Colorful450-512M D5 HDMI (N450-055-H02)

Colorful450-1024M D5 HDMI (N450-105-H02)

**The two cards share the same looks and only differ in memory configuration.*

Model Name:

055: Colorful450-512M D5 HDMI (N450-055-H02)
105: Colorful450-1024M D5 HDMI (N450-105-H02)

Brief Information:

Memory: 055: 512MB / 128bit, GDDR 5
105: 1024MB / 128bit, GDDR 5
Clocks (core/memory): 055 & 105: 783MHz / 3608MHz
Video Ports: HDMI + VGA + DVI
TDP: 106W
DirectX: 11

Specification:

Chipset	**GPU**	**NVIDIA GeForce GTS 450 (GF106)**
	Manufacturing Process	**40 nm**
	CUDA cores	**192**
Clock Speeds	**Core Clock**	**055: 783MHz** **105: 783MHz**
	Shader Clock	**1566 MHz**
	Memory Clock	**055: 3608MHz** **105: 3608MHz**
Memory	**Memory Size**	**055: 512 MB** **105: 1024 MB**
	Memory Interface	**128 BIT**
	Memory Type	**GDDR 5**
Interface and Connectors	**Video Outport**	**HDMI + VGA + DVI**
	PCI Express	**2.0**
	Additional Power connectors	**N/A**
	SLI	**N/A**
Thermal	**Board Power (Idle / Load)**	**055 & 105:13.9 W / 104.7 W**
	TDP (NVIDIA)	**106 W**
	Temperature (Idle / Load)	**055: 39℃(GPU-Z) / 75℃(Furmark)** *Note1 **105: 31℃(GPU-Z) / 63℃(Furmark)**
Cooling	**Type**	**With Fan (9 cm in diameter)**
	Fan Speed	**850±20% - 2500 ±10% RPM**
	Acoustical Noise	**24.2-30.5 dBA** *Note2
	Fan Power Connector	**4-pin, PWM**
3D API	**DirectX /Shader Model**	**11 / 5.0**
	OpenGL	**4.1**
Others	**Featured Technologies**	
	Form Factor	**Dual Slot**
	Packaging	**1* Graphics Card, 1* User's Manual, 1* Driver CD, 1* 6-pin Power Adapter cable**

Note 1: *The temperature is read from the software like GPU-Z and Furmark, and the data may not exactly show the actual electrical thermal status of the graphics card. Usually when tested by the infrared thermometer, the figures are always higher*

than those shown by software. However, considering few DIY users may use an infrared thermometer at hand to test the card's temperature, I give the software-based data here for reference, which should be more meaningful to most users.

Note 2: *The acoustical data is the tested noise of the cooling Fan only, and the graphics card especially equipped in a particular PC case running in a certain room, the acoustical noise may be higher than the given figures here.*

Parts of the graphics card:

Front

45° View

Video ports

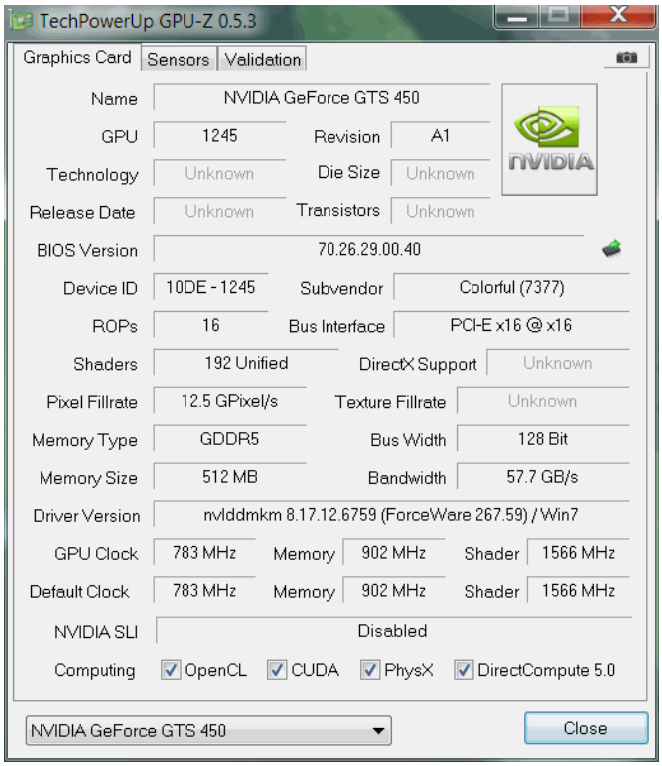
135° View

Back of N450-055-H02

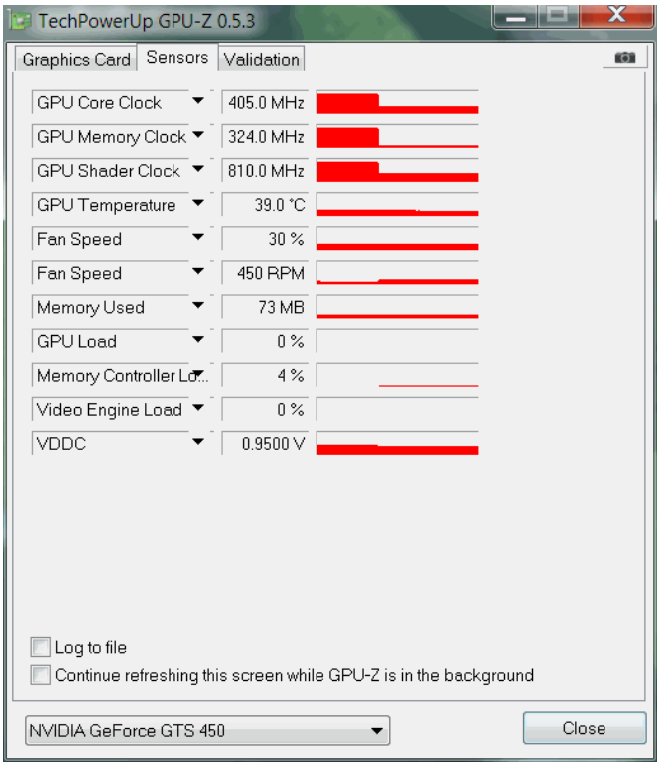
Packaging and accessories

GPU-Z and FurMark Reference:

055:

