RF Characterization Report

RF058 Series Cable Assemblies

RF058-01BJ1-01BJ1-0150

RF058-01SB1-01SB1-0150

RF058-01SP1-01SP1-0150

Description:
RF Cable Assembly, 50Ohm, RG058 Coaxial Cable

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Report Revision: 05/16/2011

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Table of Contents

Series: RF058
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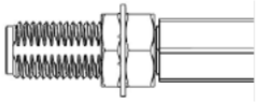
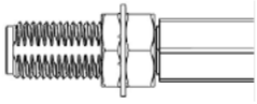
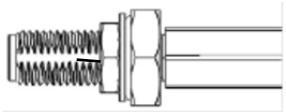
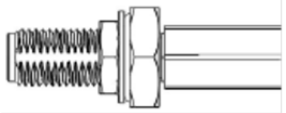
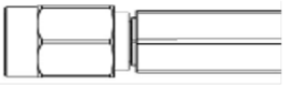
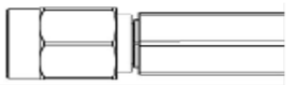
Test Setup Information

Scope:

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

Product Description:

Part Number	Length	Termination – End 1	Termination – End 2
RF058-01BJ1-01BJ1-0150	150mm	SMA, Straight Jack 	SMA, Straight Jack 
RF058-01SB1-01SB1-0150	150mm	SMA, Straight Jack 	SMA, Straight Jack 
RF058-01SP1-01SP1-0150	150mm	SMA, Straight Plug 	SMA, Straight Plug 

Test Calibration:

Calibration is performed using the 50ohm Agilent mechanical calibration kit, PN 85052D. The red lines depicted in the pictures below represent the approximate calibrated reference planes at Ports 1 and 2.

For female-to-female cable assembly under test, adapters are not required.

Series: RF058
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For male-to-male cable assembly under test, the SMA Jack to SMA Jack adapters (Pasternack PE9507) were used for measurements. The adapters were calibrated and the effects from the adapters were removed from the measurements.

Adapter Use:

The precision adapters capable of mating to the cable assembly under test were used if necessary. Any supplementary adapter will contribute additional electrical characteristics to the measured data. Any use of additional adapters is noted.

The two SMA Jack to SMA Jack adapters are used for the male-to-male cable assembly measurement. Both the adapters were calibrated. See Test Calibration section.
Here below is the information of the adapters.

Vendor: Pasternack
Part Number: PE9507
Specification: Frequency Range: DC to 26.5GHz
Max VSWR: 1.15:1 @ 18GHz
1.20:1 @ 26.5HGz

Definition of Assembly Under Test:

The performance characteristics include the cable assembly under test.

Port Designations:

The connector attached to port 1 of the VNA is “End 1” from the part number callout. Insertion Loss is incident power transmission S21. Return Loss / VSWR is incident reflected power S11.

Legend for Plots:

For each type of cable assembly, three samples were selected randomly and tested. The three samples were marked Sample 01 through 03 respectively. Each sample is 150 mm in length. Graphical representations include all the three cables responses of Insertion Loss, Return Loss and Voltage Standing Wave Ratio.

