US Semiconductors

UBS Global TMT Conference - Highlights From Day 1

Equities

Americas

Semiconductors

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Conference Highlights

We hosted meetings and/or presentations from INTC (CFO), MCHP (CFO), SWKS (CFO), KLAC (CFO), and ENTG (CFO). Tomorrow we will host STX (CFO), WDC (President of Technology and Strategy), TER (President) and TXN (IR).

INTC

Whether INTC can catch up on manufacturing remains debatable (we think signing a major foundry customer at 18a in '23 is key), but we remain impressed by management's commitment to making the organization far more efficient and cost effective. INTC reiterated cautious near-term comments from last week; the bias to CQ1 is below "normal" seasonal of -5-7% Q/Q (Street -2%, UBSe -3%) due to ongoing inventory digestion in key PC markets and general macro demand headwinds. Under-utilization represents a ~300bps headwind to Dec GM - a portion of which likely persists into March until factory loadings move higher, but moving through '23, $3B cost savings, ramp in higher ASP Sapphire Rapids, and a full year of price increases that INTC instituted on the client side in CQ4:22 should start to provide some tailwinds. INTC again emphasized significant potential efficiencies via more stringent separation of costs between product and manufacturing operations. INTC agrees the 18a node is the key fulcrum point in the manufacturing narrative and expects to sign at least one major foundry customer in 2023 (likely 2H) though it will likely start to provide some updated milestones along the way. Product-wise, INTC continues to highlight leadership in client with Alder Lake and Sapphire Rapids which will come at higher ASP in '23 while starting to chip away at the competitive gap for small but high growth workloads like AI, security, and networking (together ~15% of all workloads). Sierra Forest (a product added to the roadmap by Pat Gelsinger in recognition of the gap in power efficiency) and Granite Rapids remain on track for '24 and these will address broader deficiencies in the roadmap. INTC continues to target capex (net of 3rd party funding) at mid 30%s of revenue in 2023 which implies that gross capex likely increases several $B as we think 3rd party financing is likely to increase substantially Y/Y (UBSe from $4B in '22 to ~$9B in '23) even if revenue declines Y/Y. INTC continues to expect the TSEM deal to close in CQ1 - we think part of the reason for its recently announced mgmt change in the IFS leadership.

MCHP

While cognizant of macro, demand commentary remains constructive and MCHP continues to have significant amounts of unsupported backlog such that lead times remain stable, though it still has relatively little visibility into the inventory position of its product at its direct customers. There is some capacity freeing up at foundry partners, but in many cases this is not a match for MCHP capacity requirements. MCHP continues to make steady progress toward a target leverage ratio of 1.5x (which could possibly occur over the next 2 Qs) - this should unlock an inflection in FCF return from ~60% currently ultimately to MCHP's long-term target of 100%. MCHP remains confident it can manage a "soft landing" via PSP and more diversified end markets. MCHP has not put through any price increases to customers this year with growth more driven by volume - some foundry partners are already talking about raising wafer prices again in '23 but MCHP has yet to make pricing decisions for '23 but historically has only marked up to maintain margins. Regarding considerations for a 300mm fab, MCHP would still require a technology license from a foundry so this would have to be part of any agreement.

KLAC

While not explicitly guiding March or June, commentary does not suggest a big revenue decline in C1H:23. To us this implies either 1) investor expectations for ~$70B WFE in '23 are too low, or 2) KLAC (and all peers) revenue has to decline significantly in C2H to have the full year be this low. Because the answer is probably a combination of both, this creates a higher base which is a headwind for stocks as the debates shift to whether '24 is flat/up/down. Following a very strong WFE share gain this year (UBSe +150bps), KLAC expects to maintain or gain share again in '23 even in the face of "deferred" WFE benefits that accrue to others. China export impact reiterated at ~$600-900MM for '23, but there is potential for some mitigation and for this number to end up lower. KLAC is targeting ~60% gross margin at $75B WFE run-rate - using our WFE share assumptions, this would imply 60% GM at ~$2.1B/Q in revenue, or ~200bps below our (and Street) model.

