

# **IT Hardware**

# Strong demand for Blackwell despite several adjustments

## Key message

- Recent hot discussions in the Al server supply chain include: (1) Nvidia's (US) cancellation of dual NVL36 rack designs; (2) the cancellation of the B200A GPU and plans for the B300A Ultra GPU to launch by end-2025F, (3) socket design to begin for Blackwell Ultra GPUs in 1H25F.
- NVL36x2 design discontinuation will not affect the assembly industry landscape; B300A and B300 Ultra introductions will be neutral for baseboard and thermal suppliers.
- GPU socket designs present new opportunities for CPU socket plays.

#### **Event**

Recent hot discussion of Blackwell AI servers include: (1) Nvidia (US) will stop producing dual NVL36 racks, and will produce NVL72 for 2025F projects; (2) Nvidia cancelled development of the B200A GPU, and intends to launch next generation AI GPU B300 Ultra (CoWoS-L) and B300A Ultra (CoWoS-S) GPUs in late 2Q25F; (3) socket design will likely start for Blackwell Ultra GPUs in 1H25F.

#### **Impact**

**GB200** ramp-up on track; NVL36 dual configuration to be discontinued. Nvidia recently ceased developing NVL36 dual racks, and the firm is encouraging users to adopt NVL72 racks, given their higher efficiency. The dual rack NVL36 configuration (NVL36x2) was adopted mainly by Amazon Web Services (AWS; US), with other NVL36 designs being mainly for Meta (US) and Google (US). We expect this change will apply to new projects in 2H25-2026F, and will not impact the supply chain. Hon Hai Precision Industry (2317 TT, NT\$199, Restricted) and Quanta Computer (2382 TT, NT\$283.5, OP) will continue assembling GB200 racks. We maintain our forecast for shipment of 55k GB200 racks in 2025F, and our estimate of a NVL36/72 weighting of 55-60%/ 40-45% in 2025F, while we expect the original design of NVL72 for Microsoft (US) will have higher priority.

B200A GPUs cancelled; new B300 Ultra to be launched in late 2Q25F. Nvidia cancelled development of the B200A GPU, and may launch B300 Ultra (CoWoS-L) and B300A Ultra (CoWoS-S) GPUs in late 2Q25F, followed by the Rubin series in 1H26F. The roadmap is likely to become clearer in 1Q25F. The supply chain expects a new GPU (codenamed B102 Ultra) to enter production in late 2Q25F as a replacement for the B200A, and we think this will likely be called the B300A Ultra. The B300A Ultra is a single die chip with four high bandwidth memory (HBM) modules, like the B200A, and uses TSMC's (2330 TT, NT\$1,045, OP) CoWoS-S process for packaging. Blackwell B300 Ultra will succeed the B200, with an HBM density increase. B300A Ultra NVL36 racks will use air cooling solutions, while the B300 Ultra is likely to be paired with liquid cooling solutions. We don't expect any significant impact on baseboard suppliers like Wistron (3231 TT, NT\$109, OP) or Hon Hai, as they supply baseboards for B200, B300A Ultra, B300 Ultra or Hopper GPUs. Should B200 shipments rise due to the cancellation of the B200A, it will benefit these firms on higher content value per unit. Despite frequent launch schedule adjustments for several products, Blackwell GPU demand remains very strong.

Socket design to begin for Blackwell Ultra GPU in mid-2025F. Nvidia will likely adopt socket designs for GPUs for several reasons. While GPUs did not previously use socket designs, being directly mounted on boards due to transmission performance requirements, failure costs have risen for GB200 units, which have two GPUs and one CPU. Metal thermal interface material (TIM), such as indium, is also able to dissipate heat better than film TIM, but the lower melting point creates challenges for direct mounting. Socket designs could partially solve these problems, and we may receive Nvidia's final decision by the end of 2024F. We expect GPU sockets to be first adopted for the B300 Ultra generation in mid-2025F, at the earliest. CPU socket suppliers FIT (HK, a connector subsidiary of the Hon Hai group), Molex (US), Amphenol (US), TE (US) and Lotes (3533 TT, NT\$1,670, OP) all are aggressive about gaining this GPU socket opportunity, and recently sent samples to Nvidia. This will bring positive impacts for FIT/ Hon Hai and Lotes in the long.

