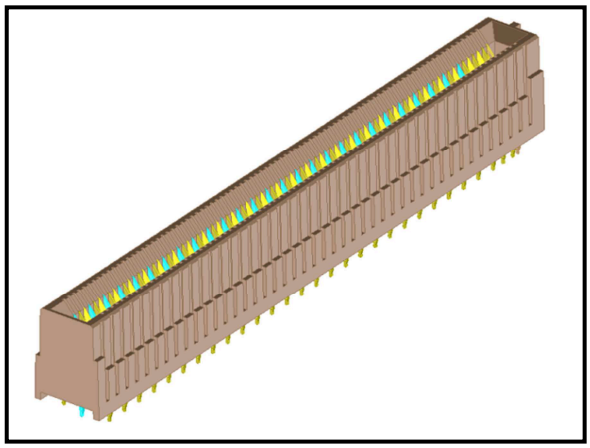
ELECTRICAL MODEL DOCUMENTATION

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

MODEL DESCRIPTION

TERMINAL TO MODEL PORT MAPPING TABLE

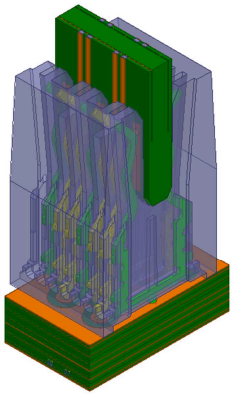
Available Model Differential Signal Paths

	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

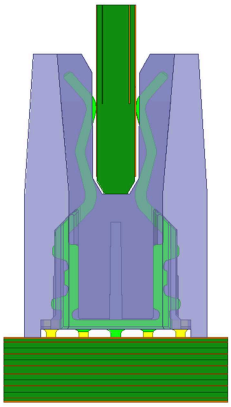
ELECTRICAL MODEL DOCUMENTATION

Differential Connector Model

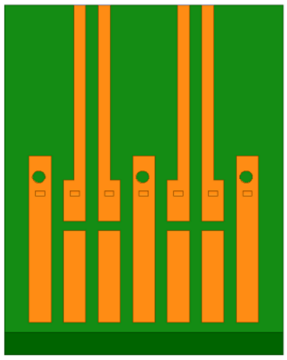
Perspective



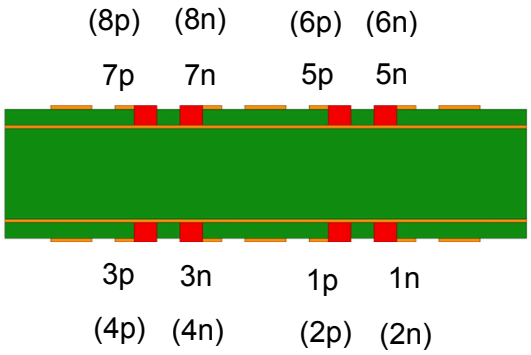
Side



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:	½ oz

REVISION:	ECN INFORMATION:	TITLE:	SHEET No.
1	EC No: UCP2013-3670 DATE: 2011 / 11 / 14	Edgeline™ 0.75mm Connector, 100 ohm MOLEX CONFIDENTIAL	3 of 7

