

Rambus Investor Presentation

Q2 2024

A glowing blue, diamond-shaped microchip is centered on a dark blue background with a complex circuit pattern. The chip has a white border and the word "Rambus" in white italicized font. Four small white triangles point outwards from the corners of the chip.

Rambus

Safe Harbor for Forward-Looking Statements; Other Disclosures

This presentation contains forward-looking statements, including those relating to the Company's expectations regarding business opportunities, the Company's ability to deliver long-term, profitable growth, industry growth rates, timing of expected product launches, demand for existing and newly-acquired technologies, product and investment strategies, the Company's outlook and financial guidance for recent and upcoming quarters and related drivers, the Company's ability to effectively manage market challenges, and the effects of ASC 606 on reported revenue, among other items.

Such forward-looking statements are based on current expectations, estimates and projections, management's beliefs and certain assumptions. Actual results may differ materially. The Company's business generally is subject to a number of risks which are described more fully in the Company's periodic reports filed with the Securities and Exchange Commission. The Company undertakes no obligation to update forward-looking statements to reflect events or circumstances after the date hereof.

This presentation contains non-GAAP financial measures, including cost of product revenue, operating costs and expenses, and interest and other income (expense), net. In computing these non-GAAP financial measures, stock-based compensation expenses, acquisition/divestiture-related costs and retention bonus expense, gain on divestiture, impairment of assets related to divestiture, amortization of acquired intangible assets, expense on abandoned operating leases, restructuring and other charges, provision for (benefit from) income taxes, change in fair value earn-out liability, gain on sale of equity investment and certain other one-time adjustments were considered. The non-GAAP financial measures should not be considered a substitute for, or superior to, financial measures calculated in accordance with GAAP, and the financial results calculated in accordance with GAAP and reconciliations from these results should be carefully evaluated. Management believes the non-GAAP financial measures are appropriate for both its own assessment of, and to show investors, how the Company's performance compares to other periods. Reconciliation from GAAP to non-GAAP results are made available and more fully described on our website as well as the back of this deck and in the earnings release.

