3116-277#-1200 Agile Block Downconverter, 25.5 - 27.7 GHz to 1200 ± 400 MHZ

The 3116-277#-1200 Agile Block Downconverter converts 25.5 - 27.7 GHz to 1.2 ± 0.400 GHz in 5 MHz steps with low phase noise and flat frequency response. Frequency translation is via dual conversion. The gain is +30 dB maximum and is adjustable in 0.5 ±0.5 dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Frequency, gain and internal/external/auto reference frequency selection are controlled by front panel switches or remote selection (via RS 232C, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are 2.92 mm (female) for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference switches to internal when the external is below 0 dBm ± 1 dB. The 3116 is powered by a 100-240 ± 10% VAC power supply, and housed 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: 25.5 to 27.7 GHz
- Noise Figure, Max.: 20 dB
- Input Level range: -50 to -30 dBm
- Input 1 dB compression: -25 dBm

Output Characteristics (L-Band)
- Impedance/Return Loss: 75Ω/14 dB
- Frequency: 1.2 ± 0.400 GHz
- Output Level Range: -20 to 0 dBm
- Output 1 dB compression: +10 dBm at max. gain

Channel Characteristics
- Gain, max.; adjustment: +30 dB ≥3 dB, max. gain; 30 dB adjustment in 1 ± 1 dB Steps
- Image Rejection: > 60 dB, min
- Spurious, In Band: SIGNAL RELATED <50 dBc in band, 0 dBm out; 2XFo<-45dBc; SIGNAL INDEPENDENT, <60 dBm
- Spurious, Out of Band: <-50 dBm, 0.5-0.79 GHz and 1.61-2.5 GHz
- Intermodulation: <50 dBc for two carriers spaced 4 MHz, each at -10 dBm out
- Frequency Response: ±1.5 dB, 1.2 ± 0.400 GHz out; ±0.5 dB, 40 MHz BW
- Frequency Sense: Non-inverting

LO Characteristics
- Frequency Step: 5 MHz
- Frequency Accuracy: ±0.01 ppm max over temp internal reference; ext. ref. input
- 10 MHz In/Out Level: 3 dBm, ±3 dB, w/ Auto-detect

Phase Noise @ Freq
- Frequency
- dBc/Hz: 100 Hz: 60, 1 kHz: 70, 10 kHz: 80, 100 kHz: 90, 1 MHz: 100

Controls, Indicators
- Freq., Gain, Ext Ref Sel. Direct readout LCD; pushbutton switches or remote
- Power, Alarm; Remote Green LED; Red LED; Yellow LED
- Remote RS232C/RS485/422, 9600 baud (Ethernet Optional)

Other
- RF Connector: 2.92 mm (female)
- L-Band Connector: BNC (female), 75Ω
- 10 MHz Connectors: BNC (female), works with 50 or 75 ohms
- Alarm/Remote Conn.: 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, 30 watts max.

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

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