



— RTX4090m 16GD6 3PH

PCI-Express 显卡板
USER' Manual V10

USER'S MANUAL 用户手册

声明

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安全须知

1	产品使用前，务必仔细阅读产品说明书。
2	对未准备安装的板卡，应将其保存在防静电保护袋中。
3	在从包装袋中拿板卡前，应将手先置于接地金属物体上一会儿，以释放身体及手中的静电。
4	在拿板卡时，需佩带静电保护手套，并且应该养成只触及边缘部份的习惯。
5	主板与电源连接时，请确认电源电压。
6	为避免人本被电击或产品被损坏，在每次对主板、板卡进行拔插或重新配置时须先关闭交流电源或将交流电源线从电源插座中拔掉。
7	在对板卡进行搬动前，先将交流电源线从电源插座中拔掉。
8	当您需连接或拔除任何设备前，须确定所有的电源线事先已被拔掉。
9	为避免频繁开关机对产品造成不必要的损伤,关机后,应至少等待30秒后再开机。
10	设备在使用过程时出现异常情况，请找专业人员处理。

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1.Specification

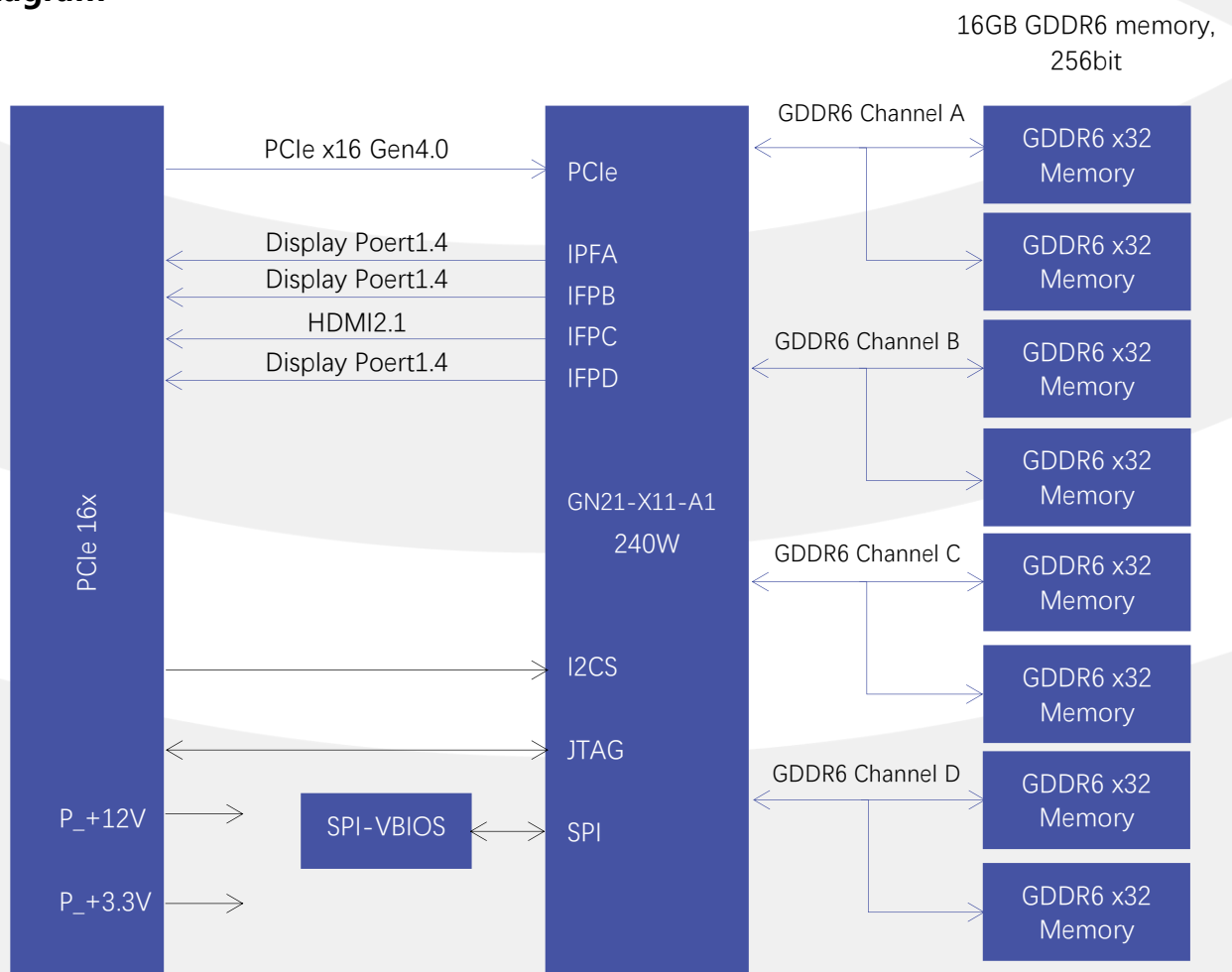
Model	RTX4090m 16GD6 3PH
GPU Architecture	NVIDIA Ada Lovelace
Graphics Processing Unit	NVIDIA GeForce RTX4090 Max-Q
Memory Size	16GB 256bit GDDR6
Graphics Clock	1620MHz (Boost 2040MHz)
Memory Clock	2250MHz
Memory Bandwidth	576.0GB/s
Interface	PCI-Express 4.0 16x
Board Dimensions	ATX / 2 Slot (267*111*42mm)
Display Features	3 x Display Port1.4a + 1 x HDMI2.1
Max Display	4 Ports
Max Single Resolution	Display Port:7680*4320@60Hz HDMI:7680*4320@60Hz
Board Power	240W
External Power	1 x 8Pins
Operation System	Windows 10 64bit · Windows 11 · Linux 64bit
Operating Temperature	0~45°C
Storage Temperature	-20~75°C
Operating Humidity	0~95% (non-condensing)
Storage Humidity	10~90%

