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Contact us

NVIDIA GT730 D3 1024MB

VHDCI to 4 HDMI

PCIe® ADD-IN BOARD

GFX-NG730LX8-3G

MPN: 1A1-E000818ADP

Datasheet

CONTENTS

1. Feature

Model Name	GFX-NG730LX8-3G
Graphics Processing Unit	
GPU	GT730(GK208)
Process Technology	28 nm
Graphics Engine Operating Frequency (max)	902 MHz
Form Factor	Low profile (114.3X68.91 mm)
Card Interface	PCI Express® 2.0 (X8)
CUDA Cores	384
Texture Fill Rate(billion/sec)	14.4
DirectX® capability	DirectX® 12
Shader Model	Shader Model 5.0
OpenGL	OpenGL™ 4.4
Video Decoder	H.264, VC-1, MPEG-2, MPEG-4 part 2 decode, MVC, 3D Blu Ray
Memory	
Memory Operating Frequency (max)	900 MHz / 1.8 Gbps
Configuration, type	64-bit wide, 1 GB, DDR3
Display Interface	
HDMI	4

2. Functional Overview

2.1. GPU Block diagram

Figure 1.1 shows a simplified block diagram of the GK208 GPUs.
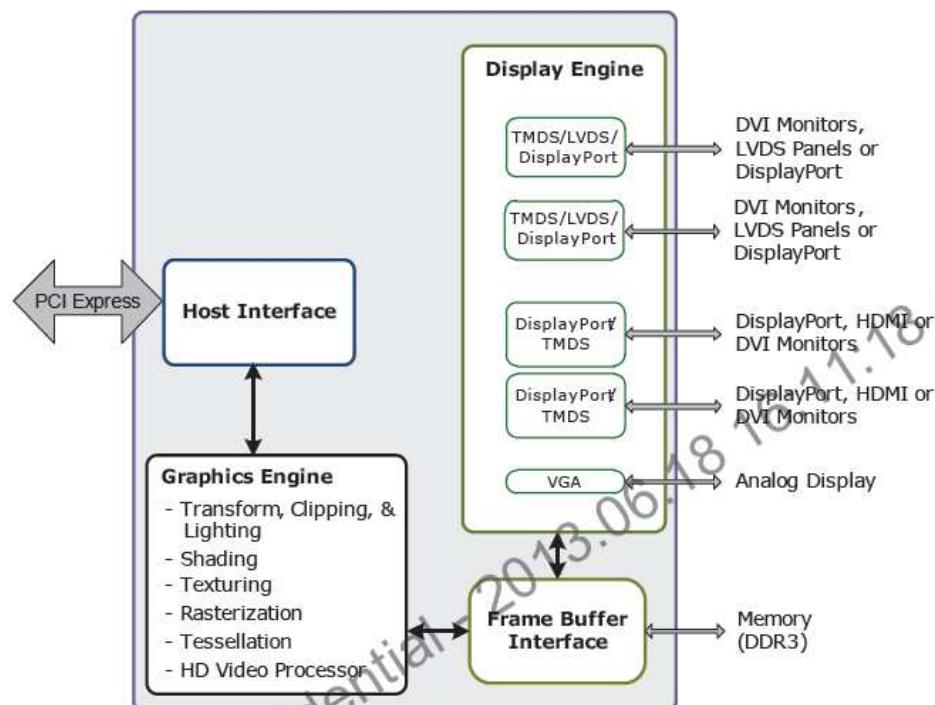
Figure 1.1   GK208 GPUs Simplified Block Diagram

2.2. KEY FEATURES

GPU

▶ Core clock: 902 MHz

▶ Voltage: 0.8125 V – 1.1375V ± 2%

▶ Pckage size:23mm x 23mm, 595-ball FCBGA(GB2-64)

Board

▶ 4-layer printed circuit board (PCB)

