



L-Band Test Loop Translator Module

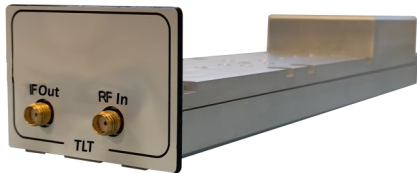
L-Band to L-Band

Typical applications:

- Teleports & Earth Stations
- Satellite Operations
- Government & Defence applications
- Telemetry, Tracking & Command
- High Resilience applications

TLT-U-L1L1-1001-S5S5 is a L band input to L band output Test Loop Translator designed to be housed in the 1U GENUS chassis, with 30dB of variable attenuation and LO synthesised frequency. The 1U chassis has the capacity for up to 16 hot-swap RF modules (dependant upon module type fitted). Contact ETL for module types available.

TLT Module



TLT Module

Compact form factor allowing multiple modules to be housed in the Genus chassis. Each module occupies 3 slots in the chassis.



Frequency Conversion

Input Frequency: 2025—2125MHz
Output Frequency: 2200—2300MHz



Variable Attenuation

30dB of available attenuation.



Hot Swap & replaceable

RF TLT modules

Chassis Options



Local control & monitoring via HMI high resolution touchscreen



Flexible Module Configurations choose from a mixture of TLT modules with different operating frequencies.



Resilience from dual redundant hot-swap power supplies & field replaceable CPU & HMI



Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface



Compact indoor & outdoor chassis options, which can be part populated



Field replaceable Internal 10MHz reference source and external reference inject port with auto detection



Secure protocols with SNMPv3 and HTTPS



Indoor Chassis



Outdoor Unit





General Specifications		
Module Size		Module 3 slots wide
RF Ports		50 Ohm SMA
Operating Frequency Range	Input	2025 - 2125 MHz
	Output	2200 - 2300 MHz
Instantaneous Bandwidth		100 MHz
Max Input Power Level		0 dBm (operational)
Absolute max Input Power Level		+10 dBm (For no damage)
Conversion Gain		-20 ± 2.0 dB (At 0 dB attenuation setting)
Attenuation control range		0 to 30 dB
Attenuation control steps		0.25 ± 0.20 dB Over full operating band
Flatness	Full Band	±2.0 dB
	Any 300 MHz	±1.0 dB
	Any 40 MHz	±0.5 dB
Input Return Loss		18 dB typ. 12 dB min
Output Return Loss		18 dB typ. 15 dB min
Phase Noise	10 Hz	-70 dBc / Hz (typical)
	100 Hz	-80 dBc / Hz (typical)
	1KHz	-95 dBc / Hz (typical)
	10KHz	-100 dBc / Hz (typical)
	100KHz	-105 dBc / Hz (typical)
	1MHz	-115 dBc / Hz (typical)
Spurs In-Band	Non-carrier related	< -60 dBm, (At 0 dBm input, min attenuation. Non-harmonic)
	Carrier related (>1 MHz Offset)	< -30 dBc, (At 0 dBm input, min attenuation. Non-harmonic)
Spurs Out-of-Band	Non-carrier related	< -65 dBm, (At 0 dBm input, min attenuation. Non-harmonic)
	Carrier related (>1 MHz Offset)	< -30 dBc, (At 0 dBm input, min attenuation. Non-harmonic)
Harmonics		-30 dBc max, (At 0 dBm input, min attenuation)
LO Breakthrough		< -60 dBm max.
Internal Reference Stability		±0.05ppm over 0 to 50°C
External Reference Input Freq		10 MHz. Auto detection (External reference optional)
External Reference Input Level		+3 dBm ± 3 dB
Mute		60 dB max.
Spectral Inversion		Non-inverting

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.

Note 3: All specs are for 50 Ohm connectors unless detailed otherwise.

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