

Thermal sector

GB200 mass production to boost 1Q25F sales growth QoQ

Key message

1. The market is concerned about the impact on thermal plays of the recent launch of DeepSeek's (CN) hyper-efficient R1 AI model, as the model requires significantly less computing performance and therefore cooling.
2. We believe these concerns are overdone and expect the AI server TAM of the thermal industry to continue to grow; however, we predict the PE of thermal plays will fall from a peak of 25-35x in 2024 as sales slow down through 2026F.
3. We forecast 1Q25F sales of thermal plays to grow QoQ on earlier-than-expected GB200 mass production. We maintain Outperform ratings on Asia Vital Components (3017 TT, NT\$508, OP) and Auras Technology (3324 TT, NT\$556, OP) on strong sales and earnings growth in 2025F.

Event

The launch of DeepSeek's (CN) hyper-efficient R1 AI model has led to market concerns about the impact on thermal plays and the adoption of liquid cooling, as the model requires significantly less computing performance and therefore cooling. However, we believe these concerns are overdone and expect the AI server thermal TAM to continue to grow in coming years on lower-cost AI models. Any share correction represents a good entry point.

Impact

Minimal impact of R1 on thermal plays. DeepSeek's R1 is attracting global attention as an open source AI model that boasts impressive performance capabilities and significant cost advantages, illustrating that the high-cost, high-computing power AI development model may no longer be the only path to industry growth. R1 also highlights the importance of the open source model, as some US CSPs also attempt to develop open source AI models to penetrate the edge AI ecosystem. Despite this, we don't think R1 will have a significant impact on thermal demand growth in coming years, as launches of lowercost models will boost overall AI market penetration. We will also continue to see GPU and CPU computing performance increase with growing thermal design power (TDP) for training, inference AI and edge AI applications. The expansion of liquid cooling demand for highdensity, high-performance training AI server (GB200, GB300, Rubin) is intact, as data center operators strive to trim power usage effectiveness (PUE), a global energy efficiency indicator for data centers. Meanwhile, air and liquid-cooling will be adopted for inference AI and edge AI. However, on a TDP sales growth slowdown and a more competitive landscape through 2026F, the PE of thermal plays will fall from a peak of 25-35x in 2024.

GB200 shipments ramp up; GB300 design in the pipeline. Based on our industry checks, we note that mass production of GB200 AI server racks that adopt liquid cooling has kicked off in 1Q25. We estimate GB200 shipments to be 2-3k racks in 1Q25F, with increased shipments in 2Q25F. Orders for GB200 server rack from the top-four US CSPs are 25-30k units (unadjusted) in 2025F, with GB300 orders coming later in 2H25F. The GB300 liquid cooling design is similar to GB200 in the cold plate (six units per compute tray), though GPU TDP is higher at 1.4KW, vs. GB200's 1.2KW. But as GB300 is a socket design, the number of quick disconnect (QD) units per compute tray will increase to 14 units, vs.

GB200's 6 units. The rack and inner manifold of GB300 and GB200 should be similar. Therefore, GB300 ramp-up will be positive for liquid cooling TAM growth. The TDP of Rubin will likely be higher at 1.5-2.0KW. Thus, under CSPs' aggressive capex and growing server demand in 2025F, we expect solid sales growth in liquid cooling for thermal plays, as well as decent earnings contribution. Aside from AI server, thermal plays' ASPs and gross margins will also benefit from new RTX 50-series graphics card, AI PC and AI smartphone. Asia Vital Components (AVC; 3017 TT, NT\$508, OP) & Auras Technology (3324 TT, NT\$556, OP) – 1Q25F sales to grow QoQ. AVC and Auras now expect 1Q25F sales to grow QoQ on GB200 server rack mass production, coupled with new RTX-50 graphics card launches, being more positive as compared to one month ago. AVC is seeing market share gains in liquid cooling cold plate at Microsoft (US) and AWS (US), and looks to capture over 70% of GB200 cold plate demand. AVC also dominates in GB200 manifold shipments to CSPs, while Auras supplies manifolds to enterprises like Oracle (US) and HP (US). Both firms expect 1Q25F sales to grow by single digits QoQ, higher than consensus and our estimates, with January sales being the 1Q25F bottom. Both firms expect 2Q25F sales to keep growing, and that 2H25F sales and earnings will rise on booming cloud and edge AI demand (AI PC and iPhone 17 VC adoption). With a 2025F liquid cooling sales weighting estimated at 20% for AVC and 30-40% for Auras, we forecast respective 2025F EPS of NT\$33.17 (up 56%) and NT\$38.25 (up 90%).

