



RF Characterization Report

RF178 Series Cable Assemblies

RF178-02SJ1-02SJ1-0305
RF178-02RP1-02RP1-0305
RF178-02SP1-02SP1-0306
RF178-03RP1-03RP1-0306
RF178-S7RP4-S7RP4-0305
RF178-S7SP4-S7SP4-0305

Description:
RF Cable Assembly, 50 Ohm, RG178 Cable

Series: RF178
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Series: RF178

Description: RF Cable Assembly, 50 Ohm, RG178 Cable

Test Setup Information

Scope:

To perform characterization tests, Insertion Loss, Return Loss and Voltage Standing Wave Ratio.

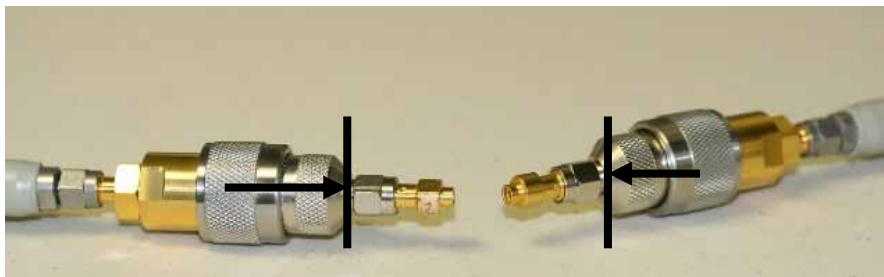
Product Description:

The table below presents a description of the different RF178 series cable assemblies that were tested.

Part Number	Length	Termination – End 1	Termination – End 2
RF178-02SJ1-02SJ1-0305	305 mm	MCX, Straight, Jack	MCX, Straight, Jack
RF178-02RP1-02RP1-0305	305 mm	MCX, Right Angle, Plug	MCX, Right Angle, Plug
RF178-02SP1-02SP1-0306	306 mm	MCX, Straight, Plug	MCX, Straight, Plug
RF178-03RP1-03RP1-0306	306 mm	MMCX, Right Angle, Plug	MMCX, Right Angle, Plug
RF178-S7RP4-S7RP4-0305	305 mm	SSMB, Right Angle, Plug	SSMB, Right Angle, Plug
RF178-S7SP4-S7SP4-0305	305 mm	SSMB, Straight, Plug	SSMB, Straight, Plug

Test Calibration:

Calibration is performed using Agilent electronic calibration module, PN 85092-60010 or Agilent mechanical calibration kit, PN 85052D to the calibration point below. Any adapters beyond this point are included in the measurements.



(Sample setup of adapters, actual setup not depicted.)

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Adapter Use:

Each port uses at least one precision adapter capable of mating to the assembly under test. Any supplementary adapter will contribute additional electrical characteristics to the measured data. Any use of additional adapters is noted.

Product Part Number	Used Adapter Part Number	Adapter End 1	Adapter End 2	Vender	Used Quantity
RF178-02SJ1-02SJ1-0305	PE9463	N Jack	MCX Plug	Pasternack	2
RF178-02RP1-02RP1-0305	PE9462	N Jack	MCX Jack	Pasternack	2
RF178-02SP1-02SP1-0306	PE9462	N Jack	MCX Jack	Pasternack	2
RF178-03RP1-03RP1-0306	PE9478	SMA Plug	MMCX Jack	Pasternack	2
RF178-S7RP4-S7RP4-0305	PE9401	SMA Plug	SSMB Jack	Pasternack	2
RF178-S7SP4-S7SP4-0305	PE9401	SMA Plug	SSMB Jack	Pasternack	2

Definition of Assembly under Test:

The performance characteristics include the interface with adapters.

Port Designations:

The connector attached to port 1 of the VNA is "End 1" from the part number callout. Insertion Loss is measured using S21 and Return Loss / VSWR is measured using S11.

