

Preview: A Look at the China Handset Market and Telco Spend with Huawei

Summary

We are hosting a call with Huawei. Huawei is a key leader in the China Telco switch and router market with almost 80% share, and in the global carrier Telco market with 20-30% share. Huawei is also the fastest growing, and we believe the largest handset OEM in China in 2016; world-wide, Huawei is the #3 handset OEM. We expect to hear Huawei's thoughts on carrier, base station and datacenter spending, trends in China handsets, 4G growth, and how Huawei is differentiating its handsets versus its peers and gaining share.

Key Points

Some key trends we expect to focus on during the call include:

Handset Outlook; China is slowing but Huawei expects 25-30% y/y handset growth in 2016. With 4G now 90%+ of handset shipments in China, the broader China handset market could see a slowdown. But Huawei expects its handset units to grow 25-30% y/y into 2016. Some of the China handset OEMs could also see muted growth as their handset shipments are restricted into the U.S. We will be looking at Huawei's confidence in its 2016 handset growth outlook, carrier aggregation and what sets it apart from the other handset OEMs.

Huawei's handset processor trends with Hi-Silicon. Huawei is a standout in the handset market. While most handset OEMs depend on the Snapdragon or Mediatek, Huawei uses Hi-Silicon processors for much of its handsets. We expect to get more color on Huawei's trends with Hi-Silicon processor adoption in 2015 and into 2016, versus the Snapdragon and Mediatek processor offerings.

A look at the carrier telco, data center market and trends. Huawei is also a big player in the China carrier and telecom equipment market. With China focusing on growing its domestic technology capabilities and focusing on using more domestic content, a key beneficiary has been Huawei. We believe Huawei has also been able to bring strong R&D capabilities, and is less encumbered versus its public carrier telecom peers. Huawei, we believe, has almost 70-80% share of the China carrier telecom market and also a key competitor in the global wireless infrastructure market with Cisco and Juniper, among others. We expect to get some color on 4G data center rollouts, China 4G carrier spending and market share trends with Huawei, key for suppliers such as AVGO and INTC.

We are hosting the call on Wednesday, March 30, at 6:30PM EDT.

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Company	Symbol	Price (3/25)	Rating		
			Prior	Curr	PT
Broadcom Limited	AVGO	\$153.00	-	Buy	\$175.00
NXP Semiconductors NV	NXPI	\$81.25	-	Buy	\$120.00
Qorvo, Inc	QRVO	\$49.24	-	Buy	\$50.00
Skyworks Solutions, Inc.	SWKS	\$76.20	-	Buy	\$105.00

