The 2083-2215 Dual Translator consists of two converters (inverted spectrums) each of which convert a 1.725 - 2.175 GHz signal to a 0.95 - 1.4 GHz (LO = 3.125 GHz). The two 1.725 - 2.175 GHz inputs are bandpass filtered and then mixed with a 3.125 GHz synthesized local oscillator (LO) signal to 0.95 - 1.4 GHz. The mixer output is applied to the output filters and amplifier. The converters have a nominal gain of 0 dB. All connectors are 75 ohm BNC female. Front panel LEDs light when DC power is applied (green) and when a PLL alarm occurs (red). The 2083-2215 is powered by a 100-240 ± 10% VAC power supply and housed in a 1.75" X 19" X 16" 1RU chassis.

### Equipment Specifications

**Input Characteristics**
- **Input Impedance/RL**: 75 Ω / +12 dB
- **Frequency**: 1.725-2.175 GHz
- **Input Level**: -10 to -30 dBm
- **Input 1 dB compression**: 0 dBm

**Output Characteristics**
- **Impedance/RL**: 75 Ω / +12 dB
- **Output 1 dB compression**: 0 dBm
- **Output Level, Range**: -10 to -30 dBm
- **Frequency**: 0.95-1.4 GHz

**Channel Characteristics**
- **Gain at band center**: 0 dB ± 2 dB, fixed
- **Frequency Response**: ≤ 1.5 dB, 0.95-1.4 GHz out; ≤ 0.7 dB, any 36 MHz increment
- **Frequency Sense**: Inverting (1.725 GHz Translates to 1.4 GHz, 2.175 GHz Translates to 0.95 GHz)
- **Intermodulation**: ≤ -50 dBc for two carriers each at -13 dBm out
- **Spurious Response**: ≤ -40 dBc, for 1.725-2.175 GHz input to 0.95 to 1.4 GHz out
- **0.95-1.4 GHz Feedthru**: ≤ -30 dBc, min, ≤ -40 dBc, goal
- **1.725-2.2 GHz Feedthru**: ≤ -10 dBc, min, ≤ -20 dBc, goal
- **LO rejection**: ≤ -40 dBm, LO at the output

**Synthesizer Characteristics**
- **LO frequency**: 3.125 GHz
- **Frequency Accuracy**: ± 1.0 ppm max

**Phase Noise @ F (Hz)**

<table>
<thead>
<tr>
<th></th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBC/Hz</td>
<td>-70</td>
<td>-80</td>
<td>-80</td>
<td>-95</td>
<td>-110</td>
</tr>
</tbody>
</table>

**Indicators**
- **DC Power; PLL Alarm**: Green LED; Red LED

**Other**
- **Connectors**: RF in and RF Out, BNC, female, 75 ohm
- **Connector, Alarm**: DB9 - NO or NC contact closure on Alarm
- **Size**: 19 inch, 1RU standard chassis 1.75"H X 16.0"D
- **Power**: 100-240 ± 10% VAC, 47-63 Hz, 15 watts max

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*+10 to +40 degrees C; 2000 meters max elevation; 80% max humidity; Specifications subject to change without notice.*