

## Design Products and Industry

10/22/24

### NVDA

Product	Industries
Foundational CUDA programming	Data Center (Another term for AI Gaming Professional Visualization Automotive)

The following table summarizes information pertaining to our revenue by each of the specialized markets we serve:

Revenue:	Year Ended		
	Jan 28, 2024	Jan 29, 2023	Jan 30, 2022
Data Center	\$ 47,525	\$ 15,005	\$ 10,613
Gaming	10,447	9,067	12,462
Professional Visualization	1,553	1,544	2,111
Automotive	1,091	903	566
OEM and Other	306	455	1,162
Total revenue	\$ 60,922	\$ 26,974	\$ 26,914

### AVGO

Product	Industries
Complex digital and mixed signal complementary metal oxide semiconductor ("CMOS") based devices Analog III-V based products Fibre Channel Storage area networking ("FC SAN")	Broadband Networking Wireless Storage Industrial

Major End Markets	Major Applications	Material Product Families
Broadband	• STB and Broadband Access	<ul style="list-style-type: none"> <li>• STB SoCs</li> <li>• DSL/PON gateways</li> <li>• DOCSIS cable modem and networking infrastructure</li> <li>• DSLAM/PON optical line termination</li> <li>• Wi-Fi access point SoCs</li> </ul>
Networking	• Data Center, Service Provider, and Enterprise Networking	<ul style="list-style-type: none"> <li>• Ethernet switching and routing silicon</li> <li>• Custom silicon solutions</li> <li>• Optical and copper PHYs</li> <li>• Fiber optic transmitter and receiver components</li> </ul>
Wireless	• Mobile Device Connectivity	<ul style="list-style-type: none"> <li>• RF front end modules and filters</li> <li>• Wi-Fi, Bluetooth, GPS/GNSS SoCs</li> <li>• Custom touch controllers</li> <li>• Inductive charging ASICs</li> </ul>
Storage	<ul style="list-style-type: none"> <li>• Servers and Storage Systems</li> <li>• HDD and SSD</li> </ul>	<ul style="list-style-type: none"> <li>• SAS and RAID controllers and adapters</li> <li>• PCIe switches</li> <li>• Fibre channel host bus adapters</li> <li>• Ethernet NIC</li> <li>• Read channel based SoCs; Custom flash controllers</li> <li>• Preamplifiers</li> </ul>
Industrial	• Factory Automation, Renewable Energy and Automotive Electronics	<ul style="list-style-type: none"> <li>• Optocouplers</li> <li>• Industrial fiber optics</li> <li>• Industrial and medical sensors</li> <li>• Motion control encoders and subsystems</li> <li>• Light emitting diode</li> <li>• Ethernet PHYs, switch ICs and camera microcontrollers</li> </ul>

<u>Software Portfolio</u>	<u>Portfolio Description</u>	<u>Major Portfolio Offerings</u>
<b>Mainframe Software</b>	<ul style="list-style-type: none"> <li>DevOps, AIOps, Security, Workload Automation, Data Management, and Foundational Software Solutions</li> <li>Beyond Code programs</li> </ul>	<ul style="list-style-type: none"> <li>Operational Analytics &amp; Management</li> <li>Workload Automation</li> <li>Database &amp; Data Management</li> <li>Application Development &amp; Testing</li> <li>Identity &amp; Access Management</li> <li>Compliance &amp; Data Protection</li> <li>Security Insights</li> <li>Skills Development and Staffing</li> <li>Software Rationalization and Migration</li> <li>Software Efficiency and Cost Optimization Tools</li> <li>Change Management Support</li> <li>Technology Proof of Concepts</li> </ul>
<b>Distributed Software</b>	<ul style="list-style-type: none"> <li>Solutions that optimize the planning, development and delivery of business critical services</li> </ul>	<ul style="list-style-type: none"> <li>ValueOps</li> <li>DevOps</li> <li>AIOps</li> </ul>
<b>Symantec Cyber Security</b>	<ul style="list-style-type: none"> <li>Comprehensive threat protection and compliance solutions that secure against threats and compliance risks by protecting users and data on any app, device, or network</li> </ul>	<ul style="list-style-type: none"> <li>Endpoint Security</li> <li>Network Security</li> <li>Information Security</li> <li>Identity Security</li> </ul>
<b>FC SAN Management</b>	<ul style="list-style-type: none"> <li>Solutions that transforms current storage networks with autonomous SAN capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Fibre Channel Switch</li> </ul>
<b>Payment Security</b>	<ul style="list-style-type: none"> <li>Arcot payment authentication network powered by 3-D Secure</li> </ul>	<ul style="list-style-type: none"> <li>Payment Security Suite</li> </ul>

