

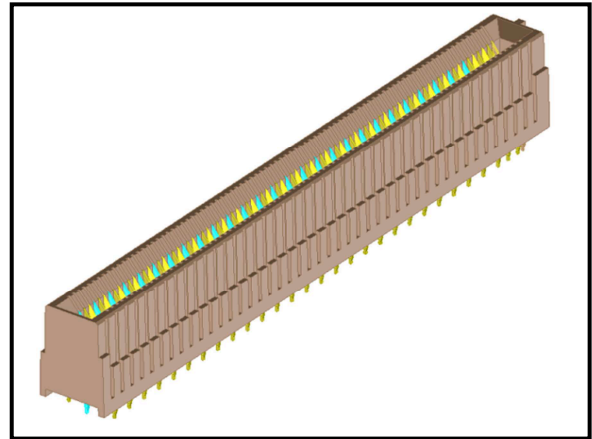


ELECTRICAL MODEL DOCUMENTATION

MODEL SUMMARY

Further information regarding this connector product line and other related Molex EDGELINE products can be found at <http://www.molex.com/product/Edgeline.html>

Edgeline



MODEL TYPE: S-parameter	MODEL FORMAT: Touchstone (*.snp)
MODEL FILENAME: SP-75594-0002_rev1.s16p	DATA FORMAT: Real/Imaginary
MODEL BASIS: Analytical 3-D field solution	MODEL SOURCE: Ansoft HFSS version 13.0.2
BANDWIDTH: DC – 20.48 GHz	RESOLUTION: 10 MHz steps
REFERENCE: 100 ohms Differential	NUMBER OF POINTS: 2049 (2048 + 1 DC)
NUMBER OF CHANNELS: 2 differential/model	NUMBER OF PORTS: 4 Differential/model
CHANNEL TYPE: Coupled pairs + reference	VALIDATION: Pending
MODEL APPLICATION: uTCA, customer specific	DATA RATE: 10.3125,11.1Gbps

APPLICABLE PART NUMBER(S): 75594

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REVISION: 1	ECN INFORMATION: EC No: UCP2013-3670 DATE: 2011 / 11 / 14	TITLE: Edgeline™ 0.75mm Connector, 100 ohm MOLEX CONFIDENTIAL	SHEET No. 1 of 7
DOCUMENT NUMBER: EE- 75594-0002	CREATED / REVISED BY: R. Nallan	REVIEWED BY: A. Stanczak	APPROVED BY: P. Casher
<small>TEMPLATE FILENAME: SPM[SIZE_A](V.1).DOC</small>			



ELECTRICAL MODEL DOCUMENTATION

MODEL DESCRIPTION

TERMINAL TO MODEL PORT MAPPING TABLE

Available Model Differential Signal Paths

	Terminals	Input Ports	Description	Output Ports	Description
Top row terminals	1	Gnd	Gnd	Gnd	Gnd
	2	1	1n	2	2n
	3	3	1p	4	2p
	4	Gnd	Gnd	Gnd	Gnd
	5	5	5n	6	6n
	6	7	5p	8	6p
	7	Gnd	Gnd	Gnd	Gnd
Bottom row terminals	8	Gnd	Gnd	Gnd	Gnd
	9	9	3n	10	4n
	10	11	3p	12	4p
	11	Gnd	Gnd	Gnd	Gnd
	12	13	7n	14	8n
	13	15	7p	16	8p
	14	Gnd	Gnd	Gnd	Gnd

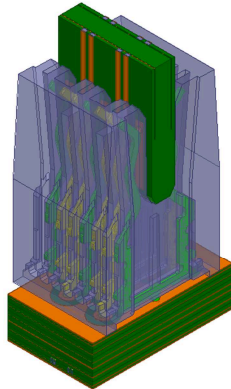
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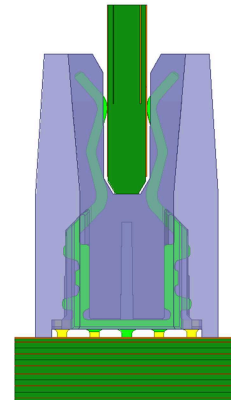
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Differential Connector Model

