

: 25 MHz 4.0 GHz  
 $\leq \pm 75 @ ppm25^{\circ}C$   
 : 100 kHz  
 : <0 dBm (-10 dBm)  
 : +17 dBm  
 : -5 dBm  
 : 3.5 / - (CW ON)  
 : 130, 259, 517  
 : 0.00 60.00 dB  
 : 0.01 dB  
 : 1.00 65.00  
 : 0.01  
 : 0.00 30.00 dB  
 : 0.01 dB  
 : >42 dB  
 (DTF):  
 : 0.00 60.00 dB  
 : 1.00 65.00  
 : 0 (# -1) x  
 # = 1197m,  
 = 130, 259 or 517  
 ( ) = (1.5 x 108) x (Vp)/DF  
 Vp -  
 DF- ( Hz).

(S332D)  
 : 100 kHz 3.0 GHz ( 9 kHz)  
 : ±1 ppm/yr  
 : ±2 ppm  
 : 10 Hz 2.99 GHz  
 : 1.1  
 50 c 20 c  
 (-3 dB): 100 Hz 1 MHz ±5%  
 (-3 dB): 3 Hz 1 MHz  
 ±5%  
 (1 GHz) 30 kHz: ≤ -75dBc / Hz  
 : ≤ -45dBc  
 :  
 ≤ -95dBm > 10MHz, ≤ -80dBm ≤ 10MHz, ( )  
 :  
 : ±1 dB (±1.5 dBm) 10 MHz 3 GHz  
 : ±2 dB <10 MHz  
 : ≥ 60dBm,  
 : +20 dBm -135 dBm  
 : 0 51 dB,  
 : 1 dB.  
 : <-135 dBm, > 10 MHz ( )  
 : <-115 dBm, < 10 MHz ( )  
 : 0 dBm, RMS, 100 Hz  
 : >65 dB  
 : 1 15 dB/division, 1 dB.  
 : 10  
 : dBm, dBV, dBμV, dBmV, V, W  
 : ( .20 dB.), 1.5:1 (10 MHz 2.4 GHz)

( 5)  
 : -80 +80 dBm (10 pW 100 kW)  
 : -50 +16 dBm (10 nW 0 mW)  
 : 0 +60 dB  
 : 0.1 dB, 0.1W  
 : ± 1 dB

Bias Tee ( 10A, S332D)  
 : +12V to +24V (variable in 1V)  
 : 6W ( )  
 : 6W/Voltage (V)

( 21, S332D)  
 : 25 MHz 3.0 GHz  
 : 10 Hz  
 : -10 dBm  
 : 80 dB, 25 MHz 2 GHz  
 60 dB, >2 GHz 3 GHz  
 : 50Ω

( 27)  
 : 100 kHz 3.0 GHz  
 : ±10 Hz + , 99%  
 : +20 dBm -100 dBm  
 : ±1 dB (±1.5 dBmax)  
 : ±0.75 dBc

( 29)  
 : 3 MHz to 3.0 GHz  
 : -80 dBm +20 dBm  
 : -80 dBm +80 dBm  
 : 0 +60 dB  
 \*\*: ±1 dB (±1.5 dBm max), >2 GHz 3 GHz  
 ±2 dB, 3 MHz <10 MHz  
 : 1.5:1 | P<sub>in</sub> >-30 dBm, 10 MHz to 2.4 GHz)  
 : +20 dBm (0.1W)  
 \*\*: ( )

GPS ( 31)  
 GPS

T1 ( 50 S331D)  
 : AMI, B8ZS  
 : D4 (Superframe)  
 ESF (Extended Superframe)  
 : (100Ω)  
 (> 1000Ω)  
 ( ) 20 dB DSX  
 : 0 -36 dBdsx  
 : 0 dB, -7.5 dB, and -15 dB  
 : 1.544 MHz ±30 ppm  
 ANSI T1.403  
 : PRBS: 2-9, 2-11, 2-15, 2-20, 2-23  
 , QRSS,  
 1-in-8 (1-in-7), 2-in-8, 3-in-24,  
 T1-Daly, (<32 )

