

Signal Information		Show Logging	
Function	Chan A	Chan B	
DC	-3.73 mV	-330 uV	
RMS	3.72 mV	366 uV	
Max	-3.22 mV	199 uV	
Min	-4.29 mV	-859 uV	
Pk-Pk	1.07 mV	1.06 mV	
Std Dev	158 uV	156 uV	
Period	12.7 us		
Fundamental Frequency	90.2 kHz		
Fundamental Peak amp	70.2 uV		
Pulse Length	6.97 us		
Duty Cycle	55.0 %		

Averaging **Information Source**

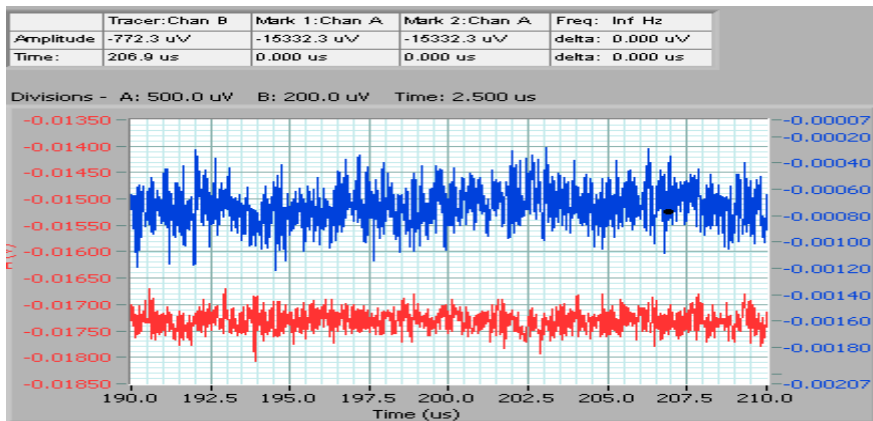
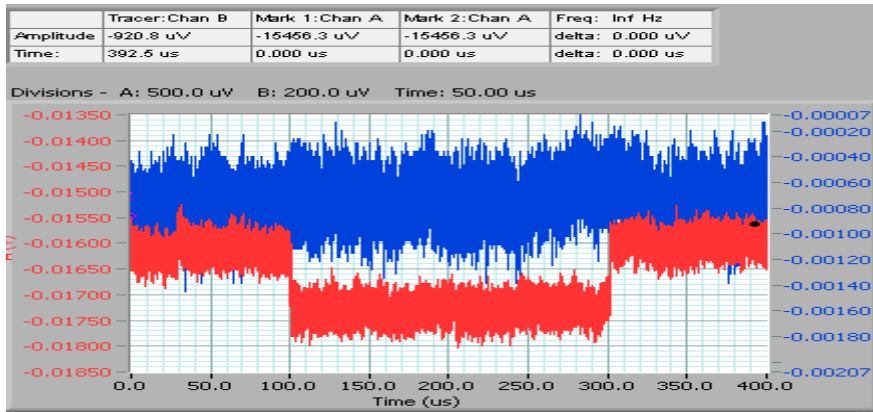
Fig. 1. Cleverscope resolution

On the input B is a 50Ohm load. On the input A is a 50Ohm generator output impedance.

Cleverscope calculates rms as regards to the mean value of the frame (screen). The pulse shown in the top picture mocks the ADC Driver output signal. Then the frame is stretched (shown in the bottom picture), and the rms on the pulse flat top is measured (shown in the table).

Pulse: 0.4V (-50)dB, -> 1.3mV. Number of samples 2000.

Cleverscope resolution is about 160uV=1.3bit. OK.



Function	Chan A	Chan B
DC	-17.3 mV	-726 uV
RMS	17.3 mV	737 uV
Max	-16.7 mV	-288 uV
Min	-18.1 mV	-1.22 mV
Pk-Pk	1.39 mV	932 uV
Std Dev	182 uV	144 uV
Period	8.45 us	4.40 us
Fundamental Frequency	8.92 MHz	9.97 MHz
Fundamental Peak amp	78.9 uV	34.2 uV
Pulse Length	5.13 us	1.91 us
Duty Cycle	60.8 %	43.4 %

