

## Semiconductors

### ABC News: AI, Bandwidth and Compute in the Last Week

#### Summary

We share salient articles in the last week specific to AI, Bandwidth, and Compute that are important and/or merely interesting as it relates to key secular themes.

**In the consumer CPU world Intel officially introduced the 14th gen Raptor Lake "Refresh"** in desktops which replaces last year's version. Investors may recall our commentary last month that for some unknown reason Intel decided not to introduce a desktop version of the new Meteor Lake (coined the most significant innovation in 40 years), and so now we have Intel still unable to unseat AMD in high-end gaming.

**In the middle of the desktop CPU market Intel and AMD do trade blows** which is at the cost of massive power dissipation for Raptor Lake (over 50% vs. AMD at peak), which is due in part to Intel still using its tweaked 10nm process or Intel 7. Still, it is quite impressive Intel has extracted so much from its 10nm process node.

**Intel's notebook Meteor Lake will launch on December 14th** which given the flux in that product's execution in 2023 likely means consumers can order these platforms.

**AMD's MI300X Launch** - On the GPU AI accelerator front, we expect AMD to formally launch the chiplet-based MI300X before year-end and based on what we see it will be much more competitive to Nvidia's Hopper than observers believe particularly in inference workloads.

**AMD's use of chiplets** we note is likely the most important reason the company has wreaked havoc to Intel's CPU roadmap, and we see as being important in competing with Nvidia. Note, Nvidia has yet to offer a chiplet roadmap which we know is coming, but AMD here has years of expertise in our opinion. The MI300X also has a significant HBM3 advantage of 192 GBytes which helps AMD offer over 2x the memory density and over 1.5x memory B/W than Hopper. Look for AMD to position MI300X as a TCO-centric solution.

#### High Performance Compute/Deep Learning/AI

[Micron Advances PCIe Storage Landscape with the 7500 SSD: Achieving Sub-1ms Latency for Optimized Data Workloads](#)

[AMD Extends Support for PyTorch Machine Learning Development on Select RDNA 3 GPUs with ROCm 5.7](#)

[Startup Signals Return to Roots for Former GPU Chief at Intel and AMD](#)

#### Graphics/AR/VR/Consumer CPUs

[AMD MI300 Accelerators Expected to Bring Choice to GPU Market](#)

[Intel Core i9-14900K, i7-14700K and i5-14600K Review: Ryzen X3D Stays On Top](#)

[AMD Brings ROCm To Radeon GPUs With Latest Drivers For Linux: Radeon RX 7000 & Radeon PRO W7000 GPUs Supported](#)

[AMD Might Have Overlooked A Major Flaw Within Its Anti-Lag+ Feature & It Is Getting Gamers Banned In eSports Titles](#)

[AMD Ryzen 7 7800X3D CPU Is An Amazing Value For Gamers For Just \\$299 US At Microcenter](#)

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Related Companies:	Share Price:
AIP	\$5.96
AMD	\$105.14
AVGO	\$884.40
INTC	\$36.06
LSCC	\$76.44
MCHP	\$78.91
MPWR	\$476.56
MRVL	\$53.17
MU	\$69.00
NVDA	\$439.38
TXN	\$154.26

[Counter Strike 2 Devs Advise Against Enabling AMD Anti-Lag+ Through Radeon Drivers As It Can Get You Banned](#)

[AMD & Intel Laptop CPU Families Detailed: Ryzen 8000 STRIX & HAWK Point In 2024, Arrow Lake-H/HX & Lunar Lake-M By 2025](#)

[To beat Nvidia, AMD bets on open source acquisition and a strategy reminiscent of Linux vs Microsoft era](#)

[AMD Radeon RX 6750 GRE 12 GB Graphics Card Now Shipping In Pre-Built PCs, DIY Launch on 18th October](#)

[2024 To Be A Big Year For AMD In The AI Segment, Orders Expected From Microsoft & Others](#)

[AMD Ryzen Threadripper PRO 7000WX CPU Specs Leak: 7995WX Flagship With 96 Cores, Over 5 GHz Clocks at 350W](#)

