Starterkits and Evaluation Boards for COM Express®

» For COM Express® modules
» For quick evaluation purposes
» Starterkits include all required hard- and software for immediate start
Starterkits

Starterkits are complete care-free kits packaged in a single case. They give you a head start: Starterkits include an Evaluation Board or a Reference Carrier Board which provides an easy plug-in of COM Express® modules and line-up many connectors and jacks. Those complete packages include everything needed for an immediate and efficient start and evaluation: PSU, Mass Storage and Documentation.

Evaluation Boards

These Evaluation Boards can be populated with Kontron COM Express® modules. They bring out a complete array of connectors. Evaluation Boards and Reference Carrier Boards minimize installation requirements and reduce dramatically design time. They help to control and cut-back pre-market costs and are recommended for testing in every design-in. Evaluation boards do not include any power supply, module, cooling solution, memory or display.

COM Express® Eval Carrier Type 10

The evaluation board for nanoETXexpress is designed to allow embedded application developers to get up and running quickly on the COM Express® mini modular platform, giving them a head start on the total system design. Simply select an Type 1 or Type 10 COM Express® mini CPU module, then Plug & Go.

Technical Information

I/O Features
- 2x SerialATA standard connector
- PCI Express
  - 1x PCIe x1 Slot
  - 2x PCIe x16 Slot, electrically x1
  - 1x Express Card (PCIe plus USB port 5)
- PCIe to PCI bridge PXE8112 - 2 PCI 32 Bit slots
- SD card slot shared with GPIO pin header
- Onboard RTC Battery
- LID Jumper/Sleep button
- SPI/LPC Firmware Hub socket for external BIOS
- 4-digit Port 80/81 POST code display
- Winbond 83627 LPC-I/O
- 2x serial ports on USB
- 1x UPT pin header/PMW fan/Hardware monitor
- 2x serial port (TX/RX) connector (KAB-DSUB9-3)
- Feature connector (I²C, SMB, Power control)

Ethernet
- 10/100/1000 MBit LAN, RJ45 connector

USB
- 6x USB 2.0 (USB port 0, 1, 2, 3, 4, 6)
- 1x USB client (USB port 7)

Video Interfaces
- 1x LVDS FFC40 connector
- 1x DVI-D, SIL1364 SDVO to DVI

Sound
- Realtek ALC886 HD-Audio optical S/PDIF IN/OUT 7.1 audio jacks

Power Supply
- ATX power supply 24 + 4 pin

Form Factor
- ATX form factor; 12” x 9.6”, 305 x 244 mm

Supported Computer-on-Modules
- COM Express® mini COM.0 pin out Type 1 & Type 10 compatible COM

Ordering Information

<table>
<thead>
<tr>
<th>Article</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMe Eval Carrier T10</td>
<td>34101-0000-06-1</td>
<td>COM Express® Eval Carrier Type 10 board for COM Express® mini COM with Pin-out Type 1 + 10</td>
</tr>
</tbody>
</table>
**COM Express® Starterkit w/ Reference Carrier-i Type 10**

The COM Express® Starterkit with Reference Carrier-i Type 10 is equipped for express evaluation purposes. The fully assembled Starterkit is shipped incl. a COM Express® Reference Carrier-i Type 10, a 7” Display (WVGA) with touch, 12V power supply, cables, accessories.

**COM Express® Reference Carrier-i Type 10**

This COM Express® Reference Carrier board is specially designed for environmental tests with extended temperature range (E2) -40°C to +85°C; in particular for applications based on nanoETXexpress TT-i Computer-on-Modules. The Reference Carrier board also offers three different display interfaces for high graphic scalability: LVDS, Display Port and DVI.
This compact starterkit offers all new Interfaces like DisplayPort and USB 3 in addition to a SIM Card Slot. It is perfect for multimedia or mobile application evaluation.

**COM Express® Reference Carrier Type 6**

Kontron’s Reference Carrier Board in mini-ITX form factor for future-oriented COMs with Pin-out Type 6. A small reference design for small and portable solutions with SIM card support for mobile communication, USB 3.0 and DisplayPort.

