

Cadence Design Systems

Guidance Could Have Upside, But Proof Points Are Yet To Play Out. Maintain Neutral.

Summary Thoughts

A solid Q4 beat ~\$28MM, healthy Q1 guide (~\$18MM above street) and a very strong F21 outlook (\$66MM above street) should translate into favorable near term stock reaction. Although CDNS was cautious on H2 on account of limited visibility, revenue guidance could yet prove conservative on two fronts: 1) CDNS is only baking a flattish Y/Y trajectory for China contribution even at high end of guide (see our math in back pages), meaning there could ~\$25MM upside (vs. high end), should China grow in the ballpark of what we view as sustainable long term; 2) We think implied full year Verification outlook could well be conservative to the tune of ~\$35MM-\$40MM, although this could very easily be offset by a normalization of IP growth rates (see math back pages). Longer term, with Numeca (acquisition yet to close) run-rating at ~\$35MM/yr (see math back pages), System Analysis could see a step up in 2022 as Numeca becomes accretive. Relative to margins, although we think CDNS System Analysis will ultimately prove margin accretive on account of its relatively lower recurring R&D profile vs. core EDA, CDNS has a long investment runway as it builds out its go-to-market and we think this (along with some higher T&E) is resulting in only flattish Y/Y Op. Margins/FCF Margins. All told, we take up our estimates to reflect CDNS' strong outlook & nudge our PT to \$150. While we acknowledge that management tends to guide conservatively & there could be headroom for estimates to go higher, proof points (Numeca, Verification upside) are yet to play out just yet & with the stock having tracked to Op. margins over the long term, the flat margin guide could be a headwind in the meantime. We remain Neutral.

Positives/Negatives

(+) 1) Solid results and guide; 2) CDNS' China growth may be becoming more broad based as Q4 benefited more from recurring Core EDA Software rather than hardware; 3) Numeca should provide step up to CDNS System Analysis in 2022(-) 1) Margin guidance is flattish Y/Y as CDNS invests in System Analysis; 2) No additional quantification around Clarity and Celsius revenue.

Estimate Changes

We are raising 2021/2022 estimates. C2021/2022E \$2.92B/\$3.05 \$3.23B/ \$3.58 vs. \$2.85B/\$3.00 \$3.14B/\$3.34 prior

Valuation: PT \$150 (from \$145)

PT \$150 (from \$145) derived by unchanged ~12.7x EV/Sales to C2022E revs \$3.23B (from ~\$3.14B).

Highlights(US\$m)	12/18	12/19	12/20	12/21E	12/22E	12/23E	12/24E	12/25E
Revenues	2,138	2,336	2,683	2,921	3,232	3,502	3,828	4,263
EBIT (UBS)	647	749	944	1,050	1,218	1,360	1,497	1,896
Net earnings (UBS)	526	618	782	856	1,006	1,125	1,241	1,576
EPS (UBS, diluted) (US\$)	1.87	2.20	2.80	3.05	3.58	4.00	4.41	5.56
DPS (net) (US\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net (debt) / cash	88	359	582	921	1,545	2,140	2,723	3,710
Profitability/valuation	12/18	12/19	12/20	12/21E	12/22E	12/23E	12/24E	12/25E
EBIT (UBS) margin %	30.2	32.1	35.2	36.0	37.7	38.8	39.1	44.5
ROIC (EBIT) %	-	50.9	51.7	55.3	68.6	85.0	99.6	134.9
EV/EBITDA (UBS core) x	17.1	22.4	25.3	33.6	29.4	26.6	24.3	19.5
P/E (UBS, diluted) x	22.9	29.3	33.7	46.2	39.4	35.2	32.0	25.4
Equity FCF (UBS) yield %	4.6	3.6	3.1	2.2	3.0	3.1	3.2	4.2
Dividend yield (net) %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US\$ 141.00 on 22-Feb-2021 19:00:38 EST

Equities

Americas

Semiconductors

12-month rating **Neutral**

12m price target **US\$150.00**

Prior **US\$145.00**

Price (22 Feb 2021) **US\$141.00**

RIC: CDNS.O BBG: CDNS US

Trading data and key metrics

52-wk range US\$145.99-54.32

Market cap. US\$38.6b

Shares o/s 274m (COM)

Free float 98%

Avg. daily volume ('000) 1,427

Avg. daily value (m) US\$186.2

Common s/h equity(12/21E) US\$2.81b

P/BV(12/21E) 13.6x

Net debt to EBITDA(12/21E) NM

EPS (UBS, diluted) (US\$)

	12/21E			
	From	To	% ch	Cons.
Q1E	0.82	0.76	-7	0.72
Q2E	0.76	0.80	5	0.72
Q3E	0.71	0.74	5	0.74
Q4E	0.71	0.75	6	0.76
12/21E	3.00	3.05	2	2.88
12/22E	3.34	3.58	7	3.16
12/23E	3.62	4.00	11	3.42

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Guidance Analysis

China Math

We think CDNS is baking in a fairly conservative outlook for Y/Y China growth FY21. At the high end of the guide (which is where we model FY21), if assuming CDNS ex China grows ~10% Y/Y in FY21, this would imply China growing only 3% Y/Y, well below 68% Y/Y in 2020. On a 3yr CAGR though this would imply roughly 26% growth. We have written in the past that we view roughly 25%+ 3yr CAGR to be sustainable for China. China only has to grow a touch faster in FY'21 than what we view sustainable over the longer term to create ~\$25MM upside vs. higher end of guide and our model. Proof points are yet to play out wrt whether this upside will materialize.

Figure 1: What does FY'21 Guidance bake in for China ?

China Math	F2018	F2019	F2020	F2021e	China Upside
CDNS Revenue	\$ 2,138	\$ 2,336	\$ 2,683	\$ 2,921	2,944
CDNS China	210	241	407	418	441
Y/Y		15%	68%	3%	8%
China 3 yr CAGR				26%	28%
CDNS ex China	1,928	2,095	2,276	2,504	2,504
Y/Y		9%	9%	10%	

Source : UBS estimates, Company reports

Verification vs. IP Math

Our model suggests that implied full year verification could have upside, especially if verification is on a longer term double digit growth trajectory.

