



## **RF Characterization Report**

### **RF316 Series Cable Assemblies**

**RF316-02SJ1-02SJ1-0312**  
**RF316-02RP1-02RP1-0306**  
**RF316-02SP1-02SP1-0306**  
**RF316-03SP1-03SP1-0306**  
**RF316-03RP1-03RP1-0306**  
**RF316-05SP2-05SP2-0305**  
**RF316-05BJ2-05BJ2-0320**  
**RF316-06BJ2-06BJ2-0305**  
**RF316-07SP1-07SP1-0323**  
**RF316-07RP1-07RP1-0307**  
**RF316-07BJ1-07BJ1-0306**  
**RF316-S7RP4-S7RP4-0305**  
**RF316-S7SP4-S7SP4-0305**  
**RF316-01PN1-01PN1-0150**  
**RF316-V3SJ4-V3SJ4-0305**  
**RF316-V3SP4-V3SP4-0305**  
**RF316-V3RP4-V3RP4-0305**

**Description:**  
**RF Cable Assembly, 50 Ohm, RG316 Cable**

**Series:** RF316

**Description:** RF Cable Assembly, 50 Ohm, RG316 Cable

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**Series:** RF316

**Description:** RF Cable Assembly, 50 Ohm, RG316 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 RF316 series cable assemblies that were tested.

Part Number	Length	Termination – End 1	Termination – End 2
RF316-02SJ1-02SJ1-0312	312 mm	MCX, Straight, Jack	MCX, Straight, Jack
RF316-02RP1-02RP1-0306	306 mm	MCX, Right Angle, Plug	MCX, Right Angle, Plug
RF316-02SP1-02SP1-0306	306 mm	MCX, Straight, Plug	MCX, Straight, Plug
RF316-03SP1-03SP1-0306	306 mm	MMCX, Straight, Plug	MMCX, Straight, Plug
RF316-03RP1-03RP1-0306	306 mm	MMCX, Right Angle, Plug	MMCX, Right Angle, Plug
RF316-05SP2-05SP2-0305	305 mm	TNC, Straight, Plug	TNC, Straight, Plug
RF316-05BJ2-05BJ2-0320	320 mm	TNC, Straight, Bulkhead Jack	TNC, Straight, Bulkhead Jack
RF316-06BJ2-06BJ2-0305	305 mm	NTPE, Straight, Bulkhead Jack	NTPE, Straight, Bulkhead Jack
RF316-07SP1-07SP1-0323	323 mm	SMB5, Straight, Plug	SMB5, Straight, Plug
RF316-07RP1-07RP1-0307	307 mm	SMB5, Right Angle, Plug	SMB5, Right Angle, Plug
RF316-07BJ1-07BJ1-0306	306 mm	SMB5, Straight, Bulkhead Jack	SMB5, Straight, Bulkhead Jack
RF316-S7RP4-S7RP4-0305	305 mm	SSMB, Right Angle, Plug	SSMB, Right Angle, Plug
RF316-S7SP4-S7SP4-0305	305 mm	SSMB, Straight, Plug	SSMB, Straight, Plug
RF316-01PN1-01PN1-0150	150 mm	SMA, Straight, Jack	SMA, Straight, Jack

**Series:** RF316**Description:** RF Cable Assembly, 50 Ohm, RG316 Cable

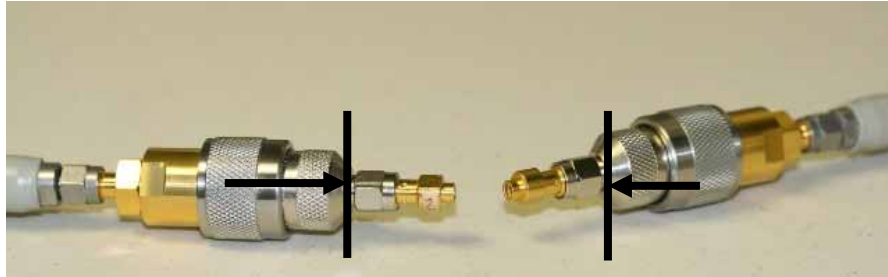
<b>Part Number</b>	<b>Length</b>	<b>Termination – End 1</b>	<b>Termination – End 2</b>
RF316-V3SJ4-V3SJ4-0305	305 mm	MMCXV, Straight, Jack	MMCXV, Straight, Jack
RF316-V3SP4-V3SP4-0305	305 mm	MMCXV, Straight, Plug	MMCXV, Straight, Plug
RF316-V3RP4-V3RP4-0305	305 mm	MMCXV, Right Angle, Plug	MMCXV, Right Angle, Plug

**Series:** RF316

**Description:** RF Cable Assembly, 50 Ohm, RG316 Cable

**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.)

**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
RF316-02SJ1-02SJ1-0312	PE9463	N Jack	MCX Plug	Pasternack	2
RF316-02RP1-02RP1-0306	PE9462	N Jack	MCX Jack	Pasternack	2
RF316-02SP1-02SP1-0306	PE9462	N Jack	MCX Jack	Pasternack	2
RF316-03SP1-03SP1-0306	PE9478	SMA Plug	MMCX Jack	Pasternack	2
RF316-03RP1-03RP1-0306	PE9478	SMA Plug	MMCX Jack	Pasternack	2
RF316-05SP2-05SP2-0305	PE9131	N Jack	TNC Jack	Pasternack	2
RF316-05BJ2-05BJ2-0320	PE9089	N Jack	TNC Plug	Pasternack	2
RF316-06BJ2-06BJ2-0305	NA	NA	NA	NA	0
RF316-07SP1-07SP1-0323	PE9315	N Jack	SMB Jack	Pasternack	2
RF316-07RP1-07RP1-0307	PE9315	N Jack	SMB Jack	Pasternack	2
RF316-07BJ1-07BJ1-0306	PE9316	N Jack	SMB Plug	Pasternack	2
RF316-S7RP4-S7RP4-0305	PE9401	SMA Plug	SSMB Jack	Pasternack	2
RF316-S7SP4-S7SP4-0305	PE9401	SMA Plug	SSMB Jack	Pasternack	2
RF316-01PN1-01PN1-0150	NA	NA	NA	NA	0

**Series:** RF316**Description:** RF Cable Assembly, 50 Ohm, RG316 Cable

<b>Product Part Number</b>	<b>Used Adapter Part Number</b>	<b>Adapter End 1</b>	<b>Adapter End 2</b>	<b>Vender</b>	<b>Used Quantity</b>
RF316-V3SJ4-V3SJ4-0305	ADP5-06SP2-V3SP1; ADP5-06SJ2-V3SP1;	N Plug; N Jack;	MMCXV Plug; MMCXV Plug;	Samtec	2
RF316-V3SP4-V3SP4-0305	ADP5-06SP2-V3SJ1; ADP5-06SJ2-V3SJ1;	N Plug; N Jack;	MMCXV Jack; MMCXV Jack;	Samtec	2
RF316-V3RP4-V3RP4-0305	ADP5-06SP2-V3SJ1; ADP5-06SJ2-V3SJ1;	N Plug; N Jack;	MMCXV Jack; MMCXV Jack;	Samtec	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.

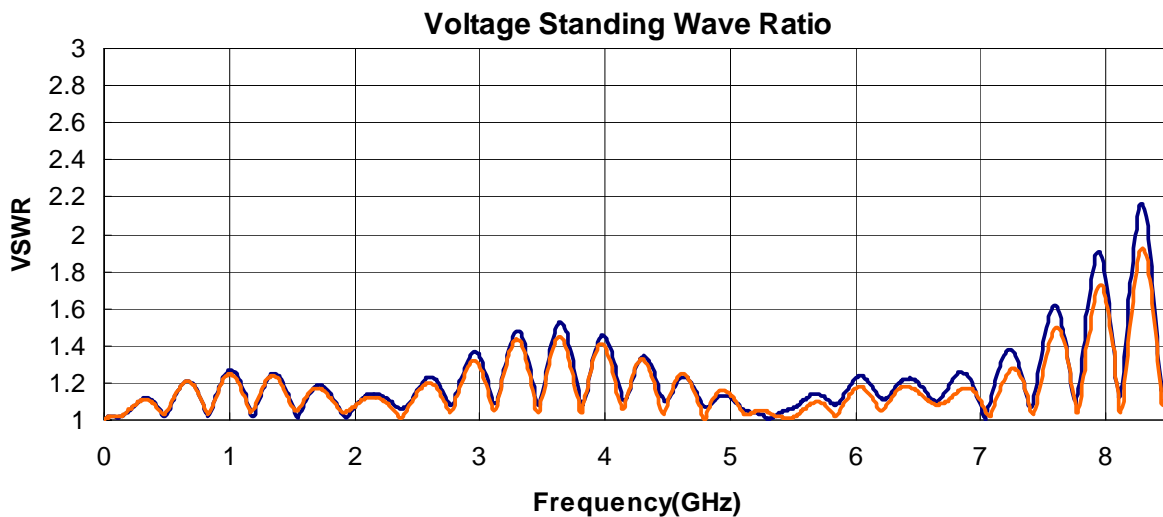
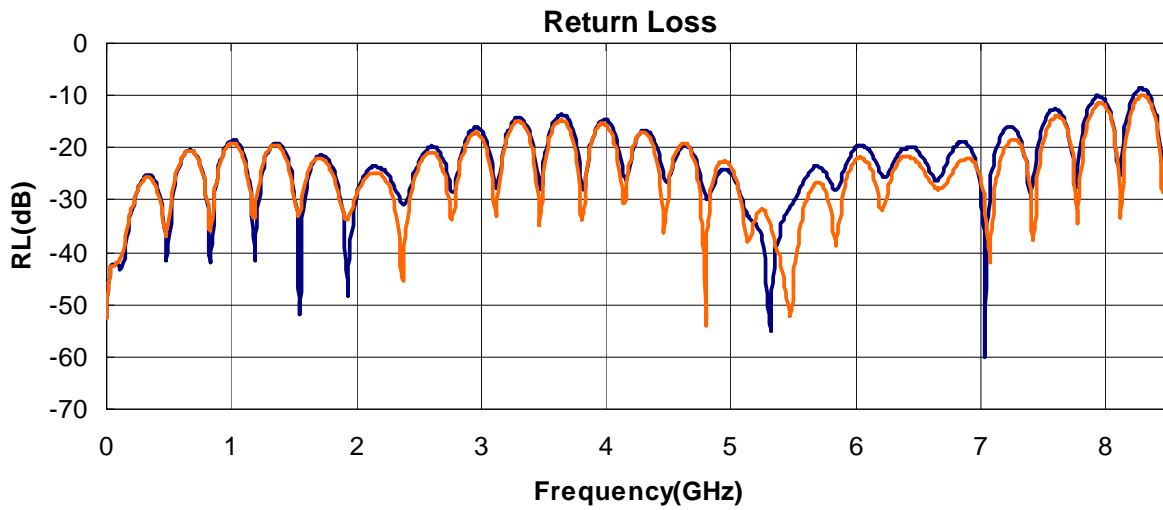
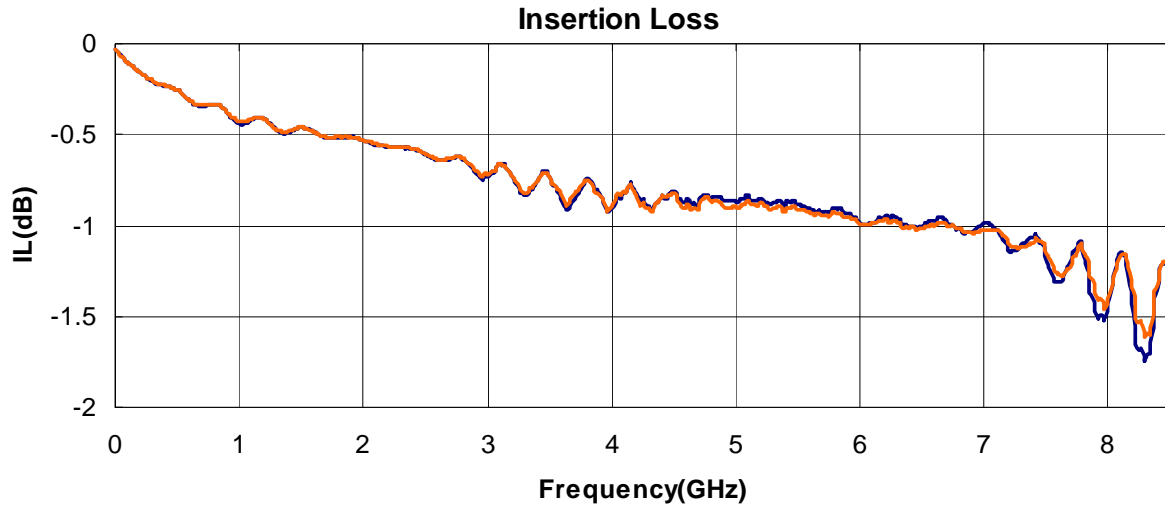
**Legend for Plots:**

5 samples were tested. Base on the insertion loss, the min/max plots are shown for clarity in this report.

Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

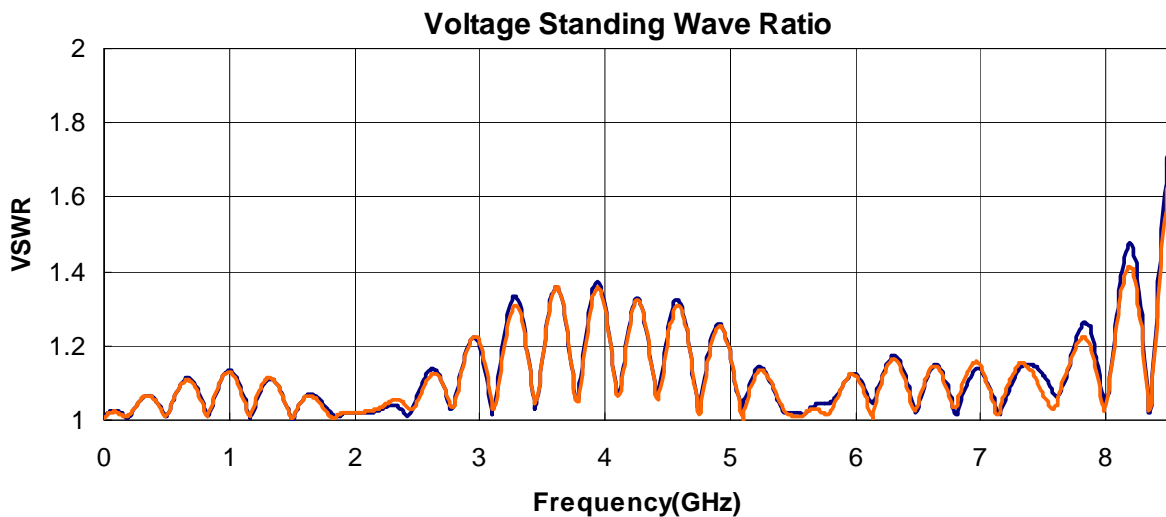
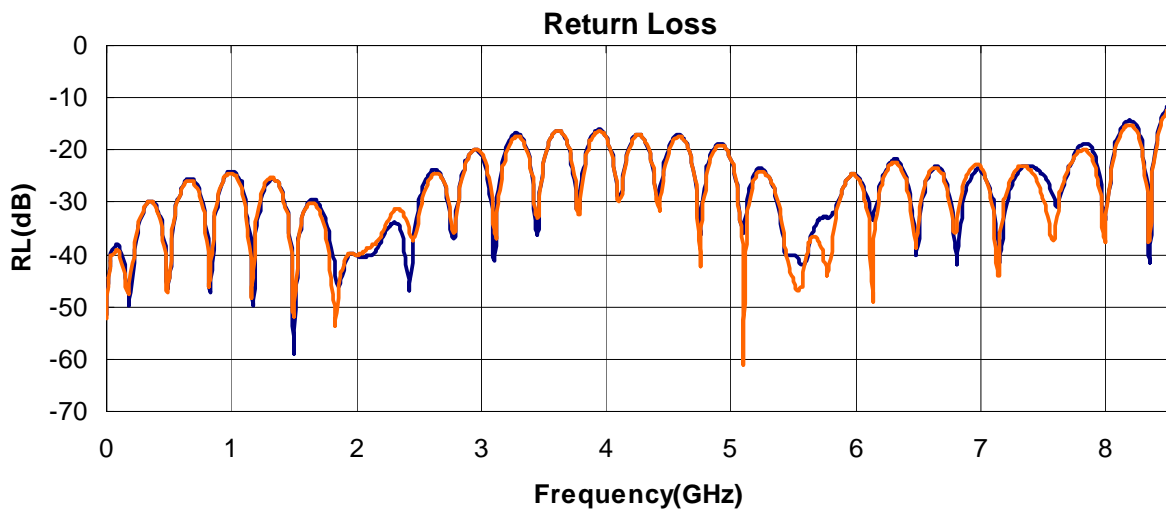
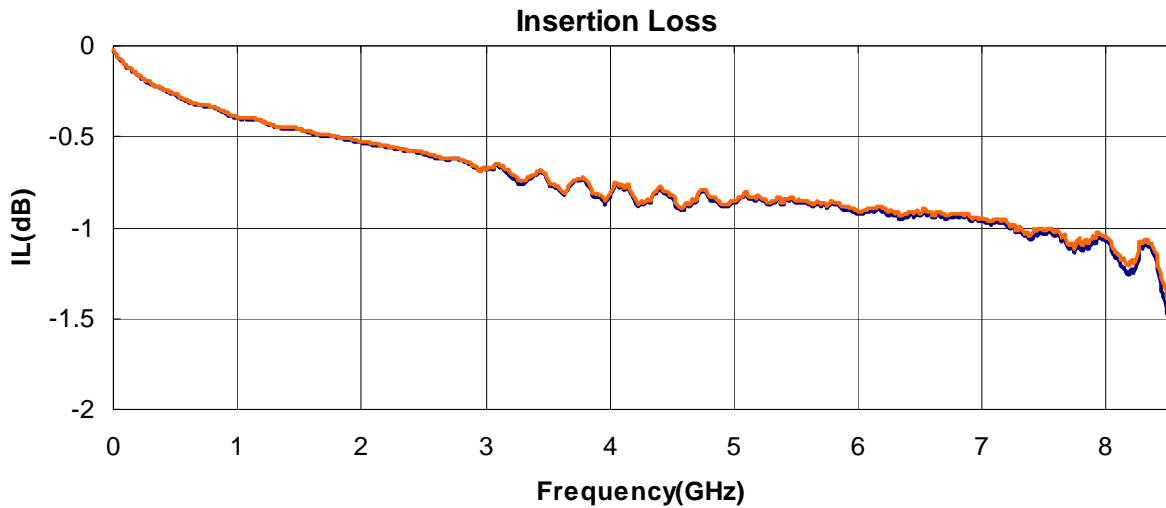
### Results Summary

RF316-02SJ1-02SJ1-0312



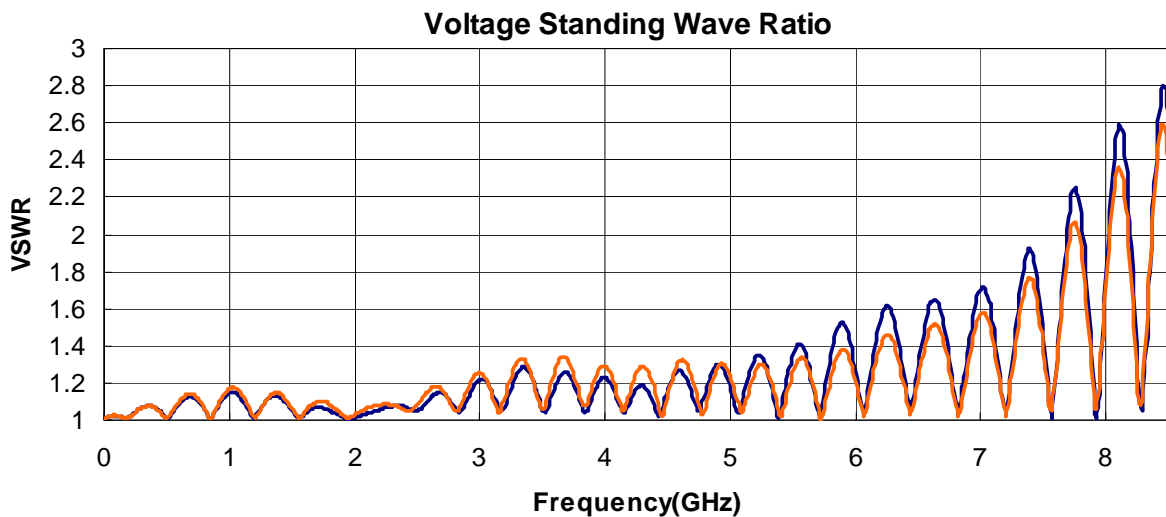
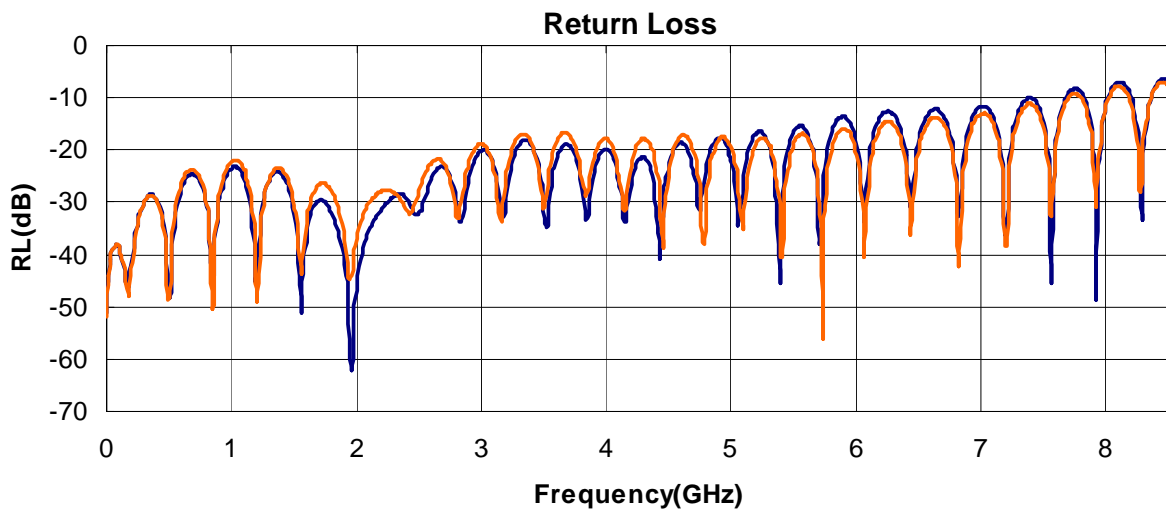
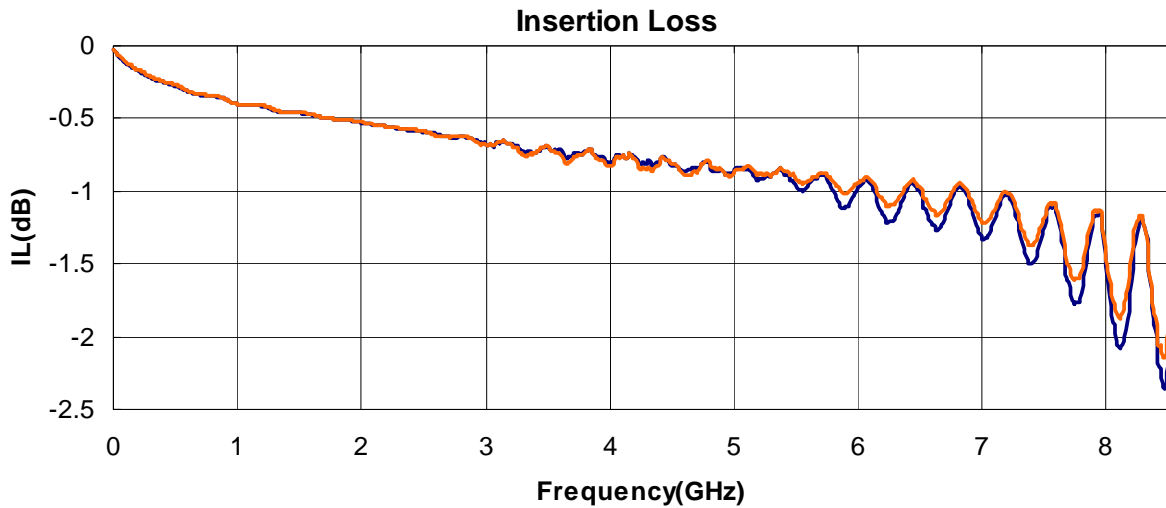
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-02RP1-02RP1-0306



