

# 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.

Equipment must be warmed up (30 min). Stats must be reset when changing ranges. Averaging (if applied) must not affect Min/Max.

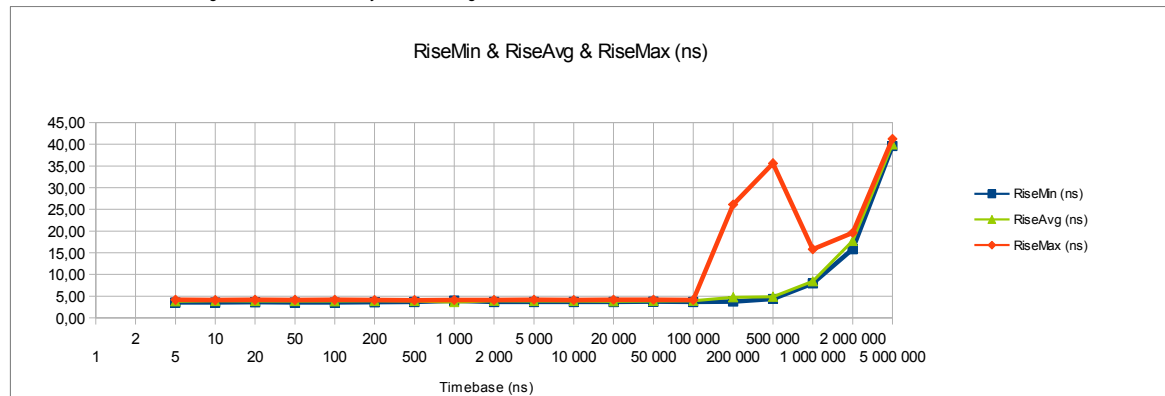
Test conducted by: Intern  
Date: 12/17/2016

Oscilloscope under test: Gw Instek GDS1054B  
Production year:  
Calibration date:  
Hardware version:  
Firmware version etc: 1.16  
Vertical setting (V/div): 0.5V/div  
Channels in use: 1  
Channel coupling: AC  
Comments: 50 ohms termination, stat function n = 1000, 10Mpts, no smoothing, no filter

Test waveform: square wave, 50% duty  
Frequency: 32768Hz  
Risetime: <= 10ns  
Jitter: <= 1ns  
Amplitude: 2Vpp  
Signal generator: Instek SFG1003  
Comments:

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	n/a						
2	n/a						
5	1 000,00	3,55	3,81	4,15	30,51	30,51	30,52
10	1 000,00	3,55	3,91	4,10	30,51	30,51	30,52
20	1 000,00	3,59	3,86	4,15	30,51	30,52	30,52
50	1 000,00	3,55	3,89	4,14	30,51	30,51	30,52
100	1 000,00	3,55	3,85	4,16	30,51	30,52	30,52
200	1 000,00	3,59	3,90	4,11	30,51	30,52	30,52
500	1 000,00	3,67	3,90	4,07	30,51	30,52	30,52
1 000	1 000,00	3,94	3,65	4,11	30,51	30,52	30,52
2 000	1 000,00	3,66	3,94	4,11	30,51	30,52	30,52
5 000	1 000,00	3,66	3,87	4,19	30,51	30,51	30,52
10 000	1 000,00	3,67	3,90	4,11	30,51	30,51	30,52
20 000	1 000,00	3,66	3,80	4,19	30,51	30,52	30,52
50 000	1 000,00	3,72	3,90	4,19	30,51	30,52	30,52
100 000	1 000,00	3,66	3,93	4,11	30,51	30,52	30,52
200 000	1 000,00	3,77	4,74	26,13	30,51	30,52	30,52
500 000	1 000,00	4,36	4,87	35,63	30,51	30,52	30,52
1 000 000	1 000,00	7,92	8,42	15,82	30,51	30,52	30,52
2 000 000	500,00	15,83	17,74	19,60	30,51	30,52	30,53
5 000 000	200,00	39,59	40,00	41,26	30,51	30,50	30,54

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

