



RF Characterization Report

RFA6T and RFB6T Series Cable Assemblies

RFB6T-74SP2-74SP2-0300
RFA6T-74SP2-74SP2-0300
RFB6T-74SP2-74SP2-1000
RFA6T-74SP2-74SP2-1000
RFB6T-74RP2-74RP2-0300
RFA6T-74RP2-74RP2-0300
RFB6T-74RP2-74RP2-1000
RFA6T-74RP2-74RP2-1000



Description:

RFA6T - RF Cable Assembly, 75 Ohm, RG6 Cable
RFB6T - RF Cable Assembly, 75 Ohm, Belden 1694A Cable

Series: RFA6T and RFB6T

Description: RF Cable Assembly, 75 Ohm, RG6 (RFA6T) or Belden 1694A (RFB6T) Cable

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Series: RFA6T and RFB6T

Description: RF Cable Assembly, 75 Ohm, RG6 (RFA6T) or Belden 1694A (RFB6T) 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 RFA6T and RFB6T series cable assemblies that were tested

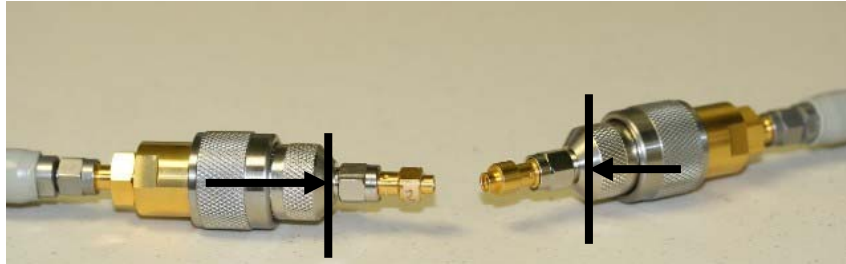
Part Number	Length	Termination – End 1	Termination – End 2
RFB6T-74SP2-74SP2-0300	300 mm	BNC7T, Straight Plug	BNC7T, Straight Plug
RFA6T-74SP2-74SP2-0300	300 mm	BNC7T, Straight Plug	BNC7T, Straight Plug
RFB6T-74SP2-74SP2-1000	1000 mm	BNC7T, Straight Plug	BNC7T, Straight Plug
RFA6T-74SP2-74SP2-1000	1000 mm	BNC7T, Straight Plug	BNC7T, Straight Plug
RFB6T-74RP2-74RP2-0300	300 mm	BNC7T, Right Angle Plug	BNC7T, Right Angle Plug
RFA6T-74RP2-74RP2-0300	300 mm	BNC7T, Right Angle Plug	BNC7T, Right Angle Plug
RFB6T-74RP2-74RP2-1000	1000 mm	BNC7T, Right Angle Plug	BNC7T, Right Angle Plug
RFA6T-74RP2-74RP2-1000	1000 mm	BNC7T, Right Angle Plug	BNC7T, Right Angle Plug

Series: RFA6T and RFB6T

Description: RF Cable Assembly, 75 Ohm, RG6 (RFA6T) or Belden 1694A (RFB6T) Cable

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.

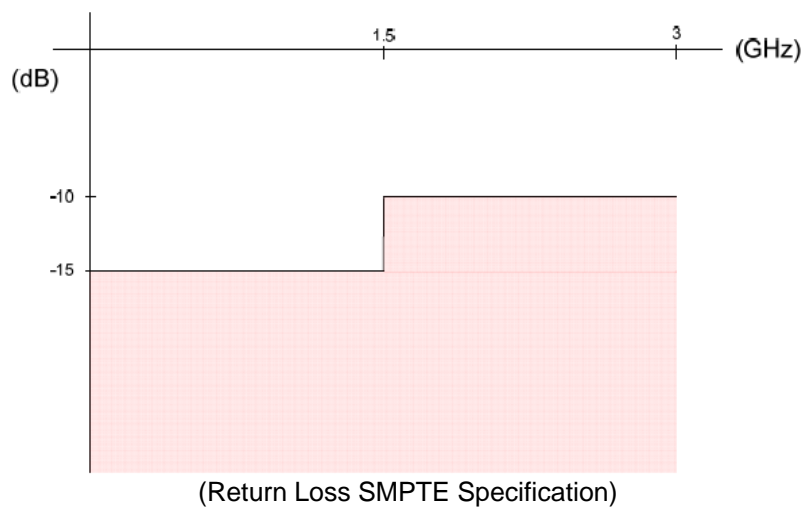
Series: RFA6T and RFB6T

Description: RF Cable Assembly, 75 Ohm, RG6 (RFA6T) or Belden 1694A (RFB6T) Cable

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).

