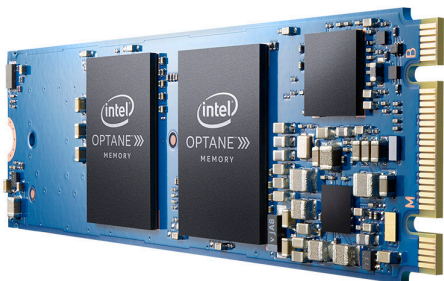


# BREAKTHROUGH RESPONSIVENESS. UNCOMPROMISED CAPACITY.



Intel® Optane™ memory module

Intel® Optane™ memory accelerates your system—delivering amazing speed and responsiveness without compromising system storage capacity. Together, Intel® Optane™ memory and a 7th 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 storage device with Intel® Optane™ memory for a responsive computer that keeps up with your most demanding applications.



## HIGH SPEED AND RESPONSIVENESS HELPS YOU WORK & PLAY FASTER

**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.

**Breakthrough Responsiveness:** Optimize your computer responsiveness from system boot to application launch. A computer with a 7th Gen 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.

**Uncompromised Capacity:** 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.

**About Intel® Optane™ Technology**

Intel® Optane™ memory is built on the revolutionary Intel® Optane™ technology. Intel® Optane™ technology is a unique combination of 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.



Model Name	Intel® Optane™ Memory Series
Memory Capacity (GB) <sup>1</sup>	16 GB, 32 GB
Components	Intel® Optane™ memory module with 3D XPoint™ memory media <sup>8</sup> Intel® Controller and Firmware Intel® Rapid Storage Technology 15.5 or later
Interface	PCIe* 3.0x2 with NVMe* interface
Form Factor	M.2 2280-S3-B-M
Latency (avg sequential)	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 <sup>15</sup> bits read Uncorrectable Bit Error Rate (UBER)
Temperature	Operating: 0 to 70°C Non-Operating: -10 to 85°C
Performance <sup>2,3</sup> @Queue Depth 4	Sequential R/W: Up to 1350/290 MB/s <sup>4</sup> 4KB <sup>5</sup> Random R/W: Up to 240k/65k IOPS
Power <sup>7</sup>	3.3V Supply Rail Active: 3.5W Drive Idle: 900mW to 1.2W
Endurance Rating	100 GB Writes Per Day
Operating System Support <sup>6</sup>	Windows 10* 64 bit
Supported Platforms <sup>6</sup>	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 (EU) RoHS Compliance Directives
Software Tools	Intel® Optane™ Memory Software Intel® Rapid Storage Technology Software Intel® SSD & Memory Toolbox

1. See LBA count for actual end user densities; Actual user visible capacity will be lower;

2. Performance values vary by capacity and form factor

3. Performance specifications apply to both compressible and incompressible data

4. MB/s = 1,000,000 bytes/second

5. 4KB = 4,096 bytes; 8 KB = 8,192 bytes

6. Intel® Optane™ memory requires specific hardware configuration and Intel® Rapid Storage Technology driver

7. Power values vary by capacity and form factor. Measurement estimate based on worst case values.

8. Intel's 5 year limited warranty applies to the module alone and not to the entire platform system acceleration solution.

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 [www.intel.com/ssd](http://www.intel.com/ssd).

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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