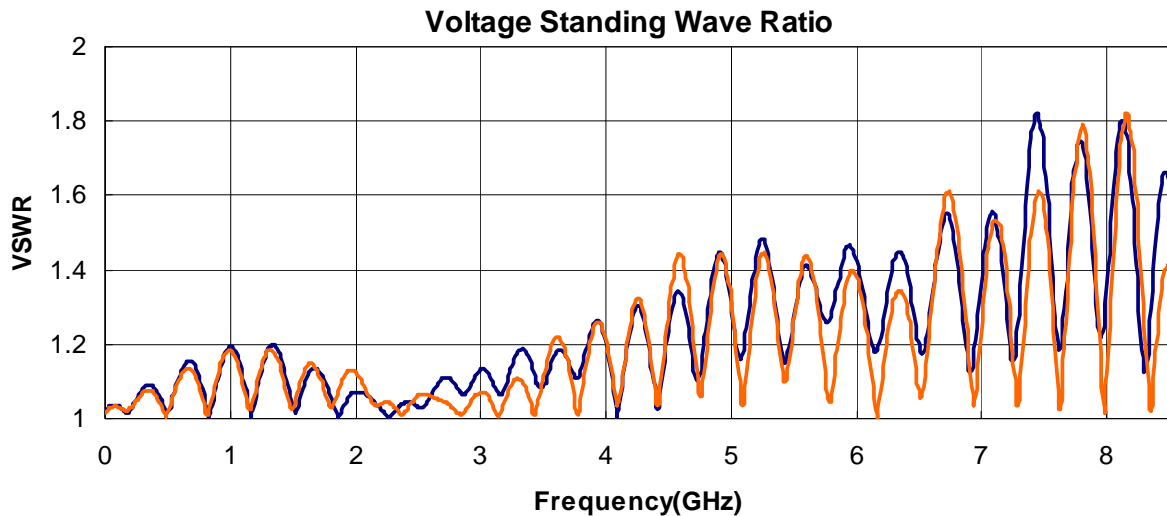
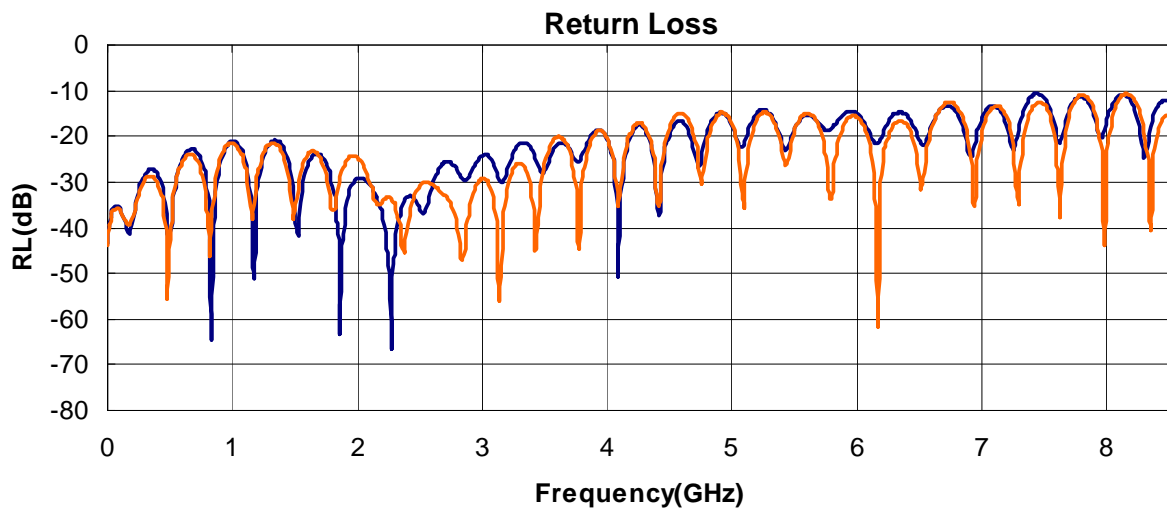
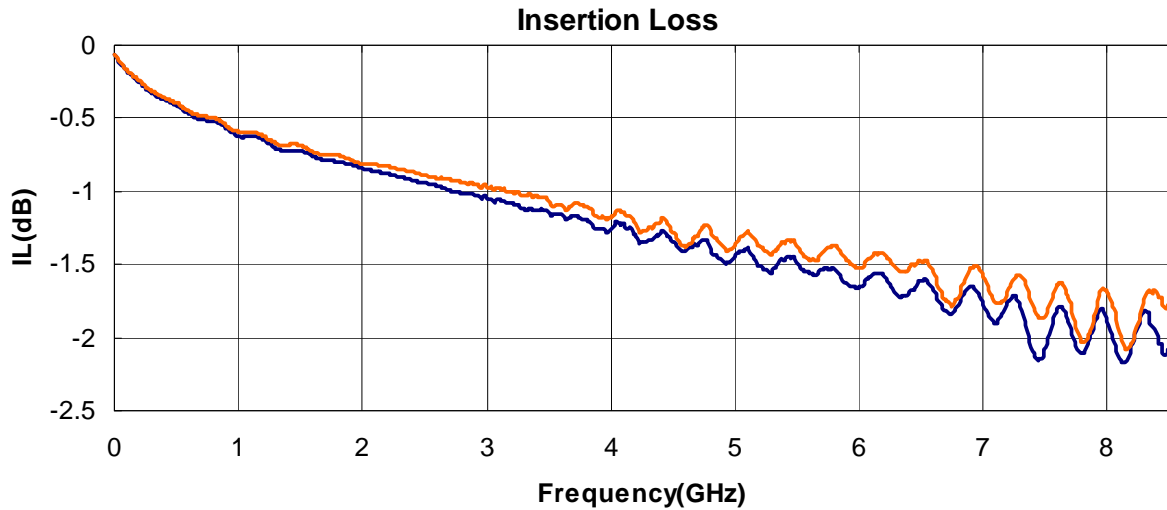
Legend for Plots:

5 samples were tested. Only the min/max plots are shown for clarity in this report.