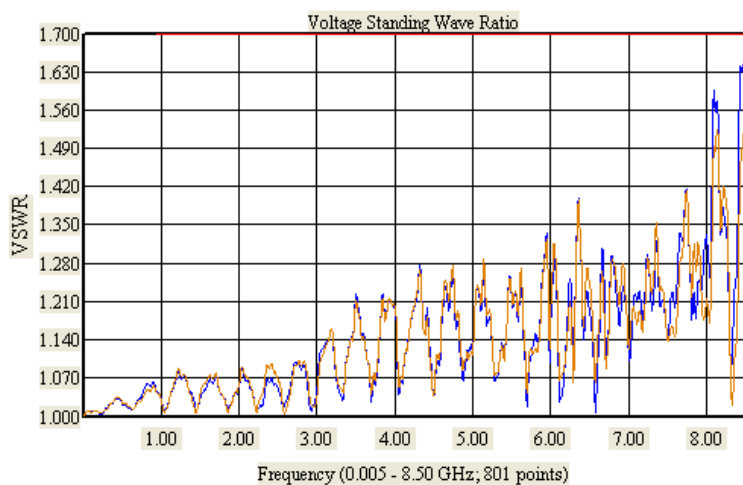
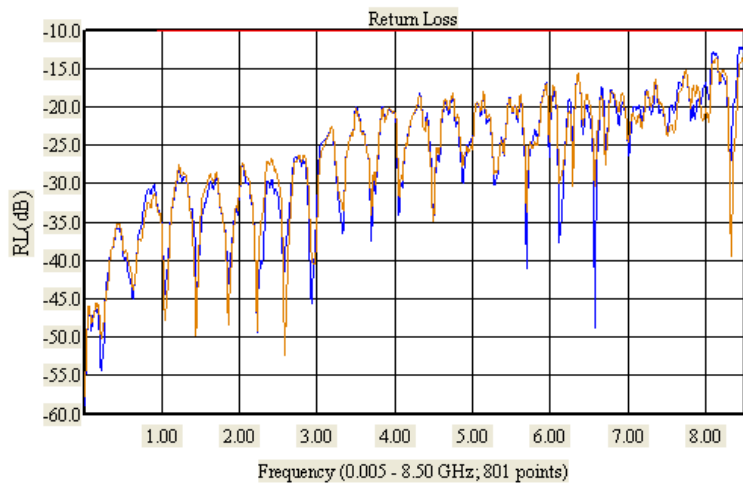
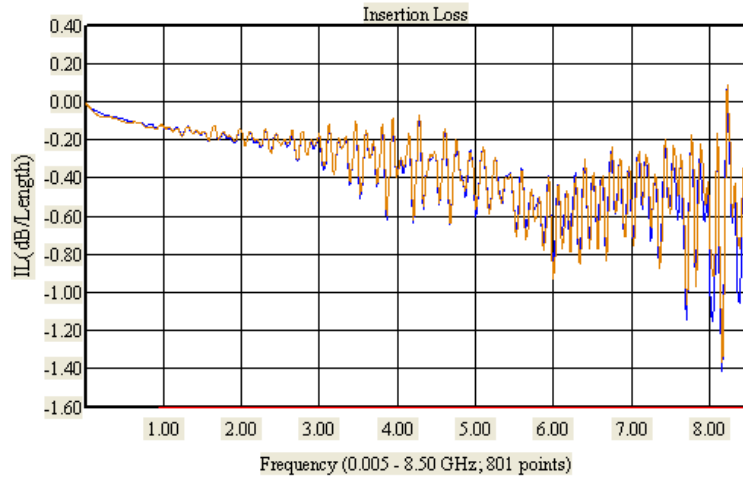


All of the samples documented in this report met the return loss requirements of SMPTE-424

