



Product Information

PC2-LIMBO • *CompactPCI® PlusIO* Intel® Atom™ Processor E6xx Series • Low Power CPU Card

Suitable for Classic CompactPCI© and PICMG 2.30 CompactPCI® PlusIO Systems

Document No. 6241 • 29 July 2013

The PC2-LIMBO is a low power 4HP/3U CompactPCI® CPU board, equipped with an Intel® Atom™ E6xx series 1.6GHz processor, available on request for the industrial operating temperature range. The PC2-LIMBO front panel is provided with two Gigabit Ethernet jacks, two USB receptacles, and a DVI video connector for attachment of a high resolution digital display.

The PC2-LIMBO is equipped with up to 2GB soldered RAM for rugged applications. An on-board CFAST™ host connector is provided for attachment of a SATA SSD module. In addition, a microSD card holder can accommodate an industrial microSDHC Flash card. Further more, several SATA based low profile mass storage expansion modules are available as an option.



PC2-LIMBO

Feature Summary

- ▶ CompactPCI® System Slot Controller
- ▶ CompactPCI® PlusIO Rear I/O According to PICMG® 2.30
- ▶ Hybrid Systems Option (Dual Backplane CompactPCI® & CompactPCI® Serial)
- ▶ Based on the Intel® Queens Bay Platform (Tunnel Creek CPU, Topcliff PCH)
- ▶ Intel® Atom™ Series E6xx Mobile Processor, Power Optimized CPU, Integrated Graphics Engine
- ▶ E620(T) Processor 0.6GHz 3.3W TDP (T = -40°C to +85°C)
- ▶ E640(T) Processor 1.0GHz 3.6W TDP (T = -40°C to +85°C)
- ▶ E660(T) Processor 1.3GHz 3.6W TDP (T = -40°C to +85°C)
- ▶ E680(T) Processor 1.6GHz 4.5W TDP (T = -40°C to +85°C)
- ▶ DDR2 Soldered Memory up to 2GB
- ▶ Integrated Graphics Controller (Front Panel: DVI Connector)
- ▶ Max Resolution 1920x1080
- ▶ Intel® EG20T (Topcliff) Platform Controller Hub (PCH)
- ▶ Dual Gigabit Ethernet Controllers (Individually BIOS Controlled either F/P or J2 RIO)
- ▶ Two Native SATA Channels 3Gbps
- ▶ Four Additional SATA Channels 3Gbps, Mezzanine Usage (Option on Request) and/or Rear I/O (JMicron Controllers, no BIOS Boot Support as of Current)
- ▶ Twelve USB 2.0 Channels
- ▶ CFast™ Card Host Connector on-Board (SATA 3Gbps I/F)
- ▶ microSD Host Connector (up to 32GB Class 6 Speed microSDHC Card Support)
- ▶ SATA 1.8-Inch Solid State Drive (SSD) up to 800GB with C42-SATA Mezzanine Module Option (4HP Assembly Height Maintained)
- ▶ CompactFlash with C40-SCFA Mezzanine Module Option (4HP Maintained)
- ▶ Secondary CFast™ Card Host Connector with C41-CFAST Mezzanine Module Option (4HP Maintained)
- ▶ On-Board PCI Express® Packet Switch (4 Lanes available for Rear I/O and CPCI Serial Backplane Respectively, another 1 Lane for Mezzanine Side Card)
- ▶ Legacy I/O Expansion Connectors (CAN2.0B, HD Audio, LPC, PS/2, UART)
- ▶ High Speed I/O Expansion Connectors (LVDS, PCI Express®, SATA, USB)
- ▶ Variety of Mezzanine Expansion Boards (Side Cards) Available with and w/o PCIe
- ▶ Most Mezzanines Optionally Equipped with 2.5-Inch Single- or Dual-Drive
- ▶ Rear I/O Transition Module Option (e.g. PR1-RIO)
- ▶ +5V Only Design, on-Board +3.3V Regulator Can Feed CPCI Peripheral Slot Cards up to 5A thus Eliminating Need for +3.3V External Power Supply Rail
- ▶ UEFI Phoenix BIOS with ACPI
- ▶ Long Term Availability
- ▶ Coating, Sealing, Underfilling on Request
- ▶ RoHS Compliant
- ▶ Operating Temperature 0°C to +70°C (-40°C to +85°C on Request)



PC2-LIMBO (Front View)

