KEYSIGHT TECHNOLOGIES (AGILENT HP)

N5500A

The Keysight N5500A (formerly Agilent N5500A) is a high-performance Phase Noise Test Set designed as the core hardware component of the N5505A Phase Noise Measurement System. It enables extremely sensitive phase noise and AM noise measurements over a wide range of carrier frequencies and offsets.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488)
Display	None (front panel status LEDs only; requires external PC and display for measurement interface)

Physical

Power Supply	90 to 132 VAC (47 to 440 Hz) / 195 to 250 VAC (47 to 66 Hz)
Operating Temperature	0 °C to +55 °C °C
Dimensions (W×H×D)	426 mm × 177 mm × 546 mm mm
Weight	18.2 kg

Frequency Ranges

Carrier Frequency Range (Base Model)	50 kHz to 1.6 GHz
Carrier Frequency Range (with Microwave Options)	50 kHz to 26.5 GHz
Offset Frequency Range	0.01 Hz to 100 MHz

Measurement Performance

Measurement Types Supported	Absolute Phase Noise, Residual Phase Noise, AM Noise
System Phase Noise Noise Floor (Typical)	-170 dBc/Hz (at >10 kHz offsets)

Tuning and Control

Internal Tuning Voltage Range	±10 V

RF Inputs & Outputs

RF Input 1 Port	Type-N female, 50 Ω, 50 kHz to 1.6 GHz
RF Input 2 Port	Type-N female, 50 Ω, 50 kHz to 1.6 GHz
Tune Voltage Output Port	BNC female

Software and Control

Compatible Control Software	Keysight N5505A Phase Noise Measurement Utility

Environmental

Storage Temperature	-40 °C to +70 °C
Operating Altitude	Up to 4,570 m
Storage Altitude	Up to 15,240 m
Operating Humidity	95% RH at 40 °C (non-condensing)

Inputs & Outputs

RF Input 1 Connector	Type-N female (standard) / 3.5 mm female (Option 001)
RF Input 2 Connector	Type-N female (standard) / 3.5 mm female (Option 001)
Tune Voltage Output Connector	BNC female
Phase Detector Output Connector	BNC female (rear panel)
RF Input 1 & 2 Impedance	50 Ω
RF Input 1 & 2 Maximum Input Level	+23 dBm
RF Input 1 & 2 VSWR	< 1.5:1 (typical)
Tune Voltage Output Impedance	50 Ω
External Noise Input Impedance	100 kΩ

Power

AC Input Voltage	90 to 132 VAC (47 to 440 Hz) / 195 to 250 VAC (47 to 66 Hz)
Power Consumption	150 VA maximum
AC Line Frequency	47 to 440 Hz / 47 to 66 Hz

Measurement Options

Option 001 Frequency Range	50 kHz to 26.5 GHz
Option 201 Capability	Adds AM noise measurement capability

Options

Option 201 Offset Frequency Range	0.01 Hz to 40 MHz

Compliance

EMC Compliance	CISPR 11/EN 55011 Class A, Group 1
Safety Compliance	IEC 61010-1 / EN 61010-1

TECHNOLOGY

Phase Noise Measurement

APPLICATIONS

RF and Microwave Phase Noise Characterization