

1.Specifications:

Model	MD1050A5-2G	
GPU Architecture	NVIDIA Pascal	
Graphics Processing Unit	NVIDIA GeForce GTX1050	
NVIDIA CUDA Core	640SP	
Bus Type	MXM3 .1 / up to PCI Express 3.0	
Graphics Clock	1354MHz / 1455MHz (Boost)	
Single Precision FLOPS	1825GFLOPS	
Double Precision FLOPS	57.88GFLOPS	
Memory Size	2GB 128bit GDDR5	
Memory Clock	1752MHz (7.0 Gbps)	
Display Features	DP A: Display Port1.4++ DP B: HDMI2.0 DP C: HDMI2.0	DP A: HDMI2.0 DP B: HDMI2.0 DP C: HDMI2.0 DP D: HDMI2.0
Max Resolution	DP:7680x4320@120Hz HDMI:3840x2160@60Hz	
Board Power	75W (Option 35/45W)	
Board Dimensions	MXM Graphics Module Version 3.1 Type A (70x82mm)	
Number of output Channel	4	
Operation System	Windows 7/8/8.1/10 32/64bit 、 Linux 32/64bit	
VIN Range	DC 12~19V, 3.3V & 5V; +/-5%	

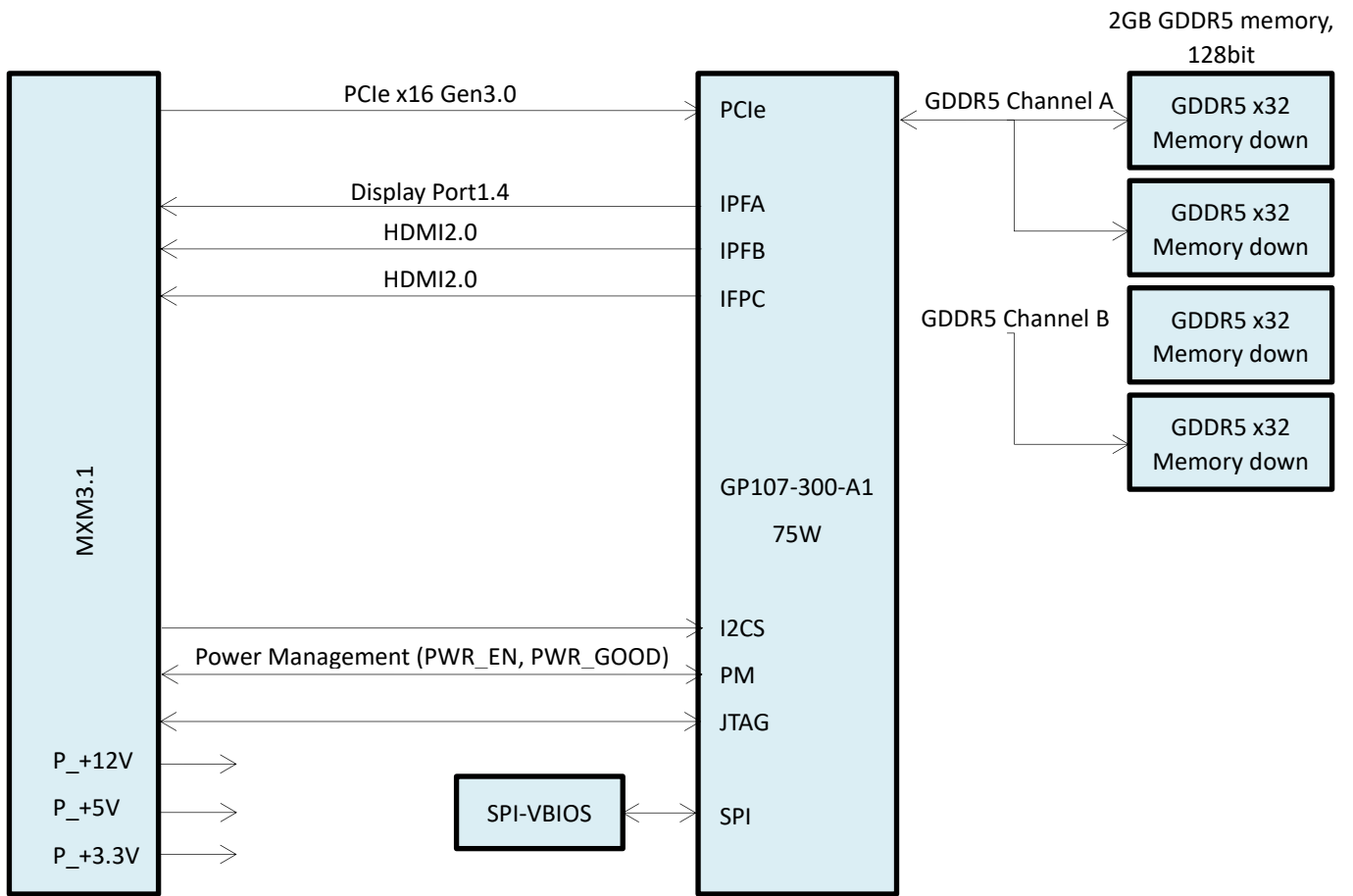
OpenGL	4.5
OpenCL	1.2
DirectX	12
Video Playback	H.265, VC1, MPEG2 1080P

Operating Temperature	0~45°C (Option -20°C)
Storage Temperature	-20~75°C
Operating Humidity	0~95% (non-condensing)
Storage Humidity	10~90%

