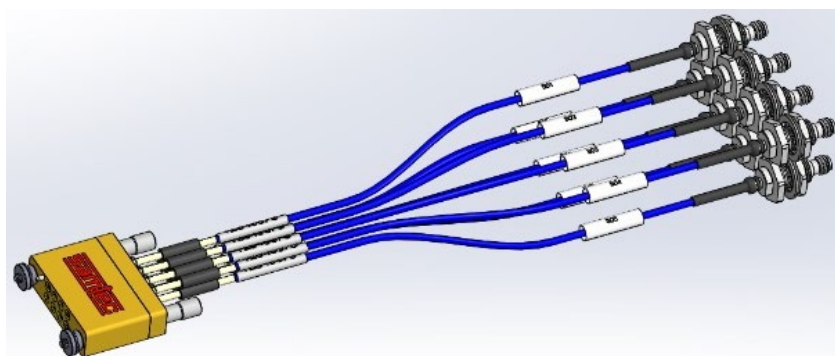




RF Characterization Report

BE90A-S-10BJ-N-2-04-XXXX



Test Date: Oct. 2024

Description:
90 GHz, Bulls Eye® High-Performance Test Assembly,
Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Series: BE90A**Description:** 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Table of Contents

Test Setup Information	1
Scope:	1
Instrument Setup & Test Accessories:.....	1
Calibration Type:.....	1
Adapter Use:.....	1
Test System Description	1
PCB-BUV-112590-ASH-0 Test Fixtures	2
PCB-BUV-112590-ASH-0 PCB Layout.....	2
BE90A-S-10BJ-N-2-04-XXXX Test Definition	3
Connector Under Test:	3
Results: BE90A-S-10BJ-N-2-04-0100	4
VSWR	5
Return Loss.....	6
Insertion Loss.....	7
Results: BE90A-S-10BJ-N-2-04-0305	7
VSWR	8
Insertion Loss.....	10
Results: BE90A-S-10BJ-N-2-04-0610	10
VSWR	11
Return Loss.....	12
Insertion Loss.....	13
Results: BE90A-S-10BJ-N-2-04-1000	13
VSWR	14
Return Loss.....	15
Insertion Loss.....	16
BE90A-S-10BJ-N-2-04-0100 Isolation	17

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Test Setup Information

Scope:

Provide standing wave ratio, return loss, insertion loss and isolation performance parameters for BE90A-S-10BJ-N-2-04-XXXX Bulls Eye® High-Performance Test Assembly.

Instrument Setup & Test Accessories:

Network Analyzer	Keysight PNA N5227A
Averaging Factor	1
Smoothing	Off
IF Bandwidth	1 KHz
Sweep Start	10 MHz
Sweep End	100 GHz
Points	10000
Test Cables	1.00 mm test Cables (N5293AX01)

Calibration Type:

A Keysight mechanical calibration is performed using the 1.00 mm Keysight Calibration kit.

Calibration Kit	1.00 mm Keysight Calibration Kit
-----------------	----------------------------------

Adapter Use:

PCB-BUV-112590-ASH-0 test board was used for the measurements of BE90A-S-10BJ-N-2-04-XXXX.

Test System Description

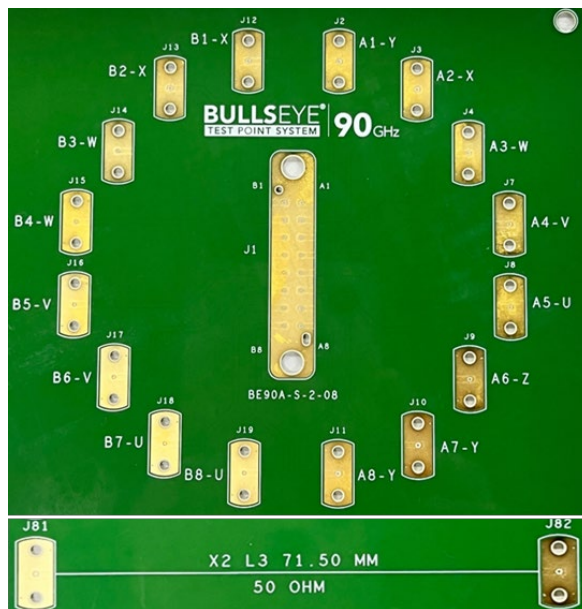
The test fixture is composed of a ten-layer EM-892BK material with 50Ω signal trace and a stripline launch designed to show performance on an L3 route. Optimization of the RF launch was performed using full wave simulation tools to minimize reflections. These launch designs were implemented on PCB-BUV-112590-ASH-0. The most of signal trace and 1.00mm RF connector launch effects were removed from the measurement using Keysight AFR in PLTS.

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

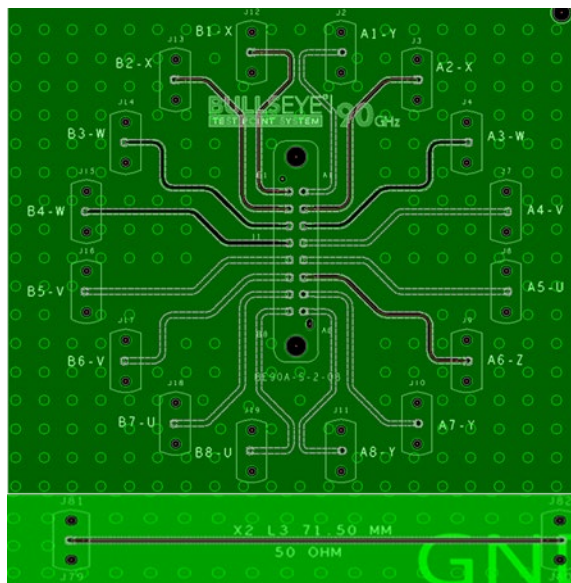
PCB-BUV-112590-ASH-0 Test Fixtures

Shown below is a photograph of the test board.



PCB-BUV-112590-ASH-0 PCB Layout

Artwork of the PCB design is shown below.



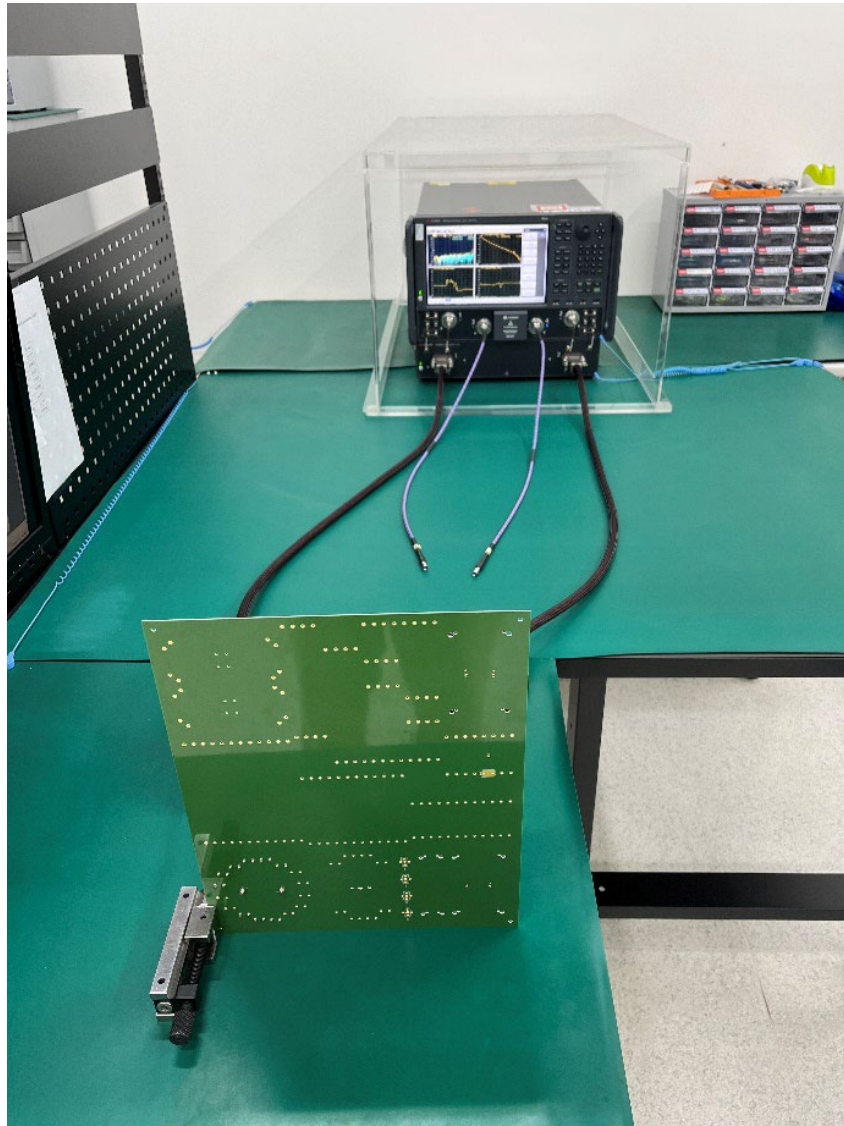
Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

