



SSD GAMING **CARDEA**

T-Force | SSD Cardea

T-FORCE GAMING SSD CARDEA

PCI-e **Gen3** SSD – A great leap forward in extreme performance!

The Team Group T-FORCE series for gaming now release the first gaming M.2 PCI-e SSD - Cardea, the Goddess of Storm. Cardea supports the new generation PCI-e Gen3 x4 high speed interface and the latest NVMe specification. Besides its powerful superior read/write speed, with its outstanding performance of sequential read/write speed up to 2,600/1,450 MB/s, and random read/write speed up to 180K/140K IOPS, it is still able to reduce operating delays of the operating system and game/software, and delivers the finest and smoothest gaming experience and an extreme high speed performance without any lag even reading/writing large amounts of game data, complex 3D graphics and motion processing algorithms with fancy special effects, or loading heavy duty video/graphics editing software.



Patent module increases radiating performance by 15%

M.2 PCI-E SSD Temperature Test		Controller			NAND Flash	
Measurement position		Up	Center	Down	Center	Around
M.2 PCI-E SSD without heat sink	Power ON/Idle(°C)	46.2°C	50.6°C	44.5°C	39.3°C	39.6°C
	Burn In Test/1HR(°C)	55.0°C	71.0°C	51.6°C	53.8°C	51.2°C
	Burn In Test/2HR(°C)	64.5°C	76.7°C	59.4°C	60.5°C	56.2°C
M.2 PCI-E SSD with normal heat sink	Power ON/Idle(°C)	45.9°C	50.3°C	45.7°C	39.0°C	39.5°C
	Burn In Test/1HR(°C)	54.7°C	67.5°C	54.4°C	52.1°C	51.2°C
	Burn In Test/2HR(°C)	58.2°C	71.2°C	54.3°C	49.2°C	49.0°C
M.2 PCI-E SSD with T-Force Cardea	Power ON/Idle(°C)	45.5°C	49.3°C	44.3°C	38.2°C	38.4°C
	Burn In Test/1HR(°C)	50.8°C	56.4°C	47.3°C	43.6°C	44.0°C
	Burn In Test/2HR(°C)	52.2°C	57.1°C	48.2°C	44.6°C	45.4°C

T-Force M.2 PCI-e SSD – Cardea is the first high performance M.2 PCI-e SSD product in the market that is specifically designed for gaming and high performance computer. Using Team Group’s cooling module with patent gaming fin type design, it allows natural convection or forced air cooling (e.g. fan) to enhance radiating. Therefore, when gaming/high performance computer operating at full speed, users don’t have to worry about the heat generated will affect the system performance anymore.

T-Force M.2 PCI-e SSD – Cardea has passed our long and rigorous internal laboratory tests and burn-in test. Computer using Team Group’s cooling module with patent gaming fin type design can be cooled down about 30°C in an open space, and 10°C in a closed space. The exceptional radiating performance offers T-Force M.2 PCI-e SSD – Cardea a more stable performance and prolongs the service life effectively.

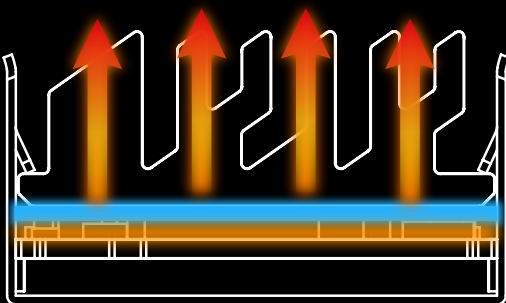
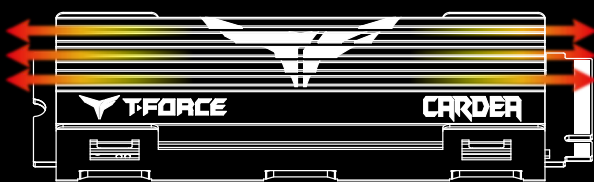
Superconductivity Instantaneous heat transfer

When the transfer speed is higher than 1000MB/s, the controller of PCI-e SSD will endure 65°C of temperature while the center of the heat of PCI-e is located at the controller. T-Force M.2 PCI-e SSD – Cardea is using superconductivity – thermally conductive adhesive, which has a higher cooling coefficient than ice. The heat at the control center can be averagely transferred to the cooling module through superconductivity – thermally conductive adhesive to speed up the radiating process.

The thermal conductivity of general heat spreaders’ adhesive in the market are $K=0.6\sim 0.8$. To pursue perfection, and regardless of the cost, T-Force M.2 PCI-e SSD – Cardea has brought in high coefficient thermally conductive adhesive which researched and produced by Canada. It can enhance cooling module’s performance and make K value above 2; therefore SSD’s radiating performance can be pushed to the extreme with instantaneous heat transfer.

