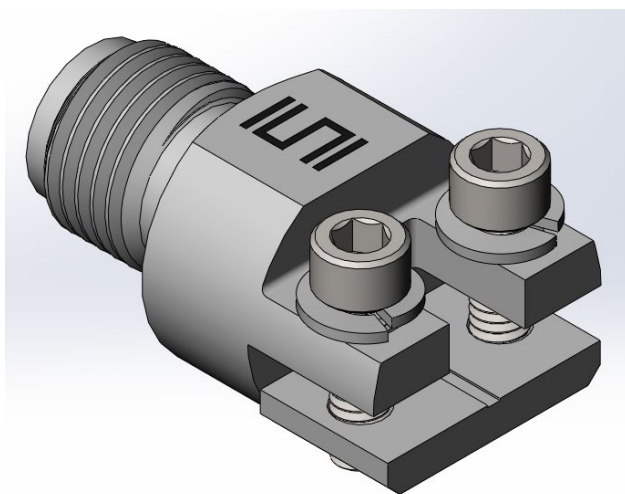




RF Characterization Report

292-J-P-EP-ST-EL-01



Test Date: Mar 2023

Description

50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

Series: 292

Description: 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

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-240MM-112613-SIG-0 Test Fixtures	2
PCB-240MM-112613-SIG-0 PCB Layout	2
292-J-P-EP-ST-EL-01 Test Definition	3
Connector Under Test:	3
Results: 292-J-P-EP-ST-EL-01(2 connectors + 1 inch trace)	4
VSWR	4
Return Loss.....	5
Insertion Loss.....	5
Results: 292-J-P-EP-ST-EL-01(1 connector + 500 mils trace)	6
VSWR	6
Return Loss.....	7
Insertion Loss.....	7

Series: 292

Description: 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

Test Setup Information

Scope:

Provide standing wave ratio, return loss and insertion loss performance parameters for the Samtec 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch connector.

Instrument Setup & Test Accessories:

Network Analyzer	Keysight PNA N5227B
Averaging Factor	1
Smoothing	Off
IF Bandwidth	1 KHz
Sweep Start	10 MHz
Sweep End	40 GHz
Points	4000
Test Cables	Gore 0F0CACB036.0-LF(DC to 67 GHz)

Calibration Type:

A Keysight mechanical calibration is performed using the Maury 2.92mm MCAL 8770CK Calibration kit.

Calibration Kit	Maury 2.92mm MCAL 8770CK
-----------------	--------------------------

Adapter Use:

PCB-240MM-112613-SIG-0 RF board was used for the measurements of 292-J-P-EP-ST-EL-01.

Test System Description

The test fixture is composed of a four-layer MT40 material with 50 Ω signal trace and varying launch designs to reflect performance on different routing layers. Optimization of the RF launch was performed using full wave simulation tools to minimize reflections. These launch designs were implemented on PCB-240MM-112613-SIG-0.

Series: 292

Description: 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

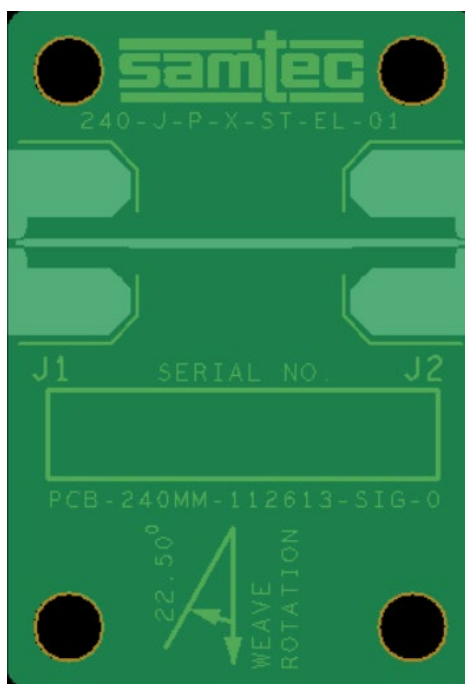
PCB-240MM-112613-SIG-0 Test Fixtures

Shown below is a photograph of the test board.



PCB-240MM-112613-SIG-0 PCB Layout

Artwork of the PCB design is shown below.



