

### DCM Test Report

Cable Type : 4x2x23 x PE/PE	Factory Number : PHOENIX	Data File Name : DA108327.D3S
Cable I.D. : F/UTP#23X4P CABLE	Order Number : 8170 BLACK 220936151	Specification File : F-SC6E-550MHz-305M.S3S
Temperature : 25.00 °C	Relative Humidity : 50 %	Test Date/Time : 09/22/2022 10:43:21 AM
Length : 305.00 m	Number of Pairs to Test : 4	Operator : X 220920SM022001/604/R1
Starting Position : 5		Analyzer Type : ENA

### Pass - Fail Test Certificate - 4 Pairs

#### High Frequency

Test Type	Test Result
Input Impedance (Zin)(Ohms)(Terminated)	OK
Return Loss (RL)(dB)	OK
Insertion Loss (IL)(Curve Fit)(dB/100.0 m)@ 20C	OK
Near End Crosstalk Loss (NEXT)(dB)	OK
Power Sum NEXT(PSNEXT)(dB)	OK

Signature:	Approved:	Date:
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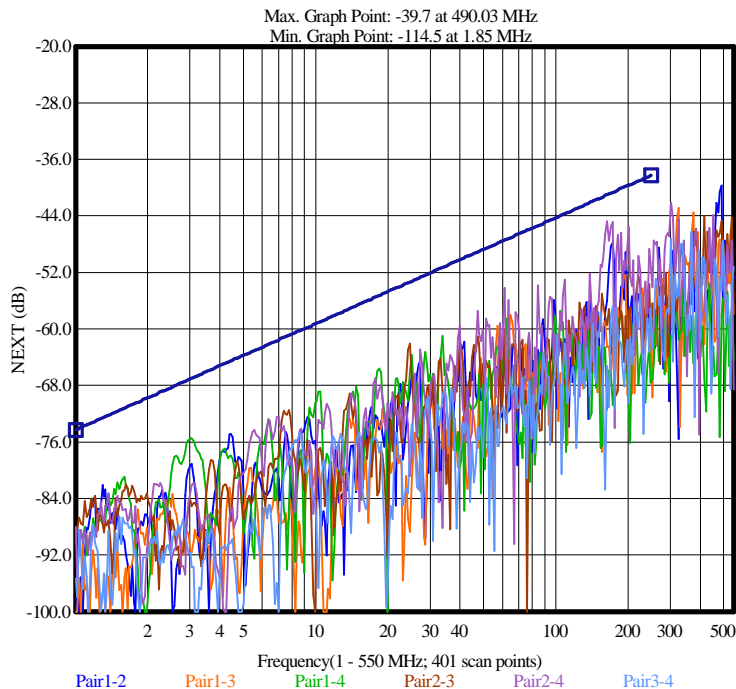
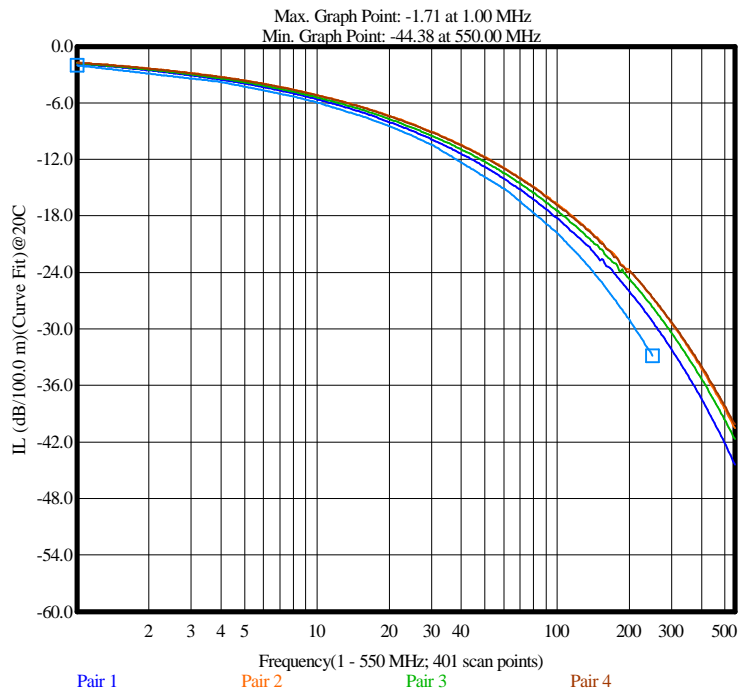
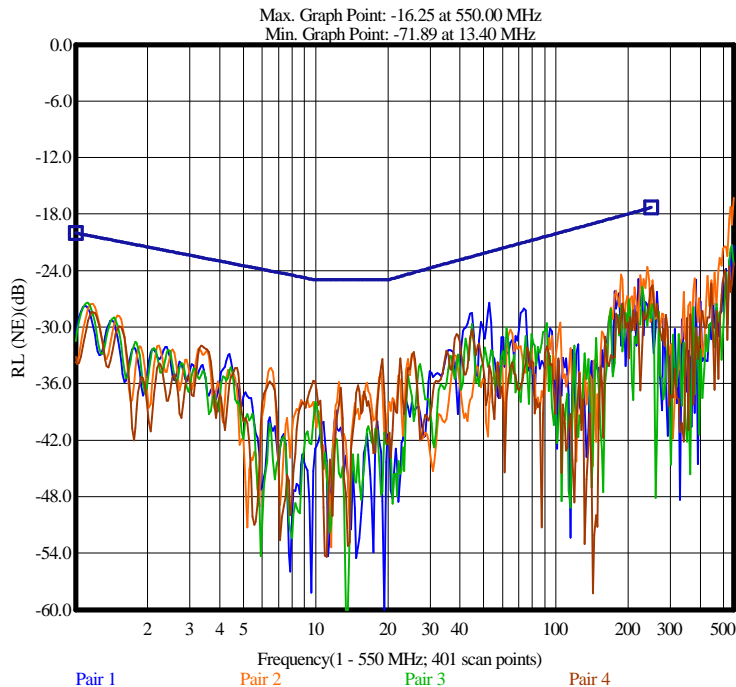
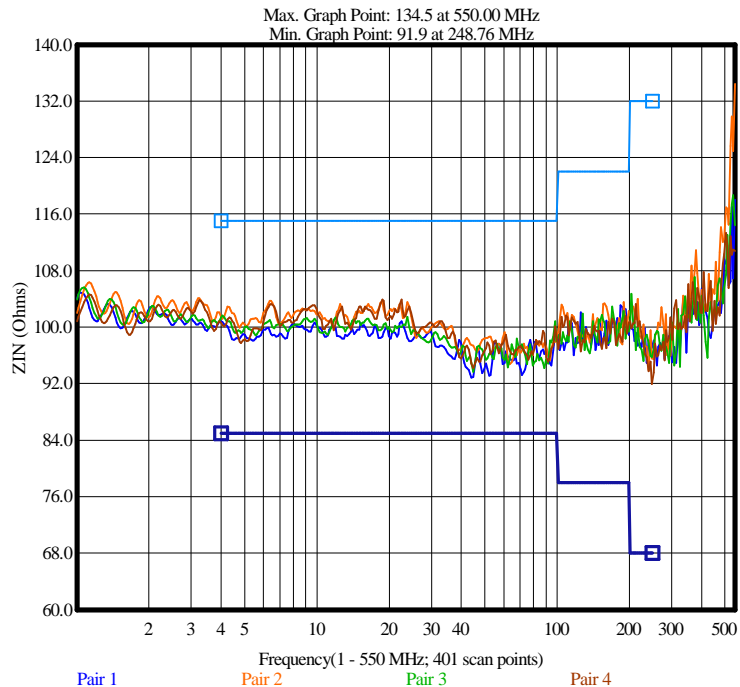
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Starting Position : 5		Analyzer Type : ENA