Related Information PC2-LIMBO

PC2-LIMBO Home

www.ekf.com/p/pc2/pc2.html

PC2-LIMBO User Guide

www.ekf.com/p/pc2/pc2_ug.pdf



PC2-LIMBO (Top View)



PC2-LIMBO w. C42-SATA Low Profile Mezzanine Storage Module

CompactPCI® PlusIO (PICMG 2.30) is a new standard for rear I/O across J2, specified by the PICMG®. High speed signal lines (PCI Express®, SATA, Gigabit Ethernet and USB) are passed from the PC2-LIMBO through the special UHM connector to the backplane, for usage either on a PlusIO rear I/O transition module, or CompactPCI® Serial card slots.

CompactPCI® Serial (PICMG CPCIS.0) defines a completely new card slot, based on PCI Express®, SATA, Gigabit Ethernet and USB serial data lines. On a hybrid backplane, both card styles can reside, CompactPCI® and CompactPCI® Serial, with the PC2-LIMBO in the middle as system slot controller for both backplane segments.



PR1-RIO • Rear I/O Transition Module

Related Documents CompactPCI® PlusIO & CompactPCI® Serial

CompactPCI® PlusIO & Serial Overview

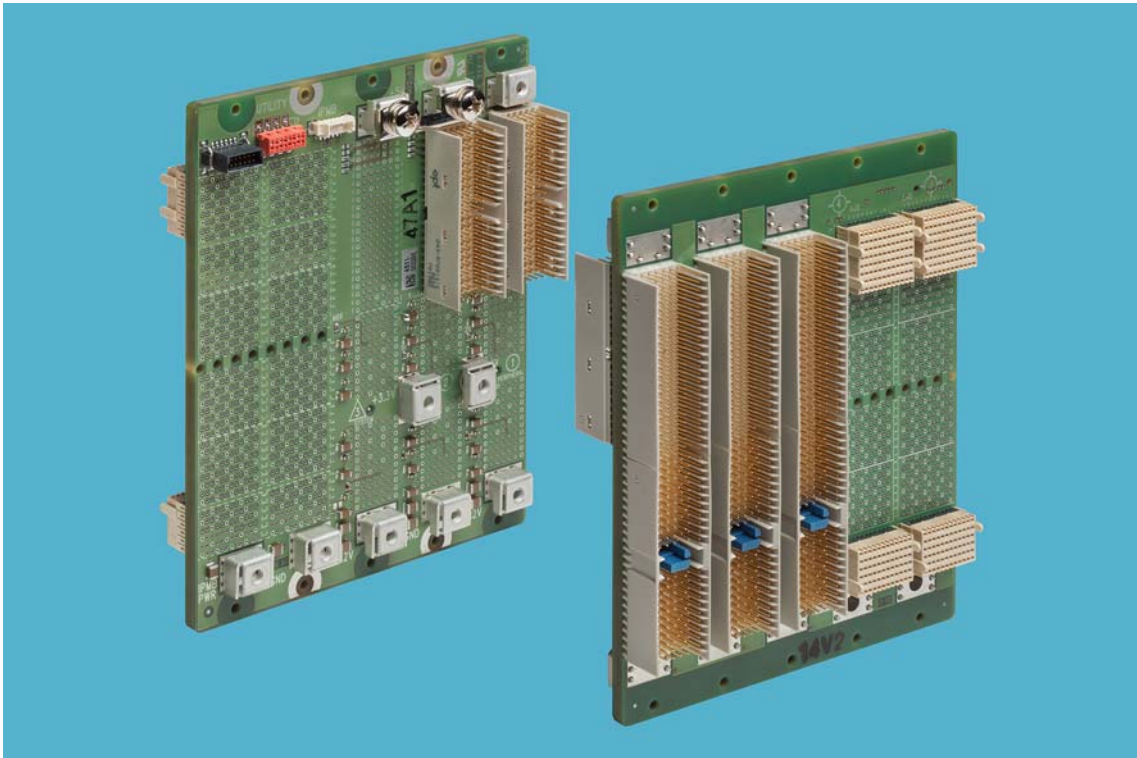
www.ekf.com/s/cpci_serial_overview.pdf

CompactPCI® PlusIO Home

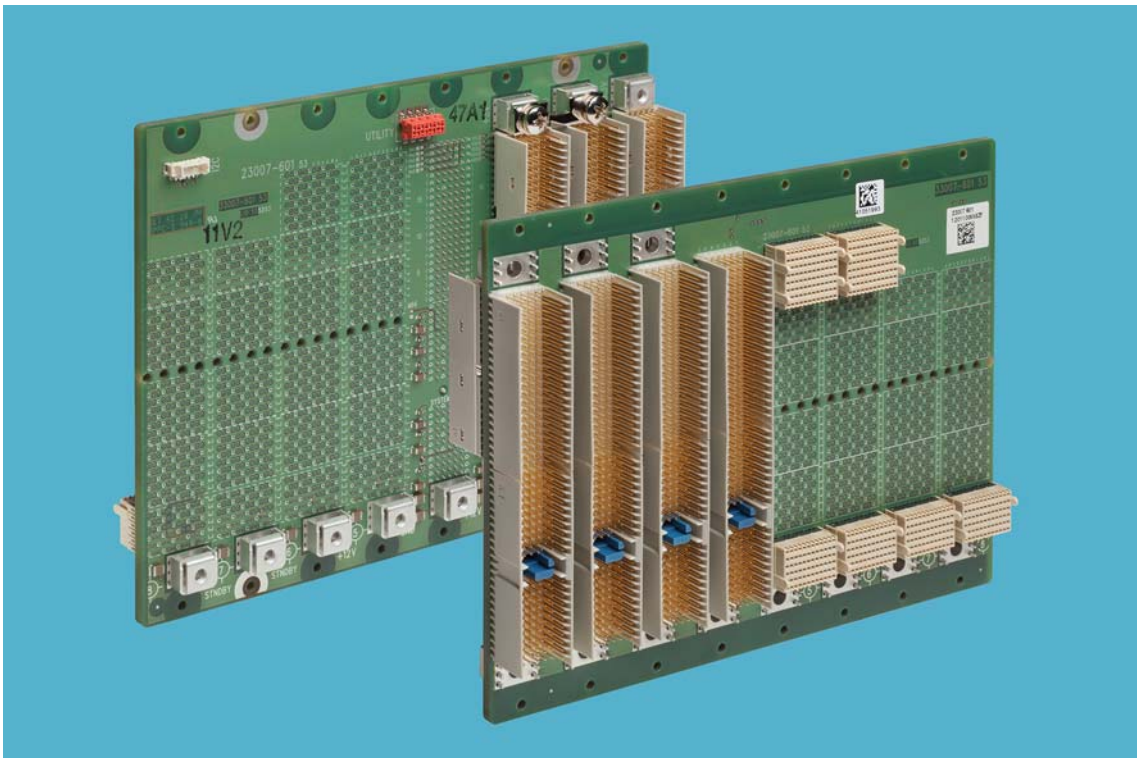
www.ekf.com/p/plus.html

