

Semiconductors**Semi Week in Review****Summary**

In this week's Semi Week in Review, we highlight the global semiconductor industry sales for August 2023, Intel's plan to spin off its Altera FPGA business, as well as Luminar's Friday press release about their progress on their partnership with Volvo cars and give our take.

The Semiconductor Industry Association (SIA) released global semiconductor [industry sales for August 2023](#). Total sales increased 1.9% m/m and decreased 6.8% y/y to \$44B. Monthly sales represent a 3-month moving average as compiled by World Semiconductor Trade Statistics (WSTS).

August sales results represents 6 consecutive quarters of m/m sales increases. Each month's sales showed improving y/y sales.

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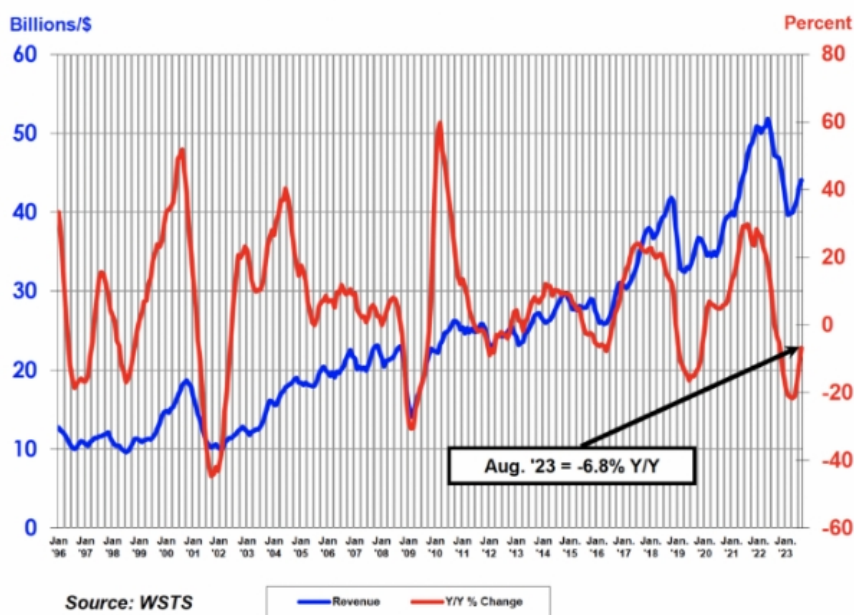
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Share Price:

\$36.19

Worldwide Semiconductor Revenues

Year-to-Year Percent Change



Our View. The SIA August data is showing that the inventory correction started in 2H22 may be coming to an end. We are expecting that during the September quarter earnings season management teams will discuss inventory levels normalizing by year end. Semiconductor sales will return to y/y growth in 1Q24 with CY24 up over 10% compared with CY23.

Leading the way in y/y growth will be the memory (DRAM and NAND Flash) as CapEx reductions have supply dropping below demand. News reports last week are reporting NAND Flash October contract prices up 10% m/m. We expect memory ASPs can continue to increase until the products are generating 35+% gross margin from the current negative gross margin today.

Longer term, we stress our secular theme of AI driving the Mother of All Semiconductor Cycles. We see moving Generative AI to network edge devices will stimulate new demand for smartphones, PCs and increasingly intelligent IoT devices. Similar to the plethora of Android/iOS apps that have been developed, there are Generative AI apps in development that take advantage of new edge device neuro processors. The network edge is the next step following the explosive growth in AI data centers.

Luminar News

On Friday, Luminar announced that they have achieved a significant milestone in its partnership with Volvo Cars. The company successfully passed its first major Run at Rate production test at its manufacturing facility in Monterrey, Mexico, in preparation for the launch of the Volvo EX90. This accomplishment is an important step toward making vehicles safer and smarter. The Run at Rate test evaluates Luminar's ability to manufacture LiDAR sensors at higher production rates while maintaining quality, reliability, and performance standards.

Our view: This achievement by Luminar is a necessary step toward production, however, it's important to note that while this milestone is necessary, it is unlikely to have a significant impact on the timeline for revenue recognition. Additionally, with regard to software-related delays, there is no indication of any changes at this time.

Intel to Operate Programmable Solutions Group as Standalone Business

- Intel plans to spin off its Altera FPGA business in 2-3 years

Our Take:

- Tactical move to raise cash, not a strategic decision
- Intel likely mismanaged Altera early on but recently began reinvesting, possibly to prepare Altera for spinoff
- Altera not strong enough yet to spin off now; extended timeline needed
- Altera may shift foundry to TSMC from Intel for its FPGAs
- Non-Altera Intel leadership of Altera business raises questions
- Intel faces tough road ahead despite potential Wall Street applause for Altera IPO plan
- Intel set to lose significant data center CPU share to AMD based on AMD's superior roadmap

