

N4416A Test set (ATN-4111D)

System performance summary

The following specifications are applicable for a system in the following configuration:

Network analyzer	PNA series E8357A, Option 015
Test set	N4416A
Calibration kit	85052C, precision 3.5 mm
Test port cables	N4416A, Option B20

System dynamic range

Transmission measurements at 10 Hz IF bandwidth with full error correction and 10 dBm maximum output power. The dynamic range is the difference between the RMS noise floor and maximum output power.

300 kHz to 6 GHz	115 dB
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Measurement port characteristics

Residual uncertainties for corrected data using four-port error correction. These apply for 25 °C with less than 1 °C variation from calibration.

Frequency range	0.3-1 MHz	.001-2 GHz	2-4 GHz	4-6 GHz
Directivity	48 dB	48 dB	46 dB	44 dB
Source match	42 dB	42 dB	38 dB	35 dB
Load match	48 dB	48 dB	46 dB	44 dB
Refl. tracking (±)	.012 dB	.012 dB	.012 dB	.020 dB
Trans. tracking (±)	.006 dB	.006 dB	.006 dB	.013 dB

Test set typical performance

Frequency range	300 kHz - 6.0 GHz
Impedance	50 ohms
Insertion loss, source out to coupler in	
300 kHz to 6 GHz	4.5 dB max.
Insertion loss, port 2 or 4 to source out	
300 kHz to 6 GHz	7.5 dB max.
Insertion loss, ports 2 or 4 to A or B in	
300 kHz to 6 GHz	24 dB max.
Insertion loss, A and B in to A and B out	
300 kHz to 6 GHz	7.5 dB max.
Isolation, port to port and A to B	≥105 dB
Maximum operating level	+20 dBm
Damage level	+30 dBm
Test port connectors	7 mm
VNA connectors	50 ohm SMA (f)
Weight	9 kg

Supported peripheral equipment

Network analyzer	PNA series E8357A, Option 015
Calibration kit	N4430A (ATN-4801) electronic calibration module, or 85033D, 85052D (3.5 mm), 85050B (7 mm), 85032 (Type-N)
Computer	Pentium II with ≥64 MB RAM, Windows 95/98/NT

Monitor	1024 x 768 minimum resolution
IEEE-488 card	Agilent 82340, 82341, or National Instruments (any model)

Ordering information

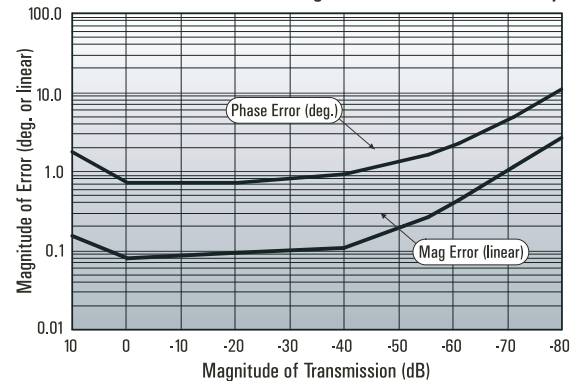
N4416A	300 kHz to 6 GHz S-parameter test set
Option 105 ⁷	Balanced measurement software
Option 110 ⁷	Balanced measurement software with time domain analysis
N4430A	4-port electronic calibration module
N4444A	Balanced measurement system, 300 kHz to 6 GHz. Includes E8357A Option 015 and N4416A Option 105 (Source attenuators and bias networks included).
Option 060	4-port electronic calibration module
Option 110	Time domain analysis

The following options are available for the N4416A and N4444A:

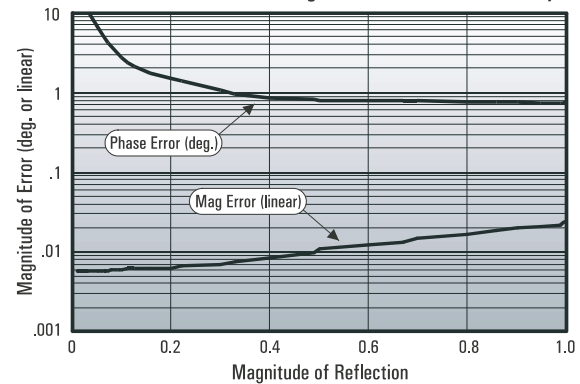
Option 301	DC-bias cable and adapter kit
Option 1CP	Rack-mount and handle kit
Option B20	Test port cables, 3 ft. 7mm to 3.5mm (m) (quantity 4)

Measurement uncertainties

Worst Case 3.5 mm Transmission Magnitude and Phase Uncertainty



Worst Case 3.5 mm Reflection Magnitude and Phase Uncertainty



7. Either Option 105 or 110 must be ordered at time of initial purchase.