CompactPCI® Serial Home

www.ekf.com/s/serial.html



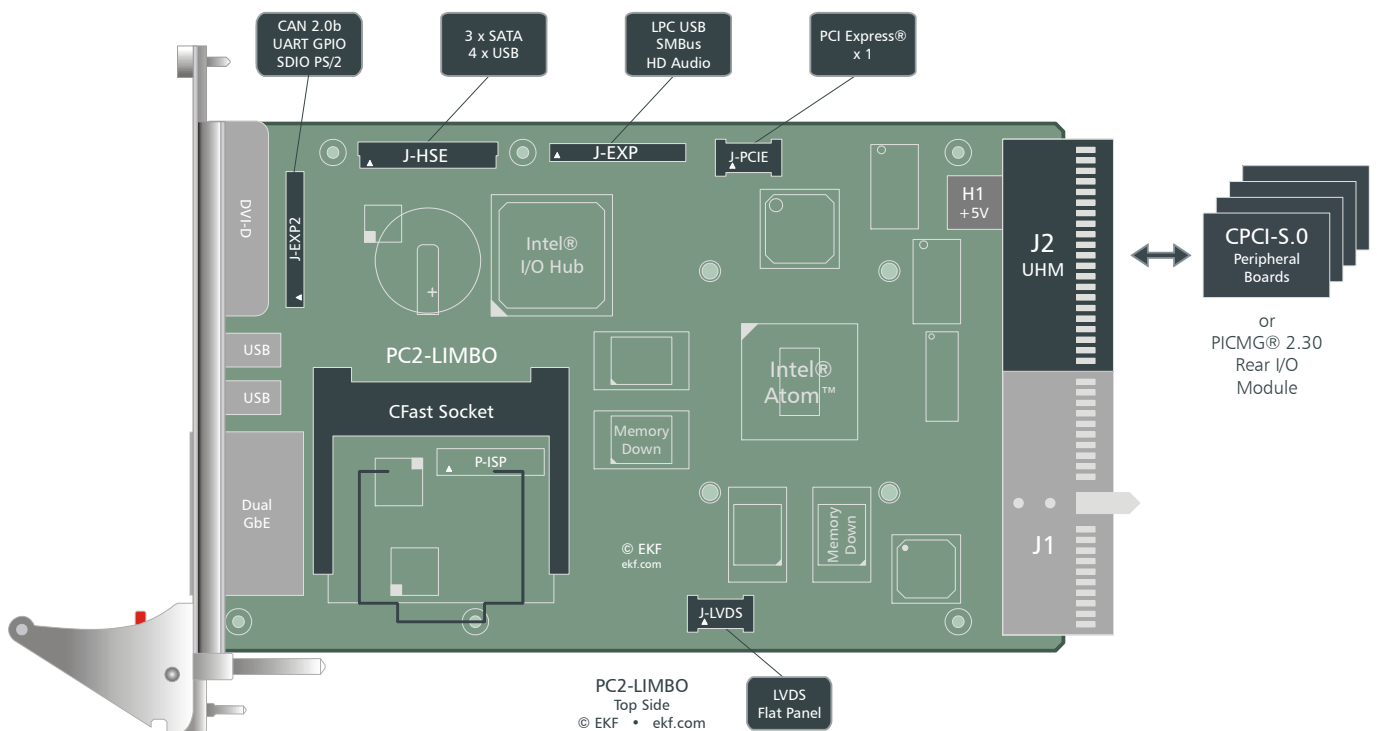
Sample Hybrid Backplane 3 + 2 Slots



Sample Hybrid Backplane 4 + 4 Slots

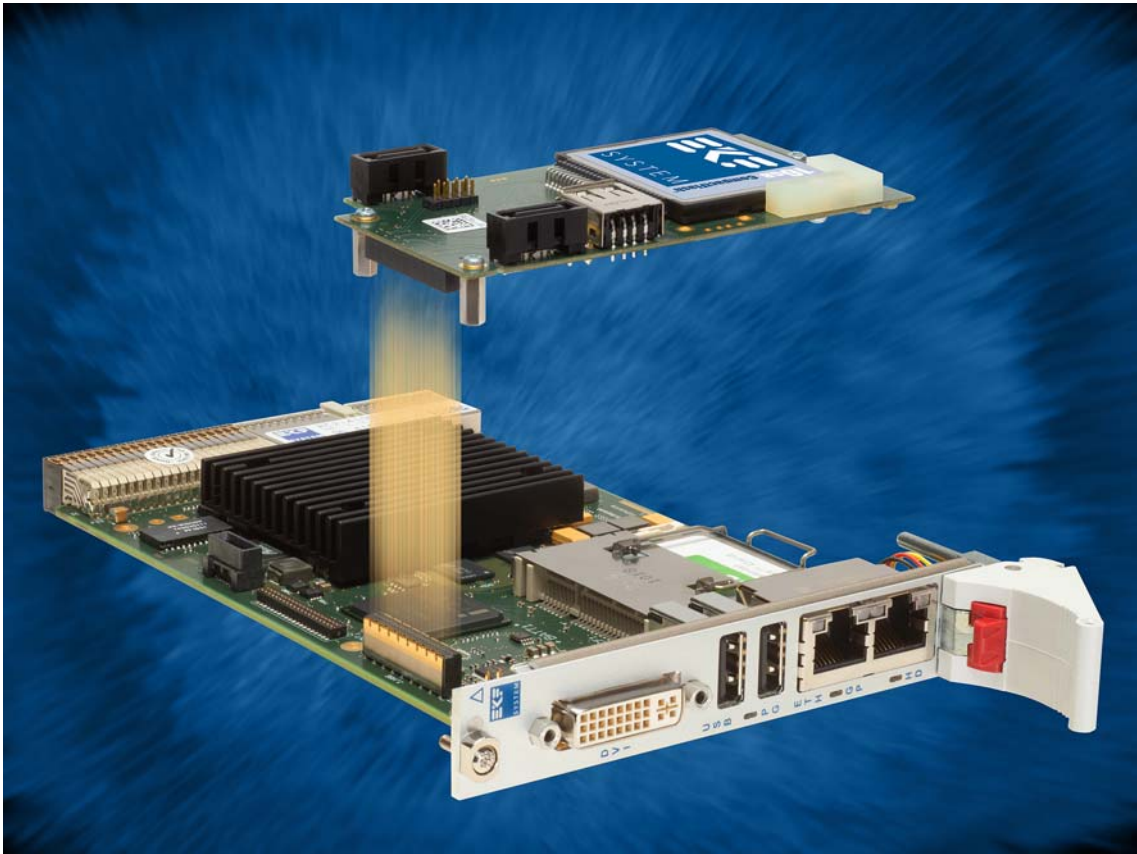
The PC2-LIMBO is equipped with a set of local expansion interface connectors, which can be optionally used to attach a mezzanine side board. A variety of expansion cards is available, e.g. providing legacy I/O (e.g. RS-232) and additional PCI Express® based I/O circuitry such as SATA, USB and Gigabit Ethernet. Most mezzanine side cards can accommodate in addition a 2.5-inch drive.