Render Config	
Shader Processing Units	9728
Tensor Core	304
RT Core	76
TMUs	304
ROPs	112
SM Count	76
L1 Cache	128KB (per SM)
L2 Cache	64MB

Theoretical Performance	
Pixel Rate	163.0GPixel/s
Texture Rate	442.3GTexel/s
Single Precision FLOPS(AIDA64)	44527GFLOPS
Double Precision FLOPS(AIDA64)	706.1GFLOPS

Graphics Features	
DirectX	12 Ultimate (12_2)
OpenGL	4.6
OpenCL	3.0
Vulkan	1.3
Shader Model	6.7
CUDA	8.9
Video Playback	H.265, VC1, MPEG2 1080P

2.Block Diagram



3.Surround

Surround (Landscape)	Surround (Portrait)
2x1(3840x1080@60Hz)	2x1(2160x1920@60Hz)
1x2(1920x2160@60Hz)	1x2(1080x3840@60Hz)
3x1(5760x1080@60Hz)	3x1(3240x1920@60Hz)
1x3(1920x3240@60Hz)	1x3(1080x5760@60Hz)

**Total resolution based on every display resolution is 1920*1080@60Hz.*

4.Performance

Benchmark	Score
3Dmark 13	FS:53769
	FSE:28117
	FSU:14416
3Dmark 11	X20780
	P29650
	E28569
3Dmark Vantage	108873
Heaven	10021
鲁大师	880340
Furmark	80°C