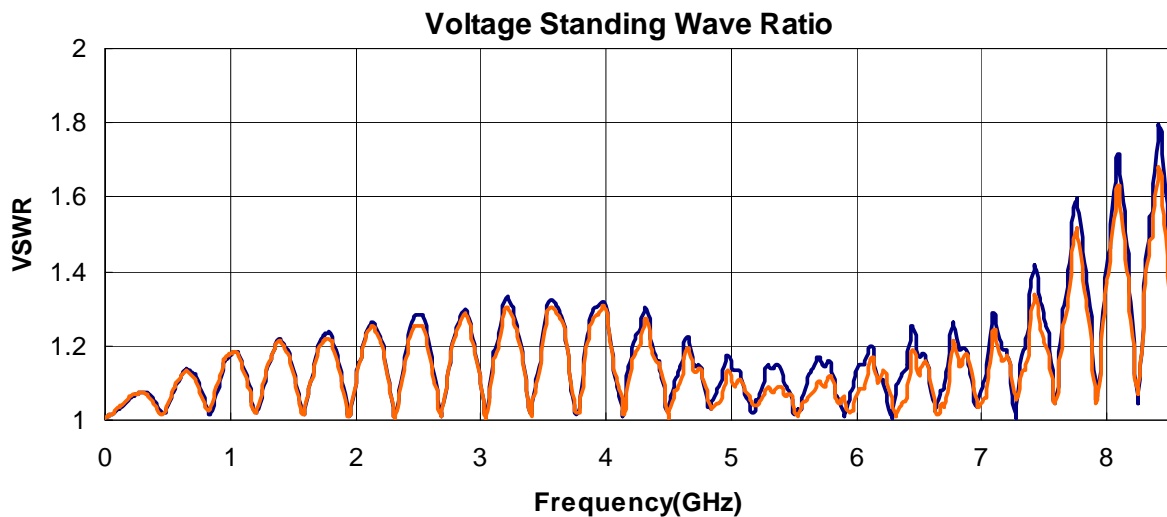
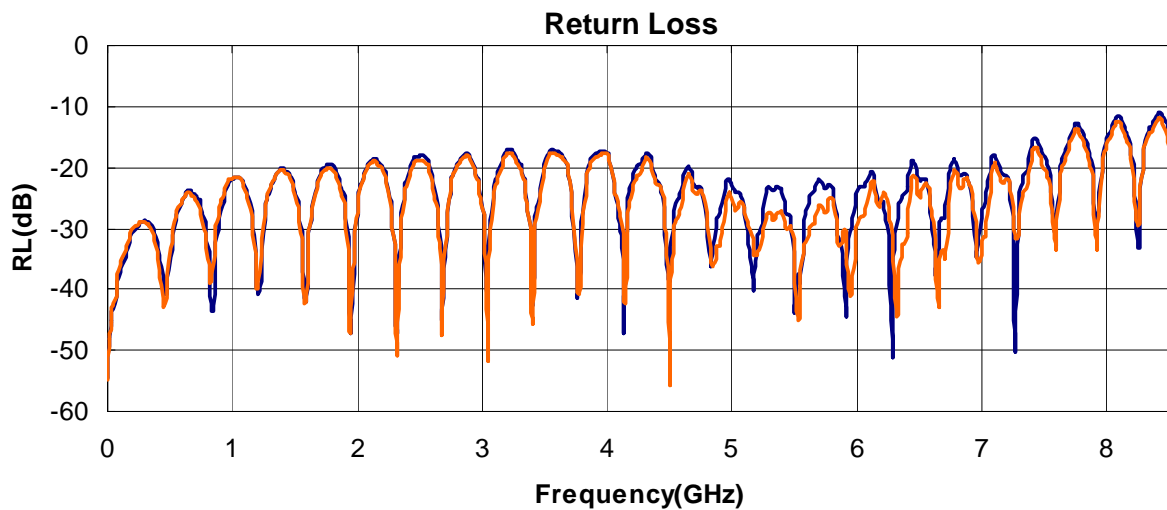
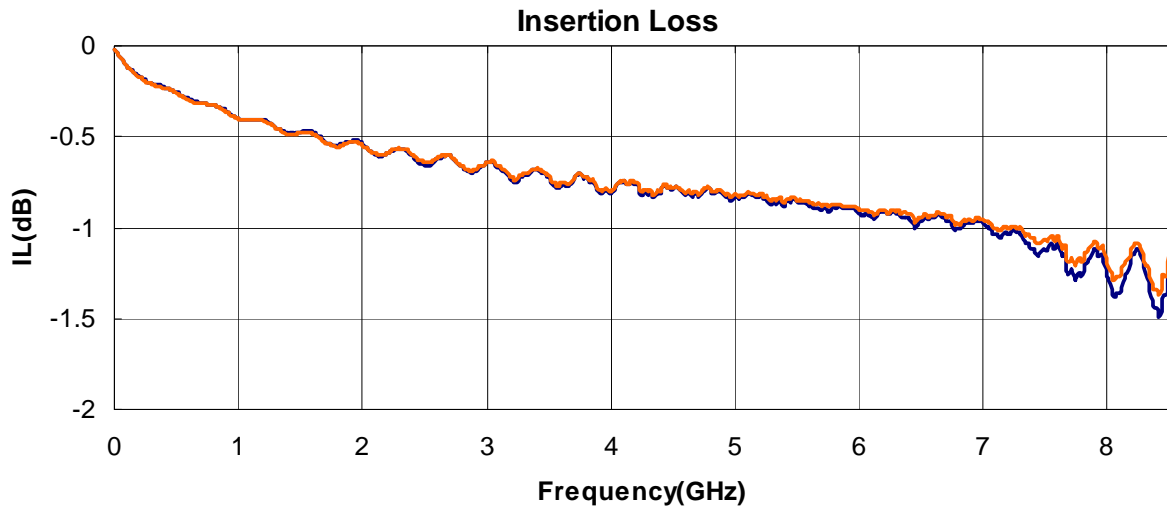
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-02SP1-02SP1-0306



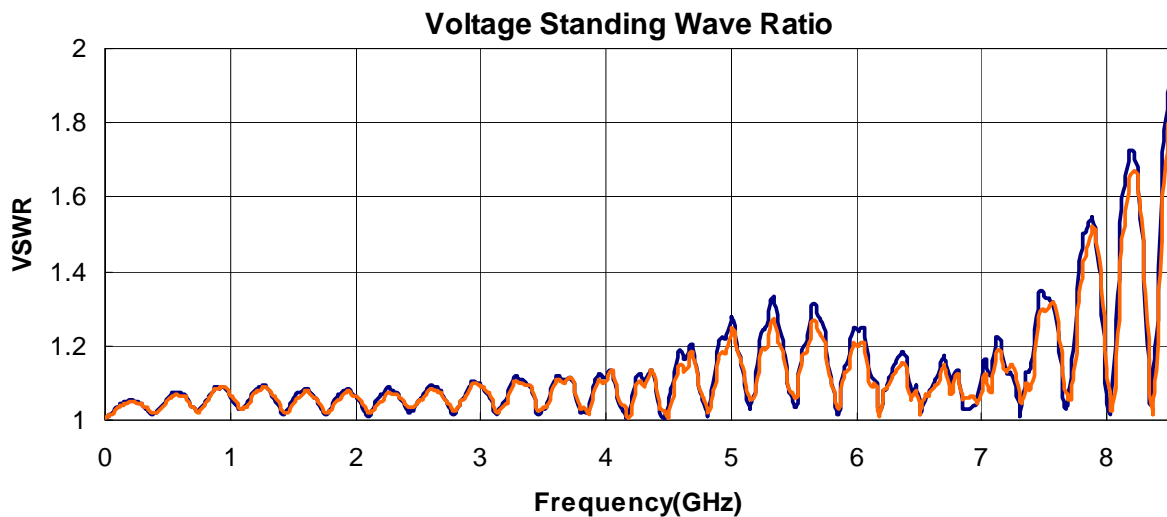
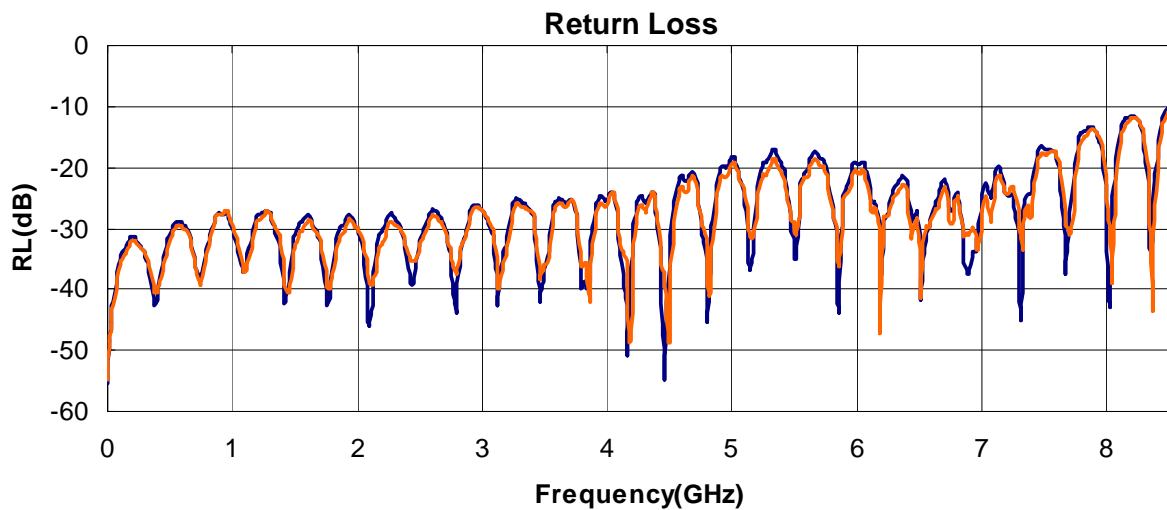
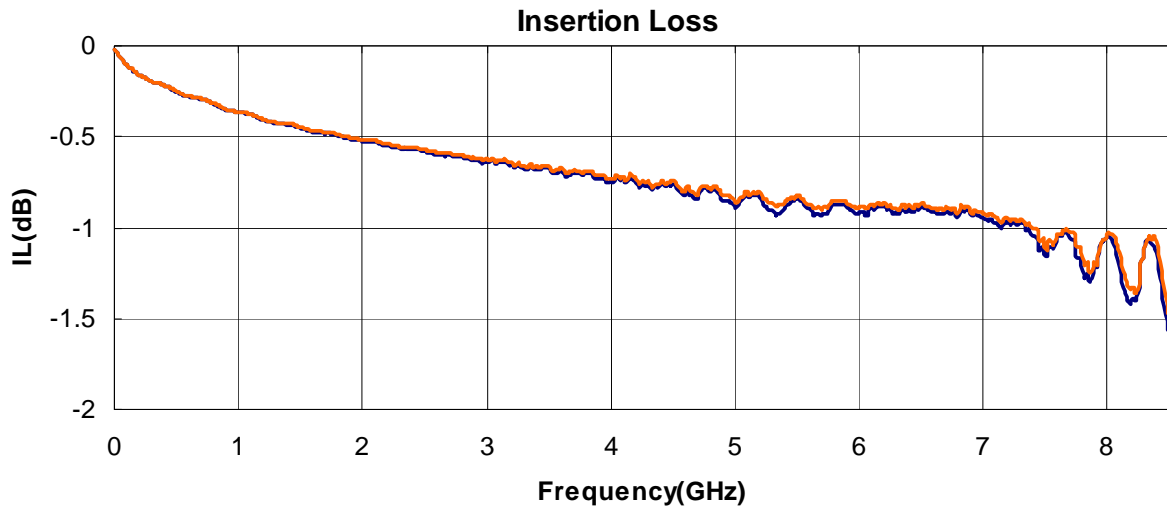
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-03SP1-03SP1-0306



