

## **FETS BPM Electronics Update**

G Boorman 17-12-2013

The front-end electronics PCB (v6) has been obtained from CERN and will be taken to Oxford Physics Dept Central Electronics Group for population, on Friday 20<sup>th</sup> December. It should be ready by the end of January, and will then be tested at RHUL.

CERN have now built v7 of the front-end electronics, but are having problems with the S11 (-13dB!) on the BPM inputs to the electronics. They are not yet sure why value is so high. Having studied the schematic and PCB it may be caused by the use of FR4, rather than Rogers (4000 series or similar) for the PCB substrate. There are also isolating transformers on the inputs which may also be causing problems.

The LINAC4 BPMS are designed for use at 352Hz rather than 324MHz at FETS, so we may be lucky with the cards as they are. A solution, if required, would be to use a Rogers daughter card for the amplifier and mixer section of the circuit, which is plugged into a FR4 card for the IF and output section.