TLT(Ka) Series

Ka-Band Test Loop Translators

Test Loop Translator Products;

TLT2750	Ka-Band TX (27.5-28.5GHz) 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.

The **TLT(Ka) series** of test loop translators are designed to take a sample of the transmit signal and convert it to a frequency at which it can be monitored or analysed. Often monitoring of the transmit signal is required at L-Band, or alternatively a translation of the transmit signal to the receive band which is then applied to the receive equipment in a test mode.

TLT units are supplied without filtering and the output of the unit therefore contains all mixing products. For higher level applications, units with filtering are also available, please consult the factory.

The optional 0 to 30dB variable attenuator control is used to balance the incoming power with the monitoring system.

The unit is housed in a 19-inch 1'RU' 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 27.5-28.5GHz
Output frequency 950-1950MHz

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

Notes; LO related spurious performance limited to -25dBm typ., for 20dB insertion loss. Lower LO related spurious levels can be achieved with higher insertion loss (please contact the factory). Signal related spurious -16dBc typ.

Manual L-Band Attenuation (Option 1)
Attenuation range 30dB
Control Continuously variable from front panel.
Note; can degrade gain flatness performance

Input
Connector K-type (f) or 2.92mm (f), 50Ω
Return loss >18dB
1dB GCP +10dBm
Max input power +15dBm

Output
Connector SMA (f), 50Ω
Note; K-Type(f) or 2.92mm(f), 50Ω as standard for TLT3100.
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
Gain stability ±0.25dB from 0 to 40°C

RF Performance
LO phase noise -65dBc/Hz @ 100Hz
-90dBc/Hz @ 1kHz
-95dBc/Hz @ 10kHz
-100dBc/Hz @ 100kHz
-120dBc/Hz @ 1MHz

Internal Reference Stability
Allan deviation 5 x 10^{-11} over 1s
Ageing <5 x 10^{-9} per day, <5 x 10^{-7} per year
Temp stability <5 x 10^{-8} over 0 to 50^{0}C
Note; higher stability reference option available

External Reference Input (Option 4) with automatic detection
Frequency 10MHz (5MHz factory settable)
Level 0dBm ±5dB
Connector BNC (f), 50Ω
Required phase noise to be 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
Option 7; Redundant PSU; provides a 1+1 redundant PSU configuration with separate prime power inputs

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
7) Redundant power supply

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.

PEAK COMMUNICATIONS

Rear Panel View

Peak Communications Ltd., Unit 1, The Woodvale Centre, Woodvale Road, Brighouse, West Yorkshire, HD6 4AB, U.K.
Tel; +44 (0)1484 714200 Fax; +44(0)1484 723666 Email; sales@peakcom.co.uk Web; www.peakcom.co.uk