HBM vs GDDR5:

**HBM shortens your information commute**

HBM blasts through existing performance limitations.

**MOORE’S INSIGHT**

**INDUSTRY PROBLEM #1**

High-Bandwidth Memory (HBM)

**REINVENTING MEMORY TECHNOLOGY**

**HBM vs GDDR5:**

- Better bandwidth per watt
- Massive space savings

**GDDR5 vs. HBM**

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<th>GDDR5</th>
<th>HBM</th>
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<td>1024-bit</td>
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<td>Bus Width</td>
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<td>Up to 1750MHz (7GBps)</td>
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**OPTIMIZED UNIT INFERENCE**

- On-chip memory integration
- Lower power consumption
- Improved performance

**INDUSTRY PROBLEM #2**

GDDR5 limits form factors

A large number of GDDR5 chips are required to reach high bandwidth. Larger voltage circuitry is also required. This determines the size of a high-performance product.

**INDUSTRY PROBLEM #3**

On-chip integration not ideal for everything

Technologies like NAND, DRAM and Optics would benefit from on-chip integration, but aren’t technologically compatible.

**HBM blows through existing performance limitations**

- Over the history of computing hardware, the number of transistors in a dense integrated circuit has doubled approximately every two years. (Thus) it may prove to be more economical to build large systems out of larger functions, which are separately packaged and interconnected…

**Revolutionary HBM breaks the processing bottleneck**

HBM is a new type of memory chip with low power consumption and ultra-wide communication lanes. It uses vertically stacked memory chips interconnected by microscopic wires called “through-silicon vias,” or TSVs.

**HBM vs GDDR5:**

- More bandwidth per watt
- Massively smaller footprint

**GDDR5**

- 10.66 GB/s of Bandwidth Per Watt

**HBM**

- 35+ GB/s of Bandwidth Per Watt

**AMD’s history of pioneering innovations and open technologies sets industry standards and enables the entire industry to push the boundaries of what is possible.**

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