

## PCB sector

### Strong 1Q25F outlook on AWS' server & 800G switch demand

#### Overweight · Maintained

##### Key message

1. Record-high December sales for Elite Material (2383 TT, NT\$563, OP) and Gold Circuit (2368 TT, NT\$203.5, OP) on demand from Amazon Web Services (AWS; US) for server and 800G switch.
2. December sales of substrate makers below expectations on sluggish PC demand & handset adjustment in slow season.
3. Strong 1Q25F outlook on clear visibility in AWS server & 800G switch.

##### Event

PCB makers Elite Material (2383 TT, NT\$563, OP) and Gold Circuit (2368 TT, NT\$203.5, OP) registered record-high sales in December, driven by pull-in demand from Amazon Web Services (AWS; US) for server and 800G switch. December sales of PCB makers focused on server, networking and handset applications were flat MoM, as expected, while sales of automotive and substrate PCB makers fell short of expectations.

##### Analysis

**Record-high December sales on AWS' server & 800G switch demand.** December sales of Elite Material and Gold Circuit were respectively up by 1.2% and 12.7% MoM and 39% and 49% YoY to record-high levels, with 4Q24 sales achieving 100% and 101% of our upgraded forecasts. The driver was robust pull-in demand from AWS for Trainium 2 server and 800G switch. 4Q24 sales of ITEQ (6213 TT, NT\$69.5, OP), TUC (6274 TT, NT\$168, NR) and Tripod (3044 TT, NT\$194, OP) fell 3.8%, 4.7% and 3.6% QoQ, achieving 92%, 95% and 98% of respective guidance, not far off our expectations. Key factors were: (1) moderate QoQ decline in demand from general server clients; (2) slower shipments of Nvidia's (US) H-series server; and (3) limited early-stage production of GB200 server.

**December sales of substrate makers below expectations on sluggish PC demand & handset adjustment in slow season.** In 4Q24, sales of Unimicron (3037 TT, NT\$140, OP), Nan Ya PCB (8046 TT, NT\$122, OP) and Kinsus (3189 TT, NT\$96, OP) achieved 94%, 101% and 92% of our forecasts, respectively. Zhen Ding's (4958 TT, NT\$113, N) and Compeq's (2313 TT, NT\$66.9, OP) sales were in-line at 102% and 99% of our forecasts, while Flexium (6269 TT, NT\$60.1, NR) missed expectations on a lower market share for a new US handset. For automotive-related plays, 4Q24 sales of Chin-Poon Industrial (2355 TT, NT\$34.3, NR) and Dynamic Holding (3715 TT, NT\$55.8, NR) missed at 98% and 96% of consensus, respectively. Sales of PC makers were mostly down QoQ and YoY, reflecting muted demand.

**Strong 1Q25F outlook on clear visibility in AWS server & 800G switch.** Research house Prismark recently revised up its 2023-28F server PCB output value CAGR forecast from 11.6% to 13.6%, with that of AI (HPC) server PCB raised to 40.2% from 32.5%. We forecast PCB shipments to AWS for Trainium2 AI server to rise QoQ from 50-60k units in 4Q24 to 180-200k and 250-300k units in 1Q25F and 2Q25F, respectively, boosting sales of Elite Material and Gold Circuit. We estimate the contribution of AWS' server business at more than double digits of 4Q24 sales for Elite Material and Gold Circuit.

##### Stocks for Action

Our top PCB sector picks are Elite Material and Gold Circuit. As both firms have a high market share in high-end PCB, they are major beneficiaries of ramped-up demand from AWS for Trainium2 AI server and 800G switch.

##### Risks

Weaker-than-expected demand; steep decline in ASP and profitability.

