

MAROC3 Update

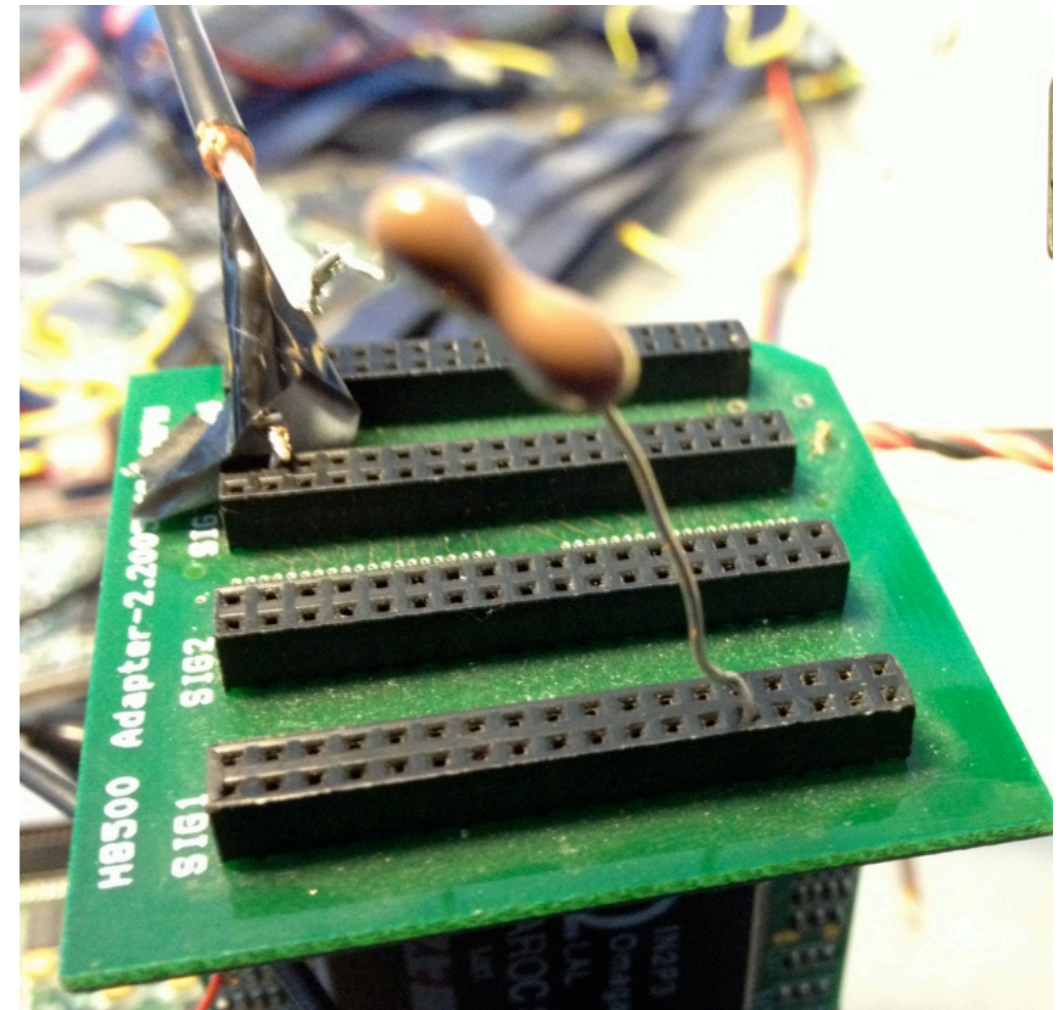
Turisini Matteo

CLAS12 RICH R&D, 2013 July 12th, ISS

Maroc bias revised

