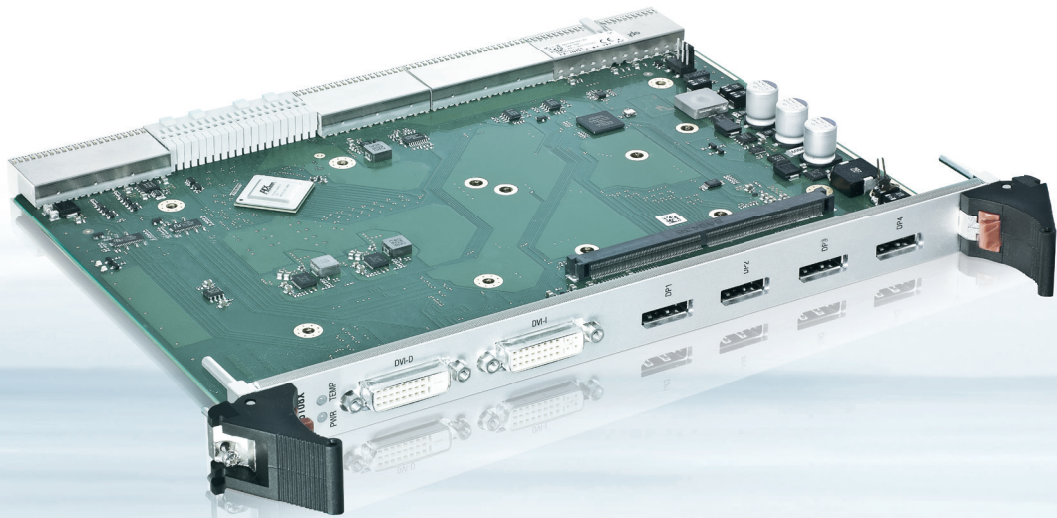


# CP6108X

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## GPU-GPGPU CARRIER FOR 6U HIGH-SPEED CompactPCI®

- ▶ Parallel computing in harsh environments
- ▶ MXM3.0 Type A/B modules
- ▶ High bandwidth via PCI Express®, PICMG2.20-based
- ▶ 2x DVI and 4x DisplayPort
- ▶ Reference package with AMD E8860 and 4HP cooling

POSSIBILITIES START HERE



## CP6108X GPU-GPGPU CARRIER FOR 6U HIGH-SPEED CompactPCI®

### Leading edge parallel computing meets CompactPCI®

The CP6108X is a 6U high-speed CompactPCI® carrier for an MXM3.0 GPU module and has been designed to integrate leading-edge, parallel processing capabilities into CompactPCI® systems. It can accommodate one MXM3.0 module with an AMD Radeon™ GPU designed for the embedded industry or any other customer-sourced MXM3.0 type A or type B module.

### The symbiosis for most demanding missions

The CP6108X combines enormous price-performance and performance-per-watt advantages of GPU and GPGPU computing with the robustness, longevity, and modularity of CompactPCI® systems. This is the perfect symbiosis not only for some of the most demanding graphics-intensive applications in modular or rugged systems, but also for enhanced workload and massive parallel computing in harsh environments. Typical sample applications in avionics are geographic information systems, 360-degree situational awareness, and diminished vision enhancement.

Typical public- and government-related tasks are radar, sonar, or video surveillance and FFT calculations.

### Highest data throughput and maximum bandwidth

The high speed serial interconnection (PICMG2.20 based) enables high data throughput via PCI-Express® within the system. Data stream conversion by the CP6108X from x8 PCI Express® 2.1 (MXM) to x8 or x4 PCI Express® 3.0 (system) if required, allows for maximum possible data bandwidth with respect to the capabilities of the selected CPU.

### Integrated package with AMD E8860 as reference

The CP6108X is also available with the AMD Radeon E8860 GPU module mounted, as integrated GPU card CP6-GPU8860. It provides the optimal performance-per-watt profile for embedded applications that require outstanding multi-display experiences and massive parallel computing but have exacting power efficiency and heat dissipation requirements.

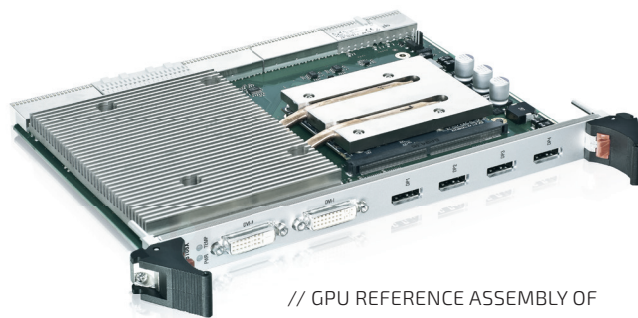
## CompactPCI® / PICMG2.20-BASED

### For 19" Rackmount systems with higher demands

For many communication or computing node applications, 19" Rackmount systems do not meet higher demands for robustness and longevity. This is where modular 19" CompactPCI® platforms are strong. And the PICMG2.20 based invention of a high-speed J4 backplane connector for serial interconnects within the system make them the ideal choice for those kind of applications.

Kontron made this combination available as reference package which integrates a passive cooling solution in only 4HP height, supporting a thermal design power of 37 watts.

The AMD Radeon E8860 GPU supports DirectX® 11.1, OpenGL 4.2, and OpenCL™ 1.2, enabling high-performance graphics and massive parallel processing. It boasts 640 shader processing units at 625 MHz for up to 768 Gflops single-precision floatingpoint performance.