BE90A-S-10BJ-N-2-04-XXXX Test Definition

Part Number	End 1	End 2
BE90A-S-10BJ-N-2-04-XXXX	BE90A	1.00 mm Jack

Connector Under Test:



Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Results: BE90A-S-10BJ-N-2-04-0100

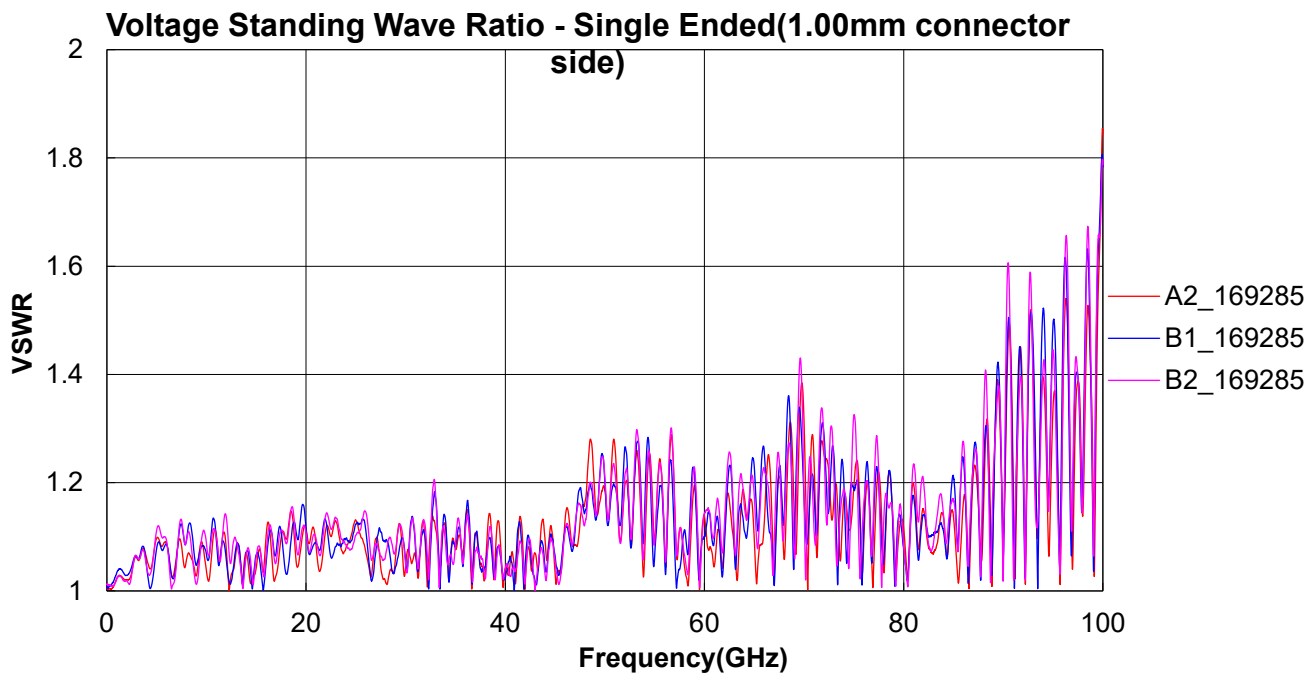
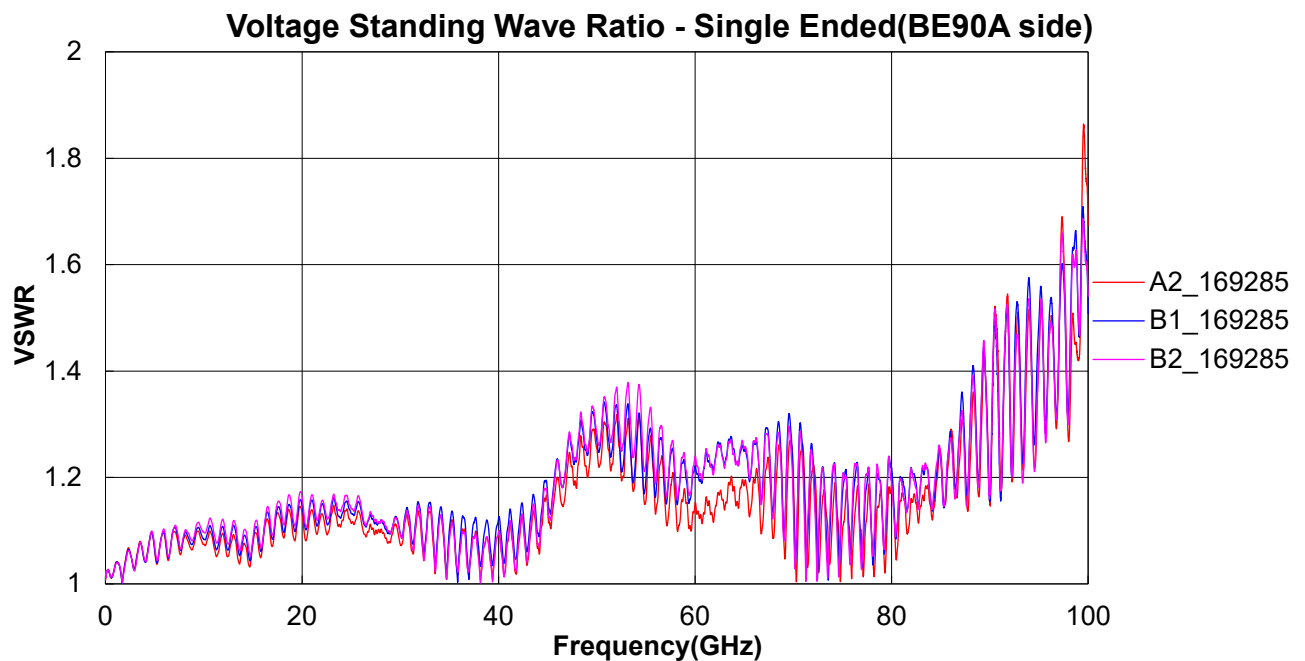
The post processed results include the BE90A-S-10BJ-N-2-04-XXXX cable assembly, launch, and 1.75 mm of PCB trace to minimize the effects of the test setup.

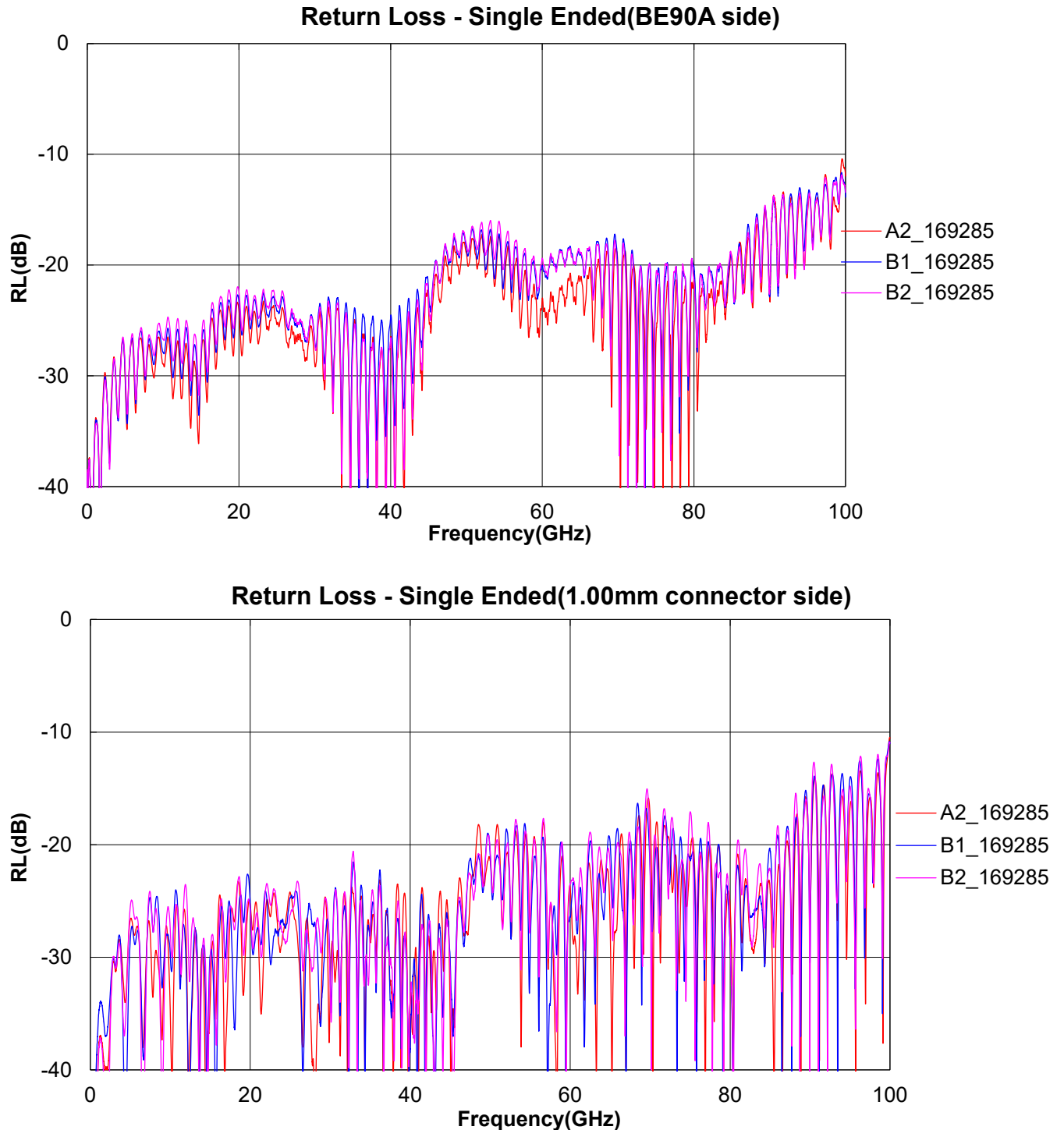
Description: BE90A-S-10BJ-N-2-04-0100					
Sample	VSWR -BE90A side (max)	VSWR- 1.00mm con- nector side (max)	RL- BE90A side (dB, max)	RL- 1.00mm con- nector side (dB, max)	IL (dB, min)
169285_A2	1.86@ 99.53GHz	1.85@ 99.95GHz	-10.41@ 99.53GHz	-10.48@ 99.95GHz	-3.08@ 97.45GHz
169285_B1	1.71@ 99.47GHz	1.81@ 99.92GHz	-11.64@ 99.47GHz	-10.83@ 99.92GHz	-2.99@ 99.47GHz
169285_B2	1.69@ 99.47GHz	1.80@ 99.95GHz	-11.85@ 99.47GHz	-10.90@ 99.95GHz	-3.01@ 94.19GHz

