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DIGITAL LLRF FOR THE CANADIAN LIGHT SOURCE

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The Canadian Light Source, at the University of Saskatchewan, is a 3rd generation synchrotron light source located in the city of Saskatoon, Canada. The facility comprises a 250 MeV LINAC, a full energy booster and a 2.9 GeV storage ring. The radiofrequency system in the booster consist of two 5-cell cavities feed with a single SSPA. The analogue LLRF for the booster has been recently replaced by a digital LLRF based in the ALBA design with a Picodigitizer, a stand-alone commercial solution provided by Nutaq. Also, the firmware of the new DLLRF is configurable to allow operation with a superconducting cavity feed with one amplifier, thus providing the possibility to replace the CLS SR LLRF as well. The main hardware components, the basic firmware functionalities and the commissioning measurements of the new DLLRF for the CLS booster will be presented in this paper.

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