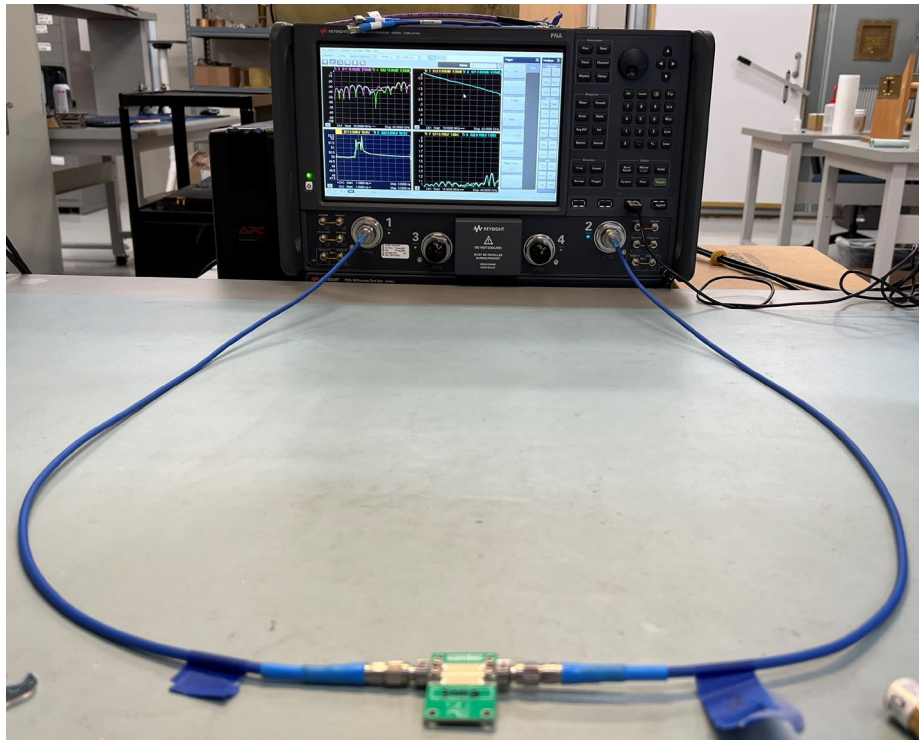
Series: 292

Description: 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

292-J-P-EP-ST-EL-01 Test Definition

Part Number	End 1
292-J-P-EP-ST-EL-01	2.92 mm

Connector Under Test:



Series: 292

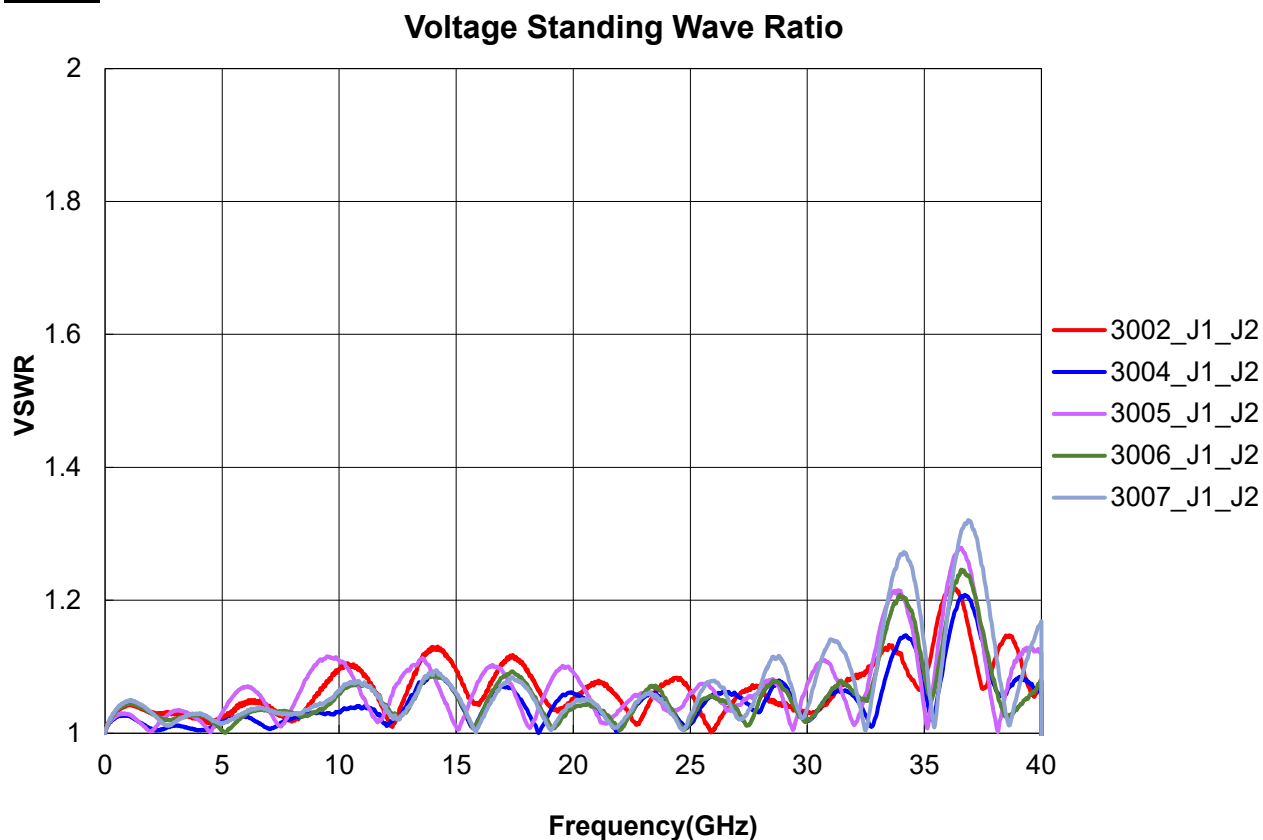
Description: 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