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

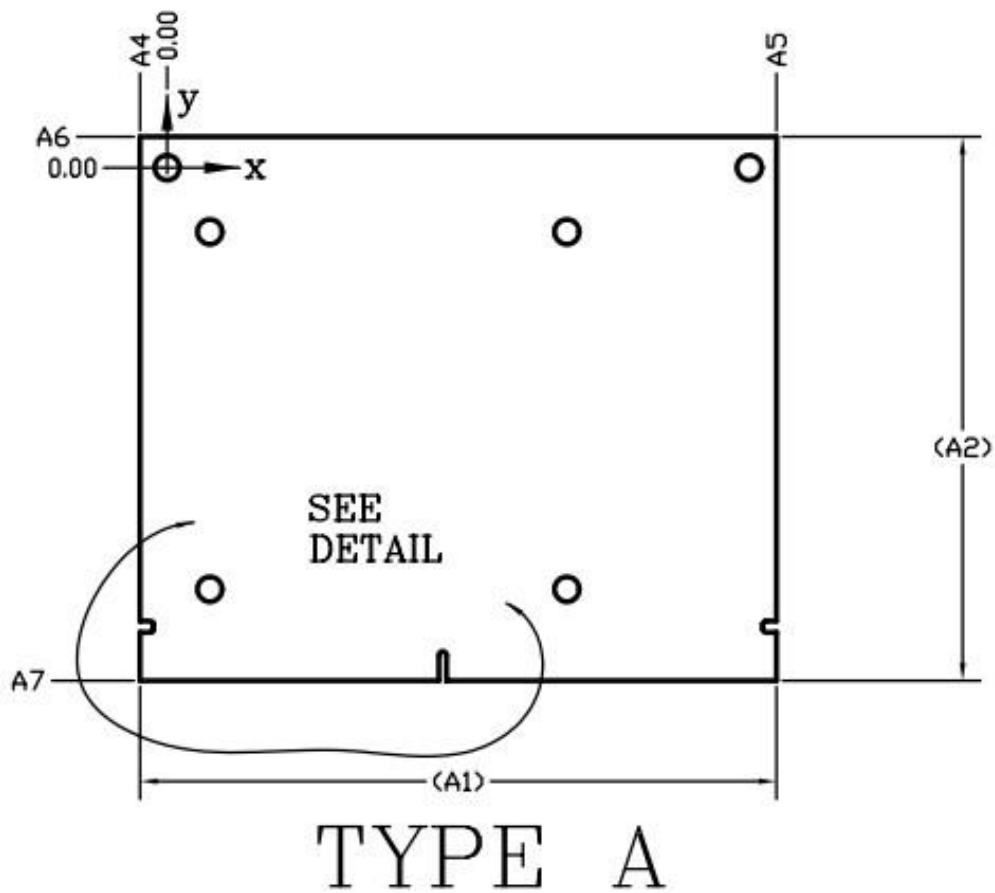


Table 3.1: Board Outline Dimensions

Symbol	[mm]			[in]		
	min	nom	max	min	nom	max
A1		82.00			3.228	
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
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

