PC sector

PC demand to rebound in 2024F; AI PCs to drive long-term growth

Key message

1. Global PC demand has bottomed, and several PC brands are positive on demand recovery in 2H24-2025F.

2. We forecast PC shipments will grow 3% YoY in 2024, after a decline of 15% YoY in 2023. Commercial PC demand recovery will be stronger than for consumer PCs.

3. AI PC launches will be a long-term driver for the PC replacement cycle. Key beneficiaries include PC brands and component makers on spec upgrades to power supplies and memory.

Event

Most PC brands are positive on PC demand recovery in 2H24-2025F, driven by a replacement cycle and AI PC launches.

PC shipments recovered in 1Q24. According to Gartner, global PC shipments fell 11% QoQ, but grew 2% YoY to 56.3mn units in 1Q24, beating our forecast. Global notebook (NB) & Chromebook shipments rose 3% YoY to 41.8mn units in 1Q24, with some channel inventory restocking demand, while desktop (DT) shipments fell 2% YoY to 14.5mn units. After global PC shipments fell 15% YoY to 242.3mn units in 2023, due to inventory correction, we think PC demand has bottomed, and YoY shipments growth resumed from 4Q23. All regions saw YoY growth of PC shipments in 1Q24, except APAC, which was down 5% YoY on weak demand in China. By brand, Apple (US; shipments up 10% YoY), Acer (2353 TT, NT$47, NR; up 7% YoY) and Lenovo (CN; up 7% YoY) outperformed industry peers in the first quarter, while Asustek (2357 TT, NT$513, OP) underperformed, with PC a shipments decline of 11% YoY. Taiwan's top-5 NB ODM shipments also fell 5% QoQ, but rose 1% YoY in 1Q24, while Quanta Computer's (2382 TT, NT$304, OP) and Inventec's (2356 TT, NT$57, OP) NB shipments were flat to up 1% QoQ, outperforming peers thanks to early pull-in demand.

Demand recovery in 2Q24-2H24F. PC brands released positive PC guidance in 2Q24. Asustek expects PC sales to grow 10-15% QoQ in 2Q24F. During a recent US earnings calls, HP guided Personal System (PS) sales will grow by high-single digits QoQ in 3Q FY24F (FY ends October), while Dell (US) guides client solution sales (CSG) will grow 5-6% QoQ in 2Q FY25 (FY ends January). Both brands saw a strong commercial PC demand recovery, with related sales growing 3-6% YoY in February-April, but said consumer PC demand is still sluggish. Positive guidance from PC brands echoes Taiwan's top five NB ODMs' better-than-expected 1Q24 shipments, and single-digit QoQ growth of NB shipments in 2Q24F. PC brands are positive about PC demand growth in 2H24, driven by a commercial replacement cycle, end-support for Windows 10 in 2025F, and AI PC launches. We forecast global PC shipments will grow 3% YoY in 2024, with commercial PC sales outperforming consumer PC sales. Stronger commercial PC demand will benefit ODMs with higher commercial market exposure, such as Inventec and Compal Electronics (2324 TT, NT$35.3, NR).

AI PCs to drive long-term growth of PC sales. Several brands launched new Copilot+ PC models in May, equipped with Qualcomm (US) Snapdragon X Elite chips, which perform up to 45 trillion operations per second (TOPS) and can support 13bn+ parameter models. Intel (US) will launch the mobile Lunar Lake CPU (Core Ultra 200V) in 3Q24F, with performance of 120 TOPS, including the CPU, GPU and neural processing unit (NPU) (48 TOPS for NPU), versus the 34 TOPS of the Meteor Lake (Core Ultra 100) CPU. AMD will also launch the Strix Point CPU (Ryzen AI 300) soon, with 50 TOPS NPU performance. We think more AI PC launches with these CPU platforms will drive PC industry growth in 2024-25F. HP guides AI PCs will account for 10% of shipments in 2H24, with 5-10% higher ASP, and expects AI PCs to account for 40-60% of PC sales in three years. Asustek guides an AI PC shipment weighting of over 50% in 2026. Lenovo guides AI PCs will expand from premium models to mainstream models in the next three years, boosting the PC replacement cycle. We forecast AI PC penetration, defined as CPU platforms with NPU, will reach 15-20% in 2024, for a total of 30-40mn units, and over 50% in 2026. Several brands will showcase AI PC models during Computex, which will be a near-term catalyst for the PC supply chain. Amid an AI PC launch trend, we think the higher ASP than for non-AI PCs will benefit PC brands and component makers due to spec upgrades for components, such as power supplies and memory.

Stocks for Action

We forecast PC demand will recover in 2024-25, which will benefit PC brands, such as Asustek, Acer, and MSI (2377 TT, NT$181.5, OP), as well as NB ODMs, such as Quanta Computer, Wistron (3231 TT, NT$107.5, OP), Inventec, and Compal Electronics. In addition, we expect AI PC demand to fuel memory, memory connector, power supply and battery makers' EPS growth.

Risks

Weak consumer demand; further ASP or margin contractions.

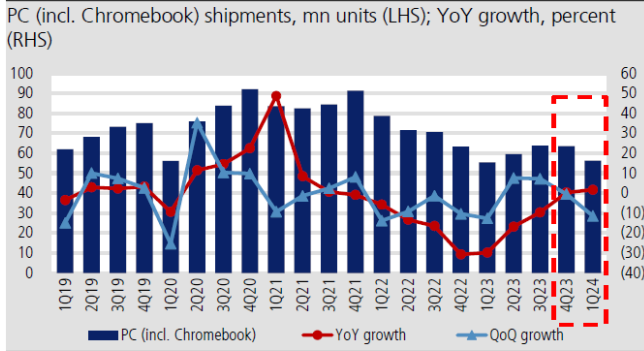**Figure 17: PC (incl. Chromebook) shipments fell 11% QoQ, but grew 2% YoY in 1Q24**

PC (incl. Chromebook) shipments, mn units (LHS); YoY growth, percent (RHS)

Source: Gartner; KGI Research

Figure 18: 1Q24 global NB shipments rose 3% YoY; global DT shipments dropped by 2% YoY

YoY growth, percent

Source: Gartner; KGI Research
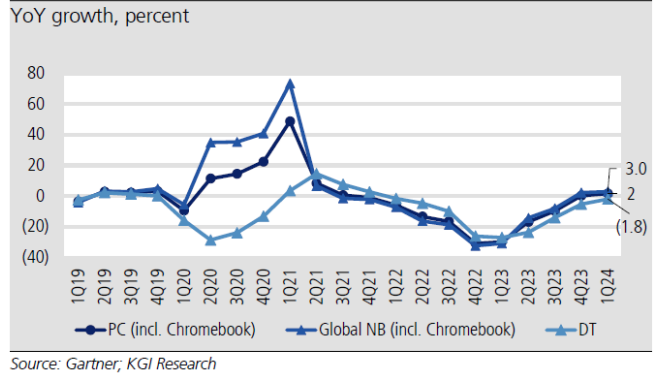
Figure 19: Most regions' NB demand recovered YoY in 1Q24, except APAC

YoY growth, percent

Source: Gartner; KGI Research
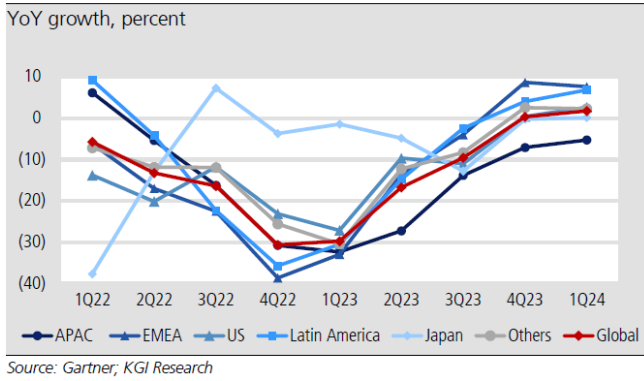
Figure 20: Global quarterly NB (incl. Chromebook) shipments have returned to YoY growth since 4Q23

