RF Characterization Report

185-J-P-EP-ST-CM-X

Test Date: 18 Jun 2020

Description
50 Ohm 1.85 mm Jack, Vertical Stripline Compression Mount

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Series: 1.85 mm
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Table of Contents

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Test Setup Information

Scope:

Provide standing wave ratio, return loss and insertion loss performance parameters for 1.85 mm vertical compression mount connector.

Instrument Setup & Test Accessories:

Network Analyzer	Keysight PNA N5227A
Averaging Factor	1
Smoothing	Off
IF Bandwidth	700 Hz
Sweep Start	10 MHz
Sweep End	67 GHz
Points	6700
Test Cables	Gore 0F0CACB036.0-LF (DC to 67 GHz)

Calibration Type:

A Keysight mechanical calibration is performed using the Keysight 85058B Standard Mechanical Calibration kit.

Calibration Kit	Keysight 85058B Standard Mechanical Calibration Kit

Adapter Use:

BE70 calibration board, PCB-BEYE70-109832-SIG-1, was used for the measurements of 185-J-P-EP-ST-CM-X. The traces effects were removed from the measurement using the Fixture Removal method.

Test System Description

The test fixture is composed of a six-layer Tachyon material with 50Ω 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-BEYE70-109832-SIG-1. 67 GHz Calibration standards specific to the aforementioned PCB were used for 185-J-P-EP-ST-CM-X measurements.

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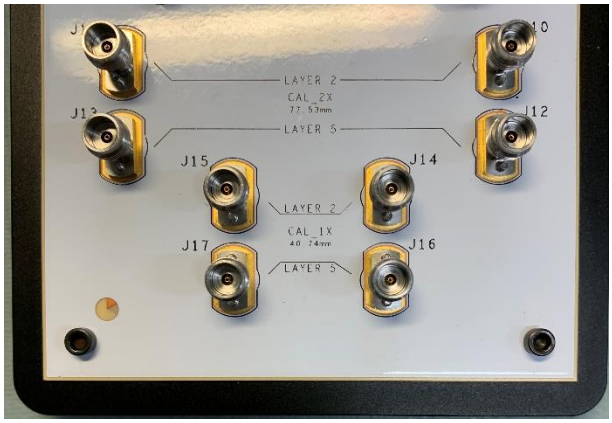
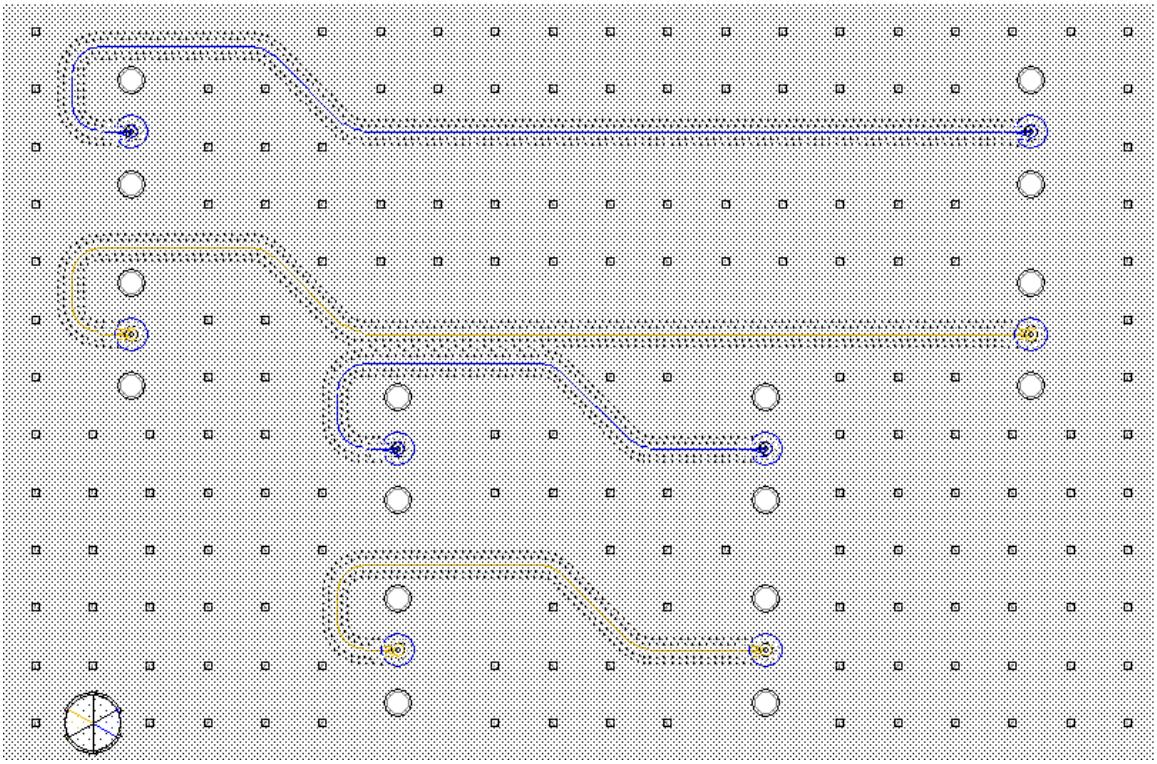
PCB-BEYE70-109832-SIG-1 Test Fixtures

