

MMT1000A6-4G

MXM 显卡

USER' Manual V1.0

USER'S MANUAL 用户手册

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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其边缘部份的习惯。 |
| 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、板卡进行拔插或生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.Specifications

| Model | MMT1000A6-4G |
|---------------------------------|--|
| GPU Architecture | NVIDIA Turing |
| Graphics Processing Unit | NVIDIA Quadro T1000 Mobility |
| Bus Type | MXM3 .1 / up to PCI Express 3.0 x16 |
| Graphics Clock | 1395MHz / 1650MHz (Boost) |
| Memory Size | 4G 128bit GDDR6 |
| Memory Clock | 1500MHz (12.0 Gbps) |
| Memory Bandwidth | 192.0GB/s |
| Display Features | DP A: Display Port 1.4++ DP B: Display Port 1.4++ DP C: Display Port 1.4++ DP D: Display Port 1.4++ |
| Single Max Resolution | 7680x4320@120Hz |
| Number of Output Channel | 4 |
| Board Power | 50W (Option 36W) |
| Board Dimensions | MXM Graphics Module Version 3.1 Type A (70x82mm) |
| Operation System | Windows 10 64bit · Linux 64bit |
| VIN Range | DC 12~19V, 3.3V & 5V; +/-5% |
| 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 |

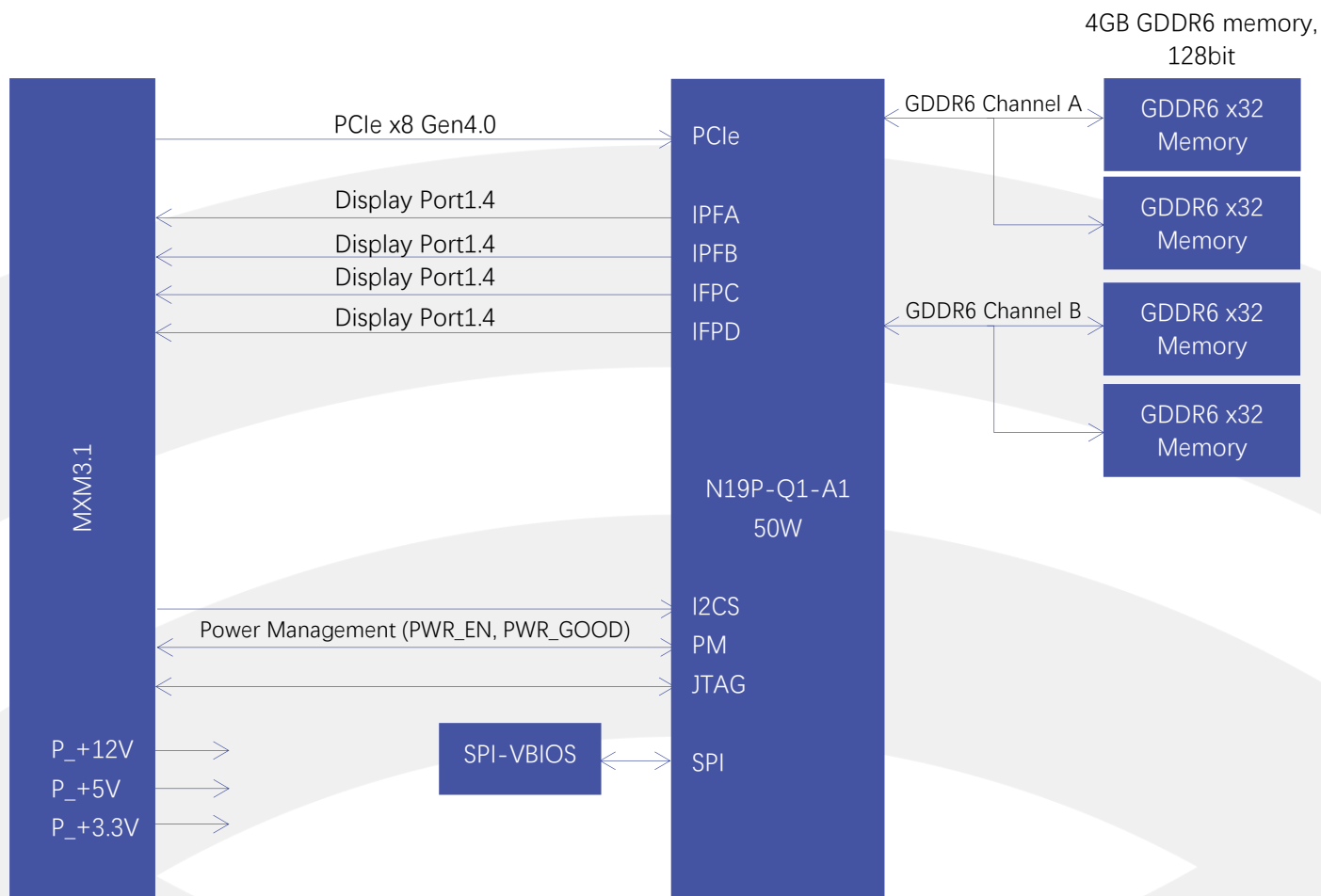
| Theoretical Performance | |
|---------------------------------------|---------------|
| Pixel Rate | 52.80GPixel/s |
| Texture Rate | 92.40GTexel/s |
| Single Precision FLOPS(AIDA64) | 3458GFLOPS |
| Double Precision FLOPS(AIDA64) | 107.7GFLOPS |

| 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 |

| 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) |
| 4x1(7680x1080@60Hz) | 4x1(1080x7680@60Hz) |
| 1x4(7680x1080@60Hz) | 1x4(1080x7680@60Hz) |
| 2x2(3840x2160@60Hz) | 2x2(2160x3840@60Hz) |

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

2. Block Diagram



3.MXM Board Outlines

Figure 3.1 shows the board outlines (top side view) for Type A MXM modules. An additional system keep-out of 0.5mm [0.020] per side is allowed on the PCB to accommodate whatever means of production panelization is required. This additional clearance is above and beyond the dimensional limits presented here. The location of these features is not specified or controlled.

