

IT Hardware

Company Visit Takeaways From Phison And Winbond

Highlights

- We visited Phison, a fabless NAND controller designer and module maker, and Winbond, a specialty DRAM, NOR and SLC NAND supplier, during our Taiwan trip last week.
- Phison is filling about 30% of orders, sees no NAND price decline within five years, and puts memory at 50-60% of a device bill of materials.
- Winbond reported that 3Q26 DRAM contract prices were up 50-60% qoq, expecting 2027 shortages to exceed that of 2026, and will mass produce its CUBE custom stacked memory from 2027.

What's New

Phison (8299 TT)

- A fabless controller designer with three routes to market.** Management described the core business as NAND controller design with no fabs and no production staff. The company, at its core, is a fabless NAND controller specialist and based on their NAND controllers, the company also provides fabless services for NAND modules according to their customers' needs. The company's product encompasses a wide range of storage types, including eMMC, UFS, SSD, USB Drive, and SD cards.
- Contribution split shows strong growth in AI-related sales.** As of 2Q26, Phison generated 38% of its revenue from AI-related products with sales primarily coming from AI infrastructure and AI PCs. It is expected to easily surge to over 50% in the near future. The other "embedded ODM" business contributed to 33% of total revenue, and the rest came from industrial modules (16%), direct NAND controller sales (6%), retail modules (5%) and others (2%).
- Phison specialises in smaller volume, customised NAND modules.** While the foundries and large-scale players are responsible for the large volume/mass market projects, Phison specialises in the more niche, highly customised and smaller volume orders, and often acts as a second/third supplier for larger clients. As such, management views its relationship with the larger IDMs as complementary rather than as competitors, as both parties have distinct specialisations within the market, and they benefit from each other's order wins in most cases. Given that qualification runs from three to six months up to two years, once qualified, price sensitivity is low and customers rarely switch suppliers.

Peer Comparison

Company	Ticker	Rec*	Price 29 Sep 26 (lcy)	Target Price (lcy)	Upside To TP (%)	Last Year End	PE 2025 (x)	PE 2026F (x)	PE 2027F (x)	Yield 2026F (%)	ROE 2026F (%)	Market Cap. (lcy m)	Price/ NAV ps (x)
AI and semiconductors													
ASMPT	522 HK	BUY	162.60	211.00	29.8	Dec 2025	62.4	39.0	28.3	1.3	9.9	68,196	3.78
Fii	601138 CH	BUY	58.42	89.50	53.2	Dec 2025	34.1	19.0	15.5	2.9	32.6	1,159,292	5.72
Lenovo	992 HK	BUY	35.48	49.00	38.1	Mar 2026	38.7	27.3	13.9	1.1	29.9	440,476	13.0
NAURA	002371 CH	BUY	628.96	930.00	47.9	Dec 2025	82.6	54.4	39.9	0.2	20.1	456,429	15.0
Sunny Optical	2382 HK	BUY	62.70	106.00	69.1	Dec 2025	12.6	14.2	12.5	1.5	13.3	67,651	2.1
Han's Laser	002008 CH	BUY	81.76	153.20	87.4	Dec 2025	70.8	26.4	20.8	0.8	15.6	84,180	4.8
AAC Technologies	2018 HK	BUY	39.98	47.80	19.6	Dec 2025	16.0	15.2	13.3	0.9	10.0	46,104	1.8
Lens Technology-H	6613 HK	BUY	21.04	43.10	104.8	Dec 2025	22.7	19.2	14.2	2.6	8.4	111,065	11.2
Lens Technology-A	300433 CH	BUY	31.46	48.40	39.0	Dec 2025	38.9	33.0	24.3	1.5	8.4	166,069	18.4
ZTE	763 HK	HOLD	21.72	22.30	2.5	Dec 2025	15.9	18.4	13.3	1.6	7.1	103,898	1.6
Xiaomi	1810 HK	HOLD	25.20	26.20	4.0	Dec 2025	14.1	24.5	20.8	0.0	7.9	649,158	2.0
BYD Electronic	285 HK	SELL	23.36	14.50	(37.9)	Dec 2025	13.1	26.0	15.9	1.0	5.0	52,635	1.7

Source: Bloomberg, UOB Kay Hian

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OVERWEIGHT (Maintained)

Sector Picks

Company	Ticker	Rec	Share Price (lcy)	Target Price (lcy)
ASMPT	0522 HK	BUY	162.60	211.00
NAURA	002371 CH	BUY	628.96	930.00

Source: Bloomberg, UOB Kay Hian

- **Management expects NAND prices to remain elevated in the foreseeable future.** Management stated that demand from AI-related application is insatiable – it is suggested that it will not be surprising to see a 5-10x increase in inferencing-related compute demand in the next 2-3 years. However at the same time, it is impossible for NAND supply to grow by 5-10x in such a short period of time, and this implies a structural undersupply in the foreseeable future. As such, Phison's management is extremely positive regarding the sustainability of NAND pricing.
- **Cost pass-through is the binding constraint on consumer devices.** Management said PC and handset customers cannot afford current prices because they add too little value to pass through to consumers, and as such, the company is now recommending its consumer device customers to despec, ie lower capacity per device and re-introducing SD card slots for smartphones rather than cutting shipment volume. That said, management believes pass-through will be less widely accepted for the consumer space and stated that the device brands will have to find a way to expand AI devices' applications in order to ask for higher MSRP from the consumers. Management also believes that the key watch is whether cloud service providers and AI companies are profitable, not PC and handset units, and does not regard the current investment cycle as a bubble because the main spenders have operating cash flow behind them.
- **Customers unwilling to accept price hikes will receive less supply allocation.** Management said it is filling about 30% of orders while still holding inventory and buying material, in order to keep other customer groups supplied and to protect next year's business. Industrial, medical, aerospace and automotive customers are deliberately kept supplied rather than leaving only AI. Customers refusing price increases are given a total capacity ceiling rather than cut outright.
- **aiDAPTIV+ proprietary GPU memory-extension architecture as an alternative solution for memory offloading.** aiDAPTIV+ is a solution that utilises high-endurance NVMe SSD along with its in-house IC interface chip and software to turn the SSD into an extended memory pool for the GPU. It is designed to store model weights, KV caches, MoE modules to the SSD when the higher tier VRAM/HBM reaches maximum capacity. Currently, Phison has partnered with Intel on the adoption of aiDAPTIV+ solutions, and aiDAPTIV+ is already mounted in AI PCs and AI workstations such as specific SKUs for the DGX Spark.