Rambus
Data • Faster • Safer

\$225M

2023 Product Revenue

Industry-Leading
Chips and Silicon IP

\$196M

2023 Cash from Operations

Data Center
>75% of Chip and
Silicon IP Revenue



GSA 2023
**Most Respected Emerging
Semiconductor Company**

\$100-500M Revenue

+42%
5-year CAGR
Product Revenue

34 Years
Technology Leadership

San Jose HQ
Global Footprint

~600 Employees
>70% in Engineering

~2700
Patents and Patents Pending

Semiconductor Solutions Built on Innovation

Rambus Offerings

Chips



Memory
Interface Chips

Product Sales

Silicon IP



Interface IP



Security IP

IP Licenses

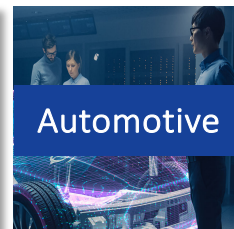
Innovations



Foundational
R&D and IP

Patent Licenses

Markets Served



Automotive



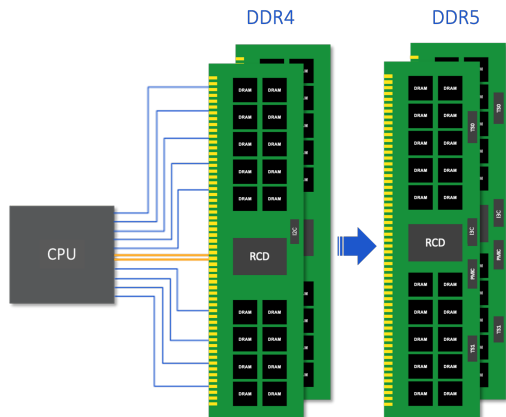
Government



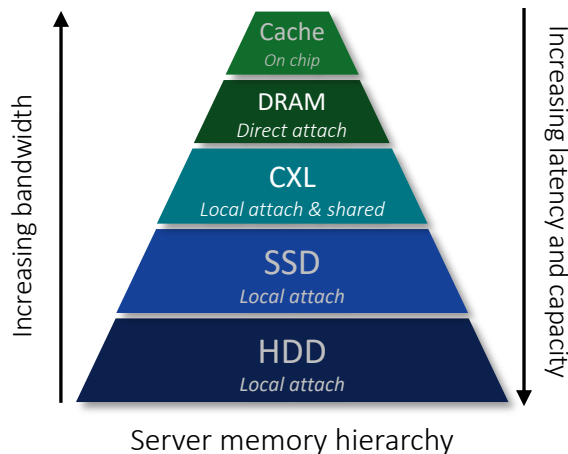
IoT

Amplified Opportunities in Data Center

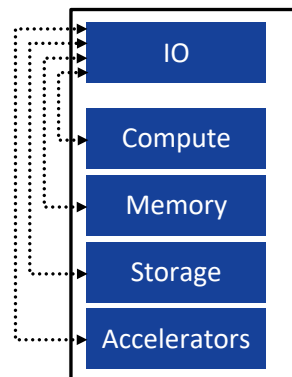
Delivering higher performance with DDR5



Bridging the latency & capacity gap with memory tiering



Improving efficiency with composable computing

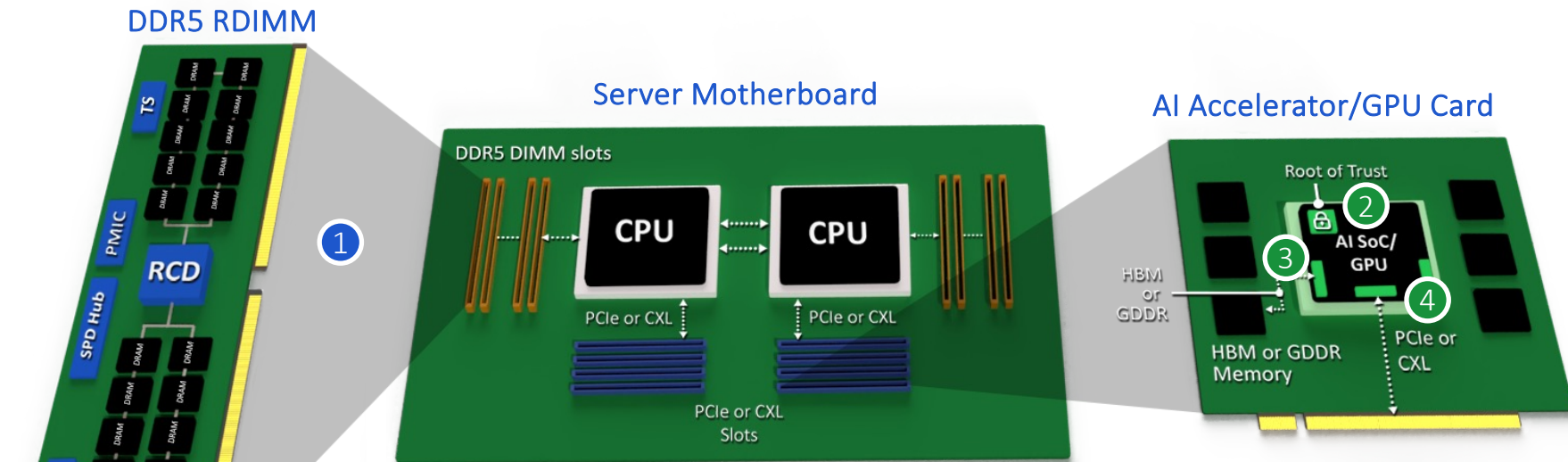


Composable resources:

- Compute
- Memory
- Storage
- Accelerators
- Shared Boot
- Enhance Security

Increasing need for performance, delivered securely and reliably

Rambus Solutions for the Data Center



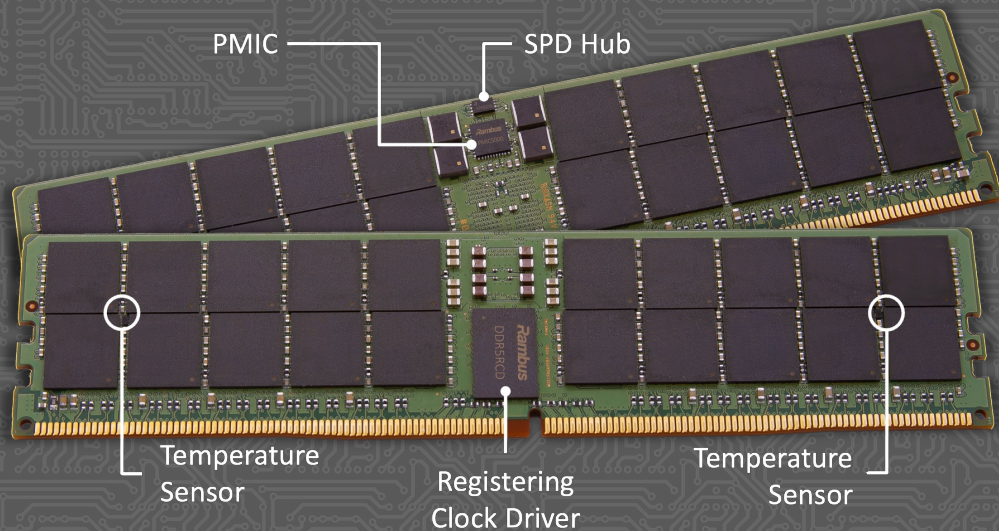
Rambus Products:

