

PRESS RELEASE

Winbond 65nm 1Gbit DDR2 Recognized as Most Innovative DRAM

UBM TechInsights Analysts Give the Nod to Buried Wordline Architecture

OTTAWA, July 23, 2010 /PR Newswire/ - UBM TechInsights has announced Winbond Electronics as the winner of the Most Innovative DRAM award in TechInsights' 9th Annual Insight Awards. Winbond's 65nm buried wordline 1Gbit DDR2 SDRAM garnered the award.

Winbond's DRAM won the award despite being implemented in a conservative 65nm process. Young Choi, Senior Manager in TechInsights' Technical Intelligence group commented, "Our analysts consider the Winbond device a revolutionary step forward in DRAM design. The buried wordline cell structure dramatically improves parasitics in the cell by physically separating the wordline from the rest of the structure. This cell architecture could lead to a scaling factor of $4F^2$ compared to the current implementation at $6F^2$." Choi continued, "We expect to see Winbond follow a traditional manufacturing learning curve with this new architecture, releasing production DRAMs in successively smaller geometries over the next few generations of memory. Using buried wordline they can optimize devices for either high-speed or low-power and this technology could give them a strong competitive advantage in either market."

It is highly likely that Winbond's device is based largely on the IP from their agreement with Qimonda AG, now bankrupt. It was [recently announced](#) that Winbond has intentions of building a 46nm buried wordline stack process chip, having recruited some of Qimonda's R&D team.

UBM TechInsights completed a [structural analysis report on the Winbond W971GG6JB-18](#) as part of the work leading up to choosing a winner. From Winbond's datasheet: The W971GG6JB is a 1G bits DDR2 SDRAM, organized as 8,388,608 words x 8 banks x 16 bits. The -18 part is compliant to the DDR2-1066 (6-6-6) specification.

Some other nominees considered for the award include DDR3 and GDDR5 devices:

- [Micron 42nm 2Gb DDR3 SDRAM](#)
- [Samsung 48nm 1Gb DDR3](#)
- [Hynix 54nm 1Gb GDDR5 SGRAM](#)
- [Samsung 56nm 1Gb GDDR5](#)

UBM TechInsights annually recognizes companies for technical achievements in the semiconductor industry and has begun accepting nominations for the 10th Annual Insight Awards. The 10th annual awards will kick-off by recognizing the Most Innovative Mobile Processor late this summer. Please visit <http://www.ubmtechinsights.com/news-and-events/insight-awards/> for more information.



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