Atlantic Microwave
A Division of ETL Systems

Model Number:
TLT-D-K4KX-1004-K5K5

Ka-band Test Loop Translator for Genus Chassis

Input Frequency: 27.0—31.0GHz
Output Frequency: 17.3—21.2GHz

Typical applications:

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

The 1U chassis has the capacity for up to 2 Test Loop Translators (TLT) modules. These can both be upconverters, downconverters or a mix of both.

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

Operating Frequency Range
Input Frequency: 27.0—31.0GHz
Output Frequency: 17.3—21.2GHz

Synthesised LO

Customisation standard & custom options available

Local control & monitoring via HMI high resolution touchscreen

Compact 1U high chassis

Hot Swap & replaceable Test Loop Translator modules

Redundancy configurations Field-replaceable 1+1 redundant configuration

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

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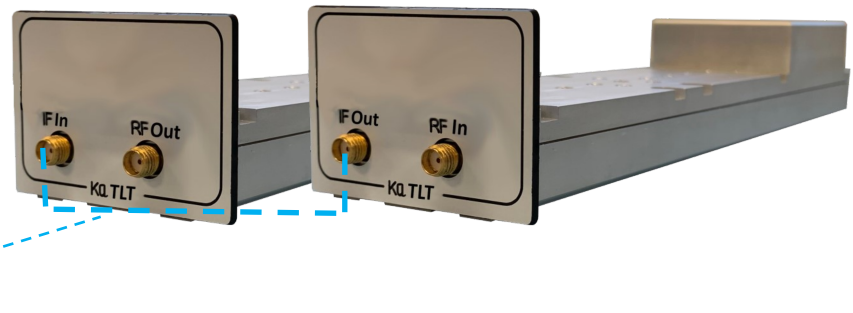

Interconnecting Cabling

Preliminary Specifications

GENERAL SPECIFICATIONS			
Operating Frequency Range	Input	27.0—31.0GHz	
	Output	17.3—21.2GHz	
Instantaneous Bandwidth		1GHz	
LO Frequency Control Range		± 1.75GHz (Instantaneous bandwidth may be reduced when LO not set to centre freq)	
LO Step Size		1KHz	
Internal Reference Stability		± 5 x 10^{-8} over 0 to 50°C	
External Reference		Input Freq. 10 MHz. Auto detection (External reference optional)	
Maximum Input Power Level		0dBm (Operational)	
Absolute max Input Power Level		+20dBm (For no damage)	
External Reference Level		+3dBm +/-3dB	
Conversion Loss		0 ± 3.0dB (At 0dB attenuation setting)	
Flatness	17.3 to 21.2GHz	±3.0dB	
	Any 1GHz	±1.5dB	
	Any 500MHz	±1.0dB	
	Any 40MHz	±0.5dB	
Impedance		50 ohms	
Attenuation Control Range		0 to 60dB	
Attenuation Control Steps		0.25dB ±0.20 Over full operating band	
Input Return Loss		14dB typ. 10dB min.	
Output Return Loss		14dB typ. 10dB min.	
In-band Spurious	Non-carrier related	< -60 dBm	
	Carrier related (> 1MHz Offset)	< -30 dBc	At 0dBm input, min attenuation. Non-harmonic
Out-band Spurious	Non-carrier related	< -65 dBm	At 0dBm input, min attenuation. Non-harmonic
	Carrier related	< -30 dBc	
Harmonics		-30 dBc max	At 0dBm input, min attenuation.
LO Breakthrough		-60dBm max.	
Mute function		80dB min	
Spectral Inversion		Non-inverting	
MTBF		>80,000 hrs MTBF of each TLT Module	
RF input & output Connector		2.92mm	
Number of modules per chassis		2 max	Module 7 slots wide; 16 slots per chassis

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FIXED LO 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)

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	19" x 1U x 510mm excl. connectors & protrusions
Weight	< 11kg

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.

ATLANTIC MICROWAVE
LIMITED
40a Springwood Drive
Braintree
Essex
England CM7 2YN

TELEPHONE
+44 (0)1376 550220
EMAIL
sales@atlanticmicrowave.com

FACSIMILE
+44 (0)1376 552145
WEB
www.atlanticmicrowave.com

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Pb-Free
nqa ISO 9001 QUALITY MANAGEMENT
UKAS MANAGEMENT SYSTEMS 015