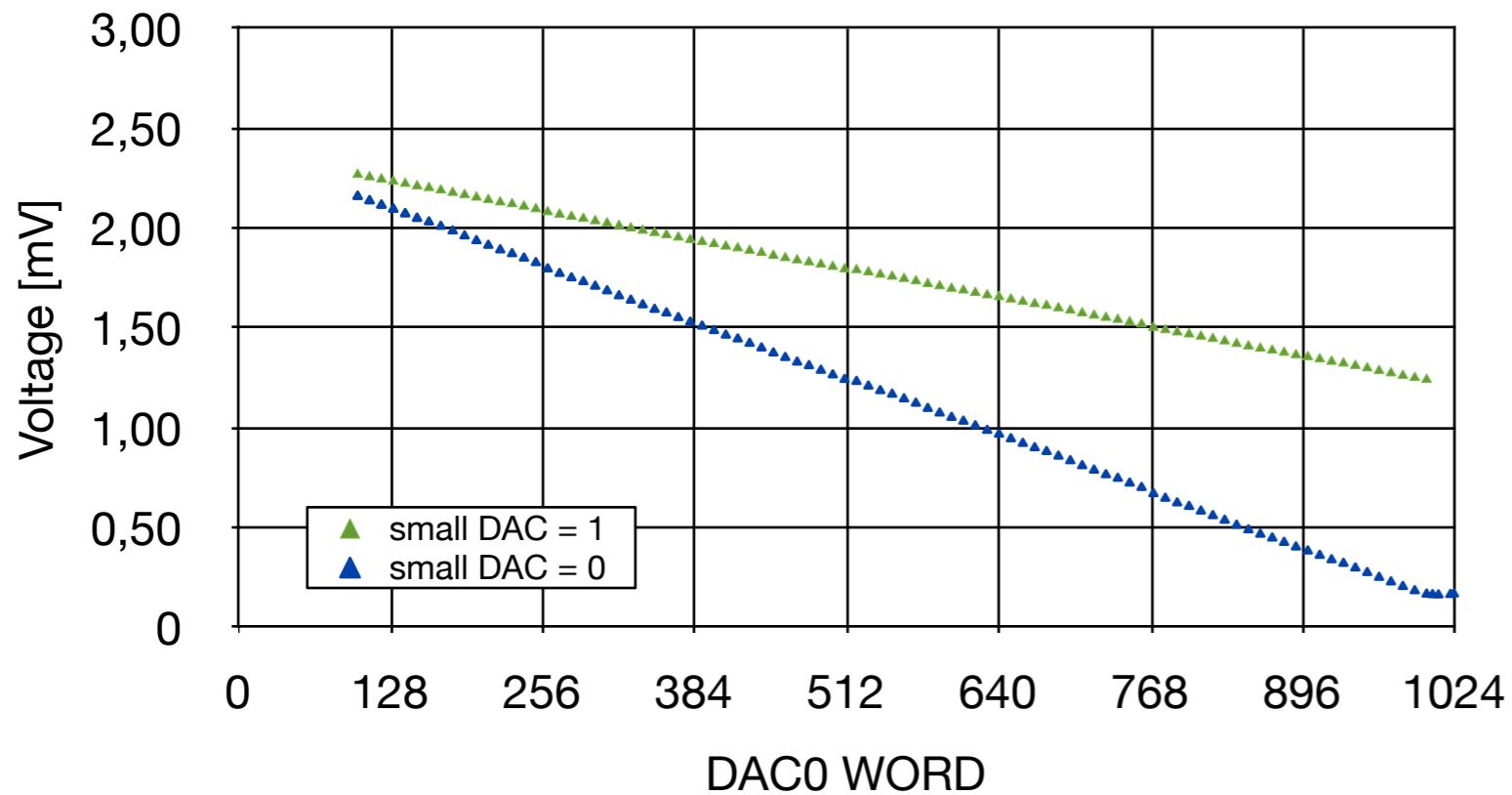
Modifications on front end card

1. external resistor removed - pin 70 - ibi_ss
2. external resistor removed - pin 86 - iref_dac