SWKS

Despite what appears to be a negatively evolving situation surrounding iPhone manufacturing since providing guidance, SWKS feels it accounted for the evolution of the situation when it guided so this does not represent risk, though it could represent upside for March. SWKS continues to suggest that an AAPL captive modem is only upside, though most of this would come if it were able to win any mmWave content (an area where SWKS has been investing). SWKS remains overall confident in the trajectory of blended content gains at AAPL continuing for the next several iPhone generations. SWKS sees the combination of China Android and Samsung bottoming in Dec in the low $10's of MM for Dec Q and starting to come back in March. This compares to a peak of ~$300-350MM/Q and a "normalized" estimate of $200-250MM/Q. SWKS expects Samsung to return to a >10% customer as it drives more RF sophistication into mid-tier A and J series once the market digests smartphone inventory, though it may not be a >10% customer in F2023 given how low it is in FQ1. Capital return plan remains unchanged with cash targeted ~$750-1B and all excess cash returned above and beyond what is necessary to repay $500MM debt due in mid '23 and another $700MM in '24. Google remains a solid story as blended content is even higher than iPhone and, like AAPL, SWKS has content in other non smartphone applications. Broad markets outlook remains bullish especially as WiFi 6e should drive ~25% additional RF content.

ENTG

ENTG China restrictions impact (~$40-50MM) for CQ4, though this number came on the heels of taking a conservative approach and likely represents a floor. CQ4 gross margin guidance is only slightly below a "normalized" level as FX remains a headwind and the CMC divestiture is dilutive but the "new normal" barring additional paring of the portfolio is low 40%s. Mix also remains a headwind and there is still significant dispersion for gross margin among its product lines. We continue to feel that ENTG may pare more of the CMC product portfolio (not the core slurry business) in an effort to shore up margins and the balance sheet. Besides debt retirement, ENTG is planning on bringing inventory levels down over time. ENTG remains committed to reaching ~3.5x gross leverage ratio by 2024 organically and outperform the market by ~300-600 bps in either downturn or upturn.

Intel (INTC) - David Zinsner (CFO)

Market/Strategy

- INTC remains committed to achieve 5 node transitions in 4 years. Feels good about where it stands from technology development perspective to execute this.
- For the client PC business, INTC believes it already has a technological lead with Alder Lake. INTC re-gained share this year in terms of consumption/billing.
- Acknowledged that INTC has been a little bit behind in terms of tech leadership on the Data Center side. Though Sapphire Rapids has been delayed vs. the original commit date, INTC has made some progress in debugging a lot quicker than expected last few months.
- Sierra Forest (a product added to the roadmap by Pat Gelsinger in recognition of the gap in power efficiency) and Granite Rapids remain on track for '24 and these will address broader deficiencies in the roadmap.
- Sierra Forest will likely re-establish INTC's technology footing as it will help close the power/performance gap vs. AMD and re-gain market share.
- INTC's NEX business segment is doing well where it is gaining share. INTC also has introduced discrete graphics products and has seen good progress so far. For the foundry business, INTC has gotten good progress in customer engagement (MediaTek announced as a customer earlier this year).
- Will not compromise the technology development and roadmap in light of the aggressive cost savings plan
- Most of the cost savings will be driven by cost efficiency improvement
- The foundry business separation received positive feedback from customers as it provides more transparency
- Customers adopting the 18a node will be a good milestone; INTC hopes to announce more customers adopting 18a hopefully early next year. INTC is already working with 7 of the top 10 customers for the foundry business
- INTC expanding its footprint in various parts of the world (e.g. Ohio/Arizona in the US, Germany) where it has received unmatched levels of the governmental support
- In terms of external funding, INTC had worked with Brookfield for few months before finalizing the deal. The partnership now looks more like a JV. Access to this pool of money beyond traditional debt/equity pools of capital was attractive, rare and needed
- Every semi company is receiving some sort of government subsidies
- ITC has 4 year term limit while CHIPS Act subsidies are per project basis; INTC is hopeful that these subsidies will continue in order for INTC to compete better against Asia
- INTC continues to expect the TSEM deal to close in CQ1

Financials

- INTC reiterated that CQ1 is trending no better than seasonal which is down -5-7% based on the last 5-7 years of historical results
- ~$8-10B cost savings by 2025 with ~$3B savings for next year (which could prove to be conservative)
  - ~$1B of cost savings for 2023 (net of ~$2B depreciation increase), so really ~ $3B cash improvement on COGS
  - ~$2B of opex savings (taking opex down from $22B to $20B) for 2023
- Under-utilization represents ~300bps headwind to Dec GM - a portion of which likely persists into March until factory loadings move higher, but moving through '23, $3B cost savings, ramp in higher ASP Sapphire Rapids, and a full year of price increases that INTC instituted on the client side in CQ4:22 should start to provide some tailwinds.
- INTC remains committed to dividends but they will not likely start growing them

until the FCF margin recovers to the ~20% range

- Net capex intensity range will stay around the mid-30%s range until the end of 2024 before coming back down to the mid-20%s range in 2025
- Difficult to come up with a precise book value internally. For instance, even if an equipment is fully depreciated in 5 years, its intrinsic value is not zero. Therefore, in reality, INTC's book value may be at least ~20-30% higher than the net book value from a replacement value perspective
- INTC is not ready to call its ~60% GM aspiration part of the official LT model