Global NB (incl. Chromebook) shipments, mn unit (LHS); YoY growth, percent

Source: Gartner; KGI Research
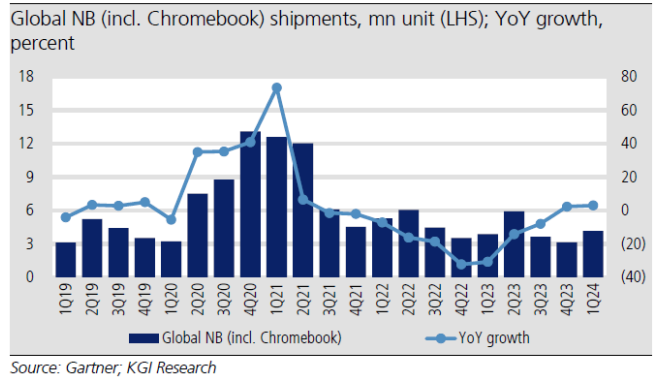
Figure 21: Apple, Acer and Lenovo's PC shipments outperformed peers in 1Q24

YoY growth, percent

Source: Gartner; KGI Research
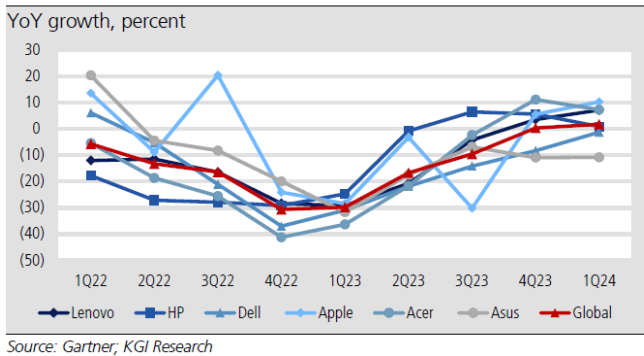
Figure 22: Taiwan's top five NB ODM shipments fell 5% QoQ, but rose 1% YoY in 1Q24

Top five NB ODM shipments, mn unit (LHS); YoY growth, percent (RHS)

Source: Company data; KGI Research
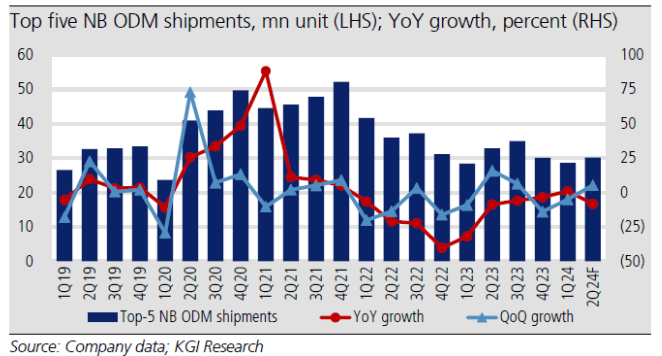
Figure 23: Most of top five NB ODM shipments to grow by single-digits QoQ in 2Q24F

| Ticker	Company	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24F	2020	2021	2022	2023	2024F
NB shipment (mn units)																				
2382 TT	Quanta	19.0	19.0	17.4	19.9	16.9	12.4	15.6	12.8	10.8	12.6	13.1	10.4	10.5	10.9	59.8	75.3	57.7	46.9	46.9
2324 TT	Compal	13.1	13.0	15.3	16.1	11.8	10.4	9.3	7.8	7.6	8.7	9.3	8.3	7.5	7.9	47.8	57.5	39.3	33.9	34.5
3231 TT	Wistron	5.4	6.1	6.6	7.5	5.6	5.8	5.2	4.6	3.9	4.6	5.2	5.3	4.6	4.9	20.4	25.6	21.2	19.1	20.0
2356 TT	Inventec	4.8	5.0	5.9	5.6	5.0	5.4	5.0	4.4	4.4	4.9	4.9	4.5	4.5	4.6	20.0	21.3	19.8	18.7	19.0
4938 TT	Pegatron	2.3	2.4	2.7	3.1	2.4	2.0	2.1	1.6	1.7	2.1	2.5	1.7	1.6	1.9	10.2	10.4	8.0	8.0	8.1
	Top-5 NB ODM	44.6	45.5	47.9	52.2	41.7	36.0	37.2	31.2	28.4	32.9	35.0	30.2	28.7	30.2	158.1	190.1	146.0	126.6	128.5
YoY (%)																				
2382 TT	Quanta	160.3	31.0	(4.9)	1.0	(11.1)	(34.7)	(10.3)	(35.7)	(36.1)	1.6	(16.0)	(18.8)	(2.8)	(13.3)	70.4	25.9	(23.4)	(18.7)	0.0
2324 TT	Compal	65.8	4.0	31.9	2.1	(9.9)	(20.0)	(39.2)	(51.6)	(35.6)	(16.3)	0.0	6.4	(1.3)	(9.5)	8.8	20.4	(31.7)	(13.7)	1.8
3231 TT	Wistron	52.1	17.3	26.9	17.2	3.7	(4.9)	(21.2)	(38.7)	(30.4)	(20.7)	0.0	15.2	17.9	7.0	16.3	25.8	(17.2)	(9.9)	4.7
2356 TT	Inventec	41.2	(12.3)	3.5	7.7	4.2	8.0	(15.3)	(21.4)	(12.0)	(9.3)	(2.0)	2.3	2.3	(6.3)	6.1	6.5	(7.0)	(5.6)	1.6
4938 TT	Pegatron	48.8	(20.7)	(13.1)	19.2	4.2	(17.3)	(21.3)	(48.4)	(28.7)	4.5	19.9	3.1	(7.5)	(10.4)	1.3	2.1	(22.9)	(0.2)	1.3
	Top-5 NB ODM	88.3	11.2	9.1	5.1	(6.5)	(20.9)	(22.3)	(40.2)	(31.9)	(8.6)	(5.9)	(3.4)	1.0	(8.2)	26.1	20.2	(23.2)	(13.3)	1.5
QoQ(%)																				
2382 TT	Quanta	(3.6)	0.0	(8.4)	14.4	(15.1)	(26.6)	25.8	(17.9)	(15.6)	16.7	4.0	(20.6)	1.0	4.0					
2324 TT	Compal	(16.9)	(0.8)	17.7	5.2	(26.7)	(11.9)	(10.6)	(16.1)	(2.6)	14.5	6.9	(10.8)	(9.6)	5.0					
3231 TT	Wistron	(15.6)	13.0	8.2	13.6	(25.3)	3.6	(10.3)	(11.5)	(15.2)	17.9	13.0	1.9	(13.2)	7.0					
2356 TT	Inventec	(7.7)	4.2	18.0	(5.1)	(10.7)	8.0	(7.4)	(12.0)	0.0	11.4	0.0	(8.2)	0.0	2.0					
4938 TT	Pegatron	(13.3)	6.4	10.4	17.0	(24.2)	(15.5)	5.0	(23.3)	4.7	23.9	20.5	(34.0)	(6.1)	20.0					
	Top-5 NB ODM	(10.3)	2.1	5.2	9.1	(20.2)	(13.6)	3.3	(16.1)	(9.1)	15.9	6.5	(13.9)	(5.0)	5.3					

Source: Company data; KGI Research estimates

Figure 24: PC shipments to grow 3% YoY in 2024F and 6% YoY in 2025F

Global PC (incl. Chromebook) shipments, mn units (LHS); YoY growth, percent (RHS)

