

Solidigm™ D5-P5530 (formerly Intel® SSD D5-P5530)

Introduction

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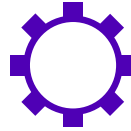
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NVMe TLC for Value Segment



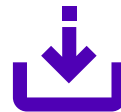
INTERFACE

PCIe 4.0 x4, NVMe 1.3c, NVMe-MI 1.0a



CAPACITY

960GB | 1.92TB | 3.84TB in U.2 form factor



ENDURANCE

1.0 DWPD for 5 years*



POWER

<15W active power max average



TARGET USAGE

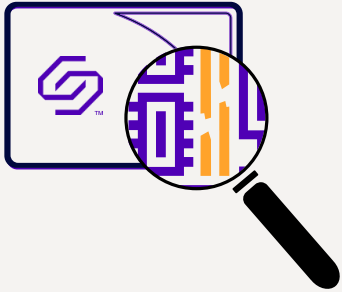
Sequential read and write workloads

*DWPD may vary based on workload. Refer to Advance Product Specifications for more information

Modern Features



Debug Capabilities



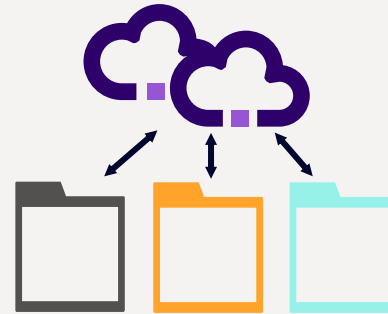
Improves issue tracking/ logging and newly enabled self test allows for streamlined efficiency and reliability

Health Monitoring



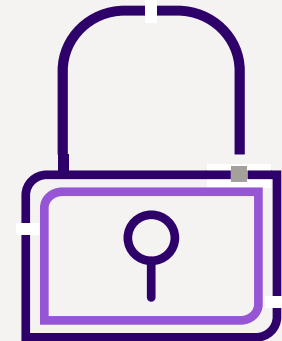
Enterprise level management with NVMe-MI, Device Self-Test and persistent event logs

Dynamic Multiple Namespaces



Configurable namespace locking & dynamic multiple namespaces for multi-tenant/ virtualized environments

Data Security



Support for NVMe Sanitize and changing internal encryption key via Cryptographic Erase



Expanding NVMe PCIe SE TLC SSD Choices

		D7-P5510	D7-P5520	D5-P5530	DC-P4510/P4511
Capacity Point		3.84 7.68 TB	1.92 3.84 7.68 15.36 TB	960GB, 1.92TB, 3.84TB	1 2 4 8 15.36 TB
Interface		PCIe Gen4x4	PCIe Gen4x4	PCIe Gen4x4	PCIe Gen3x4
NVMe		NVMe 1.3c NVMe-MI 1.0a	NVMe 1.4 NVMe-MI 1.1	NVMe 1.3c NVMe-MI 1.0a	NVMe 1.2b NVMe-MI 1.0a
Form Factors		U.2	U.2, E1.S, E1.L	U.2	U.2, M.2, E1.L, E1.S
Active Power (Max average)		18W	22W (prelim)	<15W	15W
Endurance (DWPD over 5y)		1 DWPD	1 DWPD	1 DWPD*	0.7 DWPD
Key Features	Multiple Namespaces	Yes (Dynamic)	Yes (Dynamic)	Yes (Dynamic)	Yes
	NVMe Sanitize	✓	✓	✓	-
	Persistent Event Logs	✓	✓	✓	-
	NVMe Device Self-test	✓	✓	✓	-
	VSS	✓	✓	-	-
	SGL	✓ (w/o Trim)	✓ (w/ Trim)	-	-
	Security	OPAL 2.0	OPAL 2.0	-	OPAL 2.0

Source – Intel: Intel® SSD DC P4510, see data sheet at <https://www.intel.com/content/www/us/en/products/sku/122572/intel-ssd-dc-p4510-series-8-0tb-2-5in-pcie-3-1-x4-3d2-tlc/specifications.html>; Intel® SD D7-P5510, see data sheet at <https://www.intel.com/content/www/us/en/products/sku/205379/intel-ssd-d7p5510-series-3-84tb-2-5in-pcie-4-0-x4-3d4-tlc/specifications.html>; Solidigm™ D7-P5520 and Solidigm™ D5-P5530, results have been estimated or simulated. Your results may vary.

