2116-78#-1100 Block Downconverter, 7800 ± 200 MHz to 1100 ±200 MHz

The 2116-78#-1100 Block Downconverter converts 7800 ± 200 MHz to 1100 ±200 MHz (non-inverted) with a 6.70 GHz local oscillator. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB. Connectors are Type N female for the RF and BNC female for the L-Band and external reference input and reference output. A three-way switch controls which 10 MHz reference is being used. In the INT position, the internal reference is used, in the EXT position, the external reference is used, and in the AUTO position, the internal reference is used unless a 3dBm ±3dB, 10MHz signal is connected to the external reference input. The 2116-78#-1100 is powered by a 100-240 ±10% VAC power supply, and mounted in a 1 3/4” X 19” X 14” rack mount chassis.

EQUIPMENT SPECIFICATIONS

Input Characteristics (RF)
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 7800 ± 200 MHz
- Noise Figure, Max.: 15 dB max gain
- Input Level range: -55 to -35 dBm
- Input 1 dB compression: -25 dBm

Output Characteristics
- Impedance/Return Loss: 50Ω /14 dB
- Frequency: 1100 ±200 MHz
- Output Level Range: -20 to 0 dBm
- Output 1 dB compression: +10 dBm

Channel Characteristics
- Gain @ Fc: +35 dB ±2 dB
- Image Rejection: > 60 db, min
- Spurious, In Band: SIGNAL RELATED < -55 dBC, 0 dBm out; SIGNAL INDEPENDENT, < -60 dBm (1100 ±200 MHz Out)
- Spurious, Out of Band: < -50 dBm (0.2-.89 and 1.31-2.0 GHz Out)
- Intermodulation: < -55 dBc for two carriers at 4 MHz spacing, each at -10 dBm out
- Frequency Response: ±1.5 dB, 1100 ±200 MHz out; ± 0.5 dB, 40 MHz BW, < -45 dB, 1100 ±350 MHz out
- Frequency Sense: Non-Inverting

LO Characteristics
- LO Frequency: 6.70 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz In/Out Level: 3 dBm, ± 3 dB

Phase Noise @ Freq (dBc/Hz)

<table>
<thead>
<tr>
<th></th>
<th>100 Hz</th>
<th>1kHz</th>
<th>10kHz</th>
<th>100kHz</th>
<th>1 MHz</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>-75</td>
<td>-85</td>
<td>-90</td>
<td>-100</td>
<td>-120</td>
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Controls, Indicators
- Ext 10 MHz: Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)
- Power: Green LED
- PLL Alarm: Red LED, External contact closure

Available Connector Options:
- N - 5Ω N-type (RF), 75Ω BNC (L-BAND)
- NF - 5Ω N-type (RF), 75Ω F-type (L-BAND)
- NN - 5Ω N-type (RF), 50Ω N-type (L-BAND)
- S7 - 5Ω SMA (RF), 75Ω BNC (L-BAND)
- SF - 5Ω SMA (RF), 75Ω F-type (L-BAND)
- SN - 5Ω SMA (RF), 50Ω N-type (L-BAND)
- SS - 5Ω SMA (RF), 50Ω SMA (L-BAND)

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