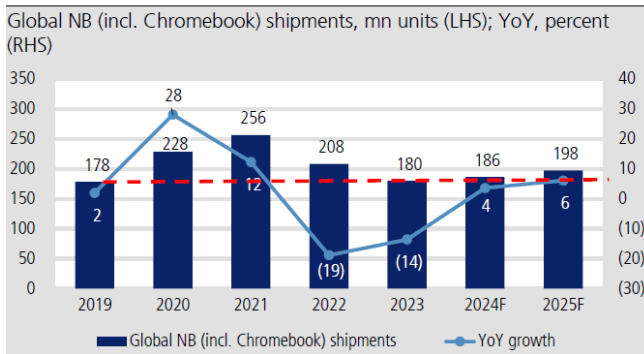| Year	Shipments (mn)	YoY growth (%)
2019	278	1
2020	308	11
2021	342	11
2022	284	(17)
2023	242	(15)
2024F	250	3
2025F	264	6
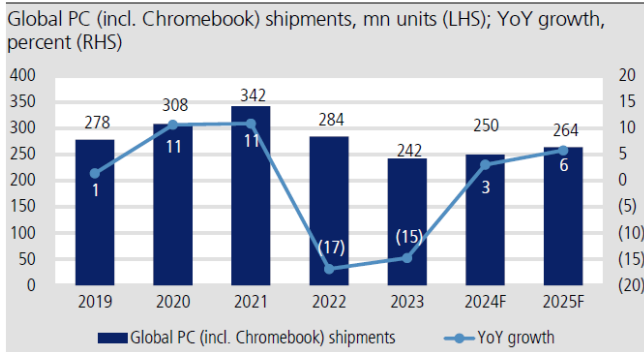
Source: Gartner; KGI Research estimates

Figure 25: Commercial PC sales growth to outstrip that of consumer PC in 2024-25F

YoY growth of PC shipments by type, percent (Commercial PC, Consumer PC, Global PC for 2018–2025F)
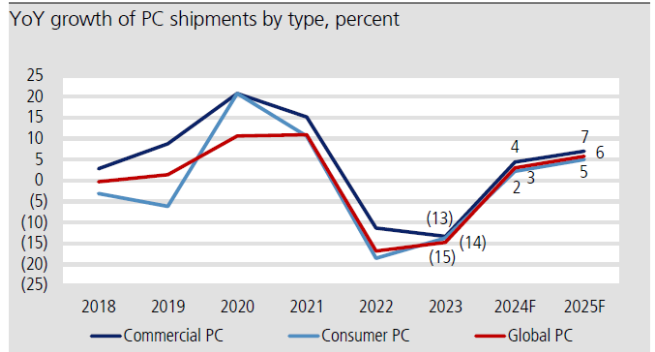
Source: Gartner; KGI Research estimates

Figure 26: Global NB shipments to grow 4% YoY in 2024F and 6% YoY in 2025F, exceeding pre-COVID-19 level

Global NB (incl. Chromebook) shipments, mn units (LHS); YoY, percent (RHS)

Year	Shipments (mn)	YoY (%)
2019	178	2
2020	228	28
2021	256	12
2022	208	(19)
2023	180	(14)
2024F	186	4
2025F	198	6

Source: Gartner; KGI Research estimates

Figure 27: Global DT shipments to recover in 2024-25F

Global DT shipments, mn units (LHS); YoY, percent (RHS)

Year	Shipments (mn)	YoY (%)
2019	100	0
2020	80	(20)
2021	85	7
2022	76	(11)
2023	62	(18)
2024F	63	1
2025F	67	5
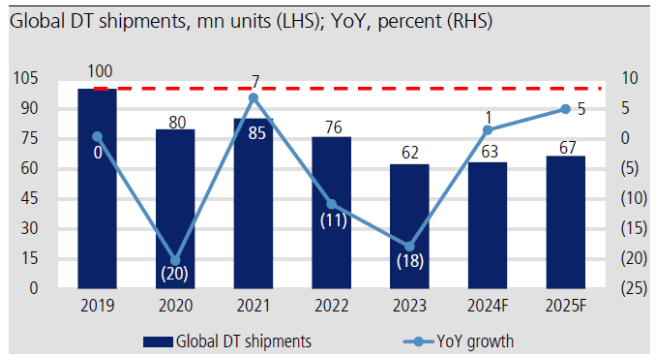
Source: Gartner; KGI Research estimates

Figure 28: PC brands & CPU vendors' views on the PC & AI PC markets

Brand	AI PC outlook
Asustek	* Management expects AI PC penetration rate will rose to 50-60% in 2026F.
	* Asustek expects AI PC launches will trigger a recovery in global PC demand in 2H24F
	* Asustek has launched new AI PC models with Qualcomm's Snapdragon X Elite chip on May 21, and will showcase several new AI PC models at Computex in June.
Acer	* Acer launched SWIFT 14 AI, its first Copilot+ PC, powered by Snapdragon X Elite, which supports the next-generation AI features in Windows 11.
	* Other AI PCs launched by Acer included the commercial series TravelMate P6 14, with an Intel Meteor lake inside, and TravelMate P4 14, powered by AMD PRO 8040.
Dell	* Management expects CSG sales (PC) to see low single digit YoY growth in FY2025, and will focus on commercial PCs, high-end consumer and gaming models.
	* Optimistic about the company PC refresh cycle due to an aging PC base, Windows 10 end-support, and advances in AI-enabled architecture and applications.
	* Dell believes that the AI PC trend will lead to upgrades to PC hardware, such as faster CPUs, more memory, increased storage, and better displays, among other improvements.
HP	* HP has launched the Elite and Pro PC solutions, which are equipped with AI capabilities in Intel Core Ultra CPUs or next-generation AMD Ryzen PRO with NPUs.
	* For personal systems, management expects 2H24F seasonality is expected to be slightly stronger than historical trends, particularly in 4Q24F.
	* Management expects the PC TAM to recover in 2024F, with low-single-digit YoY growth. Demand for commercial PCs is stronger than for consumer PCs.
	* HP expects that AI PC penetration will be 10% in 2H24F, and between 40-60% of its total sales in 3 years, after the launch of AI PC products.
Lenovo	* Lenovo showcased a new AI PC model at CES 2024, ''IdeaPad Slim 5i'', which is equipped with the new Copilot key.
	* Lenovo's AI PC can run large language models, enabling edge computing, without a need for cloud processing.
Samsung	* Samsung has launched new Galaxy Book 4 series, equipped with an Intel Core Ultra processor, combining a CPU, GPU, and NPU into a single package.
	* Samsung has launched Galaxy Book4 Edge equipped with Snapdragon X Elite, which not only supports Copilot+, but also comes with its Galaxy AI system.
CPU firm	**AI PC outlook**
Intel	* Intel expects QoQ revenue growth throughout 2024F and into 2025F, driven by the beginnings of an enterprise refresh cycle and growing sales of AI PCs.
	* Improving 2H24F Meteor Lake supply and the addition of Lunar Lake and Arrow Lake later this year, will drive shipments to beat prior guidance of 40 million AI PC CPUs in 2024F.
	* The Meteor Lake CPU can provide 1.7x generative AI performance and 2.5x better power efficiency than the Raptor Lake generation.
	* Intel will launch next-gen CPUs, including Arrow Lake, Lunar Lake & Panther Lake, offering greater performance & more advanced capabilities.
	* Intel will launch Lunar Lake mobile CPU (Core Ultra 200V) in 3Q24, with performance up to over 100 TOPS.
AMD	* Believes AI PC will drive both unit sales & ASP growth in 2H24F, with the premium products coming first, and penetration of the mid-range in 2025F.
	* Several new PC models featured with AMD's latest Ryzen 8040 processor (Hawk Point), providing stronger AI computing abilities.
	* The firm will launch the "Strix Point" CPU (Ryzen AI 300) in 2H24F, which will include AMD XDNA 2 architecture and deliver more than 3 times the AI computing performance of the previous generation.
Qualcomm	* Qualcomm launched the Snapdragon X Elite CPU, which is designed for PCs, and has the capability to run complex Generative AI models with its 45 TOPS NPU.
Nvidia	* Nvidia will create a series of new chips with MediaTek to capture the growing AI PC market, and may release more information at Computex in June.