### **Stocks for Action**

On booming AI server demand, investors should revisit the supply chain on currently low valuations, with our top picks being Hon Hai, Quanta, Asia Vital Components (3017 TT, NT\$647, OP) and Delta Electronics (2308 TT, NT\$387.5, OP).

#### Risks

CSPs' Al server capex plan; Al server GPU supply constraints.

15 October 2024



Figure 1: Blackwell GPU family configurations & roadmap are still being adjusted

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New in late 2Q25F

	B100 Blackwell	B200 Blackwell	B200A Blackwell	B20 Blackwell	B300 Blackwell Ultra	B300A Blackwell Ultra
Codename	B100	B200	B102/ B200A	B102/ B200A	B122	B102 Ultra
Packaging	CoWoS-L	CoWoS-L	CoWoS-S	CoWoS-S	CoWoS-L	CoWoS-S
HBM (GB)	Up to 192	192	Up to 144	96	288	144
Logic Dies	2	2	1	1	2	1
Power (W)	700	1000 (HGX) / 1200 (GB NVL)	700 /1000	~300	1000 (HGX) / 1200 (GB NVL)	1000 (HGX) / 700 (GB NVL)
Supported Form Factors						
8-GPU HGX	Small Volume	Small Volume	Yes	Yes	Yes	Yes
GB NVL	N/A	72/36	N/A	Yes	72/36	36 (air-cooled)

