

Samsung microSD P9 Express Card

2025 Data Sheet

Revision 1.0



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1. TECHNICAL SPECIFICATIONS

Samsung microSD P9 Express Card		
Interface	PCIe Gen 3.0 x1, NVMe 1.3, SD 7.1, SDR 104 ¹⁾	
Hardware Information	Form Factor	microSDXC™
	User Capacity	256GB / 512GB
		256,288,751,616 Bytes / 512,644,612,096 Bytes ²⁾
	Dimensions	15 x 11 x 1.1 (mm) (L x W x T)
Weights	Approx. 0.25g (Card only)	
Performance	Speed Class	Class 10, V30 ³⁾
	Speed Grade	Grade 3 (U3)
	Sequential Read Speed ⁴⁾	(SD Express) 800 MB/s (UHS-I) 90 MB/s
Reliability	Temperature ⁵⁾	Operating : 0°C to 45°C
		Non-Operating : -40°C to 85°C
EMC Certifications		FCC (IC), CE (UKCA), VCCI, RCM
Warranty		3 year limited ⁶⁾

1) SDR104: 1.8V Signaling, Frequency up to 208 MHz, up to 104MB/sec, Max. Current Consumption 800mA (varies by test conditions)

2) 1GB=1,000,000,000 bytes. Actual usable storage capacity may vary. User capacity measured with SD Formatter 3.1 tool with FAT file system.

3) V30 : Video Speed Class means sustained video capture rates of 30MB/s(V30) which enable to support real-time video recording to UHS Bus interface products. Transfer speeds may vary by host device.

4) Performance results are based on internal testing conditions. Actual read speeds may vary depending on user environment.

5) Stated temperature is defined as the ambient temperature. Sufficient cooling airflow or effective heat-dissipation are recommended to be operated properly on heavier workloads within device operating temperature.

6) Warranties provided herein do not extend to any use of the product for or with continuous recording instruments or any other write-intensive devices, including without limitation security cameras, surveillance systems, dashboard cameras, blackbox cameras, internet protocol/network cameras, continuous recording set top box devices and continuous data logging devices like servers, dedicated devices for benchmarking test, the primary drive for certain devices and any other excessive uses.

2. PRODUCT LINEUP

Form Factor	Lineup	Capacity	Model Name
microSD	P9 Express	256GB	MB-MK256T
microSD	P9 Express	512GB	MB-MK512T

3. Regulatory Compliance



4. Environmental Specifications¹⁾

Features	Mode	Specification
Humidity ²⁾	Non-operating	40°C/93%, 85°C/85%
Shock ³⁾	Non-operating	1,500 G
Vibration	Non-operating	15 G, 10~2,000 Hz, 36 Cycles, Rising/Falling 10 mins
Water ⁴⁾	Non-operating	1 M depth, 3% NaCl, 25°C
Magnetic	Non-operating	15,000 Gauss, 30 secs
X-Ray	Non-operating	100 mGy
Drop	Non-operating	1 m, 10 times
Durability	Non-operating	10K cycles

NOTE:

- 1) The specification is referred to the microSD Card Addendum version 7.1. Test Requirements.
- 2) Humidity is measured in non-condensing (40°C/93%, 85°C / 85% RH, 504hr).
- 3) 1500G, duration 0.5ms, 10 times, 3axis.
- 4) 1M depth, 3% NaCl, 25°C, 72hr
- 5) The testing results reported herein were obtained under strictly controlled lab environment, as more fully described in the respective footnote for each test. Any attempt to replicate such results are not covered under Samsung's warranty program and Samsung disclaims any and all liability with respect to damages resulting from such attempts, including without limitation, damage to product, loss of property, or loss of data. For more information on Samsung's warranty policy, please visit: www.samsung.com/support.

5. REVISION HISTORY

Revision Number	Description	Revision Date
1.0	Initial Release	September, 2025