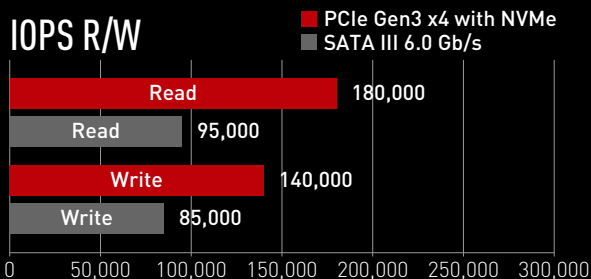
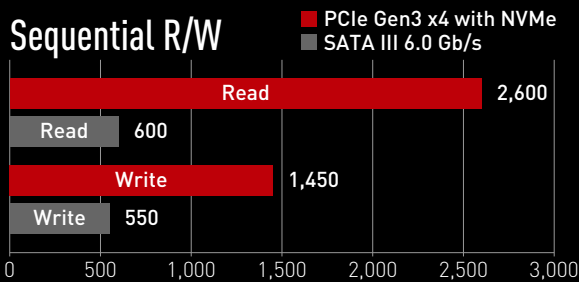
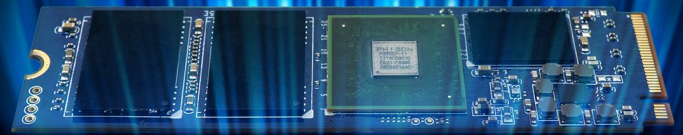
Thermal Conductivity:

K value is used to represent thermal conductivity. The greater K value is, the more heat transfers. For example, the K value of water is 0.6, and the K value of ice is 2.



NVMe No more lag

T-Force M.2 PCI-e SSD – Cardea supports the latest NVMe specification. The system communicates with it through PCI-e bus and connects to the built-in PCI-e controller of the chipset or processor, so the signal transfer is as simple and precise as point to point. M.2 PCI-e SSD – Cardea offers you a pleasant high performance transfer experience, without a bit of lag or delay.

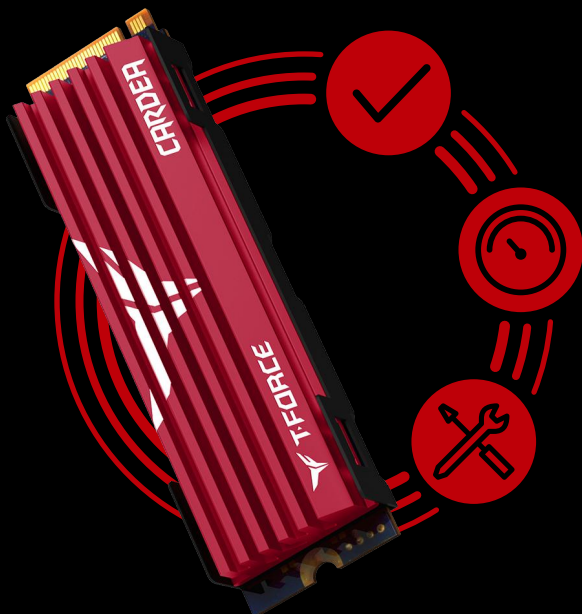


Transfer speed is 4 times higher than the SATA III interface

The transfer speed of traditional solid state drive is limited within SATA's 6Gb/s bandwidth, therefore consumers have gradually shifted to PCI-e interface, which is capable of offering higher transfer speed. Due to this fact, T-Force M.2 PCI-e SSD – Cardea is using PCI-e Gen3 x 4 high speed transfer interface. With the support of PCI-e bus bandwidth, it can offer consumers a stable transfer speed of at least 1000MB/s, or up to over 2000MB/s. The transfer speed is 4 times higher than SATA 6GB/s interface and allows consumers to enjoy the high speed multimedia entertainment experience.

Smart technology – dependable reliability

T-Force M.2 PCI-e SSD – Cardea supports S.M.A.R.T function and its built-in smart algorithm management mechanism has functions such as GC (garbage collection) and TRIM command which are able to ensure operation efficiency, prolong the service life of the SSD and bring it to its maximum performance. Meanwhile, the powerful Wear-Leveling technology and ECC (Error Correction Code) function improve the accuracy and reliability of data transfer.



Main Feature

- Cooling module with gaming fin type design can provide effective cooling for continuous and high intensity use.
- High performance superconductivity – Thermally conductive adhesive offers average heat radiating, instantaneously thermal energy transfer and accelerates the radiating process.
- Extreme read/write speed – Over 2600MB/s of read speed can enhance the speed and performance of the overall system.
- NVMe interface – Support latest NVMe specification.
- Support S.M.A.R.T. technology – Monitoring hard drive status efficiently.
- Support TRIM – Bring out its best performance on the compatible operating system.
- Product warranty – 3 years product warranty. Free technical support service.