*DWPD may vary based on workload. Refer to Advance Product Specifications for more information



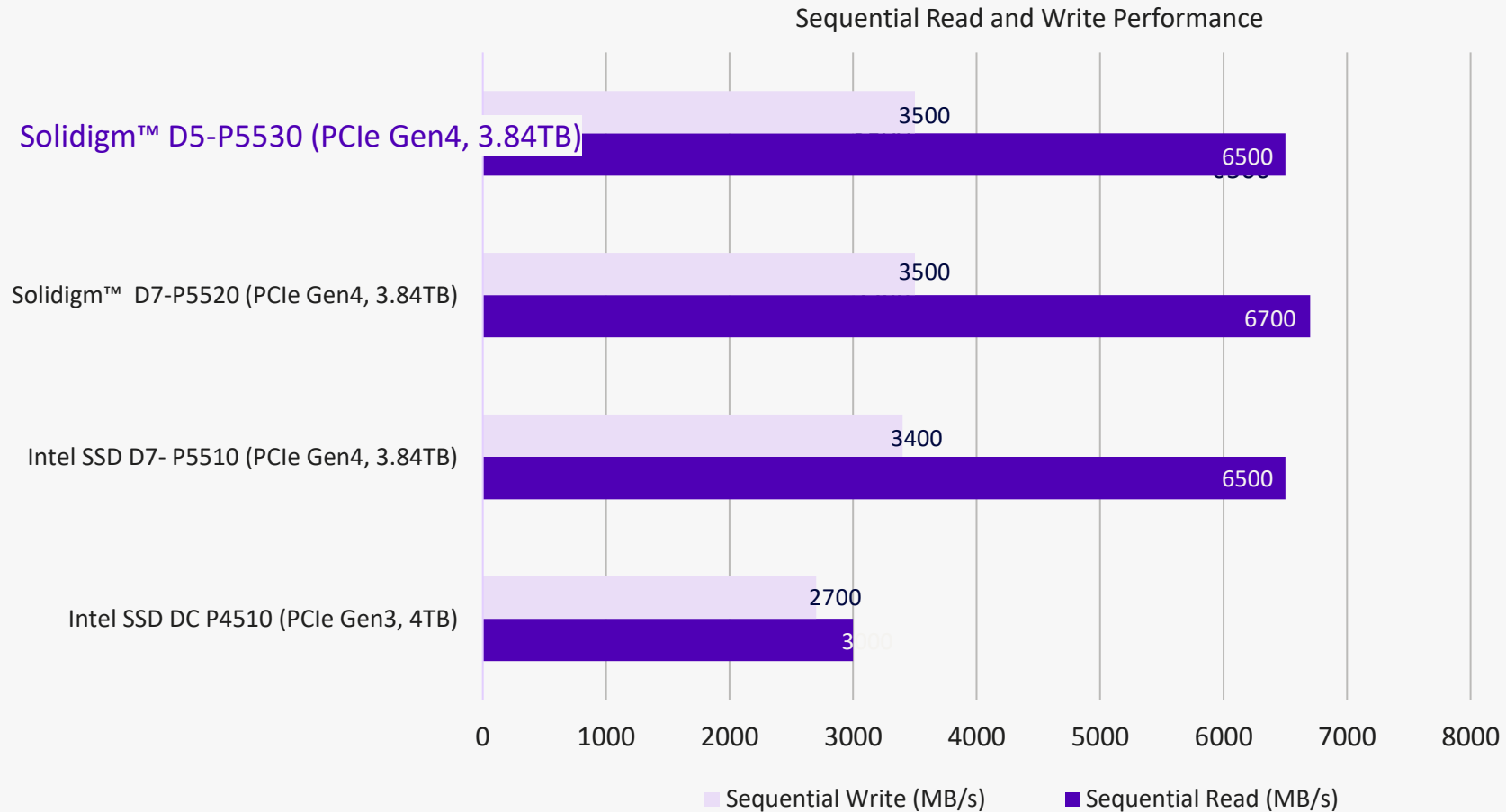
Standard Endurance NVMe PCIe Industry Analysis