## AMD

<b>Product</b>	<b>Industry</b>
<ul style="list-style-type: none"> <li>server microprocessors (CPUs), graphics processing units (GPUs), accelerated processing units (APUs), data processing units (DPUs), Field Programmable Gate Arrays (FPGAs), Smart Network Interface Cards (SmartNICs), Artificial Intelligence (AI) accelerators and Adaptive System-on-Chip (SoC) products for data centers</li> <li>CPUs, APUs and chipsets for desktop, notebook, and handheld personal computers</li> <li>discrete GPUs, and semi-custom SoC products and development services;</li> <li>embedded CPUs, GPUs, APUs, FPGAs, System on Modules (SOMs), and Adaptive SoC products.</li> </ul>	<ul style="list-style-type: none"> <li>the Data Center segment, which primarily includes server CPUs, GPUs, APUs, DPUs, FPGAs, SmartNICs, AI accelerators and Adaptive SoC products for data centers;</li> <li>the Client segment, which primarily includes CPUs, APUs, and chipsets for desktop, notebook and handheld personal computers;</li> <li>the Gaming segment, which primarily includes discrete GPUs, semi-custom SoC products and development services; and</li> <li>the Embedded segment, which primarily includes embedded CPUs, GPUs, APUs, FPGAs, SOMs, and Adaptive SoC products.</li> </ul>

	<b>Year Ended</b>	
	<b>December 30, 2023</b>	<b>December 31, 2022</b>
(In millions)		
<b>Net revenue:</b>		
Data Center	\$ 6,496	\$ 6,043
Client	4,651	6,201
Gaming	6,212	6,805
Embedded	5,321	4,552
Total net revenue	\$ 22,680	\$ 23,601
<b>Operating income (loss):</b>		
Data Center	\$ 1,267	\$ 1,848
Client	(46)	1,190
Gaming	971	953
Embedded	2,628	2,252
All Other	(4,419)	(4,979)
Total operating income	\$ 401	\$ 1,264

## QCOM

Product	Industry
<p>3G, 4G, and 5G wireless connectivity High performance and low-power computing (on-device AI) QCT vs QTL Segment</p> <ul style="list-style-type: none"> <li>• QCT – 3g/4g/5g for wireless communications</li> <li>• QTL – WCDMA (wideband CDMA), LTE and/or OFDMA-based 5G standards</li> </ul> <p>QSI – Venture capital stuff</p>	Wireless Industry

### *QCT Segment (in millions, except percentages)*

	2023	2022	Change
<b>Revenues</b>			
Handsets	\$ 22,570	\$ 28,815	\$ (6,245)
Automotive	1,872	1,509	363
IoT (internet of things)	5,940	7,353	(1,413)
Total revenues (1)	\$ 30,382	\$ 37,677	\$ (7,295)
<b>EBT (2)</b>	\$ 7,924	\$ 12,837	\$ (4,913)
EBT as a % of revenues	26 %	34 %	-8 points

### *QTL Segment (in millions, except percentages)*

	2023	2022	Change
Licensing revenues	\$ 5,306	\$ 6,358	\$ (1,052)
EBT	3,628	4,628	(1,000)
EBT as a % of revenues	68 %	73 %	-5 points

### *QSI Segment (in millions)*

	2023	2022	Change
Equipment and services revenues	\$ 28	\$ 31	\$ (3)
Loss before income taxes	(12)	(279)	267