Microchip Technology Inc (MCHP) - Eric Bjornholt, Vice President and CFO

Capital return policy

- Committed to growing dividend 9% quarterly
- See FCF return to shareholders going from ~60% to 100% (LT target)
- Longer-term, Board would consider 50/50 split dividend/buyback
- Have been programmatic about buyback, but once net leverage gets to 1.5x may choose to amplify buyback

Balance sheet

- Last Q had ~1.8x net debt to EBITDA
- Expect to reach ~1.5x in next 2 Qs
- Do not think will need to refinance next year
- Do have some interest rate risk as floating rate debt is reset

PSP

- Not sure that this will be a "one and done program"
- Some customers with very high value products have lost any benefit that they previously had with JIT production
- Some of MCHP's larger PSP customers have entered into 5-year long term programs (not PSP though)

Lead times

- Still very extended (~52 weeks)
- Not getting longer, but not really coming in
- There are some capacity nodes that are freeing up, but in many cases they are not an exact match for what MCHP needs

300mm fab

- MCHP does not own any process tech for 12"
- Would need agreements with multiple foundry partners to license their tech
- Process tech would probably support 40, 65, 90nm
- CHIPS Act will make investment more affordable

LT growth model

- Off to a good start toward 10-15% LT CAGR (with FY21 as base)
- Biggest growth drivers will be megatrends and TSS
- Think MCHP will be able to outgrow industry

Industrial end market

- Largest end market - ~40% of revenue
- Solid, sticky business
- Significantly supply constrained
- Absolutely possible that industrial business will buck the macro
- But right now all about supply

KLA (KLAC) - Bren Higgins (CFO)

Wafer Fab Equipment

- KLAC expects to maintain its 7% WFE share in 2023 even with deferred WFE dollars that should have shipped this year being pushed into 2023
- KLAC has historically outperformed in a WFE down year due to its skew to foundry/logic, though F/L is expected to be down modestly next year
- KLAC's optical inspection business continues to inflect higher and will support KLAC's WFE share position in a downturn
- Remains committed to growing revenue to $14B/yr and $38 EPS based on 7% WFE share

Domestic China

- KLAC reiterated its view that China export restrictions will impact 2023 revenue by $600MM-$900MM
- 10%-15% of the $600MM-$900MM is services related
- Overall China could be lower than $600MM-$900MM as some tools can be reallocated and KLAC could be granted license approvals to ship to China.

Other

- Demand for optical inspection has inflected higher
- KLAC is targeting 60% GM% at $75B WFE run-rate (this is ~200bps lower than our model)
- KLAC remains committed to returning capital to shareholders through aggressive buybacks and consistent dividend growth
- 1.5x-2.5x leverage is a comfortable range as they move into 2023
- RPO sits at $13.5B (~15 months of backlog) with ~45%-55% expected to be delivered outside of the next 12 months.

Skyworks (SWKS) - Kris Sennesael (CFO)

Apple

- SWKS has fully accounted for production issues at AAPL in its Dec Q guidance
- AAPL revenue should be flat Q/Q in the Dec Q vs. normal seasonality of up 10%-15% Q/Q
- SWKS has had clear content increase from the iPhone 13 to iPhone 14, which should offset unit declines in F1H23
- Increasing BAW filter capacity as pipeline of content opportunities continues to expand

China

- While sell through remains weak, the Dec Q should mark a low point for China mobile with a bounce back in the Mar Q and through C2023 - but hard to predict the shape of the recovery
- China Mobile should normalize to ~$150MM/Q in the LT
- SWKS remains well positioned for a snapback in demand in China mobile

Samsung

- Samsung % of total revenue dipped below 10% in FY22, but Samsung appears to be shifting focus from cost to performance with highly integrated modules on mid-tier smartphones
- Samsung revenue should bounce back to levels seen in early 2022
- Growth in C2023 is highly dependant on inventory clearing

Broad Markets

- The avg. GM%/OM% of BM is > than corporate average given exposure to diverse end markets
- Despite macro weakness BM can still grow Y/Y in FY23
- Automotive will be a significant growth driver going forward as connectivity content continues to proliferate
- While WiFi has been challenged the transition from WiFi-6 to WiFi-6E should support LT content uplift
- SWKS has pol position in WiFi-7 with reference design wins that should ramp in in F2H23

