

KEYSIGHT TECHNOLOGIES (AGILENT HP)

83650A

The Keysight (formerly Agilent / HP) 83650A is a high-performance synthesized sweeper providing broadband frequency coverage from 10 MHz to 50 GHz. It combines the precise accuracy of a synthesized source with the speed and versatility of a sweep oscillator. Utilizing indirect synthesis, the 83650A achieves excellent harmonic performance and low single-sideband phase noise. It is designed for demanding applications in component test, receiver test, frequency conversion, and antenna scan pattern simulation.

SPECIFICATIONS

General

Interfaces	HP-IB (IEEE-488)
------------	------------------

Physical

Power Supply	100 / 120 / 220 / 240 VAC, 48-66 Hz (400 Hz at 100/120V); 400 VA max
--------------	--

Operating Temperature	0 to 55 °C
-----------------------	------------

Dimensions (W×H×D)	425 × 178 × 648 mm
--------------------	--------------------

Weight	27.2 kg
--------	---------

Frequency Characteristics

Frequency Range	10 MHz to 50 GHz
-----------------	------------------

Frequency Resolution	1 kHz (standard); 1 Hz (Option 008)
----------------------	-------------------------------------

Sweep Characteristics

Sweep Modes	Step, List, Ramp
-------------	------------------

Output Power Characteristics

Maximum Leveled Output Power (< 26.5 GHz)	+10 dBm
---	---------

Maximum Leveled Output Power (26.5 to 40 GHz)	+5 dBm
---	--------

Maximum Leveled Output Power (> 40 GHz)	+2.5 dBm
---	----------

Power Sweep Range	-20 dBm to maximum power
-------------------	--------------------------

Output Impedance	50 Ω
------------------	------

Spectral Purity

Harmonics (2.0 to 26.5 GHz)	< -50 dBc
-----------------------------	-----------

Harmonics (> 26.5 GHz)	< -40 dBc
------------------------	-----------

Non-Harmonic Spurious Signals (> 2.0 GHz)	< -50 dBc
---	-----------

Connectivity and Interfaces

RF Output Connector	2.4 mm (male)
---------------------	---------------

Common Options and Upgrades

1 Hz Frequency Resolution Option	Option 008
----------------------------------	------------

Sweep Performance

Analog Sweep Time	10 ms to 100 s
-------------------	----------------

Timebase & Reference

External Reference Input Frequencies	1, 2, 5, or 10 MHz
Internal Reference Output	10 MHz (nominal 0 dBm)

Power

Power Consumption	400 VA maximum
AC Power Input	100/120/220/240 VAC, 50/60 Hz (400 Hz for 100/120 V)

Environmental

Storage Temperature	-40 °C to +75 °C
---------------------	------------------

Frequency

Timebase Aging Rate	5 × 10 ⁻¹⁰ / day (after 72 hours warm-up)
---------------------	--

Sweep Capabilities

Step Sweep Points	2 to 801 points
-------------------	-----------------

Leveling

External Leveling Inputs	ALC (Detector), Power Meter
--------------------------	-----------------------------

Output Power

Step Attenuator Range (Option 001)	55 dB
Step Attenuator Resolution (Option 001)	5 dB steps

TECHNOLOGY

Indirect Synthesis

APPLICATIONS

Component test, receiver test, frequency conversion, antenna scan pattern simulation, two-tone measurement

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.