



## **RF Characterization Report**

### **RF174 Series Cable Assemblies**

**RF174-01SP1-01SP1-0306**  
**RF174-01RP1-01RP1-0308**  
**RF174-01BJ1-01BJ1-0306**  
**RF174-01BR1-01BR1-0306**  
**RF174-02SJ1-02SJ1-0307**  
**RF174-02RP1-02RP1-0307**  
**RF174-02SP1-02SP1-0307**  
**RF174-03SP1-03SP1-0310**  
**RF174-07RP1-07RP1-0310**  
**RF174-07BJ1-07BJ1-0303**  
**RF174-01SB1-01SB1-0306**  
**RF174-01SR1-01SR1-0306**

**Description:**  
**RF Cable Assembly, RG174 Cable**

Series: RF174

Description: RF Cable Assembly, RG174 Cable

## Table of Contents

Test Setup Information .....	1
Scope: .....	1
Product Description: .....	1
Test Calibration:.....	2
Adapter Use:.....	2
Definition of Assembly Under Test:.....	2
Port Designations: .....	2
Legend for Plots:.....	2
Results Summary .....	3
RF174-01SP1-01SP1-0306 .....	3
RF174-01RP1-01RP1-0308 .....	4
RF174-01BJ1-01BJ1-0306 .....	5
RF174-01BR1-01BR1-0306 .....	6
RF174-02SJ1-02SJ1-0307 .....	7
RF174-02RP1-02RP1-0307 .....	8
RF174-02SP1-02SP1-0307 .....	9
RF174-03SP1-03SP1-0310.....	10
RF174-03RP1-03RP1-XXXX .....	11
RF174-04SP2-04SP2-XXXX .....	12
RF174-04BJ2-04BJ2-XXXX .....	13
RF174-05SP2-05SP2-XXXX .....	14
RF174-05BJ2-05BJ2-XXXX .....	15
RF174-06BJ2-06BJ2-XXXX .....	16
RF174-07SP1-07SP1-XXXX .....	17
RF174-07RP1-07RP1-0310 .....	18
RF174-07BJ1-07BJ1-0303 .....	19
RF174-13GP1-13GP1-XXXX .....	20
RF174-13GJ1-13GJ1-XXXX.....	21
RF174-01SB1-01SB1-0306.....	22
RF174-01SR1-01SR1-0306 .....	23
Instrument Setup:.....	24
Test Fixture: .....	24

**Series:** RF174

**Description:** RF Cable Assembly, RG174 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 RF174 series cable assemblies that were tested

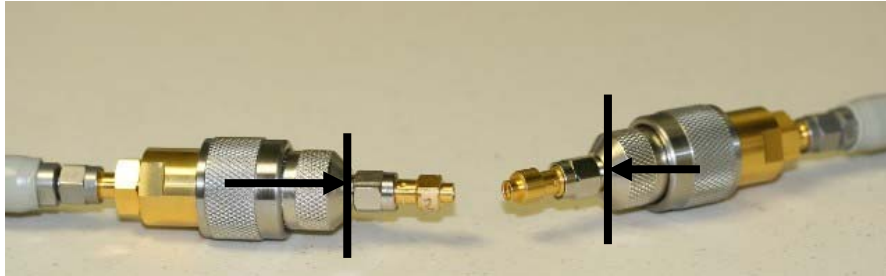
Part Number	Length	Termination – End 1	Termination – End 2
RF174-01SP1-01SP1-0306	306mm	SMA, Straight Plug	SMA, Straight Plug
RF174-01RP1-01RP1-0308	308MM	SMA, RA Plug	SMA, RA Plug
RF174-01BJ1-01BJ1-0306	306mm	SMA, Straight Jack	SMA, Straight Jack
RF174-01BR1-01BR1-0306	306mm	SMA, Straight Jack, Reverse Polarity	SMA, Straight Jack, Reverse Polarity
RF174-02SJ1-02SJ1-0307	307 mm	MCX, Straight, Jack	MCX, Straight, Jack
RF174-02RP1-02RP1-0307	307 mm	MCX, Right Angle, Plug	MCX, Right Angle, Plug
RF174-02SP1-02SP1-0307	307 mm	MCX, Straight, Plug	MCX, Straight, Plug
RF174-03SP1-03SP1-0310	310 mm	MMCX, Straight, Plug	MMCX, Straight, Plug
RF174-07RP1-07RP1-0310	310 mm	SMB5, Right Angle, Plug	SMB5, Right Angle, Plug
RF174-07BJ1-07BJ1-0303	303 mm	SMB5, Straight, Jack	SMB5, Straight, Jack
RF174-01SB1-01SB1-0306	306mm	SMA, Straight Jack, Sealed	SMA, Straight Jack, Sealed
RF174-01SR1-01SR1-0306	306mm	SMA, Straight Jack, Sealed, Reverse Polarity	SMA, Straight Jack, Sealed, Reverse Polarity

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

### **Test Calibration:**

Calibration is performed using Agilent electronic calibration module, PN 85092-60010 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.

### **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.

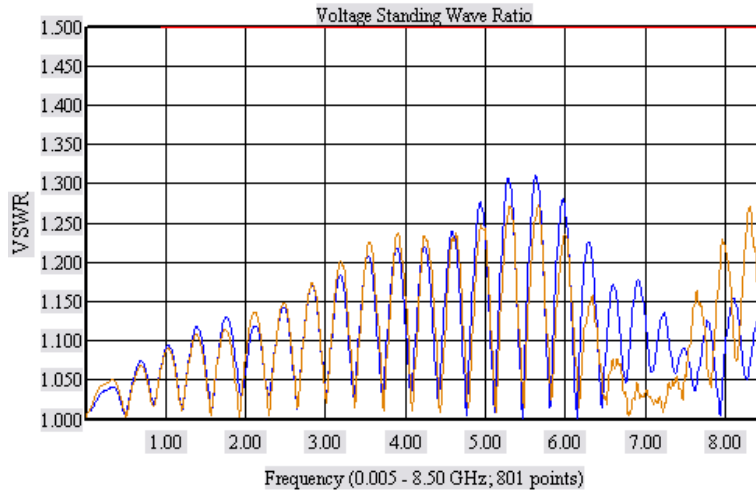
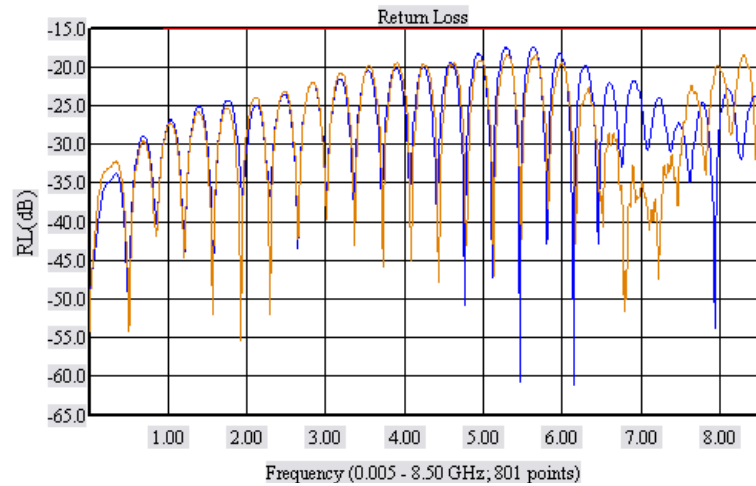
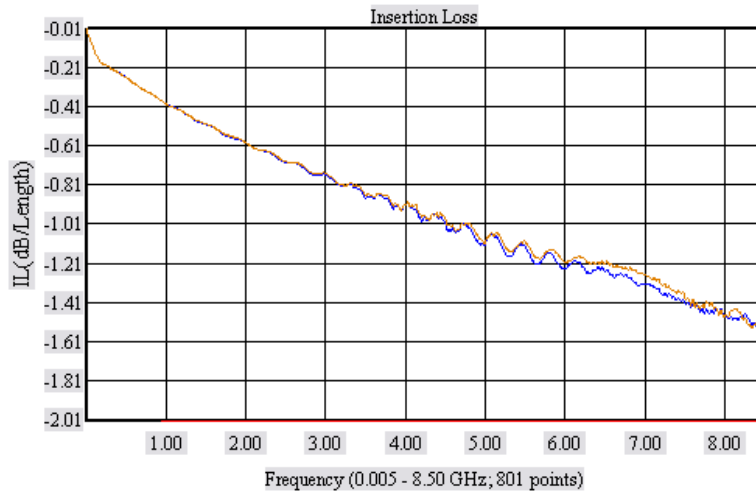
### **Legend for Plots:**