Source: Company data; KGI Research

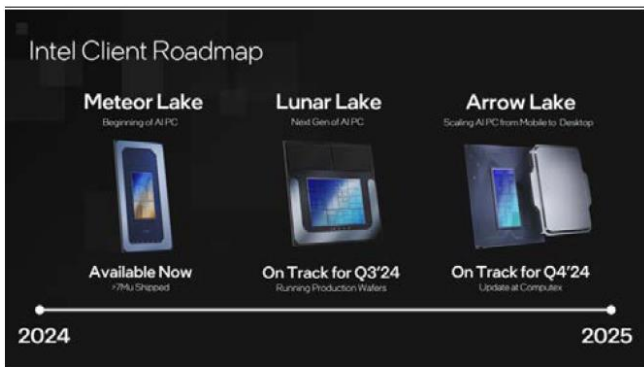**Figure 29: Qualcomm Snapdragon X Elite CPU has highest performance on the market**

Source: Qualcomm; KGI Research

Figure 30: Qualcomm Snapdragon X Elite CPU specs

Source: Qualcomm; KGI Research

Figure 31: Intel AI PC roadmap

Source: Intel; KGI Research

**Figure 32: Intel next-generation CPU, Lunar Lake, will have improved performance**
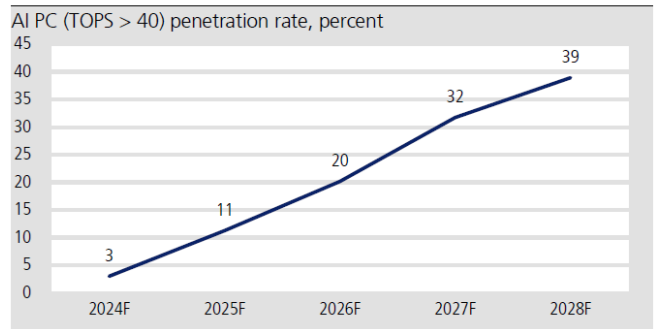

Source: Intel; KGI Research

Figure 33: AI PCs to be aggressively marketed by CPU & NPU giants

Platform	Intel Meteor Lake	Intel Lunar Lake	Intel Arrow Lake	Intel Panther Lake	AMD 7040 Phoenix	AMD 8040 Hawk Point	AMD AI300 Strix Point	AMD 9000 Strix Halo	Qualcomm Snapdragon X Elite
Microarchitecture	Redwood cove	Lion cove	Lion cove	Cougar cove	Zen 4	Zen 4	Zen 5	Zen5	Oryon
Launch Date	4Q23	2H24F	2H24F	2025F	2Q23	1Q24	2H24F	2025F	1H24F
Process	Intel 4	Intel 18A	Intel 20A	Intel 18A	TSMC N4	TSMC N4	TSMC N4	TSMC N4	TSMC N4
AI architecture	Movidius VPU	TBD	TBD	TBD	Ryzen AI	Ryzen AI	Ryzen AI	Ryzen AI	Hexagon
TOPS	34 TOPS	120 TOPS	TBD	TBD	33 TOPS	39 TOPS	TBD	>70 TOPS	45 TOPS
NPU	11 TOPS	48 TOPS	50 TOPS	120 TOPS	10 TOPS	16 TOPS	50 TOPS	50-60 TOPS	45 TOPS
CPU	5 TOPS	5 TOPS							
GPU	18 TOPS	67 TOPS							

Source: Company data; KGI Research

Figure 34: Canalys and IDC guides AI PC (equipped with NPU) penetration of over 50% by 2027

AI PC (equipped with NPU) penetration rate, percent
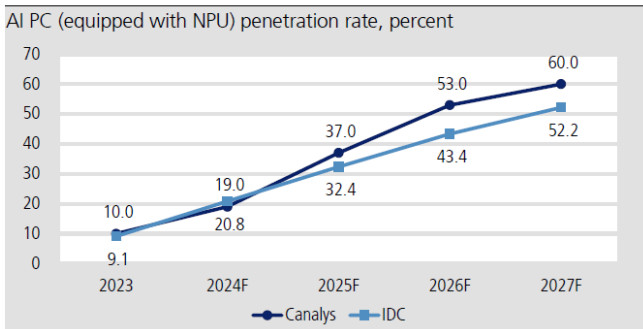
Source: Canalys; IDC; KGI Research

Figure 35: AI PC (TOPS > 40) penetration to reach double-digits in 2025F

AI PC (TOPS > 40) penetration rate, percent

Source: IDC; Bloomberg; KGI Research

Figure 36: Intel & AMD desktop CPU roadmap

	Intel					AMD			
	Raptor Lake	Raptor Lake refresh	Meteor Lake	Arrow Lake	Panther Lake	Ryzen 4000 (Renoir)	Ryzen 5000 (Vermeer)	Ryzen 7000 (Raphael)	Ryzen 9000 (Granite Ridge)
Time for launch	4Q22	3Q23	2024F	2024F	2025F	1Q20	4Q20	3Q22	2024F
Process (node)	Intel 7 (10nm)	Intel 7 (10nm)	Intel 4 (7nm)	Intel 20A	Intel 18A	TSMC N7	TSMC N7+	TSMC N5	TSMC N3
Microarchitecture (P-Core)	Raptor Cove	Raptor Cove	Redwood Cove	Lion Cove	Cougar Cove	Zen 2	Zen 3	Zen 4	Zen 5
CPU sockets (desktop)	LGA 1700	LGA 1700	LGA 1851	LGA 1851	LGA 1851	AM4 (LGA 1331)	AM4 (LGA 1331)	AM5 (LGA1718)	AM5 (LGA1718)
DRAM	DDR4 / DDR5	DDR4 / DDR5	DDR5 LPDDR5X	DDR5	DDR5	DDR4	DDR4	DDR5	DDR5
PCIe	Gen 5	Gen 5	Gen 5	Gen 5	Gen 5	Gen 4	Gen 3	Gen 5	Gen 5

Source: Company data; KGI Research

Figure 37: Intel & AMD NB CPU roadmap

	Intel						AMD				
	Alder Lake	Raptor Lake	Meteor Lake	Arrow Lake	Lunar Lake	Panther Lake	Ryzen 6000 (Rembrandt)	Ryzen 7000 (Phoenix)	Ryzen 8040 (Hawk Point)	Ryzen AI300 (Strix Point)	Ryzen 9000 (Strix Halo)
Time for launch	1H22	1H23	4Q23	2024F	2H24F	2025F	1Q22	1Q23	4Q23	2024F	2025F
Process (node)	Intel 7 (10nm)	Intel 7 (10nm)	Intel 4 (7nm)	Intel 20A	Intel 18A	Intel 18A	TSMC N6	TSMC N4	TSMC N4	TSMC N4	TSMC N4
Microarchitecture (P-Core)	Golden Cove	Raptor Cove	Redwood Cove	Lion Cove	Lion Cove	Cougar Cove	Zen 3+	Zen 4	Zen 5	Zen 5	Zen 5
DRAM	DDR4 / DDR5	DDR4 / DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5
PCIe	Gen 5	Gen 5	Gen 5	Gen 5	Gen 5	Gen 5	Gen 4	Gen 5	Gen 5	Gen 5	Gen 5

Source: Company data; KGI Research

Figure 38: Keyboard, hinge, power adapter, & PCB plays will benefit from PC demand recovery in 2024F

