**DATA SHEET**

**REV. D** 
12/07/10

**4115-267 Ka-band Block Upconverter, Weather Resistant***

The 4115-267 Ka-band Block Upconverter converts 0.52 - 0.92 GHz up to 26.5 - 26.9 GHz. Front panel LEDs provide indication of DC Power, and PLL Alarms. The L-band to RF gain is **-15 to +15 dB** adjustable in 0.5 dB steps. Connectors are Type N female for the L-band, Super SMA female for the RF output. Gain, and input range select, are controlled by the Ethernet M&C. The 4115 is powered by a 100-240 ± 10% VAC power supply, and mounted in a 8" Wide X 6" High X 16" Deep Weather Resistant* Enclosure.

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**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 0.52 to 0.92 GHz
- Noise Figure, Max.: 20 dB max gain
- Input Level range: -20 to -5 dBm

**Output Characteristics**
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 26.5 to 26.9 GHz
- Output Level Range: -35 to +5 dBm
- Output 1 dB compression: +10 dBm

**Channel Characteristics**
- Gain: +15 ±1 dB (+2 dB, -30 to +60 deg C) (+15 to -15 dB variable in 0.5 dB steps)
- Image Rejection: > 60 dB, min
- Spurious, Inband: SIGNAL RELATED <-50 dBC in band, -30 to +5 dBm out; SIGNAL INDEPENDENT, <-70 dBC
- Spurious, Out of band: <-50 dBm
- Intermodulation: <-50 dBc for two carriers each at -10 dBm below maximum input and output level out
- Frequency Response: ±2 dB, over RF band; ± 0.8 dB, 40 MHz BW
- Group Delay: 3 ns p-p over any 40 MHz BW in the 400 MHz output band
- Frequency Sense: Non-inverting

**LO Characteristics**
- LO Frequency: 25.98 GHz
- LO Frequency Accuracy: ± 0.05 ppm max over temp internal reference

**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>
<th>10M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-60</td>
<td>-70</td>
<td>-80</td>
<td>-95</td>
<td>-108</td>
<td>-125</td>
</tr>
</tbody>
</table>

**Controls, Indicators**
- Gain, Band, 10M Freq.
- PLL Alarm
- Power

**Other**
- RF Out, Mon Connector: Super SMA (female), 50Ω
- RF In Connector: Type N (female), 50Ω
- Ethernet: **Standard RJ-45 Weather Resistant* Ethernet Connector, RJF6G**
- Size: 8" Wide X 6" High X 16" Deep Weather Resistant* Enclosure
- Power: 100-240 ±10% VAC, 47 - 63 Hz, 20 watts max./ FCI Clipper Series CL1M1102 W/R*Connector

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*Weather Resistant* enclosures are designed to be water resistant for installation in an outdoor enclosure/antenna hut OR mounted outdoors on an antenna assembly at their specified temperature ranges. They are designed to be located “out in the elements” (water, sleet, snow, etc.) but they are not designed to be “submerged under” water. If an extended temperature range is required, there is an Extended Temperature option (Option W21; -30°C to +60°C) available at an additional cost. Contact Cross for quote.

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