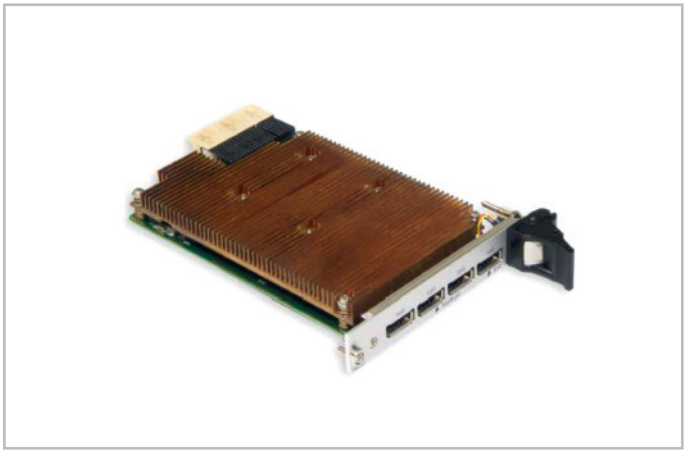
VIM556
3U CompactPCI Graphics Controller Module



Features

- NVIDIA Quadro K2100M:
  - Graphics Controller Module: 665 MHz, 576 CUDA cores
  - RAM: 2 GB GDDR5, 128 bit, 48 GB/s
  - Graphics: 2×3840×2160 @ 60 Hz
- DisplayPort: 4x DisplayPort interfaces on the front panel
- Power supply: Supply voltage: +12 V ± 10%
- OS compatibility: Windows 7 Professional 32/64 bit; Windows Embedded Standard 7 32/64 bit; Linux Debian 7.0 32 bit; Astra Linux 64 bit
- Operating temperature range:
  Commercial version: from 0 to +70° C
  Industrial version: from –20 to +70° C
  Version with conduction cooling: from –20 to +55°C
- MTBF: No less than 250 000 hours

Overview

VIM556 3U CompactPCI Graphics Controller Module is designed for using as part of the 3U CompactPCI Serial embedded computing systems and is intended for output of graphic information to the display via DisplayPort interface.

VIM56 contains NVIDIA Quadro K2100M graphics card of MXM 3.0 standard with support of CUDA parallel computing architecture.

Using VIM556 module, computing system is able to carry out high-performance multi-threaded computations and output high-resolution graphic information to several displays (up to 4) simultaneously using DisplayPort interface.

There are several VIM556 versions, both equipped with the graphics card, and implemented with conduction cooling.

Technical Specifications

NVIDIA Quadro K2100M
- Graphics Controller Module: 665 MHz, 576 CUDA cores
- RAM: 2 GB GDDR5, 128 bit, 48 GB/s
- Graphics: 2×3840×2160 @ 60 Hz
- Image processing functions: FXAA /TXAA anti-aliasing, 16K rendering, MPEG-2 HD / WMV HD, H.264, AES-128 CTR / CBC / ECB encryption
- API: DirectX 11.1, OpenGL 4.3, OpenCL, CUDA C/C++, DirectCompute 5.0, Java, Python, Fortran

CompactPCI Serial
- Width of the PCIe bus: x8
- Support of bandwidth to GEN2 (5 Gb/s)
- ReDrivers of data signals and clock frequency
- Module dimensions: 3U/4HP or 3U/5HP (for the version with conduction cooling)

MXM 3.0
- Support of MXM 3.0 graphics cards, “Type A” size (82×75 mm) and “Type B” (82×105 mm)
- Usage of 4-x DisplayPort interfaces: A, B, C, D

DisplayPort
- 4x DisplayPort interfaces on the front panel
- Support of DP 1.2 standard
- Support of Dual Mode Display
- ESD protection 8 kV (air) / 4 kV (contact)
- Active independent protection against overcurrent of each port

Power supply
- Supply voltage: +12 V ± 10%
- Peak current – No more than 6,6 A
- Consumed power – No more than 75 W for the version VIM556 with the installed NVIDIA Quadro K2100M graphics module