Stocks for Action

We lower our target PE for both AVC and Auras as their YoY sales growth will peak in 2H25F. However, we maintain Outperform ratings, though our target prices are adjusted to NT\$730 for AVC and NT\$800 for Auras, on 22x 2025F fully-diluted EPS.

Risks

Material price increases; NT-dollar appreciation; weak demand for server and gaming NB.

Figure 1: AVC -- Breakdown of 4Q24 & 1Q25 forecast revisions vs. consensus

NT\$m	4Q24F							1Q25F						
	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Sales	20,904	20,209	3.4	9.6	25.0	20,702	1.0	21,531	18,592	15.8	3.0	40.6	20,212	6.5
Gross profits	5,017	4,911	2.2	12.0	37.6	4,997	0.4	5,275	4,555	15.8	5.1	56.4	4,890	7.9
Operating income	3,491	3,435	1.6	12.3	44.5	3,488	0.1	3,553	3,068	15.8	1.8	83.6	3,317	7.1
Pretax Income	3,926	3,829	2.5	14.5	57.6	3,675	6.8	3,874	3,388	14.3	(1.3)	66.3	3,531	9.7
Net income	2,330	2,378	(2.0)	0.3	39.4	2,461	(5.3)	2,430	2,177	11.7	4.3	55.4	2,357	3.1
EPS (NT\$)	6.04	6.20	(2.7)	0.3	35.9	6.38	(5.3)	6.30	5.68	11.7	4.3	54.3	6.11	3.1
Gross margin (%)	24.0	24.3	(0.3)ppts	0.5 ppts	2.2 ppts	24.1	(0.1)ppts	24.5	24.5	0.0 ppts	0.5 ppts	2.5 ppts	24.2	0.3 ppts
OP margin (%)	16.7	17.0	(0.3)ppts	0.4 ppts	2.2 ppts	16.8	(0.1)ppts	16.5	16.5	0.0 ppts	(0.2)ppts	3.9 ppts	16.4	0.1 ppts
Net margin (%)	11.1	11.8	(0.6)ppts	(1.0)ppts	1.2 ppts	11.9	(0.7)ppts	11.3	11.7	(0.4)ppts	0.1 ppts	1.1 ppts	11.7	(0.4)ppts

Source: KGI Research estimates; Bloomberg

Figure 2: AVC - Breakdown of 2024-25 forecasts vs. consensus

NT\$m	2024F						2025F					
	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)
Sales	71,761	71,066	1.0	21.2	71,466	0.4	104,047	95,295	9.2	45.0	96,302	8.0
Gross profit	16,664	16,615	0.3	34.5	16,617	0.3	26,407	24,204	9.1	58.5	24,470	7.9
Operating income	10,961	10,905	0.5	47.7	10,925	0.3	19,265	17,769	8.4	75.8	17,170	12.2
Pretax Income	12,618	12,593	0.2	57.2	12,268	2.9	20,549	19,050	7.9	62.8	17,920	14.7
Net income	8,165	8,204	(0.5)	53.9	8,221	(0.7)	12,804	12,117	5.7	56.8	11,902	7.6
EPS (NT\$)	21.23	21.40	(0.5)	50.5	21.37	(0.7)	33.17	31.61	5.7	56.3	30.84	7.6
Gross margin (%)	23.2	23.4	(0.2)ppts	2.3 ppts	23.3	(0.0)ppts	25.4	25.4	(0.0)ppts	2.2 ppts	25.4	(0.0)ppts
OP margin (%)	15.3	15.3	(0.1)ppts	2.7 ppts	15.3	(0.0)ppts	18.5	18.6	(0.1)ppts	3.2 ppts	17.8	0.7 ppts
Net margin (%)	11.4	11.5	(0.2)ppts	2.4 ppts	11.5	(0.1)ppts	12.3	12.7	(0.4)ppts	0.9 ppts	12.4	(0.1)ppts

