



DATA SHEET

4/29/2007

2116-14T12 Test Translator, 14.0 - 14.5 GHz to 11.7 - 12.2 GHz

The 2116-14T12 Test Translator converts 14.0 - 14.5 GHz to 11.7 - 12.2 GHz with a local oscillator at 2.3 GHz. Front panel LEDs provide indication of external 10 MHz (yellow), PLL alarm (red), and DC power (green). The gain is -30 dB to Output #1 and -50 to Output #2. Connectors are SMA female for RF and BNC female for the external reference input and reference output. A three-way switch controls which 10 MHz reference is being used. In the INT position, the internal reference is used, in the EXT position, the external reference is used, and in the AUTO position, the internal reference is used unless a +3 dBm \pm 3 dB, 10MHz reference signal is connected to the external reference input. The 2116 is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance / Return Loss 50 Ω / 15 dB
 Frequency 14.0 to 14.5 GHz
 Input Level range -30 to 0 dBm
 Input 1 dB compression 0 dBm

Output Characteristics

Impedance/Return Loss 50 Ω / 15 dB
 Frequency 11.7 to 12.2 GHz
 Output Level Range (#1) -60 to -30 dBm
 Output Level Range (#2) -80 to -50 dBm

Channel Characteristics

Gain -30 dB \pm 2 dB (Output #1); -50 dB \pm 2 dB (Output #2)
 Input/Output Isolation 60 dB, min
 Intermodulation < -50 dBC for two carriers each at -13 dBm in
 Spurious < -45 dBC
 Frequency Response \pm 1.5 dB, over frequency band; \pm 0.5 dB, 40 MHz BW
 Frequency Sense Non-inverting

LO Characteristics

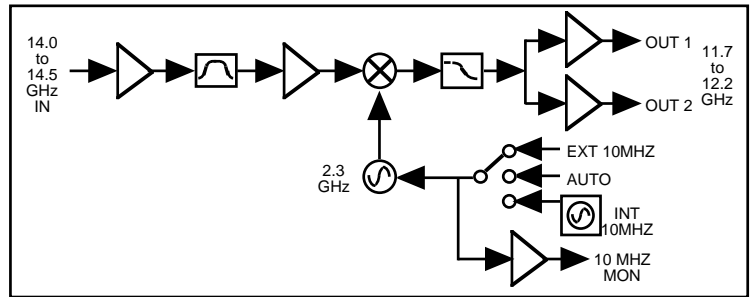
LO Frequency 2.3 GHz
 Frequency Accuracy \pm 0.01 ppm max over temp internal reference; ext. ref. input
 10 MHz In/Out Level +3 dBm \pm 3 dB
 Phase Noise @ Freq | 100Hz | 1kHz | 10kHz | 100kHz | 1MHz
 dBC/Hz | < -70 | < -80 | < -90 | < -100 | < -110

Controls, Indicators

Power Green LED
 PLL Alarm Red LED, External contact closure
 Ext 10 MHz Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)
 10 MHz Reference 3-way Switch (selects INTERNAL, EXTERNAL, or AUTO mode)

Other

RF Connectors SMA (female), 50 Ω
 10 MHz Connectors BNC (female), 50 Ω /75 Ω
 Alarm Connector DB9 - NO or NC contact closure on Alarm
 Size 19 inch standard chassis 1.75" high X 14" deep
 Power 90 - 260 VAC, 47 - 63 Hz, 45 watts max.



Block Diagram

Available Options

Connectors/Impedance
 NN - 50 Ω N-type (RF)

*0°C to 50°C; Specifications subject to change without notice