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NVIDIA GT 1030 2GB GDDR5 PCIe® ADD-IN BOARD GFX-NG1030L16-5L MPN:2A1-E000056ADP

Datasheet

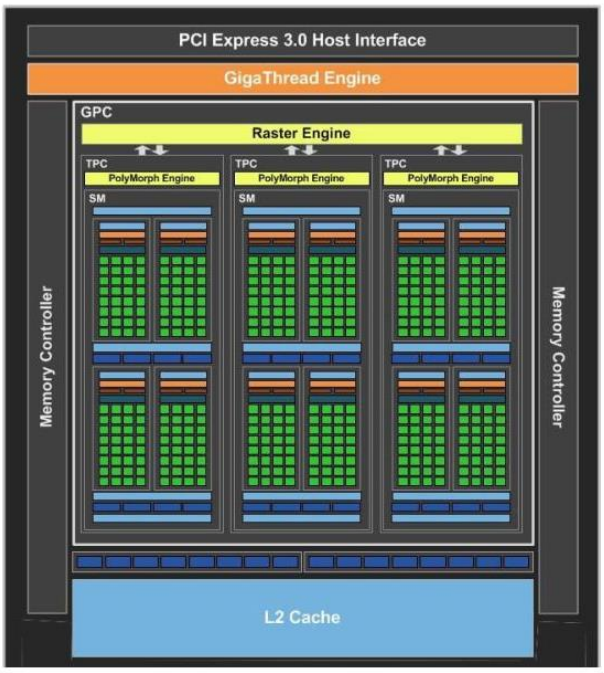
CONTENTS

1. Feature

Part No.	*GFX-NG1030L16-5L*
Graphics Processing Unit	
GPU	GeForce GT 1030 (GP108)
Process Technology	14 nm
Base clock	1228 MHz
Boost clock	1468 MHz
Form Factor	Dual slot Low profile
Card Interface	PCI Express® 3.0 (X4) PCI Express x16 Length
CUDA Cores	384
Floating Point Performance	943 GFLOPs
DirectX® capability	DirectX® 12 (Feature Level 12.1)
OpenGL	OpenGL™ 4.5
Video Decoder	HEVC, H.264, VC-1, MPEG-2, MPEG-4 part 2 decode
Memory	
Memory Clock	3004 MHz / 6.0 Gbps
DDR Type	GDDR5
Memory Bus	64-bit
Memory Size	2048MB
Display Interface	
Display Output	HDMI2.0b, DisplayPort 1.4
Multi-Display	2
Board spec.	
External Power Power Consumption Operationg Temperature Dimensions	No 30W Base on chassis air flow 168mm (L) x 69mm (H)

2. Functional Overview

2.1. GPU Block diagram



2.2. Memory Interface

Memory configuration support:

The 10302048W5P64LZ supports industry standard GDDR5 technology memory interface. The Frame Buffer DRAM interface of GP108 is 64-bit. All DRAM devices must be the same type, and the same size on each channel, and must run at the same voltage.

GDDR5 Memory Configuration :

- GDDR5 Configuration: 256Mx32
- The GP108 GPU supports a frame buffer interface up to 64 bits.

2.3. Features and Technologies

- Direct X 12 with Feature Level 12.1
- OpenGL 4.5
- NVIDIA CUDA technology

- Vulkan API
- NVIDIA GPU Boost

2.4. Display

- Support multi monitor at 2
- Support maximum resolution at 4096x2160 (4K)@60Hz refresh rate on HDMI
- Support maximum resolution at 4096x2160 (4K)@60Hz on DisplayPort
- HDCP: Provides digital content protection on any Digital display
- HDCP 2.2 support on HDMI & DisplayPort

2.5. Digital Audio

- Supports for HD Audio over PCI Express
- Multi-channel (7.1) LPCM
- Data rates up to 192KHz
- Word sizes of 16-bit, 20-bit, and 24-bit

2.6. Video

The following video formats are supported:

- MPEG-2
- MPEG-4 Part 2 Advanced Simple Profile
- H.264 SVC codec support
- Support for 3D Blu-Ray
- VC1
- DivX version 3.11 and later
- MVC
- HEVC(H.265)
- VP9

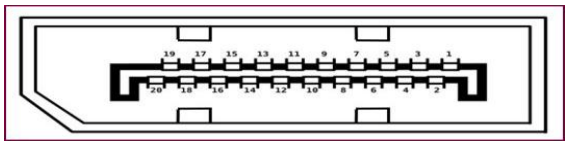
A fill range of video resolutions are supported including 1080p, 1080i, 720p, 480p and 480i.