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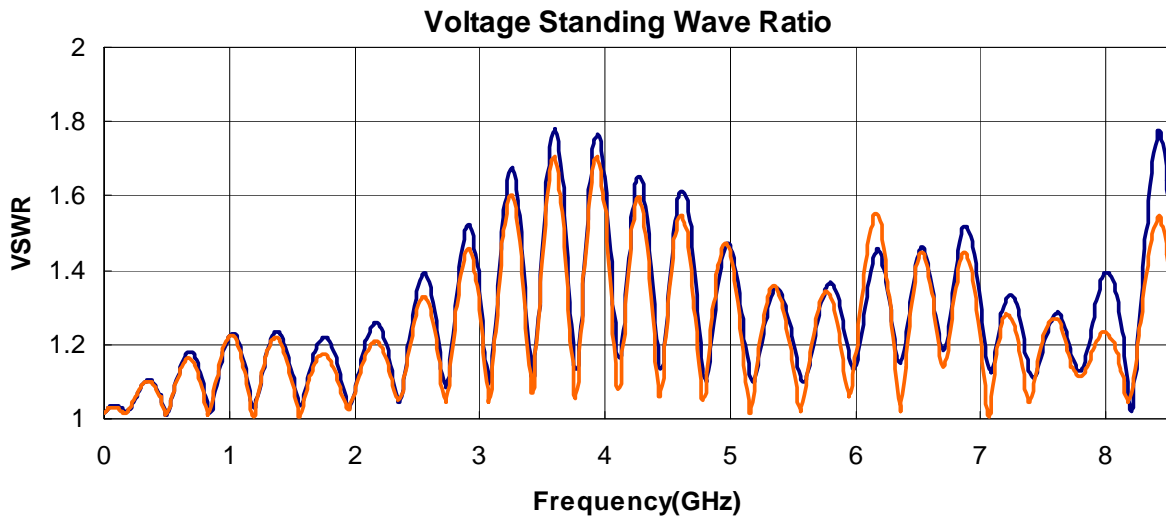
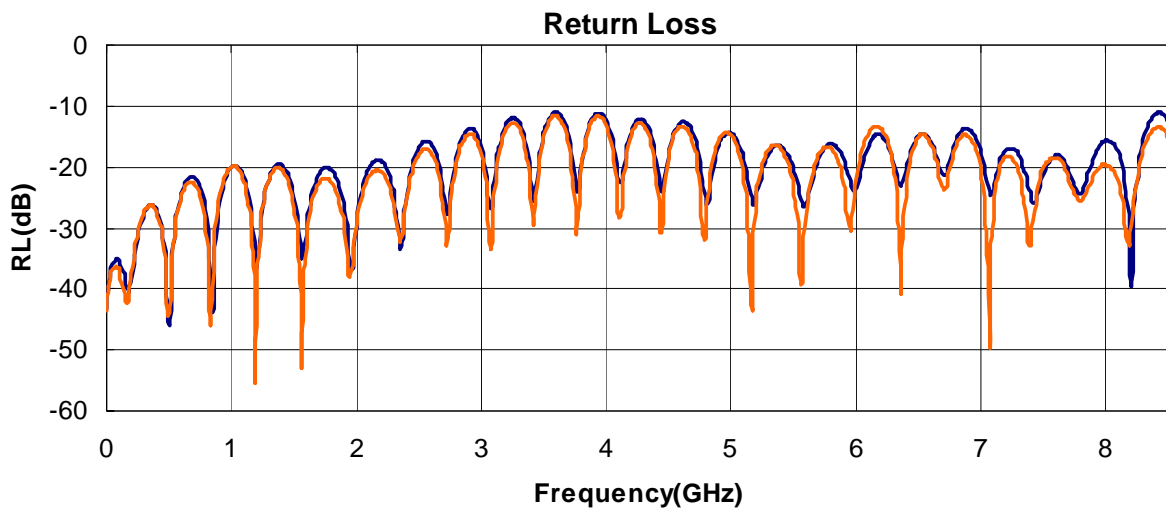
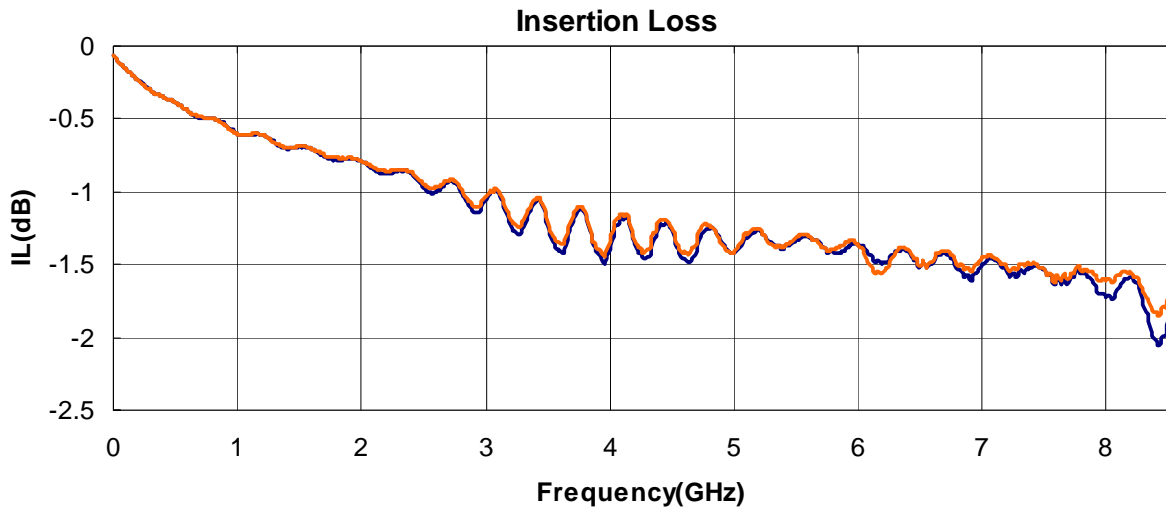
Results Summary