Source: KGI Research estimates; Bloomberg

Figure 3: Auras – Breakdown of 4Q24 & 1Q25 forecast revisions vs. consensus

NT\$m	4Q24F							1Q25F						
	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Sales	4,126	4,304	(4.1)	(2.2)	23.4	4,228	(2.4)	4,414	4,218	4.7	7.0	40.1	4,470	(1.2)
Gross profits	1,052	1,162	(9.5)	(5.3)	29.9	1,108	(5.0)	1,148	1,097	4.7	9.1	48.8	1,189	(3.5)
Operating income	495	581	(14.8)	(8.8)	28.9	581	(14.7)	574	569	0.8	15.9	74.3	679	(15.5)
Pretax income	470	556	(15.5)	(8.5)	48.4	582	(19.3)	598	594	0.7	27.2	20.5	711	(15.9)
Net income	364	432	(15.9)	(8.7)	62.6	466	(22.0)	485	482	0.7	33.5	22.7	559	(13.2)
EPS (NT\$)	4.04	4.81	(15.9)	(8.7)	56.0	5.19	(22.0)	5.40	5.36	0.7	33.5	19.8	6.22	(13.2)
Gross margin (%)	25.5	27.0	(1.5)ppts	(0.8)ppts	1.3 ppts	26.2	(0.7)ppts	26.0	26.0	0.0 ppts	0.5 ppts	1.5 ppts	26.6	(0.6)ppts
OP margin (%)	12.0	13.5	(1.5)ppts	(0.9)ppts	0.5 ppts	13.7	(1.7)ppts	13.0	13.5	(0.5)ppts	1.0 ppts	2.6 ppts	15.2	(2.2)ppts
Net margin (%)	8.8	10.0	(1.2)ppts	(0.6)ppts	2.1 ppts	11.0	(2.2)ppts	11.0	11.4	(0.4)ppts	2.2 ppts	(1.6)ppts	12.5	(1.5)ppts

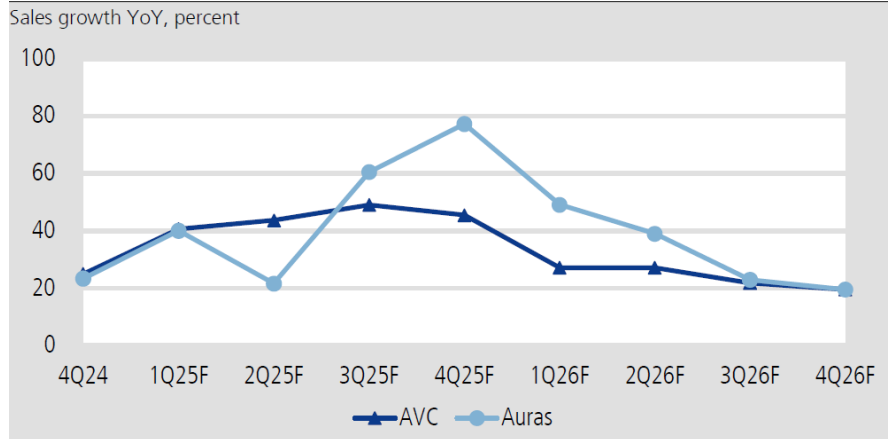
Source: KGI Research estimates; Bloomberg

Figure 4: Auras - Breakdown of 2024-25 forecasts vs. consensus

NT\$m	2024F						2025F					
	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)
Sales	15,779	15,957	(1.1)	24.1	15,890	(0.7)	23,709	23,521	0.8	50.3	22,963	3.2
Gross profit	4,150	4,260	(2.6)	38.1	4,211	(1.4)	6,792	6,747	0.7	63.6	6,533	4.0
Operating income	2,054	2,140	(4.0)	49.3	2,140	(4.0)	4,227	4,231	(0.1)	105.8	3,969	6.5
Pretax income	2,262	2,348	(3.7)	44.3	2,391	(5.4)	4,323	4,328	(0.1)	91.1	4,070	6.2
Net income	1,789	1,858	(3.7)	45.3	1,896	(5.6)	3,438	3,443	(0.1)	92.2	3,225	6.6
EPS (NT\$)	20.17	20.95	(3.7)	41.2	21.37	(5.6)	38.25	38.30	(0.1)	89.6	35.88	6.6
Gross margin (%)	26.3	26.7	(0.4)ppts	2.7 ppts	26.5	(0.2)ppts	28.6	28.7	(0.0)ppts	2.3 ppts	28.5	0.2 ppts
OP margin (%)	13.0	13.4	(0.4)ppts	2.2 ppts	13.5	(0.4)ppts	17.8	18.0	(0.2)ppts	4.8 ppts	17.3	0.5 ppts
Net margin (%)	11.3	11.6	(0.3)ppts	1.6 ppts	11.9	(0.6)ppts	14.5	14.6	(0.1)ppts	3.2 ppts	14.0	0.5 ppts