Weighting of PC & NB in total sales, percent
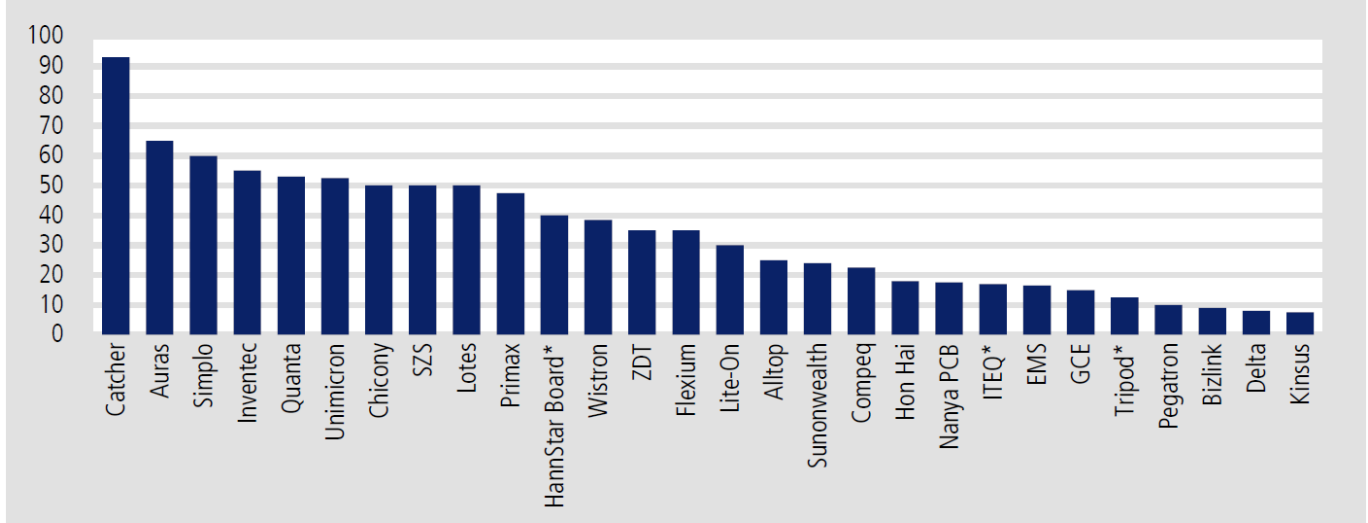
Source: TEJ; Bloomberg; KGI Research

Figure 39: IT hardware supply chain – Valuations

Sector	Company	Ticker	Related business	Market cap. (US$mn)	Share price (LCY)	Rating	Target Price (LCY)	EPS (LCY) 2023	2024F	2025F	EPS YoY (%) 2023	2024F	2025F	PE (x) 2023	2024F	2025F	PB (x) 2023	2024F	2025F	ROE (%) 2023	2024F	2025F	Cash yield (%) 2023	2024F
	Asustek	2357 TT	Brand	11,765	513.0	Outperform	540.0	21.44	31.53	35.91	8.4	47.0	13.9	23.9	16.3	14.3	1.6	1.5	1.5	7.0	9.6	10.6	3.3	4.6
	Acer*	2353 TT	Brand	4,423	47.0	Not rated	N.A.	1.64	2.09	2.47	(1.8)	27.4	18.0	28.7	22.5	19.1	1.9	1.9	1.8	7.0	8.7	9.5	0.0	3.6
	MSI	2377 TT	Brand	4,735	181.5	Outperform	197.0	8.92	12.79	15.37	(24.4)	43.4	20.2	20.4	14.2	11.8	3.1	2.8	2.6	15.3	20.7	22.8	3.0	4.3
	Gigabyte	2376 TT	Brand	6,124	312.0	Outperform	348.0	7.46	16.11	18.73	(27.5)	115.9	16.3	41.8	19.4	16.7	5.3	5.1	5.0	12.9	27.0	30.4	2.1	4.6
	Asrock	3515 TT	Brand	856	228.0	Outperform	270.0	7.54	10.90	13.62	(13.2)	44.6	24.9	30.2	20.9	16.7	3.4	3.4	3.3	11.3	16.2	19.9	3.0	4.3
	Inventec	2356 TT	ODM	6,314	57.0	Outperform	62.0	1.71	2.69	3.47	0.0	57.2	29.1	33.4	21.2	16.4	3.3	3.2	3.1	10.2	15.2	19.0	2.6	3.7
	Quanta	2382 TT	ODM	36,256	304.0	Outperform	320.0	10.29	13.97	18.02	37.0	35.8	29.0	29.5	21.8	16.9	6.3	6.0	5.6	22.3	28.1	34.1	3.0	3.7
	Wistron Corp	3231 TT	ODM	9,839	110.0	Outperform	140.0	4.08	5.72	8.24	1.7	40.1	44.0	27.0	19.2	13.4	3.1	2.7	2.4	11.4	14.7	18.7	2.4	3.3
	Hon Hai	2317 TT	ODM	88,177	206.0	Outperform	205.0	10.25	11.38	14.19	0.4	11.0	24.8	20.1	18.1	14.5	1.9	1.8	1.7	10.2	10.3	12.2	2.6	2.9
	Pegatron	4938 TT	ODM	9,624	117.0	Neutral	94.0	5.90	6.28	7.37	4.2	6.4	17.5	19.8	18.6	15.9	1.7	1.6	1.5	8.4	8.7	9.9	3.4	3.5
	Compal*	2324 TT	ODM	4,797	35.3	Not rated	N.A.	1.76	2.43	2.87	5.4	37.8	18.1	20.0	14.5	12.3	1.3	1.2	1.1	6.5	8.0	9.1	3.4	4.4
	Chicony Elec	2385 TT	Keyboard	4,001	170.5	Outperform	258.0	10.35	12.79	14.93	0.9	32.4	34.5	16.5	12.4	11.4	3.3	3.0	2.7	20.0	24.4	24.3	4.6	5.7
	Primax	4915 TT	Keyboard	1,374	96.1	Outperform	103.0	5.50	6.30	7.38	(9.9)	14.7	17.0	17.5	15.2	13.0	2.6	2.5	2.3	14.9	16.4	18.1	4.2	4.5
	SZS	3376 TT	Hinge	1,299	224.0	Restricted	N.A.	4.30	6.71	8.25	(50.5)	55.9	23.0	52.1	33.4	27.1	2.6	2.6	2.5	5.1	7.8	9.3	1.4	2.2
NB	Delta Elec	2308 TT	Power	30,197	376.5	Outperform	352.0	12.86	13.00	17.21	2.2	1.1	17.6	29.3	29.0	24.6	4.9	4.4	4.0	17.3	16.0	17.0	1.7	1.7