## MRVL

Product	Industry
Custom ASICS	Data Center
Electro-optics	Enterprise Networking
Ethernet Solutions	Carrier infrastructure
Fibre Channel Products	Consumer
Processors	Automotive/industrial
Storage Controllers	

The following table summarizes net revenue disaggregated by end market (in millions, except percentages):

	Year Ended					
	February 3, 2024	% of Total	January 28, 2023	% of Total	January 29, 2022	% of Total
Data center	\$ 2,216.7	40 %	\$ 2,408.8	41 %	\$ 1,784.7	40 %
Enterprise networking	1,228.4	22 %	1,369.2	23 %	907.7	20 %
Carrier infrastructure	1,051.9	19 %	1,084.0	18 %	820.4	18 %
Consumer	622.4	11 %	701.1	12 %	700.0	16 %
Automotive/industrial	388.3	8 %	356.5	6 %	249.6	6 %
Total	\$ 5,507.7		\$ 5,919.6		\$ 4,462.4	

End market	Customer products and applications
Data center	<ul style="list-style-type: none"> <li>Cloud and on-premise Artificial intelligence (“AI”) systems</li> <li>Cloud and on-premise ethernet switching</li> <li>Cloud and on-premise network-attached storage (“NAS”)</li> <li>Cloud and on-premise AI servers</li> <li>Cloud and on-premise general-purpose servers</li> <li>Cloud and on-premise storage area networks</li> <li>Cloud and on-premise storage systems</li> <li>Data center interconnect (“DCI”)</li> </ul>
Enterprise networking	<ul style="list-style-type: none"> <li>Campus and small medium enterprise routers</li> <li>Campus and small medium enterprise ethernet switches</li> <li>Campus and small medium enterprise wireless access points (“WAPs”)</li> <li>Network appliances (firewalls, and load balancers)</li> <li>Workstations</li> </ul>
Carrier infrastructure	<ul style="list-style-type: none"> <li>Broadband access systems</li> <li>Ethernet switches</li> <li>Optical transport systems</li> <li>Routers</li> <li>Wireless radio access network (“RAN”) systems</li> </ul>
Consumer	<ul style="list-style-type: none"> <li>Broadband gateways and routers</li> <li>Gaming consoles</li> <li>Home data storage</li> <li>Home wireless access points (“WAPs”)</li> <li>Personal Computers (“PCs”)</li> <li>Printers</li> <li>Set-top boxes</li> </ul>
Automotive/industrial	<ul style="list-style-type: none"> <li>Advanced driver-assistance systems (“ADAS”)</li> <li>Autonomous vehicles (“AV”)</li> <li>In-vehicle networking</li> <li>Industrial ethernet switches</li> <li>United States military and government solutions</li> <li>Video surveillance</li> </ul>

## MPWR

Product	Industry
<p>High-performance, semiconductor based power electronics solutions</p> <p>Integrated circuits (“ICs”) = (1) Digital, (2) analog, (3) mixed signal</p> <ul style="list-style-type: none"> <li><u>Digital</u> – memory devices and microprocessors – store or perform arithmetic functions in 0s and 1s</li> <li><u>Analog</u> – handle real world signals (temperature, pressure, light, sound or speed) <ul style="list-style-type: none"> <li>Power management functions – converting voltages for electronic devices</li> </ul> </li> <li><u>Mixed</u> – combine digital and analog functions</li> </ul>	Storage and computing Automotive Enterprise Data Consumer Communications Industrial

End Markets	Applications	Percentage of Total Revenue		
		2023	2022	2021
Storage and computing	Storage applications, commercial notebooks, and graphics cards	27.0%	25.3%	21.2%
Automotive	Advanced driver assistance systems, infotainment, digital cockpit, USB connectors, body electronics, and lighting applications	21.7%	16.7%	16.9%
Enterprise Data	Cloud-based CPU server applications, and server artificial intelligence ("AI") applications	17.7%	14.0%	9.6%
Consumer	Home appliances, gaming, smart TVs, lighting, monitors, and stereos	12.9%	17.8%	23.4%
Communications	4G and 5G infrastructure, satellite communications, and other wireless applications	11.3%	14.0%	13.6%
Industrial	Power sources, industrial meter, security applications, and other industrial equipment	9.4%	12.2%	15.3%

