2 x *n* Blocking Switch Matrices   ZTVX-*n*-75 Series

75Ω   2 x 8, 2 x 10, 2 x 12, 2 x 16   5 to 2500 MHz

Product Overview

Mini-Circuits' ZTVX-n-75 series comprises a range of flexible, 2 by n switch matrices for 75Ω test applications. available in a compact, 19-inch rack-mountable chassis with all RF connections (N-type) accessible on the front panel. This system is available in a range of blocking switch matrix configurations from 2 x 8 to 2 x 16, ideal for expanding a standard 2 port VNA for a multi-port or multi-device test scenario:

- Parallel testing of multiple 2 port devices (eg: filter and amplifier production testing)
- Production testing of splitter/combiner or switch components with high port counts
- Testing of MIMO systems with high channel counts

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).
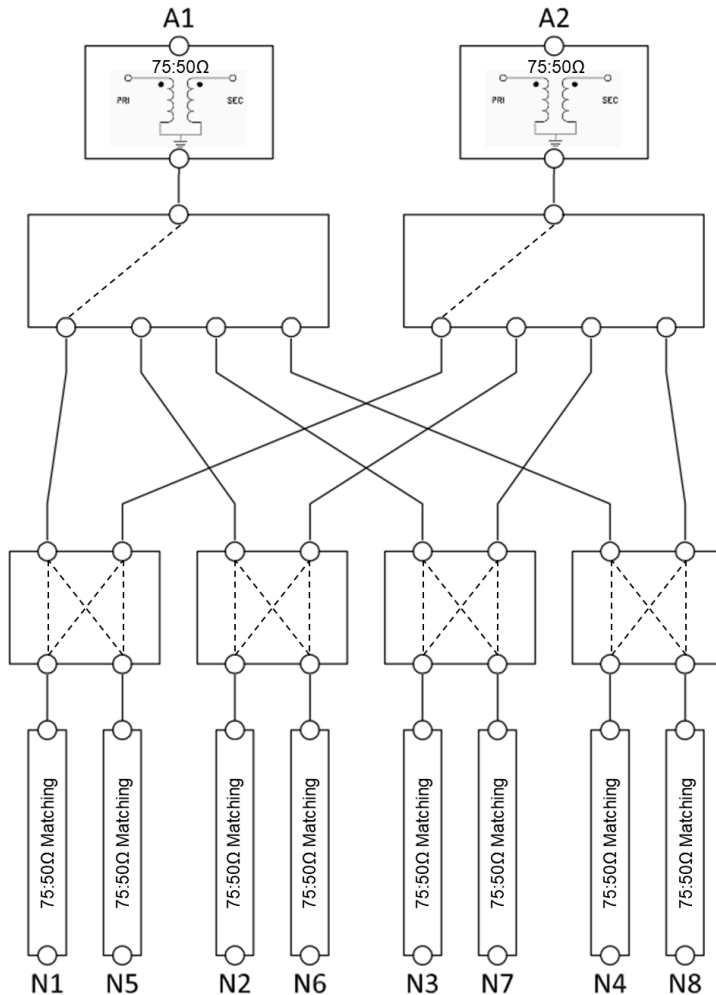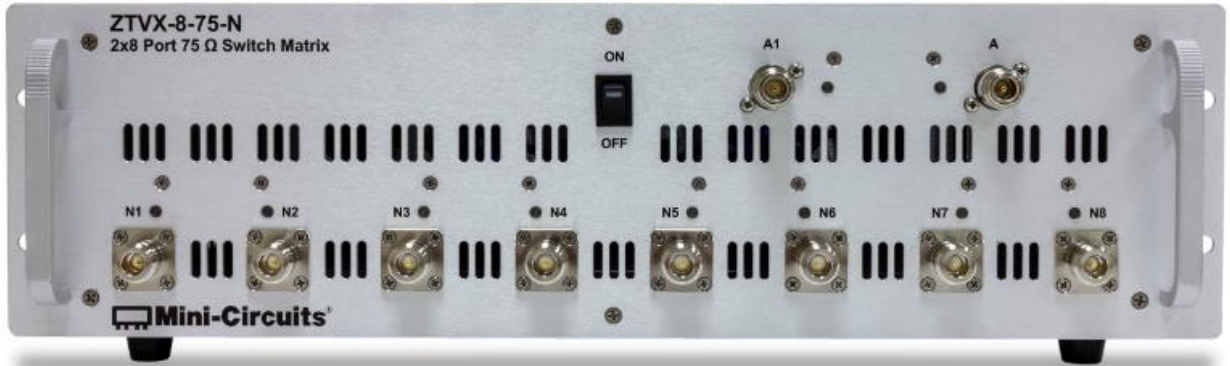
Key Features

