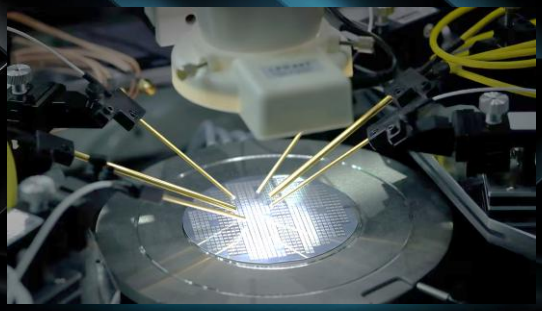
SOLUTION BRIEF

Accelerating Next-Generation Storage and Memory Test with AMD EPYC™ Embedded 9006 Series SP7 Processors



AMD
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OVERVIEW

The growing performance and complexity of SSDs, memory modules, and CXL® devices are increasing the demands placed on semiconductor test equipment. Test-system developers need to support newer protocols and faster memory technologies while increasing parallel test capacity, processing larger data volumes, and maintaining the long deployment lifecycles expected in production environments.

AMD EPYC™ 9006 Embedded SP7 processors enable test-equipment developers to build and validate tomorrow's memory and I/O technologies today, combining high-density compute, native next-generation connectivity, high memory bandwidth, and long-term availability on one platform.

HIGHLIGHTS

COMPUTE FOR PARALLEL TEST WORKLOADS

- Scale parallel test execution with up to 256 cores and 512 threads for compute-intensive test and analysis workloads.
- High socket-level throughput for concurrent test execution
- Compute resources for pattern generation, checking, protocol coordination, and failure analysis
- Scalable processing across multiple DUTs and tester slices

NEXT GENERATION STANDARDS SUPPORT

- Build and validate tomorrow's storage and memory technologies with native support for PCIe Gen6, CXL DRAM, DDR5, RDIMM and MRDIMM.
- 6th Gen AMD EPYC™ Embedded 9006 processor is expected to offer up to 1.7× the theoretical peak RDIMM memory bandwidth uplift over 5th Gen AMD EPYC™ 9005 Series processors.[1]
- 6th Gen AMD EPYC™ Embedded 9006 processor is expected to offer up to 2.7× the theoretical peak MRDIMM memory bandwidth uplift over 5th Gen AMD EPYC™ 9005 Series processors.[1]
- Produce realistic test results with native connectivity interfaces for PCIe Gen 6 SSDs and other high-speed DUTs
- 6th Gen AMD EPYC™ Embedded 9006 processor is expected to offer up to 1.5× the theoretical peak bidirectional I/O bandwidth per socket uplift over 5th Gen AMD EPYC™ 9005 series processors.[2]
- Reduce design complexity with integrated CXL 3.1 support to test emerging CXL memory devices
- Maintain test agility with flexible connectivity to SSDs, CXL devices, accelerators, and FPGA-based tester resources

EMBEDDED PLATFORM LONGEVITY

- Deploy with confidence using an embedded processor platform with seven years of product availability.
- Long-term software support, security fixes, and bug fixes are part of the embedded-platform messaging
- Supports the extended development and production lifecycles associated with semiconductor test systems

KEY BENEFITS

SIMPLIFY TESTER DESIGN

Reduce tester complexity with native PCIe® Gen 6 connectivity for direct attachment to high-speed SSD DUTs.

READY FOR THE NEXT GENERATION

Connect more high-speed DUTs and tester resources through scalable 96 lanes PCIe® Gen 6 and CXL 3.1 I/O

MASSIVE MEMORY CAPABILITIES

Reduce host-memory bottlenecks with 16 channels of 1.6 TB/s RDIMM and 2 TB/s MRDIMM memory bandwidth

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TARGET APPLICATIONS

RDIMM / MRDIMM TESTER

Next-generation memory modules require testers that can support higher data rates, increased module complexity, and high-volume production testing without reducing test coverage or performance testing. EPYC™ 9006 Embedded SP7 processors provides flexibility with both 1.6 TB/s RDIMM and 2 TB/s MRDIMM memory bandwidth across 16 channels.

