

# » Starterkits and Evaluation Boards «



Evaluation boards for  
Type 6 + 10  
available



**COM**   
**Express**®

## 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.

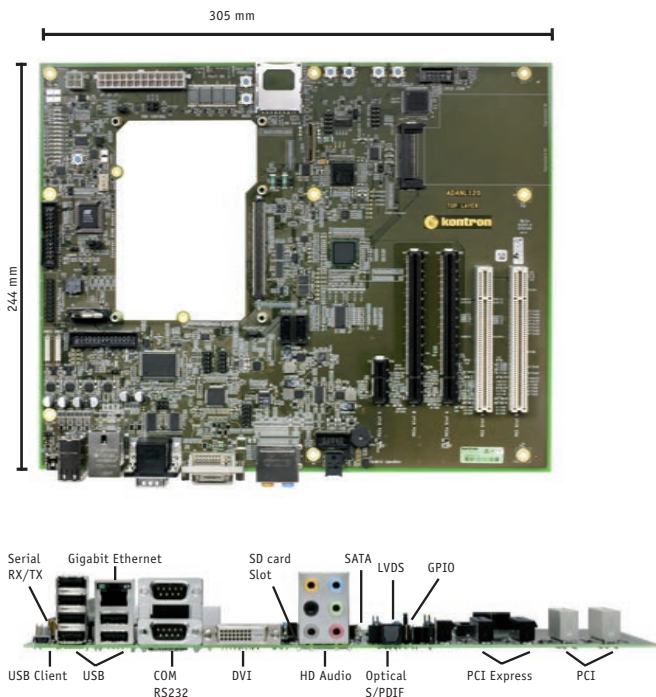
## Evaluation Boards

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 PCIexpress x1 Slot
  - » 2x PCIexpress x16 Slot, electrically x1
  - » 1x Express Card (PCIe plus USB port 5)
- PCIe to PCI bridge PEX8112 - 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 DSUB9
  - » 1x LPT pin header/PWM fan/Hardware monitor
- 2x serial port (TX/RX) connector (KAB-DSUB9-3)
- Feature connector (I<sup>2</sup>C, 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

Article	Part No.	Description
COMe Eval Carrier T10	34101-0000-00-1	COM Express® Eval Carrier Type 10 board for COM Express® mini COM with Pin-out Type 1 + 10

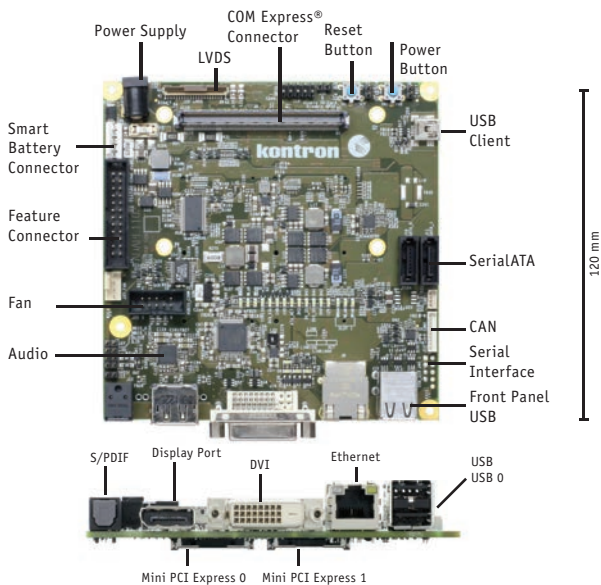
## COM Express® Starterkit w/ Reference Carrier-i Type 10

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.



### Technical Information

<b>Evaluation Baseboard</b>	COM Express® Reference Carrier-i Type 10 Small form factor 120 x 120 mm
<b>Display</b>	1x 7" Display PM070W4, 800x480, incl. assembled backlight cable
<b>Power Supply</b>	1x 12 V, 5A Dehner STD 1250P, with power cord
<b>Cables</b>	1x KAB-DSUB9-3 1x KAB-CAN1 1x KAB Adapt LVDS 1x KAB JILI30 TSLD01 1x KAB-SATA-1
<b>Other Features</b>	1x Touch Controller ETP-4500UG-B 1x Touch USB cable ETP04USBR 1x COM Express® Mounting Kit 5/8mm 1set 1x USB Stick with manual and drivers
<b>Supported Modules</b>	COM Express® pin-out type 10

