



## RF Characterization Report

### RF179 Series Cable Assemblies

RF179-72SP1-72SP1-0306  
RF179-72RP1-72RP1-0306  
RF179-74SP2-74SP2-0306  
RF179-74BJ2-74BJ2-0305  
RF179-77SP1-77SP1-0306  
RF179-77RP1-77RP1-0306



**Description:**  
**RF Cable Assembly, 75 Ohm, RG179 Cable**

**Series:** RF179  
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**Series:** RF179**Description:** RF Cable Assembly, 75 Ohm, RG179 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 RF06T and RFB6T series cable assemblies that were tested

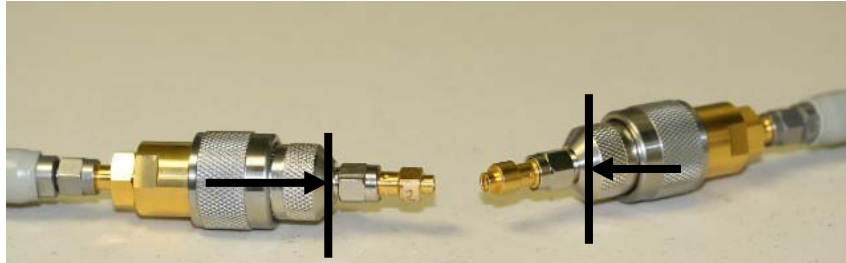
Part Number	Length	Termination – End 1	Termination – End 2
RF179-72SP1-72SP1-0306	306 mm	MCX7, Straight Plug	MCX7, Straight Plug
RF179-72RP1-72RP1-0306	306 mm	MCX7, Right Angle Plug	MCX7, Right Angle Plug
RF179-74SP2-74SP2-0306	306 mm	BNC7T, Straight Plug	BNC7T, Straight Plug
RF179-74BJ2-74BJ2-0305	305 mm	BNC7T, Straight Bulkhead Jack	BNC7T, Straight Bulkhead Jack
RF179-77SP1-77SP1-0306	306 mm	SMB7H, Straight Plug	SMB7H, Straight Plug
RF179-77RP1-77RP1-0306	306 mm	SMB7H, Right Angle Plug	SMB7H, Right Angle Plug

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### **Test Calibration:**

Calibration is performed using the 75 ohm Agilent mechanical calibration kit, PN 85036B to the calibration point below. Any adapters beyond this point are included in the measurements.



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

### **VNA Adaption for 75 ohm Testing:**

In order to use the Agilent E5071C VNA for 75 ohm testing, we utilize Agilent minimum loss pads, PN 11852B. These matching pads are only rated to 3 GHz and as such, the data above 3 GHz is for reference only. There is a notable amount of ringing in the Insertion Loss curves for all samples above 3 GHz and again above roughly 5.5 - 6 GHz caused by this limitation.

