:100m – 2 km

Market KPI: 100Mbps download, 32 clients

TAM:\$635M

Performance: 15Gbps Range:100m – 5km

Market KPI: 1Gbps download, 64 clients

TAM: \$150M

Performance: 3 Gbps

Range:10m

Market KPI: 500 Mbps, 5ms



TAM:\$250M

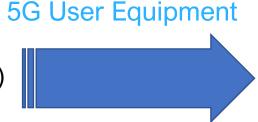
Performance: 15 Gbps

Range:20m

Market KPI: 10Gbps, 20m, 5ms

TAM: \$127M

Devices: customer premise equipment (CPE)



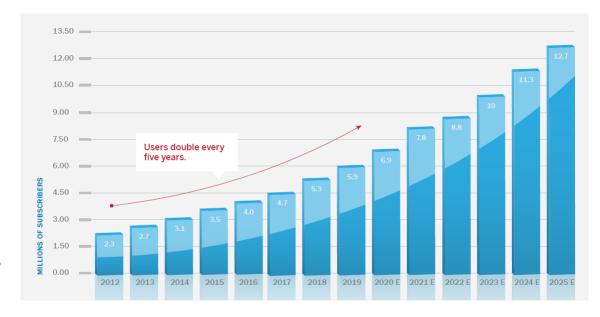
TAM: \$1.5B

Devices: CPE, laptops, hotspots



## Wireless ISPs (WISP) Experiencing High Growth

- Current wireless ISP (WISP) subscribers in U.S. are 6.7M; expected to grow to 12.7M in 2025
   Carmel Group predicts 100% growth every 5 years
- Significant WISP financing activity
  - WeLink announces \$185M financing (Jan. 2021)
  - Starry (NYSE:STRY) de-SPAC enters market at \$1.66B valuation (March 2022)
  - Tarana raises \$170M breaking \$1B valuation (March 2022)
- U.S. government providing significant support for universal broadband access
  - RDOF allocating \$20.4B for build out of broadband networks for rural communities



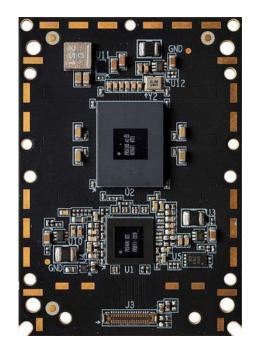
(E) Estimated/Projected Source: The Carmel Group

Numbers and estimates by The Carmel Group are for U.S. operators serving residential subscribers and non-residential subs Copyright 2021.All Rights Reserved. Unauthorized distribution, publication, or other uses are strictly prohibited



## **Established Leader in mmWave FWA Silicon**

- Q1 Introduction of PERSPECTUS FWA module establishes Peraso as the premier supplier of mmWave silicon to the WISP ecosystem
  - Support of Point-to-Multipoint (PtMP) has significantly improved Peraso TAM (vs PtP)
- 6 Existing FWA customer engagements
  - 3 new FWA customer opportunities in Q1 2022
  - Pipeline expected to continue grow for balance of 2022





#### Wireless Internet Service Provider Ecosystem





















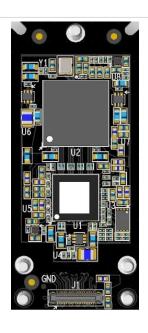




## **VR**

- mmWave is an ideal technology to support wireless VR headsets
  - High data rate (3 Gbps), low latency (< 5ms), low interference</li>
- Latest ABI VR predicts ~6M VR headsets in 2025
  - Translates to 2025 TAM of \$250M for Peraso
- Prediction of VR in a broad variety of markets, including gaming, real estate, healthcare, transportation, etc.

VR HMD Shipments by Form Factor World Markets: 2020 to 2027									
Form Factor	Shipments	2020	2021	2022	2023	2024	2025	2026	2027
Standalone	(000s)	2,633.72	8,427.91	14,748.84	23,598.15	35,397.23	46,016.39	63,502.62	79,378.28
Mobile	(000s)	1,420.74	1,202.62	1,055.03	1,145.02	1,500.79	2,078.04	2,430.99	3,025.08
Tethered	(000s)	2,574.67	2,960.87	3,493.83	4,297.41	5,070.94	5,933.00	7,000.95	7,701.04
Total	(000s)	6,629.14	12,591.41	19,297.70	29,040.58	41,968.96	54,027.44	72,934.56	90,104.39



