Item			Competitor A ²	Competitor B ²	Competitor C ²	Intel SSD D7-P5510	Solidigm™ D7-P5520	Solidigm™ D5-P5530	Intel SSD DC P4510 Gen3
Availability			Q2’20	Q3’20	Q3’19	Q1’21	Q4’21	Q1’22	Q1’18
Interface			PCIe 4.0 NVMe 1.3c	PCIe 4.0 NVMe 1.4	PCIe 4.0 NVMe 1.3	PCIe 4.0 NVMe 1.3c	PCIe 4.0 NVMe 1.4	PCIe 4.0 NVMe 1.3c	PCIe 3.0 NVMe 1.2b
Form Factors			U.2/E1.S/M.2	U.2/U.3	U.2	U.2	U.2	U.2	U.2/E1.L
3D-NAND Layer			128	96	96	144	144	128	64
Performance Metrics	Sequential Read (MB/s)	960GB / 1TB	6800	6900	6000			5500	2900
		1920GB / 2TB	6800	6900	6500		5200	6500	3200
		3840GB / 4TB	6800	6900	6500	6500	6700	6500	3000
	Sequential Write (MB/s)	960GB / 1TB	1500	1400	1450			1600	1100
		1920GB / 2TB	2700	2800	2800		2090	3000	2000
		3840GB / 4TB	4000	4200	3700	3400	3500	3500	2700
	4K Random Read (IOPS)	960GB / 1TB	550K	800K	500K			300K	465K
		1920GB / 2TB	850K	1200K	850K		600K	550K	637K
		3840GB / 4TB	1000K	1400K	1100K	700K	945K	875K	636.5K
	4K Random Write (IOPS)	960GB / 1TB	70K	50K	65K			75K	70K
		1920GB / 2TB	130K	100K	120K		102K	100K	81.5K
		3840GB / 4TB	180K	170K	140K	170K	180K	100K	111.5K
Endurance (DWPD)			1.0	1.0	1.0	1.0	1.0	~1.0	0.7
Warranty (years)			5	5	5	5	5	5	5

1 Source – Intel: Intel® SSD DC P4510, see data sheet at <https://www.intel.com/content/www/us/en/products/sku/122572/intel-ssd-dc-p4510-series-8-0tb-2-5in-pcie-3-1-x4-3d2-tlc/specifications.html>; Intel® SD D7-P5510, see data sheet at <https://www.intel.com/content/www/us/en/products/sku/205379/intel-ssd-d7p5510-series-3-84tb-2-5in-pcie-4-0-x4-3d4-tlc/specifications.html>; **Solidigm™ D7-P5520 and Solidigm™ D5-P5530, results have been estimated or simulated. Your results may vary.**