Product	Industry
FPGA – Field programmable gate array	<u>Communications and Computing Market</u> - servers and client devices, 5G wireless infrastructure, switches, routers, and other related applications
Lattice Avant, Certus, Lattice ECP	<u>Industrial and Automotive Market</u> - industrial Internet
Lattice Mach	of Things ("IoT") and "Industry 4.0", machine vision, robotics, factory automation, advanced driver assistance systems ("ADAS"), and automotive infotainment
Lattice iCE	
Lattice CrossLink	<u>Consumer Market</u> - making products smarter and smaller, including smart home devices, prosumer devices, sound bars, high end projectors, Augmented Reality ("AR") / Virtual Reality ("VR"), and wearables

The following are examples of end market applications for the fiscal years presented:

<u>Communications and Computing</u>	<u>Industrial and Automotive</u>	<u>Consumer</u>
Wireless	Security and Surveillance	Cameras
Wireline	Machine Vision	Displays
Data Backhaul	Industrial Automation	Wearables
Server Computing	Robotics	Televisions
Client Computing	Automotive	Home Theater
Data Storage	Drones	

The composition of our revenue by end market is presented in the following table:

(In thousands)	Year Ended						% Change in	
	December 30, 2023		December 31, 2022		January 1, 2022		2023	2022
Communications and Computing	\$ 257,536	34.9%	\$ 282,913	42.8%	\$ 227,911	44.2%	(9.0)%	24.1%
Industrial and Automotive	433,482	58.8	319,398	48.4	226,260	43.9	35.7	41.2
Consumer	46,136	6.3	58,045	8.8	61,156	11.9	(20.5)	(5.1)
Total revenue	<u>\$ 737,154</u>	<u>100.0%</u>	<u>\$ 660,356</u>	<u>100.0%</u>	<u>\$ 515,327</u>	<u>100.0%</u>	11.6%	28.1%

The composition of our revenue by geography is presented in the following table:

(In thousands)	Year Ended						% Change in	
	December 30, 2023		December 31, 2022		January 1, 2022		2023	2022
Asia	\$ 443,765	60.2%	\$ 464,904	70.5%	\$ 384,568	74.6%	(4.5)%	20.9%
Americas	145,839	19.8	100,260	15.2	80,870	15.7	45.5	24.0
Europe	147,550	20.0	95,192	14.3	49,889	9.7	55.0	90.8
Total revenue	<u>\$ 737,154</u>	<u>100.0%</u>	<u>\$ 660,356</u>	<u>100.0%</u>	<u>\$ 515,327</u>	<u>100.0%</u>	<u>11.6%</u>	<u>28.1%</u>

#### CRUS

Product	Industry
Low-power, high precision mixed-signal processing solutions	Audio HPMS Products
Audio Products – Amplifiers, codecs, smart codecs, analog-to-digital converters, digital to-analog converters and standalone signal processors	
HPMS Products – Camera controllers, haptics and sensing solutions, and battery and power ICs	

#### Net Sales

We report sales in two product line categories: audio products and HPMS products. Our sales by product line are shown in the table below (in thousands).

