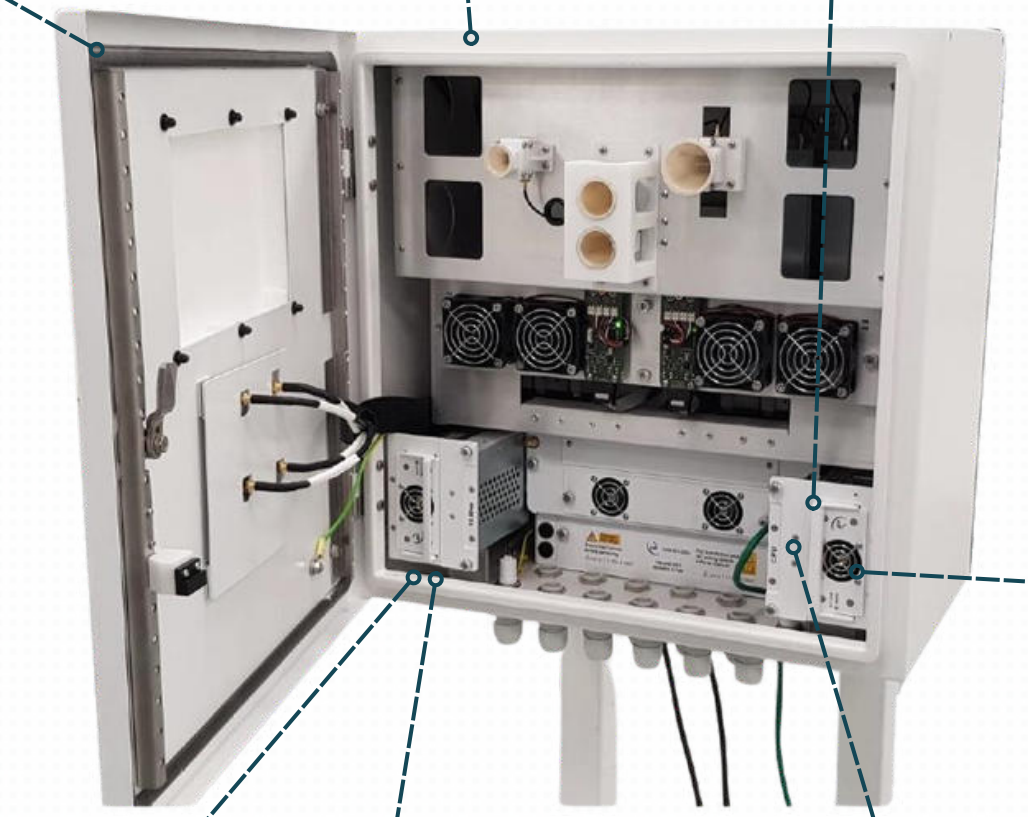
Tri Band ODU Satellite Simulator System with Beacon Signal Generator

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), and also offers a CW signal at the centre of either X, Ku or Ka-band frequencies. 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. (Note that input mode and output mode must be the same).
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. (Note that input mode and output mode must be the same).
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 [1]	15 dBic
	Polarisation	RHC	Linear (H)	RHC
	Beamwidth (typ)	65°	50°	20°
Rx Antenna	Gain (typ)	7 dBic	12 dBic [1]	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 [2]	Non-carrier	< -60 dBm		
	Carrier Related (> 1MHz Offset)	< -50 dBc		
Spurs out-band [2]	Non-carrier	< -70 dBm		
	Carrier Related	< -60 dBc		
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		
CW Beacon Signal		Mid of each band, X, Ku & Ka (Only one band active at a time)		

[1] 3dB polarisation loss if used with circular polarised antenna

[2] 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	± 5 x 10^{-8} (over 0 to 50°C)
External Reference	Input Freq. 10 MHz. Auto detection (External Reference Optional)
External Ref. Input Level	+3 dBm ± 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.

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