Winbond (2344 TT)

- **An old memory chip IDM specialising in DDR3/4, NOR Flash and SLC NAND.** Of which, the DRAM business (under the CMS segment) contributed 53% of its 2Q26 revenue, while flash (mainly NOR flash and SLC NAND) contributed 33%. The company also sells logic ICs under the Nuvoton brand which is built around controllers and interface/peripheral chips which contribute about 13% of revenue, although the business serves more as a complementary/supportive arm to its memory businesses.
- **Winbond is a major specialty player.** The company is the largest NOR flash supplier globally at 23% as of 2025, and second largest in SLC NAND flash at 15% share during the same period. Regarding the DRAM market, the company is significantly smaller at 0.6%-0.7% as it is also only targeting the more niche legacy DDR3/4 products. Note that Winbond had managed to achieve significant content wins on the Vera Rubin platform which is expected to further expand the company's global share going forward.
- **Prices are increasing sharply across memory products.** DRAM contract prices rose 50-60% qoq and by 6-10x yoy as of 3Q26; NOR prices were up 10-15% qoq and by 2x yoy during the same period; while SLC NAND prices were up 30-40% qoq in 3Q26 after an over 50% qoq growth in 2Q26.
- **Management expects 2027 shortages to worsen.** The reasoning given is that inventory has been worked down while new industry capacity will not arrive until 2028, although management said prices are likely to have a

ceiling going forward. In particular, AIDC's consumption in NOR flash had increased significantly, from about 100 NOR flash devices in traditional rack to at least 500-600 NOR devices in NVIDIA's Vera Rubin rack. At the same time, the major memory IDMs are now allocating their capacity to high-end products (eg, HBM, DDR5) while the lower-end DRAM capacity is shrinking. This has indirectly impacted the supply of legacy memory such as SLC NAND (and DDR4), giving opportunities to specialised players such as Winbond. Management now expects its SLC NAND share to expand meaningfully through 2026-27 from 15% in 2025 to over 20% by 2027. Similarly, NOR flash is now expected to see rapid price hikes at 20-30% qoq through 2027 due to the sustained supply shortages.

- **Winbond is expanding capacity aggressively.** Winbond has two bases in Taichung and Kaohsiung. Taichung is operating at a full cleanroom capacity of 60,000 wpm, although there will be more optimisation in capacity usage as Winbond will be shifting 5,000 wpm capacity from the older DDR3 to NOR Flash throughout 2027. The Kaohsiung plant is built for DDR4's production with capacity now expanding from 15,000 wpm to 24,000 wpm by end-26. A second Kaohsiung plant "Module B" is expected to begin construction in early-27 with a planned capacity of 50,000-60,000 when the capacity is fully ramped up by 2029.
- **Winbond launched CUBE – a new DRAM product positioned between DDR and HBM.** CUBE is a die-on-die stacked custom DRAM solution outside of JEDEC specifications, built on 16/14nm process nodes and paired with an in-house interface logic IC to match customers' requirement as a full-packaged solution. Volume production is expected to begin in 2027, with the first batch of target customers utilising CUBE in wearable applications. Specifications are also simpler with either a 2.5D packaging or two-layer 3D stacking utilising wire bond or TSV, but the company's roadmap indicated that CUBE would have the capability to reach up to eight layers utilising hybrid bonding. Currently, management expects CUBE to contribute to around 5% of the CMS segment's revenue in 2027, and the pricing strategy is somewhat closer to that of HBM rather than commodity DRAM, ie more stable pricing rather than quarterly fluctuations.

Our View

- Both companies are overwhelmingly positive regarding the opportunities from AI applications, and both are expecting the memory supply to further tighten in 2027 with more pricing upside across the board. Their stance also indicates that they are unlikely to give up excess profitability just to cater to the consumer electronic clients' requirements as it is apparent that consumer electronics as an end-market is quite low in terms of importance for them. This reinforces our view to exercise sustained caution on the consumer electronic supply chain, as shipment volume is likely to further decline with more despec pressure going forward if we see no additional breakthrough in the adoption of AI applications.
- On the other hand, the shortages and implies sustained, strong demand on both front-end and backend tools, which is a positive signal for semi caps such as NAURA (002371 CH/BUY) and ASMPT (522 HK).
- **NAURA (002371 CH/BUY/Rmb930.00)** is a key wafer fabrication equipment (WFE) supplier to Huawei's foundry and OSAT upstream supply chains, positioning it to benefit directly as domestic foundries and OSATs expand production capacity. We maintain BUY with a target price of Rmb930.00, based on 59.0x 2027F PE, pegged to 1.5SD above its five-year historical forward mean.
- **ASMPT (522 HK/BUY/HK\$211.00)** is a key supplier of advanced packaging equipment for Huawei's upstream suppliers for chips. Maintain BUY, with a target price of HK\$211.00 based on 2027F P/B of 4.6x, pegged to 3SD above its 10-year historical forward mean.

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