

Digital Storage Oscilloscope auto-measurements test, AC version

v1.1AC

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: MrWolf@EEVblog
Date: Dec 18, 2016

Oscilloscope under test: Picoscope 2205 MSO
Production year: 2013
Calibration date: Apr 3, 2013
Hardware version: 1
Firmware version etc: 1.3.3.0 / 0.2.39.0
Vertical setting (V/div): 0.1V/div (2Vpp)
Channels in use: 1
Channel coupling: AC
Comments: 512x averaging used

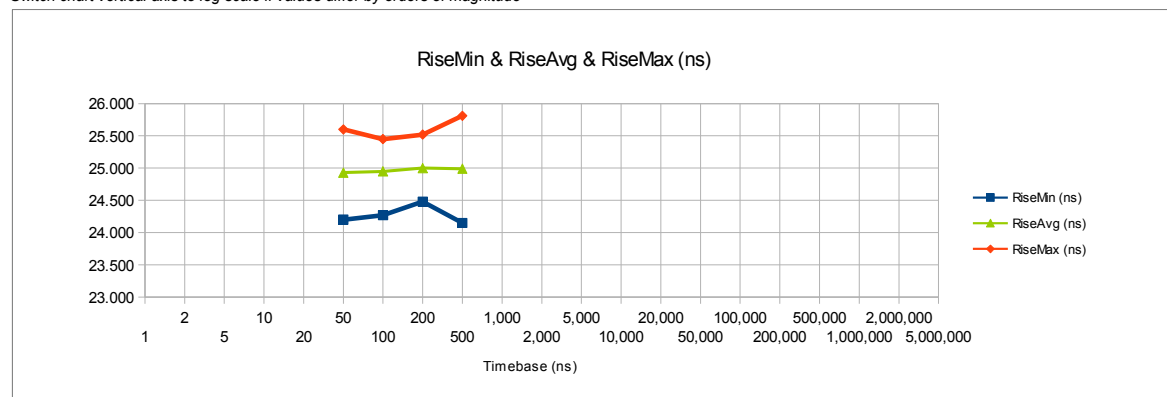
Test waveform: sine
Frequency: 12MHz
Risetime 10-90%: ~25ns presumed
Jitter: 150ps rms
Amplitude: 1VAC
Signal generator: Siglent SDG2000X
Comments: 50ohm system

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~0.3*Period

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 (ns)	PeriodAvg (ns)	PeriodMax (ns)
1							
2							
5							
10							
20							
50	100	24.20	24.93	25.60	83.17	83.33	83.50
100	100	24.27	24.95	25.45	83.25	83.33	83.42
200	100	24.48	25.00	25.52	83.27	83.33	83.38
500	100	24.15	24.99	25.81	83.29	83.33	83.38
1,000							
2,000							
5,000							
10,000							
20,000							
50,000							
100,000							
200,000							
500,000							
1,000,000							
2,000,000							
5,000,000							

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