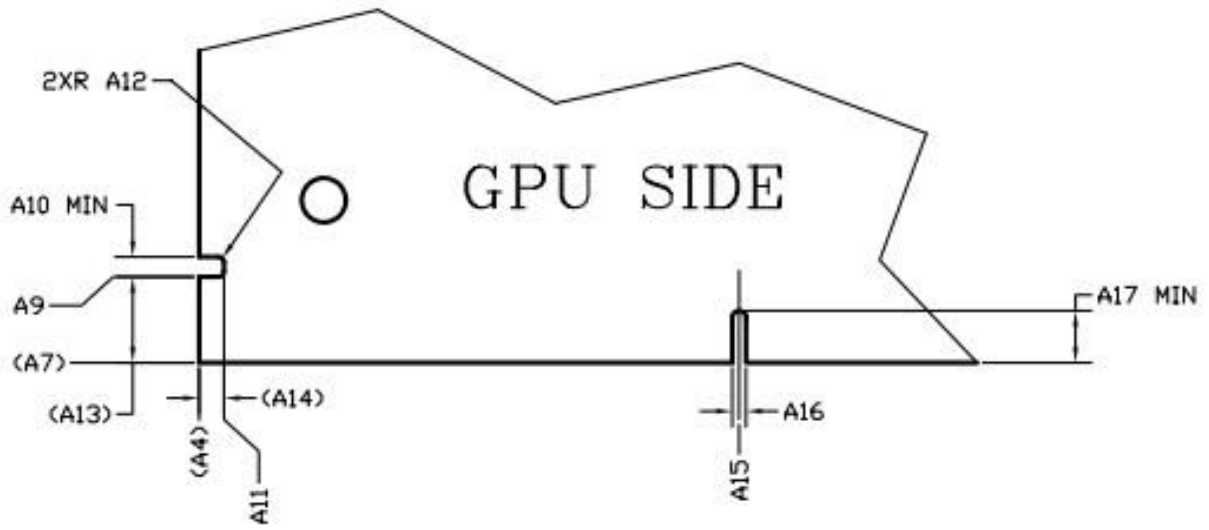


Table 3.2: Board Slots Dimensions

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

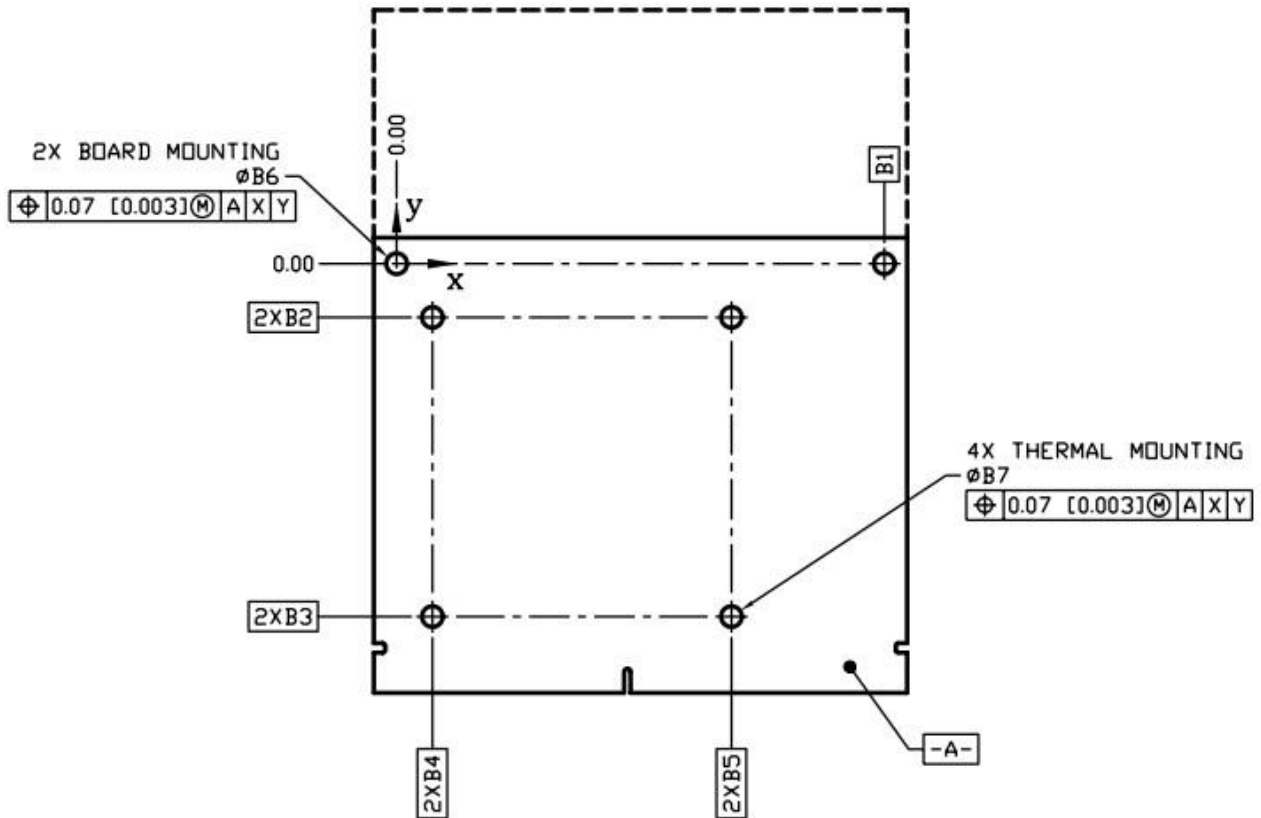


Table 4.1: Mounting Holes Dimensions

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, Table 5.2 and Table 5.3 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	59	GND	60	PEX_TX13#
E3	GND	E4	GND	61	PEX_RX13#	62	PEX_TX13
1	5V	2	PRSNT_R	63	PEX_RX13	64	GND
3	5V	4	WAKE	65	GND	66	PEX_TX12#
5	5V	6	PWR_GOOD	67	PEX_RX12#	68	PEX_TX12
7	5V	8	PWR_EN	69	PEX_RX12	70	GND
9	5V	10	27MHZ_REF	71	GND	72	PEX_TX11#
11	GND	12	GND	73	PEX_RX11#	74	PEX_TX11
13	GND	14		75	PEX_RX11	76	GND
15	GND	16	RSVD	77	GND	78	PEX_TX10#
17	GND	18	PWR_LEVEL	79	PEX_RX10#	80	PEX_TX10
19	PEX_STD_SW#	20	TH_OVERT#	81	PEX_RX10	82	GND
21	VGA_DISABLE#	22	TH_ALERT#	83	GND	84	PEX_TX9#
23	N/A	24	TH_PWM	85	PEX_RX9#	86	PEX_TX9
25	N/A	26	GPIO0	87	PEX_RX9	88	GND
27	N/A	28	GPIO1	89	GND	90	PEX_TX8#
29	HDMI_CEC	30	GPIO2	91	PEX_RX8#	92	PEX_TX8
31	N/A	32	N/A	93	PEX_RX8	94	GND
33	N/A	34	N/A	95	GND	96	PEX_TX7#
35	N/A	36	GND	97	PEX_RX7#	98	PEX_TX7
37	GND	38	OEM0	99	PEX_RX7	100	GND
39	OEM1	40	OEM2	101	GND	102	PEX_TX6#
41	OEM3	42	OEM4	103	PEX_RX6#	104	PEX_TX6
43	OEM5	44	OEM6	105	PEX_RX6	106	GND
45	OEM7	46	GND	107	GND	108	PEX_TX5#
47	GND	48	PEX_TX15#	109	PEX_RX5#	110	PEX_TX5
49	PEX_RX15#	50	PEX_TX15	111	PEX_RX5	112	GND
51	PEX_RX15	52	GND	113	GND	114	PEX_TX4#
53	GND	54	PEX_TX14#	115	PEX_RX4#	116	PEX_TX4
55	PEX_RX14#	56	PEX_TX14	117	PEX_RX4	118	GND
57	PEX_RX14	58	GND	119	GND	120	PEX_TX3#

Table 5.2: Connector Pinout(continued)

Pin	Signal Name	Pin	Signal Name	Pin	Signal Name	Pin	Signal Name
121	PEX_RX3#	122	PEX_TX3	191	N/A	192	N/A
123	PEX_RX3	124	GND	193	N/A	194	N/A
125	GND	126	KEY	195	N/A	196	N/A
127	KEY	128	KEY	197	GND	198	GND
129	KEY	130	KEY	199	DP_C_L0#	200	N/A
131	KEY	132	KEY	201	DP_C_L0	202	N/A
133	GND	134	GND	203	GND	204	GND
135	PEX_RX2#	136	PEX_TX2#	205	DP_C_L1#	206	N/A
137	PEX_RX2	138	PEX_TX2	207	DP_C_L1	208	N/A
139	GND	140	GND	209	GND	210	GND
141	PEX_RX1#	142	PEX_TX1#	211	DP_C_L2#	212	N/A
143	PEX_RX1	144	PEX_TX1	213	DP_C_L2	214	N/A
145	GND	146	GND	215	GND	216	GND
147	PEX_RX0#	148	PEX_TX0#	217	DP_C_L3#	218	N/A
149	REX_RX0	150	PEX_TX0	219	DP_C_L3	220	N/A
151	GND	152	GND	221	GND	222	GND
153	PEX_REFCLK#	154	PEX_CLK_REQ	223	DP_C_AUX#	224	N/A
155	PEX_REFCLK	156	PEX_RST#	225	DP_C_AUX	226	N/A
157	GND	158	N/A	227	RSVD	228	GND
159	JTAG_TDO	160	N/A	229	RSVD	230	N/A
161	JTAG_TDI	162	N/A	231	RSVD	232	N/A
163	JTAG_TCLK	164	N/A	233	RSVD	234	DP_C_HPD
165	JTAG_TMS	166	GND	235	RSVD	236	N/A
167	JTAG_TRST	168	N/A	237	RSVD	238	RSVD
169	N/A	170	N/A	239	RSVD	240	3V3
171	N/A	172	N/A	241	RSVD	242	3V3
173	GND	174	GND	243	RSVD	244	GND
175	N/A	176	N/A	245	RSVD	246	DP_B_L0#
177	N/A	178	N/A	247	RSVD	248	DP_B_L0
179	GND	180	GND	249	RSVD	250	GND
181	N/A	182	N/A	251	GND	252	DP_B_L1#
183	N/A	184	N/A	253	DP_A_L0#	254	DP_B_L1
185	GND	186	GND	255	DP_A_L0	256	GND
187	N/A	188	N/A	257	GND	258	DP_B_L2#
189	N/A	190	N/A	259	DP_A_L1#	260	DP_B_L2

Table 5.3: Connector Pinout(continued)

Pin	Signal Name	Pin	Signal Name	Pin	Signal Name	Pin	Signal Name
261	DP_A_L1	262	GND	273	DP_A_L3	274	DP_B_HPD
263	GND	264	DP_B_L3#	275	GND	276	DP_A_HPD
265	DP_A_L2#	266	DP_B_L3	277	DP_A_AUX#	278	3V3
267	DP_A_L2	268	GND	279	DP_A_AUX	280	3V3
269	GND	270	DP_B_AUX#	281	PRSNT_L	-	
271	DP_A_L3#	272	DP_B_AUX				

6.MXM Connector:

Figure 6.1 MXM Connector (Card Top)

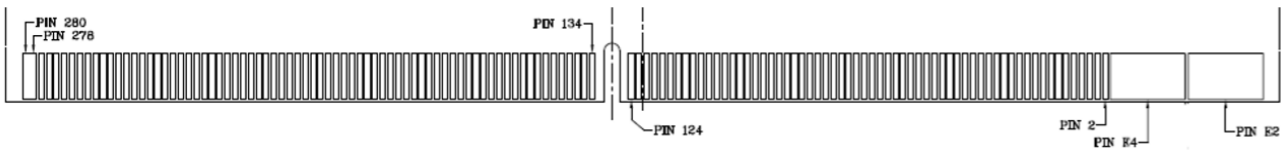
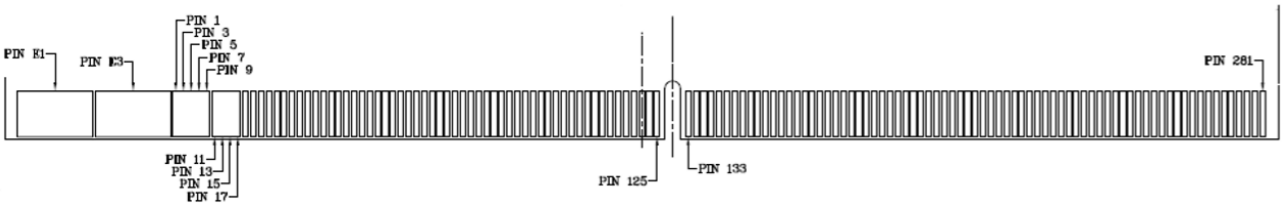