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

Series: RF174  
Description: RF Cable Assembly, RG174 Cable

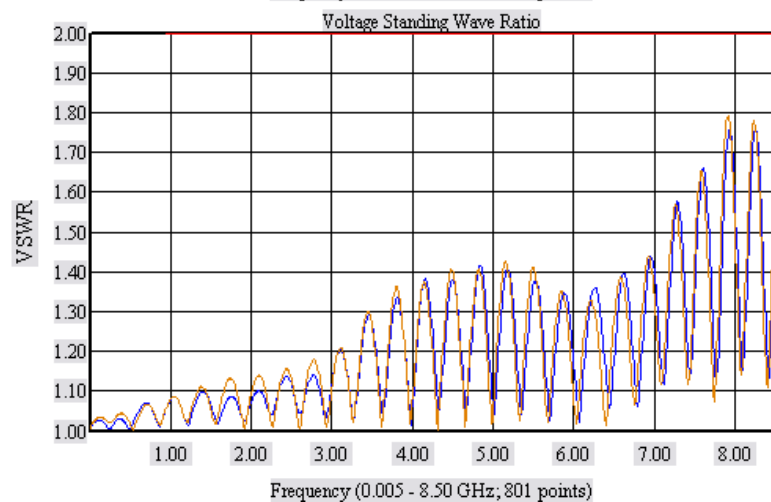
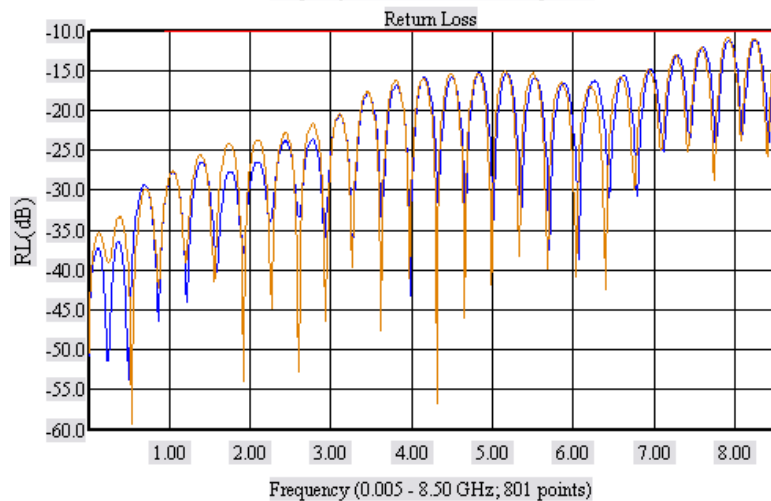
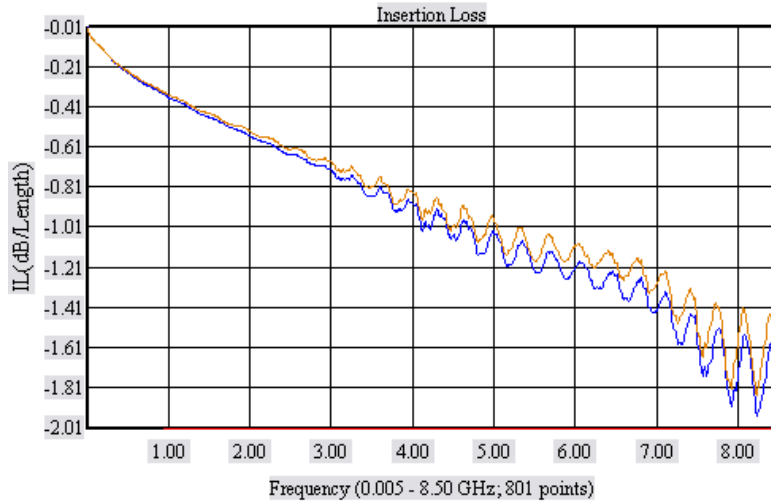
### Results Summary