IP however has been elevated and should IP normalize to a low double digit this could offset Verification upside.

Figure 2: Verification vs. IP

Verification/Hardware	F2018	F2019	F2020	F2021(UBSe)	F2021(UBSe)- Upside
Revenue	513	526	593	626	665
Y/Y		2%	13%	6%	6%
3yr CAGR				7%	9%
Delta to UBS model					39
IP	F2018	F2019	F2020	F2021(UBSe)	F2021(UBSe)- Upside
Revenue	257	298	375	415	360
Y/Y		16%	26%	11%	-13%
3yr CAGR				17%	12%
Delta to UBS model					(54)

Source : UBS estimates, Company reports

Numeca Math

We think Numeca is going to be roughly 50 bps dilutive to CDNS operating margins . This would imply that Numeca Opex is run rating at ~\$14MM. If we assume a roughly 40% Op Margin for Numeca, this would then imply Numeca run rating at ~\$35MM /yr in revenue.

Figure 3: Numeca

Numeca math

Numeca Dilution to F2021 Opm

CDNS Revs (mid pt)	2890
CDNS Opm	35.25%

Assume Numeca Dil	0.50%
Numeca Opex	\$ 14
Assume Numeca Margins	40%
Numeca Revs	\$ 36

Source : UBS estimates, Company reports

Numeca revenues do not flow through to CDNS in FY'21 due to purchase accounting . However, we believe Numeca could provide a step up to System Design and Analysis in 2022.

If we assume AWR/integrand contribution of ~\$30MM in this time frame CDNS System Analysis and Design Revenue could approach \$75MM, even with a fairly pedestrian trajectory for Clarity+Celsius

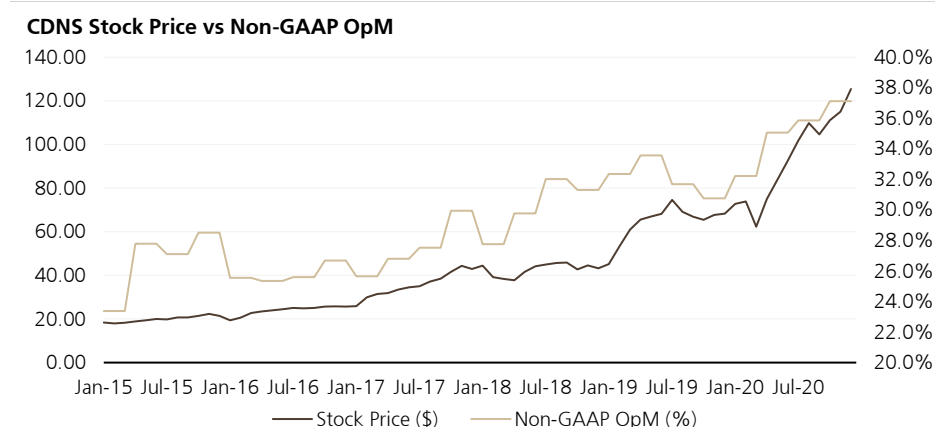
Figure 4: CDNS System Analysis +AWR/Integrand

System Analysis	TAM	Share	Revenue
Clarity+Celsius	800	1%	\$ 8
Numeca	1600	2%	\$ 36
AWR			\$ 30
System Analysis+AWR+Integrand			\$ 74

Source : UBS estimates, Company reports

The stock has been tracking op. margins in the past but a flat Y/Y guide could serve as a headwind.

Figure 5: CDNS Stock Price vs Non-GAAP OpM



Source : Company data, Factset

Note: Stock price is a monthly avg; We keep OpM flat for the months in the same Q

Results: CDNS reported FQ4 Revenue/Non-GAAP EPS of \$760MM / \$0.83 vs. our UBSe precall estimates of \$739MM / \$0.75.

Figure 6: FQ4:20 Results

Key Metrics	Actual	UBS Estimate	Street Estimate	Reporting 4Q20		Remarks
				Act vs UBS	Act vs Street	
Revenue (\$MM)	\$760	\$739	\$732	2.8%	3.8%	Solid beat vs. Street
Y/Y Growth	26.7%	23.3%	22.1%			
Guidance	\$720-\$740MM					
Product and Maintenance	\$723	\$702	\$693	3.0%	4.4%	
Y/Y Growth	28.0%	24.3%	22.6%			
Service	\$37	\$37	\$38	-0.8%	-4.6%	
Y/Y Growth	6.0%	6.9%	11.1%			
Gross Margin	92.2%	89.0%	88.9%	3.2%	3.4%	
Operating Margin	37.1%	34.9%	34.8%	2.2%	2.3%	Opm better on higher revs
Guidance	34%-35%					
Non-GAAP EPS	\$0.83	\$0.75	\$0.74	11.2%	12.2%	Solid beat vs. street
Guidance	\$0.72-\$0.76					
Operating Cash Flow	\$136	\$107	\$92	27.0%	46.5%	
Segment Revenues (\$MM)						
Total Revenue	\$760	\$739		2.8%		
% of Total Revenue	100%	100%				
Y/Y Growth	26.7%	23.3%				
Functional Verification	\$144	\$159		-9.5%		Verification came in below UBSe
% of Total Revenue	19%	22%				
Y/Y Growth	0.3%	10.8%				
Digital IC Design and Sgnoff	\$236	\$227		3.9%		Digital was strong
% of Total Revenue	31%	31%				
Y/Y Growth	35.5%	30.4%				
Custom IC Design and Simula	\$198	\$179		10.3%		Custom IC strong on 5G/Analog
% of Total Revenue	26%	24%				
Y/Y Growth	31.8%	19.5%				
System Interconnect and Anal	\$84	\$74		12.9%		System Analysis is seeing momentum
% of Total Revenue	11%	10%				
Y/Y Growth	54.9%	37.3%				
IP	\$99	\$100		-1.2%		largely in-line
% of Total Revenue	13%	14%				
Y/Y Growth	26.7%	28.3%				