Figure 3.1 Board Outlines

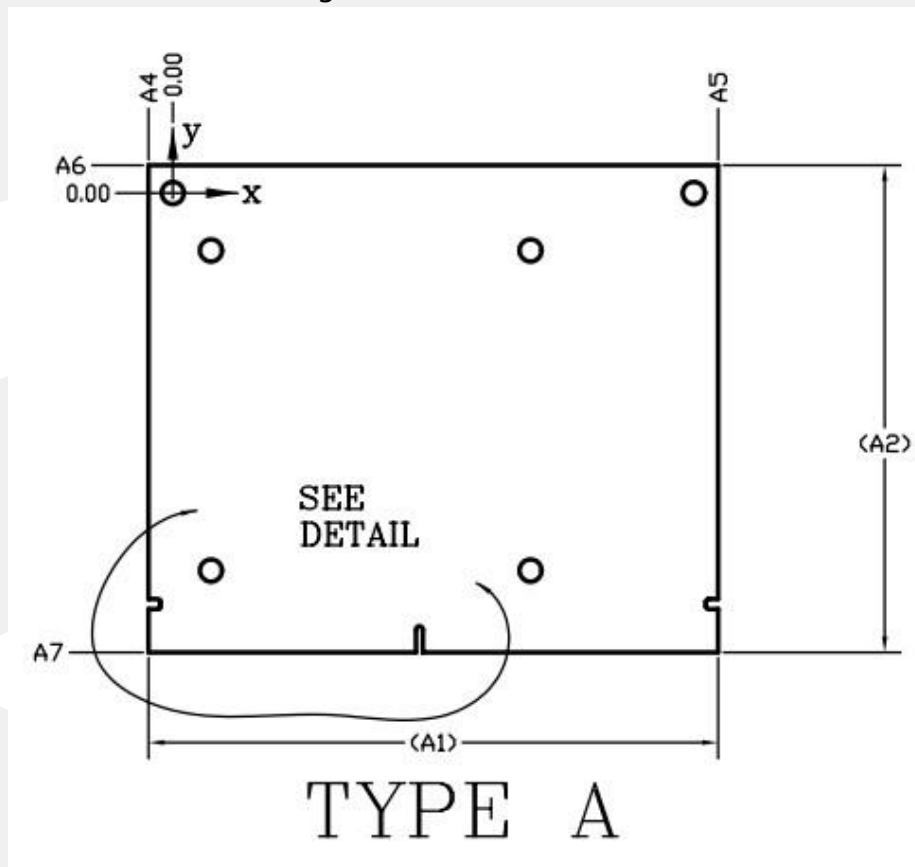


Table 3.1 Board Outline Dimensions

| Symbol | [mm] | | | [in] | | |
|--------|-------|--------|-------|-------|-------|-------|
| | min | nom | max | min | nom | max |
| A1 | | 82.00 | | | 3.228 | |
| A2 | | 70.00 | | | 2.756 | |
| A3 | | 105.00 | | | 4.134 | |
| A4 | 3.37 | 3.50 | 3.63 | 0.133 | 0.138 | 0.143 |
| A5 | 78.37 | 78.50 | 78.63 | 3.085 | 3.091 | 3.096 |
| A6 | 3.87 | 4.00 | 4.13 | 0.152 | 0.157 | 0.163 |
| A7 | 65.87 | 66.00 | 66.13 | 2.593 | 2.598 | 2.604 |
| A8 | 38.87 | 39.00 | 39.13 | 1.530 | 1.535 | 1.541 |

Figure 3.2 Board Slots Detail

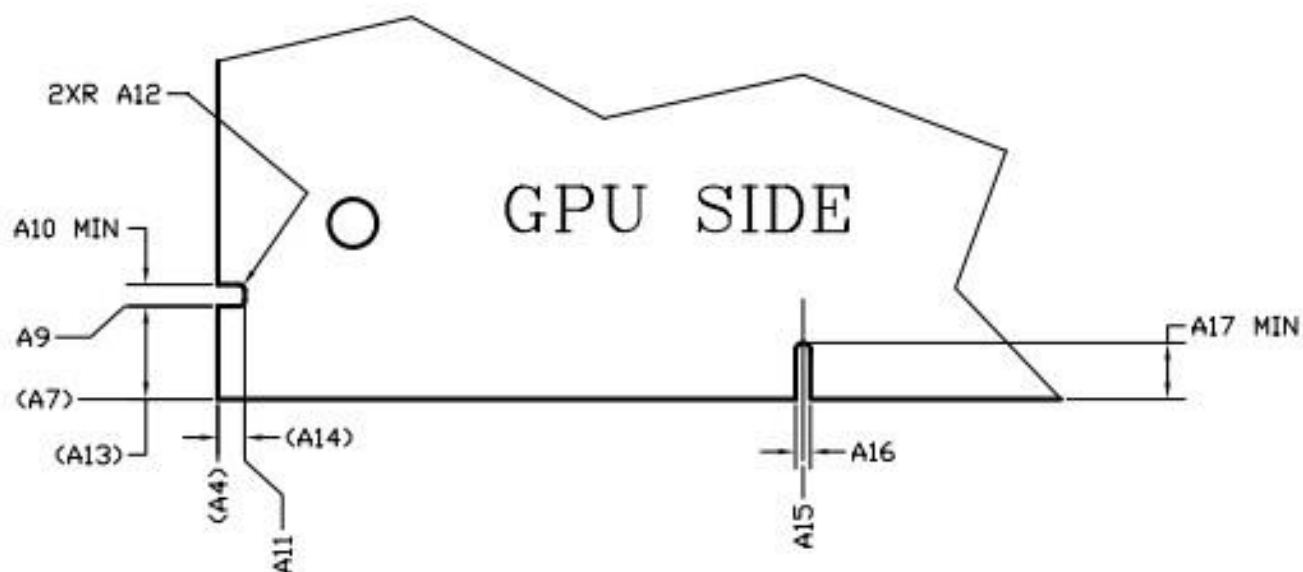


Table 3.2 Board Slots Dimensions

| Symbol | [mm] | | | [in] | | |
|--------|-------|-------|-------|-------|-------|-------|
| | min | nom | max | min | nom | max |
| A4 | | 3.50 | | | 0.138 | |
| A7 | | 66.00 | | | 2.598 | |
| A9 | 59.67 | 59.80 | 59.93 | 2.349 | 2.354 | 2.359 |
| A10 | 1.45 | | | 0.057 | | |
| A11 | 1.57 | 1.70 | 1.83 | 0.062 | 0.067 | 0.072 |
| A12 | 0.32 | 0.50 | 0.58 | 0.013 | 0.020 | 0.023 |
| A13 | | 6.20 | | | 0.244 | |
| A14 | | 1.80 | | | 0.071 | |
| A15 | 35.37 | 35.50 | 35.63 | 1.393 | 1.398 | 1.403 |
| A16 | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| A17 | 3.75 | | | 0.148 | | |

4.MXM PCB Mounting Holes

All MXM version 3.1 modules have 6 holes. Two are used to secure the board to the system and the other four to fasten the thermal solution to the module.

