

Performance Specifications

Performance specifications are provided in Table 1-1, on the following page.

Table 1-1. Performance Specifications (1 of 2)

Specifications are valid when the unit is calibrated at ambient temperature after a five minute warmup. Typical values are provided for reference only and are not guaranteed.

<u>Description</u>		<u>Value</u>
Site Master:		Frequency Range:
S113C, S114C		2 to 1600 MHz
S331C, S332C		25 to 4000 MHz
Frequency Accuracy (RF Source Mode)		≤75 parts per million @ 25°C*
Frequency Resolution:	S113C, S114C	10 kHz
	S331C, S332C	100 kHz
SWR:	Range	1.00 to 65.00
	Resolution	0.01
Return Loss:	Range	0.00 to 54.00 dB
	Resolution	0.01 dB
**Distance-To-Fault (DTF):		
Vertical Range	Return Loss:	0.00 to 54.00 dB
	SWR:	1.00 to 65.00
Horizontal Range		0 to ((# of data points – 1) × resolution) a maximum of 1000m (3281 ft.) with a maximum of 517 points resolution, # of data pts. = 130, 259, 517
Horizontal Resolution for Coax (rectangular windowing)		$\frac{(1.5 \times 10^8)(V_p)}{\Delta F}$ <p>Where V_p is the relative propagation velocity of the cable; dp is the number of data points (130, 259, 517); ΔF is the stop frequency minus the start frequency (Hz)</p>
Horizontal Resolution for Waveguide		$\frac{1.5 \times 10^8 \sqrt{1 - (F_C / F_1)^2}}{\Delta F}$ <p>Where F_C is the waveguide cutoff frequency (Hz); F_1 is the start frequency (Hz); ΔF is the stop frequency minus the start frequency (Hz)</p>
RF Power Monitor:		
Display Range		–80.0 to +80 dBm or 10.0 pW to 100.0 kW
Detector Range		–50 dBm to +20 dBm, or 10 μW to 100 mW
Offset Range		0 to +60.0 dB
Resolution		0.1 dB or 0.1 W
Test Port Connector		Type N, 50Ω, female
***Immunity to Interfering signals		on-channel on-frequency
up to the level of: S113C, S114C		+17 dBm +10 dBm
	S331C, S332C	+17 dBm –6 dBm
Maximum Input without Damage:		
Test Port, Type N (f)		+20 dBm, 50Ω, +50 VDC
RF Power Detector		+20 dBm, 50Ω, +50 VDC
Measurement Accuracy:		
Measurement accuracy depends on calibration components. Precision calibration components have a directivity of 42 dB.		
Cable Insertion Loss:	Range	0.00 to 54.00 dB
	Resolution	0.01 dB

Table 1-2. Performance Specifications (2 of 2)

Transmission Line Loss (one-port)		
	Range	0.00 to 20.00 dB
	Resolution	0.01 dB
Spectrum Analyzer:		
Frequency Range	S114C	100 kHz to 1.6 GHz
	S332C	100 kHz to 3.0 GHz
Frequency Reference	Aging	±1 ppm/yr
	Accuracy	±2 ppm
Frequency Span	S114C	0 Hz (zero span) 100 kHz to 1.6 GHz
	S332C	0 Hz (zero span) 100 kHz to 3.0 GHz
Sweep Time		≥6500 ms (full span)
		500 ms (zero span)
Resolution Bandwidth		10 kHz, 30 kHz, 100 kHz, 1 MHz
	Accuracy	± 20% typical
Video Bandwidth		100 Hz to 300 kHz in 1-3 sequence
SSB Phase Noise (1 GHz) @ 30 kHz offset		≤ -75 dBc/Hz
Spurious Responses, Input Related		≤ -45 dBc
Spurious Residual Responses		≤ 90 dBm @ ≥ 500 kHz
Note: 10 kHz resolution bandwidth, input terminated, no attenuation		
Amplitude		
Measurement Range		-95 dBm to +20 dBm typical
Dynamic Range		≥ 65 dB typical
Maximum Safe Input Level		+20 dBm, maximum measurable safe input
		+23 dBm, maximum input (damage)
		+23 dBm, peak pulse power
		±50 Vdc
Displayed Average Noise Level:		≤ -80 dBm (<500 kHz typical)
		≤ -95 dBm (≥500 kHz typical)
Display Range, Log Scale		2 to 15 dB/div. in 1 dB steps; 10 divisions displayed.
Frequency Response		
RF Input VSWR		2.0:1
Resolution (Ref. Level)		1.0 dB
Total Level Accuracy****		±2 dB ≥ 500 kHz typical
		±3 dB <500 kHz typical
General		
Internal Memory:		
Trace Memory		200 maximum
Instrument Configuration		10 setup locations
RS-232		9 pin D-sub, three wire serial
Electromagnetic Compatibility		Complies with European community requirements for CE marking
External DC Input		+11 to +15 Vdc, 1250 mA max.
Temperature:	Storage	-20° C to 75° C
	Operating	0° C to 50° C
Weight:		2.15 kg (4.76 pounds)
Dimensions:		25.4 x 17.8 x 6.1 cm
		(10 x 7 x 2.4 inches)

* ±2 ppm/Δ°C from 25°C;

** Fault location is accomplished by inverse Fourier Transformation of data taken with the Site Master. Resolution and maximum range depend on the number of frequency data points, frequency sweep range and relative propagation velocity of the cable being tested.;

*** Immunity measurement is made in CW mode with incoming interfering signal exactly at the same frequency (worst case situation). Typical immunity is better when swept frequency is used.;

**** For input signal levels ≥ -60 dBm, accuracy at 50 MHz @ -30 dBm = ± 1dB.