### Worst Case Summary

#### High Frequency

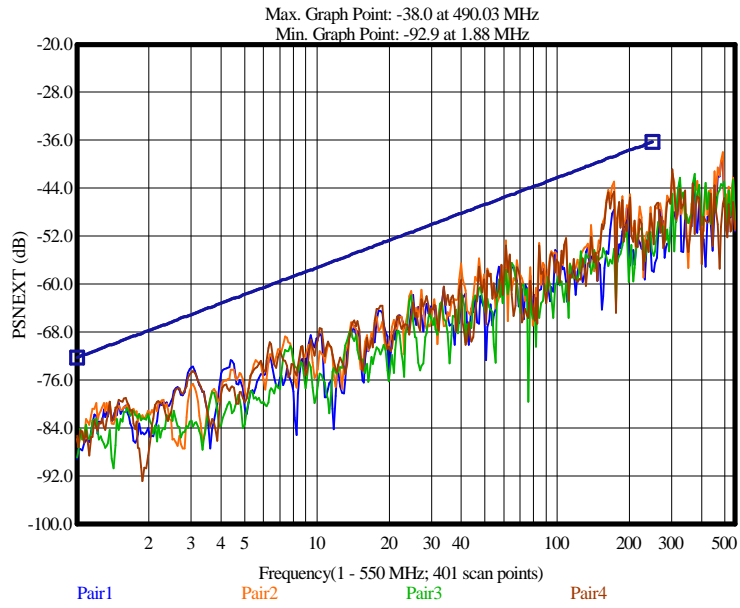
Test Type	Specification	Measured (Pair)	Margin	@ Frequency (MHz)	Test Result
Input Impedance (Zin)(Terminated)	85.0 (Min)	92.8 (Pair 1)	7.8	44.08	Passed
Input Impedance (Zin)(Terminated)	115.0 (Max)	103.9 (Pair 4)	11.1	18.69	Passed
Return Loss (RL)	22.00 (Min)	27.40 (Pair 1)	5.40	53.01	Passed
Insertion Loss (IL)(Curve Fit)@20C	2.04 (Max)	1.87 (Pair 1)	0.17	1.02	Passed
Near End Crosstalk Loss (NEXT)	41.0 (Min)	44.8 (Pairs 2-4)	3.8	164.00	Passed
Power Sum NEXT(PSNEXT)	38.7 (Min)	42.9 (Pair 2)	4.2	172.72	Passed



N/A = Not Applicable.  
 --- = Disable/Bypassed Pair.

\* = Measured value out of spec.  
 xxx = No entry.

\*\*\* = Measured value is invalid.



