Rack-Mounted | USB & Ethernet Control

CMTS Test Box ZT-249

75Ω 5-1220 MHz

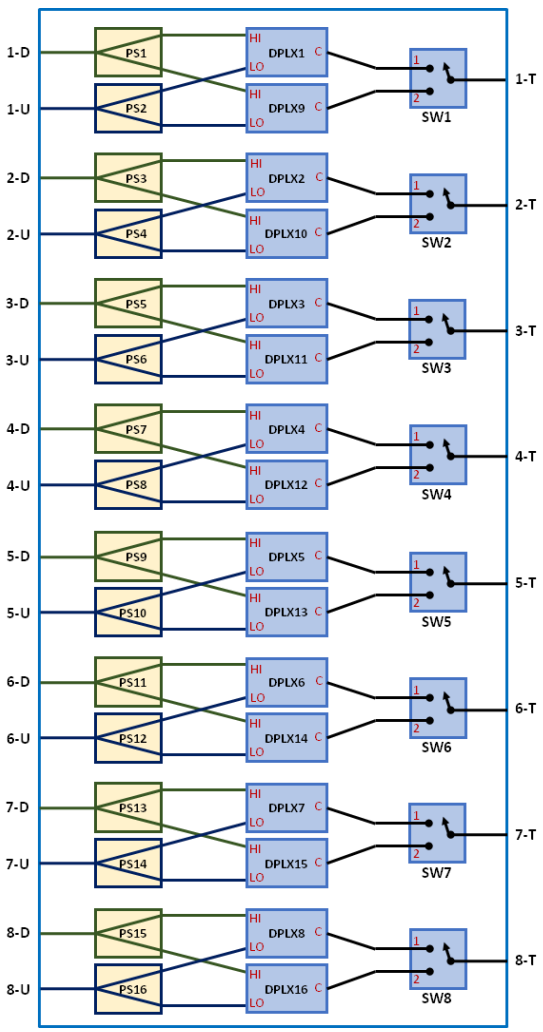
Product Overview

Mini-Circuits' ZT-249 is an 8-channel test rack developed for 75Ω CMTS test applications. Each channel combines the independent downstream and upstream paths on to a common path, with the ability to select between 1 of 2 frequency standards to be used in the diplexing. The selectable frequency standards are:

1. 5-85 MHz upstream
   102-1220 MHz downstream
2. 25-204 MHz upstream
   58-1220 MHz downstream

The complete system is housed in a compact 19-inch rack chassis with 75Ω F-type connectors on the front and rear panels.

The system can be controlled via USB or Ethernet (supporting both HTTP and Telnet network protocols). Full software support is provided, including our user-friendly GUI application for Windows and a full API with programming instructions for Windows and Linux environments (both 32-bit and 64-bit systems).



Please contact *testsolutions@minicircuits.com* for support

Mini-Circuits
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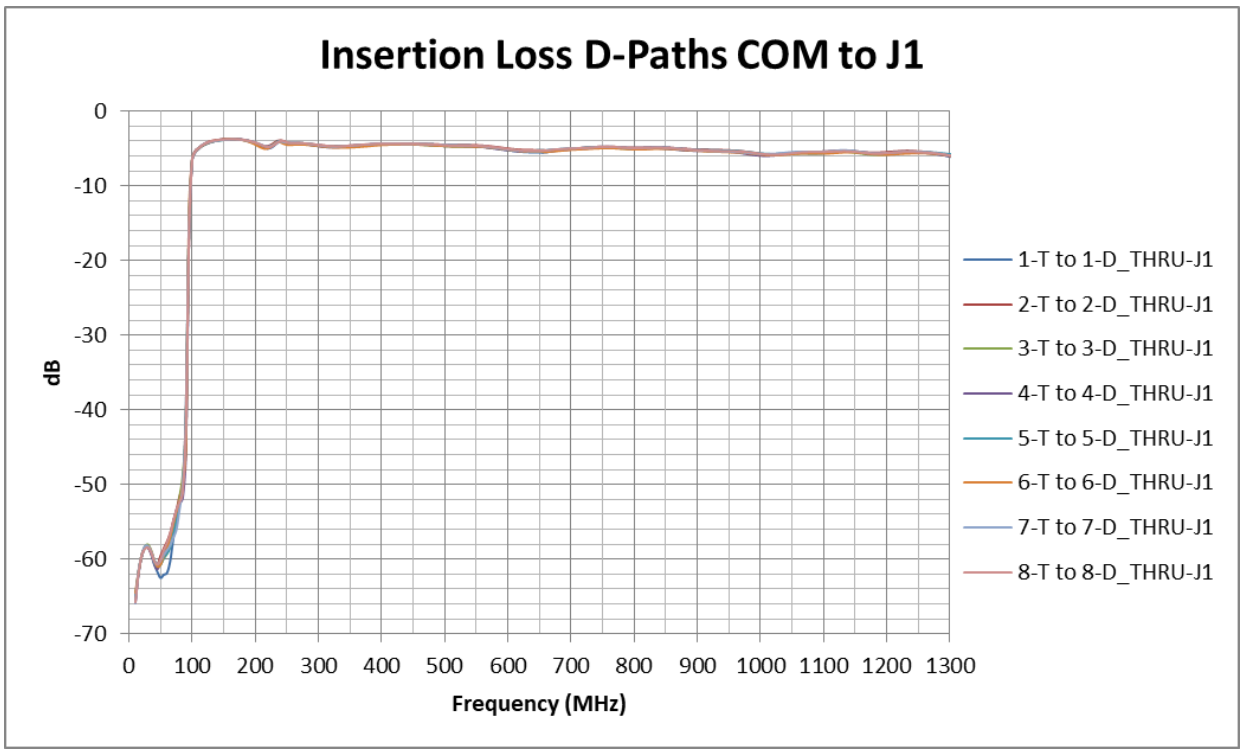
Mechanical Specifications

