

PRODUCT BRIEF

Intel® Optane™ SSD 900P Series
PCIe* (P)

Storage Performance for Demanding Workloads



Intel® Optane™ SSD 900P delivers workstation class performance and industry leading endurance to meet demanding storage requirements.



The Intel® Optane™ SSD 900P Series is designed for the most storage-demanding workloads in client systems, delivering high random read/write performance coupled with low latency and industry-leading endurance. Built with Intel® Optane™ technology, a revolutionary class of non-volatile memory, the Intel® Optane™ SSD 900P sets the precedent and opens up new possibilities for high performance desktops and client workstations, empowering professional users, content creators, and enthusiasts to extract greater platform performance.

Exceptional Performance and Low Latency

The Intel® Optane™ SSD 900P provides exceptional random storage performance of up to 550K/500K IOPs (4K random reads/writes), and is complemented with ultra-low latency of less than 10µs.¹ These attributes make the Intel® Optane™ SSD 900P a highly responsive client storage solution. The SSD 900P also enables software developers to optimize applications to take advantage of the unique attributes of Intel® Optane™ technology: low latency, and high throughput at low queue depth. As an example, game developers can take advantage of the features of the Intel® Optane™ SSD 900P to enable faster game loads, richer features, and smoother game play.

Unlocking More Platform Performance

Today's client computing workloads are more demanding than ever. Higher precision, increased complexity, and ultra-realism have driven the need for larger data sets in the workstation space. The ability for a workload to spill out of the DRAM footprint and page to/from the storage device can create starvation for the processor resulting in inefficiency with platform performance. The performance and responsiveness of the Intel® Optane™ SSD 900P means the processor can spend less time waiting and more time computing, resulting in greatly increased efficiency. Ultimately, this enables more performance to be gleaned from multi-core processors in client systems.

Industry-Leading Endurance

Critical to delivering these new levels of performance is the ability to also deliver the endurance to match. With the ability to read and write data to the storage device with higher rates of speed comes the risk of reaching the endurance limits of traditional storage in a much shorter amount of time. To support these performance attributes, the Intel® Optane™ SSD 900P delivers industry-leading endurance, allowing professionals with the most demanding storage workloads to realize years of performance without the need for frequent drive replacements.



Features At-a-Glance ¹	
Model Name	Intel® Optane™ SSD 900P Series
Capacity	Half Height Half Length (HHHL) Add-in-Card: 280GB and 480GB 2.5" X 15mm, Small Form Factor U.2: 280GB
Memory Media	3D XPoint™ memory media
Bandwidth: Sustained Sequential Read/Write	Up to 2500 / 2000 MB/s
IOPS: Random 4KB Random Read/Write	Up to 550,000 / 500,000 IOPs
Read /Write Latency	<10 μs / < 10 μs
Interface	PCIe* 3.0 X4, NVMe*
Form Factors, Height and Weight	HHHL AIC 68.9mm / 17.2mm / 168mm up to 230 grams 2.5" U.2 15mm / 70mm / 101mm / up to 140 grams
Life Expectancy	1.6million hours Mean Time Between Failures (MTBF)
Lifetime Endurance ²	10 Drive Writes per Day (DWPD)
Power Consumption Typical	Active Read – Average Power: 8W Active Write – Average Power: 13W Burst Power: 14W Idle: 5W
Operating Temperature ³	0° C to 70° C
RoHS Compliance	Meets the requirements of European Union (EU) RoHS Compliance Directives
Warranty	5-year limited warranty; warranty void if used in a multi-user, multi-CPU data center environment



1. System configuration: Motherboard: X299 ASUS* Tiachi ASROCK*; Processor: Intel® Core i9™ 7900X; Graphics Card: ASUS ROS STRIX* GTX1080 with NVIDIA GeForce* GTX 1080; Memory: Corsair Vengeance* DDR4 32GB (4x8GB) frequency 3000 MHz CMR32GX4M4C3000C15; BIOS: Version 2.0; OS: Windows* 10 OS(x64), version 16299.309; Benchmark: IOMeter 1.01. Testing by Intel.

2. Based upon the spec sheet of Intel® Optane™ SSD 900P 480GB with an endurance of 8760GB written.

3. Operating temperature is measured by SMART.

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The benchmark results may need to be revised as additional testing is conducted. The results depend on the specific platform configurations and workloads utilized in the testing, and may not be applicable to any particular user's components, computer system or workloads. The results are not necessarily representative of other benchmarks and other benchmark results may show greater or lesser impact from mitigations.

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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