KEYSIGHT TECHNOLOGIES (AGILENT HP)

83592A

The Keysight Technologies (Agilent HP) 83592A is an RF sweep oscillator plug-in module designed for the HP 8350B sweep oscillator mainframe. Operating from 10 MHz to 20 GHz, it provides high output power and outstanding spectral purity, making it ideal for scalar network analysis, local oscillator down-conversion, and general-purpose RF signal generation.

SPECIFICATIONS

General

Interfaces	HP-IB (via HP 8350B mainframe)
Display	None (utilizes HP 8350B mainframe display)

Physical

Power Supply	Powered directly by the HP 8350A/B mainframe
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	184 mm × 130 mm × 292 mm mm
Weight	7.3 kg

Frequency Characteristics

Frequency Range	10 MHz to 20 GHz (0.01 to 20 GHz)
Frequency Bands	0.01 to 2.4 GHz (Band 1), 2.4 to 7.0 GHz (Band 2), 7.0 to 13.5 GHz (Band 3), 13.5 to 20.0 GHz (Band 4)
CW Frequency Accuracy (Band 1)	±10 MHz
CW Frequency Accuracy (Band 2)	±15 MHz
CW Frequency Accuracy (Band 3)	±20 MHz
CW Frequency Accuracy (Band 4)	±25 MHz

RF Output Power

Maximum Leveled Output Power	+10 dBm
Power Flatness (Leveled)	±0.9 dB
Power Level Accuracy	±1.5 dB
Source Impedance	50 Ω
Source SWR (Leveled, 0.01 to 8 GHz)	<1.6
Source SWR (Leveled, 8 to 20 GHz)	<1.9
Source SWR (Unleveled, 0.01 to 8 GHz)	<2.0
Source SWR (Unleveled, 8 to 20 GHz)	<3.0

Spectral Purity

Harmonic Distortion (0.01 to 2.0 GHz)	<-25 dBc
Harmonic Distortion (2.0 to 20.0 GHz)	<-30 dBc
Non-harmonic Spurious	<-50 dBc
Residual FM (Band 1)	<10 kHz peak (in 10 kHz bandwidth)
Residual FM (Band 2)	<15 kHz peak (in 10 kHz bandwidth)
Residual FM (Band 3)	<20 kHz peak (in 10 kHz bandwidth)
Residual FM (Band 4)	<25 kHz peak (in 10 kHz bandwidth)

Modulation Capabilities

External AM Frequency Range	10 Hz to 250 kHz
External AM Input Impedance	10 kΩ nominal
Pulse Modulation Rise/Fall Time	<25 ns
Pulse Modulation Minimum Pulse Width (Leveled)	<100 ns
Pulse Modulation Minimum Pulse Width (Unleveled)	<50 ns
Pulse Modulation On/Off Ratio	>80 dB

Connectors and Interfaces

RF Output Connector Type	Type-N female
External ALC Input Connector	BNC female (front panel)

Mainframe Compatibility and Integration

Compatible Mainframe Models	HP 8350A, HP 8350B

Options

Option 002 Step Attenuator	55 dB attenuator (0 to 55 dB in 5 dB steps)
Option 004 RF Output Location	Rear panel (moves RF output and ALC input to rear panel)
Option 002 Attenuator Range	70 dB in 10 dB steps
Option 002 Insertion Loss	2 dB maximum (reduces max leveled output power to +8 dBm)

Inputs & Outputs

Auxiliary Output (Rear Panel)	2.3 to 7.0 GHz, ≥ 0 dBm

Modulation

Pulse Modulation Input Level	TTL compatible (nominally >2.4 V for RF ON, <0.8 V for RF OFF)

Power & RF Output

Minimum Leveled Output Power (Standard)	-5 dBm
Minimum Leveled Output Power (with Option 002)	-75 dBm
Calibrated Power Sweep Range	>15 dB
Calibrated Power Slope Range	0 to 0.5 dB/GHz

Frequency Modulation (FM)

FM Mode Sensitivity	-20 MHz/V (nominal)
Phase Lock Mode Sensitivity	-6 MHz/V (nominal)
FM Mode Bandwidth	DC to 250 kHz
Phase Lock Mode Bandwidth	DC to 2 MHz
FM Input Impedance	10 kΩ (nominal)

Amplitude Modulation (AM)

Internal AM Frequency	1 kHz (square wave)
Internal AM On/Off Ratio	>30 dB
External AM Sensitivity	100% AM with 1 Vp-p signal

Auxiliary Outputs

Rear Panel Aux Output Frequency	2.3 to 7.0 GHz
Rear Panel Aux Output Level	0 dBm (nominal)

TECHNOLOGY

RF Sweep Oscillator Plug-in

APPLICATIONS

Scalar Network Analysis, Local Oscillator Down-conversion, RF Signal Source