



GTX1650 4GD5 VPH

PCI-Express 显卡
USER' Manual V10

USER'S MANUAL 用户手册

声明

本使用说明书内容如有变更，恕不另行通知。本公司并不对本使用说明书之适用性，适合做某种特殊用途之使用或其他任何事项做任何明示，或做其他形式之保证或担保。因此本公司将不对手册内容之错误，或因增减展示或以其他方法使用本手册所造成之直接，间接，突发性过、或继发性之损害负任何责任。

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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

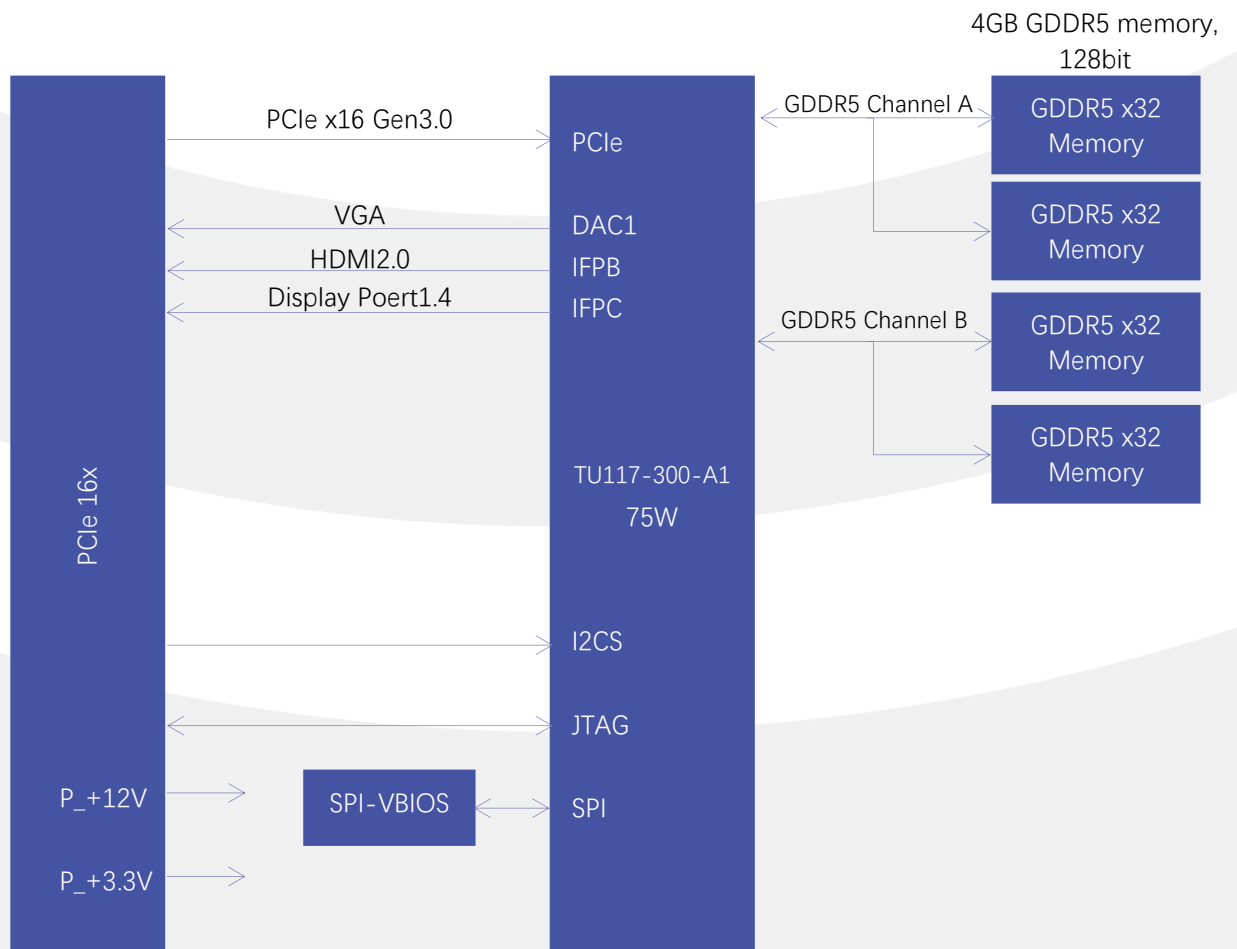
Model	GTX1650 4GD5 VPH
GPU Architecture	NVIDIA Turing
Graphics Processing Unit	NVIDIA GeForce GTX1650
Memory Size	4GB 128bit GDDR5
Graphics Clock	1485MHz (Boost 1665MHz)
Memory Clock	2001MHz (8.0 Gbps)
Memory Bandwidth	128.1GB/s
Interface	PCI-Express 3.0 16x
Board Dimensions	SFF/1 Slot (165*70*24mm)
Display Features	VGA+HDMI2.0+Display Port1.4
Max Single Resolution	VGA:2048*1536@60Hz HDMI:4096*2160@60Hz Display Port:7680x4320@120Hz
Board Power	75W
External Power	N/A
Operation System	Windows 7/10 64bit · Windows 11 · Linux 64bit
Operating Temperature	0~45°C(Option -20°C)
Storage Temperature	-20~75°C
Operating Humidity	0~95% (non-condensing)
Storage Humidity	10~90%