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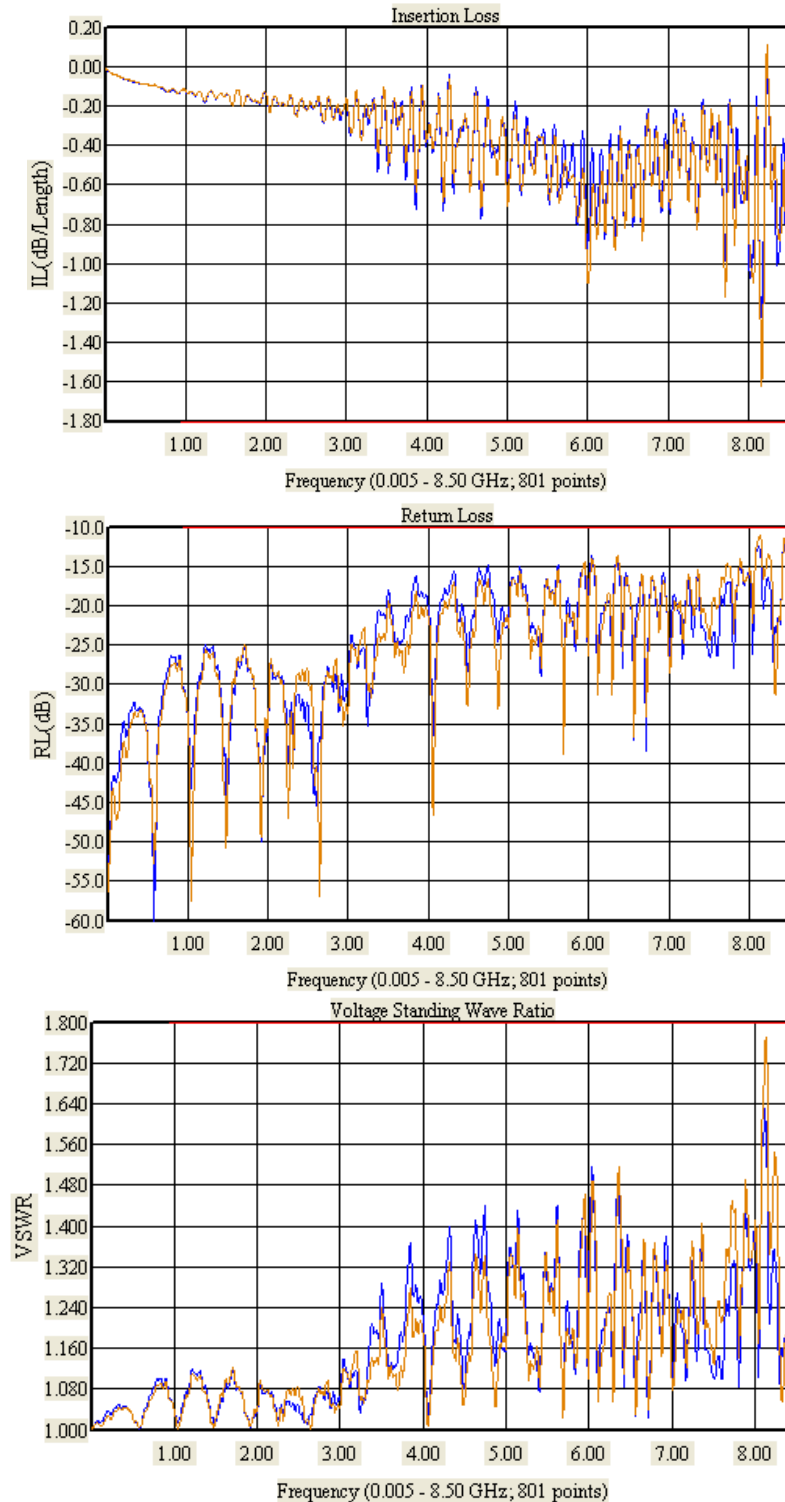
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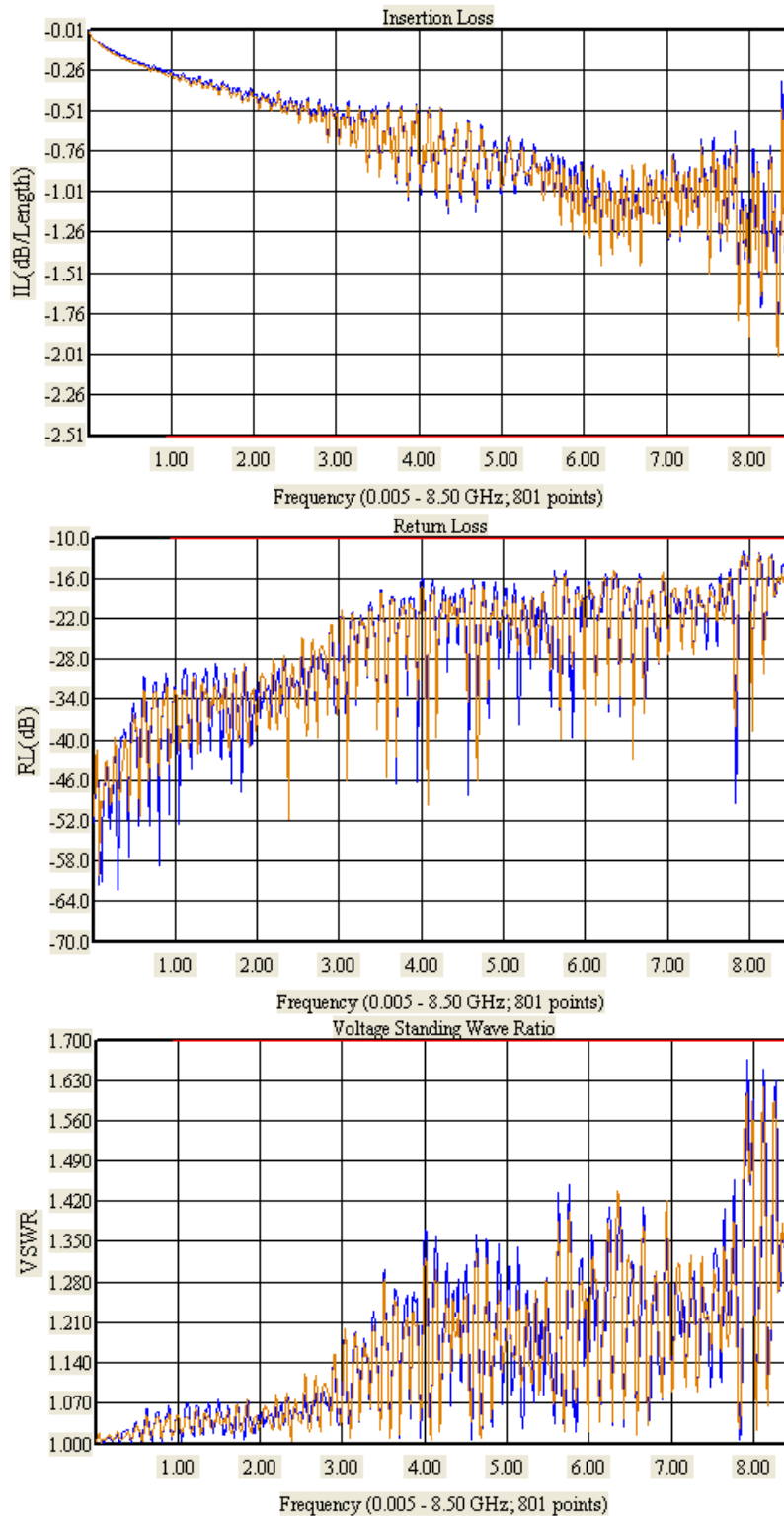
