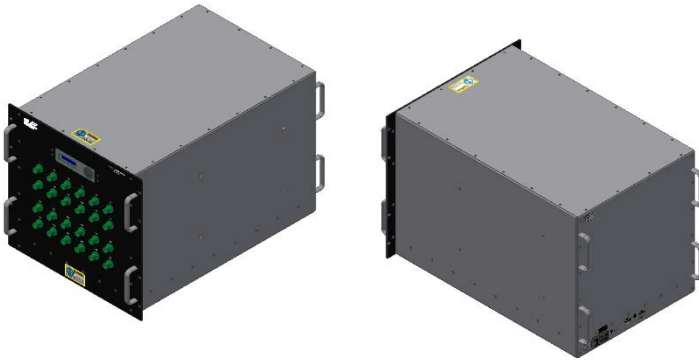


12 x 12 Full Fan-out Handover Test System with Ethernet, USB 2.0, RS-232 and Local Control



Features:

- 800 to 3000 MHz Frequency Range
- Broad attenuation range (127 dB in 1 steps)
- Excellent VSWR (<1.4:1 typical)
- +37 dBm CW power handling ability
- Attenuation Switching Speed < 1 μsec.
- 144 bi-directional RF paths in full fan-out configuration

Applications:

- 3G/4G LTE Testing, Handover Testing, Link Simulation
- MIMO simulation and Mobility test scenarios
- Implementation of static or dynamic test simulations
- Engineering support for wireless test lab environments

Description:

API Weinschel's Model 101282 operates over the 800 to 3000 MHz frequency range. It is constructed as a full fan-out network, meaning there is a non-blocked RF path between each input and output RF port. Each of the 144 paths includes its own individually controllable programmable attenuator, allowing the path's signal to be adjusted in amplitude as desired. This provides for the ability to implement various fading or handoff scenarios to simulate signal handover between multiple BTS and user equipment.

Solid state attenuators are utilized in the design, resulting in extremely fast attenuation state changes with no loss of signal, excellent repeatability, and essentially unlimited switching life.

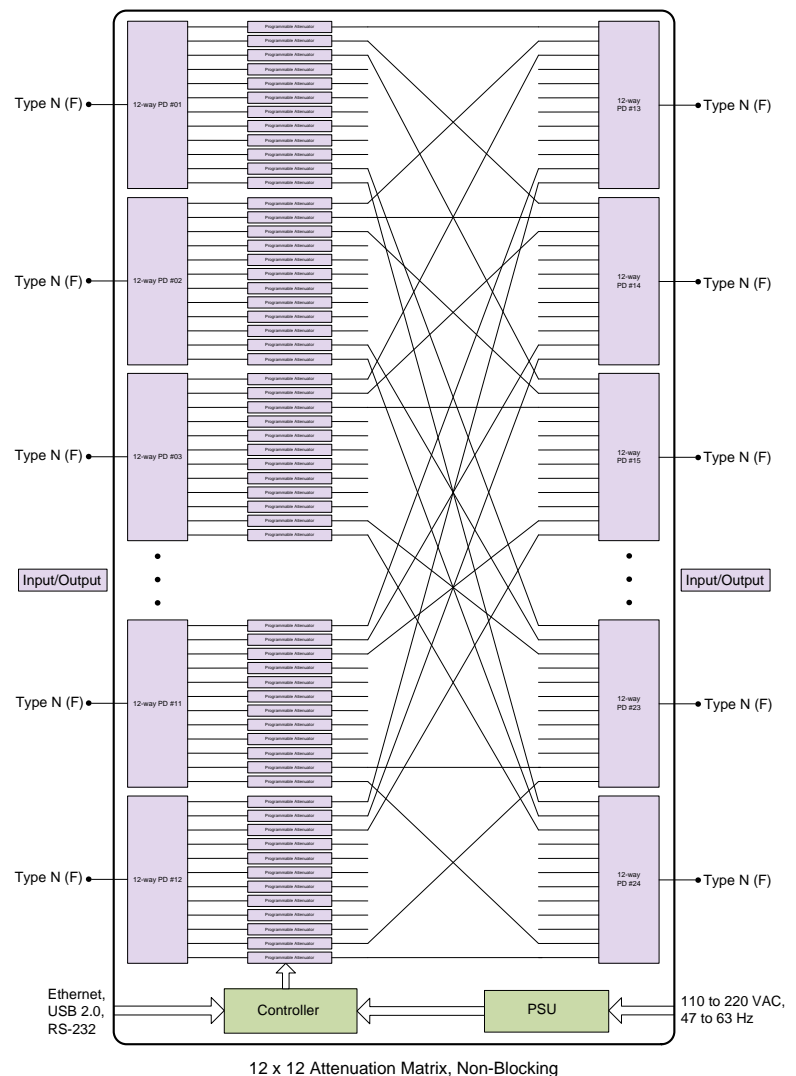
Control & Command:

The system supports control over the following interfaces: Ethernet, RS232, and USB.

