kontron

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.
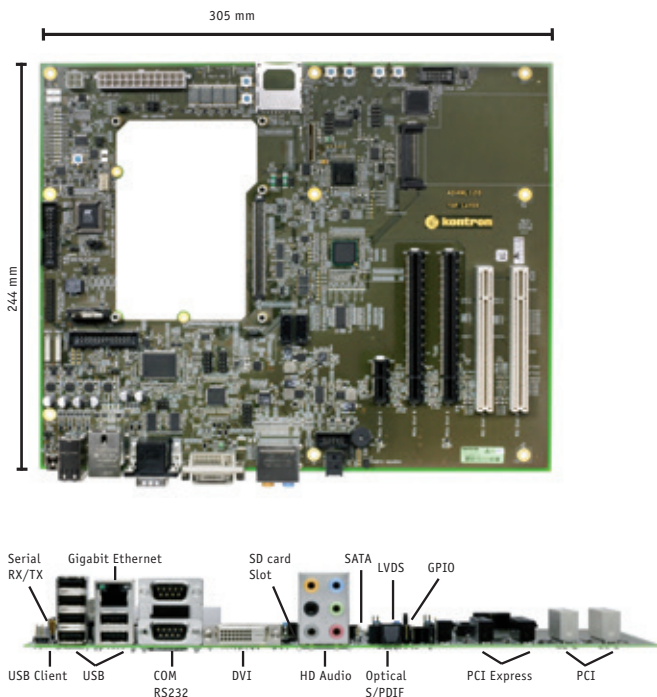
Evaluation Boards

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 (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

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.
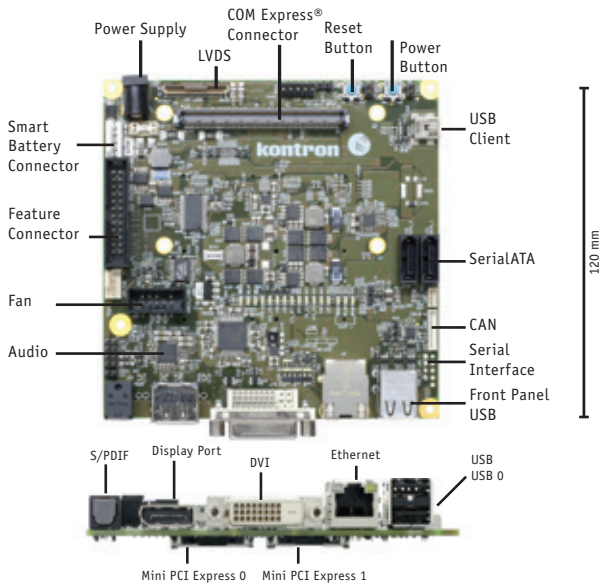
Technical Information

Evaluation Baseboard	COM Express® Reference Carrier-i Type 10 Small form factor 120 x 120 mm
Display	1x 7" Display PM070W4, 800x480, incl. assembled backlight cable
Power Supply	1x 12 V, 5A Dehner STD 1250P, with power cord
Cables	1x KAB-DSUB9-3 1x KAB-CAN1 1x KAB Adapt LVDS 1x KAB JILI30 TSLD01 1x KAB-SATA-1
Other Features	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
Supported Modules	COM Express® pin-out type 10

