

# V to Q-band Test Loop Translator Module for Genus Chassis

**Typical applications:**

- To replace the satellite link for test and alignment of earth station systems operating in the Q/V frequency bands.
- SNG testing.
- Satcoms & Teleports testing.

TLT-D-VXQX-K5K5 is a V-band input and Q-band output Test Loop Translator module designed to be housed in the 1U GENUS chassis, with variable attenuation, and input and output frequency user controllable.

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

**Operating Frequency Range**  
Input Frequency: 47.2 – 51.4 GHz  
Output Frequency: 37.5 - 40.4 GHz

**Synthesised LO**

**Customisation** standard & custom options available

**Local control & monitoring** via HMI high resolution touchscreen

**Compact 1U high chassis**

**Hot Swap** Test Loop Translator module (not shown)

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

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

Image for indication purposes only, actual units may differ



### Preliminary Specifications

GENERAL SPECIFICATIONS			
Operating Frequency Range	Input	47.2 – 51.4 GHz	
	Output	37.5 - 40.4 GHz	
LO Frequency Control Range		9.7 – 11.0 GHz (Instantaneous Bandwidth limited to 1 GHz min at band edges)	
LO Step Size		1 KHz	
Internal Reference Stability		± 0.05ppm over 0 to 50°C	
External Reference		Input Freq. 10 MHz. Auto detection (External reference optional)	
Maximum Input Power Level		-30 dBm (Operational)	
Absolute max Input Power Level		+0 dBm (For no damage)	
External Reference Level		+3 dBm +/-3 dB	
Conversion Gain		0 ± 3.0 dB At 0dB attenuation setting	
Flatness	Any 1GHz	±3.0	
	Any 500MHz	±1.0 dB	
	Any 40MHz	±0.5 dB	
Impedance		50 ohms	
Attenuation Control Range		0 to 30 dB	
Attenuation Control Steps		1 dB	
Input Return Loss		14 dB typ. 10 dB min.	
Output Return Loss		14 dB typ. 10 dB min.	
In-band Spurious	Non-carrier related	< -60 dBm	At -30 dBm input, min attenuation. Non-harmonic
	Carrier related (> 1 MHz Offset)	< -30 dBc	
Out-band Spurious	Non-carrier related	< -65 dBm	At -30 dBm input, min attenuation. Non-harmonic
	Carrier related	< -30 dBc	
Harmonics		-30 dBc max	At -30 dBm input, min attenuation.
LO Breakthrough		< -60 dBm max.	
Mute function		80 dB	
Spectral Inversion		Non-inverting	
MTBF		>80,000 hrs MTBF of each TLT Module	
RF input Connector		1.85mm 50 Ohm	
RF output Connector		2.4mm 50 Ohm	
Number of modules per chassis		1 max	Module 16 slots wide; 16 slots per chassis



Preliminary Specifications

PHASE NOISE	
100 Hz	-70 dBc / Hz (typical)
1K Hz	-75 dBc / Hz (typical)
10K Hz	-80 dBc / Hz (typical)
100K Hz	-85 dBc / Hz (typical)
1M Hz	-100 dBc / Hz (typical)
POWER (refer to parent 2U chassis)	
Input Power	85-264V, 50-60Hz
Input Power Connector	IEC with Fuse
ENVIRONMENTAL	
Operating Temperature	0 to +50°C
Storage Temperature	-20 to +75°C
Location	Indoor use only
Humidity	20 to 90% non-condensing. Relative Humidity
Altitude	10,000ft/3000m AMSL (Above mean sea level)
PHYSICAL	
Dimensions	1U
Weight	< 10kg
INTERFACE	
Control Method	Via Chassis (Local and remote as provided by selected chassis)

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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