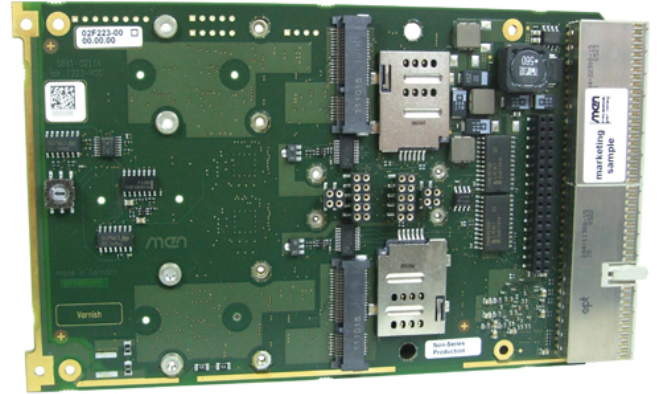


F223

Wireless Network Board for 2 PCIe and 2+16 SIM Cards 3U CompactPCI

- » 2 PCI Express Mini Cards (full-/half-size)
- » For wireless applications (WLAN/WAP, UMTS, GPS, GSM, HSDPA, LTE)
- » 2 or 3 external antennas per module (reverse SMA)
- » Different standard front panels available
- » Up to 18 SIM card slots
- » -20 °C to +85 °C, conformal coating
- » 4 HP 32-bit/33-MHz CompactPCI



Wireless Functionality

The F223 is a rugged single Eurocard CompactPCI carrier board supporting the PCI Express Mini Card standard. The standard version of the F223 offers two PCI Express Mini Card slots with USB and PCI Express connection. It allows to use all types of cards for wireless applications making it possible to extend the functionality of a CompactPCI system in the same fast and easy way as a common notebook.

It is possible to reset and power on and off the two PCI Express Mini Cards separately without having to reset the whole system.

Flexible Antenna Configuration at the Front

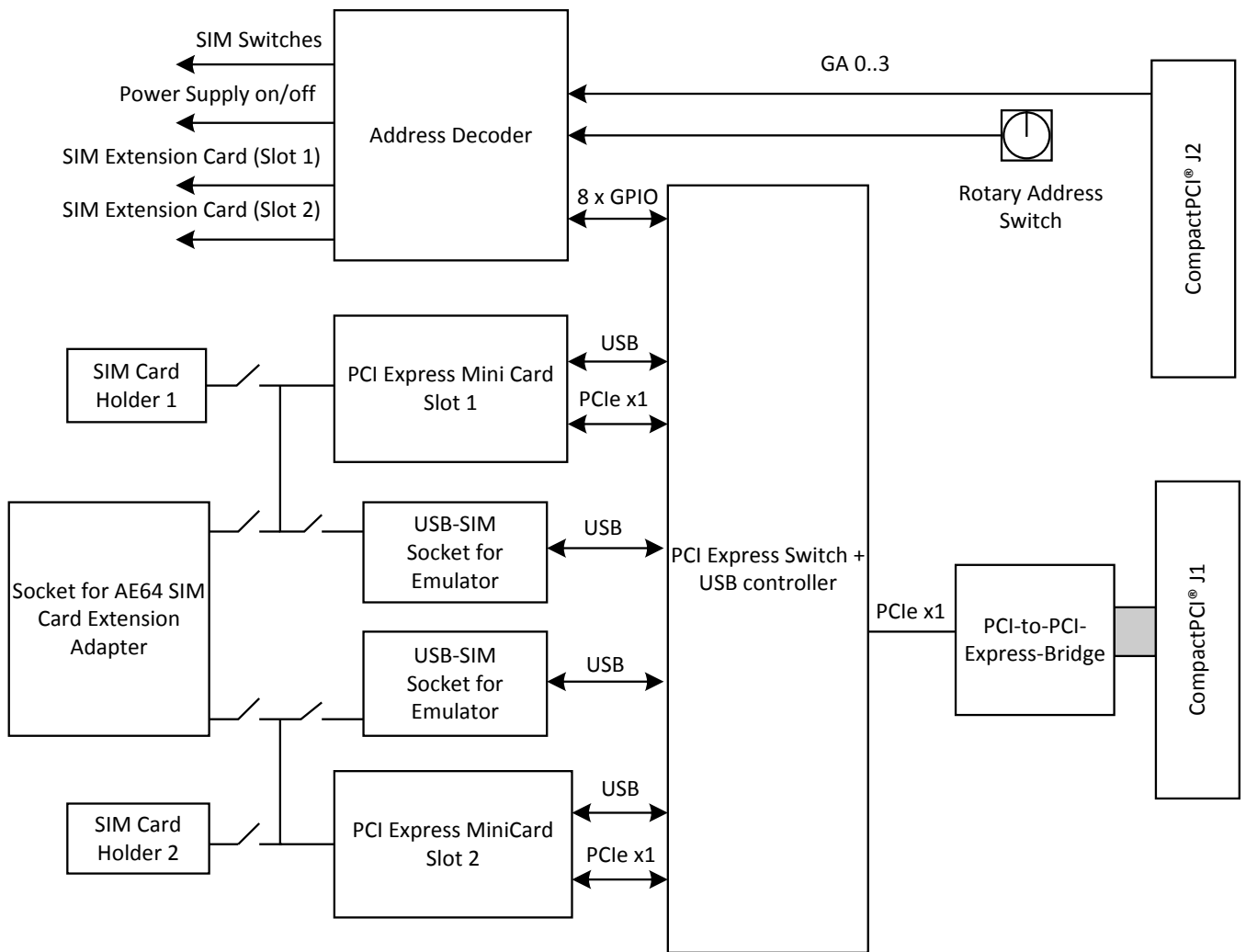
Different front panels are available as an accessory so that each PCI Express Mini Card can be connected to a flexible number of robust redundant external antenna connectors at the front.