Source: Bloomberg and Mizuho Securities USA

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Glossary

~ - approximately	eMCP - embedded multi-chip module using DRAM and NAND	IoT - internet of things	nm - nanometer	RSP - Renesas Semiconductor products/Drivers
1H/2H - first half/second half	EMV - Europay, MasterCard and Visa, a payment consortium	IP - intellectual property	NOL - Net Operating Losses	RSU - Restricted Stock Units
2G/3G/4G - 2nd generation, third generation, 4th generation wireless	EOY - end of year	ISM - Institute for Supply Management	NOR - a type of non-volatile storage memory	SAS - serial attached SCSI (small computer system interface)
3G/4G - Third generation / Fourth generation	EPS - earnings per share	ITU - International Telecommunication Union	NPV - net present value	SAW - surface acoustic wave filters
4G-LTE - Fourth generation, long term evolution	ET - envelope tracking	JPY - Japanese yen	NVMe - Non-volatile Memory Express	SDH - Synchronous Digital Hierarchy, mostly in Europe
ADAS - Automotive driver assist systems	ETD - Emerging Technologies Division	JV - joint venture	NYSE - New York Stock Exchange	SG&A - Sales, General and Administrative
APU - accelerated processing unit	EU - European Union	K - Thousand	ODM - original design manufacturer	SLAC - subscriber line audio-processing circuit
ARM - a family of instruction set architectures used for processors for computers, servers, etc.	EV - enterprise value	Kbps/Mbps - Kilobit per second/Megabit per second bandwidth	OEM - original equipment manufacturer	SLIC - subscriber line interface circuit
ASIC - application specific integrated circuits	EvDO - Evolution Data Only	KGD - Known Good Die	OFN - optical finger navigation	SMIC - Semiconductor Manufacturing International Corporation
ASP - average selling price	EVP - Executive Vice President	Kwpm - thousand wafer per month capacity	OLT - Optical Line Termination or Terminal	SoC - system on chip
ATM - Asynchronous Transfer mode	F - Fiscal	LIBOR - London Interbank Offered Rate	OM - operating margin	SONET - Synchronous Optical Network, used in North America
B - Billion	FASB - Financial Accounting Standards Board	LQ - last quarter	ONU - Optical Network Unit	SOX - Philadelphia semiconductor index
BAW - bulk acoustic wave filters	FBAR - film bulk acoustic resonator, a type of filter	LSD - low single digits	Opex - operating expenses	SRAM - static random access memory
BiDi - Bi Directional	FBAR/BAW - Film Bulk acoustic resonator/Bulk acoustic wave Filters	LT - long term	P/B - price to book value ratio	SSD - solid state drive
BOM - bill of materials	FCF - free cash flow	LTE - long term evolution, a 4th generation wireless protocol	P/E - price to earnings	TAM - total available market
bps - basis points	FDD LTE - Frequency Division Duplex Long Term Evolution	LY - last year	P/S - price to sales	TD - time division
CA - carrier aggregation	FP - finger print	m - Meters	PA - power amplifier	TDDI - touch display driver integration
CAGR - compound annual growth rate	FPGA - field programmable gate arrays	M - Million	PAD - power amplifier duplexer, essentially 2 filters and a Power amplifier	TDD-LTE - Time Division Duplex Long Term Evolution
CAPEX - capital expenditures	FT - force touch	M&A - mergers and acquisitions	PC - personal computer	TD-SCDMA - Time Division Synchronous
CDMA - code division multiple access	FTC - Federal Trade Commission	MB - megabyte	PCIe - Peripheral Component Interconnect Express	TLC - triple level cell
CEO/CFO - Chief Executive/Chief Financial	FY - fiscal/full year	Mbps - megabit per second	PMI - Purchasing Managers' Index	Tx/Rx - Transmit / Receive
CES - consumer electronics show	GAAP - generally accepted accounting principles	MCU - micro controller unit	PMIC - Power Management Integrated Circuit	USB - universal serial bus
CF - cash flow	Gb/GB - gigabytes/Gigabit	MHz - megahertz	PoE - Power over Ethernet	wpm - wafer per month
CFIUS - Committee on Foreign Investment in the United States	Gb/s - Gigabit per second	MIIT - China Ministry of Industry and Information Technology	PSD - Programmable systems division	x86 - Intel based processor architecture
COO - Chief Operation Officer	GF - Global Foundries	MIMO - multiple in, multiple out	PSoC - programmable system on a chip	XMC - Wuhan Xin Xin Semiconductor Manufacturing Corporation
CSP - chip scale packaging	GHz - gigahertz	MLC - multi level cell	PT - price target	y/y - year over year
CY - calendar year	GM - gross margin	MoE - merger of equals	Q - quarter	YE - year end
D/E - debt to equity	GPU - graphics processing unit	MOFCOM - Ministry of Commerce People's Republic of China	q/q - quarter over quarter	YTD - year to date
DCF - discounted cash flow	GSM - Global System for Mobile Communication	MSD - mid single digits	QCT - Qualcomm chip technologies	
DoD - Department of Defense	HDD - hard disk drive	MSM - multi station modems, QCOM's QCT chips	QTL - Qualcomm technology licensing	
DRAM - dynamic random access memory	HSA - heterogeneous system architecture combining x86 and ARM	NAND - "not and," a type of memory	R&D - research and development	
DT - desktop	HSD - high single digits	NB - notebook	Rev - revenues	
eMMC - Embedded managed NAND solution	I/O - input output operations	NDRC - National Development and Reform Commission in China	RF - radio frequency	
EBITDA - earnings before interest, taxes, depreciation and amortization	IC - integrated circuits	NFC - near field communications	ROI - return on investment	

Price Target Calculation and Key Risks

Broadcom Limited

Price Target: We rate AVGO Buy with a \$175PT. Our PT reflects a multiple of 14.3x our F17E EPS of \$12.24. We believe AVGO will continue to drive margins higher as it closes some very accretive acquisitions this year (such as Emulex).

Risks: AVGO competes in a cyclical, technologically intensive industry and sells to a concentrated customer base. Its ability to meet AVGO's financial expectations and achieve future growth is subject to a number of risk factors, including, but are not limited to, the following:

Market Risks include, among other factors:

- AVGO's continued success of its research and development efforts and timely introduction and execution of its new products.
- AVGO depends on contract manufacturing and third-party manufacturers and also substantial capital investments at its Fort Collins Fab.
- Customer concentration, competition, and pricing pressure from other low-cost OEMs, ODMs and suppliers, possible new market entrants from China, Asia-Pacific, or Taiwan.
- Unexpected changes in legal and regulatory requirements, tariffs and exchange rates, political and economic stability, staffing and management issues, and potentially adverse tax consequences for its international operations.