5.Driver

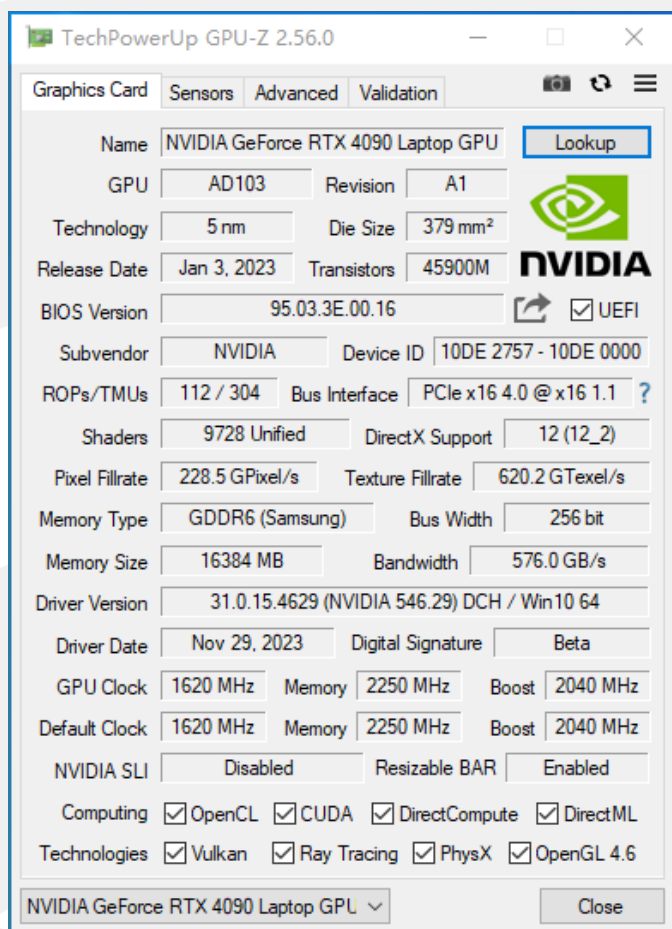
Windows 11: https://pan.baidu.com/s/11TD2LKL0J2DqnmRZm_VypA?pwd=d5nr

Windows 10 64bit: https://pan.baidu.com/s/11TD2LKL0J2DqnmRZm_VypA?pwd=d5nr

Uninstall Driver Video:

https://www.douyin.com/user/MS4wLjABAAAAfV567McP9KjHrjFWngJgFG8h7XMSWsqH55hBlryutmg?modal_id=7321980490926279951

6.GPU-Z



TechPowerUp GPU-Z 2.56.0

Graphics Card | Sensors | Advanced | Validation

Name: NVIDIA GeForce RTX 4090 Laptop GPU [Lookup]

GPU: AD103 | Revision: A1

Technology: 5 nm | Die Size: 379 mm²

Release Date: Jan 3, 2023 | Transistors: 45900M

BIOS Version: 95.03.3E.00.16 [UEFI]

Subvendor: NVIDIA | Device ID: 10DE 2757 - 10DE 0000

ROPs/TMUs: 112 / 304 | Bus Interface: PCIe x16 4.0 @ x16 1.1

Shaders: 9728 Unified | DirectX Support: 12 (12_2)

Pixel Fillrate: 228.5 GPixel/s | Texture Fillrate: 620.2 GTexel/s

Memory Type: GDDR6 (Samsung) | Bus Width: 256 bit

Memory Size: 16384 MB | Bandwidth: 576.0 GB/s

Driver Version: 31.0.15.4629 (NVIDIA 546.29) DCH / Win10 64

Driver Date: Nov 29, 2023 | Digital Signature: Beta

GPU Clock: 1620 MHz | Memory: 2250 MHz | Boost: 2040 MHz

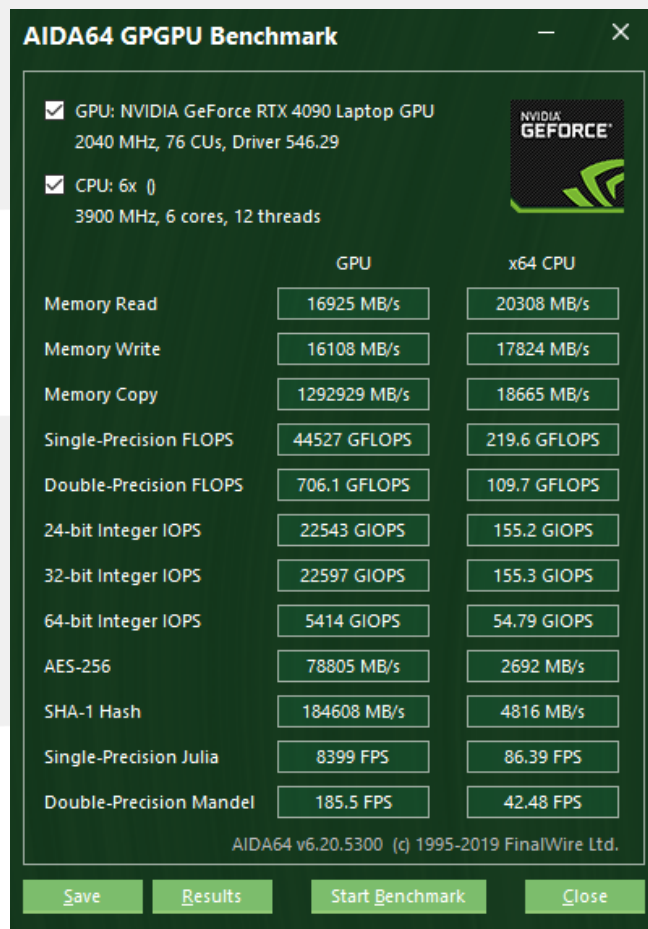
Default Clock: 1620 MHz | Memory: 2250 MHz | Boost: 2040 MHz