Semiconductor Industry Comp Sheet

								Valuation											
Company Name	Ticker	Rating	10/8/2023 Price	Price Target	Upside/ Downside	Market Cap (\$M)	Enterprise Value (\$M)	EV/Sales			P/E			EV/FCF			EV/EBITDA		
								CY22E	CY23E	CY24E	CY22E	CY23E	CY24E	CY22E	CY23E	CY24E	CY22E	CY23E	CY24E
Analog/MCUs																			
Microchip Technology Incorporated	MCHP-US	Buy	\$79.54	\$110.00	38%	43,296	49,650	5.8x	5.7x	5.4x	13.1x	12.9x	12.3x	14.7x	15.5x	14.6x	11.9x	11.9x	11.0x
Monolithic Power Systems, Inc.	MPWR-US	Buy	\$473.68	\$580.00	22%	22,631	22,161	12.2x	10.6x	9.1x	40.4x	36.0x	29.5x	38.2x	35.2x	28.9x	33.0x	28.3x	23.3x
ON Semiconductor Corporation	ON-US	Neutral	\$90.93	\$100.00	10%	39,239	41,932	5.0x	4.7x	4.3x	17.4x	16.0x	13.9x	48.2x	23.8x	18.9x	12.7x	11.6x	10.5x
Texas Instruments Incorporated	TXN-US	Buy	\$157.00	\$230.00	46%	142,551	145,479	8.1x	7.5x	6.9x	21.5x	20.5x	18.8x	63.3x	30.4x	25.4x	16.1x	14.6x	12.7x
SiTime Corporation	SITM-US	NR	\$115.10	NR	NR	2,556	1,975	13.5x	9.8x	7.9x	719.4x	91.3x	56.6x	NM	NM	NM	-139.6x	114.8x	45.8x
Infineon Technologies AG Sponsored ADR	IFNNY-US	NR	\$34.45	NR	NR	44,989	48,612	3.2x	2.7x	2.6x	15.5x	12.5x	12.1x	30.4x	34.6x	26.2x	9.1x	7.5x	7.1x
STMicroelectronics NV ADR RegS	STM-US	NR	\$44.83	NR	NR	40,356	40,227	2.3x	2.2x	2.1x	10.4x	10.4x	9.4x	32.7x	20.0x	15.8x	6.4x	6.4x	5.8x
Communications/DC																			
Broadcom Inc.	AVGO-US	Buy	\$845.26	\$1,000.00	18%	348,869	388,212	11.5x	10.7x	9.8x	22.0x	19.8x	17.9x	23.5x	21.5x	19.1x	18.2x	16.7x	15.4x
Lattice Semiconductor Corporation	LSCC-US	Buy	\$79.06	\$110.00	39%	10,897	11,007	14.4x	12.8x	15.3x	37.9x	32.2x	NM	41.0x	33.3x	42.2x	38.5x	29.8x	45.5x
Navitas Semiconductor Corporation	NVTS-US	Buy	\$6.43	\$12.00	87%	1,117	869	18.4x	7.0x	4.1x	NM	NM	52.9x	-15.7x	-26.8x	-29.8x	-26.7x	-57.8x	31.1x
Vicor Corporation	VICR-US	NR	\$56.60	NR	NR	1,840	2,347	5.6x	4.8x	3.9x	43.0x	31.7x	20.6x	39.4x	49.1x	28.1x	28.2x	20.5x	12.8x
QuickLogic Corporation	QUIK-US	NR	\$9.01	NR	NR	125	119	5.6x	4.2x	NM	112.6x	25.4x	NM	-25.9x	23.4x	NM	70.2x	21.7x	NM
Power Integrations, Inc.	POWI-US	NR	\$75.99	NR	NR	4,361	4,036	8.1x	6.7x	5.9x	46.4x	30.7x	26.2x	42.6x	26.3x	22.1x	35.2x	23.5x	22.6x
Wolfspeed Inc	WOLF-US	NR	\$33.15	NR	NR	4,152	5,478	5.8x	4.6x	3.2x	NM	NM	NM	-3.4x	-3.3x	-6.9x	-69.6x	-1368.8x	14.6x
Computing																			
Advanced Micro Devices, Inc.	AMD-US	Buy	\$107.24	\$200.00	86%	173,265	171,054	7.5x	6.2x	5.5x	39.0x	26.1x	20.7x	45.1x	32.7x	26.1x	42.7x	22.2x	17.2x
Ambarella, Inc.	AMBA-US	Buy	\$53.40	\$85.00	59%	2,129	1,912	8.2x	7.4x	5.5x	NM	NM	388.6x	929.5x	-68.4x	-7864.9x	-96.9x	-135.2x	47.7x
Intel Corporation	INTC-US	Sell	\$36.19	\$17.00	-53%	151,564	180,096	3.4x	3.1x	2.8x	56.9x	20.5x	14.3x	-13.1x	-70.7x	124.4x	16.4x	11.1x	8.7x