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

VSWR

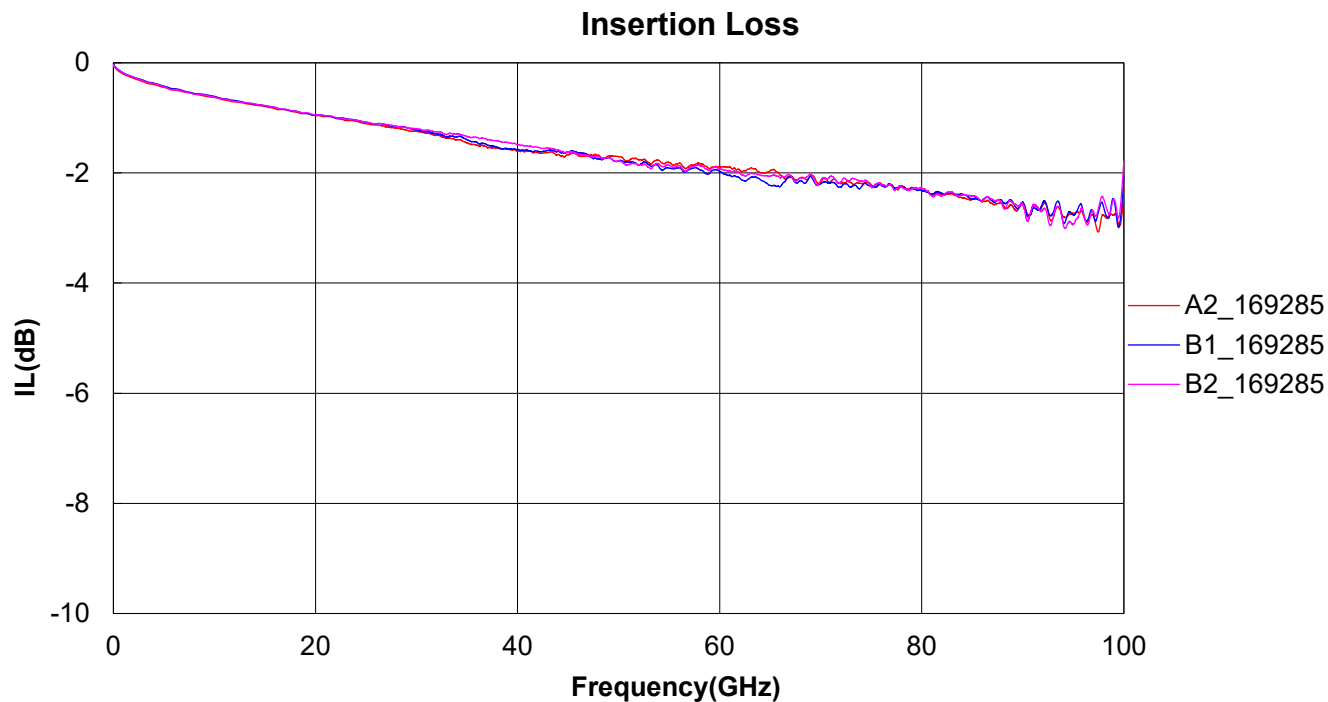


Series: BE90A**Description:** 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End OptionReturn Loss

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Insertion Loss



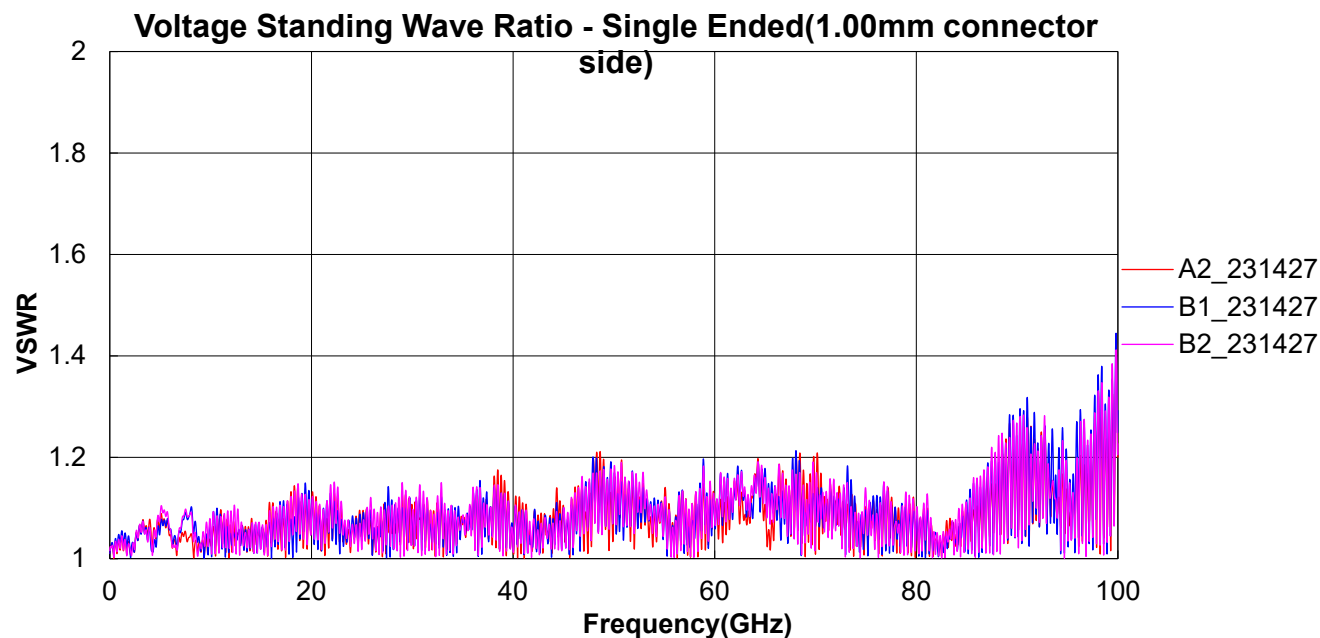
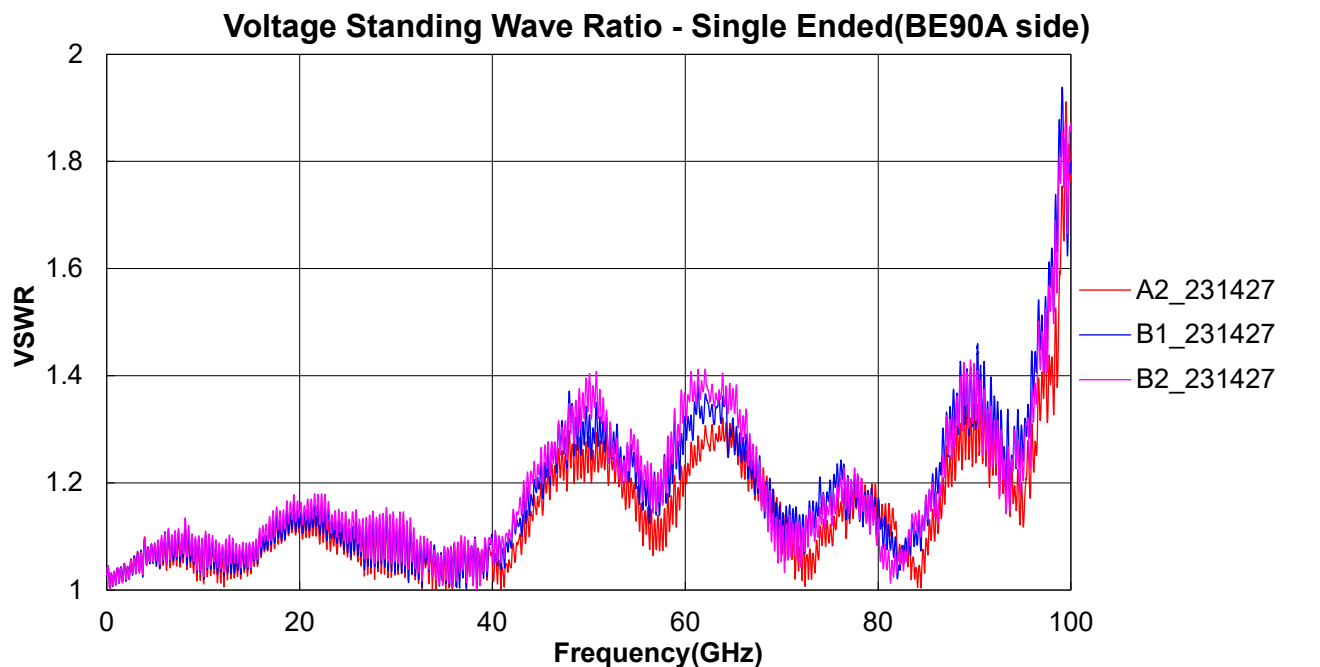
Results: BE90A-S-10BJ-N-2-04-0305