Figure 6.2 MXM Connector (Card Bottom)



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

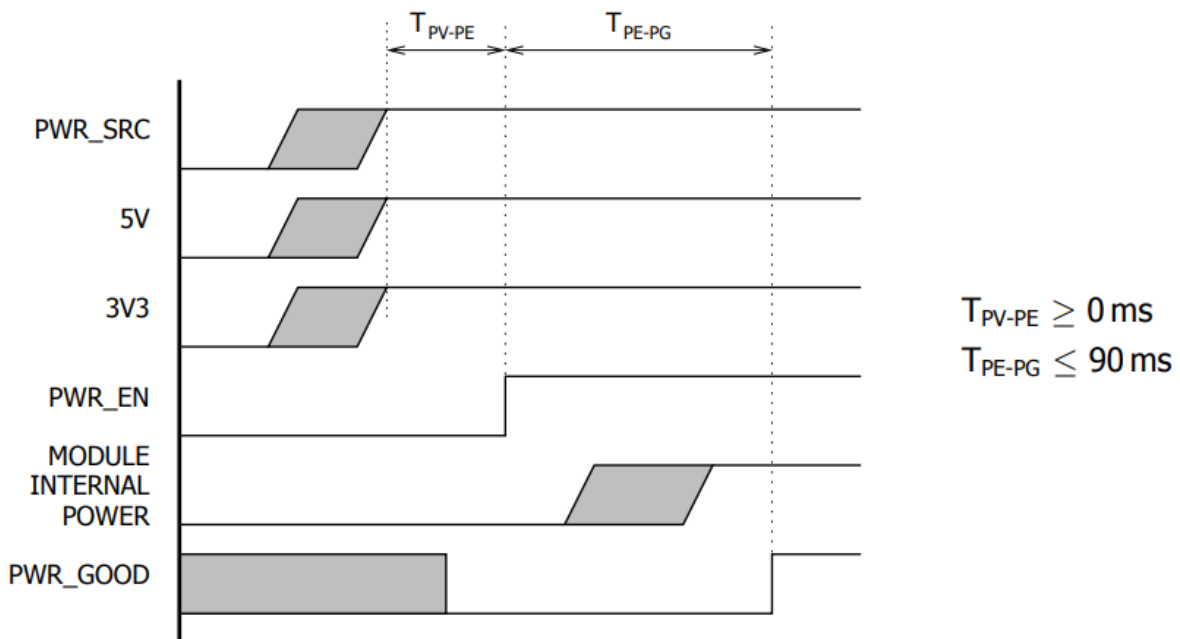
Signal Name	I/O	Type	Impedance	Voltage	Current
PWR_SRC	I	Power	N/A	7-20V	up to 10A
5V	I	Power	N/A	5.0V \pm 6%	2.5A
3.3V	I	Power	N/A	3.3V \pm 6%	2.0A

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

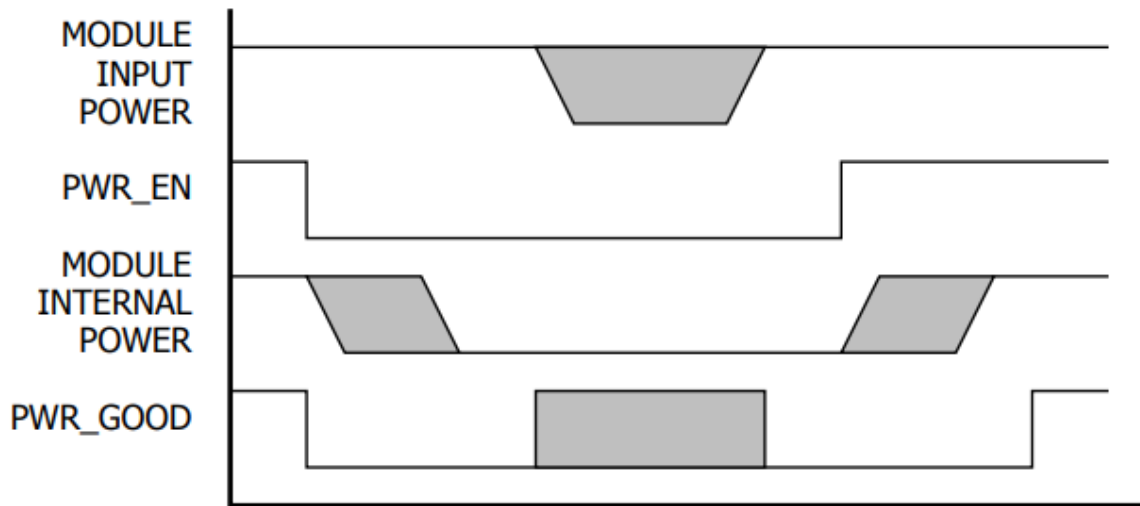
Figure 8.1 Power Sequencing



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.

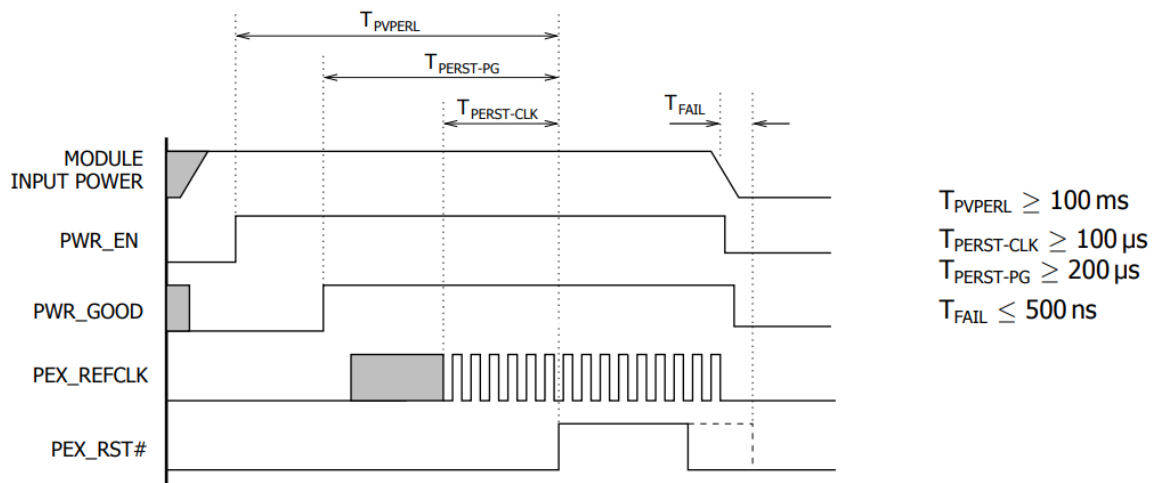
Figure 9.1 Module Power Down



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.