: AIS (Blue Alarm), RAI (Yellow Alarm)  
 : Frame Bits, Bit, BER, BPV, CRC, Error Sec  
 : Bit, BPV, Framing Bits, RAI, AIS  
 : Self loop, CSU, NIU, , In-band Data Link  
 : Vp-p (± 5%)  
 : 48

E1 ( 50 S331D)

: AMI, HDB3  
 : PCM30, PCM30CRC, PCM31, PCM31CRC  
 : (75Ω, 120Ω)  
 ( 1000Ω)  
 ( ) 20 dB DSX)  
 : 0 -43 dB  
 : 0 dB, -7.5 dB, and -15 dB  
 : 2.048 MHz ±30 ppm  
 ITU G.703  
 : PRBS: 2-9, 2-11, 2-15, 2-20, 2-23  
 , QRSS,  
 1-in-8 (1-in-7), 2-in-8, 3-in-24,  
 T1-Daly, (<32 )  
 : AIS, RAI, MMF  
 : Frame Bits, Bit, BER, BPV, CRC, E-Bits, Error Sec  
 : Bit, BPV, Framing Bits, RAI, AIS  
 Self loop, CSU, NIU, , In-band  
 Data Link  
 : Vp-p (±5%)  
 : 48

: 300  
 : S332D - 20, S331D - 25  
 :  
 RF : N, female, 50Ω  
 : +23 dBm, ±50 VDC  
 RF : N, male, 50Ω  
 : +43 dBm (peak), ±50 VDC  
 : RS-232 9 D-sub

: EN 61010-1 1-  
 : -10°C 55°C, 85%  
 : -51°C +71°C ( 0°C +40°)  
 :  
 DC: +12.5 to +15 volt dc, 3A  
 NiMH: 10.8 volts, 1800 mAH  
 : 25.4 cm x 17.8 cm x 6.1 cm  
 : <2.28  
 , QRSS,  
 (<32 )

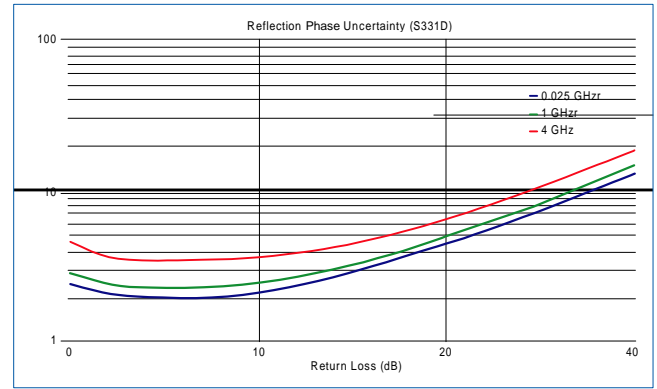
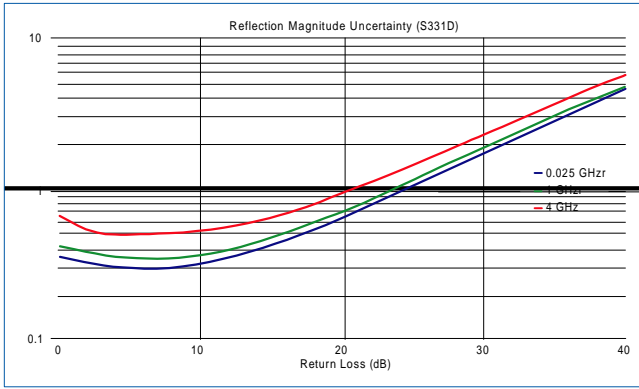


