**4115-41-310 Ka-band Block Upconverter, Weather Resistant**

The 4115-41-310 Ka-band Block Upconverter converts 1.00 - 2.00 GHz up to 27.5 - 31.0 GHz in four selectable fixed bands. Front panel LEDs provide indication of DC Power and PLL Alarms. The L-band to RF gain is +30 dB. Connectors are 2.92mm for RF Out, SMA for the external reference input and reference output and Type N (all female) for the L-band input. Gain, band select, and internal 10 MHz frequency are controlled by the Ethernet M&C. 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 mounted in a 8"W X 6"H X 16"D Weather Resistant enclosure.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Ret. Loss: 50Ω/14 dB
- Frequency: 1.00 to 2.00 GHz
- Noise Figure, Max.: 20 dB max gain
- Input Level range: -40 to -15 dBm

**Output Characteristics**
- Impedance/Ret. Loss: 50Ω, Mute & UnMute
- Frequency (GHz): BAND 1: 27.5 to 28.5 GHz, BAND 2: 28.5 to 29.0 GHz, BAND 3: 29.0 to 30.0 GHz, BAND 4: 30.0 to 31.0 GHz
- Output Level Range: -15 to 0 dBm
- Output 1 dB comp.: +10 dBm, max gain
- Mute: >60 dB @ 0 dBm output

**Channel Characteristics**
- Gain at Fc: +30 ±3 dB, +(-30 to 0 dB variable in 0.5 ± 0.5 dB steps)
- Spurious, Inband: -60 dBc, -15 to -5 dBm out; Over 27.5 to 31.0 GHz band
- Spurious, Out of Band: ±50 dBc for two carriers at 4 MHz spacing, each at -5 dBm out
- Frequency Response: ±2 dB, over RF band: ±1.5 dB, 120 MHz BW; ±0.5 dB, 10 MHz BW
- Frequency Sense - Non-inverting

**LO Characteristics**
- LO Frequency: Band Specific
- Frequency Accuracy: ± 0.05 ppm max over temp internal reference; Aging ≤ 22 Hz/24 hours at constant temp; ext. ref. input
- 10 MHz level in/Mon: +2 to +8 dBm in; Monitor Output = input level ± 1.0 dB, 50 ohms

**Controls, Indicators**
- Gain, Band, 10M Freq.: Gain, band select, and internal 10 MHz frequency via Ethernet M&C or Status/Control Connector
- PLL Alarm: Red LED, External Contact Closure
- Power: Green LED

**Connectors**
- Status/Control Connector: MS3112E14-18S
- Ethernet Connector/RJ45: RJF21B
- AC Input Connector**: CL1M1102

**Additional Connector Specifications**
- RF Out: 2.92mm, Type K (Female) 50Ω
- L-Band Type N (Female) 50Ω
- 10MHz SMA (Female) 50Ω

*All Cable Connectors are Weather Resistant

**Other**
- Size: 8" Wide X 6" High X 16" Deep, Weather Resistant* Enclosure
- Power: 100-240 ±10% VAC, 47 - 63 Hz, 25 watts maximum

*+0 to +50 degrees C; Specifications subject to change without notice.

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