RF178-02SJ1-02SJ1-0305



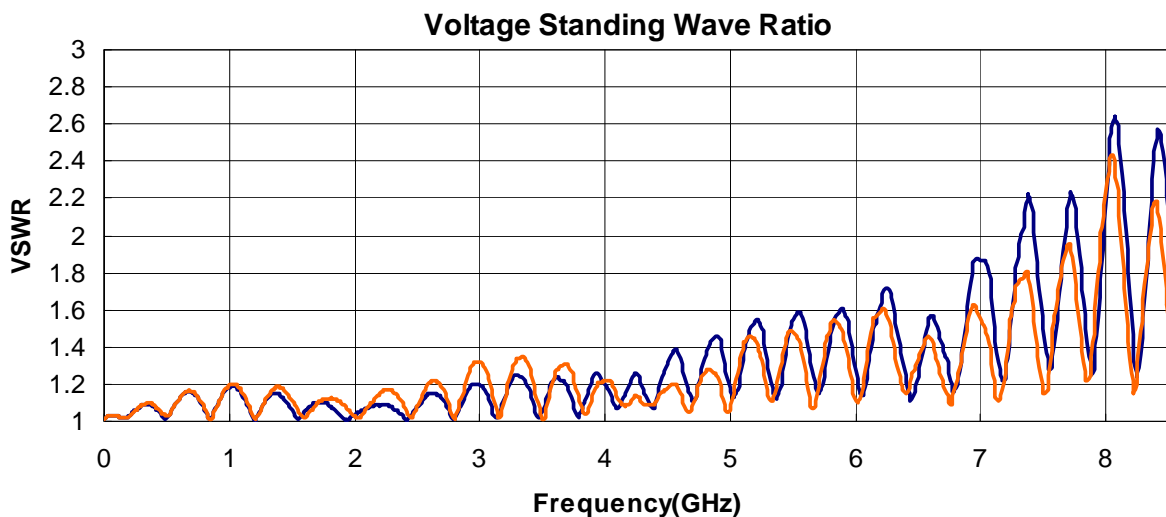
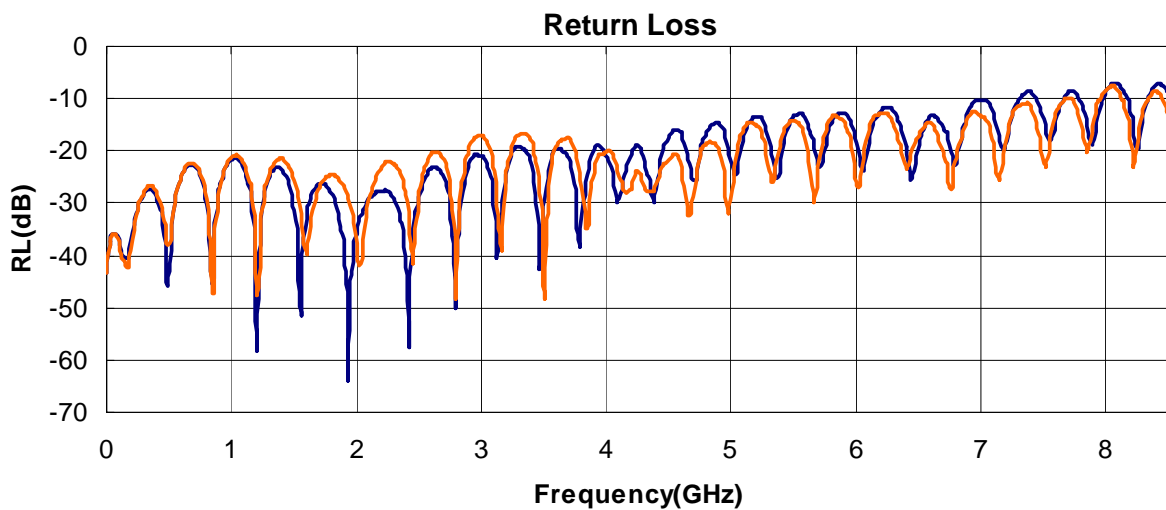
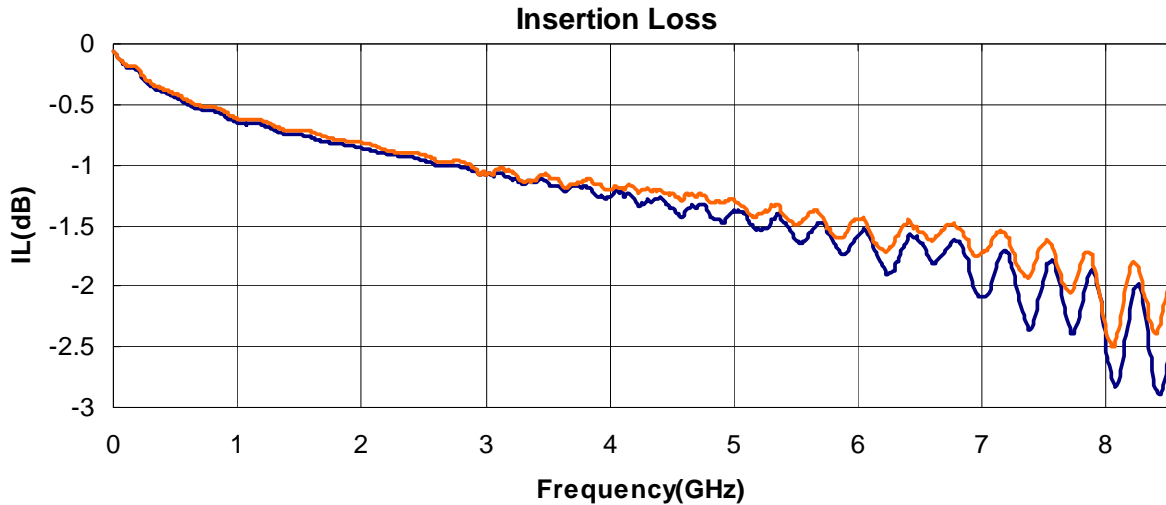
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RF178-02RP1-02RP1-0305