Technology Risks include, among other factors:

- Potential loss of intellectual property, Commercialization of competing technologies.
- Litigation Risks.
- Adverse effects of potential existing and possible future patent or other litigation.

NXP Semiconductors NV

Price Target: We have NXPI at a Buy rating and a \$120PT. Our PT represents a P/E multiple of approximately 14.7x our post-FSL merger EPS of \$8.19 for F17E and takes into consideration our expectations for approximately \$3B of FCF. We believe that multiple product cycles with EMV, NFC, Automotive, synergies, execution and a focus on cash flow position NXPI well into 2016-17E.

Risks: Among the risks to our recommendation and price target are the following factors:

- 1) NXPI has high debt relative to peers;
- 2) NXPI has a big automotive exposure and any slowdown there could impact outlook;
- 3) NXPI has exposure in key cyclical NFC markets;
- 4) Other risks include competition, new technologies, IP, and licensing;

- 5) NXPI also has a significant exposure ~40%+ of revenues from China;
- 6) NXPI is also exposed to key smartphone cycles including Apple; and
- 7) NXPI competes in cyclical markets and is as such exposed to macro-economic, technology, competitive and litigation risks and also pending regulatory approvals on key mergers.

Qorvo, Inc

Price Target: Our \$50PT is based on ~10.0x F17E EPS of \$5.02. We see continued execution, leverage, improving margins, cost synergies and solid product cycles ahead.

Risks: QRVO competes in a cyclical, technologically intensive industry and sells to a concentrated customer base. Its ability to meet its own or our financial expectations and achieve future growth is subject to a number of risk factors, including, but are not limited to, the following:

- QRVO's failure to realize all the benefits associated with the RFMD-TriQuint merger
- QRVO's ability to accurately predict customer demand, avoiding obsolete inventory;
- Competition and pricing pressure from other low-cost OEMs, ODMs and suppliers;
- Increasing 4G penetration and/or 4G slowdown,
- Possible new market entrants from China, Asia-Pacific, or Taiwan; and
- Unexpected changes in legal and regulatory requirements, tariffs and exchange rates, political and economic stability, staffing and management issues, and potentially adverse tax consequences for its international operations;
- Potential loss of intellectual property, Commercialization of competing technologies;
- Litigation Risks;
- Adverse effects of potential possible future patent or other litigation.

Skyworks Solutions, Inc.

Price Target: We rate SWKS Buy with a \$105 PT. Our target price reflects our view that a P/E of 18.1x our F16E EPS of \$5.79 as SWKS benefits from higher RF growth but sees current headwinds in the iPhone supply chain. Note that our F16E estimates for revenue and EPS are \$3.4B and \$5.82 per share, respectively, while our F17E estimates call for revenue of \$3.8B and EPS of \$7.24.

Risks: SWKS competes in a cyclical, technologically intensive industry and sells to a concentrated customer base. Its ability to meet its own or our financial expectations and achieve future growth is subject to a number of risk factors, including, but are not limited to, the following:

Market Risks include but are not limited to:

- SWKS's continued success of its research and development efforts and timely introduction and execution of its new products;
- SWKS depends on contract manufacturing and third-party manufacturers;

- Customer concentration, competition and pricing pressure from other low-cost OEMs, ODMs and suppliers;
- And possible new market entrants from China, Asia-Pacific, or Taiwan; and
- Unexpected changes in legal and regulatory requirements, tariffs and exchange rates, political and economic stability, staffing and management issues, and potentially adverse tax consequences for its international operations.

Technology Risks include but are not limited to:

- Potential loss of intellectual property, Commercialization of competing technologies.
- Litigation Risks
- Adverse effects of potential possible future patent or other litigation.

