The 2116-14T11 Block Translator converts 14.0 - 14.5 GHz to 10.95 - 11.45 GHz with a local oscillator at 3.05 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is -40 dB to Output #1 and -50 to Output #2. Connectors are SMA female for RF and BNC female for the 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, 10 MHz reference signal is connected to the external reference input. The 2116 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 / 15 dB, typ., 14dB min.
- **Frequency**: 14.0 to 14.5 GHz
- **Input Level range**: -30 to 0 dBm
- **Input 1 dB compression**: +10 dBm

**Output Characteristics**
- **Impedance/Return Loss**: 50Ω / 15 dB, typ., 14dB min.
- **Frequency**: 10.95 to 11.45 GHz
- **Output Level Range (#1)**: -70 to -40 dBm
- **Output Level Range (#2)**: -80 to -50 dBm

**Channel Characteristics**
- **Gain**: -30 dB ±2 dB (Output #1); -50 dB ±2 dB (Output #2)
- **Input/Output Isolation**: 60 dB, min
- **Intermodulation**: < -50 dBC for two carriers each at -13 dBm in
- **Spurious**: < -40 dBC
- **Frequency Response**: ±1.5 dB, over frequency band; ± 0.5 dB, 40 MHz BW
- **Frequency Sense**: Non-inverting

**LO Characteristics**
- **LO Frequency**: 3.05 GHz
- **Frequency Accuracy**: ± 0.01 ppm max over temp internal reference; ext. ref. input
- **10 MHz In/Out Level**: +3 dBm ± 3 dB

<table>
<thead>
<tr>
<th>Phase Noise @ F (Hz) dBC/Hz</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.05 GHz</td>
<td>-70</td>
<td>-80</td>
<td>-90</td>
<td>-100</td>
<td>-110</td>
</tr>
</tbody>
</table>

**Controls, Indicators**
- **Green LED**: Power
- **Red LED, External contact closure**: PLL Alarm
- **Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)**: Ext 10 MHz
- **3-way Switch (selects INTERNAL, EXTERNAL, or AUTO mode)**: 10 MHz Reference

**Available Options**
- **Connectors/Impedance**: NN - 50Ω N-type (RF)

**Other**
- **RF Connectors**: SMA (female), 50Ω
- **10 MHz Connectors**: BNC (female), 50Ω/75Ω
- **DB9 - NO or NC contact closure on Alarm**
- **19 inch standard chassis 1.75" high X 14" deep**: Size
- **100-240 ±10% VAC, 47 - 63 Hz, 45 watts max.**: Power

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*0˚C to 50˚C; Specifications subject to change without notice.*