	Fiscal Years Ended		
	March 30, 2024	March 25, 2023	March 26, 2022
Audio Products	\$ 1,083,939	\$ 1,172,007	\$ 1,187,126
HPMS Products	704,951	725,610	594,334
	<u>\$ 1,788,890</u>	<u>\$ 1,897,617</u>	<u>\$ 1,781,460</u>

#### RMBS

Product	Industry
Rambus DDR Memory interface chips – DDR5 and DDR4	

#### ALGM

Product	Industry
Sensor integrated circuits (“ICs”) and application specific analog power ICs	Emobility – Electric vehicles Traditional Automotive Applications
Magnetic censor IC solutions	Clean Energy
Sensor – measures motion, speed, position and current	Automation
Power – high temperature and high voltage capable motor drivers, power management, LED driver, and isolated gate drivers	Broad Industrial Consumer & Computer Markets

	<b>Automotive Market IC Solutions</b>	<b>Industrial Market IC Solutions</b>	<b>Other Market IC Solutions</b>
<b>PRODUCTS</b>	<ul style="list-style-type: none"> <li>▪ Current sensors</li> <li>▪ Position sensors</li> <li>▪ Speed sensors</li> <li>▪ LED drivers</li> <li>▪ Motor drivers</li> <li>▪ Regulators and PMICs</li> <li>▪ Isolated gate drivers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Current sensors</li> <li>▪ Position sensors</li> <li>▪ Speed sensors</li> <li>▪ LED drivers</li> <li>▪ Motor drivers</li> <li>▪ Regulators</li> <li>▪ Isolated gate drivers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Current sensors</li> <li>▪ Position sensors</li> <li>▪ Motor drivers</li> <li>▪ Regulators</li> </ul>
<b>APPLICATIONS</b>	<ul style="list-style-type: none"> <li>▪ Electric motor powertrain and charging systems for EV</li> <li>▪ ADAS, active safety, including steering and braking systems</li> <li>▪ Engine management and transmission systems</li> <li>▪ Comfort and convenience including in-cabin motors, HVAC, infotainment, LED lighting</li> <li>▪ Passive safety including seatbelt switches, wipers, door/window sensors, seat position, suspension</li> </ul>	<ul style="list-style-type: none"> <li>▪ EV charging infrastructure</li> <li>▪ Solar power generation, storage, and distribution</li> <li>▪ Factory automation equipment</li> <li>▪ Industrial motors</li> <li>▪ Data center and network infrastructure</li> <li>▪ Personal mobility</li> </ul>	<ul style="list-style-type: none"> <li>▪ Smart home/IoT</li> <li>▪ PC printers and peripherals</li> <li>▪ Personal electronics</li> <li>▪ Energy Star household appliances including white goods</li> <li>▪ Consumer grade medical devices</li> </ul>

	<b>Fiscal Year Ended</b>		<b>Change</b>	
	<b>March 29, 2024</b>	<b>March 31, 2023</b>	<b>Amount</b>	<b>%</b>
Automotive	\$ 759,454	\$ 646,761	\$ 112,693	17.4 %
Industrial	223,810	208,604	15,206	7.3 %
Other	66,103	118,288	(52,185)	(44.1) %
<b>Total net sales</b>	<b>\$ 1,049,367</b>	<b>\$ 973,653</b>	<b>\$ 75,714</b>	<b>7.8 %</b>

	<b>Fiscal Year Ended</b>		<b>Change</b>	
	<b>March 29, 2024</b>	<b>March 31, 2023</b>	<b>Amount</b>	<b>%</b>
Magnetic sensors (“MS”) and other	\$ 649,869	\$ 598,579	\$ 51,290	8.6 %
Power integrated circuits (“PIC”)	399,498	375,074	24,424	6.5 %
<b>Total net sales</b>	<b>\$ 1,049,367</b>	<b>\$ 973,653</b>	<b>\$ 75,714</b>	<b>7.8 %</b>

## SITM

<b>Product</b>	<b>Industry</b>
Resonators, Oscillators, and clock ICs using silicone instead of Quartz	Communications, Datacenter, and Enterprise
Oscillators and Clock ICs	Automotive, Industrial, and Aerospace
MEMS resonators	Mobile, IoT and Consumer
Advanced system-level integration	

