KEYSIGHT TECHNOLOGIES (AGILENT HP)

83630L

The Keysight (Agilent HP) 83630L is a high-performance synthesized swept-CW signal generator covering a frequency range from 10 MHz to 26.5 GHz. Belonging to the renowned 8360L series, it combines the frequency accuracy and spectral purity of a synthesized source with the fast sweep speeds of a traditional analog sweep oscillator, making it ideal for microwave component characterization, local oscillator substitution, and demanding CW applications.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488)

Physical

Power Supply	90 to 132 VAC / 198 to 264 VAC, 48 to 66 Hz, < 400 VA
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	425 mm × 178 mm × 648 mm mm
Weight	27 kg kg

Frequency Specifications

Frequency Range	10 MHz to 26.5 GHz
Internal Reference Frequency	10 MHz

Output Power Specifications

Maximum Leveled Power	+13 dBm
Minimum Leveled Power	-20 dBm (standard) / -110 dBm (with Option 001 step attenuator)
Output Impedance	50 Ω

Spectral Purity

SSB Phase Noise at 10 kHz Offset	<-80 dBc/Hz (@ 10 GHz)

Sweep Capabilities

Frequency Sweep Range	10 MHz to 26.5 GHz (or any span within)
Number of Points	2 to 801 (Step Sweep) / up to 801 (List Sweep)

Front and Rear Panel Interfaces

RF Output Connector Type	3.5 mm (male)
RF Output Impedance	50 Ω
Trigger Input Connector	BNC (rear panel)
Trigger Output Connector	BNC (rear panel)
External ALC Input Connector	BNC (front panel)

Power and Operating Conditions

Storage Temperature Range	-40 to +75 °C
Relative Humidity Limit	95% at 40 °C
Altitude Limit	4,600 m (15,000 feet)

Physical and Regulatory

Rack Unit Height	4 U
Shipping Weight	36 kg (80 lb)

Available Options and Configurations

Option 001	Step Attenuator (extends output power range to -110 dBm)

Performance

SSB Phase Noise at 100 Hz Offset	<-70 dBc/Hz (at 10 GHz)
SSB Phase Noise at 1 kHz Offset	<-78 dBc/Hz (at 10 GHz)
SSB Phase Noise at 100 kHz Offset	<-107 dBc/Hz (at 10 GHz)
SSB Phase Noise at 1 MHz Offset	<-110 dBc/Hz (at 10 GHz)
Sub-harmonics (20 to 26.5 GHz)	<-50 dBc
Output SWR (< 2.0 GHz)	< 1.5
Output SWR (2.0 to 20 GHz)	< 2.0
Output SWR (20 to 26.5 GHz)	< 2.0
Power Level Accuracy (10 MHz to 20 GHz)	±0.9 dB
Power Level Accuracy (20 to 26.5 GHz)	±1.3 dB

Inputs & Outputs

0.5 V/GHz Output Connector	BNC (rear panel), provides 0.5 V/GHz
Source Module Interface Connector	Rear panel 20-pin connector for control of HP 83550 series millimeter-wave source modules
Z-Axis Blanking / Marker Output Connector	BNC (rear panel), TTL-compatible blanking and marker pulses
Stop Sweep Input/Output Connector	BNC (rear panel), TTL levels
External ALC Input Impedance	100 kΩ (nominal)
External Reference Input Impedance	50 Ω (nominal)
Internal Reference Output Level	0 dBm (nominal)

Power Requirements

AC Line Voltage	90 to 132 Vac (48 to 440 Hz) or 198 to 264 Vac (48 to 66 Hz), automatic selection
Power Consumption	400 VA maximum

Options

Option 004	Rear panel RF output
Option 008	1 Hz frequency resolution

TECHNOLOGY

Synthesized Swept-CW

APPLICATIONS

Microwave Component Testing, Local Oscillator Substitution, RF Receiver Characterization