

2116-25 Block Downconverter, 2.0 - 2.5 GHz to 1.3 - 1.8 GHz

The 2116-25 Downconverter converts 2.0 - 2.5 GHz to 1.3- 1.8 GHz with low phase noise and flat frequency response. Frequency translation is via a 3.8 GHz local oscillator. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB. Connectors are Type N female for the RF and BNC female for the L-Band and 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 100-240 \pm 10% VAC power supply, and mounted in a 1 3/4" X 19" X 14" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss 50 Ω /14 dB
Frequency **2.0 to 2.5 GHz**
Noise Figure, Max. 12 dB max
Input Level range -55 to -35 dBm
Input 1 dB compression -25 dBm

Output Characteristics (L-Band)

Impedance/Return Loss 50 Ω /14 dB
Frequency **1.3 to 1.8 GHz**
Output Level Range -20 to 0 dBm
Output 1 dB compression +10 dBm

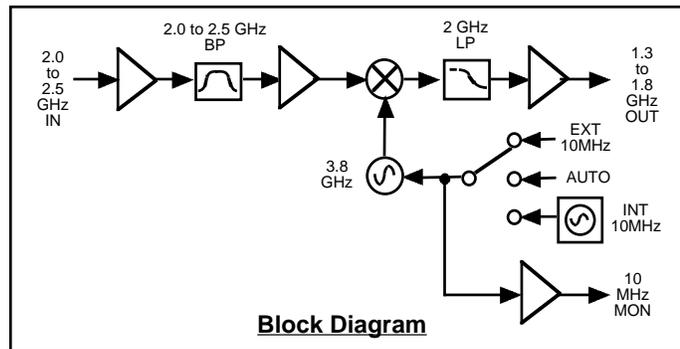
Channel Characteristics

Gain +35 dB \pm 2 dB
Image Rejection > 60 dB, min
Spurious, In Band SIGNAL RELATED <-50 dBC in band, 0 dBm out; SIGNAL INDEPENDENT, <-60 dBm
Spurious, Out of Band <-30 dBm
Intermodulation <-50 dBC for two carriers each at -10 dBm out
Frequency Response **\pm 2.0 dB**, 1.3 -1.8 GHz out; **\pm 0.8 dB**, 40 MHz BW
Frequency Sense Inverting

LO Characteristics

LO Frequency **3.8 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 | 100 Hz | 1kHz | 10kHz | 100kHz | 1 MHz |
|--------------------|--------|------|-------|--------|-------|
| dBC/Hz | -70 | -80 | -85 | -100 | -110 |



Block Diagram

Controls, Indicators

Ext 10 MHz Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)
Power Green LED
PLL Alarm Red LED, External contact closure

Other

RF Connector N-type (female), 50 Ω
L-Band Connector BNC (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 14.0" deep
Power 100-240 \pm 10% VAC, 47 - 63 Hz, 25 watts max.

Available Options

Connectors/Impedance
NF - 50 Ω N-type (RF), 75 Ω F-type (L-Band)
M - 50 Ω N-type (RF), 50 Ω BNC (L-Band)
N - 50 Ω N-type (RF), 75 Ω BNC (L-Band)
NN - 50 Ω N-type (RF), 50 Ω N-type (L-Band)
SN - 50 Ω SMA (RF), 50 Ω N-type (L-Band)

*10°C to 40°C; Specifications subject to change without notice