Source : Company data, Factset, UBS estimates

Guidance: CDNS guide FQ1 \$720MM/\$0.74 (midpoint) vs UBSe pre-call \$725MM/\$0.82, FY21 \$2.89B/\$3.00 (midpoint) vs UBSe pre call \$2.85B/\$3.00

Figure 7: FQ1:21 Estimates

Key Metrics	Next Quarter Guidance (1Q21)			
	Guidance	UBSe New	UBSe (pre-call)	Street Estimate
Revenue (\$MM)	\$710-\$730	\$730	\$725	\$702
<i>Y/Y Growth</i>		18.1%	17.3%	13.6%
Operating Margin	~35%	35.7%	38.2%	38.1%
Non-GAAP EPS	\$0.72-\$0.76	\$0.76	\$0.82	\$0.71
Operating Cash Flow(\$MM)		\$329	\$245	\$246
Segment Revenues (\$MM)				
Functional Verification		\$150	\$166	
<i>% of Total Revenue</i>		21%	23%	
<i>Y/Y Growth</i>		5.6%	16.7%	
Digital IC Design and Sgnoff		\$221	\$213	
<i>% of Total Revenue</i>		30%	29%	
<i>Y/Y Growth</i>		23.6%	19.0%	
Custom IC Design and Simulation		\$180	\$172	
<i>% of Total Revenue</i>		25%	24%	
<i>Y/Y Growth</i>		16.4%	11.3%	
System Interconnect and Analysis		\$79	\$74	
<i>% of Total Revenue</i>		11%	10%	
<i>Y/Y Growth</i>		42.8%	33.2%	
IP		\$99	\$100	
<i>% of Total Revenue</i>		14%	14%	
<i>Y/Y Growth</i>		14.2%	15.6%	

Source : Company data, Factset, UBS estimates

Figure 8: F2021 Estimates

Key Metrics	FY 21		
	FY21 Guidance	UBSe New	UBSe Old
Revenue (\$MM)	\$2860-\$2920	\$2,921	\$2,854
<i>Y/Y Growth</i>		8.9%	7.2%
Total Expense		\$1,871	\$1,835
Operating Margin	34.5%-36%	36.0%	35.7%
Non-GAAP EPS	\$2.95-\$3.05	\$3.05	\$3.00
Operating Cash Flow(\$MM)	\$900MM-\$950MM	\$955	\$977
Segment Revenues (\$MM)			
Functional Verification		\$626	\$658
<i>% of Total Revenue</i>		21%	23%
<i>Y/Y Growth</i>		5.5%	8.2%
Digital IC Design and Signoff		\$846	\$814
<i>% of Total Revenue</i>		29%	29%
<i>Y/Y Growth</i>		9.4%	6.5%
Custom IC Design and Simulation		\$717	\$686
<i>% of Total Revenue</i>		25%	24%
<i>Y/Y Growth</i>		7.8%	6.1%
System Interconnect and Analysis		\$318	\$296
<i>% of Total Revenue</i>		11%	10%
<i>Y/Y Growth</i>		14.9%	11.0%
IP		\$415	\$399
<i>% of Total Revenue</i>		14%	14%
<i>Y/Y Growth</i>		10.6%	6.1%

Source : UBS Estimates, Company reports

Estimate Changes

With CDNS providing a robust F21 outlook that we think could be conservative, we are raising 2021/2022 estimates. We model C2021/2022E \$2.92B/\$3.05 \$3.23B/ \$3.58 vs. \$2.85B/\$3.00 \$3.14B/\$3.34 prior

Figure 9: New vs Old

	FY2021			FY2022			Reasons for Change
	UBSe New	UBSe Old	Change	UBSe New	UBSe Old	Change	
Revenue (\$MM)	\$2,921	\$2,854	2.4%	\$3,232	\$3,136	3.1%	Raising F21 to high end of guide, flows through to F22
Y/Y Growth	8.9%	7.2%		10.7%	9.9%		
Gross Margin	91.0%	91.3%	-0.2%	91.5%	91.5%	0.0%	
OpEx % of Revs	55.0%	55.5%	-0.5%	53.8%	55.3%	-1.5%	in-line with guide
Operating Margin	36.0%	35.7%	0.2%	37.7%	36.2%	1.5%	at high end of guide
Non-GAAP EPS	\$3.05	\$3.00	1.9%	\$3.58	\$3.34	7.3%	

Source : UBS estimates

Figure 10: UBS VS Street

	Actual 2019	Actual 2020	Estimate FQ1:2021	Estimate FQ2:2021	Estimate FQ3:2021	Estimate FQ4:2021	Estimate 2021	Estimate 2022	Estimate 2023	CY2019	CY2020	CY2021	CY2022	CY2023
Revenues (\$MM)														
UBS (new)	\$2,336	\$2,683	\$730	\$733	\$727	\$732	\$2,921	\$3,232	\$3,502	\$2,336	\$2,683	\$2,921	\$3,232	\$3,502
UBS (old)			\$725	\$713	\$705	\$711	\$2,854	\$3,136	\$3,397			\$2,854	\$3,136	\$3,397
Consensus		\$2,655	\$702	\$703	\$711	\$725	\$2,824	\$3,040	\$3,138			\$2,824	\$3,040	\$3,138
Delta			4.0%	4.2%	2.2%	0.9%	3.5%	6.3%	11.6%			3.5%	6.3%	11.6%
EPS														
UBS (new)	\$2.20	\$2.80	\$0.76	\$0.80	\$0.74	\$0.75	\$3.05	\$3.58	\$4.00	\$2.20	\$2.80	\$3.05	\$3.58	\$4.00
UBS (old)			\$0.82	\$0.76	\$0.71	\$0.71	\$3.00	\$3.34	\$3.62			\$3.00	\$3.34	\$3.62
Consensus			\$0.71	\$0.72	\$0.74	\$0.76	\$2.88	\$3.17	\$3.42			\$2.88	\$3.17	\$3.42
Delta			6.3%	10.7%	0.7%	(1.0%)	6.0%	12.8%	17.2%			6.0%	12.8%	17.2%