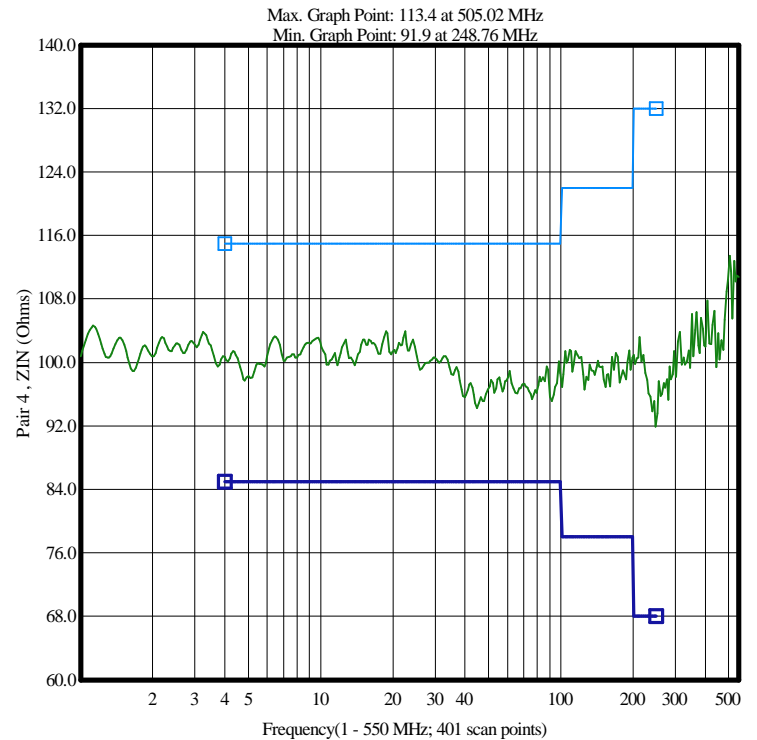
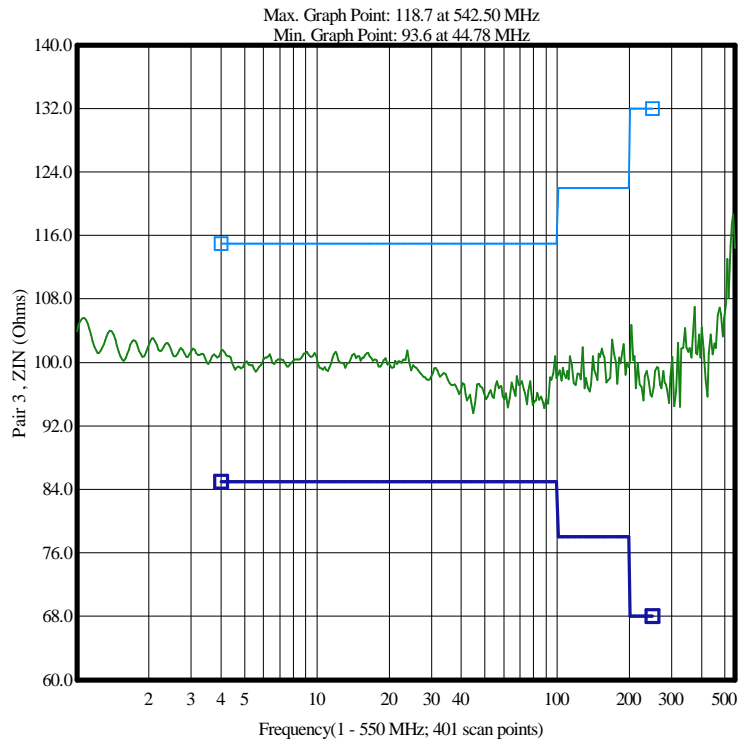
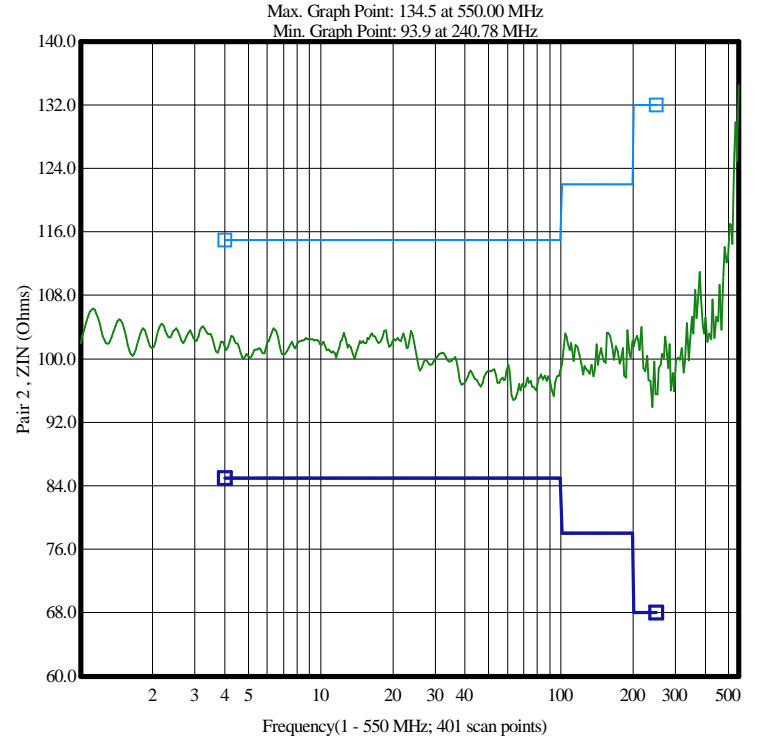
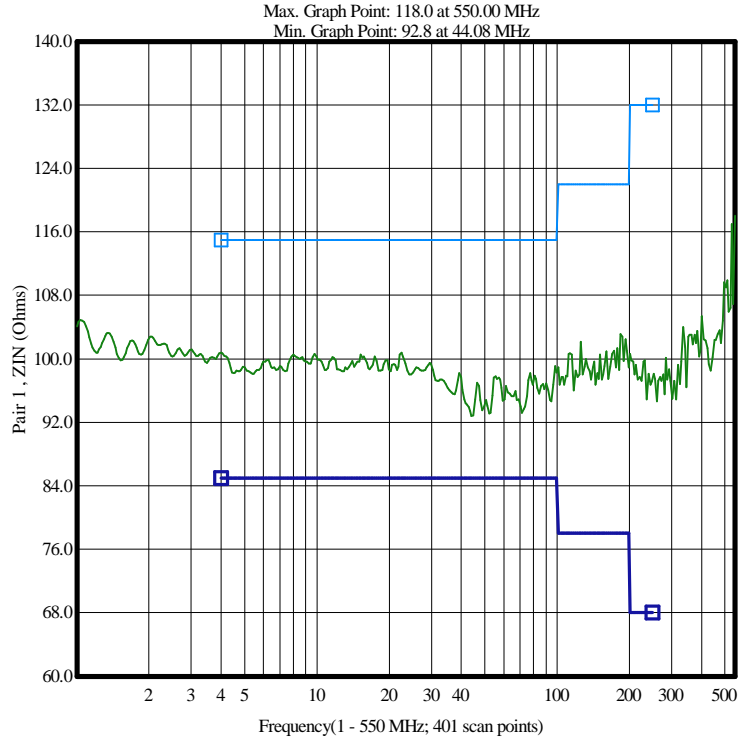
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### Summary and Graphic: Input Impedance (Zin)(Terminated)

Pair	Specification		Measured(Ohms)		Margin (Ohms)		@ Frequency (MHz)		Test Result
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Pair 1 [5]	85.0	115.0	92.8	100.8	7.8	14.2	44.08	22.50	Passed
Pair 2 [6]	85.0	115.0	94.8	103.8	9.8	11.2	63.65	6.36	Passed
Pair 3 [7]	85.0	115.0	93.6	101.6	8.6	13.4	44.78	4.05	Passed
Pair 4 [8]	85.0	115.0	94.2	103.9	9.2	11.1	44.78	18.69	Passed