Typically, the PC2-LIMBO and the related side card would come as a readily assembled 8HP unit. As an alternate, low profile mezzanine storage modules are available that fit on the PC2-LIMBO while maintaining the 4HP profile. The C42-SATA module e.g. is provided with a 1.8-Inch Micro SATA SSD up to 800GB capacity.



PC2-LIMBO • Mezzanine Board Connectors

Related Documents Mezzanine Modules and Side Cards	
C40 ... C45 Series Mezzanine Storage Modules	www.ekf.com/c/ccpu/c4x_mezz_ovw.pdf
Mezzanine Side Cards Overview	www.ekf.com/c/ccpu/mezz_ovw.pdf
The EKF Mezzanine Module Concept	www.ekf.com/c/ccpu/cpci_mezzanine_evolution.pdf



C40-CFA • CompactFlash Mezzanine Module



C41-CFAST • Secondary CFAST Card Mezzanine Module



PC2-LIMBO w. C41-CFAST Low Profile Mezzanine Storage Module





C42-SATA • Solid State Drive Mezzanine Module





C43-SATA • Internal Connectors Mezzanine Module



PC2-LIMBO w. C43-SATA Low Profile Module



C44-SATA • 2.5-Inch HDD/SSD Carrier Side Card (8HP F/P Width)



C45-SATA • Front Panel Loading SSD Mezzanine Module (8HP F/P Width)



C47-MSATA • Low Profile RAID Storage Mezzanine Module (Option)