Description: BE90A-S-10BJ-N-2-04-0305					
Sample	VSWR -BE90A side (max)	VSWR- 1.00mm con- nector side (max)	RL- BE90A side (dB, max)	RL- 1.00mm con- nector side (dB, max)	IL (dB, min)
231427_A2	1.91@ 99.50GHz	1.42@ 99.85GHz	-10.09@ 99.50GHz	-15.14@ 99.85GHz	-6.39@ 99.49GHz
231427_B1	1.94@ 99.09GHz	1.44@ 99.82GHz	-9.91@ 99.09GHz	-14.81@ 99.82GHz	-6.28@ 99.44GHz
231427_B2	1.88@ 99.44GHz	1.41@ 99.82GHz	-10.33@ 99.44GHz	-15.36@ 99.82GHz	-6.53@ 99.44GHz

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

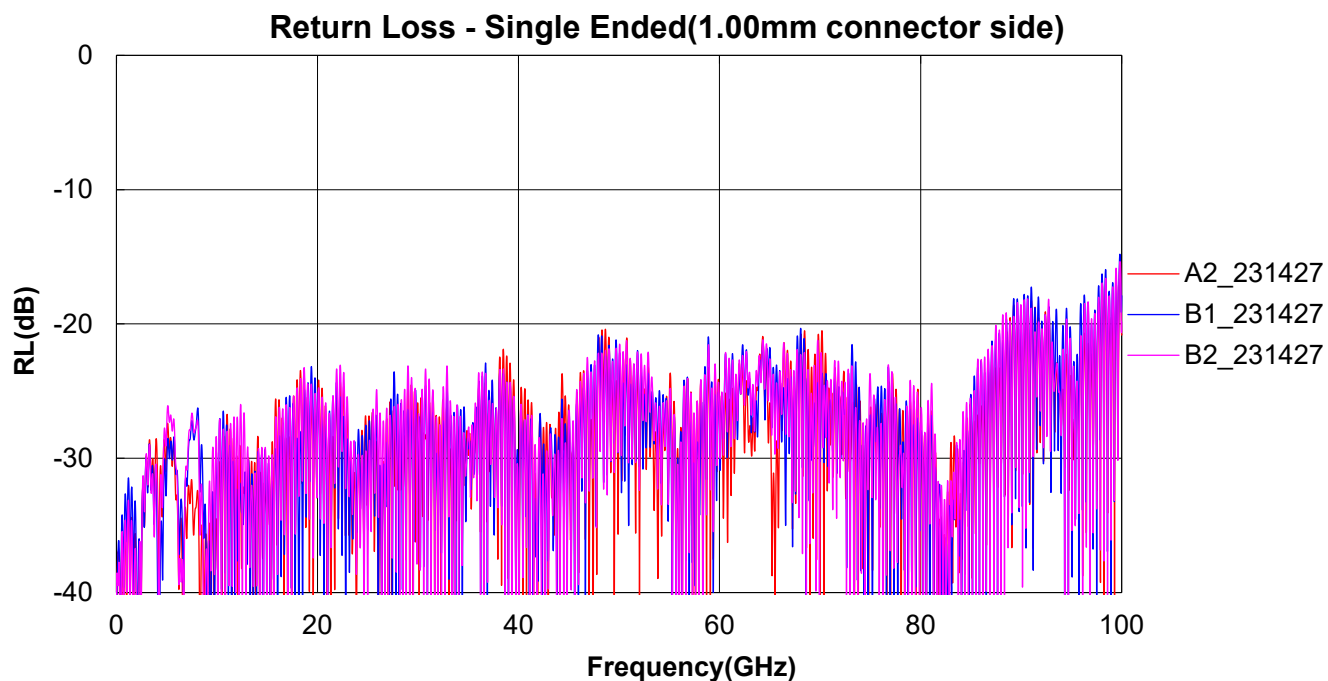
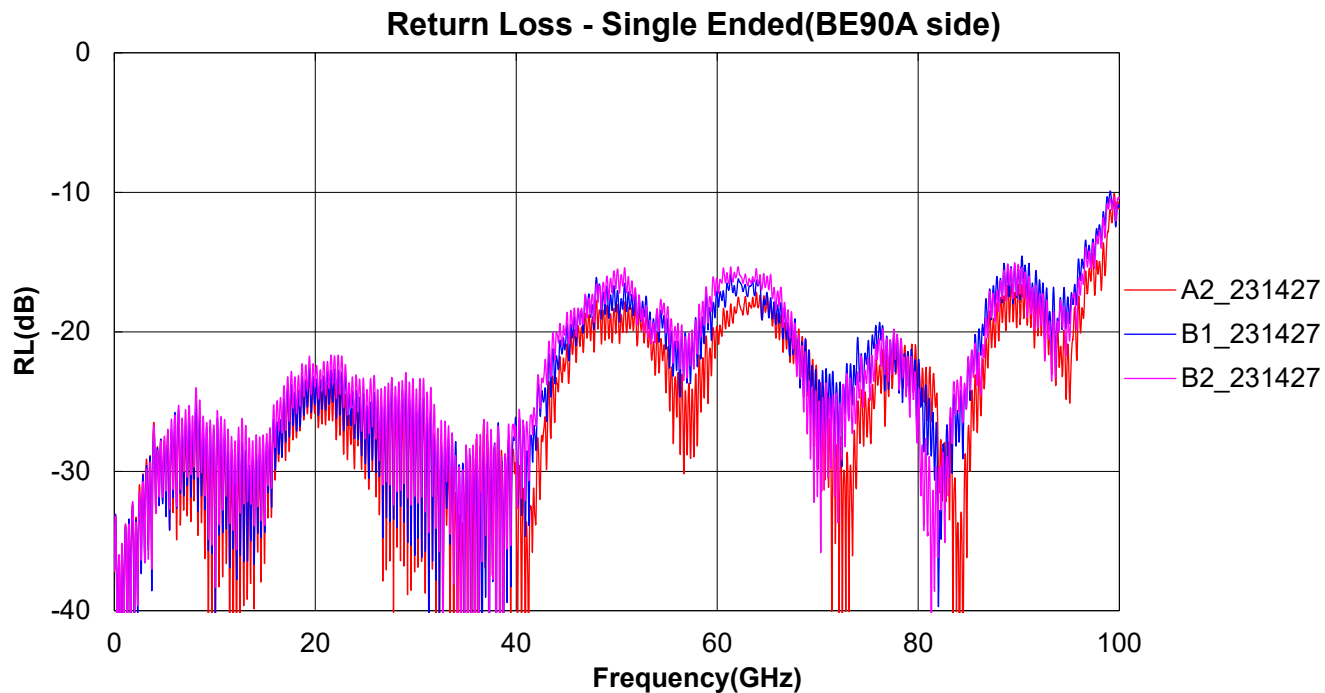
VSWR



Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

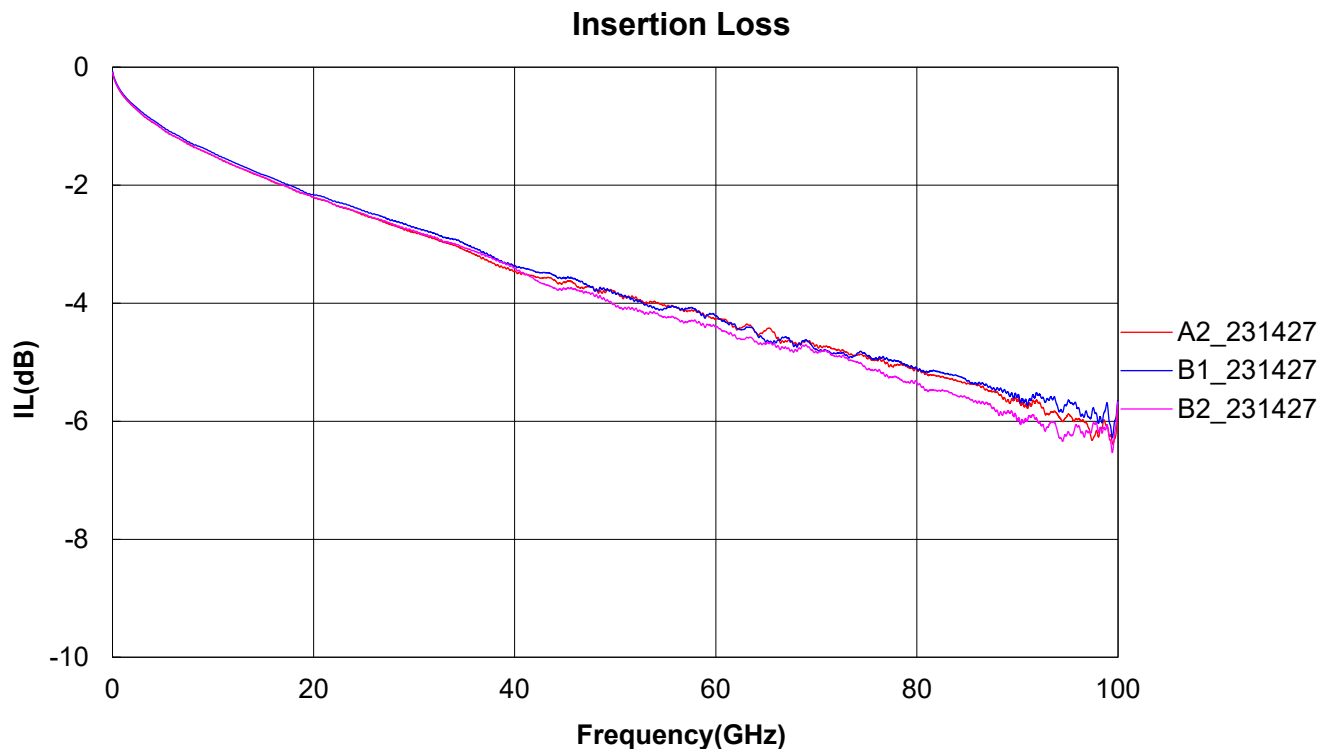
Return Loss



Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Insertion Loss



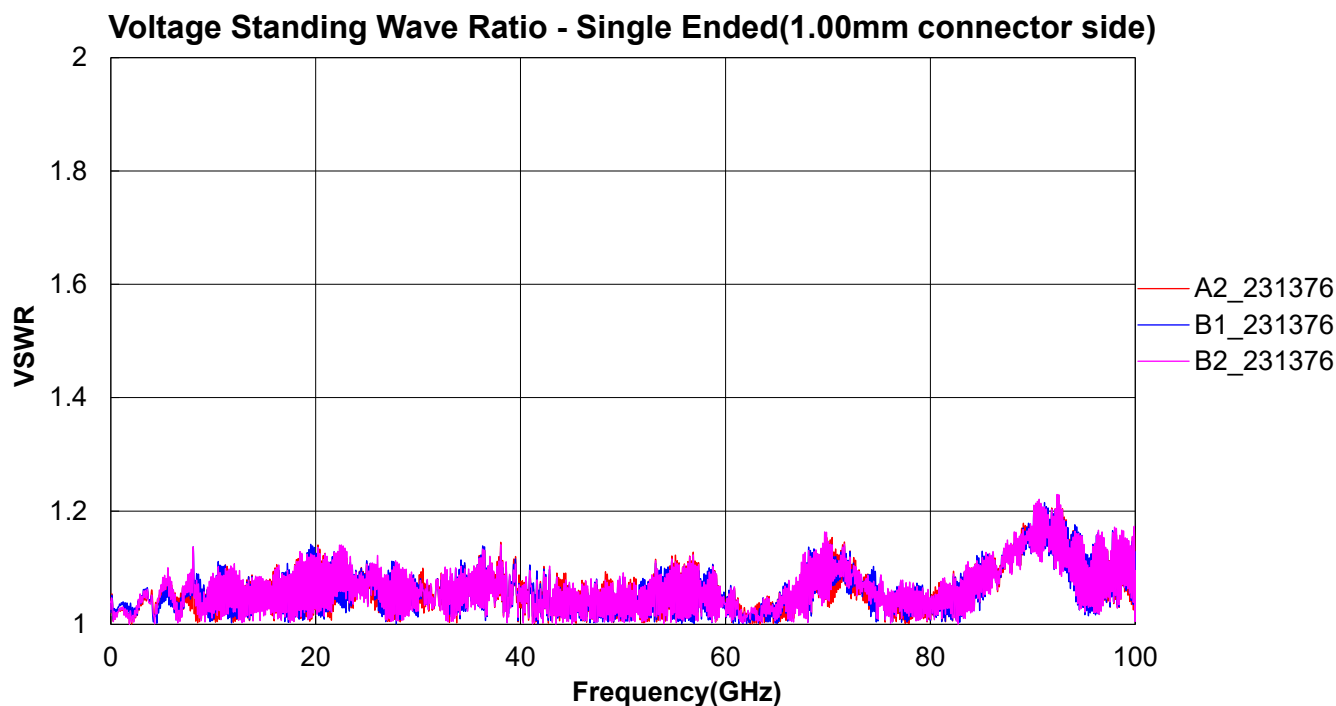
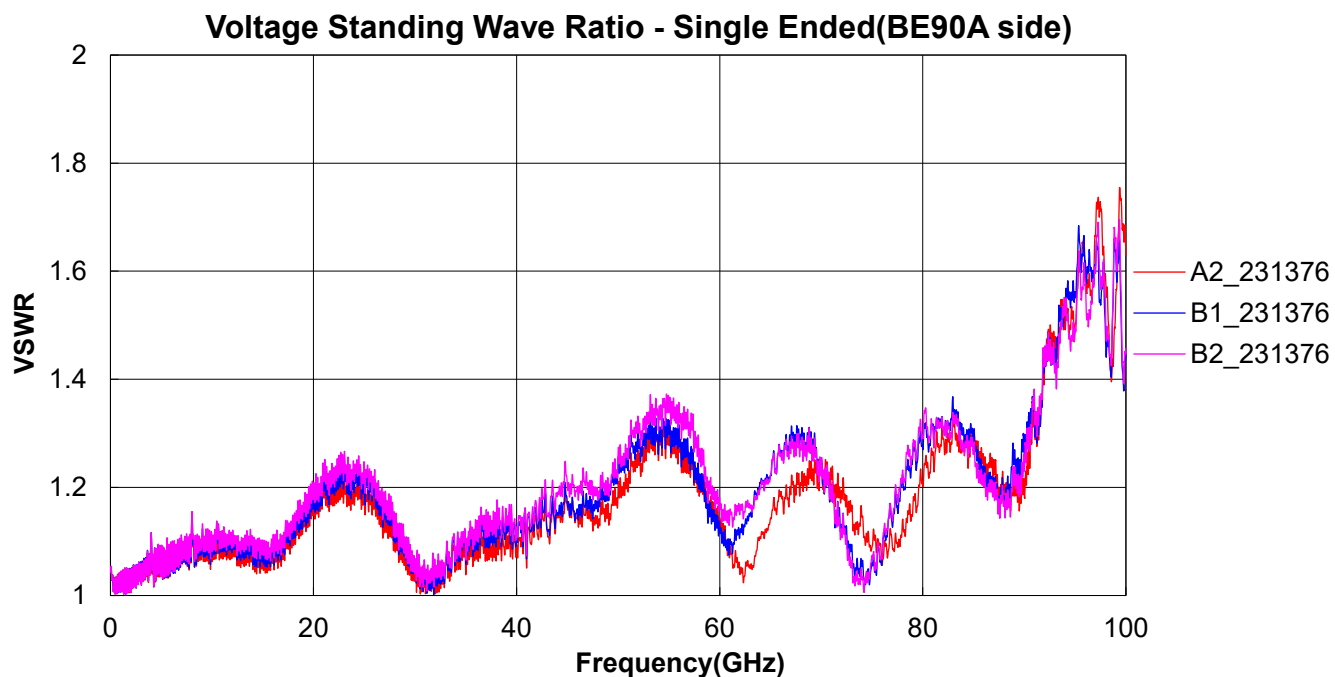
Results: BE90A-S-10BJ-N-2-04-0610