Source: KGI Research estimates; Bloomberg

Figure 5: AVC's & Auras' YoY sales growth will peak in 2H25F



Source: Company data; KGI Research

Figure 6: Capacity plans by vendor

DLC key components Capacity (k units/month)	Cold plate module		CDU		CDM	
	Current	2025F	Current	2025F	Current	2025F
AVC	115	365	1	2	2.5 / 15 (incl. inner)	2.5 / 15 (incl. inner)
Auras	30	330	1-2	2-3		2-3
Nidec			0.2	2		
Kaori				0.15-0.2	2	4
Kenmec			0.4			
Vertiv			0.045	2.025		

Source: Company data; KGI Research

Figure 7: Growing sales attributable to server sales growth

Company	Ticker	Thermal (NT\$bn)			YoY (%)			Total sales weighting by application in 2025F (%)								
		2023	2024F	2025F	2023	2024F	2025F	PC	Gaming/ VGA	Smartphone	Server	Networking	Auto	Others	Total	
AVC	3017 TT	31.9	39.7	57.7	2.1	24.7	45.3	20			14	43	10	<1	14	100
Auras	3324 TT	12.7	15.8	23.7	(8.3)	24.1	50.3	26	14	1	59				1	100
Sunonwealth	2421 TT	12.9	14.9	17.3	(8.2)	15.2	16.1	16			46	9	12	17	100	

Source: Company data; KGI Research

Figure 8: Higher margins to boost EPS growth in 2025F

Company	Ticker	GM (%)			OPM (%)			EPS (NT\$)			EPS YoY(%)			2024-26F CAGR
		2024F	2025F	2026F	2024F	2025F	2026F	2024F	2025F	2026F	2024F	2025F	2026F	
AVC	3017 TT	23.2	25.4	26.0	15.3	18.5	19.4	21.23	33.17	42.98	50.5	56.3	29.6	42.3
Auras	3324 TT	26.3	28.6	28.5	13.0	17.8	18.4	20.17	38.25	49.99	41.2	89.6	30.7	57.4
Sunonwealth	2421 TT	28.0	29.1	30.0	12.1	14.1	15.5	5.83	7.23	8.98	12.9	24.1	24.2	24.1