Shown below is a photograph of the test board.



PCB-BEYE70-109832-SIG-1 PCB Layout

Artwork of the PCB design is shown below.



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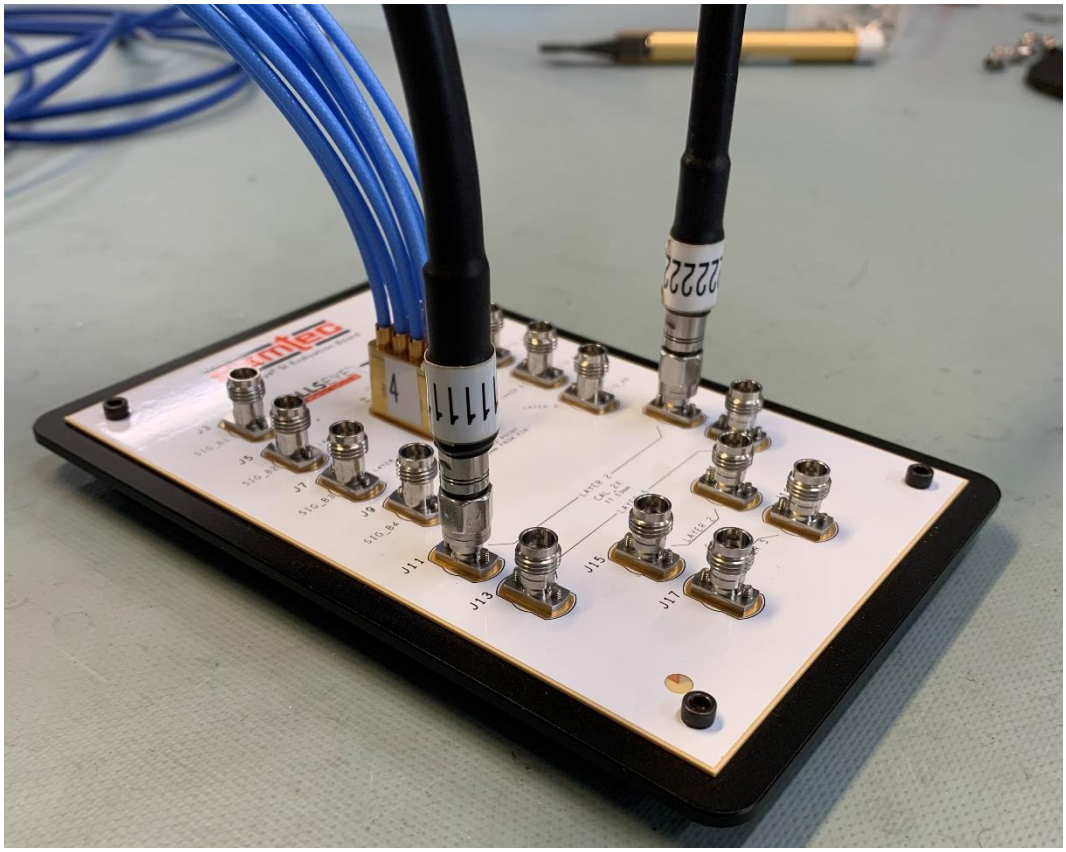
185-J-P-EP-ST-CM-X Test Definition