RF174-01SP1-01SP1-0306



Series: RF174  
Description: RF Cable Assembly, RG174 Cable

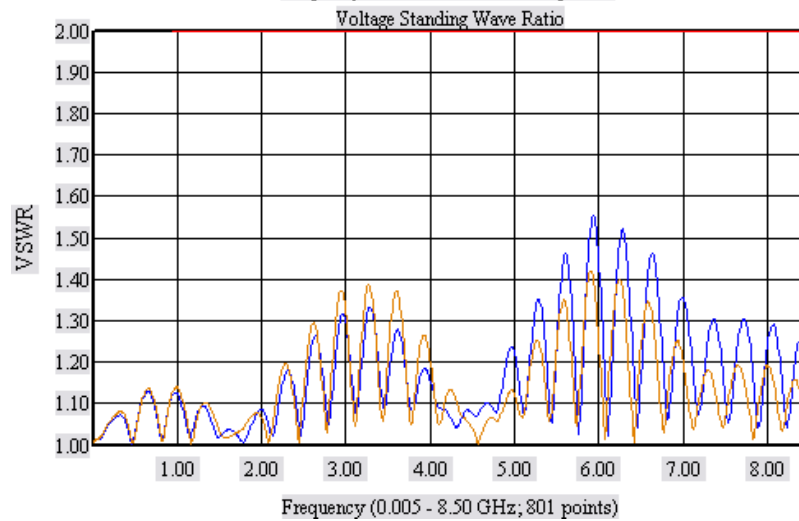
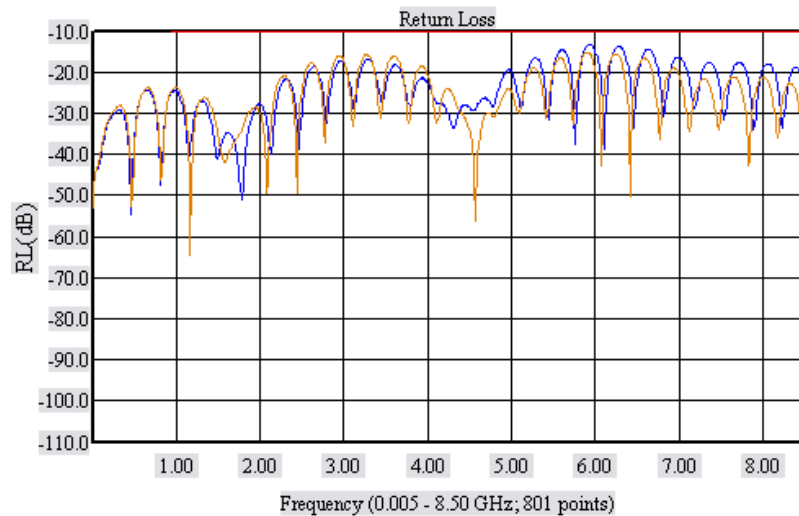
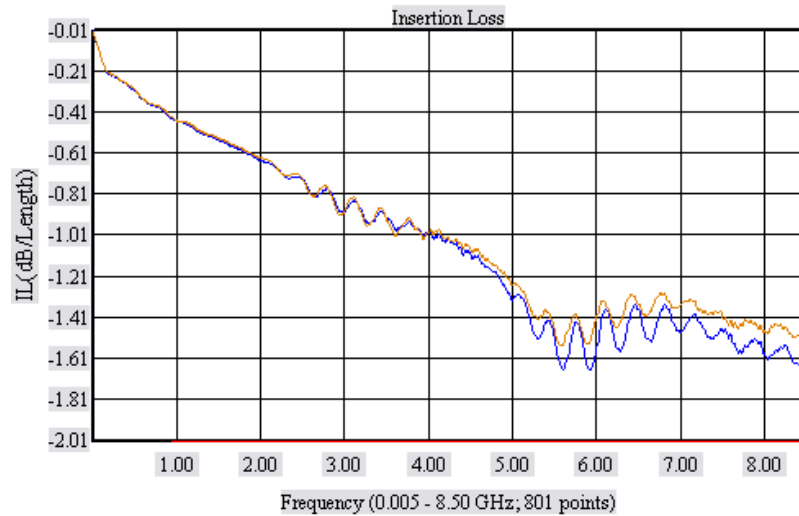
RF174-01RP1-01RP1-0308



Series: RF174

Description: RF Cable Assembly, RG174 Cable

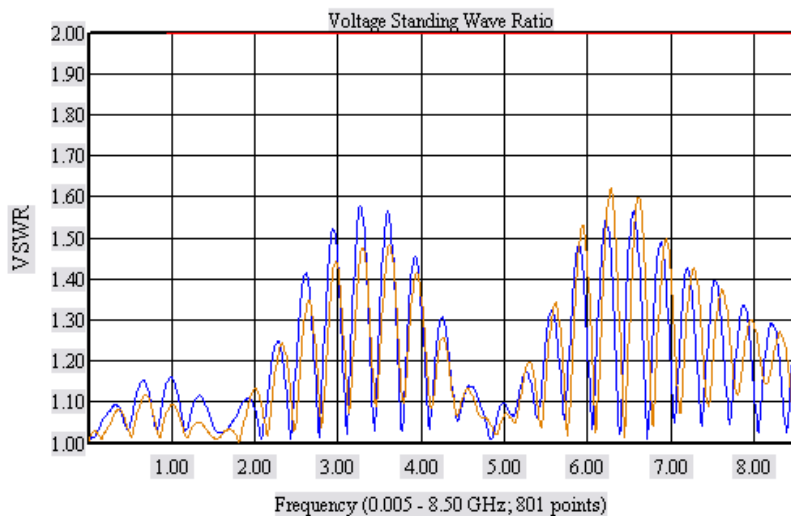
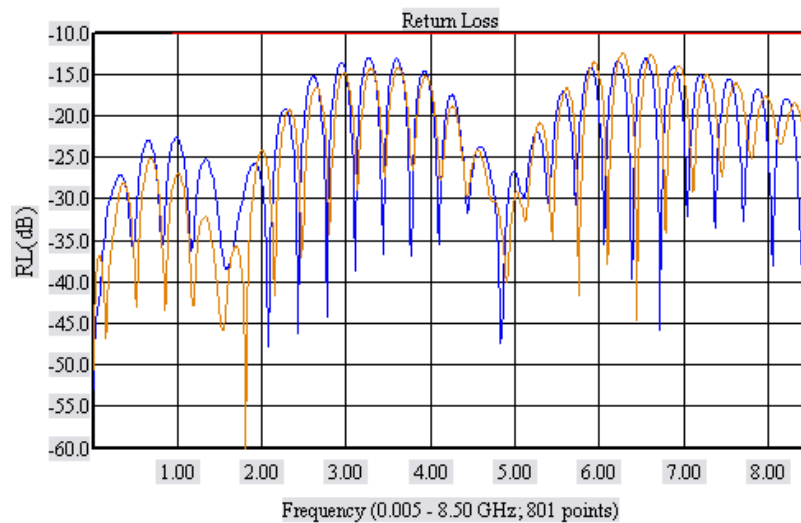
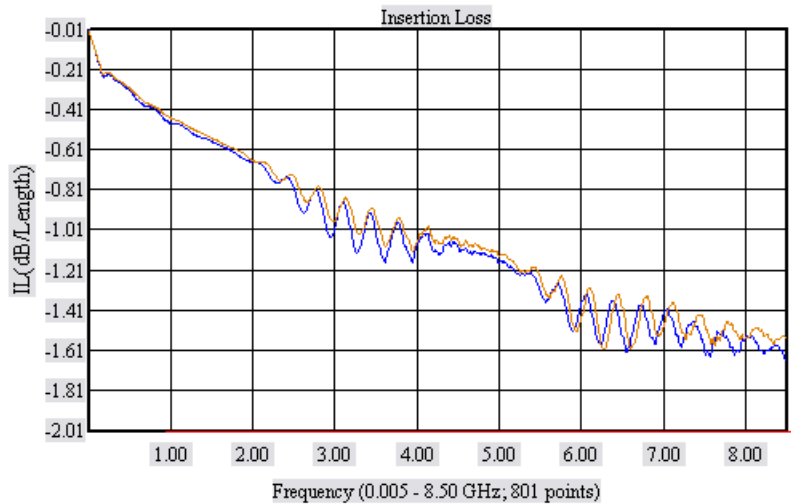
### RF174-01BJ1-01BJ1-0306