Figure 4.1 Mounting Holes

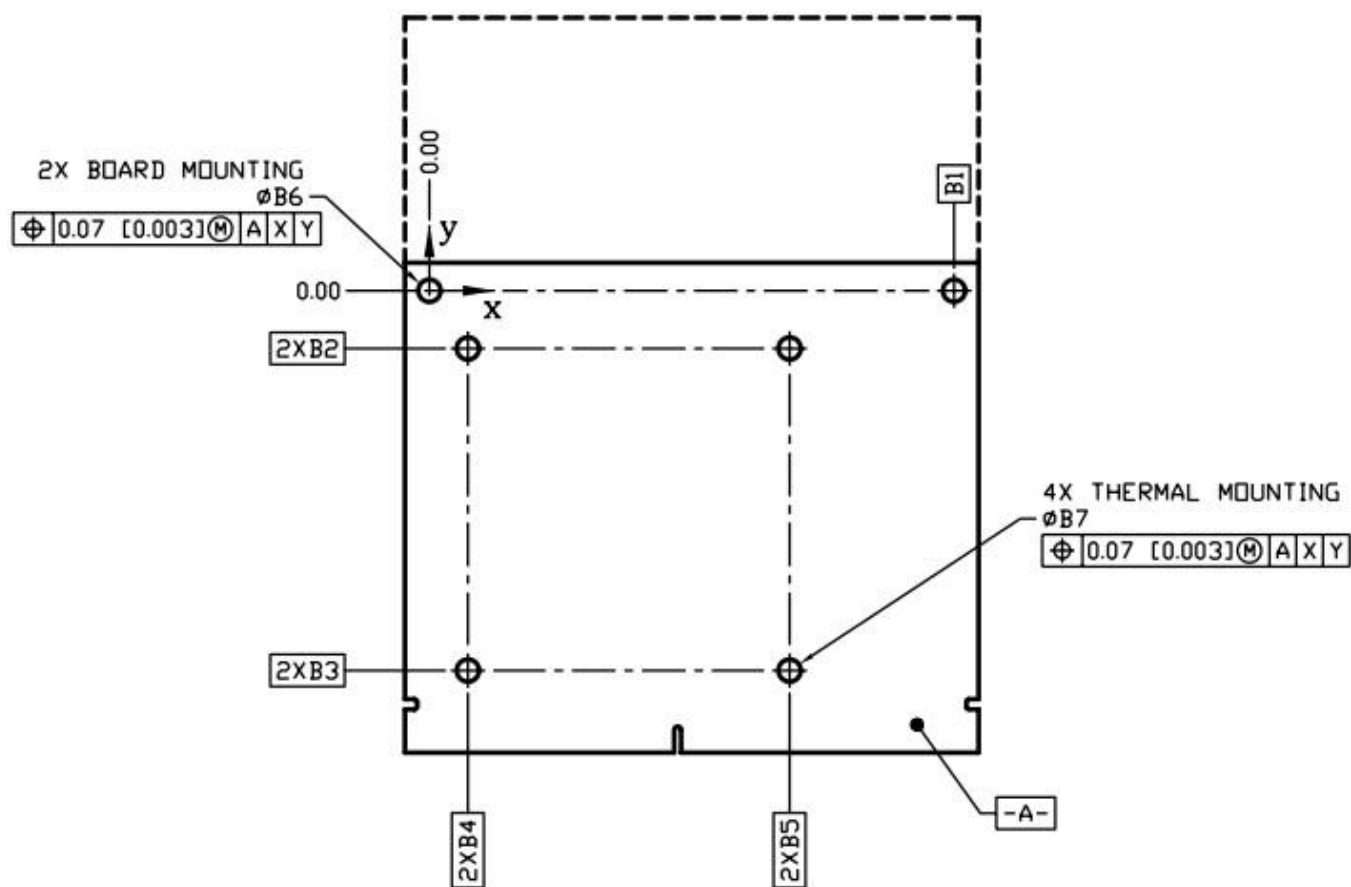


Table 4.1 Mounting Holes Dimensions

| Symbol | [mm] | | | [in] | | |
|--------|------|-------|------|-------|-------|-------|
| | min | nom | max | min | nom | max |
| B1 | | 75.00 | | | 2.953 | |
| B2 | | 8.25 | | | 0.325 | |
| B3 | | 54.25 | | | 2.136 | |
| B4 | | 5.50 | | | 0.217 | |
| B5 | | 51.50 | | | 2.028 | |
| B6 | 3.07 | 3.20 | 3.33 | 0.121 | 0.126 | 0.131 |
| B7 | 3.07 | 3.20 | 3.33 | 0.121 | 0.126 | 0.131 |

5.Connector Pinout

Table 5.1 and Table 5.2 list the connector pinout.

Table 5.1 Connector Pinout

| Pin | Signal Name | Pin | Signal Name | Pin | Signal Name | Pin | Signal Name |
|-----|------------------|-----|-------------|-----|-------------|-----|-------------|
| E1 | PWR_SRC | E2 | PWR_SRC | 69 | PEX_RX12 | 70 | GND |
| E3 | GND | E4 | GND | 71 | GND | 72 | PEX_TX11# |
| 1 | 5V | 2 | PRSNT_R# | 73 | PEX_RX11# | 74 | PEX_TX11 |
| 3 | 5V | 4 | WAKE# | 75 | PEX_RX11 | 76 | GND |
| 5 | 5V | 6 | PWR_GOOD | 77 | GND | 78 | PEX_TX10# |
| 7 | 5V | 8 | PWR_EN | 79 | PEX_RX10# | 80 | PEX_TX10 |
| 9 | 5V | 10 | 27MHZ_REF | 81 | PEX_RX10 | 82 | GND |
| 11 | GND | 12 | GND | 83 | GND | 84 | PEX_TX9# |
| 13 | GND | 14 | LVDS_U_HPD | 85 | PEX_RX9# | 86 | PEX_TX9 |
| 15 | GND | 16 | JTAG_TESTEN | 87 | PEX_RX9 | 88 | GND |
| 17 | GND | 18 | PWR_LEVEL | 89 | GND | 90 | PEX_TX8# |
| 19 | PEX_STD_SW# | 20 | TH_OVERT# | 91 | PEX_RX8# | 92 | PEX_TX8 |
| 21 | VGA_DISABLE # | 22 | TH_ALERT# | 93 | PEX_RX8 | 94 | GND |
| 23 | N/A | 24 | TH_PWM | 95 | GND | 96 | PEX_TX7# |
| 25 | N/A | 26 | GPIO0 | 97 | PEX_RX7# | 98 | PEX_TX7 |
| 27 | N/A | 28 | GPIO1 | 99 | PEX_RX7 | 100 | GND |
| 29 | HDMI_CEC | 30 | GPIO2 | 101 | GND | 102 | PEX_TX6# |
| 31 | LVDS_L_HPD | 32 | SMB_DAT | 103 | PEX_RX6# | 104 | PEX_TX6 |
| 33 | LVDS_DDC_D AT | 34 | SMB_CLK | 105 | PEX_RX6 | 106 | GND |
| 35 | LVDS_DDC_CL K | 36 | GND | 107 | GND | 108 | PEX_TX5# |
| 37 | GND | 38 | OEM0 | 109 | PEX_RX5# | 110 | PEX_TX5 |
| 39 | OEM1 | 40 | OEM2 | 111 | PEX_RX5 | 112 | GND |
| 41 | OEM3 | 42 | OEM4 | 113 | GND | 114 | PEX_TX4# |
| 43 | OEM5 | 44 | OEM6 | 115 | PEX_RX4# | 116 | PEX_TX4 |
| 45 | OEM7 | 46 | GND | 117 | PEX_RX4 | 118 | GND |
| 47 | GND | 48 | PEX_TX15# | 119 | GND | 120 | PEX_TX3# |
| 49 | PEX_RX15# | 50 | PEX_TX15 | 121 | PEX_RX3# | 122 | PEX_TX3 |
| 51 | PEX_RX15 | 52 | GND | 123 | PEX_RX3 | 124 | GND |
| 53 | GND | 54 | PEX_TX14# | 125 | GND | 126 | KEY |
| 55 | PEX_RX14# | 56 | PEX_TX14 | 127 | KEY | 128 | KEY |
| 57 | PEX_RX14 | 58 | GND | 129 | KEY | 130 | KEY |
| 59 | GND | 60 | PEX_TX13# | 131 | KEY | 132 | KEY |
| 61 | PEX_RX13# | 62 | PEX_TX13 | 133 | GND | 134 | GND |
| 63 | PEX_RX13 | 64 | GND | 135 | PEX_RX2# | 136 | PEX_TX2# |
| 65 | GND | 66 | PEX_TX12# | 137 | PEX_RX2 | 138 | PEX_TX2 |
| 67 | PEX_RX12# | 68 | PEX_TX12 | 139 | GND | 140 | GND |

Table 5.2 Connector Pinout(continued)

