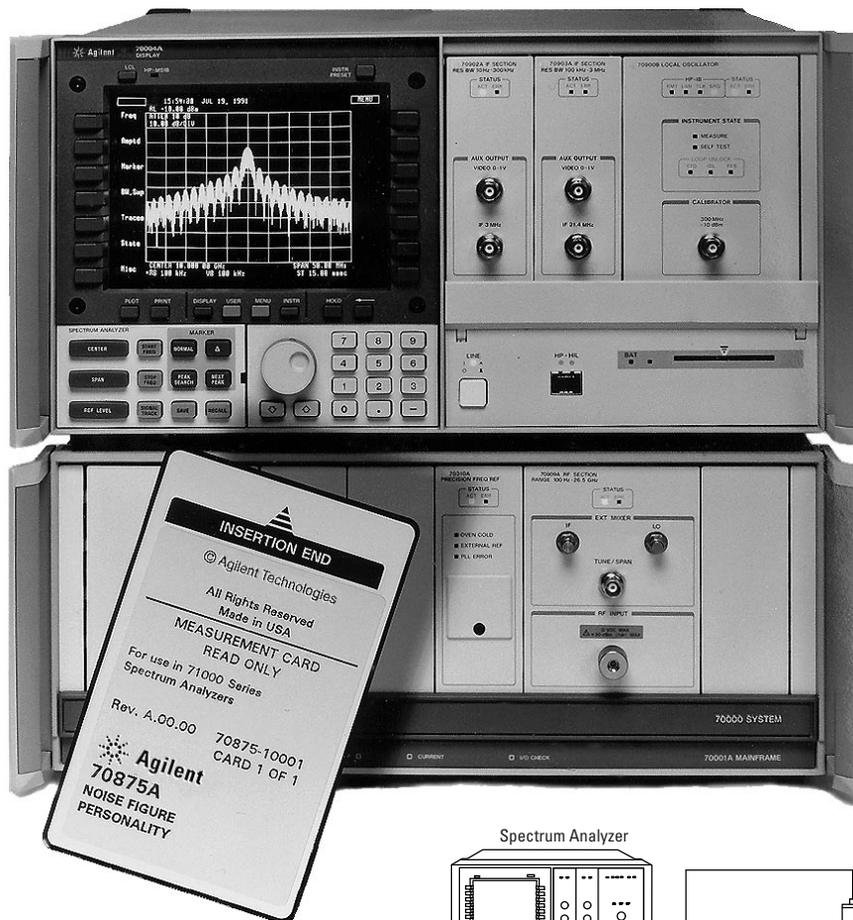


Agilent 70875A

Noise Figure Measurement Personality

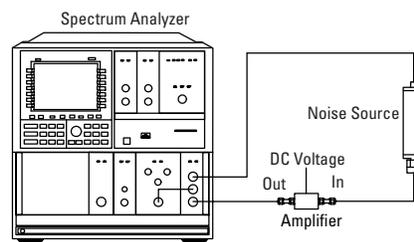
Product Overview



Fast, calibrated noise figure and gain measurements to 26.5 GHz with your MMS spectrum analyzer

The Agilent Technologies 70875A noise figure measurement personality adds noise figure and gain measurement capability to 71000 series spectrum analyzers. Combined with the Agilent 346B or 346C noise source and a 70620B Option 001 preamplifier module, this measurement personality provides swept noise figure and gain measurements from 10 MHz to 26.5 GHz. The 70875A provides a simple way to make fast, easy noise figure and gain measurements of both amplifiers and frequency converters with your MMS spectral analysis system. These measurements are fully programmable.

The 70875A also offers switching between noise figure and spectrum analyzer modes for stray signal detection, and mixer test compatibility for frequency converters and receivers.

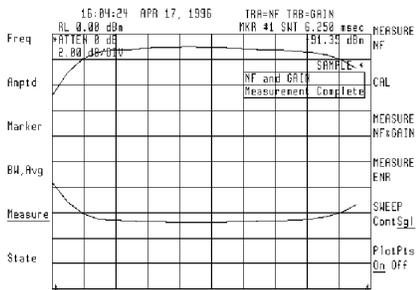


Amplifier gain and noise figure are measured with this simple setup.