**Figure 1: December sales & 4Q24 sales achievement rates of Taiwan PCB makers**

Sector	Company	Ticker	Monthly sales (NT\$mn)			Accumulated sales (NT\$mn)			Quarterly sales (NT\$mn)			Achievement (%)
			Dec-24	MoM (%)	YoY (%)	Jan-Dec-24	YoY (%)	4Q24	QoQ (%)	YoY (%)		
Server	Gold Circuit	2368 TT	3,585	12.7	39.0	38,780	29.0	9,829	(5.9)	15	101	
	Allied Circuit	8155 TT	347	6.6	23.9	3,603	24.6	978	0.6	21		
	ITEQ	6213 TT	2,436	(9.8)	13.1	29,378	17.1	7,664	(3.8)	14	92	
	Taiwan Union Tech	6274 TT	2,019	(10.7)	40.8	23,070	44.2	6,310	(4.7)	43	95	
	Co-tech	8358 TT	623	11.3	6.5	6,821	10.6	1,706	(4.8)	(2.5)		
	Tripod	3044 TT	5,658	(2.2)	19.6	65,804	11.8	17,045	(3.6)	14	98	
	Elite Material	2383 TT	6,410	1.2	48.8	64,379	55.9	18,564	6.3	44	100	
	Unimicron	3037 TT	9,317	(2.8)	13.8	115,373	10.9	29,381	(7.4)	14	94	
	New Era	4909 TT	164	(26.4)	15.0	2,810	291	571	(46.9)	148		
	NanYa PCB	8046 TT	2,677	3.9	0.0	32,283	(23.6)	7,870	(14.4)	(15.5)	101	
	First Hi-tec	5439 TT	357	(16.9)	17.6	4,178	(4.0)	1,194	13.0	5.6		
Automotive	Chin-Poon	2355 TT	1,230	(11.1)	(9.3)	16,355	(2.4)	4,020	(1.1)	(7.4)	98	
	Dynamic	3715 TT	1,548	(4.6)	13.7	17,728	12.6	4,578	(3.6)	10	96	
	Ventec	6672 TT	347	3.3	(3.6)	4,226	(10.9)	1,027	2.2	(6.7)		
	Unitech PCB	2367 TT	1,520	1.0	39.2	18,532	23.9	4,480	(5.9)	23		
Handset	Zhen Ding Tech	4958 TT	15,746	(19.0)	6.1	171,664	13.3	56,133	11	3	102	
	Flexium	6269 TT	1,944	2.5	(22.0)	26,444	(19.2)	5,674	(11.6)	(33.2)	94	
	Compeq Mfg.	2313 TT	6,391	(6.0)	10.1	72,464	8.0	19,833	(1.8)	(1.5)	99	
	Kinsus	3189 TT	2,946	16.9	20.2	30,535	13.8	8,043	(1.9)	7	92	
	Taiflex	8039 TT	742	(0.2)	10.4	9,938	21.9	2,230	(21.8)	2		
PC/NB	Career	6153 TT	516	(8.8)	(26.7)	7,282	(26.0)	1,648	(21.0)	(26.8)		
	HannStar Board	5469 TT	3,427	2.4	11.8	41,632	(3.1)	10,177	(13.8)	1		
	Apex	4927 TT	1,010	(4.7)	(6.5)	12,459	(1.3)	3,081	(10.1)	(0.1)		
	TPT	8213 TT	1,172	(18.6)	(9.9)	17,710	(6.5)	4,140	(10.9)	(2.8)		
	Global brands	6191 TT	1,709	3.3	(6.9)	21,681	(5.2)	4,979	(15.5)	(11.5)		