Financial model

- GM% would have been +53% if not for COVID, logistics, and macro headwinds
- Remains committed to capital return through dividend growth and aggressive share repo

Entegris (ENTG) - Gregory Graves (CFO)

Market/Strategy

- ENTG reiterated the China restrictions impact (~$40-50MM) for CQ4 - where it sees incremental FX headwinds and lower volume vs. CQ3 - and highlighted that it is conducting a customer by customer analysis in China to better understand the regulatory environment; will have a better idea coming out of CQ4
- ENTG noted that it is still able to ship to multi-national customers in China but not sure about its ability when the 1 year temporary license expires
- It will be hard for Chinese local players to get into the leading edge space themselves
- ENTG tends to outperform in a downturn
- ENTG's growth also keyed to node transitions in logic and memory
- Observing more discipline in the memory space in this downturn that's more consolidated vs. '08/'09 downturn - therefore, the pricing environment now is not nearly as volatile as it was in '08/'09; ENTG's pricing does not move closely in-line with customers' pricing
- See some risks to backlog cancellations on the equipment side in the back half of '23
- All four segments of ENTG sell to TSMC
- There could be a lot of co-development opportunities for new nodes for revenue synergies with the CMC business

Financials

- ENTG is evaluating additional potential divestitures with the pending PIM asset divestiture on track to provide liquidity for debt paydown next year.
- Besides debt retirement, ENTG is planning on bringing inventory levels down over time
- ENTG remains committed to reach ~3.5x gross leverage ratio by 2024 organically and outperform the market by ~300-600 bps in either downturn or upturn
- Effectively went into the hiring freeze at the moment
- Historically, most of the cost savings in a downturn took place w/ SG&A within opex
- At the moment, ENTG has seen the most amount of outperformance in the filtration and materials businesses
- 30% of revenue is exposed to memory
- CQ4 gross margins guidance is only slightly below a "normalized" level as FX remains a headwind and the CMC divestiture is dilutive but the "new normal" barring additional paring of the portfolio is low 40%s. Mix also remains a headwind and there is still significant dispersion for gross margin among its product lines

Valuation Method and Risk Statement

We use various valuation techniques such as P/E, EV/FCF for valuing the companies in this report. Risk factors include but are not limited to macroeconomic factors such as a downturn in the economy, a distruption of international trade, technological disruption due to new inventions, or business model innovation whereby structural changes in the industry alter the future course of unit sales, ASPs, and revenues.

INTC: Due to ramping depreciation, we focus on EV/FCF. NVDA has built a formidable moat for new compute-intensive workloads in the data center and could ultimately leverage its GPU architecture to more broadly displace INTC. New client and server CPUs from AMD also present a threat that we could be under-estimating. Lastly, its push into memory could continue to constrain FCF.

SWKS: We use a P/E multiple based on the comps on Non-GAAP EPS. Low band PAD is not low margin and not easy, as evidenced by QRVO's struggles and ultimate exit. We may be under-estimating the runway of time for SWKS to remain focused on low-band before having to develop BAW technology, especially given the fertile ground in China. On the flip side, we could be over- modeling blended content gains this year and next with top customers.

KLAC: We use a P/E valuation methodology on KLAC. Risk to upside and downside for our universe of semiconductor and semiconductor equipment stock include macroeconomic and geopolitical environments, M&A, market share loss/gain, currency fluctuations, tax policies, amongst others. Macroeconomic conditions and a slowdown in end markets for semiconductors may lead to curtailment of spending on capital equipment and deferral/ postponement of orders placed with KLAC.

MCHP: We use NTM EV/FCF methodology to value MCHP. Analog is keyed to the macro-economy, and we see this as a risk (both to the upside and downside). Analog names are also levered to Electric Vehicle adoption and we see them as being sensitive to penetration rates. Specifically for MCHP, we see supply constraints in MCU are driving 2x ordering across MCU vendors and although we don’t see a hard reset, this remains a risk.

ENTG: Our valuation is based on a P/E multiple methodology. ENTG more often than not is a premium grower and we could see more upside on rev growth given solid execution track record and it could very well spin its capacity into further accretive deals. On the flip side, our profitability ests could face cuts on intensified competition and broad cyclical concerns. The semiconductor industry revenues have historically been correlated to global GDP. From a macro standpoint a deep recession with demand destruction for ENTG end customers is a potential downside risk.

