Title:
HBM2 probing challenges and probe card architecture

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Abstract:
The memory and data storage sectors have been subject to significant change recently, with the industry having changed more in the past 10 years than it did in the preceding 25. Even more drastic change is expected too as the memory sector continues to innovate in order to keep up with the introduction of game-changing innovations like AI.

HBM stands for ‘high-bandwidth memory’, a premium performance interface for 3D-stacked SDRAM (synchronous dynamic random-access memory). It maximizes data transfer rates in a small form factor that uses less power and has a substantially wider bus when compared to other DRAM solutions. For high-performance computing applications, industries planning to leverage AI, graphics card vendors and advanced networking applications, HBM provides data speed increases that are essential to helping drive industries forward.

The inception of HBM memory solutions has been followed by the introduction of HBM2 and HBM2E, which allow for more DRAM die to be utilized per stack, increasing capacities across the board.

Technoprobe developed a specific probing solution for HBM2 products based on TPEG™ MEMS T50 probe technology and on high density MLO solution.

In this paper a description of the device requirements and Technoprobe probing solution will be presented and also characterization data will be provided and discussed in details starting from joint presentation with SEC held in 2017 at SWTW.