Source: Bloomberg; KGI Research

**Figure 2: PCB peer comparison – Valuations**

Sector	Company	Ticker	Rating	Mkt Cap (US\$mn)	Price (NT\$)	EPS (NT\$)			PE (x)			PB (x)			ROE (%)			YIELD (%)		
						2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F	2023	2024F	2025F
Copper foil	Co-tech	8358 TT	NR	402	52.70	2.11	N.A.	N.A.	25.0	N.A.	N.A.	2.2	N.A.	N.A.	8.8	N.A.	N.A.	3.9	N.A.	N.A.
Fiberglass cloth/yarn	Fulltech	1815 TT	NR	425	27.30	(1.44)	N.A.	N.A.	N.M.	N.A.	N.A.	1.9	N.A.	N.A.	(9.3)	N.A.	N.A.	0.5	N.A.	N.A.
CCL	Elite Material	2383 TT	OP	5,868	563.00	16.35	28.53	35.52	34.4	19.7	15.9	7.2	6.3	5.5	22.5	34.4	37.4	1.8	3.0	3.8
	ITEQ	6213 TT	OP	762	69.50	1.86	2.73	5.07	37.3	25.5	13.7	1.3	1.3	1.2	3.4	5.0	9.0	2.2	2.3	4.3
	Taiwan Union Tech	6274 TT	NR	1,382	168.00	3.05	9.90	13.10	55.1	17.0	12.8	3.9	3.4	3.1	7.0	22.1	25.1	2.2	3.8	6.2
	Ventec	6672 TT	NR	172	79.70	6.08	N.A.	N.A.	13.1	N.A.	N.A.	1.8	N.A.	N.A.	13.7	N.A.	N.A.	3.9	N.A.	N.A.
Flexible substrate	Asia Electronic Material	4939 TT	NR	58	19.60	0.37	N.A.	N.A.	53.0	N.A.	N.A.	1.3	N.A.	N.A.	2.4	N.A.	N.A.	2.3	N.A.	N.A.
	Taiflex	8039 TT	NR	331	42.95	2.02	2.78	3.14	21.3	15.5	13.7	1.1	1.1	1.1	5.3	8.9	11.9	1.9	N.A.	N.A.
Micro drill bit	Topoint Tech	8021 TT	NR	136	31.65	(0.25)	1.60	2.11	N.M.	19.7	15.0	1.0	1.0	N.A.	(0.8)	5.1	6.4	2.6	3.7	4.8
	Compeq Mfg.	2313 TT	OP	2,407	66.90	3.50	4.92	6.13	19.1	13.6	10.9	2.0	1.9	1.7	10.7	14.3	16.4	2.2	2.9	3.7
	Wus Printed Circuit	2316 TT	NR	248	45.00	4.61	N.A.	N.A.	9.8	N.A.	N.A.	0.9	N.A.	N.A.	9.9	N.A.	N.A.	1.1	N.A.	N.A.
	Chin-Poon	2355 TT	NR	412	34.30	1.92	3.05	3.12	17.9	11.3	11.0	0.8	0.8	N.A.	4.8	7.2	7.7	3.0	5.8	5.8
	Unitech PCB	2367 TT	NR	621	29.00	(0.51)	2.49	3.08	N.M.	11.6	9.4	2.0	N.A.	N.A.	(3.4)	14.5	14.4	N.A.	N.A.	N.A.
	Gold Circuit	2368 TT	OP	3,022	203.50	7.25	12.03	16.58	28.1	16.9	12.3	5.9	5.8	4.8	22.7	34.7	42.7	1.7	2.9	3.9
	Tripod	3044 TT	OP	3,079	194.00	11.53	15.69	18.44	16.8	12.4	10.5	2.3	2.0	1.7	14.1	17.3	17.1	3.9	5.2	6.2
	Apex	4927 TT	NR	200	30.15	(4.20)	N.A.	N.A.	N.M.	N.A.	N.A.	0.8	N.A.	N.A.	(10.7)	N.A.	N.A.	N.A.	N.A.	N.A.
	First Hi-tec	5439 TT	NR	288	102.50	5.07	N.A.	N.A.	20.2	N.A.	N.A.	3.8	N.A.	N.A.	19.4	N.A.	N.A.	4.2	N.A.	N.A.
	HannStar Board	5469 TT	NR	747	50.90	5.07	N.A.	N.A.	10.0	N.A.	N.A.	0.9	N.A.	N.A.	9.2	N.A.	N.A.	2.9	N.A.	N.A.
	Dynamic	3715 TT	NR	468	55.80	3.61	4.16	5.02	15.5	13.4	11.1	2.3	2.1	1.7	15.7	16.2	18.3	2.3	3.8	4.5
PCB	Allied Circuit	8155 TT	NR	158	102.50	4.08	N.A.	N.A.	25.1	N.A.	N.A.	2.5	N.A.	N.A.	9.3	N.A.	N.A.	2.4	N.A.	N.A.
	TPT	8213 TT	NR	269	32.80	4.03	N.A.	N.A.	8.1	N.A.	N.A.	0.6	N.A.	N.A.	7.4	N.A.	N.A.	2.5	N.A.	N.A.
	Zhen Ding Tech	4958 TT	N	3,264	113.00	6.55	9.53	10.53	17.3	11.9	10.7	1.1	1.1	1.0	6.4	9.2	9.7	2.9	3.7	4.4
	Career	6153 TT	NR	252	14.00	(6.04)	N.A.	N.A.	N.M.	N.A.	N.A.	0.6	N.A.	N.A.	(24.6)	N.A.	N.A.	N.A.	N.A.	N.A.
	Flexium	6269 TT	NR	585	60.10	6.45	(0.39)	(1.20)	9.3	N.M.	N.M.	0.8	0.8	0.9	8.2	0.5	(0.0)	5.1	11.9	11.3
IC carrier	Unimicron	3037 TT	OP	6,467	140.00	7.88	4.32	12.78	17.8	32.4	11.0	2.4	2.3	2.0	13.6	7.1	19.3	2.1	1.2	3.7
	Kinsus	3189 TT	N	1,324	96.00	0.11	1.51	6.32	913.7	63.5	15.2	1.4	1.7	35.6	0.1	2.4	21.2	1.0	1.0	3.1
	NanYa PCB	8046 TT	N	2,380	122.00	9.00	0.16	7.20	13.6	776.7	16.9	1.6	1.6	1.5	11.4	0.2	9.2	4.5	0.1	3.5
High-frequency microwave communication substrate	New Era	4909 TT	NR	276	97.90	0.42	N.A.	N.A.	233.1	N.A.	N.A.	3.8	N.A.	N.A.	1.6	N.A.	N.A.	0.6	N.A.	N.A.
Equipment	Machvision	3563 TT	NR	446	330.50	8.21	N.A.	N.A.	40.3	N.A.	N.A.	3.8	N.A.	N.A.	10.6	N.A.	N.A.	2.8	N.A.	N.A.
	Symtek	6438 TT	NR	446	196.00	8.89	8.38	12.59	22.0	23.4	15.6	3.6	N.A.	N.A.	16.8	15.0	20.9	4.2	2.6	4.1
	Taliang	3167 TT	NR	249	93.60	3.61	N.A.	N.A.	25.9	N.A.	N.A.	3.8	N.A.	N.A.	15.7	N.A.	N.A.	2.3	N.A.	N.A.

Source: Bloomberg; KGI Research

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