Required Disclosures

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UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	Definition	Coverage[1]	IB Services[2]
Buy	FSR is > 6% above the MRA.	56%	26%
Neutral	FSR is between -6% and 6% of the MRA.	35%	22%
Sell	FSR is > 6% below the MRA.	9%	18%
Short-Term Rating	**Definition**	**Coverage[3]**	**IB Services[4]**
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 September 2022.
1:Percentage of companies under coverage globally within the 12-month rating category.
2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category.
4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

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UBS Securities LLC: Aman Gulani, Jason Park, Mayur Ramdhani, Timothy Arcuri.

Company Disclosures

Company Name	Reuters	12-month rating	Price	Price date
Entegris Inc[16]	ENTG.O	Neutral	US$74.87	05 Dec 2022
Intel Corp.[16,6,7]	INTC.O	Neutral	US$29.17	05 Dec 2022
KLA Corporation[16]	KLAC.O	Neutral	US$388.57	05 Dec 2022
Microchip Technology Inc[16]	MCHP.O	Buy	US$76.58	05 Dec 2022
Skyworks Solutions Inc[16]	SWKS.O	Neutral	US$93.74	05 Dec 2022

Source: UBS. All prices as of local market close. Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date.

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16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

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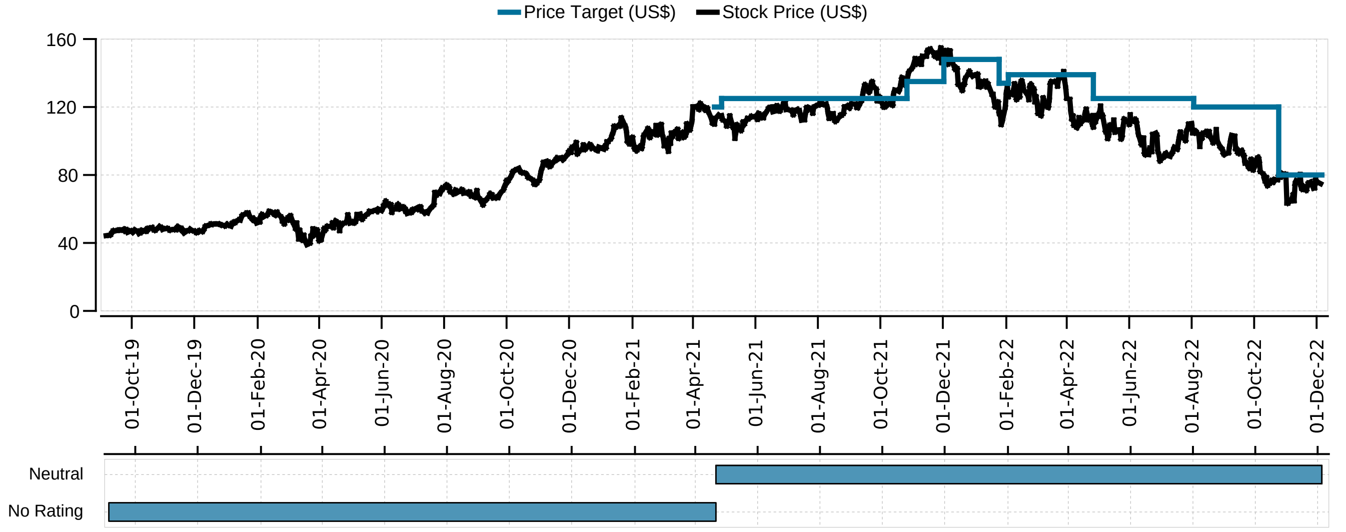
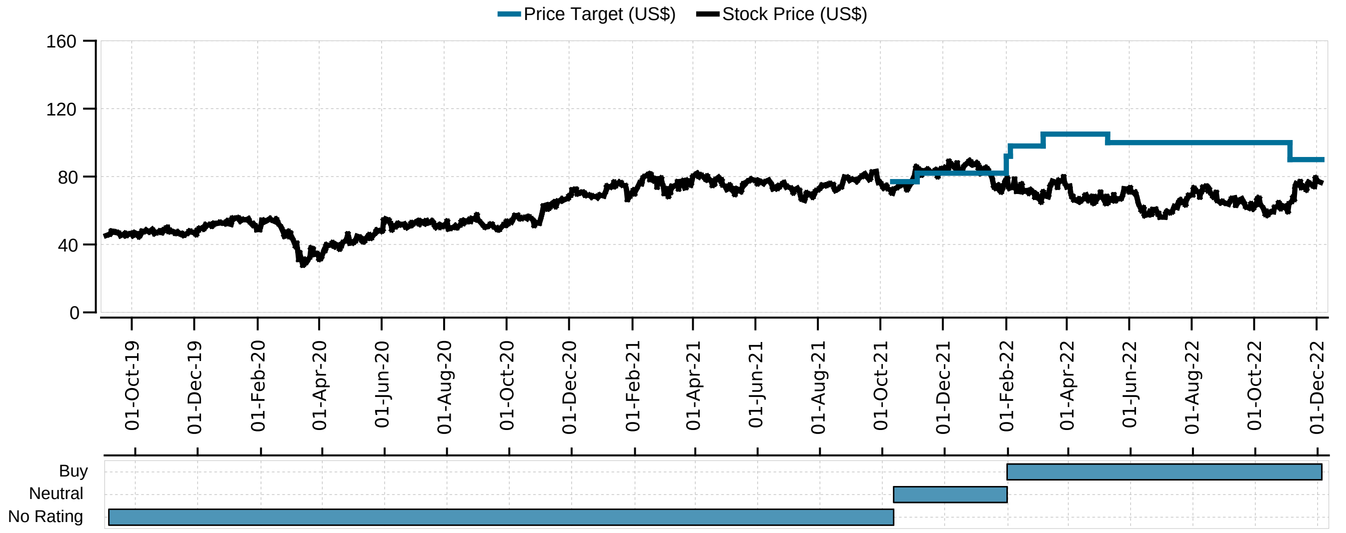
Entegris Inc (US$)



