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## The mircoTCA.4 fast control and processing board for generic control and data acquisition applications for HEP experiments

The MircoTCA.4 Fast Control and Processing board (u4FCP) is an FPGA-based double-width MircoTCA.4 compatible Advanced Mezzanine Card (AMC) for generic control and data acquisition applications in high energy physics (HEP) experiments. Built around the Xilinx Kintex UltraScale+ FPGA, the u4FCP provides users with a platform which has access to on-board FPGA Mezzanine Card (FMC) sockets with an array of configurable I/O and high-speed links up to 200 Gbps. In addition, the rear transition module (RTM) allows separation of processing and I/O functionality with the Kintex -7 FPGA and more FMC sockets. The increased processing capacity and area on the RTM allow a significant increase in the amount of FPGA logic and I/O connections. The on-going R&D effort carried out on applications in Shanghai High repetition rate XFEL and Extreme light facility (SHINE) and Taishan Antineutrino Observatory (TAO), supported by laboratory results, will also be presented.

### Minioral

No

### IEEE Member

No

### Are you a student?

No

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