Series: RF058
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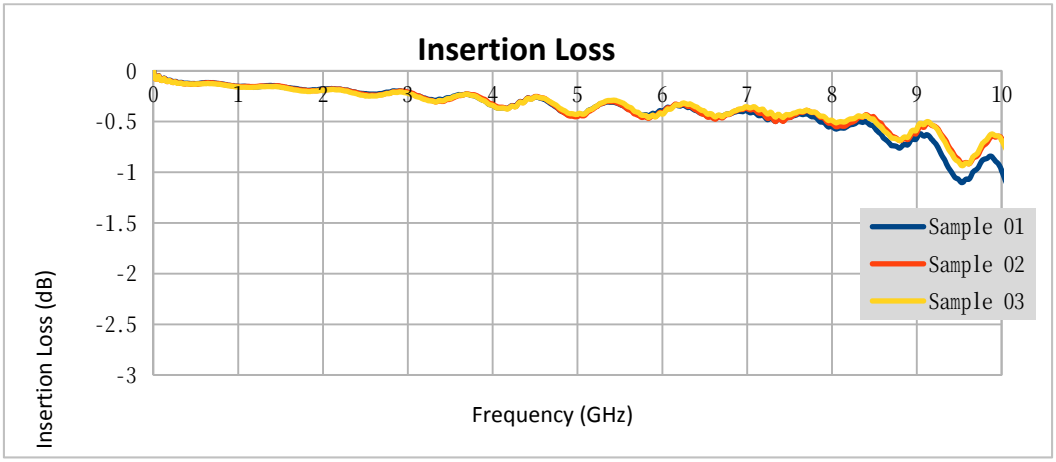
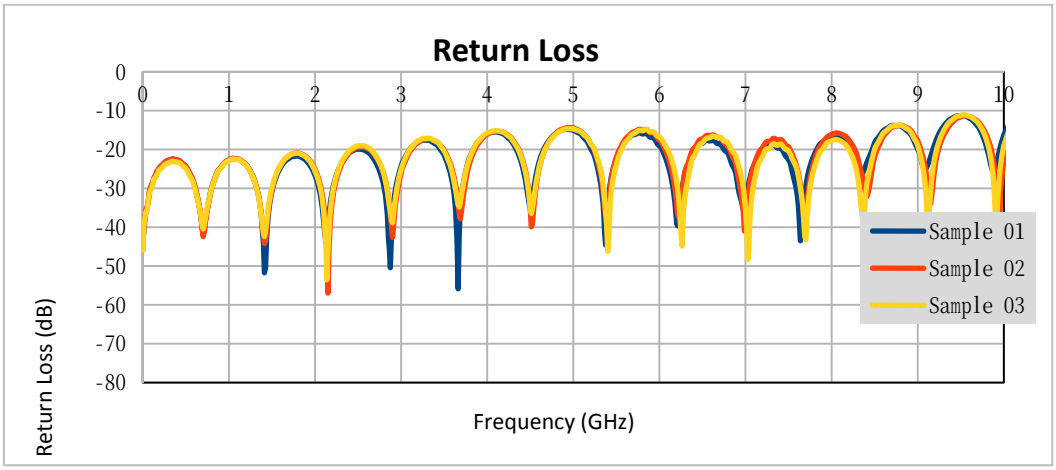
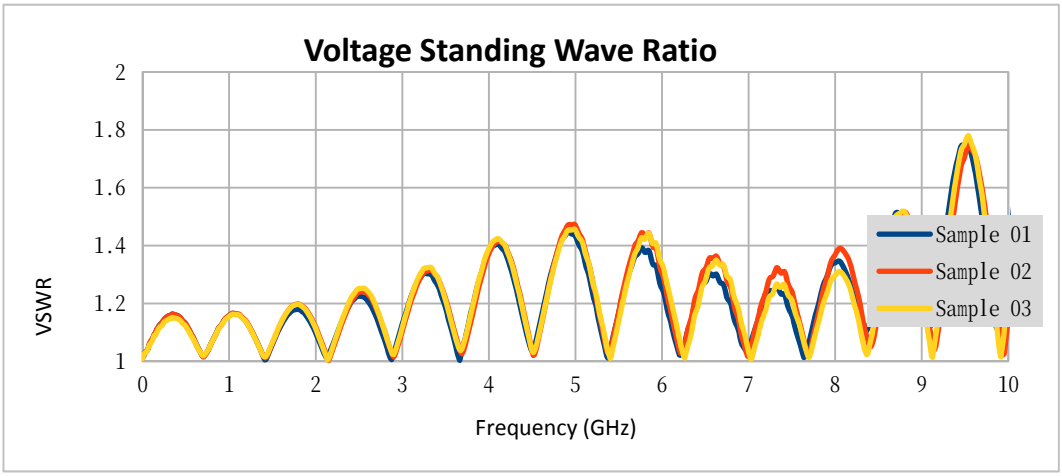
Results Summary

