

JNK Headline – GOOG Reserves CoWoS Capacity at TSM; TPU Vertical Integration?

Research Note / November 5, 2025

- GOOG appeared in our Tracker independently for first time with direct TSM capacity reservation, no active CoWoS orders yet
- Capacity positioning likely targets TPU production ramps for 2026 deployment, parallel to AVGO
- TPU 7e designed by GOOG with MTK for I/O die with ~2M unit volumes.; TPU 8p design house selection AVGO and Alchip
- Vertical Integration mimics AWS progression: Alchip → MRVL → back to Alchip, ultimately positioning for direct Annapurna-style internal control.

My Take:

GOOG's direct TSM engagement signals maturing custom silicon capabilities no longer requiring expensive AVGO handholding.

CSPs thrive on vertical integration to control costs and roadmaps, and GOOG appears positioned to follow AWS's proven path toward full internal design ownership. Capacity reservations without immediate orders suggest 2026 production windows, giving GOOG time to finalize design house partnerships while locking critical CoWoS allocation. This leaves Alchip and MTK well-positioned for near-term TPU programs. I think it likely that long-term play is to reduce/eliminate third-party dependency as Google's silicon team matures.

Companies of Interest

GOOG, TSM, AVGO, Alchip {3661 TT}, MTK {2454 TT}

Custom Silicon Maturation Dynamics

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GOOG showed up in our Tracker independently for the first time with direct TSM capacity reservations, though no active CoWoS orders have been placed yet. This marks a significant shift in hyperscaler packaging strategy.

Think of it like this: reserving manufacturing capacity without immediate orders is like booking a wedding venue before finalizing the caterer – you're locking the critical constraint while working out implementation details.

Here's where it gets interesting. GOOG is ready to place orders directly to TSM but hasn't pulled the trigger yet. In our view, this capacity reservation positions for TPU production, consistent with hyperscaler vertical integration strategies we've tracked across AWS and META. Google's entry signals maturing custom silicon programs that might not need AVGO's expensive design partnership for CoWoS-class advanced packaging transitions.

So what's happening now?

Production ramps likely target late 2026 deployment windows based on reservation timing and typical qualification cycles. For TPU 7e, our research indicates MTK handles I/O die integration with GOOG managing the TPU silicon directly, targeting approximately 2M units. TPU 8p remains fluid on design house selection – likely either AVGO or Alchip {3661 TT} depending on complexity and cost trade-offs.

What about the future?

In our view, GOOG is following the same evolution path as AWS. First came Alchip partnerships, then MRVL engagements, back to Alchip for specific programs, and ultimately AWS's Annapurna team placing direct orders on TSM with full design control. Next logical step? Internal teams take over completely, eliminating third-party design house costs and dependencies.

This trajectory suggests near-term opportunities for Alchip and MTK on current TPU generations, but longer-term pressure as GOOG builds internal capabilities to go direct on future architectures.

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We Like

- **TSM**: Direct hyperscaler engagement without intermediary design houses expands customer base and demonstrates advanced packaging ecosystem maturity beyond traditional fabless customers
- **AVGO**: ... AVGO pioneered custom AI accelerator partnerships and maintains deepest design expertise for complex multi-die CoWoS integration ... BUT ... hyperscaler cost sensitivity and vertical integration strategies pose structural headwinds as customers like GOOG mature internal capabilities and seek lower-cost alternatives. TPU 8p selection between AVGO and Alchip highlights pricing pressure in design services. Again, this is taking the longer-term view. For now we still like AVGO's positioning in custom compute, but GOOG's capacity reservation without AVGO involvement signals the strategic shift we've been tracking. BUT then AVGO has a very large backlog of new projects as well, making me wonder if the potential exit from GOOG is actually good for the companies profit margins.

About This Update

Questions on GOOG or hyperscaler custom silicon dynamics? This analysis integrates with our Monthly AI covering NVDA, AMD, MRVL, AVGO, Alchip and supply chain partners including TSM CoWoS capacity, OSATs design house allocation, and hyperscaler AI infrastructure projects enabling you to detect vertical integration shifts earlier.

Questions? <https://meetings.hubspot.com/mjacobs13/martin-1x1-nyc-jnkclients> to talk screen to screen.

To receive access to our Tracker portfolio pls contact me directly.

Cheers,

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*This note provides additional context to our ongoing hyperscaler custom silicon research and integrates with our comprehensive AI infrastructure coverage. Compliance reviewed & approved on 11/5/2025 JNK Research™ LLC follows SEC Regulation AC and FINRA 2210/2241 standards
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