| Pin | Signal Name | Pin | Signal Name | Pin | Signal Name | Pin | Signal Name |
|-----|-------------|-----|---------------|-----|-------------|-----|-------------|
| 141 | PEX_RX1# | 142 | PEX_TX1# | 213 | DP_C_L2 | 214 | DP_D_L1 |
| 143 | PEX_RX1 | 144 | PEX_TX1 | 215 | GND | 216 | GND |
| 145 | GND | 146 | GND | 217 | DP_C_L3# | 218 | DP_D_L2# |
| 147 | PEX_RX0# | 148 | PEX_TX0# | 219 | DP_C_L3 | 220 | DP_D_L2 |
| 149 | PEX_RX0 | 150 | PEX_TX0 | 221 | GND | 222 | GND |
| 151 | GND | 152 | GND | 223 | DP_C_AUX# | 224 | DP_D_L3# |
| 153 | PEX_REFCLK# | 154 | PEX_CLK_REQ# | 225 | DP_C_AUX | 226 | DP_D_L3 |
| 155 | PEX_REFCLK | 156 | PEX_RST# | 227 | RSVD | 228 | GND |
| 157 | GND | 158 | VGA_DDC_DATA | 229 | RSVD | 230 | DP_D_AUX# |
| 159 | JTAG_TDO | 160 | VGA_DDC_CLOCK | 231 | RSVD | 232 | DP_D_AUX |
| 161 | JTAG_TDI | 162 | VGA_VSYNC | 233 | RSVD | 234 | DP_C_HPD |
| 163 | JTAG_TCLK | 164 | VGA_HSYNC | 235 | RSVD | 236 | DP_D_HPD |
| 165 | JTAG_TMS | 166 | GND | 237 | RSVD | 238 | RSVD |
| 167 | JTAG_TRST# | 168 | VGA_RED | 239 | RSVD | 240 | 3V3 |
| 169 | LVDS_UCLK# | 170 | VGA_GREEN | 241 | RSVD | 242 | 3V3 |
| 171 | LVDS_UCLK | 172 | VGA_BLUE | 243 | RSVD | 244 | GND |
| 173 | GND | 174 | GND | 245 | RSVD | 246 | DP_B_L0# |
| 175 | LVDS_UTX3# | 176 | LVDS_LCLK# | 247 | RSVD | 248 | DP_B_L0 |
| 177 | LVDS_UTX3 | 178 | LVDS_LCLK | 249 | RSVD | 250 | GND |
| 179 | GND | 180 | GND | 251 | GND | 252 | DP_B_L1# |
| 181 | LVDS_UTX2# | 182 | LVDS_LTX3# | 253 | DP_A_L0# | 254 | DP_B_L1 |
| 183 | LVDS_UTX2 | 184 | LVDS_LTX3 | 255 | DP_A_L0 | 256 | GND |
| 185 | GND | 186 | GND | 257 | GND | 258 | DP_B_L2# |
| 187 | LVDS_UTX1# | 188 | LVDS_LTX2# | 259 | DP_A_L1# | 260 | DP_B_L2 |
| 189 | LVDS_UTX1 | 190 | LVDS_LTX2 | 261 | DP_A_L1 | 262 | GND |
| 191 | GND | 192 | GND | 263 | GND | 264 | DP_B_L3# |
| 193 | LVDS_UTX0# | 194 | LVDS_LTX1# | 265 | DP_A_L2# | 266 | DP_B_L3 |
| 195 | LVDS_UTX0 | 196 | LVDS_LTX1 | 267 | DP_A_L2 | 268 | GND |
| 197 | GND | 198 | GND | 269 | GND | 270 | DP_B_AUX# |
| 199 | DP_C_L0# | 200 | LVDS_LTX0# | 271 | DP_A_L3# | 272 | DP_B_AUX |
| 201 | DP_C_L0 | 202 | LVDS_LTX0 | 273 | DP_A_L3 | 274 | DP_B_HPD |
| 203 | GND | 204 | GND | 275 | GND | 276 | DP_A_HPD |
| 205 | DP_C_L1# | 206 | DP_D_L0# | 277 | DP_A_AUX# | 278 | 3V3 |
| 207 | DP_C_L1 | 208 | DP_D_L0 | 279 | DP_A_AUX | 280 | 3V3 |
| 209 | GND | 210 | GND | 281 | PRSNT_L# | - | |
| 211 | DP_C_L2# | 212 | DP_D_L1# | | | | |

6.MXM Connector

Figure 6.1 MXM Connector (Card Top)

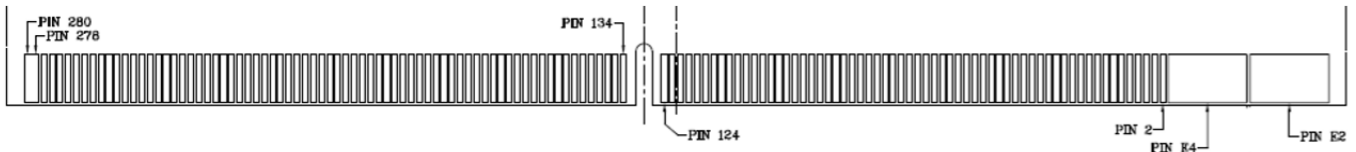
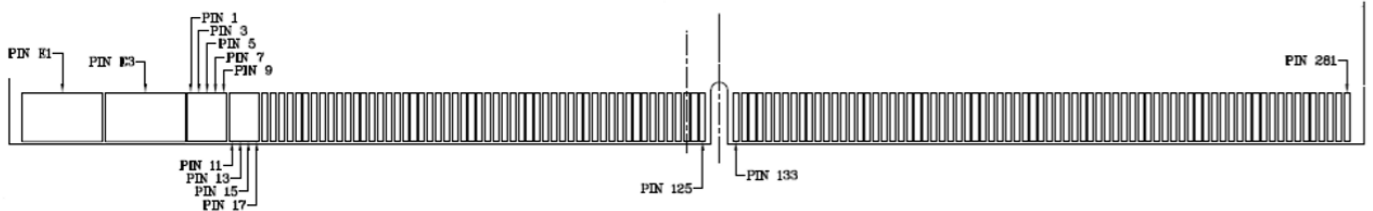


Figure 6.2 MXM Connector (Card Bottom)



7.Power Group

Table 7.1 shows the MXM module power requirements. The voltage tolerances in the table are specified as measured on module edge finger. The system must be able to supply the full specified current on rails (except PWR_SRC) at all times. The current capability of the PWR_SRC rail must be defined by the system in the MXM system information structure.

Table 7.1 MXM Power Rails

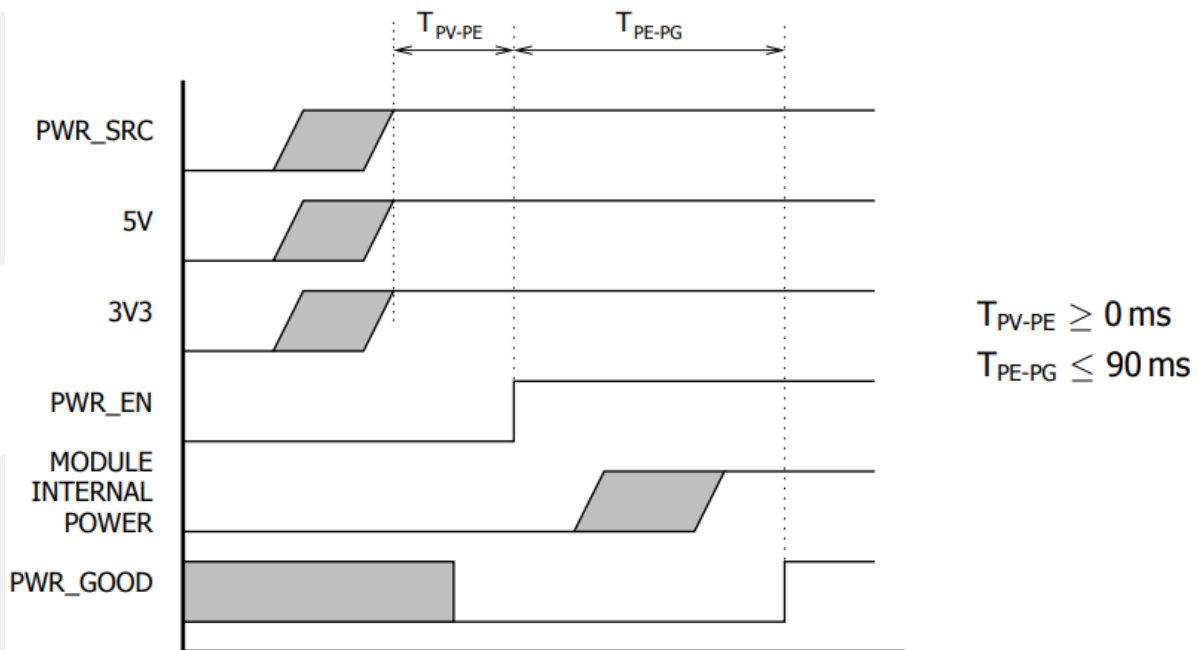
| Signal Name | I/O | Type | Impedance | Voltage | Current |
|-------------|-----|-------|-----------|---------------|-----------|
| PWR_SRC | I | Power | N/A | 12-19V | up to 10A |
| 5V | I | Power | N/A | 5.0V \pm 6% | 2.5A |
| 3.3V | I | Power | N/A | 3.3V \pm 6% | 2.0A |

Note: PWR_SRC voltage range is assumed to be DC or RMS. However under any circumstances the maximum peak voltage shall not exceed 22V and minimum voltage shall not fall below 6.5V.

