

DCM Test Report

Cable Type : 4x2x24 x PE/PVC	Factory Number : NEX1	Data File Name : DA028497.XLD
Cable I.D. : UTP#24X4P CABLE	Order Number : 3061 BL-30	Specification File : Cat5e.lids
Temperature : 25.00 度]	Operator : LEE	Test Date : 03/10/2006
Length : 305.00 m	Number of Pairs to Test : 4	Test Time : 08:35:06 AM
Starting Position : 11		

Pass - Fail Test Certificate - 4 Pairs

High Frequency

Test Type	Test Result
Input Impedance (Zin)(Ohms)(Open/Short)	Passed
Return Loss (RL)(dB)(Open/Short)	Passed
Attenuation (ATT)(Curve Fit)(dB/100.0 m)@20C	Passed
Near End Crosstalk (NEXT)(dB)	Passed
Power Sum NEXT(PSNEXT)(dB)	Passed

Low Frequency

Test Type	Test Result
Conductor Resistance(Ohms/100.0 m)@20C	Passed
Resistance Unbalance(%)@20C	Passed
Mutual Capacitance(nF/100.0 m)@1000Hz	Passed
Cap. Unbalance to Ground(pF/100.0 m)@1000Hz	Passed
Cap. Unbalance to Shield(pF/100.0 m)@1000Hz	Passed

