

NES Investment Research Challenge

Qualcomm Inc.

Stimulus Check team
May 2021

“Stimulus Check” Team Profile



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Investment thesis

We issue a BUY recommendation on Qualcomm Inc. shares with a target price of \$154

Recommendation

BUY | Target price \$154 (18% upside) | Investment horizon 1 year

Investment rationale

- Qualcomm has a near-ideal market position in the smartphone chipset market that is on track for massive growth fueled by booming demand for 5G technology. We observe an accelerating dynamics of the 5G chip market with the increased demand for durables supported by favorable macroeconomic conditions.
- Qualcomm has an attractive valuation after a recent share price rebound associated with market overreaction on TSMC's supply chain problems and possible leave of Apple.

Valuation summary

\$132 – 255 / share

52-week range



DCF: \$135 – 173

Comparable companies (EV/LTM EBITDA): \$132 – 255

Comparable companies (EV/LTM EBIT): \$152 – 238

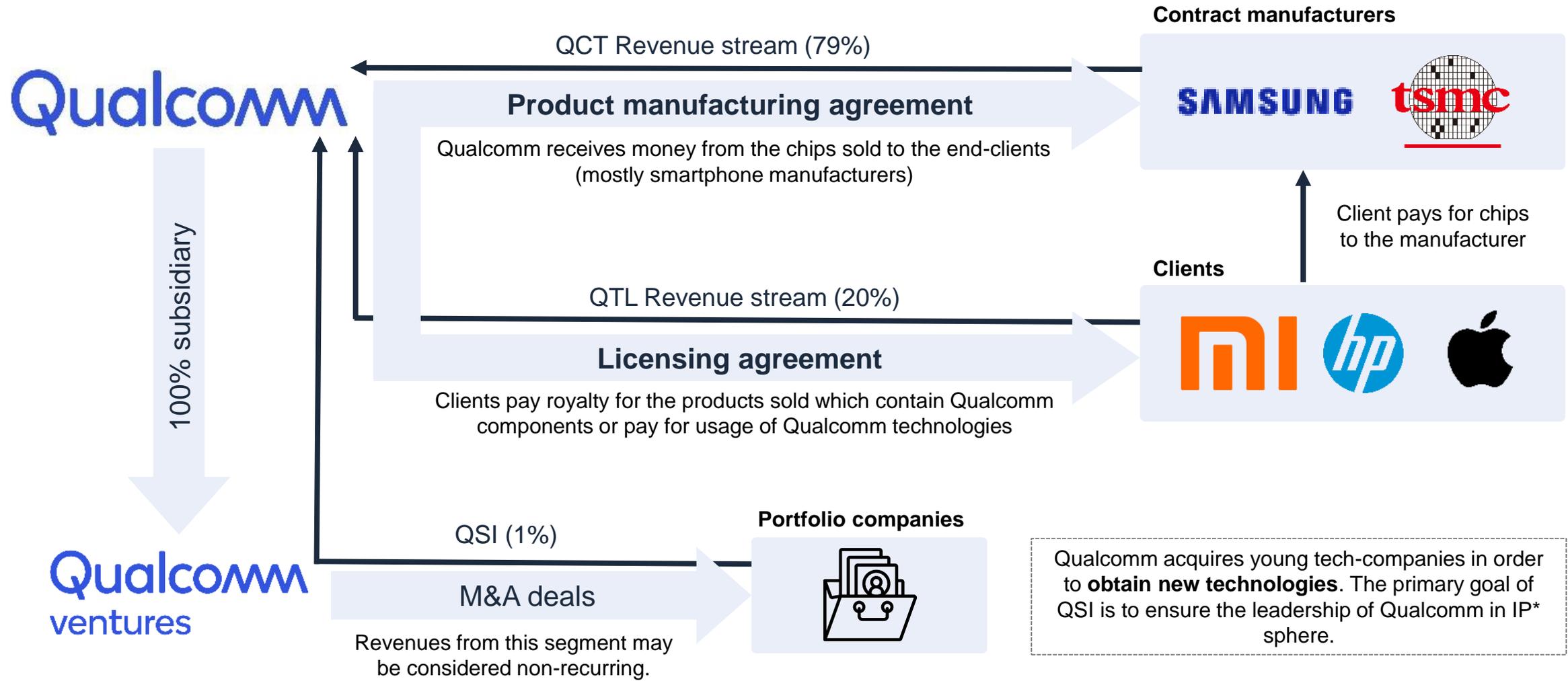
Comparable companies (EV/Forward EBIT): \$146 – 241

Risks

- Exposure to possible sanctions between the USA and China
- Revenue concentration risk associated with QCT segment and top four customers
- Supply chain problems due to CoVid-19 outbreak
- Tightening competition on Qualcomm's strategic markets
- Slower than expected adoption of 5G technologies in several industries

Business model

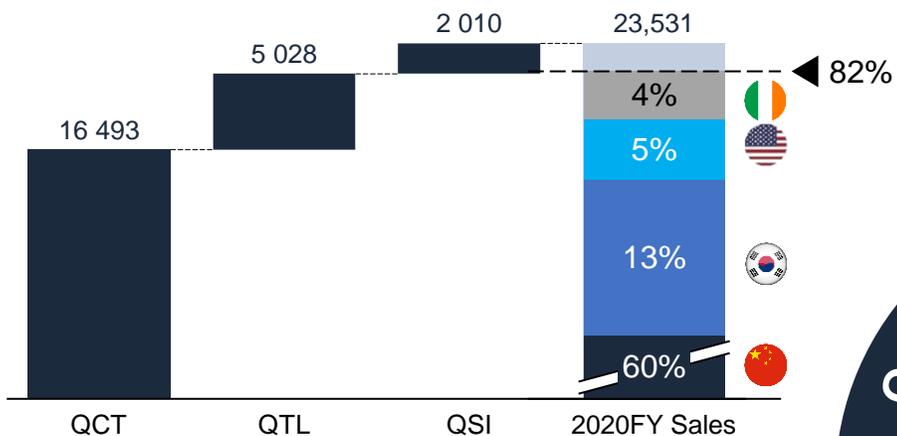
Qualcomm utilizes a fabless production model, which means that the company does not own or operate production facilities and hands it over to contract manufacturers



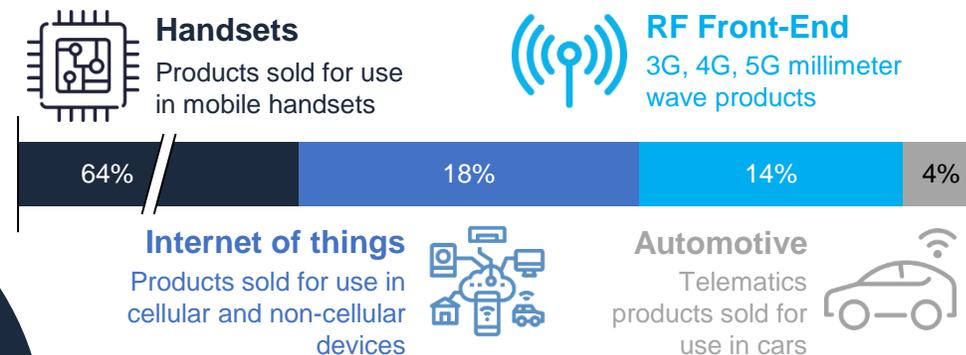
Business segments

Qualcomm is the main contributor of core developments of wireless industry to new spheres, including 5G, automotive, IoT, computing, and AI

Revenue segmentation by geography in 2020*, USD mln



Revenue segmentation by industry in 2020, %



300+

Global licenses

\$67+ bn

R&D expenditures since 2006

140 k

Active patents worldwide

Industry coverage

- Mobile
- Robotics and AI
- Automotive
- AR/VR
- Utilities
- Industrial
- Security

