



CompactPCI® Serial R3 specification is now ratified and available



Hamm, Germany – March 04, 2025: The PICMG (PCI Industrial Computer Manufacturers Group) has released the CompactPCI® Serial R3 specification. Revision 3 is an extension of CompactPCI® technology, which was developed for the connection and exchange of data in industrial and embedded systems used in harsh environments.

In contrast to the previous version, Revision 3 is significantly faster.

While Revision 2 still used PCI Express Gen 3, which supported 8GT/s, Revision 3 uses PCI Express Gen 4 and thus enables a transfer rate of 16GT/s. In addition to higher performance, this change also promises scalability. USB 3 has also been changed from Gen. 1 with 5 Gb/s to USB 3 Gen. 2 with 10 Gb/s, hence increasing the transfer speed by doubling the bandwidth.

To equip existing CPU cards with Revision 3, the system controllers must be equipped with other connectors. Instead of AirMax VS connectors, AirMax VSe connectors are used. An AirMax VS2 connector is installed on the backplane instead of the AirMax VS connector, together with different Mid-loss PCB material. These changes improve the bandwidth and transfer rates and connection reliability. Despite the connector, the latest generation is again backwards compatible with previous generations.

Existing peripheral cards can still be used without any modifications.

To validate these impressive figures, existing hardware was evaluated and extended by high-speed simulations.

Besides the recent ratification of the new standard, work is already underway on Revision 4, which promises a further leap in terms of transmission rates and performance.

EKF already has a CPU board running CompactPCI® Serial R3 specification. The SC9-TOCCATA is an extensively equipped, high-performance 4HP/3U CompactPCI® Serial CPU board, which is equipped with an Intel® 11th Generation XEON® processor (Tiger Lake H45 platform) for demanding industrial applications.

The SCA-THUNDER (planned release Q1/2026) will also be equipped with the R3 specification. The SCA-THUNDER is a high performance 3U CompactPCI® Serial CPU board equipped with a powerful Intel® Core™ Ultra processor (Meteor Lake H platform) for advanced industrial applications.



About EKF:

EKF Elektronik GmbH is a leading manufacturer of modular, ruggedized embedded boards and systems for demanding industrial sectors such as transport and traffic, IIoT and Industry 4.0, robotics, energy, industrial automation and medical technology. From the high-performance CompactPCI® Serial standard to modular and cost-effective box and board-level assemblies (EKF Embedded Blue®/Gold series and PICMG ModBlox7™ standard), EKF offers flexible embedded solutions that are precisely tailored to customer requirements. With product designs based on the latest CPU platforms from Intel, NVIDIA and ARM, cloud-based software solutions and modular product families that build on each other, the company manages the balancing act between innovation and long-term availability. Development and production take place exclusively at the company's own headquarters in Hamm, Germany. A three-year guarantee on all products emphasizes the company's quality standards. EKF is an active member of renowned technology partners such as the Intel Partner Alliance, PICMG, PCI-SIG, EtherCat Technology Group and Single Pair Ethernet Industrial Partner Network, where it actively promotes the development of the latest product standards.