Render Config	
Shader Processing Units	896
TMUs	56
ROPs	32
SM Count	14
L1 Cache	64KB (per SM)
L2 Cache	1024KB

Theoretical Performance	
Pixel Rate	53.28GPixel/s
Texture Rate	93.24GTexel/s
Single Precision FLOPS(AIDA64)	2962GFLOPS
Double Precision FLOPS(AIDA64)	92.22GFLOPS

Graphics Features	
DirectX	12 Ultimate (12_1)
OpenGL	4.6
OpenCL	3.0
Vulkan	1.3
Shader Model	6.7
CUDA	7.5
Video Playback	H.265, VC1, MPEG2 1080P

3.Block Diagram



4.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.*

5.Performance

Benchmark	Score
3Dmark 13	FS:8754
3Dmark 11	P11340 X4047
3Dmark Vantage	26888
鲁大师	104294
Furmark	71°C

6.Driver

Windows 11: <https://www.nvidia.cn/Download/driverResults.aspx/180673/cn>

Windows 10 64bit: <https://www.nvidia.cn/Download/driverResults.aspx/180673/cn>

Windows 7 64bit: <https://www.nvidia.cn/Download/driverResults.aspx/180565/cn>

Linux aarch64: <https://www.nvidia.cn/Download/driverResults.aspx/180499/cn>

Linux 64bit: <https://www.nvidia.cn/Download/driverResults.aspx/180481/cn>

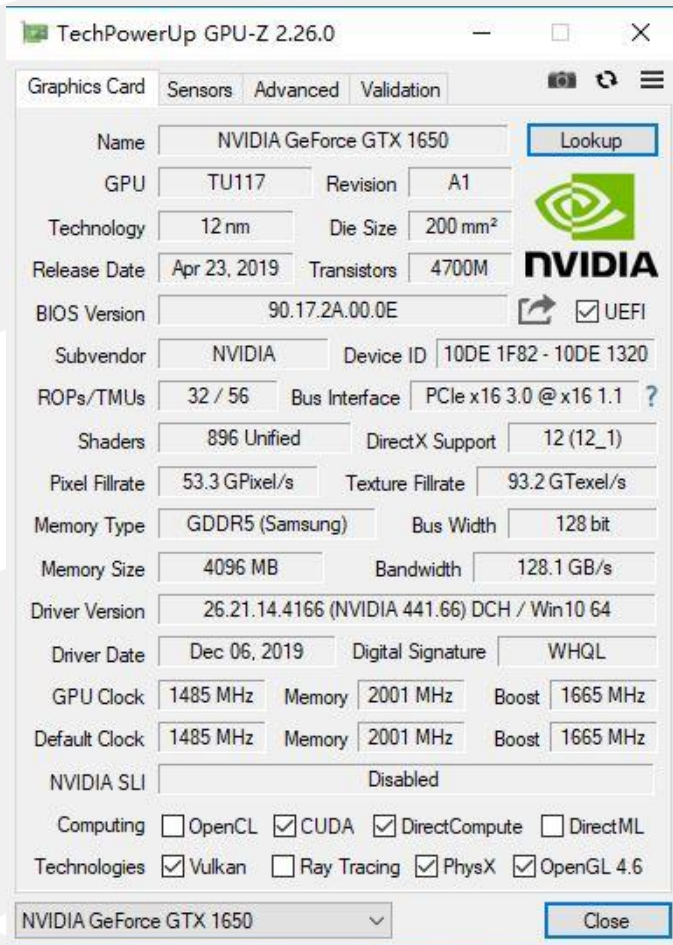
FreeBSD: <https://www.nvidia.cn/Download/driverResults.aspx/180517/cn>