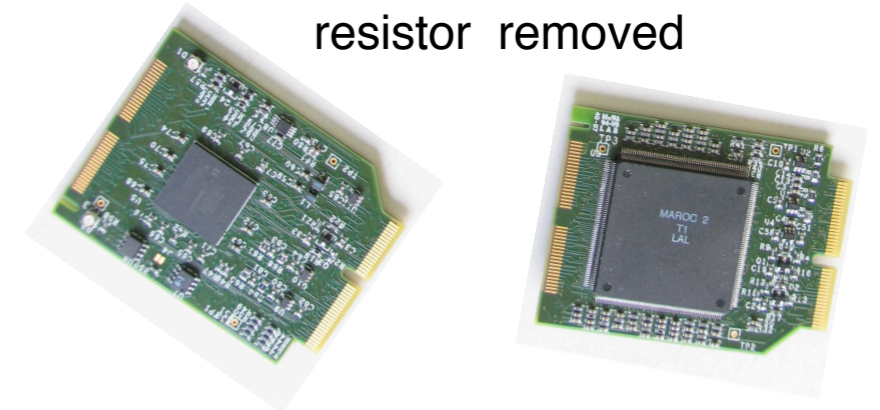


Discriminator Threshold (DAC0)

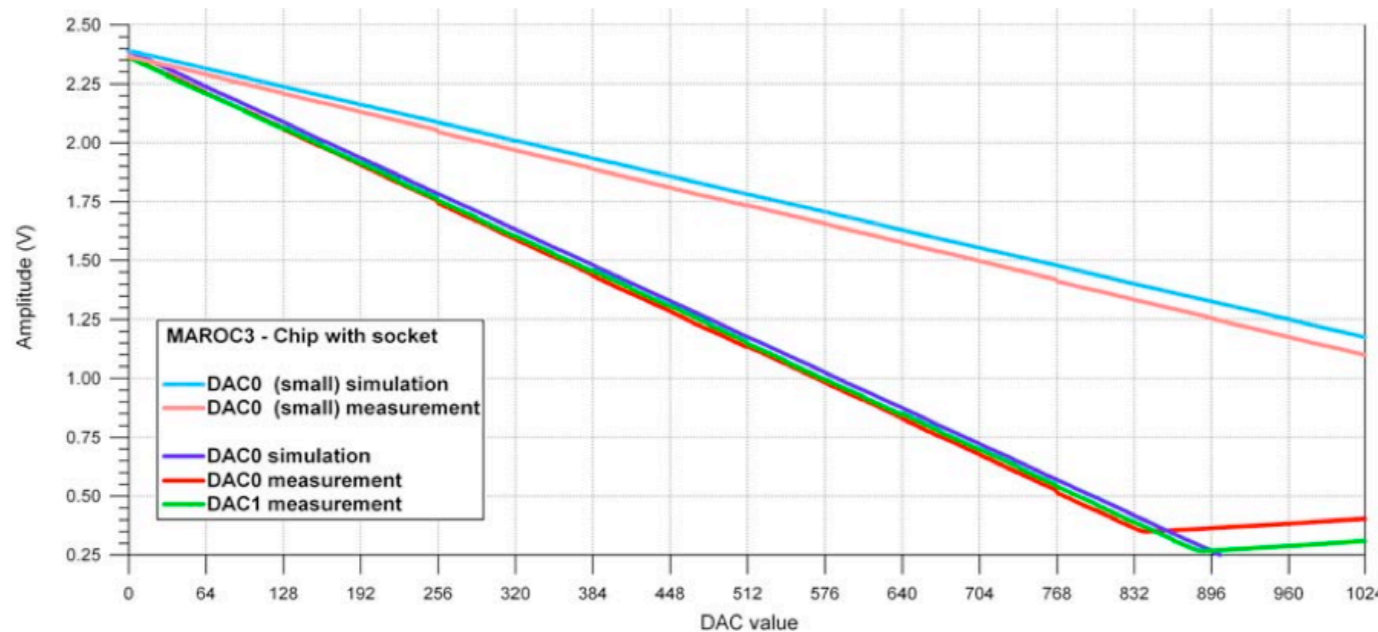
To generate digital output, value **common to 64 channel**:
 10 bits [0..1023] +1 bit for slope



