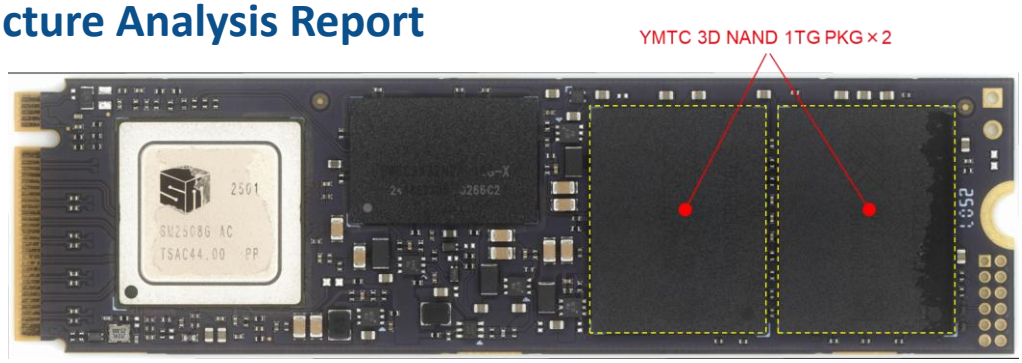
3D NAND Flash Memory：YMTC (with TiPro9000) Structure Analysis Report



TiPro9000 PCB with YMTC 3D NAND

Report Overview

YMTC (Yangtze Memory Technologies Corp.) is China's largest state-owned semiconductor manufacturer (IDM), headquartered in Wuhan, China.

Backed by strong support from the Chinese government, YMTC has rapidly expanded its NAND flash memory production, capturing over 10% of the global market share and closing in on major manufacturers such as Samsung, SK hynix, and Kioxia.

LTEC released this structure analysis report, which outlines the key features of YMTC's 3D NAND flash memory featured in the TiPro9000, a flagship PCIe 5.0 SSD launched in 2025.

Product Features

Product type: YMTC 3D NAND Flash Memory in TiPro9000 (2TB)
TiPro9000 Release Date : 2025

Utilizing the Xtacking 4.0 architecture, YMTC's proprietary peripheral circuitry (CMOS) and memory cells are manufactured on separate wafers and then integrated using hybrid bonding technology.

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Analysis result summary

Structure Analysis Report (51 pages)

- Contains eight flash memory dies (4-die stack × 2).
- Cross-sectional analysis of the memory cell area (in both WL and BL directions) was performed to verify the structure, determine the number of stacked memory gates, and estimate the process node based on metal pitch.
- For the plan-view analysis, observations are conducted on the memory cell region as well as from the backside of the die
- As a generational comparison of Xtacking technology, a cross-sectional comparison of YMTC's 3D NAND Cu-Cu bonding (Xtacking 1.0 to 4.0) was performed, along with a comparison of BL pitch and interconnect vias (Xtacking 2.0/3.0 vs. 4.0).

Report price

Delivered one week after order placement. Please contact us for report pricing.

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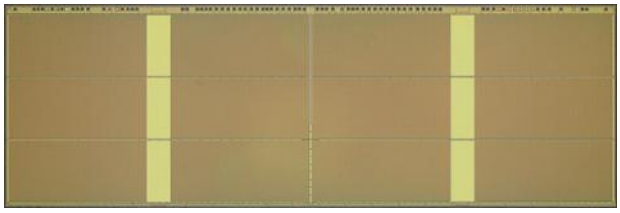
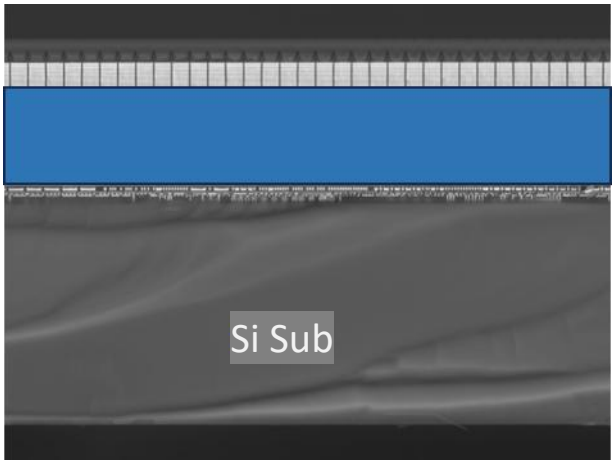
Structure Analysis Report　Table of Contents

		Page
1. Device Summary	・・・	3
2. Product Teardown	・・・	4-7
3. Package	・・・	8
4. X-ray	・・・	9
5. Die Observation	・・・	10-11
6. Cross-sectional Structure Analysis	・・・	12-39
7. Die Backside Observation	・・・	40-45
8. Plan-view SEM Observation	・・・	46-47
9. Summary of Analysis Results	・・・	48-51

Excerpt from Structure Analysis Report



3D NAND Die image



Memory Cell Cross-sectional SEM Image

Memory Cell Plan-view SEM Image

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