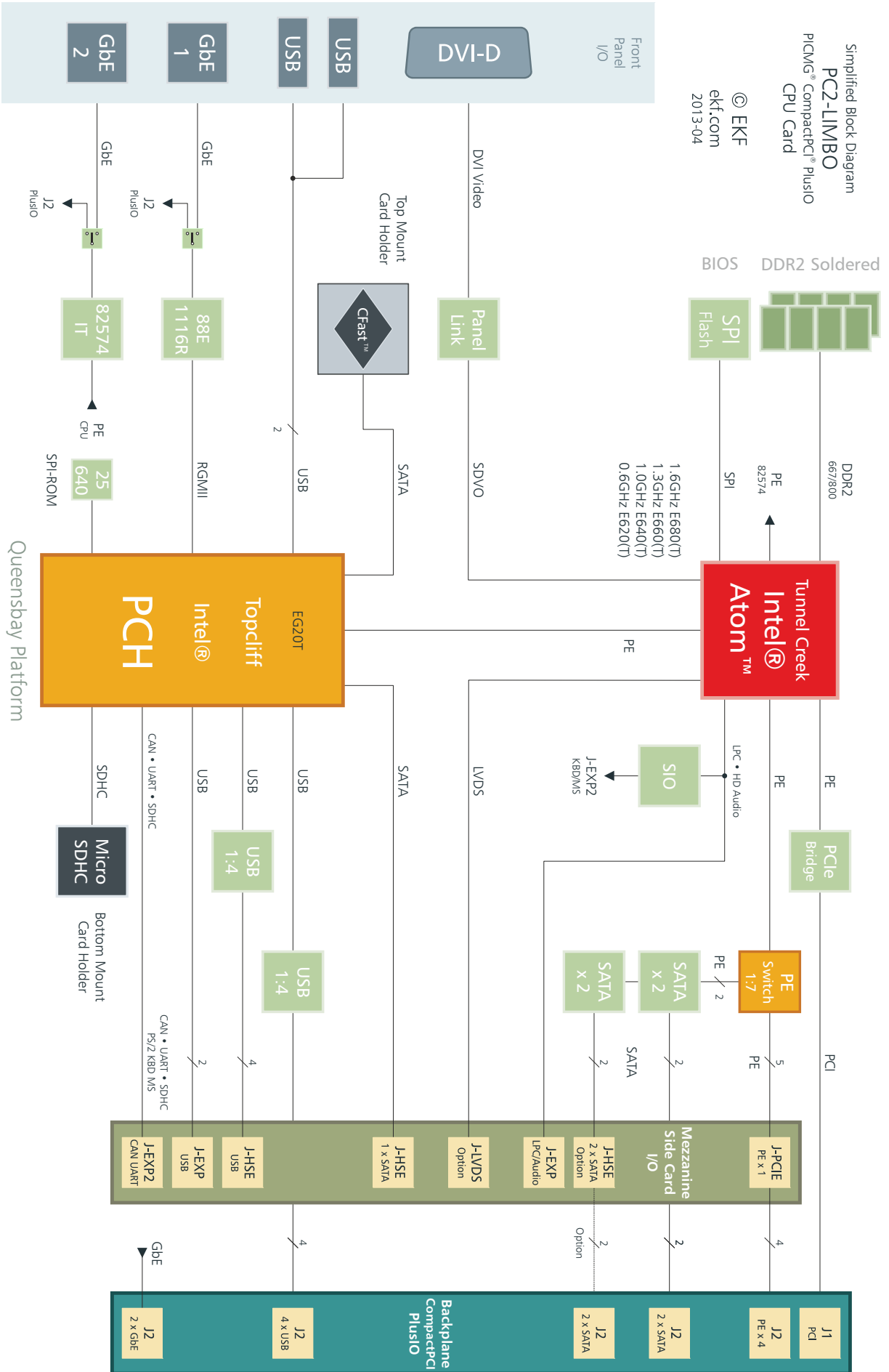


PC2-LIMBO w. C47-MSATA Mezzanine Storage Module (Option on Request)

