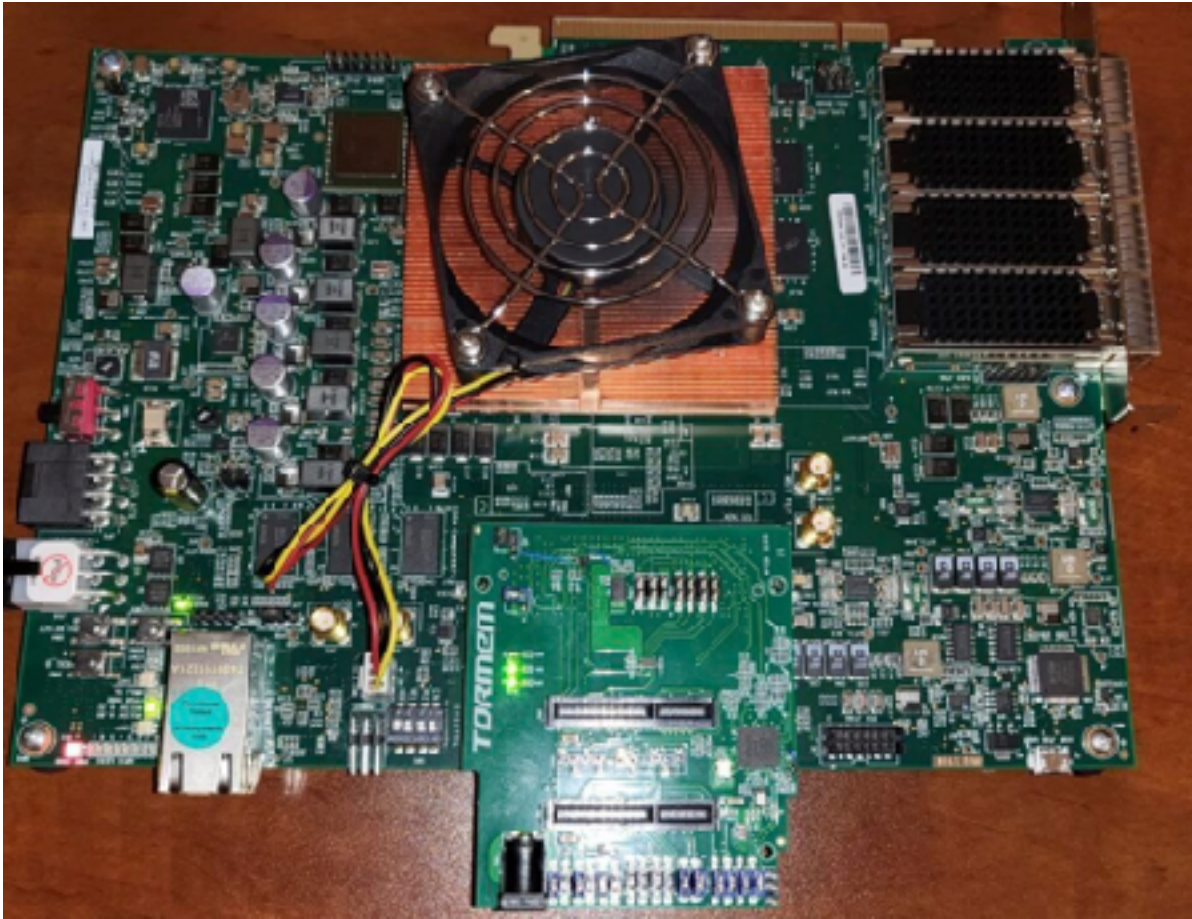


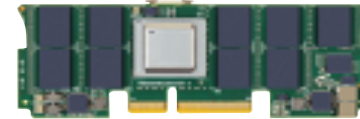
OMI Pre-Conference Workshop @ FMS 2022

August 1, 2022

OMI Preconference Workshop @ FMS 2022



AMD/Xilinx VCU128 with TORMem OMI Adapter



Up to 64GB OMI DIMM - 1U High



Up to 128GB OMI DIMM - 2U High



Up to 256GB OMI DIMM - 4U High

- *Websites*
- *Reference Designs and Enablement*
- Open Memory Interface (OMI) Products