The Ethernet port supports control over the following network protocols: IP, UDP, TCP, ICMP, ARP, DHCP, and AUTOIP.

The USB port provides a USB Communications Device Class (CDC) interface that allows programming via a virtual COM port using the same text-based commands as the serial port.

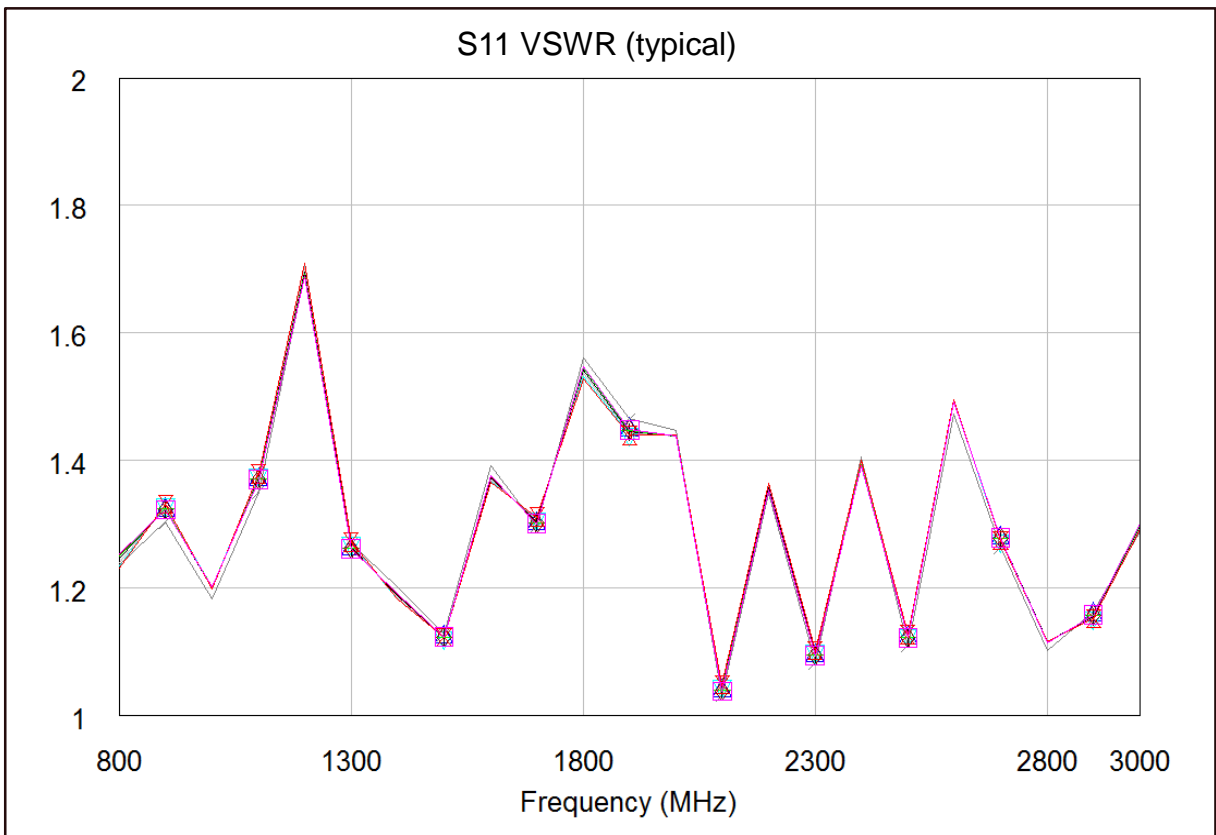
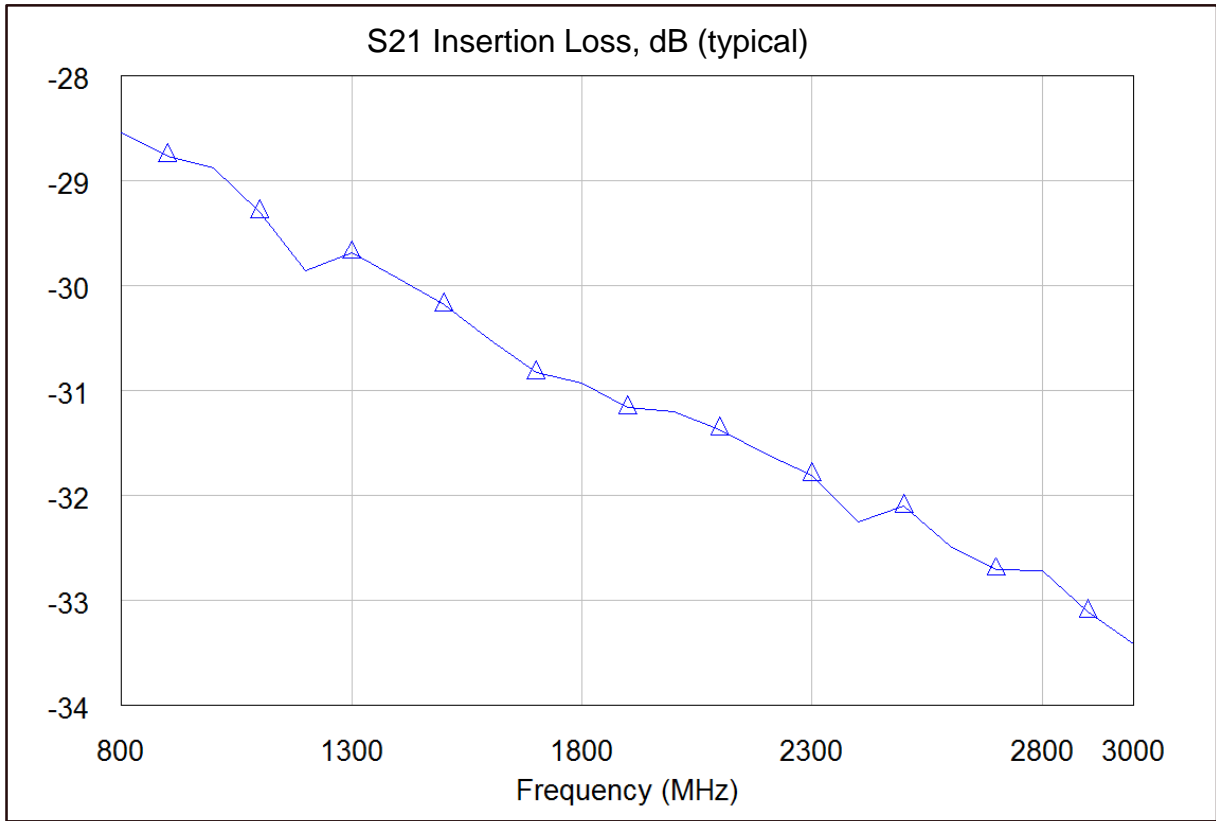
Programming is done via simple ASCII text-based message strings. The command structure/operation includes the 488.2 Common Commands such as *IDN?, *RST, *CLS, and *OPC?, in addition to device specific commands.



