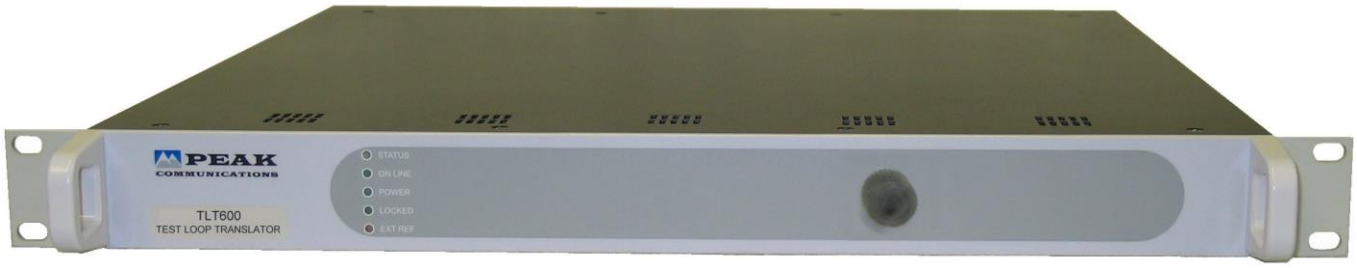
TLT(A) Series

Single Band Test Loop Translators



Test Loop Translator Products;

TLT600	C-Band (TX) to L-Band
TLT672	Super extended C-Band (TX) to L-Band
TLT642, 2225	C-Band (TX) to C-Band (RX)
TLT585	Extended C-Band (TX) to C-Band (RX), inverted and non-inverted spectrum available
TLT790	X-Band (TX) to L-Band
TLT742	X-Band (TX) to X-Band (RX)
TLT127	Ku-Band (TX; 12.75 to 13.50GHz) to L-Band
TLT137	Ku-Band (TX; 13.75 to 14.50GHz) to L-Band
TLT140	Ku-Band (TX; 14.00 to 14.50GHz) to L-Band
TLT1000, 1001	Ku-Band (TX) to Ku-Band (RX)
TLT142	Ku-Band (RX) to C-Band (RX)
TLT180	DBS-Band (TX) to L-Band
TLT184	Extended DBS-Band (TX) to L-Band

For other 'non-standard' frequency requirements, please contact the factory.
For multiple-range TLT units please see TLT(B) series datasheet.
For equivalent units with full user interface, remote control and digital attenuation, please see TLTH(A) series datasheet.
For equivalent remote mount units, please see TLTR(A) series datasheet.

The **TLT(A) 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.

Normally TLT units are supplied without filtering and the output of the unit therefore contains all mixing products. Units with filtering are also available, please consult the factory. 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 optional 0 to 30dB variable attenuator control is used to balance the incoming power with the monitoring system.

The unit is housed in 19 inch 1'U' high chassis, suitable for rack mounting, is 400 mm 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(A) series – Typical Specification

Models;

TLT600
Input frequency 5.85-6.65GHz
Output frequency 950-1750MHz

TLT672
Input frequency 5.85-6.725GHz
Output frequency 950-1825MHz

TLT2225
Input frequency 5.85-6.425GHz
Output frequency 3.625-4.2GHz
Note; spurious performance limited to -40dBc typ.

TLT642
Input frequency 6.425-6.725GHz
Output frequency 3.4-3.7GHz

TLT585
Input frequency 5.85-6.65GHz
Output frequency 3.4-4.2GHz
Note; spurious performance limited to -40dBc typ.

TLT585I
Input frequency 5.85-6.65GHz
Output frequency 4.2-3.4GHz (inverted spectrum)

TLT790
Input frequency 7.9-8.4GHz
Output frequency 950-1450MHz

TLT742
Input frequency 7.9-8.4GHz
Output frequency 7.25-7.75GHz

TLT127
Input frequency 12.75-13.50GHz
Output frequency 950-1700MHz

TLT137, 140
Input frequency 13.75-14.50, 14.00-14.50GHz
Output frequency 950-1700, 950-1450MHz

TLT1000
Input frequency 13.75-14.50GHz
Output frequency 11.85-12.60GHz

TLT1001
Input frequency 14.00-14.50GHz
Output frequency 11.70-12.20GHz
Note; for other ranges please consult the factory.

TLT142
Input frequency 12.25-12.75GHz
Output frequency 3.7-4.2GHz

TLT180
Input frequency 17.3-18.1GHz
Output frequency 950-1750MHz

TLT184
Input frequency 17.3-18.4GHz
Output frequency 950-2050MHz

Manual Attenuation (Option 1)
Attenuation range 30dB
Control Continuously variable from front panel.

Input
Connector SMA (f), 50Ω
Option 2a; N-type (f), 50Ω
Return loss >18dB
1dB GCP +10dBm
Max input power +15dBm

Output
Connector SMA (f), 50Ω
Option 2b; N-type (f), 50Ω
Return loss 15dB

Transfer Characteristics
Conversion Loss 20dB ±2dB at 0dB attenuation

RF Performance
LO phase noise (typical) 75dBc/Hz @ 100Hz
-92dBc/Hz @ 1kHz
-100dBc/Hz @ 10kHz
-107dBc/Hz @ 100kHz
-125dBc/Hz @ 1MHz

RF Mute (Option 13)
Activation Front panel switch
Option 13a; discrete control input on rear panel.
Isolation 60dB min

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

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)
Controls Mute input (Option 13a)
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 30 Watts max

Options

1a) Manual variable attenuator, 0-30dB, at L-band
1b) Manual variable attenuator, 0-30dB, at SHF
2a) N-type (f) input connection
2b) N-type (f) output connection
4) External 10MHz reference input
13) RF mute option, activated from front panel
13a) Mute control input on rear panel

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