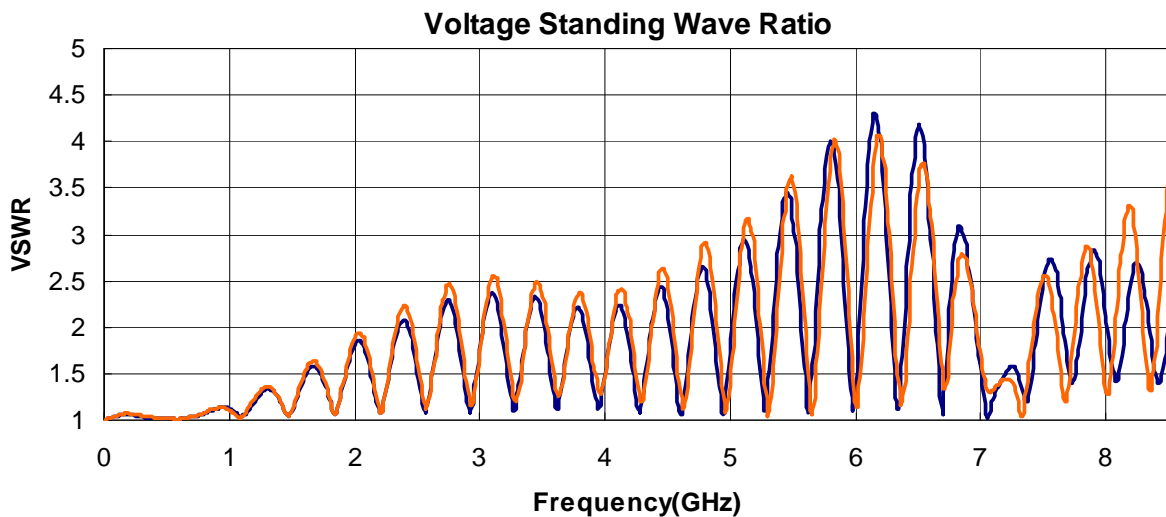
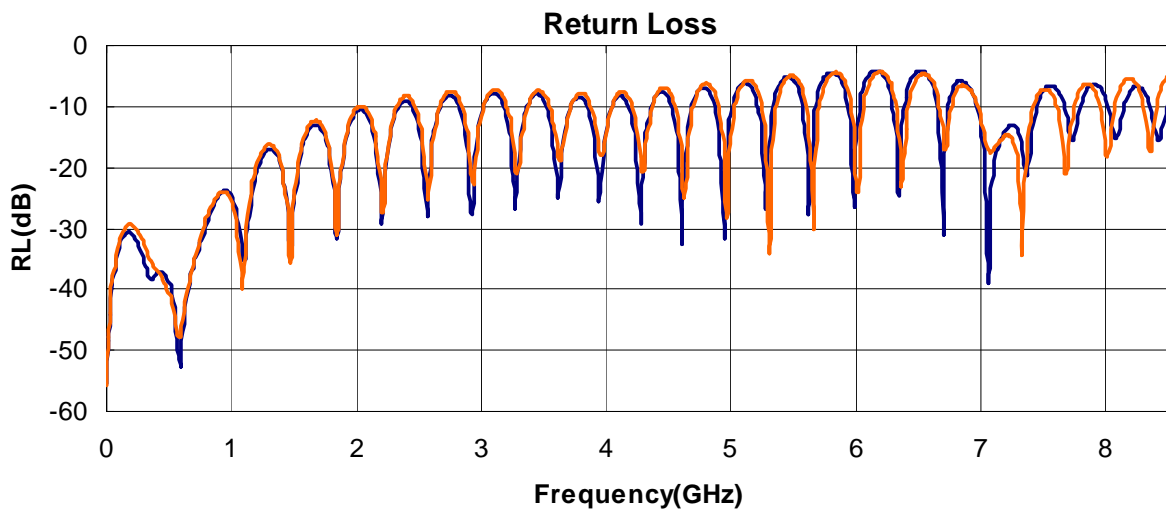
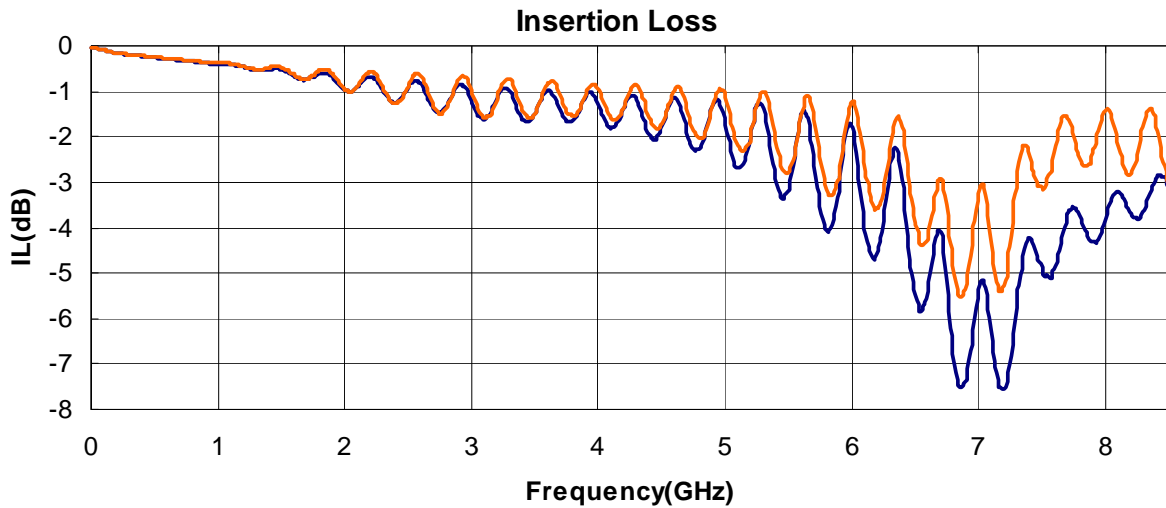
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RF316-03RP1-03RP1-0306



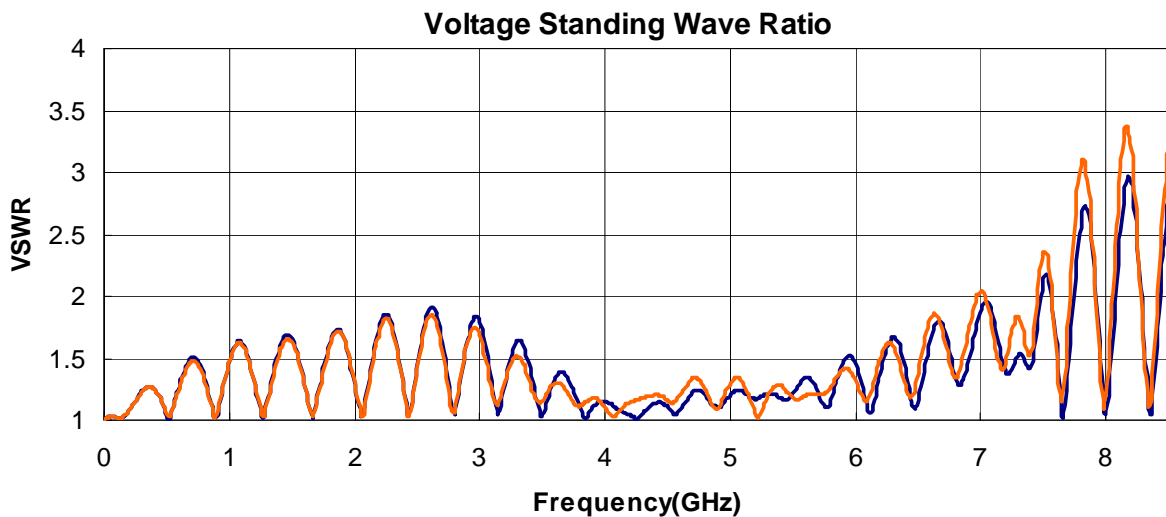
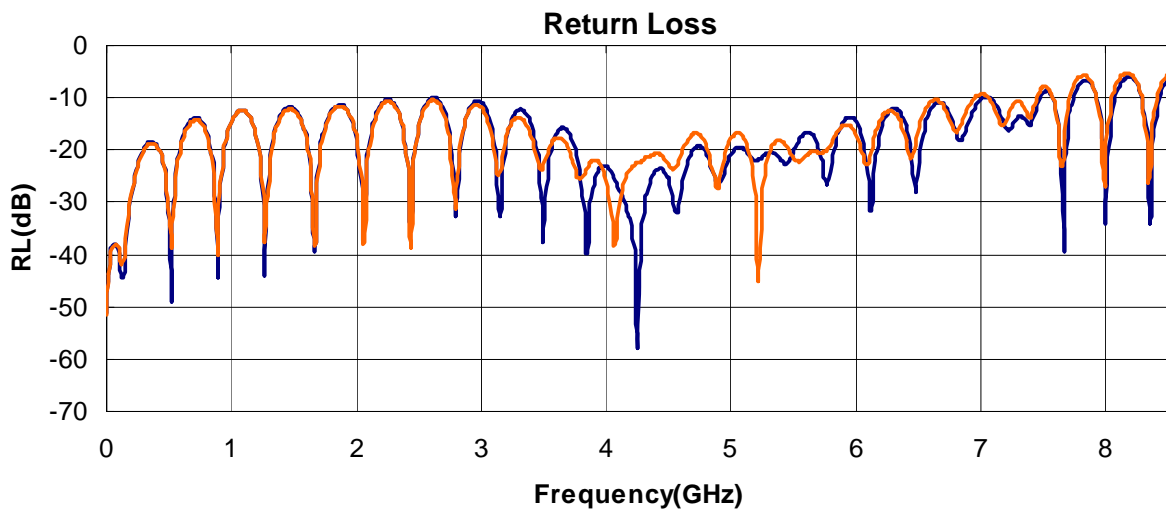
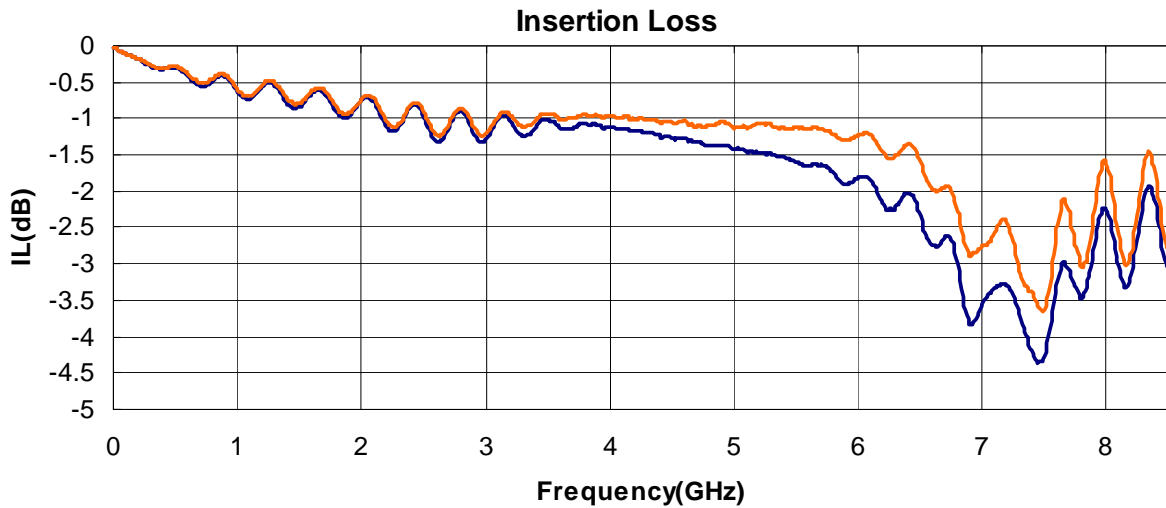
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Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-05SP2-05SP2-0305



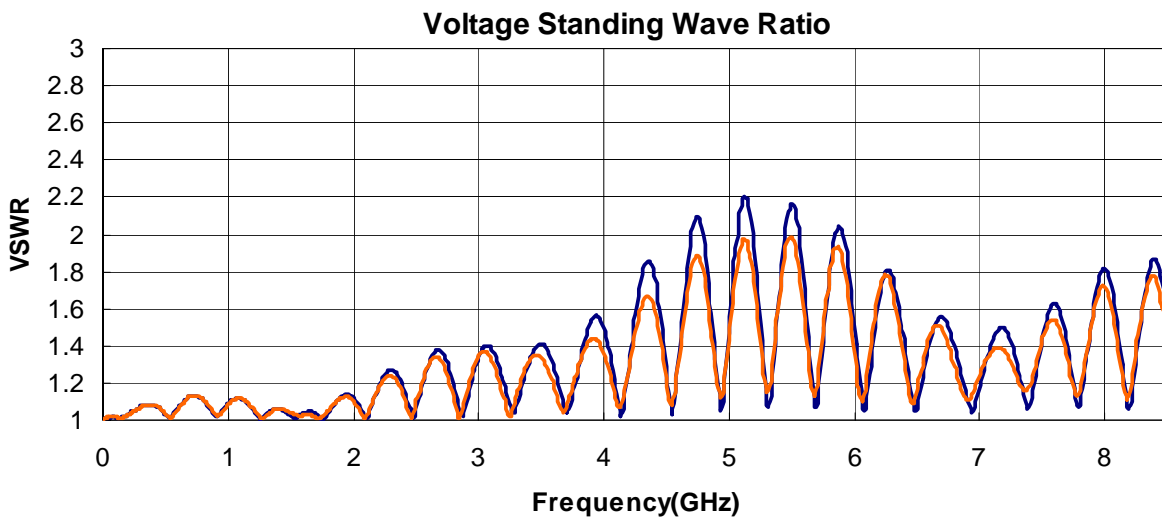
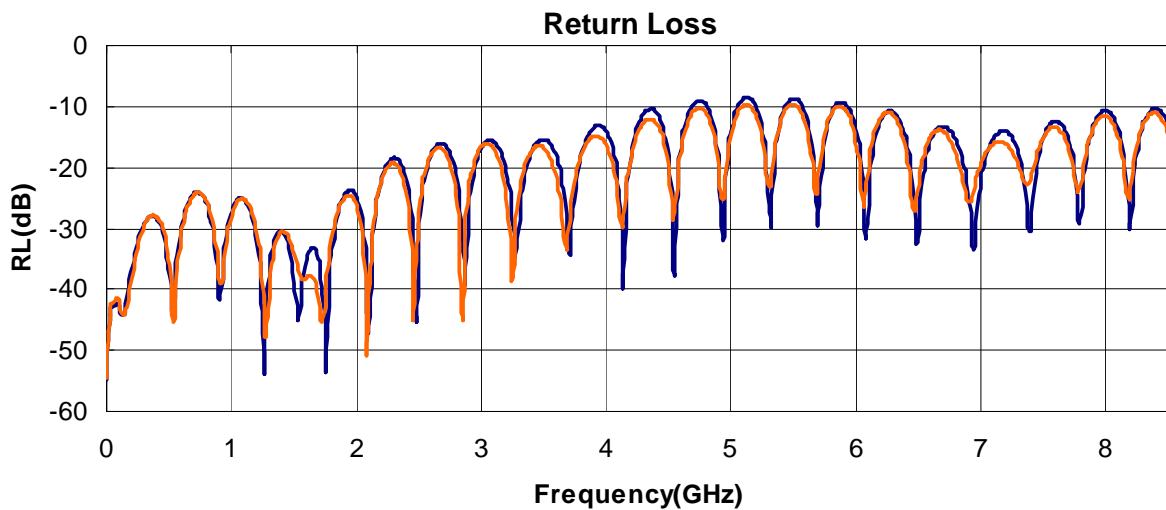
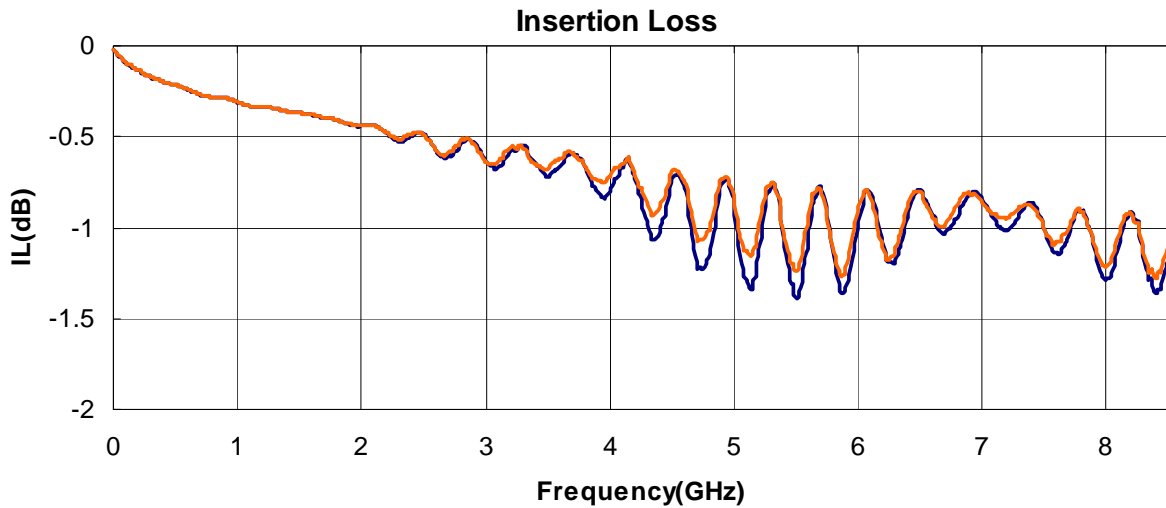
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-05BJ2-05BJ2-0320