RF058-01BJ1-01BJ1-0150







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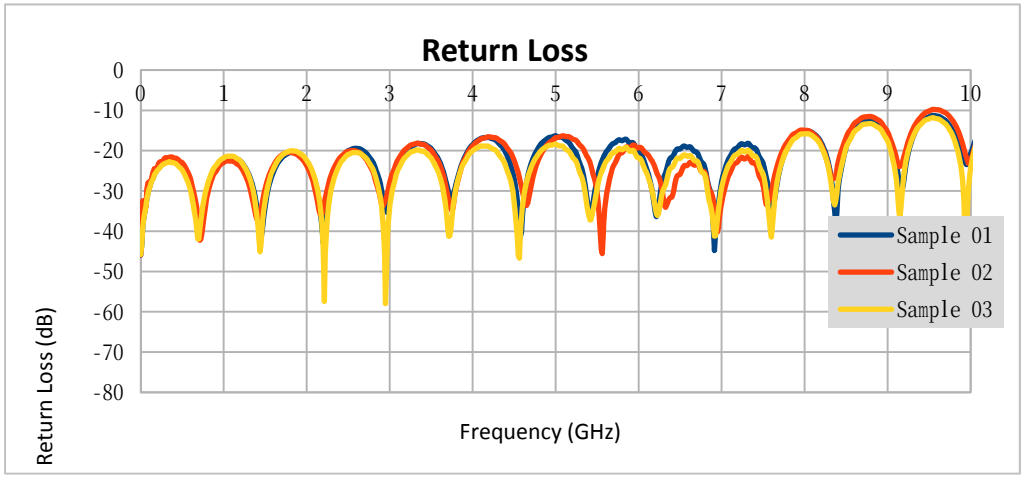
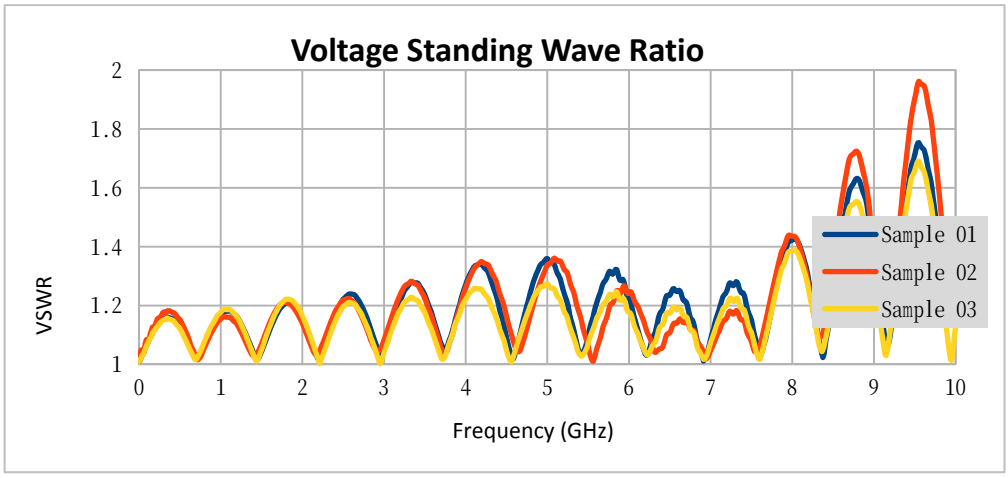
Description: RF Cable Assembly, 50Ohm, RG058 Coaxial Cable