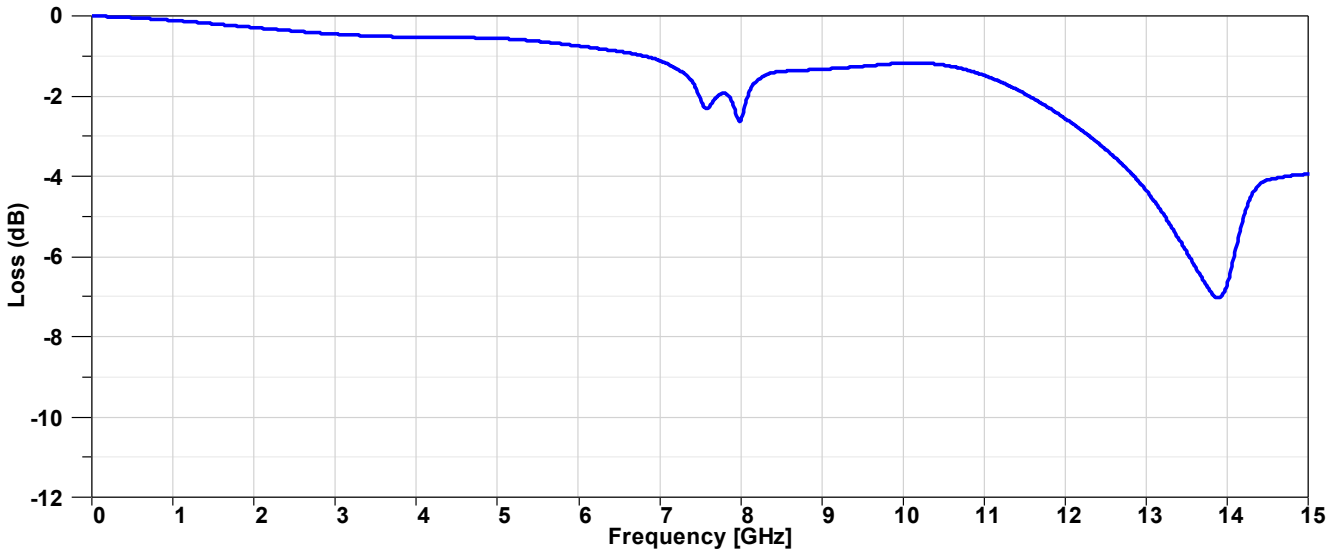
DOCUMENT NUMBER:	CREATED / REVISED BY:	REVIEWED BY:	APPROVED BY:
EE- 75594-0002	R. Nallan	A. Stanczak	P. Casher