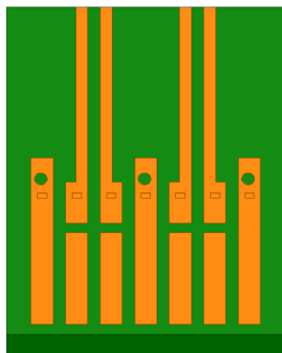
Perspective



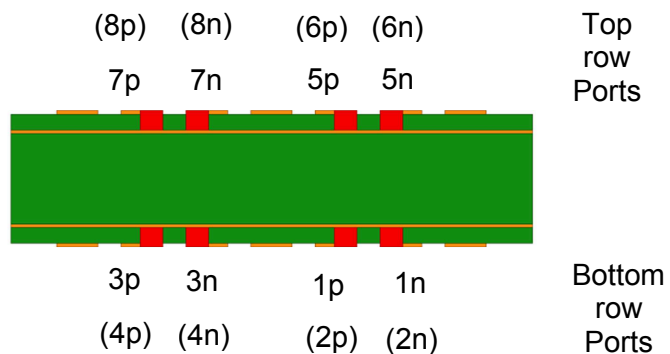
Side



Host / Module Board



Front



Pad Dimensions

Signal/Ground: 0.9mm x 0.48mm x 0.045mm
 Dielectric: 6.039mm x 7.155mm x 1.49mm

Board Construction Details:

Thickness: 1.49mm
 Layers: 2 (1 Hi-speed microstrip signal, 1 power/gnd)
 Board Material: Dk=3.8, Df=0.015
 Copper: 1/2 oz

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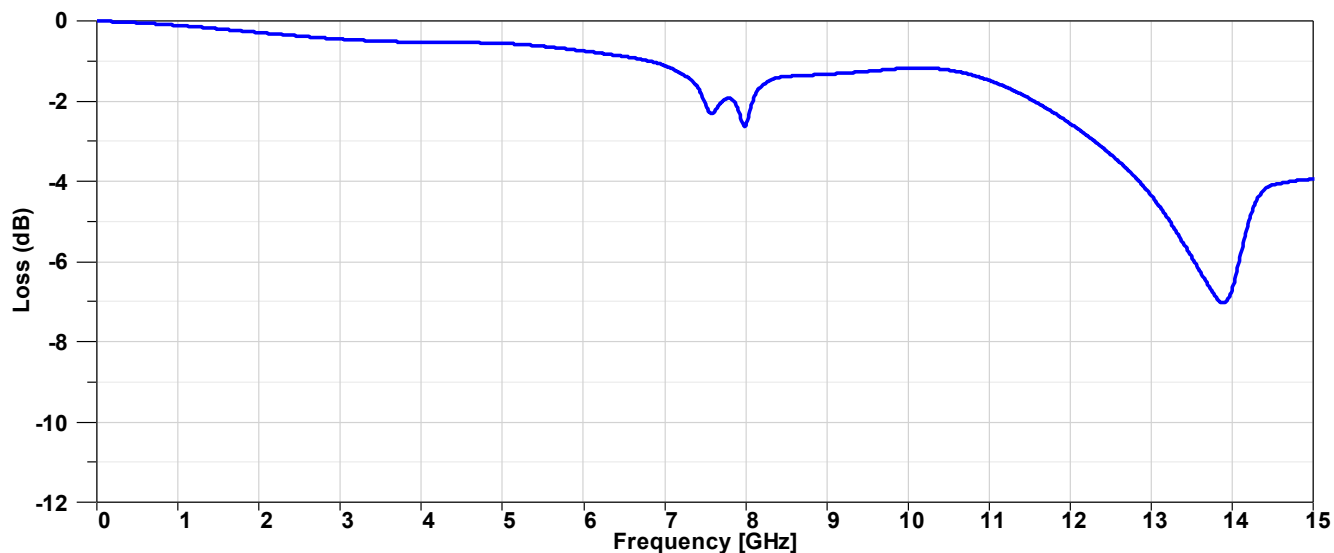
ELECTRICAL MODEL DOCUMENTATION

REFERENCE RESULTS

Differential Frequency Domain

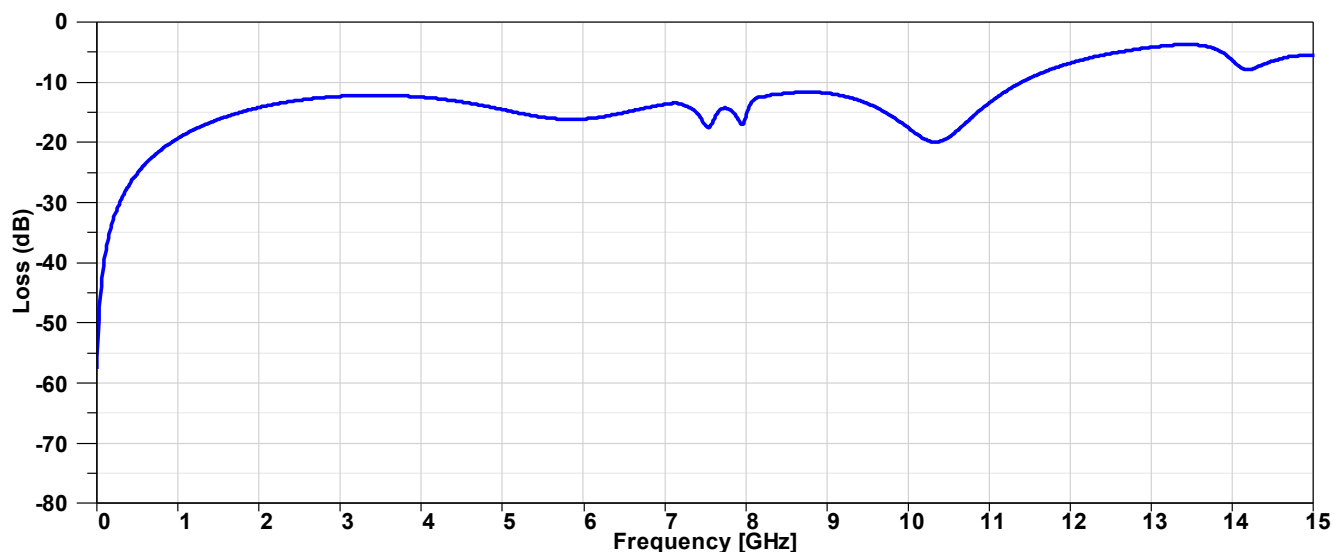
Differential Insertion Loss

- $\text{dB}(\text{St}(\text{Diff2}, \text{Diff1}))$



Differential Return Loss

- $\text{dB}(\text{St}(\text{Diff1}, \text{Diff1}))$



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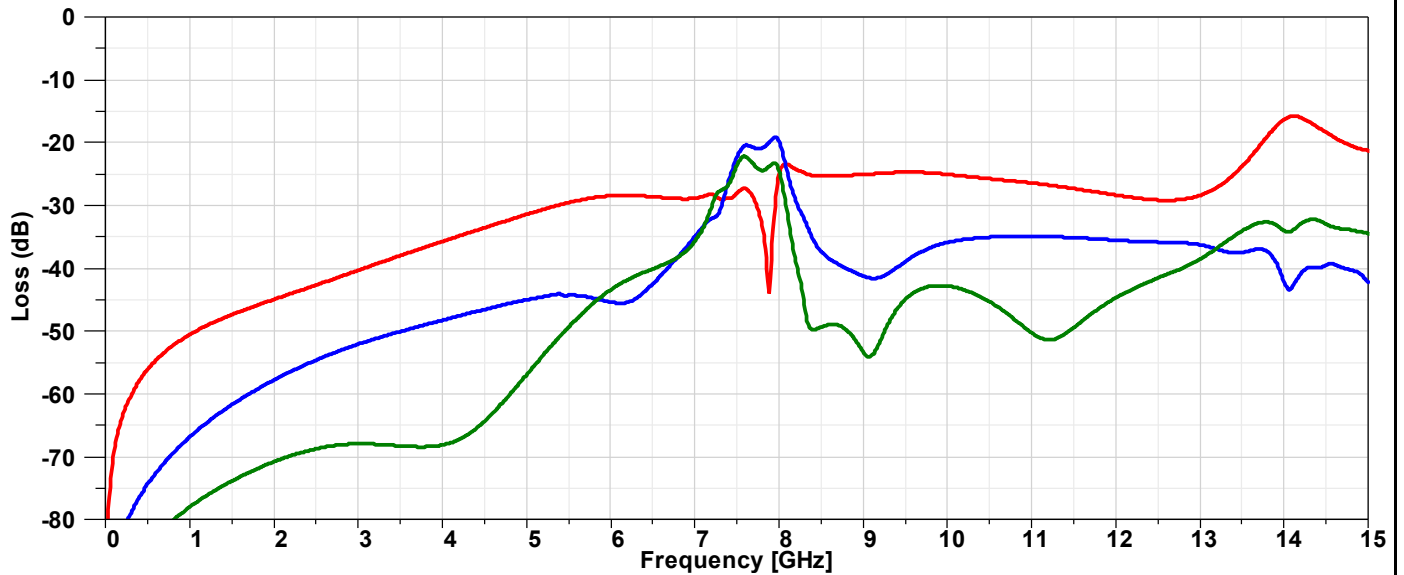


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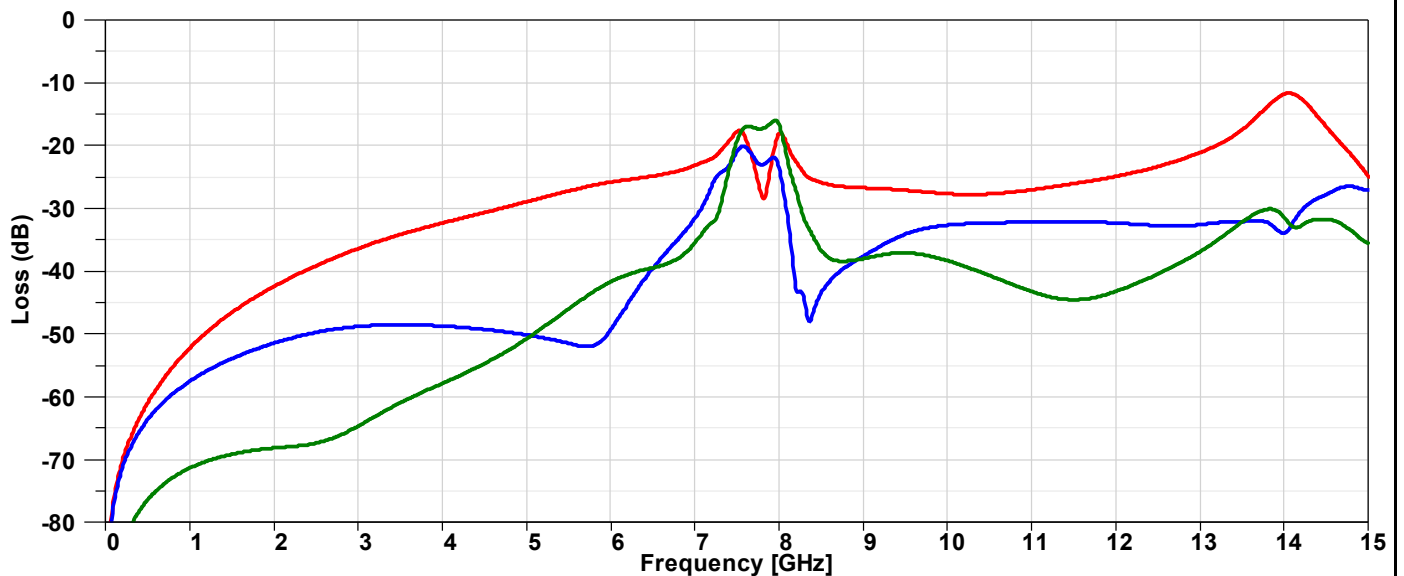
REFERENCE RESULTS

Differential Frequency Domain (continued)

- Far-end Differential Crosstalk Matrix $\text{dB}(\text{St}(\text{Diff6}, \text{Diff1}))$ $\text{dB}(\text{St}(\text{Diff4}, \text{Diff1}))$ $\text{dB}(\text{St}(\text{Diff8}, \text{Diff1}))$



- Near-end Differential Crosstalk Matrix $\text{dB}(\text{St}(\text{Diff5}, \text{Diff1}))$ $\text{dB}(\text{St}(\text{Diff3}, \text{Diff1}))$ $\text{dB}(\text{St}(\text{Diff7}, \text{Diff1}))$



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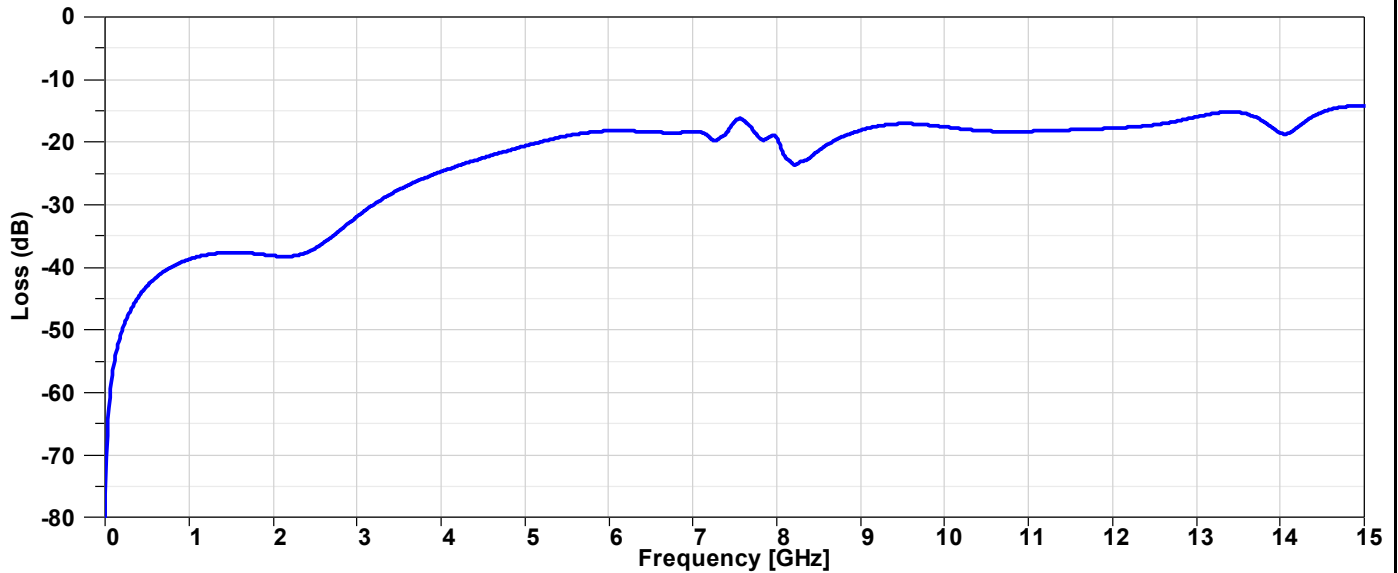


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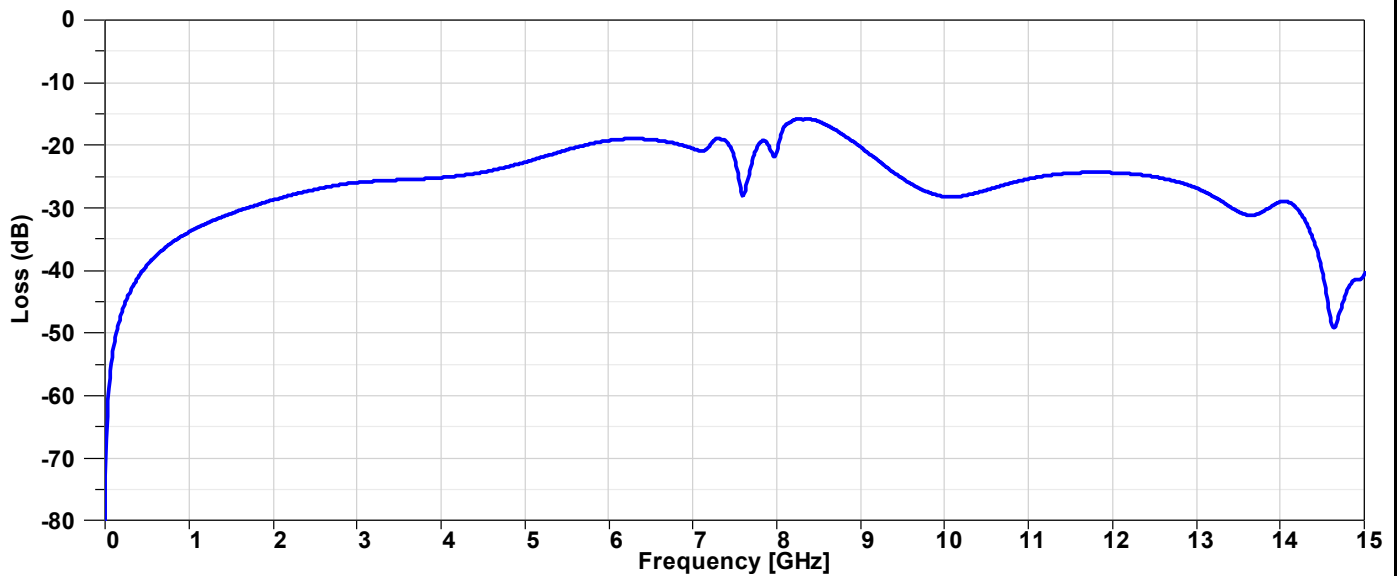
REFERENCE RESULTS

Common-Mode Frequency Domain

- Thru Mode Conversion Loss $\text{dB}(\text{St}(\text{Comm2}, \text{Diff1}))$



- Reflected Mode Conversion Loss $\text{dB}(\text{St}(\text{Comm1}, \text{Diff1}))$



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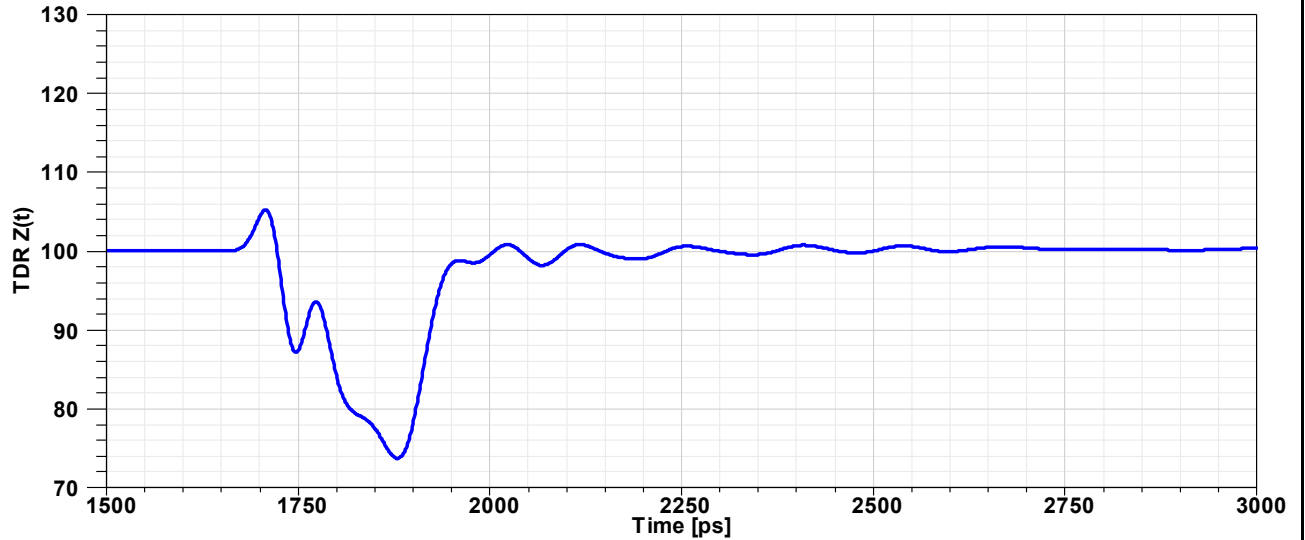
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REFERENCE RESULTS

Time Domain

Differential TDR Response

- TDRZt(Diff1) 35ps 10-90% t_{rise}



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