The latest driver or the driver cannot be downloaded here, please log on the official website to download: [官方驱动](#) | [NVIDIA](#)

Uninstall Driver Video :

https://www.douyin.com/user/MS4wLjABAAAafV567McP9KjHrjFWngJgFG8h7XMSWsqH55hBlryutmg?modal_id=7321980490926279951

7.GPU-Z



TechPowerUp GPU-Z 2.26.0

Graphics Card: Sensors, Advanced, Validation

Name: NVIDIA GeForce GTX 1650 [Lookup]

GPU: TU117 Revision: A1

Technology: 12 nm Die Size: 200 mm²

Release Date: Apr 23, 2019 Transistors: 4700M **NVIDIA**

BIOS Version: 90.17.2A.00.0E [UEFI]

Subvendor: NVIDIA Device ID: 10DE 1F82 - 10DE 1320

ROPs/TMUs: 32 / 56 Bus Interface: PCIe x16 3.0 @ x16 1.1 ?

Shaders: 896 Unified DirectX Support: 12 (12_1)

Pixel Fillrate: 53.3 GPixel/s Texture Fillrate: 93.2 GTexel/s

Memory Type: GDDR5 (Samsung) Bus Width: 128 bit

Memory Size: 4096 MB Bandwidth: 128.1 GB/s

Driver Version: 26.21.14.4166 (NVIDIA 441.66) DCH / Win10 64

Driver Date: Dec 06, 2019 Digital Signature: WHQL

GPU Clock: 1485 MHz Memory: 2001 MHz Boost: 1665 MHz

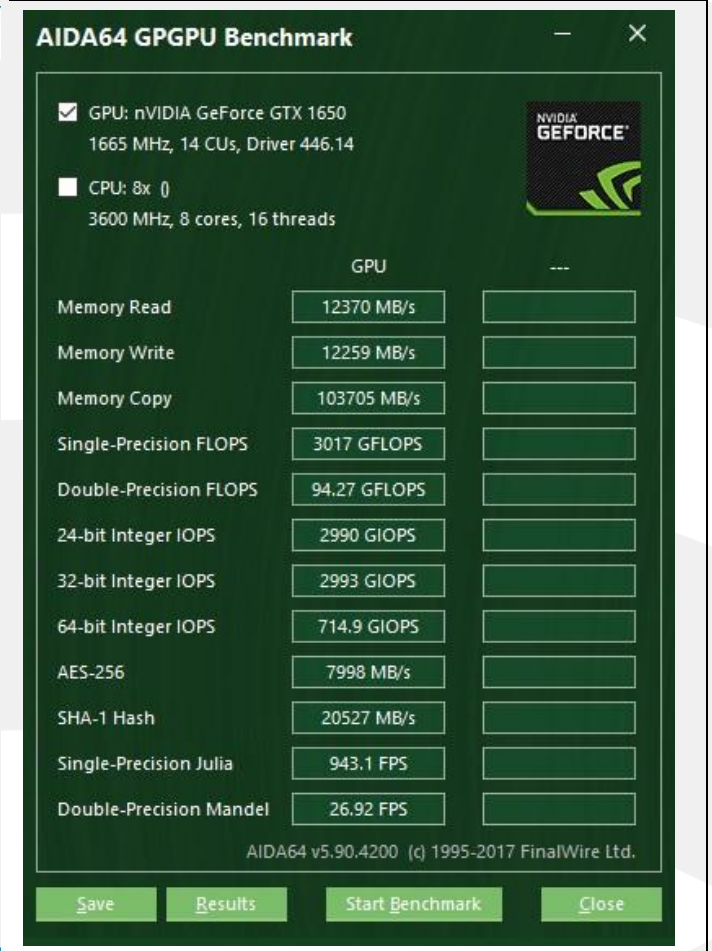
Default Clock: 1485 MHz Memory: 2001 MHz Boost: 1665 MHz

