EXTENDED C-BAND TO L-BAND BLOCK DOWNCONVERTERS

FEATURES

- Automatic 5/10 MHz internal/external reference selection
- Three monitor control ports:
  1. Standard RS-485/RS-422 remote interface which can be substituted with RS-232
  2. RS-485/RS-422 control interface (J7) which can be configured as an alternate remote interface
  3. 10/100 Base-T Ethernet interface
- RF/IF signal monitor port
- 30 dB gain control
- Low phase noise
- 64 memory locations
- High-frequency stability
- Summary alarm
- CE certification

OPTIONS

- Higher stability reference
- Remote RS-232

This block converter simultaneously downconverts the 3.4 GHz to 4.2 GHz and 4.5 GHz to 4.8 GHz bands to the 950 MHz to 2150 MHz output band. The unit uses a single input and output connector. Cross channel leakage is optimized for improved spurious performance. Output level control is provided to adjust converter gain for both bands simultaneously. Local control is by a front panel keyboard and remote control/status is available through the remote interface.

INPUT FREQUENCY (GHz)	OUTPUT FREQUENCY (MHz)	TRANSLATION FREQUENCY (MHz)	MODEL NUMBER
3.4 to 4.2	950 to 1750	2450	DNB2-4.1E
4.5 to 4.8	1850 to 2150	2650	

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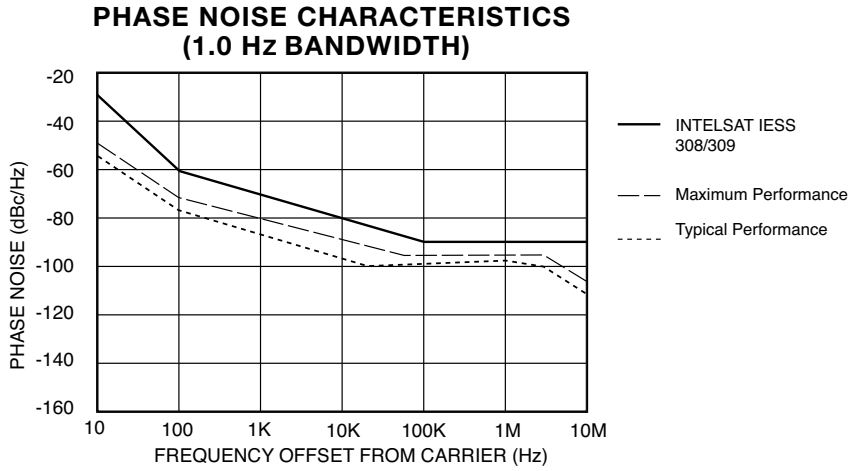
SPECIFICATIONS	DOWNCONVERTERS
Frequency sense	No inversion
Input characteristics	
Impedance	50 ohms
Return loss	18 dB minimum
LO leakage	-80 dBm maximum
Output characteristics	
Impedance	50 ohms
Return loss	18 dB minimum
Power output (P1 dB)	+18 dBm minimum at minimum attenuation
Transfer characteristics	
Gain at minimum attenuation	38 ±3 dB
Image rejection	80 dB minimum
Level stability	±0.25 dB/day at constant temperature
Noise figure at minimum attenuation	18 dB maximum
Amplitude response	±0.5 dB/40 MHz, ±2 dB over output band
Group delay	4 ns peak-to-peak maximum
Intermodulation distortion (third-order)	With two 0 dBm output signals, 60 dBc minimum
Spurious outputs	
Signal related (inband)	65 dBc minimum up to 0 dBm output
Signal independent	-70 dBm maximum
Second harmonic	-60 dBc up to 0 dBm output
Gain adjustment	30 dB in 0.2 dB steps
Frequency stability	$\pm 2 \times 10^{-8}$, 0 to 50 °C (higher stability options available), $\pm 5 \times 10^{-9}$/day typical (fixed temperature after 24 hour on time)
Automatic reference configuration	External 5 or 10 MHz, +4 ±3 dBm. If external reference is below +1 dBm nominal, the converter will automatically lock to the internal reference.
Remote interface	RS-485/RS-422 user selectable and 10/100 Base-T Ethernet interface providing: web-browser-based configuration, SNMP 1.0 configuration alarm reporting via SNMP trap, telnet access, password protection

PHASE NOISE SPECIFICATIONS



OPTIONS

Missing option numbers are not applicable for this product.

1. High-performance phase noise (dBc/Hz)(maximum)

		OFFSET (Hz)			
10	**100**	**1 K**	**10 K**	**100 K**	**1 M**
-48	-73	-103	-112	-115	-132

8. LO level alarm

   Summary alarm is generated for loss of power in any of the required local oscillators

10. Higher frequency stability reference

    C. ±2 x 10^{-9}, 0°C to 50°C,

    1 x 10^{-9}/day typical (fixed temperature after 24 hour on time).

    G. Self calibrating tracking reference with controlled slew rate. Internal reference tracks external reference and uses external reference to correct for aging of the internal reference. The internal reference changes frequency at a maximum rate of 0.06 ppm/second. When external reference is lost, the reference frequency is held at the previous value. Frequency stability on internal reference: ±5 x 10^{-8}, 0 °C to 50 °C, 1 x 10^{-9}/day typical (fixed temperature after 72 hour on time).

    5 x 10^{-8}/year typical

    H. Self calibrating tracking reference with controlled slew rate. Internal reference tracks external reference and uses external reference to correct for aging of the internal reference. The internal reference changes frequency at a maximum rate of 0.06 ppm/second. When external reference is lost, the reference frequency is held at the previous value. Frequency stability on internal reference: ±2 x 10^{-9}, 0 °C to 50 °C, 1 x 10^{-9}/day typical (fixed temperature after 72 hour on time).

    5 x 10^{-8}/year typical

17. Remote control

    C. RS-232

Notes: For literature describing local control (front panel) and remote control (bus protocols), refer to Narda-MITEQ's Technical Note 25T063.

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GENERAL SPECIFICATIONS

PRIMARY POWER REQUIREMENTS
Voltage..... 90 VAC to 250 VAC
Frequency..... 47 Hz to 63 Hz
Consumption ..... 40 W, typical

SUMMARY ALARM
Contact closure/open for DC voltage and/or LO alarm

PHYSICAL
Weight ..... 20 lb. [9.07 kg], nominal
Overall dimensions ..... 19" [482.6 mm] x 1.75" [44.5 mm] panel x
22" [558.8 mm] maximum (chassis depth 20" [508 mm])
Connectors
Front panel connectors
RF ..... SMA female
RF monitor..... SMA female
IF ..... N female
IF monitor ..... SMA female
External reference ..... BNC female
LO monitor..... SMA female
Remote interface ..... DEM-9S for RS-485, RS-422 and RS-232, RJ-45 female for Ethernet
Summary alarm..... DE-9P
Primary power input IEC-320

ENVIRONMENTAL
Operating
Ambient temperature..... 0°C to 50°C
Relative humidity..... Up to 95% at 30°C
Atmospheric pressure ..... Up to 10,000 feet
Nonoperating
Ambient temperature..... -50°C to +70°C
Relative humidity..... Up to 95% at 40°C
Atmospheric pressure ..... Up to 40,000 feet
Shock and vibration ..... Normal handling by commercial carriers

D-377C03.26.18

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