The 2116-109 Downconverter converts 10.95 - 11.7 GHz to 0.95 - 1.7 GHz with a local oscillator at 10.0 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB (+25 dB for Option W25). Connectors are SMA 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 ± 3 dB, 10 MHz reference signal is connected to the external reference input. The 2116 is powered by a 100-240 ± 10% VAC power supply, and mounted in a 1 3/4" X 19" X 14" rack mount chassis.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 10.95 to 11.7 GHz
- Noise Figure, Max.: 15 dB max gain
- Level: -55 to -35 dBm (-45 to -25 dBm; OPTION W25)
- 1dB Compression: -25 dBm (-15dBm; OPTION W25)

**Output Characteristics (L-Band)**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 0.95 to 1.7 GHz
- Level: -20 to 0 dBm
- 1dB Compression: +10 dBm

**Channel Characteristics**
- Image Rejection: > 60 dB, min
- Spurious, In Band: SIGNAL RELATED<-60 dBc in band, 0 dBm out; SIGNAL INDEPENDENT,<-60 dBc
- Spurious, Out of Band: <-50 dBc
- Intermodulation: <-55 dBc for two carriers each at -10 dBm out
- Frequency Response: ±1.5 dB, 0.95-1.7 MHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 10.0 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz level In/Out: +3 dBm ± 3 dB

**Controls, Indicators**
- INT/AUTO/EXT Switch: Selects internal or external 10 MHz (rear panel DP3T switch)
- Ext 10 MHz: Yellow LED, indicates external 10 MHz reference selected
- PLL Alarm: Red LED, External contact closure
- Power: Green LED

**Available Options**
- W25, +25dB gain
- Connectors/Impedance:
  - M - 50Ω N-type (RF), 50Ω BNC (L-BAND)
  - N - 50Ω N-type (RF), 75Ω BNC (L-BAND)
  - NF - 50Ω N-type (RF), 75Ω F-type (L-BAND)
  - NN - 50Ω N-type (RF), 50Ω N-type (L-BAND)
  - S7 - 50Ω SMA (RF), 75Ω BNC (L-BAND)
  - SF - 50Ω SMA (RF), 75Ω F-type (L-BAND)
  - SN - 50Ω SMA (RF), 50Ω N-type (L-BAND)
  - SS - 50Ω SMA (RF), 50Ω SMA (L-BAND)

*+10 to +40 degrees C; Specifications subject to change without notice*