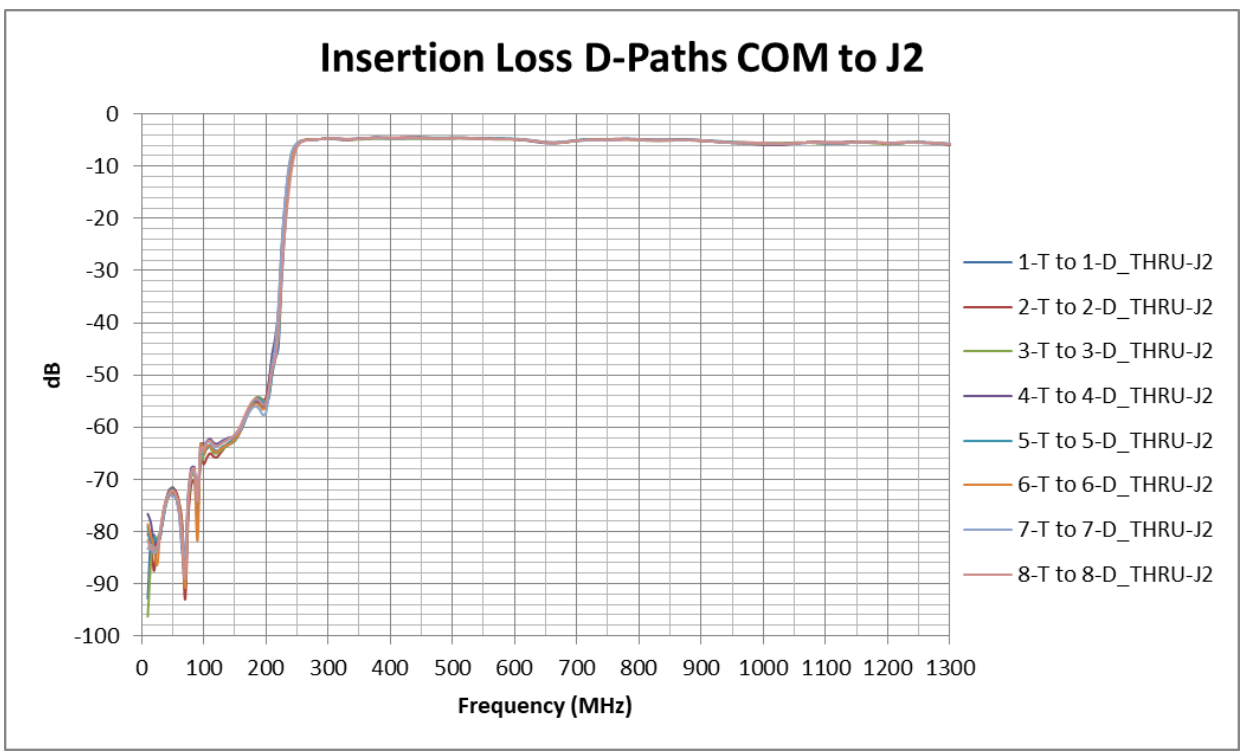
Dimensions	19” (W) x 4U (H) x 20” (D)
Case Material	Aluminum (with protective coatings to prevent corrosion)
Case Drawing	99-01-2457
RF Connectors	F-type female
Front panel	a) 8 x F-type female connectors (1-T to 8-T) b) ON/OFF switch with indicator light c) Carry handles
Rear panel	a) 16 x F-type female connectors (1-U to 8-U and 1-D to 8-D) b) AC mains power supply input c) USB & RJ45 control connections d) Label with date code/serial number/MCL part# for traceability
Control Interface	a) USB and Ethernet TCP/IP supporting HTTP and TELNET protocols
Power supply	a) AC mains power supply (90-260 V, 47-63 Hz) b) 2A, 250V fuse rating
Operating temp	0° to +50° C

Electrical Specifications at 25°C

Parameter	Value	Conditions
High Pass Frequency	102-1220 MHz	Switch state = COM<>1
	258-1220 MHz	Switch state = COM<>2
Low Pass Frequency	5-85 MHz	Switch state = COM<>1
	5-204 MHz	Switch state = COM<>2
Input Power	+10 dBm max	Into "T" port
	+20 dBm max	Into "U" or "D" port
Insertion Loss	7 dB typ	Relevant pass band on active path
Rejection	45 dB Typ	Rejection of high pass band at "D" port
	45 dB Typ	Rejection of low pass band at "U" port
Return Loss	15 dB typ	"T" port
	15 dB typ	"U" and "D" ports, in diplexer pass band

