3115-21-109# Block Upconverter 10.90-11.80 or 11.70-12.80 GHz, 2 Bands

The 3115-21-109# Block Upconverter converts 0.95-1.85 to 10.90-11.80 GHz or 0.95-2.05 to 11.70-12.80 GHz. The gain range is 0 to +20 dB, adjustable in 0.5±0.5 dB steps. Front panel LEDs indicate Remote operation, PLL Alarm and DC Power. Band select, gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remotely via RS 232C or RS485/422 (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 in the +2 to +8 dBm range. It 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/14 dB
- Frequency Band 1;2: 0.95-1.85; 0.95-2.05 GHz;
- Noise Figure, Max.: 20 dB max gain
- Input Level range: -40 to -20 dBm
- Output Characteristics (L-Band)
  - Impedance/Return Loss: 50Ω/14 dB, Mute and UnMute
  - Frequency Band 1;2: 10.90-11.80;11.70 -12.80 GHz
  - Output Level Range: -20 to -10 dBm
  - Output 1 dB compression: +0 dBm, at max. gain
  - Mute: >50 dB @ 0 dBm out

**Channel Characteristics**
- Gain, max; adjustment: +20 dB ±2 dB, max. gain @Fc; 0 to +20 dB variable in 0.5 ±0.5 dB Steps
- Image Rejection: > 60, min
- Spurious, In Band: SIGNAL RELATED,<-50 dBC in band, -10 dBm out; SIGNAL INDEPENDENT,<-60 dBm
- Spurious, Out of Band: <-50 dBm, Band 1; 9.7-10.7 and 11.9-15.5 GHz; Band 2; 10.7-11.6 and 12.8-15.5 GHz
- Intermodulation: <-50 dBc for two carriers at 4 MHz spacing, each at -15 dBm out, Gain = +20 dB
- Frequency Response: ±1.5 dB, 10.90 -11.80 GHz and 11.70 -12.80 GHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense 1;2: Non-inverting
- LO Characteristics
  - LO Freq. Band 1;2: 9.95 GHz; 10.75 GHz
  - Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input
  - 10 MHz level In/Mon: +2 to +8 dBm in, w/Auto-detect; Monitor Output = +3 ±3 dBm

**Controls, Indicators**
- Band; Gain;10M Ref Sel. Direct readout LCD; pushbutton switches or remote
- Rem; Alarm; Mute; Pwr: Yellow LED; Red LED; Yellow LED; Green LED
- Remote: RS232C/RS485/422, 9600 baud (Ethernet Optional)

**Other**
- RF Connector: SMA (female), 50Ω
- L-Band Connector: BNC (female), 50Ω
- 10 MHz Connectors: BNC (female), 50Ω/75Ω
- 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, 45 watts max.

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