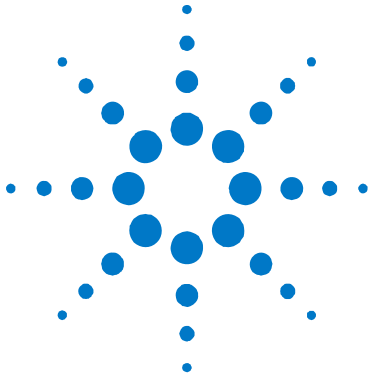

Agilent V2891A Upconverter

Specifications

Agilent Technologies

Notices

Manual Part Number

V2891-90002

Edition

First edition, March 2010
Printed in USA
Agilent Technologies, Inc.

Sales and Technical Support

To contact Agilent for sales and technical support, refer to the "support" links on the following Agilent web resources:

- www.agilent.com/find/V2891A (product-specific information and support)
- www.agilent.com/find/assist (worldwide contact information for repair and service)

Information on preventing damage to your Agilent equipment can be found at www.agilent.com/find/tips.

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Safety Notices

The following safety precautions should be

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Specification notes

Specifications (warranted performance): Specifications describe the configuration or instrument's warranted performance.

NOTE: Accuracy specifications are based on operation at 23°C ±5°C and between 5% and 70% RH. Refer to the product specifications for derating factors outside these ranges. Air-conditioned environments are highly recommended.

Nominal data (mean or expected value): "Nominal" values indicate expected performance, or describe product performance that is useful in the application of the product, but is not covered by product warranty.

V2891A Upconverter Output Performance [1, 2, 3, 4]

Parameter	Nominal
Waveform 1 – 40MHz WLAN, 802.11n	
EVM	-41 dB RMS EVM
Waveform 2 – Single 18 MHz Offset Tone	
Unwanted sideband suppression	-51 dBc
Carrier suppression	-68 dBc

[1] Performance data is nominal, which is the mean value of units tested at 25 degrees C.
[2] The Agilent V2891A Upconverter is optimized for each specific waveform type.
[3] Tested using a calibrated vector source and the Agilent V2820A as a vector receiver.
[4] Test setup is with 1 V peak differential signal.

V2891A Baseband Section (I and Q)

Parameter	Nominal
Input Ports [1]	
A & B (I & Q) Inputs	± 2.0 Vp Max
Input Port Impedance	
Impedance high	100 kΩ
Impedance low	50 Ω
Output Level	
Differential output	Unity gain with differential termination of 100 Ω
Output Port Impedance	
I&Q differential outputs	100 Ω
Offset Adjustment	
Output offset adjustment range	± 3.5 VDC + AC waveform maximum
Small Signal Bandwidth	
-0.1dB, 0.2 V peak-peak	130 MHz
Input and Output Connectors	SMB

[1] Absolute maximum input is +/- 5 VDC + AC on any input pin.

V2891A Upconversion Modulator Parameters

Parameter	Nominal
Modulator Gain Ranging [1]	
Input voltage for full modulation (differential)	0.24 to 1.5 Vp
Attenuator	127 Steps
Attenuator step size	0.125 dB
Attenuator range	0 to 15.875 dB
Input offset adjustment range	± 4.095 Volts
Input Port Impedance	
Impedance high	100 kΩ
Impedance low	50 Ω
Input Connectors	SMB

[1] Absolute maximum input is ± 5VDC + AC on any input pin.

V2891A RF Output Parameters

Parameter	Nominal
Carrier frequency [1]	622.10 MHz (tolerance and drift depends on 10 MHz reference)
Maximum RF output power	9 dBm CW maximum
Output impedance	50 Ω, AC coupled
Return Loss @ 622.1 MHz	16 dB
Connector type	SMA

[1] A low-noise, precision frequency reference input is required for operation and maximum performance.

V2891A External Reference Input Parameters

Parameter	Nominal
External Reference Input [1]	
Input frequency	10.0 MHz
Input impedance	50 Ω, AC Coupled
Input signal level	-3 dBm to +10 dBm
Connector type	SMB

[1] A low-noise, precision frequency reference input is required for operation and maximum performance.

V2891A General Specifications

<table>
<tr><th>Parameter</th><th>Specification</th></tr>
<tr><td>EMC compliance</td><td>▪ Complies with European EMC Directive 2004/108/EC
▪ IEC/EN 61326-1 or IEC/EN 61326-2-1
▪ CISPR Pub 11 Group 1, class A
▪ AS/NZS CISPR 11
▪ ICES/NMB-001: This ISM device complies with Canadian ICES-001. (Cet appareil ISM est conforme a la norme NMB du Canada.)</td></tr>
<tr><td>Acoustic compliance</td><td>▪ This instrument is in conformance with the German Regulation on Noise Declaration for Machines (Laermangabe nach der Maschinenlaermrerordnung - 3.GSGV Deutschland):
<table>
<tr><th>Acoustic noise emission</th><th>Geraeuschemission</th></tr>
<tr><td>LpA < 70 dB
Operator position
Normal position
Per ISO 7779</td><td>LpA < 70 dB
Am Arbeitsplatz
Normaler Betrieb
Nach DIN 45635 t.19</td></tr>
</table></td></tr>
<tr><td>Power requirements
(use the supplied AC/DC converter)</td><td>100 to 240 VAC; 50 to 60 Hz ; 10 VA max</td></tr>
<tr><td>Calibration</td><td>2 year</td></tr>
<tr><td>Interface</td><td>USB 2.0 full speed compatible, USB “B-style” connector</td></tr>
<tr><td>Environment (for indoor use only)</td><td>▪ 18°C to 28°C specified operating, unless otherwise noted
▪ 0°C to 50°C operating range
▪ -25°C to 65°C. non-operating (AC power off) storage
▪ Altitude: 2000 meters above sea level maximum specified operating
▪ Cooling: Convection</td></tr>
<tr><td>Mechanical vibration and shock</td><td>MIL-PRF-28800F CL3 random vibration, 3 axes</td></tr>
<tr><td>General mechanical information</td><td>▪ Height: 58 mm (2.3 inches)
▪ Width: 130 mm (5.1 inches)
▪ Depth: 185 mm (7.3 inches)
▪ Weight: 1 kg (2.2 lb)</td></tr>
<tr><td>Warranty</td><td>1 year</td></tr>
</table>