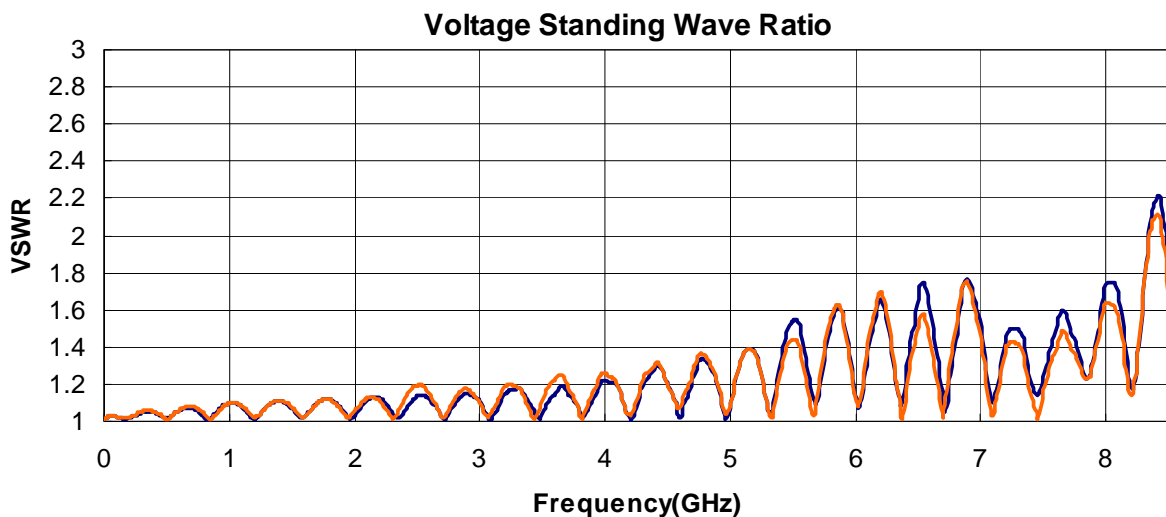
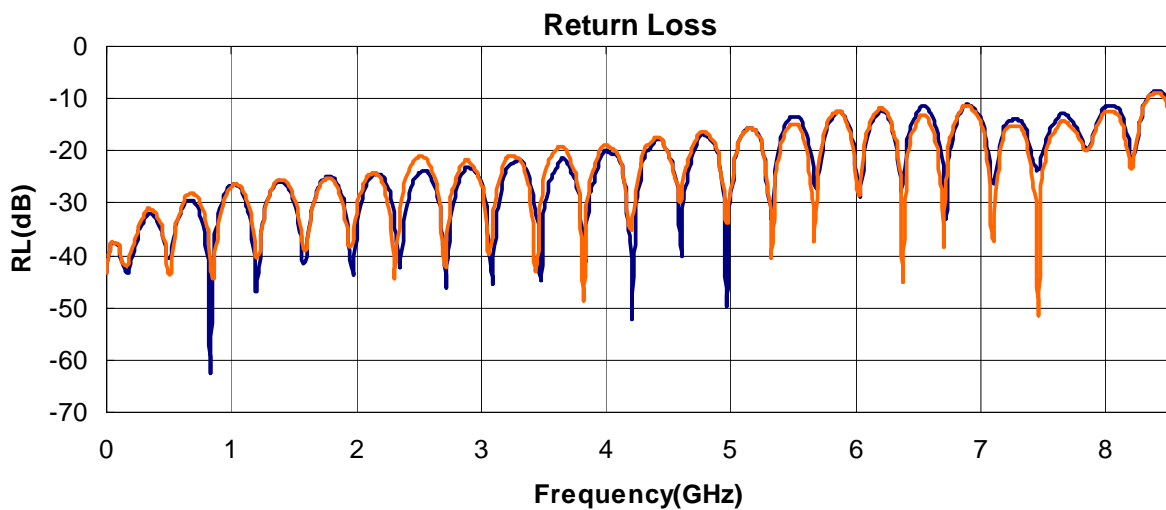
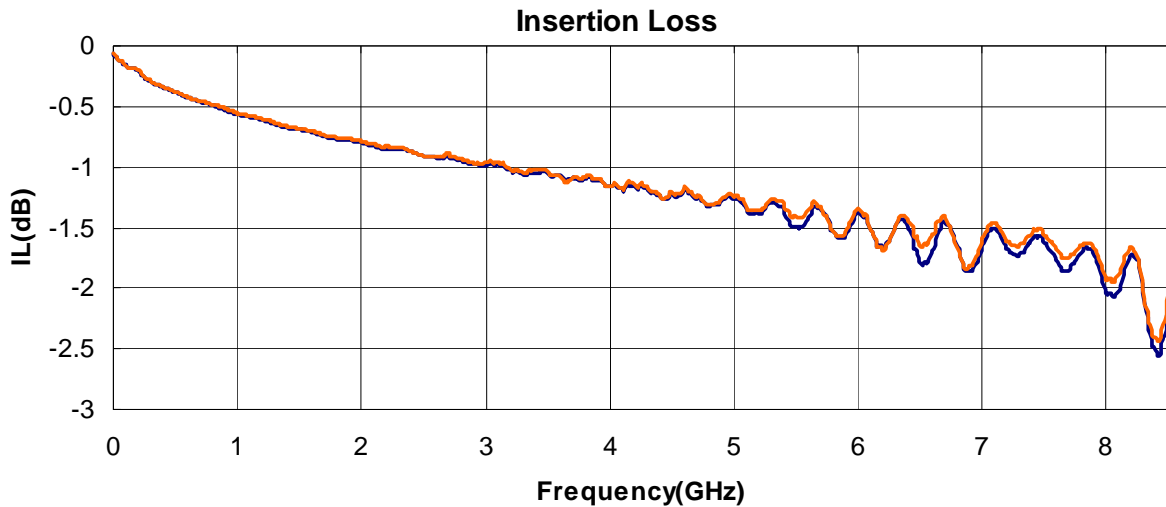
Series: RF178
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RF178-02SP1-02SP1-0306