Communications, Datacenter, & Enterprise	Automotive, Aerospace & Defense, Industrial, Medical	Mobile, IoT & Consumer
Low Jitter Oscillators	High Temp Oscillators	Clock Generators
DCXO In-System Programmable	Low Jitter Oscillators	Clock Buffers
VCXO	DCXO In-System Programmable	Network Synchronizers/ Jitter Cleaners
TCXO/VCTCXO/ DCTCXO	VCXO	Active Resonators
OCXO/DCOCXO	Low Power Oscillators	Low Power DCXO
Network Synchronizers/ Jitter Cleaners	Spread Spectrum Oscillators	Active Resonators
Clock Generators	TCXO/VCTCXO/ DCTCXO	TCXO/VCTCXO/ DCTCXO
Clock Buffers	µPower 32 kHz Oscillators	Active Resonators

## SLAB

Product	Industry
Secure, intelligent wireless technology Complementary metal oxide semiconductor ("CMOS")	Industrial & Commercial Industrial IoT Smart Cities Commercial IoT Home & Life Smart Home Connected Health

## POWI

<b>Product</b>	<b>Industry</b>
Analog and mixed-signal integrated circuits ("ICs")	Communications
Power converters (AC to DC)	Computer
High voltage gate drivers	Consumer
Motor-driver products	Industrial

**Year Ended December 31,**

<b>End Market</b>	<b>2023</b>	<b>2022</b>	<b>2021</b>
Communications	29 %	21 %	30 %
Computer	12 %	10 %	10 %
Consumer	27 %	33 %	32 %
Industrial	32 %	36 %	28 %

<b>Market Category</b>	<b>Primary Applications</b>
Communications	Mobile-phone chargers, adapters for routers, cordless phones, broadband modems, voice-over-IP phones, other network and telecom gear
Computer	Desktop PCs and monitors, servers, adapters for tablets and notebook computers, other computer peripherals
Consumer	Major and small appliances, air conditioners and other comfort appliances, TVs and set-top boxes, video-game consoles
Industrial	Industrial controls, LED lighting, utility meters, motor controls, uninterruptible power supplies, battery-powered tools, networked thermostats, power strips and other "smart home" devices, industrial motor drives, renewable energy systems, electric locomotives, electric passenger cars and commercial vehicles, high-voltage DC transmission systems

## SMTC

<b>Product</b>	<b>Industry</b>
Signal Integrity	Infrastructure
Analog Mixed Signal and Wireless	High-End Consumer
IoT Systems	Industrial
IoT Connected Services	

(in thousands)	Fiscal Years		
	2024	2023	2022
Signal Integrity	\$ 177,033	\$ 298,290	\$ 286,259
Analog Mixed Signal and Wireless	260,264	443,239	454,599
IoT Systems	334,904	9,811	—
IoT Connected Services	96,557	5,193	—
Total	\$ 868,758	\$ 756,533	\$ 740,858

### Semtech End Markets

Our products are sold primarily to customers in the infrastructure, high-end consumer and industrial end markets. Our net sales by major end market as a percentage of total net sales are detailed below:

(percentage of net sales)	Fiscal Years		
	2024	2023	2022
Infrastructure	19 %	38 %	35 %
High-End Consumer	14 %	21 %	30 %
Industrial	67 %	41 %	35 %
Total	100 %	100 %	100 %

The following table depicts our main product lines and their end market and product applications:

Product Groups	Infrastructure	Typical End Product Applications	
		High-End Consumer	Industrial
Signal Integrity	Optical and copper module ICs supporting up to 1.6 Tb/s for Ethernet, Fibre Channel protocols in data center and broadband access applications, and 4G/5G/LTE wireless applications		Serial Digital Interconnect interface ICs for Broadcast Video
Analog Mixed Signal and Wireless	Servers, workstations, desktop PC/notebooks, ultrabooks, optical modules, printers, copiers, 4G/5G/LTE base stations, 1/10 Gb/s Ethernet	Smartphones, media players, tablets, wearables, cameras, TVs, set top boxes and high end audio	Industrial automation, measurement & instrumentation, automotive, hearing aids, IoT, Industrial Asset Monitoring, Tracking & Logistics, Smart Metering, Smart Home, Smart Building, Smart City, Smart Agriculture, and Power Management, Audio Video over IP for Pro AV applications
IoT Systems			IoT, Industrial Asset Monitoring, Tracking & Logistics, Smart Metering, Smart Home, Smart Building, Smart City, Smart Agriculture, and Power Management
IoT Connected Services			IoT, Industrial Asset Monitoring and Control, Tracking & Logistics, Smart Metering, Smart Home, Smart Building, Smart City, Smart Agriculture, and Healthcare

