3116-80-2050 Block Downconverter, 8.0 - 8.5 GHz to 1.80 - 2.30 GHz

The 3116-80-2050 Downconverter converts 8.0 - 8.5 GHz to 1.80 - 2.30 GHz (non-inverted) with a 6.20 GHz local oscillator. The gain is +35 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/485, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are Type N 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.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω/18 dB
- Frequency: 8.0 to 8.5 GHz
- Noise Figure, Maximum: 12 dB max gain
- Input Level range: -55 to -35 dBm
- Input 1 dB compression: -25 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω /14 dB
- Frequency: 1.80 to 2.30 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 dBm (1.80-2.30 GHz Out)
- Spurious, Out of Band: < -50 dBm (1.3-1.79 GHz and 2.31-2.8 GHz Out)
- Intermodulation: < -55 dBc for two carriers each at -10 dBm out
- Frequency Response: ±1.5 dB, 1800-2300 MHz out; ±0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 6.20 GHz
- 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

**Phase Noise @ F (Hz) >**
- Standard dBC/Hz:
  - 10: -70
  - 100: -80
  - 1K: -80
  - 10K: -100
  - 100K: -110

- Opt W87 Enhanced dBC/Hz:
  - 10: -70
  - 100: -80
  - 1K: -80
  - 10K: -100
  - 100K: -110

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

**Other**
- RF Connector: Type N (female), 50Ω
- L-Band Connector: BNC (female), 50Ω
- 10 MHz Connectors: BNC (female), 75Ω, works with 50 or 75 ohms
- Alarm/Remote Conn.: DBG - 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.