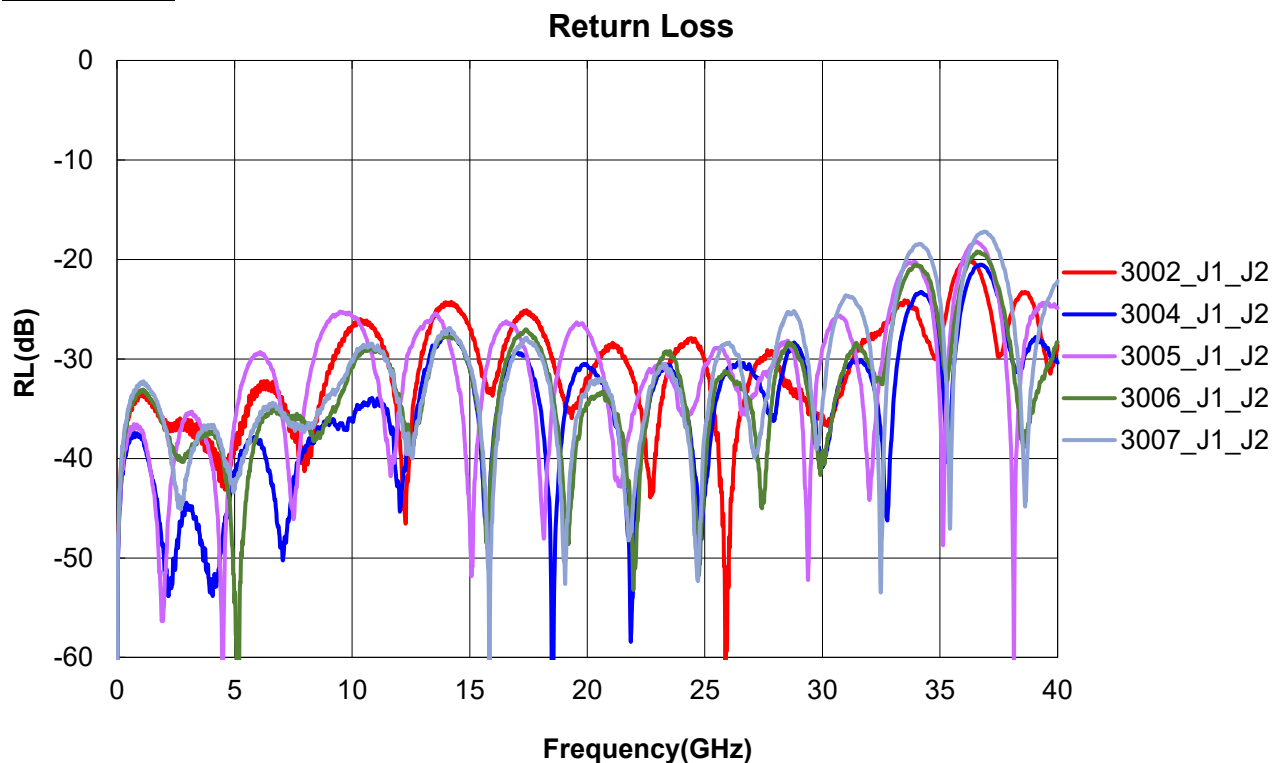
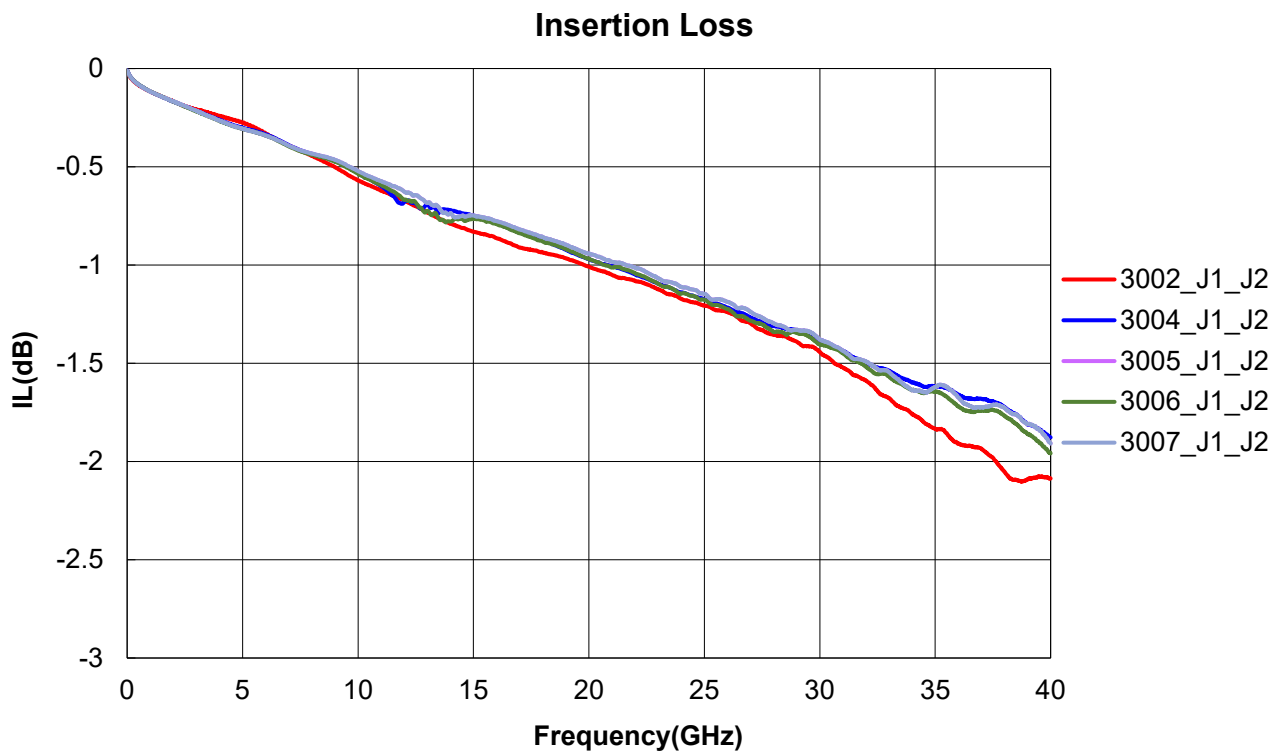
Results: 292-J-P-EP-ST-EL-01(2 connectors + 1 inch trace)