	Lite-On Tech	2301 TT	Power	7,502	103.5	Restricted	N.A.	6.75	7.90	9.04	9.0	17.1	14.4	15.3	13.1	11.4	2.7	2.5	2.4	18.2	19.9	21.3	4.8	5.8
	Sunonwealth	2421 TT	Thermal	967	114.5	Outperform	160.0	5.16	6.32	8.02	18.9	22.5	26.8	22.2	18.1	14.3	4.3	4.0	3.7	21.5	23.1	27.3	3.1	3.9
	Auras	3324 TT	Thermal	2,162	770.0	Outperform	920.0	14.28	21.10	32.71	(2.7)	47.8	55.0	53.9	36.5	23.5	14.4	8.9	7.4	20.2	25.5	33.6	0.8	1.2
	Simplo Tech	6121 TT	Battery	2,387	418.0	Neutral	490.0	30.67	30.53	34.76	(21.6)	(0.5)	13.8	13.6	13.7	12.0	2.3	2.2	2.1	16.9	16.2	17.5	5.2	5.2
	Lotes	3533 TT	Connector/ socket	5,541	1,610.0	Outperform	1,860.0	50.65	78.76	100.01	(13.7)	55.5	27.0	31.8	20.4	16.1	6.5	5.6	4.7	22.1	29.3	31.9	1.6	2.4
	Alltop Tech	3526 TT	Connector	456	249.0	Outperform	290.0	11.68	15.53	18.82	24.2	32.9	21.2	21.3	16.0	13.2	5.6	5.6	5.6	26.9	35.1	42.4	4.7	6.2
	Argosy*	3217 TT	Connector	476	171.0	Not rated	N.A.	8.11	10.66	N.M.	19.3	31.5	N.A.	21.1	16.0	N.A.	3.6	3.5	N.A.	17.9	20.0	N.M.	3.1	4.8
	Allied Circuit*	8155 TT	PCB	227	144.5	Not rated	N.A.	4.08	N.M.	N.M.	(63.5)	N.A.	N.A.	35.4	N.A.	N.A.	3.5	N.A.	N.A.	9.3	N.M.	N.M.	0.0	N.A.
	Gold Circuit	2368 TT	PCB	3,106	204.5	Outperform	270.0	6.99	12.79	17.21	(21.1)	83.1	34.5	29.3	16.0	11.9	6.6	5.5	4.3	23.2	37.5	40.6	1.7	2.9
	Compeq Mfg	2313 TT	PCB	2,878	78.2	Outperform	95.0	3.50	5.81	7.70	(47.9)	66.0	32.7	22.4	13.5	10.2	2.4	2.2	1.9	10.7	16.8	19.9	1.9	3.0
	Elite Material	2383 TT	CCL	4,863	457.5	Outperform	590.0	16.35	27.41	31.55	7.3	67.6	15.1	28.0	16.7	14.5	5.9	5.2	4.6	22.5	33.0	33.6	2.2	3.7
	Kinsus	3189 TT	Substrate	1,326	94.5	Neutral	96.0	0.10	5.22	9.57	(99.3)	4875.1	83.5	901.3	18.1	9.9	1.2	1.2	1.1	0.1	6.8	11.8	1.1	2.6
	Unimicron Tech	3037 TT	Substrate	8,759	186.0	Outperform	235.0	7.88	9.45	16.48	(60.7)	19.8	74.4	23.6	19.7	11.3	3.1	2.8	2.5	13.6	15.1	23.4	1.6	2.0
	Zhen Ding Tech	4958 TT	FPCB	3,684	126.0	Neutral	124.0	6.55	8.49	10.60	(56.4)	29.6	24.9	19.2	14.8	11.9	1.2	1.2	1.1	6.4	8.2	9.8	2.7	3.4
	Flexium Intercon	6269 TT	FPCB	911	91.5	Neutral	82.0	6.94	8.23	N.A.	(35.9)	18.5	N.A.	13.2	11.1	N.A.	1.1	1.0	N.A.	8.7	9.6	N.A.	3.8	4.4
	Catcher Tech	2474 TT	Casing	4,853	231.0	Neutral	255.0	13.33	20.22	13.77	(12.0)	51.7	(31.9)	17.3	11.4	16.8	1.0	1.0	1.1	5.7	8.9	6.3	4.3	4.3
	Foxconn Tech*	2354 TT	Casing	3,070	70.3	Not rated	N.A.	3.01	2.88	2.94	(0.3)	(4.3)	2.1	23.4	24.4	23.9	0.9	0.6	0.6	4.1	3.8	3.8	2.1	2.1