[First Benchmarks of AMD Ryzen 3 7440U “Phoenix” Quad-Core Zen 4 APU Unveiled, Strong Single-Core Performance](#)

[Intel Core i5-14400 10-Core CPU Benchmarks Spotted: First Non-K 14th Gen Chip To Leak Out](#)

[Intel Xeon E-2400 “Raptor Lake” Entry-Level Workstation CPU Specs Revealed, P-Core Only Flavors](#)

[Intel & Submer Achieve 1000W CPU Cooling Capabilities With Immersion Tech](#)

[Intel Panther Lake Client & Clearwater Forest Data Center CPUs Get Early Support In Linux](#)

[Intel 14th Gen Core i9-14900K, Core i7-14700K, Core i5-14600K CPUs Official: Same Prices As 13th Gen With More Performance](#)

[Intel Meteor Lake Core Ultra 5 135H CPU Benchmarks Leak Out, 14 Cores For Mainstream Laptops](#)

[Intel 14th Gen Raptor Lake-HX Refresh Laptop CPUs Include Core i9-14900HX, Core i7-14700HX, Core i7-14650HX, Core i5-14500HX](#)

[Intel's Upcoming Core i9-14900K CPU Lands In Pre-Built Gaming PCs at Newegg](#)

[Intel 14th Gen CPUs Tested In Factorio, Get Crushed By AMD Ryzen 7000X3D & 5000X3D Chips](#)

[Intel 14th Gen Core i9-14900K & Core i7-14700K CPUs Are Already Being Sold In Asian & European Markets](#)

[MSI Intros “CPU Fast Throttle Threshold” BIOS Feature In Z790 & Z690 Motherboards, Supports Intel 14th Gen CPUs](#)

[Intel Adds New Arc Alchemist GPU PCI IDs In Linux Drivers, Alchemist Refresh On The Way](#)

[NVIDIA GeForce RTX 4090 Founders Edition GPU Sees Slight Price Bump In Europe](#)

[Japanese AIB Offers NVIDIA RTX 4070 & 4060 Ti Graphics Cards With Noctua Cooling: Cooler & Silent Operation](#)

[NVIDIA Blackwell B100 GPUs To Feature SK Hynix HBM3e Memory, Launches In Q2 2024 Due To Rise In AI Demand](#)

[GeForce NOW Pricing Increased by NVIDIA in Europe and Canada](#)

[Portal: Prelude RTX Can Tap into DLSS 3 On RTX 20/30-Series GPUs, with Not-Great Results \[Update from NVIDIA\]](#)

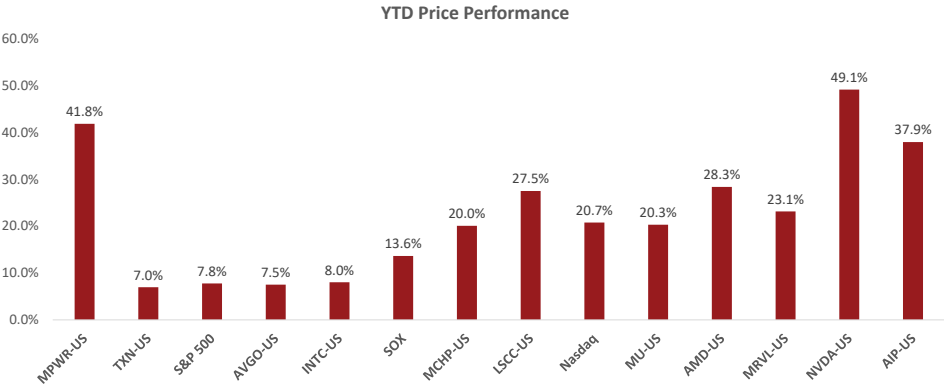
[ZTE Unveils High-End Server, Featuring Cut-Down NVIDIA H800 AI GPUs For China](#)

[Micron Unveils 16 Gb DDR5-7200 MT/s Memory Built Upon High-End 1β Process Technology](#)

## **Autonomous Driving/AI**

[Didi's autonomous vehicle arm raises \\$149M from state investors](#)

[Exclusive: Self-driving startup Plus splits US and China operations amid tensions](#)



