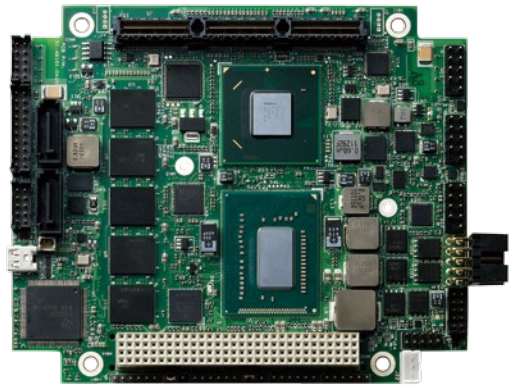
CM-920

Extreme Rugged™ PCI/104-Express Single Board Computer with 3rd Generation Intel® Core™ Processor

Features

- Dual-core 3rd Generation Intel® Core™ Processor
- Up to 4GB industrial grade soldered-down ECC 1600MHz DDR3 memory
- 8GB industrial grade solid state drive (SSD)
- One PCIe x16 (Gen 3) and 1 x4 or 4 x1 (Gen 2)
- Two SATA 6 Gb/s ports, two Gigabit Ethernet, four USB 2 .0 interfaces, and two serial ports
- PCI/104-Express Type 1 and PCI/104 expansion interfaces
- Extreme Rugged™ operating temperature: 40°C to +85°C
- 50% thicker PCB for high vibration environments



Specifications

Core System

CPU

Intel® Core™ i7-3517UE 1.7GHz (up to 2.8GHz Turbo), 4MB L3 cache, 17W, dual core

Intel® Celeron® 807UE 1.0GHz, 1MB L3 cache, 10W, single core

Memory

2 or 4GB single channel industrial grade solder down ECC 1600 MHz DDR3 memory

Embedded BIOS

AMI UEFI with CMOS backup in 16 MB SPI flash

Hardware Monitor

Supply voltages and CPU temperature

Watchdog Timer

Programmable timer range to generate RESET

Technologies

PAVP 3.0, Intel® AMT 8.0, Intel® VT, Intel AES-NI, Intel® HT, Intel® HD Graphics with Dynamic Frequency, Intel® Turbo Boost , Dynamic Turbo, Intel® AVX 1.0, Intel® Quick Sync Video

Expansion Busses

PCI/104 (32-bit 33/66MHz)

PCI/104-Express Type 1 with 1 of PCI Express x16 (Gen3) bus SMBus (system) 2 of USB 2.0, 4 of PCI Express x1

Ethernet

10/100/1000Mbps

2x GbE: 1x PCH using Intel® 82579 PHY, 1x Intel® 82574 MAC/PHY

Video

Integrated Graphics

HD Graphics 4000 at 350-1000 MHz

Integrated Video

DirectX 11.0, OpenGL 3.1, and OCL 1.1

Media Processing

Decode (HW JPEG & MJPEG decode), encode (full HW MPEG2 encode), transcode Intel® Clear Video HD Technology + enhanced media processing

VGA Interface

Analog VGA support with 300 MHz DAC, Analog monitor support up to QXGA (2048 x 1536) and VGA hot plug

LVDS Interface

Dual-channel 18/24-bit LVDS

Digital Display Interface

One DVI

Power

Standard Input

5V (3.3V and 12V if required by the PCI/104-Express stack)

Power States

Supports S1, S4

Power Consumption

9W typical

Audio

Chipset

Integrated on Mobile Intel® QM67 Express Chipset, available on HDMI port

Specifications

I/O Interfaces

Chipset
Integrated on Mobile Intel® QM67 Express Chipset

USB
Four USB 2.0 ports (plus two to the PCI/104-Express stack)

SATA
Two SATA 6 Gb/s with support for RAID 0,1

Storage
Onboard 8GB industrial grade SSD

Serial
Two RS-232 Serial ports implemented in LPC based Super I/O

Operation System

Standard Support
Windows 7, Linux

Extended Support (BSP)
WES 7, WES 2009, WEC 7, VxWorks 6.9, QNX 6.5

Mechanical and Environmental

Form Factor
PCI/104 Express

Dimension
116mm x 96mm

Operating Temperature
Standard: -20°C to +70°C

Extreme Rugged™: -40°C to +85°C (CPU throttling at 800MHz, no throttling to +75°C)

Storage Temperature
-55°C to +85°C

Humidity
90% at 60°C non-condensing

Shock and Vibration
50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B

Operating: 11.96 Grms, 50-2,000 Hz, each axis, MIL-STD-202G Method 214A

HALT
Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

Intelligent Middleware

SEMA®
Local management, control of embedded computer systems

Extended EAPI for monitoring, controlling and analytics applications

Multiple OS support and across platforms (x86, ARM)

Ordering Information

- **CM-920-R-10**
  PCI-104™ with Intel® Celeron® 807UE 1.0GHz, 10W, 2GB solder down DDR3 1600 memory, 8GB SSD, 18/24 bit LVDS, VGA, HDMI, SATA, PCI
- **CM-920-R-17**
  PCI/104-Express with Intel® Core™ i7-3517UE 1.7GHz, 17W, 2GB solder down DDR3 1600 memory, 8GB SSD, 18/24 bit LVDS, VGA, HDMI, SATA, PCI Express, PCI
- **CM-920-R-18**
  PCI/104-Express with Intel® Core™ i7-3517UE 1.7GHz, 17W, 4GB solder down DDR3 1600 memory, 8GB SSD, 18/24 bit LVDS, VGA, HDMI, SATA, PCI Express, PCI
- **CM-920-L-10**
  CM-920 Quick Start Kit includes CM-920-R-10, cable kit, CM920-TM-CU. USB stick with BSP/drivers and manuals
- **CM-920-L-17**
  CM-920 Quick Start Kit includes CM-920-R-17, cable kit, CM920-TM-CU. USB stick with BSP/drivers and manuals

*other configurations by request

Accessories

- **CM-920-X-01**
  CM-920 cable kit (RoHS), Additional cables to be defined as required for extreme rugged pin headers
- **CM-920-TM-AL**
  PCI/104-Express with Intel® Core™ i7-3517UE 1.7GHz, 17W, 2GB solder down DDR3 1600 memory, 8GB SSD, 18/24 bit LVDS, VGA, HDMI, SATA, PCI Express, PCI
- **CM-920-R-18**
  CM-920 Aluminum Heatspreader
- **CM-920-TM-CU**
  CM-920 Copper Heatsink
- **CM-920-TM-FAN**
  CM-920 Aluminum/Copper Heatsink with Fan

Recommended Configurations

- **CM-920-R-10 (ETT), (CC)**
  CM-920-R-10, -40°C to +85°C (optional), coating (optional)
- **CM-920-R-17 (ETT), (CC)**
  CM-920-R-17, -40°C to +85°C (optional), coating (optional)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

All products and company name listed are trademarks or trade names of their respective companies.
Updated May 03, 2017. ©2017 ADLINK Technology, Inc. All Rights Reserved.
All specifications are subject to change without further notice.