The following results include two 292-J-P-EP-ST-EL-01 connectors and 1 inch of PCB trace.

Description: 50 Ohm 2.92 mm Jack, Edge Launch			
Sample	VSWR(max)	RL(max)	IL(min)
3002_J1_J2	1.22@36.11GHz	-20.10@36.11GHz	-2.10@38.76GHz
3004_J1_J2	1.21@36.73GHz	-20.51@36.73GHz	-1.88@40.00GHz
3005_J1_J2	1.28@36.58GHz	-18.24@36.58GHz	-1.89@40.00GHz
3006_J1_J2	1.25@36.58GHz	-19.20@36.58GHz	-1.96@40.00GHz
3007_J1_J2	1.32@36.87GHz	-17.19@36.87GHz	-1.91@40.00GHz

VSWR



Series: 292**Description:** 50 Ohm 2.92 mm Jack, Compression Mount, Edge LaunchReturn LossInsertion Loss

Series: 292

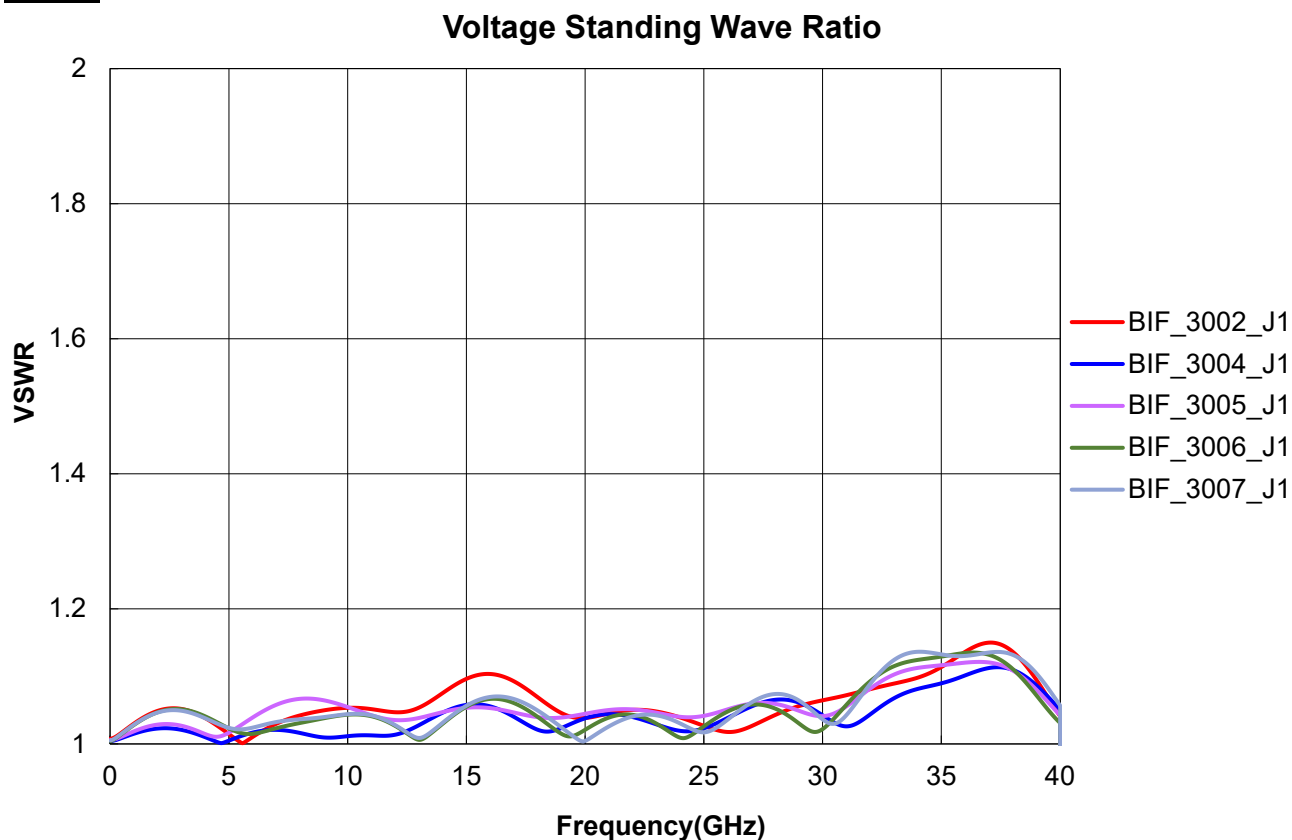
Description: 50 Ohm 2.92 mm Jack, Compression Mount, Edge Launch

