



LeCroy Digital Storage Oscilloscope

Performance Certificate

Wave Expert Manual Performance Test Procedure Ver. B – Mar. 2008

Model _____ Serial Number _____ Customer _____

Software Version _____

Inspection Date _____ Next Due _____

Temperature _____ Humidity _____ %

Tested By _____ Report Number _____

Place of Inspection _____

Condition found _____ Condition Left _____

Approved By _____

Test Equipment Used

Instrument	Model	S/N	Cal Due Date
Signal Generator	_____	_____	_____
Radio Frequency	_____	_____	_____
Power Meter	_____	_____	_____
Power Sensor	_____	_____	_____
Digital Multimeter	_____	_____	_____
Power Supply	_____	_____	_____

Traceable to _____

Table 1: Test Report

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Time base mode	Measured value	Limits
Sequential time accuracy 10 MHz		+/- 1ps + 1% of reading
Sequential time accuracy 1 GHz		+/- 1ps + 1% of reading
CIS time accuracy 100MHz– trigger input		10 ns +/- accuracy of generator timebase
CIS time accuracy 1 GHz – prescaler input		1 ns +/- accuracy of generator timebase

Table 2: Time interval accuracy

Trigger input Freq.	Pass/Fail
100 MHz	
5 GHz	
14 GHz prescaler input	

Table 3: Trigger input Sensitivity

Measured value	Limits
	40-60 ohms
	+/- 10 mv

Table 4: Trigger input resistance/ leakage current



		Measured DC Trigger Level (Ext)	Lower	Upper
	mV	mV	mV	mV
Pos	0		-100	+100
Neg	0		-100	+100
Pos	+250		+150	+350
Neg	+250		+150	+350
Pos	-250		-150	-350
Neg	-250		-150	-350

Table 5: Trigger level accuracy

Input Freq.	Measured value	Limits 1pmm gen. accuracy
1 GHz		999-1001 Mbit
5 GHz		4995-5005 Mbit
7 GHz		6993-7007 Mbit
11 GHz		10989-11011Mbit
13 GHz		12987-13013 Mbit

Table 6: Prescaler bit rate count

Input Freq.	Pass/Fail
13 GHz	
12.87 GHz	
12.13 GHz	

Table 7: Prescaler PLL lock

Generator Frequency MHz	Freq.(1) (KHz)	Limit +/- 500 Hz
100.5		

Table 8: Time Base Test Record



Time base mode	Measured value	Limits
CIS		NRO9000/SDA100G - 800fs WE100H – 600fs WE100H w/HCIS – 250fs
Sequential		WE9000-SDA100G- 1.8ps WE100H – 1.2ps

Table 9: CIS/SEQ Time Base jitter

Measured value	Limits
	49-51 ohms

Table 10: Module input resistance

Module Type	Measured Sdev	Limit
ST-20		800uV
SE-30		1mV
SE-50		2mV
SE-70		3mV
SE-100		3mV

Table 11: RMS Noise Test



Volts /div.	P S Output mV	Measured Channel mV			Limits
		DMM	Mean	Δ Mean-DMM	
150 mV	+150				± 3.4
150 mV	-150				± 3.4
150 mV	+250				± 4.6
150 mV	-250				± 4.6
150 mV	+350				± 5.8
150 mV	-350				± 5.8

Table 12: DC Accuracy Test Record

Polarity	Measured Value	Limits
Positive		22ps s/n 4xxxx 26.5 ps s/n 1xxxx
Negative		22ps s/n 4xxxx 26.5 ps s/n 1xxxx

Table 13: TDR Rise time, ST-20 only

Test	Edge	Measured Pk-Pk Mean value mV	Measured TDR amplitude mV	Calculated ratio	limits
40ps	Pos				20%
	Neg				20%
200ps	Pos				10%
	Neg				10%
10ns	Pos				4%
	Neg				4%

Table 14: TDR Aberations, ST-20 only



Frequency	Power meter Amplitude	Generator Amplitude	Measured Channel amplitude		Lower Limit
	dBm	dBm	Sdev mV	Ratio to ref.	
50 MHz				N/A	N/A
4 GHz					0.70
8 GHz					0.70
12 GHz					0.70
16 GHz					0.70
20 GHz					0.70
24 GHz					0.70
28 GHz					0.70
30 GHz					0.70
32 GHz					0.70
36 GHz					0.70
40 GHz					0.70
45 GHz					0.70
50 GHz					0.70
58 GHz					0.70
65 GHz					0.70

Table 15: Bandwidth test record