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

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

Ordering Information

Article	Part No.	Description
COMe Starterkit Ref. T10	34104-0000-00-S	COM Express® Starterkit w/ Reference Carrier Type 10. 7" display, touch controler, mounting kit, power supply for industrial temp. grade
COM Express® Reference Carrier-i Type 10	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.
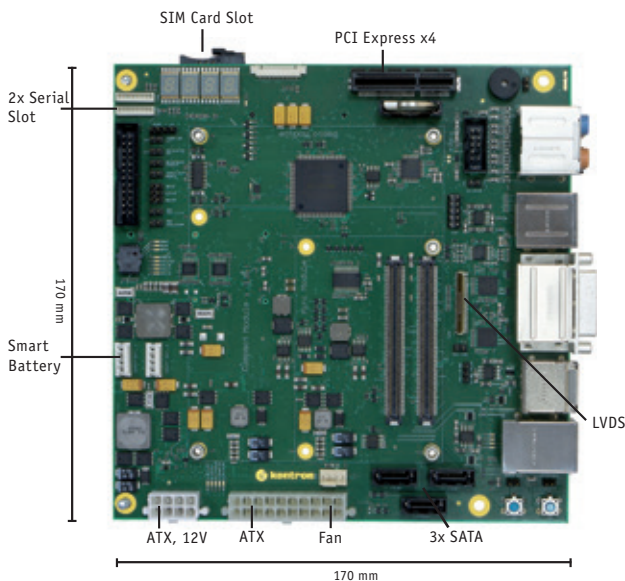
Technical Information

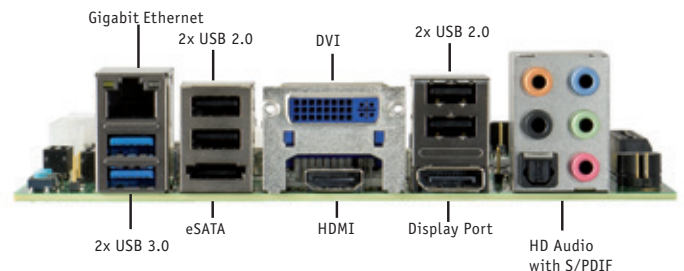|	
Evaluation Baseboard	COM Express® Reference Carrier Type 6, miniITX form factor: 170 x 170 mm
Power Supply	Switchable ATX PSU 115V/230V ~
Mass Storage	Superfast USB 3.0 stick
Graphics Adapter	1x Adapter cable DisplayPort-to-DVI 1x Adapter cable DisplayPort-to-HDMI
Documentation	Manuals and Datasheets on USB Stick
Mount Kit	COM Express® mouting 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-cTH6, COMe-bHL6 Please odrder 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.

SIM Card Slot — PCI Express x4 — 2x Serial Slot — 170 mm — Smart Battery — LVDS — ATX, 12V — ATX — Fan — 3x SATA — 170 mm

Technical Information

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

Gigabit Ethernet — 2x USB 2.0 — DVI — 2x USB 2.0 — 2x USB 3.0 — eSATA — HDMI — Display Port — HD Audio with S/PDIF

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

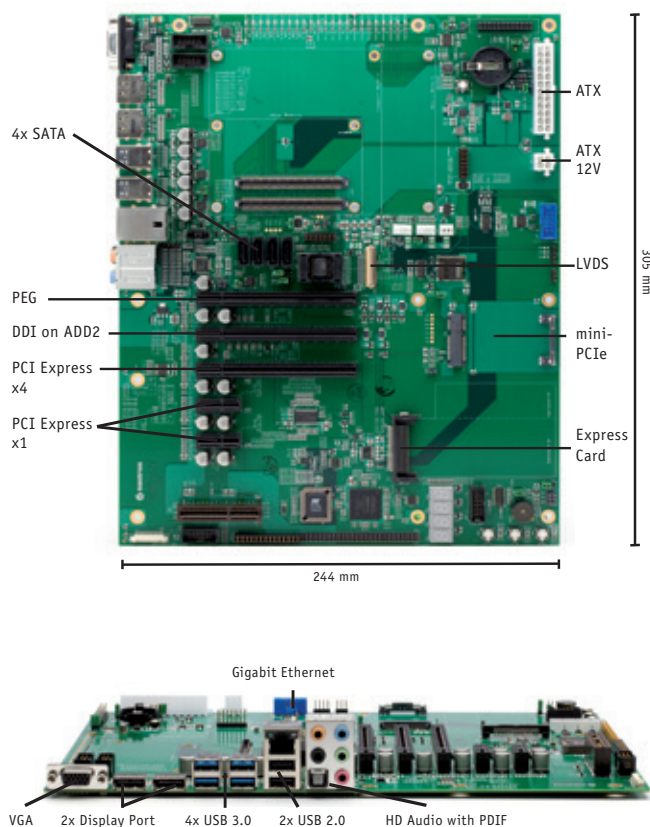# COM Express® Starterkit w/ Eval Carrier Type 6

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

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, COMecTH6, COMe-bHL6 Please odrder COM separately.

