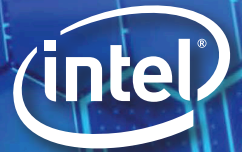


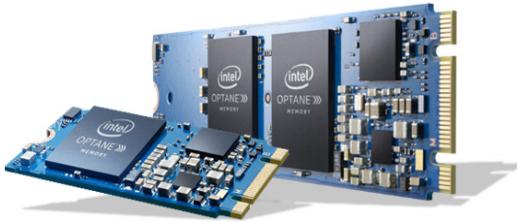
PRODUCT BRIEF

Intel® Optane™ Memory M10/M15



Breakthrough Responsiveness. Intelligent Acceleration.

Acceleration and responsiveness help you work, create, and play faster



Intel® Optane™ memory is a smart technology that accelerates computers' responsiveness in 7th Gen or later Intel® Core™ platforms. Available in multiple capacity options in an M.2 form factor, Intel Optane memory accelerates your mobile or desktop system—delivering amazing speed and responsiveness without compromising system storage capacity. Together, Intel Optane memory and an Intel® Core™ processor accelerate your computer experience with short boot times, fast application launches, extraordinary gaming and browsing. Combine a high capacity storage device with Intel Optane memory to keep up with your most demanding applications.

Amazing Responsiveness

Built on the revolutionary Intel® Optane™ memory media that offers the unique combination of high throughput and low latency, Intel Optane memory optimizes your computer's responsiveness. Pair Intel Optane memory with your existing hard disk drive (HDD) or slower SATA storage device for an SSD-like response from your accelerated boot or data drive. Get more done at maximum speed from an accelerated HDD—boot, access storage, launch applications, find, and save large files in a flash.



Intelligent System Acceleration

With the intelligent Intel® Rapid Storage Technology (Intel® RST) driver working behind the scenes, Intel® Optane™ memory recognizes and remembers content needed for important and frequent tasks—quickly accelerates them for use—providing even faster access to your frequently used files, applications, and games. Furthermore, as your computing habits change over time, Intel Optane memory will adapt to enable a responsive accelerated experience for what you use most often.

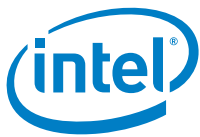
Affordable Speed with Large Storage

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 coupled with Intel Optane memory affordably delivers the best of both worlds.

Trusted 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. Consistently reliable Intel Optane memory and a 5-year warranty minimizes down time, giving you more work and play time.

Features At-a-Glance	M10	M15
Model	Intel® Optane™ Memory M10	Intel® Optane™ Memory M15
Capacity and Form Factor ¹	M.2 80mm: 16, 32, 64GB; M.2 42mm: 16GB	M.2 80mm: 16, 32, 64GB
Weight	Less than 10 grams	Less than 10 grams
Components	Intel® Optane™ memory module with Intel® Optane™ memory media Intel® Controller and Firmware Intel® Rapid Storage Technology 15.7 or later driver	Intel® Optane™ memory module with Intel® Optane™ memory media Intel® Controller and Firmware Intel® Rapid Storage Technology 17 or later driver
Interface	PCIe* 3.0x2 with NVMe*	PCIe* 3.0x4 with NVMe*
Performance	Sequential R/W: Up to 1450/640 MB/s QD4 4KB ³ Random R/W: Up to 250k/140k IOPS	Sequential R/W: Up to 2000/900 MB/s QD4 4KB ³ Random R/W: Up to 450k/220k IOPS
Latency ²	Average Read/Write: 6.75/18 μs (TYP)	Average Read/Write: 6.75/12 μs (TYP)
Endurance	200 GB Writes Per Day Up to 365 TBW	200 GB Writes Per Day Up to 365 TBW
Reliability	1.6 million hours Mean Time Between Failure (MTBF) 1 sector per 10 ¹⁵ bits read Uncorrectable Bit Error Rate (UBER)	1.6 million hours Mean Time Between Failure (MTBF) 1 sector per 10 ¹⁵ bits read Uncorrectable Bit Error Rate (UBER)
Power	3.3V Supply Rail Active: up to 3.5W Deep Sleep/L1.2: 11mW	3.3V Supply Rail Active: up to 5.5W Deep Sleep/L1.2: <5mW
Temperature	Operating: 0 to 85°C Non-Operating: -40 to 85°C	Operating: 0 to 85°C Non-Operating: -40 to 85°C
Operating System Support	Windows 10* 64 bit	Windows 10* 64 bit
Supported Platforms	7th Gen or newer Intel® Core™ Processor-based Platforms	7th Gen or newer 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	NVM Express* 1.1 PCI Express* Base Specification Rev 3.0 PCI M.2 Hardware Specifications Ecological: European Union (ED) RoHS Compliance Directives
Warranty	5-year limited 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

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

³ 4KB = 4096 bytes; 8KB = 8192 bytes

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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. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks

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