Agilent
85640A Portable Tracking Generator

300 kHz to 2.9 GHz

Data Sheet

An MIL-rugged, portable tracking generator
for your Agilent 8560A, 8561A/ B or 8562A/ B
portable spectrum analyzer

Scalar and Spectrum Analysis

Combining the Agilent 85640A tracking generator with a portable spectrum analyzer results in a system having both scalar-analysis and spectrum-analysis capabilities. Use the scalar-analysis capability to perform measurements such as gain, frequency response, compression flatness, and return loss on components and sub-systems. Use the spectrum analysis capability to measure harmonic and inter-modulation distortion, as well as spurious products.

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Versatility in the Field

The combination of the 85640A and a portable analyzer allows you to make a wide variety of scalar measurements in the field. Check sub-system performance and make antenna return-loss measurements to isolate potential problems. Use your portable scalar system and the analyzer's built-in FFT capability to locate faults in cables and interconnections. Opens and shorts, as well as damaged or poorly-connected cables, can be isolated and then repaired.

Portable and Rugged

Lightweight, portable, and MIL-rugged, the 85640A is the perfect addition to your 8560A, 8561A/B or 8562A/B portable spectrum analyzer. The 85640A also shares the five-minute warm-up and tough environmental specifications found in these analyzers. So, it's an ideal solution for field-service, bench, and manufacturing scalar measurements.

High Throughput and Wide Dynamic Range

A tracking generator combined with a spectrum analyzer allows measurements to be made with fast, continuous sweeps. The 85640A features a dynamic range higher than 115 dB and shares the synthesized frequency accuracy of the spectrum analyzer. This lets you quickly and accurately make real-time adjustments of devices and measure parameters such as filter rejection and switch insolation. In addition, the 85640A includes a manually-controlled, built-in output attenuator and vernier, so you can vary the output level for measurements like gain compression.

Specifications

Specifications describe the instrument's warranted performance. Typical performance is non-warranted. Supplemental characteristics are denoted by "nominal" or "approximately"; these constitute non-warranted functional performance information derived during the design process and are not tested on a continuing basis.

Unless noted, all specifications describe the instrument's warranted performance under the following conditions: 5-minute warm-up from ambient conditions, tracking adjusted, 1-year calibration cycle, and environmental requirements met.

Frequency/ amplitude

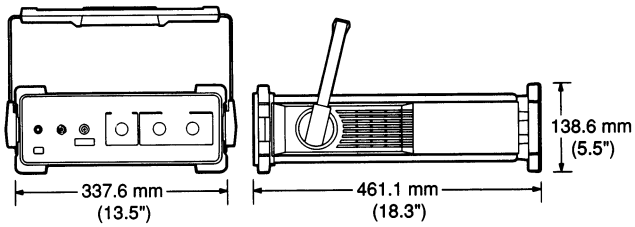
Frequency range	300 kHz to 2.9 GHz
Tracking drift	300 Hz per hour (nominal)(after 30 min. warm-up)
Output power level	
Max	0 dBm
Range	–80 dBm to 0 dBm
Resolution	10 dB with atten, vernier continuously adjustable
Flatness	±2.0 dB (ref to 300 MHz with 10 dB atten.)
Vernier range	> 10 dB
Output attenuator	
Range	70 dB
Switching accuracy	
(10 to 70 dB settings ref to 0 dB)	±0.8 dB/ 1Ø dB
±1.5 dB max	
Repeatability	±0.2 dB (nominal)
Spurious output (–10 dBm, 10 dB atten)	
Harmonic spurs	< –25 dBc
Non-harmonic spurs	
300 kHz to 2.0 GHz	< –27 dBc
2.0 to 2.9 GHz	< –23 dBc
LO feedthrough	(> 2.9 GHz) < –26 dBm
Output return loss	
0 dB atten	10 dB
10 dB atten	17 dB (nominal)
Dynamic range (1 MHz to 2.9 GHz, 300 Hz RBW)	
300 kHz to 1 MHz	95 dB
1 MHz to 2.7 GHz	115 dB
2.7 to 2.9 GHz	110 dB
Min RBW supported	300 Hz
	100 Hz (8561A, 8562A/ B)

Inputs and outputs

RF output	Type N female, front panel
Impedance	50 ohm (nominal)
300 MHz input	BNC female, front panel
LO input	SMA female, front panel
Blanking input	BNC female, real panel
Ext. ALC input	BNC female, rear panel. Use with negative detector

General Specifications

Warm-up	5 minutes from ambient
Temperature	
Operating	–10° C to +50° C
Storage	–62° C to +85° C
Humidity	95% at 40° C for 5 days
Altitude	
Operating	15,000 ft
Storage	50,000 ft
Vibration	
5 to 15 Hz	0.059 inch p-p excursion
15 to 25 Hz	0.039 inch p-p excursion
25 to 55 Hz	0.020 inch p-p excursion
Pulse shock (half sine)	30 g's for 11 ms duration
Transit drop	8-inch drop on 6 faces and 8 corners
Electromagnetic capability	Conducted and radiated interference is in compliance with CISPR publication 11 (1985) and FTZ 526/ 527/ 79. Meets MIL-STD-461B, Part 4, with exceptions
Power requirements	110, 120, 220 or 240 V (±10%), 47 to 66 Hz
Maximum power dissipation	130 VA, 35 W
Weight	8.4 kg (18.5 lbs) nominal
Compatibility	Works with 8560A, 8561A/ B, and 8562A/ B portable spectrum analyzers



Parts List

85640A	Tracking generator (Includes 3 double shielded BNC cables and 1 SMA cable)
Option 908	Rackmount kit
Option 909	Rackmount kit with handles
8560A	Spectrum analyzer
8561B	Spectrum analyzer
8562A	Spectrum analyzer
8562B	Spectrum analyzer
85620A	Mass memory module
85629B	Test and adjustment module

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