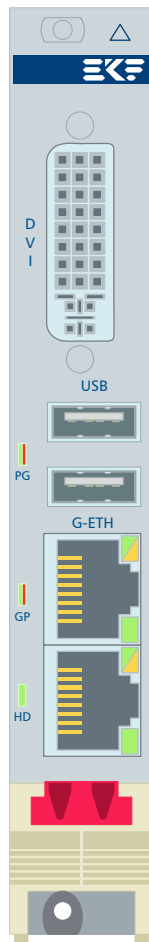


RAID Option (on Request) with C47-MSATA Dual Mini Card SSD

Block Diagram



Front Panel



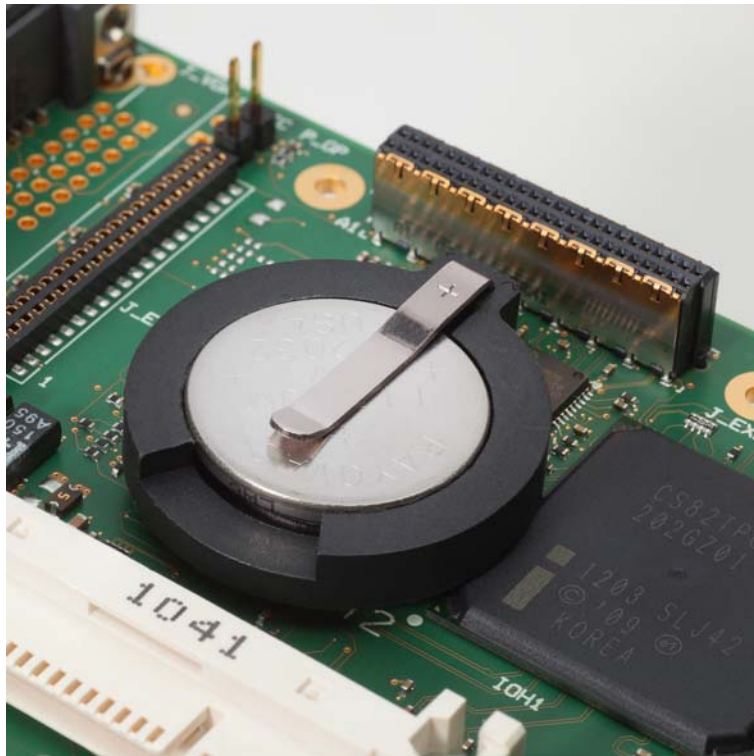
© EKF • draft - do not scale • ekf.com

PC2-LIMBO

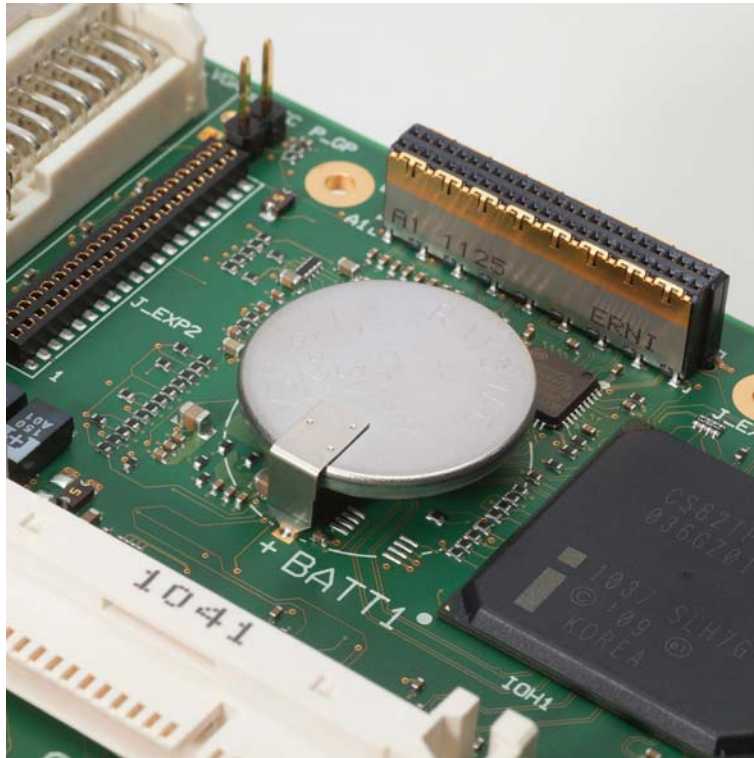
Battery Options



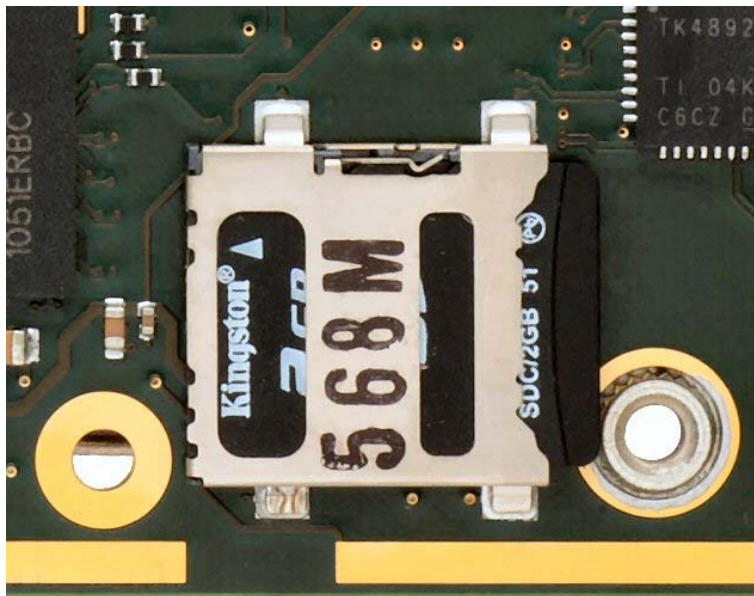
Option Supercapacitor



Coin Cell Holder (Default Stuffing)



Option Soldered Lithium Cell



MicroSDHC Holder (Bottom Side)