150+

Qualcomm Ventures portfolio companies

\$1+ bn

Qualcomm Ventures assets under management

7

World regions

Macroeconomic

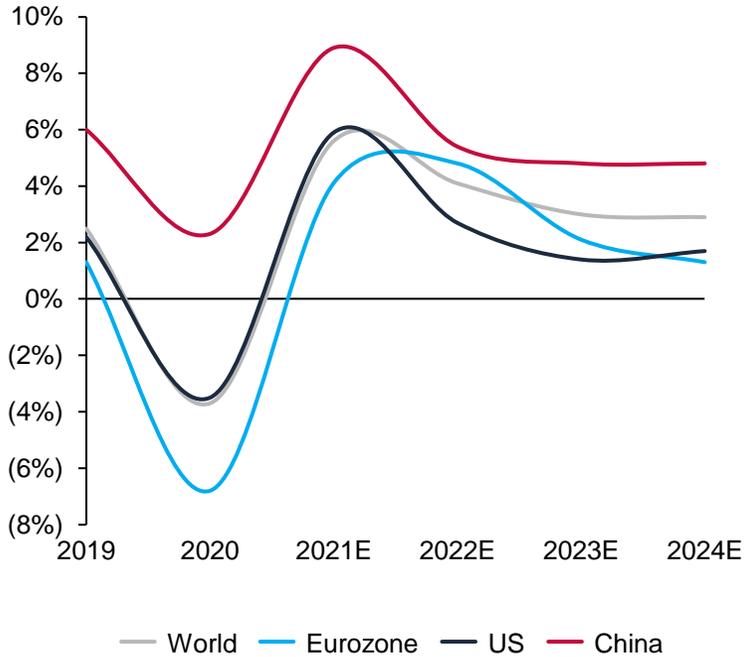
Qualcomm is facing tailwinds from the global economy entering a new growing macroeconomic cycle

1 Global economy recovery
Start of growing cycle

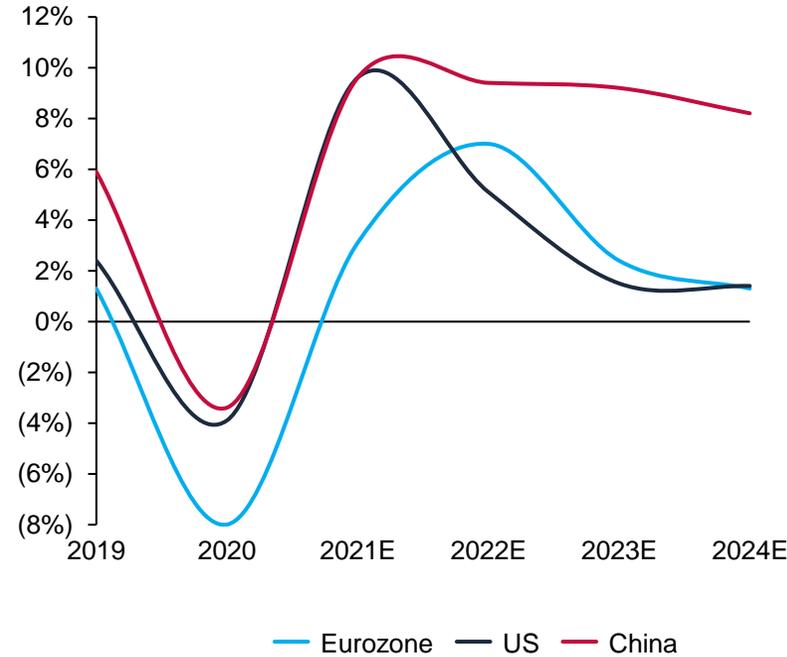
2 Increasing consumer spendings
Growing demand on durables

3 Growth of Qualcomm's
end-markets

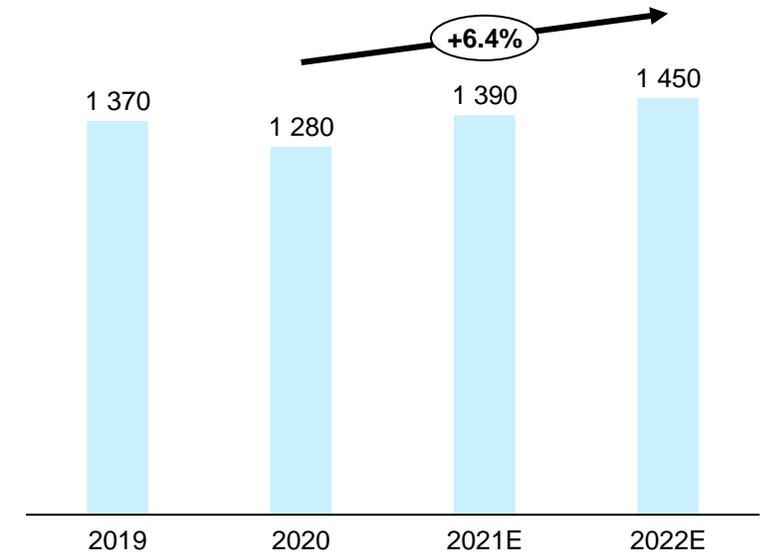
Global real GDP growth, y-o-y change, %



Real consumer spendings, y-o-y change, %



Global smartphone shipments, unit mln

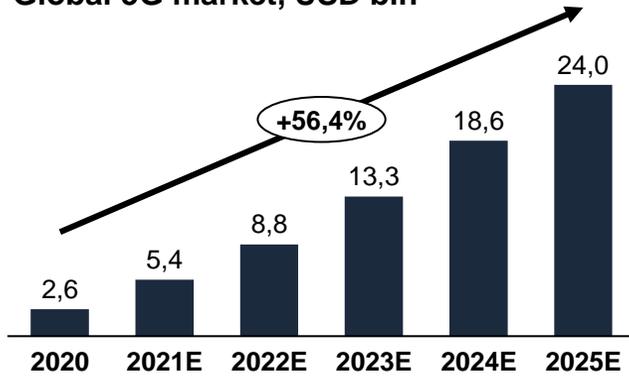


Industry Overview

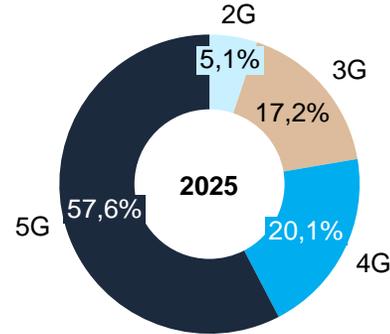
Chip market is going to thrive with industries adopting 5G technology expected to grow fivefold by 2025

