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A Bunch-by-Bunch Beam Position Monitor

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We have designed a bunch-by-bunch beam position monitor (BPM). The BPM consists of a four button pickup and a four channel 500MS/s 14-bit ADC electronic system. The core processor of the electronic system is a Xilinx ZYNQ-7000 SoC, equipped with a dual-core ARM Cortex-A9 and a Kintex®-7 based programmable logic array. EPICS and the Linux operating system will run on the ARM core of the ZYNQ. This report will introduce the system's whole architecture, some test results, and the status of our development progress. We also plan to develop an embedded EVR in the foreseeable future.

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