Source: KGI Research estimates; Bloomberg
*: Bloomberg consensus

Figure 40: Global PC shipments by brand

Vendor	PC (incl. Chromebook) shipments (mn units)																		
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2018	2019	2020	2021	2022	2023
Lenovo	20.9	20.4	20.2	21.9	18.4	18.1	16.9	15.7	13.0	14.3	16.2	16.3	13.9	59.9	65.6	75.1	83.4	69.0	59.8
HP Inc.	19.3	18.6	17.6	18.6	15.9	13.6	12.7	13.2	11.9	13.5	13.5	14.0	12.1	60.7	62.8	68.2	74.2	55.4	52.9
Dell	13.0	14.0	15.2	17.3	13.8	13.3	12.0	10.9	9.5	10.4	10.3	10.0	9.4	44.3	46.7	50.7	59.6	50.0	40.2
Apple	6.4	5.8	6.9	7.8	7.3	5.3	8.3	5.9	5.2	5.1	5.8	6.3	5.8	18.5	18.3	22.0	26.9	26.8	22.4
Acer Group	5.9	6.3	6.0	6.1	5.5	5.1	4.5	3.6	3.5	4.0	4.4	4.0	3.8	19.8	18.4	22.5	24.3	18.7	15.9
Asus	4.6	4.9	6.0	6.1	5.6	4.7	5.5	4.9	3.8	3.9	5.1	4.3	3.4	15.9	15.2	17.9	21.6	20.7	17.2
Microsoft	1.4	1.3	1.2	2.0	1.4	1.4	1.3	1.3	1.1	1.2	1.0	1.1	0.9	5.1	5.5	6.4	5.9	5.4	4.4
Sharp	0.5	0.5	0.5	0.5	0.5	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.3	1.7	1.9	2.0	1.7	1.4
MSI	0.6	0.6	0.8	0.9	0.9	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.6	1.4	1.4	2.2	3.0	2.8	2.7
Samsung	1.2	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.6	0.7	0.7	2.2	3.8	4.0	4.2	3.9	2.9
Others	9.7	8.9	9.0	9.0	8.4	8.0	7.4	6.0	5.5	5.5	5.8	5.8	5.3	46.6	38.9	37.2	36.7	29.7	22.6
Top-10	73.8	73.5	75.4	82.2	70.4	63.5	63.2	57.4	49.9	54.1	58.0	57.7	51.0	228.1	239.6	271.0	305.1	254.4	219.7
Total	83.5	82.4	84.4	91.3	78.8	71.5	70.6	63.3	55.3	59.6	63.8	63.5	56.3	274.7	278.5	308.2	341.7	284.2	242.3
YoY (%)																			
Lenovo	59.4	12.0	0.3	(7.2)	(12.0)	(11.5)	(16.5)	(28.4)	(29.2)	(20.7)	(4.2)	3.6	7.1	7.4	9.5	14.5	11.1	(17.3)	(13.4)
HP Inc.	63.6	2.2	(5.9)	(4.2)	(17.8)	(27.1)	(27.9)	(29.1)	(24.7)	(0.8)	6.4	5.6	0.9	2.4	3.5	8.5	8.8	(25.4)	(4.4)
Dell	23.0	15.3	26.4	8.4	6.1	(5.2)	(21.1)	(37.0)	(30.9)	(21.8)	(14.2)	(8.3)	(1.3)	5.6	5.4	8.6	17.4	(16.0)	(19.5)
Apple	71.9	14.5	2.1	21.1	13.6	(8.8)	20.4	(24.1)	(28.4)	(3.2)	(30.2)	5.6	10.2	(2.3)	(1.0)	20.0	22.4	(0.4)	(16.5)
Acer Group	56.2	12.0	(4.6)	(10.2)	(5.5)	(18.7)	(25.6)	(41.2)	(36.3)	(21.7)	(2.4)	11.1	7.3	(3.6)	(7.0)	22.1	8.0	(22.9)	(15.1)
Asus	62.2	25.2	5.0	13.4	20.3	(4.4)	(8.2)	(20.0)	(31.7)	(17.4)	(6.8)	(10.9)	(10.8)	(13.0)	(4.5)	17.3	21.1	(4.5)	(16.9)
Microsoft	14.7	(24.5)	(26.6)	6.5	2.2	10.5	5.9	(35.6)	(24.2)	(17.8)	(21.4)	(10.6)	(14.7)	21.2	8.3	16.6	(8.8)	(7.9)	(18.6)
Sharp	53.6	5.7	8.9	(28.5)	4.1	(26.6)	(6.2)	(33.5)	(33.1)	(9.4)	(24.7)	2.6	17.5	N.M.	527.5	10.5	2.0	(15.5)	(18.6)
MSI	88.5	24.5	14.4	36.8	53.7	(0.9)	(16.8)	(33.0)	(38.9)	14.8	4.2	12.4	9.5	(4.5)	0.9	57.5	34.6	(4.2)	(5.7)
Samsung	25.3	0.2	4.3	(8.2)	(17.0)	(3.1)	(2.5)	(4.2)	(23.2)	(33.8)	(32.2)	(19.6)	(15.2)	(11.6)	73.9	5.5	5.0	(7.2)	(27.3)
Others	28.5	(1.8)	(13.8)	(10.9)	(13.4)	(9.9)	(18.3)	(34.2)	(34.4)	(31.8)	(20.6)	(2.7)	(3.0)	(11.3)	(16.5)	(4.3)	(1.5)	(18.9)	(23.9)
Top-10	51.8	9.8	2.7	0.4	(4.7)	(13.7)	(16.2)	(30.2)	(29.2)	(14.8)	(8.3)	0.7	2.3	2.3	5.0	13.1	12.6	(16.6)	(13.7)
Total	48.7	8.5	0.7	(0.9)	(5.7)	(13.3)	(16.4)	(30.6)	(29.7)	(16.7)	(9.6)	0.3	1.7	(0.3)	1.4	10.7	10.9	(16.8)	(14.7)
QoQ (%)																			
Lenovo	(11.6)	(2.2)	(1.0)	8.5	(16.2)	(1.6)	(6.6)	(6.9)	(17.2)	10.2	12.9	0.6	(14.4)						
HP Inc.	(0.8)	(3.5)	(5.3)	5.8	(14.9)	(14.5)	(6.3)	4.0	(9.6)	12.7	0.5	3.2	(13.7)						
Dell	(18.4)	7.9	8.5	13.4	(20.1)	(3.7)	(9.6)	(9.5)	(12.3)	8.9	(0.7)	(3.3)	(5.6)						
Apple	0.0	(9.7)	17.9	13.7	(6.2)	(27.5)	55.7	(28.3)	(11.5)	(2.0)	12.3	8.3	(7.6)						
Acer Group	(14.0)	7.1	(3.6)	1.1	(9.4)	(7.9)	(11.8)	(20.1)	(1.8)	13.2	10.0	(9.1)	(5.2)						
Asus	(13.4)	5.8	22.4	1.2	(8.1)	(16.0)	17.5	(11.7)	(21.5)	1.5	32.6	(15.6)	(21.4)						
Microsoft	(25.7)	(6.3)	(4.9)	60.9	(28.7)	1.4	(8.9)	(2.1)	(16.1)	9.9	(12.9)	11.2	(20.0)						
Sharp	(28.1)	(10.5)	(0.3)	11.5	4.7	(36.9)	27.4	(21.0)	5.2	(14.5)	5.9	7.7	20.5						
MSI	(12.1)	4.2	24.6	19.9	(1.3)	(32.8)	4.6	(3.5)	(9.9)	26.3	(5.1)	4.1	(12.3)						
Samsung	15.5	(12.0)	(8.8)	(0.9)	4.5	2.6	(8.3)	(2.6)	(16.3)	(11.5)	(6.1)	15.5	(11.7)						
Others	(4.7)	(7.8)	1.1	0.4	(7.4)	(4.0)	(8.4)	(19.1)	(7.7)	(0.2)	6.5	(0.9)	(8.0)						
Top-10	(9.9)	(0.4)	2.6	9.0	(14.4)	(9.8)	(0.4)	(9.3)	(13.1)	8.5	7.3	(0.4)	(11.7)						
Total	(9.3)	(1.3)	2.4	8.1	(13.7)	(9.2)	(1.3)	(10.3)	(12.6)	7.6	7.2	(0.5)	(11.4)						
Global market share (%)																			
Lenovo	25.0	24.8	23.9	24.0	23.3	25.3	23.9	24.8	23.5	24.1	25.3	25.6	24.7	21.8	23.6	24.4	24.4	24.3	24.7
HP Inc.	23.1	22.6	20.9	20.4	20.1	19.0	18.0	20.9	21.6	22.6	21.2	22.0	21.4	22.1	22.6	22.1	21.7	19.5	21.8
Dell	15.6	17.0	18.0	18.9	17.5	18.6	17.0	17.2	17.2	17.5	16.2	15.7	16.7	16.1	16.8	16.5	17.4	17.6	16.6
Apple	7.7	7.1	8.1	8.6	9.3	7.4	11.7	9.4	9.5	8.6	9.0	9.8	10.3	6.7	6.6	7.1	7.9	9.4	9.2
Acer Group	7.0	7.6	7.1	6.7	7.0	7.1	6.4	5.7	6.4	6.7	6.9	6.3	6.7	7.2	6.6	7.3	7.1	6.6	6.6
Asus	5.6	6.0	7.1	6.7	7.1	6.6	7.8	7.7	6.9	6.5	8.0	6.8	6.0	5.8	5.5	5.8	6.3	7.3	7.1
Microsoft	1.6	1.6	1.4	2.2	1.8	2.0	1.8	2.0	1.9	2.0	1.6	1.8	1.6	1.9	2.0	2.1	1.7	1.9	1.8
Sharp	0.6	0.6	0.5	0.6	0.7	0.5	0.6	0.5	0.7	0.5	0.5	0.6	0.8	0.1	0.6	0.6	0.6	0.6	0.6
MSI	0.7	0.8	0.9	1.0	1.2	0.9	0.9	1.0	1.0	1.2	1.1	1.1	1.1	0.5	0.5	0.7	0.9	1.0	1.1
Samsung	1.5	1.3	1.2	1.1	1.3	1.5	1.4	1.5	1.4	1.2	1.0	1.2	1.2	0.8	1.4	1.3	1.2	1.4	1.2
Others	11.6	10.8	10.7	9.9	10.6	11.2	10.4	9.4	9.9	9.2	9.2	9.1	9.5	17.0	14.0	12.1	10.7	10.5	9.3
Top-10	88.4	89.2	89.3	90.1	89.4	88.8	89.6	90.6	90.1	90.8	90.8	90.9	90.5	83.0	86.0	87.9	89.3	89.5	90.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Gartner; KGI Research