REFERENCE RESULTS

Differential Frequency Domain

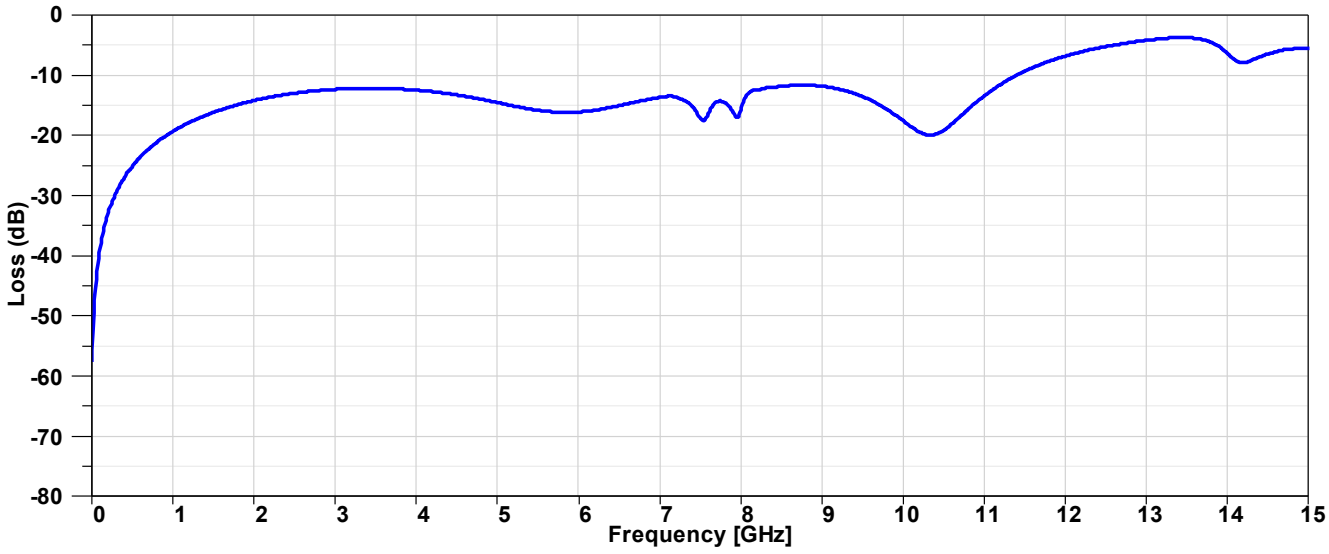
Differential Insertion Loss

- **dB(St(Diff2,Diff1))**



Differential Return Loss

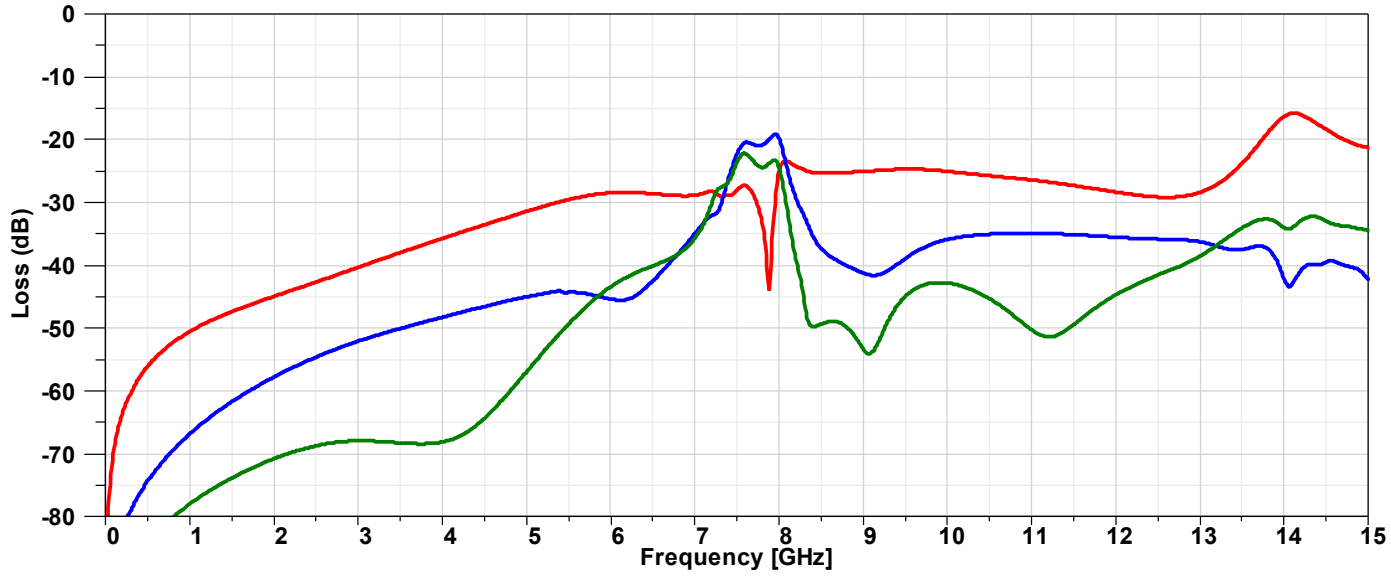
- **dB(St(Diff1,Diff1))**



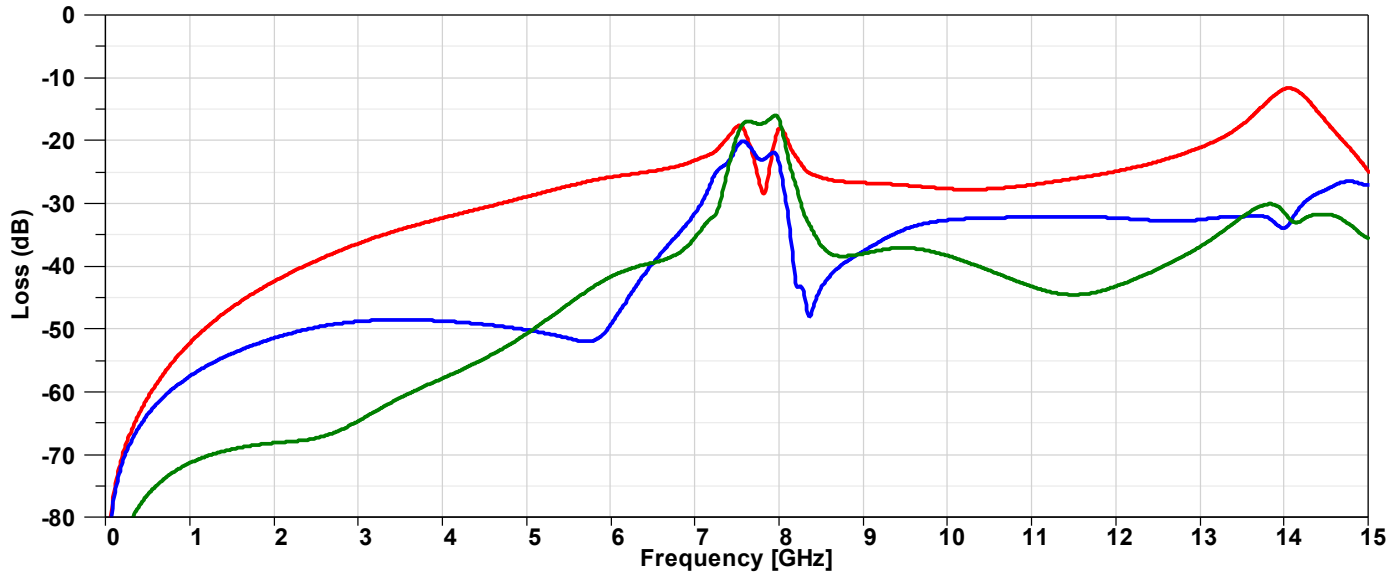
REFERENCE RESULTS

