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.
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.

### Product Brief

#### Intel® Optane™ Memory

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.

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.

The products described in this document may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request. Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Intel, the Intel logo, Optane, 3D XPoint, and Core are trademarks of Intel Corporation in the U.S. and/or other countries.

* Other names and brands may be claimed as the property of others.

#### Model Name

<table>
<thead>
<tr>
<th>Memory Capacity (GB)</th>
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<tbody>
<tr>
<td>Intel® Optane™ Memory Series</td>
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<tr>
<td>16 GB, 32 GB</td>
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</table>

#### Components

- Intel® Optane™ memory module with 3D XPoint™ memory media
- 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 10¹⁵ bits read Uncorrectable Bit Error Rate (UBER)

#### Temperature

- Operating: 0 to 70°C
- Non-Operating: -10 to 85°C

#### Performance 2,3 *Queue Depth 4

- Sequential R/W: Up to 1350/290 MB/s*
- 4KB Random R/W: Up to 240k/65k IOPS

#### Power

- 3.3V Supply Rail
  - Active: 3.5W
  - Drive Idle: 900mW to 1.2W

#### Endurance Rating

- 100 GB Writes Per Day

#### Operating System Support

- Windows 10* 64 bit

#### Supported 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 (EU) RoHS Compliance Directives

#### Software Tools

- Intel® Optane™ Memory Software
- Intel® Rapid Storage Technology Software
- Intel® SSD & Memory Toolbox

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For more information, visit intel.com/optanememory

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