

## Lattice Semiconductor

## Q4 Preview: Lower estimates following cautious results from peers

Reiterate Rating: NEUTRAL | PO: 65.00 USD | Price: 60.86 USD

## LSCC not immune to corrections impacting FPGA market

We lower estimates ahead of earnings (Feb-12) following cautious results and commentary from FPGA and industrial-centric peers. Key changes: 1) Q4 remains in line, though we revise Q1 sales down to ~\$160mn, down 8%-9% QoQ versus consensus flat-to-up outlook (excluding contributions from Avant, our estimates down 12%-13% QoQ, in line with peers); 2) Modestly lower Q1/Q2 gross margin to high-60s (consensus >70%). Even factoring in modest 2H recovery, we lower our CY24 sales/EPS estimates by 13%/23% to \$673mn/\$1.59 (well below Street at \$758mn/\$2.00). Our numbers now assume CY24 sales/EPS decline of -9%/-20% YoY (vs. Street +2%/+0%), though CY25 rebound of +14%/+25% YoY (vs. Street +11%/+22%). We lower our PO to \$65 (from \$75) on 33x CY25 P/E (from 30x prior) as we apply LSCC's long-term average PE to our de-risked estimates. Down roughly -13% YTD (vs. SOX +2%), we do expect investors likely factoring in some caution. We maintain Neutral on balanced risk-reward, and premium profitability that can support higher multiple (SOX 23x-24x NTM PE).

## Early semis read-throughs raise yellow flags

Key semis read-throughs for Lattice: 1) **INTC**: Noted FPGA remains in industry wide cyclical correction expected to last through 1H24, 2) **AMD**: Embedded down -15% QoQ in DecQ, business expected to remain soft through 1H24 (we model sales down another -11% QoQ in Q1), 3) **TXN/STM**: Industrial concentrated semis guiding Q1 sales down roughly 12%-15% sequentially, 4) **SWKS**: Mentioned wireless infrastructure could remain a heading through '24 (TXN also saw comms sales decline sequentially in DecQ).

## Current estimates around cycle trough possibly aggressive

We acknowledge LSCC strong turnaround over the last 3-4 years helping improve performance (>20% 3-yr sales CAGR, 1000bp gross margin expansion, 30%+ FCF margin), but believe the company is still susceptible to macro risks. Consensus peak-to-trough quarterly estimates of -8% decline is elevated relative to auto/industrial peers seeing peak-trough declines closer to 20%-35% (LSCC auto + industrial exposure ~60% of sales, more weighted to industrial). We see some offsets from incremental mid-range FPGA sales, though not enough to offset tougher comps/set-up (we model down low-double digits/low-teens on legacy business). We also highlight risks around LSCC's high channel exposure (distribution 90% of sales) that could limit visibility.

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	1.07	1.75	2.00	1.59	1.98
GAAP EPS	0.68	1.28	1.46	1.10	1.40
EPS Change (YoY)	52.9%	63.6%	14.3%	-20.5%	24.5%
Consensus EPS (Bloomberg)			2.01	2.01	2.44
DPS	0	0	0	0	0
Valuation (Dec)					
P/E	57.2x	35.0x	30.6x	38.5x	30.9x
GAAP P/E	90.0x	47.8x	41.9x	55.6x	43.7x
EV / EBITDA*	46.1x	29.2x	25.3x	31.6x	27.0x
Free Cash Flow Yield*	1.9%	2.6%	3.1%	2.6%	2.9%

\* For full definitions of *IQmethod*<sup>SM</sup> measures, see page 4.

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31 January 2024

## Equity

## Key Changes

(US\$)	Previous	Current
Price Obj.	75.00	65.00
2024E Rev (m)	771.0	673.1
2025E Rev (m)	872.6	764.8
2024E EPS	2.08	1.59
2025E EPS	2.51	1.98

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## Stock Data

Price	60.86 USD
Price Objective	65.00 USD
Date Established	31-Jan-2024
Investment Opinion	C-2-9
52-Week Range	51.96 USD - 98.30 USD
Mkt Val (mn) / Shares Out (mn)	8,396 USD / 137.9
Free Float	98.9%
Average Daily Value (mn)	120.26 USD
BofA Ticker / Exchange	LSCC / NAS
Bloomberg / Reuters	LSCC US / LSCC.OQ
ROE (2023E)	48.0%
Net Dbt to Eqty (Dec-2022A)	-3.5%
ESGMeter™	Medium

