

# Typical System Performance

**Agilent Technologies**  
**PNA Series Network Analyzers**  
**N5250A**



**Agilent Technologies**

**Document Part Number: 5989-1076ENUS**

**Printed in USA**

**April 23, 2004**

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## Technical Specifications for the N5250A

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- This is a complete list of the N5250A network analyzer "typical" system specifications.
- To view or print the Technical Overview, visit our web site at <http://www.agilent.com>, type 5988-9620EN in the Quick Search box, then click GO.

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[See Specs for other PNA models](#)

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### Definitions

**Typical** : Expected performance of an average unit which does not include guardbands. It is not covered by the product warranty.

**Standard**: When referring to the analyzer, this includes no options unless noted otherwise.

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This document presents typical system specifications for the following categories only:

- [System Dynamic Range](#)
- [Test Port Power](#)
- [Noise Floor](#)
- [Test Port Damage Level](#)
- [Option H11 Rear Panel Connectors](#)

**Table 1.** System Dynamic Range

Frequency	1.0 mm Test Port	1.85 mm PNA Test Port	Waveguide Port
10 MHz to 45 MHz	63 dB	65 dB	
45 MHz to 500 MHz	94 dB	97 dB	
500 MHz to 2 GHz	120 dB	123 dB	
2 GHz to 10 GHz	116 dB	123 dB	
10 GHz to 24 GHz	111 dB	121 dB	
24 GHz to 30 GHz	100 dB	112 dB	
30 GHz to 40 GHz	92 dB	107 dB	
40 GHz to 45 GHz	84 dB	101 dB	
45 GHz to 50 GHz	85 dB	103 dB	
50 GHz to 60 GHz	80 dB	100 dB	
60 GHz to 67 GHz	70 dB	95 dB	
67 GHz to 70 GHz	68 dB		82 dB
70 GHz to 75 GHz	74 dB		87 dB
75 GHz to 80 GHz	85 dB		98 dB
80 GHz to 100 GHz	89 dB		101 dB
100 GHz to 110 GHz	87 dB		98 dB

**Table 2. Test Port Power**

<b>Frequency</b>	<b>1.0 mm Test Port (Std Configuration<sup>a</sup> or Opt 017<sup>b</sup>)</b>	<b>1.85 mm PNA Port</b>	<b>WR-10 Waveguide Port</b>
10 MHz to 45 MHz	-8 dBm	-7 dBm	
45 MHz to 500 MHz	-3 dBm	-1 dBm	
500 MHz to 2 GHz	0 dBm	2 dBm	
2 GHz to 10 GHz	-2 dBm	2 dBm	
10 GHz to 24 GHz	-5 dBm	0 dBm	
24 GHz to 30 GHz	-7 dBm	0 dBm	
30 GHz to 40 GHz	-10 dBm	-1 dBm	
40 GHz to 45 GHz	-15 dBm	-5 dBm	
45 GHz to 50 GHz	-12 dBm	-1 dBm	
50 GHz to 60 GHz	-17 dBm	-4 dBm	
60 GHz to 67 GHz	-22 dBm	-8 dBm	
67 GHz to 70 GHz	-9 dBm		-2 dBm
70 GHz to 75 GHz	-7 dBm		0 dBm
75 GHz to 80 GHz	-6 dBm		+1 dBm
80 GHz to 100 GHz	-5 dBm		+1 dBm
100 GHz to 110 GHz	-8 dBm		-2 dBm

<sup>a</sup> Assumes a 30" cable from the PNA 1.85mm Test Port Out is used to provide the 10 MHz to 67 GHz source signal. The Standard configuration does not have a bias tee in the 1.0mm head.

<sup>b</sup> Assumes a 30" cable from the PNA Source Out bulkhead connector is used to provide the 10 MHz to 67 GHz source signal. Option 017 includes a bias tee in the 1.0mm head.

**Table 3: Noise Floor**

<b>Frequency</b>	<b>1.0mm Test Port</b>	<b>1.85mm Test Port</b>	<b>Waveguide Port</b>
10 MHz to 45 MHz	-71 dBm	-72 dBm	
45 MHz to 500 MHz	-97 dBm	-98 dBm	
500 MHz to 2 GHz	-120 dBm	-121 dBm	
2 GHz to 10 GHz	-118 dBm	-121 dBm	
10 GHz to 24 GHz	-116 dBm	-121 dBm	
24 GHz to 30 GHz	-107 dBm	-112 dBm	
30 GHz to 40 GHz	-102 dBm	-108 dBm	
40 GHz to 45 GHz	-99 dBm	-106 dBm	
45 GHz to 50 GHz	-97 dBm	-104 dBm	
50 GHz to 60 GHz	-97 dBm	-104 dBm	
60 GHz to 67 GHz	-97 dBm	-103 dBm	
67 GHz to 70 GHz	-77 dBm		-84 dBm
70 GHz to 75 GHz	-81 dBm		-87 dBm
75 GHz to 80 GHz	-91 dBm		-97 dBm
80 GHz to 100 GHz	-94 dBm		-100 dBm
100 GHz to 110 GHz	-95 dBm		-100 dBm

**Table 4.** Test Port Damage Level

<b>Frequency</b>	<b>1.0mm Test Port</b>	<b>1.85mm Test Port</b>	<b>Waveguide Port</b>
10 MHz to 110 GHz	27 dBm	27 dBm	27 dBm

**Table 5** Option H11 Rear Panel Connectors

<b>Description</b>	<b>Supplemental Information</b>
IF Connectors	A, R1, R2, B
IF Connector Input Frequency	8.333 MHz
Damage Level to IF Connector Inputs	-20.0 dBm
0.1 dB Compression Point	-27.0 dBm
Pulse Input Connectors <sup>a</sup>	A, R1, R2, B
Drive Voltage	TTL (0, +5.0) Volts

<sup>a</sup> Pulse input connectors are operational only with Option H08 (Pulse Measurement Capability) enabled.