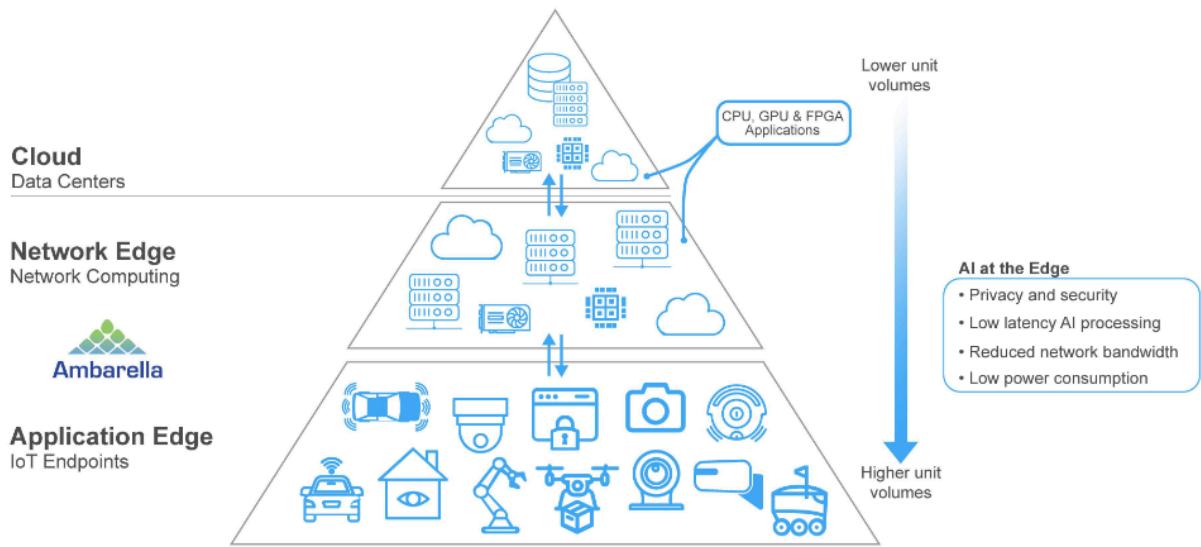
## SYNA

Product	Industry
Premium mixed signal semiconductor solutions Wireless connectivity Astra – intelligent edge processors Ultra-low Power Edge AI – highly integrated AI SoC design for battery powered wireless devices Voice Over IP AudioSmart DisplayLink ConnectSmart NaturalID TouchPad ClearPad ClearView TouchView	Core IoT Applications Market Enterprise and Automotive Product Applications Market Mobile Product Applications Markets

	2024	2023	\$ Change	% Change
Enterprise and Automotive product applications	\$ 570.0	\$ 853.7	\$ (283.7)	(33.2 %)
Core IoT product applications	177.6	309.9	(132.3)	(42.7 %)
Mobile product applications	211.8	191.5	20.3	10.6 %
Net revenue	959.4	1,355.1	(395.7)	(29.2 %)
	2024	2023	Increase/ (Decrease)	
Enterprise and Automotive product applications	59.4 %	63.0 %		(3.6 %)
Core IoT product applications	18.5 %	22.9 %		(4.4 %)
Mobile product applications	22.1 %	14.1 %		8.0 %
Net revenue	100.0 %	100.0 %		0.0 %

## AMBA

Product	Industry
Low-Power system-on-a-chip (SoC), semiconductors and software for edge AI applications AI – computer vision (CV)	Automotive Applications Security Cameras Emerging Robotic and Industrial Applications