Typical Performance Data





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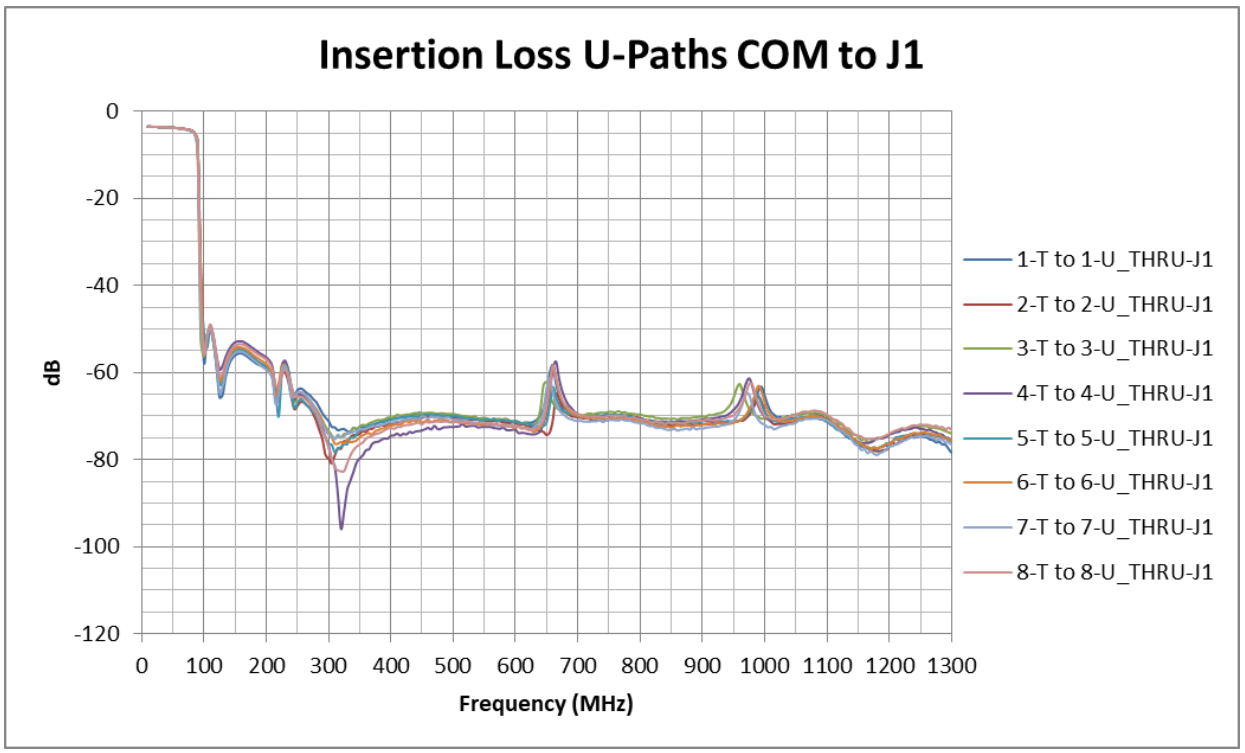