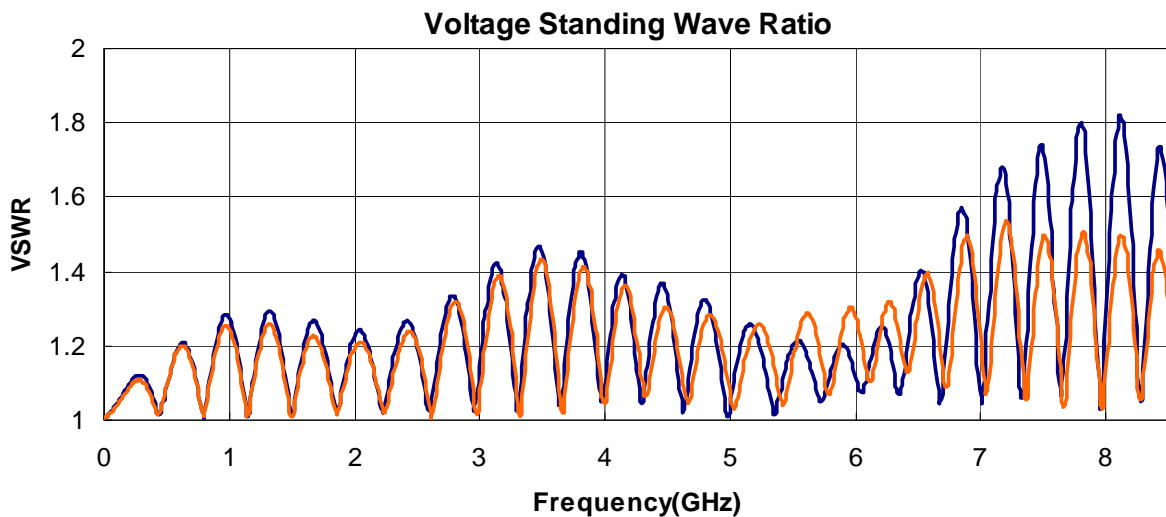
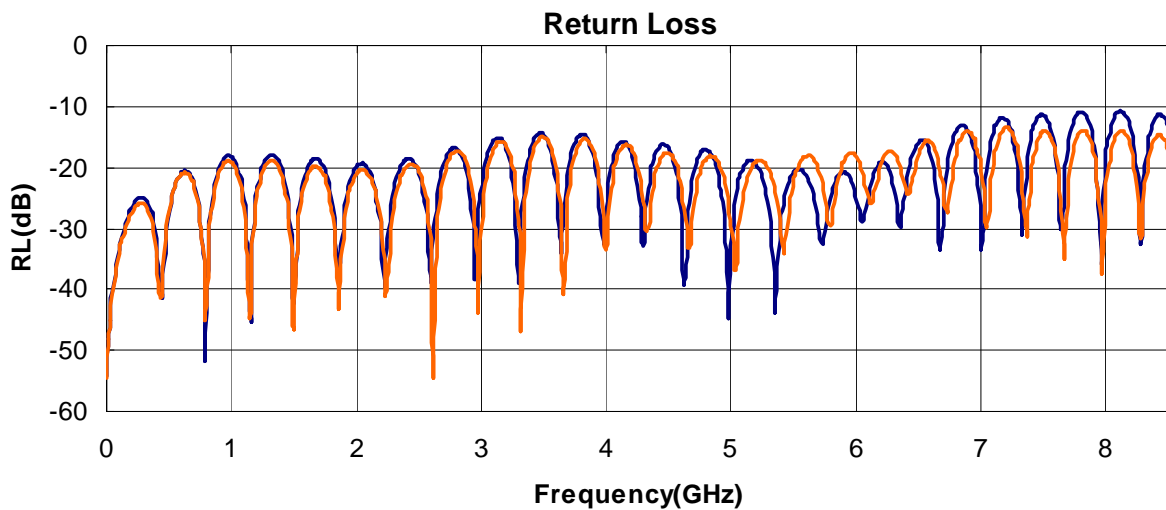
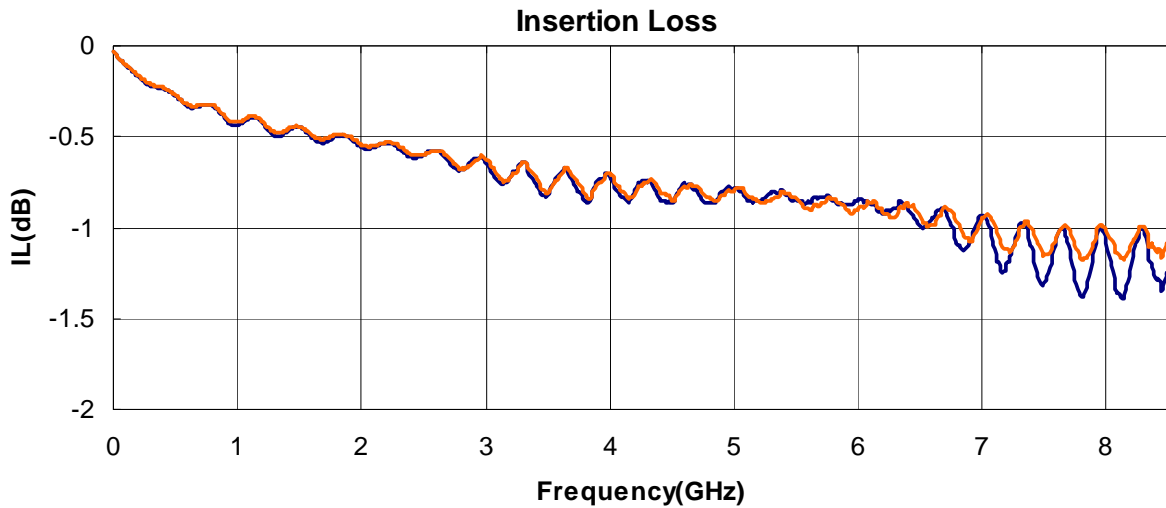
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RF316-06BJ2-06BJ2-0305



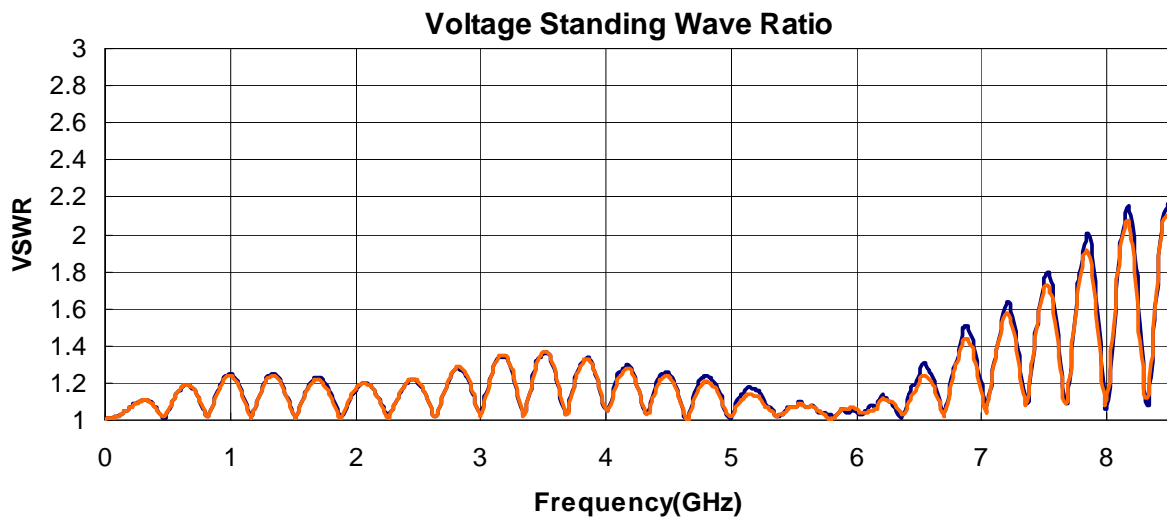
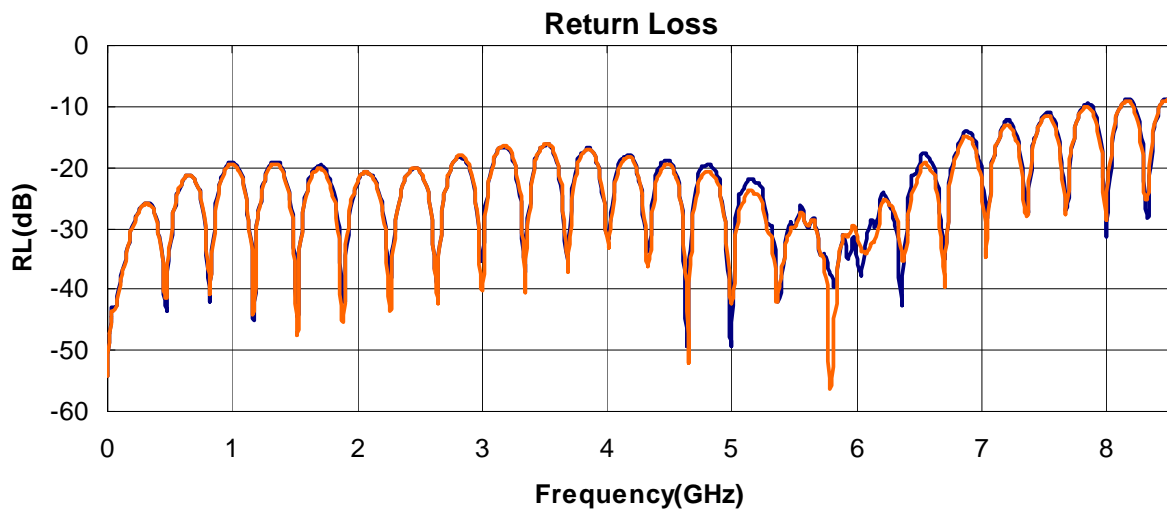
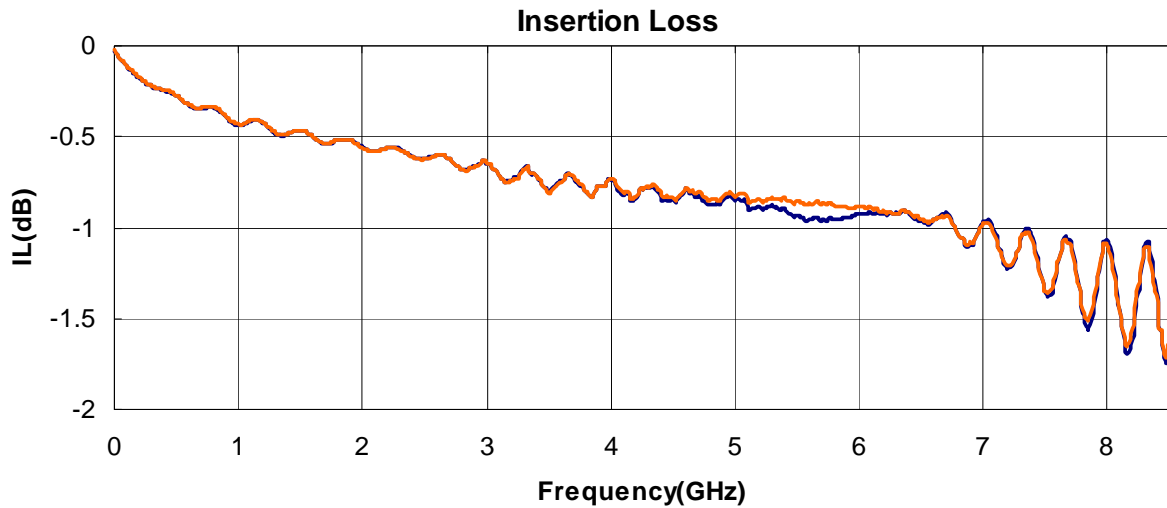
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Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-07SP1-07SP1-0323