Date	Stock Price (US$)	Price Target (US$)	Rating
2019-09-05	44.18	-	No Rating
2021-04-21	113.21	120.00	Neutral
2021-04-28	114.79	125.00	Neutral
2021-10-26	132.85	135.00	Neutral
2021-12-01	148.66	148.00	Neutral
2022-01-24	122.85	134.00	Neutral
2022-02-02	132.55	139.00	Neutral
2022-04-26	109.78	125.00	Neutral
2022-08-02	104.80	120.00	Neutral
2022-10-24	77.25	80.00	Neutral

Source: UBS;as of 05-Dec-2022. All prices as of local market close. Ratings as of date shown.

Microchip Technology Inc (US$)

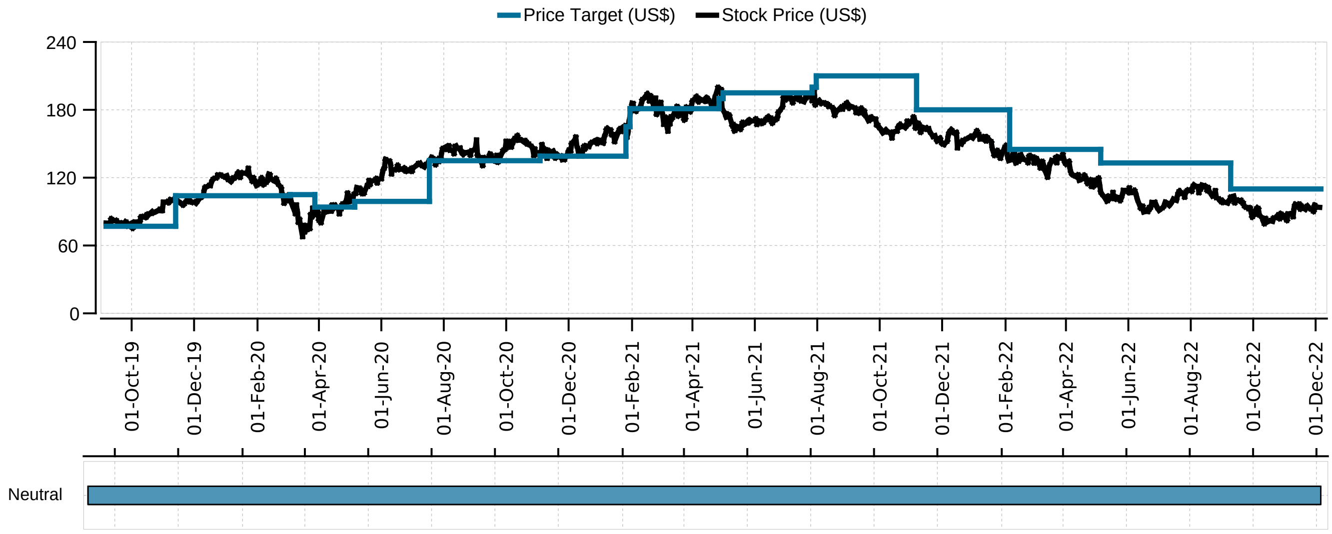


Date	Stock Price (US$)	Price Target (US$)	Rating
2019-09-05	44.42	-	No Rating
2021-10-12	70.50	77.00	Neutral
2021-11-05	85.76	82.00	Neutral
2022-01-31	77.48	92.00	Buy
2022-02-04	73.18	98.00	Buy
2022-03-08	68.53	105.00	Buy