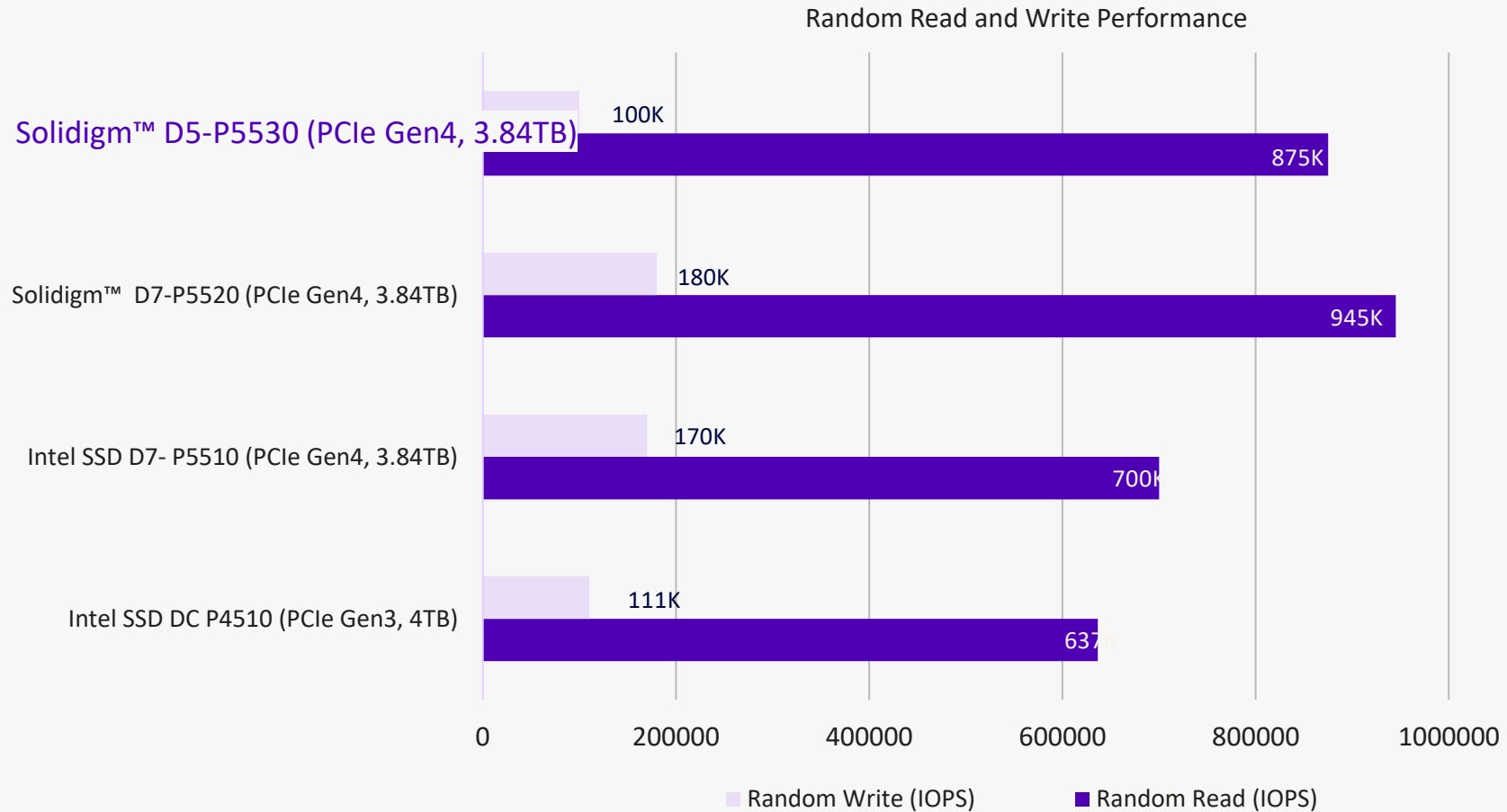
2 Source – Solidigm™ and 3rd party data. Solidigm™ does not control or audit third-party data. You should consult other sources to evaluate accuracy. See backup for workloads and configurations. Your results may vary.

NVMe PCIe Performance for Sequential Workloads





NVMe PCIe Performance for Random Workloads



Appendix





Appendix: System test Configuration Specifications

Attribute	Value
DATE TESTED	April 2021
SYSTEM_MODEL	Intel Corporation S2600WFT (Wolf Pass Server with Gen4 Switch PCIe card)
OPERATING_SYSTEM	CentOS Linux release 7.5.1804
NUMBER_OF_CORES	36
BIOS_VERSION	SE5C620.86B.00.01.0014.070920180847
KERNEL_VERSION	4.14.74
NUMBER_OF_CPUS	2
CPU_MODEL	Intel® Xeon® Gold 6140 2.30GHz
MEMORY_SIZE	32GB
MANUFACTURER	Solidigm™

Drives used for Comparison: Solidigm™ does not control or audit third-party data. You should consult other sources to evaluate accuracy.

- A: Samsung PM9A3 3.84TB, 7.68TB <https://www.samsung.com/semiconductor/ssd/pm9a3/>
- B: Kioxia CM6-R 3.84TB, 7.68TB <https://business.kioxia.com/en-us/ssd/enterprise-ssd/cm6-r.html>
- C: SK Hynix PE8010 3.84TB, 7.68TB <https://product.skhynix.com/products/ssd/essd/pe8000.go>
- Intel D7-P5510 3.84TB, 7.68TB <https://www.intel.com/content/www/us/en/products/sku/205382/intel-ssd-d7p5510-series-7-68tb-2-5in-pcie-4-0-x4-3d4-tlc/specifications.html>
- Solidigm™ D7-P5520 1.92TB, 3.84TB and D5-P5530 960GB, 1.92TB, 3.84TB - results have been estimated or simulated.

Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex. Your results may vary.

Thank you!