RF058-01SB1-01SB1-0150





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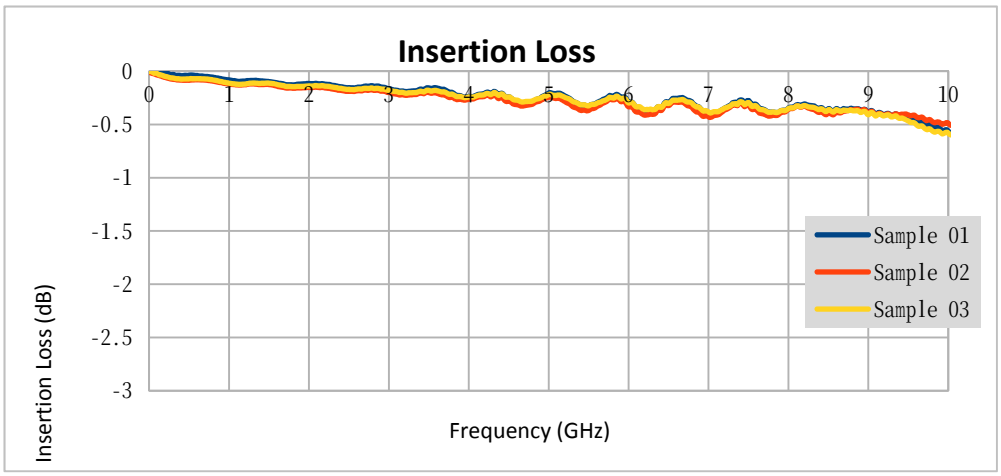
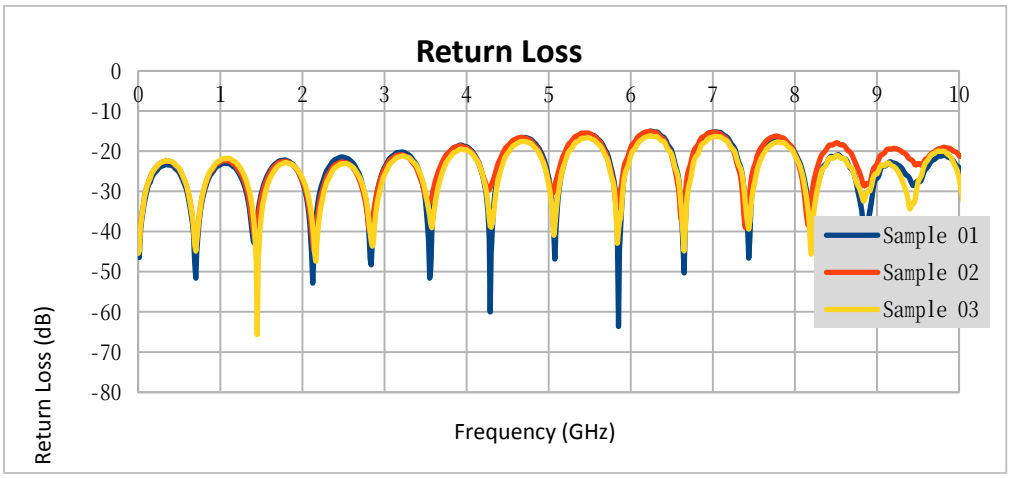
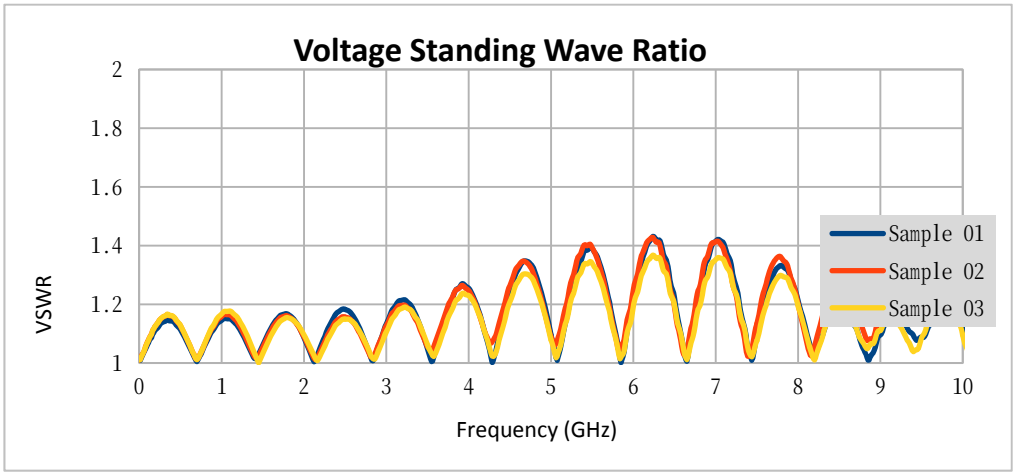
Description: RF Cable Assembly, 50Ohm, RG058 Coaxial Cable

