2116-143 Block Downconverter, 14.35 - 15.40 GHz to 0.95 - 2.0 GHz

The 2116-143 Downconverter converts 14.35 - 15.40 GHz to 0.95 - 2.0 GHz with a local oscillator at 13.4 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB. Connectors are SMA female for the RF input and BNC female for the L-band output 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 +3 dBm ± 3 dB, 10MHz reference signal is connected to the external reference input. The 2116 is powered by a 100-240 ± 10% VAC power supply, and mounted in a 1 3/4" X 19" X 14" rack mount chassis.

Front and Rear Panels

EQUIPMENT SPECIFICATIONS

Input Characteristics (RF)
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 14.35 to 15.40 GHz
- Noise Figure, Max.: 12 dB (max gain)
- Level: -55 to -35 dBm
- 1dB Compression: -25 dBm

Output Characteristics (L-Band)
- Impedance/Return Loss: 50Ω/14 dB
- Frequency: 0.95 to 2.0 GHz
- Level: -20 to 0 dBm
- 1dB Compression: +10 dBm

Channel Characteristics
- Gain: +35 dB ±2 dB at Fc
- Image Rejection: > 60 dB, min
- Spurious, In Band: SIGNAL RELATED<60 dBC in band, 0 dBm out; SIGNAL INDEPENDENT,<-60 dBm
- Spurious, Out of Band: <+50 dBm (0.5-0.9 GHz and 2.05-3.0 GHz Out)
- Intermodulation: <-55 dBc for two carriers each at -10 dBm out
- Frequency Response: ±1.5 dB, 0.95-2.0 GHz; ± 0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

LO Characteristics
- LO Frequency: 13.4 GHz
- Frequency Accuracy: ± 0.01 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >

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<th>100</th>
<th>1K</th>
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<th>100K</th>
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<td>dBC/Hz</td>
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| 10 MHz level | +3 dBm, ± 3 dB, 75 ohms, External In or Internal out

Controls, Indicators

- INT/AUTO/EXT Switch: Selects internal or external 10 MHz (rear panel DP3T switch)
- Ext 10 MHz: Yellow LED, indicates external 10 MHz reference selected
- PLL Alarm: Red LED, External contact closure
- Power: Green LED

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

Other
- RF In Connector: SMA (female), 50Ω
- RF Out Connector: BNC (female), 50Ω (designated L-band)
- 10 MHz connectors: BNC (female), 75Ω connector; works with 50Ω or 75Ω
- Alarm Connector: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75" high X 14.0" deep
- Power: 100-240 ± 10% VAC, 47 - 63 Hz, 25 watts maximum

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