

5-Channel Q- to L-Band Block Downconverter ODU

With triple stage conversion. Housed in an IP65 rated outdoor unit.



RF Parameters (1/2)

Capacity	Q-band IN 5 L-band channels OUT (Configuration options available for 1 to 5 L-band channels)
Input Port	Waveguide: UG383 – WR22
Output Ports	Five 50Ω SMA or N-type (L-band channels, DC blocked)
Input Frequency Range	Channel 1: 37500 - 38500 MHz Channel 2: 38500 - 39500 MHz Channel 3: 39500 - 40500 MHz Channel 4: 40500 - 41500 MHz Channel 5: 41500 - 42500 MHz
Output Frequency Range	Channel 1: 1150 - 2150 MHz Channel 2: 1150 - 2150 MHz Channel 3: 1150 - 2150 MHz Channel 4: 1150 - 2150 MHz Channel 5: 1150 - 2150 MHz



RF Parameters (2/2)		
Mean Conversion Gain	Max. 35 ± 2 dB Min. 5 ± 2 dB	
Gain Steps	0.25 ± 0.15 dB	
Gain Flatness	Full Band over 5GHz: ± 2.0 dB Over Each 1 GHz Channel: ± 1.5 dB Any 40 MHz in a Channel: ± 0.50 dB	
Input Return Loss	Typ. -12 dB Max. -10 dB	
Output Return Loss	Typ. -15 dB Max. -12 dB	
Noise Figure (at max gain)	Typ. 16 dB Max. 18 dB	
Operational Input Level	-75 to -30 dBm	
OP1dB (at max gain)	Typ. 15 dBm Min. 10 dBm	
OIP3 (at max gain)	Typ. 25 dBm Min. 20 dBm	
Group Delay (max pk-pk/1000MHz)	<3 ns	
Internal Reference Stability	$\pm 5 \times 10^{-8}$ (Over -20 to 60°C)	
Phase Noise <small>(Typical values when supplied with a high quality external reference and measured at 0 dBm output)</small>	@ 10Hz Offset	-40 dBc/Hz
	@ 100Hz Offset	-60 dBc/Hz
	@ 1kHz Offset	-80 dBc/Hz
	@ 10kHz Offset	-90 dBc/Hz
	@ 100kHz Offset	-95 dBc/Hz
	@ 1MHz Offset	-105 dBc/Hz
Spurs In-band (At -5 dBm output)	Carrier Related (> 1MHz offset)	< -60 dBc
	Non-carrier Related	< -60 dBm
Spurs Out-of-band (At -5 dBm output)	Carrier Related	< -60 dBc
	Non-carrier Related	< -60 dBm
Image Rejection	Typ. > 60 dB	
LO Breakthrough	Max. -65 dBm	
Number of Conversion Stages	Triple	
External Reference Input Freq	10/100 MHz (Auto detection)	
External Ref Input Level	+0 dBm ± 5 dB	
Spectral Inversion	Non-inverting	
Mute	60 dB	
Isolation	50 dB (Min. between any two L band channels in.)	



System Control & Monitoring	
RF Redundancy	Supported - Option for two units can be paired with redundancy switches to offer RF redundancy system
User Alarms	PSUs
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP protocol SNMP v3 Built-in Web Server (HTTPS)
Local Control & monitoring	No local control, power and summary alarm status LEDs on connector face.
LNB Power	None.

Physical & Environmental	
Dimensions	450mm x 450mm x 200mm maximum
Weight	15Kg
Unit Finish	RAL9003 (Signal White) Clear chemical conversion coating to MIL-DTL-5541F Typell Class 3
Temperature	Operating: -20°C to 60°C / Storage: -30°C to +75°C
Location	Outdoor / Indoor - IP65 (Appropriate mating connectors used)
Humidity	20 to 90% non-condensing
Altitude	10,000ft AMSL (Operational) 30,000ft/10000m AMSL (Transport)
Spec. Version	0.2

Note 1: Typical parameters are guide figures and measured data may deviate from the quoted figures. ETL endeavours to exceed the quoted typical parameters where practically possible.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

Note 3: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.