Small Industrial Systems



Small Industrial Systems



Rugged Industrial Systems

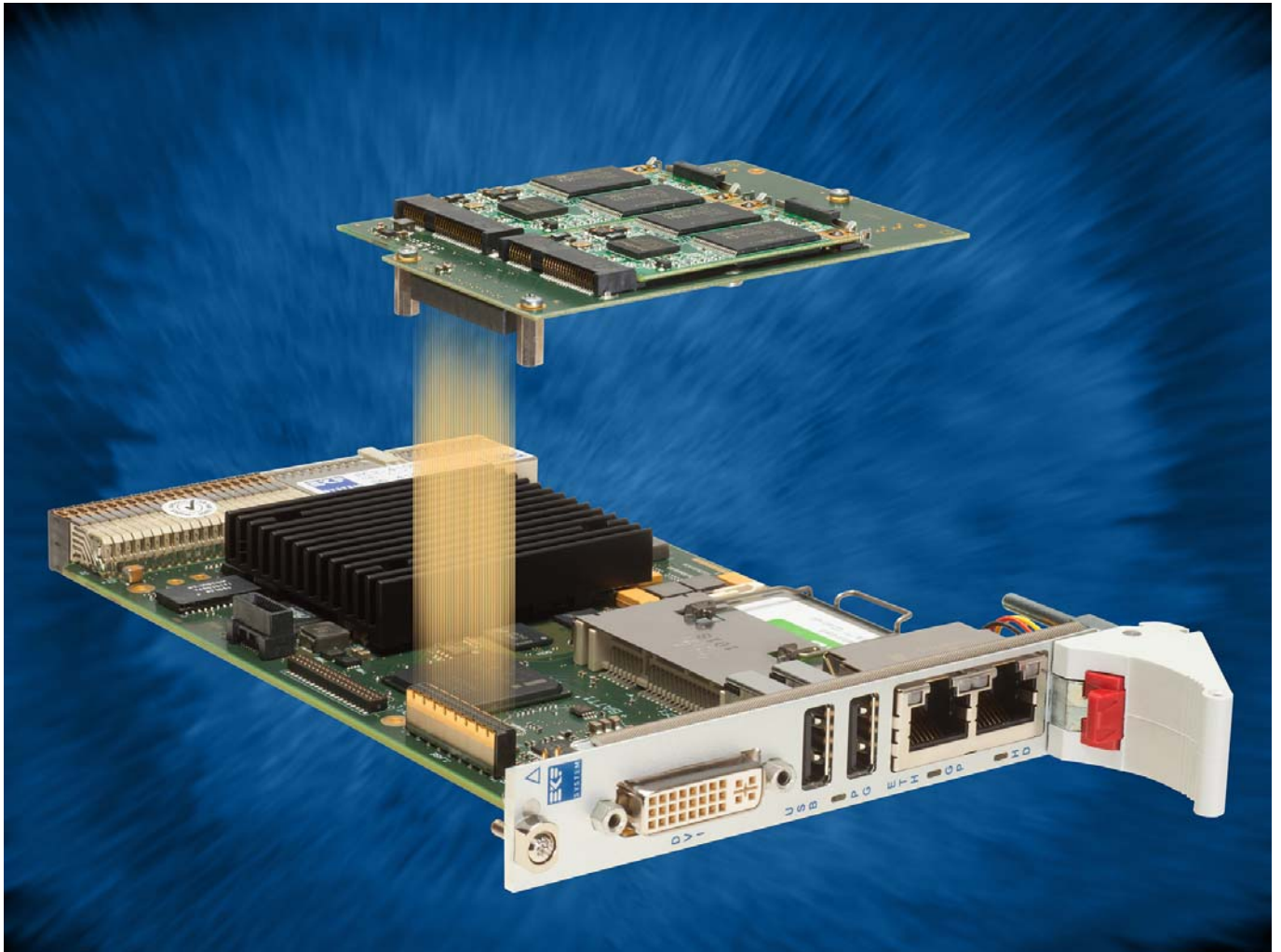


Rugged Industrial Systems



PC2-LIMBO Custom Specific Cooler Plate





PC2-LIMBO w. C47-MSATA Storage Module

Ordering Information

For popular PC2-LIMBO SKUs please refer to www.ekf.com/liste/liste_21.html#PC2

For popular Mezzanine Side Cards please refer to www.ekf.com/liste/liste_20.html#C40





Industrial Computers Made in Germany
boards. systems. solutions.

EKF Elektronik GmbH
Philipp-Reis-Str. 4
59065 HAMM
Germany



Phone +49 (0)2381/6890-0
Fax +49 (0)2381/6890-90
Internet www.ekf.com
E-Mail sales@ekf.com