Rapid switch to 5G will be mainly driven by the smartphones market

Global 5G market, USD bln

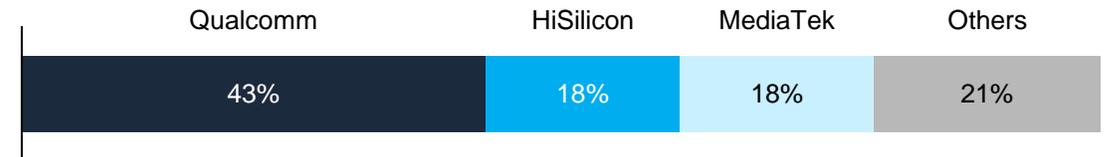


Network Connection

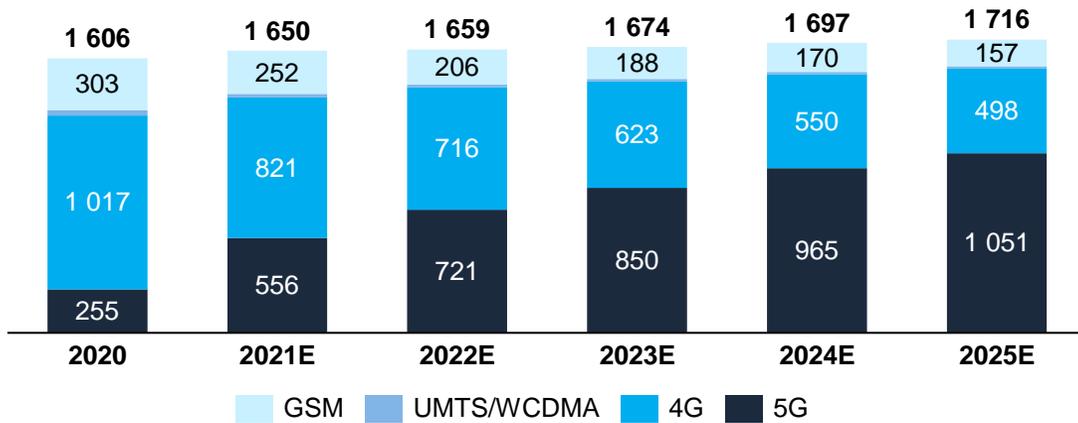


Qualcomm is stepping into a new technology era as an undisputable leader

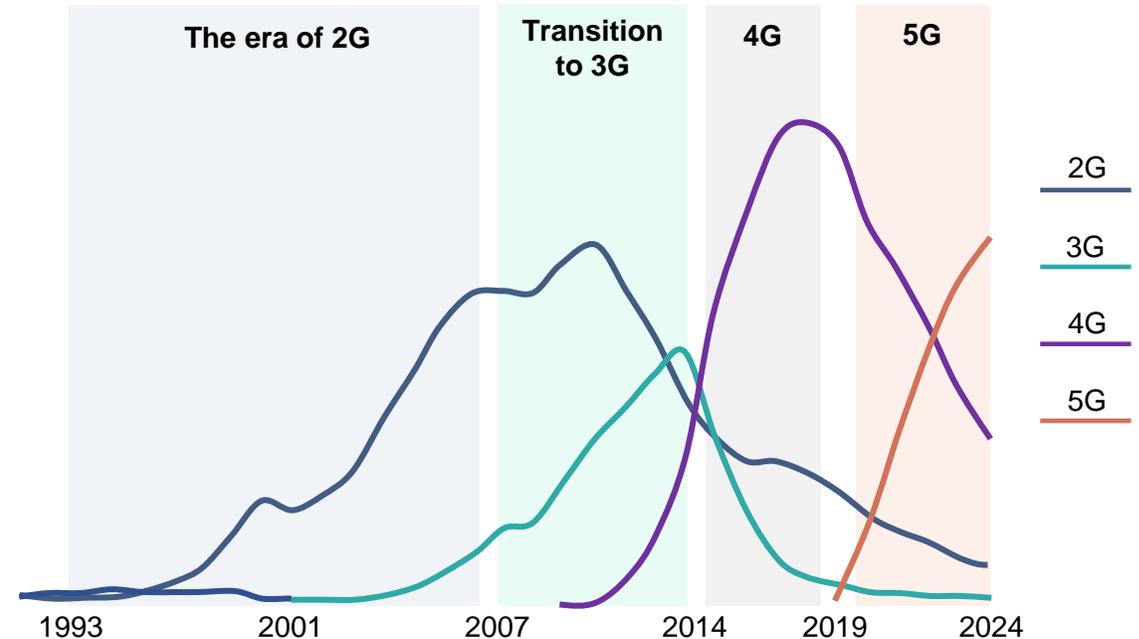
Cellular baseband share by revenue, 2020, %



Worldwide Mobile Phone Shipments by Air Interface Group, mln



Technology cycles

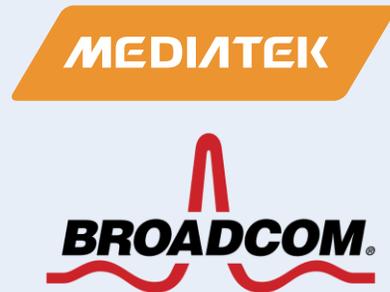


Peer selection

We selected 8 peers that are comparable to Qualcomm due to their industry (semiconductors) and the business model (fabless production)

Final full public peer universe

Direct competitors



Close peers



Peers with the same business model



MAX ←

Comparativeness

Excluded peer companies *

Not liquid stock



Not fabless / different business model



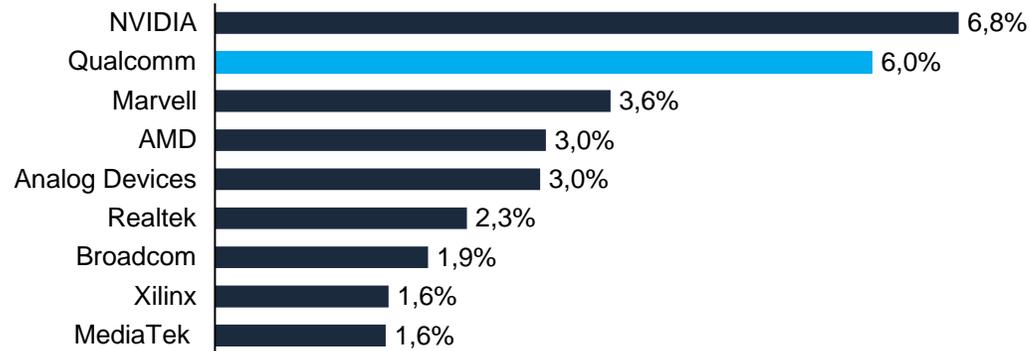
Private companies /
large holdings /
different applications /
etc.

Financial analysis (1/2)

Qualcomm's strong position is protected by high barriers to entry and its participation in developing new wireless standards for the whole industry

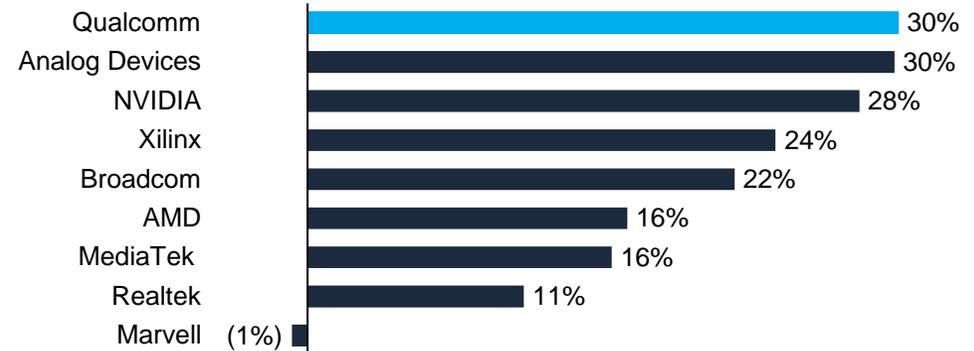
To sustain the technological dominance, Qualcomm heavily invests in R&D

R&D Expenditures / Net sales, %



...but effective cost management allows to maintain the highest EBIT margin among the peer companies

EBIT margin, %



High barriers to entry

- The industry is very **R&D intensive**
- Leaders have their own research lab with highly-qualified personnel, who possess unique expertise



Strong patent portfolio

- Qualcomm one-in-the-kind portfolio of IP-portfolio which contains **140K+ patents**
- Qualcomm invests **~20% of its revenues** in R&D to maintain the leadership



Qualcomm is a trend-setter

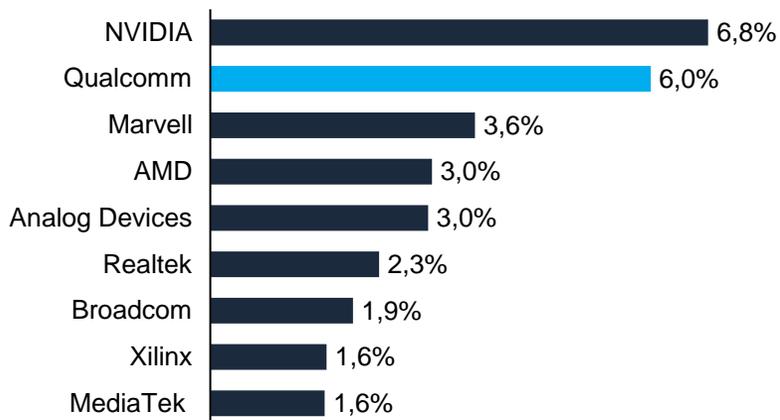
- Qualcomm is **the leader in the standardization** of many key technologies ranging from wireless, including Wi-Fi, Bluetooth, 4G and 5G, to multimedia such as video codecs.
- Qualcomm **participates in over 200 global standards.**

Financial analysis (2/2)

Qualcomm is able to strike the right balance between investing in core business and returning value to the shareholders

1 Qualcomm reinvests a significant amount of revenues

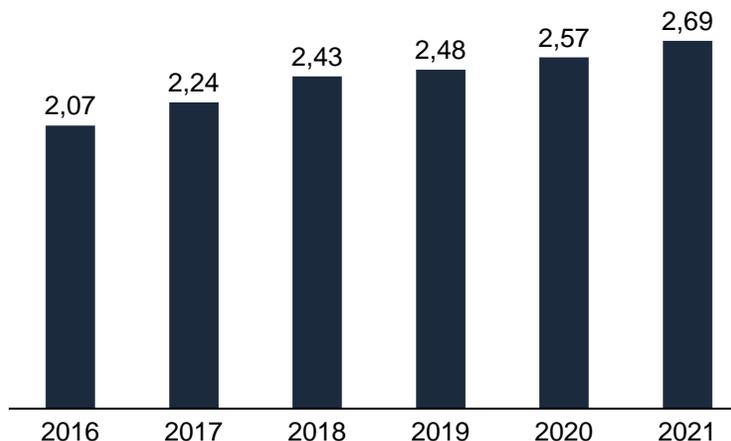
CapEx / Sales, %



Direct competitor, MediaTek, is far behind in terms of investments. This creates a serious risks for MediaTek in the middle- and long-term.