- 1 Memory Interface Chips: Registering Clock Driver, PMIC, SPD Hub, Temperature Sensor
- 2 Root of Trust Security IP with Quantum Safe Cryptography
- 3 HBM/GDDR Memory Controller IP + Inline Memory Encryption Security IP
- 4 PCIe/CXL Controller IP (including Integrity and Data Encryption Security IP)

- Chips
- Silicon IP

Rambus Memory Interface Chips

Driving the pace of server main memory performance



DDR5 Server Chipset

42%

5-Year Product Revenue CAGR
(~Memory Interface Chips)

Industry-leading DDR5 RCDs

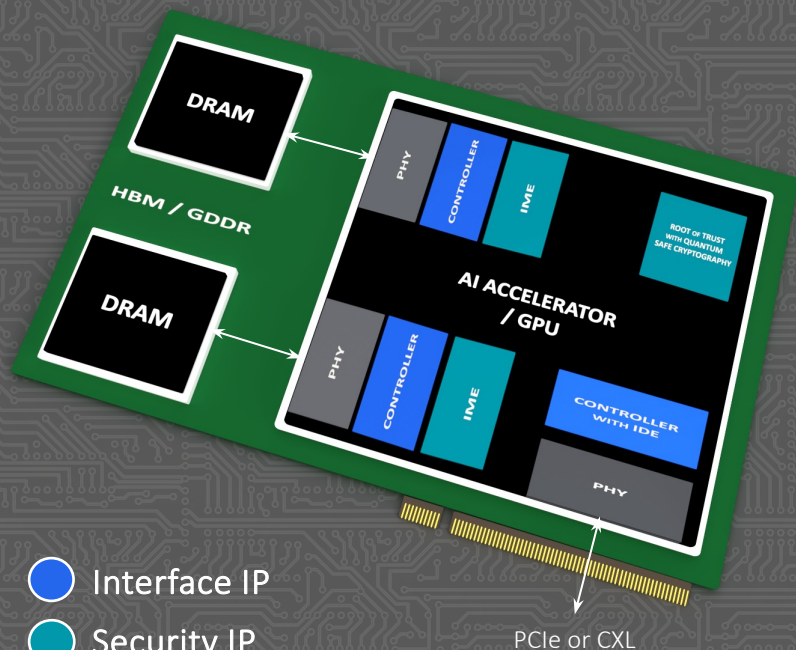
Gen1 4800 MT/s to Gen4 7200 MT/s

DDR5 companion chip portfolio:

- PMICs
- SPD Hub*
- Temperature Sensor

*SPD Hub supports client UDIMMs and SODIMMs

Silicon IP Solutions for AI



● Interface IP

● Security IP

IME = Inline Memory Encryption
IDE = Integrity & Data Encryption

- Essential building blocks for high-performance chips: HBM, GDDR, PCIe, CXL, PQC, Root of Trust, IME/IDE
- Key Benefits
 - Deliver industry-leading bandwidth performance
 - Enable high-speed data communications between devices
 - Protect data at rest, in use and in motion

Rambus Uniquely Positioned for Novel Memory Solutions

Industry Leadership

Industry leading performance to 7200 MT/s for DDR5-based servers

Core Expertise

World-class expertise in memory interface and interconnect subsystems (digital controller and security IP)

Innovation

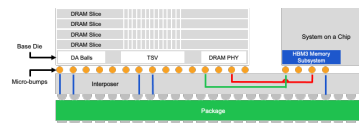
34 years of research and innovation in high-performance memory, high-speed interfaces, and hardware security