### **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 presented for clarity in this report.

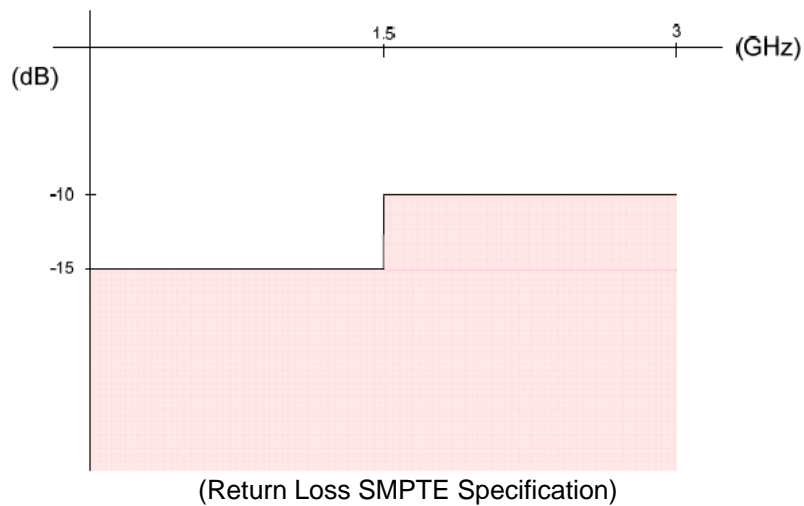
**Series:** RF179

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## Results Summary

### 3G SDI Conformance:

This series is optimized to conform to 3G SDI applications. The specification stipulate a return loss lower than -15dB from DC to 1.5 GHz and a lower than -10dB from 1.5 GHz to 3 GHz (SMPTE-424).

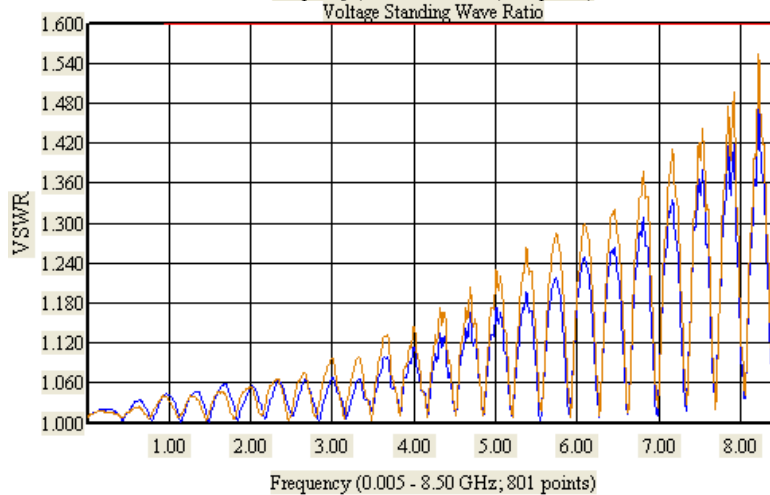
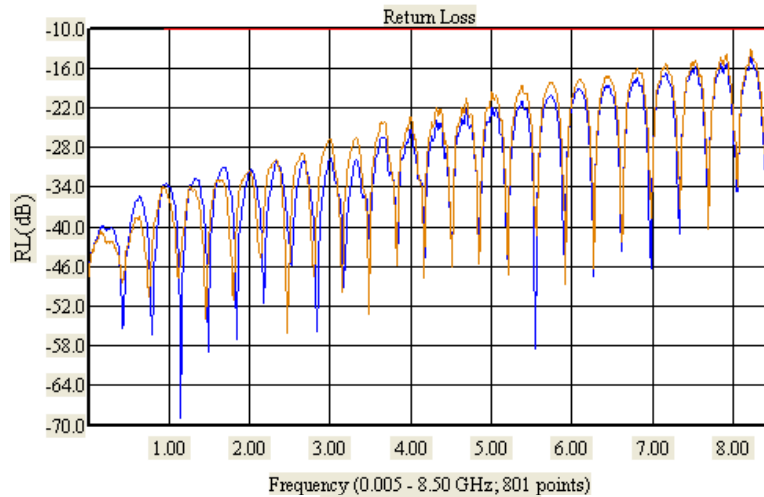
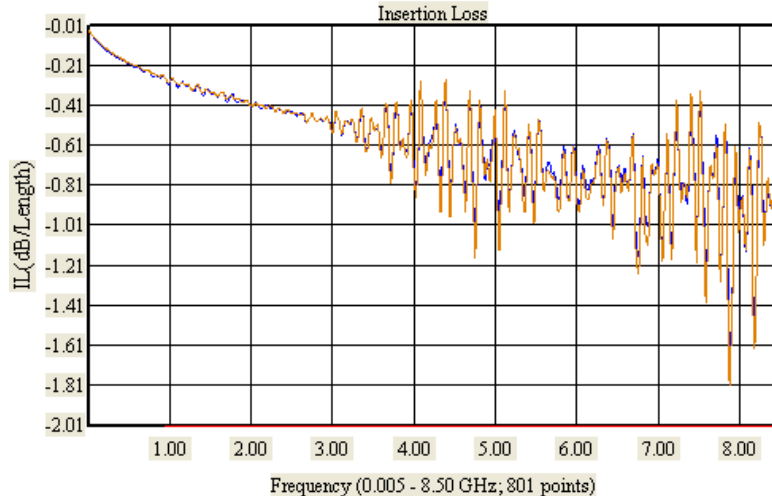