3. Output PIN Assignment and Description

3.1. HDMI 2.0 Connector Pinout

Pin	Signal	Pin	Signal
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock-
3	TMDS Data 2-	13	No Connect
4	TMDS Data 1+	14	No Connect
5	TMDS Data 1 Shield	15	DDC Clock
6	TMDS Data 1-	16	DDC Data
7	TMDS Data 0+	17	Ground
8	TMDS Data 0 Shield	18	+5V Power
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		

3.2. DisplayPort Connector



Pin 1	ML_Lane 0 (p)	Lane 0 (positive)
Pin 2	GND	Ground
Pin 3	ML_Lane 0 (n)	Lane 0 (negative)
Pin 4	ML_Lane 1 (p)	Lane 1 (positive)
Pin 5	GND	Ground
Pin 6	ML_Lane 1 (n)	Lane 1 (negative)
Pin 7	ML_Lane 2 (p)	Lane 2 (positive)
Pin 8	GND	Ground
Pin 9	ML_Lane 2 (n)	Lane 2 (negative)
Pin 10	ML_Lane 3 (p)	Lane 3 (positive)
Pin 11	GND	Ground
Pin 12	ML_Lane 3 (n)	Lane 3 (negative)
Pin 13	CONFIG1	connected to Ground1)
Pin 14	CONFIG2	connected to Ground1)
Pin 15	AUX CH (p)	Auxiliary Channel (positive)
Pin 16	GND	Ground
Pin 17	AUX CH (n)	Auxiliary Channel (negative)
Pin 18	Hot Plug	Hot Plug Detect
Pin 19	Return	Return for Power
Pin 20	DP_PWR	Power for connector (3.3 V 500 mA)

4. Power Specifications

Parameter	Value	Unit
Input Board Power (Estimated)		
PCI Express edge connector (12V)	2.81	A
	33.24	W
PCI Express edge connector (3V3)	0.12	A
	0.40	W
Auxiliary 6-pin power connector(12V)	N/A	A
	N/A	W
Total input graphics power (TGP)	32.39	W

5. Thermal Specifications

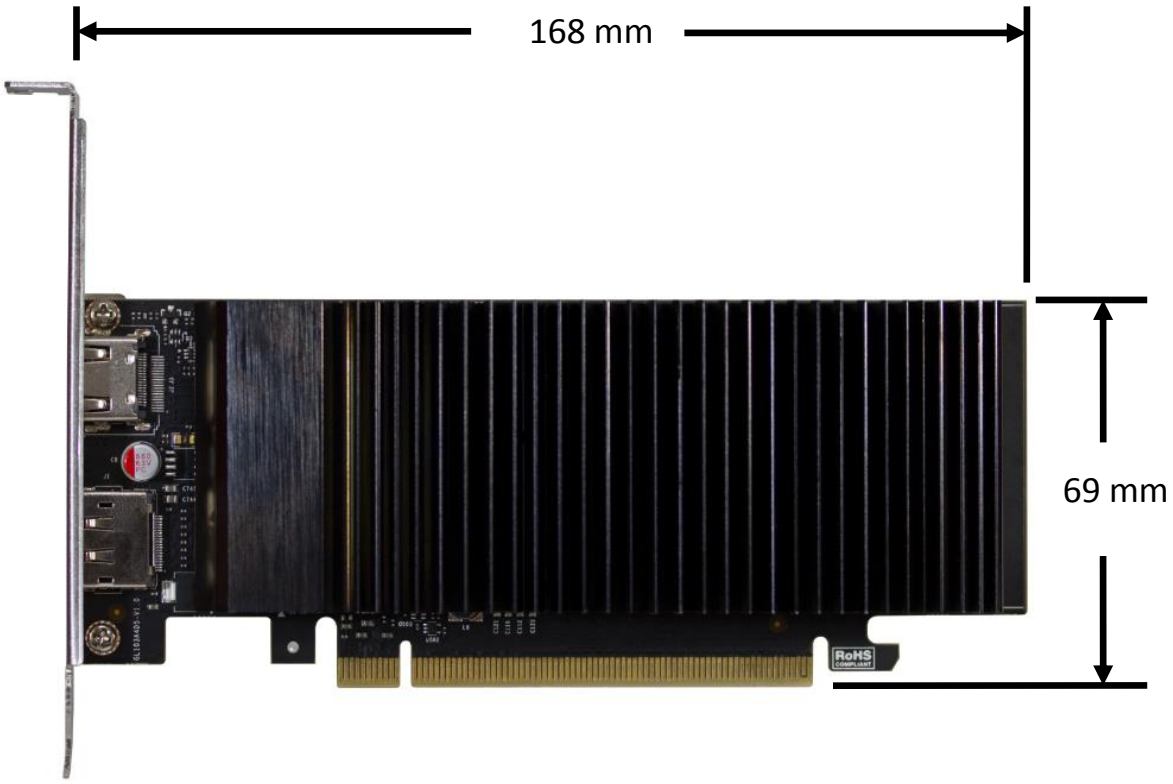
Parameter	Value	Unit
Fan inlet temperature (max.)	55	˚C
GPU slowdown temperature (max.Tj)	96	˚C
GPU shutdown temperature	100	˚C

6. Output configuration and Board Dimension

6.1. Output Configuration

6.2. Board Dimension

(Unit : mm)




30 mm

Revision History

Rev.	Data	History
1.0	2017/08/17	10302048W5P64LZ datasheet