The 2115-202 Block Upconverter converts 250 - 750 MHz to 18.3 - 18.8 GHz and 1650 - 2150 MHz to 19.7 - 20.2 GHz with low phase noise and flat frequency response. Frequency translation is via a 18.05 GHz local oscillator. Front panel LEDs provide indication of DC power, external 10 MHz, and PLL alarm. Gain is 0 ± 3 dB. Connectors are SMA female for the RF and BNC female for the IF and external reference input and reference output. The 2115 is powered by a 100-240 ±10% VAC power supply, and housed in a 1RU chassis.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 50Ω / 14 dB
- Frequency, Input 1: 250 to 750 MHz
- Frequency, Input 2: 1650 to 2150 MHz
- Noise Figure, Max.: 20 dB max gain
- Input Lvl Range - comp: -11 to -31 dBm
- Input Lvl Range/carrier: -22 to -42 dBm
- Input 1 dB compression: +4 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω / 10 dB
- Frequency: 18.3 to 20.2 GHz
- Output Lvl Range - comp: -11 to -31 dBm
- Output Lvl Range/carrier: -22 to -42 dBm
- Output 1 dB compression: +4 dBm

**Channel Characteristics**
- Gain: 0 dB ± 3 dB
- Image Rejection: > 50 dB, min
- Spurious, Inband: < -70 dBm
- Spurious, Out of band, LO: < -60 dBm
- Intermodulation: < -50 dBc for two carriers each at -14 dBm out
- Frequency Response: ± 2 dB, 18.3-18.8 GHz and 19.7-20.2 GHz out; ± 1 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 18.05 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**

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>100 Hz</th>
<th>1 kHz</th>
<th>10 kHz</th>
<th>100 kHz</th>
<th>1 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBc/Hz</td>
<td>-55</td>
<td>-65</td>
<td>-80</td>
<td>-100</td>
<td>-115</td>
</tr>
</tbody>
</table>

**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 (BNC, 75Ω; Type-F, 75Ω; Type-N, 50Ω optional)
- 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: 100 - 240 ±10% VAC, 47 - 63 Hz, 45 watts max.

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