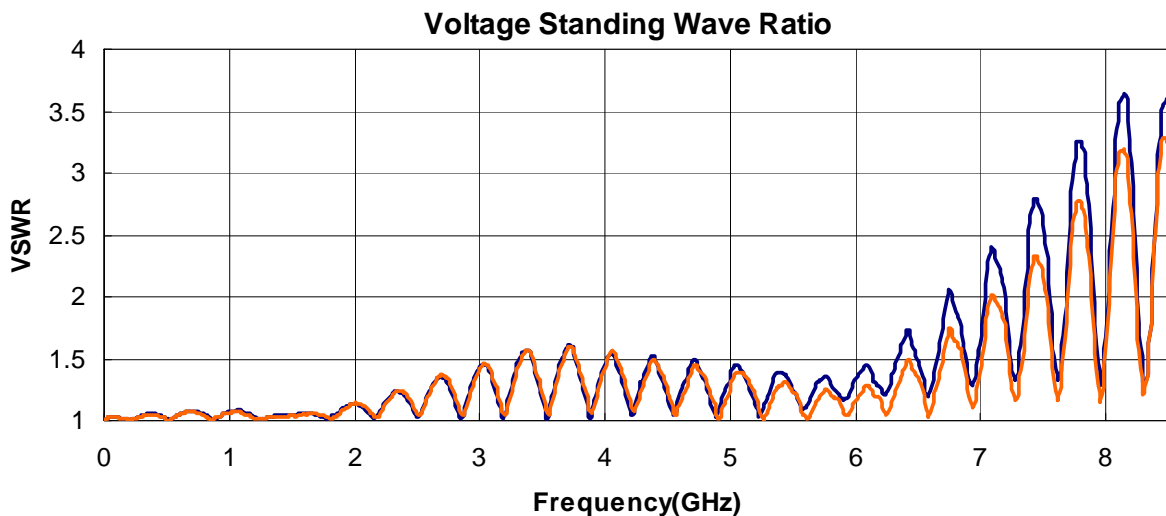
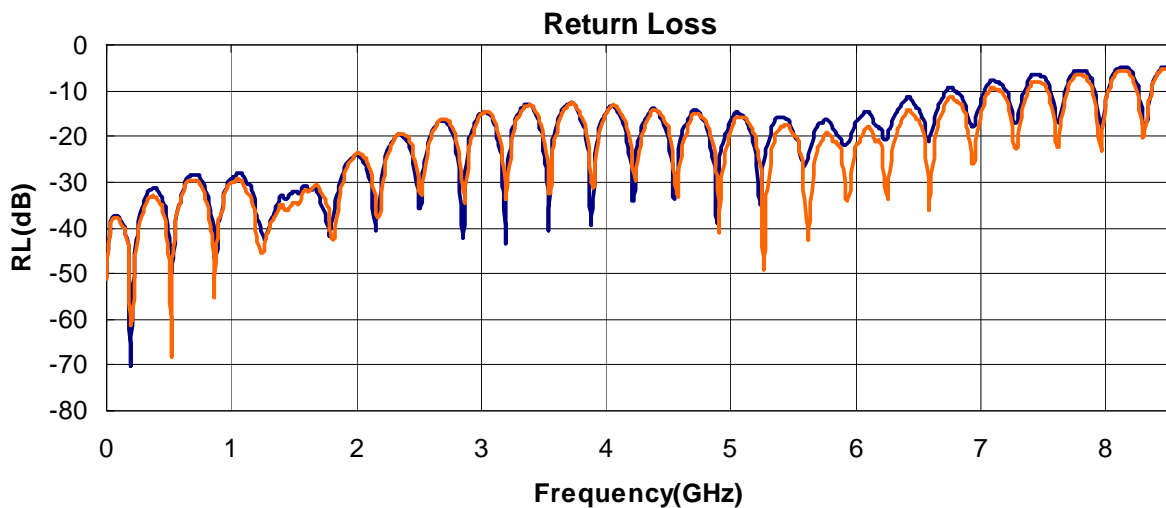
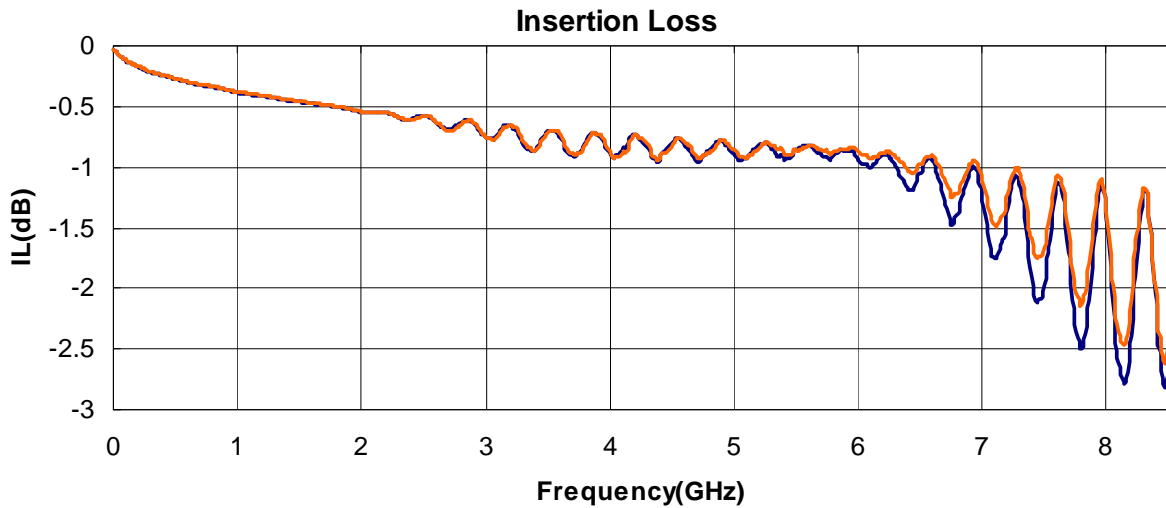
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-07RP1-07RP1-0307



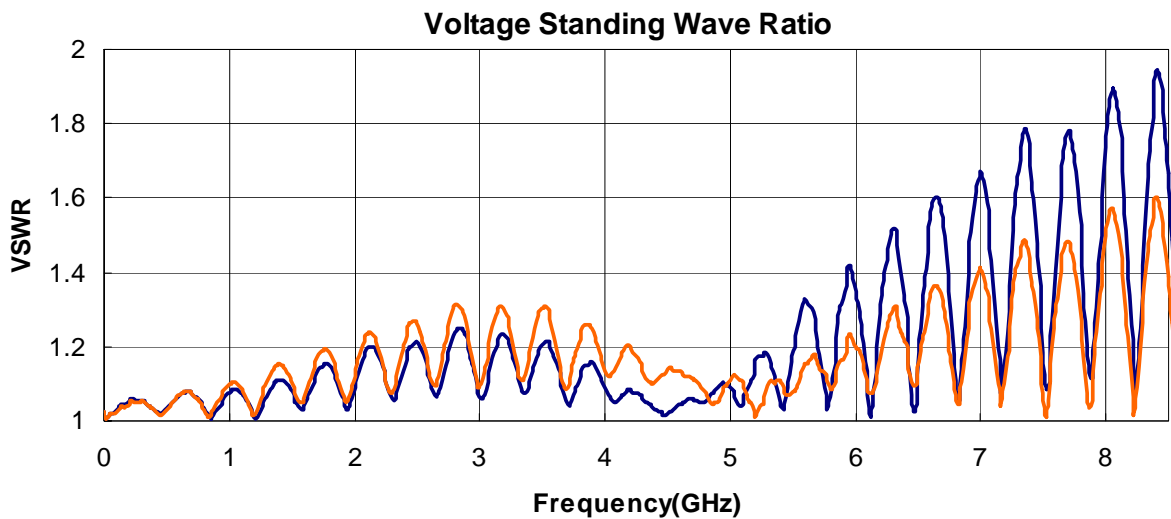
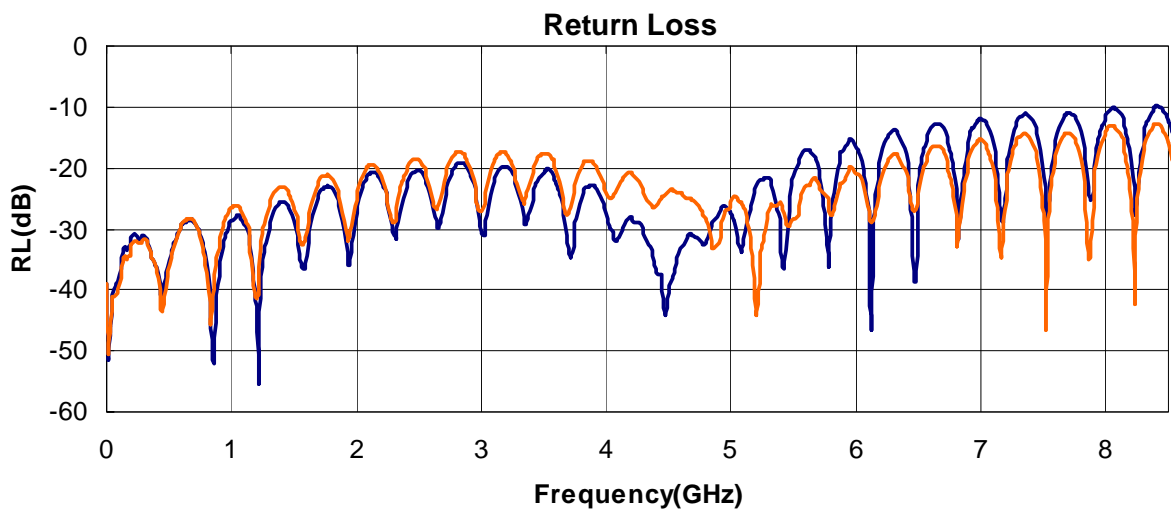
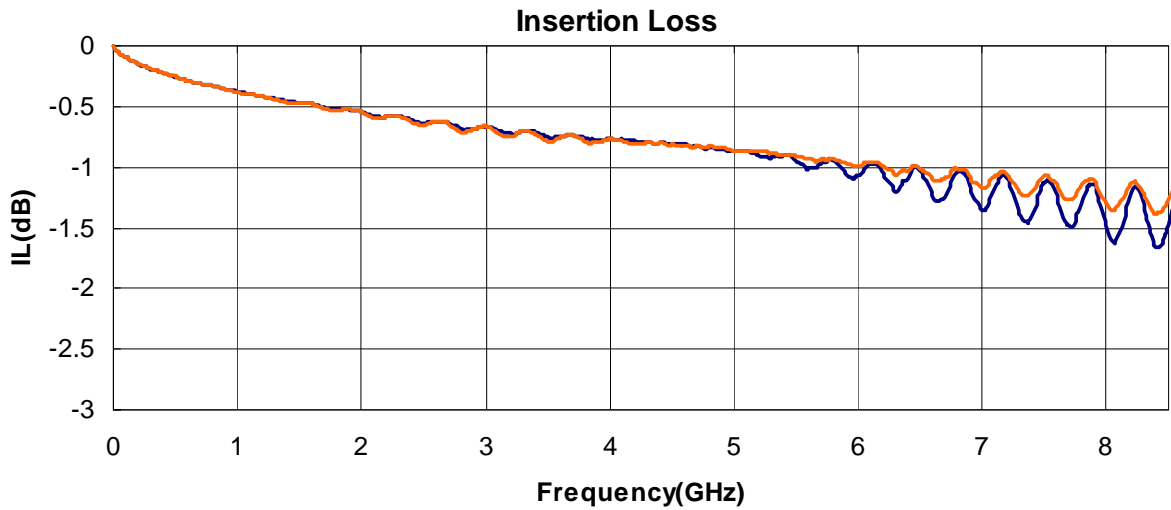
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-07BJ1-07BJ1-0306