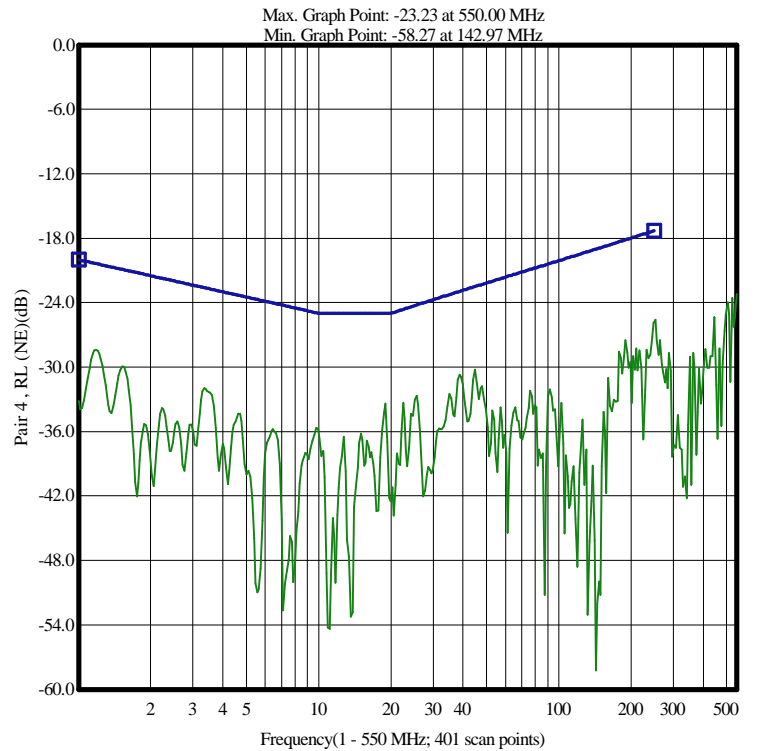
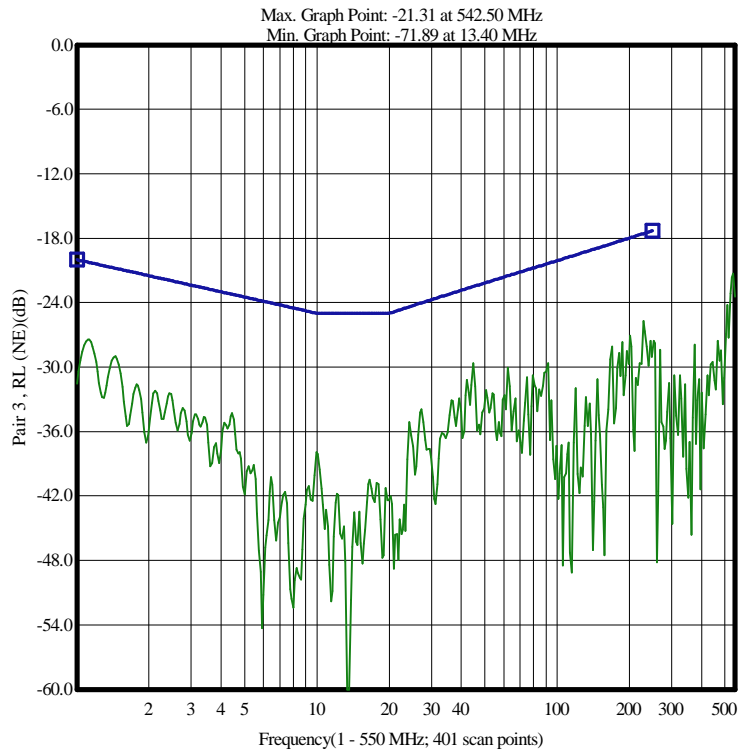
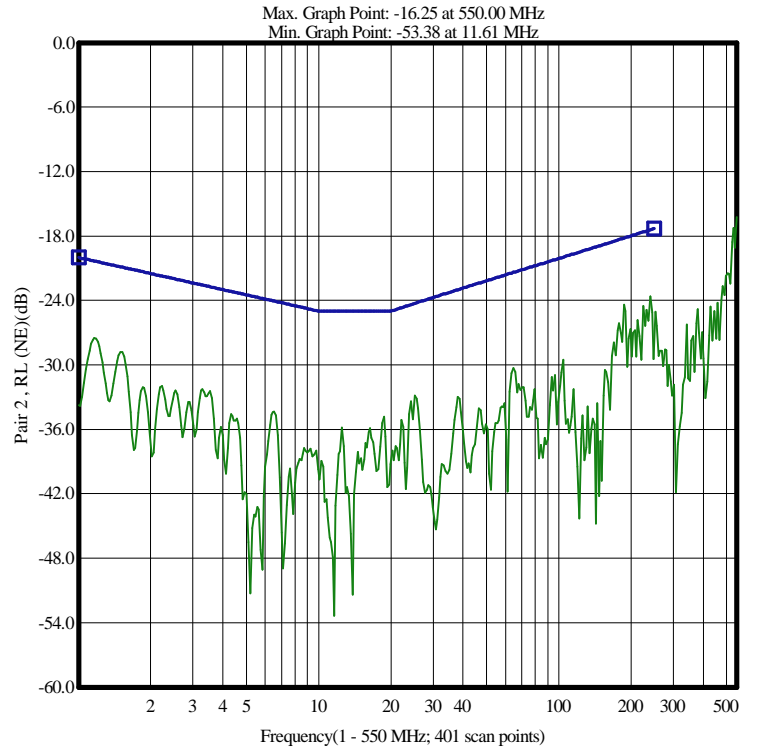
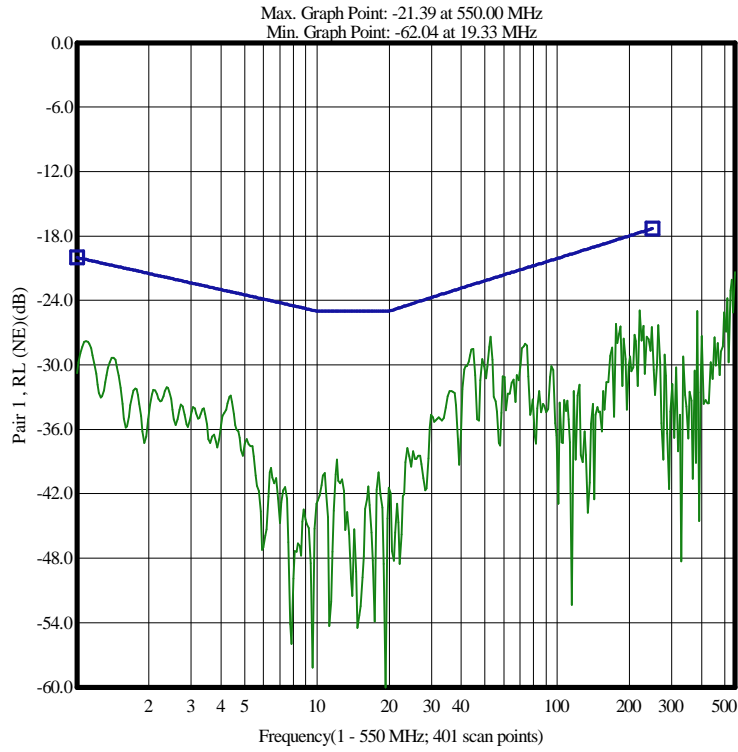
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### Summary and Graphic: Return Loss (RL)

Pair	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 [5]	22.00	27.40	5.40	53.01	Passed
Pair 2 [6]	18.20	24.40	6.20	187.27	Passed
Pair 3 [7]	22.51	29.66	7.15	44.78	Passed
Pair 4 [8]	22.51	30.26	7.75	44.78	Passed