Source : Company Reports, FactSet, UBSe

Figure 11: Summary Model

Key Metrics	F2017A	F2018A	F2019A	FQ1A	FQ2A	FQ3A	Results	F2020E	Estimates	FQ1E	FQ2E	FQ3E	FQ4E	F2021E	F2022E	F2023E
	C2017A	C2018A	C2019A	CQ1A	CQ2A	CQ3A		C2020E		CQ1E	CQ2E	CQ3E	CQ4E	C2021E	C2022E	C2023E
Revenue	\$1,943	\$2,138	\$2,336	\$618	\$638	\$667	\$760	\$2,683	\$730	\$733	\$727	\$732	\$733	\$2,921	\$3,232	\$3,502
Y/Y Growth	7%	10%	9%	7%	10%	15%	27%	15%	18%	15%	9%	9%	9%	9%	11%	8%
Product and Maintenance	\$1,814	\$1,998	\$2,205	\$582	\$601	\$630	\$723	\$2,537	\$693	\$696	\$690	\$696	\$696	\$2,775	\$3,071	\$3,327
Y/Y Growth	8%	10%	10%	7%	10%	15%	28%	15%	19%	16%	9%	9%	9%	9%	11%	8%
Service	\$129	\$140	\$132	\$36	\$37	\$36	\$37	\$146	\$36	\$37	\$36	\$37	\$37	\$146	\$162	\$175
Y/Y Growth	-2%	9%	-6%	9%	14%	15%	6%	11%	1%	-1%	0%	0%	0%	0%	11%	8%
DSO	36	51	48	41	44	41	40	46	40	40	40	40	40	41	34	29
Gross Margin	90.2%	90.0%	90.6%	89.9%	90.3%	89.6%	92.2%	90.6%	90.3%	91.0%	91.0%	91.8%	91.0%	91.0%	91.5%	91.5%
OpEx	\$1,219	\$1,278	\$1,368	\$357	\$352	\$358	\$419	\$1,486	\$398	\$392	\$405	\$413	\$413	\$1,608	\$1,740	\$1,845
Y/Y Growth	7%	5%	7%	8%	5%	3%	19%	9%	12%	11%	13%	-1%	8%	8%	6%	6%
Operating Margin	27.5%	30.2%	32.1%	32.2%	35.1%	35.9%	37.1%	35.2%	35.7%	37.5%	35.3%	35.3%	36.0%	37.7%	38.8%	38.8%
Non-GAAP EPS	\$1.40	\$1.87	\$2.20	\$0.60	\$0.66	\$0.70	\$0.83	\$2.80	\$0.76	\$0.80	\$0.74	\$0.75	\$0.75	\$3.05	\$3.58	\$4.00
Consensus	\$1.40	\$1.86	\$2.19	\$0.60	\$0.66	\$0.70	\$0.74	\$2.70	\$0.71	\$0.72	\$0.74	\$0.76	\$0.76	\$2.88	\$3.17	\$3.42
CFO	\$471	\$605	\$730	\$218	\$345	\$207	\$136	\$905	\$329	\$165	\$257	\$203	\$203	\$955	\$1,222	\$1,301
Capex	\$58	\$62	\$75	\$22	\$21	\$20	\$31	\$95	\$25	\$25	\$25	\$25	\$25	\$100	\$72	\$120
FCF	\$413	\$543	\$655	\$196	\$324	\$186	\$104	\$810	\$304	\$140	\$232	\$178	\$178	\$855	\$1,150	\$1,181
% of total rev	21%	25%	28%	32%	51%	28%	14%	30%	42%	19%	32%	24%	24%	29%	36%	34%
Y/Y Growth	6%	32%	21%	15%	40%	53%	-21%	24%	56%	-57%	25%	71%	6%	34%	3%	3%
Segment Revenues:																
Functional Verification	427	513	526	142	153	153	144	593	150	161	157	157	157	626	688	745
Y/Y Growth	-6%	20%	2%	3%	20%	32%	0%	13%	6%	5%	3%	9%	6%	6%	10%	8%
Digital IC Design and Sgnoff	563	620	701	179	179	180	236	774	221	208	208	208	208	846	930	966
Y/Y Growth	7%	10%	13%	4%	-1%	4%	35%	10%	24%	16%	16%	-12%	9%	9%	10%	4%
Custom IC Design and Simulation	525	556	596	154	153	160	198	665	180	178	178	182	182	717	782	855
Y/Y Growth	16%	6%	7%	7%	2%	6%	32%	12%	16%	16%	11%	-8%	8%	9%	9%	9%
System Interconnect and Analysis	194	192	216	56	64	73	84	276	79	79	79	79	79	318	361	411
Y/Y Growth	7%	-1%	12%	7%	10%	41%	55%	28%	43%	24%	8%	-5%	15%	14%	14%	14%
IP	233	257	298	87	89	100	99	375	99	107	103	106	106	415	471	526
Y/Y Growth	17%	10%	16%	25%	40%	15%	27%	26%	14%	19%	3%	7%	11%	14%	12%	12%

