

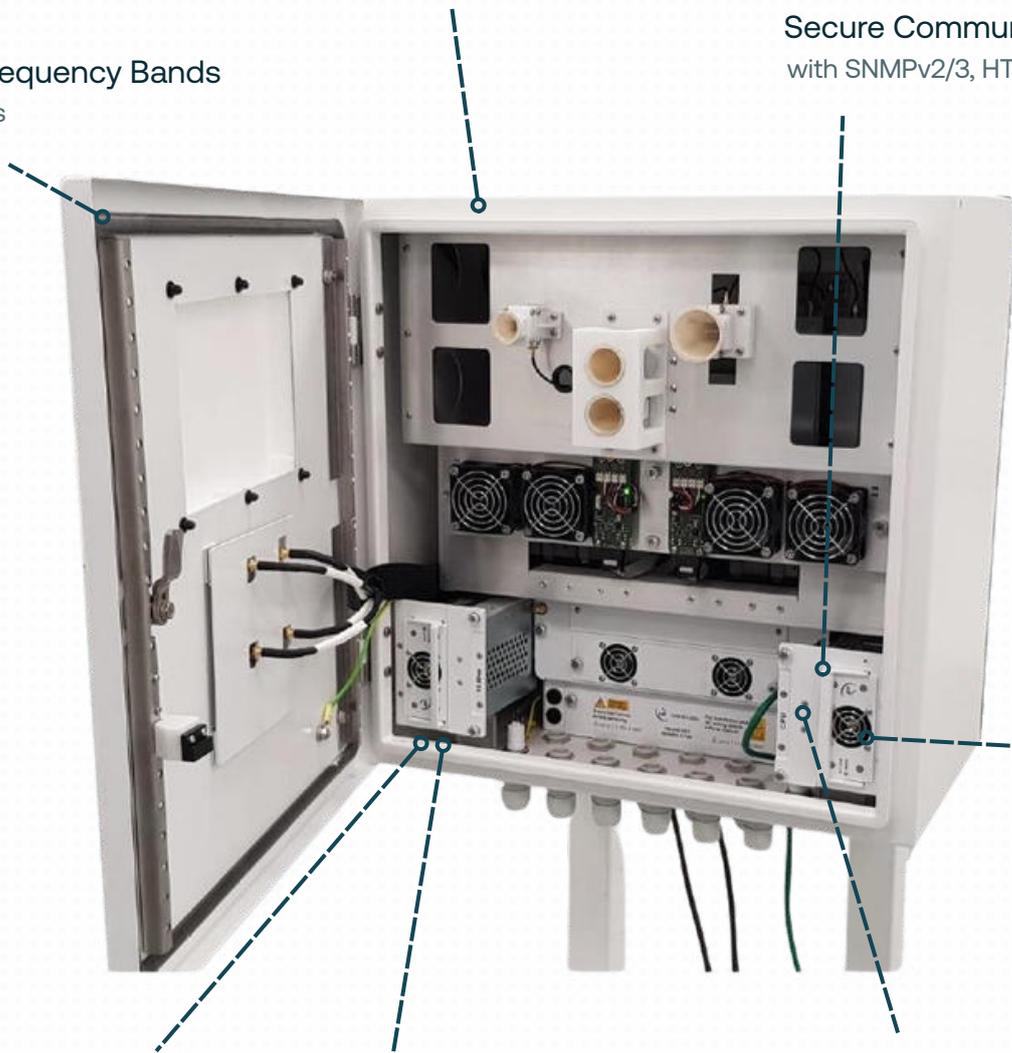
# Tri Band ODU Satellite Simulator System

The ODU Tri Band Satellite Simulator is based on the Genus platform and operates in X, Ku and Ka-Bands (note that only one band can be operational at a time). The unit is a robust weatherproof IP65 rated enclosure, and features field replaceable 10MHz reference modules, PSUs and CPUs. The unit also benefits from remote control and monitoring via an RJ45 port with Web Browser Interface & SNMP.