All of the samples documented in this report met the return loss requirements of SMPTE-424

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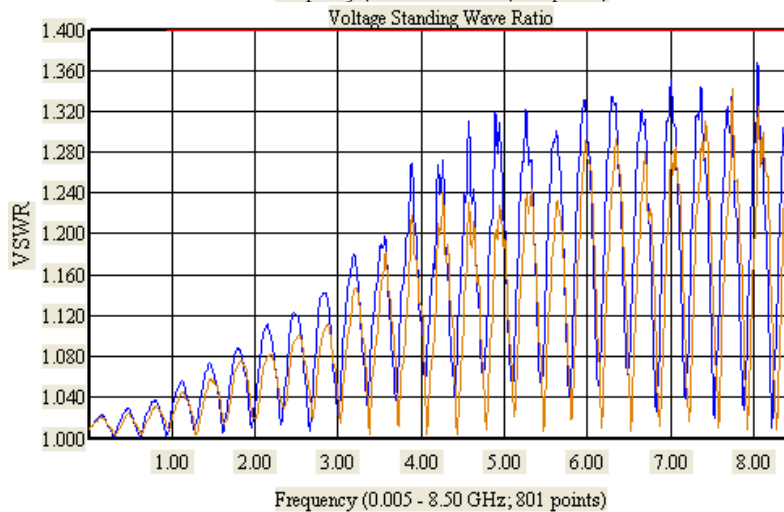
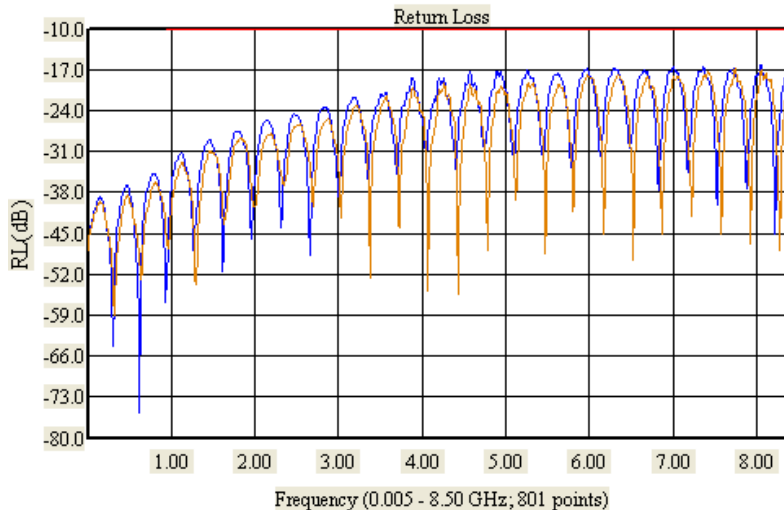
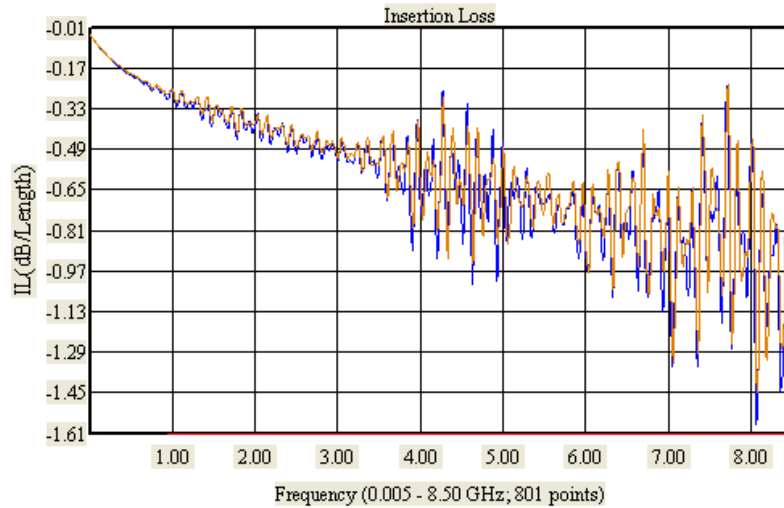
### RF179-72SP1-72SP1-0306