Operating temperature range
- Commercial version: from 0 to +70°C
- Industrial version: from –20 to +70°C
- Version with conduction cooling: from –20 to +55°C

Module weight
- Commercial and industrial versions, version with conductive cooling – no more than 800 g
- Version without graphics card – No more than 150 g

OS compatibility
- Windows 7 Professional 32/64 bit
- Windows Embedded Standard 7 32/64 bit
- Linux Debian 7.0 32 bit
- Astra Linux 64 bit

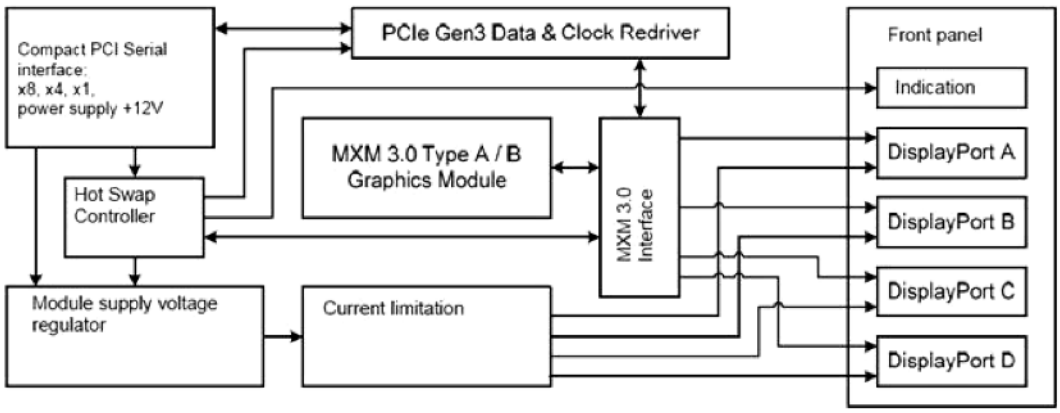
Compatibility with PICMG/VITA standards
- PICMG CPCI-S 1.0 D0.70

MTBF
- No less than 250 000 hours

Operating Conditions

parameter	Value	
Operating temperature of the environment for commercial versions	Low temperature, °C	0
	High temperature, °C	+70
Operating temperature of the environment for industrial versions	Low temperature, °C	–20
	High temperature, °C	+70
Operating temperature of the environment for versions with conduction cooling	Low temperature, °C	–20
	High temperature, °C	+55
Environment temperature during transportation and storage	Low temperature, °C	–50
	High temperature, °C	+85
Relative humidity for commercial and industrial versions	Within the whole temperature range	Up to 80%, without condensation.
Relative humidity for commercial and industrial versions with \COATED suffix	At the temperatures up to + 55° C	Up to 93%
Relative humidity for versions with conduction cooling with \COATED suffix	At the temperatures up to + 35° C	Up to 98%
Sinusoidal vibration	Range of frequencies (Hz)	10...500
	Acceleration, g	5
Single shocks	Peak acceleration, g	100
Multiple shocks	Peak acceleration, g	50
	Number of shocks	1000

Board Layout



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Ordering Information

VIM556 Configuration

VIM556 - 01 \Option

Versions

01	Graphics card: NVIDIA Quadro K2100M, Size: 4HP, Cooling: Air cooling, Temperature range, °C: from 0 to +70
02	Graphics card: NVIDIA Quadro K2100M, Size: 4HP, Cooling: Air cooling, Temperature range, °C: from –20 to +70
03	Graphics card: NVIDIA Quadro K2100M, Size: 5HP, Cooling: Conduction cooling, Temperature range, °C: from –20 to +55

Options

\Coated	Conformal coating

Delivery checklist

CPC556 delivery checklist contains:

1. VIM556 3U CompactPCI Graphics Controller Module
2. Package

Ver. 1.12.2015

Product specifications are subject to change without notice

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