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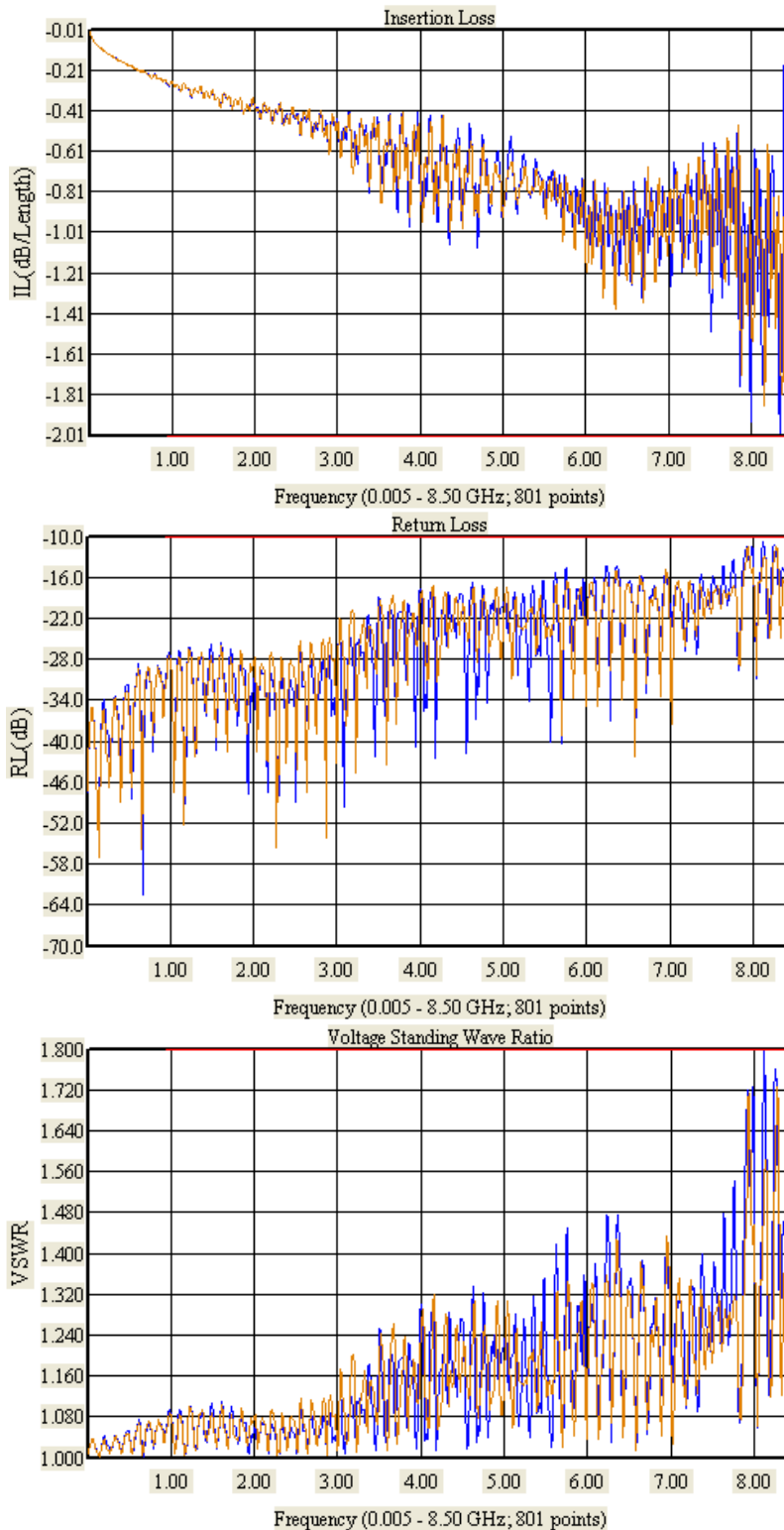
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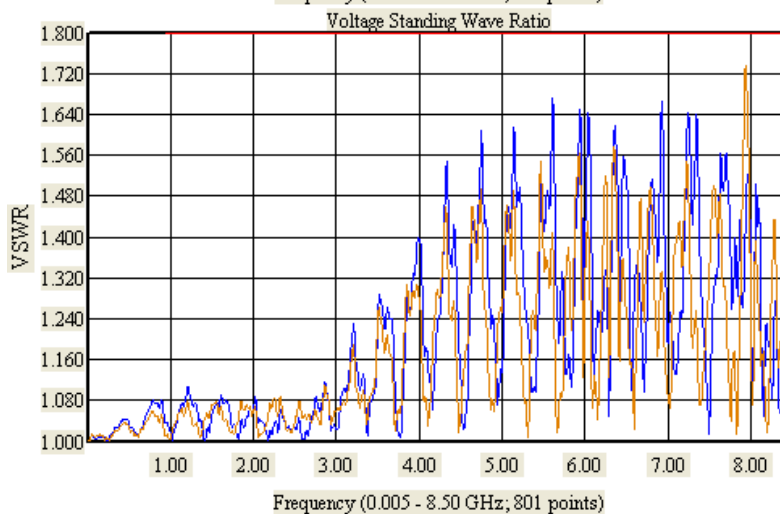
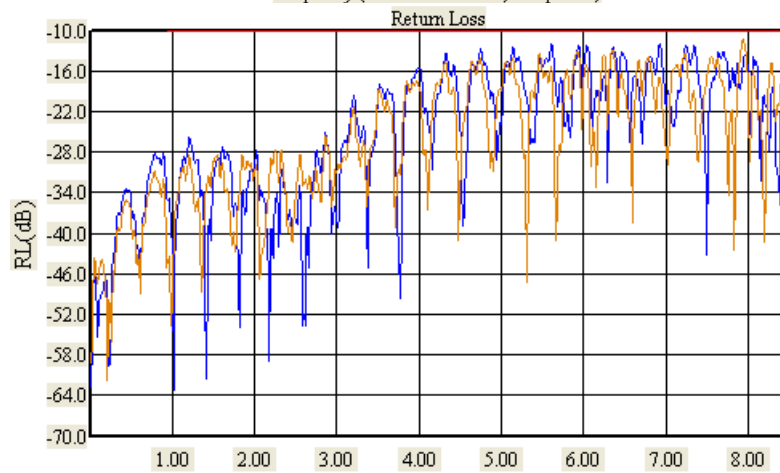
