

Agilent 89411A

21.4 MHz Downconverter

Data Sheet

Specifications describe warranted performance over the temperature range of 0°C to 55°C (except where noted) and include a 30-minute warm-up from ambient conditions unless otherwise noted.

Definitions

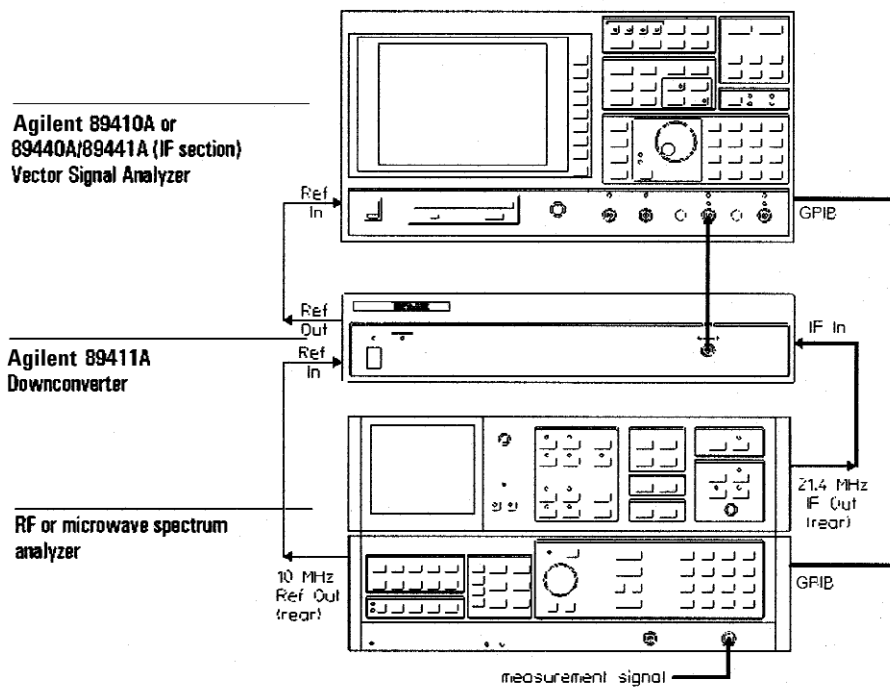
CF = Center frequency

dBc = dB relative to input signal level

dBfs = dB relative to full scale amplitude

FS or fs = Full scale; synonymous with input range

RH = Relative humidity



89411A Data Sheet

Input

Input impedance (nominal)	50 ohm
Input center frequency	21.4 MHz
Input frequency span	± 3.6 MHz
Full scale input amplitude (no attenuation)	-20 dBm
Input attenuation (switch selectable)	0, 5, 10, or 15 dB

Output

Output impedance (nominal)	50 ohm
Output center frequency	5.6 MHz
Conversion gain (with 0 dB attenuation, at 5.6 MHz)	5 dB
Conversion gain accuracy (including attenuator) over limited temperature range of 20°C to 30°C	± 0.75 dB
Output bandwidth (nominal)	8 MHz
Output flatness (Relative to gain at 5.6 MHz for inputs within ± 3.6 MHz of center frequency)	± 1.5 dB

Dynamic range

Third-order intermodulation distortion (with two signals at -6 dBfs)	≤ -70 dBc
Spurious responses within band input signal at full scale	≤ -80 dBc
Residual responses relative to full scale. Applies over output frequency range of 2 to 9.6 MHz.	≤ -80 dBfs
Out-of-band residual responses relative to full scale	≤ -60 dBfs
Noise floor	≤ -115 dBfs/Hz

Phase noise

100 Hz offset	≤ -110 dBc/Hz
>1 kHz offset	≤ -115 dBc/Hz

10 MHz reference

Required input level	> 0 dBm, < +5 dBm
Output level	≥ 0 dBm

General

Safety standards	CSA Certified for Electronic Test and Measurement Equipment per CSA C22.2, No. 231
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This product is designed for compliance to	UL1244 IEC348, 1978
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EMI/RFI Standards	CISPR 11, ISM1-A
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Acoustics (fan)	LpA <50 dB
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Environmental operating restrictions

Class A2 survival vibration
and shock
Class B2 otherwise

Ambient temperature (Unless otherwise noted)	0°C to 55°C
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Maximum humidity at 0°C to 40°C	95% RH at 40°C noncondensing
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Maximum altitude	2300 meters (7,500 feet)
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Storage and transport restrictions

Ambient temperature	-40°C to 75°C
Maximum humidity	95% RH at 40°C noncondensing
Maximum altitude	4600 meters (15,000 feet)

AC power

110/120 VAC operation	90 - 132 Vrms, 47 - 440 Hz
220/240 VAC operation	198 - 264 Vrms, 47 - 63 Hz
Maximum power dissipation	100 VA maximum

Fuse

110/120 VAC operation	1 amp normal blow
220/240 VAC operation	500 milliamp normal blow

Warm-up time	30 minutes
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Weight	9.1 kg (20 lb) net 11.8 kg (26 lb) shipping
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Dimensions

Height	90 mm (3.5 in)
Width	426 mm (16.75 in)
Depth	520 mm (20.5 in)

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(fax) (64 4) 495 8950

Asia Pacific:

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(fax) (852) 2506 9284

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