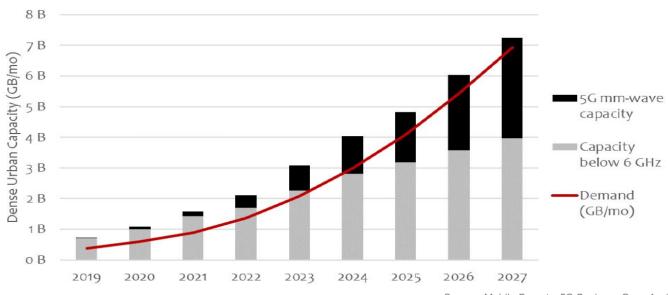


### **5G WIRELESS DEMAND IS OUTPACING NETWORK CAPACITY**



- Wireless network demand is growing exponentially; video is a primary driver
- Current cellular networks are quickly saturated – mmWave is the future of wireless networks
- Early 6G research utilizing mmWave and terahertz frequencies

#### Demand Capacity for Data in U.S. Networks

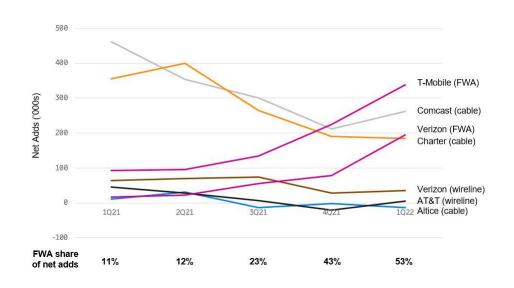


Source: Mobile Experts: 5G Business Case April 2022



## FWA is Bright Spot in Carrier 5G Rollout

- Fixed wireless access emerging as battleground for Verizon, T-Mobile U.S....and cable companies
  - Combination of C-band and mmWave potentially exceed gigabit connectivity
  - Verizon expecting 4-5M fixed wireless customers by 2025, including mmWave (source: Verizon)
  - mmWave also provides significant upload capacity
- Strong start to 2022 with <u>FWA</u> capturing 53% of the broadband net adds in 1Q22 among top 6 U.S. broadband providers (source: Ericsson)



Global Carriers Utilizing mmWave Technology





















## World's Most Integrated 5G mmWave Beamformer

- Introduced world's most highly integrated 5G mmWave beamformer
  - Support for frequency band from 24GHz 43 GHz
  - Architecture supports 16-element, dual-polarized antenna elements
  - Target EIRP is greater than 47dBm for n259, n260
- Dual-band architecture positions Peraso to address expansive 5G end-device market
  - 181M units predicted in 2023 growing to 316M units in 2026 (source: Mobile Experts, 5G Millimeter Wave 2022: March 2022)
  - Target TAM opportunity is estimated at \$1.5B in 2025, including CPE, hotspots, laptops and tablets



#### 5G mmWave Mobile Device Shipments, by device type

)										
		2019	2020	2021	2022	2023	2024	2025	2026	2027
Handheld De	evices	162,800	21,500,000	71,100,000	107,422,400	160,778,150	217,099,563	257,615,126	272,239,982	282,025,584
-	Tablet	2,200	254,400	1,078,656	1,682,703	2,118,337	2,553,558	2,975,878	3,190,141	3,445,352
	CPE			300,000	715,000	1,175,000	1,552,000	1,965,000	2,590,000	2,840,000
PC modem + Ho	tspots	55,000	2,300,000	4,975,000	9,122,250	17,812,055	27,769,902	37,722,203	38,454,145	41,145,935
	IoT			34,400	41,280	51,600	74,820	112,230	168,345	252,518
T	TOTAL	220,000	24,054,400	77,488,056	118,983,633	181,935,142	249,049,843	300,390,437	316,642,613	329,709,389

source: Mobile Experts, 5G Millimeter Wave 2022:March 2022



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### Non-GAAP Actual and Model

		Peraso Inc. (1)	Mod	el (2)	
\$ in millions	1Q 2022	4Q 2021	2021	Medium Term	Long-Term
				2 - 3 years	3+ years
Revenue	\$3.4	\$1.9	\$5.7	70%+ Growth	30%+ Growth
Gross Margin %	53.3%	30.4%	42.4%	50%	60%+
Operating Loss (3)	(\$4.9)	(\$3.1)	(\$9.9)	5% - 20%	20%+
Net Loss (3)	(\$5.1)	(\$3.9)	(\$12.8)		
Cash Flow	Cash Burn	Cash Burn	Cash Burn	Cash Generating	Cash Generating

#### **Notes:**

- (1) Reflects operating results of Peraso Technologies for 2021; 2021 includes results of MoSys, Inc. for period Dec 17-31, 2021; 2022 reflects combined company
- (2) Represents forward-looking, financial objectives and does not constitute estimates of future performance, financial or otherwise. There is no assurance that Peraso will ever achieve any of these objectives and Company undertakes no obligation to update. See note on slide 2 regarding forward looking statements and reference to risk factors in Peraso's SEC filings.
- (3) Non-GAAP measures exclude stock-based compensation expense, amortization of intangibles, business combination transaction costs, change in FV of warrant liability; see reconciliation