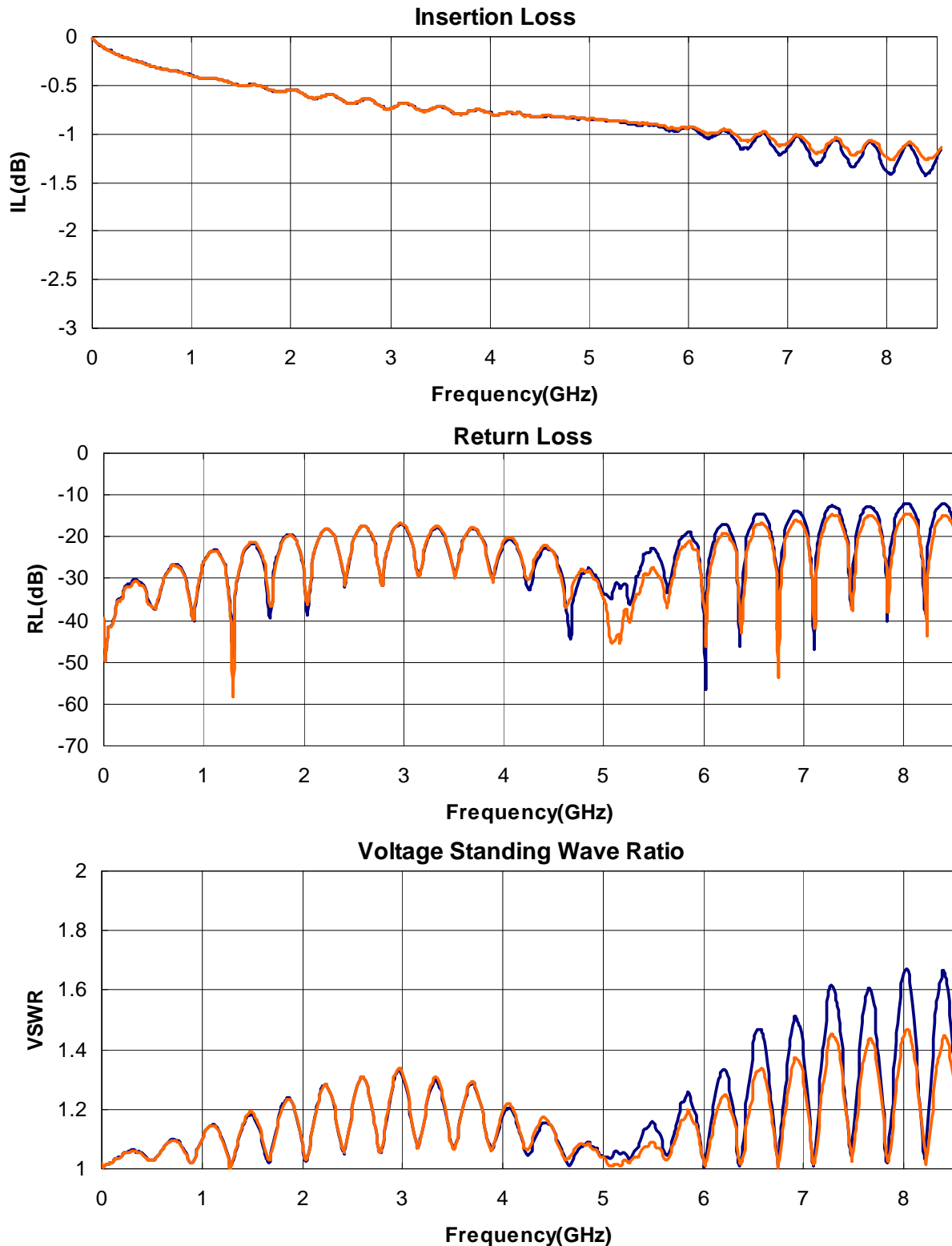
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-S7RP4-S7RP4-0305



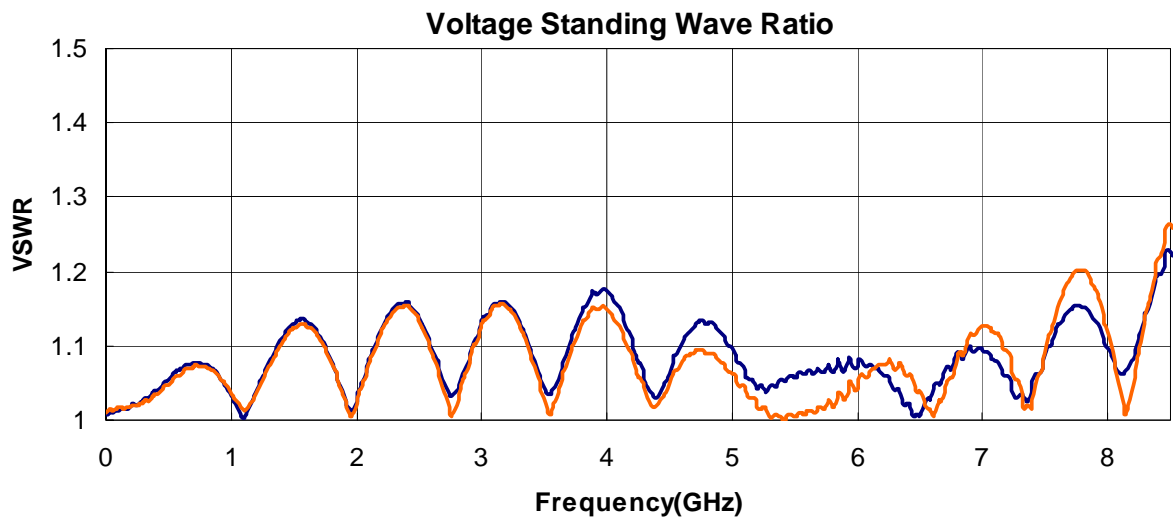
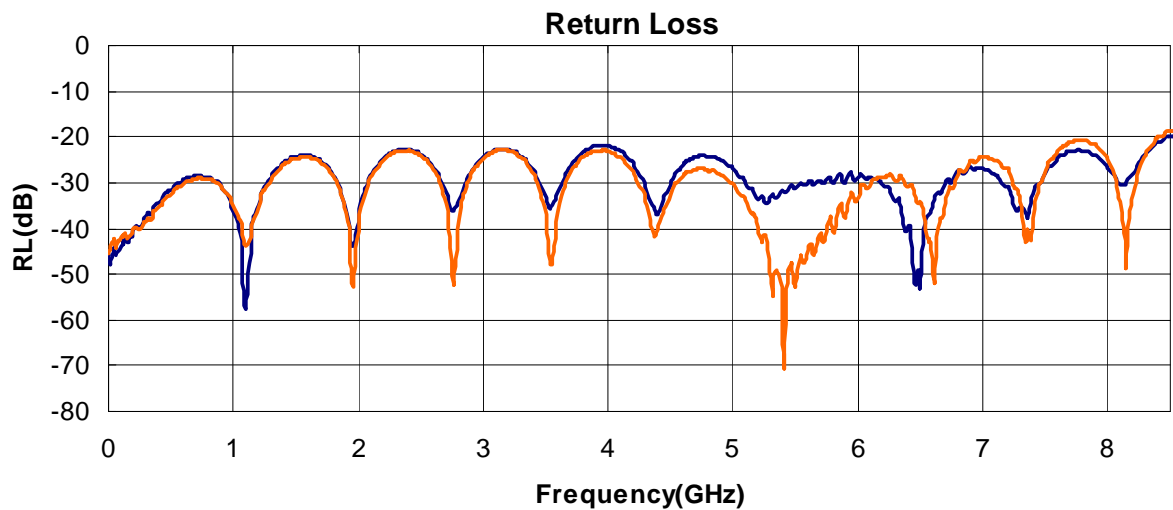
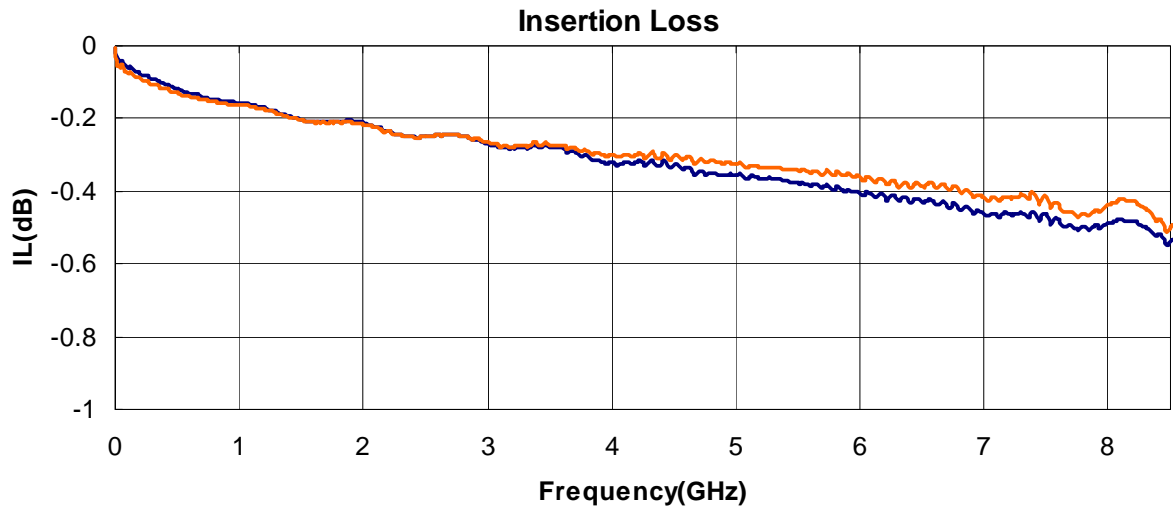
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-S7SP4-S7SP4-0305



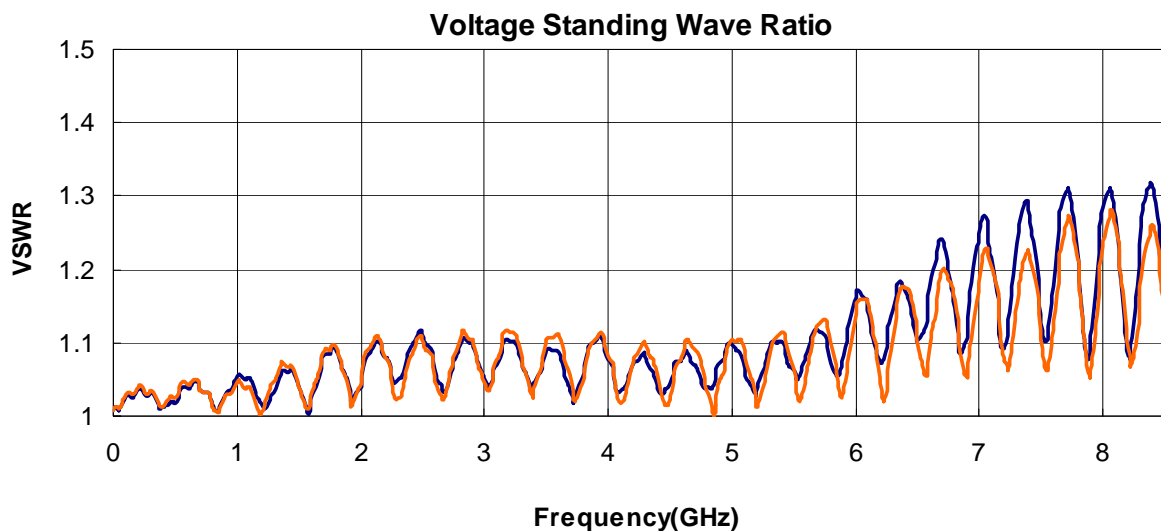
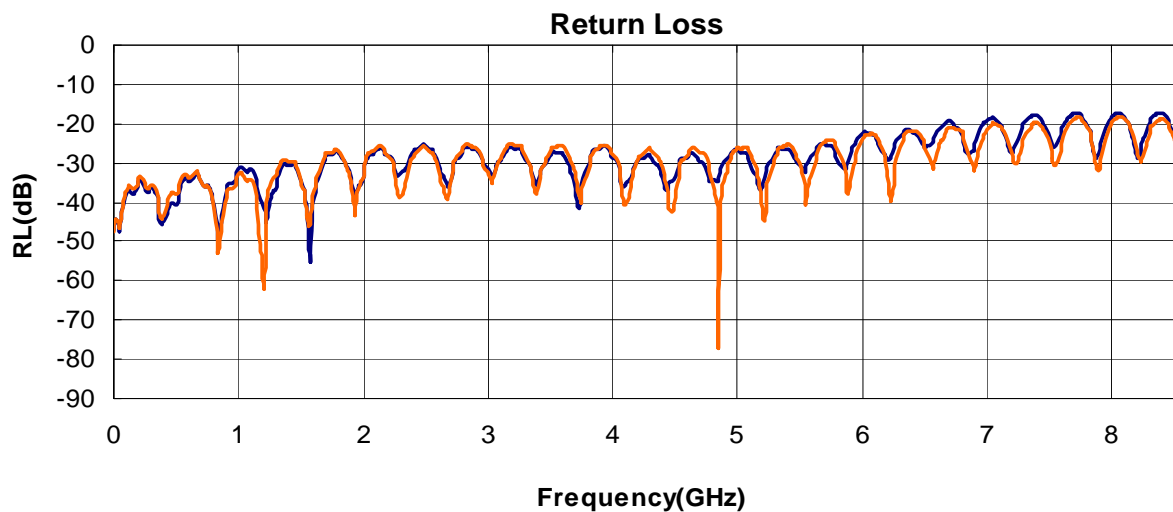
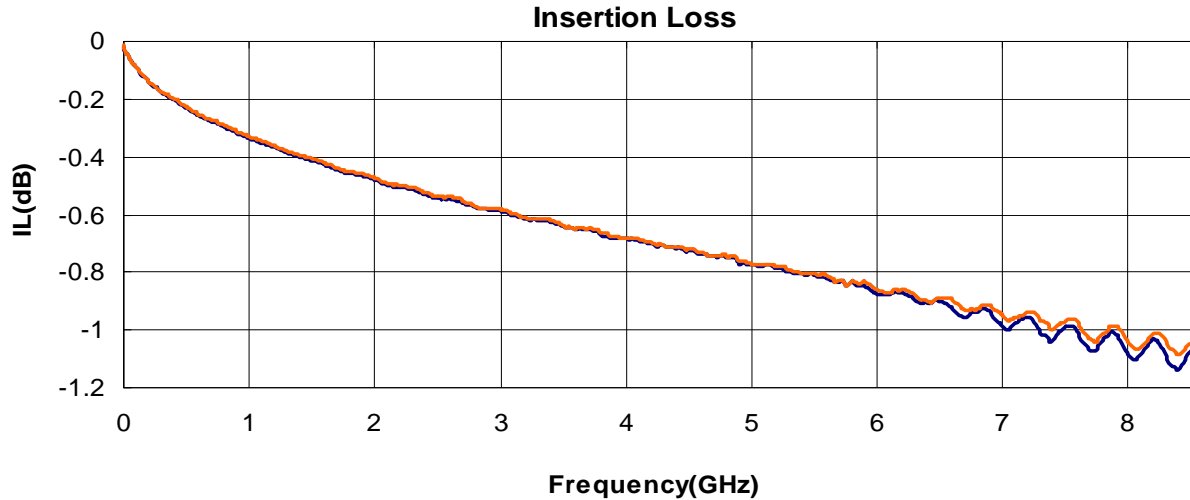
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-01PN1-01PN1-0150