NVIDIA SLI: Disabled | Resizable BAR: Enabled

Computing: OpenCL CUDA DirectCompute DirectML

Technologies: Vulkan Ray Tracing PhysX OpenGL 4.6

NVIDIA GeForce RTX 4090 Laptop GPU | Close



AIDA64 GPGPU Benchmark

GPU: NVIDIA GeForce RTX 4090 Laptop GPU
2040 MHz, 76 CUs, Driver 546.29

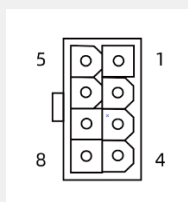
CPU: 6x ()
3900 MHz, 6 cores, 12 threads

	GPU	x64 CPU
Memory Read	16925 MB/s	20308 MB/s
Memory Write	16108 MB/s	17824 MB/s
Memory Copy	1292929 MB/s	18665 MB/s
Single-Precision FLOPS	44527 GFLOPS	219.6 GFLOPS
Double-Precision FLOPS	706.1 GFLOPS	109.7 GFLOPS
24-bit Integer IOPS	22543 GIOPS	155.2 GIOPS
32-bit Integer IOPS	22597 GIOPS	155.3 GIOPS
64-bit Integer IOPS	5414 GIOPS	54.79 GIOPS
AES-256	78805 MB/s	2692 MB/s
SHA-1 Hash	184608 MB/s	4816 MB/s
Single-Precision Julia	8399 FPS	86.39 FPS
Double-Precision Mandel	185.5 FPS	42.48 FPS

AIDA64 v6.20.5300 (c) 1995-2019 FinalWire Ltd.