Series: RF179

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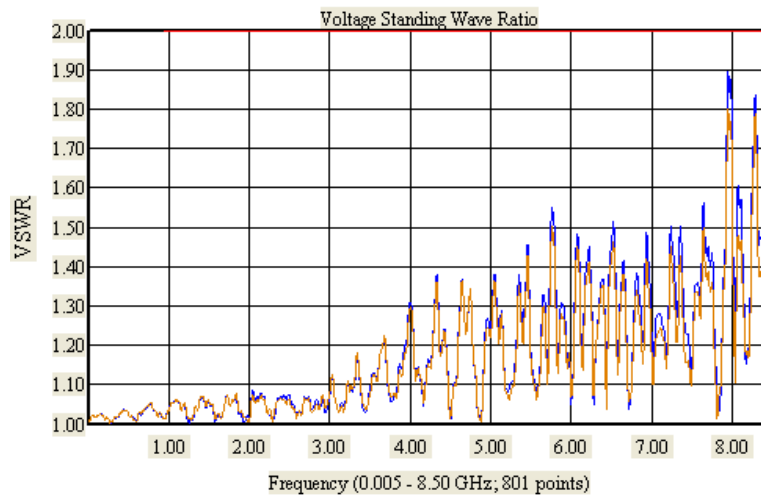
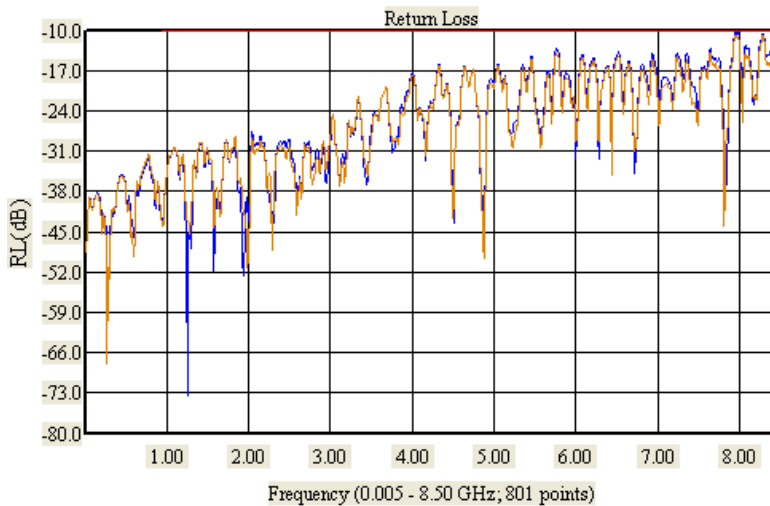
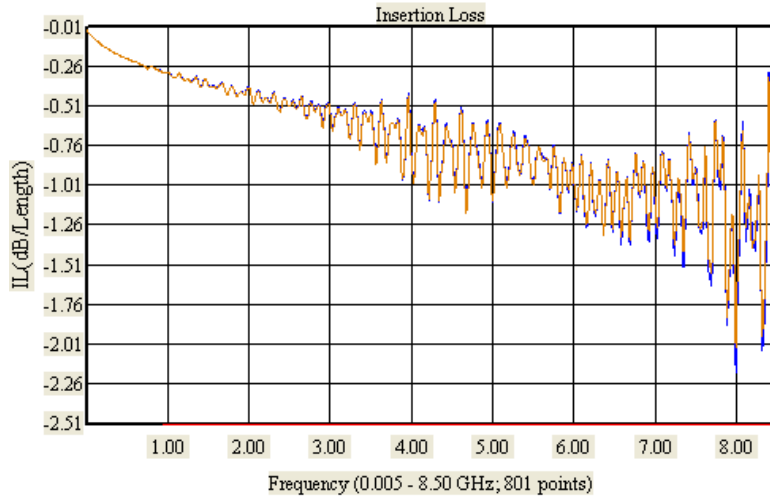
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Series: RF179