Part Number	End 1
185-J-P-EP-ST-CM-X	1.85 mm

Connector Under Test:



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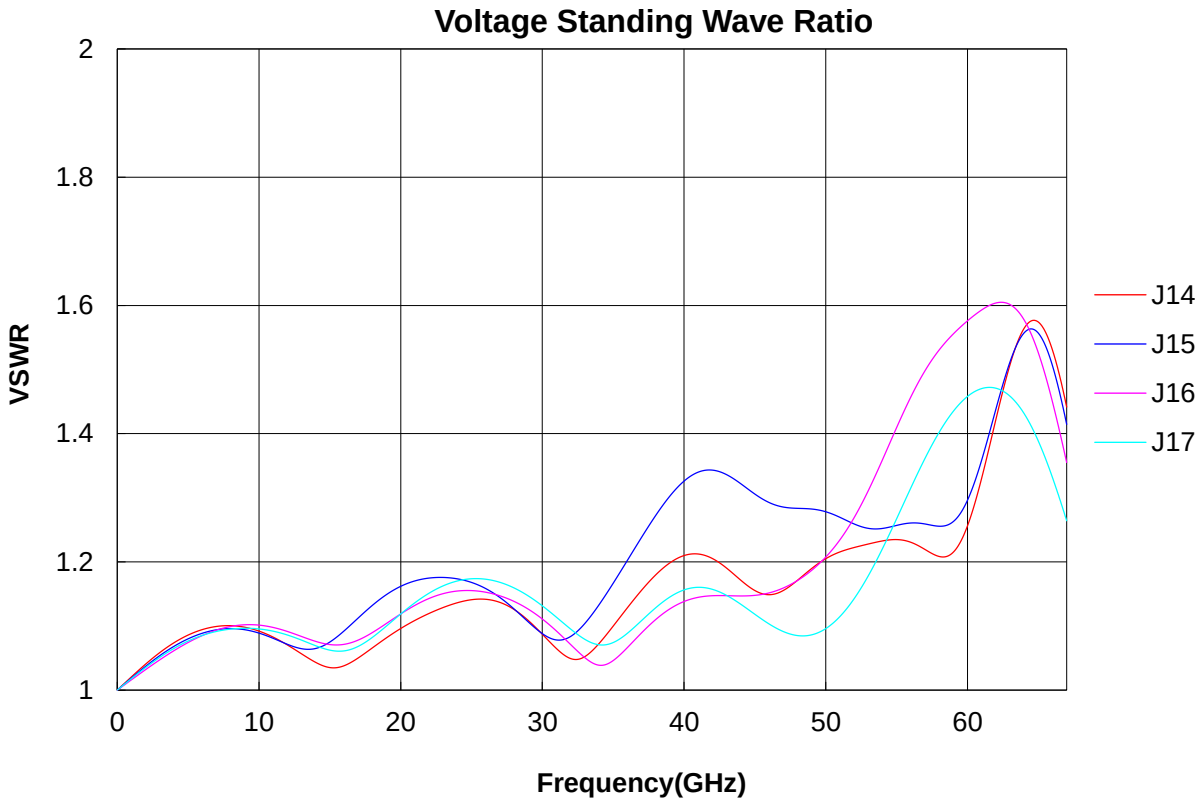
Results:185-J-P-EP-ST-CM-X

The post processed results include the 185-J-P-EP-ST-CM-X connector, launch, and ~100 mils of PCB trace to minimize the effects of the test setup.

