Global and China Memory Industry Report, 2011

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This report

- **Analyzes the global and China mobile phone and tablet PC market**
- **Focuses on memory industry and memory used in mobile devices**
- **Highlights memory vendors.**

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Abstract

In 2011, the standard DRAM saw the slowdown in growth. But the mushroom of tablet PC and smart phone enables the CAGR of the Mobile DRAM shipment to soar to 175%. In Q1 2011, the Mobile DRAM accounted for 15.6% of the total output of global DRAM.

The CAGR of mobile flash exceeds 70%, and the embedded Flash market will enjoy a share of 40% in 2010 to over 60% in the Flash market. eMMC has a good prospect in mobile devices.

According to the ranking concerning revenue from memory products of DRAM vendors in H1 2011, South Korea-based Samsung and Hynix ranked the top two.

Samsung will transform its process technology of DRAM from 3x nm to 2x nm, and that of NAND Flash from 27 nm to 21 nm. In Q1 2011, the proceeds from DRAM, NAND Flash and MCP accounted for 54.4%, 42.3% and 3.3% of Samsung's memory revenue respectively. Benefiting from the substantial growth in the output of 35 nm products, Samsung's memory occupied 40% market shares in Q2. As for Mobile DRAM, Samsung has mass-produced low-power LPDDR2 with 30 nm process.

Hynix will convert DRAM process from 44 nm to 38 nm, and NAND Flash process from 26 nm to 20 nm. In Q1 2011, the sales of DRAM, NAND Flash and MCP made up 71.2%, 19.7% and 9.1% of Hynix's total revenue from memory products separately. Hynix presently employs the 50nm process to produce Mobile DRAM. Since Q2 2011, Hynix will add monthly capacity of 30,000 pcs and plans to raise the proportion of non-PC DRAM to 60%.

The NAND wafer fab, co-invested by Japanese vendors Toshiba and Sandisk, applies the 19-nm process technology. In 2011, Elpida realized the mass-production of 30-nm process DRAM. Elpida has transferred to focus on Mobile DRAM instead of standard DRAM and introduced 30-nm process for the fabrication of the former. The earnings from Mobile DRAM accounted for more than 50% of Elpida's revenue.

The current process technology of Micron Technology is 42 nm process and 37-nm process is still in the testing phase. In Q1 2011, the sales of DRAM, NAND Flash and NOR shared 47%, 31% and 19% of Micron's total revenue respectively. After its reorganization in 2010, Spansion is devoted to embedded memory and agrees to cross license their patented products with Samsung.

Taiwan-based vendor Macronix is the world's largest vendor of Mask ROM and the fourth largest NOR Flash vendor. In Q1 2011, ROM products of Macronix mainly adopted 65-nm process technology, and 45-nm process sample will be introduced in Q2. 110-nm process dominates the production of NOR Flash, and 75-nm process products will be mass-produced in Q2. The revenue of ROM, NOR Flash and Foundry Business Group made up 41%, 51% and 8% of Macronix's total revenue separately in 1Q 2011.

In 2011, Nanya Technology expanded its output of memory to 60,000 pieces, 30,000 pcs of which are 50/42nm standard memory, and the rest 30,000 ones are special memories like Mobile DRAM.

Inotera provides DRAM wafer foundry services and its customers are Nanya Corporation and Micron Technology. The company reached full capacity of 50-nm process products in 2010 and introduced 42-nm process DRAM products in 2011.

The growth of Winbond is mainly motivated by Nor Flash, of which Serial Nor Flash made up around 90% of Flash shipment. In Q1 2011, the sales of Nor Flash, Specialty DRAM and Mobile DRAM accounted for 31%, 36% and 28% of Winbond's total revenue respectively. The main customers of Mobile DRAM include Micron and Spansion.

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