ADATA Industrial & Embedded Solutions
CFexpress Card

The ADATA ICFP301 industrial-grade CFexpress memory card is a compact and high-performance storage solution suited for AI and smart applications, such as automation, HPC (High Speed Computing), AI deep learning and smart image analysis. Implementing the PCIe Gen3x2 interface and compliant with NVMe 1.3, it sports read/write speed of up to 1600/1200MB per second. Using 3D TLC NAND Flash with wide-temperature operability (-40°C to +85°C), it can maintain optimal performance in harsh outdoor environments for excellent durability. In addition, it also supports technologies such as LDPC ECC Engine to automatically detect and correct errors, Wear Leveling technology to ensure data is written evenly across all sectors for an extended product lifespan, and AES 256 Encryption and TCG Opal for data security.

Key Features

- Small form factor, easy to install
- PCIe Gen3x2 / NVMe 1.3
- Excellent Performance: R/W speed up to 1600/1200MB/s
- 3D TLC NAND Flash for higher capacities and durability
- Up to 3,000 P/E (Program/Erase) cycle rating
- Industrial-temperature operability (-40°C to 85°C)
- Built-in LDPC ECC

Target Applications
Industrial automation, IPC, HPC, AI, IoT-related applications, Video/Image identification system, etc.

30μ Golden Finger	Anti-Sulfur Resistor	Conformal Coating	Wide Temperature	EDS & EMI Safe	Shock & Vibration Resistant	Lifetime Monitoring (LTM)	Wear Leveling	Secure Erase	TRIM	Low Power Consumption
—	●	—	●	—	●	●	●	●	●	●

● Supported — Not available

Specifications

Model	ICFP301
Interface	PCIe Gen3x2
Form Factor	CFexpress 1.0, Type B
Dimensions (L x W x H)	38.5 x 29.6 x 3.8mm
Flash Type	3D TLC
Capacity	64GB – 512GB
Sequential Read (Max.)	1600MB/s
Sequential Write (Max.)	1200MB/s
Operating Temperature (Standard)	0°C to 70°C
Operating Temperature (Industrial)	-40°C to 85°C
Operating Voltage	3.3V / 5V
Operating Humidity	5%-95% RH non-condensing
Power Consumption (Max.)	1.6W
MTBF (Est.)	>2,000,000 hours
Shock Resistance	1500G/0.5ms, Half Sine Wave
Vibration Resistance	20G (20-2000Hz)
Technologies	S.M.A.R.T., LDPC ECC Engine, Flash Management, Wear Leveling, AES-256 encryption, TCG Opal 2.0

Ordering Information

Capacity	Standard (0°C to 70°C)	Industrial (-40°C to 85°C)
64GB	ICFP301-064GD	ICFP301-064GP
128GB	ICFP301-128GD	ICFP301-128GP
256GB	ICFP301-256GD	ICFP301-256GP
512GB	ICFP301-512GD	ICFP301-512GP

Dimensions

ADATA Technology
2F, No. 258, Liancheng Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan