

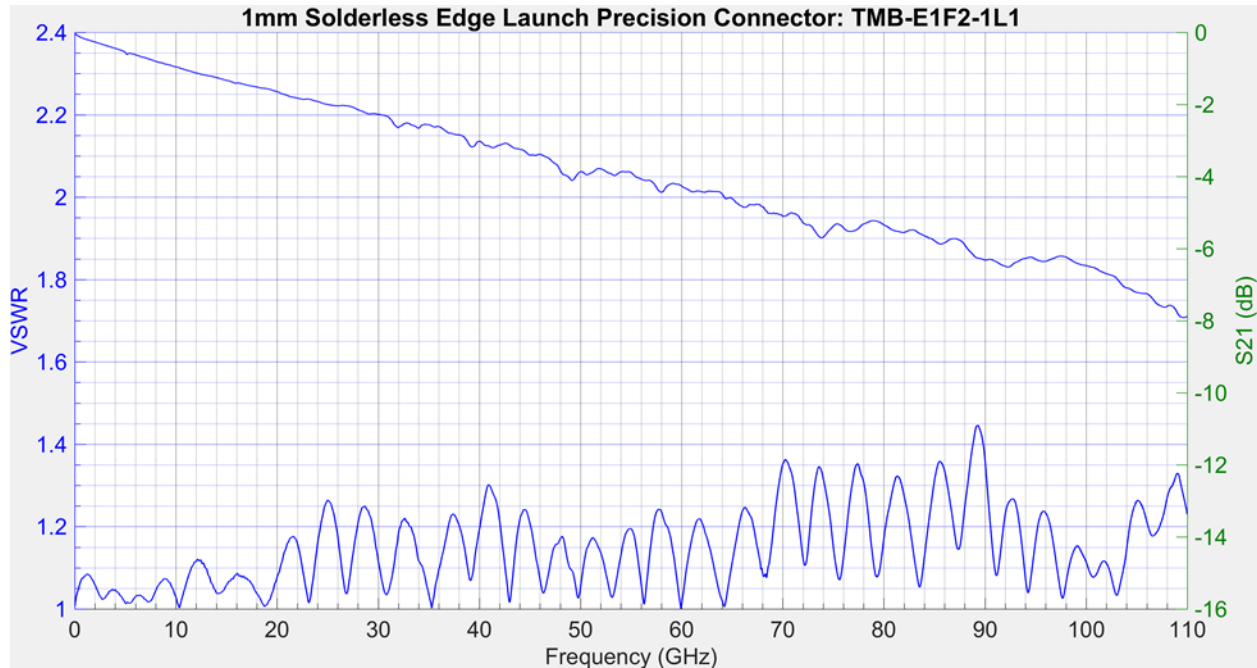
SIGNAL INTEGRITY REPORT

Test and Measurement Performance Report

Part Number TMB-E1F2-1L1
 (1.00 mm Edge Launch Solderless Precision Connector)
Distribution: *Internal & External Use*



SI Performance Summary (Attenuation & Reflections, Single-Ended)



* 10 connectors are shown, measured in pairs. (5 measurements) For further details regarding testing setup, configurations please see the rest of the report.

REVISION: 1	ECN INFORMATION: EC No: N/A DATE: 05/ 8 / 2021	TITLE: 1.00mm Edge Launch, Solderless Precision Connector (TMB-E11F2-1L1) CARLISLE IT CONFIDENTIAL	SHEET No. 1 of 10
DOCUMENT NUMBER: RSI-TMB-E1F2-1L1_01		SI ENGINEER: R.Stavoli	DESIGN ENGINEER: F.Yang
		ENGINEERING MANAGER: E.Soubh	
<small>TEMPLATE FILENAME: SPM(SIZE_A)(V.1).DOC</small>			

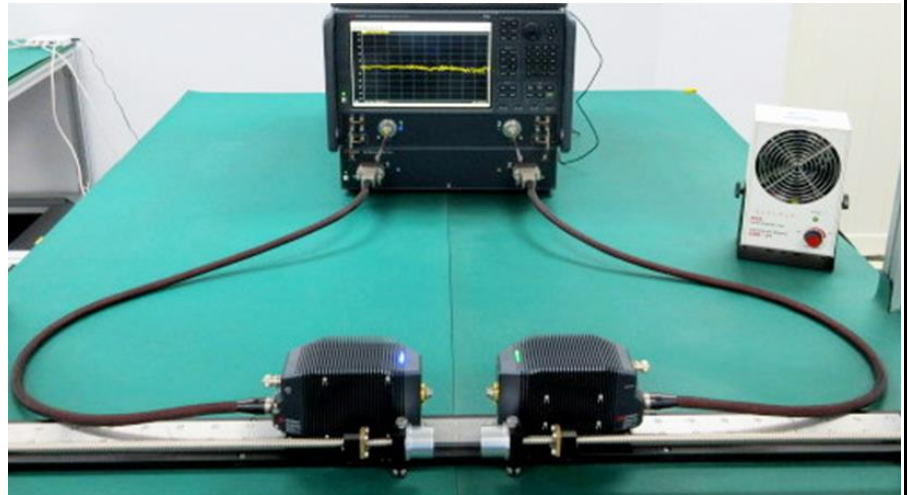
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1.0 TEST SETUP AND DUT

Equipment, fixtures, and methods

Test method: All data measured from test PCB shown below and a N5290A PNA Network Analyzer

- Calibration was performed up to the 1.00mm adapters using calibration kit: 85059B
- Data was swept from 10 MHz to 110GHz for 12801 points
- Data averaging was turned off.
- Data is not dembedded and includes the board trace/transition and two RF edge launch precision connectors



Assembly Description

- T&M PN: TMB-E1F2-1L1
- Carlisle DUT PCB: TM13-0126-03, Edge Launch Precision Connector Eval Board (Rev1)
- Port 1: 1.00mm edge mount
- Port 2: 1.00mm edge mount



Testing Samples:

- 10 Samples
- 5 Channels
- 5 THRU Measurements (5 Channels = 10 samples) -> -Single-Ended

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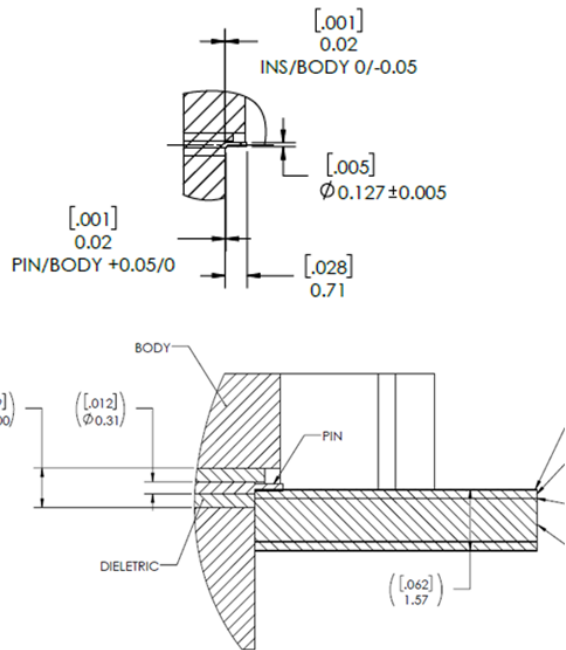
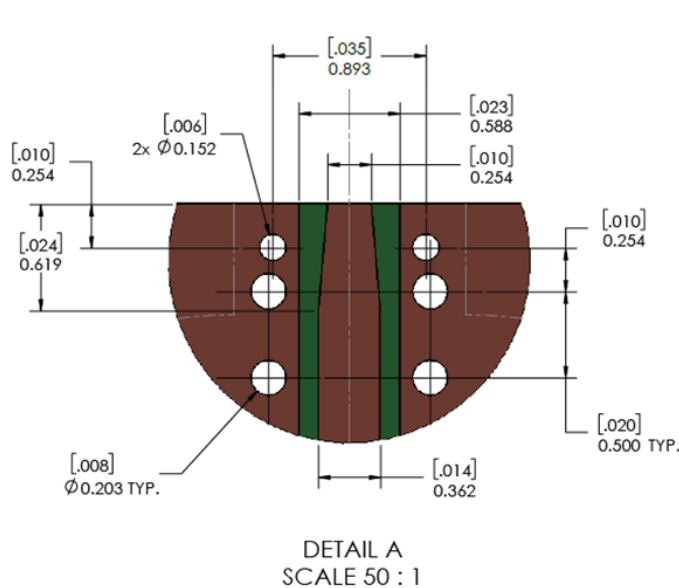
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2.0 BOARD DETAILS & STACKUP

- TM13-0126-03, Carlisle Edge Launch Precision Connector Eval Board
 - Revision 1, Coplanar Waveguide
- Dielectric Material: AstraMT77 (Dk.3.0, Df 0.0017 @ 10Ghz)
 - Thickness: 0.1905mm / 7.5 mil

4 LAYER BOARD
LAYER STACKUP DETAIL

LYR	NAME	TYPE	MATERIAL	THICKNESS	NOTES
		SILKSCREEN			
		SURFACE FINISH	ENIG		
		SOLDER MASK			0.02 mm (0.001 in) THICK
1	TOP	COPPER FOIL	VLP-2	0.041 mm (0.0016 in)	THICKNESS INCLUDES PLATING AND SURFACE FINISH
		CORE	ASTRA MT77	0.1905 mm (0.0075 in)	Dk 3.0
2	LAYER 2	COPPER FOIL	VLP-2	0.015 mm (0.0006 in)	1/2 oz.
		PREPREG	ASTRA MT77	A/R TO MEET OVERALL THICKNESS	
3	LAYER 3	COPPER FOIL	VLP-2	0.015 mm (0.0006 in)	1/2 oz.
		CORE	ASTRA MT77	0.1905 mm (0.0075 in)	Dk 3.0
4	BOTTOM	COPPER FOIL	VLP-2	0.041 mm (0.0016 in)	THICKNESS INCLUDES PLATING AND SURFACE FINISH
		SOLDER MASK			0.02 mm (0.001 in) THICK
		SURFACE FINISH	ENIG		
		SILKSCREEN			

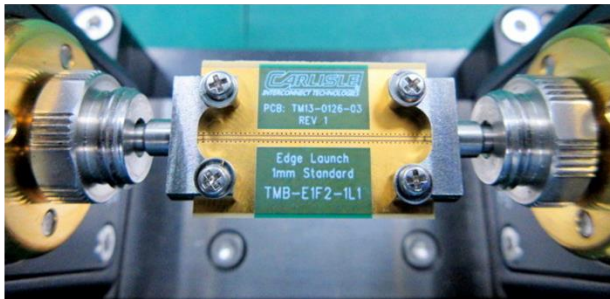
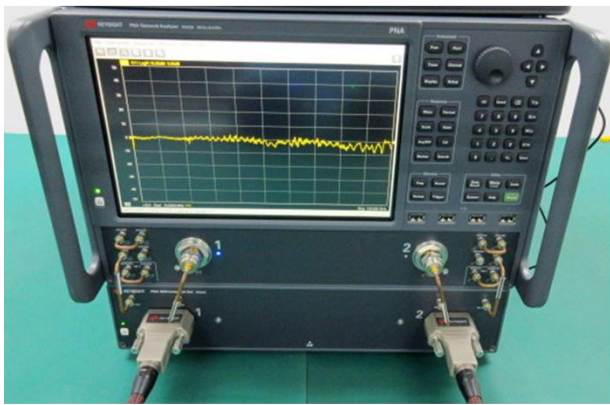
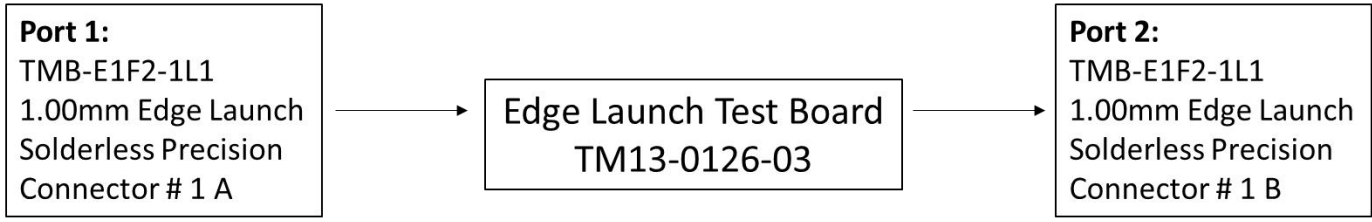


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3.0 MEASUREMENT SET-UP

Measurements are not dembedded and include the two 1.00mm edge launch precision connectors, and the PCB (transition, traces)

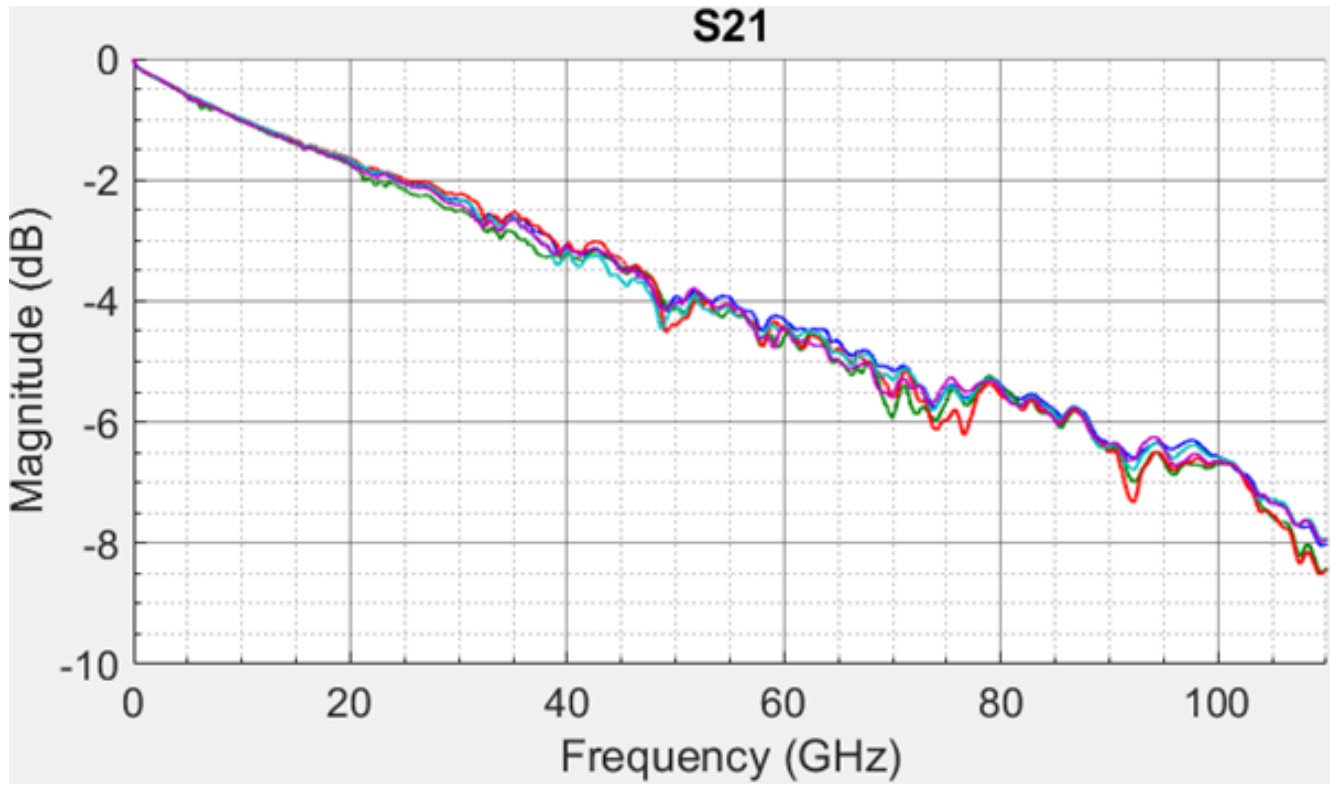


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4.0 SIGNAL INTEGRITY RESULTS (CIT PCB, 7.5MIL DIELECTRIC THICKNESS)

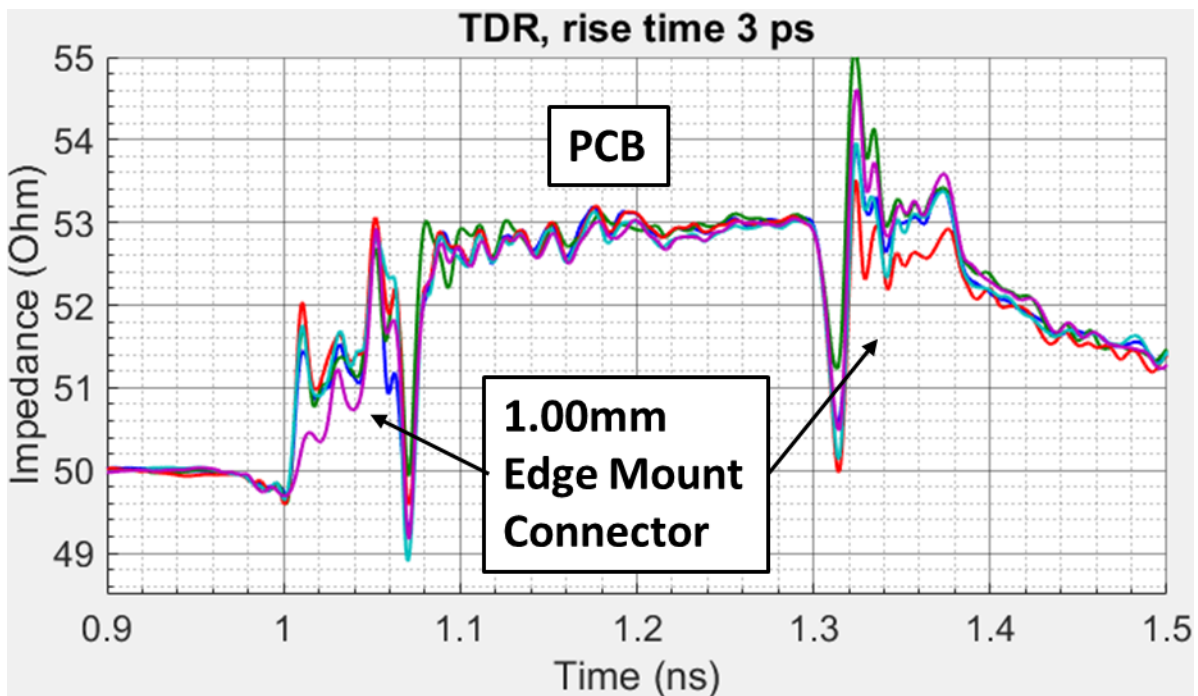
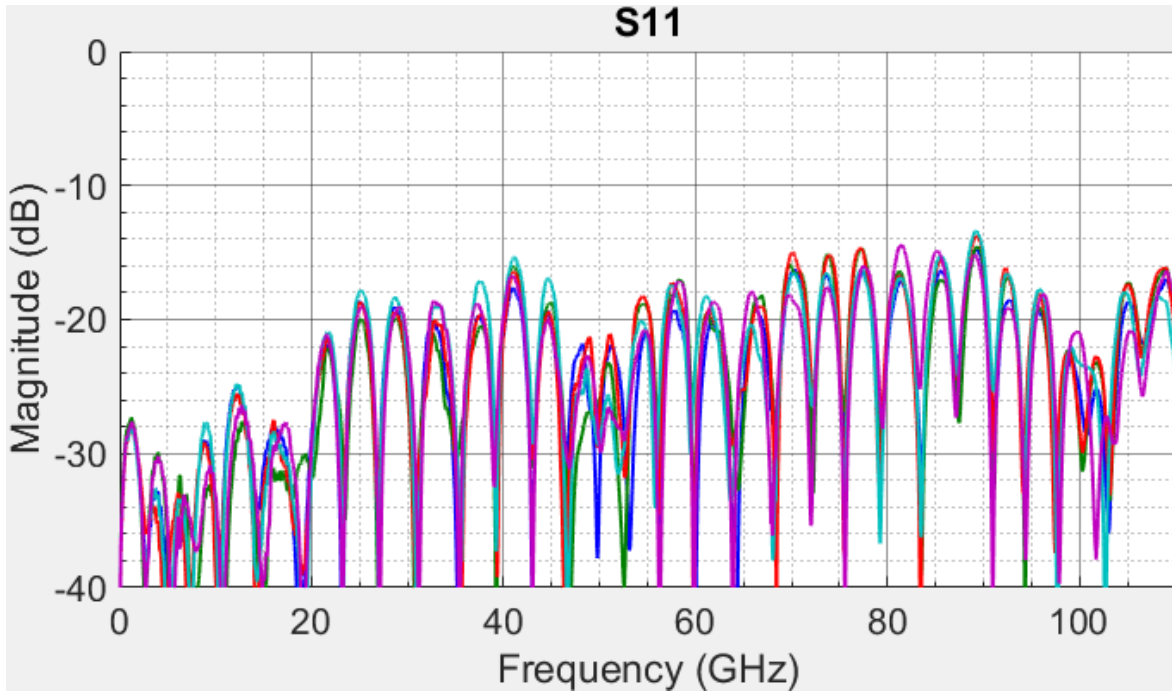
Insertion Loss (S21), 10 connectors measured, 5 measurements