2 ... and keeps raising the dividend payments

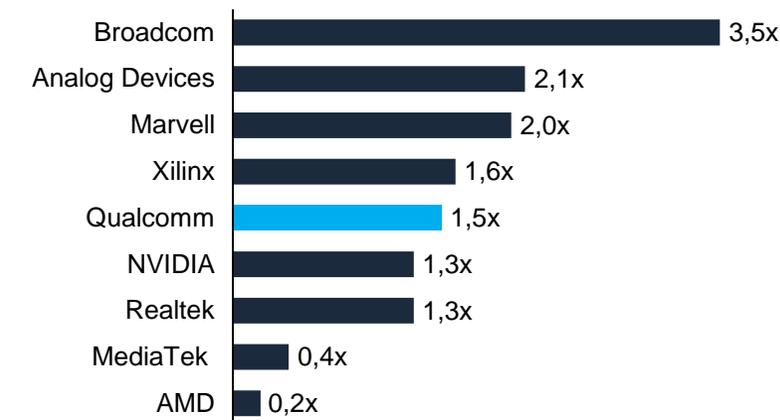
Nominal dividend per share, %



Despite large investments the company is able to consistently comply with its dividend policy even in crises times.

3 ... while maintaining in-the-market leverage

Total Debt / EBITDA, x



A2

Moody's rating
(effective 2020)

Stable

S&P Outlook
(effective 2018)

DCF Valuation

According to DCF valuation approach, the implied share price for Qualcomm is \$152 assuming WACC of 7.1% and base scenario with the Apple leave in 2024

		2021	2022	2023	2024	2025	2026	2027	TV
Revenue	USD mn	31,255	34,927	37,364	37,228	37,171	37,298	37,615	38,367
growth	%	33%	12%	7%	0%	0%	0%	1%	2.0%
EBITDA	USD mn	12,076	12,908	13,681	13,777	13,982	13,560	13,685	13,959
EBITDA margin (D&A)	%	39%	37%	37%	37%	38%	36%	36%	36.4%
	USD mn	(1,402)	(1,489)	(1,556)	(1,590)	(1,743)	(1,225)	(1,207)	(1,420)
EBIT	USD mn	10,674	11,419	12,125	12,187	12,238	12,335	12,479	12,540
(Tax effect)	USD mn	(2,661)	(2,847)	(3,023)	(3,038)	(3,051)	(3,075)	(3,111)	(3,126)
NOPAT	USD mn	8,013	8,572	9,102	9,149	9,187	9,260	9,368	9,414
D&A	USD mn	1,402	1,489	1,556	1,590	1,743	1,225	1,207	1,420
(Capex)	USD mn	(1,844)	(1,933)	(1,930)	(1,787)	(1,648)	(1,517)	(1,392)	(1,420)
Dec/(Inc.) in OWC	USD mn	533	248	94	(83)	77	33	--	
Unlevered Free Cash Flow	USD mn	8,104	8,376	8,821	8,868	9,359	9,001	9,183	9,414
% of Free Cash Flow	%	39%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Discount Factor	X	0.99	0.92	0.86	0.80	0.75	0.70	0.65	
Present Value of Unlevered FCF	USD mm	3,154	7,715	7,585	7,119	7,015	6,299	5,999	

Terminal Value - Perpetuity Growth Method

Baseline Terminal FCF Growth Rate:	%	2.0%
Baseline Terminal Value:	USD mm	184,147
PV of Terminal Value:	USD mm	120,297
Sum of PV of Free Cash Flows:	USD mm	44,885
Implied Enterprise Value:		165,182

% of Implied EV from Terminal Value: % **72.8%**

Per share price

Implied Enterprise Value:	USD mm	165,182
Net Debt	USD mm	(4,512)
Non-controlling interest	USD mm	0
Implied Equity Value:	USD mm	160,670
Shares Outstanding:	mm	1,131

Implied Share Price from DCF:	152
Premium / (Discount) to Current:	17.0%

Sensitivity analysis

		Terminal growth rate (TGR)				
		1.50%	1.75%	2.00%	2.25%	2.50%
WACC	8.1%	120	123	127	131	135
	7.6%	130	134	138	143	149
	7.1%	142	147	152	158	165
	6.6%	156	162	169	177	185
	6.1%	173	181	190	200	211

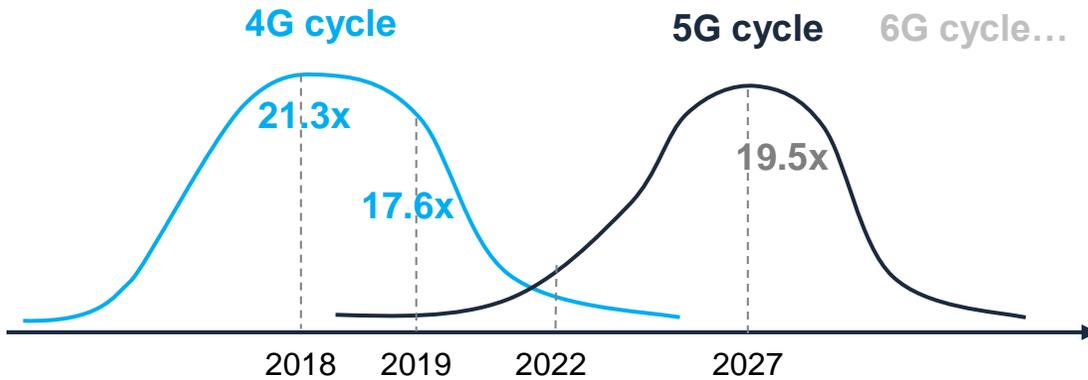
Future share price analysis

We estimated future EV/EBITDA multiple at 19.5x and CoE at 7.3% which implied the current share price of \$154 per share

Future EV/EBITDA multiple was calculated based on historical end-cycle value

DPS growth was set at 4% based on FY2020

Qualcomm EV/EBITDA, x



Dividends per share \$

	2021	2022	2023	2024	2025	2026	2027
DPS	2.69	2.80	2.91	3.03	3.15	3.27	3.40
DF	0.93	0.87	0.81	0.75	0.70	0.66	0.61
PV (DPS)	2.51	2.43	2.36	2.28	2.21	2.14	139.61

Dividends and share price were discounted at Cost of Equity of 7.3%

Based on historical value, we assume that the EV/EBITDA multiple peaks at the top of the technological cycle. This way we expect 5G to reach its maximum in 2027. Accordin

Share price sensitivity analysis, \$

		EV/EBITDA 2027				
		17.5x	18.5x	19.5x	20.5x	21.5x
DPS growth	0.0%	138	145	152	159	166
	2.0%	139	146	153	160	167
	4.0%	139	146	154	161	168
	6.0%	140	147	154	162	169
	8.0%	141	148	155	162	170
	154					

DPS growth has almost no impact

Valuation summary

The final target price is supported almost by all valuation approaches. The DCF result is slightly lower due to the applied conservative assumptions.