Series: RF174

Description: RF Cable Assembly, RG174 Cable

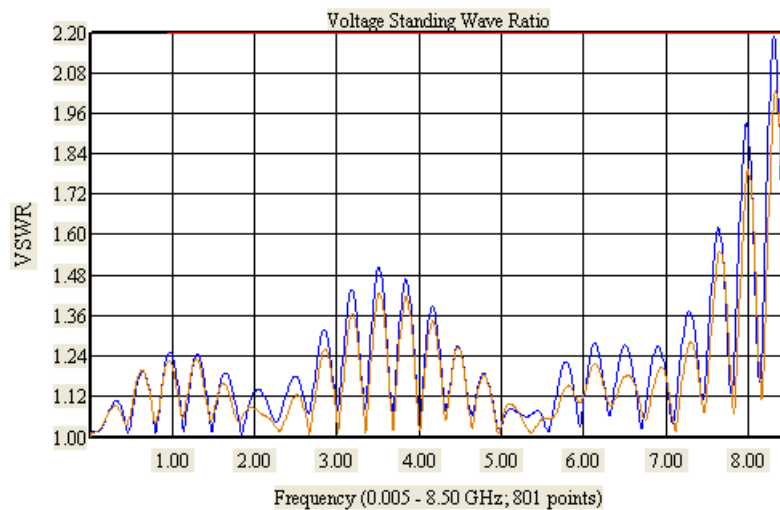
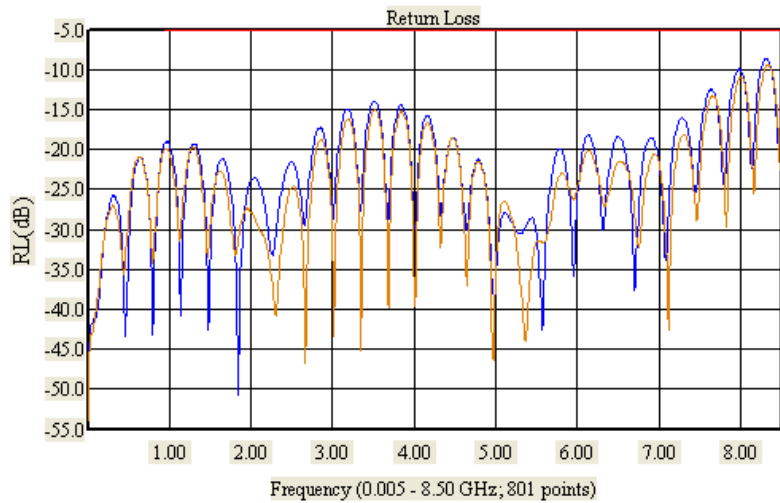
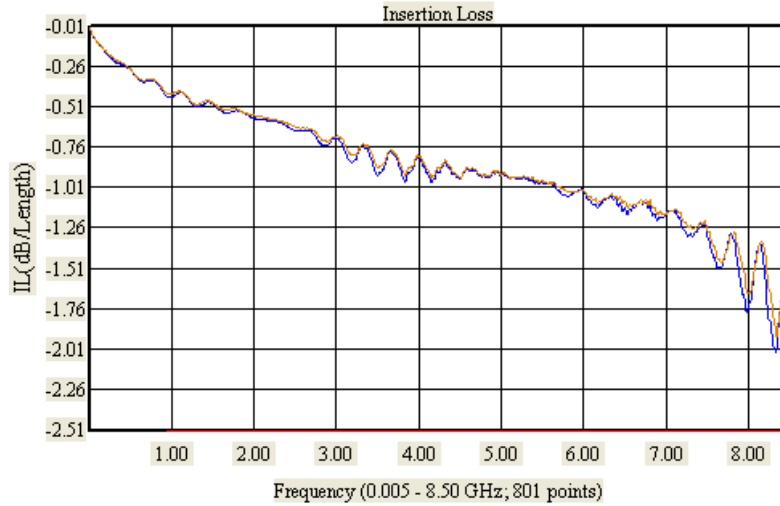
### RF174-01BR1-01BR1-0306