Pin 86 - iref_dac - External resistor removed

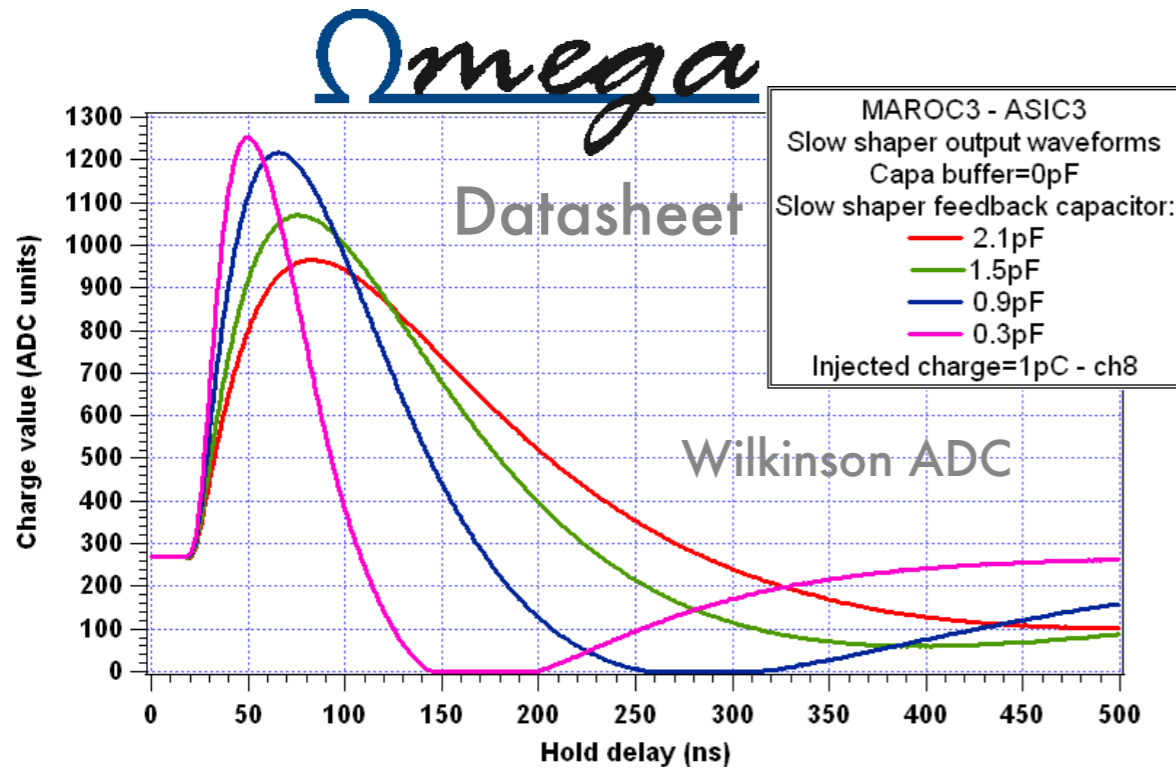


	Omega - LAL		INFN	
	DAC0	DAC0 small	DAC0	DAC0 small
Slope [mV/DAC unit]	2,3	1,1	2,2	1,1
DAC =0 [Volt]	2,3	2,3	2,4	2,4