Signature:	Approved:	Date:
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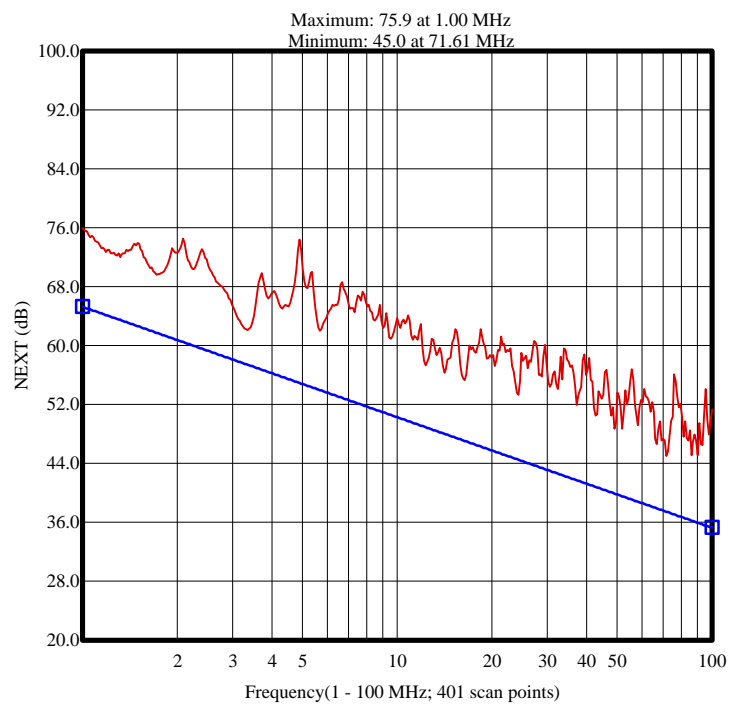
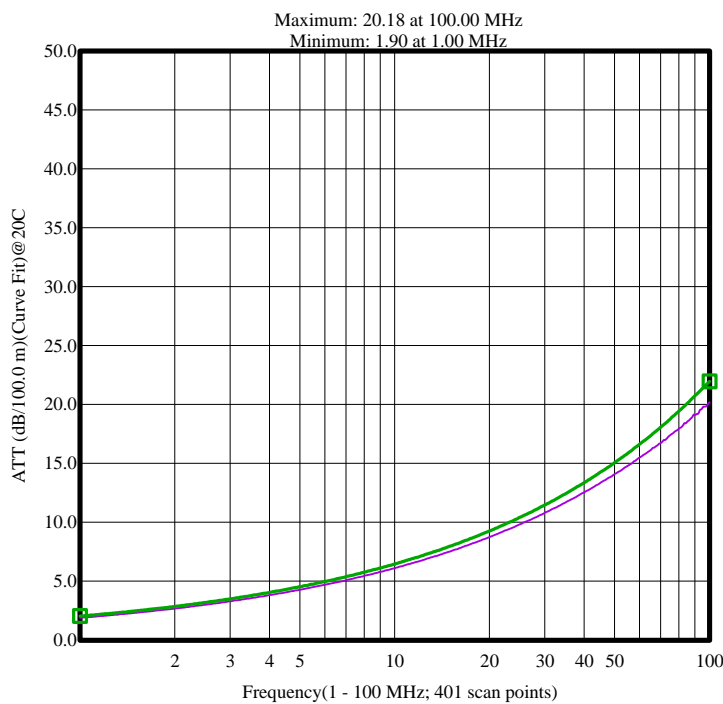
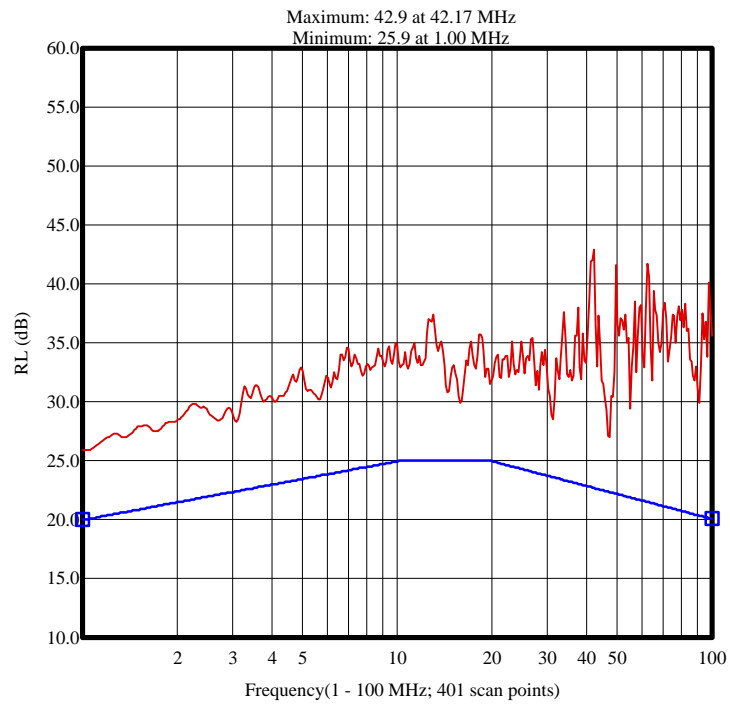
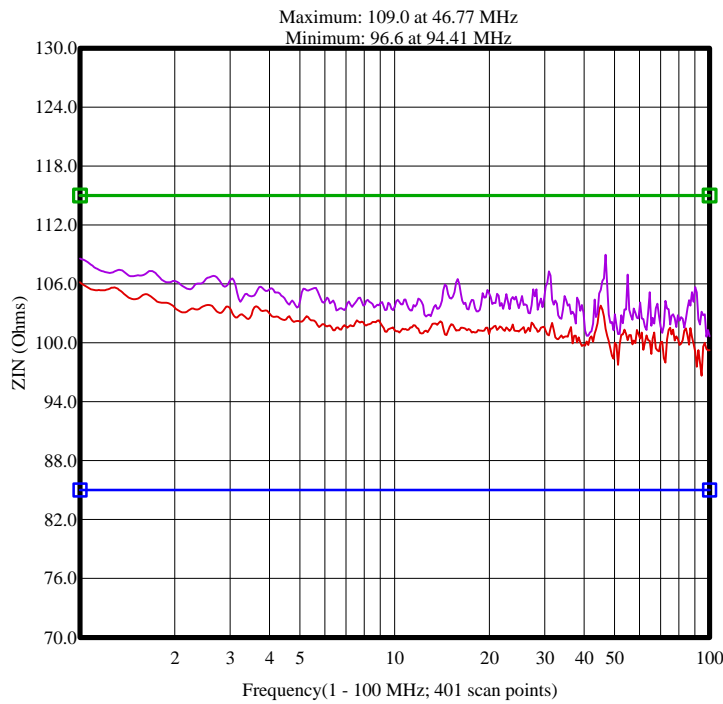
DCM Test Report