### Technical Information

<b>Power</b>	Power supply DC10A (5.5 - 20VDC) Status LED
<b>Hard Disk</b>	2x SATA standard connectors (1x SATA power)
<b>Ethernet</b>	10/100/1000 MBit LAN; RJ45 connector
<b>Interface</b>	1x serial port (TX/RX) connector (KAB-DSUB9-3), 1 x CAN on SER1, PWM fan
<b>PCI Express</b>	2x miniPCIexpress (with USB + SIM Card support)
<b>Flash Extension</b>	1x SD card slot
<b>USB</b>	2x USB 2.0 (USB 0,1), 2x USB pin-header (USB 2,3) 1x USB client (USB port 7) USB mini connector
<b>Video Interfaces</b>	1x LVDS FFC40 connector 1x DVI-D (0°C to +75°C) 1x Display Port (depending on COM support)
<b>Sound</b>	Intel® High Definition Audio, Onboard HD Audio Codec AD1882AJCIZ (-20°C to +75°C) Front panel Audio; optical and digital S/PDIF out
<b>Form Factor</b>	120 x 120 mm, nanoITX Baseboard size
<b>Supported Modules</b>	COM Express® mini pin out Type 10
<b>Temperature (*)</b>	Operation: -40°C to +85°C Storage: -40°C to +85°C

### Ordering Information

Article	Part No.	Description
<a href="#">COMe Starterkit Ref. T10</a>	34104-0000-00-S	COM Express® Starterkit w/ Reference Carrier Type 10. 7" display, touch controller, mounting kit, power supply for industrial temp. grade
<a href="#">COM Express® Reference Carrier-i Type 10</a>	34100-0000-00-0	COM Express® Reference Carrier Board-i, Type 10 for industrial temp. -40°C to +85°C, for COM Express® mini form factor

## Starterkit w/ Reference Carrier Type 6

NEW

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.



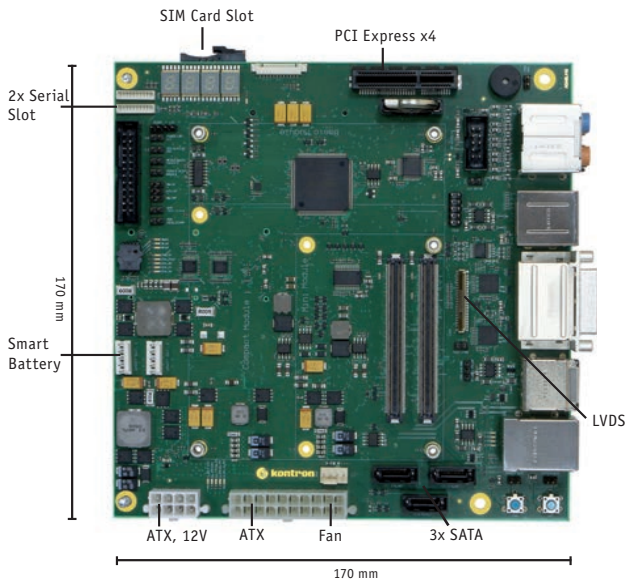
### Technical Information

<b>Evaluation Baseboard</b>	COM Express® Reference Carrier Type 6, miniITX form factor: 170 x 170 mm
<b>Power Supply</b>	Switchable ATX PSU 115V/230V ~
<b>Mass Storage</b>	Superfast USB 3.0 stick
<b>Graphics Adapter</b>	1x Adapter cable DisplayPort-to-DVI 1x Adapter cable DisplayPort-to-HDMI
<b>Documentation</b>	Manuals and Datasheets on USB Stick
<b>Mount Kit</b>	COM Express® mounting kit (screws and spacers)
<b>Supported Modules</b>	COM Express® pin-out Type 6 Computer-on-Modules: especially Kontron's COMe-bSC6, COMe-cOH6, COMe-bIP6, COMe-cTH6, COMe-bHL6 Please order COM separately.

## COM Express® Reference Carrier Type 6

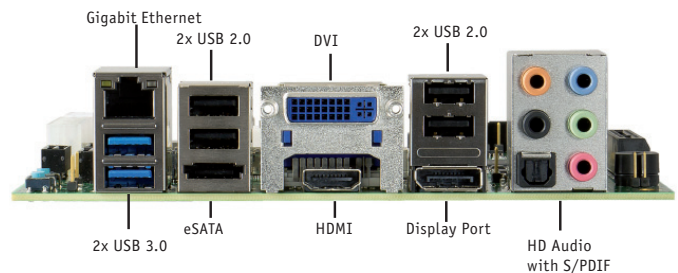
NEW

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.