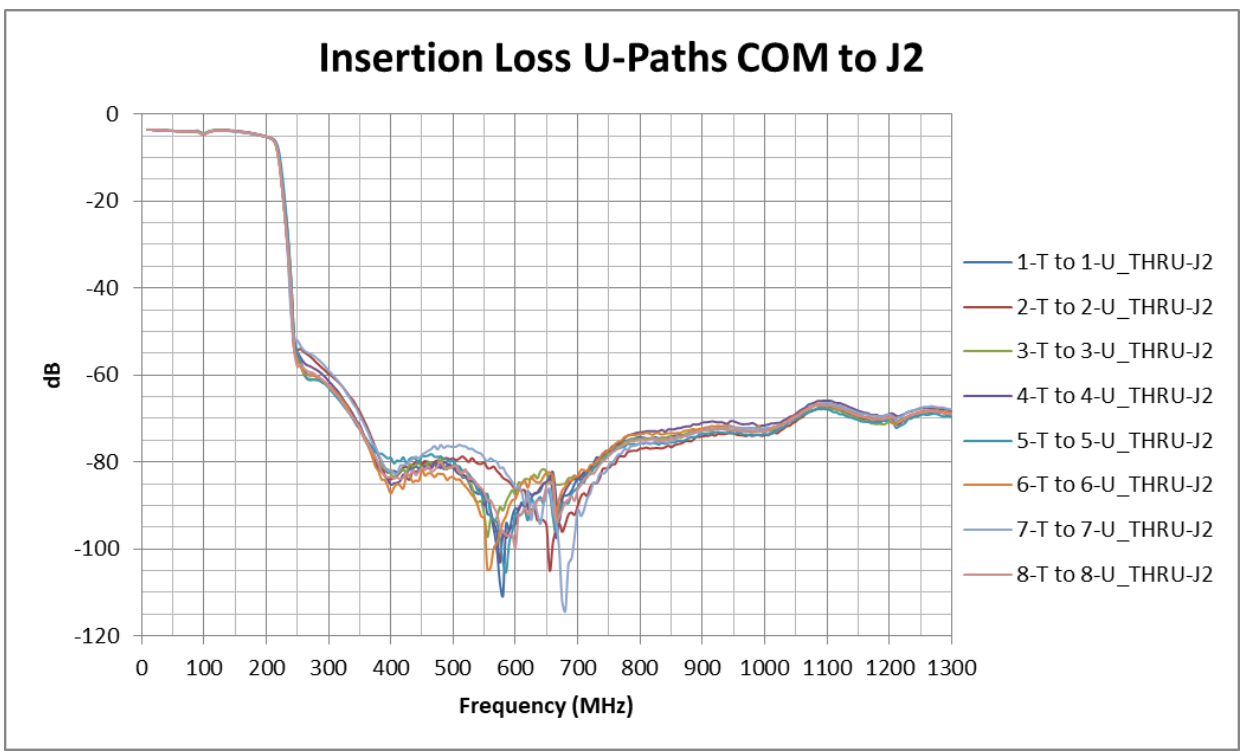

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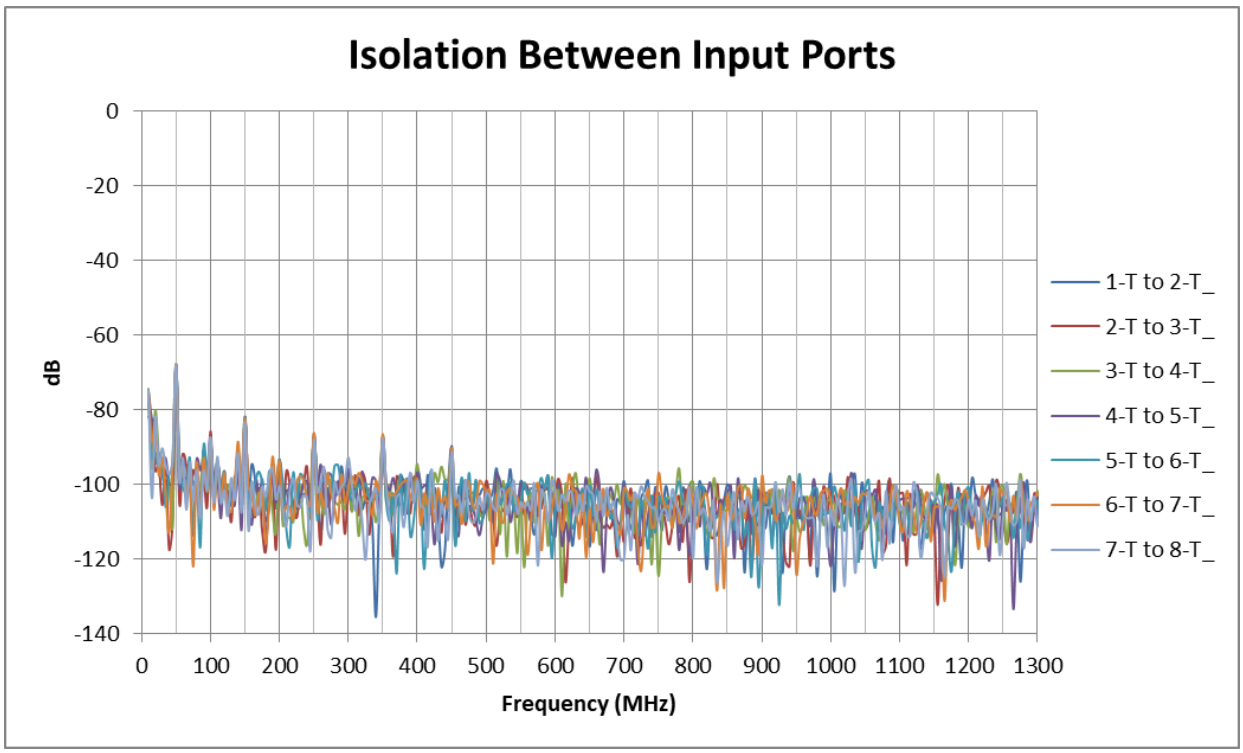