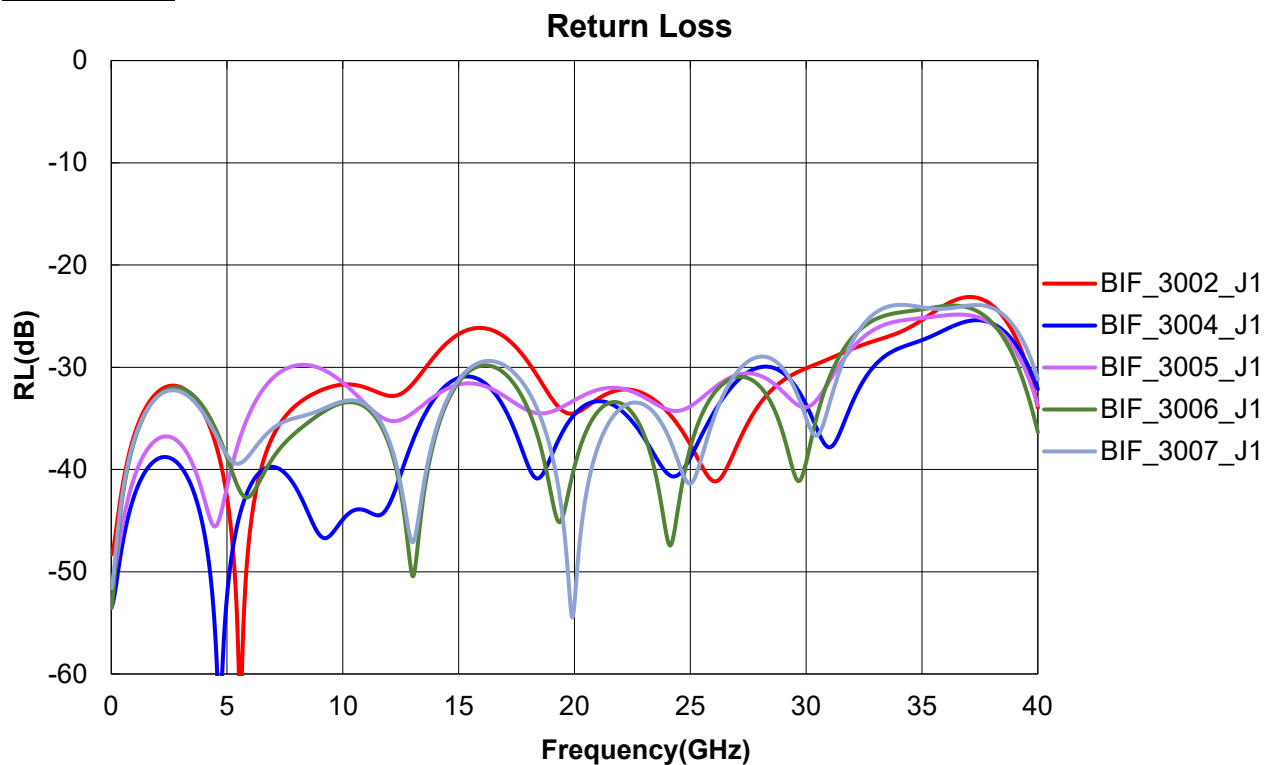
Results: 292-J-P-EP-ST-EL-01(1 connector + 500 mils trace)

The following results include one 292-J-P-EP-ST-EL-01 connector and 500 mils of PCB trace.

Description: 50 Ohm 2.92 mm Jack, Edge Launch			
Sample	VSWR(max)	RL(max)	IL(min)
BIF_3002_J1	1.15@37.06GHz	-23.12@37.06GHz	-1.05@38.76GHz
BIF_3004_J1	1.11@37.38GHz	-25.39@37.38GHz	-0.94@40.00GHz
BIF_3005_J1	1.12@36.57GHz	-24.84@36.57GHz	-0.94@40.00GHz
BIF_3006_J1	1.14@36.36GHz	-23.96@36.36GHz	-0.97@39.98GHz
BIF_3007_J1	1.14@34.07GHz	-23.89@34.07GHz	-0.94@40.00GHz

VSWR



Series: 292**Description:** 50 Ohm 2.92 mm Jack, Compression Mount, Edge LaunchReturn LossInsertion Loss