Series: RF174

Description: RF Cable Assembly, RG174 Cable

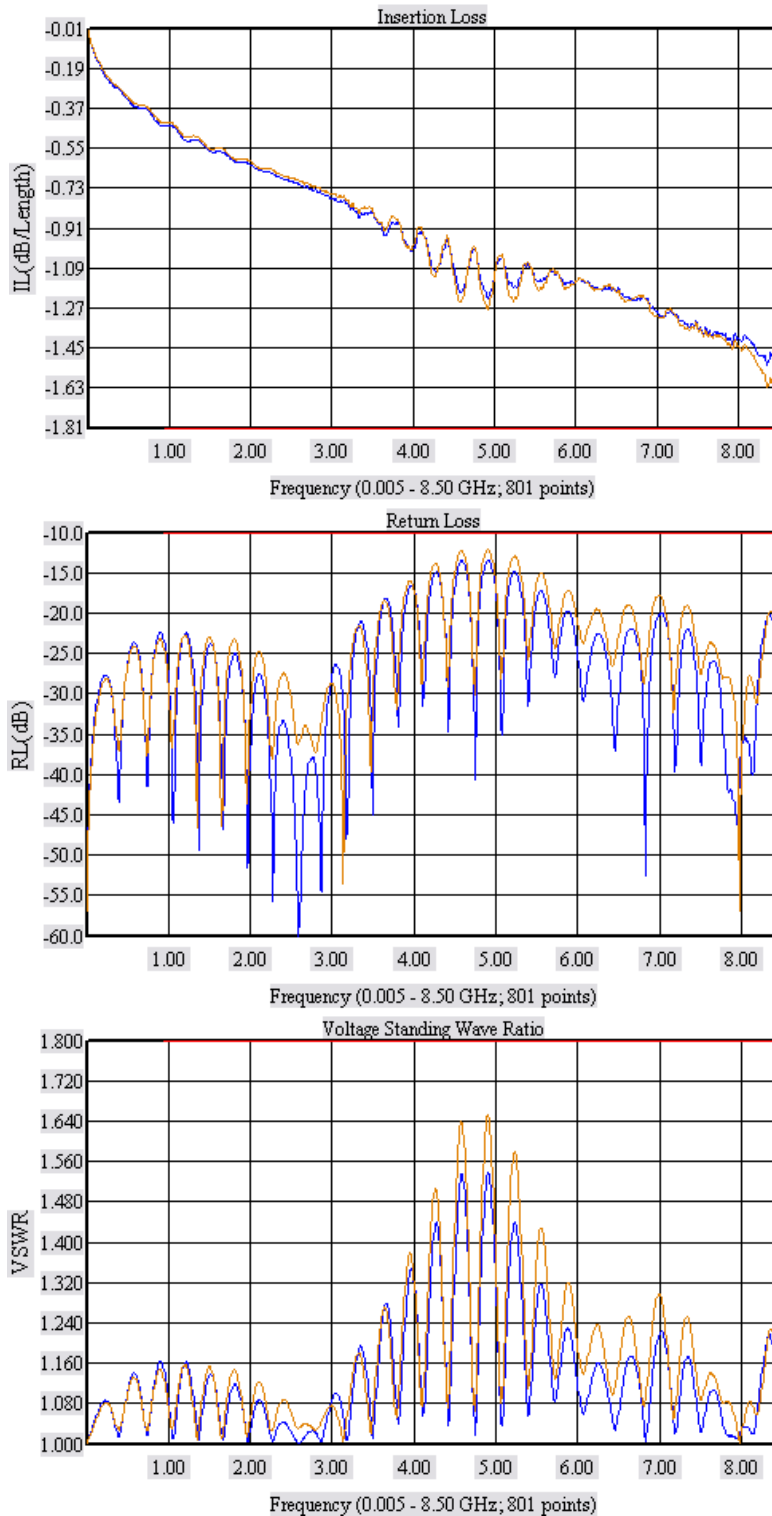
RF174-02SJ1-02SJ1-0307



Series: RF174

Description: RF Cable Assembly, RG174 Cable

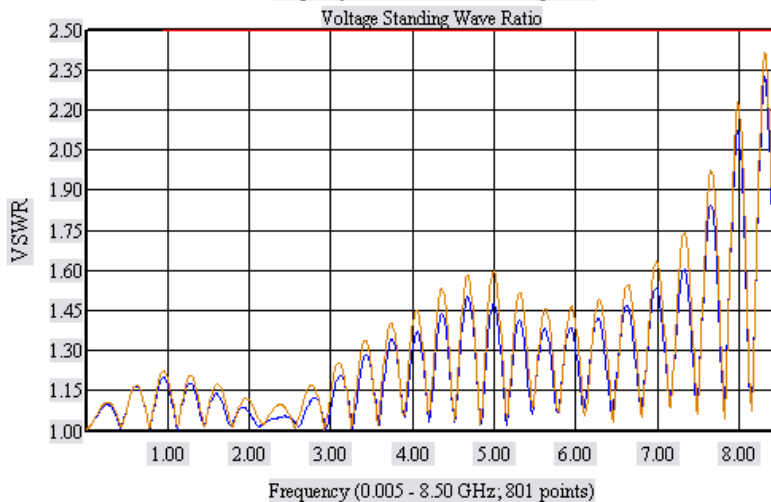
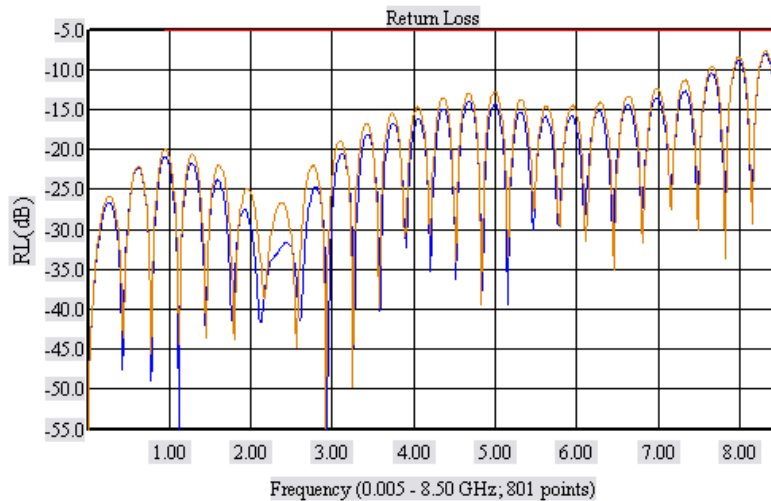
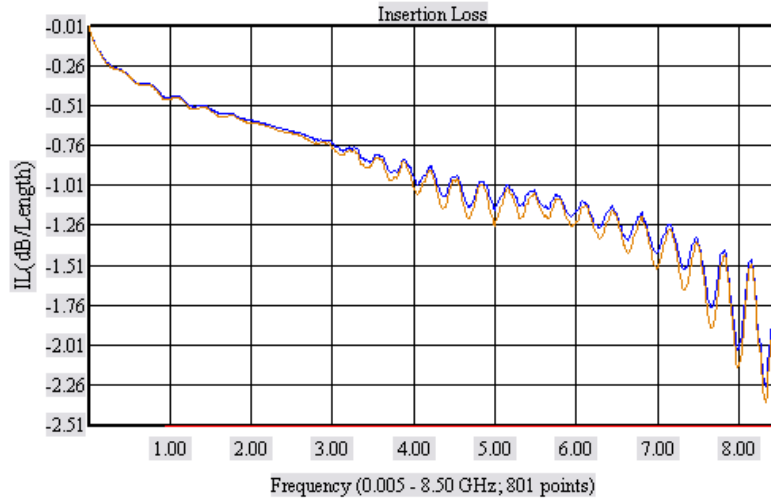
### RF174-02RP1-02RP1-0307



Series: RF174

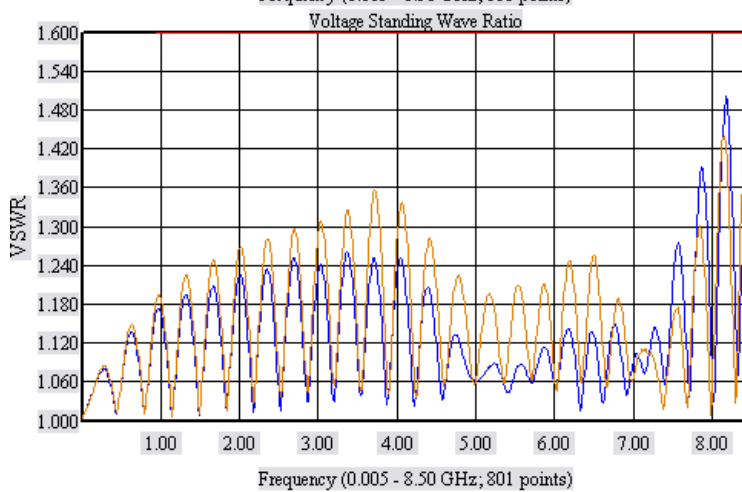
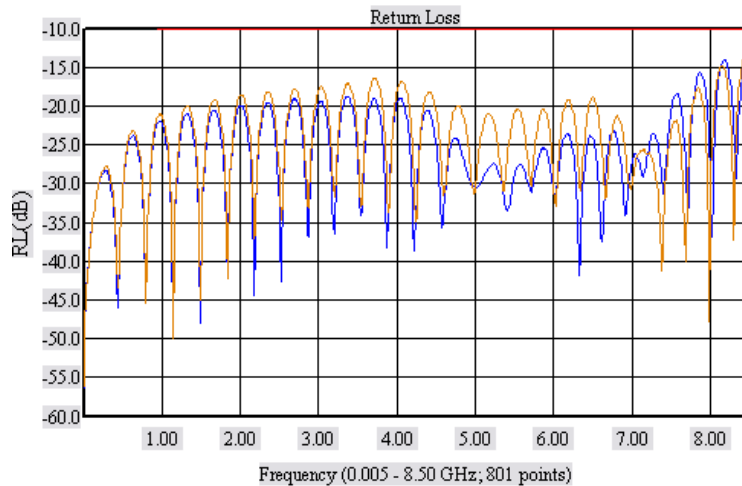
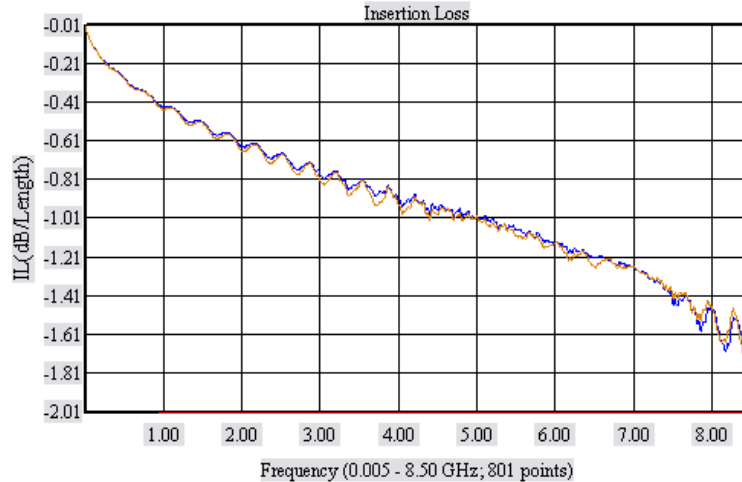
Description: RF Cable Assembly, RG174 Cable