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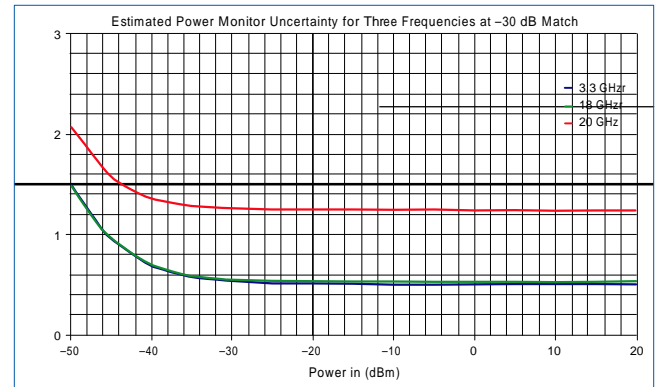
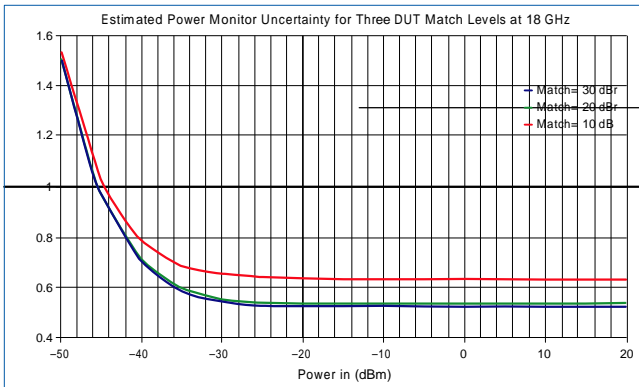
23°±C

22N50 28N50-2,

CW



560-7N50B,



18 GHz

-30 dB

## Power Monitor - Detectors

Model	Frequency Range	Impedance	Return Loss	Input Connector	Frequency Response
	0.001 to 3 GHz	50	26 dB	N(m)	±0.2 dB, <1 GHz ±0.3 dB, <3 GHz
5400-71N75	0.001 to 3 GHz	75Ω	26 dB, <2 GHz <	N(m)	±0.2 dB, <1 GHz ±0.5 dB, <3 GHz
560-7A50	0.01 to 18 GHz	50Ω	15 dB, <0.04 GHz 22 dB, <8 GHz 17 dB, <18 GHz	GPC-7	±0.5 dB, <18 GHz
560-7N50B	0.01 to 20 GHz	50Ω	15 dB, <0.04 GHz 22 dB, <8 GHz 17 dB, <18 GHz 14 dB, <20 GHz	N(m)	±0.5 dB, <18 GHz ±1.25 dB, <20 GHz
560-7S50B	0.01 to 20 GHz	50Ω	15 dB, <0.04 GHz 22 dB, <8 GHz 17 dB, <18 GHz 14 dB, <20 GHz	WSMA(m)	±0.5 dB, <18 GHz ±1.25 dB, <20 GHz
560-7S50-2	0.01 to 26.5 GHz	50Ω	15 dB, <0.04 GHz 22 dB, <8 GHz 17 dB, <18 GHz 14 dB, <26.5 GHz	WSMA(m)	±0.5 dB, <18 GHz ±1.25 dB, <26.5 GHz
560-7K50	0.01 to 40 GHz	50Ω	12 dB, <0.04 GHz 22 dB, <8 GHz 17 dB, <18 GHz 15 dB, <26.5 GHz 14 dB, <32 GHz 13 dB, <40 GHz	K(m)	±0.5 dB, <18 GHz ±1.25 dB, <26.5 GHz ±2.2 dB, <32 GHz ±2.5 dB, <40 GHz
560-7VA50	0.01 to 50 GHz	50Ω	12 dB, <0.04 GHz 19 dB, <20 GHz 15 dB, <40 GHz 10 dB, <50 GHz	V(m)	±0.8 dB, <20 GHz ±2.5 dB, <40 GHz ±3.0 dB, <50 GHz