Specification

Item	Specification	
Interface	PCI-e 3.0 x4 with NVMe 1.2	
Capacity	240GB / 480GB*	
Color	Red	
Voltage	DC +3.3V	
Operation Temperature	0°C to 70°C	
Storage Temperature	-40°C ~ 80°C	
Terabyte Written	240GB / 335 TB 480GB / 670 TB**	
Performance	Crystal Disk Mark: 240GB Read/Write: up to 2,600/1,400 MB/s 480GB Read/Write: up to 2,650/1,450 MB/s	IOPS: 240GB Read/Write: 180K/140K IOPS Max 480GB Read/Write: 180K/150K IOPS Max***
Weight	45g	
Dimensions	12.9(L) x 80.1(W) x 23.4(H) mm	
Humidity	RH 90% under 40°C (operational)	
Vibration	80Hz~2,000Hz/20G	
Shock	1,500G/0.5ms	
MTBF	2,000,000 hours	
Operation System	1.System Requirements: <ul style="list-style-type: none"> • Windows 10, Windows 8, Windows 7, Windows Vista**** • Linux 2.6.33 or later 2.This product has a heat sink, recommended the use of desktop only.	
Warranty	3-year limited warranty	

*1GB=1,000,000,000 Bytes. In OS system, it would be displayed as 1,000,000,000 Bytes / 1024 / 1024 / 1024 = 0.93GB

**Definition and conditions of TBW (Terabytes Written)are based on JEDEC standard

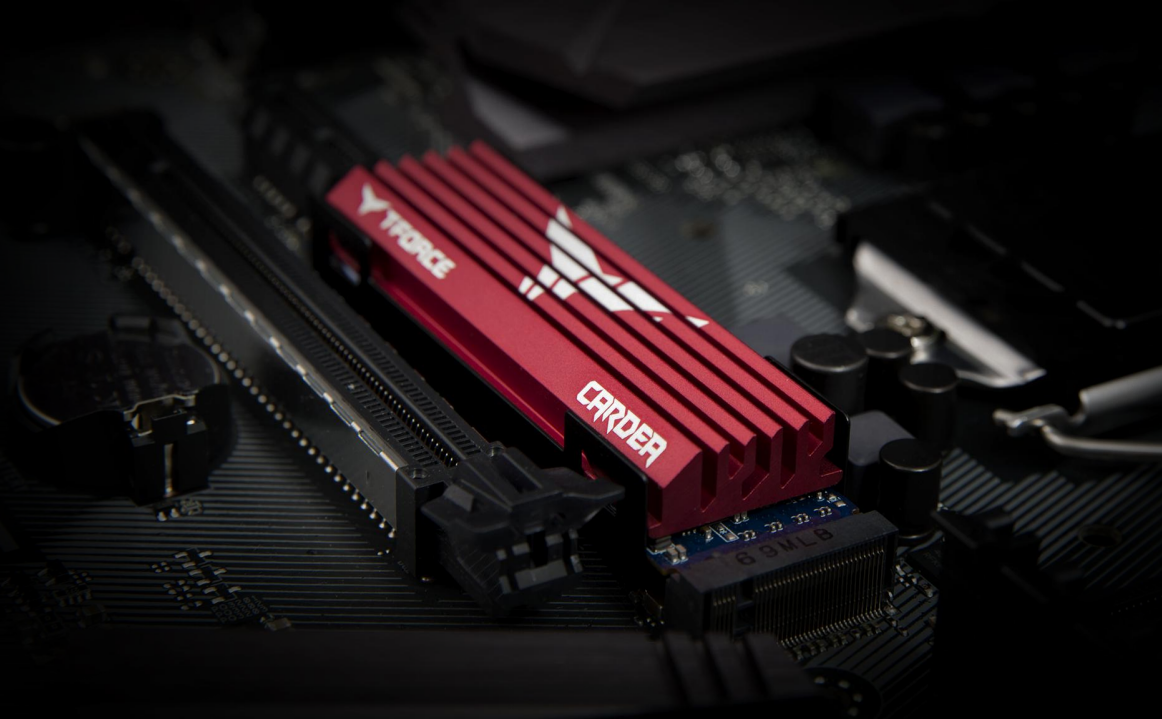
***Transmission speed will vary according to different hardware / software conditions, therefore the data can only used for basic reference.

****PCI-e SSD works best under WIN8.1 and WIN10 operating system. Windows Operating Systems earlier than Windows 8.1 does not support NVMe Driver natively. Users will need to install NVMe Driver prior installing the SSD.

※We reserve the right to modify product specifications without prior notice.

Ordering Information

Description	Capacity	Team P/N
TEAM M.2-2280 PCI-E Gen3x4 240GB RETAIL W/HEAT SINK	240GB	TM8FP2240G0C110
TEAM M.2-2280 PCI-E Gen3x4 480GB RETAIL W/HEAT SINK	480GB	TM8FP2480G0C110



Above technical information is based on industry standard data and tested to be reliable. However, Team makes no warranty, either expressed or implied, as to its accuracy and assumes no liability in connection with the use of this product.

Team reserves the right to make changes in specifications at any time without prior notice.