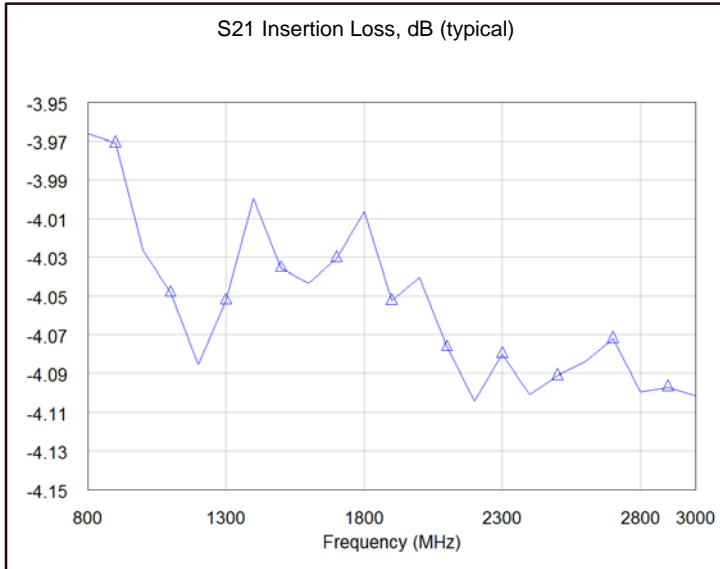
Electrical & Environmental Specifications