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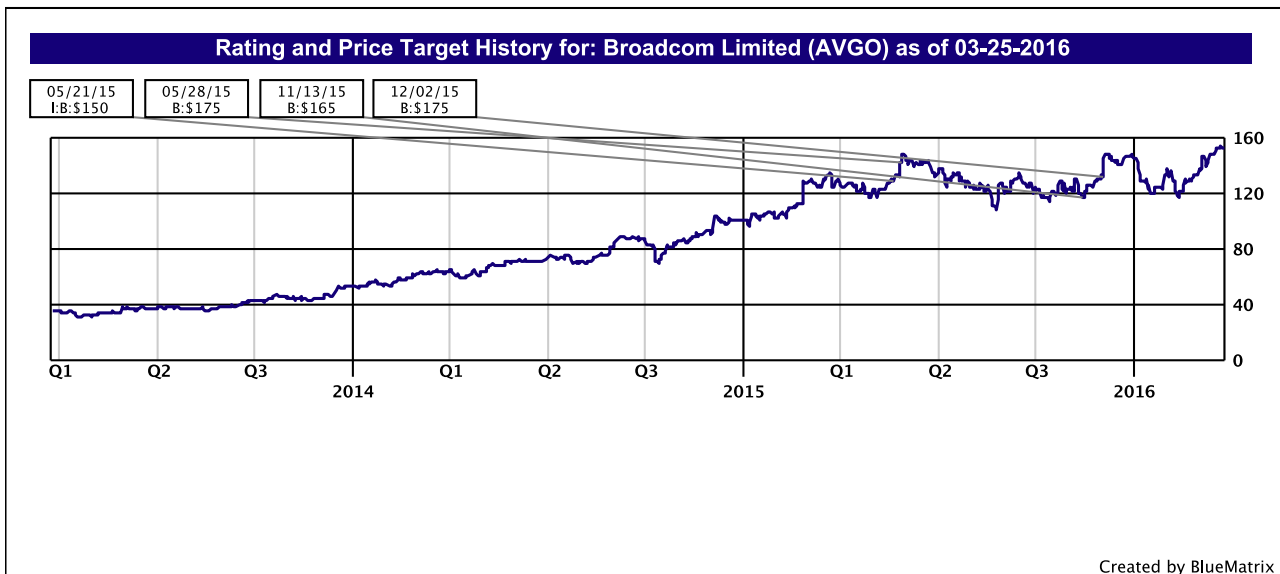
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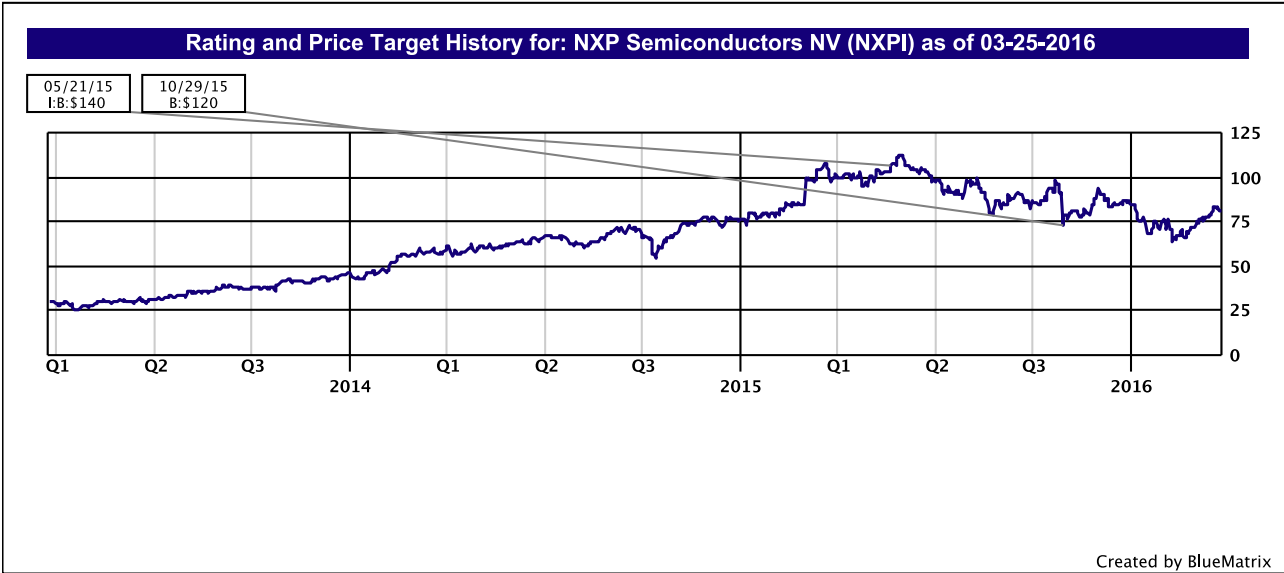
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Rating Distribution

(As of 3/25)	% of coverage	IB service past 12 mo
Buy (Buy)	51.93%	36.17%
Hold (Neutral)	46.41%	25.00%
Sell (Underperform)	1.66%	33.33%

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