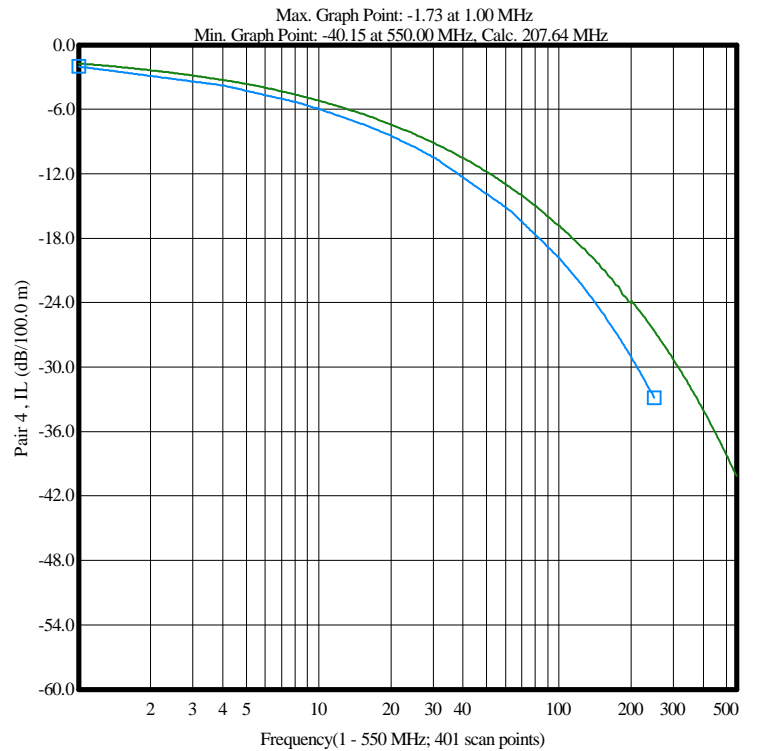
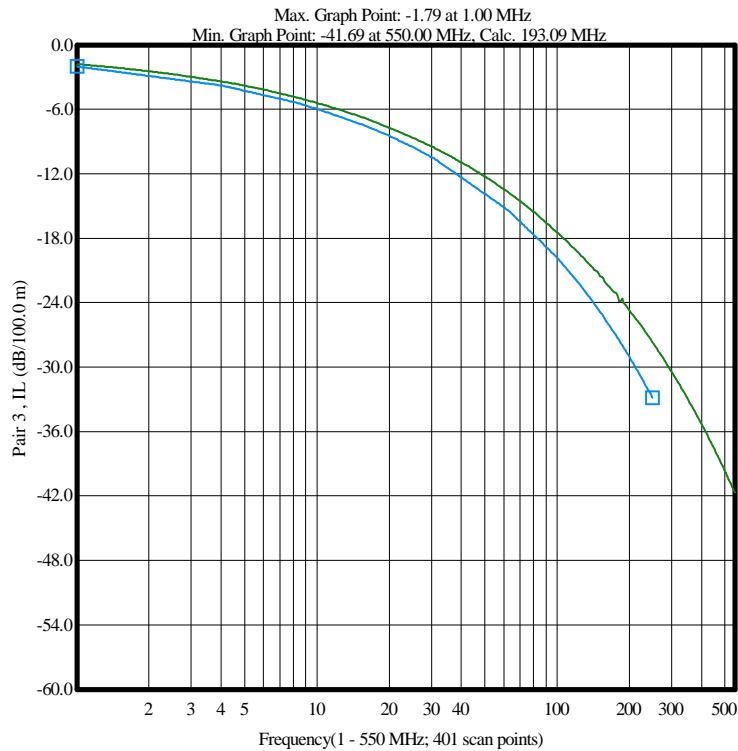
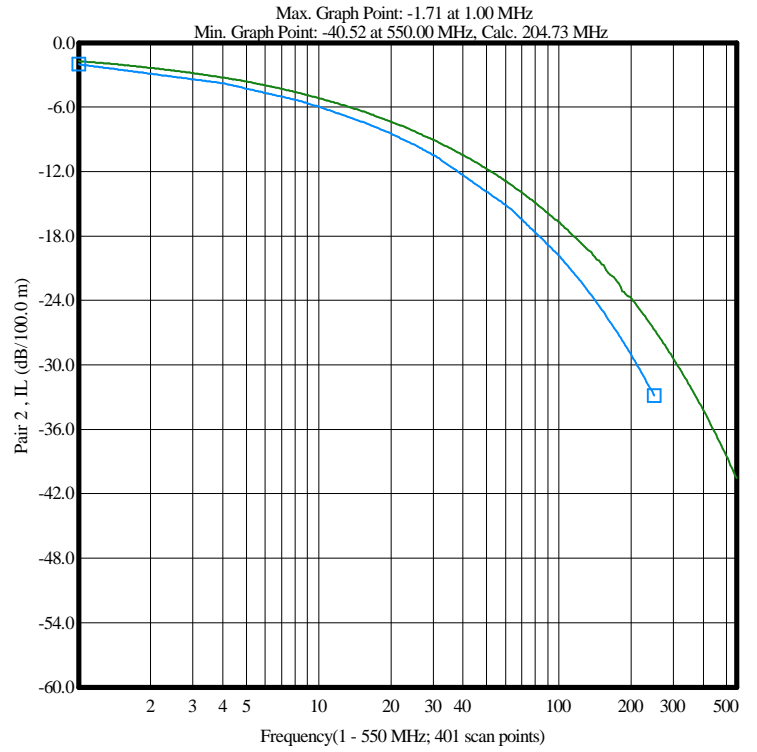
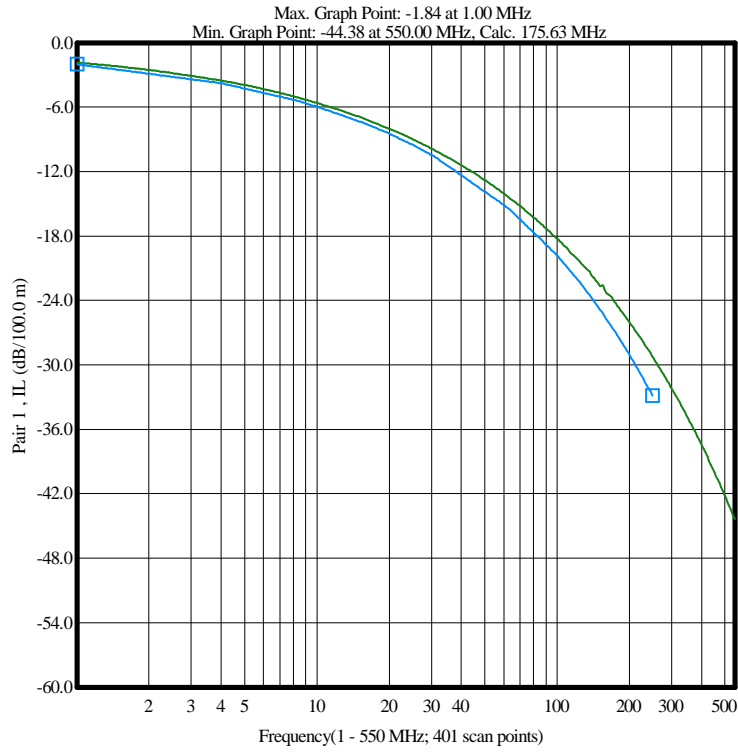
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Summary and Graphic: Insertion Loss (IL)(Curve Fit)@20C

Pair	Spec (Max)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1 [5]	2.04	1.87	0.17	1.02	Passed
Pair 2 [6]	2.02	1.71	0.31	1.00	Passed
Pair 3 [7]	2.02	1.79	0.23	1.00	Passed
Pair 4 [8]	2.02	1.73	0.29	1.00	Passed