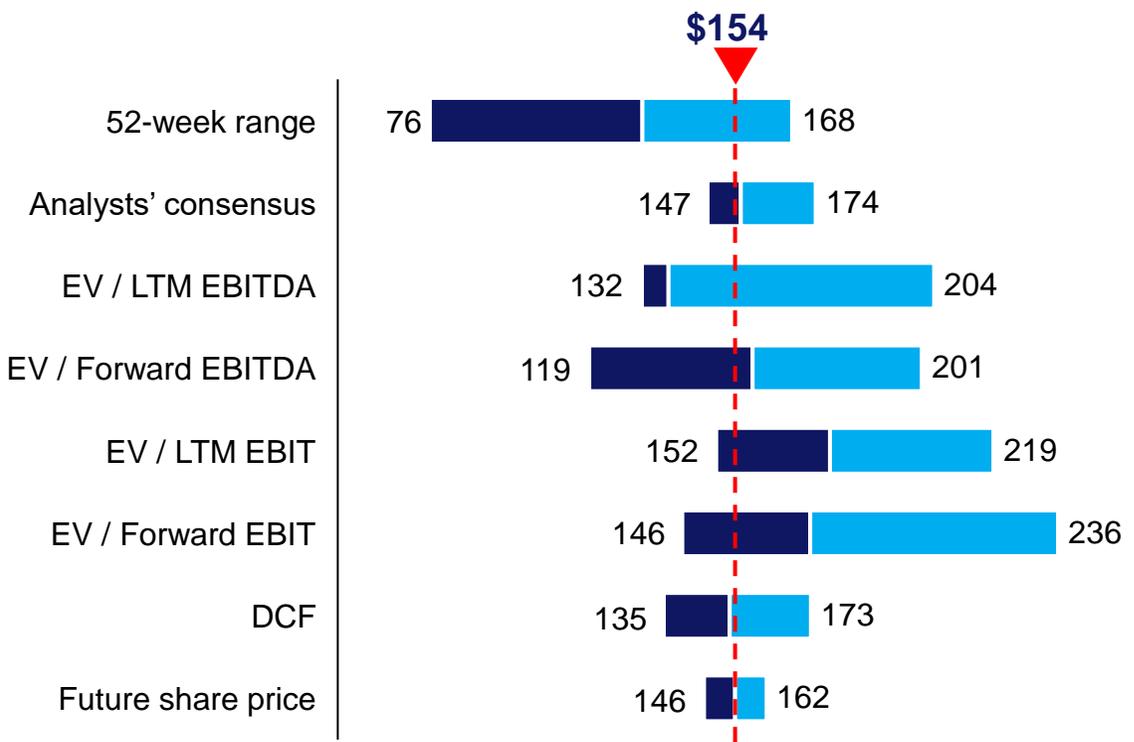
Indicative metrics

Trading multiples

Income approach

Additional

Comments



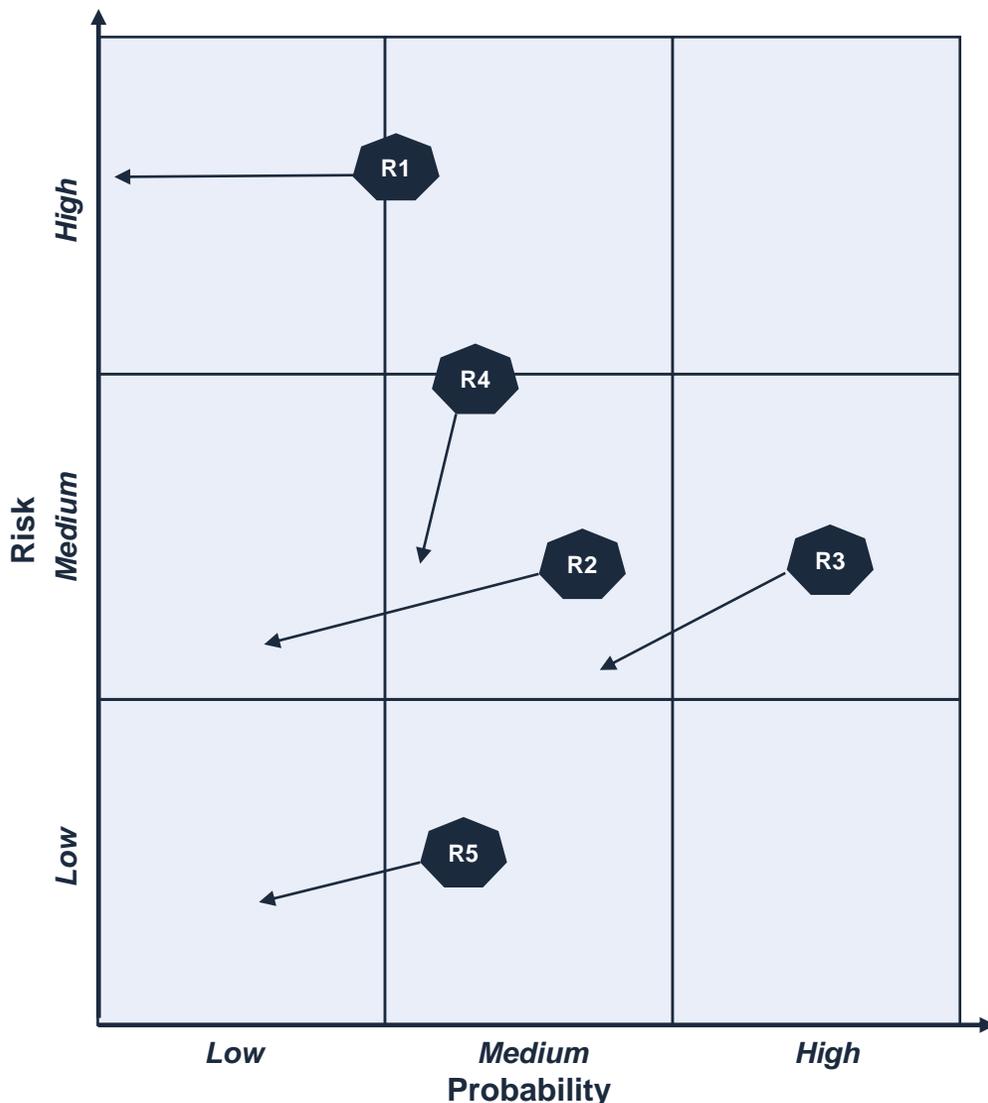
Sensitivity parameters:

- Min – Average – Maximum
- 25th percentile – Median – 75th percentile
- WACC: 8.1 – 6.1% | LTGR: 1.5 – 2.5%
- EV/EBITDA: 17.5 – 21.5x | DPS growth: 0.0 – 8.0%

Despite the fact that market valuation via multiple suggests higher valuation ranges we preferred to stay closer to the DCF-model range since it incorporates most of the possible risk and, thus provides more conservative and reliable estimation of the future target price. For multiples calculation we used EBITDA excluding Apple (represents 25% of FY20202 EBITDA)