Source: Company data; KGI Research

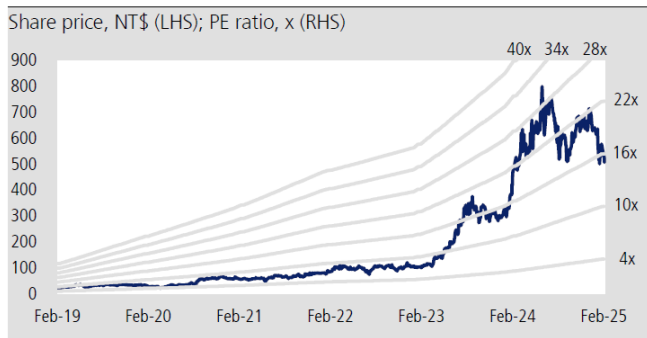
Figure 9: Peer comparison – Valuations

Sector	Company	Ticker	Market cap. (US\$mn)	Share price (LCY)	Rating	Target Price (LCY)	EPS (LCY)			EPS YoY (%)			PE (x)			PB (x)			ROE (%)			Cash yield (%)	
							2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F
Cooling fan	Sunonwealth	2421 TT	762	92.1	Outperform	130.0	5.16	5.83	7.23	18.9	12.9	24.1	17.8	15.8	12.7	3.5	3.3	3.0	21.5	21.4	24.8	3.8	4.5
	Nidec Corp*	6594 JP	19,664	2,560.5	Not rated	N.A.	64.26	125.07	161.17	(72.3)	94.6	28.9	39.8	20.5	15.9	1.1	1.9	1.7	2.8	10.1	10.6	2.7	1.4
	Sun Max Tech*	6591 TT	61	53.5	Not rated	N.A.	3.40	N.M.	N.M.	(50.7)	N.A.	N.A.	15.7	N.A.	N.A.	1.1	N.A.	N.A.	6.8	N.M.	N.M.	5.1	N.A.
	Minebea Mitsu*	6479 JP	6,786	2,467.5	Not rated	N.A.	178.23	123.27	167.17	4.8	(30.8)	35.6	13.8	20.0	14.8	1.6	1.5	1.3	12.5	7.7	9.6	1.6	1.6
Thermal module /cooling fan	AVC	3017 TT	5,959	508.0	Outperform	730.0	14.11	21.23	33.17	19.7	50.5	56.3	36.0	23.9	15.3	8.8	7.5	6.0	28.3	33.9	43.7	1.4	2.1
	Delta Elec	2308 TT	31,215	397.0	Outperform	512.0	12.86	15.56	18.97	2.2	21.0	22.0	30.9	25.5	20.9	5.2	4.5	4.0	17.3	18.8	20.1	1.6	2.0
	Vertiv	VRT US	42,263	112.6	Not rated	N.A.	1.21	2.71	3.54	505.0	123.8	30.7	93.1	41.6	31.8	21.3	19.8	14.4	26.6	48.1	54.2	0.0	0.1
	Dover Corporation	DOV US	27,751	202.3	Not rated	N.A.	7.56	8.17	9.40	1.2	8.0	15.1	26.8	24.8	21.5	5.5	4.9	4.0	22.5	22.9	17.2	1.0	1.0
Thermal module	Nidec CCI*	6230 TT	412	157.5	Not rated	N.A.	7.02	N.M.	N.M.	(1.1)	N.A.	N.A.	22.4	N.A.	N.A.	2.4	N.A.	N.A.	10.9	N.M.	N.M.	0.7	N.A.
	Auras	3324 TT	1,540	556.0	Outperform	800.0	14.28	20.17	38.25	(2.7)	41.2	89.6	38.9	27.6	14.5	7.4	6.5	5.2	20.2	25.1	40.2	1.2	1.5
	Foxconn Tech*	2354 TT	3,070	71.7	Not rated	N.A.	3.01	2.89	4.10	(0.3)	(4.0)	41.9	23.8	24.8	17.5	1.0	0.7	0.6	4.1	3.8	5.3	2.1	2.1
	Fujikura Ltd*	5803 JP	12,018	6,308.0	Not rated	N.A.	148.27	164.86	252.36	4.5	11.2	53.1	42.5	38.3	25.0	6.4	5.5	4.5	16.7	15.8	18.9	0.5	0.8
	Furukawa Elect*	5801 JP	3,329	7,315.0	Not rated	N.A.	254.45	32.64	343.71	77.4	(87.2)	953.1	28.7	224.1	21.3	1.7	1.7	1.5	6.2	0.6	7.2	1.1	0.8

*Bloomberg consensus

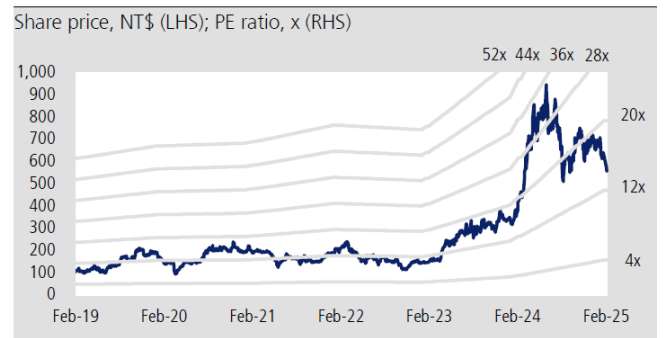
Source: Bloomberg; KGI Research estimates

Figure 10: AVC - 12M forward PE band



Source: TEI; KGI Research estimates

Figure 11: Auras - 12M forward PE band



Source: TEI; KGI Research estimates

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