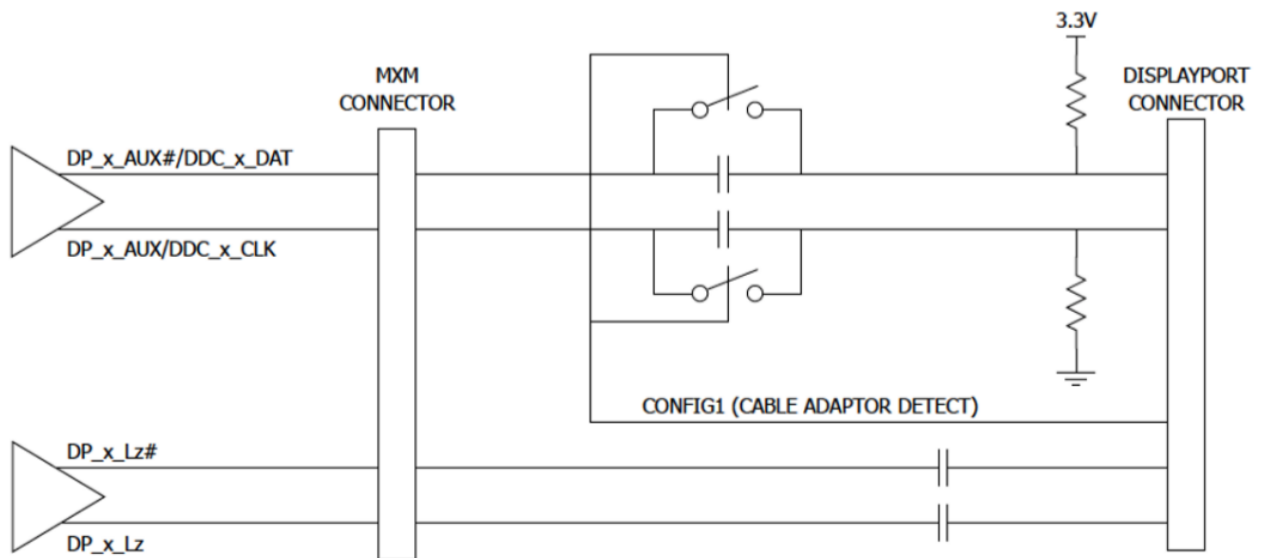
Figure 10.1 Reset Sequencing



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.DVI/HDMI on DP Interface:

Native DVI or HDMI connector support can be implemented using a DisplayPort interface.

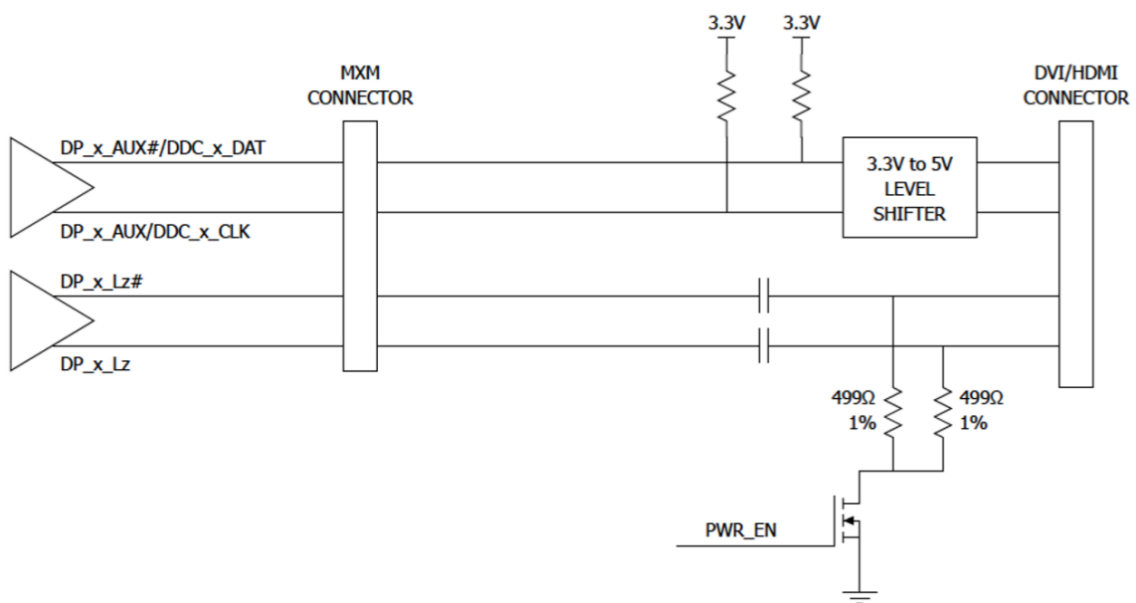
Additional circuitry is required on the system and the proper signal mapping must be observed. As Figure 12.1 shows, 499Ω 1% pull-down resistors to ground on the DP lane signals must be placed on the connector side of AC coupling capacitors gated by a FET to limit the leakage. Additionally level shifting circuits must also be implemented on DDC Data and Clock.

Table 12.1 shows the mapping to connect the signals from the MXM connector to the HDMI/DVI connector.

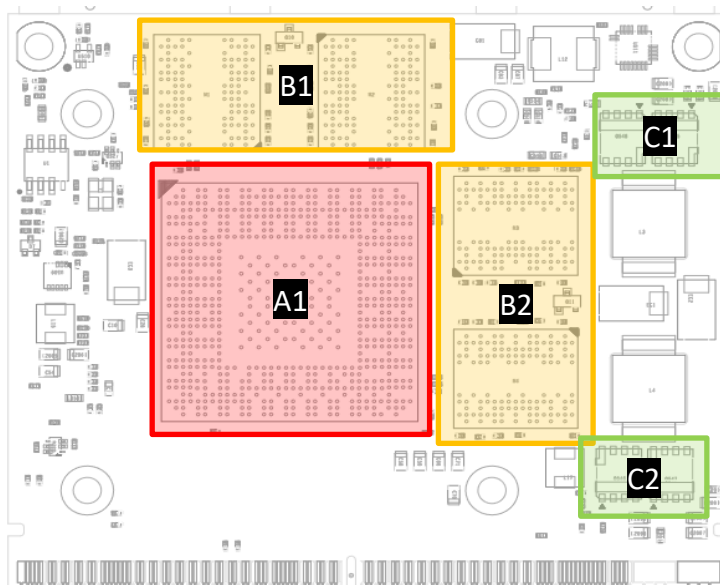
Table 12.1: DisplayPort Multiplexed Signal Definition