Feature	Advantages
High port counts	Bi-directional operation from 2 to multiple ports facilitates a wide range of switch applications
Compact package	The 2U height, rack-mountable chassis is easily located beneath a VNA or in a rack test environment.
Ethernet-TCP/IP (HTTP & Telnet)	Remote control from any Windows®, Mac®, or Linux® computer, or even a mobile device with a network connection and Ethernet-TCP/IP (HTTP or Telnet protocols) support. Using a VPN would allow remote control from anywhere in the world.
USB HID (Human Interface Device)	Local control via USB connection. Plug-and-Play, no driver required. Compatible with Windows® or Linux® operating systems using 32 and 64 bit architectures.
Full software support	The user friendly Windows GUI (graphical user interface automation) allows manual control straight out of the box. A full API (application programming interface), programming examples and manuals are provided to allow automation in most programming environments.

Please contact *testsolutions@minicircuits.com* for support

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Catalog Configurations*

ZTVX-8-75-N
- 2 x 8 switch matrix
- 5-2500 MHz
- 75Ω N-type
- 19" rack chassis, 3U height

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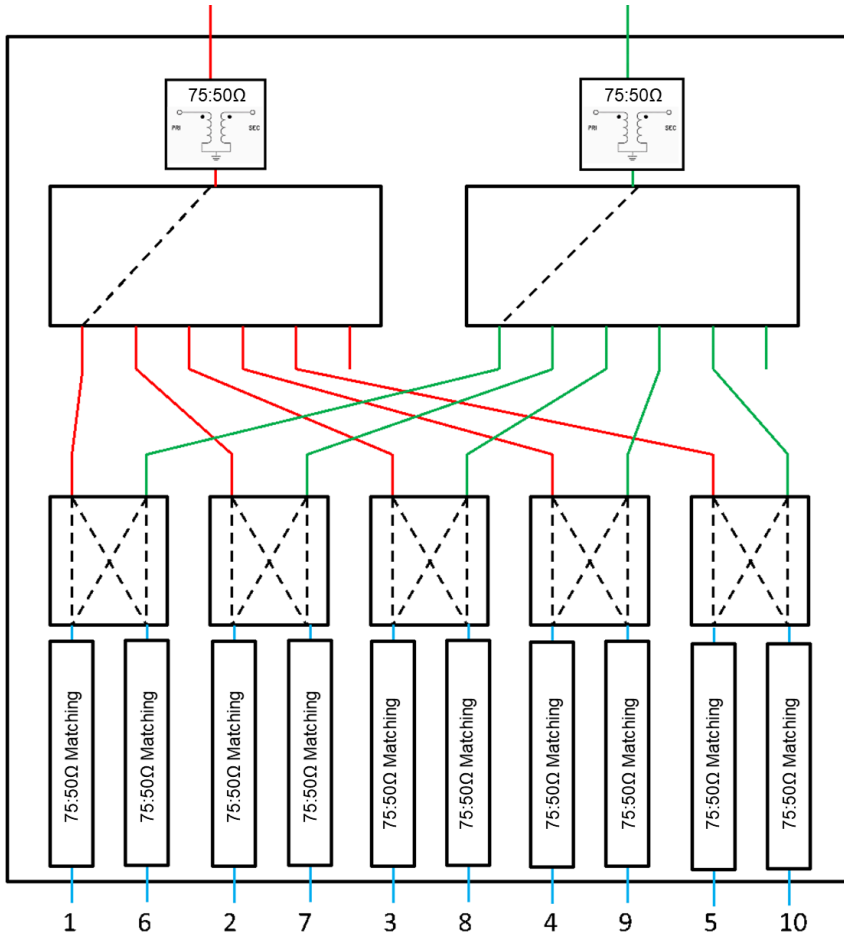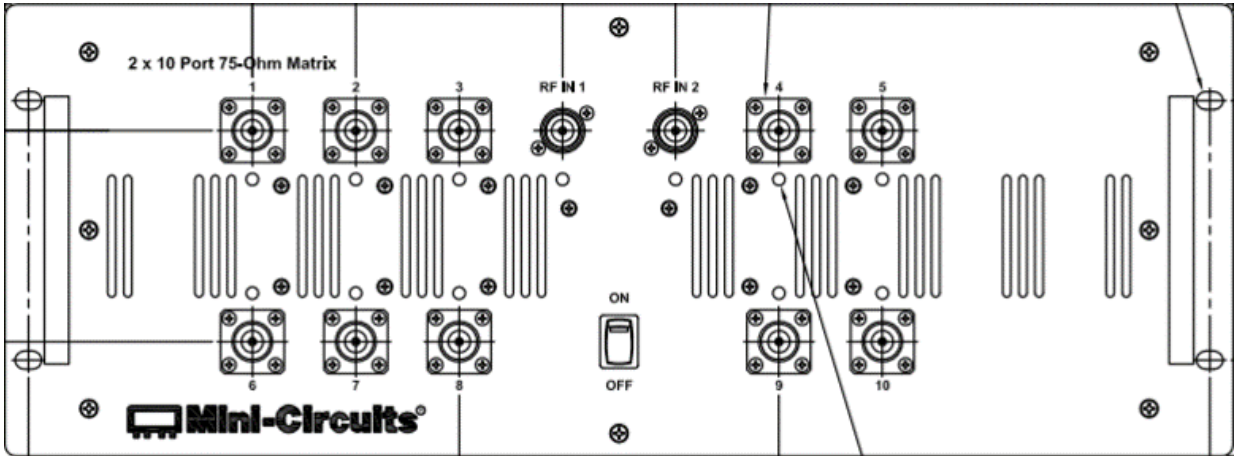
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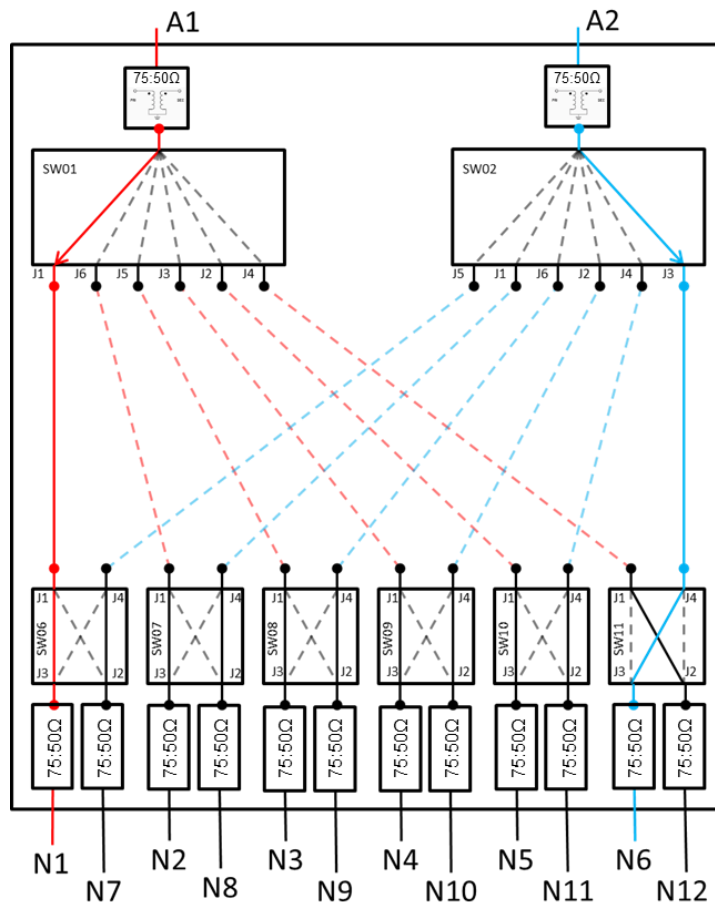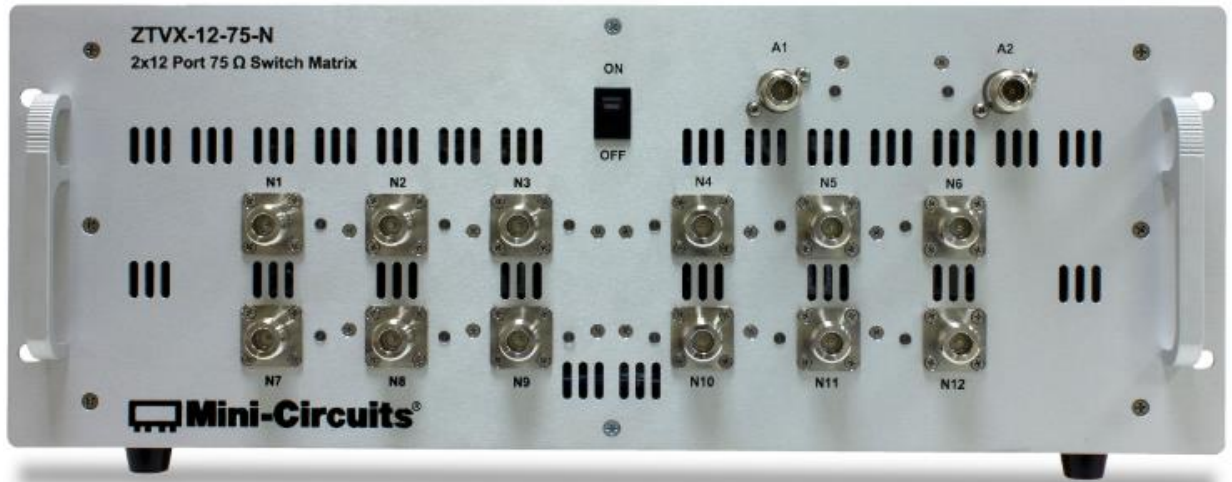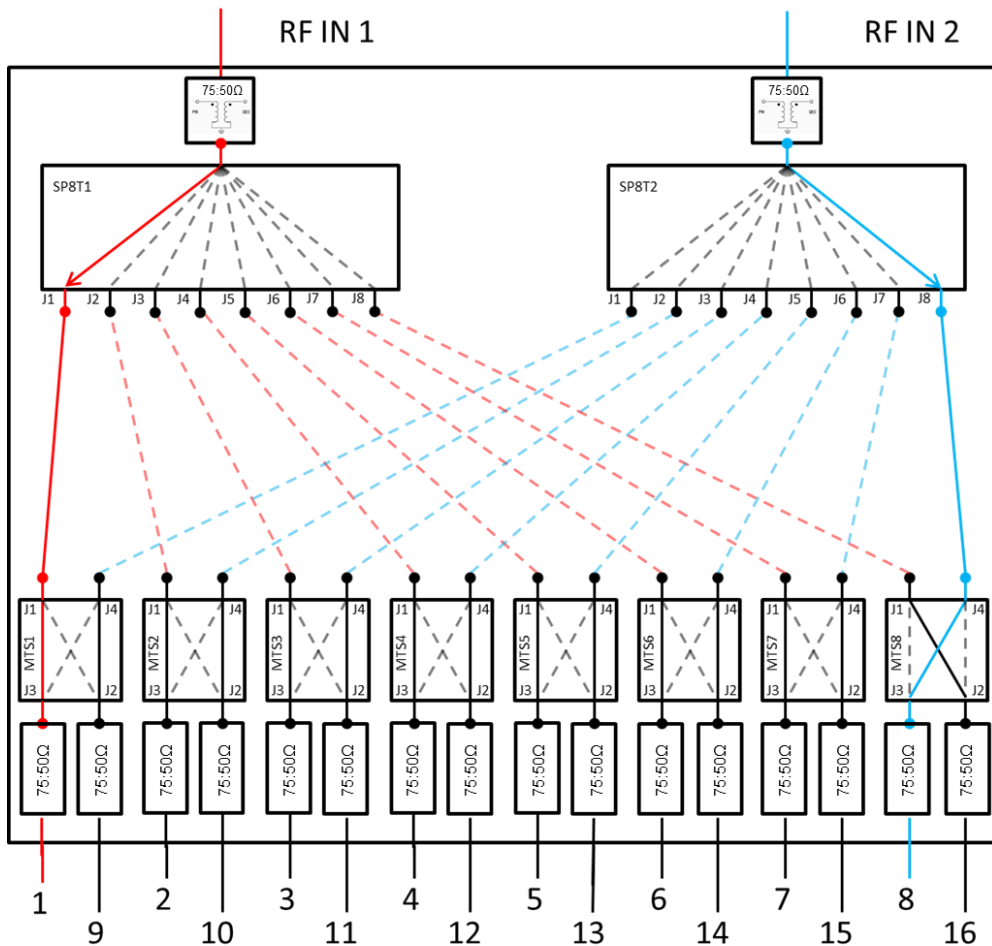
ZTVX-10-75-N
- 2 x 10 switch matrix
- 5-2500 MHz
- 75Ω N-type
- 19" rack chassis, 4U height