8. Power Sequencing

There is no power sequencing requirement for the input voltages to the MXM module. However the PWR_EN signal may be asserted only after all power rails are within specified tolerance. The state of PWR_GOOD is undefined until all rails are fully ramped. Refer to Figure 8.1 for details

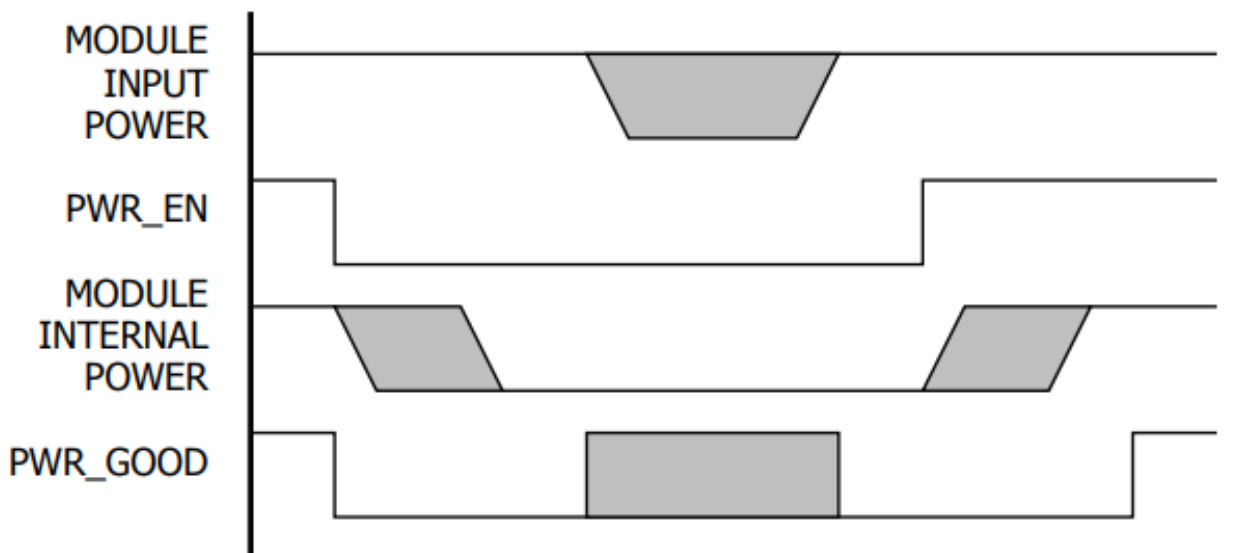
Figure 8.1 Power Sequencing



9. Module Power Down and Power Up

The MXM module may be powered down using the PWR_EN signal. The system designer may choose to shut down or keep the input power while the module is powered down. Refer to Figure 9.1 for details.

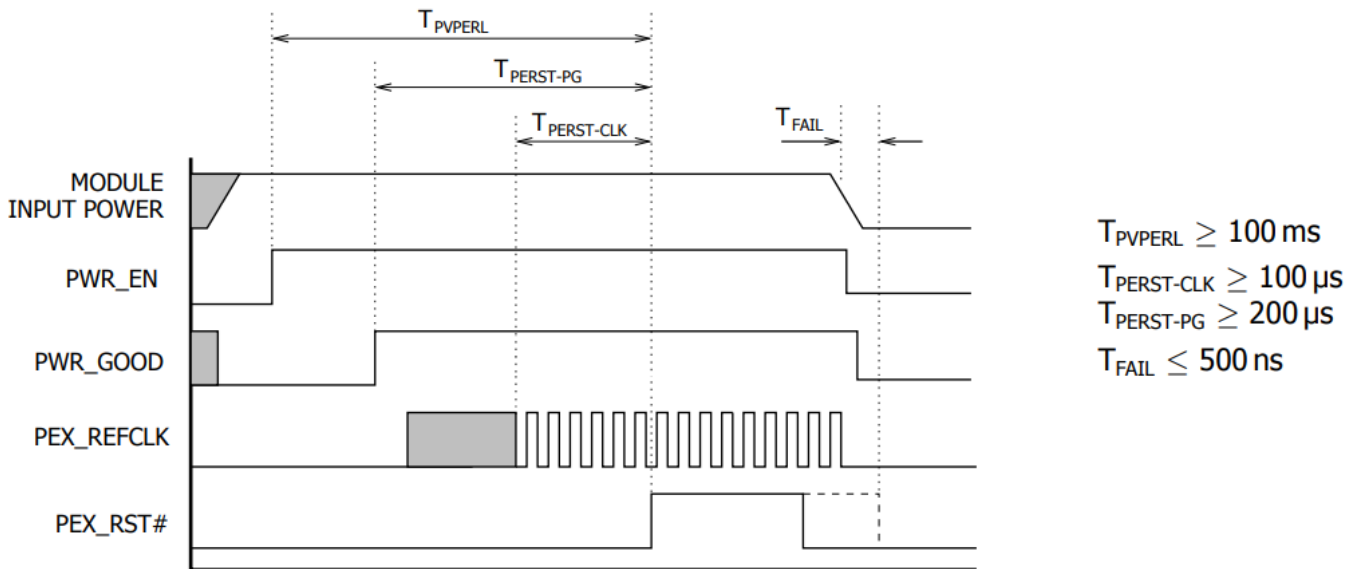
Figure 9.1 Module Power Down



10.Reset Requirements

System reset may be deasserted only after the assertion of the PWR_GOOD signal. Figure 10.1 shows the reset requirements relative to the PWR_EN and PWR_GOOD signals. This sequence must be followed on initial power on, system reset and resume from suspend/hibernate.