Description: BE90A-S-10BJ-N-2-04-0610					
Sample	VSWR -BE90A side (max)	VSWR- 1.00mm con- nector side (max)	RL- BE90A side (dB, max)	RL- 1.00mm con- nector side (dB, max)	IL (dB, min)
231376_A2	1.75@ 99.40GHz	1.23@ 92.36GHz	-11.24@ 99.40GHz	-19.84@ 92.36GHz	-11.10@ 97.48GHz
231376_B1	1.68@ 99.35GHz	1.22@ 92.35GHz	-11.87@ 95.35GHz	-20.06@ 92.35GHz	-11.19@ 96.41GHz
231376_B2	1.70@ 99.35GHz	1.23@ 92.36GHz	-11.76@ 99.35GHz	-19.76@ 92.36GHz	-11.10@ 96.57GHz

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

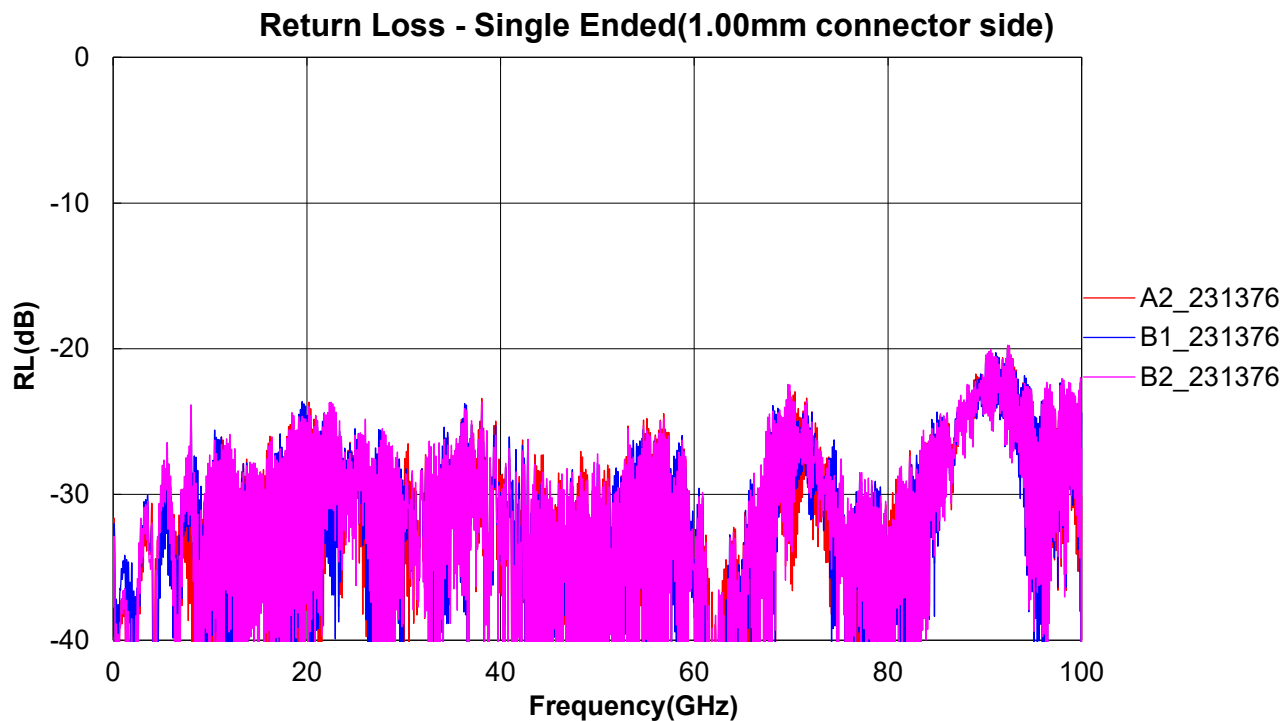
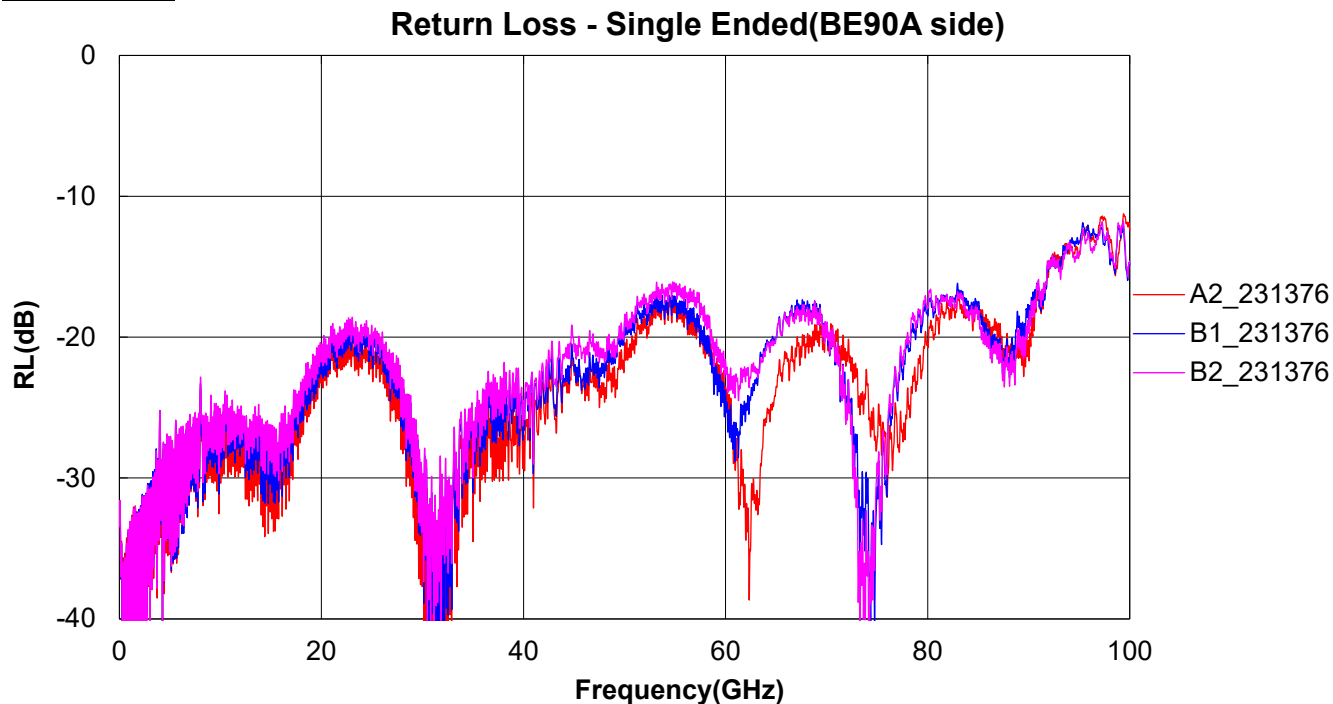
VSWR



Series: BE90A

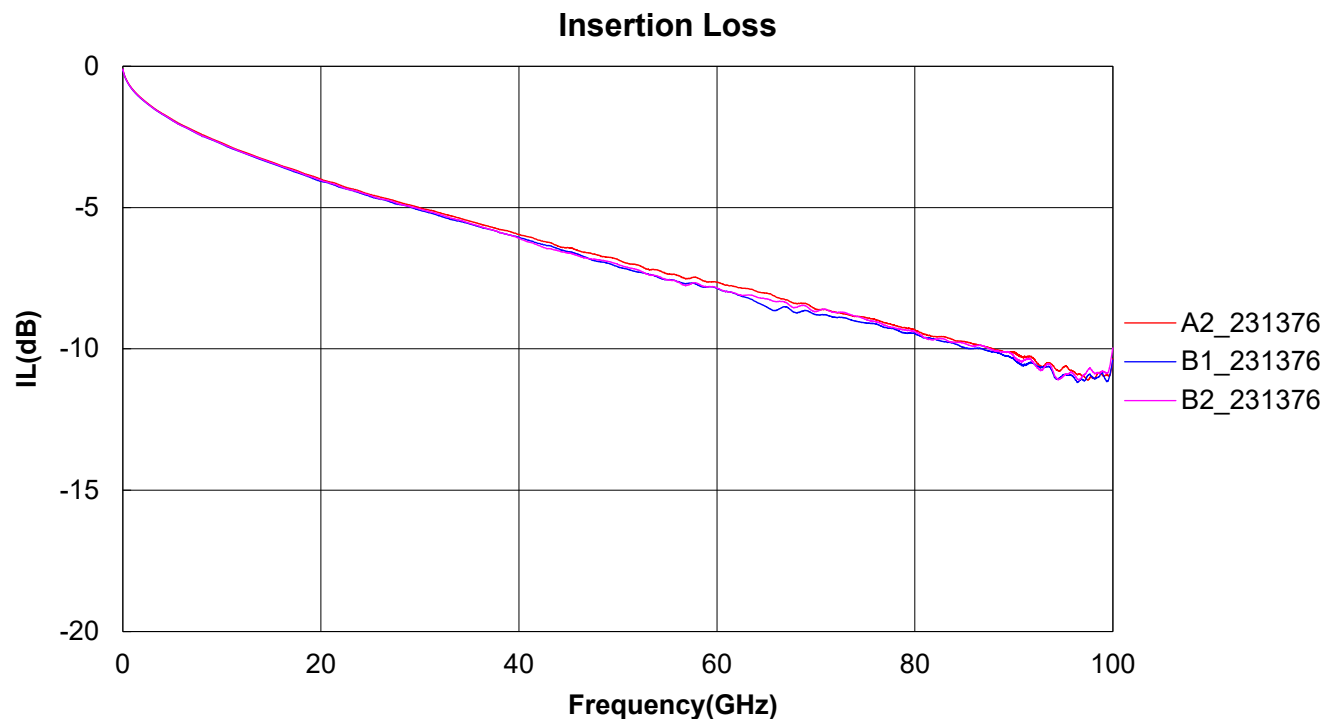
Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Return Loss