Catalog Configurations*

ZTVX-12-75-N
- 2 x 12 switch matrix
- 5-2500 MHz
- 75Ω N-type
- 19" rack chassis, 4U height

2 x *n* Blocking Switch Matrices   ZTVX-*n*-75 Series

Catalog Configurations*

ZTVX-16-75-N

- 2 x 16 switch matrix
- 5-2500 MHz
- 75Ω N-type
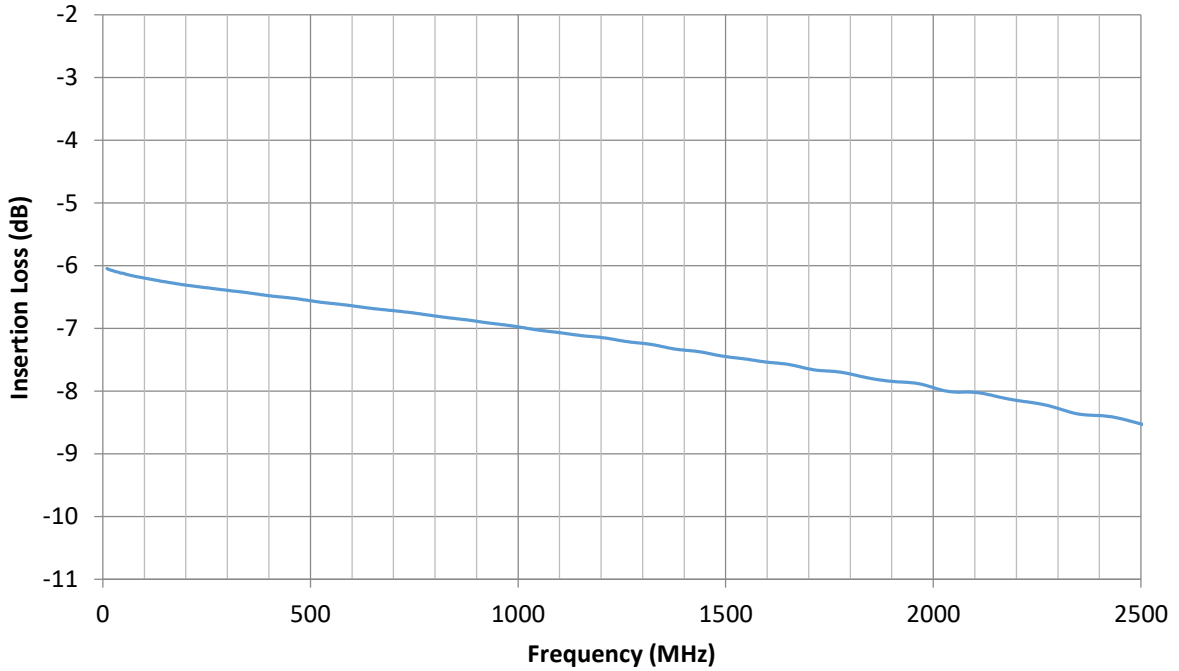- 19" rack chassis, 4U height