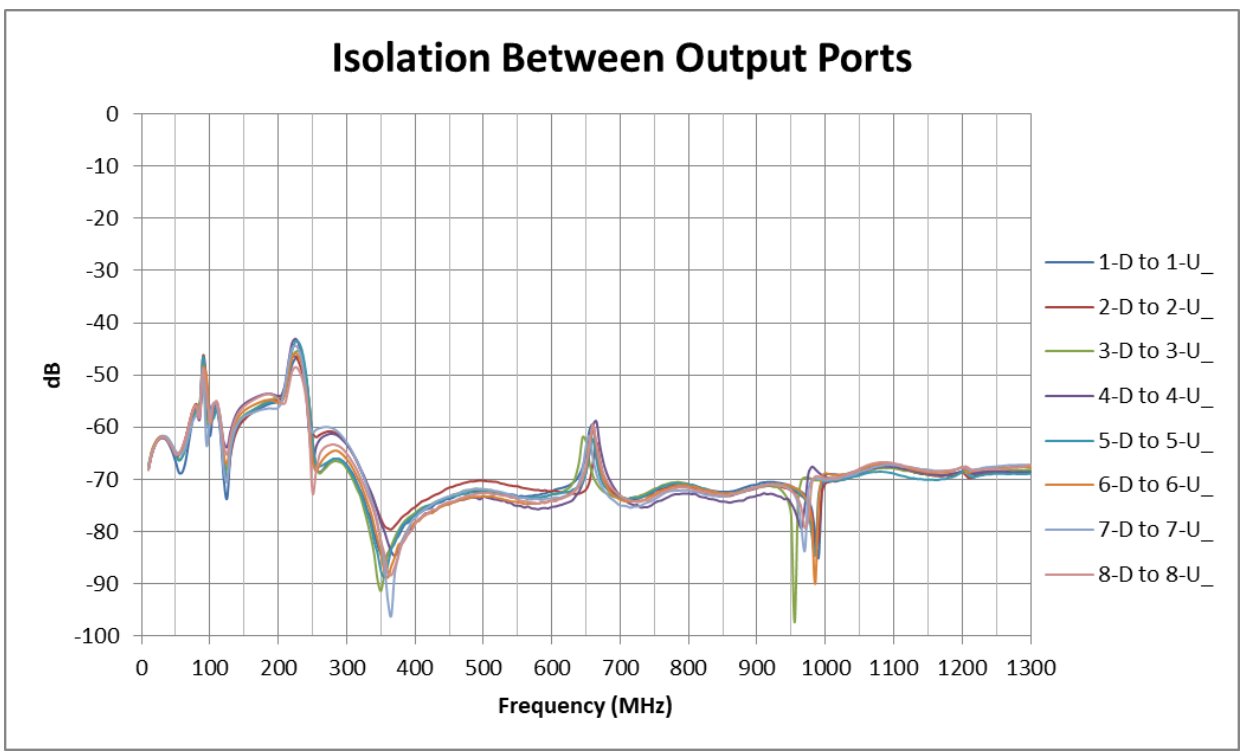

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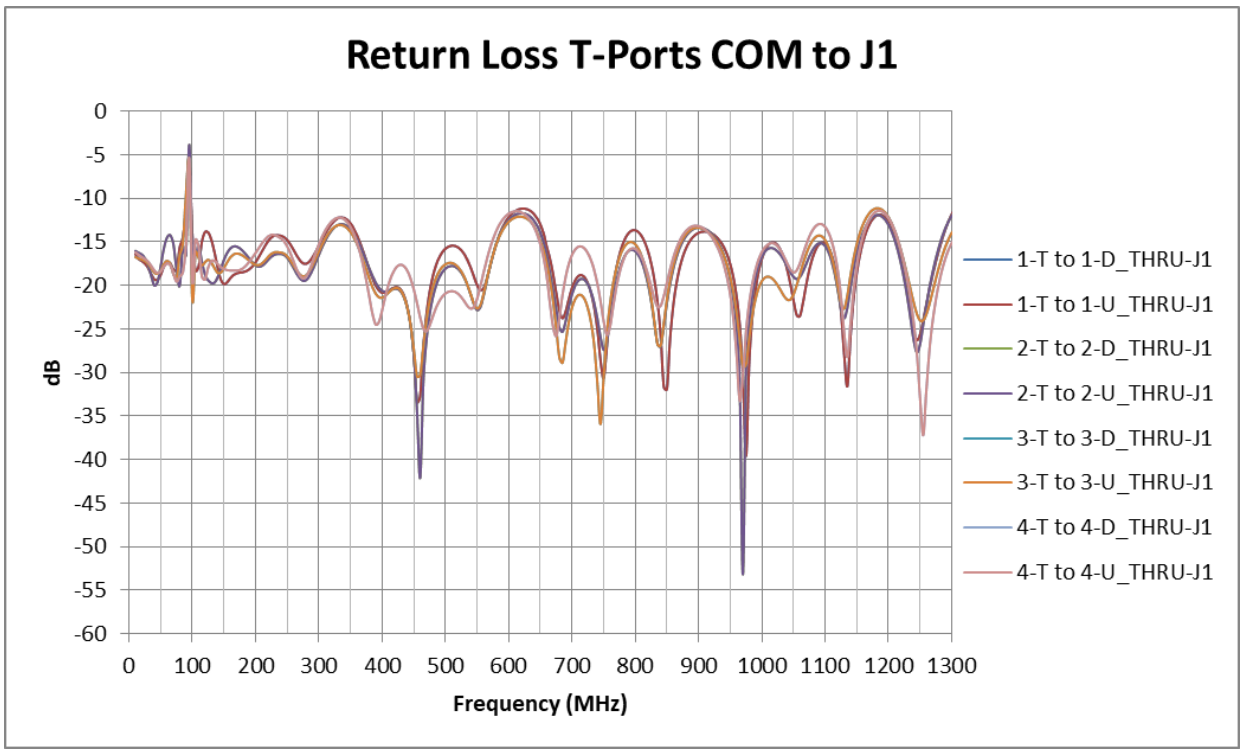