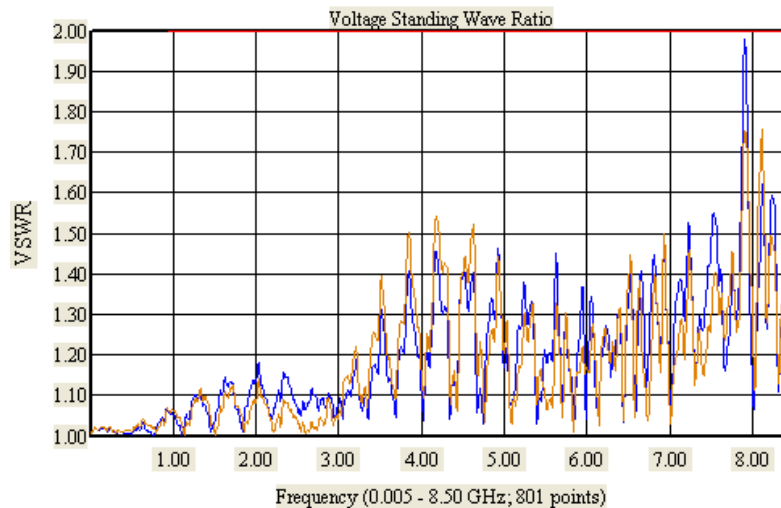
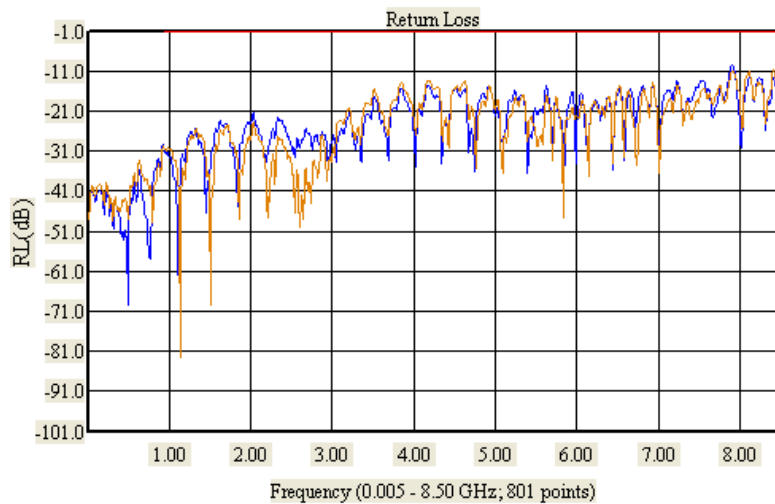
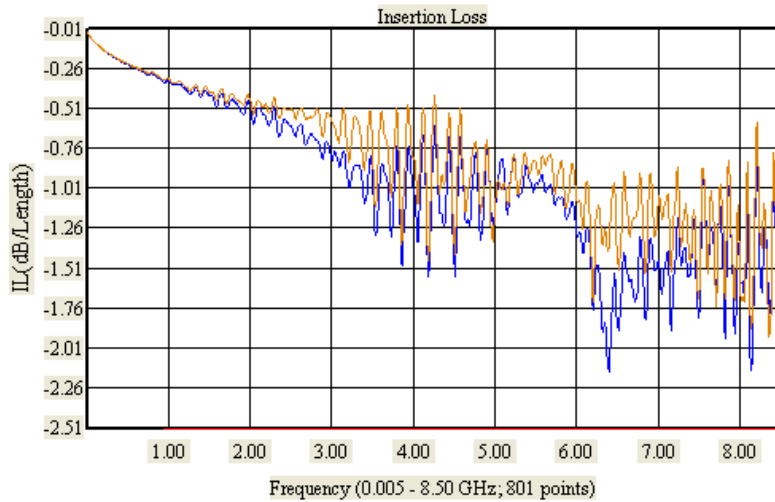
Description: RF Cable Assembly, 75 Ohm, RG179 Cable