<https://openmemoryinterface.org/>



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Open Memory Interface (OMI)

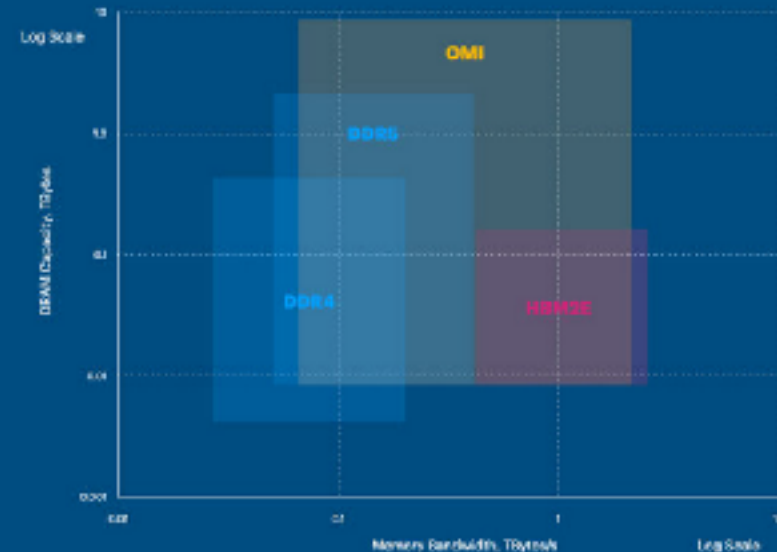
Bandwidth of HBM at DDR Depth and Cost

Future Protection to Migrate Beyond DDR4

Composability with Best-In-Class Latency and Capacity

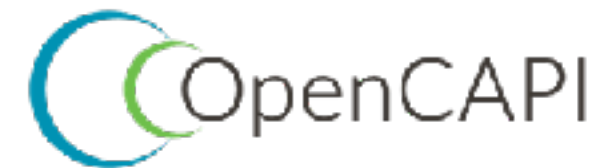
[Learn More About OMI >](#)

Near Memory Comparison Chart



- *Websites*
- *Reference Designs and Enablement*
- Open Memory Interface (OMI) Products

OMI Reference Designs & Enablement



Item	Availability
<i>OpenCAPI Transaction Link (TL) Architecture Specification 3.1</i>	https://opencapi.org/technical/specifications/
<i>OpenCAPI Data Link (DL) Architecture Specification.</i>	https://opencapi.org/technical/specifications/
<i>OpenCAPI 32Gbps PHY Signaling Specification</i>	https://opencapi.org/technical/specifications/
OMI FPGA Reference Design(FIRE) and Board Implementation (APOLLO) of the Host Processor side	https://github.com/OpenCAPI/omi_host_fire
OMI FPGA Reference Design (ICE) and Board Implementation (GEMINI) of the Device side	https://github.com/OpenCAPI/omi_device_ice https://github.com/OpenCAPI/omi_device_ice/blob/master/doc/ICE_workbook_openPower.odt
OMI Memory Controller Reference Design	https://github.com/OpenCAPI/omi_device_ice/blob/master/vhdl/ice_mc_top.vhdl
OMI ASIC Device Reference Design	https://github.com/OpenCAPI/omi_asic_device_reference_design

- *Websites*
- *Reference Designs and Enablement*
- **Open Memory Interface (OMI) Products**

Open Memory Interface (OMI) Products



Microchip Smart Memory Controller

SMC 1000 X825G

- **OMI Interface**

- 1x8, 1x4 support
- OIF-28G-MR
- Up to 25.6 Gbps link rate
- Dynamic low power modes

- **DDR4 Memory Interface**

- x72 bit DDR4-3200, 2933, or 2666 MT/s memory support
- Supports up to 4 ranks
- Supports up to 16 GBit memory devices
- 3D stacked memory support