Risk matrix

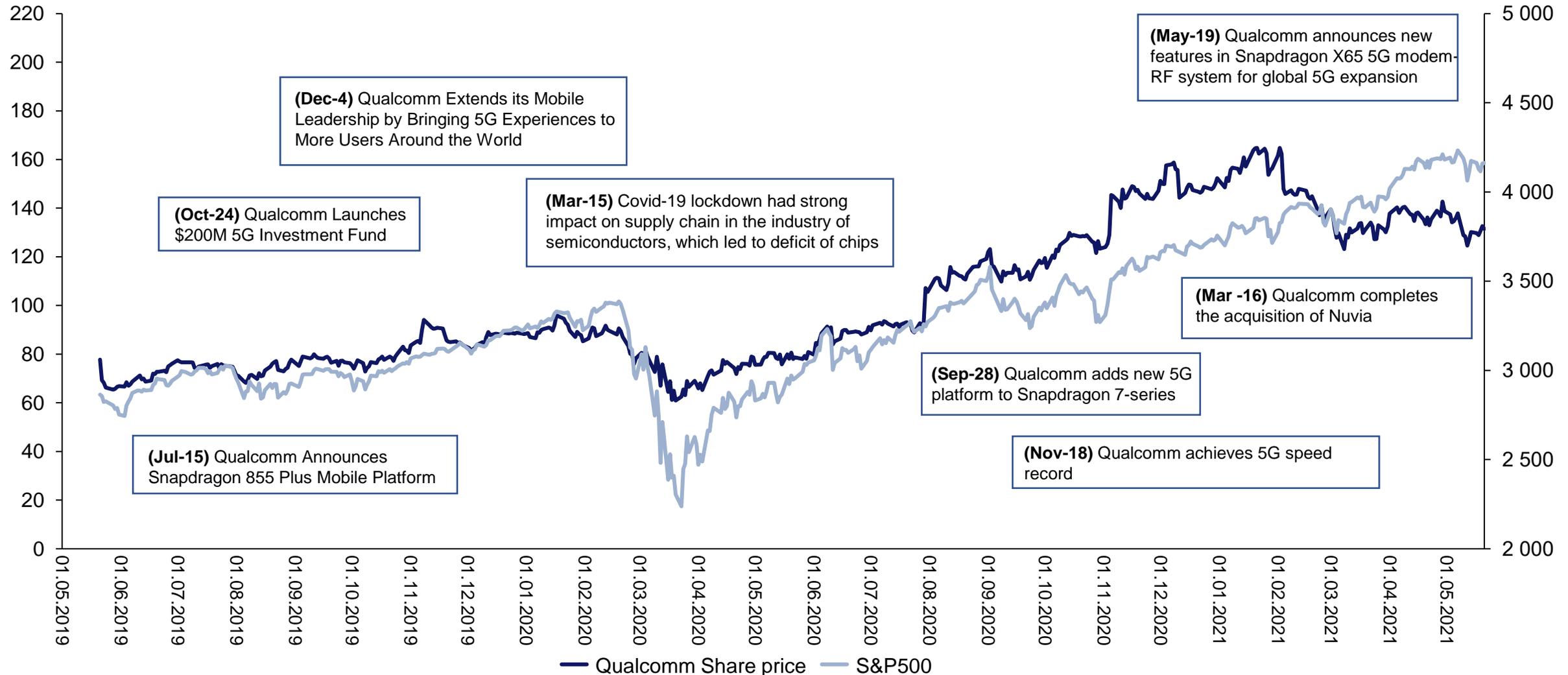
Key investment risks are either incorporated into the share price or have low risk of realization



Potential Risk	Solution
R1. Possible tensions between the US and China The Trump administration did little to build confidence in Qualcomm's strong market presence in the China market, where the majority of Qualcomm's revenues come from.	S1. Biden Stimulus Package With the new Biden administration, a trade war with China is unlikely. Stimulus packages were widely announced to get a boost for this industry.
R2. Dependence on CDMA and top-4 customers Qualcomm's top-4 customers (Apple, Samsung, HP and Alphabet) account for nearly half of the Company's revenue of CDMA segment.	S2. Ecosystem development Qualcomm is one of the most attractive players in 5G ecosystem. Within 5G growth we expect Qualcomm's business to result in increased product pricing and significant profitability gains.
R3. Supply chain problems after Covid outbreak 91% of the contract chipmaking business is housed within Asia, the lion's share of which is divided between just two regions: Taiwan and South Korea.	S3. Widespread recovery Officials have beseeched Taiwan's authorities for help in resolving the global chip crunch, pushing for the creation of domestic chipmaking capabilities.
R4. Tightening competition on strategic markets. The company's closest competitor is MediaTek with both companies holding a market share of nearly 30% each in the mobile phone chipsets market.	S4. Road to new markets Due to leadership in 5G, the transition to 5G will enable Qualcomm to capture a much larger share in the overall chipsets market. Qualcomm Ventures is focused on ecosystem expanding.
R5. Flaw in modems enables backdoor for hackers Qualcomm modems can be exploited to break users' privacy	S5. Update of program software The security issue has already been fixed since December 2020 with the appropriate software updates.

Qualcomm's Share Price Performance

Qualcomm stock continues to lead the way as 5G networks blanket cities, but the wireless chip giant also sees the global semiconductor shortage persisting for several months more.



Additional upside potential

Qualcomm has a number of catalysts for further share price appreciation



Apple fails to develop own chips by 2023

- ✓ Intel's modem business does not give an advantage
- ✓ No track record of making networking equipment



Increasing market share

- ✓ USA: Shift from Huawei to phone makers which use Qualcomm's chipsets (\$10bn opportunity)
- ✓ Developing markets: Regained market share in the mid- and low- price segment



New industries to demand 5G chipsets

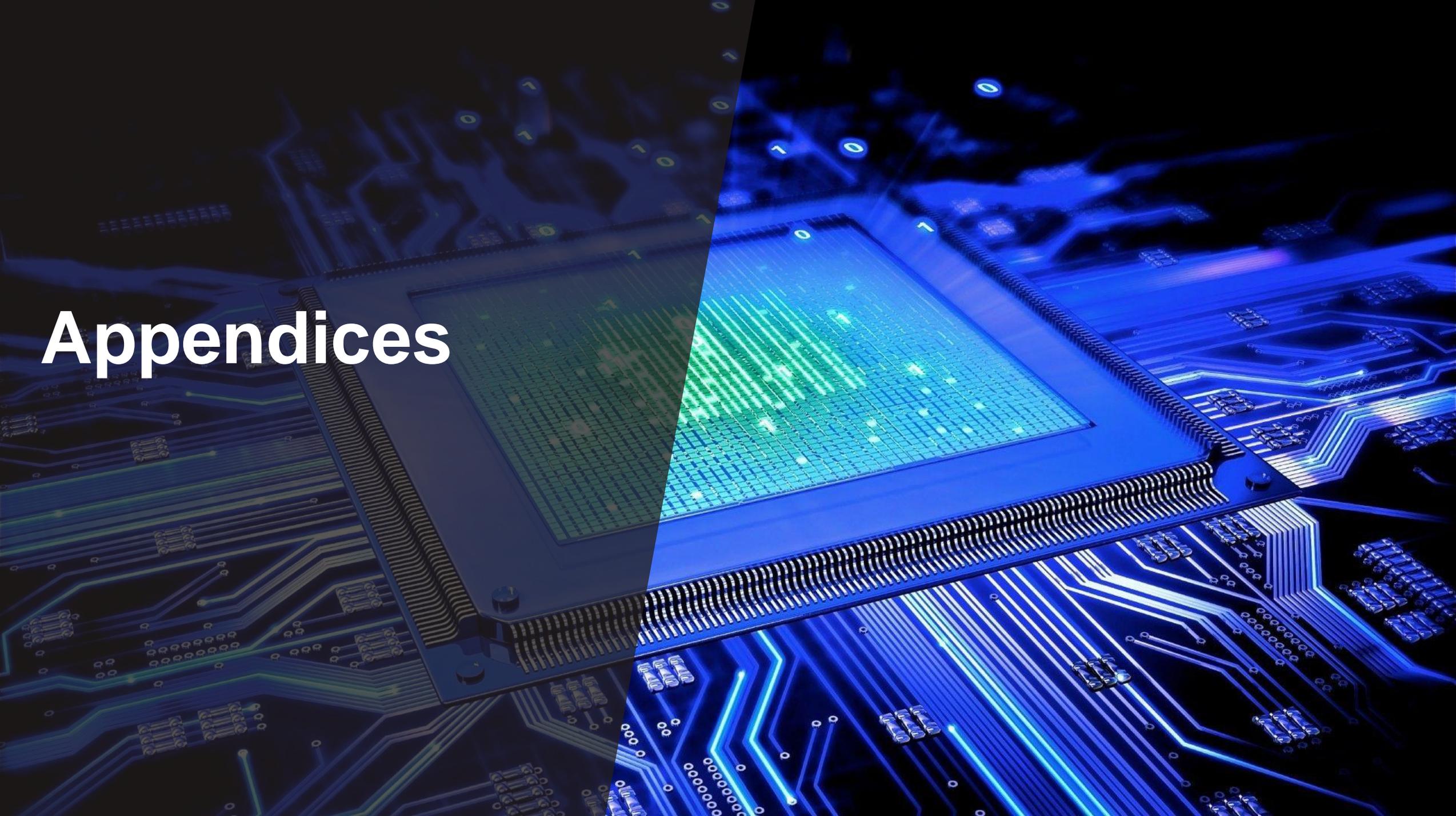
- ✓ Healthcare, Manufacturing, Smart Cities, Autonomous Vehicles, etc.