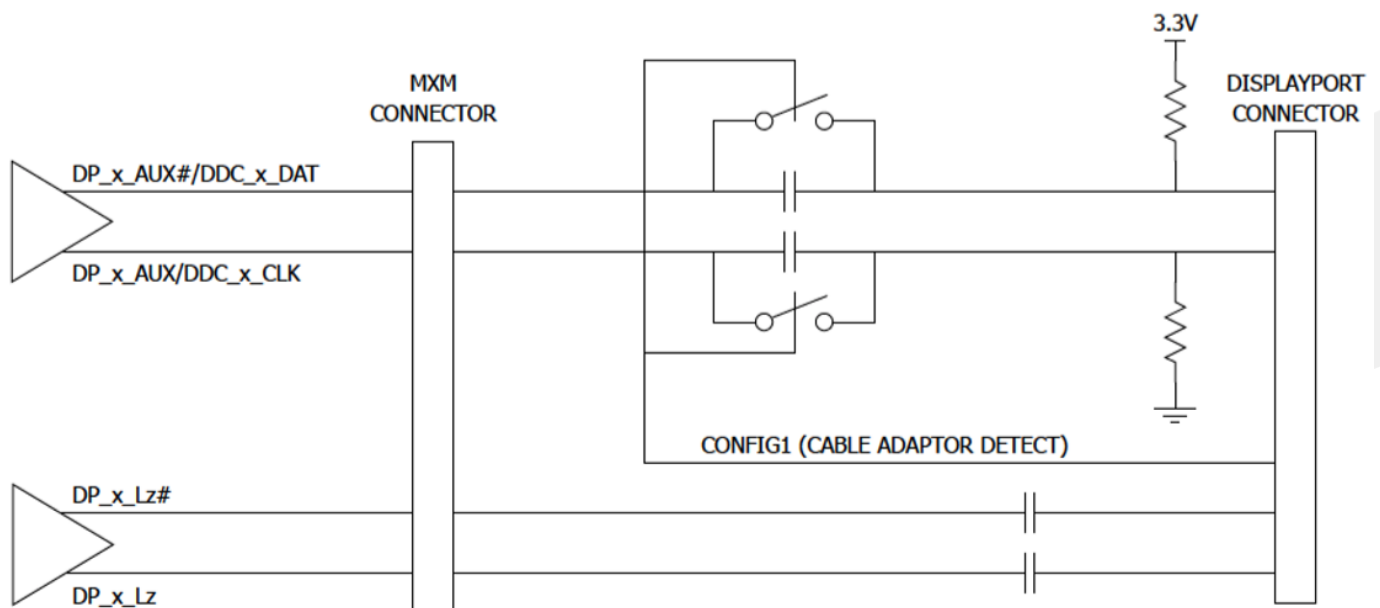
Figure 10.1 Reset Sequencing



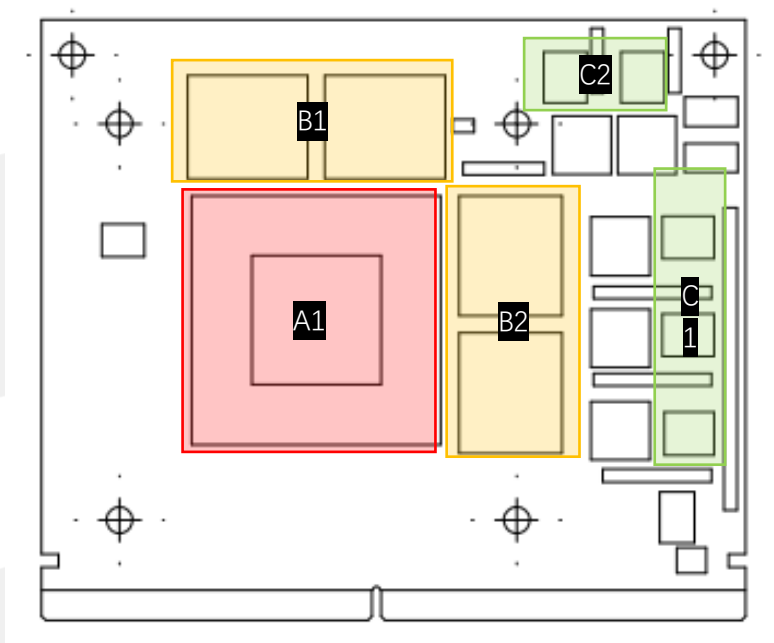
11.DisplayPort Interface

DC blocking capacitors of DisplayPort must be placed on the system board. In addition to the MXM implementation of Dual-mode DisplayPort requires the circuit in Figure 11.1 on the AUX lines for proper dongle detection. The HPD signal conditioning must also be placed on the system board.

Figure 11.1 Dual-mode DisplayPort Implementation



12.Thermal



| Components | Area | TDP | Height |
|------------|------|--------|--------|
| GPU | A1 | 34W | 2.1mm |
| Memory | B1 | 1.5W*2 | 0.9mm |
| Memory | B2 | 1.5W*2 | 0.9mm |
| Mosfet | C1 | 2W*5 | 0.75mm |

| Chipset | | Specification |
|------------|---------|-----------------|
| Dimensions | | 14.9*14.9*2.1mm |
| Stress | Maximum | 75 PSI |
| | Normal | 30-40 PSI |

Cooling Suggestion:

- 1、显卡建议先固定在散热器上，散热器外径为 4mm，M2 的螺柱。
- 2、散热器的重量要用箱体来支撑固定。
- 3、显存和 MOS 要加导热垫。

| Components | 壳温满载限温 (环温 45°C) |
|------------|------------------|
| GPU | 95°C |
| Memory | 85°C |
| Mosfet | 105°C |

*显存和 MOS 由“探针”监测；GPU 由“Furmark (1920*1080)”监测。

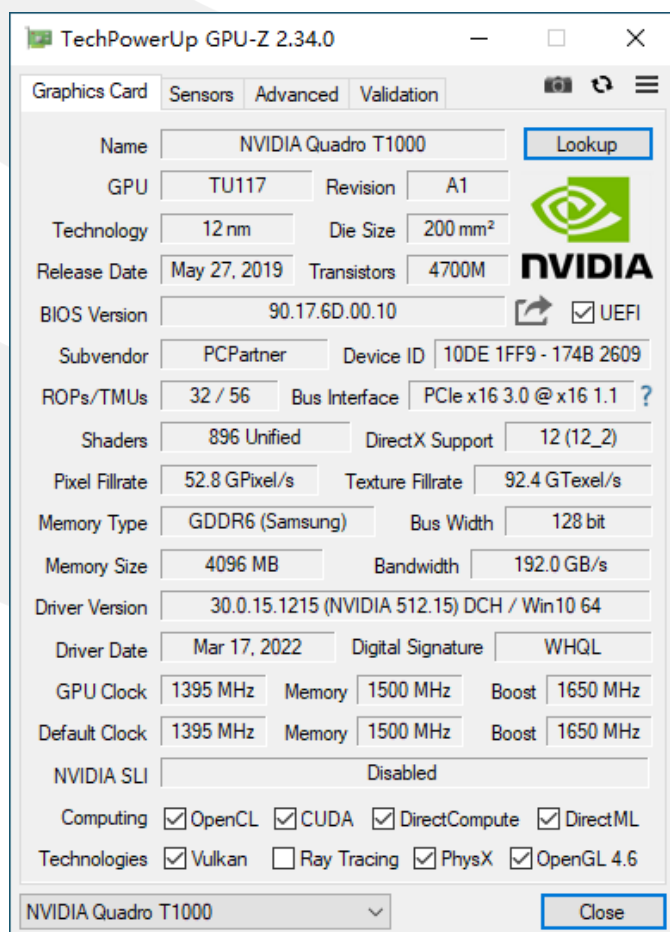
13.Install Video

https://www.douyin.com/user/MS4wLjABAAAfv567McP9KjHrjFWngJgFG8h7XMSWsqH55hBlryutm?modal_id=7306824293789207843

14.Performance

| Benchmark | Score | Benchmark | Score |
|----------------|----------|--------------------------|-------------------|
| glmark2 | 10071 | Cuda | |
| 3Dmark13 | FS:9749 | single kernels | 2336.12 / 57831.1 |
| | FSE:4365 | | |
| | FSU:1975 | | |
| 3Dmark11 | E18436 | N=10 w/o streams | 2629.1 / 106.733 |
| | P12993 | | |
| | X4539 | | |
| 3Dmark Vantage | 43970 | N=10 with streams | 3169.43 / 107.89 |
| Heaven | 1105 | N=10 batched | 1835.12 / 107.791 |
| 鲁大师 | 116398 | | |

| Benchmark | Score |
|------------------|------------------|
| FP32 | 2956.800 GFLOPS |
| FP16 | 5913.600 GFLOPS |
| INT8 | 11827.200 GFLOPS |
| Tensor Core FP16 | 23654.400 GFLOPS |
| Tensor Core INT8 | 47308.800 GFLOPS |



TechPowerUp GPU-Z 2.34.0

Graphics Card | Sensors | Advanced | Validation

Name: NVIDIA Quadro T1000 [Lookup]

GPU: TU117 | Revision: A1

Technology: 12 nm | Die Size: 200 mm²

Release Date: May 27, 2019 | Transistors: 4700M

BIOS Version: 90.17.6D.00.10 [UEFI]

Subvendor: PCPartner | Device ID: 10DE 1FF9 - 174B 2609

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

Shaders: 896 Unified | DirectX Support: 12 (12_2)

Pixel Fillrate: 52.8 GPixel/s | Texture Fillrate: 92.4 GTexel/s

Memory Type: GDDR6 (Samsung) | Bus Width: 128 bit

Memory Size: 4096 MB | Bandwidth: 192.0 GB/s

Driver Version: 30.0.15.1215 (NVIDIA 512.15) DCH / Win10 64

Driver Date: Mar 17, 2022 | Digital Signature: WHQL

GPU Clock: 1395 MHz | Memory: 1500 MHz | Boost: 1650 MHz

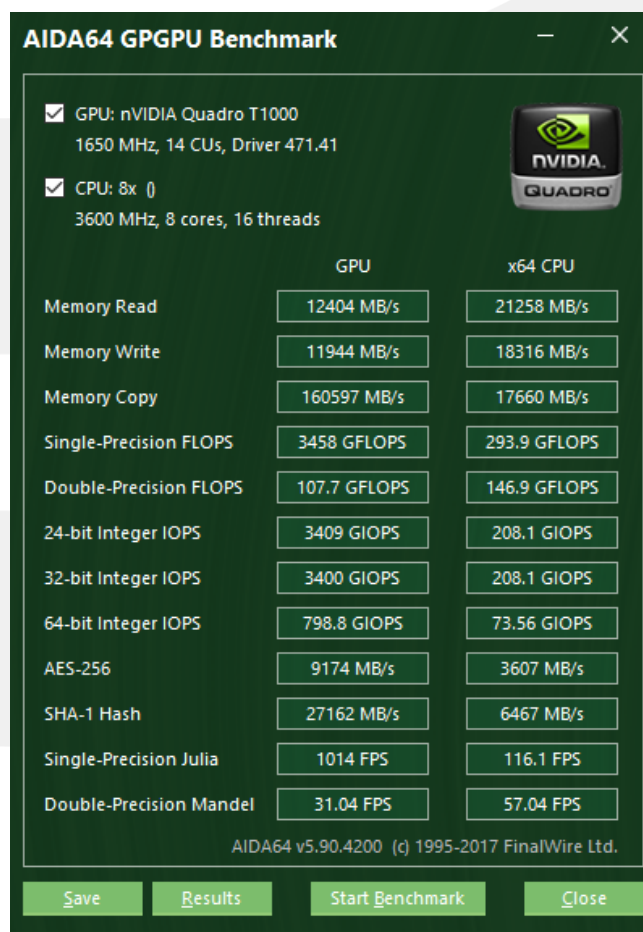
Default Clock: 1395 MHz | Memory: 1500 MHz | Boost: 1650 MHz