NVIDIA Corporation	NVDA-US	Buy	\$457.62	\$1,100.00	140%	1,130,321	1,138,523	21.8x	14.5x	12.1x	45.7x	28.1x	23.5x	52.3x	30.1x	23.9x	40.2x	25.1x	20.6x
Super Micro Computer, Inc.	SMCI-US	Buy	\$289.67	\$375.00	29%	15,325	16,063	1.8x	1.4x	NM	20.2x	15.1x	NM	45.3x	48.4x	NM	16.1x	12.7x	NM
IoT																			
Synaptics Incorporated	SYNA-US	Buy	\$93.22	\$100.00	7%	3,639	3,843	3.2x	3.2x	NM	16.7x	18.0x	NM	18.1x	25.4x	NM	13.8x	14.7x	NM
IP																			
Arteris, Inc.	AIP-US	Buy	\$6.13	\$21.00	243%	221	166	3.0x	2.4x	1.8x	NM	NM	27.9x	-18.4x	-110.6x	NM	-5.5x	-6.6x	NM
CEVA, Inc.	CEVA-US	Buy	\$18.55	\$35.00	89%	438	309	2.7x	2.4x	2.0x	161.8x	36.6x	22.0x	29.7x	83.5x	19.8x	NM	NM	NM
Rambus Inc.	RMBS-US	Buy	\$59.36	\$73.00	23%	6,478	6,323	11.3x	9.5x	7.9x	34.2x	27.5x	21.9x	32.0x	32.0x	27.6x	22.0x	17.6x	13.9x
Adeia Inc.	ADEA-US	NR	\$9.03	NR	NR	964	1,568	4.0x	3.7x	NM	6.9x	6.3x	NM	NM	NM	NM	6.2x	5.8x	NM
Movella Holdings Inc.	MVLA-US	NR	\$0.52	NR	NR	26	30	0.8x	0.6x	NM	NM	NM	NM	NM	NM	NM	-1.9x	-168.8x	NM
Memory/Storage																			
Marvell Technology, Inc.	MRVL-US	Buy	\$54.53	\$100.00	83%	47,048	51,209	9.2x	8.0x	6.9x	34.4x	24.1x	19.0x	52.3x	32.0x	23.6x	30.2x	22.2x	17.6x
Micron Technology, Inc.	MU-US	Buy	\$69.96	\$100.00	43%	76,627	80,871	4.7x	3.4x	2.6x	NM	110.0x	11.1x	-19.7x	128.4x	22.1x	20.8x	9.1x	5.4x
Seagate Technology Holdings PLC	STX-US	Buy	\$66.05	\$68.00	3%	13,728	18,719	2.7x	2.4x	2.2x	162.2x	26.4x	13.4x	34.9x	27.6x	18.4x	21.1x	14.1x	10.4x
SMART Global Holdings, Inc.	SGH-US	Buy	\$24.33	\$35.00	44%	1,218	1,694	1.0x	1.0x	0.9x	7.4x	9.7x	9.5x	NM	NM	NM	6.7x	7.7x	6.8x
Western Digital Corporation	WDC-US	Neutral	\$46.40	\$38.00	-18%	15,040	20,962	1.7x	1.5x	1.2x	NM	NM	9.5x	-22.3x	213.2x	16.9x	-73.8x	14.8x	6.4x
Mobile																			
Qorvo, Inc.	QRVO-US	Neutral	\$94.83	\$95.00	0%	9,285	10,645	3.0x	2.7x	2.4x	17.9x	13.6x	10.1x	17.9x	13.3x	10.6x	12.8x	10.8x	8.8x
QUALCOMM Incorporated	QCOM-US	Buy	\$110.88	\$145.00	31%	123,742	131,442	3.1x	3.6x	3.4x	9.7x	13.0x	11.8x	16.9x	14.6x	12.4x	7.5x	10.0x	9.8x
Skyworks Solutions, Inc.	SWKS-US	Buy	\$98.32	\$150.00	53%	15,671	16,707	3.1x	3.5x	3.3x	9.3x	11.5x	10.5x	12.5x	9.1x	9.3x	6.8x	8.1x	7.9x
LIDAR																			
Luminar Technologies, Inc. Class A	LAZR-US	Neutral	\$4.30	\$6.00	40%	1,261	1,913	22.8x	7.8x	3.3x	NM	NM	NM	-8.0x	-14.1x	-76.4x	-7.3x	-11.3x	-35.3x
Ouster, Inc.	OUST-US	Buy	\$4.53	\$17.50	286%	179	19	0.2x	0.1x	0.1x	NM	NM	NM	NM	NM	NM	-0.2x	-0.2x	-0.4x
Innoviz Technologies Ltd.	INVZ-US	Neutral	\$1.73	\$5.00	189%	282	149	8.9x	1.9x	0.5x	NM	NM	NM	-1.6x	-1.8x	-3.3x	-1.2x	-1.3x	-3.5x

Sources: Rosenblatt Estimates, FactSet

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Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
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