intel®

Breakthrough Responsiveness. Uncompromised Capacity.

High speed and responsiveness helps you work and play faster with the new mobile option.

Intel® Optane™ Memory now offers improved capacity and a new form factor to accelerate your mobile or desktop system—delivering amazing speed and responsiveness without compromising system storage. Together, Intel® Optane™ Memory M10 module and a 7th Gen or 8th Gen Intel® Core® processor give you a snappy computer experience with short boot times, fast application launches, extraordinary gaming and responsive browsing. Combine a large SATA-based storage device (HDD, SATA SSD, SSHD) with Intel® Optane™ memory for a responsive computer that keeps up with your most demanding applications.

Built on Revolutionary Intel® Optane™ Technology

Intel® Optane™ memory is built on the revolutionary Intel® Optane™ technology—a unique combination of Intel® 3D XPoint™ memory media with Intel's advanced system memory controller, interface hardware, and software IP. This innovative technology is offered in several form factors to unleash vast system performance in a range of products.

intel® OPTANE™
MEMORY

Intelligent System Acceleration

Intel® Optane™ memory is a smart and adaptable system accelerator that adjusts to your computing tasks—making everything you do faster, smoother, easier. Intelligent software automatically learns your computing behaviors to accelerate frequent tasks and customize your computer experience.

High Speed Acceleration with Large Capacity

Optimize your computer responsiveness from system boot to application launch. A computer with a 7th gen or newer Intel® Core™ processor and Intel® Optane™ memory delivers amazing speed and responsiveness so you can wake your computer instantly, search and find files faster, and save large files in a flash.

Store all your large files locally on a "mega storage" device and open them quickly. Intel® Optane™ memory delivers high-speed acceleration without compromising system storage capacity. A large capacity storage device, like an HDD, coupled with Intel® Optane™ memory affordably delivers the best of both worlds.

Reliability

Created by Intel, one of the industry's most trusted technology innovators, this new class of non-volatile memory is backed by over 30 years of memory expertise and global leadership in technology innovation and processor manufacturing.

Features At-a-Glance	
Model Name	Intel® Optane™ Memory M10
Intel® Optane™ Memory Capacity (GB)[1]	16, 32, 64 GB
Components	Intel® Optane™ memory module with Intel® 3D XPoint™ memory media Intel® Controller and Firmware Intel® Rapid Storage Technology 15.5 or later driver
Interface	PCIe* 3.0x2 with NVMe* interface
Form Factor	M.2 2280-S3-B-M
Latency (avg sequential)[2]	16 GB Read/Write: 8/30 µs (TYP) 32 GB Read/Write: 7/18 µs (TYP)
Height/Weight	Up to 1.5mm / Up to 40 grams
Reliability	1.6 million hours Mean Time Between Failure (MTBF) 1 sector per 10^{15} bits read Uncorrectable Bit Error Rate (UBER)
Temperature	Operating: 0 to 85ºc Non-Operating: -40 to 85ºc
Performance @Queue Depth 4	Sequential R/W: Up to 1450/640 MB/s 4KB[3] Random R/W: Up to 250k/40k IOPS
Power	3.3V Supply Rail Active: 3.5W Low Power L1.2 (<8mW) supported Drive Idle: 900mW to 1.2W
Endurance Rating	200 GB Writes Per Day
Operating System Support	Windows 10* 64 bit
Supported Platforms	7th Gen or 8th Gen Intel® Core™ Processor-based Platforms
Compliance	NVM Express* 1.1 PCI Express* Base Specification Rev 3.0 PCI M.2 Hardware Specifications Ecological: European Union (ED) RoHS Compliance Directives
Software Tools	Intel® Optane™ Memory Software Intel® Rapid Storage Technology Driver Intel® SSD & Memory Toolbox
Warranty	5-year limited warranty.

For more information, visit intel.com/optanememory

For downloads, help and support, visit intel.com/support/optane-memory

[1] See LBA Count for actual end user densities

[3] 4KB -= 4096 bytes; 8KB = 8192 bytes

[2] Device measured by Intel using FIO* rev 2.15 with CentOS inbox NVMe Driver. Latency measured using 4 KB (4,096 bytes) transfer size with sustained sequential workload at queue depth 1

Test and System Configuration: Processor: Intel® Core™ i7-7700K, Speed: 4.2 GHz, Chipset: Intel® Z270, Motherboard: ASUS*
Prime z270-A, DRAM capacity: 16GB, DRAM Speed: DDR4 2133 MHz, OS: Centos 7.1, firmware version K4110410. Hyper-threading disabled, C-states disabled. Testing completed by Intel.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

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Tests document performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase.

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