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<tbody>
<tr>
<td>COMe Ref Carrier T6</td>
<td>38114-0000-00-0</td>
<td>COM Express® Reference Carrier for COM with Pin-out Type 6</td>
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<tr>
<td>COMe Starterkit Ref. T6</td>
<td>38114-0000-00-5</td>
<td>COM Express® Starterkit w/Reference Carrier Type 6 w/o COM, cooling solution and memory</td>
</tr>
</tbody>
</table>
COM Express® Starterkit w/ Eval Carrier Type 6

A universal starterkit for the new Pin-out Type 6, which offers more support for graphics requirements and super-fast USB 3.0.

Technical Information

- **Evaluation Board**: COM Express® Eval Carrier Type 6 ATX form factor; 12" x 9.6", 305 x 244 mm
- **Power Supply**: Switchable ATX PSU 115V/230V ~
- **Mass Storage**: Superfast USB 3.0 stick
- **Graphics Adapter**: 1x Adapter cable DisplayPort-to-DVI, 1x Adapter cable DisplayPort-to-HDMI
- **Documentation**: Manuals
- **Mounting Kit**: COM Express® mounting kit (screws and spacers)
- **Supported Modules**: COM Express® pin-out Type 6 Computer-on-Modules; especially Kontron’s COMe-bSC6, COMe-cOH6, COMe-bIP6, COMe-bTH6, COMe-bHL6

Please order COM separately.

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<tr>
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<tbody>
<tr>
<td>COMe Starterkit Eval T6</td>
<td>38106-0000-00-S</td>
<td>COM Express® Starterkit w/ Eval Carrier Type 6 w/o COM, cooling solution and memory</td>
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<tr>
<td>COMe Eval Carrier T6</td>
<td>38106-0000-00-0</td>
<td>COM Express® Eval Carrier Type 6</td>
</tr>
</tbody>
</table>

www.kontron.com
COM Express® Starterkit w/ Reference Carrier Type 2

The reduced size makes it fitting perfectly in environments with strict space limitations. Although the Reference Carrier board does support COM Express® basic, 125x95 mm, its size makes it the first choice for COM Express® compact, 95x95 mm sized COMs.

COM Express® Reference Carrier Type 2

COM Express® Reference Carrier board significantly differs in size: 170x165 mm allows evaluation in small and size-critical situations.

Technical Information

<table>
<thead>
<tr>
<th>Feature</th>
<th>Connector</th>
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<tbody>
<tr>
<td>Front Panel Audio</td>
<td></td>
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<tr>
<td>LPT</td>
<td></td>
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<tr>
<td>HD Audio with PDI</td>
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<tr>
<td>DVI-D</td>
<td></td>
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<tr>
<td>VGA</td>
<td></td>
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<tr>
<td>Gigabit Ethernet</td>
<td></td>
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<tr>
<td>6x USB</td>
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</table>

Hard Disk
- 4x SerialATA
- 1x PATA (40 pins for 3.5" HDD)
- 1x SD Card

Ethernet
- 1x 10/100/1000 MBit LAN; RJ45 connector

Serial IO
- 2x COM connectors (pin header)
- 1x LPT connector (pin header)

USB
- 6x USB 2.0

PCI
- 1x PCI slot

PCI Express
- 1x PCI Express slot x1 lane
- 1x Express Card connector on backside

Video Interfaces
- 1x LVDS/JILI FFC 40 connector, 1x DVI-D
- 1x VGA

Sound
- Realtek ALC888 HD-Audio, optical S/PDIF OUT, 5.1 audio jacks

Form Factor
- 6.7" x 5.7"; 170 x 145 mm

Supported Modules
- COM Express® COM.0 pin out Type 2 compatible COM

Power Connector
- ATX power supply 20 + 4 pin

Temperature
- Operating: 0°C to +60°C
- Storage: -30°C to +85°C

Humidity
- Operating: 10% to 90%
- Non operating: 5% to 95% (non condensing)

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<tbody>
<tr>
<td>COMe Starterkit Ref. T2</td>
<td>36100-0000-00-S</td>
<td>COM Express® Starterkit w/ Reference Carrier Type 2 w/o COM, cooling solution and memory</td>
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<tr>
<td>COMe Ref. Carrier T2</td>
<td>38102-0000-00-1</td>
<td>COM Express® Reference Carrier Type 2 for COM Express® basic and compact COM</td>
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</tbody>
</table>

www.kontron.com
COM Express® Starterkit w/ Eval Carrier Type 2

A universal starterkit offering all common interfaces and accessories.