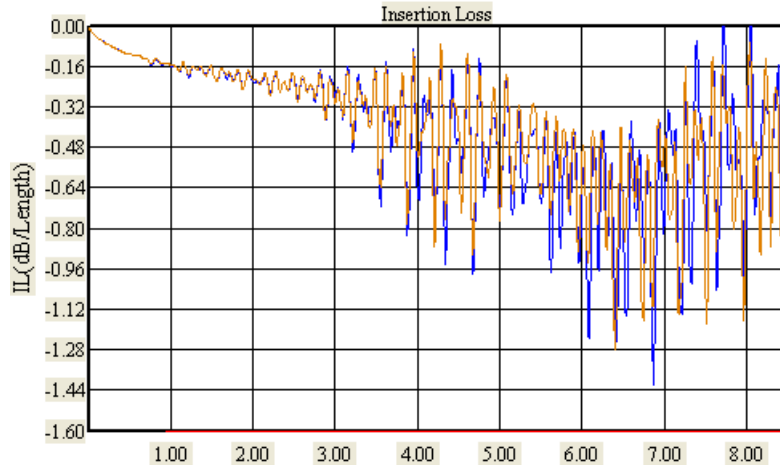
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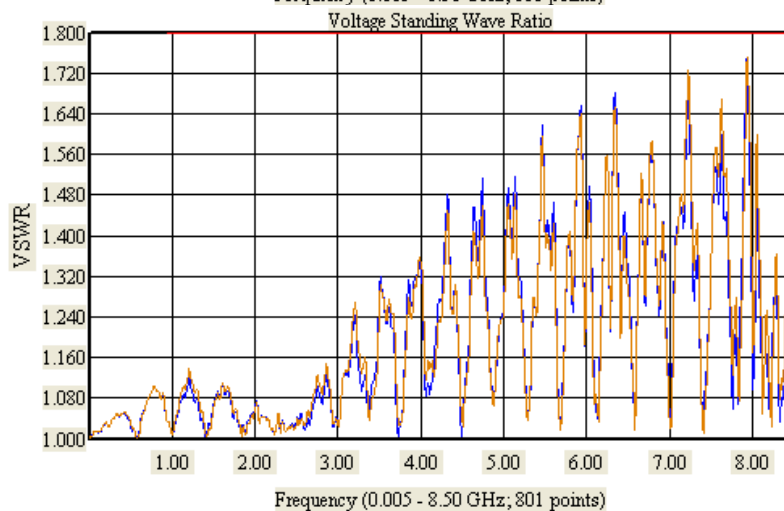
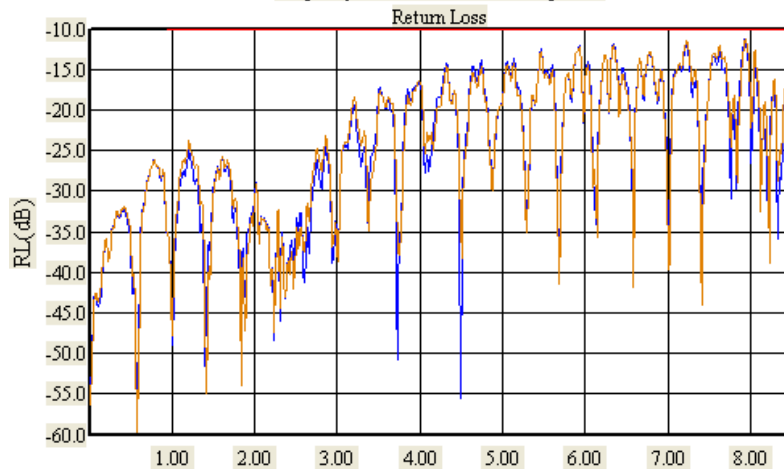
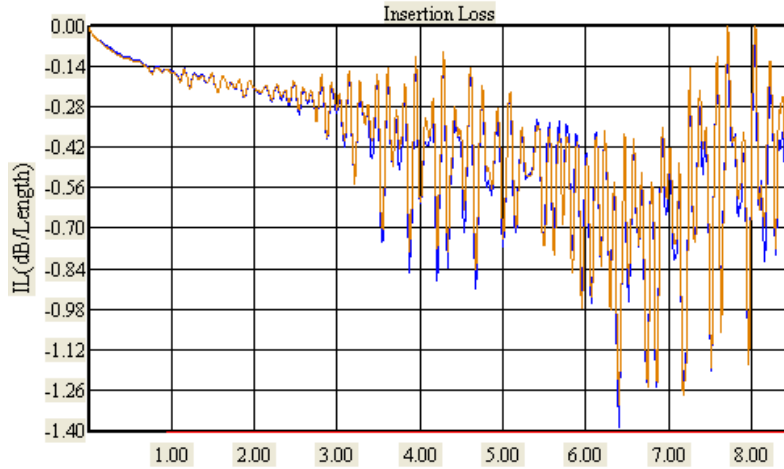