Foundation

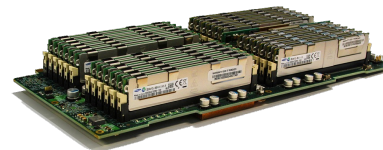
Company founded on mission to drive increased memory bandwidth for greater computing performance



DDR5 Memory Interface Chipset



HBM3E Memory Interface IP



Smart Data Acceleration Engine

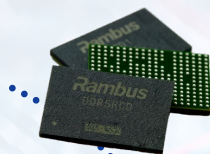


RDRAM Synchronous Memory

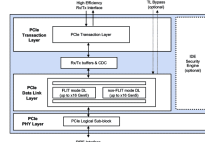
Product Leadership Driving Long-term Growth

2018-2023
42%
Product Revenue
CAGR*

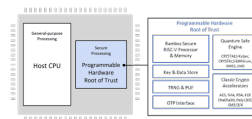
*Consisting primarily of Memory Interface Chips



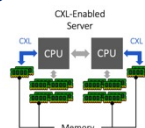
DDR5 memory interface
chipsets delivering industry-
leading performance



HBM, GDDR, PCIe, and CXL
controller IP critical to data
center and AI



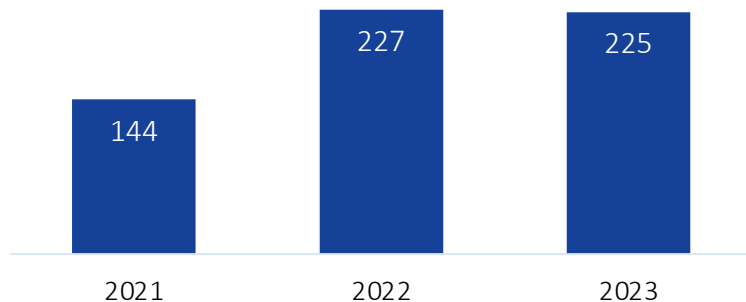
Broadest portfolio of secure
root of trust, protocol engine,
and crypto accelerator cores



Experts in interconnect solutions
critical for performance and utilization
in emerging data center architectures

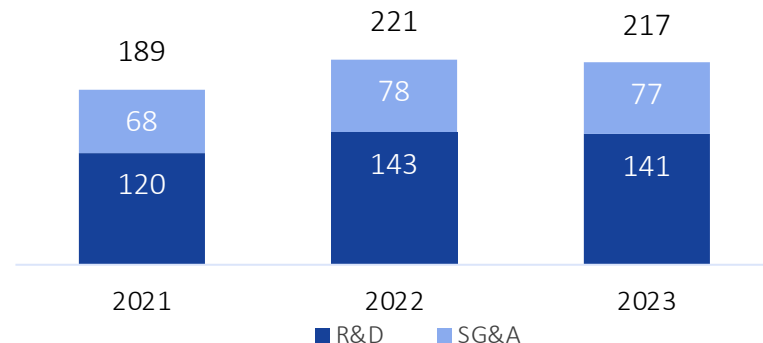
Financial Highlights

Product Revenue* (\$M)

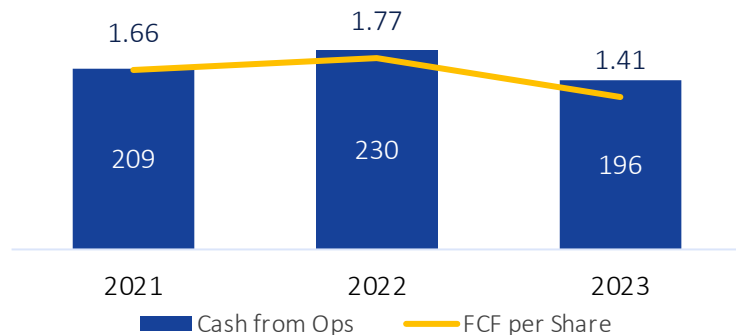


*Consisting Primarily of Memory Interface Chips

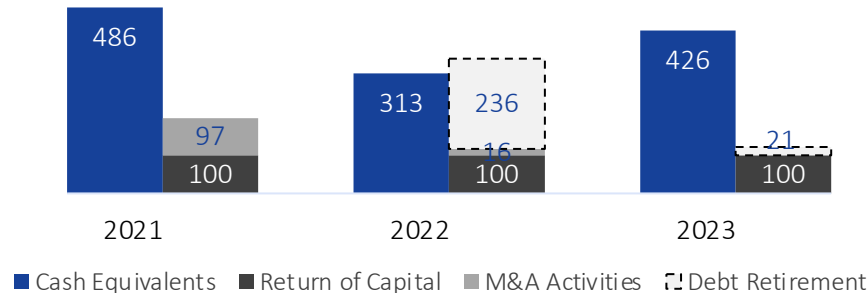
Pro Forma Operating Expenses (\$M)