Pin Name	DVI/HDMI
DP_xL0	TX_x_D2
DP_xL0#	TX_x_D2#
DP_x_L1	TX_x_D1
DP_x_L1#	TX_x_D1#
DP_x_L2	TX_x_D0
DP_x_L2#	TX_x_D0#
DP_x_L3	TX_x_CLK
DP_x_L3#	TX_x_CLK#
DP_x_AUX	DDC_x_CLK
DP_x_AUX#	DDC_x_DAT

Figure 12.1 DVI/HDMI Implementation Using DP Interface



13.Thermal:



Components	Area	TDP	Height
GPU	A1	61W	2.1mm
Memory	B1	1.5W*2	0.9mm
Memory	B2	1.5W*2	0.9mm
Mosfet	C1、C2	2W*4	0.75mm

Chipset		Specification
Dimensions		12.1*11.5mm
Stress	Maximum	75 PSI
	Normal	30-40 PSI

Cooling Suggestion:

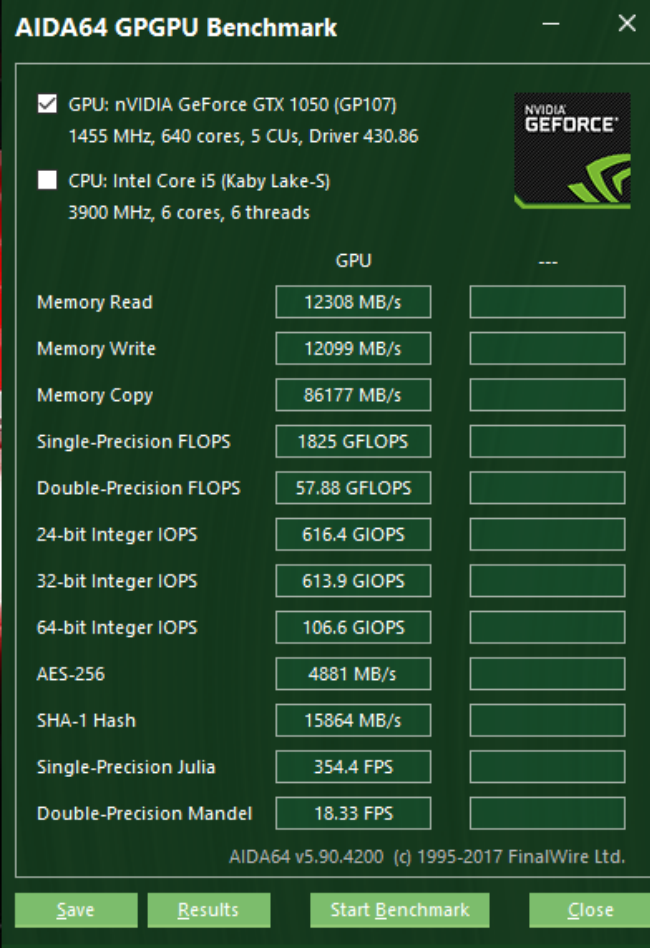
- 1、显卡建议先固定在散热器上，散热器外径为 4mm，M2 的螺柱。
- 2、散热器的重量要用箱体来支撑固定。
- 3、显存和 MOS 要加导热垫。

Components	满载限温（环温 45℃）
GPU	95℃
Memory	85℃
Mosfet	105℃

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

14.Performance:

3Dmark13	5675	Cuda	
3Dmark11	P7875 X2786	single kernels	1399.07 / 51.632
3Dmark Vantage	20696	N=10 w/o streams	1530.54 / 54.354
Heaven	2478	N=10 with streams	1715.1 / 56.7297
鲁大师	73478	N=10 batched	1683.37 / 56.7307



AIDA64 GPGPU Benchmark

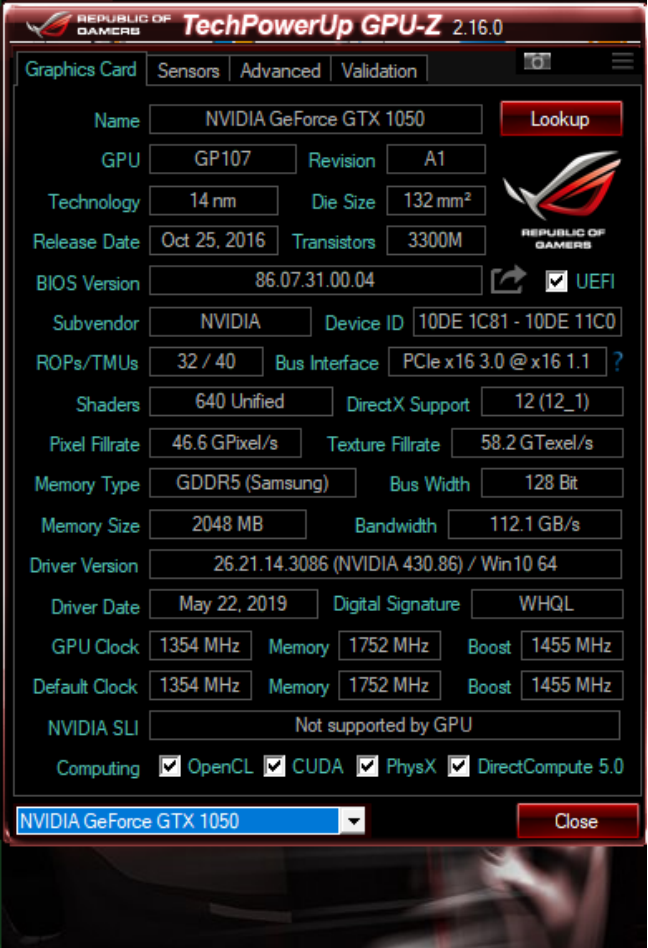
- GPU: nVIDIA GeForce GTX 1050 (GP107)
1455 MHz, 640 cores, 5 CUs, Driver 430.86
- CPU: Intel Core i5 (Kaby Lake-S)
3900 MHz, 6 cores, 6 threads

GPU

Memory Read	12308 MB/s
Memory Write	12099 MB/s
Memory Copy	86177 MB/s
Single-Precision FLOPS	1825 GFLOPS
Double-Precision FLOPS	57.88 GFLOPS
24-bit Integer IOPS	616.4 GIOPS
32-bit Integer IOPS	613.9 GIOPS
64-bit Integer IOPS	106.6 GIOPS
AES-256	4881 MB/s
SHA-1 Hash	15864 MB/s
Single-Precision Julia	354.4 FPS
Double-Precision Mandel	18.33 FPS