Description: 50 Ohm 1.85 mm Vertical Compression Mount			
Sample	**VSWR(max)**	**RL(max)**	**IL(min)**
J14	1.58@64.70GHz	-13.0@64.70GHz	-1.13@65.32GHz
J15	1.56@64.49GHz	-13.2@64.49GHz	-1.12@65.32GHz
J16	1.60@62.36GHz	-12.7@62.36GHz	-1.21@65.01GHz
J17	1.47@61.52GHz	-14.4@61.52GHz	-1.22@65.01GHz

VSWR



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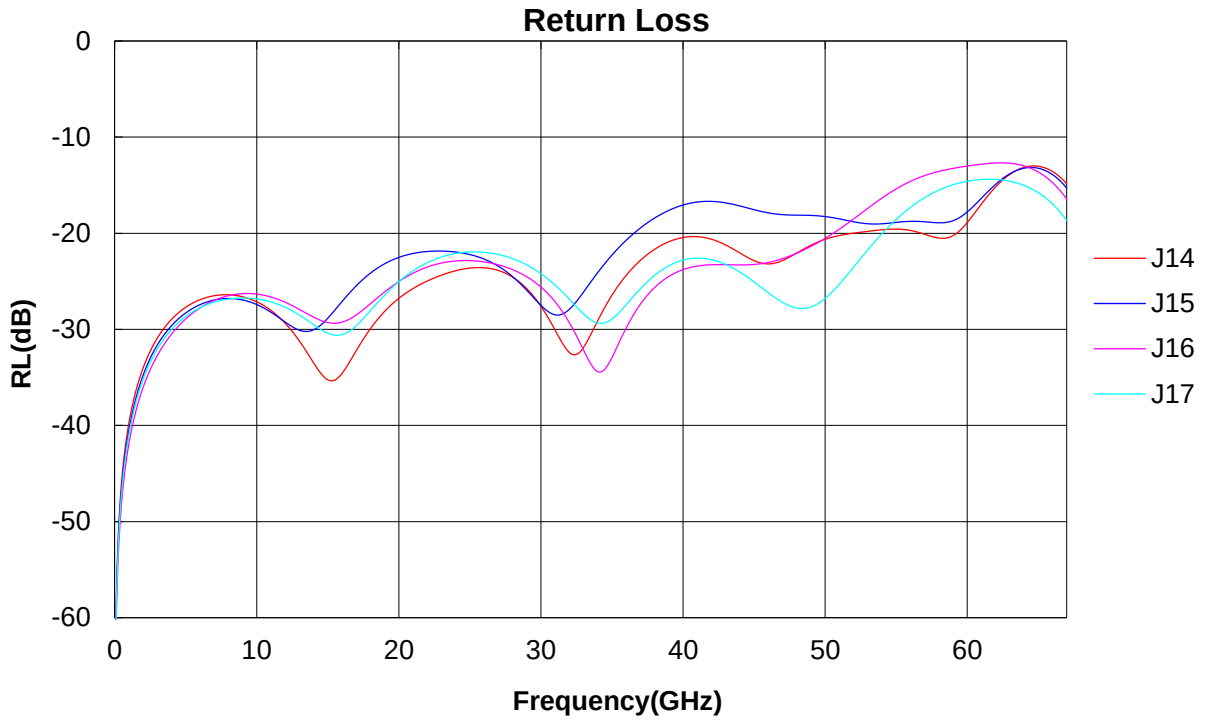
Return Loss



Insertion Loss