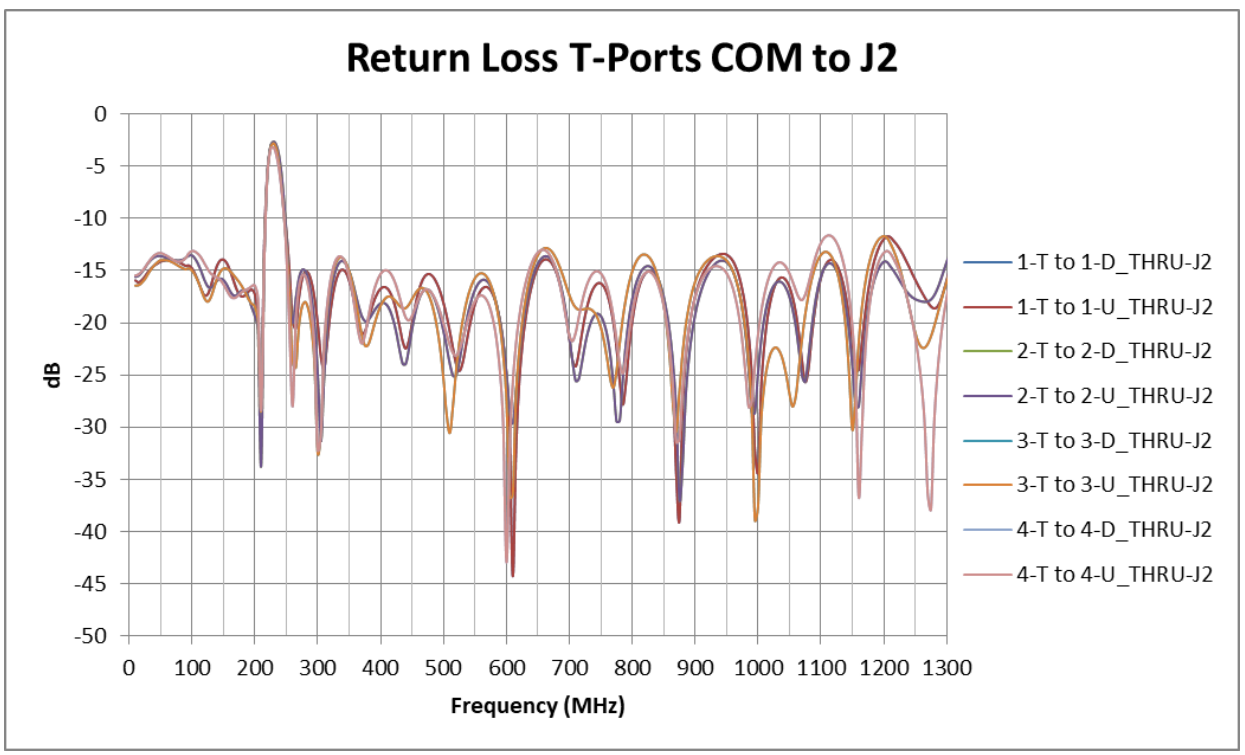

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