Source: Semianalysis; KGI Research

Figure 2: Com	parison – Clo	oud peer val	luations
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Sector	Company	Ticker	Market cap. (US\$mn)	Share price	Rating	Target Price		EPS (LCY)		EPS YoY (%)			PE (x)			PB (x)			ROE (%)			Cash yield (%)	
				(LCY)		(LCY)	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F
ODM	Hon Hai	2317 TT	85,750	199.0	Restricted	N.A.	10.25	11.32	15.21	0.4	10.4	34.4	19.4	17.6	13.1	1.8	1.8	1.7	9.7	10.3	13.0	2.7	3.0
	Inventec	2356 TT	4,929	44.2	Outperform	58.0	1.71	2.36	3.41	0.0	38.3	44.2	25.9	18.7	13.0	2.6	2.5	2.4	10.2	13.7	19.1	3.4	4.3
	Quanta	2382 TT	34,038	283.5	Outperform	390.0	10.29	15.11	18.79	37.0	46.9	24.4	27.6	18.8	15.1	5.9	5.5	5.2	22.3	30.3	35.3	3.2	4.3
	Wistron	3231 TT	9,815	109.0	Outperform	150.0	4.08	6.20	8.85	1.7	51.9	42.7	26.7	17.6	12.3	3.0	2.7	2.4	11.4	15.9	20.0	2.4	3.6
	Wiwynn	6669 TT	11,495	1,990.0	Outperform	3,020.0	68.88	125.64	160.57	(15.0)	82.4	27.8	28.9	15.8	12.4	8.2	4.6	4.0	29.7	37.1	34.5	2.1	3.4
	Gigabyte Tech	2376 TT	5,507	264.5	Outperform	345.0	7.46	18.03	20.43	(27.5)	141.6	13.3	35.5	14.7	12.9	4.5	3.6	3.5	12.9	27.3	27.8	2.5	5.9
	Asrock	3515 TT	794	206.0	Outperform	270.0	7.54	10.90	13.62	(13.2)	44.6	24.9	27.3	18.9	15.1	3.1	3.0	3.0	11.3	16.2	19.9	3.3	4.8
	Mitac Holdings*	3706 TT	1,753	46.8	Not rated	N.A.	1.48	N.M.	N.M.	(80.9)	N.A.	N.A.	31.6	N.A.	N.A.	0.9	N.A.	N.A.	2.9	N.M.	N.M.	2.8	N.A.
	Lotes	3533 TT	5,786	1,670.0	Outperform	1,930.0	50.65	81.13	103.86	(13.7)	60.2	28.0	33.0	20.6	16.1	6.7	5.8	4.9	22.1	30.2	33.0	1.6	2.4
Socket/	Fit Hon Teng Ltd*	6088 HK	2,732	2.91	Not rated	N.A.	0.08	0.13	0.20	222.3	70.5	47.4	37.3	21.9	14.8	8.7	8.0	7.3	5.4	7.5	10.2	0.0	0.1
Connector/cable	Argosy *	3217 TT	417	149.0	Not rated	N.A.	8.11	10.61	10.98	19.3	30.8	3.5	18.4	14.0	13.6	3.1	N.A.	N.A.	17.9	23.1	22.0	3.6	5.4
	Alltop	3526 TT	531	283.5	Outperform	297.0	11.68	15.60	19.69	24.2	33.5	26.2	24.3	18.2	14.4	6.4	6.4	6.4	26.9	35.5	44.6	4.1	5.5
Rail kit	King Slide Works	2059 TT	3,199	1,080.0	Outperform	1,700.0	28.38	57.58	63.88	(33.3)	102.9	10.9	38.1	18.8	16.9	6.3	5.3	4.5	16.9	30.5	28.6	1.3	2.7
	Sunonwealth	2421 TT	834	98.1	Outperform	130.0	5.16	6.11	7.21	18.9	18.4	18.0	19.0	16.1	13.6	3.7	3.5	3.2	21.5	22.4	24.7	3.6	4.4
Thermal module AV	Auras	3324 TT	2,069	732.0	Outperform	N.A.	14.28	22.68	34.19	(2.7)	58.8	50.7	51.3	32.3	21.4	13.6	8.4	6.9	20.2	28.4	36.2	0.9	1.4
	AVC	3017 TT	7,709	647.0	Outperform	830.0	14.11	20.55	29.63	19.7	45.7	44.2	45.9	31.5	21.8	11.3	9.6	7.8	28.3	32.8	39.4	1.1	1.6
	Kaori	8996 TT	997	354.0	Outperform	460.0	6.45	7.60	15.99	0.0	17.9	110.3	54.9	46.6	22.1	11.7	11.5	8.2	25.0	25.0	43.6	1.1	1.1
Heat spreader	Jentech*	3653 TT	6,515	1,490.0	Not rated	N.A.	16.59	24.73	38.80	(15.1)	49.1	56.9	89.8	60.3	38.4	18.3	N.A.	N.A.	21.9	N.M.	N.M.	0.7	N.A.