Cash from Operations (\$M) & FCF per Share (\$)



Cash Equivalents & Return of Capital (\$M)



Rambus Investment Summary



Amplified opportunity in data center as memory relevance accelerates fueled by AI



Pioneer of industry-leading chips and silicon IP enabling critical performance improvements for the continued evolution of the data center



Continued innovation feeds patent portfolio and product roadmap expansion



Focus on strategic initiatives drives financial results and profitable growth



Strong cash generation fuels growth initiatives and return of value to stockholders

Detailed Financials



Strong cash generation fuels growth initiatives
and return of value to stockholders

Outstanding Cash Generation

<i>In Millions</i>	<u>ASC 606</u> Q1 2023	<u>ASC 606</u> Q2 2023	<u>ASC 606</u> Q3 2023	<u>ASC 606</u> Q4 2023	<u>ASC 606</u> Q1 2024	
Revenue	\$113.8	\$119.8	\$105.3	\$122.2	\$117.9	Continued execution and strengthened focus on differentiated portfolio
Total Operating Costs and Expenses ¹	\$86.3	\$75.7	\$72.9	\$71.9	\$74.2	Strategic R&D investment to support core growth initiatives
Operating Income ¹	\$27.5	\$44.1	\$32.4	\$50.3	\$43.7	Operating results under ASC 606 do not reflect cash flows from fixed-fee licensing arrangements
Cash from Operations	\$38.9	\$50.4	\$51.6	\$54.8	\$39.1	Solid cash generation

¹Please refer to reconciliations of non-GAAP financial measures included in this presentation and in our earnings release

Strong Balance Sheet Supports Strategic Initiatives

<i>In Millions</i>	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	
Total Cash & Marketable Securities	\$292.1	\$332.6	\$375.5	\$425.8	\$391.1	Completed \$50M accelerated share repurchase program
Total Assets	\$962.6	\$1,127.1	\$1,184.3	\$1,258.2	\$1,208.8	Strong balance sheet and debt free
Stockholders' Equity	\$761.7	\$945.6	\$955.6	\$1,038.1	\$991.6	
Cash from Operations	\$38.9	\$50.4	\$51.6	\$54.8	\$39.1	Sustained, predictable cash generation

Reconciliation of Non-GAAP Financial Measures

Net Income in Millions	Q1 2023 (ASC 606)	Q2 2023 (ASC 606)	Q3 2023 (ASC 606)	Q4 2023 (ASC 606)	Q1 2024 (ASC 606)
GAAP Net Income	\$3	\$169	\$103	\$59	\$33
Adjustments:					
Stock-based compensation	\$13	\$11	\$10	\$11	\$9
Acquisition/divestiture-related costs and retention bonus expense	\$1	\$0	\$0	\$0	\$0
Amortization of acquired intangible assets	\$4	\$4	\$4	\$3	\$3
Expense on abandoned operating leases	\$1	\$0	\$0	\$0	\$0
Provision for (benefit from) income taxes	(\$7)	(\$166)	(\$4)	(\$9)	(\$9)
Change in fair value of earn-out liability	\$7	\$7	(\$6)	\$1	\$1
Restructuring and other charges	\$0	\$9	\$0	\$0	\$0
Gain on divestiture	\$0	\$0	(\$91)	\$0	\$0
Impairment of assets	\$0	\$0	\$10	\$0	\$0
Gain on sale of equity investment	\$0	\$0	\$0	(\$24)	(\$0)
Non-GAAP Net Income	\$22	\$35	\$26	\$41	\$37
Operating Income in Millions	Q1 2023 (ASC 606)	Q2 2023 (ASC 606)	Q3 2023 (ASC 606)	Q4 2023 (ASC 606)	Q1 2024 (ASC 606)
GAAP Operating Income	\$2	\$12	\$105	\$35	\$30
Adjustments:					
Stock-based compensation	\$13	\$11	\$10	\$11	\$9
Acquisition-related/divestiture costs and retention bonus expense	\$1	\$0	\$0	\$0	\$0
Amortization of acquired intangible assets	\$4	\$4	\$4	\$3	\$3
Expense on abandoned operating leases	\$1	\$0	\$0	\$0	\$0
Change in fair value of earn-out liability	\$7	\$7	(\$6)	\$1	\$1
Restructuring and other charges	\$0	\$9	\$0	\$0	\$0
Gain on divestiture	\$0	\$0	(\$91)	\$0	\$0
Impairment of assets	\$0	\$0	\$10	\$0	\$0
Non-GAAP Operating Income	\$28	\$44	\$32	\$50	\$44
Depreciation	\$7	\$8	\$7	\$6	\$6
Adjusted EBITDA	\$35	\$52	\$39	\$56	\$50