### RF179-74SP2-74SP2-0306



Series: RF179  
Description: RF Cable Assembly, 75 Ohm, RG179 Cable

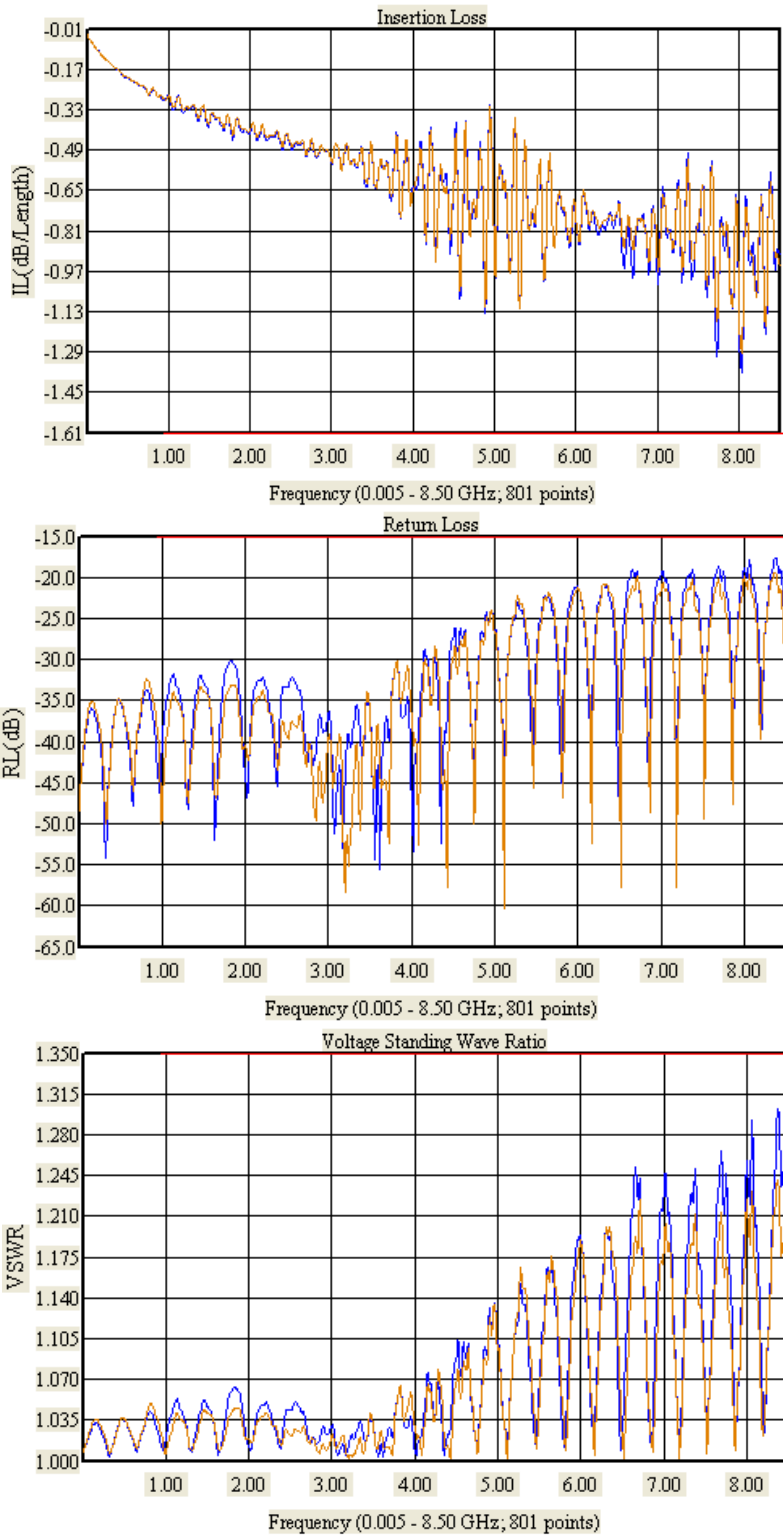
RF179-74BJ2-74BJ2-0305



Series: RF179