COM Express® Eval Carrier Type 2

Universal evaluation board with a huge variety of slots and interfaces. This board is included in the COM Express® Starterkit Type 2.

Technical Information

<table>
<thead>
<tr>
<th>Evaluation Board</th>
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<tr>
<td>Power Supply</td>
<td>Switchable ATX PSU 115V/230V ~</td>
</tr>
<tr>
<td>Documentation</td>
<td>USB stick with manual</td>
</tr>
<tr>
<td>Mounting Kit</td>
<td>COM Express® mounting kit</td>
</tr>
<tr>
<td></td>
<td>(screws and spacers)</td>
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<tr>
<td>Supported Modules</td>
<td>COM Express® pin-out Type 2</td>
</tr>
<tr>
<td></td>
<td>Computer-on-Modules</td>
</tr>
<tr>
<td></td>
<td>Kontrons COM Express®</td>
</tr>
<tr>
<td></td>
<td>basic and COM Express® compact</td>
</tr>
<tr>
<td></td>
<td>COM's</td>
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<th>4x SerialATA</th>
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<tr>
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<td>1x PATA (40 pins for 3.5'' Hard Disks)</td>
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<tr>
<td></td>
<td>1x CF-Card</td>
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<tr>
<td>Ethernet</td>
<td>1x 10/100/1000 MBit LAN; RJ45 connector</td>
</tr>
<tr>
<td>Legacy Interfaces</td>
<td>2x COM connector (1x pin-header)</td>
</tr>
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<td></td>
<td>1x LPT connector (pin-header)</td>
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<tr>
<td>Video Interfaces</td>
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<td>1x VGA</td>
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<td>1x TVout</td>
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<tr>
<td>USB</td>
<td>6x USB 2.0</td>
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<tr>
<td>PCI</td>
<td>3x PCI slots; 1x slot for miniPCI</td>
</tr>
<tr>
<td>PCI Express</td>
<td>1x PCI Express Graphics 1x16 lanes</td>
</tr>
<tr>
<td></td>
<td>3x PCI Express x1 lanes</td>
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<td>2x Slots for miniPCI Express</td>
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<td>Temperature</td>
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<td>COMe Starterkit Eval T2</td>
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<tr>
<td>COMe Eval Carrier T2</td>
<td>38104-0000-00-1</td>
<td>COM Express® Eval Carrier Type 2</td>
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</table>
COM Express® Debug Card

For easy debugging of self-designed carrier boards, Kontron offers with the COM Express® Debug Card a helpful tool to customers, Sales Partners and Design Partners. The COM Express® Debug Card can either be plug into a free PCI slot or nested between the module or the carrier board. It reads out the POST code which is sent over PCI or LPC bus and displays it. Thus, developers easily can find out where customized configuration gets stuck. The COM Express® Debug Card can be ordered separately using the article no. 11112-0000-00-0.

FPGA Starterkits

Ready to use Starterkit with COM Express® Reference Carrier FPGA incl. Altera® Cyclone IV GX FPGA, 2 HSMC cards for automation, communication and video features, 12 V power supply and accessories. Please order the Starterkit using the article no. 38111-0000-00-S. Find more details on a dedicated Datasheet “COM Express® Reference FPGA Designs”

Wind River Starterkits

Preassembled Starterkits including Computer-on-Module and Wind River LiveUSB Evaluation
» Get your application development started immediately
» Fully assembled Starterkits for COM Express® Technology
» Pre-assembled with COMs incl. Heatspreader and Memory
» Equipment for Wind River LiveUSB Evaluation Environment

How to customize your kit?

1. Select either a Starterkit or an Evaluation Board:

2. Select a COM Express® module (plus corresponding Cooling Solution) of your choice:

3. Select memory modules:

4. Send your request to our Sales Representative or to info@kontron.com

5. You’ll receive an offer

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