Figure 41: Global NB shipments by brand

Vendor	NB (incl. Chromebook) shipments (mn units)																				
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2017	2018	2019	2020	2021	2022	2023
Lenovo	16.7	15.9	15.3	16.4	14.5	13.4	12.6	11.9	9.8	11.1	11.9	12.7	10.9	36.7	40.2	44.4	57.3	64.2	52.4	45.4
HP Inc.	15.7	15.2	13.8	14.6	12.0	10.2	9.3	9.8	8.9	10.4	10.3	10.6	9.0	41.6	42.2	43.0	53.4	59.4	41.3	40.3
Dell	9.4	9.8	11.4	12.7	9.4	9.3	8.1	7.2	6.4	7.1	7.2	6.6	6.3	25.6	26.9	27.2	36.0	43.3	33.9	27.3
Apple	5.9	5.3	6.4	7.3	6.8	4.9	7.7	5.6	4.9	4.5	5.1	5.7	5.2	15.9	15.8	15.7	20.2	25.0	25.0	20.1
Acer Group	5.2	5.5	5.1	5.2	4.7	4.3	3.6	3.0	2.9	3.4	3.7	3.3	3.1	16.6	16.0	15.1	19.4	21.0	15.6	13.2
Asus	4.3	4.6	5.6	5.7	5.2	4.4	5.2	4.5	3.6	3.6	4.9	4.1	3.2	16.6	14.8	14.3	17.0	20.2	19.3	16.1
Microsoft	1.4	1.3	1.2	2.0	1.4	1.4	1.3	1.3	1.1	1.2	1.0	1.1	0.9	4.2	5.1	5.5	6.4	5.9	5.4	4.4
Sharp	0.5	0.5	0.5	0.5	0.5	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.0	0.3	1.7	1.9	1.9	1.7	1.3
MSI	0.5	0.6	0.7	0.8	0.8	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	1.2	1.2	1.2	1.9	2.6	2.5	2.3
Samsung	0.8	0.7	0.7	0.8	0.9	0.8	0.7	0.8	0.7	0.6	0.6	0.8	0.7	4.0	3.5	3.3	3.3	3.1	3.2	2.6
Others	2.2	2.2	2.5	2.2	2.1	2.0	1.9	1.4	1.4	1.6	1.8	1.7	1.6	11.2	8.9	6.8	11.1	9.1	7.5	6.6
Top-10	60.5	59.3	60.6	66.1	56.3	49.6	49.5	44.8	39.1	42.8	45.6	45.8	40.3	162.4	166.0	171.3	216.8	246.5	200.2	173.2
Total	63.0	61.7	63.3	68.4	58.5	51.8	51.5	46.3	40.5	44.4	47.4	47.4	41.8	173.2	174.9	178.3	228.3	256.4	208.1	179.9
YoY (%)																				
Lenovo	81.9	10.6	(1.0)	(10.6)	(12.9)	(15.3)	(17.5)	(27.6)	(32.5)	(17.7)	(5.6)	6.6	11.5	(1.6)	9.6	10.3	29.0	12.1	(18.3)	(13.4)
HP Inc.	94.3	6.1	(10.1)	(6.5)	(23.5)	(33.0)	(32.9)	(32.7)	(25.6)	2.3	11.4	8.0	0.2	13.2	1.4	1.9	24.2	11.2	(30.4)	(2.4)
Dell	57.1	6.7	29.7	5.2	(0.0)	(5.2)	(29.0)	(43.6)	(31.6)	(23.2)	(11.1)	(8.2)	(1.5)	2.2	5.4	0.9	32.5	20.1	(21.6)	(19.5)
Apple	84.2	13.8	1.9	21.3	14.6	(8.2)	21.2	(24.3)	(28.2)	(8.0)	(34.0)	2.0	6.7	4.0	(0.4)	(0.8)	28.8	23.6	0.0	(19.3)
Acer Group	65.3	13.8	(6.2)	(13.5)	(9.1)	(21.1)	(28.5)	(43.2)	(39.1)	(21.8)	1.6	10.1	7.6	(0.1)	(3.8)	(5.9)	29.0	8.0	(25.4)	(15.5)
Asus	60.0	21.9	3.1	12.1	19.8	(3.6)	(8.2)	(20.7)	(31.5)	(17.9)	(5.5)	(9.1)	(10.4)	(11.3)	(10.9)	(3.1)	18.3	19.0	(4.6)	(16.2)
Microsoft	14.7	(24.5)	(26.6)	6.5	2.2	10.5	5.9	(35.6)	(24.2)	(17.8)	(21.4)	(10.6)	(14.7)	(4.1)	21.2	8.3	16.6	(8.8)	(7.9)	(18.6)
Sharp	56.8	6.6	9.1	(28.6)	4.7	(26.1)	(5.6)	(33.3)	(33.4)	(9.8)	(25.2)	2.2	17.1	N.M.	N.M.	527.1	10.4	2.5	(15.0)	(19.0)
MSI	118.8	20.1	13.4	37.6	61.9	(6.5)	(16.7)	(35.4)	(40.6)	11.5	5.2	16.6	11.6	20.1	(3.8)	2.1	60.0	35.8	(4.9)	(6.5)
Samsung	(1.9)	(3.9)	(5.6)	(12.2)	1.1	12.3	1.8	(4.0)	(20.2)	(26.2)	(24.5)	5.2	3.5	(20.1)	(13.0)	(5.1)	(0.4)	(6.1)	2.6	(16.7)
Others	55.1	(33.0)	(37.5)	(10.3)	(2.9)	(8.6)	(24.6)	(34.8)	(33.6)	(17.5)	(3.0)	19.9	9.7	(14.0)	(19.9)	(24.4)	64.4	(18.3)	(18.0)	(11.3)
Top-10	73.2	8.8	0.8	(1.8)	(7.0)	(16.3)	(18.3)	(32.2)	(30.5)	(13.8)	(8.0)	2.2	3.1	1.4	2.2	3.2	26.5	13.7	(18.8)	(13.5)
Total	73.3	6.5	(1.5)	(2.1)	(7.1)	(16.2)	(18.6)	(32.2)	(30.7)	(14.1)	(7.9)	2.4	3.0	0.9	1.0	1.9	28.1	12.3	(18.8)	(13.6)
QoQ (%)																				
Lenovo	(9.2)	(4.6)	(3.9)	7.5	(11.6)	(7.3)	(6.3)	(5.7)	(17.5)	13.0	7.4	6.5	(13.8)							
HP Inc.	0.6	(3.1)	(9.6)	6.1	(17.8)	(15.1)	(9.4)	6.4	(9.2)	16.8	(1.3)	3.1	(15.7)							
Dell	(22.5)	4.5	16.0	11.9	(26.3)	(0.9)	(13.1)	(11.1)	(10.7)	11.4	0.6	(8.2)	(4.2)							
Apple	(1.8)	(10.8)	20.2	15.2	(7.2)	(28.5)	58.6	(28.0)	(12.1)	(8.4)	13.8	11.3	(8.0)							
Acer Group	(13.9)	5.8	(7.0)	2.1	(9.5)	(8.2)	(15.7)	(18.9)	(2.9)	17.7	9.6	(12.1)	(5.1)							
Asus	(14.2)	4.9	23.2	1.1	(8.3)	(15.6)	17.3	(12.7)	(20.8)	1.2	35.0	(15.9)	(22.0)							
Microsoft	(25.7)	(6.3)	(4.9)	60.9	(28.7)	1.4	(8.9)	(2.1)	(16.1)	9.9	(12.9)	11.2	(20.0)							
Sharp	(28.3)	(10.5)	(0.4)	11.6	5.2	(36.8)	27.3	(21.1)	5.0	(14.4)	5.5	7.7	20.4							
MSI	(15.1)	7.1	23.9	22.2	(0.1)	(38.2)	10.4	(5.2)	(8.1)	16.1	4.1	5.1	(12.1)							
Samsung	(6.3)	(13.9)	1.2	7.5	8.0	(4.4)	(8.2)	1.2	(10.2)	(11.5)	(6.1)	41.0	(11.7)							
Others	(9.1)	(2.1)	16.6	(13.5)	(1.6)	(7.9)	(3.8)	(25.1)	0.2	14.4	13.1	(7.5)	(8.4)							
Top-10	(10.1)	(2.0)	2.2	9.0	(14.9)	(11.8)	(0.3)	(9.4)	(12.8)	9.5	6.5	0.6	(12.1)							
Total	(9.8)	(2.0)	2.5	8.0	(14.4)	(11.5)	(0.5)	(10.0)	(12.5)	9.6	6.7	(0.0)	(11.9)							
Global market share (%)																				
Lenovo	26.4	25.7	24.1	24.0	24.8	26.0	24.4	25.6	24.2	24.9	25.1	26.7	26.1	21.2	23.0	24.9	25.1	25.0	25.2	25.2
HP Inc.	25.0	24.7	21.8	21.4	20.6	19.7	18.0	21.2	22.1	23.5	21.7	22.4	21.5	24.0	24.1	24.1	23.4	23.2	19.9	22.4
Dell	14.9	15.9	18.0	18.6	16.0	18.0	15.7	15.5	15.8	16.1	15.1	13.9	15.1	14.8	15.4	15.2	15.8	16.9	16.3	15.2
Apple	9.4	8.6	10.1	10.7	11.6	9.4	15.0	12.0	12.1	10.1	10.7	12.0	12.5	9.2	9.0	8.8	8.8	9.7	12.0	11.2
Acer Group	8.2	8.9	8.1	7.6	8.1	8.4	7.1	6.4	7.1	7.6	7.8	6.9	7.4	9.6	9.1	8.4	8.5	8.2	7.5	7.3
Asus	6.9	7.4	8.9	8.3	8.9	8.5	10.0	9.7	8.8	8.1	10.3	8.6	7.6	9.6	8.5	8.0	7.4	7.9	9.3	9.0
Microsoft	2.2	2.1	1.9	2.9	2.4	2.7	2.5	2.7	2.6	2.6	2.1	2.4	2.2	2.4	2.9	3.1	2.8	2.3	2.6	2.4
Sharp	0.8	0.7	0.7	0.7	0.9	0.7	0.8	0.7	0.9	0.7	0.7	0.7	1.0	-	0.2	1.0	0.8	0.8	0.8	0.7
MSI	0.8	0.9	1.1	1.2	1.4	1.0	1.1	1.2	1.2	1.3	1.3	1.3	1.3	0.7	0.7	0.7	0.8	1.0	1.2	1.3
Samsung	1.3	1.2	1.2	1.2	1.5	1.6	1.5	1.6	1.7	1.4	1.2	1.7	1.7	2.3	2.0	1.9	1.4	1.2	1.5	1.5
Others	3.5	3.5	4.0	3.2	3.7	3.8	3.7	3.1	3.5	3.7	3.9	3.6	3.7	6.5	5.1	3.8	4.9	3.5	3.6	3.7
Top-10	96.0	96.1	95.8	96.7	96.2	95.9	96.1	96.7	96.4	96.2	96.0	96.6	96.4	93.8	94.9	96.1	94.9	96.1	96.2	96.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Gartner; KGI Research

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