NVIDIA SLI: Disabled

Computing: OpenCL CUDA DirectCompute DirectML

Technologies: Vulkan Ray Tracing PhysX OpenGL 4.6

NVIDIA Quadro T1000 [Close]



AIDA64 GPGPU Benchmark

GPU: nVIDIA Quadro T1000
1650 MHz, 14 CUs, Driver 471.41

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

| | GPU | x64 CPU |
|-------------------------|--------------|--------------|
| Memory Read | 12404 MB/s | 21258 MB/s |
| Memory Write | 11944 MB/s | 18316 MB/s |
| Memory Copy | 160597 MB/s | 17660 MB/s |
| Single-Precision FLOPS | 3458 GFLOPS | 293.9 GFLOPS |
| Double-Precision FLOPS | 107.7 GFLOPS | 146.9 GFLOPS |
| 24-bit Integer IOPS | 3409 GIOPS | 208.1 GIOPS |
| 32-bit Integer IOPS | 3400 GIOPS | 208.1 GIOPS |
| 64-bit Integer IOPS | 798.8 GIOPS | 73.56 GIOPS |
| AES-256 | 9174 MB/s | 3607 MB/s |
| SHA-1 Hash | 27162 MB/s | 6467 MB/s |
| Single-Precision Julia | 1014 FPS | 116.1 FPS |
| Double-Precision Mandel | 31.04 FPS | 57.04 FPS |

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

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

15.Driver

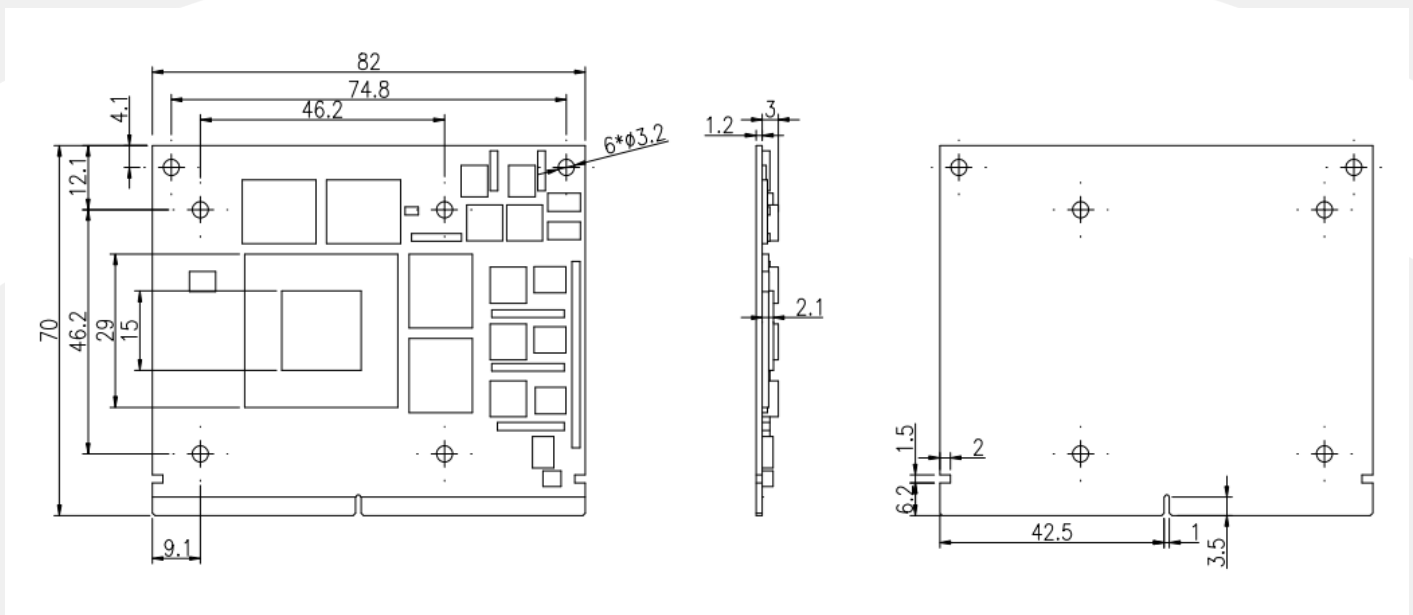
Windows 10: https://cn.download.nvidia.com/Windows/Quadro_Certified/471.41/471.41-quadro-rtx-desktop-notebook-win10-64bit-international-dch-whql.exe

Windows 7 64bit: <https://pan.baidu.com/s/1RdutwSVYtFhhI9nXNALDWg?pwd=0pnf>

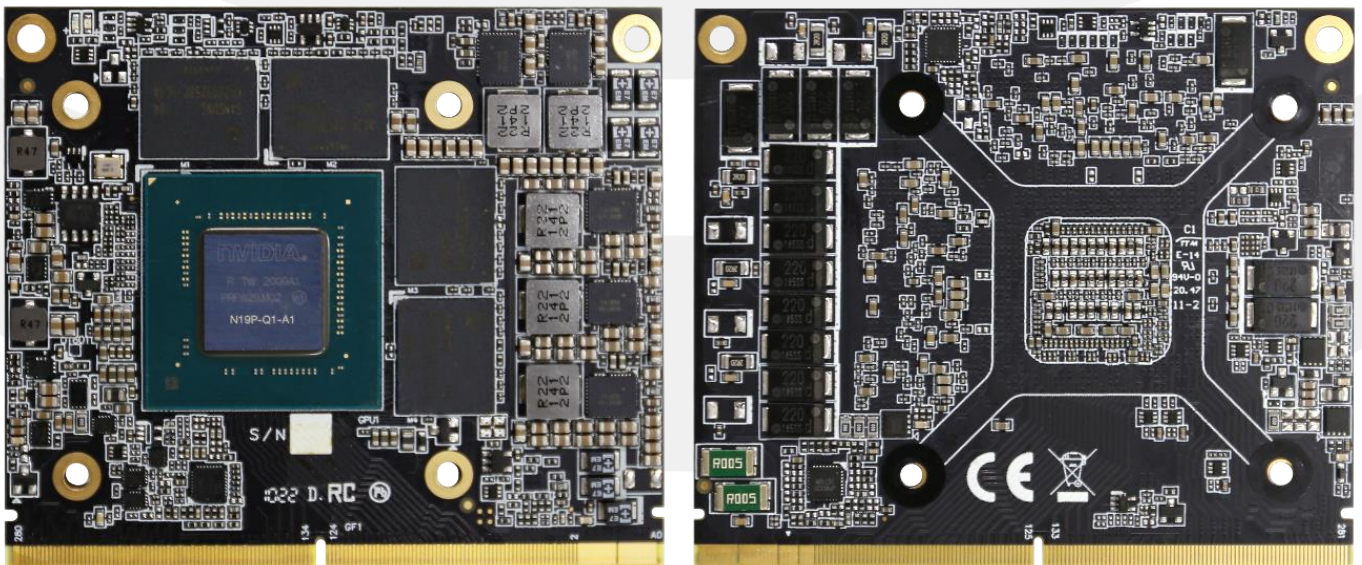
Linux 64bit: https://cn.download.nvidia.com/XFree86/Linux-x86_64/470.57.02/NVIDIA-Linux-x86_64-470.57.02.run

