XLLRF is a new fully digital LLRF system developed by Seven Solutions and Ciemat.

Value proposition

While LLRF systems are used to be analog or digital-analog, the flexible LLRF system (called XLLRF) developed by Seven Solutions offers a customizable and reconfigurable, fully digital LLRF system. No analog frequency conversion is performed, which increases the measurement bandwidth and simplify the analogfront-end design.

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Fusion heritage

The XLLRF solution integrates White Rabbit protocol, born from the White Rabbit Project set up by the CERN.

It has been designed within the IFMIF project to support RFQ, MEBT and SRF Linac cavities.

The first prototypes were tested with the full power LIPAc RF amplifier chains performing better than expected.

The solution developed by Seven Solutions can find applications in every field where Low-Level-Radio-Frequencies in cavities need to be measured and controlled.

It is controlled by an EPICS IOC in order to ease its integration in an EPICS control system. Finally, it is compatible with White Rabbit Protocol to retrieve time and the reference frequency using optical fiber network.

The solution is available, and Seven Solutions will always be up to deal with current and new customers.

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