Averaging **Information Source**

Fig. 2. No1 ADC Driver noise

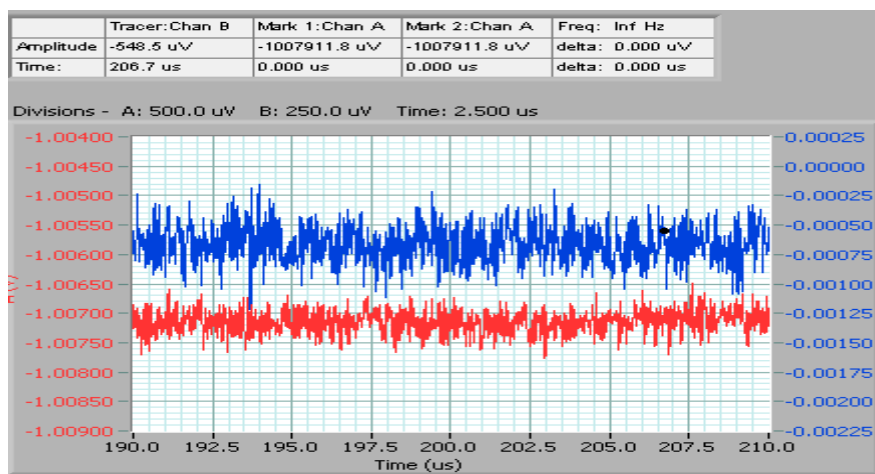
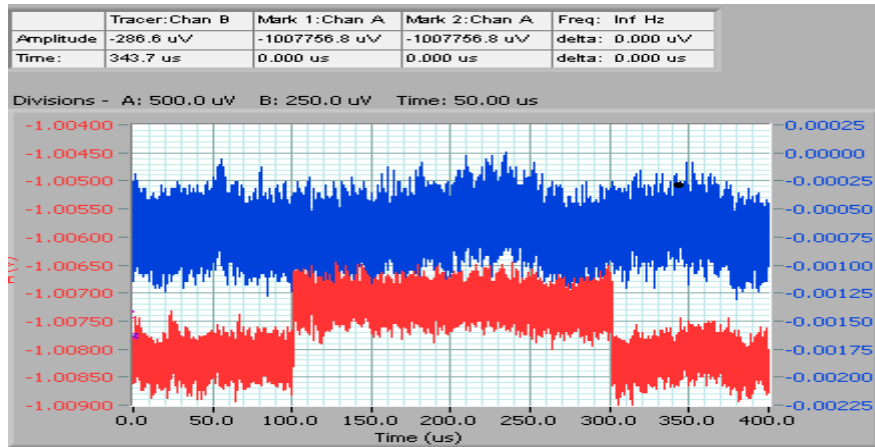
On the Cleverscope input B is a 50Ohm load. To the input A, the ADC Driver No1 is connected (AD8000, output impedance is 50Ohm, Gain=3.75).

The pulse 0.36mV shown in the top picture mocks the SD output signal.

The CS rms = 160uV. The DR+CS rms = 190uV. Calculating, the DR rms = 120uV.

So, the ADC Driver output noise is 100uV. Compare to 122uV estimated for G=4 in 070318 Kalinin Noise-Resolution Chart.

The No1 ADC Driver output noise is about 100uV <1.0bit. OK.



Signal Information		Show Logging	
Function	Chan A	Chan B	
DC	-1.01 V	-666 uV	
RMS	1.01 V	683 uV	
Max	-1.01 V	-157 uV	
Min	-1.01 V	-1.22 mV	
Pk-Pk	1.27 mV	1.06 mV	
Std Dev	192 uV	151 uV	
Period	2.70 us	3.60 us	
Fundamental Frequency	8.92 MHz	814 kHz	
Fundamental Peak amp	93.8 uV	38.2 uV	
Pulse Length	846 ns	45.4 ns	
Duty Cycle	31.3 %	1.26 %	

Averaging **Information Source**

Fig. 3. No 2 ADC Driver noise

On the Cleverscope input B is a 50Ohm load. To the input A, the ADC Driver No2 is connected (AD8000, output impedance is 50Ohm, Gain=3.75, the DC output offset is (-1)V).

The pulse 0.36mV shown in the top picture mocks the SD output signal.

The CS rms = 160uV. The DR+CS rms = 190uV. Calculating, the DR rms = 100uV.

The ADC Driver output noise is same 100uV on a DC pedestal. OK.