### RF174-02SP1-02SP1-0307



Series: RF174  
Description: RF Cable Assembly, RG174 Cable

**RF174-03SP1-03SP1-0310**  
(Included in measurements is a SMA to MMCX precision adapter on both ports)



**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-03RP1-03RP1-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-04SP2-04SP2-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-04BJ2-04BJ2-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-05SP2-05SP2-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-05BJ2-05BJ2-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-06BJ2-06BJ2-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

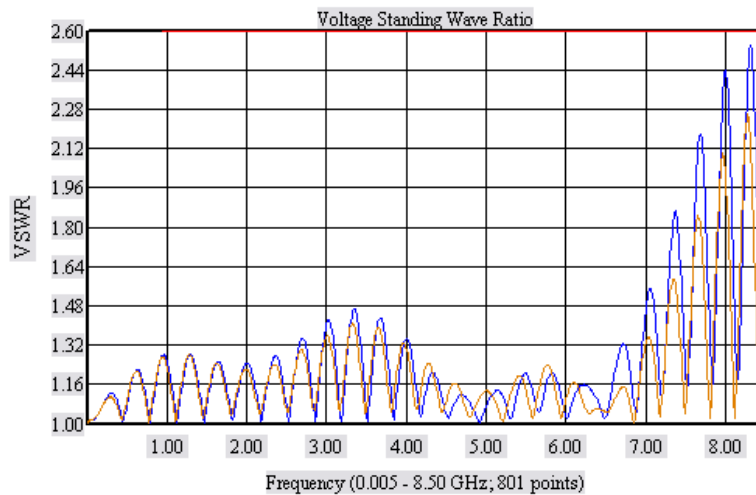
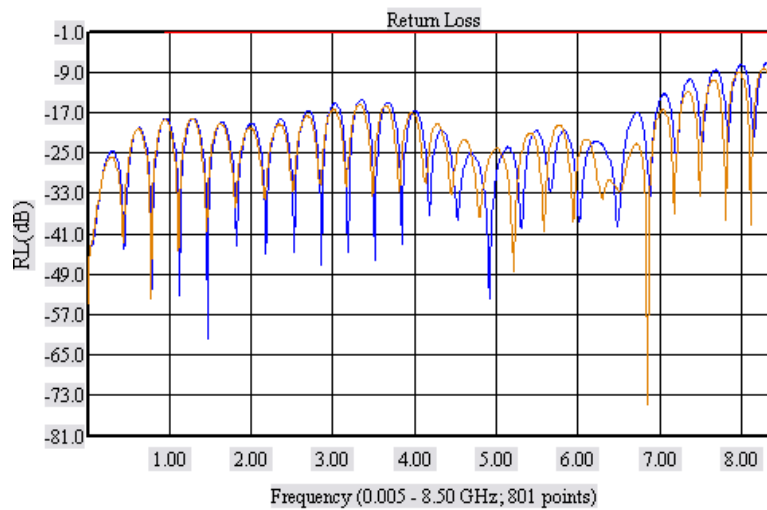
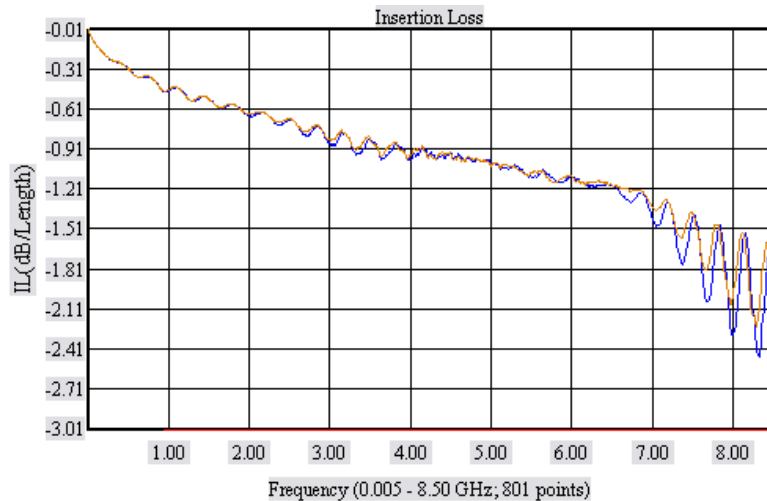
**Description:** RF Cable Assembly, RG174 Cable

