The 2115-139 Block Upconverter converts 1.20 - 1.70 GHz to 13.95 - 14.45 GHz with low phase noise and flat frequency response. Frequency translation is via a 12.75 GHz local oscillator. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +20 dB. 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, 10MHz reference signal is connected to the external reference input. The 2115 is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.

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**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 50Ω / 14 dB
- Frequency: 1.20 to 1.70 GHz
- Noise Figure, Max.: 20 dB max gain
- Input Level range: -40 to -25 dBm
- Input 1 dB compression: -10 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω / 14 dB
- Frequency: 13.95 to 14.45 GHz
- Output Level Range: -20 to -5 dBm
- Output 1 dB compression: +10 dBm

**Channel Characteristics**
- Gain: +20 dB ±1 dB
- Image Rejection: > 60 dB, min
- Spurious, Inband: SIGNAL RELATED<-60 dBC in band, 0 dBm out; SIGNAL INDEPENDENT,<-60 dBm
- Spurious, Out of band: LO < -70 dBm
- Intermodulation: <-55 dBC for two carriers each at -10 dBm out
- Frequency Response: ±1 dB, 13.95 - 14.45 GHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 12.75 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; external reference input
- 10 MHz In/Out Level: 3 dBm ± 3 dB
- Phase Noise: @ Freq
  - 100Hz < -65
  - 1kHz < -80
  - 10kHz < -85
  - 100kHz < -100
  - 1MHz < -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)

**Other**
- RF Connector: SMA (female), 50Ω
- L-Band Connector: BNC (female), 50Ω
- 10 MHz Connectors: BNC (female), 50Ω/75Ω
- Alarm Connector: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75” high X 14.0” deep
- Power: 90 - 260 VAC, 47 - 63 Hz, 45 watts max.

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