

Digital Storage Oscilloscope auto-measurements test

v1.1  
Determines if scope makes auto-measurements based on main sample memory or secondary buffer.  
Buffer size and auto-measurements accuracy across timebases can be deduced from test data. Test idea by MrWolf@EEVblog forum.

Test conducted by:

rf-loop

Date:

Oscilloscope under test:

SDS1202X-E

Production year:

2017

Calibration date:

Hardware version:

0c-01

Firmware version etc:

FW 5.1.3.13

Vertical setting (V/div):

0.2V/div

Channels in use:

CH1

Channel coupling:

DC

Comments:

external 50ohm feedthru terminator.

Test waveform:

square wave, 50% duty

Frequency:

32768Hz

Risetime:

<= 7ns

Jitter:

<= 1ns

Amplitude:

1.2Vpp

Signal generator:

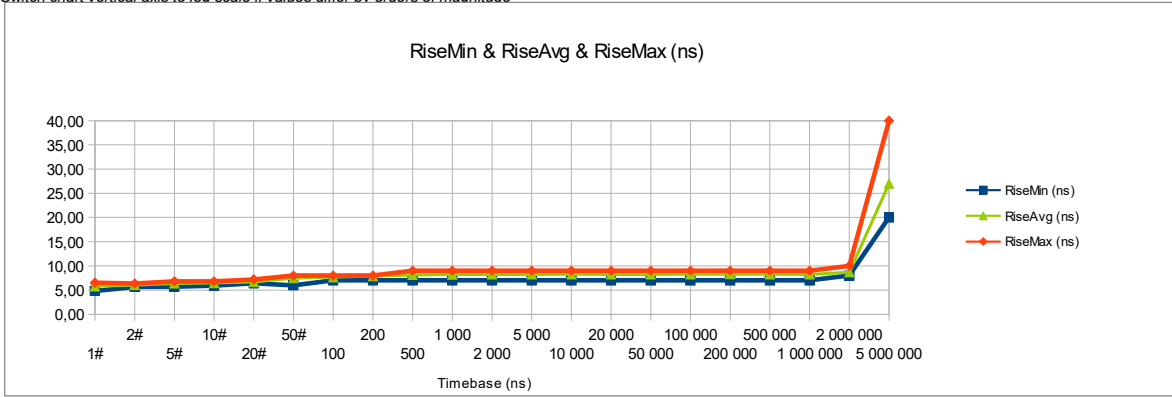
SDG5082

Comments:

# NOTE: Pulse top and bottom reach flat top very slowly, final flat top reached after over 300ns! (extremely early demo units HW version)

horizontal setting	as reported by DSO	90%/10%	90%/10%	90%/10%			
Timebase (ns/div)	Sampling rate (MSa/s)	RiseMin (ns)	RiseAvg (ns)	RiseMax (ns)	PeriodMin (us)	PeriodAvg (us)	PeriodMax (us)
1#	1000MSa/s	4,84	5,78	6,51			
2#	1000MSa/s	5,64	6,05	6,36			
5#	1000MSa/s	5,70	6,38	6,80			
10#	1000MSa/s	5,90	6,45	6,80			
20#	1000MSa/s	6,40	6,68	7,20			
50#	1000MSa/s	6,00	7,46	8,00			
	100	1000MSa/s	7,00	7,67			
	200	1000MSa/s	7,00	7,89			
	500	1000MSa/s	7,00	8,15			
	1 000	1000MSa/s	7,00	8,21			
	2 000	1000MSa/s	7,00	8,26			
	5 000	1000MSa/s	7,00	8,25	30,52	30,52	30,52
	10 000	1000MSa/s	7,00	8,27	30,52	30,52	30,52
	20 000	1000MSa/s	7,00	8,26	30,52	30,52	30,52
	50 000	1000MSa/s	7,00	8,24	30,52	30,52	30,52
	100 000	1000MSa/s	7,00	8,27	30,52	30,52	30,52
	200 000	1000MSa/s	7,00	8,28	30,52	30,52	30,52
	500 000	1000MSa/s	7,00	8,27	30,52	30,52	30,52
	1 000 000	1000MSa/s	7,00	8,26	30,52	30,52	30,52
	2 000 000	500MSa/s	8,00	8,68	10,00	30,52	30,52
	5 000 000	! 50MSa/s	20,00	26,98	30,50	30,50	30,50

Switch chart vertical axis to log scale if values differ by orders of magnitude



Switch chart vertical axis to log scale if values differ by orders of magnitude