Q&A

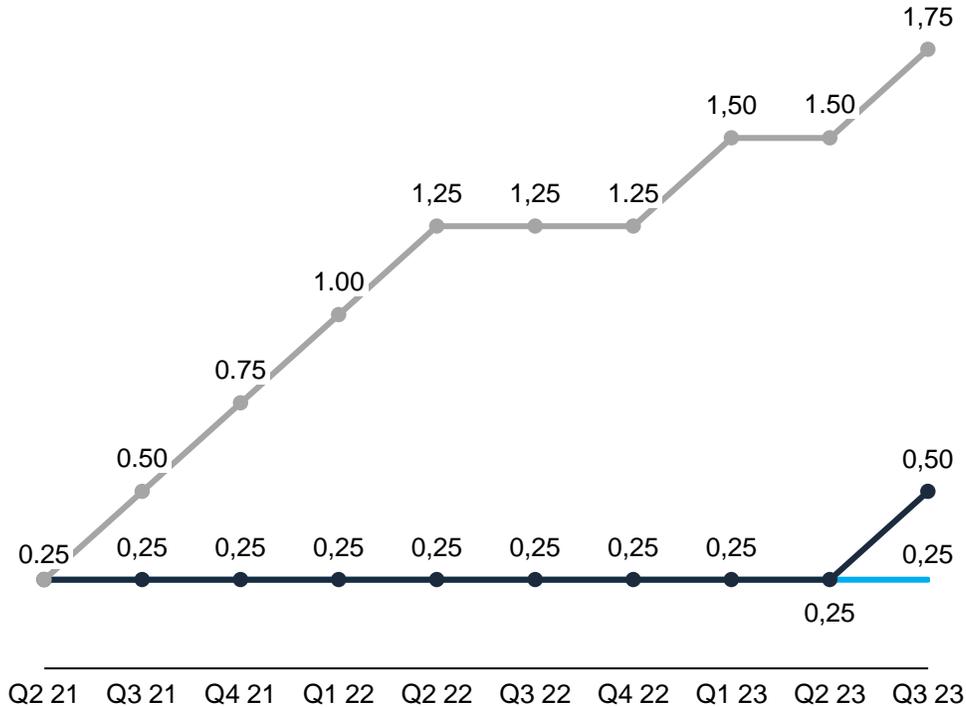


Appendices

The image features a complex digital circuit board with glowing blue and green traces. A central square area is highlighted with a bright green glow, containing a grid of small lights. Binary digits (0s and 1s) are scattered across the board, some appearing to float in the air. The overall aesthetic is high-tech and futuristic.

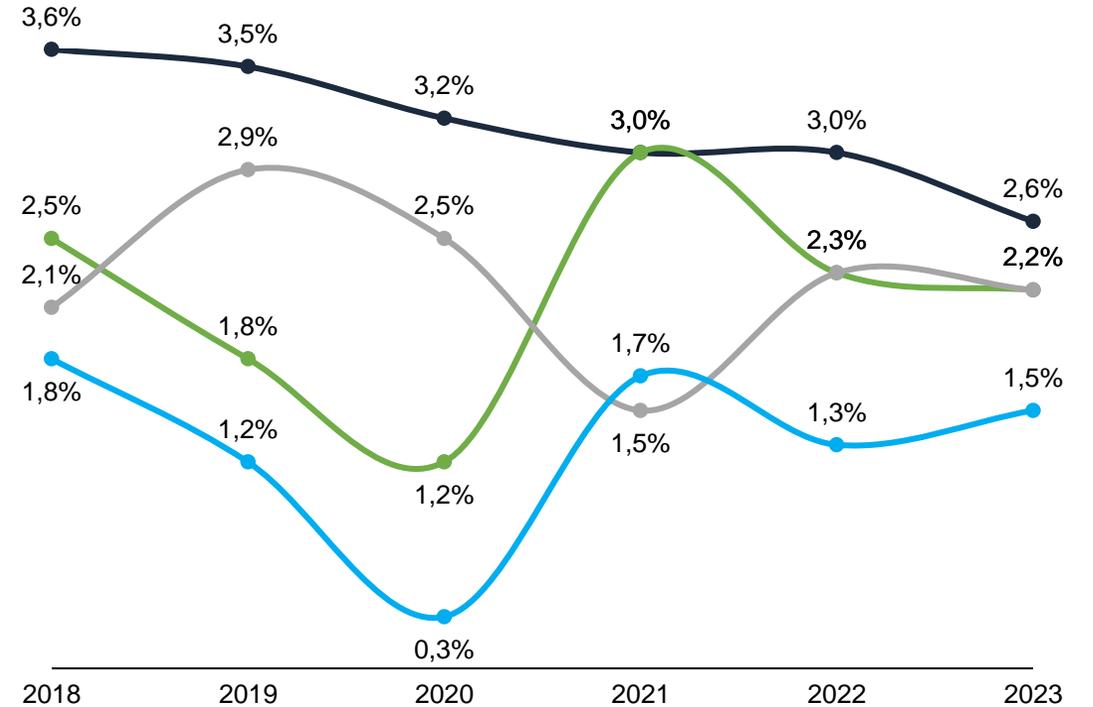
Appendix 1 – Macroeconomic forecasts

United states – upper bound of key rate, %



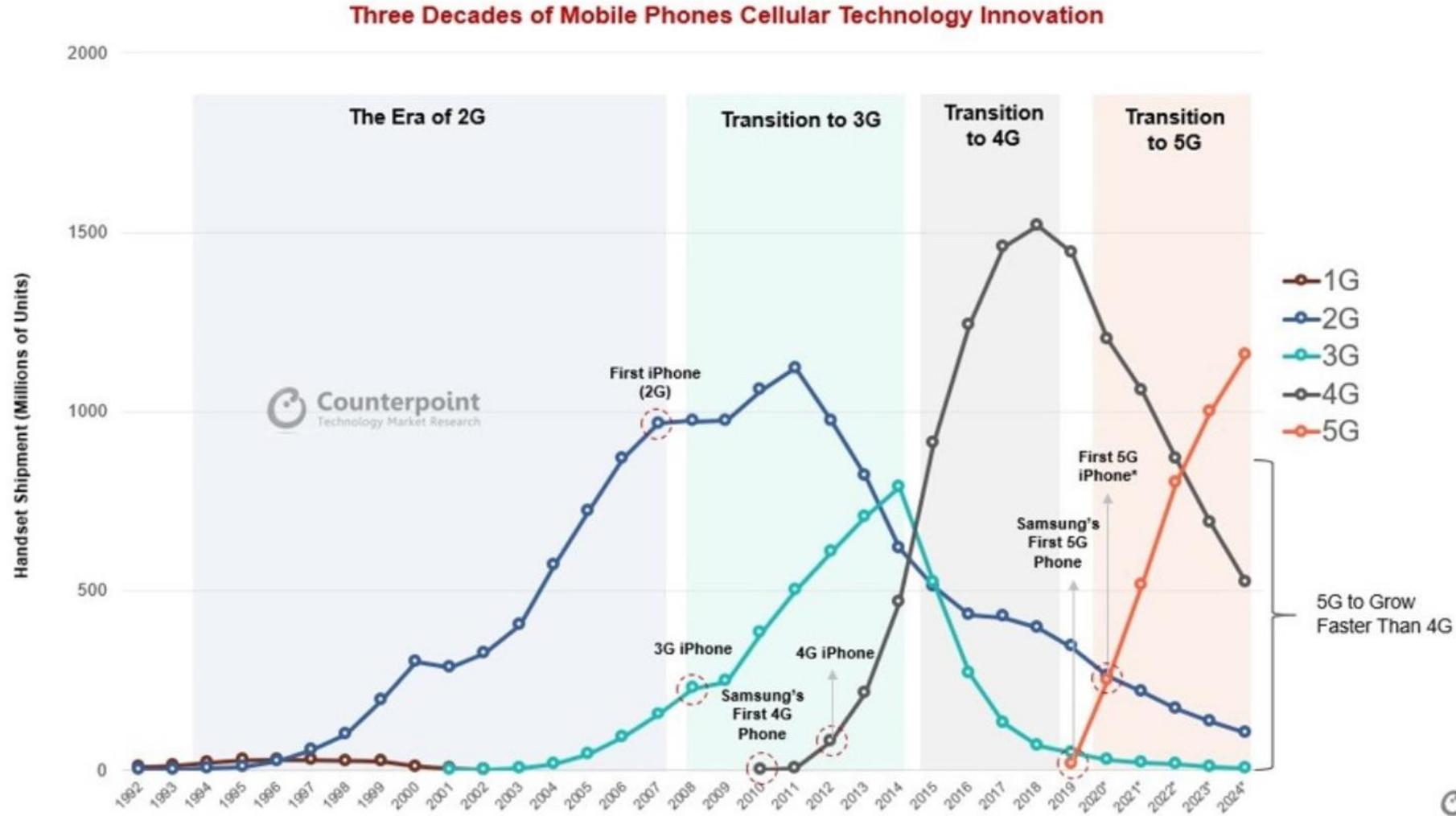
— Low Forecast — Median Forecast — High Forecast

