

A new digital electronic (dt5*) development at IPHC

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After the development of the TNT2 card and AGATA digitizer, the group of Patrice Medina at IPHC is developing a new Digital card based on a last generation Virtex 5 and two 12 bits 500 MHz Flash ADC.

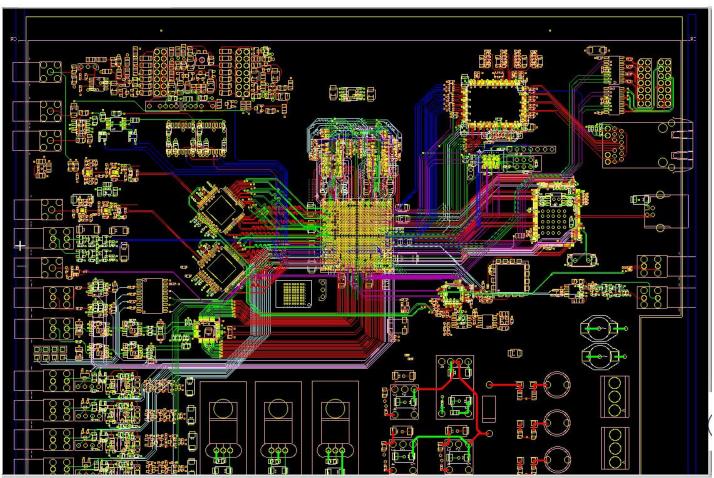
(* Digital Treatment 500MHz card)

PARIS meeting 14-16 October 2009

Key Features: Two input channels: 12 Bit, 500 Msample S Flash ADC The Heart: Micron DDR II SDRAM XILINC XCVLX50 Virtex-5 FPGA 64Megabytes Communication: card Cypress USB 2 or Ethernet RJ45 Outputs: Two local triggers Two analogue inspections DAC 12 bits 125 MS/S Two logical inspections One clock st channel with analogue TFA+CFD Four input/output NIM signal 6 8 10 11 12 13 14 16 17 10 19 20 22 23 24 25 25 Possibility to use an external Clock, Trigger Signals PARIS meeting 14-16 October 2009



Card "Routing" almost finished



14 layers PCB



Coming next:

- Production of 2 prototype cards for December (around 4K€ /card)
- Dvpt of the User Control software (partially based on TUC for TNT2) in 2010

Target application:

- Oscilloscope mode with 2 channels at 250 MHz or 1 channel at 500 MHz
- Energy mode at 250 MHz, next step at 500 MHz
- Analogue CFD & TFA, TDC implemented in the FPGA (60 ps LSB)

First result in one year

Could be a solution for PARIS (if needed of digitalization)?