8x25G Open Memory Interface (OMI) Serial DDR4 Smart Memory Controller



INCREASED MEMORY BANDWIDTH

Enables 4x memory channels
vs. x72 DDR4



MEDIA INDEPENDENCE

Single OMI interface
provides for multiple
media types



LOWER SOLUTION COSTS

Reduced silicon, IP and
package costs for CPUs
and SoCs

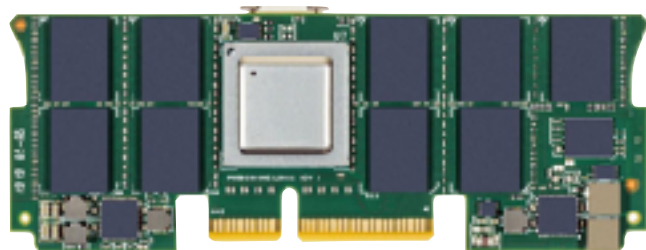
Open Memory Interface (OMI) Products



In Production Today from Samsung, Smart Modular & Micron



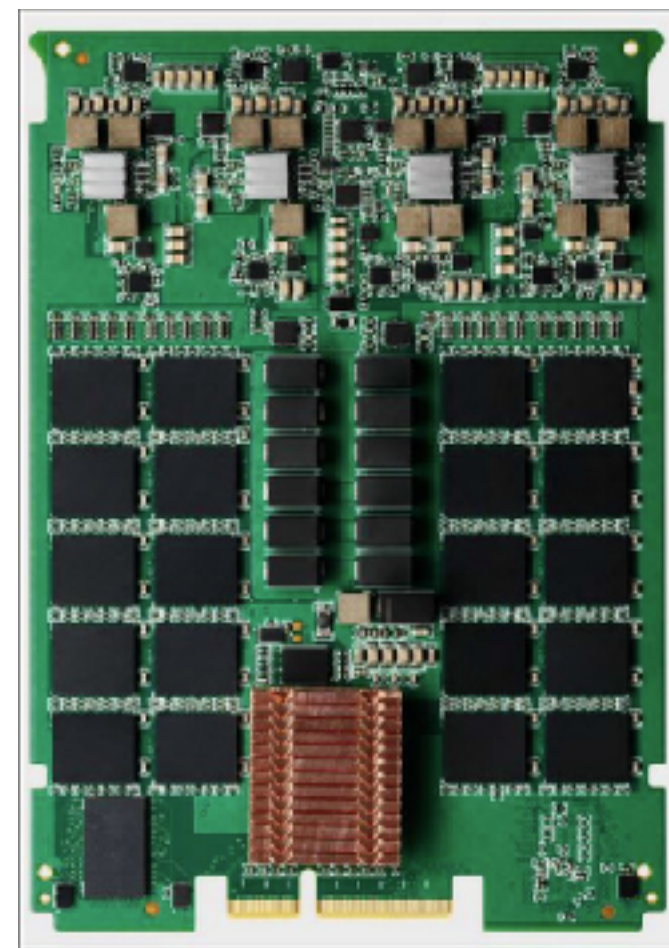
32GB 3200 DDR4 DIMM (reference)



Up to 64GB OMI DIMM - 1U High



Up to 128GB OMI DIMM - 2U High



Up to 256GB OMI DIMM - 4U High

Open Memory Interface (OMI) Products



IBM

POWER 10 E1080



E1080 4U DDIMM Module

- 16 available high-speed OMI links driven by 8 on-chip memory controller units (MCUs)
 - total aggregated bandwidth of up to 409 GBps per single chip module
 - DDIMM densities supported are 32 GB, 64 GB, 128 GB and 256GB
- 2-node system has a maximum of 32 TB capacity
- 4-node system has a maximum of 64 TB capacity



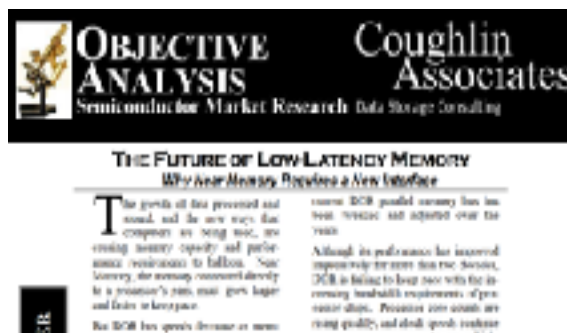
OCC Home Page



OMI Home Page



OCC Overview



OMI White Paper



OMI Overview