Differential Frequency Domain (continued)

- Far-end Differential Crosstalk Matrix **dB(St(Diff6,Diff1))** **dB(St(Diff4,Diff1))** **dB(St(Diff8,Diff1))**



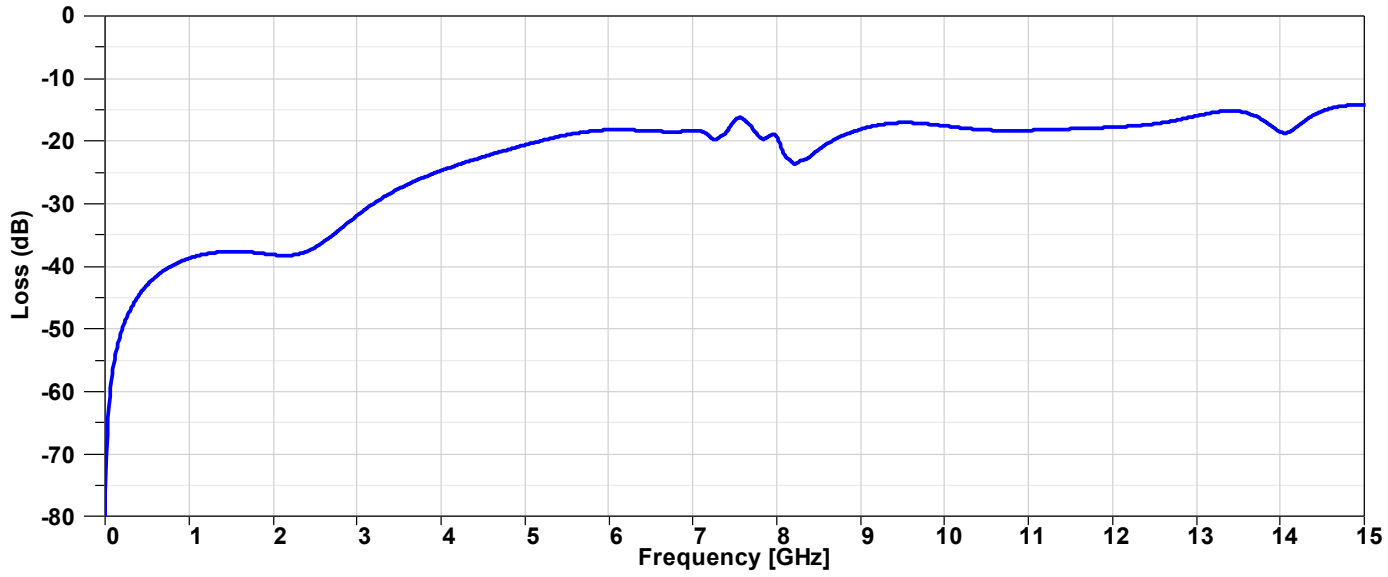
- Near-end Differential Crosstalk Matrix **dB(St(Diff5,Diff1))** **dB(St(Diff3,Diff1))** **dB(St(Diff7,Diff1))**