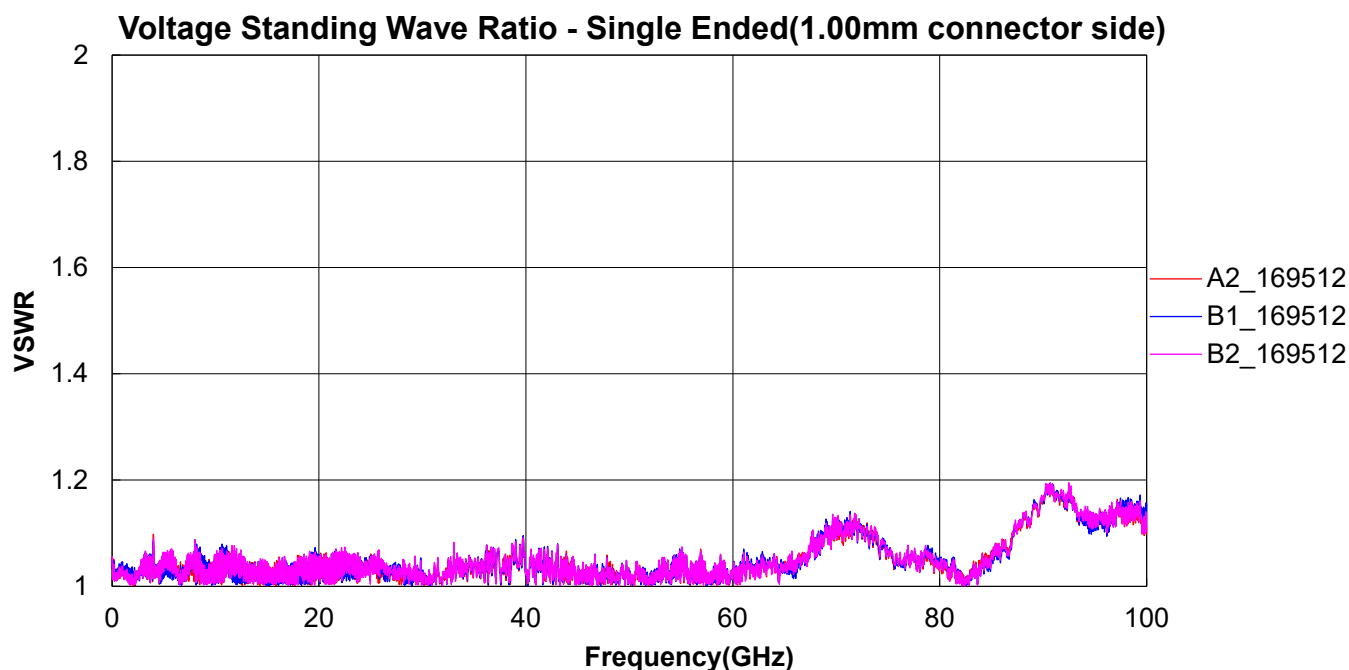
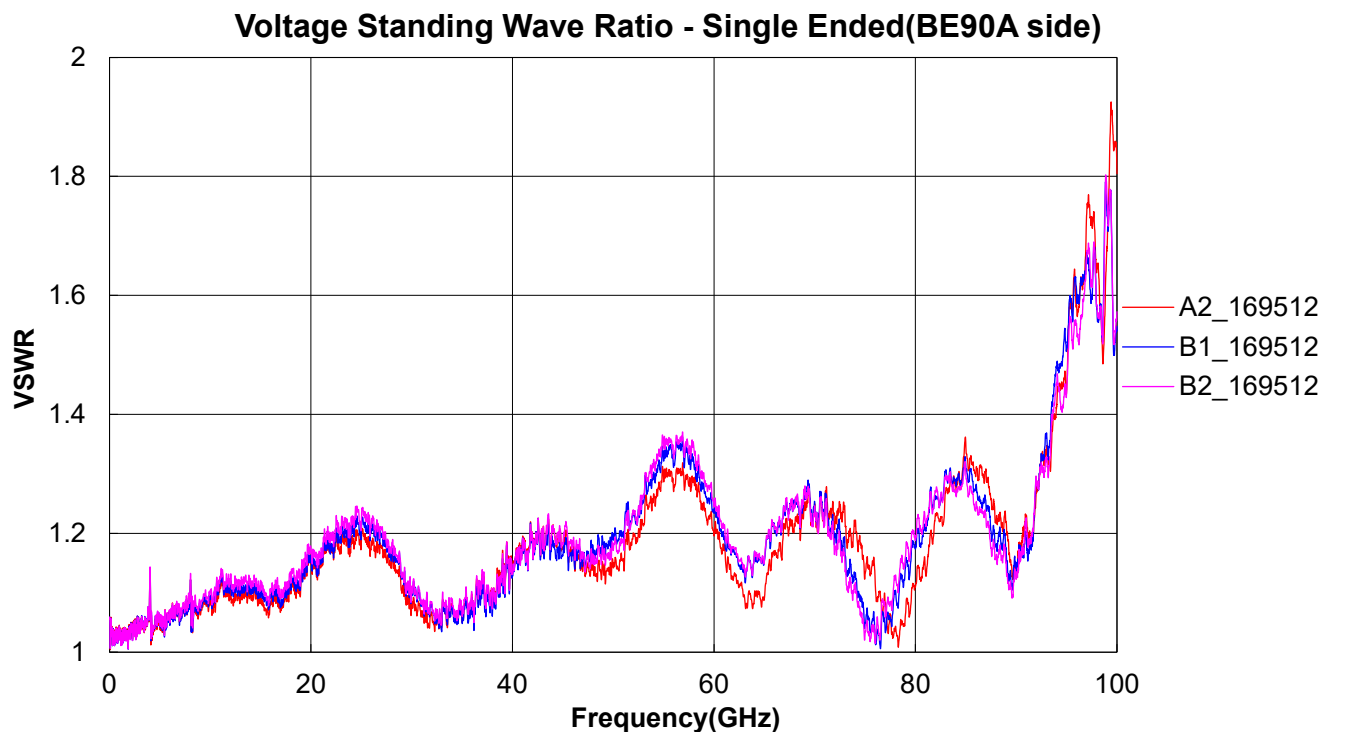