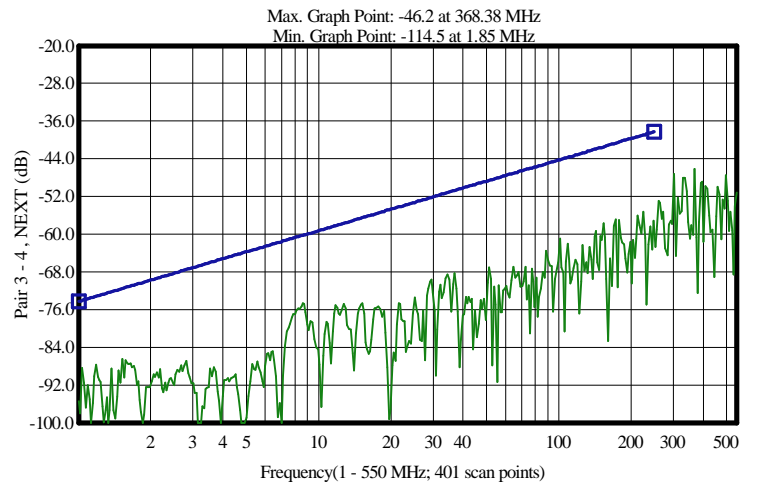
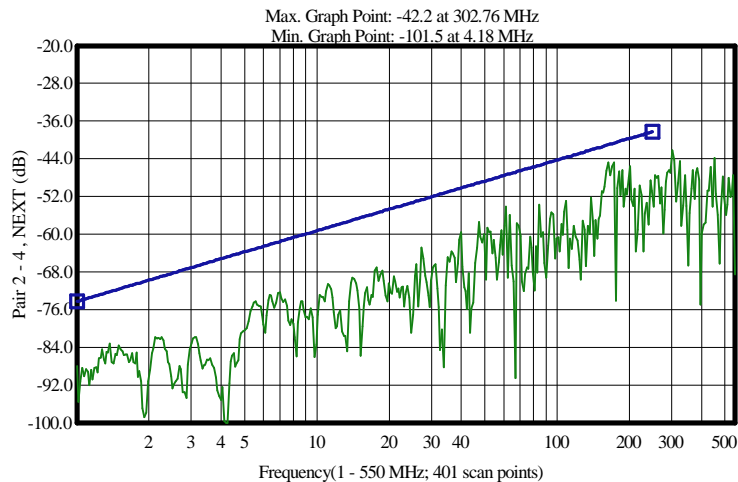
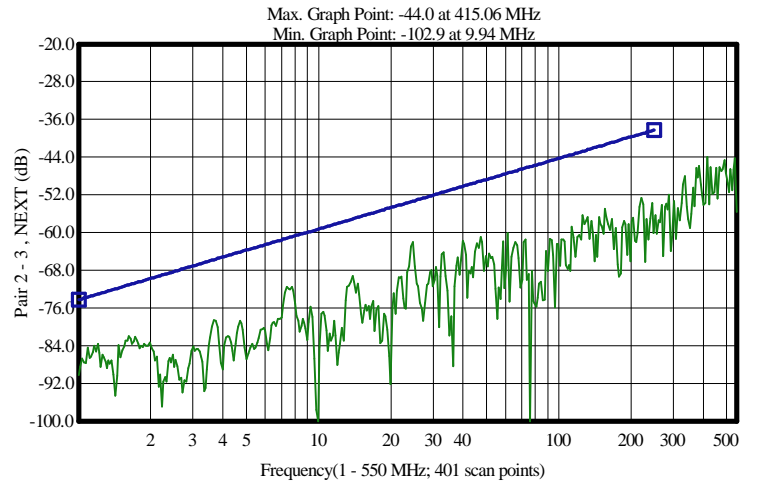
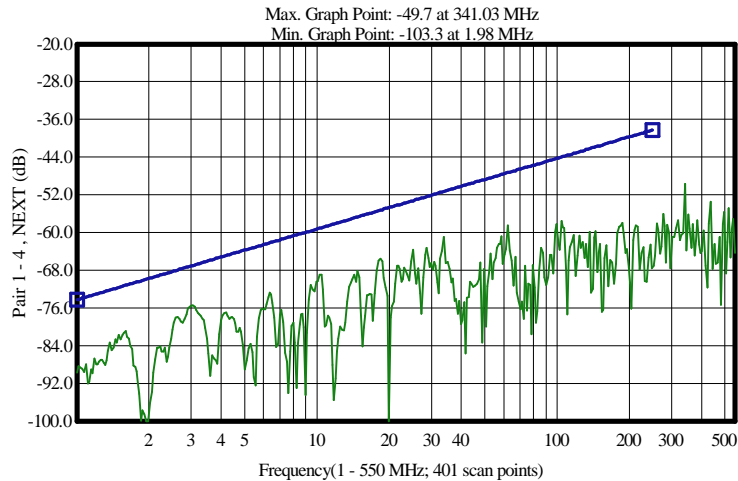
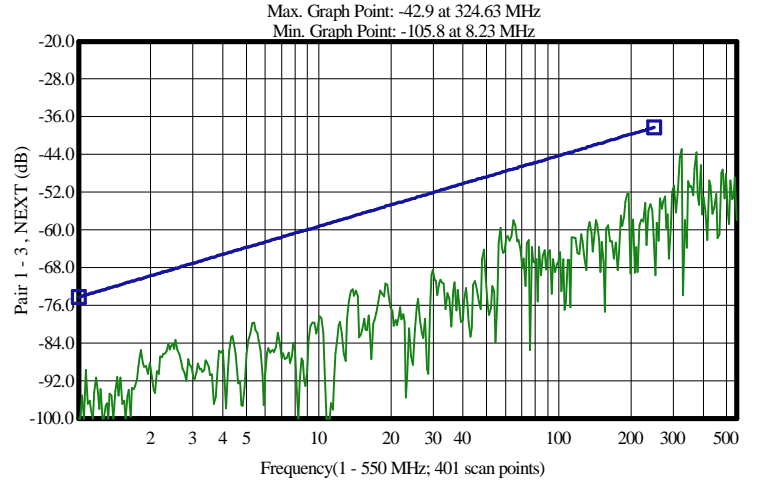
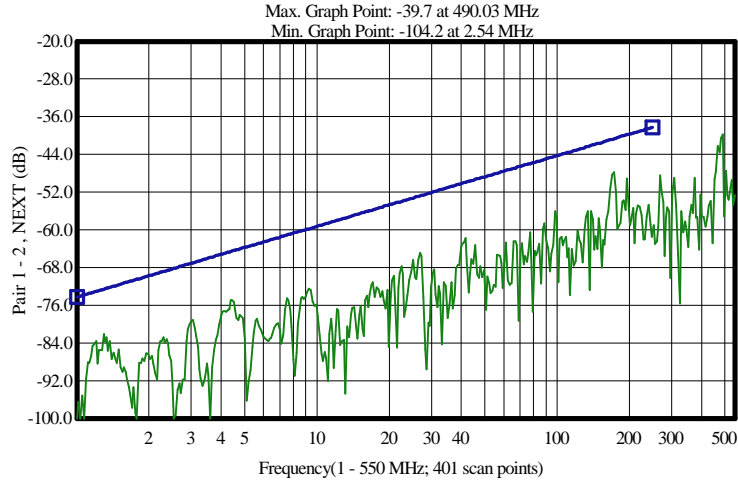
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### Summary and Graphic: Near End Crosstalk Loss (NEXT)