Source : Company Data, UBS Estimates, Factset

Guidance Track Record

Figure 12: CDNS First Quarter & Full Year Guidance vs Street

First Quarter Beat/Miss Guidance & Street	FQ1:16		FQ1:17		FQ1:18		FQ1:19		FQ1:20		FQ1:21E	
	Street	Guidance	Street	Guidance	Street	Guidance	Street	Guidance	Street	Guidance	Street	Guidance
Rev (MM)	\$ 434	\$ 445	\$ 464	\$ 475	\$ 493	\$ 505	\$ 549	\$ 570	\$ 608	\$ 615	\$ 702	\$ 720
EPS	\$ 0.26	\$ 0.27	\$ 0.31	\$ 0.31	\$ 0.34	\$ 0.37	\$ 0.46	\$ 0.49	\$ 0.57	\$ 0.54	\$ 0.71	\$ 0.74
Rev Guidance vs Street		beat		beat		beat		beat		beat		beat
Full Year Beat/Miss Guidance & Street	FY16		FY17		FY18		FY19		FY20		FY21E	
	Street	Guidance	Street	Guidance	Street	Guidance	Street	Guidance	Street	Guidance	Street	Guidance
Rev (MM)	\$ 1,810	\$ 1,815	\$ 1,918	\$ 1,925	\$ 2,043	\$ 2,035	\$ 2,262	\$ 2,290	\$ 2,496	\$ 2,565	\$ 2,824	\$ 2,890
EPS	\$ 1.19	\$ 1.20	\$ 1.36	\$ 1.37	\$ 1.52	\$ 1.55	\$ 1.96	\$ 2.02	\$ 2.34	\$ 2.45	\$ 2.88	\$ 3.00
Rev Guidance vs Street		beat		beat		miss		beat		beat		beat

Source : Company Data

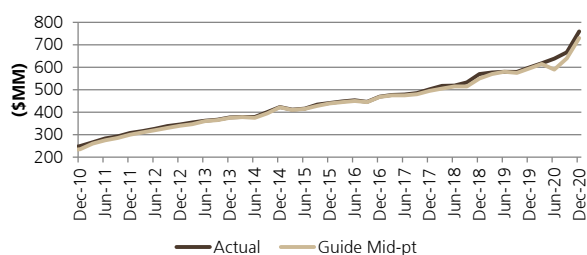
Figure 13: CDNS First/Fourth Quarter Beat/Miss & Full Year Guidance Change

Fourth Quarter Beat/Miss Actual & Guidance Mid-pt	FQ4:15		FQ4:16		FQ4:17		FQ4:18		FQ4:19		FQ4:20	
	Guidance	Actual	Guidance	Actual	Guidance	Actual	Guidance	Actual	Guidance	Actual	Guidance	Actual
Rev (MM)	\$ 439	\$ 441	\$ 468	\$ 469	\$ 495	\$ 502	\$ 550	\$ 570	\$ 595	\$ 600	\$ 730	\$ 760
EPS	\$ 0.29	\$ 0.31	\$ 0.33	\$ 0.34	\$ 0.39	\$ 0.39	\$ 0.47	\$ 0.52	\$ 0.53	\$ 0.54	\$ 0.74	\$ 0.83
Actual vs Guidance Mid-pt		beat		beat		beat		beat		beat		beat
Rev Actual vs Guidance Mid-pt %		0.5%		0.2%		1.4%		3.6%		0.8%		4.1%
First Quarter Beat/Miss Actual & Guidance Mid-pt	FQ1:16		FQ1:17		FQ1:18		FQ1:19		FQ1:20		FQ1:21E	
	Guidance	Actual	Guidance	Actual	Guidance	Actual	Guidance	Actual	Guidance	Actual	Guidance	Actual
Rev (MM)	\$ 445	\$ 448	\$ 475	\$ 477	\$ 505	\$ 517	\$ 570	\$ 577	\$ 615	\$ 618	\$ 720	\$ -
EPS	\$ 0.27	\$ 0.28	\$ 0.31	\$ 0.32	\$ 0.37	\$ 0.40	\$ 0.49	\$ 0.54	\$ 0.54	\$ 0.60	\$ 0.74	\$ -
Actual vs Guidance Mid-pt		beat		beat		beat		beat		beat		na
Rev Actual vs Guidance Mid-pt %		0.6%		0.4%		2.4%		1.2%		0.5%		na
Full Year Guidance Change New & Old Guidance Mid-pt	FY16		FY17		FY18		FY19		FY20		FY21E	
	FQ4:15	FQ1:16	FQ4:16	FQ1:17	FQ4:17	FQ1:18	FQ4:18	FQ1:19	FQ4:19	FQ1:20	FQ4:20	FQ1:21E
Rev (MM)	\$ 1,815	\$ 1,815	\$ 1,925	\$ 1,925	\$ 2,035	\$ 2,070	\$ 2,290	\$ 2,320	\$ 2,565	\$ 2,565	\$ 2,890	\$ -
EPS	\$ 1.20	\$ 1.20	\$ 1.37	\$ 1.37	\$ 1.55	\$ 1.61	\$ 2.02	\$ 2.08	\$ 2.45	\$ 2.45	\$ 3.00	\$ -
New vs Old		No Change		No Change		Raise		Raise		No Change		na
Rev New vs Old %		0.0%		0.0%		1.7%		1.3%		0.0%		na

Source : Company Data

Figure 14: CDNS Revs Actual vs. Guidance mid-point

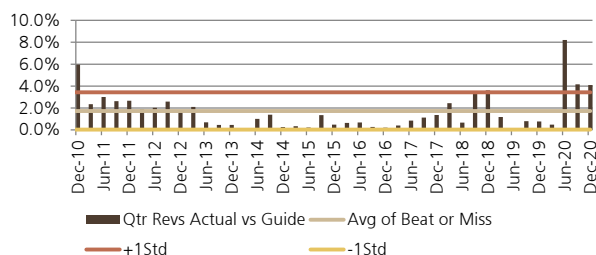
Quarterly Revs Actual vs Guidance Mid-point