Large Number of SIM Cards

Using a plug-on adapter board as many as eight additional SIM cards per PCI Express card can be implemented. Even with the adapter assembled the board still only needs a width of 4 HP. Another option is to equip the board with a USB-SIM emulator for controlling SIM cards on a central server.

For Harsh and Mobile Environments

The F223 is designed for -20 °C to +85 °C operating temperature and is conformally coated in order to be used also in harsh and mobile environments. The final environmental qualification depends on the respective cards used on the carrier.



Wireless Functionality

- Possible functions:
 - GNSS
 - LTE
 - WLAN

Interfaces

- PCI Express Mini Card
 - 2x PCI Express Mini Card slot
 - Slot 1: PCIe Full-Mini; PCIe x1, USB 2.0
 - Slot 2: PCIe Full-Mini; PCIe x1, USB 2.0
- SIM card
 - 2x mini-SIM card slot
 - 16x mini-SIM card slot on special adapter board
 - USB-SIM socket for SIM emulator
- I2S interface for audio signals (via digital audio I/O streamer)
 - I2S interface only with special non-standard PCI Express Mini Card
- Cutout
 - Antenna connector: QMA plug, QMA receptacle, RP-SMA plug, RP-SMA receptacle

Front Connections

- Up to six Reverse SMA antenna connectors (front panel available as an accessory)
- Two or three antennas per PCI Express Mini Card

Product Standard

- CompactPCI: CompactPCI Core Specification PICMG 2.0 R3.0
- Peripheral slot
- 32-bit/33-MHz CompactPCI bus
- V(I/O): +3.3V (+5V tolerant)
- J2 connector with geographical addressing for distinguishing boards in a system with several boards

Electrical Specifications

- Supply voltage/power consumption:
 - +5V (-3%/+5%), depending on plugged card, 1.1 A without PCI Express Mini Cards
 - +3.3V and 1.5V supply voltage for cards generated onboard

Mechanical Specifications

- Dimensions: 3U, 4 HP
- Front panel: 4HP front panel with four SMA connectors available as an accessory
- Weight:
 - 198 g (with front panel and PCI Express Mini cards)
 - 104 g (without front panel and PCI Express Mini cards)
- Cooling
 - Air cooling, forced convection, airflow 1.0 m/s
 - Conduction-cooled in MEN CCA frame

Environmental Specifications

- Temperature range (operation):
 - -20 °C to +85 °C
- Temperature range (storage): -40 °C to +85 °C
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300 m to +3 000 m
- Shock: 50 m/s², 30 ms (EN 61373)
- Vibration (function): 1 m/s², 5 Hz - 150 Hz (EN 61373)
- Vibration (lifetime): 7.9 m/s², 5 Hz - 150 Hz (EN 61373)

Safety

- Flammability (PCBs): UL 94 V-0
 - Electrical Safety
 - Insulation measurement test according to EN 50155 (12.2.9.1) (railway)
 - Voltage withstand test according to EN 50155 (12.2.9.2) (railway)
 - Information technology equipment test according to EN 60950 (information technology equipment)
 - Voltage withstand test according to EN 50124-1 (Annex B) (signal- and telecommunication equipment)
-

EMC Conformity

- EN 55022 (radio and conducted disturbance)
 - IEC 61000-4-2 (ESD)
 - IEC 61000-4-3 (electromagnetic field immunity)
 - IEC 61000-4-4 (burst)
 - IEC 61000-4-5 (surge)
 - IEC 61000-4-6 (conducted disturbances)
-

Product Compliance: Radio Equipment

- EMC basic compliance
 - The product is prepared to comply with the Radio Equipment Directive 2014/53/EU (RED). Standards compliance depends on the assembled radio (wireless) device.
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Reliability

- MTBF: 1 224 236 h @ 40 °C according to IEC/TR 62380 (RDF 2000)
-

Software Support

- Linux
- Windows

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