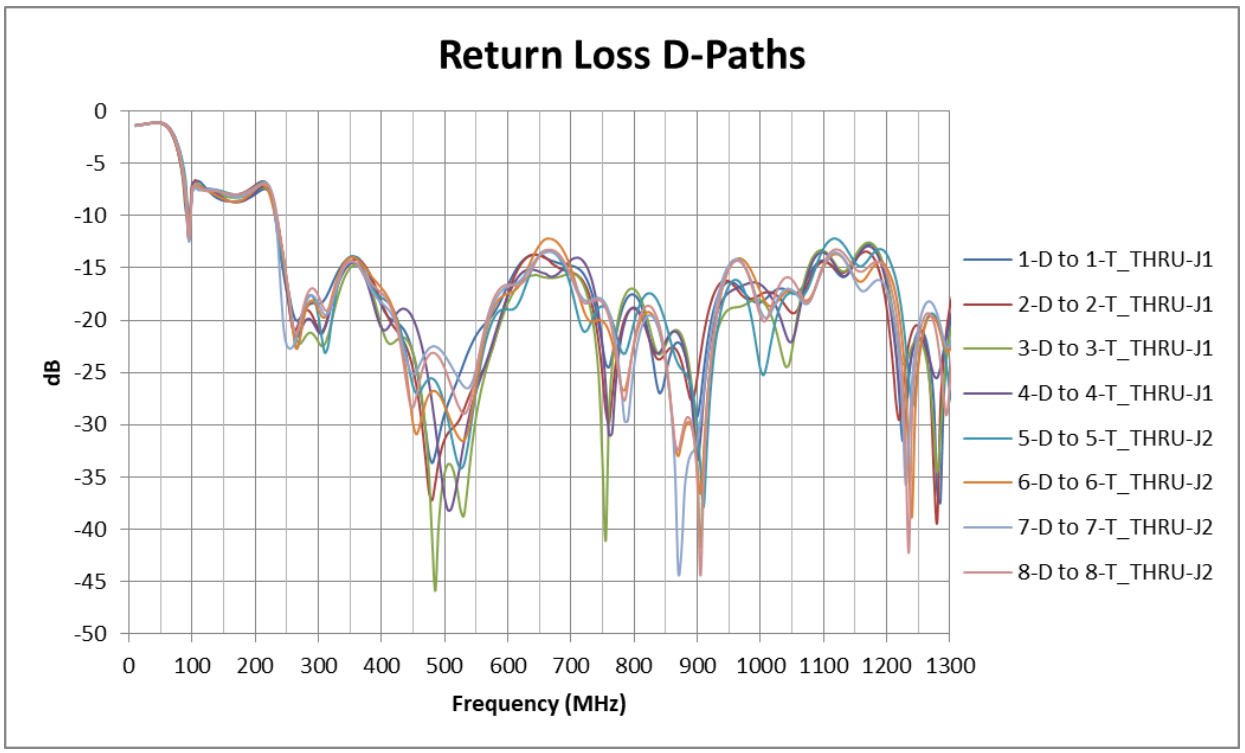
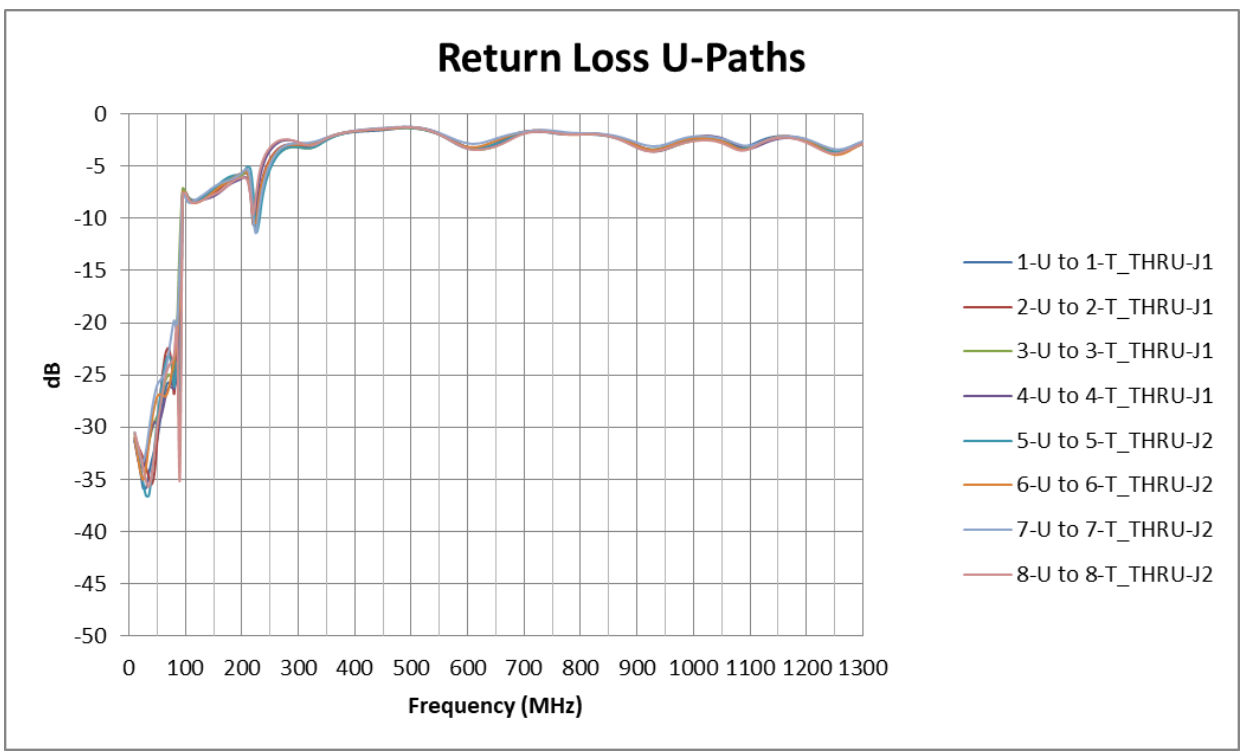
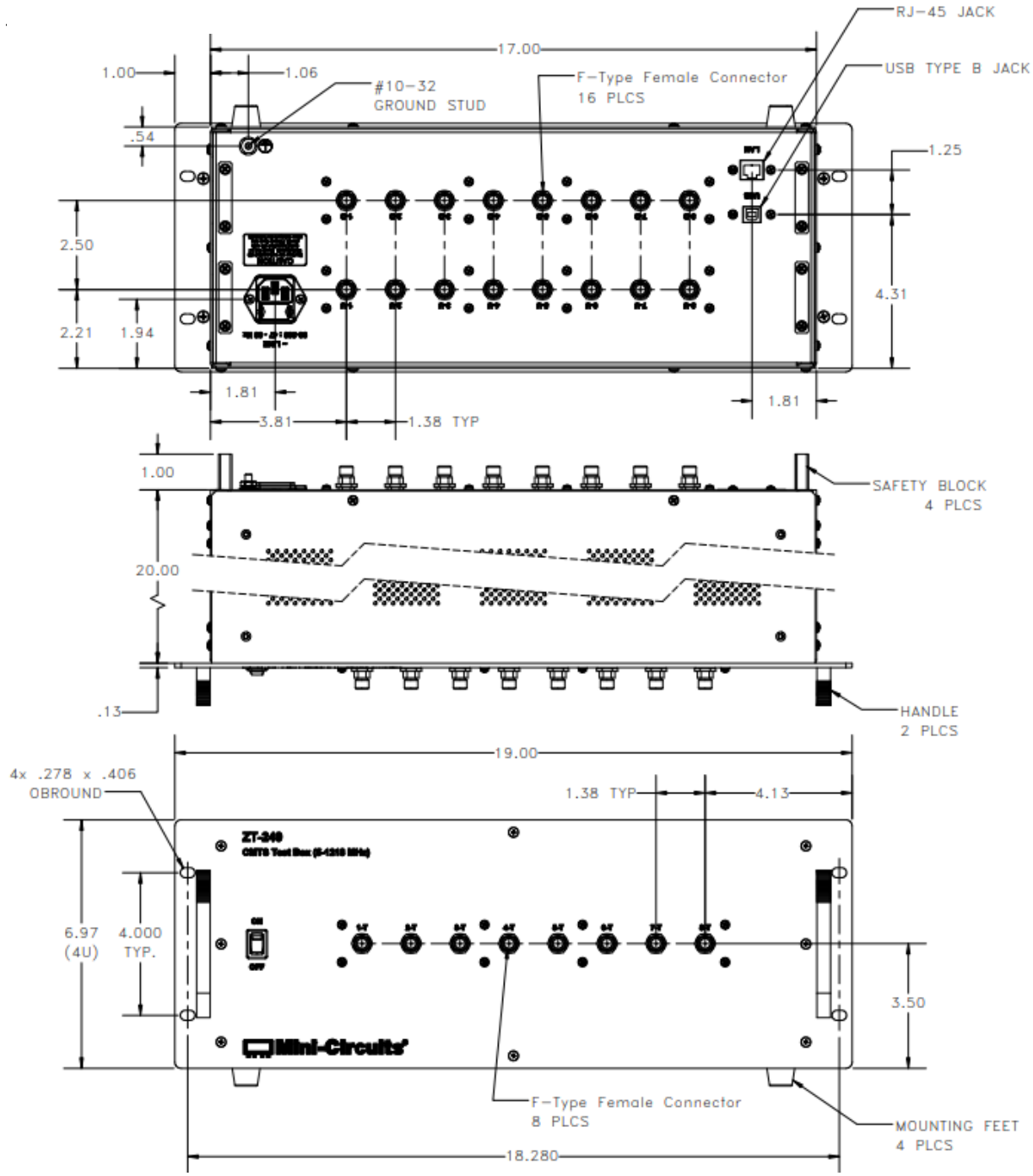




