

Amazing Responsiveness and High Capacity Storage in an M.2 Form Factor

Combining Intel® Optane™ technology and Intel® QLC 3D NAND storage to deliver a personalized computing experience with a new level of performance and large storage capacity.

intel.
OPTANE™
MEMORY



Delivering innovation in storage through 11th Gen Intel® Core™ processor-based platforms, the Intel® Optane™ memory H20 with SSD offers a personalized computing experience with a new level of performance and large storage capacity options, now available for gamers, media and content creators, everyday users, and professionals. By combining the best attributes of Intel® Optane™ technology and Intel® QLC 3D NAND technology, the Intel Optane memory H20 with solid state storage brings together two revolutionary memory and storage technologies on a single M.2 2280 form factor device.

The versatile M.2 form factor works in everything from Intel® Evo™ platform-based laptops to traditional desktops, as well as AIOs and mini-PCs. Providing improved performance and responsiveness, with lower power consumption compared to the prior generation product, Intel Optane memory H20 accelerates what you use most, from everyday tasks to managing large media and gaming files and applications.

Less waiting, more creation, gaming, and productivity

The Intel Optane memory H20 offers low latency and high performance with mixed random read/write speeds at low queue depths, and under demanding workloads. This kind of performance makes the Intel Optane memory H20 with SSD an ideal OS drive—delivering fast boot and application launch, as well as smooth multitasking.

This level of performance and responsiveness is enabled by several key improvements to this second-generation product. The improved Intel® Optane™ Media and next generation Intel 3D NAND technology deliver improved performance while new media controllers enable lower power consumption and lower latencies.¹

Smart storage for faster access to most used files and apps

With the intelligent Intel® Rapid Storage Technology (Intel® RST) driver working behind the scenes, Intel Optane memory H20 with SSD recognizes and remembers content needed for important and frequent tasks—quickly accelerating them for use—providing even faster access to your frequently used data. Furthermore, as your computing habits change over time, Intel RST will adapt to ensure what you use most often has a responsive accelerated experience.



Features At-a-Glance	
Model	Intel® Optane™ Memory H20 with Solid State Storage
Capacities	32 GB Intel® Optane™ Memory + 512 GB Intel® QLC 3D NAND 32 GB Intel® Optane™ Memory + 1 TB Intel® QLC 3D NAND
Form Factor	M.2 2280-S3-M
Interface	PCIe 3.0 x4, NVMe
Performance	Sequential R/W: Up to 3300/2100 MB/s QD64 4KB Random R/W: Up to 380K/280K IOPS QD1 4KB Random R/W; Up to 65K/40K IOPS
Latency (avg sequential)	Read 6.75 μs (TYP) Write: 12 μs (TYP)
Endurance	32 GB Intel® Optane™ Memory + 512 GB Intel® QLC 3D NAND: Up to 185 TBW 32 GB Intel® Optane™ Memory + 1 TB Intel® QLC 3D NAND: Up to 370 TBW
Reliability	≥1.6 million hours Mean Time Between Failure (MTBF) 1 sector per 1015 bits read Uncorrectable Bit Error Rate (UBER)
Power	3.3V Supply Rail PS4/L1.2: 7mW (Combined)
Temperature	Operating: 0 to 70° C; Non-Operating: -40 to 85° C; temperature monitoring
Operating System Support	Windows 10 64 bit
Targeted Platforms	11th Gen or newer Intel® Core™ processor-based platforms See intel.com/support/optane-memory for a list of compatible processors and platforms
Compliance	NVM Express 1.1b PCI Express Spec Rev 3.1 PCI Express M.2 Spec Rev 1.1 Ecological: European Union (ED) RoHS Compliance Directives
Software Driver	Intel® Rapid Storage Technology Driver 18.1 or later
Warranty	5-year limited warranty



1. Comparing the Intel® Optane memory H10 with solid state storage to Intel® Optane memory H20 with solid state storage. Performance varies by use, configuration and other factors. Learn more at www.intel.com/PerformanceIndex. Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure. Your costs and results may vary. Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy. Intel technologies may require enabled hardware, software, or service activation. © Intel Corporation. Intel and the Intel logo 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.