» UGM-M72 «

Universal Graphic Module
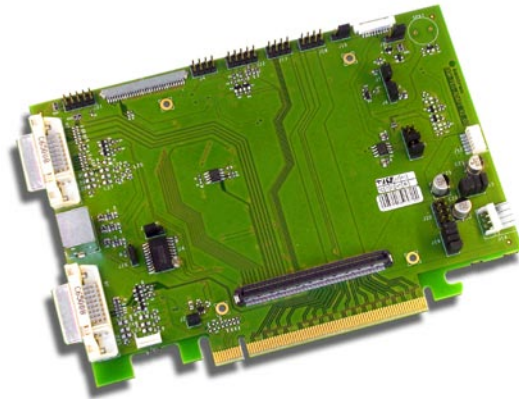
ATI RADEON GRAPHICS

PCI EXPRESS™

The "Universal Graphics Module"

- » First modular graphic card for Computer-on-Modules
- » High graphic performance with ATI M72 (ATI Radeon™ HD2400)
- » For low profile designs
- » Longterm availability
- » 2 and more displays possible
- » Passive Cooling

In 2007, Kontron listened and responded to customer's needs in the development of the Universal Graphics Module (UGM) concept and formation of the UGM consortium. More and more, the embedded market has to control and feed many high-end displays with tons of information without sacrificing excellent 3D graphic performance. The UGM standard - the first standard for embedded graphic cards - defines a 95 x 84 mm universal graphics-on-module which supplies monitors with all current and future graphic card signals in demand.

The concept is similar to the COM Express™ concept: Via the rugged AMP/TYCO connector, UGM cards connect to max. PCI Express x16. With its own independent frame buffer memory, the graphics processing unit (GPU) generates the output video signals available on the rugged 220pin module connector. Thus, no breakout cables are required. To control more than 2 displays independently, UGM-M72 allows for sharing PCI Express to several graphics modules.

To learn more about the open standard and its members, please visit: http://www.ugm-standard.org

Optional PEG-Adapter board

Technical Information

Graphic processor	ATI-M72 (ATI Radeon™ HD2400) GPU DirectX® 10, PS 4.0, OpenGL 2.0, Blu-ray technology
Memory	GDDR3-RAM
System Controller	UGM is fully connected to the system via a rugged 220-pin AMP/ Tyco 3-6318490-6 connector
Power Consumption	Uses a 12 - 22V +/- 5% power supply exclusively Max. power consumption 15W
Host Interface	PCI Express x16, incl. x8, x4, x2 and x1
Resolutions	2048x1536 (VGA, LVDS), 1920x1200 (DVI, HDMI, TV)
Display Interfaces	2 x RGB analog (VGA), 10 Bit color depth, 400MHz bandwidth Optional TV out (using 2nd RGB port), NTSC, PAL, HD, Component, YuC and CVBS, support HDTV1080i 1 x single link TMDS, DVI / HDMI support 1 x LVDS single- / dual-link, 18-, 24-Bit support 1 x Video Capture Port (VIP), ITU-656 compatible, 150MHz
Form Factor	UGM concept: 84 x 95 mm
Temperature (*)	Operation: 0° to 60°C Storage: -30° to 85°C
Humidity	Operation: 10% to 90% Storage: 5% to 95% (non condensing)

* Ask about extended temperature ranges

Ordering Information

Article	Part.-No.	Description
UGM-M72	41001-1280-00-0	High End Graphic Module based on ATI M72 with 128 MB RAM
UGM-M72	41001-2560-00-0	High End Graphic Module based on ATI M72 with 256 MB RAM
UGM-PEG-ADAPT	41101-0000-00-0	Adapter to connect UGM-Module to a standard PEG-interface (e.g. on motherboard)
UGM-M72-HSP Threaded	41001-0000-99-1	Heatspreader for UGM-M72 (UGM Rev. 1.1)
UGM Evaluation Board	41100-0000-00-0	UGM Evaluation Board for COM Express™ modules

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