

Board Specification

GEFORCE RTX 4070 AI BLOWER 12G

Graphics Board 96VG-N4070F16-6L

Document Change History

Version	Date	Responsible	Description of Change
01	04/13/2023	Cruise	Initial release

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Overview

GEFORCE RTX 4070 AI BLOWER 12G graphics board is a PCI Express full-height (111mm by 265mm) form factor graphics add-in card based on the new NVIDIA® Ada Lovelace GPU,

GEFORCE RTX 4070 AI BLOWER offer 12G HIGH-bandwidth GDDR6X memory in 192-bit configuration and supports HDMI and 3 x DP . The use of all solid aluminum capacitors also provides ultra-high durability and stability even during overclocking.

Classic and Elegant Design

With classic streamlined appearance and stable high performance, making it the best solution for servers and Workstation



Specifications

Product Specifications

Specification		Description
Product Name		GEFORCE RTX 4070 AI BLOWER
GPU Architecture		NVIDIA Ada Lovelace GPU(AD104)
Physical dimensions		111mmx265mm; 2 slot
CUDA Cores		5888
GPU clocks	Base	1920 MHz
	Boost	2475 MHz
VBIOS		UEFI Supported
PCI Express interface		PCI Express 4.0 ×16
Display connectors		3 x DisplayPort® connectors (1.4) 1 x HDMI(2.1)
Multi Monitor		4
Power connectors and headers		PCIe power connectors: One 16-pin
OpenGL®		4.6
DirectX® Capability		DirectX® 12 Ultimate
NVIDIA NVLink		No
Decoder(NVIDIA GPU)		HEVC/H.264/VP9/VC1/MPEG-1,2,4/AV1
Total graphics power (TGP)		200 W
PCI IDs		Device ID:2786 Vendor ID:10DE Sub-Vendor ID:10DE Sub-System ID:1800

Memory Specifications

Specification	Description
Memory Size	12G GDDR6X
Memory clock	21 Gbps
Memory bus width	192 bits
Memory bandwidth	Up to 504 GB/s

Software Specifications

Specification	Description
Bar address	BAR0: 16 MB BAR1: 256 MB BAR2: 34 MB I/O BAR: 128B
PCI class code	0x03-Display controller
PCI sub-class code	0x00 VGA-Compatible controller
HDCP support	2.2

Display Specifications

Specification	Version	Maximum Digital Resolution
DisplayPort	1.4 ₍₁₎	7680x4320
HDMI	2.1	7680x4320

Thermal Specifications

Parameter	Value	Units
Total graphics power (TGP)	285	W
GPU shutdown temperature	101	°C
GPU slowdown temperature (50% clock slowdown)	96	°C
GPU max operating temperature	90	°C
Maximum fan inlet temperature	45	°C

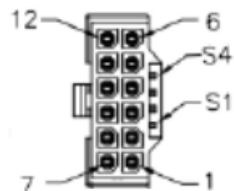
Input EDP Continuous Specifications

Input Rails	Maximum Value	Moving Average
PCI Express edge connector(12V)	66 W	1 s
	5.5 A	1 s
PCI Express Gen5 16-pin connector	300 W	1 s
	25 A	1 s
Total Graphics Power	200W	1 s

Board Environmental and Reliability Specifications

Specification	Condition
Operating temperature	0 °C to 45 °C
Storage temperature	-40 °C to 75 °C
Operating humidity	5% to 95% relative humidity
Storage humidity	5% to 95% relative humidity

Power connector define

12VHPWR PLUG 12+4 Pin connector					
	1	+12 v	7	Ground	
	2	+12 v	8	Ground	
	3	+12 v	9	Ground	
	4	+12 v	10	Ground	
	5	+12 v	11	Ground	
	6	+12 v	12	Ground	
	S1	CARD_PWR_STABLE	S3	SENSE0	
	S2	CARD_CBL_PRES#	S4	SENSE1	

SMBus Device Address

Slave Address
0x9E

SMBus Data Register

Address offset	Access	Register Name	Description
0x00	Read-Only	rlts(temp_h)	GPU Temperature in degrees
0x62	Read-Only	Vendor_id[7:0]	Vendor ID-Lower 8 bit
0x63	Read-Only	Vendor_id[15:8]	Vendor ID-Lower 8 bit
0x64	Read-Only	device_id[7:0]	Device ID-Lower 8 bit
0x65	Read-Only	device_id[15:8]	Device ID-Lower 8 bit
0x66	Read-Only	Sub_Vendor_id[7:0]	Sub Vendor ID-Lower 8 bit
0x67	Read-Only	Sub_Vendor_id[15:8]	Sub Vendor ID-Lower 8 bit
0x68	Read-Only	Sub_device_id[7:0]	Sub Device ID-Lower 8 bit
0x69	Read-Only	Sub_device_id[15:8]	Sub Device ID-Lower 8 bit

Mechanical Specifications

FORM FACTOR

GEFORCE RTX 4070 AI BLOWER 12G graphics board conforms to the PCI Express full height (111 mm by 265 mm) form factor graphics add-in card.



PLACEMENT OF STANDARD I/O and Power CONNECTORS



Support Information

Operating System Support

- Microsoft Windows® 10 64-bit , Windows 11 64-bit,
- Linux 64-bit

System Requirements

- PCI Express-compliant motherboard with one Dual-width x16 graphics slot
- 650 W or greater system power supply
- 1.5 GB available hard-disk space
- 8 GB system memory (12GB recommended)
- Microsoft Windows® 10 64-bit , Windows 11 64-bit, Linux 64-bit
- Two PCI/E 8-pin or One 12+4-Pin supplementary power connectors

Certificates and Agencies

- Conformité Européenne (CE)
- RoHS

Package Content

- GEFORCE RTX 4070 AI BLOWER
- 2 x PCI/E 8-pin to 16-pin