Cable Type : 4x2x24 x PE/PVC	Factory Number : NEX1	Data File Name : DA028497.XLD
Cable I.D. : UTP#24X4P CABLE	Order Number : 3061 BL-30	Specification File : Cat5e.lds
Temperature : 25.00 [deg]C	Operator : LEE	Test Date : 03/10/2006
Length : 305.00 m	Number of Pairs to Test : 4	Test Time : 08:35:06 AM
Starting Position : 11		

Worst Case Summay

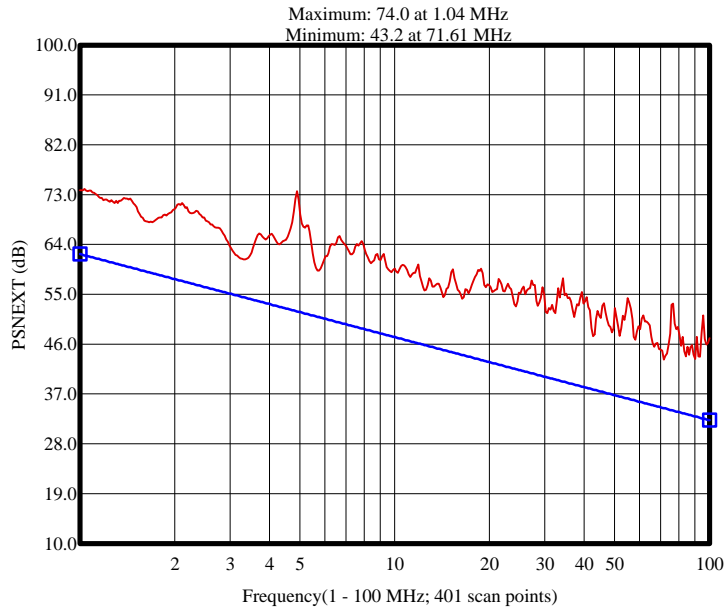
High Frequency

Test Type	Specification	Measured (Pair)	Margin	@ Frequency (MHz)	Test Result
Input Impedance (Zin)(Open/Short)	85.0 (Min)	96.6 (Pair 4)	11.6	94.41	Passed
Input Impedance (Zin)(Open/Short)	115.0 (Max)	108.9 (Pair 4)	6.1	46.77	Passed
Return Loss (RL)(O/S)	22.4 (Min)	27.1 (Pair 4)	4.7	46.77	Passed
Attenuation (ATT)(Curve Fit)@20C	2.08 (Max)	1.94 (Pair 3)	0.14	1.05	Passed
Near End Crosstalk (NEXT)	57.4 (Min)	62.1 (Pairs 2-4)	4.7	3.35	Passed
Power Sum NEXT(PSNEXT)	54.5 (Min)	61.3 (Pair 2)	6.8	3.31	Passed



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Worst Case Summay

Low Frequency

Statistical Parameter	Maximum		Minimum		Average Maximum		Standard Deviation		Result
	Spec Limit	Measured	Spec Limit	Measured	Spec Limit	Measured	Spec Limit	Measured	
Conductor Resistance(Ohms/100.0 m)@20C	9.38	8.66	xxx	8.40	xxx	8.52	xxx	0.092	Passed
Resistance Unbalance(%)	5.00	1.04	xxx	0.08	xxx	0.42	xxx	0.370	Passed
Mutual Capacitance(nF/100.0 m)@1000Hz	5.60	5.07	xxx	4.81	xxx	4.93	xxx	0.108	Passed
Cap. Unbalance to Ground(pF/100.0 m)@1000Hz	330.00	11.19	xxx	1.77	xxx	5.97	xxx	3.734	Passed
Cap. Unbalance to Shield(pF/100.0 m)@1000Hz	330.00	0.22	xxx	0.07	xxx	0.16	xxx	0.058	Passed