Pair	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 - 2	40.7	47.8	7.1	172.72	Passed
Pair 1 - 3	47.1	58.0	10.9	64.78	Passed
Pair 1 - 4	67.1	75.5	8.4	3.00	Passed
Pair 2 - 3	53.4	62.0	8.6	24.70	Passed
Pair 2 - 4	41.0	44.8	3.8	164.00	Passed
Pair 3 - 4	74.1	88.4	14.3	1.04	Passed



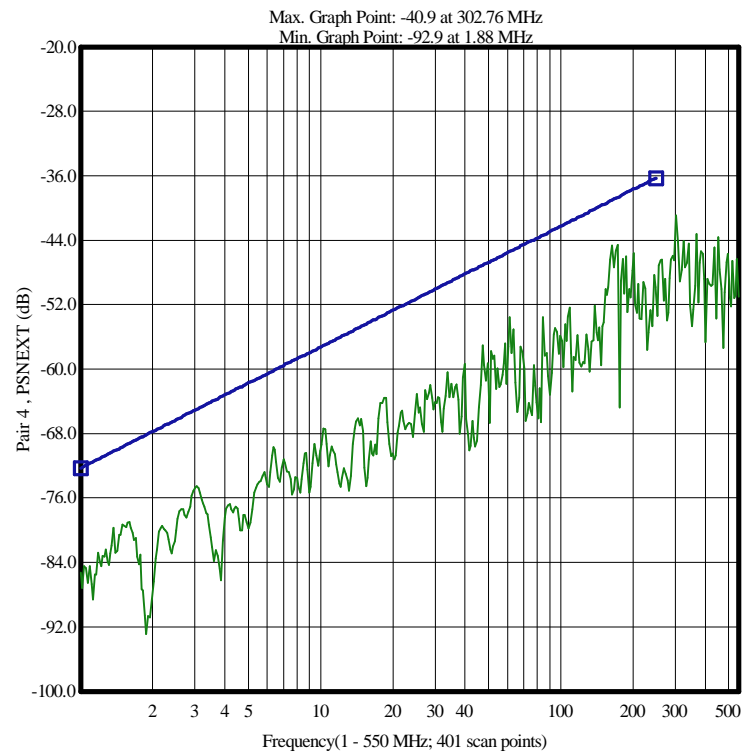
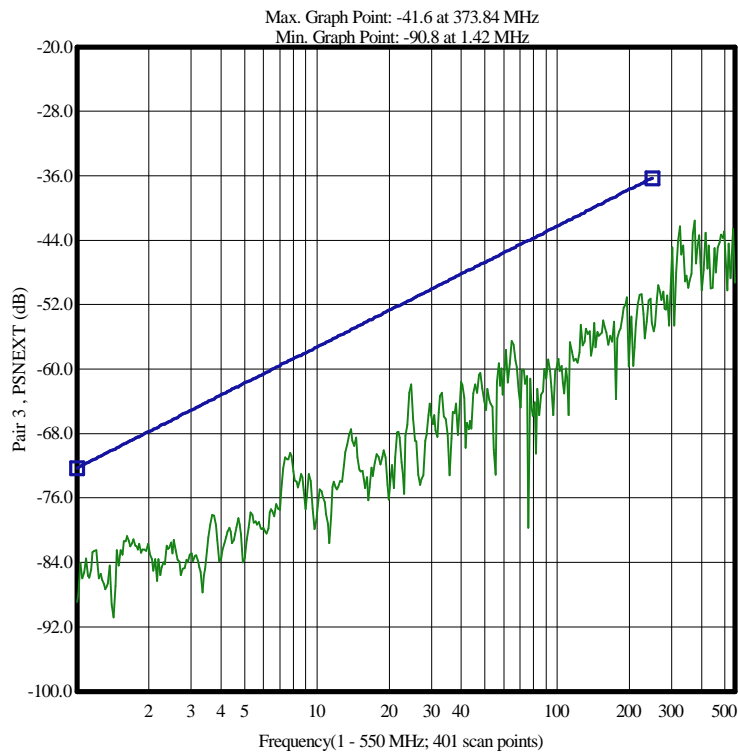
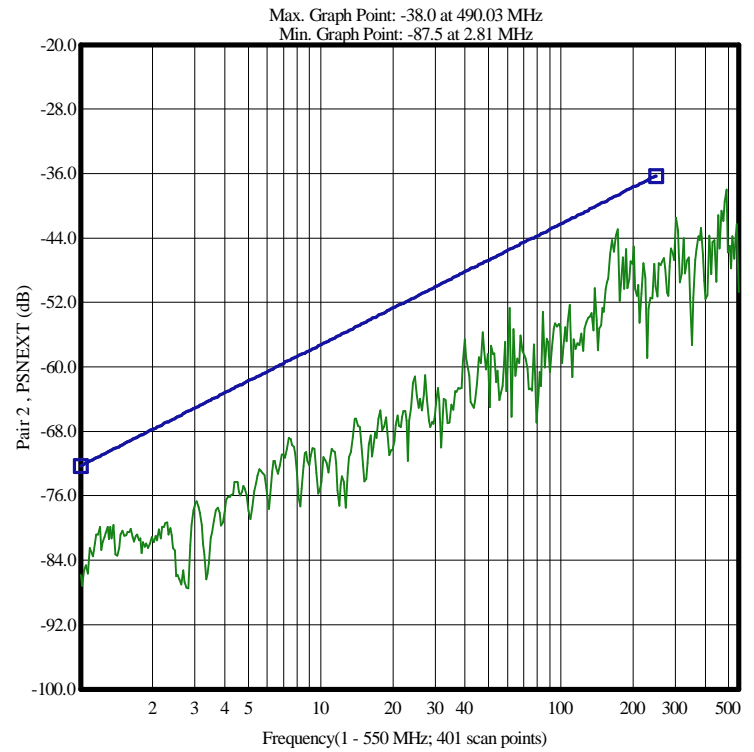
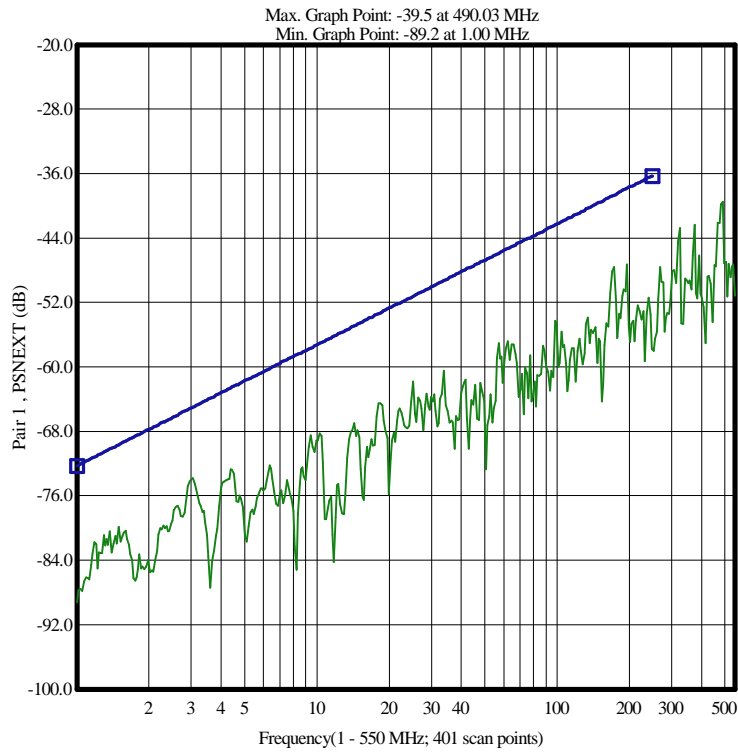
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### Summary and Graphic: Power Sum NEXT(PSNEXT)

