PX4 – Mobile Phone Voice Interface PCI Express® Mini Card

- **1 USB audio streaming controller for mobile wireless cards**
- **1 slot for additional PCI Express® Mini Card**
- **Mobile phone functionality with UMTS, LTE, Edge, GPRS, etc.**
- **SIM card socket integrated**
- **-40..+85°C screened**
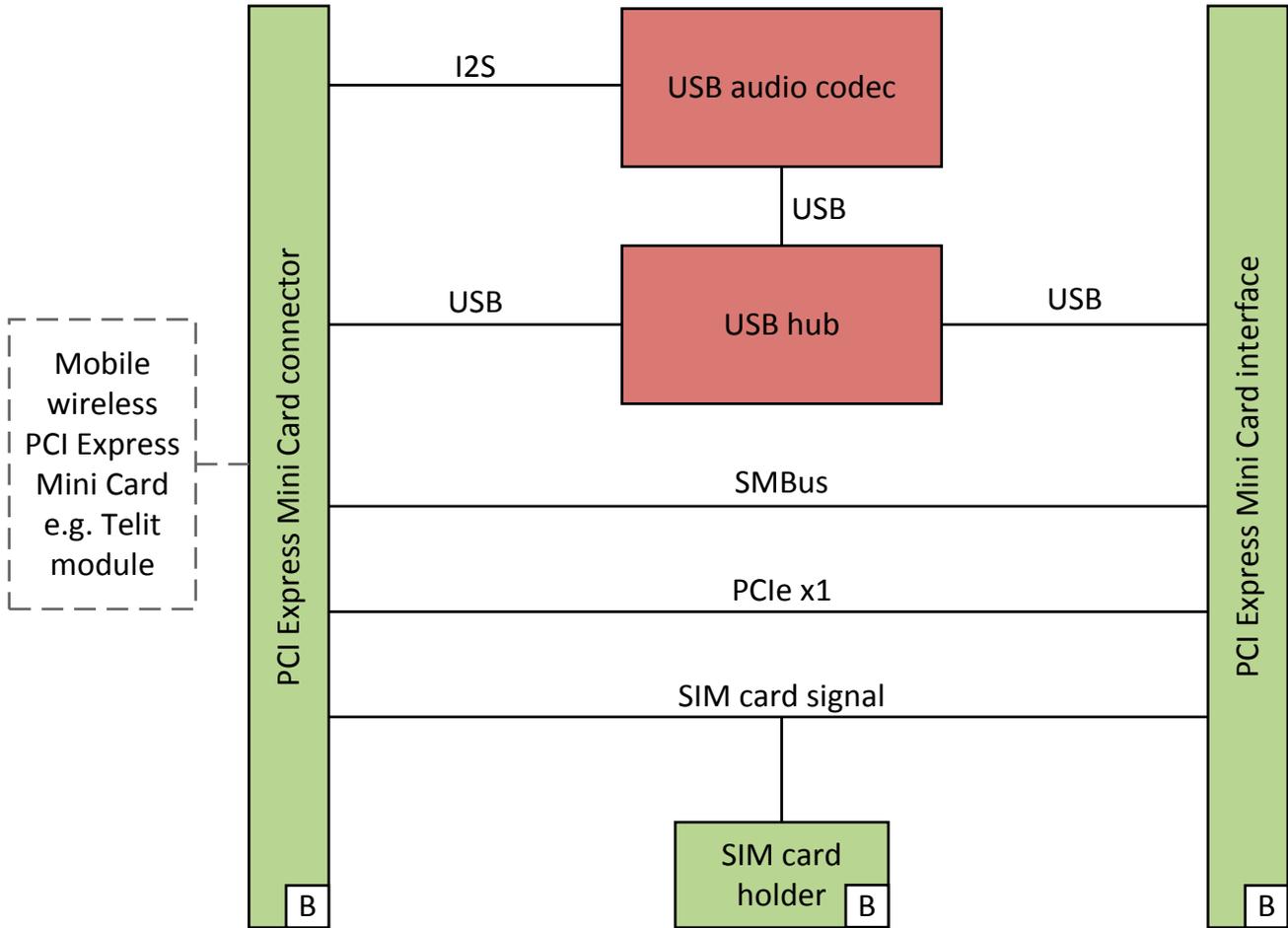- **Prepared for conformal coating**

The PX4 is a PCI Express® Mini Card providing an audio and sound interface for mobile wireless functions. It can be equipped with an additional PCI Express® Mini Card with UMTS, LTE, GPRS and Edge for mobile phone functionality.