* Tables exclude the following items which round to \$0M: Non-cash interest expense, Facility restoration costs, and Severance costs.

** Certain amounts may be off \$1.0M due to rounding.

Revenue and Licensing Billings

In Thousands	ASC 606					ASC 606
	Q1'23	Q2'23	Q3'23	Q4'23	FY 2023	Q1'24
Royalty Revenue	\$28,169	\$40,672	\$28,857	\$52,412	\$150,110	\$47,476
Product Revenue	\$63,775	\$54,978	\$52,181	\$53,698	\$224,632	\$50,360
Contract and Other Revenue	\$21,818	\$24,182	\$24,260	\$16,115	\$86,375	\$20,035
Total	\$113,762	\$119,832	\$105,298	\$122,225	\$461,117	\$117,871

In Thousands	Q1'23	Q2'23	Q3'23	Q4'23	FY 2023	Q1'24
Royalty Revenue	\$28,169	\$40,672	\$28,857	\$52,412	\$150,110	\$47,476
Licensing Billings ¹	\$63,405	\$60,175	\$57,906	\$66,245	\$247,731	\$63,197
Delta	\$35,236	\$19,503	\$29,049	\$13,833	\$97,621	\$15,721

In Thousands	Q1'23	Q2'23	Q3'23	Q4'23	FY 2023	Q1'24
ASC 606 Interest Income ²	\$919	\$627	\$426	\$246	\$2,218	\$180

¹ Licensing billings is an operational metric that reflects amounts invoiced to our patent and technology licensing customers during the period, as adjusted for certain differences relating to advanced payments for variable licensing agreements.

² Interest income associated with the significant financing component of licensing agreements as a result of the adoption of ASC 606.

GAAP to Non-GAAP Income Statement

In \$ Millions	GAAP Actual Q1'24	Non-GAAP Actual Q1'24	Delta to GAAP
Revenue	\$117.9	\$117.9	\$-
Cost of revenue	23.7	20.5	(3.2)
Research and development	37.4	33.8	(3.5)
Sales, general and administrative	26.0	19.9	(6.2)
Change in fair value of earn-out liability	0.7	0.0	(0.7)
Total operating cost and expenses	87.7	74.2	(13.6)
Operating income	30.1	43.7	13.6
Interest and other income (expense), net	4.2	4.2	0.0
Income before income taxes	34.4	47.9	13.6
Provision for income taxes ¹	1.5	10.5	9.1
Net income	\$32.9	\$37.4	\$4.5

¹ Assumes a non-GAAP tax rate of 22%.

Certain amounts may be off \$0.1M due to rounding.

Product Overview



Industry-leading Chips and Silicon IP

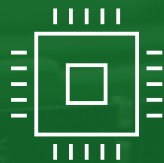
Chips

Providing memory bandwidth and capacity to unleash the power of CPUs and accelerators

Chips

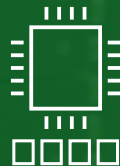
Silicon IP

Innovations



Memory Interface Chips

- DDR5 Server Chipset
- DDR4 Server Chipset



CXL Memory Initiative

DDR5 DIMM Chipset

Industry-leading Performance and Margin

- Compliant with latest JEDEC spec up to 7200 MT/s
- Wide margin IO design with advanced programmability
- Exceeds JEDEC reliability requirements