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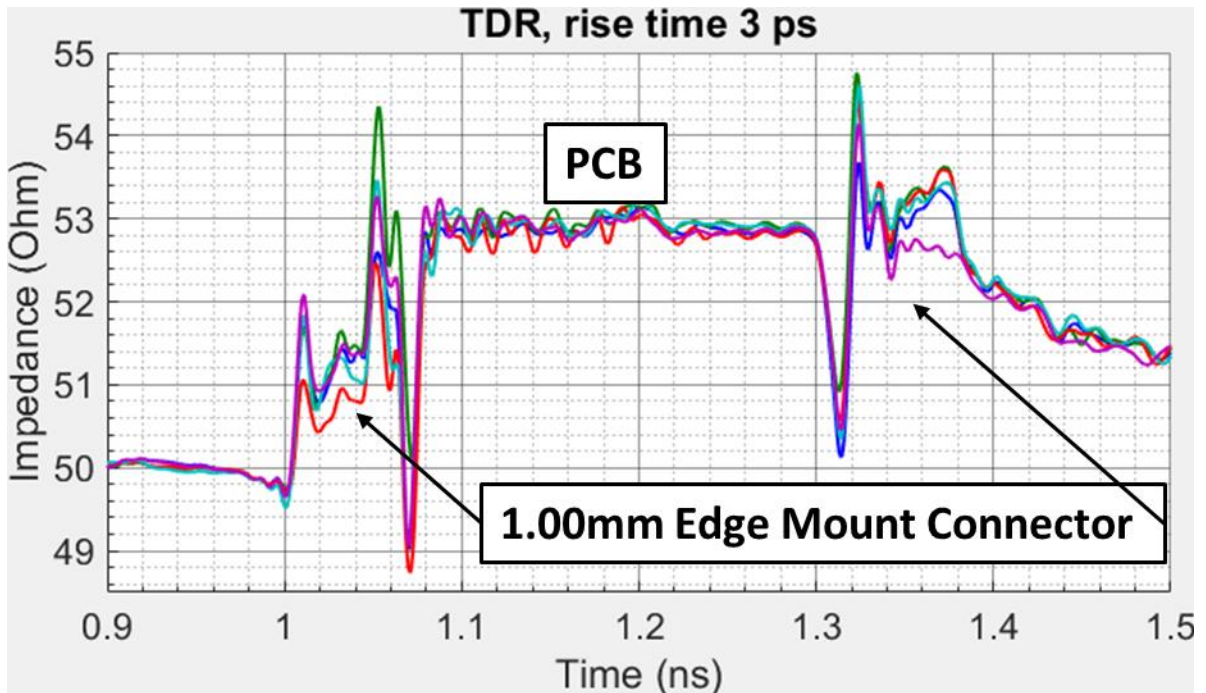
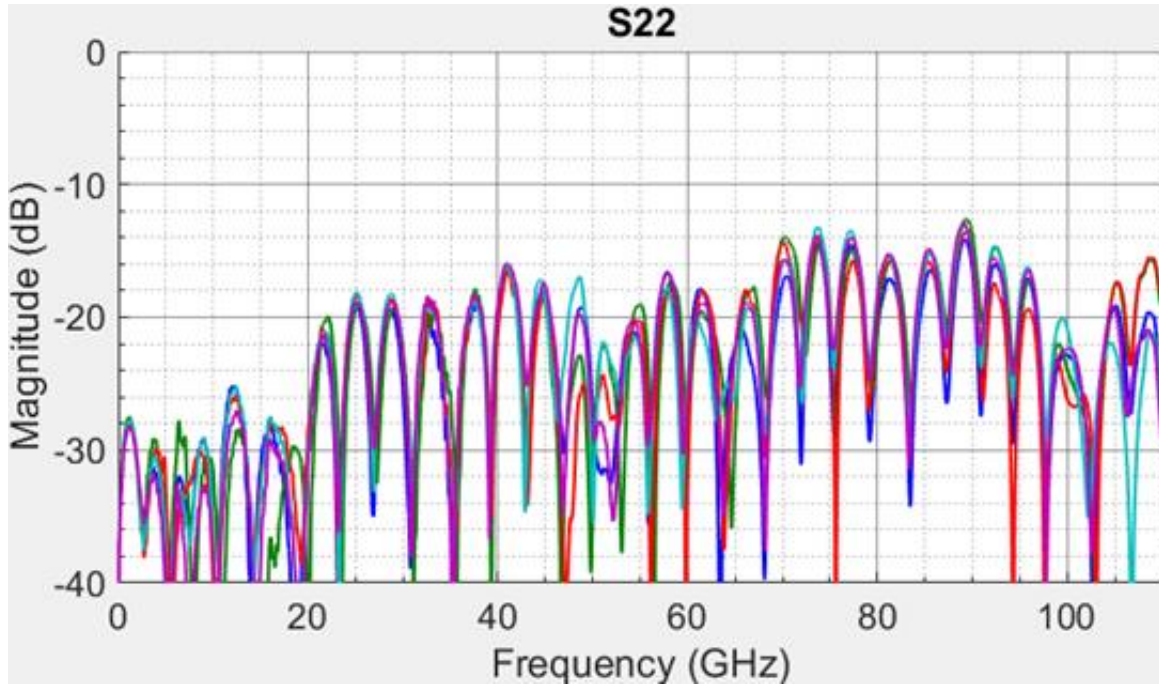
Return Loss (S11), 10 connectors measured, 5 measurements



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DOCUMENT NUMBER: RSI-TMB-E1F2-1L1_01	SI ENGINEER: R.Stavoli	DESIGN ENGINEER F.Yang	ENGINEERING MANAGER E.Soubh
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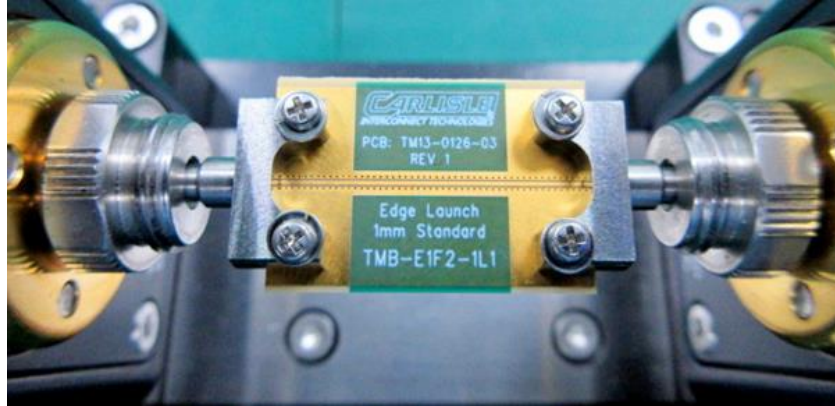
Return Loss (S22), 10 connectors measured, 5 measurements



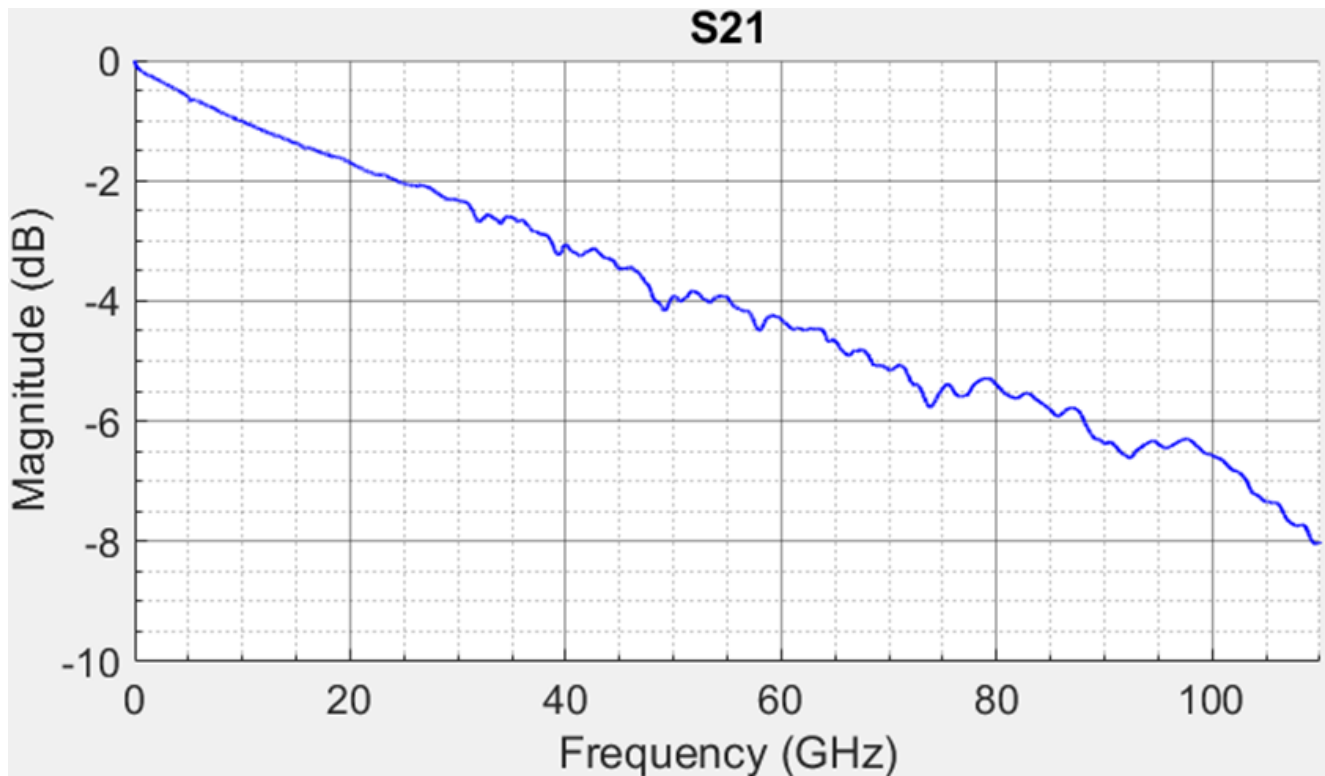
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DOCUMENT NUMBER: RSI-TMB-E1F2-1L1_01	SI ENGINEER: R.Stavoli	DESIGN ENGINEER F.Yang	ENGINEERING MANAGER E.Soubh
<small>TEMPLATE FILENAME: SPM(SIZE_A)(V.1).DOC</small>			

