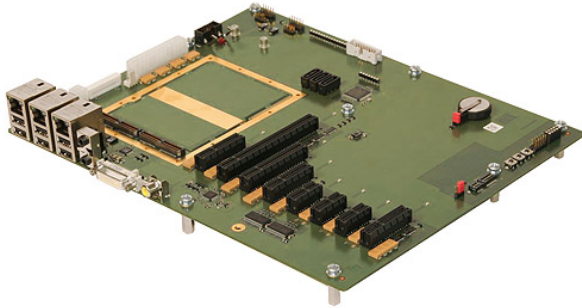


XC1 - ATX Evaluation Carrier for ESMexpress®



- **1 ESMexpress® slot**
(Compliant with RSE, Rugged System-On-Module Express, ANSI-VITA 59 in process)
- **8 PCI Express® card slots**
- **4 GB USB Flash**
- **3 SATA**
- **LVDS, DVI**
- **HD audio**
- **3 Gb Ethernet**
- **6 USB 2.0**

ESMexpress® is a Computer-On-Module standard in accordance with a proposed ANSI standard currently under development (ANSI-VITA 59, RSE Rugged System-On-Module Express). Together with an application-specific carrier board it forms a semi-custom solution for industrial, harsh, mobile and mission-critical environments.

The XC1 is an evaluation and development platform that can be used together with any type of ESMexpress® module. Thus, the XC1 provides physical interfaces and connectors for nearly all of the modern serial standard I/Os routable from the ESMexpress® connectors to the carrier board as defined in the specification. The XC1 comes with one ESMexpress®

slot and eight additional PCI Express® card slots.

The functionality of all connectors depends on the ESMexpress® module used on the XC1. It supports standard ATX form factor and can therefore operate in a PC system. Additional 4 GB of USB-driven Flash disk for application storage complement the memory configuration that is already available on the different ESMexpress® modules.

For a first evaluation of the functions and performance of the ESMexpress® module of choice we strongly recommend to use the XC1. Further useful accessories include an external PSU and an ESMexpress® to COM Express™ adapter.

Technical Data

ESMexpress® Carrier Card

- One ESMexpress® slot
- J1 and J2 assembled

Memory

- Three SATA connectors
- Two 2GB USB Flash disks included in the delivery

Graphics

- One DVI rear connector
- One LVDS ZIF connector
 - For direct connection of an LVDS display
- One LVDS backlight 10-pin connector
- SDVO via PCI Express® connector

Rear I/O

- USB 2.0
 - 6 Series A connectors via rear I/O
 - 2 on-board connectors
- 10/100/1000Base-T Ethernet
 - Three interfaces on RJ45 connectors
- Audio
 - Audio in
 - Audio out
 - SPDIF out

PCI Express®

- Three PCIe® x1 connectors
- Three PCIe® x4 connectors (two if the board is built into a standard ATX housing)
- One PCIe® x8 connector
- One PCIe® x16 connector
- Possible configurations of PCIe® interface B selected by user switches
 - 1 x PCIe® x16
 - 2 x PCIe® x8
 - 4 x PCIe® x4
 - On-board LED to signal active configuration
- Possible configurations of PCIe® interface A selected by user switches
 - 1 x PCIe® x4
 - 4 x PCIe® x1
 - On-board LED to signal active configuration

Miscellaneous

- Battery holder
- Power on button
- Reset button
- One GPIO line

Electrical Specifications

- Supply voltage/power consumption:
 - ATX standard power supply via 24-pin connector
 - 12V supply for PCIe® connectors via additional 4-pin connector
- MTBF: tbd @ 40°C according to IEC/TR 62380 (RDF 2000)

Mechanical Specifications

- Dimensions: 305mm x 255mm (conforming to ATX standard)
- Weight: 495g (without ESMexpress® module)