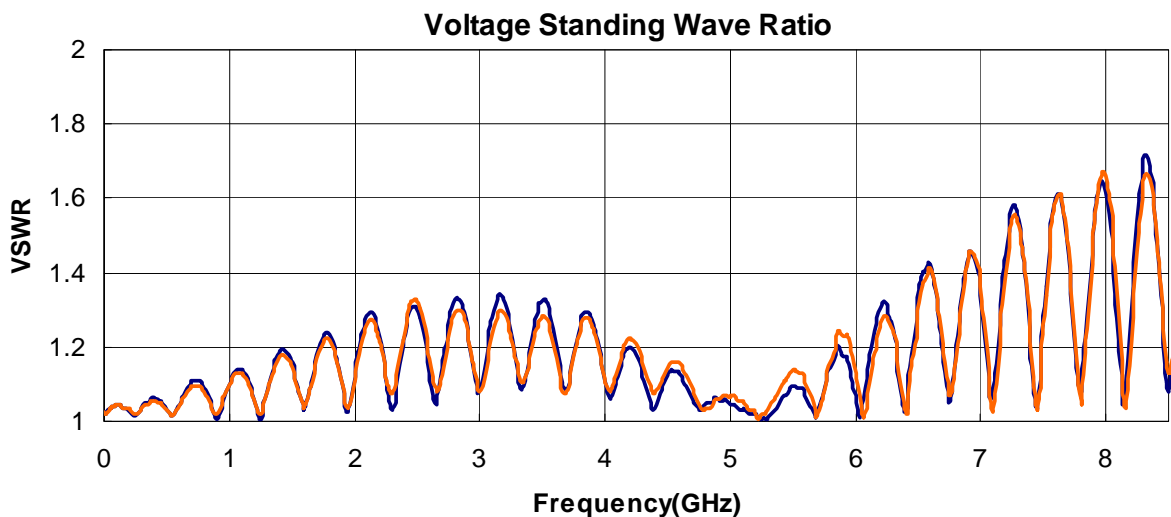
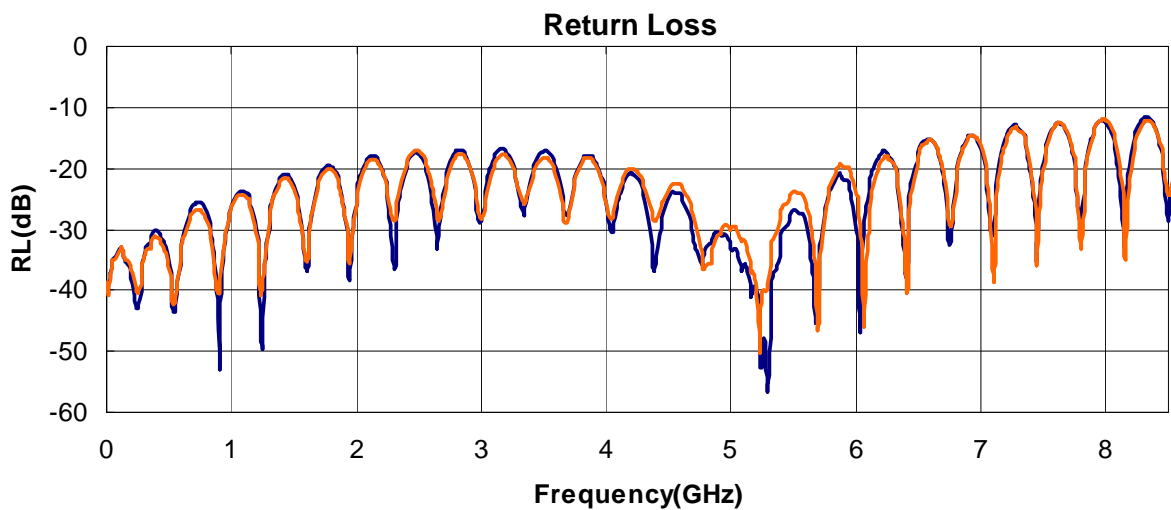
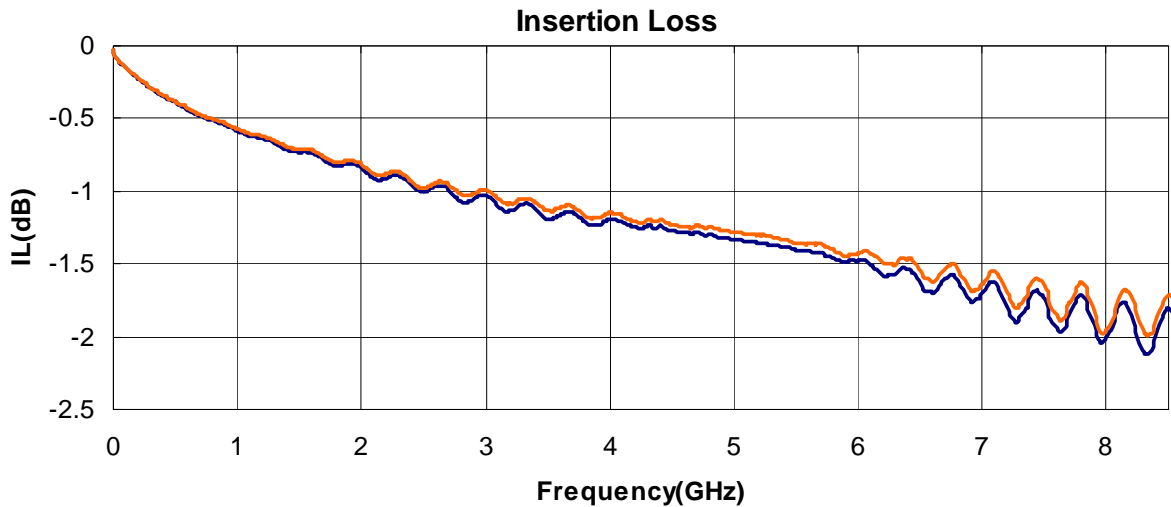
Series: RF178
Description: RF Cable Assembly, 50 Ohm, RG178 Cable