Description: RF Cable Assembly, 75 Ohm, RG179 Cable

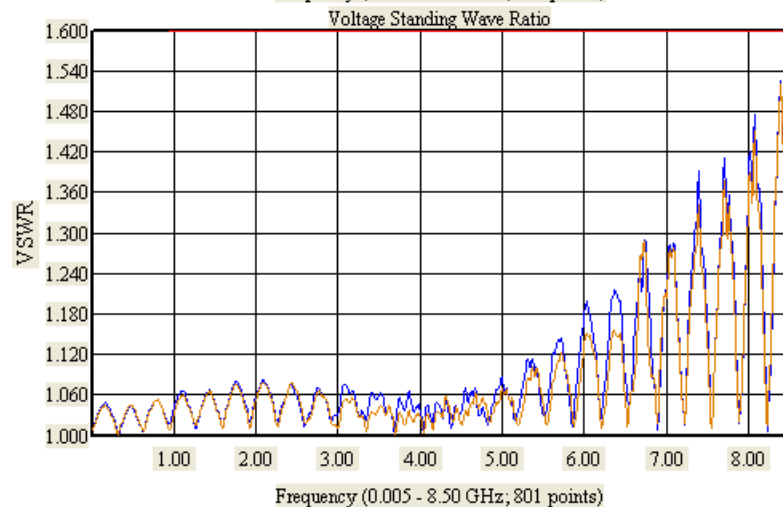
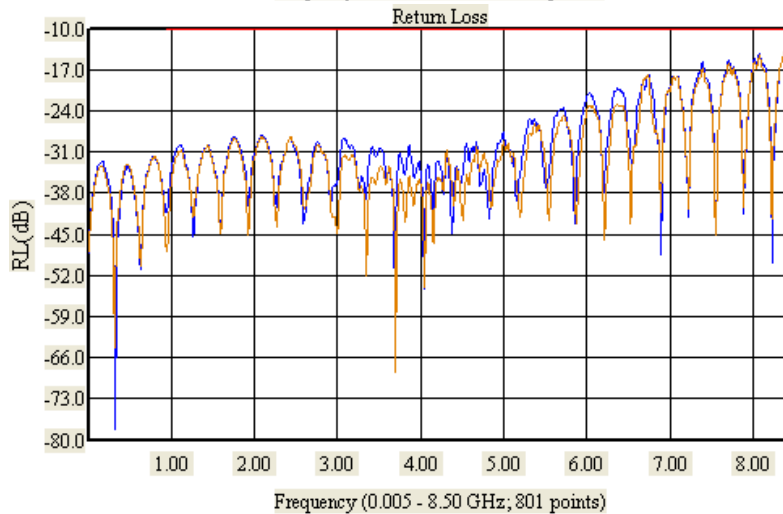
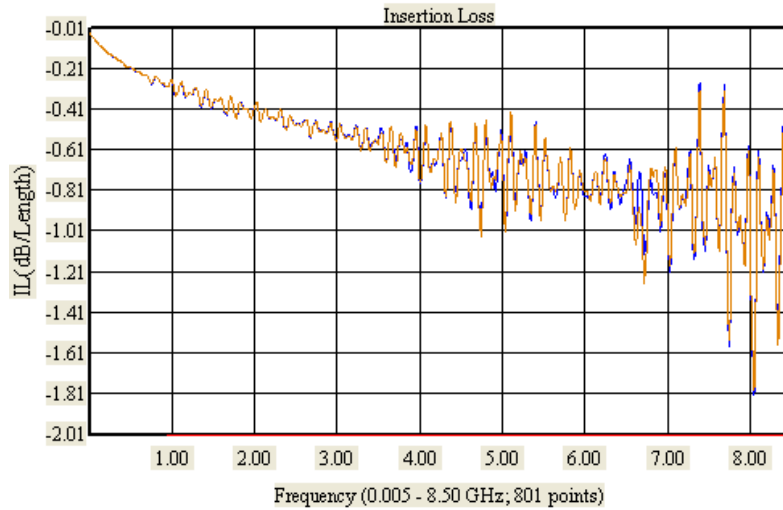
### RF179-77SP1-77SP1-0306