▶ PCI Express 2.0, 8 lanes

▶ Physical dimessions:2.713 inches x 4.5 inches

▶ Board power: 25 W

▶ High definition digital content protection (HDCP) support

2.3. Memory

▶ Memory clock: 1800MHz

▶ Interface: 64 bit

▶ Local frame buffer 1 GB (4pieces 128M X 16 GDDR3, FBGA-170 package)

2.4. Features and Technologies

▶Fully DirectX® 12 compliant and Shader Model 5.0

▶OpenGL 4.4

▶NVIDIA® Ageia PhysX™ technology

▶NVIDIA® CUDA technology

2.5. Display Support

▶ Support Multi Monitor

▶ Support 4 HDMI through VHDCI

▶ HDMI Resolution 1920x1200

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

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

2.7. Bus Support Features

▶Compliant with the PCI Express® Base Specification Revision 2.0, up to 1.8 GT/s

▶Supports ×1, ×2, ×4, and ×8 lane widths.

▶Supports 900 GT/s, and 1.8 GT/s link-data rates.

▶Supports ×8 lane reversal where the receivers on lanes 0 to 7 on the graphics endpoint are

mapped to the transmitters on lanes 7 down to 0 on the root complex.

►Supports ×8 lane reversal where the transmitters on lanes 0 to 7 on the graphics endpoint are
mapped to the receivers on lanes 7 down to 0 on the root complex (requires corresponding
support on the root complex).

►Supports full-swing and low-swing transmitter output levels.

3. PIN Assignment and Description

3.1 HDMI Header 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+		

4. Power Specifications

Parameter	Value	Unit
Input Board Power (Estimated)		
PCI Express edge connector (12V) (estimated input power)	1.4	A
	17	W
PCI Express edge connector (3V3) (estimated input power)	1.8	A
	6	W
Total estimated input graphics power (estimated TGP)	23	W

Parameter	Value	Unit
Component Power (Estimated)		
GPU (TDP, estimated)	16	W
Memory power (estimated; eight components)	1.1	W
Power supplies	3.9	W
Fan, PCB and other losses	2	W

5. Thermal Specifications

| Parameter	Value	Unit
Fan inlet temperature (max.)	50	°C
Operating temperature	0~50	°C
GPU slowdown temperature (max.Tj)	98	°C
GPU shutdown temperature (max.)	105	°C
GPU junction temperature (estimated)	90	°C
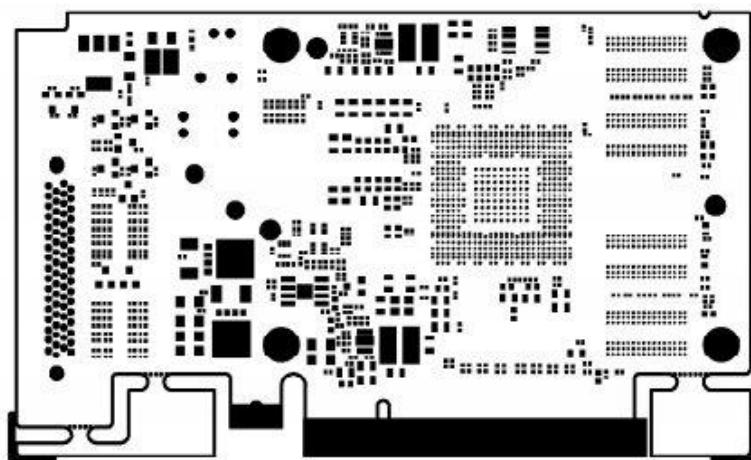
# 6. Output configuration and Board Dimension
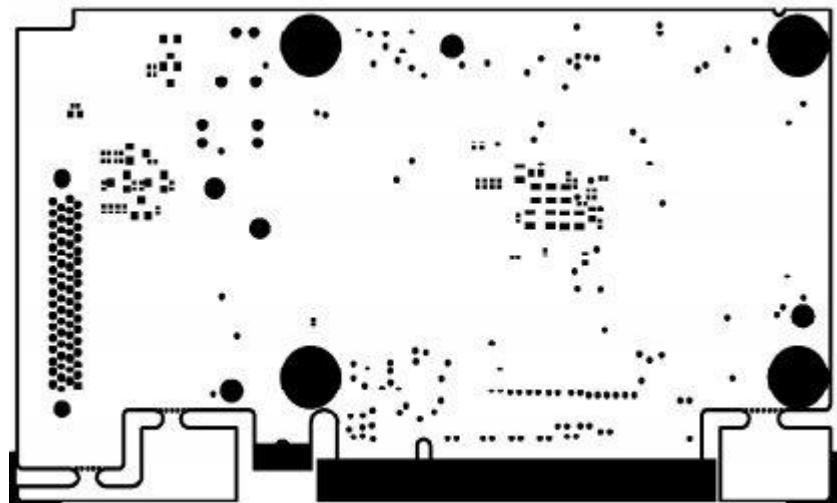
6.1. Output Configuration