# Ordering Information

Base Model	Description		
S331D	Cable and Antenna Analyzer (25 MHz to 4.0 GHz),	510-90	Adapter, 7/16 DIN(f)-N(m), DC to 7.5 GHz, 50Ω
S332D	Cable and Antenna Analyzer (25 MHz to 4.0 GHz), Spectrum Analyzer (100 kHz to 3.0 GHz)	510-91	Adapter, 7/16 DIN(f)-N(f), DC to 7.5 GHz, 50Ω
		510-92	Adapter, 7/16 DIN(m)-N(m), DC to 7.5 GHz, 50Ω
		510-93	Adapter, 7/16 DIN(m)-N(f), DC to 7.5 GHz, 50Ω
		510-96	Adapter, 7/16 DIN(m)-7/16 DIN(m), DC to 7.5 GHz, 50Ω
		510-97	Adapter, 7/16 DIN(f)-7/16 DIN(f), DC to 7.5 GHz, 50Ω
Options	Description	<b>61532 Antenna Kit:</b>	
Option 5	Power Monitor - requires external detector (S331D/S332D)	2000-1030	Portable Antenna, SMA(m), 1.71 to 1.88 GHz, 50Ω
Option 6	Frequency Converter Control Module Interface - can not be ordered with Option 5 (S332D)	2000-1031	Portable Antenna, SMA(m), 1.85 to 1.99 GHz, 50Ω
		2000-1032	Portable Antenna, SMA(m), 2.4 to 2.5 GHz, 50Ω
Option 10A	Bias Tee (S332D)	2000-1200	Portable Antenna, SMA(m), 806-869 MHz, 50Ω
Option 21	Transmission Measurement (S332D)	2000-1035	Portable Antenna, SMA(m), 896-941 MHz, 50Ω
Option 25	Interference Analyzer - requires color display and requires directional antenna (S332D)	2000-1361	Portable Antenna, SMA(m), 5.725-5.825 MHz, 50Ω
Option 27	Channel Scanner (S332D)		
Option 28	CW Signal Generator - requires CW Signal Generator Kit (S332)	2000-1411	Portable YAGI Antenna, N(f), 822-900 MHz, 10 dBd
Option 29	Power Meter - does not require external detector (S331D/S332D)	2000-1412	Portable YAGI Antenna, N(f), 885-975 MHz, 10 dBd
Option 31	GPS Receiver for location information. Includes GPS antenna (S331D/S332D)	2000-1413	Portable YAGI Antenna, N(f), 1.71-1.88 GHz, 10 dBd
Option 50	T1/E1 Analyzer - can not be ordered with Option 5 (S331D)	2000-1414	Portable YAGI Antenna, N(f), 1.85-1.99 GHz, 9.3 dBd
		2000-1415	Portable YAGI Antenna, N(f), 2.4-2.5 GHz, 12 dBd
		2000-1416	Portable YAGI Antenna, N(f), 1.92-2.23 GHz, 12 dBd
Standard Accessories Include:		1030-109	Filter, Bandpass, 836.5 MHz Ctr Freq, 25.8 MHz BW, N(m) to SMA(f), 50Ω
10580-00079	S331D/S332D Site Master User's Guide	1030-110	Filter, Bandpass, 897.5 MHz Ctr Freq, 35 MHz BW, N(m) to SMA(f), 50Ω
2300-347	Anritsu Handheld Software Tools CDROM	1030-111	Filter, Bandpass, 1.88 GHz Ctr Freq, 63.1 MHz BW, N(m) to SMA(f), 50Ω
48258	Soft Carrying Case	1030-112	Band Pass Filter, 2.442 GHz Ctr Freq, 85.1 MHz BW, N(m) to SMA(f), 50Ω
633-27	Rechargeable Battery, NiMH		
40-168	AC-DC Adapter with Power Cord	2000-1410	Magnet Mount GPS Antenna with 15 ft. cable
806-141	Automotive Cigarette Lighter/12 Volt DC Adapter	61534	CW Signal Generator Kit with variable step attenuator
806-441	Serial Interface Cable One Year Warranty	806-16	Bantam Plug to Bantam Plug
		806-116	Bantam Plug to BNC
		806-117	Bantam "Y" Plug to RJ48
Optional Accessories		551-1691	USB to RS-232 adapter cable