RF178-03RP1-03RP1-0306



Series: RF178
Description: RF Cable Assembly, 50 Ohm, RG178 Cable

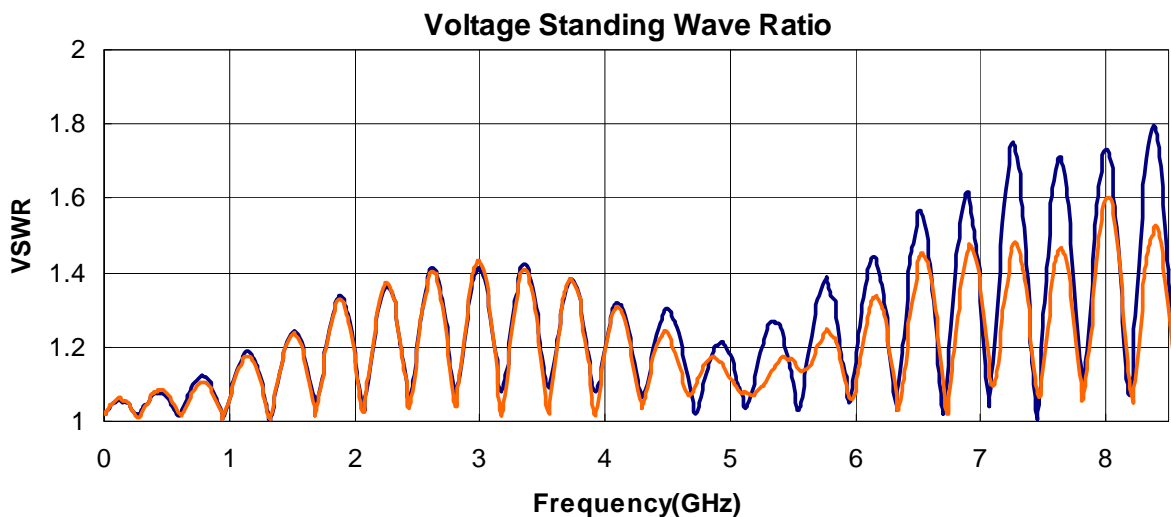
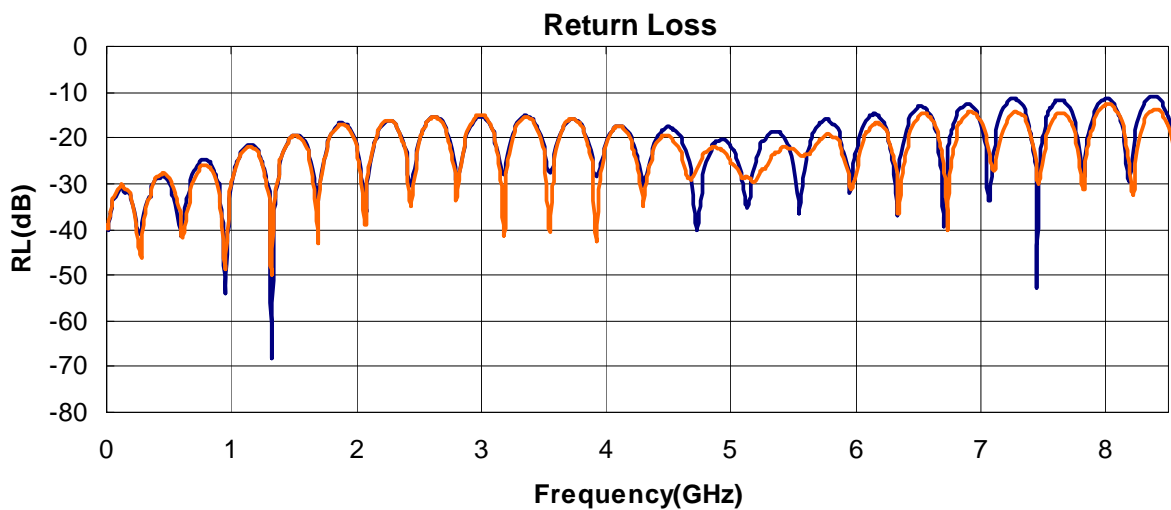
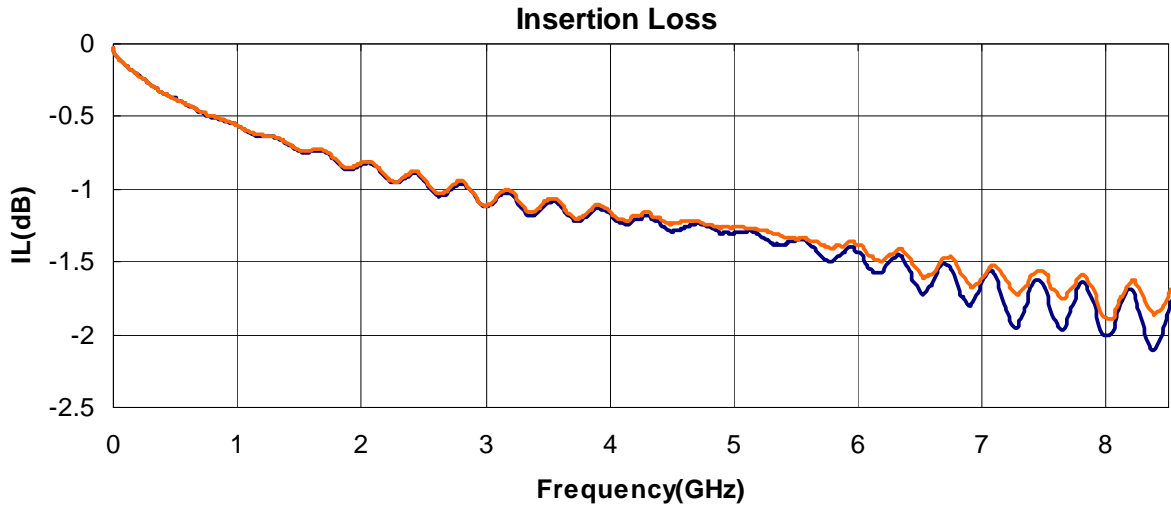
RF178-S7RP4-S7RP4-0305



Series: RF178

Description: RF Cable Assembly, 50 Ohm, RG178 Cable

RF178-S7SP4-S7SP4-0305



Series: RF178**Description:** RF Cable Assembly, 50 Ohm, RG178 Cable**Instrument Setup:**

For some of test results, network analyzer (Agilent E5071C) was used and setup as below:

Network Analyzer	Agilent E5071C ENA Series (9 KHz - 8.5 GHz Range)
Mechanical Calibration Kit	85032F
Electronic Calibration Kit	85092-60010
Averaging Factor	4
Smoothing	Off
IF Bandwidth	300 Hz
Sweep Start	5 MHz
Sweep End	8.5 GHz
Points	601

For some of test results, network analyzer (Agilent N5230C) was used and setup as below:

Network Analyzer	Agilent N5230C PNA-L Series (300 KHz - 20 GHz)
Mechanical Calibration Kit	85052D
Electronic Calibration Kit	N4433A
Averaging Factor	0
Smoothing	Off
IF Bandwidth	1 KHz
Sweep Start	300 KHz
Sweep End	20 GHz
Points	1601

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Test Fixtures:



E5071C (Typical set-up, actual part not depicted.)



N5230C (Typical set-up, actual part not depicted.)