The PX4 provides a SIM card slot and is prepared for conformal coating.

Its wireless functionality makes the PX4 especially suitable for the rail and road market. It can be used for mobile phone applications, for example, if the driver wants to call the control room or if the control room wants to make an announcement to the passengers.

Diagram

B	Onboard connector
	Options

PCI Express Mini Card connector

Mobile wireless PCI Express Mini Card e.g. Telit module

I2S

USB audio codec

USB

USB

USB hub

USB

SMBus

PCIe x1

SIM card signal

SIM card holder

B

PCI Express Mini Card interface

B

B

Technical Data

Host Interface	■ PCI Express® Mini Card connector
	  □ USB 2.0
	  □ PCIe® x1

PCI Express® Mini Card Slot	■ For mobile phone functionality using an UMTS/LTE/Edge/GPRS PCI Express® Mini Card ■ For Telit HE910 PCI Express® Mini Card see Ordering Information. ■ I2S audio interface ■ SIM card slot
Electrical Specifications	■ Supply voltage/power consumption: □ +1.5V, supply rail not used - routed to connectors only 3.3V, typ. 180 mA / max. 300 mA
Mechanical Specifications	■ Dimensions: 30 mm x 58 mm x 5 mm (PCI Express® Full-Mini Card) ■ Weight: 10 g

Environmental Specifications	■ Temperature range (operation):
	  □ -40..+85°C (screened)
	  □ Airflow: min. 1 m/s
	■ Temperature range (storage): -40..+85°C
	■ Relative humidity (operation): max. 95% non-condensing
	■ Relative humidity (storage): max. 95% non-condensing
	■ Altitude: -300 m to +3000 m
	■ Shock: 15 g, 11 ms
	■ Bump: 10 g, 16 ms
	■ Vibration (sinusoidal): 1 g, 10..150 Hz
	■ Conformal coating on request

MTBF	■ tbd h @ 40°C according to IEC/TR 62380 (RDF 2000)
Safety	■ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers
EMC Conformity	■ EN 50121-3-2 (table 4) (EMC in rolling stock) ■ EN 55011 (radio disturbance) ■ EN 61000-4-2/EN 50121-3-2 (table 9) (ESD) ■ EN 61000-4-3/EN 50121-3-2 (table 9) (electromagnetic field immunity) ■ EN 61000-4-4/EN 50121-3-2 (table 8) (burst) ■ EN 61000-4-6/EN 50121-3-2 (table 7) (immunity to conducted disturbances)