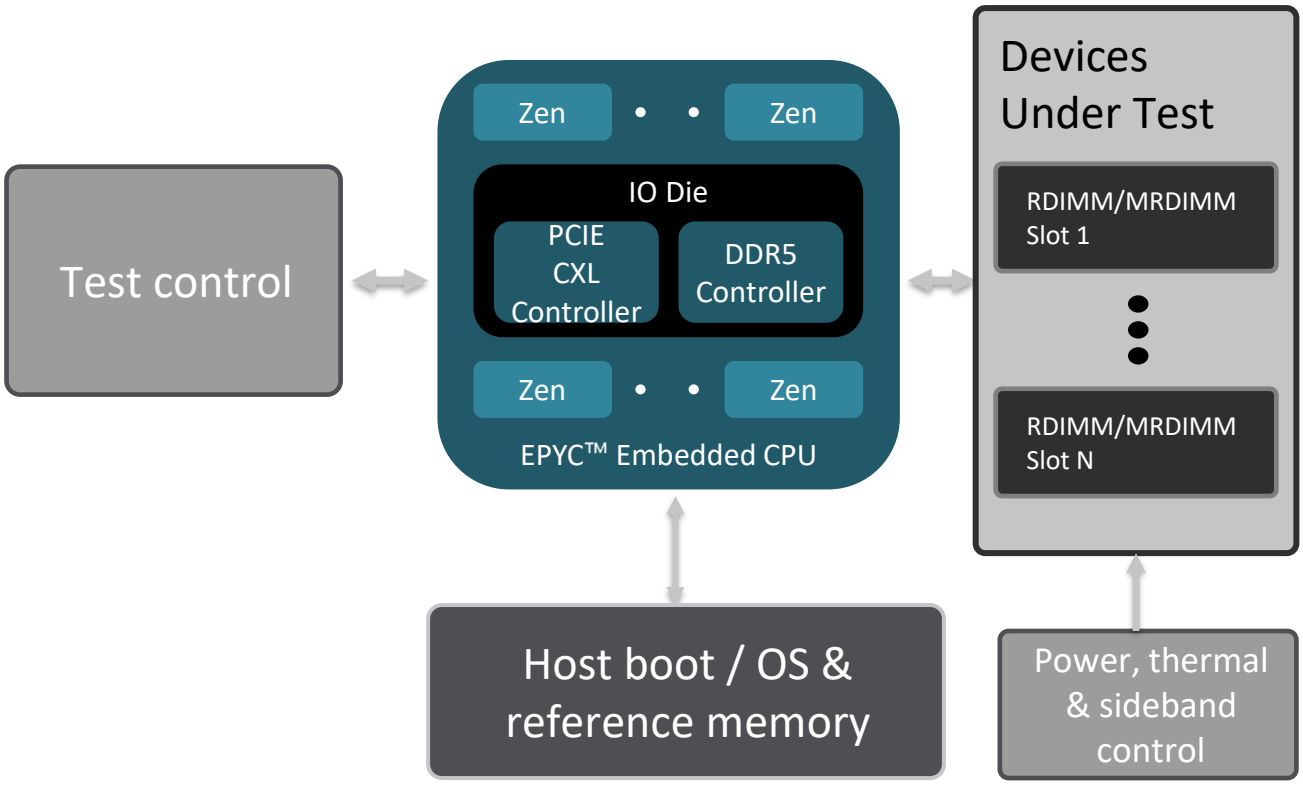
SYSTEM-LEVEL TESTER (SLT)

System-level testers must validate completed storage and memory modules under realistic operating conditions. With leadership CPU core density, AMD EPYC Embedded 9006 SP7 processors improve test coverage efficiency by running more tests in parallel with higher throughput.[3]

AMD EPYC Embedded 9006 SP7 processors seamlessly integrates with automated memory handlers to support high-throughput testing on a system level for RDIMM and MRDIMM modules with 16 channels of 1.6 TB/s RDIMM and 2 TB/s MRDIMM memory bandwidth.

