

PCB sector

Rebounding demand from server & PC applications

Key message

1. CCL utilization to rebound on general server demand recovery.
2. Improving NB demand and AI PC launches to shore up ABF substrate sales.
3. Suppliers are introducing advanced HDI PCB and CCL mixed material lamination technologies for the launch of GB200 AI servers in late-4Q24F.

Event

CCL utilization to rebound on a general server demand recovery. Given a strong demand recovery at end-March, we estimate shipments of general servers will grow 3.7% QoQ to 2.8mn units in 2Q24, followed by 5.5% QoQ growth in 3Q24, for 15% HoH shipment growth in 2H24. CCL capacity utilization has been low at 60-65% in 1H24, and we forecast growing demand from general server applications will drive utilization to over 70% in 2H24.

Improving NB demand & AI PC launches to shore up ABF substrate sales. We estimate NB shipments will grow 6% QoQ in 2Q24 and 12% QoQ in 3Q24, for 13% HoH growth in 2H24. Assuming the shipment penetration rate of AI NB rises to 10% in 2H24, we forecast the per unit area of ABF substrate will increase by 10-30%, consequently driving ABF capacity utilization to 60-70% in 2H24, up from 50% in 1H24. The addition of NPU chips in AI PCs will require 10-16L HDI PCB, which is more advanced than the previous 8-10L multi-layer PCB. This will translate to 15-20% growth in PCB content value.

Advanced HDI PCB technology for the launch of GB200 AI servers in late-4Q24F. The PCB design of a GB200 NVL 72 system consists of a computing tray PCB and switch tray PCB, each adopting a 5-N-5 or 6-N-6 22-24L OAM board, instead of 22-24L UBB boards. The 22-24L OAM board is based on the design of a 5-N-5 18L HDI OAM board, but with a larger area. CCLs are produced with mixed material lamination. The central layers are made with low-end M2-M5 materials, while the outer layers are made with high-end M7-M8 materials. Unimicron (3037 TT, NT\$186, OP) is a major PCB supplier, and CCLs are supplied by Doosan (KR) and Elite Material (2383 TT, NT\$457.5, OP). TUC (6274 TT, NT\$164, NR) and ITEQ (6213 TT, NT\$115.5, OP) are among the suppliers of peripheral substrates.

Taiwanese suppliers to ramp up new Southeast Asia capacity for networking & satellite applications in 2H24F. The China+1 strategy has so far prompted PCB makers to invest US\$4.6bn in Southeast Asia, of which 73% was in Thailand, followed by 17% in Vietnam, and 10% in Malaysia. We estimate the output weighting of the Southeast Asia region will rise from 7% in 2022 to 10% in 2028. The first production line from the investments will commence operations in 2H24F, which is earlier than global industry peers. Following gradual ramp-ups by seventeen Taiwanese firms in coming years, we estimate the aggregate global market share of Taiwanese PCB makers will climb from the current 36% to 38% by 2028.

Stocks for Action

We are upbeat about the prospects of CCL maker Elite Material, leading ABF substrate maker Unimicron, satellite PCB maker Compeq (2313 TT, NT\$78.2, OP) and top suppliers of server components Gold Circuit Electronics (2368 TT, NT\$204.5, OP).

Risks

End demand weaker than expected; pricing pressure from oversupply.

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