

SwissFEL C-band LLRF Prototype System

A first prototype of the C-band LLRF system for the SwissFEL accelerator project was developed at the Paul Scherrer Institut (PSI). It handles up to 16 RF channels converting 5.712 GHz RF pulses down to 40 MHz IF and includes one baseband vector modulator. The LLRF system is based on a first version of an analog C-band front end and a newly developed FMC based digital backend with 250MSPS/16bit ADC readout channels. The repetition rate of the pulsed system is 100 Hz and fully integrated into PSI's EPICS control system. The complete prototype system was tested in the laboratory and installed into the SwissFEL C-band test facility. Detailed performance measurements will be presented.

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