Pair	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 [5]	65.1	73.9	8.8	3.00	Passed
Pair 2 [6]	38.7	42.9	4.2	172.72	Passed
Pair 3 [7]	51.4	61.9	10.5	24.70	Passed
Pair 4 [8]	39.0	44.7	5.7	164.00	Passed



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**Detail Discrete Frequencies ---Input Impedance (Zin)(Ohms)(Terminated)**

Frequency	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	99.90	100.00
Max Spec	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	122.0
Min Spec	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.0
Pair 1 [5]	100.8	100.5	100.2	99.8	98.7	98.2	97.3	95.8	98.4	98.4
Pair 2 [6]	101.4	101.8	101.8	102.7	102.2	100.6	100.6	95.4	98.6	98.6
Pair 3 [7]	101.4	100.2	100.5	101.0	99.9	99.4	99.3	94.3	98.1	98.1
Pair 4 [8]	100.6	100.6	102.3	102.8	101.3	101.2	100.0	97.4	98.4	98.3

**Continue:Input Impedance (Zin)(Ohms)(Terminated)**

Frequency	199.90	200.00	250.00							
Max Spec	122.0	132.0	132.0							
Min Spec	78.0	68.0	68.0							
Pair 1 [5]	99.5	99.5	97.4							
Pair 2 [6]	102.0	102.0	95.5							
Pair 3 [7]	99.7	99.7	96.1							
Pair 4 [8]	100.7	100.7	92.4							

**Detail Discrete Frequencies ---Return Loss (RL)(dB)**

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	100.00
Min Spec	20.00	23.00	24.50	25.00	25.00	25.00	24.30	23.60	21.50	20.10
Pair 1 [5]	30.78	35.45	49.55	42.83	43.10	41.50	38.50	35.20	32.72	38.02
Pair 2 [6]	33.76	36.99	40.78	40.06	37.19	39.06	33.58	44.48	32.65	33.09
Pair 3 [7]	31.52	37.41	52.05	38.00	44.25	42.38	37.04	42.73	30.14	38.50
Pair 4 [8]	33.15	37.23	47.74	36.11	37.05	42.30	33.51	36.04	37.70	38.33

**Continue:Return Loss (RL)(dB)**

Frequency	200.00	250.00								
Min Spec	18.00	17.30								
Pair 1 [5]	29.76	27.70								
Pair 2 [6]	27.65	28.08								
Pair 3 [7]	28.72	28.57								
Pair 4 [8]	30.96	25.80								

**Detail Discrete Frequencies ---Insertion Loss (IL)(dB/100.0 m)(Curve Fit)@20C**

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	100.00
Max Spec	2.02	3.78	5.32	5.95	7.55	8.47	9.50	10.67	15.38	19.79
Pair 1 [5]	1.84	3.54	5.01	5.62	7.13	8.03	8.98	10.07	14.33	18.21
Pair 2 [6]	1.71	3.25	4.60	5.17	6.54	7.37	8.25	9.23	13.14	16.69
Pair 3 [7]	1.79	3.41	4.82	5.41	6.86	7.72	8.65	9.65	13.70	17.43
Pair 4 [8]	1.73	3.27	4.62	5.19	6.59	7.42	8.30	9.30	13.22	16.83

**Continue:Insertion Loss (IL)(dB/100.0 m)(Curve Fit)@20C**

Frequency	125.00	155.00	200.00	250.00						
Max Spec	22.35	25.16	28.98	32.84						
Pair 1 [5]	20.43	22.63	26.00	29.22						
Pair 2 [6]	18.74	20.88	23.77	26.71						
Pair 3 [7]	19.54	21.68	24.68	27.68						
Pair 4 [8]	18.84	20.97	23.94	26.63						

**Detail Discrete Frequencies ---Near End Crosstalk Loss (NEXT)(dB)**

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	100.00
Min Spec	74.3	65.2	60.7	59.3	56.2	54.7	53.3	51.8	47.3	44.3
Pair 1 - 2	100.4	78.2	88.0	76.8	74.6	83.5	67.2	73.4	70.6	60.7
Pair 1 - 3	102.2	86.4	87.0	79.4	80.2	76.5	83.7	73.7	62.2	66.4
Pair 1 - 4	89.8	78.4	79.8	70.4	76.2	97.9	64.5	67.0	58.6	59.1
Pair 2 - 3	90.3	88.1	75.4	96.1	76.3	90.3	65.6	69.0	74.4	63.6
Pair 2 - 4	88.0	94.7	79.4	81.1	72.1	70.8	78.3	66.4	69.0	60.8
Pair 3 - 4	95.4	93.6	76.9	85.7	84.7	96.1	74.5	80.8	73.4	64.8

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**Continue:Near End Crosstalk Loss (NEXT)(dB)**

Frequency	155.00	200.00	250.00							
Min Spec	41.4	39.7	38.3							
Pair 1 - 2	64.2	56.8	60.7							
Pair 1 - 3	74.0	66.4	63.8							
Pair 1 - 4	76.6	68.7	67.5							
Pair 2 - 3	56.8	62.9	59.0							
Pair 2 - 4	51.1	47.1	51.8							
Pair 3 - 4	59.7	64.9	58.9							

**Detail Discrete Frequencies ---Power Sum NEXT(PSNEXT)(dB)**

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	100.00
Min Spec	72.3	63.2	58.7	57.3	54.2	52.7	51.3	49.8	45.3	42.3
Pair 1 [5]	89.2	74.9	78.5	69.1	71.6	75.3	62.6	65.4	56.8	55.8
Pair 2 [6]	85.8	77.6	73.8	74.8	69.2	70.2	62.8	64.0	66.0	56.0
Pair 3 [7]	88.9	83.4	72.9	78.1	74.3	75.9	64.8	67.5	61.6	59.6
Pair 4 [8]	85.3	78.2	73.7	69.9	70.4	70.6	63.9	63.6	57.9	56.0

**Continue:Power Sum NEXT(PSNEXT)(dB)**

Frequency	155.00	200.00	250.00							
Min Spec	39.4	37.7	36.3							
Pair 1 [5]	62.8	55.7	57.9							
Pair 2 [6]	49.8	46.4	50.4							
Pair 3 [7]	54.5	58.3	54.6							
Pair 4 [8]	50.6	47.0	50.9							

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