Shenzhen Renice Technology Co., Limited

Rugged I7 6U VPX Computer

Datasheet



V1.10

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CATALOGUE

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1 Introduction

1.1 Product Overview

R6VPX-SI6820-C1M1 is a ruggedized high-efficiency VPX interface single-board computer based on the CM236 chipset design. VPX connector defines SATA interface, USB interface, 1000M Ethernet interface, PCIEx16 interface (or 2PCIEx8), 1 PCIEx4, 4 PCIEx1, PS/2 and other interfaces. The display controller provides 2 DVI displays, and the maximum DVI display resolution can reach 1920x1080. This computer has the characteristics of strong overall performance, high stability, rich interfaces, etc., and is suitable for the calculation and processing of various compatible industrial computers and military computers.

R6VPX-SI6820-C1M1 adopts 6U VPX bus architecture, conduction cooling and heat dissipation (can be changed to the reinforced air-cooled motherboard by replacing the conduction cold plate assembly), as the core control component of the reinforced computer.

The main board size is 233.35mm*160mm.

1.2 Product Picture



Figure 1 Picture of R6VPX-SI6820-C1M1

1.3 Product principle block diagram

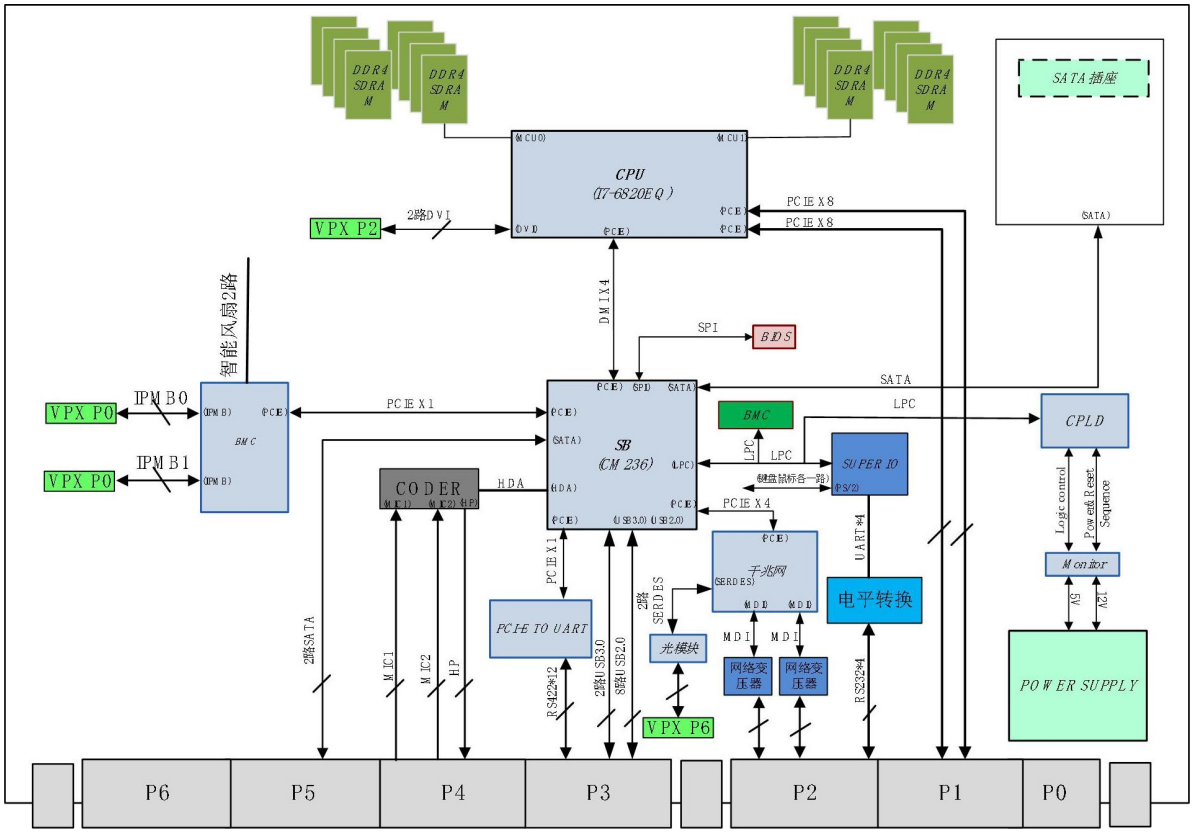


Figure 2 Product principle block diagram

2 Main function and performance

- 6U VPX architecture: comply with 6U openVPX (VITA-46) standard;
- Energy-efficient system configuration: Intel i7-6820EQ main processor (four cores and eight threads, CPU frequency: 2.8GHz, maximum core frequency: 3.5GHz), CM236 chipset, and onboard dual-channel 16GB DDR4-2133 memory;
- Onboard VPX interface, support multiple communication interfaces: SATA, USB, Ethernet, PCIe, GPIO and other communication interfaces;
- Dual display mode: support dual DVI display mode;
- Low power consumption design: typical power consumption is not more than 50W;
- Industrial grade operating temperature: -40℃~+85℃

3 Product Specification

3.1 Environmental Specification

Specification	Description	Comment
Operating Temperature	-40 ~ +85℃	
Storage Temperature	-50~ +100℃	
Relative Humidity	95%	
Vibration	5HZ-2000HZ, 1.5rms (working state); 2Grms 20-2000Hz, (non-working state);	
Shock	20G, 11ms (working state); 30G, 11ms (non-working state);	

3.2 Power Specification

Specification	Description	Comment
Operating Voltage	5V main power supply	
Power Consumption	≤50W	
Heat-dissipating Method	Conduction heat dissipation, support air-cooled heat dissipation	

3.3 Physical Specification

Specification	Description	Comment
Product Appearance	6U VPX single-board architecture	
Board Size	233.35mm*160mm	

3.4 Operation System

Specification	Description	Comment
Processor	Onboard Intel® Core™ i7-6820EQ processor 8M cache, main frequency 2.8G, maximum core frequency 3.5 GHz, quad-core, eight-thread 45W, BGA1440	
Chipset	Intel® CM236 South Bridge Chipset	
Memory	Onboard dual channel 16GB DDR4 memory	

Specification	Description	Comment
Storage	Onboard Renice 512GB SATA SSD	
Graphics	ASPEED's AST2400 chip, output VGA signal	
OS.	Windows -64bit, Linux	

3.5 Interface

Specification	Description	Comment
SATA	1x On-board SATA3.0 2.5inch-SSD interface 2x SATA3.0 back interface	
PCT-E	1x PCIe3.0 X16 (or 2x PCIe3.0 X8) 1x PCIe3.0 X4 4x PCIe3.0 X1	
Internet	2x Gigabit electrical Ethernet adaptive interface 2x Gigabit optical Ethernet interface	
DVI	2x DVI-D	
PS/2	1x PS/2 keyboard interface 1x PS/2 mouse interface	
USB	8x USB2.0 2x USB3.0	
Serial Port	4x RS232 12x RS422	
Audio Port	2x differential audio input 1x audio output	
Discrete Quantity Input Interface	12x discrete quantity input 6x spare discrete quantity input	
Fan Interface	1x fan	

4 Ordering Rule