Optimized Power

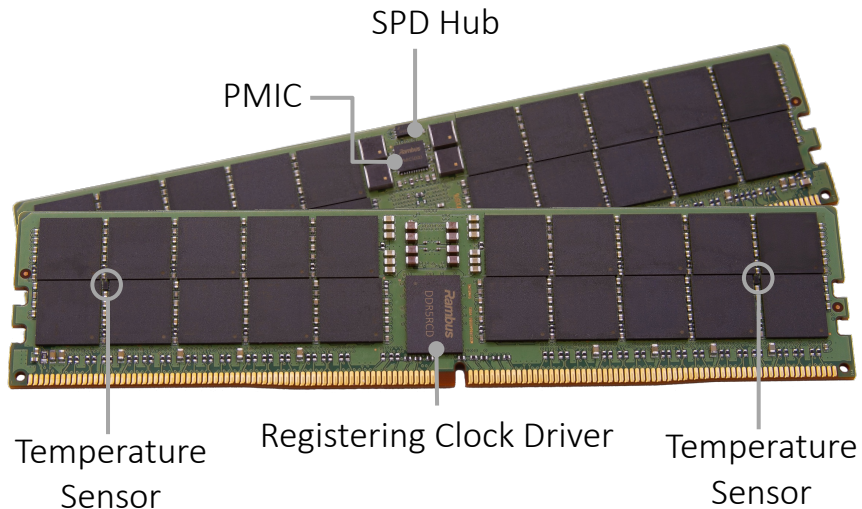
- Frequency-based power optimization

Best-in-class Debug and Serviceability

- Integrated tools for bring-up and debug
- Works out of the box with default system BIOS

Use Cases

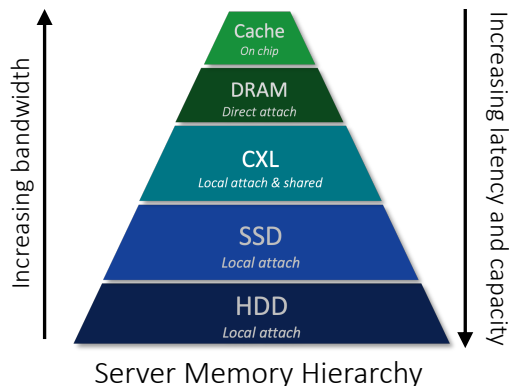
- Server (RCD, PMIC, SPD Hub, Temp. Sensors): RDIMM
- Client (SPD Hub Only): UDIMM, SODIMM, CUDIMM, CSODIMM



DDR5 RDIMMs with Rambus Memory Interface chips: Registering Clock Driver, PMIC, SPD Hub and Temperature Sensor ICs

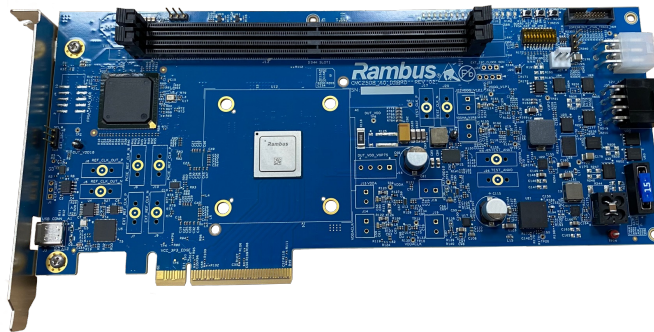
CXL Memory Initiative

Bridging the Latency Gap with CXL



- Compute Express Link (CXL) enables a new tiered memory architecture that can bridge the latency and capacity gap

CXL Platform Development Kit (PDK)



- Enables prototyping and test of memory expansion and pooling solutions
- Interoperable with CXL 1.1/2.0 capable processors and memory
- Accelerates development of full stack of next-generation CXL-based solutions

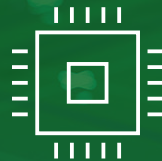
Silicon IP

Enabling accelerated computing
with high-performance interfaces
and hardware-level security

Chips

Silicon IP

Innovations



Interface IP






























- PCI Express
- CXL
- HBM
- GDDR

































































Security IP

- Root of Trust
- MACsec
- IPsec
- IME

Interface IP: Memory Interface and Interconnect IP

	Memory Controllers					Interconnect Controllers					Video Compression	
	DDR	LPDDR	GDDR	HBM		CXL		PCI Express		MIPI	VESA	FEC
Application Focus	4	4X/5X	6/7	2/2E	3/3E	2.0	3.1	5.0	6.1	CSI-2/ DSI-2	DSC/ VDC-M	DP/ HDMI
Data Center												
AI/Edge												
Automotive										 ★	 ★	 ★
Government & Defense												
IoT												
Availability	Now	Now	Now	Now	Now	Now	Now	Now	Now	Now	Now	Now

