2083-1222 Agile L-Band to L-Band Translator

The 2083-1222 Agile L-Band to L-Band Translator converts a 950-1200 MHz block to 1650-1900 MHz or 1900-2150 MHz (selectable) with spectrum inversion, low group delay and flat frequency response. The 950-1200 MHz input is mixed with synthesized local oscillator (LO) of 2850 MHz to 1650-1900 MHz or with an LO signal of 3100 MHz to 1900-2150 MHz output. Multi-function push button switches select the translation, input level, and gain. Frequency translation, input level, and gain (0 to +20 dB, selectable in 1 dB steps) settings appear on the LCD display. Front panel LEDs indicate DC power (green), remote control (yellow), or a PLL alarm (red). Connectors are BNC female for RF input and output and for optional external 10 MHz reference (+3± 3 dBm in, option E). The 2083-1222 Translator is housed in an 1 3/4” X 19” X 16” deep rack mount chassis. Option H provides a ±0.01 ppm reference.

EQUIPMENT SPECIFICATIONS*

**Input Characteristics**
- Impedance/Return Loss: 75Ω / 12 dB
- Frequency: 950-1200 MHz
- Input Level: -30 to -10 dBm

**Output Characteristics**
- Impedance/Return Loss: 75Ω / 12 dB
- Frequency: 1650-1900 MHz OR 1900-2150 MHz
- Output Level: -30 to -10 dBm

**Channel Characteristics**
- Gain range (adjustable): 0 to +20 dB, selectable in 1 dB steps
- Frequency Response: ±1.0 dB, 250 MHz BW, ±0.5 dB, any 36 MHz increment
- Intermodulation: < -50 dBm for two carriers each at -13 dBm out
- Spurious Response: < -60 dBm in band; < -50 dBm out of band
- Group Delay, max: 0.01 ns/MHz^2 parabolic; 0.03 ns/MHz linear; 1 ns ripple - any 36MHz BW
- Frequency Sense: Inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ± 1.0 ppm internal reference (±0.01 ppm, option H)
- 10 MHz In/Out Level: 3 dBm ± 3 dB (option E)
- Phase Noise: @ Freq 100Hz 1kHz 10kHz 100kHz 1MHz
dBc/Hz < -65 < -75 < -85 < -95 < -110

**Controls, Indicators**
- Frequency Selection: direct readout LCD; pushbutton switches or remote selection; Set for low or high block
- Input Level Selection: direct readout LCD; pushbutton switches or remote selection; Set to composite input level
- Gain Selection: direct readout LCD; pushbutton switches or remote selection; Set to 0 to +20 dB (-10 dBm max output level)
- Power; Alarm; Remote: Green LED; Red LED; Yellow LED
- Remote: RS232C, 9600 baud (RS485, option Q)

**Available Options**
- E - External 10 MHz ref input & output
- H - High Stability (±0.01ppm) int ref
- Q - RS485 Remote Interface
- D - 50Ω BNC (In), 50Ω BNC (Out)

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