NVIDIA SLI: Disabled

Computing: OpenCL CUDA DirectCompute DirectML

Technologies: Vulkan Ray Tracing PhysX OpenGL 4.6

NVIDIA GeForce GTX 1650 [Close]



AIDA64 GPGPU Benchmark

GPU: nVIDIA GeForce GTX 1650
1665 MHz, 14 CUs, Driver 446.14

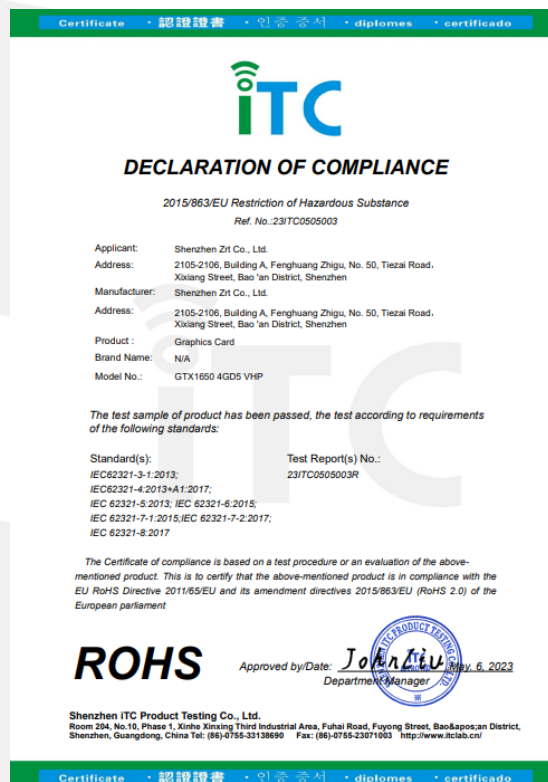
CPU: 8x [0]
3600 MHz, 8 cores, 16 threads

	GPU	---
Memory Read	12370 MB/s	
Memory Write	12259 MB/s	
Memory Copy	103705 MB/s	
Single-Precision FLOPS	3017 GFLOPS	
Double-Precision FLOPS	94.27 GFLOPS	
24-bit Integer IOPS	2990 GIOPS	
32-bit Integer IOPS	2993 GIOPS	
64-bit Integer IOPS	714.9 GIOPS	
AES-256	7998 MB/s	
SHA-1 Hash	20527 MB/s	
Single-Precision Julia	943.1 FPS	
Double-Precision Mandel	26.92 FPS	

AIDA64 v5.90.4200 (c) 1995-2017 FinalWire Ltd.

[Save] [Results] [Start Benchmark] [Close]

8.Certificate



Certificate · 認證證書 · 인증증서 · diplomes · certificado

ITC

DECLARATION OF COMPLIANCE

2015/863/EU Restriction of Hazardous Substance
Ref. No.: 23/TC0505003

Applicant: Shenzhen Zrt Co., Ltd.
Address: 2105-2106, Building A, Fenghuang Zhigu, No. 50, Tiezai Road, Xixiang Street, Bao'an District, Shenzhen

Manufacturer: Shenzhen Zrt Co., Ltd.
Address: 2105-2106, Building A, Fenghuang Zhigu, No. 50, Tiezai Road, Xixiang Street, Bao'an District, Shenzhen

Product: Graphics Card
Brand Name: N/A
Model No.: GTX1650 4GD5 VPH

The test sample of product has been passed, the test according to requirements of the following standards:

Standard(s): IEC62321-3-1:2013; IEC62321-4:2013+A1:2017; IEC 62321-5:2013; IEC 62321-6:2015; IEC 62321-7-1:2015; IEC 62321-7-2:2017; IEC 62321-8:2017