Easy to use

- Friendly, menu-driven interface simplifies measurements
- Configurations are displayed
- Marker functions make noise figure and gain easy to read at any frequency
- Save/recall functions allow storage of analyzer states, ENR tables, and limit lines



Both amplifiers and frequency converters are easily measured. This screen displays the noise figure (bottom) and gain measurement (top) of a frequency converter.

Time-saving features

- One-point, pass/fail measurements
- Storage and editing of multiple noise-source ENR data tables
- Variable measurement bandwidths for direct measurement of narrow-band devices
- Loss-compensation data entry to correct for cable and other losses

14:33:54 APR 17, 1996

RL 0.00 dB MKR #1 FRQ 150 MHz

Seq	Freq	Gain	Upper	Bandw	Loss	VALUE
1	150 MHz	19.00 dBm			SLOPE	NEXT
2	100 MHz	19.00 dBm			SLOPE	POINT
3	1.000 GHz	19.00 dBm			SLOPE	
4	2.000 GHz	19.00 dBm			SLOPE	LAST
5	3.000 GHz	19.00 dBm			SLOPE	POINT
6	4.000 GHz	19.00 dBm			SLOPE	
7	5.000 GHz	19.00 dBm			SLOPE	DELETE
8	6.000 GHz	19.00 dBm			SLOPE	POINT
9	7.000 GHz	19.00 dBm			SLOPE	
10	8.000 GHz	19.00 dBm			SLOPE	
11	9.000 GHz	19.00 dBm			SLOPE	

EXIT *START 100 MHz *STOP 205 MHz *EDIT
 YF *RB 3.00 MHz *VB 3.00 MHz *ST 5.300 sec DONE

The ENR data editor makes it easy to edit stored ENR data tables.

Specifications

All specifications apply over 0–55° C. The noise figure measurement personality specifications are valid after 2 hours of storage at a constant temperature, within the operating temperature range, 30 minutes after the spectrum analyzer is turned on, and after CAL ALL has been run.

	Specification	Performance Limits	Conditions
Noise Figure Measurement	Range	0 to 30 dB	
	Resolution	0.01 dB	
	Instrumentation Uncertainty*	±0.5 dB ±0.6 dB	10 MHz–2.9 GHz, Measurement Bandwidth = 3 MHz 2.9–26.5 GHz, Measurement Bandwidth = 3 MHz
Gain Measurement	Range	0 to +30 dB	
	Resolution	0.01 dB	
	Instrumentation Uncertainty*	±0.5 dB ±0.6 dB	10 MHz–2.9 GHz, Measurement Bandwidth = 3 MHz 2.9–26.5 GHz, Measurement Bandwidth = 3 MHz
Input	Frequency Range	10 MHz to 22 GHz 10 MHz to 26.5 GHz	Using Agilent 70908A RF section Using Agilent 70909A or 70910A RF section
	System Noise Figure	< 11 dB < 12 dB < 18 dB < 21 dB	10 MHz–2.9 GHz 2.9–12.8 GHz 12.8–22.0 GHz 22.0–26.5 GHz
	Input SWR	< 2.4:1 < 2.2:1 < 3.0:1	10 MHz–2.9 GHz 2.9–12.8 GHz 12.8–26.5 GHz
IF Processing	IF Bandwidths	1 KHz to 3 MHz	in 10 percent increments
	Noise Averaging	20 msec to 1000 sec	

* For DUT NF ≤ 15 dB and (DUT NF + DUT gain) ≥ System Noise Figure

Ordering information

70875A noise figure measurement personality (includes memory card, 3.5" disk for P model analyzers, and User's Guide)

Configuration requirements:

71100C/P, 71209A/P, 71210C/P, or 71910A/P spectrum analyzer

70620B Option 001 preamplifier*

346B or **346C** noise source

* An additional 70001A mainframe is needed to accommodate this module when using a 71910P spectrum analyzer.

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