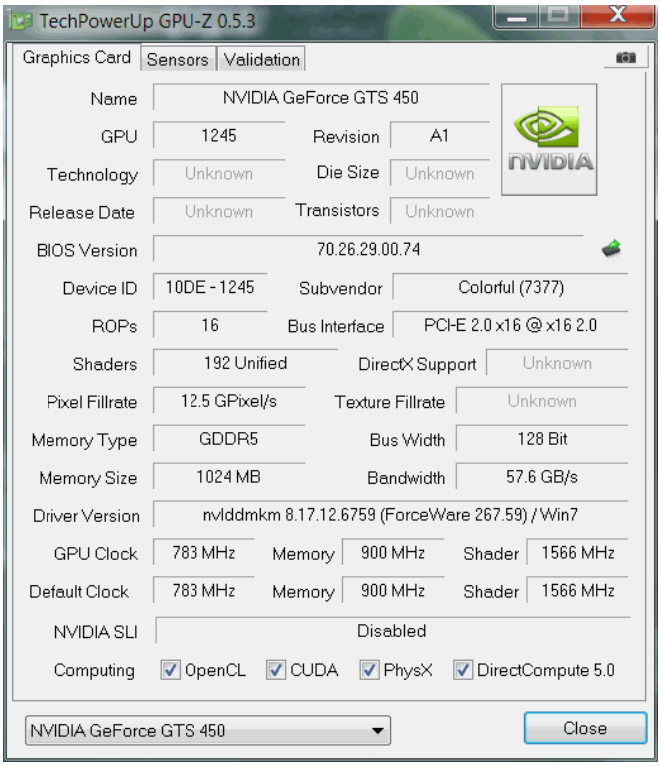


GPU-Z of 450 055: Graphics Card

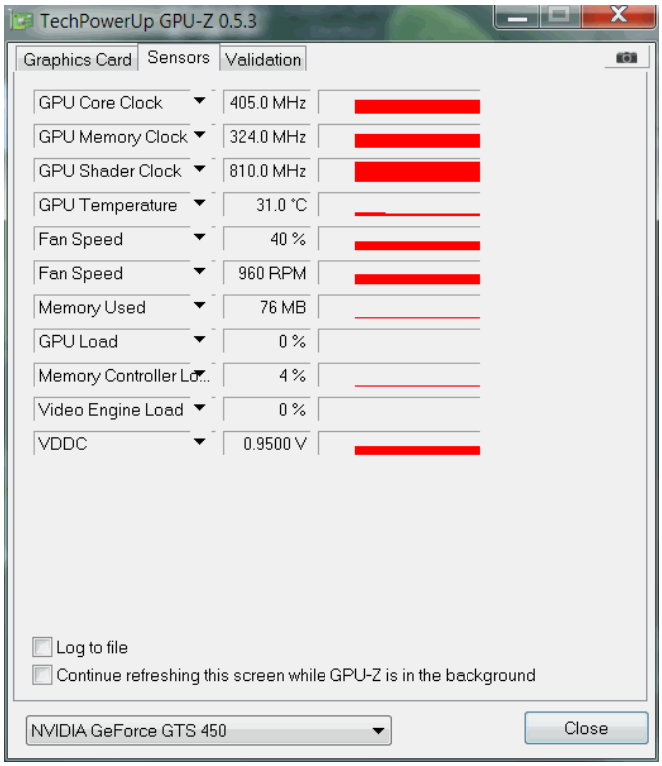


Idle Temperature Default:39℃

105



GPU-Z of 450 **105**: Graphics Card



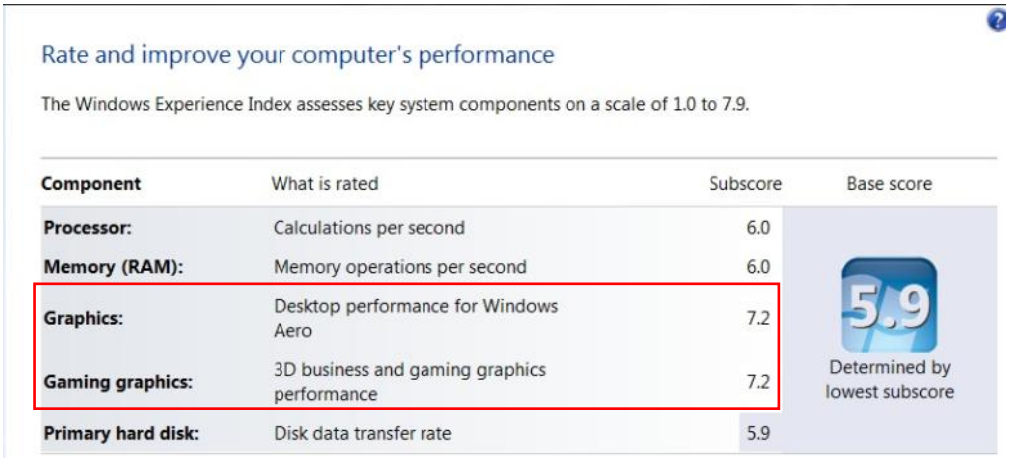
Idle Temperature Turbo:31℃

FurMark Full load of 450 055: Max Temperature 75℃

FurMark Full load of 450 **105**: Max Temperature 63℃

Windows 7 Experience Index:

Graphics: 7.2 (055/105)
Gaming: 7.2 (055/105)



Platform: Intel Pentium E5300/ Colorful C.P45 TWIN/ 2*Kingston 2G DDR3 1333MHz/ Seagate ST3500418AS 500G/ Windows 7 Ultimate 32bit

Performance (For reference only):

Graphics card			GTX 460	GTS 450	GTS 450	GTX 550 Ti	GTX 560 Ti	HD 5750	HD 5770	HD 6850	HD6870
Memory (MB/BIT)			1024/256	512/128	1024/128	1024/192	1024/256	1024/128	1024/128	1024/128	1024/256
Clock(MHZ, core/SP/memory)			675/1350/3600	783/1566/3600	783/1566/3600	900/1800/4100	820/1640/4000	700/700/4600	850/850/4800	820/820/4400	900/900/4200
Driver			260.99	270.61	270.61	266.54	266.22	8.801	8.801	8.801	8.801
Benchmarks	3DMARK06	DX9/1280×1024	17799	15358	16036	16563	18628	14557	15951	18075	18420
	3DMark Vantage	DX10/ Performance	15886	9793	10613	12301	21079	8938	10761	14331	16032
		DX10/ Extreme	6989	--	4795	5192	9481	3681	4636	6401	7591
	3DMARK 11	DX11/ Performance	3208	2148	2322	2489	3818	2190	2624	3688	4161
		DX11/ Extreme	1049	655	740	812	1352	706	868	1197	1404
	Heaven Benchmark 2.1	DX11/High/1680×1050/Normal/0AA (fps/scores)	36.0/907	22.8/575	25.3/638	27.1/681	48.3/1217	18.7/472	21.7/546	31.3/790	34.1/860
		DX11/High/1920×1200/Normal/0AA (fps/scores)	30.5/769	19.6/493	21.9/553	23.4/590	41.2/1039	16.4/412	19.0/479	27.5/694	30.0/755
Games	Call of Duty-Black Ops	1920×1200 4AA	89	59	64	72	91*	51	54	87	91*
	Crysis V1.21	DX10/High/1920×1200/0 AA	41.29	29.415	32.32	33.615	37.02	30.975	36.61	51.51	57.605
	Tom Clancy's HAWX	DX10/High/1680×1050/0 AA	101	68	75	80	105	61	72	96	105
		DX10/High/1920×1200/8x AA	65	22	45	51	--	39	44	69	73
	Just Cause 2	DX10/High/1680×1050/2AF	70.86	48.52	52.11	56.64	63.31	51.7	60.49	81.91	89.47
		DX10/High/1920×1200/2AF	56.2	38.71	41.68	45.14	54.91	43.24	49.67	68.67	77.27
	Dirt2	DX11/High/1680×1050/0 AA	98.3	64.9	70.2	78.3	88.1	57.4	65.1	85.2	90.9
		DX11/High/1920×1080/4xMSAA	67.4	50.6	55.2	63.6	65.4	49.3	53.8	73.3	78.8

Note: 1. -- denotes temporary lack of the specific testing results

2. 91* means the Max FPS is restricted at 91 fps by the game.

Test Platform	
VGA Driver:	197.45
Main Board /Chip /Driver:	ASUS P6T/X58/6.1.7600.16385
System BIOS:	V0707
CPU:	Intel core i7 920/2.67GHz
SIMM /DIMM:	Corsair 2G×3 DDR3 1333Hz
Hard Disk Drive:	WD 1001FALS 1.0TB
Monitor:	DELL 3008 WFP-HC
POWER	Corsair CMPSU-620HX
OS:	Windows 7 Ultimate6.1(7600)