SIGNAL INTEGRITY REPORT

5.0 SIGNAL INTEGRITY RESULTS, CONN 1A & B (CIT PCB, 7.5MIL DIELECTRIC THICKNESS)



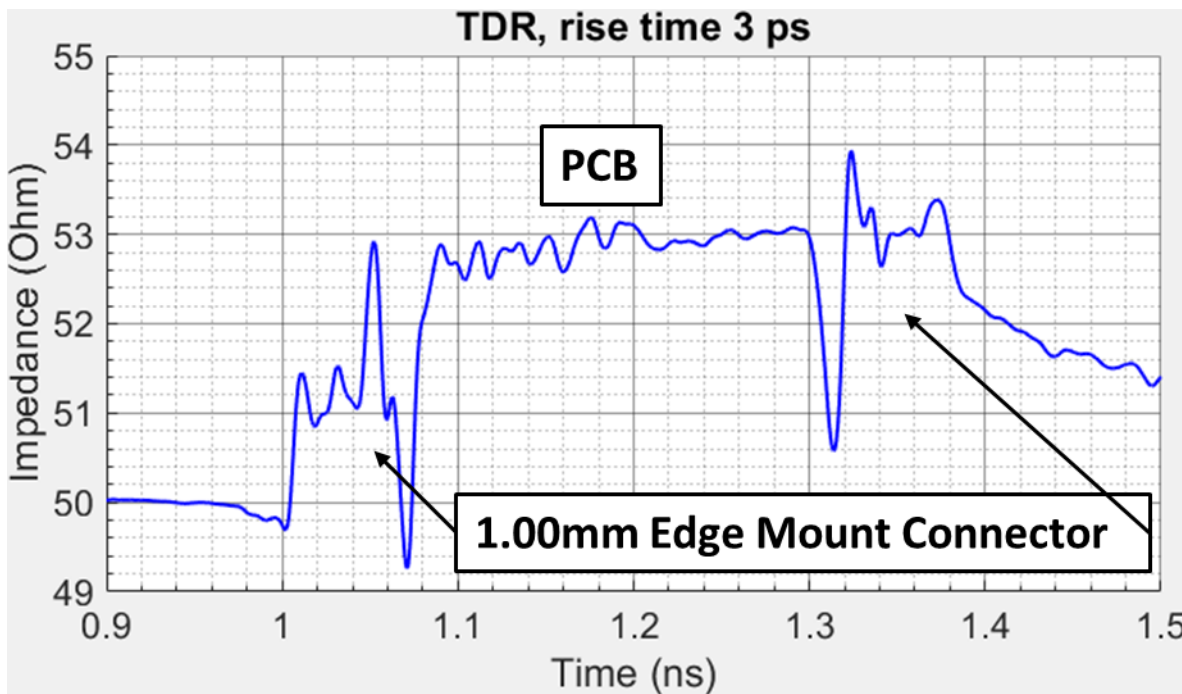
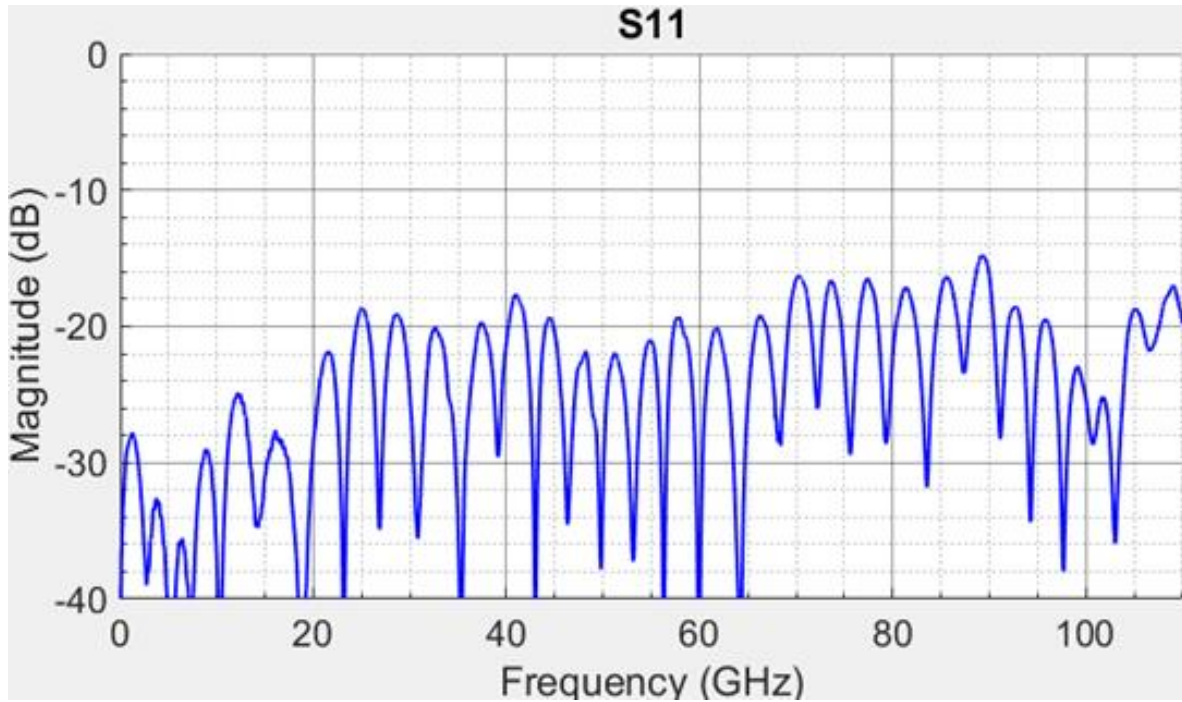
Insertion Loss (S21), Connectors 1A & 1B



