The 3115-41-184 Block Upconverter converts L-band to one of four RF bands. The L-band to RF gain is +30 dB, maximum. Connectors are SMA female for the L-band (RF In), RF Out, and RF Monitor and BNC female for the external reference input and reference output. Front panel LEDs provide indication of Remote Operation, DC Power, Mute, and PLL Alarm. Gain, band select, and internal/external/Auto reference selection are controlled by front panel switches or remote selection (Ethernet M&C or via the RS-232C/485 Monitor and Control connector) and are viewable on the LCD Display. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The 3115 is powered by a 100-240 ± 10% VAC power supply, and housed in a 1RU rack mount chassis, 1.75” H X 19.0” W X 19.0” deep.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 50Ω/14 dB min.
- Frequency Band 1,2: 0.95-1.825, 0.95-1.95 GHz
- Frequency Band 3,4: 0.95-1.700, 0.95-2.05 GHz
- Noise Figure, Max: 20 dB at max. gain
- Input Level range: -50 to -30 dBm
- Non-damage input: 0 dBm at max. gain

**Output Characteristics**
- Impedance/Return Loss: 50Ω/14 dB, Mute/Unmute
- Frequency Band 1,2: 5.85-6.725, 12.75-13.75 GHz
- Frequency Band 3,4: 13.75-14.5, 17.3-18.4 GHz
- Output Level Range: -15 to 0 dBm
- Output 1 dB compr.: +10 dBm, at max. gain
- Mute: >60 dB from 0 dBm unmutted output (RF Mon. not muted)

**Channel Characteristics**
- Gain at Fc, RF; RF Mon: +30 ±3 dB maximum, (+30 to 0 dB variable in 0.5 ± 0.5 dB steps); RF Mon -20 dB of RF Out, ±3 dB
- Input to Output Isolation: > 45 dB, min, at max. gain and -30 dBm input
- Spurious, Inband: SIGNAL RELATED <55 dBc in band, -15 to 0 dBm out; SIGNAL INDEPENDENT, <60 dBm, at max. gain
- Spurious, Out of band: <55 dBm spurious, signal independent and signal dependent; Fc ± 1 GHz, at max. gain
- Intermodulation: <-50 dBc for two carriers at 4 MHz spacing, each at -5 dBm out, at max. gain
- Frequency Response: ±2 dB, over RF band; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: Band Specific
- Frequency Accuracy: ± 0.05 ppm max over temp internal reference; ext. ref. input

**Phase Noise @ F (Hz) >**

<table>
<thead>
<tr>
<th>Specification</th>
<th>dBc/Hz</th>
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<tbody>
<tr>
<td>10 MHz level In/Out</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>-70</td>
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</tbody>
</table>

10 MHz level In/Out = Input=+2 to +8 dBm in; Monitor Out = Input Level ± 1.0 dB, 50 ohms

**Controls, Indicators**
- Gain, Band, 10M Freq. Direct readout LCD; pushbutton switches or via Ethernet M&C or Monitor and Control Connector.
- PLL Alarm: Red LED, External contact closure
- Remote, Power, Mute: Yellow LED: Green LED: Yellow LED

**Other**
- RF In, Out, Mon. Conn.: SMA (female), 50Ω
- 10 MHz connectors: BNC (female), 50 ohms; Works with 75Ω
- Monitor/Control Conn.: Ethernet, RJ45, Female; RS232C/485, DB9, Female
- Size: 1RU rack mount chassis, 1.75” H X 19.0” W X 19.0” deep
- Power: 100-240 ±10% VAC, 47-63 Hz, 25 watts max

*+0 to +50 degrees C Operating; -30 to +60 degrees C Non-operating; 95% relative humidity, non-condensing; Specifications subject to change without notice*