Mechanical Specifications

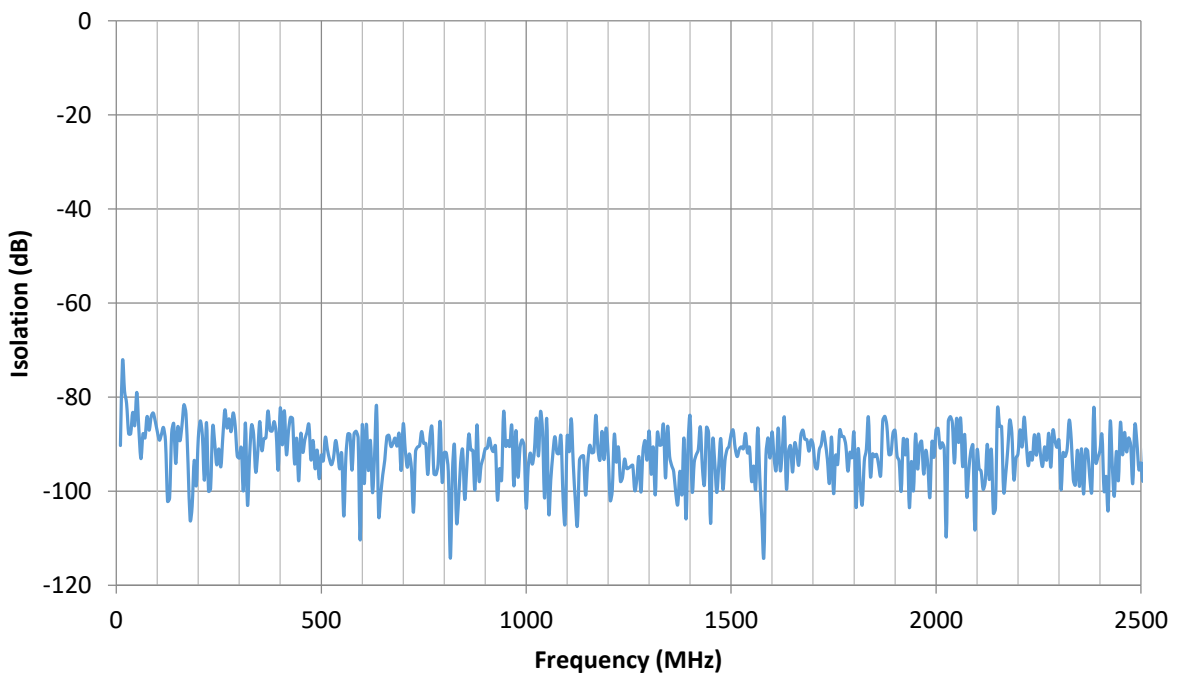|	
Dimensions	19" (W) x 3-4U (H) x 20" (D)
Case Material	Aluminum (with protective coatings to prevent corrosion)
Feet	Non-slip feet (removable)
RF Connectors	N-type female 75Ω
Top Panel	Reinforced cover to support VNA mounted on top of switch matrix
Front panel	a) All RF ports (N-type female) b) LED switch path position indicators c) ON/OFF switch with indicator light d) Carry handles
Rear panel	a) AC mains power supply input (IEC C14 inlet) b) USB & RJ45 control connections c) 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

Typical Electrical Performance

Parameter	Value	Comments
Port Counts	2	A ports
	8 to 16	N ports
Operating Frequency	5-2500 MHz	
Insertion Loss	7.5 dB typ	@ 5-1800 MHz
	8.5 dB typ	@ 1800-2500 MHz
Return Loss	20 dB typ	A ports
	25 dB typ	N ports
Isolation	80 dB typ	
Input Power	+25 dBm max	
Note	RF ports must be held at 0V DC or external DC blocks must be used	

