MODEL DDC-3.7/4.2-950/1450S

DUAL C- TO L-BAND BLOCK DOWNCONVERTER



The DDC-3.7/4.2-950/1450S block downconverter is equipped with two high performance highly integrated C- to L-band dual-conversion converters with dual redundant power supplies housed in one-rack unit height chassis. The system can be provided with switching capability to select between the two internally converted L-band outputs and two external L-band inputs. The system provides high dynamic range, low phase noise, gain, and low noise figure.

FEATURES

- Economical
- Low phase noise
- Low profile (dual or single converter system)
- Individual and summary alarm contact closure outputs

OPTIONS

- Other frequency bands
- External input L-band switching
- Single converter with external input L-band switching
- Single converter without external input L-band switching
- 60 dB output level programming with 1 dB resolution
- RF mute

SPECIFICATIONS

INPUT CHARACTERISTICS

Conversion type	Dual
Frequency sense	No inversion
Number of RF input channels	Two
Frequency	3.7–4.2 GHz*
Level	To -25 dBm operational, 0 dBm maximum
Impedance	50 ohms
VSWR	< 2:1
10 MHz reference	-3 to 0 dBm

OUTPUT CHARACTERISTICS

Number of downconverter outputs	Two (950–1450 MHz)
Power output (1 dB compression)	15 dBm
Impedance	50 ohms
VSWR	< 2:1
Monitor output	15–20 dB below the main output

TRANSFER CHARACTERISTICS

Gain	35 dB ±2 dB
Gain flatness	±1 dB
Noise figure	< 4 dB
Passband	950–1450 MHz
Passband rejection	
> 2300 MHz	> 60 dB
> 3000 MHz	> 70 dB
< 2300 MHz	> 70 dB
< 700 MHz	> 60 dB
Group delay	
500 MHz span	2.5 ns peak-to-peak
40 MHz span	1 ns peak-to-peak
AM to PM conversion	1°/dB maximum to +5 dBm output
Second harmonic	< 45 dBc up to -35 dBm input
Image rejection	> 60 dB
Inband spurious	> 60 dB
Out-of-band spurious	> 60 dB
LO leakage (at output)	< -70 dBm
Third order intermodulation products	
(-10 dBm output level)	60 dBc
Single-sideband phase noise	< -90 dBc/Hz typical at 1 kHz offset, < -100 dBc/Hz typical at 10 kHz offset, < -104 dBc/Hz typical at 100 kHz offset, < -127 dBc/Hz typical at 1 MHz offset

* For other frequency bands, consult factory.

GENERAL SPECIFICATIONS

PRIMARY POWER REQUIREMENTS

Voltage	100/120/220/240 VAC ±10% (rear panel selectable)
Frequency	47–63 Hz
Power consumption	40 watts typical per channel

PHYSICAL

Weight	25 pounds (11.4 kg) nominal
Overall dimensions	19” x 22” x 1.75” (48.3 cm x 55.9 cm x 4.5 cm) maximum
Rear panel connectors	
RF in (channels 1 and 2)	N female
RF out (channels 1 and 2)	N female
Reference in	N female
RF output monitor (channels 1 and 2)	SMA female
Reference monitor	SMA female
Contact closure	15-pin male, D connector

ENVIRONMENTAL

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

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