**RF174-07SP1-07SP1-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

Series: RF174  
Description: RF Cable Assembly, RG174 Cable

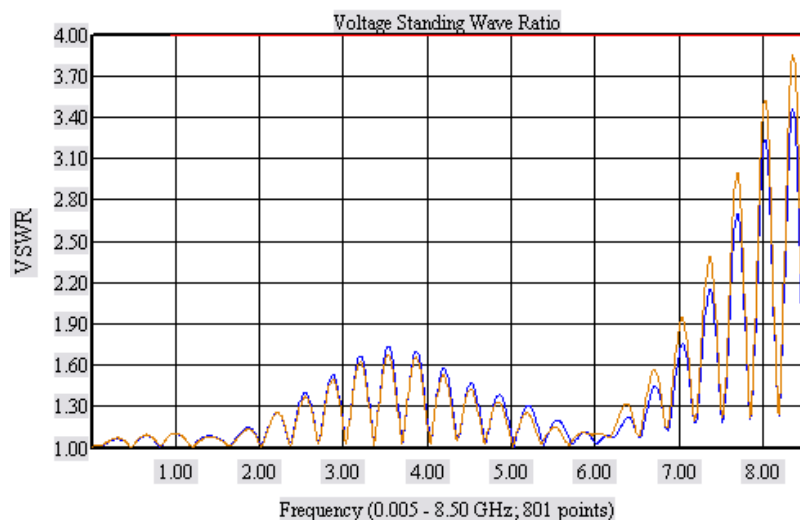
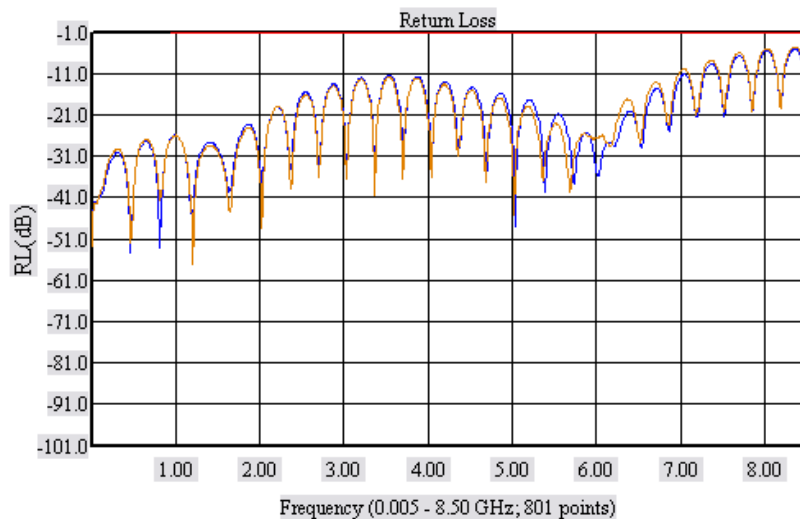
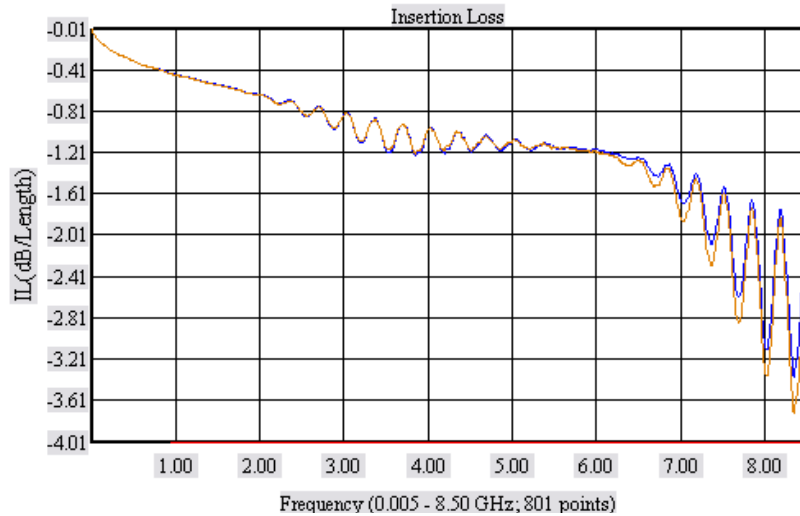
### RF174-07RP1-07RP1-0310



Series: RF174

Description: RF Cable Assembly, RG174 Cable

### RF174-07BJ1-07BJ1-0303



**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

**RF174-13GP1-13GP1-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

**Series:** RF174

**Description:** RF Cable Assembly, RG174 Cable

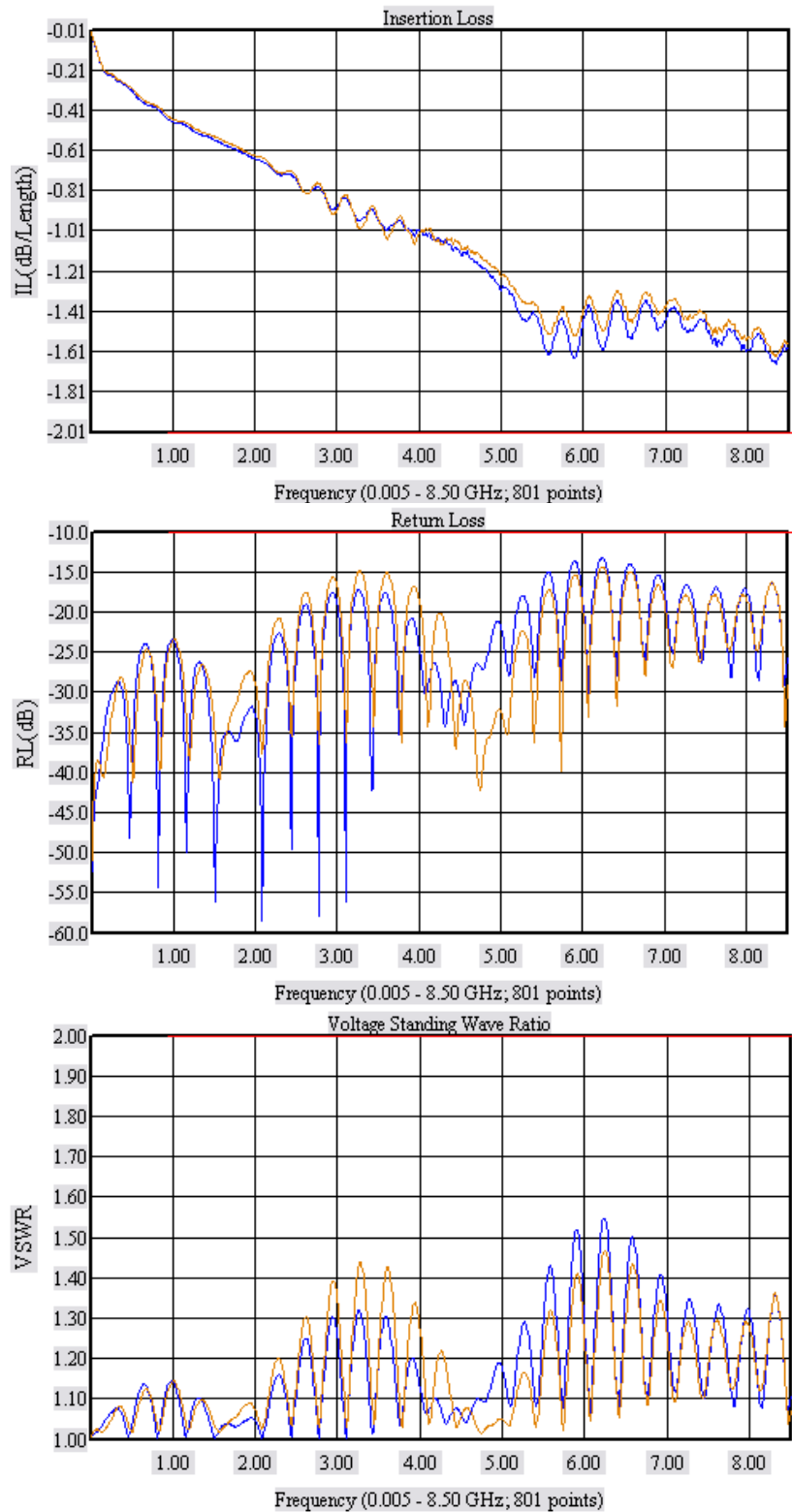
**RF174-13GJ1-13GJ1-XXXX**

*Test not performed, please contact [RF@samtec.com](mailto:RF@samtec.com) for more information.*