Security IP: Protecting Data at Rest, in Motion, and in Use

	Root of Trust		Network Security		Cipher Engines	Crypto Cores		Provisioning	
Application Focus	Programmable	Firmware Controlled	MACsec	IPsec TLS	IME	Crypto	TRNG	Infrastructure	Key Management
Data Center	  	N/A				 	 		
AI/Edge	   	  				 	 		
Automotive	 	 		N/A					
Government & Defense	  					  	 		
IoT	N/A	  	N/A		N/A	 	 		
Availability	Now	Now	Now	Now	Now	Now	Now	Now	Now

Rambus Labs

Enabling next-generation data centers through innovation, research and development



Chips

Silicon IP

Innovations



Next-Gen Memory



Post-Quantum
Computing Security

Key Areas of Focus for Rambus Labs



Next-Gen Memory
Architectures and
Performance



Secure and Reliable
Memory Systems

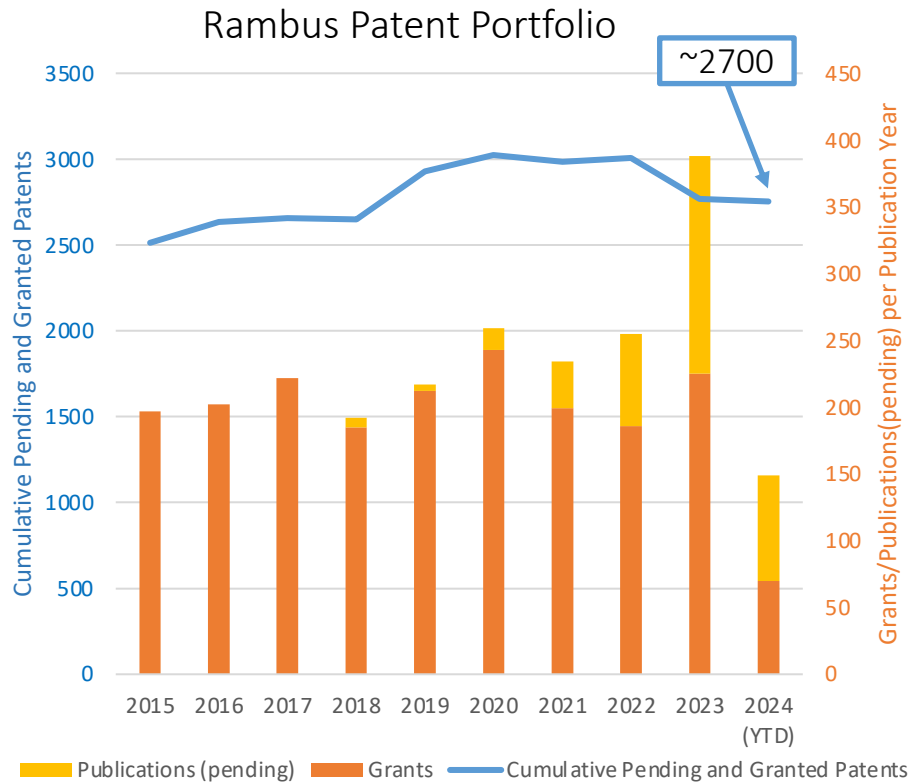


Security for AI/ML
and PQC

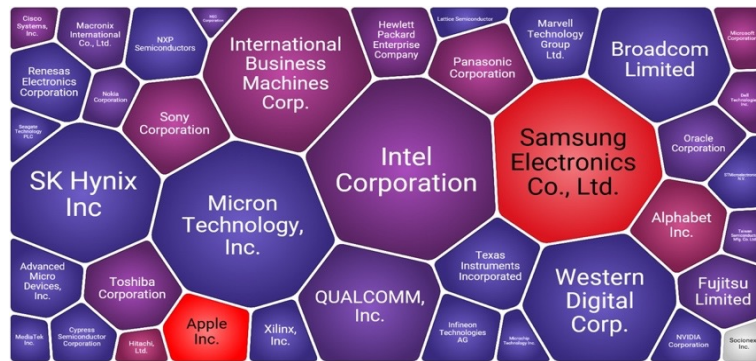


Strategic Customer &
Product Roadmap
Support

Innovating to Meet Market Needs



Industry Recognition of Rambus Patents



Source: Innography, patent citations

- Fundamental R&D feeds product development
- Relevant portfolio regularly cited by major industry players
- Supports predictable licensing base and sustained cash generation

Thank you