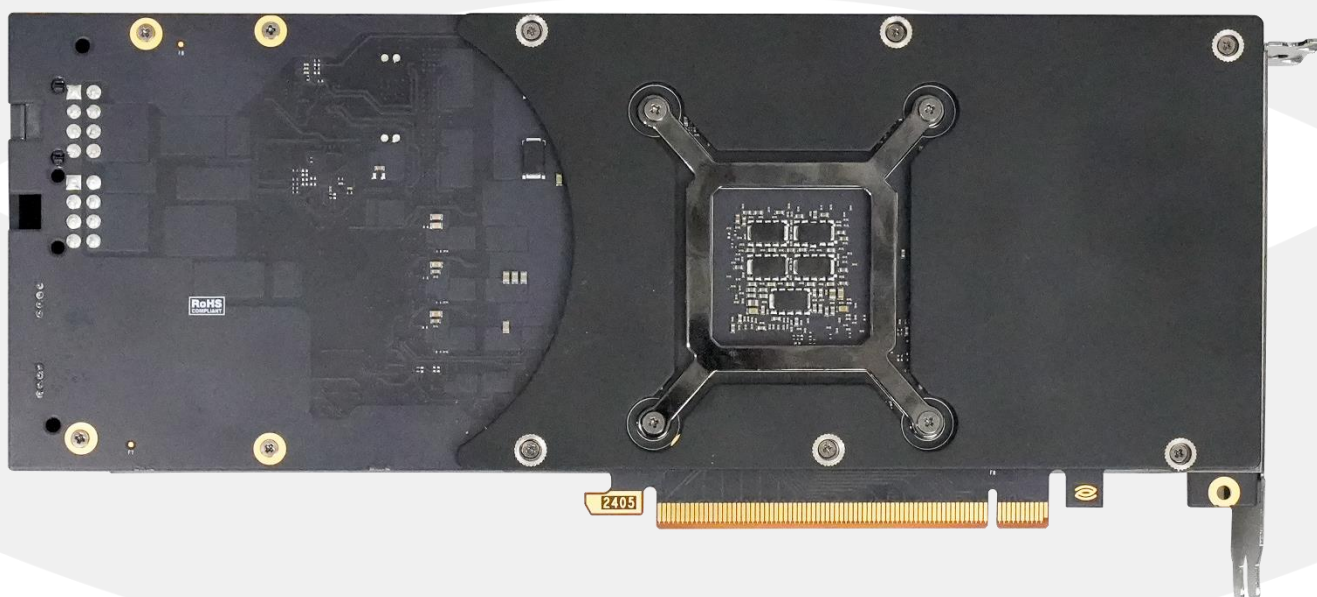
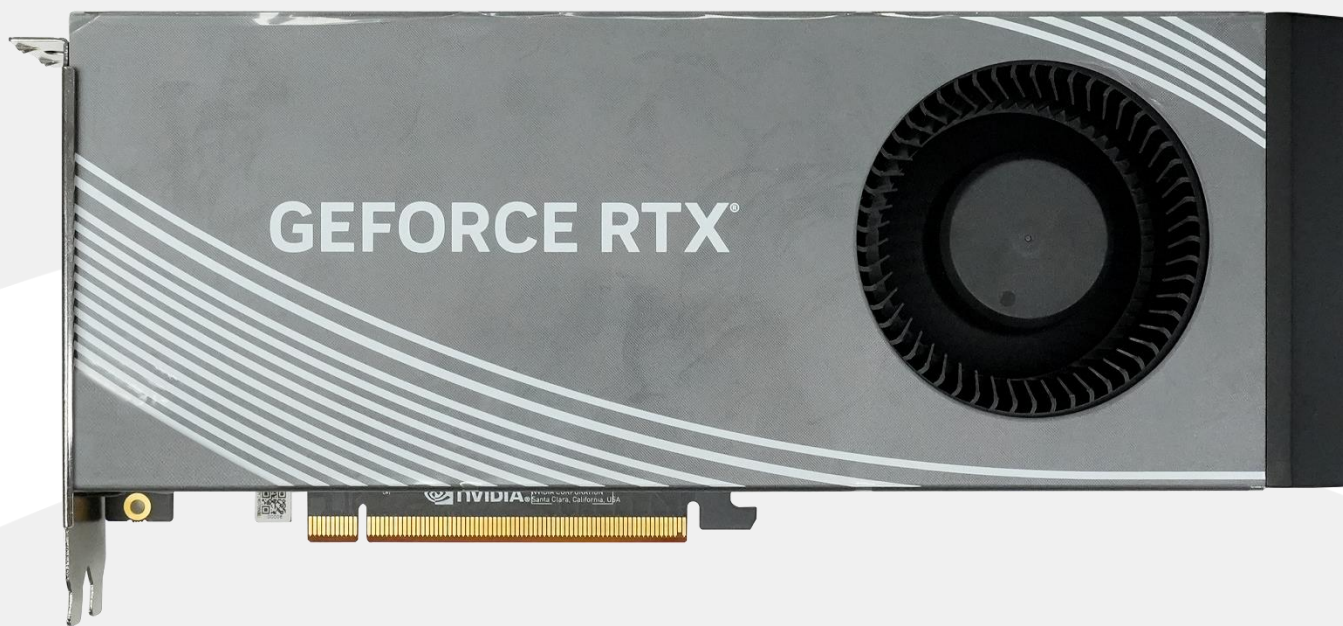
Save Results Start Benchmark Close

7.Connector Pinout



Pin	Signal Name	Pin	Signal Name
1	GND	5	GND
2	GND	6	+12V
3	GND	7	+12V
4	GND	8	+12V

8.Photo



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