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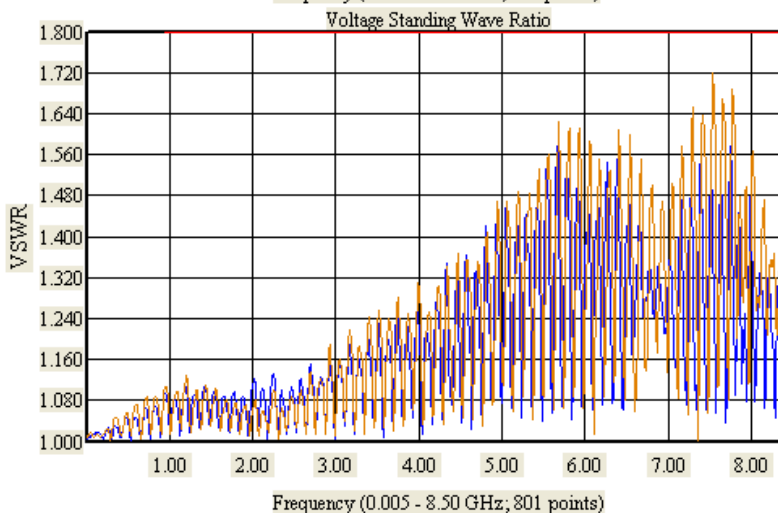
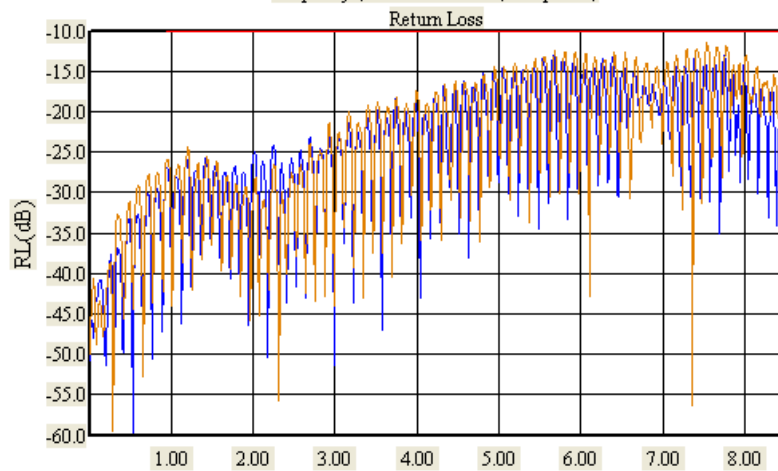
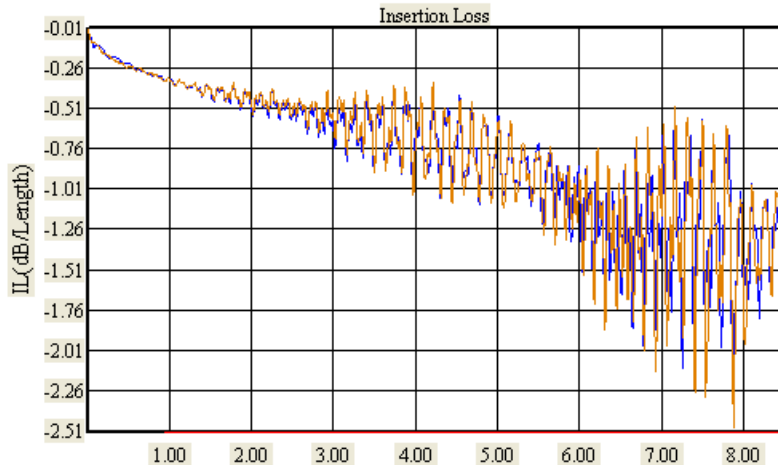
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