Test Report(s) No.: 23/TC0505003R

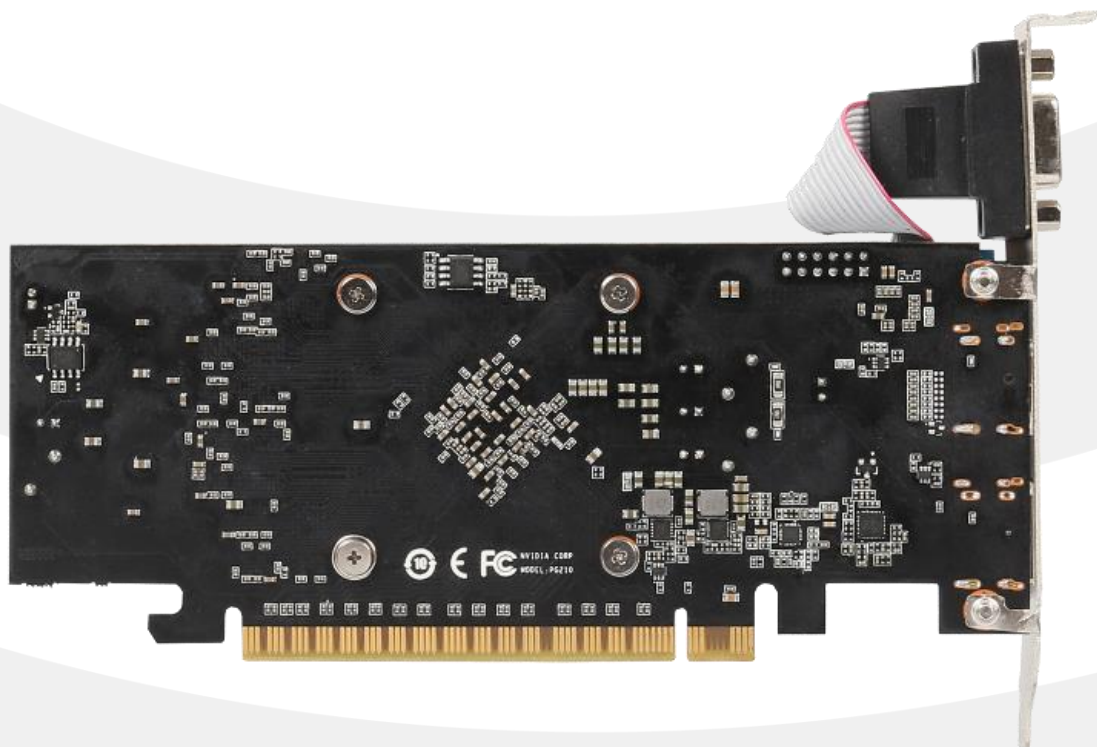
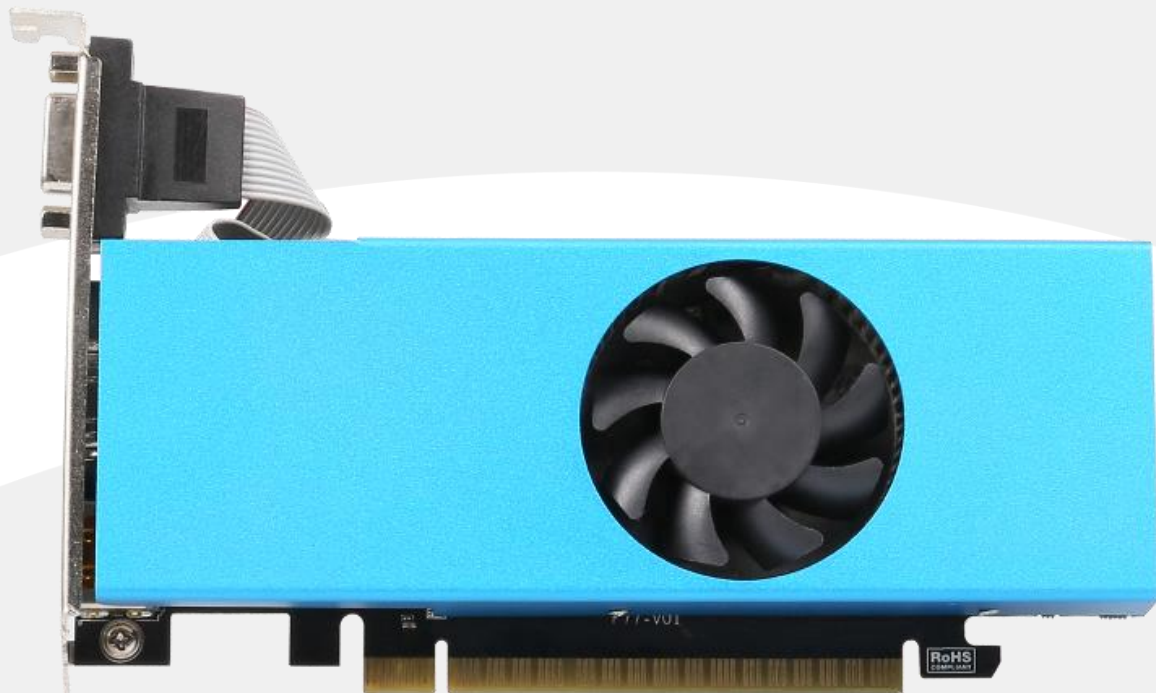
The Certificate of compliance is based on a test procedure or an evaluation of the above-mentioned product. This is to certify that the above-mentioned product is in compliance with the EU RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU (RoHS 2.0) of the European parliament