// GPU REFERENCE ASSEMBLY OF  
ONLY 4HP HEIGHT!

### Cooling optimized for ruggedization and board space

The CP6-GPU8860 comes with an optimized passive cooling solution, which is a reference for solutions to any other MXM3.0 type A module for use with the CP6108X. An active fansink is avoided on board level, to increase system ruggedization for harsh environments. The cooling solution saves valuable board space while the entire assembly still fits to only 4HP height!

### Customer service

For customer specific temperature demands, or for integration of customer-sourced type A or type B modules, Kontron offers its expertise to provide and to qualify suitable cooling solutions on request.

### The CompactPCI® line for highest serial data throughput

Where CompactPCI® has been already loved because of its openness, modularity, robustness, or longevity, the PICMG2.20 based CompactPCI line is the choice whenever highest data throughput is required. The technology is open for PCI Express 3.0, 10 or even 40 Gigabit Ethernet, and SATA 6Gb/s, depending on the capabilities of the selected CPU blades.

## ► TECHNICAL INFORMATION

<b>ONBOARD CONTROLLER</b>		ExpressLane™ PEX 8724 PCI Express® 3.0 switch from PLX Technology used to provide maximum performance to an MXM module: - One x8 PCI Express® Gen3 upstream port - One x16 PCI Express® Gen3 downstream port
<b>CONNECTORS</b>	<b>DVI</b> <b>DISPLAYPORT MXM3.0</b> <b>HIGH-SPEED SERIAL REAR I/O INTERCONNECTION</b> <b>CompactPCI®</b>	One DVI-D and one DVI-I connector on the front panel, Both DVI interfaces are also routed to the rear Four DisplayPort connectors on the front panel One standard MXM3.0 onboard connector, for MXM3.0 type A or type B modules Two high-speed serial ZDplus connectors, J4 and J41 (PICMG 2.20), providing one x8 PCI Express® 3.0 interface operating at 8 GT/s as end point (non-transparent bridge) CompactPCI® (PICMG 2.0 R 3.0) connectors J1,J2,J3,J5: Peripheral slot functionality / 3.3V or 5V signaling levels (universal signaling) / no hot swap
<b>LED FRONT PANEL</b>		Power Status LED: - PWR (green): Power Status of the CP6108X/MXM module - TMP (green/orange/red): Power Status of the MXM module
<b>COMPLIANCY</b>	<b>SAFETY EMC/EMI</b>	UL 60950-1, CSA 22.2 No 60950, EN 60950-1, IEC 60950-1 Designed to meet or exceed: EN 55022 / EN55024, EN 61000-6-3 / EN 61000-6-2
<b>GENERAL</b>	<b>MECHANICAL POWER CONSUMPTION POWER SUPPLY</b> <b>TEMPERATURE RANGE (WITHOUT MMX MODULE)</b> <b>COOLING</b> <b>CLIMATIC HUMIDITY DIMENSIONS BOARD WEIGHT</b>	6U, 4 HP, CompactPCI compliant form factor approx. 3 W (without MXM module) 3.3V and 5V DC in accordance with the CompactPCI® Specification, optional +12V DC external voltage for MXM module supply only Operational: 0°C to +60°C Standard; -40°C to +70°C Extended (with sufficient cooling for the PCI Express® switch) Storage: -40°C to +85°C An appropriate heat sink for the selected module and the PCI Express switch, as well as sufficient airflow within the system must be provided. A passive heatpipe-heatsink cooling for type A modules is available on request. 93% RH at 40°C, non-condensing (acc. to IEC 60068-2-78) 233.35 x 160 mm 440 grams (without MMX module and without cooling solution)

## ► ORDERING INFORMATION

ARTICLE	DESCRIPTION
<b>CP6108X</b>	MXM carrier for 6U CompactPCI® / PICMG2.20-based. For one MXM3.0 Type A or Type B module. System data by PCI-Express® via backplane (J4). Before usage of Type B modules, please contact Kontron for technical approval.
<b>CP6-GPU8860</b>	GPU-GPGPU board 4HP, with AMD Radeon E8860, 6U CPCI / PICMG2.20 based, PCIe via backplane, passive cooling, Front 2x DVI, 3x DisplayPort.

## ▶ RELATED PRODUCT OFFERS

### CP-RAPID3

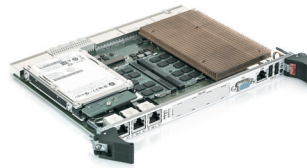
#### High Speed 6U CompactPCI® in a Silent Rack

- ▶ Ready for 10 GbE, PCIe, SATA 6GB/s
- ▶ 3U High 19" Chassis with 4 Horizontal Slots
- ▶ Silent Cooling Front to Rear
- ▶ Redundant Power Supplies



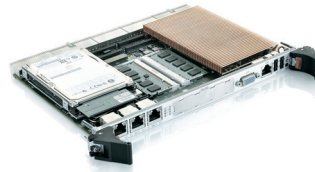
### CP6004X-SA

#### Intel® Core™ i7 Third Generation CompactPCI® Processor Blade with 10GbE / PCI Express®



### CP6005X-SA

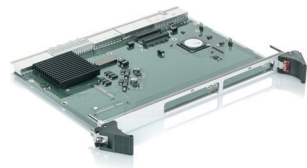
#### Intel® 4th Generation Core™ i5/i7 CompactPCI® Processor Board with 10GbE / PCI Express®



### CP6105X

#### XMC-PMC Carrier

#### System data throughput via PCI Express®



## ▶ CORPORATE OFFICES

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