### Technical Information

<b>Hard Disk</b>	3x SerialATA, 1x eSATA
<b>Ethernet</b>	1x 10/100/1000 MBit LAN; RJ45 connector
<b>USB</b>	2x USB 2.0, 2x USB 3.0, 1x USB in Express Card connector, 1x USB in miniPCI Express
<b>PCI Express</b>	1x PCI Express x4 slot 1x miniPCIe (with USB and SIM card support) 1x Express Card connector (with USB)
<b>Display Interfaces</b>	1x LVDS/JILI FFC 40 connector 3x DDI (1x DVI-I, 1x HDMI, 1x DP)
<b>Sound</b>	Realtek ALC886 HD-Audio, S/PDIF in/out, 5.1 audio jacks
<b>Others</b>	1x Fan control (4-pin-header) 1x GPIO (10-pin-header)
<b>Form Factor</b>	miniITX: 170 x 170mm
<b>Supported Modules</b>	COM Express® Pin-out Type 6 compatible COM
<b>Power Connector</b>	ATX Power Supply 20 + 4 pins
<b>Temperature</b>	Operation: 0°C to 60°C Storage: -30°C to +85°C
<b>Humidity</b>	Operation: 10% to 90% Storage: 5% to 95% (non-condensing)



### Ordering Information

Article	Part No.	Description
COMe Ref Carrier T6	38114-0000-00-0	COM Express® Reference Carrier for COM with Pin-out Type 6
COMe Starterkit Ref. T6	38114-0000-00-S	COM Express® Starterkit w/Reference Carrier Type 6 w/o COM, cooling solution and memory



## COM Express® Starterkit w/ Eval Carrier Type 6

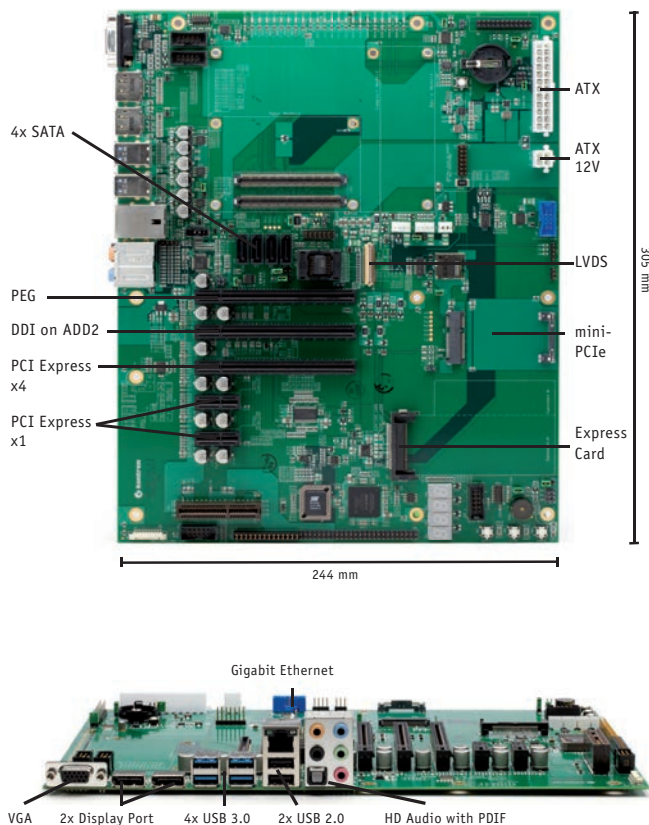
A universal starterkit for the new Pin-out Type 6, which offers more support for graphics requirements and super-fast USB 3.0.



### Technical Information

<b>Evaluation Board</b>	COM Express® Eval Carrier Type 6 ATX form factor; 12" x 9.6", 305 x 244 mm
<b>Power Supply</b>	Switchable ATX PSU 115V/230V ~
<b>Mass Storage</b>	Superfast USB 3.0 stick
<b>Graphics Adapter</b>	1x Adapter cable DisplayPort-to-DVI, 1x Adapter cable DisplayPort-to-HDMI
<b>Documentation</b>	Manuals
<b>Mounting Kit</b>	COM Express® mounting kit (screws and spacers)
<b>Supported Modules</b>	COM Express® pin-out Type 6 Computer-on-Modules: especially Kontron's COMe-bSC6, COMe-cOH6, COMe-bIP6, COMeCTH6, COMe-bHL6 Please order COM separately.