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AMD: Advanced Micro Devices, FPGA: Field Programmable Gate Array, INTC: Intel, LSCC: Lattice, STM: STMicroelectronics, SWKS: Skyworks, TXN: Texas Instruments

# iQprofile<sup>SM</sup> Lattice Semiconductor

## iQmethod<sup>SM</sup> – Bus Performance\*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Return on Capital Employed	22.4%	35.1%	38.0%	27.0%	29.1%
Return on Equity	37.9%	54.7%	48.0%	30.2%	32.4%
Operating Margin	30.2%	38.7%	39.7%	35.0%	37.8%
Free Cash Flow	158	215	262	223	248

## iQmethod<sup>SM</sup> – Quality of Earnings\*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash Realization Ratio	1.1x	1.0x	1.0x	1.1x	1.0x
Asset Replacement Ratio	0.4x	0.8x	0.6x	0.6x	0.9x
Tax Rate	1.7%	1.8%	5.7%	7.1%	7.1%
Net Debt-to-Equity Ratio	6.4%	-3.5%	-27.3%	-39.1%	-44.5%
Interest Cover	NM	NM	NA	NM	NM

## Income Statement Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Sales	515	660	743	673	765
% Change	26.3%	28.1%	12.4%	-9.3%	13.6%
Gross Profit	326	456	523	468	539
% Change	30.8%	40.1%	14.7%	-10.6%	15.2%
EBITDA	180	285	328	263	308
% Change	40.7%	58.0%	15.3%	-20.0%	17.2%
Net Interest & Other Income	(3)	(5)	0	(1)	(1)
<b>Net Income (Adjusted)</b>	<b>151</b>	<b>246</b>	<b>279</b>	<b>221</b>	<b>272</b>
<b>% Change</b>	<b>54.1%</b>	<b>63.0%</b>	<b>13.5%</b>	<b>-20.8%</b>	<b>23.1%</b>

## Free Cash Flow Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Income from Cont Operations (GAAP)	96	179	205	154	196
Depreciation & Amortization	24	29	33	27	19
Change in Working Capital	(5)	(33)	(29)	(1)	(16)
Deferred Taxation Charge	0	0	0	0	0
Other Adjustments, Net	53	64	73	58	66
Capital Expenditure	(10)	(23)	(20)	(16)	(18)
<b>Free Cash Flow</b>	<b>158</b>	<b>215</b>	<b>262</b>	<b>223</b>	<b>248</b>
<b>% Change</b>	<b>98.4%</b>	<b>36.5%</b>	<b>21.4%</b>	<b>-14.6%</b>	<b>11.2%</b>
Share / Issue Repurchase	(70)	(110)	(40)	(100)	(160)
Cost of Dividends Paid	0	0	0	0	0
Change in Debt	(13)	(179)	(130)	0	0

## Balance Sheet Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash & Equivalents	132	146	185	308	397
Trade Receivables	80	94	86	97	110
Other Current Assets	90	139	147	125	128
Property, Plant & Equipment	68	73	68	57	55
Other Non-Current Assets	357	347	347	347	347
<b>Total Assets</b>	<b>726</b>	<b>799</b>	<b>833</b>	<b>934</b>	<b>1,037</b>
Short-Term Debt	17	0	0	0	0
Other Current Liabilities	89	127	105	93	93
Long-Term Debt	141	129	0	0	0
Other Non-Current Liabilities	68	55	53	53	53
<b>Total Liabilities</b>	<b>315</b>	<b>312</b>	<b>157</b>	<b>145</b>	<b>146</b>
<b>Total Equity</b>	<b>412</b>	<b>487</b>	<b>676</b>	<b>789</b>	<b>891</b>
<b>Total Equity &amp; Liabilities</b>	<b>726</b>	<b>799</b>	<b>833</b>	<b>934</b>	<b>1,037</b>

\* For full definitions of iQmethod<sup>SM</sup> measures, see page 4.

## Company Sector

Semiconductors

## Company Description

Lattice Semiconductor is a supplier of field programmable gate arrays (FPGA) servicing data center, automotive, industrial, communications, and consumer markets. Unlike other semiconductor devices, FPGAs allow end customers to reconfigure the hardware after the manufacturing process to support specific requirements and use cases. Lattice was founded in 1983, shortly going public thereafter (1989), and is headquartered in Hillsboro, Oregon.

