3116-145-1600 Block Downconverter, 14.58 - 15.42 GHz to 1600 ± 420 MHz

The 3116-145-1600 Block Downconverter converts 14.58 - 15.42 GHz (Fc =15.0 GHz) to 1.18 - 2.02 GHz (1600 ± 420 MHz) with low phase noise and flat frequency response. Frequency translation is via a 13.40 GHz local oscillator. The gain is +35 ± 2 dB maximum and is adjustable in 0.5 ± 0.5 dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS 232C, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are SMA female for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is +3 dBm, ±3 dB. The 3116 is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4” X 19 “ X 14” rack mount chassis.

Front Panel and Rear Panel (shown with optional Ethernet)

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 14.58 to 15.42 GHz
- Noise Figure, Max.: 12 dB at max gain (higher with Opt W67)
- Input Level range: -55 to -35 dBm (-55 to 0, Opt W67)
- Input 1 dB compression: -25 dBm (+10, min gain, Opt W67)

**Output Characteristics (L-Band)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 1.18 - 2.02 GHz
- Output Level Range: -20 to 0 dBm
- Output 1 dB compression: +10 dBm at max. gain

**Channel Characteristics**
- Gain, max; adjustment: +35 dB ±2 dB, max. gain; 30 dB adjustment in 0.5 ± 0.5 dB Steps
- Image Rejection: > 60 dB, min
- Spurious, In Band: SIGNAL RELATED<55 dBC in band, 0 dBm out; SIGNAL INDEPENDENT,<60 dBC
- Spurious, Out of Band: <50 dBm, 0.5-1.17 GHz and 2.03- 3.0 GHz
- Intermodulation: <55 dBc for two carriers each at -10 dBm out
- Frequency Response: ±1.5 dB, 1.18 - 2.02 GHz out, ±0.75 dB, 80 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 13.40 GHz , fixed LO
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz In/Out Level: 3 dBm, ± 3 dB, w/ Auto-detect

**Controls, Indicators**
- Freq.,Gain, Ext Ref Sel. direct readout LCD; pushbutton switches or remote
- Pwr; Alarm; Rem; Mute
- Remote: Green LED; Red LED; Yellow LED; Yellow LED
- RS232C/RS485/422, 9600 baud (Ethernet Optional)

**Other**
- RF/L-Band Connector: SMA (female), 50Ω / BNC (female), 50Ω
- 10 MHz Connectors: BNC (female), 75Ω, works with 50 or 75 ohms
- Alarm/Remote Conn.: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75“ high X 14.0“ deep
- Power: 100-240 ± 10% VAC, 47 - 63 Hz, 30 watts max.

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