

## TLTH(Ka) Series

Ka-Band Test Loop Translators, with full user Interface & remote control.



### *Ka-Band Test Loop Translator Products;*

|                 |   |
|-----------------|---|
| <b>TLTH2750</b> | Ka-Band TX (27.5-28.6GHz) to L-Band                         |
| <b>TLTH2800</b> | Ka-Band TX (28.0-29.5GHz) to L-Band                         |
| <b>TLTH2900</b> | Ka-Band TX (29.0-30.0GHz) to L-Band                         |
| <b>TLTH2960</b> | Ka-Band TX (29.6-30.2GHz) to L-Band                         |
| <b>TLTH3000</b> | Ka-Band TX (30.0-31.0GHz) to L-Band                         |
| <b>TLTH3100</b> | Full Ka-Band TX (27.5-31.0GHz) to Ka-Band RX (17.7-21.2GHz) |

For other 'non-standard' frequency requirements, please contact the factory.

For equivalent lower cost TLT units without the full user interface please see TLT(Ka) series datasheet.





For equivalent remote mount units, please see TLTR(Ka) series datasheet.

A Test Loop Translator is used to convert from one frequency to another for test purposes. No filters are included in the unit and the output of the unit contains all mixing products. Frequency converters with the same input and output frequencies and with filtered outputs are also available.

The **TLTH(Ka) Series** of units are designed to take a sample of the TX signal and convert it to a frequency at which it can be monitored or analysed. The optional 0 to 30dB variable attenuator control is used to balance the incoming power with the monitoring system.

The **TLTH(Ka) Series** are housed in 19 inch 1RU rack mountable chassis and feature full user interfaces with remote control.

### *Peak Features*

-  High stability and excellent phase noise
-  Full alarm monitoring
-  Full 'local' user interface and remote control (RS232/485 as standard, Ethernet optional)
-  Optional electronically variable attenuators



## TLTH(Ka) series – Typical Specification

### Models;

#### TLTH2750

Input Frequency 27.5-28.6GHz  
Output Frequency 950-2050MHz

#### TLTH2800

Input Frequency 28.0-29.5GHz  
Output Frequency 950-2450MHz

#### TLTH2900

Input Frequency 29.0-30.0GHz  
Output Frequency 950-1950MHz

#### TLTH2960

Input Frequency 29.6-30.2GHz  
Output Frequency 950-1550MHz

#### TLTH3000

Input Frequency 30.0-31.0GHz  
Output Frequency 950-1950MHz

#### TLTH3100

Input Frequency 27.5-31.0GHz  
Output Frequency 17.7-21.2GHz

### L-Band Attenuation (Option 3)

Attenuation range 30dB  
Step size 0.1dB or 0.5dB (frequency dependent)  
Control Electronically variable via local (front panel) & remote control

### Input

Connector K-type (f) or 2.92mm (f), 50Ω  
Return Loss >18dB  
1dB GCP +15dBm

### Output

Connector SMA (f), 50Ω  
Option 2b; N-type (f), 50Ω  
Option 2c; K-type (f) or 2.92mm (f), 50Ω  
Return Loss >15dB

### Transfer characteristics

Conversion Loss 20dB ±2dB at 0dB attenuation

### RF Performance

LO phase noise -65dBc/Hz @ 100Hz  
-90dBc/Hz @ 1kHz  
-100dBc/Hz @ 10kHz  
-105dBc/Hz @ 100kHz  
-120dBc/Hz @ 1MHz

### External Reference Input (Option 4)

Frequency 10MHz (5MHz factory settable)  
Level 0dBm ±3dB  
Connector BNC (f), 50Ω  
Required phase noise better than 50dBc/Hz of output Phase Noise  
Locking delay <2 minutes to stabilise from cold

### Mechanical

Width 19" standard rack mountable  
Height 1U (1.75")  
Depth ~400mm (15.7"), plus connectors  
Construction Aluminium chassis  
Weight 4.5kgs (10lbs)

### Control System Interface

Remote Control RS232/ 485 port  
Option 9; Ethernet; Embedded web server & SNMP network management support  
Redundancy CANBUS® interface for N+1 system  
In-built 1+1 & 2+1 controller  
Alarms PSU fail (form C)  
LO fail (form C)  
Connector D-type, 15-way

### Environmental

Operating temp 0°C to +50°C  
EMC EN 55022 part B & EN 50082-1  
Safety EN 60950

### Power Supply

Voltage 90-264VAC  
Frequency 47-63Hz  
Power 50 Watts max

### Options

- 2b) N-type (f) output connection
- 2c) K-type (f) or 2.92mm (f) output connection
- 3a) Electronic Attenuator, 0-30dB (0.5dB steps), at L-Band
- 3b) Electronic Attenuator, 0-30dB (0.1dB steps), at L-Band
- 4) External 10MHz Reference input
- 9) Ethernet interface with embedded web server & SNMP.

## Rear Panel View