6.2 Board Dimension
114.3 (L) X 68.91 (W) mm,   Tolerances : +/- 0.13 mm
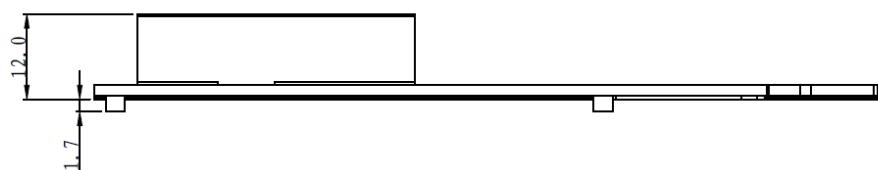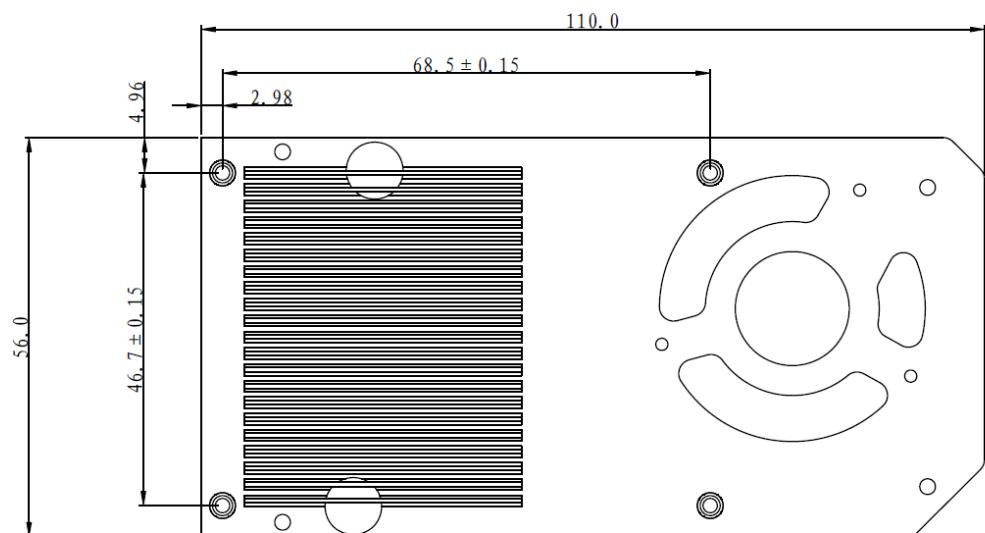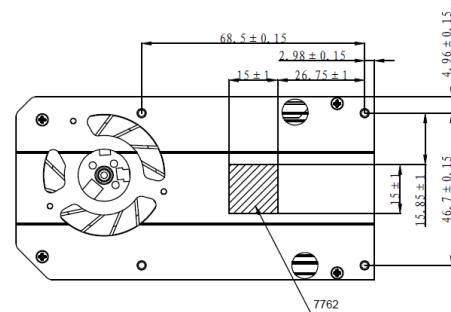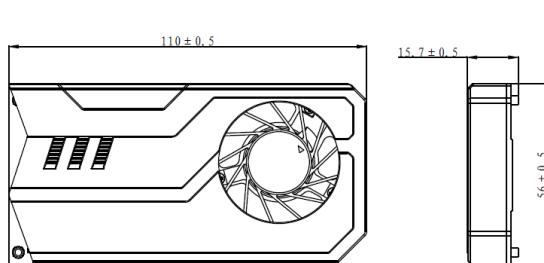