



C-Band Test Loop Translator Module

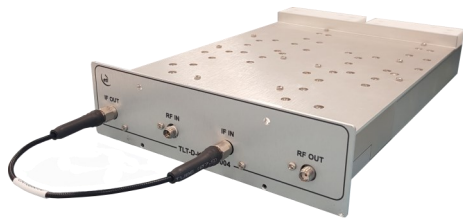
C-Band to C-Band

Typical applications:

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

TLT-D-C2C1-1002-S5S5 is a C band input to C band output Test Loop Translator designed to be housed in the 1U GENUS chassis, with 60dB 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 8 slots in the chassis.



Frequency Conversion

Input Frequency: 5.725—6.725GHz
Output Frequency: 3.4—4.4GHz



Variable Attenuation

60dB 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

Operating Frequency Range	Input	5.725—6.725 GHz	
	Output	3.4—4.4 GHz	
Instantaneous Bandwidth		1 GHz (At LO centre frequency)	
LO Step Size		1 kHz, Input and output frequency user controllable	
LO Frequency Control Range		± 250 MHz (Instantaneous bandwidth is reduced when LO not set to centre frequency)	
Internal Reference Stability		±0.05 ppm over 0 to 50°C	
External Reference		Input Freq. 10 MHz. Auto detection (External reference optional)	
Maximum Input Power Level		0 dBm (Operational)	
Absolute max Input Power Level		+ 20 dBm (For no damage)	
External Reference Level		+3 dBm ±3 dB	
Conversion Gain		0 ± 3.0 dB (At 0dB attenuation setting)	
Flatness	Any 1 GHz	±2.0 dB	
	Any 800 MHz	±1.5 dB	
	Any 500 MHz	±1.0 dB	
	Any 40 MHz	±0.5 dB	
Impedance		50 ohms	
Attenuation Control Range		0 to 60 dB	
Attenuation Control Steps		0.25 dB ±0.20 Over full operating band	
Input Return Loss		14 dB typ. 12 dB min.	
Output Return Loss		14 dB typ. 12 dB min.	
In-band Spurious	Non-carrier related	< -60 dBm	At 0 dB input, min attenuation. Non-harmonic
	Carrier related (> 1MHz Offset)	< -30 dBc	
Out-band Spurious	Non-carrier related	< -65 dBm	At 0 dB input, min attenuation. Non-harmonic
	Carrier related	< -30 dBc	
Harmonics		-30 dBc max, At 0 dBm input, min attenuation.	
LO Breakthrough		< -60 dBm max.	
Mute function		80 dB min	
Spectral Inversion		Non-inverting	
Number of modules per chassis		1 Max	Module 8 slots wide; 16 slots per chassis
MTBF		>80,000 hrs MTBF of each TLT Module	
RF Connector		SMA Female	

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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ETL Systems

New technologies
in RF distribution

Model Number:
TLT-D-C2C1-1002-S5S5

PHASE NOISE

PHASE NOISE	
100 Hz	-70 dBc / Hz (typical)
1 KHz	-80 dBc / Hz (typical)
10 KHz	-80 dBc / Hz (typical)
100 KHz	-85 dBc / Hz (typical)
1 MHz	-105 dBc / Hz (typical)

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