ROHS Approved by/Date: John Liu / May 6, 2023
Department Manager

Shenzhen ITC Product Testing Co., Ltd.
Room 204, No.10, Phase 1, Xixiang Third Industrial Area, Fuhai Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China Tel: (86)-0755-33138690 Fax: (86)-0755-23071003 http://www.itclab.cn/

Certificate · 認證證書 · 인증증서 · diplomes · certificado

9.Photo



10.Packing

Item	N.W(KG)	G.W(KG)	Dimension(mm)	Q' ty(PCS)
Color Box	5.2	8.6	520*324*270	20

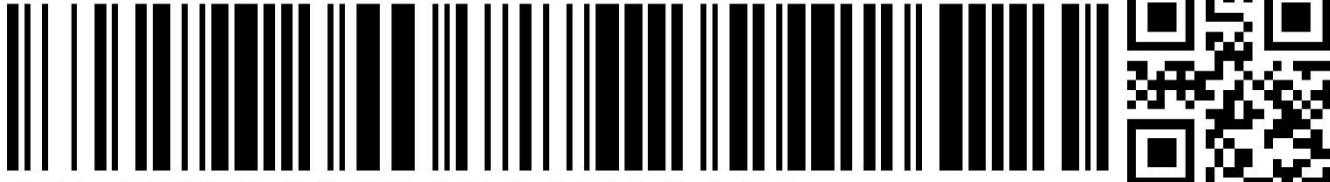
11.Part Number

Model Name	Part Number	Specification
GTX1650 4GD5 VHP	8.ZRT.80-8202-00-LFF	F77 GTX1650 4G 128bit GDDR5 256*32 VGA+HDMI+DP PCI-E 16x LP 6L-ZRT 彩包四十 入
	8.ZRT.80-8202-04-LFF	F77 GTX1650 4G 128bit GDDR5 VGA+HDMI+DP PCI-E 16x LP 75W-ZRT 工包 三十入
GTX1650 4GD5 VHP(-20)	8.ZRT.80-8202-03-LFF	F77 GTX1650 4G 128bit GDDR5 256*32 VGA+HDMI+DP PCI-E 16x LP -20 度-ZRT 彩包 四十入

12.Label

Model

GTX1650 4GD5 VHP



SN:E53080820200Z00193

P/N

深圳智锐通科技有限公司
Shenzhen Zrt Co., Ltd.



智锐通公众号

&



智锐通抖音号

- 集团总部：深圳市宝安区碧桂园凤凰智谷A栋21楼
 - 北京分公司：北京市昌平区科兴西路106号院2号楼5层
 - 南京分公司：南京市江宁区万科都荟天地B2栋7楼
 - 苏州分公司：苏州市虎丘区港龙城市广场4栋13楼
 - 成都分公司：成都市武侯区世纪百合尚寓3栋10楼
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