BBU	Simplo Tech	6121 TT	2,061	358.5	Outperform	460.0	30.67	28.77	32.61	(21.6)	(6.2)	13.4	11.7	12.5	11.0	1.9	1.9	1.8	16.9	15.2	16.5	6.1	5.7
550	AES-KY	6781 TT	1,412	532.0	Neutral	570.0	23.04	22.05	27.49	(38.8)	(4.3)	24.7	23.1	24.1	19.4	3.5	3.3	3.0	15.4	14.1	16.2	2.2	2.1
Chassis	Chenbro	8210 TT	1,047	278.5	Outperform	345.0	9.03	15.45	19.15	8.5	70.1	24.0	31.9	18.7	15.1	6.3	5.4	4.6	20.8	31.1	33.1	1.7	2.9
BMC	Aspeed Tech*	5274 TT	5,272	4,485.0	Not rated	N.A.	26.66	60.70	89.42	(52.2)	127.7	47.3	168.2	73.9	50.2	44.2	32.3	25.4	24.2	49.7	56.4	0.4	0.9
Silcon photonics	Land Mark Opto	3081 TT	1,093	380.0	Neutral	135.0	(2.31)	(0.81)	4.46	N.M.	N.M.	N.M.	N.M.	N.M.	85.2	9.0	9.3	9.0	(5.1)	(2.0)	10.8	0.1	0.1
CCL	Iteq*	6213 TT	840	74.5	Not rated	N.A.	1.86	3.11	5.51	(62.3)	67.2	77.2	40.1	24.0	13.5	1.4	1.3	1.2	3.4	5.7	9.1	2.0	2.9
	Elite Material	2383 TT	4,471	417.5	Outperform	610.0	16.35	28.22	32.78	7.3	72.6	16.2	25.5	14.8	12.7	5.3	4.7	4.1	22.5	33.9	34.7	2.4	4.1
ABF	Unimicron Tech	3037 TT	6,803	143.5	Outperform	220.0	7.88	5.87	13.72	(60.7)	(25.5)	133.6	18.2	24.4	10.5	2.4	2.3	2.0	13.6	9.6	20.4	2.1	1.6
PCB	Gold Circuit	2368 TT	2,912	190.5	Outperform	275.0	7.25	12.96	17.22	(18.2)	78.8	32.9	26.3	14.7	11.1	5.6	5.3	4.4	22.7	37.1	43.8	1.8	3.4
	Delta	2308 TT	31,286	387.5	Outperform	528.0	12.86	15.27	19.54	2.2	18.8	28.0	30.1	25.4	19.8	5.1	4.4	3.9	17.3	18.5	20.6	1.7	2.0
Power	Lite-On Tech	2301 TT	7,405	101.5	Outperform	N.A.	6.36	5.67	6.86	2.8	(11.0)	21.0	15.9	17.9	14.8	2.8	2.5	2.3	17.6	14.5	16.0	4.4	3.9
	Chicony Power	6412 TT	1,582	127.0	Not rated	N.A.	8.27	8.90	10.75	0.6	7.6	20.8	15.4	14.3	11.8	3.7	3.7	3.3	24.9	27.3	31.6	4.7	4.9
Foundry	AcBel Polytech* TSMC	6282 TT 2330 TT	904 842.338	33.8 1.045.0	Not rated Outperform	N.A.	0.07 32.3	1.44 42.80	2.14 53.32	(94.3)	1957.1 32.4	48.6 24.6	482.1 32.3	23.4	15.8 19.6	7.8	1.2 6.4	1.1 5.2	0.3 26.2	5.2 28.8	7.3 29.1	1.5	0.3 1.5
roundry	Alchip Tech	3661 TT	4,768	1,920.0	Outperform	3,950.0	45.5	78.77	98.85	77.0	73.2	25.5	42.2	24.4	19.6	7.9	4.3	3.8	21.4	23.1	20.5	1.2	2.1
Design service	Global Unichip	3443 TT	5.061	1,320.0	Neutral	1.430.0	26.2	26.76	32.02	(5.5)	2.2	19.6	46.4	45.4	37.9	16.8	14.3	11.8	39.5	34.0	34.0	1.2	1.2
	Winway	6515 TT	1,318	1,220.0	Outperform	865.0	15.9	34.57	N.A.	(50.7)	117.8	N.A.	76.9	35.3	N.A.	11.9	9.7	N.A.	15.1	30.4	N.A.	0.9	2.1
IC package/testing	Chroma	2360 TT	5,315	402.0	Not rated	N.A.	10.9	12.72	N.A.	(10.3)	16.8	N.A.	36.9	31.6	N.A.	7.5	6.9	N.A.	20.7	22.5	N.A.	1.8	2.1
Networking	Luxnet	4979 TT	692	158.0	Underperform	98.0	3.3	4.23	5.51	63.0	26.7	30.1	47.3	37.3	28.7	7.3	6.4	5.3	19.9	17.9	19.3	0.9	1.3
	Accton Tech	2345 TT	9,688	556.0	Outperform	700.0	16.0	20.80	23.26	9.2	30.1	11.8	34.8	26.7	23.9	12.4	10.4	8.9	39.1	42.3	40.2	1.8	2.2

<sup>\*</sup> Bloomberg consensus

Source: Bloomberg; KGI Research estimates

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