## Product Portfolio

### CVflow AI Processor Families



- CVflow - 4X perf.
- 4KP60 H.265, H.264
- Quad Arm® A53
- 6 Camera Inputs
- Stereovision
- 10 nm



- CVflow - 3.5X perf.
- 8KP60 H.264, H.265
- Dual Core Arm® A78
- 14 Camera Inputs
- 5 nm



- CVflow® - 3<sup>rd</sup> generation
- 4KP60
- General vector processor for classical computer vision
- Dual Arm® Cortex® A76



- CVflow - 0.25X perf.
- 4K H.265, H.264
- Dual Core Arm® A53
- 3 Camera Inputs
- 10 nm



- CVflow - 0.5X perf.
- 4K H.265, H.264
- Quad Arm® A53
- 3 Camera Inputs
- 10 nm



- CVflow - 1X perf.
- 4KP60 H.265, H.264
- Quad Arm® A53
- 2 Camera Inputs
- 10 nm

### Automotive CVflow Processor Families



- CVflow - 1.8X perf.
- 4KP30 H.264
- Quad Arm® A53
- 3 Camera Inputs



- Optical Flow
- ASIL C
- 10 nm



### Automotive Central Domain Controller



- CVflow® - 3<sup>rd</sup> generation
- Over 40x AI performance compared to previous generation CV2 SoC
- General vector processor for classical computer vision and radar processing
- Up to 16 Arm® Cortex®-A78AE CPUs

- Stereo and Optical Flow
- Automotive GPU
- Hardware Security Module
- ASIL B(D)
- 5 nm



- 1/3 NN processing power of AD685
- Eight Arm® Cortex®-A78AE, Dual Cortex-R52 CPUs
- ASIL B, ASIL D safety island
- GPU



- 1/6 NN processing power of AD685
- Four Arm® Cortex®-A78AE, Dual Cortex-R52 CPUs
- ASIL B, ASIL D safety island
- GPU

### AI Neural Processor Family



- CVflow® - 3<sup>rd</sup> generation
- Over 40x AI performance compared to previous generation CV2 SoC
- General vector processor for classical computer vision
- Up to 16 Arm® Cortex®-A78AE CPUs
- Up to 24x+ 1080P30 Decode
- Generative AI with up to 34-billion Parameter LLM support
- 5 nm

### Vision Processor Families



- 5MP H.264
- Arm® A9
- 2 Camera Inputs
- 28 nm



- 6MP H.265, H.264
- Arm® A9
- HDR
- 28 nm



- 4KP30+ H.265, H.264
- Quad Arm® A53
- 2 Camera Inputs
- 14 nm



- 5MP+ H.265, H.264
- Quad Arm® A53
- 3 Camera Inputs
- 10 nm

### Automotive Transceiver / Receivers



Note 1: additional cameras can be supported using external SERDES  
Note 2: video processing trade-offs available between frames-per-second, resolution, and the number of cameras supported

## MXL

Product	Industry
Communications Systems-on-chips (SoCs) for broadband, mobile and wireline infrastructure, data center and industrial and multi-market applications	Data Center Infrastructure 5G Wireless Infrastructure Broadband Access Connectivity Industrial & Multi-Market

### *Net Revenue*

Year Ended December 31,															
	2023			2022			2021			\$ Change			% Change		
	(dollars in thousands)														
Broadband % of net revenue	\$ 203,519	% 29	\$ 493,232	% 44	\$ 492,482	% 55	\$ (289,713)	\$ 750	(59)	% —	—	%			
Connectivity % of net revenue	138,228		303,925		149,285		(165,697)	154,640	(55)	%	104	%			
	20	%	27	%	17	%									
Infrastructure % of net revenue	177,083		136,274		119,421		40,809	16,853	30	%	14	%			
	26	%	12	%	13	%									
Industrial and multi-market % of net revenue	174,433		186,821		131,210		(12,388)	55,611	(7)	%	42	%			
	25	%	17	%	15	%									
Total net revenue	\$ 693,263		\$ 1,120,252		\$ 892,398		\$ (426,989)	\$ 227,854	(38)	%	26	%			