COM Express® Eval Carrier Type 6

Labels: ATX, ATX 12V, LVDS, mini-PCIe, Express Card, 4x SATA, PEG, DDI on ADD2, PCI Express x4, PCI Express x1, 305 mm, 244 mm

Labels: Gigabit Ethernet, VGA, 2x Display Port, 4x USB 3.0, 2x USB 2.0, HD Audio with PDIF

Technical Information

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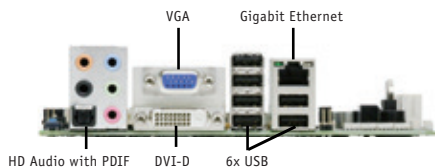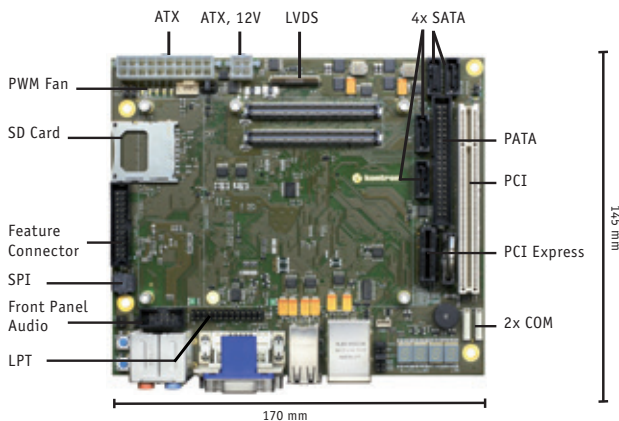

Technical Information	
Evaluation Board	COM Express® Reference Carrier Type 2, 170 x 145 mm allows evaluation in small and size-ciritcal situations
Power Supply	PicoATX 120W and 12 V PSU for running the COM Express® Reference Carrier board
Documentation	USB stick with manuals
Mounting Kit	COM Express® mounting kit (screws and spacers)
Supported Modules	COM Express® pin out Type 2 Computer-on-Modules specialy 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	
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)

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

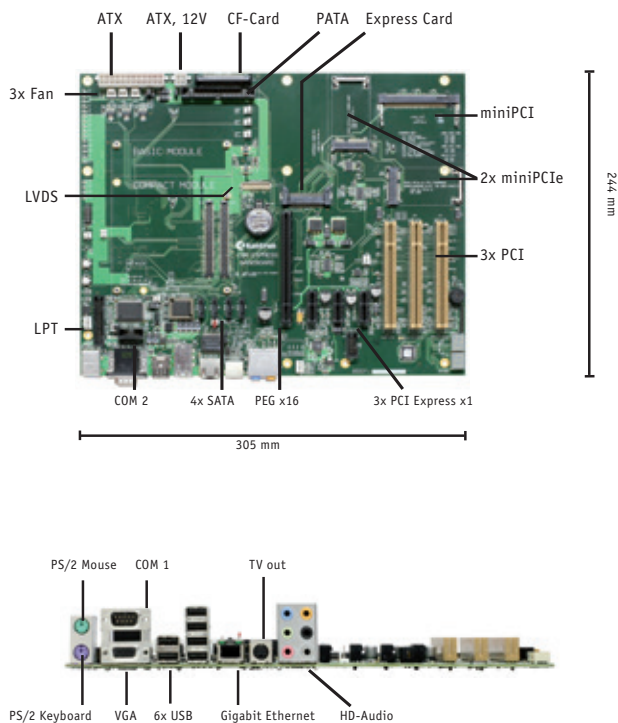A universal starterkit offering all common interfaces and accessoires.

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

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

WIND RIVER

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