Series 2083-1413 Agile L to L Translator

The 2083-1413 Agile L to L Translator converts a 950-1200 or 1200-1450 MHz block to 1100-1350 MHz block with no spectrum inversion, low group delay and flat frequency response. The 950-1200 or 1200-1450 MHz input is mixed with synthesized local oscillator (LO) signals, first to 3100 MHz center frequency and then to the 1100-1350 MHz output. Multi-function push button switches select the input frequency range and gain. Frequency translation and gain (0 to +20 dB, selectable in 1 dB steps) settings appear on the LCD display. LEDs light when power is on (green) or a PLL alarm occurs (red). Connectors are BNC female for RF input and output and for (optional) external 10 MHz reference (+3 ±3 dBm in). The unit is in an 1 3/4" X 19" X 16" deep rack mount chassis. **Option -H** is a 0.01 ppm reference.

**EQUIPMENT SPECIFICATIONS**

### Input Characteristics
- **Input Impedance/RL**: 75 Ω/12 dB
- **Frequency**: 950-1200 or 1200-1450 MHz
- **Input Level**: -10 to -30 dBm
- **Input 1 dB compression**: 0 dBm

### Output Characteristics
- **Impedance/RL**: 75 Ω/12 dB
- **Output Level, Range**: -10 to -30 dBm
- **Output 1 dB compression**: 0 dBm
- **Frequency**: 1100-1350 MHz

### Channel Characteristics
- **Gain**: 0 to +20 ± 1 dB, selectable in 1 dB steps
- **Frequency Response**: ± 1.0 dB, 250 MHz bandwidth; ± 0.5 dB, any 36 MHz increment
- **Spurious Response**: < -45 dBC in band; < -50 dBm out of band
- **Group Delay, max**: 0.01 ns/MHz², parabolic, 0.03ns/MHz, linear, 1 ns ripple any 36 MHz BW
- **Frequency Sense**: Non-inverting

### Synthesizer Characteristics
- **Frequency Accuracy**: ± 1 ppm max over temp: Optional, High Stability (± 0.01 ppm) **Option -H**
- **Reference**: 10 MHz Internal; Internal/External selectable is **Option -E**

### Controls, Indicators
- **Phase Noise @ Freq**:
  - **100Hz**: -65 dBc/Hz
  - **1kHz**: -70 dBc/Hz
  - **10kHz**: -80 dBc/Hz
  - **100kHz**: -90 dBc/Hz
  - **1MHz**: -100 dBc/Hz
- **Typical**:
  - **100Hz**: -70 dBc/Hz
  - **1kHz**: -80 dBc/Hz
  - **10kHz**: -85 dBc/Hz
  - **100kHz**: -95 dBc/Hz
  - **1MHz**: -115 dBc/Hz

**OPTIONS**
- **-E**: External 10 MHz reference In
- **-D**: BNC, female, 50 ohms for L-Band In and Out
- **-H**: High Stability (± 0.01 ppm) internal reference

*+10 to +40 degrees C; Specifications subject to change without notice*