2083-2821 Block Translator, 2600-2800 to 2050-2250 MHz

The 2083-2821 Block Translator converts a 2600-2800 MHz block to 2050-2250 MHz block with or without spectrum inversion (selectable). The 2600-2800 MHz input is mixed with local oscillator (LO) signals, first (LO1) to a 400 MHz center frequency and finally (LO2) to the 2050-2250 MHz block output (Option W89 allows for an external LO2, switched & terminated, 50Ω, SMA, +8 to +12 dBm input signal). Gain can be set for 0 to -30 dB in 0.5 ± 0.5 dB increments. The output translation is fixed (Option X5050 - ±50kHz LO1 tuning, 50 Hz steps). Multifunction switches select Gain and internal or External 10 MHz reference (and Options W89 and X5050 settings) which appear on the LCD display and can be adjusted remotely. Front panel LEDs indicate DC power (green), PLL alarm (red), and remote operation (yellow). Connectors are BNC female for RF and 10 MHz input and output. It is powered by a 100-240 ±10% VAC, 47-63 Hz input power supply and in a 1 3/4" X 19" X 16" rack mount chassis.

### EQUIPMENT SPECIFICATIONS*

<table>
<thead>
<tr>
<th>Input Characteristics</th>
<th>50Ω /14 dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>2600 - 2800 MHz</td>
</tr>
<tr>
<td>Input Level</td>
<td>-15 to 0 dBm</td>
</tr>
<tr>
<td>Output Characteristics</td>
<td>50Ω/14 dB</td>
</tr>
<tr>
<td>Frequency</td>
<td>2050 - 2250 MHz</td>
</tr>
<tr>
<td>Output Level</td>
<td>-30 to -15 dBm</td>
</tr>
<tr>
<td>Output 1 dB compression</td>
<td>-5 dBm, at max gain</td>
</tr>
</tbody>
</table>

### Channel Characteristics

- Gain, max; adjustment: +0 dB ±1 dB, max. gain; 0 to -30 dB gain adjustment in 0.5 ± 0.5 dB Steps
- Spurious, Inband: < -55 dBc in band, signal dependent and signal independent; -15 dBm Out
- Spurious, out of band: < -50 dBm, 2050-500 MHz to 2050 MHz and 2250 to 2250+500 MHz Out
- Intermodulation: < -55 dBc for two carriers each at -20 dBm out
- Frequency Response: ± 2.0 dB, 200 MHz bandwidth; ± 1.0 dB, any 100 MHz bandwidth; ± 0.5 dB, any 20 MHz increment
- Frequency Sense: Non-inverting or Inverting, selectable

### Synthesizer Characteristics

- Translation; Accuracy: ± 1ppm; Option H, ±0.01 ppm
- Reference: 10 MHz Internal; Internal/External selection

<table>
<thead>
<tr>
<th>Phase Noise @ F (Hz)</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>-100</td>
</tr>
</tbody>
</table>

### Controls, Indicators

- Gain (MGC): Direct readout LCD: manual or remote selection
- Ext. ref.: Direct readout LCD: manual or remote selection
- Power: Green LED; Red LED; Yellow LED
- Remote: RS232C/RS485/422, 9600 baud (Ethernet Optional)

### Available Options

- H: High Stability (±0.01ppm) Internal Ref
- W89: Ext. LO2, switched & terminated, 50Ω, SMA, +8 to +12 dBm in.
- X5050 - ±50kHz LO1 tuning, 50 Hz steps
- Comm. Interface/Standard RS232
- W8 - Ethernet; w/Web Browser (WB)
- W18 - Ethernet; w/WEB & SNMP
- W28 - Ethernet; w/TCP/IP, Telnet
- W828 - Ethernet, W18 + W28

### Connectors/Impedance

- Std. - 50Ω BNC (RF IN), 50Ω BNC (RF OUT)
- NN - 50Ω N (RF IN), 50Ω N (RF OUT)
- SS - 50Ω SMA (RF IN), 50Ω SMA (RF OUT)

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