Parameter	Condition	Minimum	Typical	Maximum	Units
Frequency Range	-	800	-	3000	MHz
Insertion Loss, 0 dB state	800 – 1500 MHz	-	30.5	35.0	dB
	1501 – 2250 MHz	-	31.5	35.0	
	2251 – 3000 MHz	-	33.5	35.0	
VSWR (All Ports)	800 – 3000 MHz	-	1.4:1	1.8:1	ratio
Nominal Impedance	800 – 3000 MHz	-	50	-	ohm
RF Input Power, CW (see Note 2)	800 – 3000 MHz	-	-	+37	dBm
Attenuation Range (in 1.0 dB step size)	800 – 3000 MHz	0	-	127	dB
Attenuation Accuracy (800 – 3000 MHz)	0 to 7 dB	-	-	+/- 0.50	dB
	8 to 11 dB	-	-	+/- 1.00	
	12 to 85 dB	-	-	+/- 1.25	
	86 to 127 dB	-	-	+/- 5.0%	
Switching Speed (see Note 3)	800 – 3000 MHz	-	0.8	1.0	µsec.
Power Divider Isolation:	800 – 3000 MHz	18	22	-	dB
RF Connectors	Type N female	-	-	-	-
Ethernet (10/100 Base T) Connector	Standard RJ45	-	-	-	-
USB 2.0 Connector	Mini B	-	-	-	-
RS-232 Bus Connector	9-Pin male D	-	-	-	-
AC Power Requirements	100 to 240 VAC, 47-63 Hz	-	100	180	watts
Operating Temperature Range	-	0	-	+50	°C
Storage Temperature Range	-	-40	-	+70	°C
Relative Humidity	Up to 90%, non-condensing	-	-	-	-
Altitude, Operating	Up to 10,000 feet	-	-	-	-

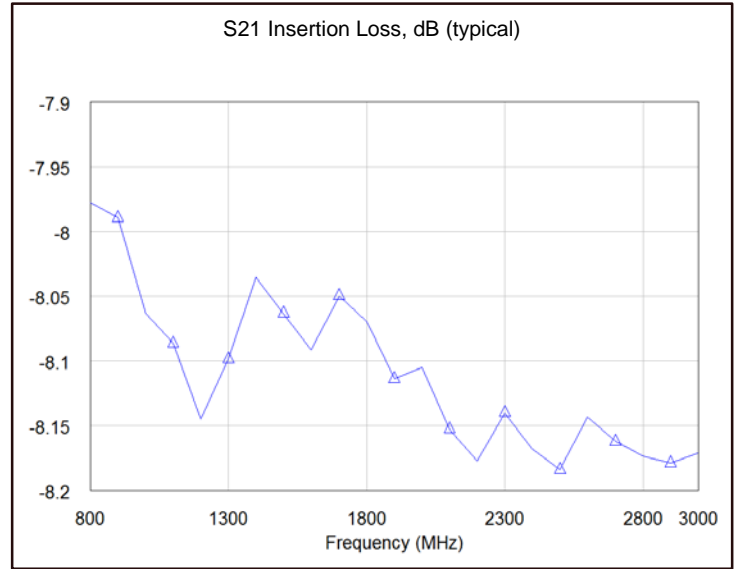
- NOTES: 1. The values in the table apply at room temperature unless otherwise specified.
 2. Hot switching of attenuators is allowed.
 3. Attenuators only, does not include command processing time of 3-5 msec. nominal.



4 dB Attenuation setting



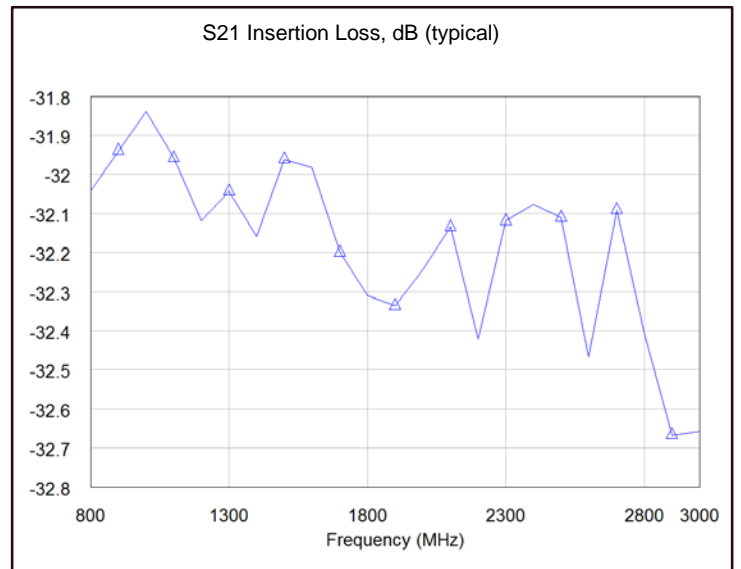
8 dB Attenuation setting



16 dB Attenuation setting



32 dB Attenuation setting



Mechanical Outline