Source : Company reports

Figure 15: CDNS Revs Actual vs. Guide

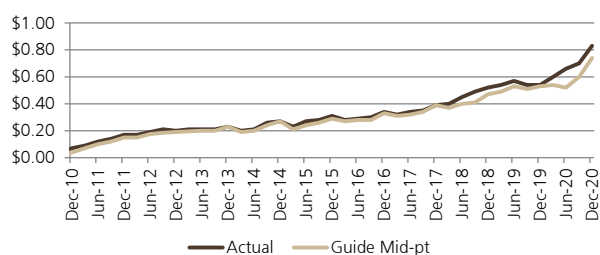
Quarterly Revs Actual vs Guidance



Source : Company reports

Figure 16: CDNS EPS Actual vs. Guidance Mid-point

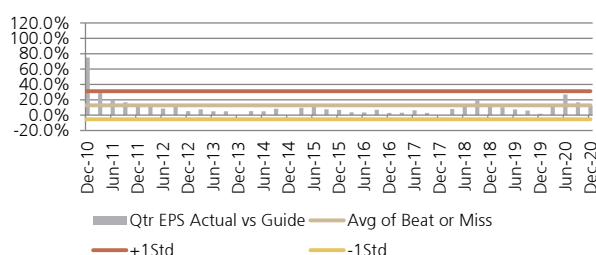
Quarterly EPS Actual vs Guidance Mid-point



Source : Company reports

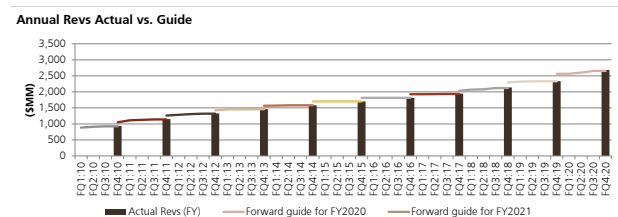
Figure 17: CDNS EPS Actual vs. Guidance

Quarterly EPS Actual vs Guidance



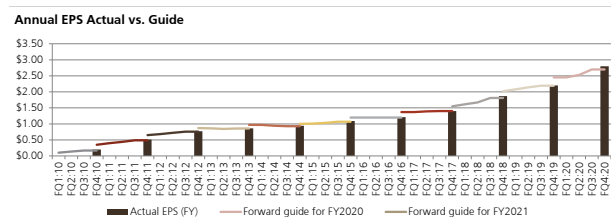
Source : Company reports

Figure 18: Annual Revs Actual vs. Guide



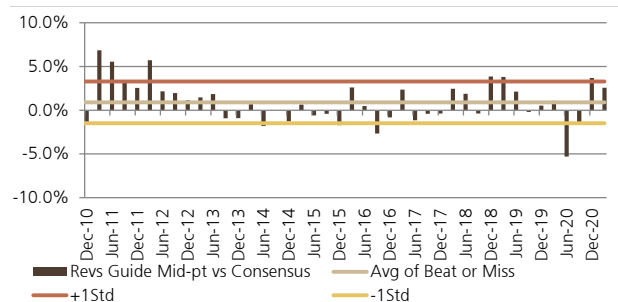
Source : Company Reports

Figure 19: Annual EPS Actual vs. Guide



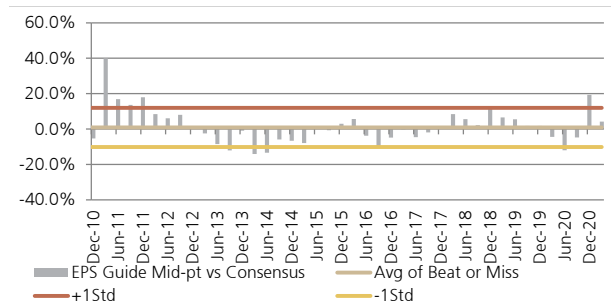
Source : Company Reports

Figure 20: Quarterly Revs Guidance vs. Street - Beat/Miss



Source : Factset, Company reports

Figure 21: Quarterly EPS Guidance vs. Street - Beat /Miss



Source : Factset, Company reports

Valuation

PT \$150 (from \$145) derived by unchanged ~12.7x EV/Sales to C2022E revs \$3.23B (from ~\$3.14B).

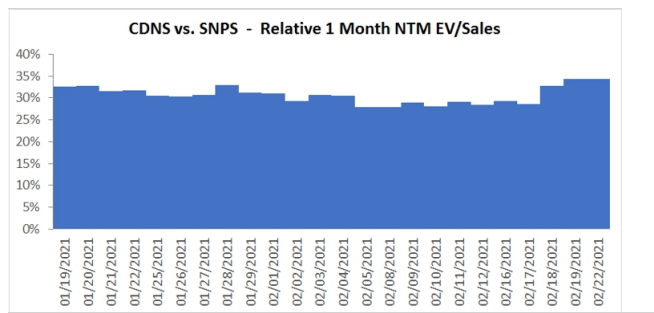
Figure 22: Valuation

Valuation	New	Old	Reason for Change
Revs			
C2021	\$ 2,921		
C2022	\$ 3,232	3136	
EV/NTM Sales Multiple	12.7x	12.7x	
Enterprise Value	\$ 41,180	\$ 39,955	
Add: Cash	\$ 1,102	\$ 1,259	Rolled to Mar Q
Less: Debt	\$ 347	\$ 697	Rolled to Mar Q
Equity Value	\$ 41,935	\$ 40,518	
Shares outstanding	280	280	
Equity Value per share	\$ 150	\$ 145	