IP65 rated Weatherproof enclosure

3 Operating frequency Bands  
X, Ku & Ka Bands

Secure Communications  
with SNMPv2/3, HTTPS



AC Supply  
90 – 240V  
50/60Hz

10MHz reference source  
Internal 10MHz reference &  
distribution module

Resilience  
from the unit being easily  
field serviceable. With field  
replaceable PSU & CPU

Remote control & monitoring  
via RJ45 Ethernet via RJ45,  
10BaseT/100BaseTx, ETL TCP/IP  
protocol, SNMPv2/3  
& Web Browser Interface



RF Parameters					
Frequency Band		X-Band	Ku-Band	Ka-Band	
Input Frequency		7.90 – 8.40 GHz (Fixed Frequency)	13.25 – 14.50 GHz (Input frequency user configurable via software control in 1 MHz steps)	Mode 1: 27.50 – 28.50 GHz Mode 2: 28.50 – 29.50 GHz Mode 3: 29.50 – 30.50 GHz Mode 4: 30.00 – 31.00 GHz Frequency modes user configurable via software control	
Output Frequency		7.25 – 7.75 GHz (Fixed Frequency)	10.70 – 12.75 GHz (Output frequency user configurable via software control in 1 MHz steps)	Mode 1: 17.30 – 18.30 GHz Mode 2: 18.30 – 19.30 GHz Mode 3: 19.20 – 20.20 GHz Mode 4: 20.20 – 21.20 GHz Frequency modes user configurable via software control	
Instantaneous Bandwidth		500 MHz	1000 MHz	1000 MHz	
Conversion Gain (At minimum attenuation setting)		0 ± 3dB	0 ± 3dB	0 ± 3dB	
Gain Flatness	Full Band	±2.0 dB	±2.0 dB	±2.0 dB	
	Any 40MHz	±0.5 dB	±0.5 dB	±0.5 dB	
Tx Antenna	Gain (typ)	7 dBic	12 dBic <sup>1</sup>	15 dBic	
	Polarisation	RHC	Linear (H)	RHC	
	Beamwidth (typ)	65°	50°	20°	
Rx Antenna	Gain (typ)	7 dBic	12 dBic <sup>1</sup>	14.5 dBic	
	Polarisation	LHC	Linear (V)	LHC	
	Beamwidth (typ)	65°	45°	30°	
Attenuation Control Range		60 dB	60 dB	60 dB	
Attenuation Control Steps		1 ± 0.20dB	1 ± 0.20dB	1 ± 0.20dB	
Max I/P Power Level (Excl. Antenna )		0 dBm	0 dBm	0 dBm	
Absolute Max Input Power Level (For no damage)		+20 dBm	+20 dBm	+20 dBm	
Spurs in-band <sup>2</sup>	Non-carrier	< -60 dBm			
	Carrier Related (> 1MHz Offset)	< -50 dBc (At 0dBm input, min attenuation. Non-harmonic)			
Spurs out-band <sup>1</sup>	Non-carrier	< -70 dBm			
	Carrier Related	< -60 dBc (At 0dBm input, min attenuation. Non-harmonic)			
Phase Noise	@100Hz	-75 dBc / Hz	-75 dBc / Hz	-65 dBc / Hz	
	@1KHz	-85 dBc / Hz	-85 dBc / Hz	-75 dBc / Hz	
	@10KHz	-90 dBc / Hz	-90 dBc / Hz	-80 dBc / Hz	
	@100KHz	-95 dBc / Hz	-95 dBc / Hz	-85 dBc / Hz	
	@1MHz	-105 dBc / Hz	-105 dBc / Hz	-100 dBc / Hz	
Mute		80dB			
Spectral Inversion		Non-inverting			

<sup>1</sup> 3dB polarisation loss if used with circular polarised antenna

<sup>2</sup> Excl. Antenna. At 0dBm input, min attenuation. Non-harmonic

Interface, Monitoring & Alarms	
Control Method	Remote Control & Monitoring Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP protocol SNMP v3 Built-in Web Server (HTTPS)
AC Input	85-264Vac 50/60Hz Fused (L+N) Use T 3.15 A, 250V Ceramic 5x20mm x2 Lightning protection suitable for local installation conditions should be provided

Reference	
Internal Reference Stability	$\pm 5 \times 10^{-8}$ (over 0 to 50°C )
External Reference	Input Freq. 10 MHz. Auto detection (External Reference Optional)
External Ref. Input Level	+3 dBm $\pm$ 3dB

Environmental	
Operating Temperature	-20 to 50°C
Storage Temperature	-20°C to +75°C
Location	Indoor and Outdoor (IP65)
Humidity	20 to 90% non-condensing, relative humidity
Altitude	10,000ft / 3,000m above mean sea level

Physical Dimensions & Parameters	
Dimensions	500mm high x 500mm wide x 300mm deep
Weight	40 kg

Note 1: 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.

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