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

Save Results Start Benchmark Close



TechPowerUp GPU-Z 2.16.0

Graphics Card: NVIDIA GeForce GTX 1050

Name: NVIDIA GeForce GTX 1050

GPU: GP107 Revision: A1

Technology: 14 nm Die Size: 132 mm²

Release Date: Oct 25, 2016 Transistors: 3300M

BIOS Version: 86.07.31.00.04 UEFI

Subvendor: NVIDIA Device ID: 10DE 1C81 - 10DE 11C0

ROPs/TMUs: 32 / 40 Bus Interface: PCIe x16 3.0 @ x16 1.1

Shaders: 640 Unified DirectX Support: 12 (12_1)

Pixel Fillrate: 46.6 GPixel/s Texture Fillrate: 58.2 GTexel/s

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

Memory Size: 2048 MB Bandwidth: 112.1 GB/s

Driver Version: 26.21.14.3086 (NVIDIA 430.86) / Win10 64

Driver Date: May 22, 2019 Digital Signature: WHQL

GPU Clock: 1354 MHz Memory: 1752 MHz Boost: 1455 MHz

Default Clock: 1354 MHz Memory: 1752 MHz Boost: 1455 MHz

NVIDIA SLI: Not supported by GPU

Computing: OpenCL CUDA PhysX DirectCompute 5.0

NVIDIA GeForce GTX 1050 Close

15.Driver:

Windows 10 64bit: <https://cn.download.nvidia.com/Windows/466.77/466.77-desktop-win10-64bit-international-dch-whql.exe>

Windows 8.1 64bit: <https://cn.download.nvidia.com/Windows/466.77/466.77-desktop-win8-win7-64bit-international-whql.exe>

Windows 8 64bit: <https://cn.download.nvidia.com/Windows/466.77/466.77-desktop-win8-win7-64bit-international-whql.exe>

Windows 7 64bit: <https://cn.download.nvidia.com/Windows/466.77/466.77-desktop-win8-win7-64bit-international-whql.exe>

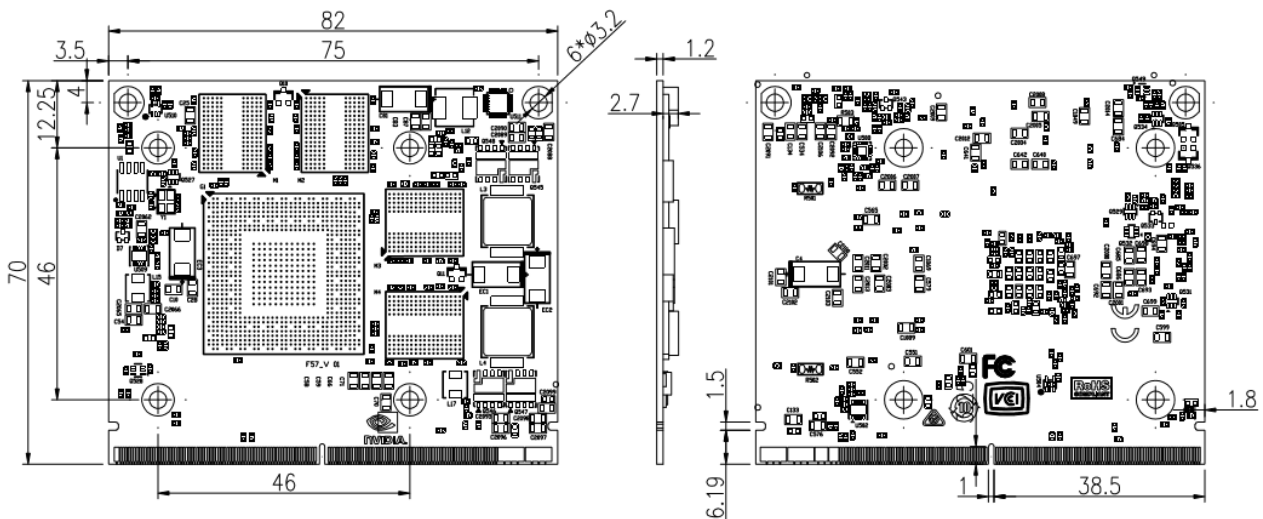
Linux Aarch64: <https://cn.download.nvidia.com/XFree86/aarch64/460.84/NVIDIA-Linux-aarch64-460.84.run>

Linux 64bit: https://cn.download.nvidia.com/XFree86/Linux-x86_64/460.84/NVIDIA-Linux-x86_64-460.84.run

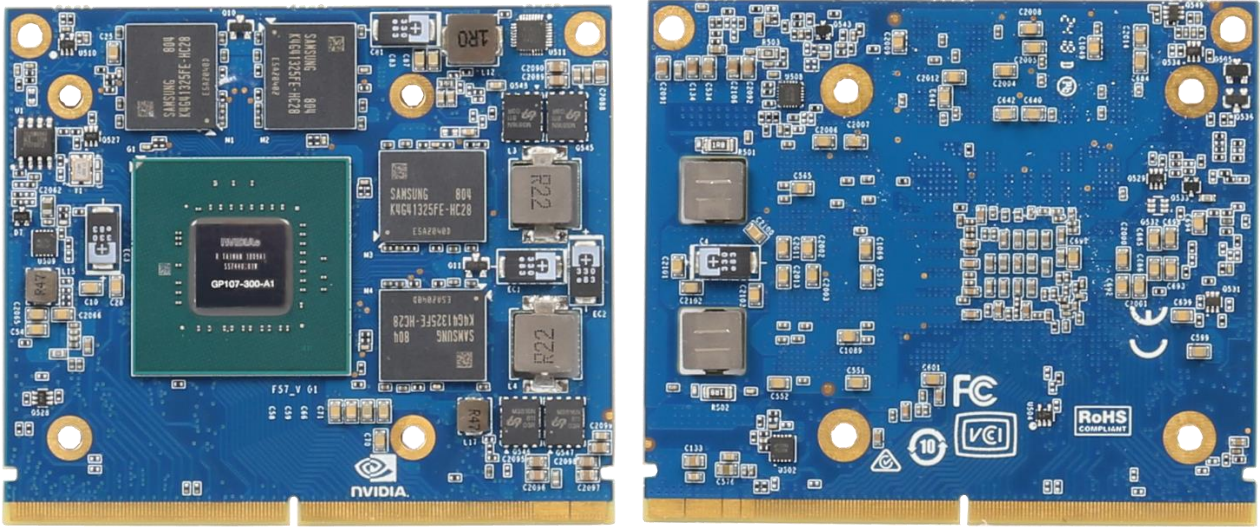
FreeBSD x64: https://cn.download.nvidia.com/XFree86/FreeBSD-x86_64/460.84/NVIDIA-FreeBSD-x86_64-460.84.tar.gz

The latest drive or the drive cannot be downloaded here, please log on the official website to download: <https://www.nvidia.cn/geforce/drivers/>

16. Dimensions:



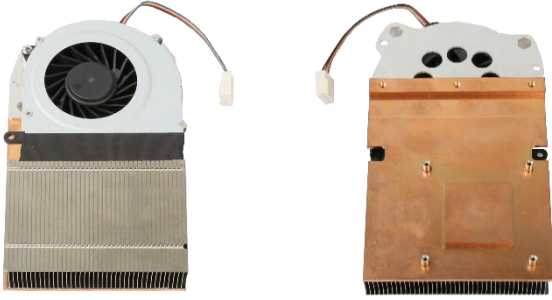
17.Photo:

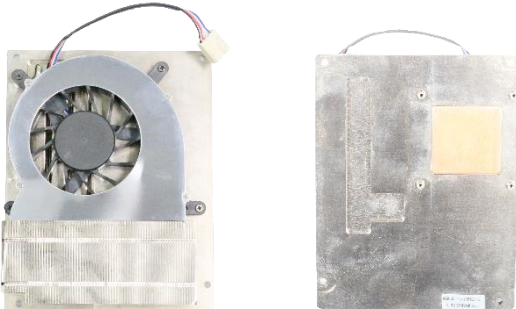


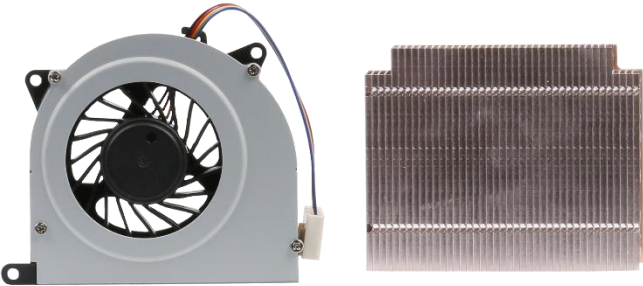
18.Cooling Option:

	<table border="1"> <thead> <tr> <th colspan="2">1.ZRT.48-6290-00-A00</th> </tr> </thead> <tbody> <tr> <td>Dimension</td> <td>96*80.2*25mm</td> </tr> <tr> <td>Rated Speed</td> <td>4500</td> </tr> <tr> <td>Out of Frame Lead Wires</td> <td>150mm</td> </tr> <tr> <td>Connector</td> <td>4Pin 2.54</td> </tr> </tbody> </table>	1.ZRT.48-6290-00-A00		Dimension	96*80.2*25mm	Rated Speed	4500	Out of Frame Lead Wires	150mm	Connector	4Pin 2.54
1.ZRT.48-6290-00-A00											
Dimension	96*80.2*25mm										
Rated Speed	4500										
Out of Frame Lead Wires	150mm										
Connector	4Pin 2.54										
	<table border="1"> <thead> <tr> <th colspan="2">1.ZRT.48-6326-00-A00</th> </tr> </thead> <tbody> <tr> <td>Dimension</td> <td>135*89*30.3mm</td> </tr> <tr> <td>Rated Speed</td> <td>4500</td> </tr> <tr> <td>Out of Frame Lead Wires</td> <td>200mm</td> </tr> <tr> <td>Connector</td> <td>4Pin 1.25</td> </tr> </tbody> </table>	1.ZRT.48-6326-00-A00		Dimension	135*89*30.3mm	Rated Speed	4500	Out of Frame Lead Wires	200mm	Connector	4Pin 1.25
1.ZRT.48-6326-00-A00											
Dimension	135*89*30.3mm										
Rated Speed	4500										
Out of Frame Lead Wires	200mm										
Connector	4Pin 1.25										
	<table border="1"> <thead> <tr> <th colspan="2">1.ZRT.48-6197-00-A00 1.ZRT.30-6379-00-A00 (支架)</th> </tr> </thead> <tbody> <tr> <td>Dimension</td> <td>75.5*71*22.5mm</td> </tr> <tr> <td>Rated Speed</td> <td>N/A</td> </tr> <tr> <td>Out of Frame Lead Wires</td> <td>N/A</td> </tr> <tr> <td>Connector</td> <td>N/A</td> </tr> </tbody> </table>	1.ZRT.48-6197-00-A00 1.ZRT.30-6379-00-A00 (支架)		Dimension	75.5*71*22.5mm	Rated Speed	N/A	Out of Frame Lead Wires	N/A	Connector	N/A
1.ZRT.48-6197-00-A00 1.ZRT.30-6379-00-A00 (支架)											
Dimension	75.5*71*22.5mm										
Rated Speed	N/A										
Out of Frame Lead Wires	N/A										
Connector	N/A										

*需搭配风扇辅助散热。

	1.ZRT.48-6171-00-A00	
	Dimension	137.5*83*21mm
Rated Speed	3600	
Out of Frame Lead Wires	220mm	
Connector	4Pin 2.54	

	1.ZRT.48-6140-00-A00	
	Dimension	133*103*26.5mm
Rated Speed	3800	
Out of Frame Lead Wires	100mm	
Connector	4Pin 2.54	

	1.ZRT.48-6111-00-A00		
	1.ZRT.48-6153-00-A00		
	Dimension	Heat Sink	82*65.5*21mm
		Fan	75*75*15mm
	Rated Speed	3600	
	Out of Frame Lead Wires	80mm	
Connector	4Pin 2.54		

19.Question:

故障	排除
不显示 (HDMI 输出)	1、4K 60Hz 显示屏，确认 HDMI 线材是否为 HDMI2.0。 2、将显示器分辨率降为 2K 60Hz。
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) 5、安装在移动平台上，主板 BIOS 需关闭电池管理。

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。
显卡无法辨视	检查 PCIE LANE Numbering Reversal 设置。
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，加上--no-opengl-files。 (禁用 opengl，若系统上有用到这套组件，将无法使用)
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。
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。
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。

20.Packing:

Item	N.W(KG)	G.W(KG)	Dimension(mm)	Q'ty(PCS)
Bulk Packing	2.1	4	505*340*198	60

21.Part Number:

Model	Part Number	Specification
MD1050A5-2G	8.ZRT.80-6211-10-LFF	F57 GTX1050 2G 128bit GDDR5 128*32 DP+HDMI+DVI MXM Type A 8L-工包
MD1050A5-2G(-20)	8.ZRT.80-6211-11-LFF	F57 GTX1050 2G 128bit GDDR5 128*32 DP+HDMI+DVI MXM Type A 8L -20 度-工包
MD1050A5-2G(35W)	8.ZRT.80-6211-15-LFF	F57 GTX1050 2G 128bit GDDR5 128*32 DP+2HDMI MXM Type A 8L 35W-ZRT 彩包二十八
MD1050A5-2G(4HDMI/45W)	8.ZRT.80-6211-22-LFF	F57 GTX1050 2G 128bit GDDR5 128*32 4HDMI MXM Type A 8L 45W-ZRT 彩包二十八
MD1050A5-2G(4HDMI/35W)	8.ZRT.80-6211-13-LFF	F57 GTX1050 2G 128bit GDDR5 128*32 4HDMI MXM Type A 8L 35W-ZRT 彩包二十八
MD1050A5-2G(4HDMI/-20/35W)	8.ZRT.80-6211-21-LFF	F57 GTX1050 2G 128bit GDDR5 128*32 4HDMI MXM Type A 8L 35W/-20 度-ZRT 彩包二十八