Series: RF179

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### RF179-77RP1-77RP1-0306



**Series:** RF179

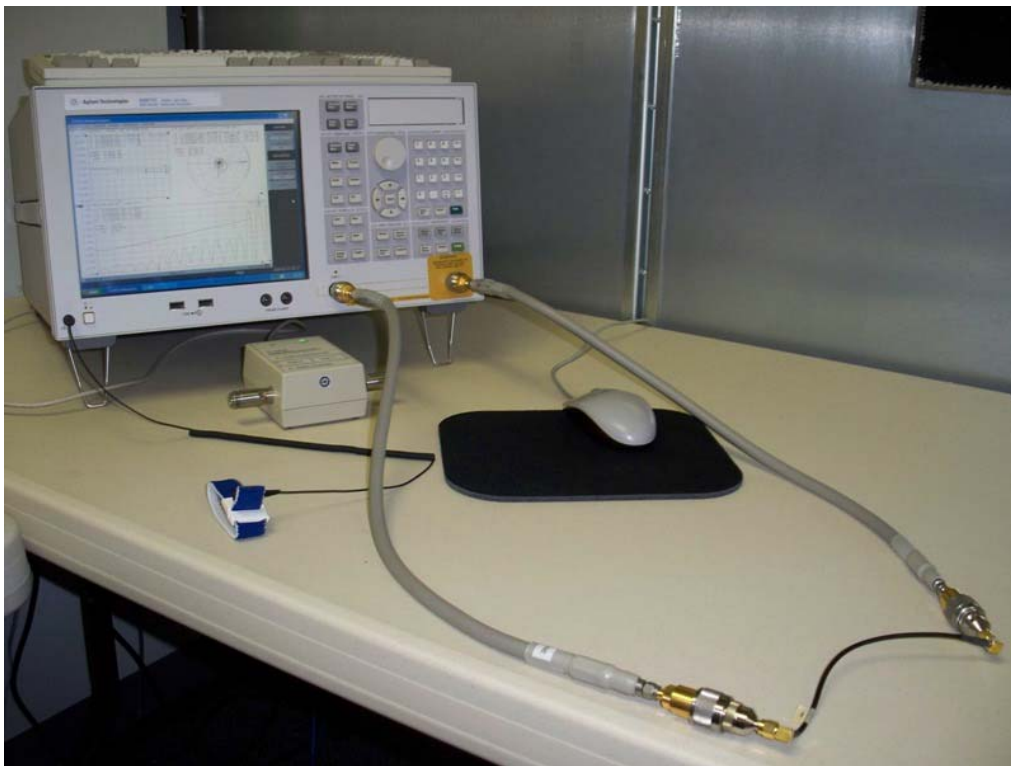
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### Instrument Setup:

Network Analyzer	Agilent E5071C ENA Series (9 KHz - 8.5 GHz Range)
Mechanical Calibration Kit	85036B

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.)