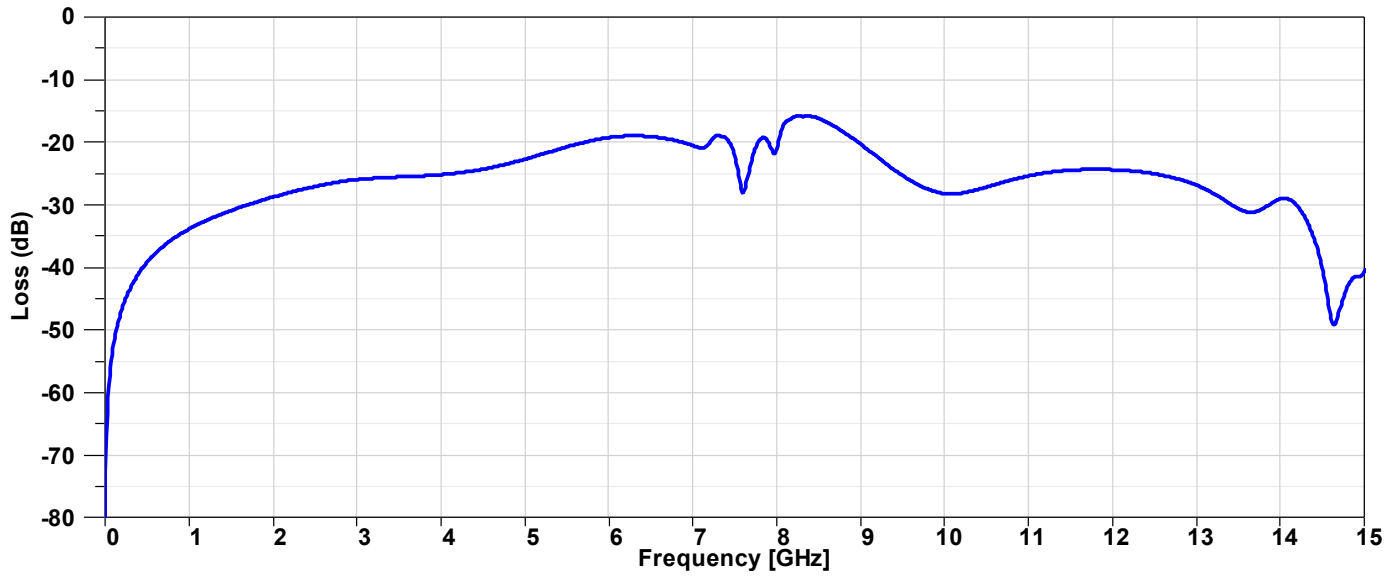
REFERENCE RESULTS

Common-Mode Frequency Domain

- Thru Mode Conversion Loss **dB(St(Comm2,Diff1))**



- Reflected Mode Conversion Loss **dB(St(Comm1,Diff1))**



REFERENCE RESULTS

Time Domain
Differential TDR Response

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