BLOCK DIAGRAM

RDIMM/MRDIMM TESTER WITH EPYC EMBEDDED 9006 SP7 PROCESSOR



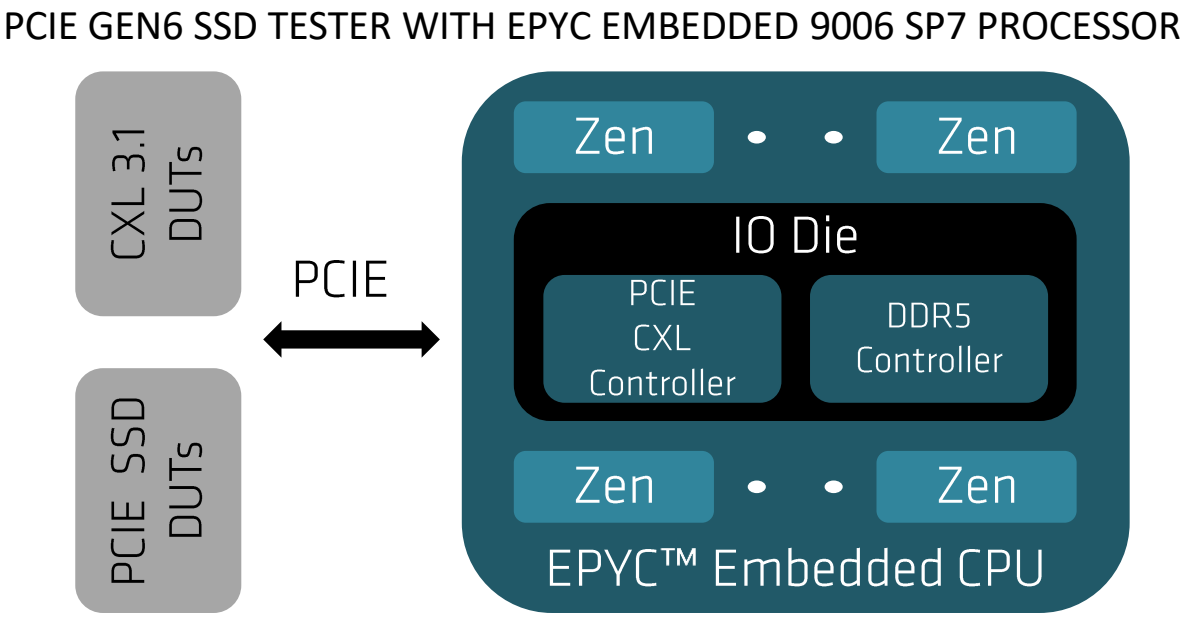
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TARGET APPLICATIONS

PCIE GEN6 SSD TESTER

SSD tester developers must validate increasingly high-speed storage devices while scaling parallel test capacity. Architectures based on a PCIe Gen 5 host may require external PCIe Gen 6 switches, introducing additional system and software complexity. AMD EPYC Embedded 9006 SP7 processors natively supports PCIe Gen6 and CXL 3.1 with backwards compatibility thus reducing the test system complexity.

BLOCK DIAGRAM



NEXT STEPS

- For more information on EPYC Embedded 9006, visit https://authorwww.amd.com/en/products/embedded/epyc/9006-series.html
- For more information on Test, Measurement, and Emulation, visit **www.amd.com/en/solutions/test-and-measurement.html**
- **For more information on Semiconductor Automated Test Equipment, visit https://www.amd.com/en/solutions/test-and-measurement/semiconductor-automated-test-equipment.html**

ENDNOTES

1. Based on AMD internal estimates for the AMD EPYC Embedded 9756 processor as of 11/26 and the published maximum product specification for AMD EPYC 9005 Series Processors as of 6/26. Estimated results are subject to change when products are released in market (EES7-004)
2. Based on AMD internal estimates for the AMD EPYC Embedded 9756 processor as of 11/26 and published maximum product specifications for AMD EPYC 9005 Series Processors as of 6/26. Estimated results are subject to change when products are released in market (EES7-005)
3. SPECrate®2017_int_base comparison based on AMD internal estimates for a 2P 6th Generation EPYC Embedded processor as of 11/26 and 2P 5th Gen EPYC measurements as of 7/26.
   2P AMD EPYC 9976, 512C total, 16x64GB 12800 MT/s MRDIMM, AOCC 6.0, SPECrate®2017_int_base 4900. 2P AMD EPYC 9965, 384C total, 12x64GB DDR5-6400, AOCC 5.0, performance determinism, SPECrate®2017_int_base 2740. SPEC®, SPECint®, and SPECrate® are registered trademarks of Standard Performance Evaluation Corporation. Learn more at spec.org. SPECrate® 2017 will be a retired benchmark on November 17, 2026, and SPEC will no longer review or publish SPECrate 2017 results.(EES7-008).

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