## **Non-GAAP Quarterly Income Statements**

(\$ in millions)	Q2'2021	Q3'2021	Q4'2021	YTD 2021	Q1'2022
Product	0.6	1.4	1.9	4.9	3.2
License and other	0.1	0.6	-	0.8	0.2
Total Revenue	\$ 0.7	\$ 2.0	\$ 1.9	\$ 5.7	\$ 3.4
Gross margin %	37.6%	54.4%	30.4%	42.4%	53.3%
Operating expense					
R&D	2.2	2.0	2.4	8.6	4.6
SG&A	0.8	0.8	1.3	3.7	2.1
Total operating expense	3.0	2.8	3.7	12.3	6.7
Loss from operations	(2.7)	(1.7)	(3.1)	(9.9)	(4.9)
Net Loss	\$ (3.5)	\$ (2.5)	\$ (3.9)	\$ (12.8)	\$ (5.1)



## Non-GAAP to GAAP Reconciliation – by quarter

(\$ in millions)	Q	2'2021	Q3'2021	Q4'202	<b>1</b>	Y	TD 2021	Q1'2022
Non-GAAP operating loss	\$	(2.7)	\$ (1.7)	\$ (3	3.1)	\$	(9.9)	\$ (4.9)
Adjustments:								
Stock-based compensation		(1.1)	(1.2)	(2	L.O)		(4.5)	(1.2)
Business combination transaction costs		(0.6)	(0.5)	(0	0.5)		(1.6)	-
Amortization of intangibles		-	-	((	0.1)		(0.1)	(0.5)
GAAP operating loss	\$	(4.4)	\$ (3.4)	\$ (4	4.7)	\$	(16.1)	\$ (6.6)
							<u>-</u> -	<u>.</u> -
Non-GAAP net loss Adjustments:	\$	(3.5)	\$ (2.5)	\$ (3	3.9)	\$	(12.8)	\$ (5.1)
Stock-based compensation		(1.1)	(1.2)	(1	L.O)		(4.5)	(1.2)
Business combination transaction costs		(0.6)	(0.5)		).5)		(1.6)	-
Amortization of intangibles		-	-	((	0.1)		(0.1)	(0.5)
Change in fair value of warrant liability		(0.2)	0.3		8.0		8.1	-
GAAP net income (loss)	\$	(5.4)	\$ (3.9)	\$	2.5	\$	(10.9)	\$ (6.8)



## **Balance Sheet and Capitalization**

Balance Sheet	<b>Q1 - Mar 31, 2022</b> (\$ in millions)
Cash & Investments	\$12.2
Total Assets (1)	\$41.9
Debt	_
Total Liabilities	<b>\$5.1</b>
Stockholders' Equity	\$41.9

Capitalization	Q1 - Mar 31, 2022 (shares in millions)
TSO (2)	19.8
Escrow shares (3)	1.8
Warrants	0.1
Options & RSUs	1.6
Fully Diluted (4)	23.3

#### **Notes**

- (1) Includes \$17.8 of goodwill and intangible assets, net recorded in connection with the business combination between Peraso and MoSys
- (2) Includes 7.9 million exchangeable shares with the same rights as common shares, which were issued by our Canadian subsidiary to certain Canadian stockholders of Peraso Technologies in connection with the business combination between Peraso and MoSys
- (3) 1.8 million shares subject to escrow and earn-out; achievement of \$8.57 share price over three years
- (4) Excludes 3.0 million shares available for future awards under our equity incentive plan



#### **SUMMARY**

- Increase in 5G wireless demand has strained the existing wireless spectrum
- Use of **mmWave in 5G networks** is inevitable. Existing 'beachfront' property is disappearing
- Peraso is a leader in mmWave technology with a clear and defensible competitive advantage
- Peraso is a pure play investment opportunity in the mmWave semiconductor space



### Peraso Inc.

Delivering High Speed 5G Wireless

## **Management Team**



#### Ron Glibbery

CEO

Over 30 years of experience in the semiconductor industry in both the technical and commercial aspects of the business.



Dan Lewis

VP, Memory Products

Over 30 years in sales, marketing and CEO leadership roles in the semiconductor industry. Previously at MoSys, Inc.



Brad Lynch

COO

Over 20 years of semiconductor product design and development experience. Background in communication systems, software, DSP and standards.



Alex Tomkins

CTO

Over 15 years of mmWave wireless semiconductor design, development and architecture experience in CMOS, SiGe and SOI.



Jim Sullivan

**CFO** 

Over 30 years in finance and CFO leadership roles at publicly traded technology companies. Previously at MoSys, Inc.

# PERASO WIRELESS UNLEASHED™

## THANK YOU

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