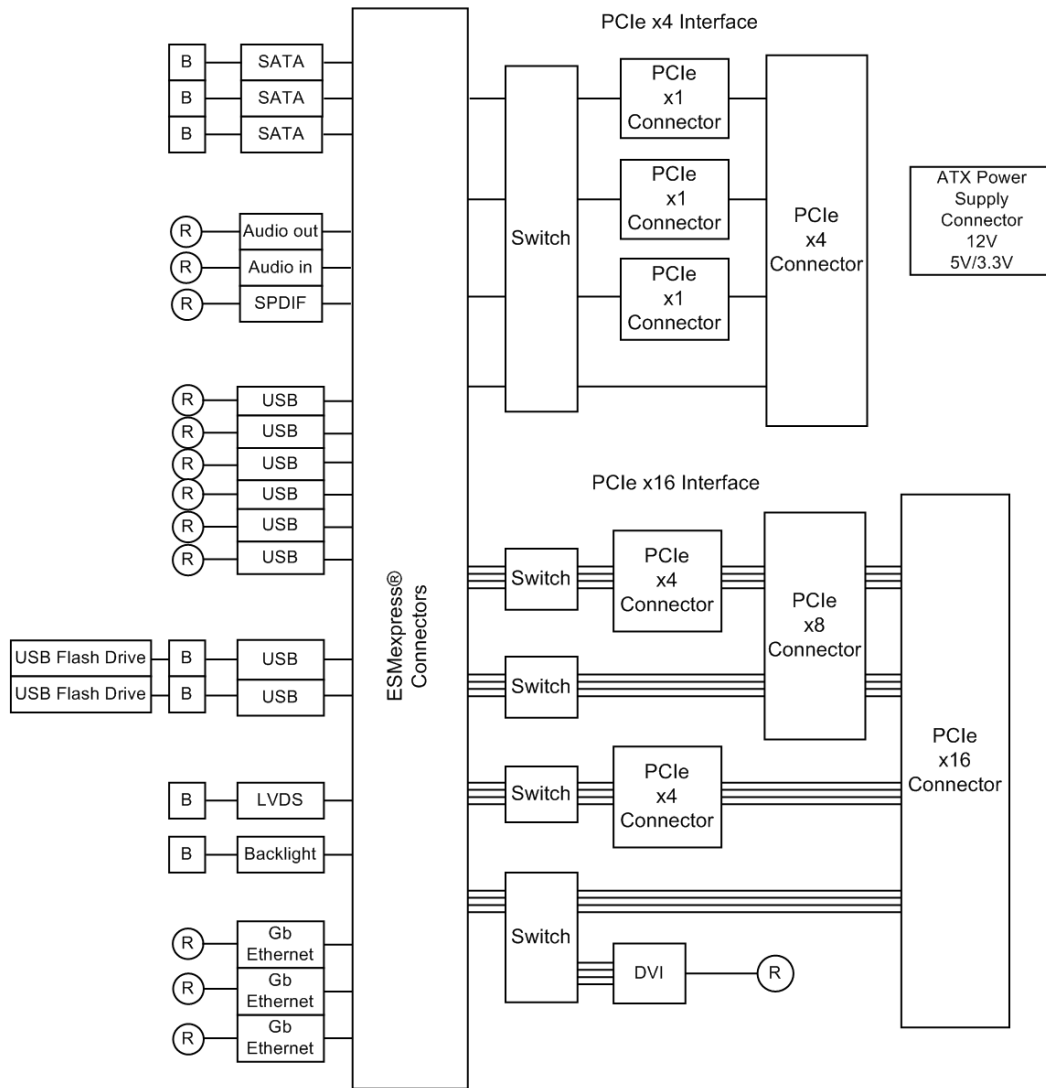
Environmental Specifications

- Temperature range (operation):
 - 0..+60°C (screened)
 - Airflow depending on ESMexpress® module
- Temperature range (storage): -40..+85°C
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300m to + 2,000m
- Bump: 10g/16ms
- Conformal coating on request

Safety

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

Diagram



Legend

R Rear I/O connector	 Options
B On-board connector	

Ordering Information

Standard Hardware

08XC01-00 Evaluation and development board for all ESMexpress® modules (coming with top cover and frame), incl. faceplate, 4GB USB Flash Disk and USB cable type A to A

Related Hardware

15XM01-00 Intel® Atom Z530, 1.6 GHz, 1 GB DDR2 RAM, 1 Gb Ethernet, 1x PCIe, with cover, -40..+85°C screened

15XM50-00 MPC8548, 1.33 GHz, 512 MB DDR2 RAM, 2 MB SRAM, 128 KB FRAM, -40..+85°C screened

Miscellaneous

0712-0019 Standard ATX PSU, 350W, 0..+40°C

08AE12-00 ESMexpress® module to COM Express carrier adapter, 0..+60°C

Documentation

20XC01-00 XC1 User Manual

20XC01-ER XC1 Errata

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the XC1 online data sheet under » www.men.de.

Germany

MEN Mikro Elektronik GmbH
Neuwieder Straße 5-7
90411 Nuremberg
Phone +49-911-99 33 5-0
Fax +49-911-99 33 5-901
E-mail info@men.de
www.men.de

France

MEN Mikro Elektronik SA
18, rue René Cassin
ZA de la Châtelaine
74240 Gaillard
Phone +33 (0) 450-955-312
Fax +33 (0) 450-955-211
E-mail info@men-france.fr
www.men-france.fr

USA

MEN Micro, Inc.
24 North Main Street
Ambler, PA 19002
Phone (215) 542-9575
Fax (215) 542-9577
E-mail sales@menmicro.com
www.menmicro.com

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