2115-21-109# Block Upconverter, 0.95-2.05 to 10.9-11.8 or 11.7-12.8 GHz, 2 Bands

The 2115-21-109# Block Upconverter, Dual Band converts 0.95 - 2.05 GHz to 10.9 - 11.8 or 11.7-12.8 GHz with a switchable filter and switchable local oscillator at 9.95 and 10.75 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The L-band to RF gain is +10 ±2 dB. Connectors are SMA female for the RF and BNC female for the 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 (design goal) 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. The 2115 is powered by a 100-240 ± 10% VAC power supply, and mounted in a 1 3/4" X 19" X 14" rack mount chassis.

EQUIPMENT SPECIFICATIONS*

Input Characteristics
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 0.95 to 2.05 GHz
- Noise Figure, Max.: 20 dB max gain
- Input Level range: -30 to -20 dBm
- Input 1 dB compression: -10 dBm

Output Characteristics
- Impedance/Return Loss: 50 Ω /14 dB
- Frequency: 10.9 - 11.8 or 11.7-12.8 GHz
- Output Level Range: -20 to -10 dBm
- Output 1 dB compression: +0 dBm

Channel Characteristics
- Gain: +10 ±2 dB at Fc
- Image Rejection: > 60 dB, min
- Spurious, Inband: < -50 dBC in band, -10 dBm out, 10.9 - 11.8 and to 11.7-12.8 GHz
- Spurious, Out of band: < -50 dBm, 9.9 - 10.89 and 12.81 to 13.8 GHz out
- Intermodulation: < -50 dBC for two carriers each at -15 dBm out
- Frequency Response: ± 2 dB, 10.9 - 11.8 or 11.7-12.8 GHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

LO Characteristics
- LO Frequency: 9.95 or 10.75 GHz, switchable with front panel switch
- Frequency Accuracy: ext. ref. input; ± 1 ppm max over temp internal reference; design goal
- 10 MHz level: +3 dBm, ± 3 dB, 75 ohms, External In or Internal out

Phase Noise @ F (Hz) >

<table>
<thead>
<tr>
<th></th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
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</thead>
<tbody>
<tr>
<td>dBC/Hz</td>
<td>-60</td>
<td>-70</td>
<td>-80</td>
<td>-95</td>
<td>-105</td>
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Controls, Indicators

Band Select Switch: Rotary switch Selects Band 1 or 2 (front panel SP2T switch)
Ext 10 MHz: Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)
PLL Alarm: Red LED, External contact closure
Power: Green LED

Other
- RF Connector: SMA (female), 50Ω
- L-Band Connector: BNC (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.