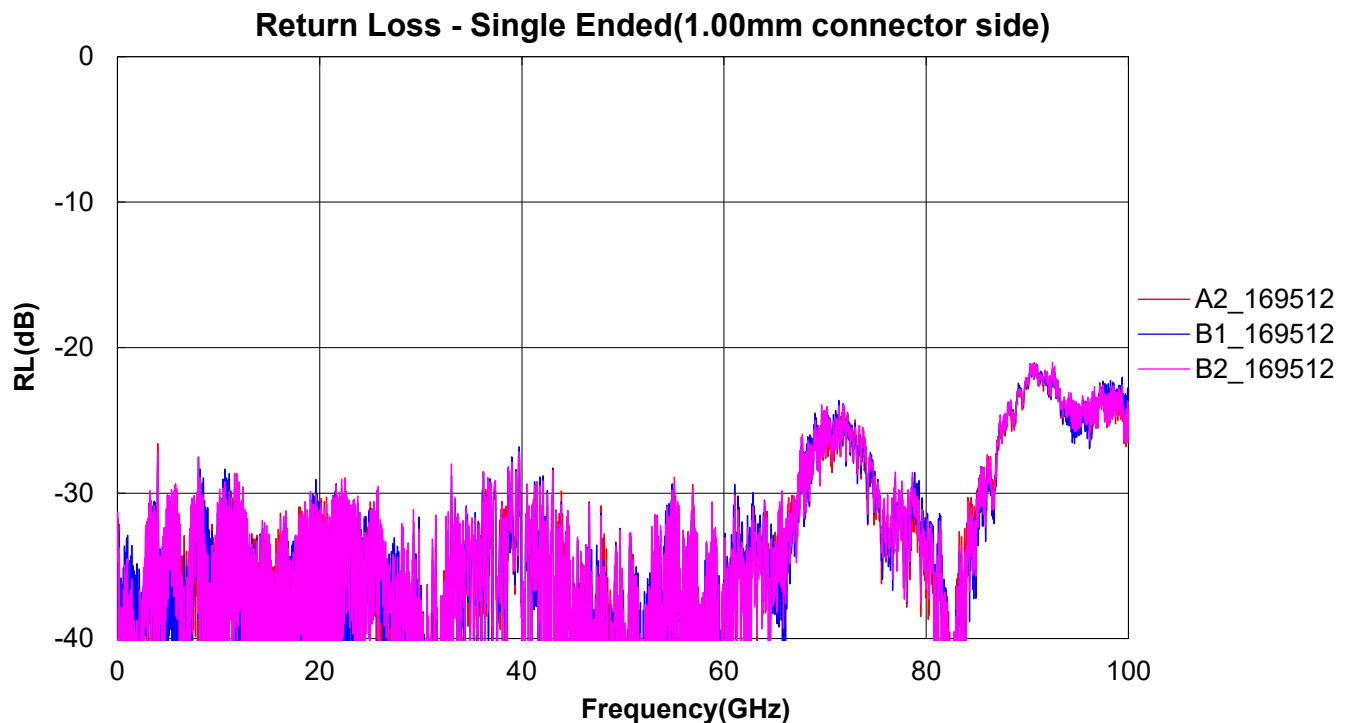
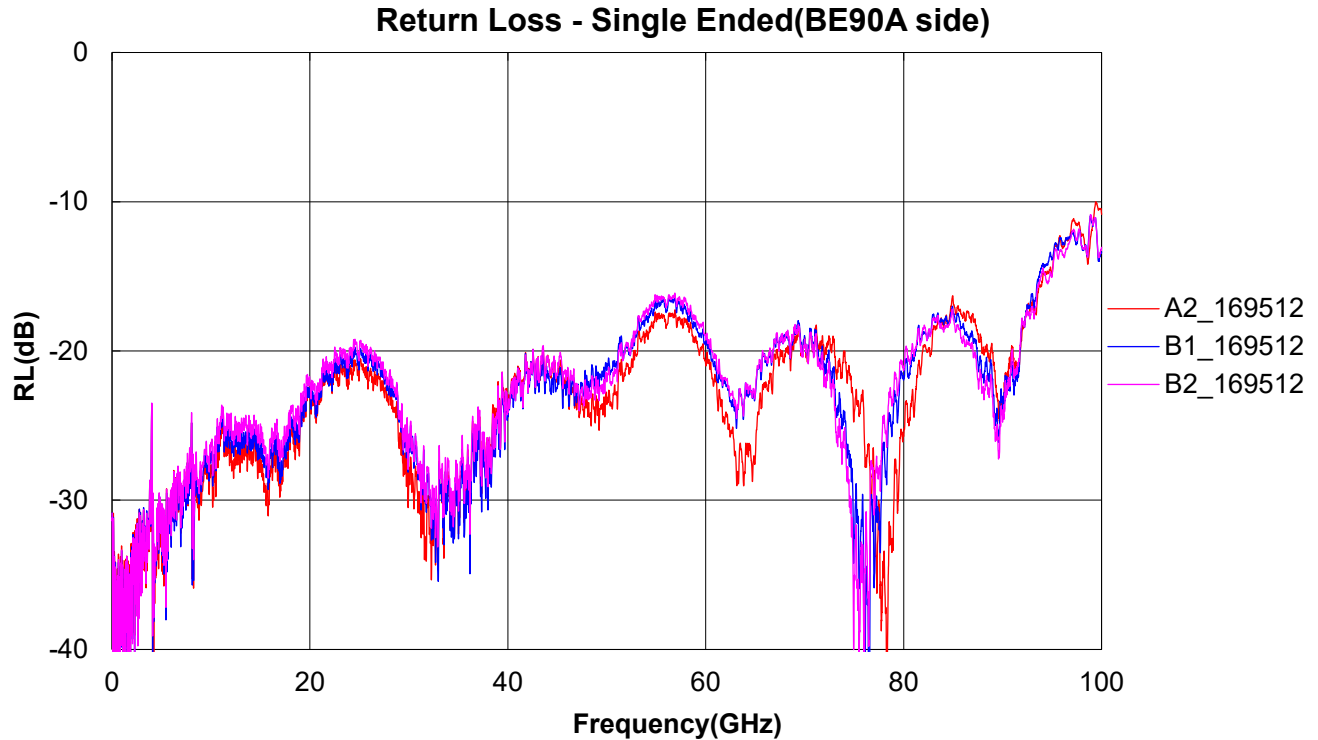
Series: BE90A

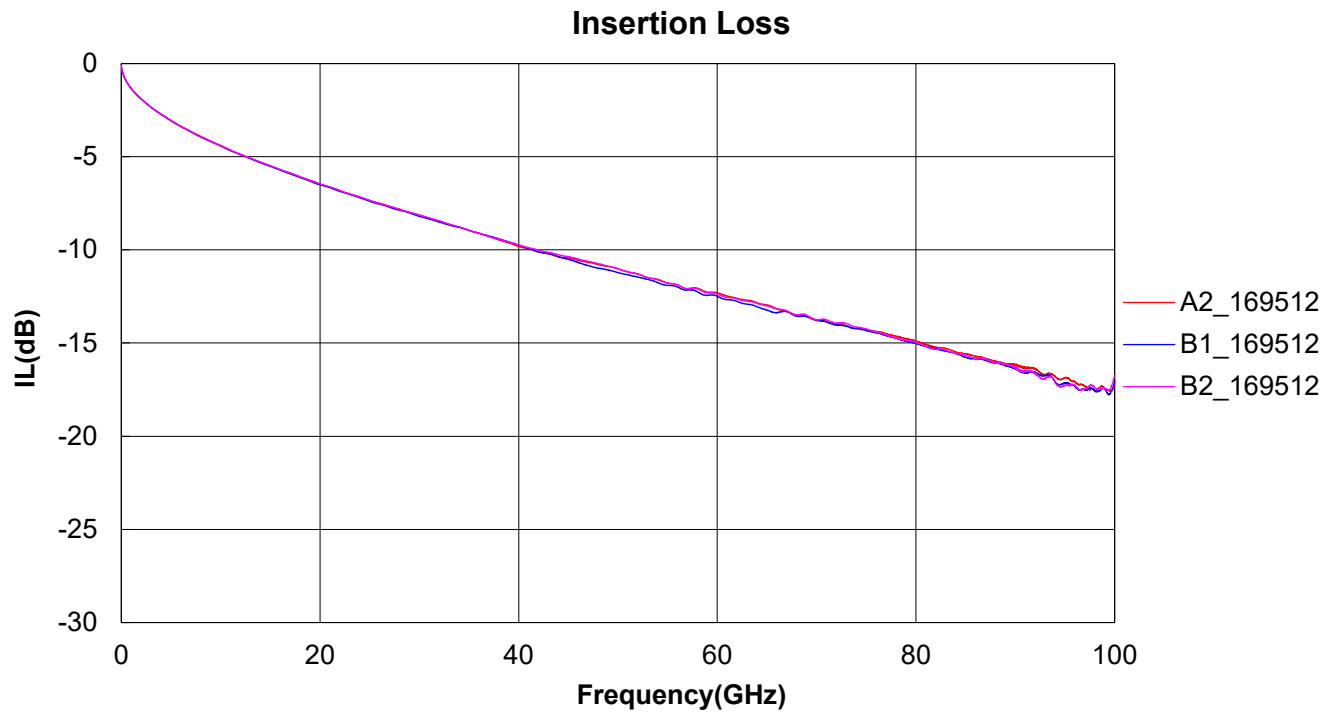
Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

Insertion Loss

Results: BE90A-S-10BJ-N-2-04-1000

Description: BE90A-S-10BJ-N-2-04-1000					
Sample	VSWR -BE90A side (max)	VSWR- 1.00mm con- nector side (max)	RL- BE90A side (dB, max)	RL- 1.00mm con- nector side (dB, max)	IL (dB, min)
169512_A2	1.93@ 99.42GHz	1.19@ 90.91GHz	-10.00@ 99.42GHz	-21.29@ 90.91GHz	-17.58@ 99.61GHz
169512_B1	1.79@ 98.86GHz	1.19@ 90.68GHz	-10.95@ 98.86GHz	-21.03@ 90.68GHz	-17.78@ 99.39GHz
169512_B2	1.80@ 98.88GHz	1.20@ 92.48GHz	-10.86@ 98.88GHz	-21.02@ 92.48GHz	-17.57@ 99.42GHz

Series: BE90A**Description:** 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End OptionVSWR

Series: BE90A**Description:** 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End OptionReturn Loss

Series: BE90A**Description:** 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End OptionInsertion Loss

Series: BE90A

Description: 90 GHz, Bulls Eye® High-Performance Test Assembly, Stripline Transmission Type, 1.0mm Bulkhead Jack End Option

BE90A-S-10BJ-N-2-04-0100 Isolation