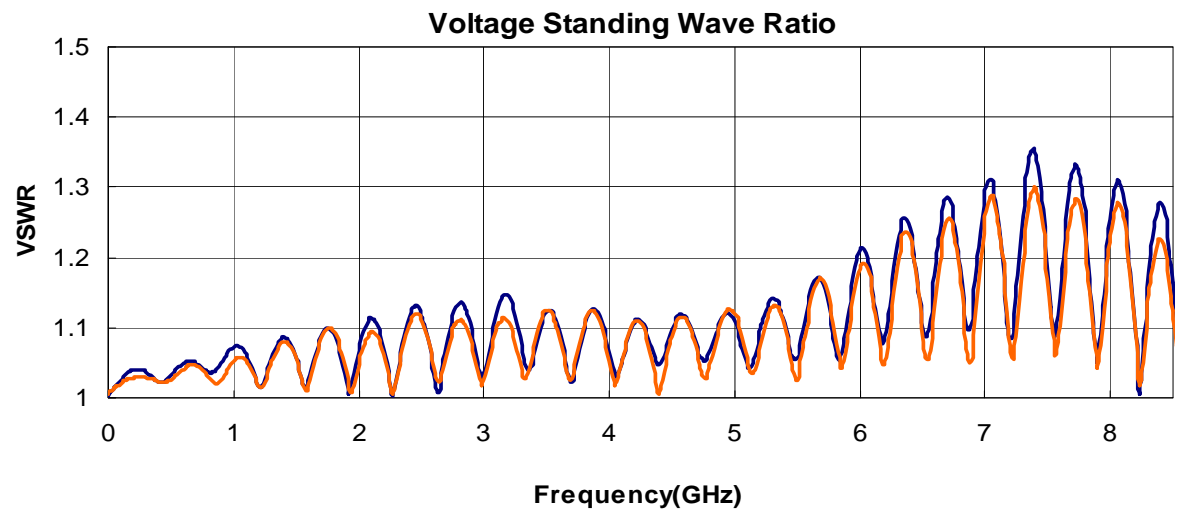
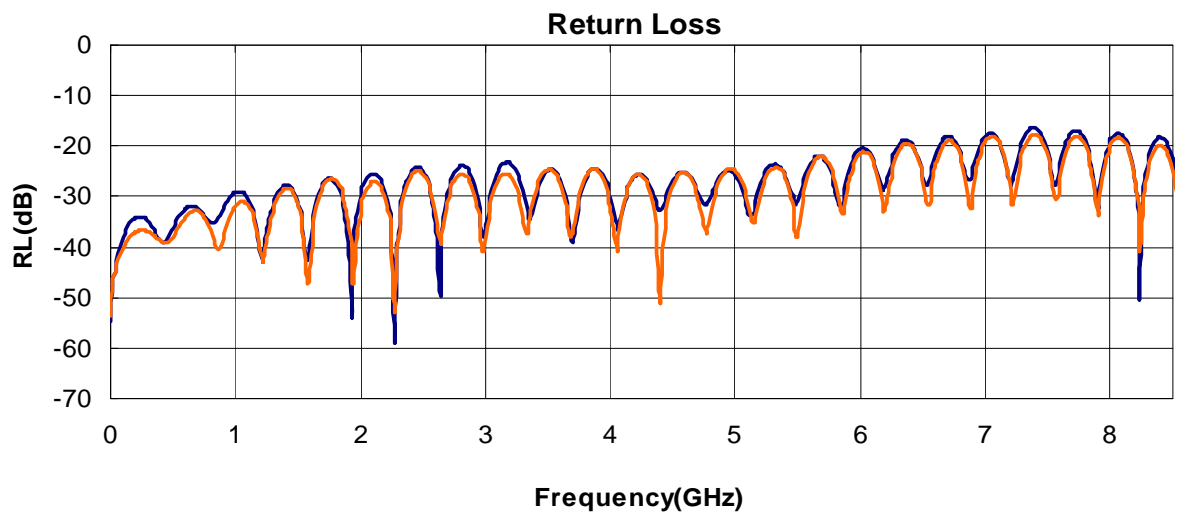
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Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-V3SJ4-V3SJ4-0305



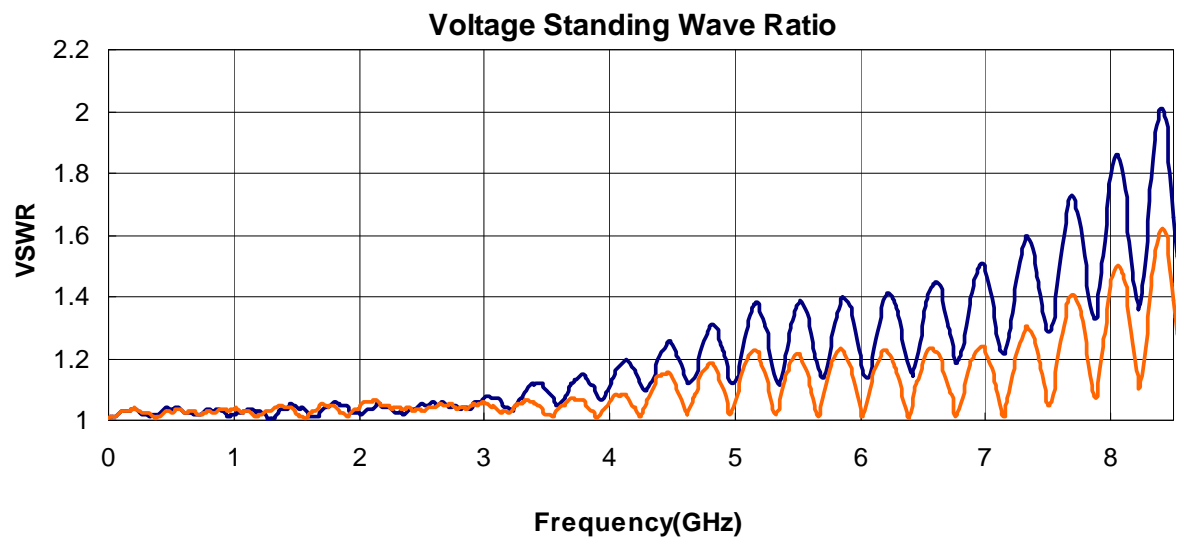
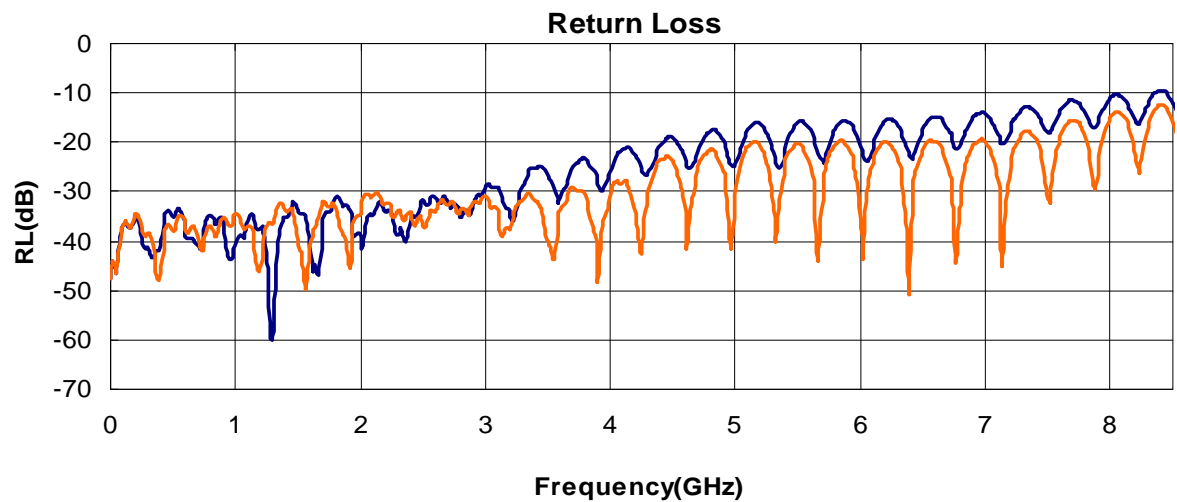
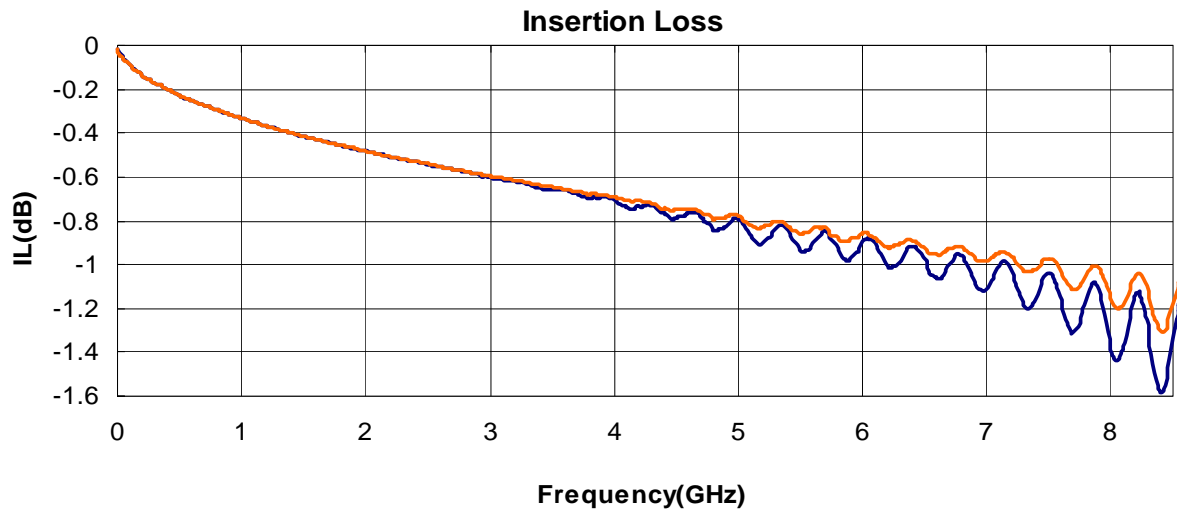
Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-V3SP4-V3SP4-0305



Series: RF316  
Description: RF Cable Assembly, 50 Ohm, RG316 Cable

RF316-V3RP4-V3RP4-0305



**Series:** RF316

**Description:** RF Cable Assembly, 50 Ohm, RG316 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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**Description:** RF Cable Assembly, 50 Ohm, RG316 Cable

**Test Fixtures:**



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



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