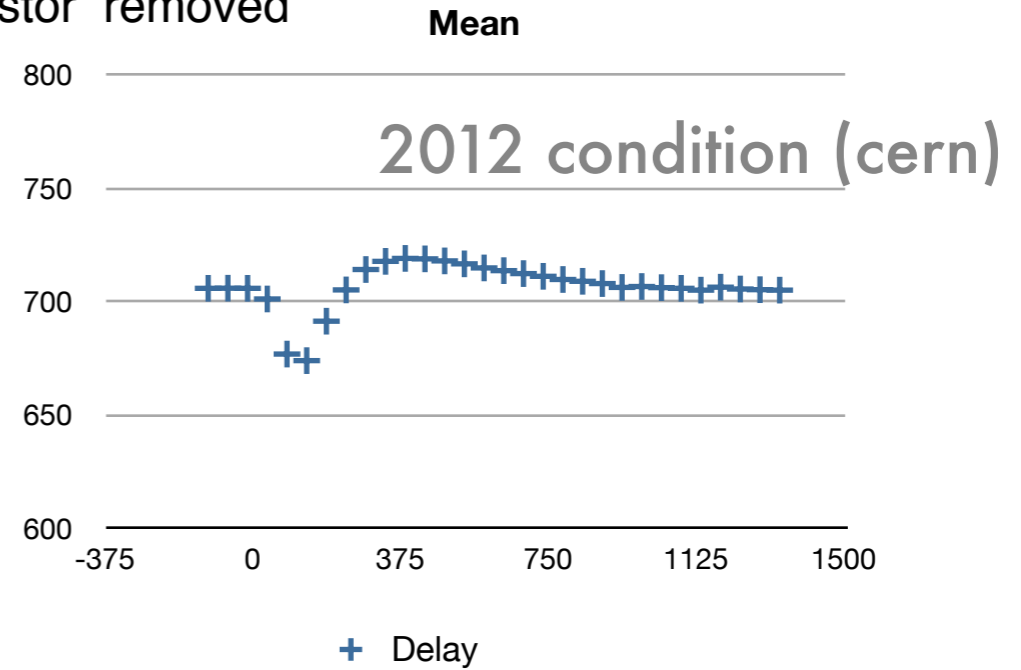


After resistor removal
 Very nice agreement

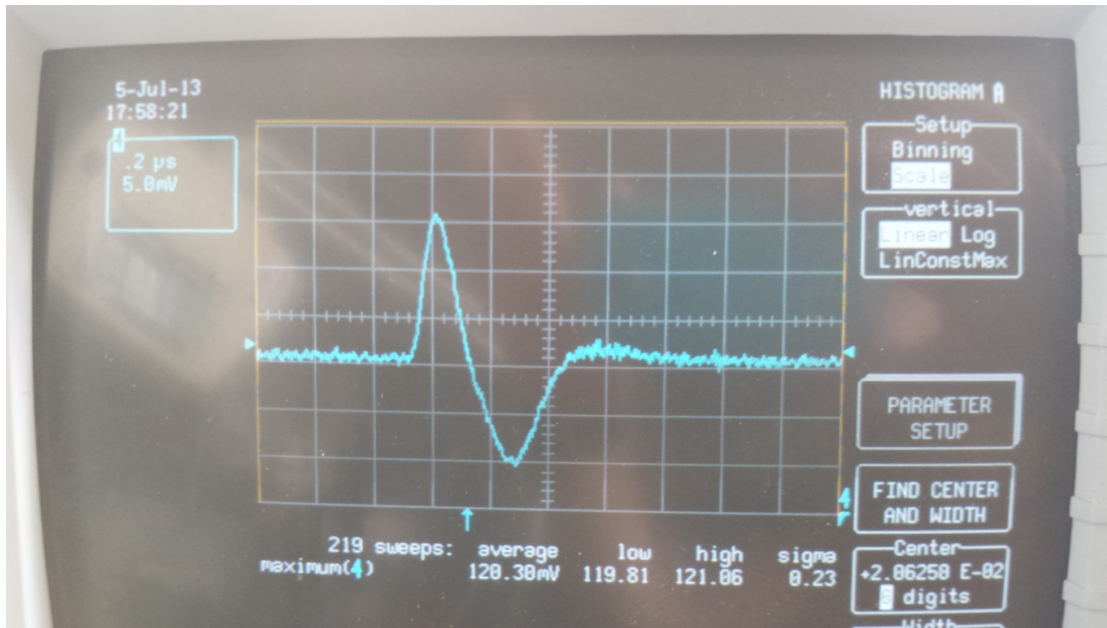