CPI growth rate by region, y-o-y, %



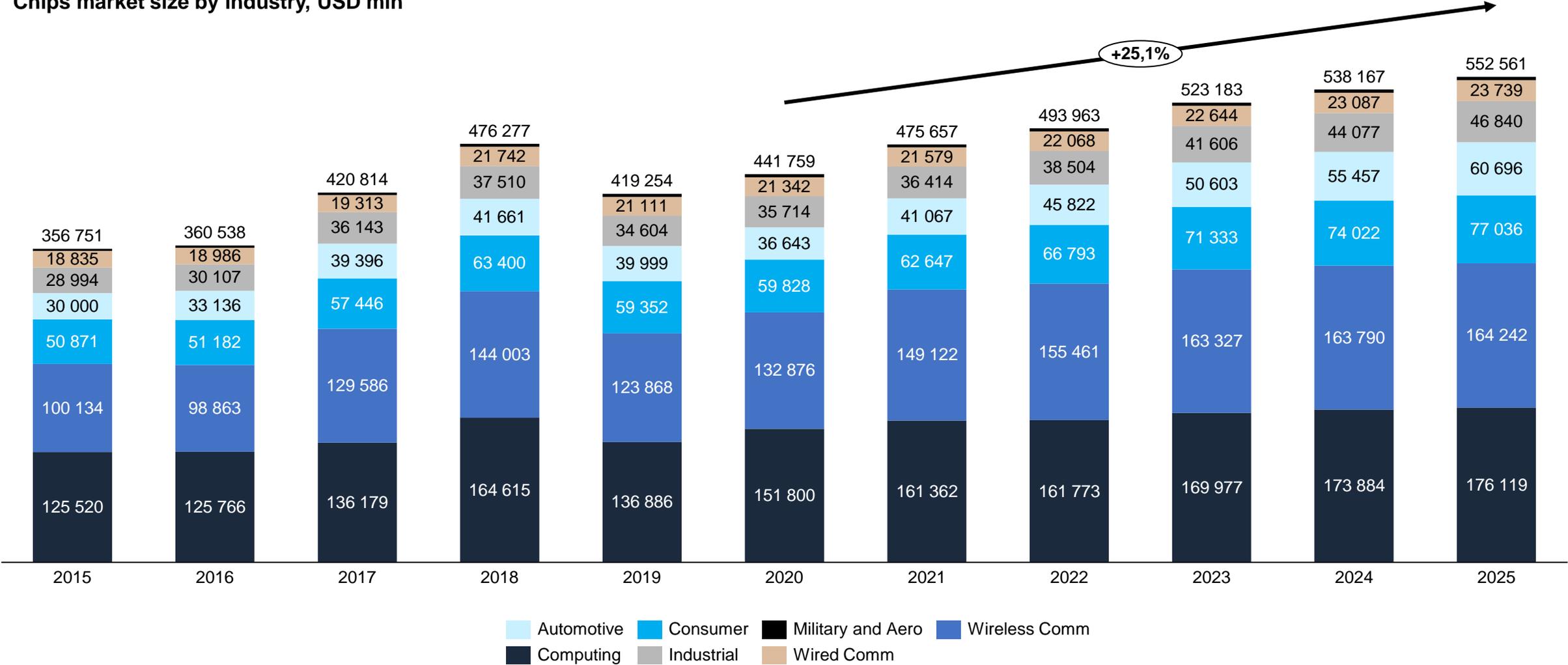
— Global — United States — China — Eurozone

Appendix 2 – Technology cycles



Appendix 3 – Semiconductor market

Chips market size by industry, USD mln

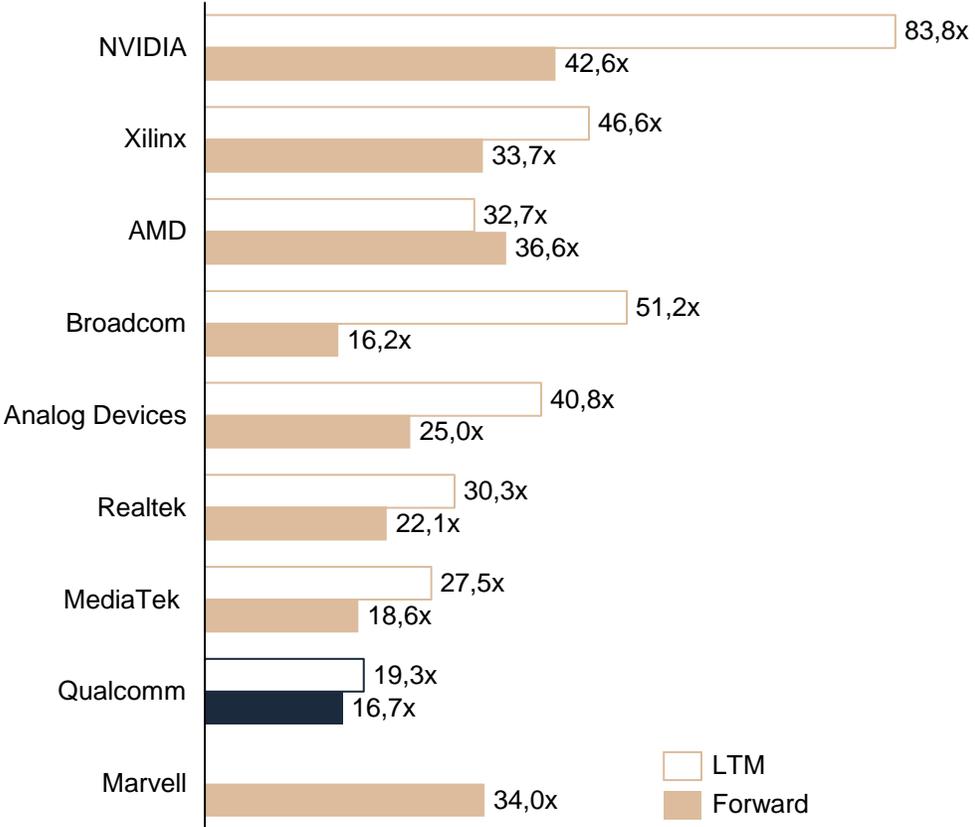


Source: IDC Research

Appendix 4 – Other multiples



Price / diluted EPS multiple



Appendix 5 – Peer comparison



<i>USD mn</i>	Market Cap	EV	LTM Revenue	LTM EBITDA	EBITDA Margin (3 year average)	CCC*, days	RoE
AMD	94 053	91 488	11 422	2 193	14%	108	57%
Analog Devices	56 490	60 332	6 202	2 691	42%	117	10%
Broadcom	183 804	219 943	24 685	11 928	44%	46	13%
Marvell Technologies	34 756	35 337	2 969	383	13%	76	(3%)
MediaTek	1 533 400	1 355 057	369 316	67 816	13%	46	12%
NVIDIA	322 146	318 303	16 675	5 774	33%	79	30%
Realtek	252 278	220 383	85 172	12 209	13%	48	31%
Xilinx Inc.	31 918	30 383	3 148	952	32%	107	25%
Qualcomm	150 146	154 355	29 409	10 424	27%	66	95%

* CCC - Cash Conversion Cycle

Opportunity to buy shares of Qualcomm Inc.

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The date of analysis is **07/05/2021**

The Qualcomm logo is rendered in a bold, blue, sans-serif font.