Source : UBS estimates

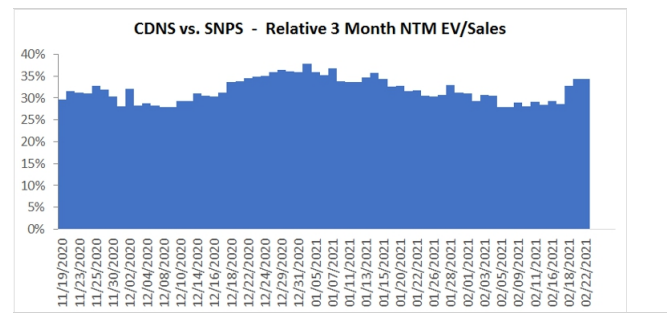
CDNS Premium vs. SNPS

Figure 23: CDNS vs SNPS – Relative 1-Mo NTM EV/Sales



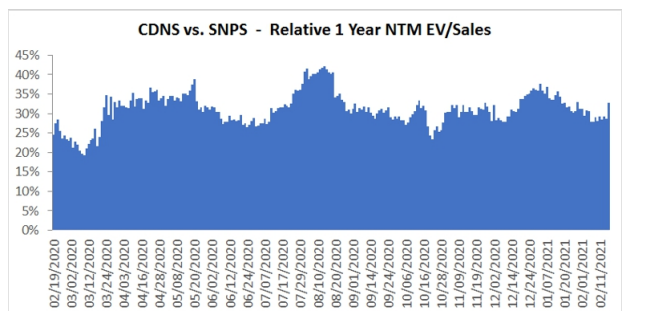
Source : FactSet

Figure 24: CDNS vs SNPS – Relative 3-Mo NTM EV/Sales



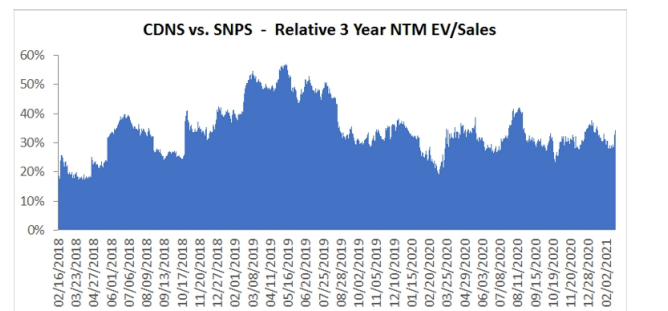
Source : FactSet

Figure 25: CDNS vs SNPS – Relative 1-Yr NTM EV/Sales



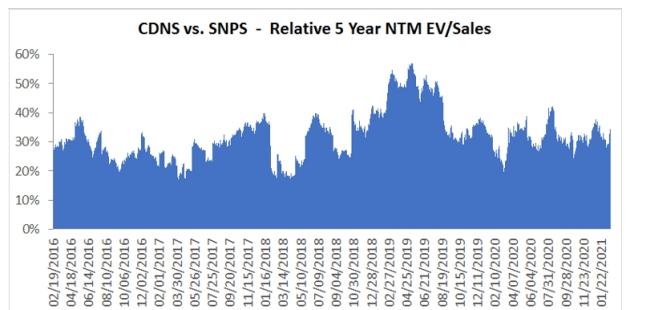
Source : FactSet

Figure 26: CDNS vs SNPS – Relative 3-Yr NTM EV/Sales



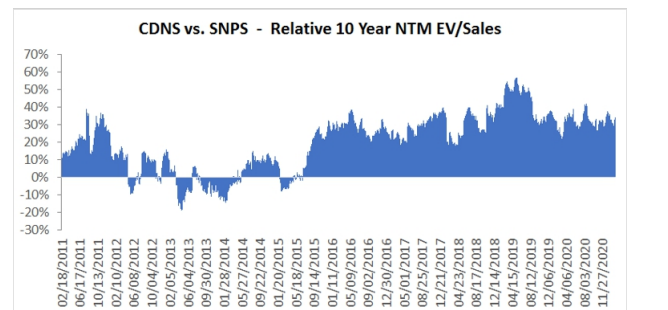
Source : FactSet

Figure 27: CDNS vs SNPS – Relative 5-Yr NTM EV/Sales



Source : FactSet

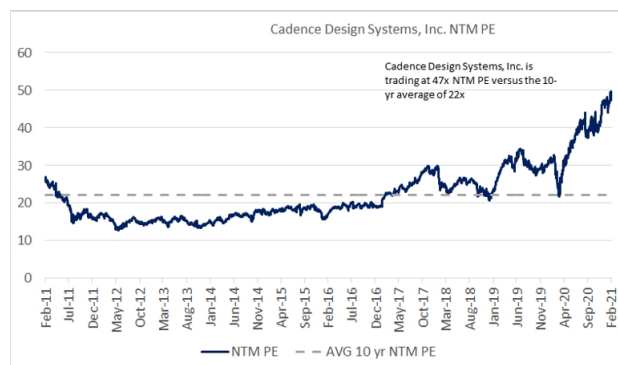
Figure 28: CDNS vs SNPS – Relative 10-Yr NTM EV/Sales