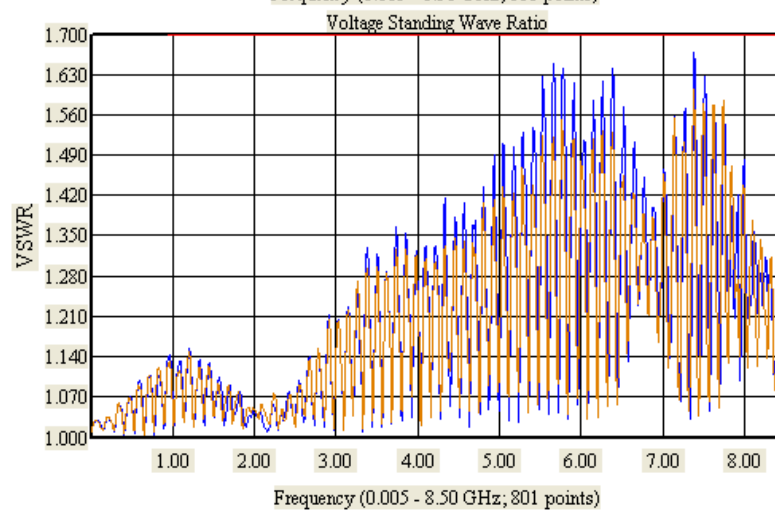
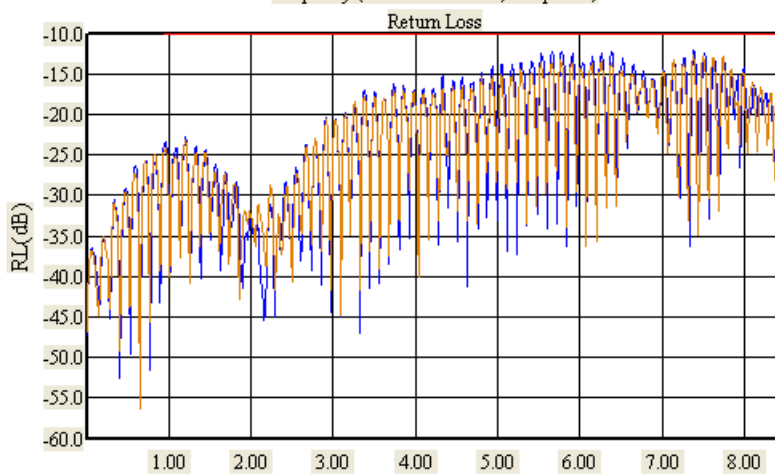
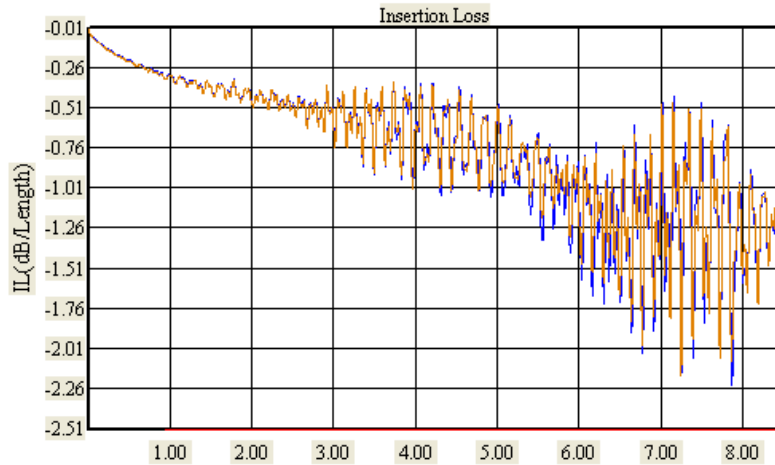
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RFA6T-74RP2-74RP2-1000