O-scope



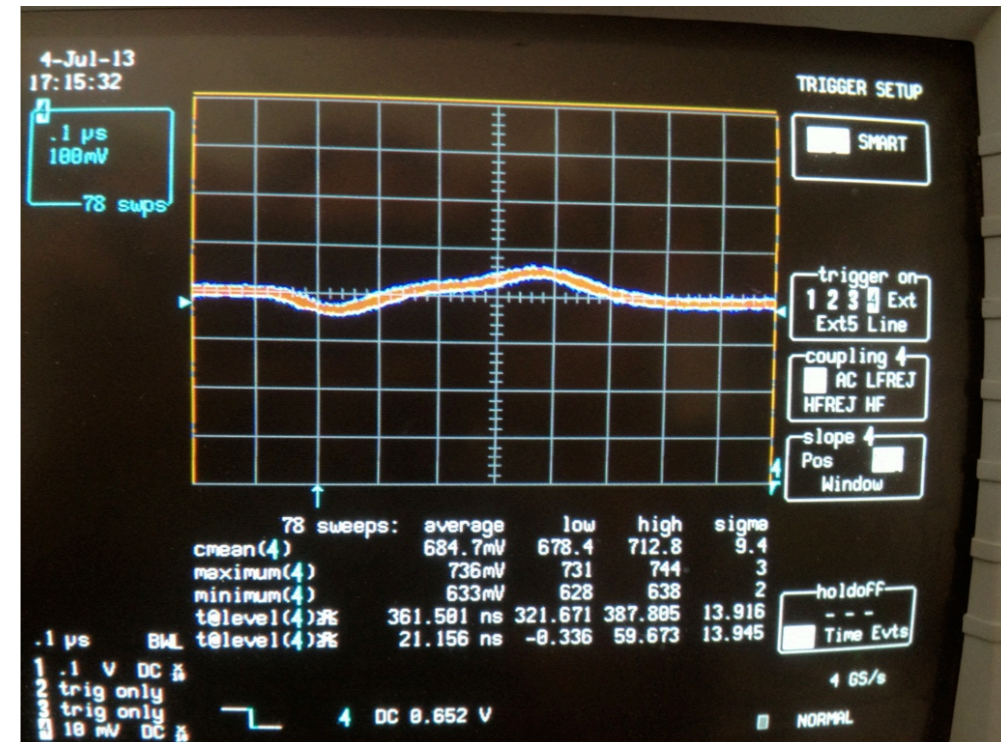
Pin 70 - ibi_ss - External resistor removed



