TLTH(A) Series

Single Band, Test Loop Translators with full user interface & remote control

Single Band Test Loop Translator Products;

TLTH202	S-Band (TX) to S-Band (RX)
TLTH600	C-Band (TX: 5.85-6.65GHz) to L-Band
TLTH601i	C-Band (TX: 5.85-6.425GHz) to L-Band, inverted spectrum
TLTH672	Extended C-Band (TX) to L-Band
TLTH7025	Super extended C-Band (TX) to L-Band
TLTH7025B	INSAT C-Band (TX) to L-Band
TLTH642, 2225	C-Band (TX) to C-Band (RX)
TLTH585	Extended C-Band (TX) to C-Band (RX), inverted and non-inverted spectrum available
TLTH6725	INSAT C-Band (TX) to INSAT C-Band (RX)
TLTH790	X-Band (TX) to L-Band
TLTH742	X-Band (TX) to X-Band (RX)
TLTH127	Ku-Band (TX; 12.75 to 13.50GHz) to L-Band
TLTH137	Ku-Band (TX; 13.75 to 14.50GHz) to L-Band
TLTH148	Ku-Band (TX; 13.75 to 14.80GHz) to L-Band
TLTH145	Ku-Band (TX; 14.50 to 14.80GHz) to L-Band
TLTH1000, 1001	Ku-Band (TX) to Ku-Band (RX)
TLTH142	Ku-Band (RX) to C-Band (RX)
TLTH180	DBS-Band (TX) to L-Band
TLTH184	Extended DBS-Band (TX) to L-Band
TLTH173	Extended DBS-Band (TX) to Ku-Band (RX)

For other 'non-standard' frequency requirements, please contact the factory.
For multiple-range TLT units please see TLTH(B) series datasheet.
For equivalent lower cost TLT units without the full user interface please see TLT(A) series datasheet.
For equivalent remote mount units, please see TLTR(A) series datasheet.

The **TLTH(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.

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 **TLTH(A) 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(A) series – Typical Specification

Model	Input	Output	Notes
TLTH202	2020-2120MHz	2200-2300MHz	
TLTH600	5.85-6.65GHz	950-1750MHz	
TLTH601i	5.85-6.425GHz	1525-950MHz	Inverted output spectrum.
TLTH672	5.850-6.725GHz	950-1825MHz	
TLTH7025	5.850-7.025GHz	950-2125MHz	In-band carrier related spurious limited to -38dBc at 0dBm input typ.
TLTH7025B	6.725-7.025GHz	950-1250MHz	
TLTH2225	5.850-6.425GHz	3.625-4.200GHz	In-band carrier related spurious limited to -40dBc at 0dBm input typ.
TLTH585	5.85-6.65GHz	3.4-4.2GHz	In-band carrier related spurious limited to -40dBc at 0dBm input typ.
TLTH585I	5.85-6.65GHz	4.2-3.4GHz	Inverted output spectrum.
TLTH642	6.425-6.725GHz	3.4-3.7GHz	
TLTH6725	6.725-7.025GHz	4.5-4.8GHz	
TLTH790	7.9-8.4GHz	950-1450MHz	
TLTH742	7.9-8.4GHz	7.25-7.75GHz	In-band carrier related spurious limited to -45dBc at 0dBm input typ.
TLTH127	12.75-13.50GHz	950-1700MHz	
TLTH137	13.75-14.50GHz	950-1700MHz	
TLTH148	13.75-14.80GHz	950-2000MHz	
TLTH140	14.0-14.5GHz	950-1450MHz	
TLTH145	14.5-14.8GHz	950-1250MHz	
TLTH1000	13.75-14.50GHz	11.85-12.60GHz	
TLTH1001	14.0-14.5GHz	11.7-12.2GHz	
TLTH142	12.25-12.75GHz	3.7-4.2GHz	
TLTH180	17.3-18.1GHz	950-1750MHz	
TLTH184	17.3-18.4GHz	950-2050MHz	
TLTH173	17.3-18.4GHz	10.85-11.95GHz	In-band carrier related spurious limited to -45dBc at 0dBm input typ.

Note; other ranges are available, please consult the factory.

Input

Connector	SMA (f), 50Ω
Option 2a;	N-type (f), 50Ω
Return loss	>18dB
P1dB 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
Gain stability	±0.25dB from 0 to 40°C

RF Performance

LO phase noise	-75dBc/Hz @ 100Hz
	-92dBc/Hz @ 1kHz
	-100dBc/Hz @ 10kHz
	-105dBc/Hz @ 100kHz
	-125dBc/Hz @ 1MHz

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) 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

Attenuation (Option 3)

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

RF Mute (Option 13)

Activation	Front panel and remote control
Option 13a;	discrete control input on rear panel
Isolation	60dB min

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
Redundancy	CANBUS® interface for N+1 system
	In-built 1+1 & 2+1 controller
Discrete 'Alarms	PSU fail alarm (form C)
Interface'	LO fail alarm (form C)
Option 13a;	mute input control
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

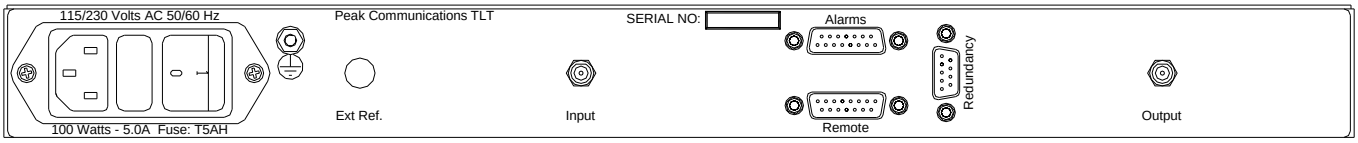
Voltage	90-264VAC
Frequency	47-63Hz
Power	30 Watts max
Option 7;	Redundant PSU; provides a 1+1 redundant power supply configuration with separate prime power inputs

Options

2a) N-type (f) input connection
2b) N-type (f) output connection
3a) Electronic attenuator, 0-30dB (0.5dB steps), at L/ S-Band
3b) Electronic attenuator, 0-30dB (0.1dB steps), at L/ S-Band
3c) Electronic attenuator, 0-30dB (0.1dB steps), at Ku-Band
3d) Electronic attenuator, 0-30dB (0.1dB steps), at C or X-Band
4) External 10MHz reference input
7) Redundant power supply
9) Ethernet interface with embedded web server & SNMP
13) RF mute option with front panel and remote control
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 *(sample)*



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