

Multi-hundred Gbps processing boards for calorimeter trigger upgrades at CMS

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Test results are presented for two AMC cards, the “CTP6” and “MP7”, along with results from a custom Vadech VT893 backplane. The two cards take different approaches to connectivity: one with fully-populated backplane connectivity and a 396Gbps asymmetric, optical interface, the other favouring, instead, a 1.4Tbps, symmetric, all-optical interface. The challenges of designing these cards necessitated the development of several test cards; the results of which are presented.

An overview of the trigger upgrade project, including the physics motivations, the different architectures under consideration and the current status of prototypes, is presented in a separate talk at this conference.

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