After removal

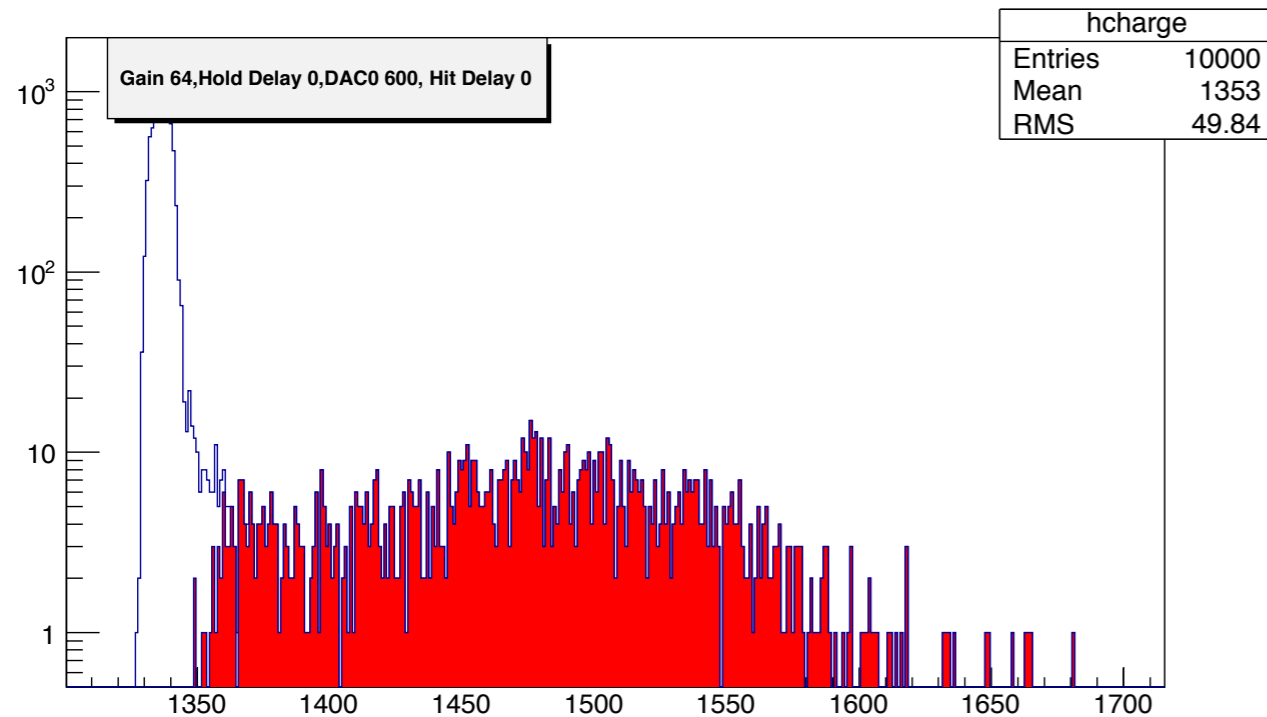


Before removal



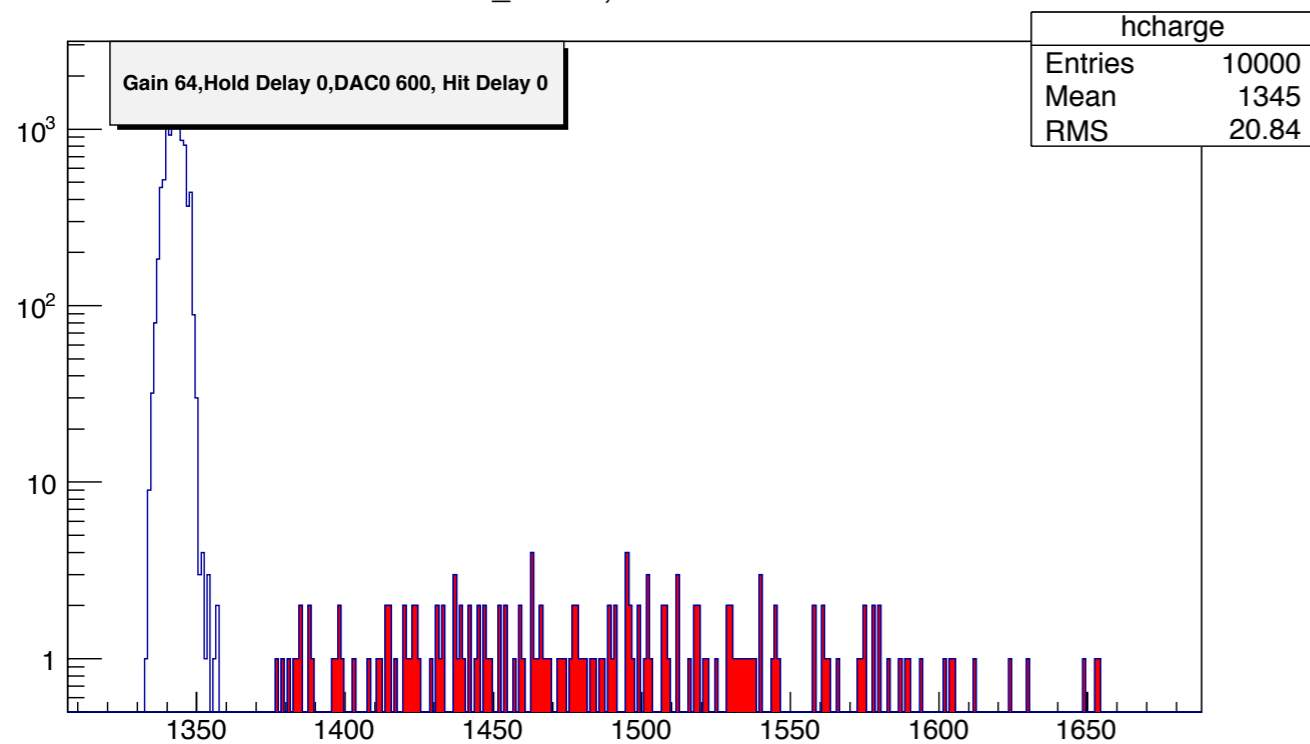
Dark Pulses

Run_08789, Channel 2051



Internal Trigger

Run_08789, Channel 2088



400 ADC channel / pC

Conclusion

Improved pulse shape: max amplitude ~ 400 mV

Improved accuracy on digital threshold: LSB 1.1 mV

We could reject a very small percentage of hit!

hopefully zero with the new H12700