<u>REVISION:</u> 1	<u>ECN INFORMATION:</u> EC No: N/A DATE: 05/ 8 / 2021	<u>TITLE:</u> 1.00mm Edge Launch, Solderless Precision Connector (TMB-E11F2-1L1) CARLISLE IT CONFIDENTIAL	<u>SHEET No.</u> 8 of 10
<u>DOCUMENT NUMBER:</u> RSI-TMB-E1F2-1L1_01	<u>SI ENGINEER:</u> R.Stavoli	<u>DESIGN ENGINEER</u> F.Yang	<u>ENGINEERING MANAGER</u> E.Soubh
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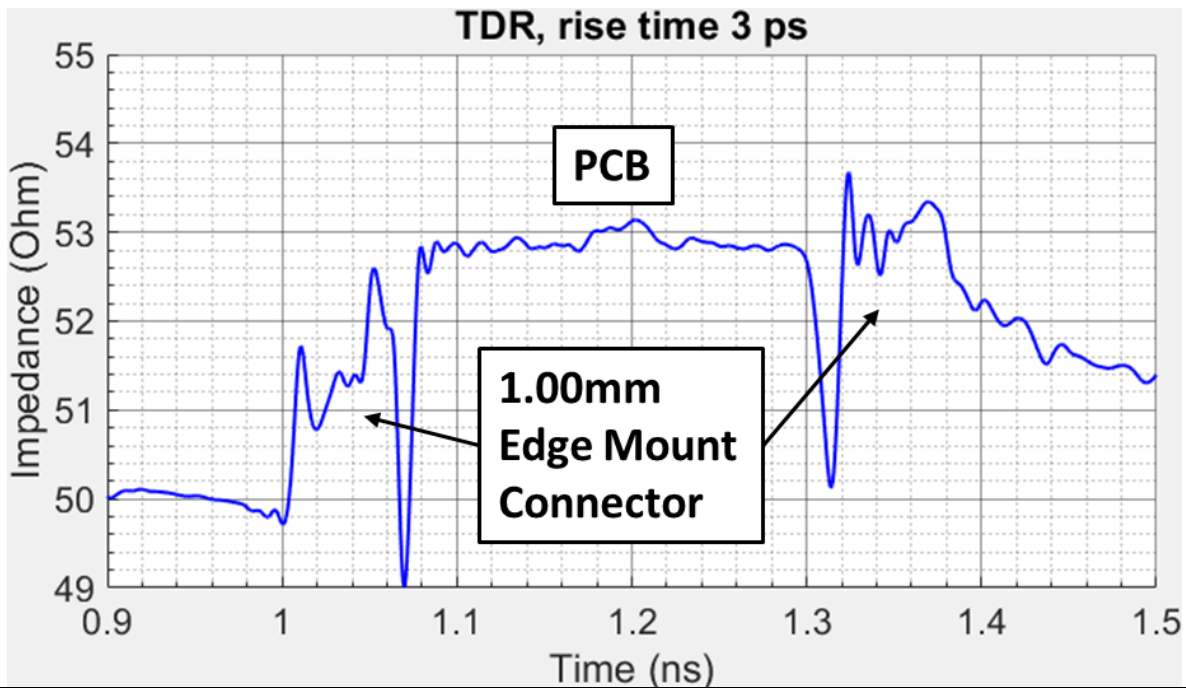
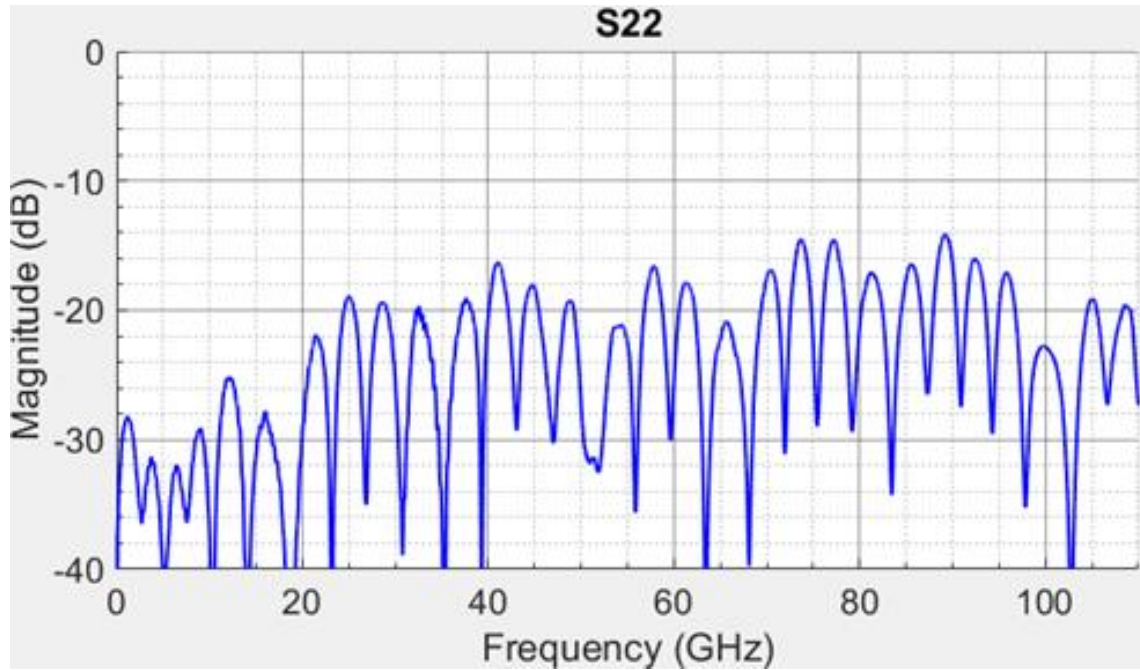
Return Loss (S11), Connectors 1A & 1B



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SIGNAL INTEGRITY REPORT

Return Loss (S22), Connectors 1A & 1B



6.0 APPENDIX, (SPARAMETERS SHOWN IN REPORT)

PrecisionConnector_TMB-E1F2-1L1_Measurements_042021 4/28/2021 4:47 PM Compressed (zipp... 3,330 KB

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