3115-73 Block Upconverter, 7.1 - 7.3 GHz

The 3115-73 Upconverter converts 2.1 - 2.3 GHz to 7.1 - 7.3 GHz with low phase noise and flat frequency response. Frequency translation is via a 5.00 GHz local oscillator. The gain is +30 dB maximum and is adjustable in 0.5 dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS-232C/485, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are Type N female for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is +3 dBm, ±3 dB. The 3115 is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4” X 19” X 14” rack mount chassis.

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### EQUIPMENT SPECIFICATIONS*

**Input Characteristics**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 2.1 to 2.3 GHz
- Noise Figure, Max.: 12 dB max gain
- Input Level range: -40 to -20 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω/18 dB
- Frequency: 7.1 to 7.3 GHz
- Output Level Range: -20 to 0 dBm
- Output 1 dB compression: +10 dBm

**Channel Characteristics**
- Gain, max; adjustment: +30 dB ±2 dB, max. gain; 30 dB adjustment in 0.5 ±0.5 dB Steps
- Image Rejection: > 60 dB, min
- Spurious, In Band: SIGNAL RELATED < -60 dBc in band, 0 dBm out; SIGNAL INDEPENDENT, < -60 dBm
- Spurious, Out of Band: < -50 dBm, 6.1 to 7.1 and 7.3 to 8.3 GHz
- Intermodulation: < -55 dBc for two carriers each at -5 dBm out, GAIN = +30 dB
- Frequency Response: ±1.5 dB, 7.1 - 7.3 GHz out; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 5.00 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz level In/Out: +2 to +8 dBm in, w/ Auto-detect; 10M Ref Out = +3 ±3 dBm

**Phase Noise @ F (Hz)**

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard dBc/Hz</td>
<td>-55</td>
<td>-70</td>
<td>-80</td>
<td>-85</td>
<td>-100</td>
<td>-110</td>
</tr>
<tr>
<td>Opt W87 Enhanced dBc/Hz</td>
<td>-60</td>
<td>-75</td>
<td>-90</td>
<td>-95</td>
<td>-105</td>
<td>-120</td>
</tr>
</tbody>
</table>

**Controls, Indicators**
- Gain; Ext Ref Selection: direct readout LCD; pushbutton switches or remote
- Pwr; Alarm; Rem; Mute: Green LED; Red LED; Yellow LED; Yellow LED
- Remote: RS232C/RS485/422, 9600 baud (Ethernet Optional)

**Other**
- RF Connector: N-type (female), 50Ω
- L-Band Connector: BNC (female), 50Ω
- 10 MHz Connectors: BNC (female), 50Ω/75Ω
- Alarm/Remote Conn.: 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.

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Available Options:
- W7: L-band/RF front panel Monitors(-20dBc)
- W3: 0 to +50 degrees C operation
- W87: Enhanced phase noise

Remote M&C Ethernet Options:
- W8 - Ethernet w/web browser Interface
- W18 - Ethernet w/SNMP (and MIB) Interface
- W28 - Ethernet w/direct TCP/IP Interface

Available Connector Options:
- N: 50Ω N-type (RF), 75Ω BNC (L-BAND)
- NF: 50Ω N-type (RF), 75Ω F-type (L-BAND)
- NN: 50Ω N-type (RF), 50Ω N-type (L-BAND)
- SF: 50Ω SMA (RF), 75Ω BNC (L-BAND)
- SN: 50Ω SMA (RF), 50Ω N-type (L-BAND)
- SS: 50Ω SMA (RF), 50Ω SMA (L-BAND)

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

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