Ordering Information

Standard PX4 Models	15PX04-00	Audio interface for mobile wireless cards, with SIM card holder, -40..+85°C screened
Related Hardware	02F212-05	2 PCI Express® Mini Card slots with USB interface, 4 SIM card sockets, 4 SMA connectors, -40..+85°C with qualified components (carrier only)
	02G212-00	2 PCI Express® Mini Card slots (USB and PCIe®), -40..+85°C screened
	06RC01-00	Intel® Atom™ Z510, 1.1GHz, 512MB RAM, 2GB MicroSD card, prepared for SSD, 2 Fast Ethernet, 1 USB, prepared for 2 SA-Adapter kits, prepared for wireless access, 24V DC input (S2), -40..+70(+85)°C screened, EN50155 compliant, IP67
	06RC01-01	3.5" display with touch, Intel® Atom™ Z510, 1.1GHz, 512MB RAM, 2GB MicroSD Card, prepared for SSD, 2 Fast Ethernet, 1 USB, prepared for 2 SA-Adapter kits, prepared for wireless access, 24V DC input (S2), -40..+70(+85)°C screened, EN50155 compliant, IP67, 120-day Windows® XP Embedded eval version installed
	08AE51-00	Graphics & I/O interface board for display and box computers; 2x DisplayPort®, 2x Gb Ethernet, 1x USB, 2x PCI Express® Mini card slot, 2x SIM card slot, 2x SA-Adapter slot, PSU 24 VDC, -40 to +85°C screened
	08SC21-00	Intel® Atom™ Z520PT 1.3GHz, 1GB DRAM, 2x Fast Ethernet, 2x USB, 1x LVDS, 1x MicroSD card slot, 24V PSU (non isolated), prepared for -40 to +85°C screened via conductive cooling
	08SC27-00	Display electronics SBC with Intel® Atom™ E680T, 1.6 GHz, 2GB RAM, 1 Fast Ethernet on M12, 1 USB 2.0 on M12, 1 USB 2.0 Type A, 1 PCIe® MiniCard socket, 1 micro SIM card socket, 1 GPS interface, 2 SA-Adapter slots, EN 50155 compliant PSU, -40..+85°C operation temperature via conduction cooling (screened), conformal coating
	08XC02-00	Carrier board for ESMexpress® modules (Intel®), 4 GB USB Flash Disk, LVDS and DVI on board, 2 Fast Ethernet on M12, 1 SA-Adapter slot, 2 USB 2.0, PCI Express® Mini Card slot, 24V PSU (9..36VDC), -40..+85°C with qualified components
	08XC06-01	Carrier board for ESMini: 1x TTY, 1x RS232, 1x DVI-I, 1x Audio I/O, 4x USB2.0, 2x Fast Ethernet, USB Flash slot, PCI Express® Mini Card socket, SIM card holder, microSD™ card socket, 8x GPIOs, -40°C..+85°C screened
	09BC50I00	Industrial box computer with dual graphics connection, 24 VDC PSU, AMD Dual Core T48N, 1.4 GHz, 2 GB RAM, SD card slot, mSATA slot, 2x DisplayPort®, 2x Gb Ethernet RJ45, 2x USB, 2x SA-Adapter slot (UARTs, fieldbuses), 1x PCI Express® Mini card slot, 1x SIM card slot, -40..+70°C screened
	09BC50M00	Box computer with dual graphics connection, 24 VDC PSU, AMD T48N, 1.4 GHz, 2 GB RAM, SD card slot, mSATA slot, 2x DisplayPort®, 2x Gb Ethernet, 1x USB, 2x SA-Adapter slot (UARTs, fieldbuses), 2x PCI Express® Mini card slot, 2x SIM card slot, -40..+70(+85)°C screened, conformal coating, IP40, EN 50155, ISO 7637-2 (E-mark)
	09BL50W00	Box computer with 4 PCI Express® Mini card slots and 8 microSIM card sockets and 1 GPS/GLONASS interface, 24 and 36 VDC PSU, AMD Dual Core T48N, 1.4 GHz, 2 GB RAM, SD card slot, mSATA slot, 2x DisplayPort®, 2x Gb Ethernet, 2x USB, 1x RS232, 1x RS422/485, 1 IBIS slave interface, 1 odometer input, 2 SA-Adapter slots (UARTs, fieldbuses), -40..+70(+85)°C screened, conformal coating, IP40, EN 50155, ISO 7637-2 (E-mark)
Miscellaneous Accessories	6100-0244	Telit HE910 PCI Express® Mini Card module GSM/GPRS/EDGE: 850, 900, 1800, 1900 MHz, UMTS/HSDPA: 800/850, 900, AWS1700, 1900, 2100 MHz, HSDPA+ GPS/A-GPS (SUPL 1.0)
Documentation	20PX04-00	PX4 User Manual

Contact Information

Germany

MEN Mikro Elektronik GmbH
Neuwieder Straße 3-7
90411 Nuremberg
Phone +49-911-99 33 5-0
Fax +49-911-99 33 5-901

info@men.de
www.men.de

France

MEN Mikro Elektronik SAS
18, rue René Cassin
ZA de la Châtelaine
74240 Gaillard
Phone +33 (0) 450-955-312
Fax +33 (0) 450-955-211

info@men-france.fr
www.men-france.fr

USA

MEN Micro Inc.
860 Penllyn Blue Bell Pike
Blue Bell, PA 19422
Phone (215) 542-9575
Fax (215) 542-9577

sales@menmicro.com
www.menmicro.com