Date	Stock Price (US$)	Price Target (US$)	Rating
2022-05-10	68.25	100.00	Buy
2022-11-04	63.86	90.00	Buy

Source: UBS;as of 05-Dec-2022. All prices as of local market close. Ratings as of date shown.

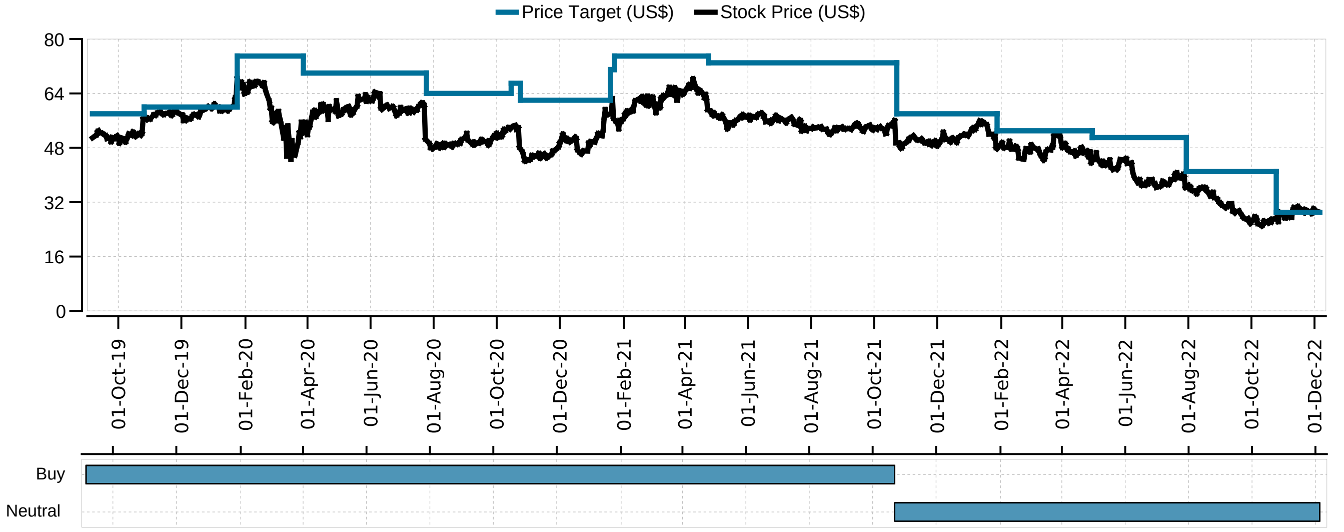
Skyworks Solutions Inc (US$)



Date	Stock Price (US$)	Price Target (US$)	Rating
2019-09-05	79.33	77.00	Neutral
2019-11-12	101.59	104.00	Neutral
2020-03-03	99.63	105.00	Neutral
2020-03-27	87.09	94.00	Neutral
2020-05-05	104.71	99.00	Neutral
2020-07-17	133.95	135.00	Neutral
2020-11-02	142.12	139.00	Neutral
2021-01-25	165.68	165.00	Neutral
2021-01-29	169.25	181.00	Neutral
2021-04-26	199.66	190.00	Neutral
2021-04-30	181.33	195.00	Neutral
2021-07-26	192.79	200.00	Neutral
2021-07-30	184.51	210.00	Neutral
2021-11-05	164.06	180.00	Neutral
2022-02-04	135.10	145.00	Neutral
2022-05-04	113.53	133.00	Neutral
2022-09-08	99.88	110.00	Neutral

Source: UBS;as of 05-Dec-2022. All prices as of local market close. Ratings as of date shown.