## Investment Rationale

We rate Lattice Neutral. We certainly acknowledge the company's impressive turnaround, now supporting a leading profitability profile and strong double-digit growth rate. While the company continues to ramp new, innovative hardware and software solutions, we remain cautious on valuation, and highlight risks to estimates (above peer group) as LSCC's key markets (industrial/auto) see potential weakness late cycle

## Stock Data

Average Daily Volume 1,976,060

## Quarterly Earnings Estimates

	2022	2023
Q1	0.37A	0.51A
Q2	0.42A	0.52A
Q3	0.47A	0.53A
Q4	0.49A	0.44E

## Price objective basis & risk

### Lattice Semiconductor (LSCC)

Our \$65 PO is based on 33x CY25E P/E, in line with the company's historical 14x-71x range and 7-year median (33x), justified by new product launches, but offset by near-term risks related to inventory adjustments.

Upside risks to our PO include 1) Faster than expected share gains in mid-range FPGA market, 2) Resiliency in cycle, 3) Faster than expected adoption by customers, replacing legacy ASIC and/or MCU solutions, expanding overall FPGA TAM, 4) Continued margin expansion as product software attach rates rise

Downside risks to our PO include: 1) Limited traction in mid-range FPGA market due to rising competition, 2) Sudden onset of industrial/FPGA inventory correction, 3) Share gains by larger competitors in small FPGA market, 4) gross margin deceleration

## Analyst Certification

I, Blake Friedman, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

### US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Advanced Micro Devices, Inc	AMD	AMD US	Vivek Arya
	Analog Devices Inc.	ADI	ADI US	Vivek Arya
	Applied Materials, Inc.	AMAT	AMAT US	Vivek Arya
	Arm Holdings	ARM	ARM US	Vivek Arya
	Broadcom Inc	AVGO	AVGO US	Vivek Arya
	Cadence	CDNS	CDNS US	Vivek Arya
	Camtek	CAMT	CAMT US	Vivek Arya
	KLA Corporation	KLAC	KLAC US	Vivek Arya
	Lam Research Corp.	LRCX	LRCX US	Vivek Arya
	M/A-Com	MTSI	MTSI US	Vivek Arya
	Marvell Technology Group Ltd.	MRVL	MRVL US	Vivek Arya
	Microchip	MCHP	MCHP US	Vivek Arya
	Micron Technology, Inc	MU	MU US	Vivek Arya
	Nova	NVMI	NVMI US	Vivek Arya
	NVIDIA Corporation	NVDA	NVDA US	Vivek Arya
	NXP Semiconductors NV	NXPI	NXPI US	Vivek Arya
	onsemi	ON	ON US	Vivek Arya
	Synopsys	SNPS	SNPS US	Vivek Arya
<b>NEUTRAL</b>				
	Advanced Energy Industries	AEIS	AEIS US	Duksan Jang
	Allegro MicroSystems	ALGM	ALGM US	Blake Friedman
	Axcelis Technologies	ACLS	ACLS US	Duksan Jang
	Coherent Corp	COHR	COHR US	Vivek Arya
	GlobalFoundries	GFS	GFS US	Vivek Arya
	Intel	INTC	INTC US	Vivek Arya
	Lattice Semiconductor	LSCC	LSCC US	Blake Friedman
	Texas Instruments Inc.	TXN	TXN US	Vivek Arya
<b>UNDERPERFORM</b>				
	Ambarella	AMBA	AMBA US	Vivek Arya



**US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Credo Technology	CRDO	CRDO US	Vivek Arya
	Lumentum Holdings	LITE	LITE US	Vivek Arya
	Qorvo Inc.	QRVO	QRVO US	Vivek Arya
	Skyworks Solutions, Inc.	SWKS	SWKS US	Vivek Arya
	Teradyne	TER	TER US	Vivek Arya
	Wolfspeed Inc	WOLF	WOLF US	Vivek Arya

**iQmethod<sup>SM</sup> Measures Definitions****Business Performance**

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

**Numerator**

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

**Denominator**

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill

Amortization

Shareholders' Equity

Sales

N/A

N/A

**Quality of Earnings**

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

**Numerator**

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash &amp; Equivalents

EBIT

**Denominator**

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

**Valuation Toolkit**

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

**Numerator**

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt +

Other LT Liabilities

Enterprise Value

**Denominator**

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

EV / EBITDA

Basic EBIT + Depreciation + Amortization

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Lattice Semicond (LSCC) Price Chart



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Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

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Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

<sup>R1</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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