

TLT(Ka) Series

Ka-Band Test Loop Translators



Test Loop Translator Products;

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|----------------|---|
| TLT2750 | Ka-Band TX (27.5-28.6GHz) to L-Band |
| TLT2800 | Ka-Band TX (28.0-29.5GHz) to L-Band |
| TLT2900 | Ka-Band TX (29.0-30.0GHz) to L-Band |
| TLT2960 | Ka-Band TX (29.6-30.2GHz) to L-Band |
| TLT3000 | Ka-Band TX (30.0-31.0GHz) to L-Band |
| TLT3100 | 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 units with full user interface, remote control and digital attenuation, please see TLTH\(Ka\) 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 **TLT(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 unit consists of an RF strip, which is a single mixer stage and a control PCB to monitor the system and provide a stable reference for the Local Oscillator.

The unit is housed in a 19 inch '1RU' high chassis which is suitable for rack mounting, and is 400mm deep and may be fitted with rack slides if required.

Peak Features

-  High stability and excellent phase noise
-  Full Alarm monitoring
-  Optional manual, continuously variable, 0 to 30dB attenuator



TLT(Ka) series – Typical Specification

Models;

TLT2750

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

TLT2800

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

TLT2900

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

TLT2960

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

TLT3000

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

TLT3100

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

Manual L-Band Attenuation (Option 1)

Attenuation range 30dB
Control Continuously variable from front panel.

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

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

- 1a) Manual Variable Attenuator, 0-30dB, at L-band
- 2b) N-type (f) output connection
- 2c) K-type (f) or 2.92mm (f) output connection
- 4) External 10MHz Reference input

Note; some of the above options have an impact on the performance specification, for details please contact the factory if this is thought to be critical.

Rear Panel View