Uninstall Driver Video: https://www.douyin.com/user/MS4wLjABAAAfv567McP9KjHrjFWngJgFG8h7XMSWsqH55hBlryutm?modal_id=7321980490926279951

16.Dimensions



17.Photo

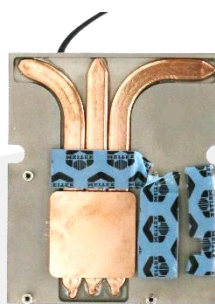


18.Cooling Option



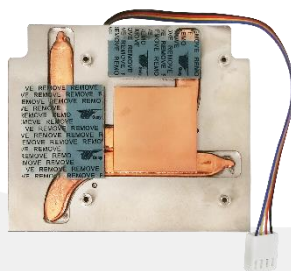
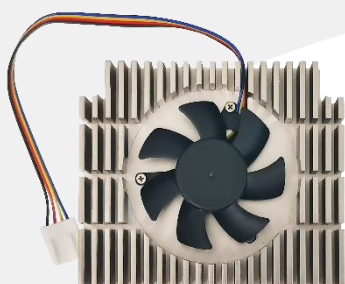
1.ZRT.48-6209-01-A00

| | |
|--------------------------------|--------------|
| Dimension | 96*80.2*25mm |
| Rated Speed | 4500 |
| Out of Frame Lead Wires | 150mm |
| Connector | 4Pin 1.25 |



1.ZRT.48-6209-00-A00

| | |
|--------------------------------|--------------|
| Dimension | 96*80.2*25mm |
| Rated Speed | 4500 |
| Out of Frame Lead Wires | 150mm |
| Connector | 4Pin 2.54 |



1.ZRT.48-6370-00-A00

| | |
|--------------------------------|---------------|
| Dimension | 82*69*14.55mm |
| Rated Speed | 4500 |
| Out of Frame Lead Wires | 140mm |
| Connector | 4Pin 2.54 |

20.Question

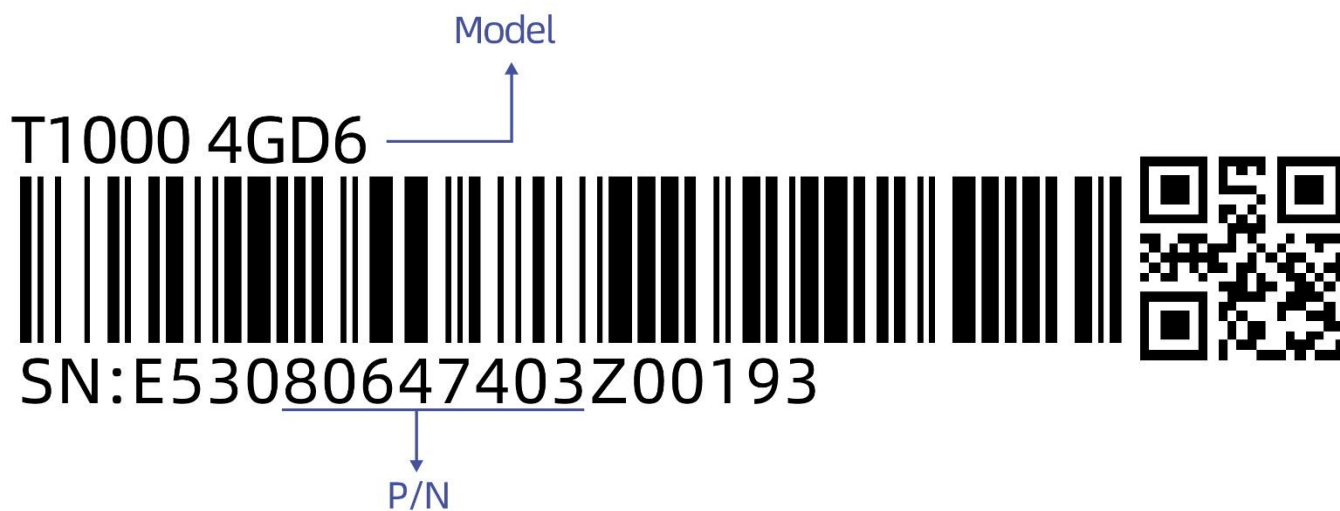
| 故障 | 排除 |
|--------------------------------------|--|
| 不开机 | 1、更改 pgood 信号。(部份主板) 2、确认 PCIE 复位信号。 3、主板 BIOS 更改为 UEFI BIOS。 |
| 不显示 | Windows 10: (需 1809 版本之后) 在主板 BIOS 下, 将 CSM 中 CSM Support 设置由 Enabled 更改为 Disabled。 Windows7: 在主板 BIOS 下, 将 CSM 中 CSM Support 设置由 Enabled 更改为 Disabled, 并将 Video 设置由 legacy 更改为 UEFI。 |
| 集显及独显在 Win7 下, 无法同时开启 3D 启动 | 打系统补丁 (KB2685811), 解压后, 把所有文件 COPY 到 C 盘 根目录下运行 BAT 文件。 |
| 安装 Linux 系统, 图形界面异常/无限循环登陆界面, 无法登录系统 | 装驱动的时候, 加上--no-opengl-files。 (禁用 opengl, 若系统上有用到这套组件, 将无法使用) |

| 故障 | 排除 |
|------------------------------|--|
| 设备管理员出现惊叹号 | 1、原系统显卡驱动删除干净。(请使用 Display Driver Uninstaller 删除, https://www.wagnardsoft.com/) 2、Windows 10 版本 16299 不支持, 需更新至最新版 (17763、17134 均可)。 3、Windows 7 打补丁 KB2685811。 4、确认核显驱动是否已安装。(不需独立显卡显示) |
| 显卡不工作 | 量下 3V3/5V/2V/Reset 信号是否有电/短路? 若有电, 显卡就会工作。 |
| 控制面板无法正常开启 | 仅可在独显显示时, 才能正常开启; 若使用集显显示, 将无法正常开启。 |
| X86 在中标麒麟系统下, 显卡驱动后集显输出不能进系统 | 将 xorg.conf 文件内容清空。 |
| 银河麒麟系统自带的显卡驱动与显卡不兼容 | 先删除银河麒麟系统自带的显卡驱动, 然后再安装显卡驱动。 *删除指令 <code>sudo apt-get remove nvidia*</code> |
| 显卡无法辨视 | 检查 PCIE LANE Numbering Reversal 设置。 主要关注下上电和 pcie, 确认下 1、PCIE 的连接 (是否 0-15 反、差分正负反、x16 是否拆分, bios 可修改, 软硬件要一致), 耦合电容是否少以及容值; 协议兼容性 (降 gen1, 或用 x1 试试, 显卡都能支持 x1) 2、信号质量, 100MHz clk (示波器看下抖动, bios 是否有展频), pcie 的信号质量 (看实际距离不长, 概率不大, 可以 bios 调不同的去加重、预加重值试试, 能测试眼图最好) 3、上电主要是给显卡的 enable 信号, 其他的不影响开机, 时序 (主板启动比显卡快, bios 可以对 reset 信号延时试试) |

21.Part Number

| Model | Part Number | Specification |
|----------------------|----------------------|---|
| T1000 4GD6 | 8.ZRT.80-6474-03-LFF | F88 T1000m 4G 128bit GDDR6 4DP MXM Type A 50W-ZRT 彩包二十八 |
| T1000 4GD6 MXM (36W) | 8.ZRT.80-6474-05-LFF | F88 T1000 4G 128bit GDDR6 4DP MXM Type A 36W-ZRT 彩包二十八 |
| T1000A6-4G | 8.ZRT.80-6474-00-LFF | F88 T1000 4G 128bit GDDR6 256*32 4DP MXM Type A-工包六十入 |
| T1000 4GD6(-20) | 8.ZRT.80-6474-04-LFF | F88 T1000m 4G 128bit GDDR6 4DP MXM Type A 50W -20 度-工包六十入 |

22.Label



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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