

KEYSIGHT TECHNOLOGIES (AGILENT HP)

89431A

The Keysight/Agilent/HP 89431A is an RF downconverter designed as the RF frontend section for the 89441A vector signal analyzer, extending the DC to 10 MHz range of the 89410A analyzer up to 2650 MHz. It can also be operated as a standalone tuner under external control via its EIA-564 serial port.

SPECIFICATIONS

General

Warm-up Time	30 minutes
--------------	------------

Physical

Power Supply	90 to 132 Vrms (47 to 440 Hz), 198 to 264 Vrms (47 to 66 Hz)
Operating Temperature	0 °C to 55 °C °C
Dimensions (W×H×D)	426 mm × 177 mm × 584 mm mm
Weight	23 kg

RF Specifications

RF Input Frequency Range	2 MHz to 2650 MHz
RF Input Impedance	50 Ω
RF Port Connector Type	Type-N
RF Input Channels	1
RF Input Amplitude Range	-50 dBm to +25 dBm
Maximum Safe RF Input Power (Continuous)	+25 dBm (300 mW)
Maximum Safe DC Input Voltage	0 V
RF Input VSWR (Range >= -20 dBm)	1.6:1 (12.7 dB return loss)
RF Input VSWR (Range <= -25 dBm)	1.8:1 (11 dB return loss)

IF (Intermediate Frequency) Specifications

IF Bandwidth	8 MHz
--------------	-------

Conversion Performance

Harmonic Distortion (Range >= -25 dBm)	< -75 dBc
Harmonic Distortion (Range <= -30 dBm)	< -54 dBc
Third-Order Intermodulation Distortion	< -75 dBc (with two input tones at 6 dB below full scale and >= 10 kHz)

System Control and Connectivity

System Compatibility	Converts 89410A (DC to 10 MHz) vector signal analyzer to 89441A (DC to 2650 MHz)
----------------------	--

Reference Clock

External Reference Input Frequency	10 MHz
Reference Output Frequency	10 MHz
Reference Output Level	>= 0 dBm into 50 ohms

Local Oscillator

LO Phase Noise	<-104 dBc/Hz at 10 kHz offset (typical)
----------------	---

Inputs & Outputs

IF Output Port	7 MHz IF Output (BNC)
----------------	-----------------------

RF Input

RF Attenuator Range	0 to 50 dB in 5 dB steps
---------------------	--------------------------

IF Output

Nominal IF Frequency	7 MHz
----------------------	-------

Environmental

Storage Temperature Range	-20 °C to +65 °C
Operating Humidity	Up to 95% RH at 40 °C (non-condensing)

TECHNOLOGY

RF Downconversion

APPLICATIONS

RF Downconverter / Tuner for Vector Signal Analyzers

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