## COM Express® Eval Carrier Type 6



### Technical Information

<b>Hard Disk</b>	4x SerialATA
<b>Ethernet</b>	1x 10/100/1000 MBit LAN; RJ45 connector
<b>Serial IO</b>	2x COM connector (pin-header)
<b>USB</b>	2x USB 2.0; 4x USB 3.0 1x USB in Express Card Connector 1x USB in miniPCI Express
<b>PCI Express</b>	1x PEG x16 slot 1x PCI Express x4 slots 2x PCI Express 1x Express Card connector (with USB) 1x miniPCIe (with USB)
<b>Video Interfaces</b>	1x LVDS/JILI FFC 40 connector 3x DDI (2x Display Port, 1x SDVO/DP/HDMI on ADD2) 1x PEG x16 1x VGA
<b>Sound</b>	Realtek ALC888 HD-AudioS/PDIF IN/OUT 7.1 audio jacks
<b>Others</b>	1x GPIO (10-pin-header) 1x Fan control (4-pin-header)
<b>Form Factor</b>	ATX form factor; 12" x 9.6", 305 x 244 mm
<b>Supported Modules</b>	COM Express® COM.0 pin out Type 6 compatible COM
<b>Power Connector</b>	ATX power supply 20 + 4 pin
<b>Temperature</b>	Operation: 0°C to 60°C Storage: -30°C to 85°C
<b>Humidity</b>	Operation: 10% to 90% Storage: 5% to 95% (non condensing)

### Ordering Information

Article	Part No.	Description
COMe Starterkit Eval T6	38106-0000-00-S	COM Express® Starterkit w/ Eval Carrier Type 6 w/o COM, cooling solution and memory
COMe Eval Carrier T6	38106-0000-00-0	COM Express® Eval Carrier Type 6

## 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.

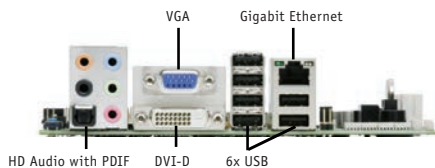
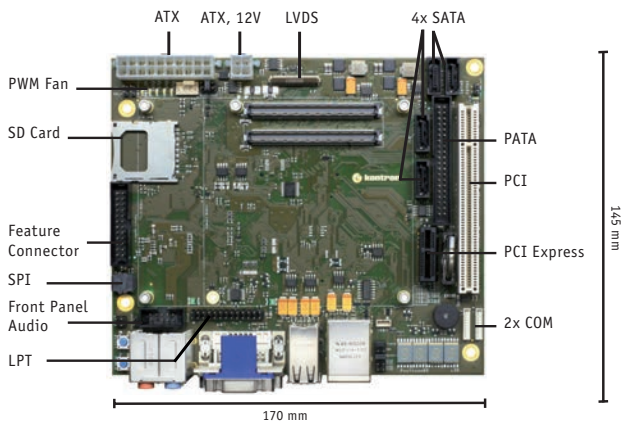


### Technical Information

<b>Evaluation Board</b>	COM Express® Reference Carrier Type 2, 170 x 145 mm allows evaluation in small and size-critical situations
<b>Power Supply</b>	PicoATX 120W and 12 V PSU for running the COM Express® Reference Carrier board
<b>Documentation</b>	USB stick with manuals
<b>Mounting Kit</b>	COM Express® mounting kit (screws and spacers)
<b>Supported Modules</b>	COM Express® pin out Type 2 Computer-on-Modules specially COM Express® basic and COM Express® compact COM's COM please order separately

## COM Express® Reference Carrier Type 2

COM Express® Reference Carrier board significantly differs in size: 170x145 mm allows evaluation in small and size-critical situations.



### Technical Information

<b>Hard Disk</b>	4x SerialATA 1x PATA (40 pins for 3.5" HDD) 1x SD Card
<b>Ethernet</b>	1x 10/100/1000 MBit LAN; RJ45 connector
<b>Serial IO</b>	2x COM connectors (pin header) 1x LPT connector (pin header)
<b>USB</b>	6x USB 2.0
<b>PCI</b>	1x PCI slot
<b>PCI Express</b>	1x PCI Express slot x1 lane 1x Express Card connector on backside
<b>Video Interfaces</b>	1x LVDS/JILI FFC 40 connector, 1x DVI-D 1x VGA
<b>Sound</b>	Realtek ALC888 HD-Audio, optical S/PDIF OUT, 5.1 audio jacks
<b>Form Factor</b>	6.7" x 5.7"; 170 x 145 mm
<b>Supported Modules</b>	COM Express® COM.0 pin out Type 2 compatible COM
<b>Power Connector</b>	ATX power supply 20 + 4 pin
<b>Temperature</b>	Operating: 0°C to +60°C Storage: -30°C to +85°C
<b>Humidity</b>	Operating: 10% to 90% Non operating: 5% to 95% (non condensing)

### Ordering Information

Article	Part No.	Description
COMe Starterkit Ref. T2	36100-0000-00-S	COM Express® Starterkit w/ Reference Carrier Type 2 w/o COM, cooling solution and memory
COMe Ref. Carrier T2	38102-0000-00-1	COM Express® Reference Carrier Type 2 for COM Express® basic and compact COM

## COM Express® Starterkit w/ Eval Carrier Type 2

A universal starterkit offering all common interfaces and accessories.