RF058-01SP1-01SP1-0150







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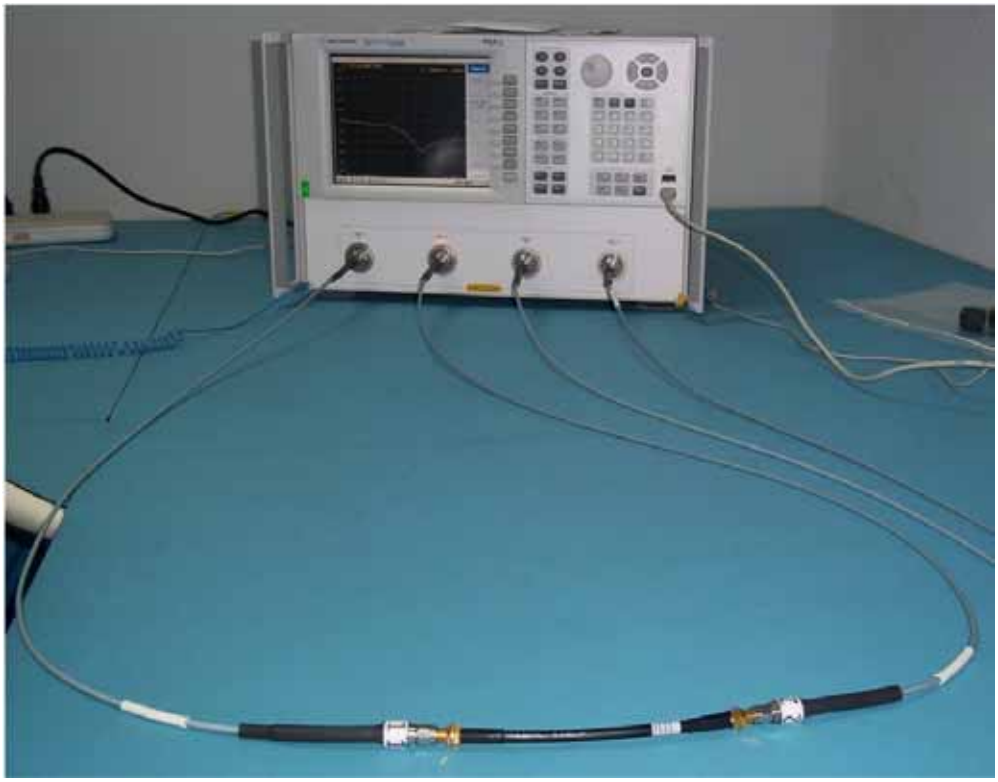
Instrument Setup:

Network Analyzer	Agilent N5230C PNA-L Network Analyzer (300KHz to 20GHz)
Mechanical Calibration Kit	Agilent 85052D 3.5mm Economy Calibration Kit (DC to 26.5GHz)
Averaging Factor	0
Smoothing	Off
IF Bandwidth	1KHz
Sweep Start	300KHz
Sweep End	20GHz
Points	1601
Test Cables	Megaphase CM26-3132-40

Test Fixtures:



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