2083-2215-01 Dual Translator, Non-inverting

2083-2215-01 Dual Translator - Consists of two converters (non-inverted spectrums) each of which convert a 1.725 - 2.175 GHz signal to a 0.95-1.4 GHz (LO = 0.775 GHz). The two 1.725 - 2.175 GHz inputs are bandpass filtered and then mixed with a 0.775 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 2083-2215-01 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: -20 to -40 dBm
- Input 1 dB compression: 0 dBm

**Output Characteristics**
- Impedance/RL: 75 Ω/12 dB
- Output 1 dB compression: 0 dBm
- Output Level, Range: -20 to -40 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: Non-inverting (1.725 GHz Translates to 0.95 GHz, 2.175 GHz Translates to 1.40 GHz)
- Intermodulation: <-50 dBC for two carriers each at -23 dBm out
- Spurious Response: -25 dBC for 4XLO - Fin; -40 dBC typ. for other spurs, in band, (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: 0.775 GHz
- Frequency Accuracy: ± 1.0 ppm max

**Phase Noise @ F (Hz) >

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

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