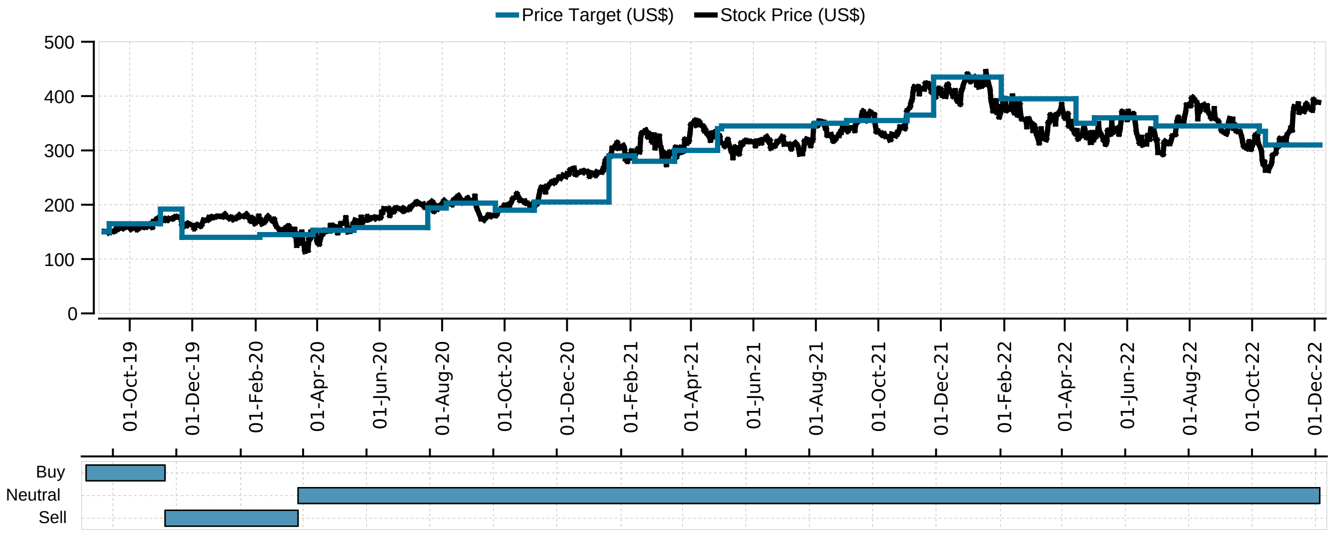
Intel Corp. (US$)



Date	Stock Price (US$)	Price Target (US$)	Rating
2019-09-05	50.10	58.00	Buy
2019-10-25	56.46	60.00	Buy
2020-01-23	63.32	75.00	Buy
2020-03-27	52.37	70.00	Buy
2020-07-24	50.59	64.00	Buy
2020-10-14	53.55	67.00	Buy
2020-10-23	48.20	62.00	Buy
2021-01-18	57.58	71.00	Buy
2021-01-22	56.66	75.00	Buy
2021-04-23	59.24	73.00	Buy
2021-10-22	49.46	58.00	Neutral
2022-01-27	48.05	53.00	Neutral
2022-04-29	43.59	51.00	Neutral
2022-07-29	36.31	41.00	Neutral
2022-10-24	27.18	29.00	Neutral

Source: UBS;as of 05-Dec-2022. All prices as of local market close. Ratings as of date shown.

KLA Corporation (US$)



Date	Stock Price (US$)	Price Target (US$)	Rating
2019-09-05	151.00	150.00	Buy

Date	Stock Price (US$)	Price Target (US$)	Rating
2019-09-10	148.75	165.00	Buy
2019-10-30	172.96	192.00	Buy
2019-11-20	173.67	140.00	Sell
2020-02-04	178.80	145.00	Sell
2020-03-27	142.24	153.00	Neutral
2020-05-06	163.81	158.00	Neutral
2020-07-17	197.20	194.00	Neutral
2020-08-04	204.90	203.00	Neutral
2020-09-21	181.10	190.00	Neutral
2020-10-29	201.95	205.00	Neutral
2021-01-10	283.18	290.00	Neutral
2021-02-04	294.23	280.00	Neutral
2021-03-15	298.96	300.00	Neutral
2021-04-26	335.81	340.00	Neutral
2021-04-30	315.35	345.00	Neutral
2021-07-30	348.16	350.00	Neutral
2021-08-30	342.11	355.00	Neutral
2021-10-28	355.34	365.00	Neutral
2021-11-23	411.98	435.00	Neutral
2022-01-28	366.65	395.00	Neutral
2022-04-11	331.47	350.00	Neutral
2022-04-29	319.26	360.00	Neutral
2022-06-28	330.09	345.00	Neutral
2022-10-07	314.16	335.00	Neutral
2022-10-13	278.54	310.00	Neutral

Source: UBS;as of 05-Dec-2022. All prices as of local market close. Ratings as of date shown.

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