Outline Drawing



Software Specifications

Software & Documentation Download:

- Mini-Circuits' full software and support package including user guide, Windows GUI, DLL files, programming manual and examples are available on request
- Please contact testsolutions@minicircuits.com for support

Minimum System Requirements:

Parameter	Requirements	
Interface	USB HID & Ethernet (HTTP & Telnet)	
System Requirements	GUI	Windows 98 or later
	USB API DLL	Windows 98 or later and programming environment with ActiveX or .NET support
	USB Direct Programming	Linux; Windows 98 or later
	Ethernet	Windows, Linux or Mac computer with a network port and Ethernet TCP / IP support
Hardware	Pentium II or later with 256 MB RAM	

Application Programming Interface (API)

Ethernet Support:

- Simple ASCII / SCPI command set for attenuator control
- Communication via HTTP or Telnet
- Supported by most common programming environments

USB Support (Windows):

- ActiveX COM DLL file for creation of 32-bit programs
- .NET library DLL file for creation of 32 / 64-bit programs
- Supported by most common programming environments (refer to application note AN-49-001 for summary of supported environments)

USB Support (Linux):

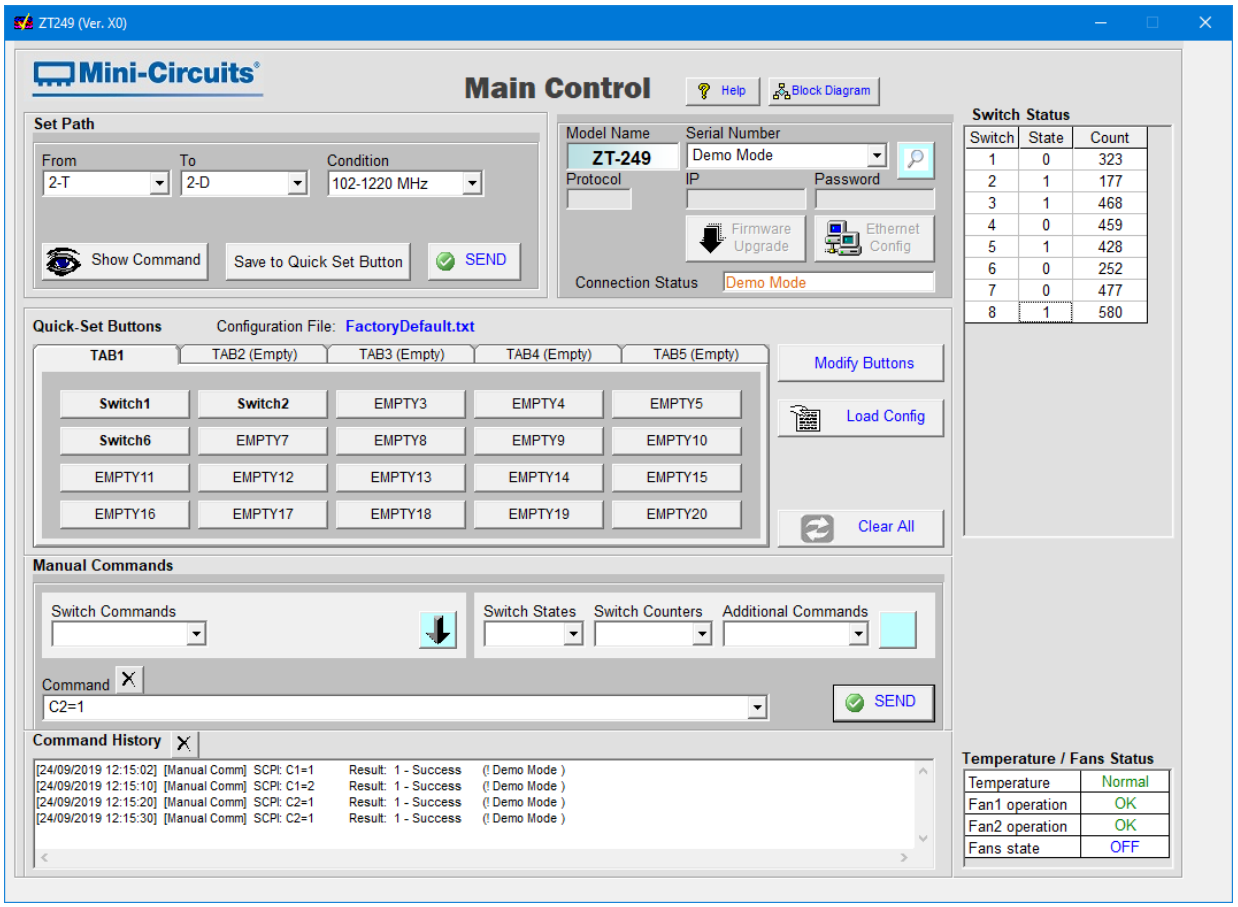
- Direct USB programming using a series of USB interrupt codes

Full programming instructions and examples available for a wide range of programming environments / languages.

CMTS Test Box ZT-249

Graphical User Interface (GUI) for Windows - Key Features

- Connect via USB or Ethernet
- Run GUI in “demo mode” to evaluate software without a hardware connection
- View and set all switch states
- Configure Ethernet settings
- Upgrade firmware
- Send SCPI commands



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