Series: RF174

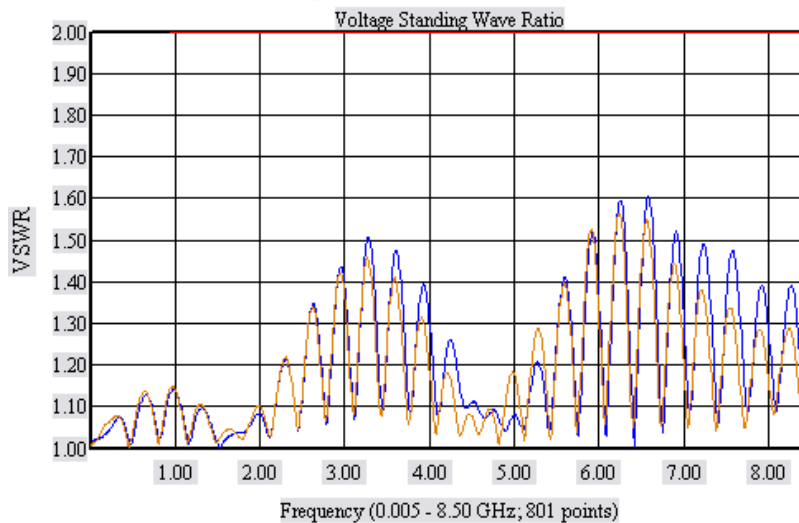
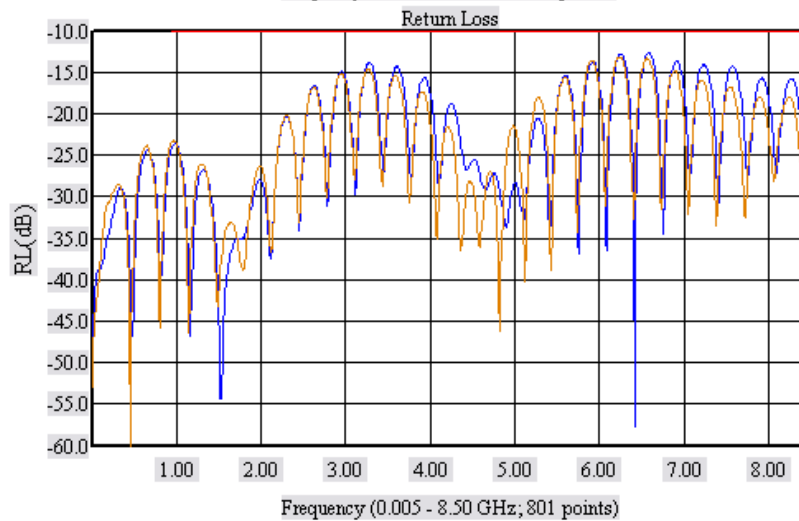
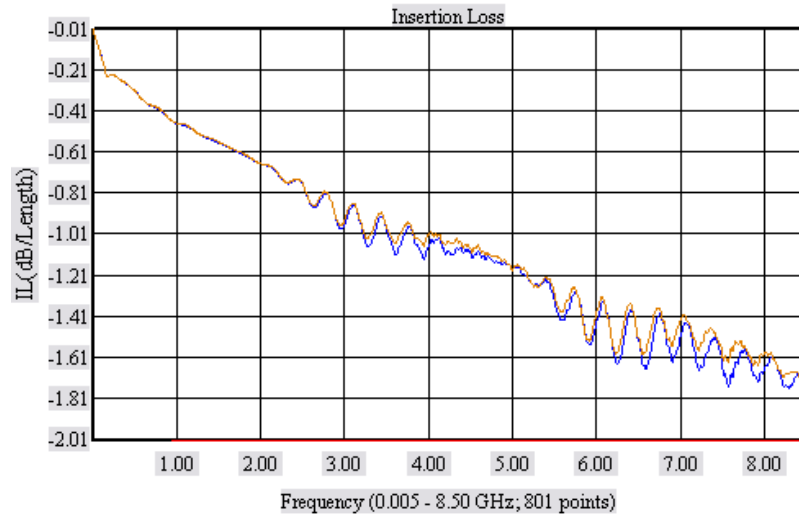
Description: RF Cable Assembly, RG174 Cable

### RF174-01SB1-01SB1-0306



Series: RF174  
Description: RF Cable Assembly, RG174 Cable

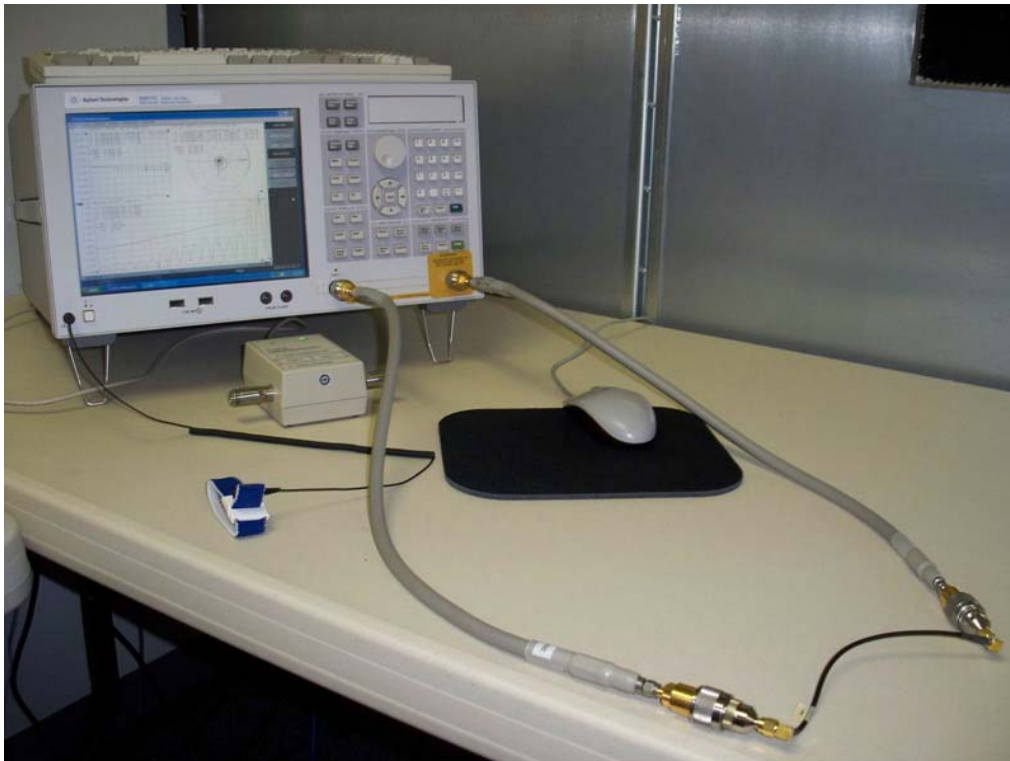
RF174-01SR1-01SR1-0306



**Series:** RF174**Description:** RF Cable Assembly, RG174 Cable**Instrument Setup:**

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

**Test Fixture:**

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