Testing of noise level on chip electronics without detectors

1. insert selected chipboards into selected positive and negative slots on the motherboard (use jumpers on the motherboard located below each slot for polarity selection)
2. check if the tower is isolated from the chamber
3. close the chamber
4. switch on chiller and set the lowest temperature above due point while testing on air! (check actual due point on www.wunderground.com)
5. switch on +12V for thermocouples and temperature readout
6. switch on VME crate – check the voltage readout on the power regulator (should be ~700mV)
7. start CHIP_G program in /user/hiratest/Current/ASIC_control
8. select file/fast configure, which loads the XLM configuration file
    a. in case of correct configuration of XLM you should see the following message:

    Configuring slot 17
    .bit file is 41411 bytes long
    found first 0xff at byte 74
    Configuration ./bitfiles/hira_f_u.bit written into SRAM A
    XLM Model: XLM80
    0x10000
    FPGA boot source set to SRAM A
    FPGA booted!
    XLM Bus check passed.
    XLM Bus X check passed.

9. turn on power for chipboards (Sparky)
    a. check that all the LEDs on the lower panel are ON
    b. check the temperature readout – temperature on the regulator will immediately start to increase, should not exceed 50C (0.50V) in case it rises too high, consider lowering cooling temperature or switch of power
    c. check voltage readout of the power regulator – should not exceed 5V
10. load the setup file – select file/load and select the predefined .setup file located in /user/hiratest/Current/ASIC_control/setupfiles

11. turn on BNC pulser, select the polarity and amplitude of the pulse and insert the signals into lemo to 34-pin splitter (follow the labels on the neighboring plate)
12. plug “CSA test” and “shaper test” signals (eventually also OR signal) into oscilloscope, use 1Mohm input impedance and DC coupling
13. in order to view inspect signals, select yes below “Show CSA/Shaper Signals” in the motherboard control GUI
14. go to Motherboard Control page and adjust “CSA Offset” and “Shaper Offset” if needed (note in order to shift the offset down on the oscilloscope the GUI value needs to be increased and vice versa)
15. select different channels by shifting bar labeled “channel” in the motherboard control GUI
16. you may switch ON or OFF discriminators on the chipboard by selecting “All” (or “Selected”) or “None” in “Discriminator mask”