Source : FactSet

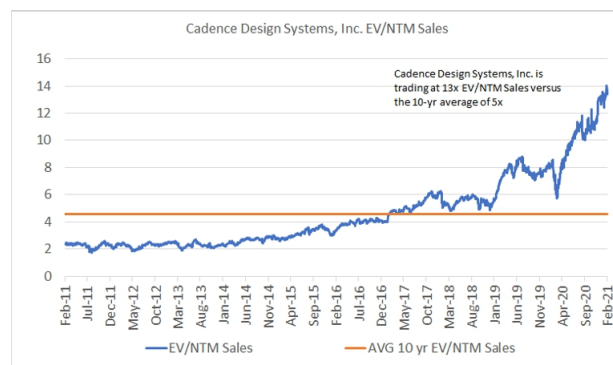
Valuation Charts

Figure 29: CDNS is trading at ~47x NTM P/E



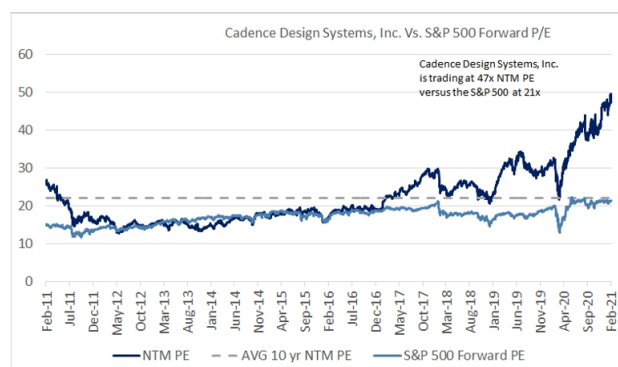
Source : FactSet

Figure 30: ... and ~13x EV/NTM Sales



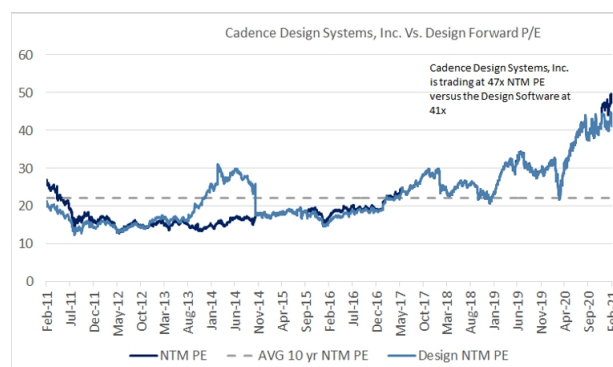
Source : FactSet

Figure 31: CDNS is trading at ~26 turns premium to SP500



Source : FactSet

Figure 32: ... and trading at ~6 turns premium to Design Software



Source : FactSet

Forecast returns

Forecast price appreciation	+6.4%
Forecast dividend yield	0.0%
Forecast stock return	+6.4%
Market return assumption	5.1%
Forecast excess return	+1.3%

Valuation Method and Risk Statement

We use EV/Sales methodology to value CDNS. CDNS is subject to macro risk as its semis customers' revenue are fairly well correlated with GDP. Further, with the scope of newly introduced export regulations still somewhat unclear, CDNS is also subject to regulatory risk in this regard, although it is by no means unique in terms of having this exposure. CDNS customers rely on complicated technology to advance their roadmaps and any slow-down in product road maps could potentially lead to R&D cuts and impact CDNS. We use SOTP methodology to value SNPS. SNPS is subject to macro risk as its semis customers' revenue are fairly well correlated with GDP. Further, SNPS security business is sensitive to IT spend which in turn can vary with economic outlook. Further, with the scope of newly introduced export regulations still somewhat unclear, SNPS is also subject to regulatory risk in this regard, although it is by no means unique in terms of having this exposure. SNPS customers rely on complicated technology to advance their roadmaps and any slow-down in product road maps could potentially lead to R&D cuts and impact SNPS.

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Buy	FSR is > 6% above the MRA.	51%	31%
Neutral	FSR is between -6% and 6% of the MRA.	37%	29%
Sell	FSR is > 6% below the MRA.	12%	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 31 December 2020.

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.

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UBS Securities LLC: Pradeep Ramani, Timothy Arcuri.

Company Disclosures

Company Name	Reuters	12-month rating	Price	Price date
Cadence Design Systems ¹⁶	CDNS.O	Neutral	US\$133.16	22 Feb 2021

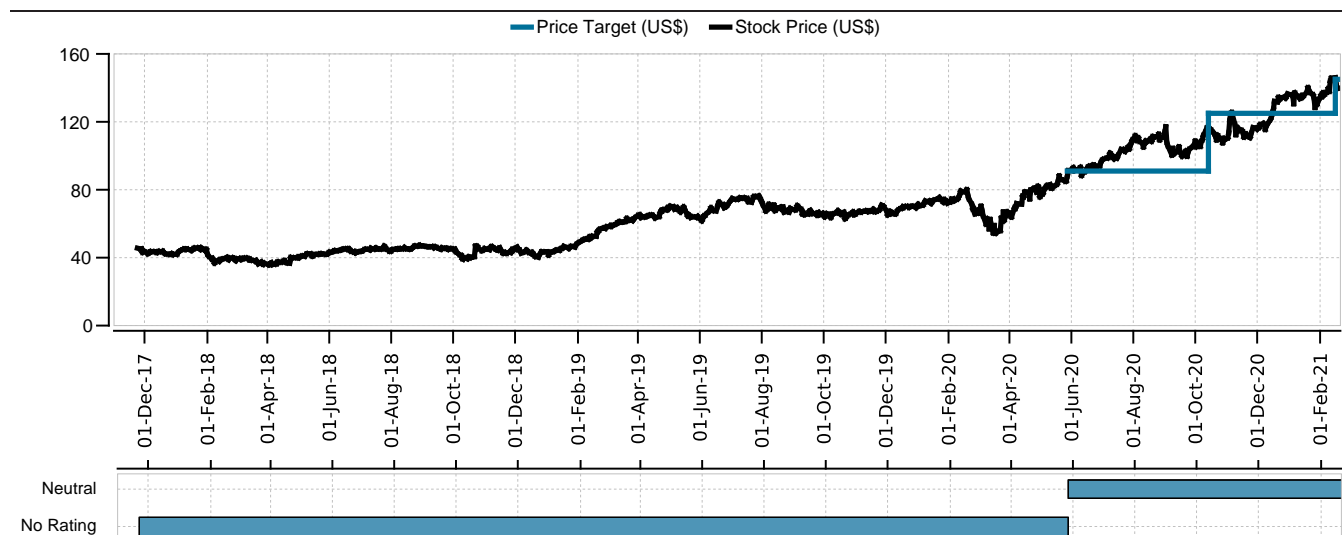
Source: UBS. All prices as of local market close.

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Cadence Design Systems (US\$)



Date	Stock Price (US\$)	Price Target (US\$)	Rating
2017-11-22	45.00	-	No Rating
2020-05-27	85.20	91.00	Neutral
2020-10-13	116.77	125.00	Neutral
2021-02-15	145.68	145.00	Neutral

Source: UBS; as of 22-Feb-2021

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