2115-275-1845 Block Upconverter, 1.345 - 2.345 GHz to 27.50 - 28.50 GHz

The 2115-275-1845 Block Upconverter converts 1.345 - 2.345 GHz (Fc=1845 MHz) to 27.50 - 28.50 GHz with a local oscillator at 26.155 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +20 dB. Connectors are 2.92 mm female for the RF out and BNC female for the RF in (designated 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. It is powered by a 100-240 ± 10% VAC power supply, and in a 1 3/4" X 19" X 14” rack mount chassis.

Front and Rear Panels

### Equipment Specifications*

**Input Characteristics (designated L-Band)**
- Impedance/Ret. Loss: 50Ω/14 dB
- Frequency: 1.345 to 2.345 GHz
- Noise Figure, Max: 20 dB max gain
- Input Level range: -40 to -25 dBm
- Input 1 dB compression: -15 dBm

**Output Characteristics (RF)**
- Impedance/Ret. Loss: 50 Ω/14 dB
- Frequency: 27.50 to 28.50 GHz
- Output Level Range: -20 to -5 dBm
- Output 1 dB compr.: +5 dBm

**Channel Characteristics**
- Gain: +20 ±1 dB at Fc
- Image Rejection: > 60 dB, min
- Spurious, Inband: SIGNAL RELATED<-60 dBc in band, -5 dBm out; SIGNAL INDEPENDENT,<-60 dBm
- Spurious, Out of band: <-50 dBm, 26.5-27.5 and 28.5-29.5 GHz out
- Intermodulation: <-55 dBc for two carriers each at -10 dBm out
- Frequency Response: ±2.0 dB, 27.50 - 28.50 GHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 26.155 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input

### Phase Noise @ F (Hz) >

<table>
<thead>
<tr>
<th>dBC/Hz</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-70</td>
<td>-75</td>
<td>-80</td>
<td>-90</td>
<td>-110</td>
</tr>
</tbody>
</table>

10 MHz level: +3 dBm, ± 3 dB, 75 ohms, External In or Internal out

**Controls, Indicators**
- INT/AUTO/EXT Switch: Selects internal or external 10 MHz (rear panel DP3T switch)
- Ext 10 MHz: Yellow LED, indicates external 10 MHz reference selected
- PLL Alarm: Red LED, External contact closure
- Power: Green LED

**RF In Connector**: BNC (female), 50Ω (designated L-band)
**RF Out Connector**: 2.92 mm (female), 50Ω
**10 MHz connectors**: BNC (female), 75Ω connector; Works for 50Ω or 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, 25 watts max.

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

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### Available Connector Options
- 297 - 50Ω 2.92 mm (RF), 75Ω BNC (L-BAND)
- 29N - 50Ω 2.92 mm (RF), 50Ω N-type (L-BAND)
- 29S - 50Ω 2.92 mm (RF), 50Ω 2.92 mm (L-BAND)