FCN4760	Frequency Converter, 4.7 to 6.0 GHz	48258	Soft Carrying Case
1N50C	Limiter, N(m) to N(f), 50Ω, 10 MHz to 18 GHz	760-235	Transit Case
42N50-20	Attenuator, 20 dB, 5 watt, DC to 18 GHz, N(m)-N(f)	633-27	Rechargeable Battery, NiMH
42N50A-30	Attenuator, 30 dB, 50 watt, DC to 18 GHz, N(m)-N(f)	2000-1029	Battery Charger, NiMH, w/ Universal Power Supply
		40-168	AC/DC Adapter
ICN50 InstaCal™	Calibration Module, 2 MHz to 4.0 GHz, N(m), 50Ω	806-141	Automotive Cigarette Lighter/12 Volts DC Adapter
22N50	Open/Short, DC to 18 GHz, N(m), 50Ω	800-441	Serial Interface Cable
22NF50	Open/Short, DC to 18 GHz, N(f), 50Ω	2300-347	Software Tools
SM/PL	Precision Load, DC to 4 GHz, 42 dB, N(m), 50Ω		
SM/PLNF	Precision Load, DC to 4 GHz, 42 dB, N(f), 50Ω	Printers	
OSLN50LF	Precision Open/Short/Load, DC to 4 GHz, 42 dB, 50Ω, N(m)	2000-1214	HP DeskJet Printer, Model 450: Includes printer cable, 2000-1216 black print cartridge and U.S. power cord. Also includes 2000-753 serial-to-parallel Centronics converter cable and 1091-310 Centronics-to-DB25 adapter. Rechargeable battery is optional and is not included.
OSLNF50LF	Precision Open/Short/Load, DC to 4 GHz, 42 dB, 50Ω, N(f)	2000-753	Null Modem Serial-to-Parallel Centronics Converter Cable
2000-767	Precision Open/Short/Load, DC to 4 GHz, 7/16 DIN(m), 50Ω	1091-310	Adapter 36-pin Centronics female-to-DB25 female
2000-768	Precision Open/Short/Load, DC to 4 GHz, 7/16 DIN(f), 50Ω	2000-1216	Black Print Cartridge
15NN50-1.5C	Test Port Cable Armored, 1.5 meters, N(m)-N(m), 6 GHz, 50Ω	2000-663	Power Cable (Europe) for DeskJet Printer
15NN50-3.0C	Test Port Cable Armored, 3.0 meters, N(m)-N(m), 6 GHz, 50Ω	2000-664	Power Cable (Australia) for DeskJet Printer
15NN50-5.0C	Test Port Cable Armored, 5.0 meters, N(m)-N(m), 6 GHz, 50Ω	2000-667	Power Cable (S. Africa) for DeskJet Printer
15NNF50-1.5C	Test Port Cable Armored, 1.5 meters, N(m)-N(f), 6 GHz, 50Ω	2000-1217	Rechargeable Battery for DeskJet Printer, Model 450
15NNF50-3.0C	Test Port Cable Armored, 3.0 meters, N(m)-N(f), 6 GHz, 50Ω	2000-1218	Power Cable (U.K.) for DeskJet Printer
15NNF50-5.0C	Test Port Cable Armored, 5.0 meters, N(m)-N(f), 6 GHz, 50Ω		
15ND50-1.5C	Test Port Cable Armored, 1.5 meters, N(m)-7/16 DIN(m), 6 GHz, 50Ω		
15NDF50-1.5C	Test Port Cable Armored, 1.5 meters, N(m)-7/16 DIN(f), 6 GHz, 50Ω		
34NN50A	Precision Adapter, N(m)-N(m), DC to 18 GHz, 50Ω		
34NFN50	Precision Adapter, N(f)-N(f), DC to 18 GHz, 50Ω		
1091-26	Adapter, N(m)-SMA(m), DC to 18 GHz, 50Ω		
1091-27	Adapter, N(m)-SMA(f), DC to 18 GHz, 50Ω		
1091-80	Adapter, N(f)-SMA(m), DC to 18 GHz, 50Ω		
1091-81	Adapter, N(f)-SMA(f), DC to 18 GHz, 50Ω		
1091-172	Adapter, N(m)-BNC(f), DC to 1.3 GHz, 50Ω		

## SALES CENTERS:

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Microwave Measurement Division  
 490 Jarvis Drive, Morgan Hill, CA 95037-2809  
<http://www.us.anritsu.com>



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