## Semiconductor Industry Comp Sheet

Company Name	Ticker	Rating	10/18/2023 Price	Price Target	Upside/ Downside	Market Cap (\$M)	Enterprise Value (\$M)	Valuation											
								EV/Sales			P/E			EV/FCF			EV/EBITDA		
								CY23E	CY24E	CY25E	CY23E	CY24E	CY25E	CY23E	CY24E	CY25E	CY23E	CY24E	CY25E
Analog/MCUs																			
Microchip Technology Incorporated	MCHP-US	Buy	\$78.91	\$110.00	39%	42,953	49,302	5.7x	5.6x	5.4x	13.0x	12.8x	12.2x	14.6x	15.3x	14.5x	11.8x	11.8x	11.0x
Monolithic Power Systems, Inc.	MPWR-US	Buy	\$476.56	\$580.00	22%	22,769	22,301	12.3x	10.7x	9.2x	40.6x	36.2x	29.7x	43.7x	43.1x	29.1x	33.2x	28.5x	23.5x
Texas Instruments Incorporated	TXN-US	Buy	\$154.26	\$230.00	49%	140,063	142,969	7.9x	7.4x	6.8x	21.1x	20.2x	18.4x	61.7x	30.1x	25.1x	15.9x	14.4x	12.5x
Communications/DC																			
Broadcom Inc.	AVGO-US	Buy	\$884.40	\$1,000.00	13%	365,023	404,925	11.1x	10.2x	9.5x	20.7x	18.7x	16.8x	22.4x	19.9x	18.4x	17.4x	16.1x	NM
Lattice Semiconductor Corporation	LSCC-US	Buy	\$76.44	\$110.00	44%	10,536	10,641	14.0x	12.4x	14.8x	36.7x	31.1x	NM	39.6x	32.2x	40.8x	37.2x	28.8x	44.0x
Computing																			
Advanced Micro Devices, Inc.	AMD-US	Buy	\$105.14	\$200.00	90%	169,872	167,638	7.3x	6.1x	5.3x	38.2x	25.5x	19.9x	44.2x	32.0x	25.5x	24.5x	21.8x	16.9x
Intel Corporation	INTC-US	Sell	\$36.06	\$17.00	-53%	151,019	179,551	3.4x	3.1x	2.8x	57.0x	20.8x	14.5x	-13.0x	-69.4x	123.8x	16.3x	11.3x	8.8x
NVIDIA Corporation	NVDA-US	Buy	\$439.38	\$1,100.00	150%	1,085,269	1,092,942	20.9x	13.8x	11.4x	43.7x	26.7x	21.9x	50.3x	28.9x	22.9x	38.6x	24.1x	19.8x
Super Micro Computer, Inc.	SMCI-US	Buy	\$298.54	\$375.00	26%	15,795	16,559	1.4x	NM	NM	15.6x	NM	NM	49.9x	NM	NM	13.1x	NM	NM
IP																			
Arteris, Inc.	AIP-US	Buy	\$5.96	\$21.00	252%	215	160	2.9x	2.3x	1.7x	NM	NM	27.1x	-17.8x	-106.6x	NM	-5.3x	-6.3x	NM
ARM Holdings PLC ADR	ARM-US	Buy	\$52.29	\$85.00	63%	53,609	51,826	18.0x	14.8x	12.5x	NM	41.6x	33.4x	82.2x	50.6x	33.1x	NM	34.2x	27.8x
Memory/Storage																			
Marvell Technology, Inc.	MRVL-US	Buy	\$53.17	\$100.00	88%	45,875	50,038	9.0x	7.8x	6.8x	33.6x	23.5x	18.5x	51.1x	31.2x	23.1x	29.6x	21.7x	17.2x
Micron Technology, Inc.	MU-US	Buy	\$69.00	\$100.00	45%	75,764	79,822	3.3x	2.6x	NM	108.5x	11.0x	NM	122.1x	21.3x	NM	9.0x	5.3x	NM

Source: Rosenblatt estimates, FactSet

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Distribution of Ratings/IB Services				
Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
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NEUTRAL	24	21.24	1	4.17
SELL	5	4.42	0	0

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