Series: RFA6T and RFB6T

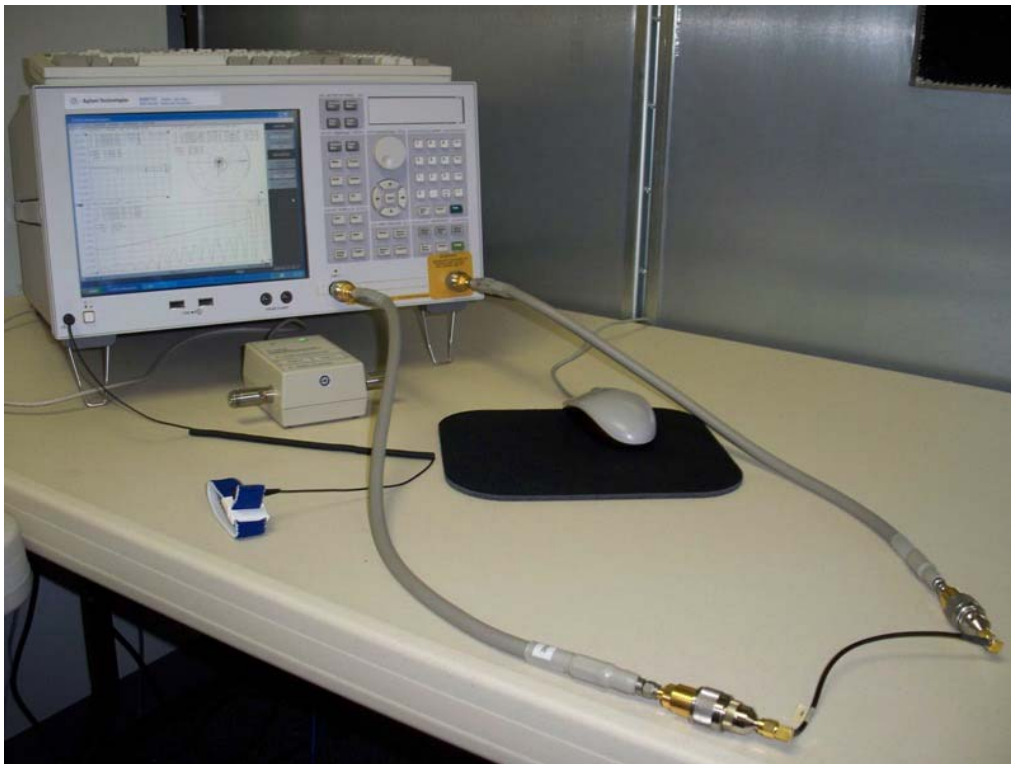
Description: RF Cable Assembly, 75 Ohm, RG6 (RFA6T) or Belden 1694A (RFB6T) Cable

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.)