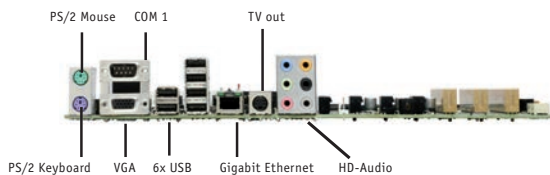
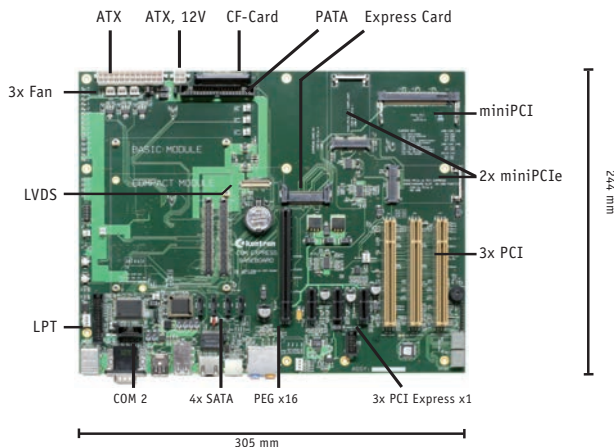


### Technical Information

<b>Evaluation Board</b>	COM Express® Eval Carrier Type 2 ATX form factor; 12" x 9.6", 305 x 244 mm
<b>Power Supply</b>	Switchable ATX PSU 115V/230V ~
<b>Documentation</b>	USB stick with manual
<b>Mounting Kit</b>	COM Express® mounting kit (screws and spacers)
<b>Supported Modules</b>	COM Express® pin-out Type 2 Computer-on-Modules specially Kontrons COM Express® basic and COM Express® compact COM's Please order COM separately

## 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

<b>Hard Disk</b>	4x SerialATA 1x PATA (40 pins for 3.5" Hard Disks) 1x CF-Card
<b>Ethernet</b>	1x 10/100/1000 Mbit LAN; RJ45 connector
<b>Legacy Interfaces</b>	2x COM connector (1x pin-header) 1x LPT connector (pin-header)
<b>Video Interfaces</b>	1x LVDS/JILI FFC 40 connector 1x VGA 1x TVout
<b>USB</b>	6x USB 2.0
<b>PCI</b>	3x PCI slots, 1x slot for miniPCI
<b>PCI Express</b>	1x PCI Express Graphics 1x16 lanes 3x PCI Express x1 lanes 2x Slots for miniPCI Express
<b>Sound</b>	Realtek ALC888 HD-Audio S/PDIF IN/OUT 7.1 audio jacks
<b>Form Factor</b>	ATX form factor, 305 x 244 mm
<b>Supported Modules</b>	COM Express® COM.0 pin out Type 2 compatible COM
<b>Power Connector</b>	ATX power supply 24 + 4 pin
<b>Temperature</b>	Operation: 0°C to 60°C Storage: -30°C to 85°C
<b>Humidity</b>	Operation: 10% to 90% Storage: 5% to 95% (non condensing)

### Ordering Information

Article	Part No.	Description
COMe Starterkit Eval T2	38100-0000-00-S	COM Express® Starterkit w/ Eval Carrier Type 2 w/o COM, cooling solution and memory
COMe Eval Carrier T2	38104-0000-00-1	COM Express® Eval Carrier Type 2

## 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:



4. Send your request to our Sales Representative or to [info@kontron.com](mailto:info@kontron.com)  
5. You'll receive an offer

## CORPORATE OFFICES

### Europe, Middle East & Africa

Lise-Meitner-Str. 3-5  
86156 Augsburg  
Germany

Tel.: +49 (0) 821 4086-0  
Fax: +49 (0) 821 4086 111  
[sales@kontron.com](mailto:sales@kontron.com)

### North America

14118 Stowe Drive  
Poway, CA 92064-7147  
USA

Tel.: +1 888 294 4558  
Fax: +1 858 677 0898  
[info@us.kontron.com](mailto:info@us.kontron.com)

### Asia Pacific

17 Building,Block #1, ABP.  
188 Southern West 4th Ring Road  
Beijing 100070, P.R.China

Tel.: +86 10 63751188  
Fax: +86 10 83682438  
[info@kontron.cn](mailto:info@kontron.cn)