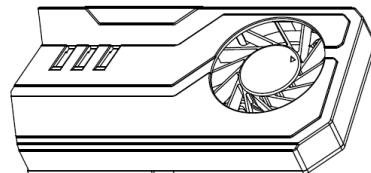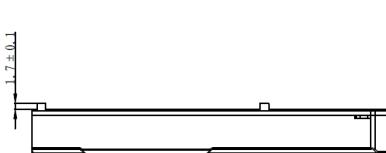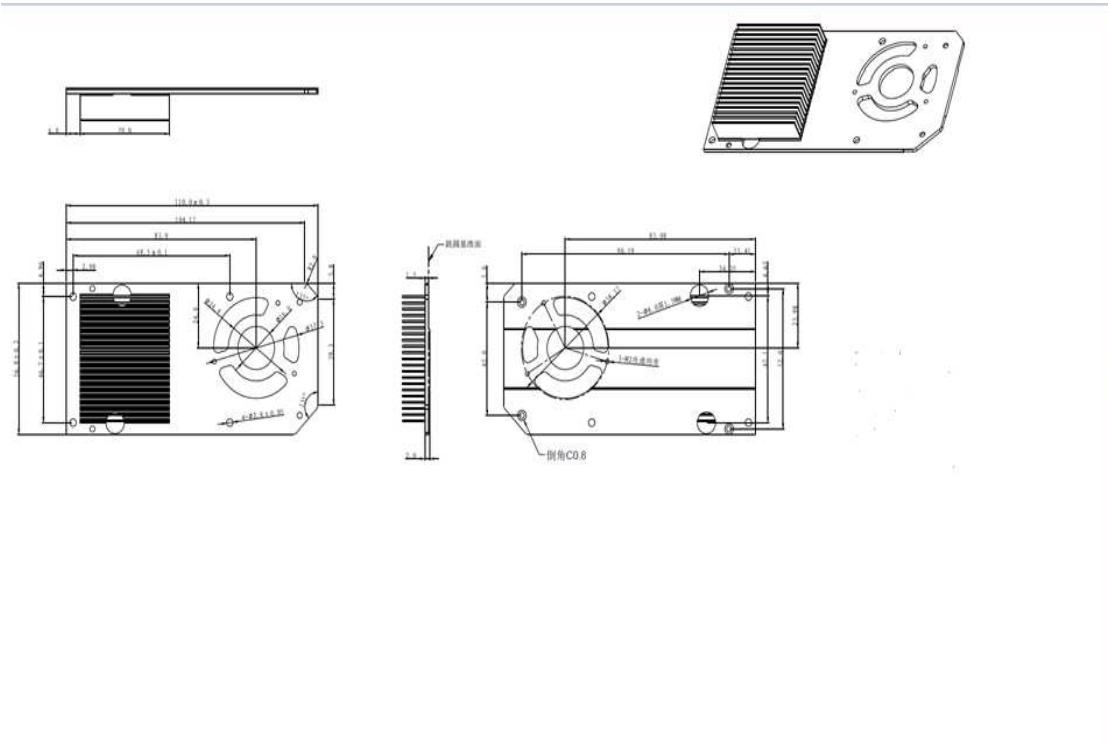
6.3. VHDCI to 4 HDMI Cable

7. Thermal Mechanism

Change log or update history

Rev.	Data	History
0.1	2014/12/30	1st Draft