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Typical Performance Data

Insertion Loss

Isolation

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Typical Performance Data

Input Return Loss

Output Return Loss

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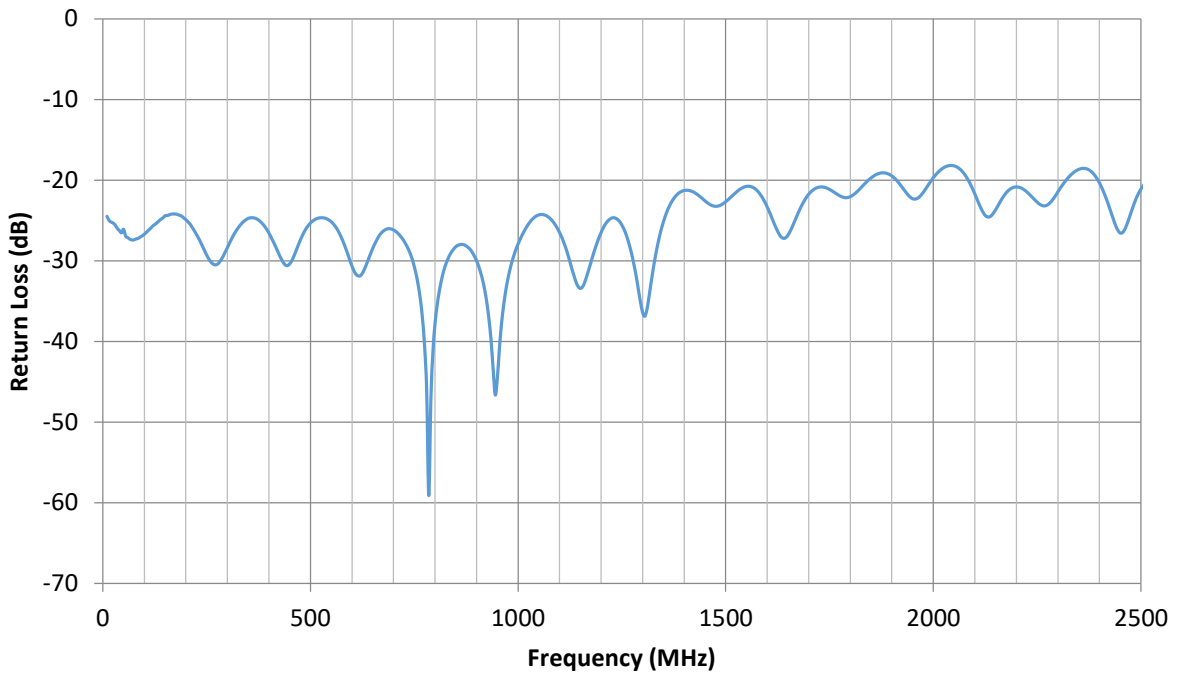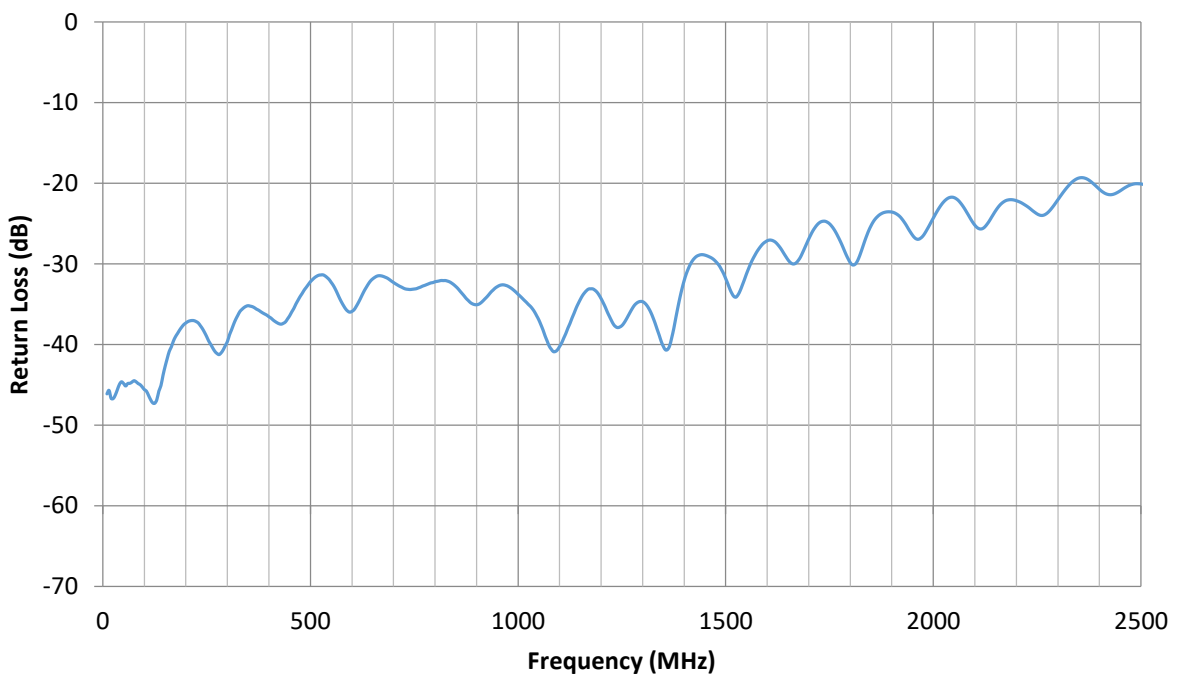
Software Specifications

Software & Documentation Download:

- Mini-Circuits' full software and support package including user guide, Windows GUI, DLL files, programming manual and examples are available for download from:
https://www.minicircuits.com/softwaredownload/ztvx.html
- 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.

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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 paths
- Configure Ethernet settings
- Upgrade firmware
- Send SCPI commands
- View temperature & fan status

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