Detail: Resistance/Capacitance Measurement -Normalized

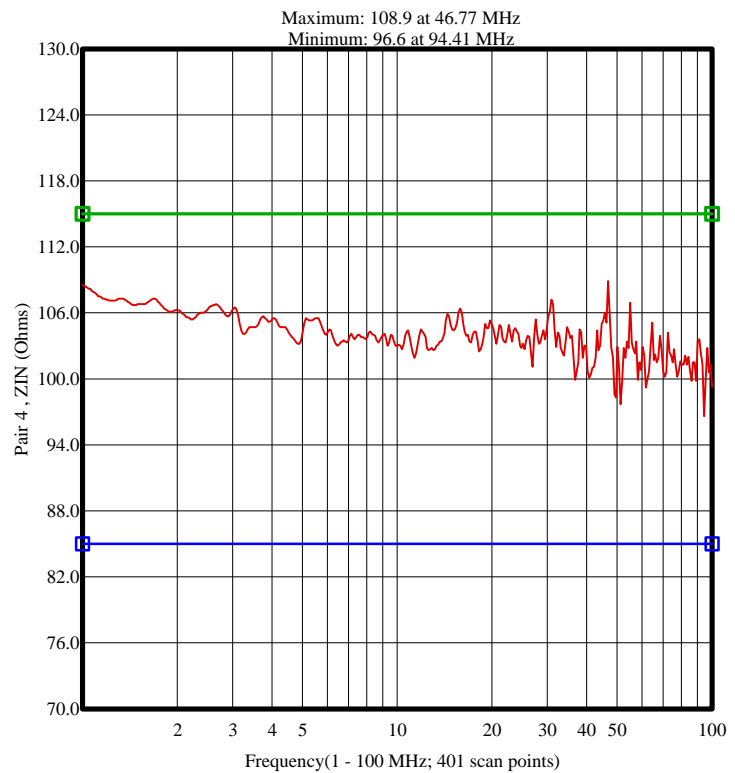
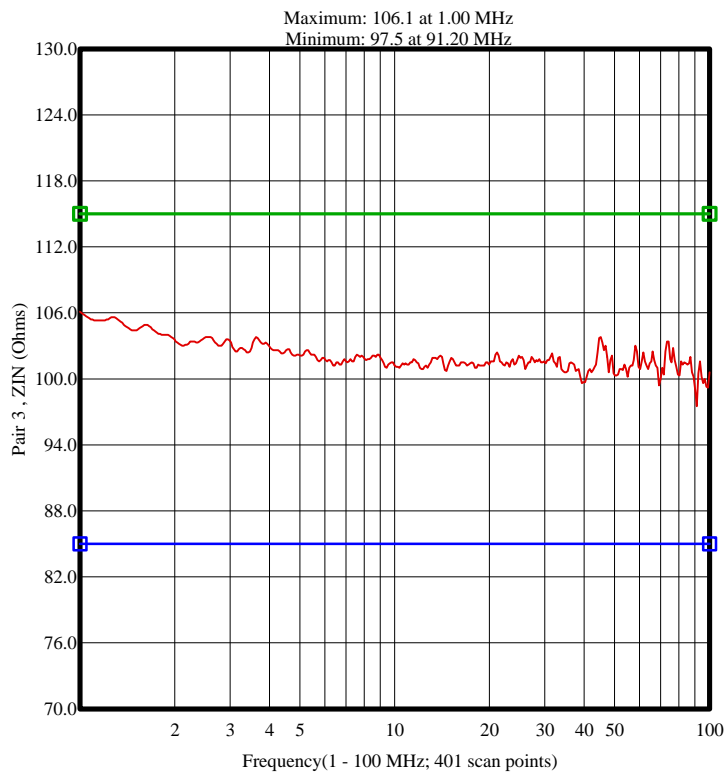
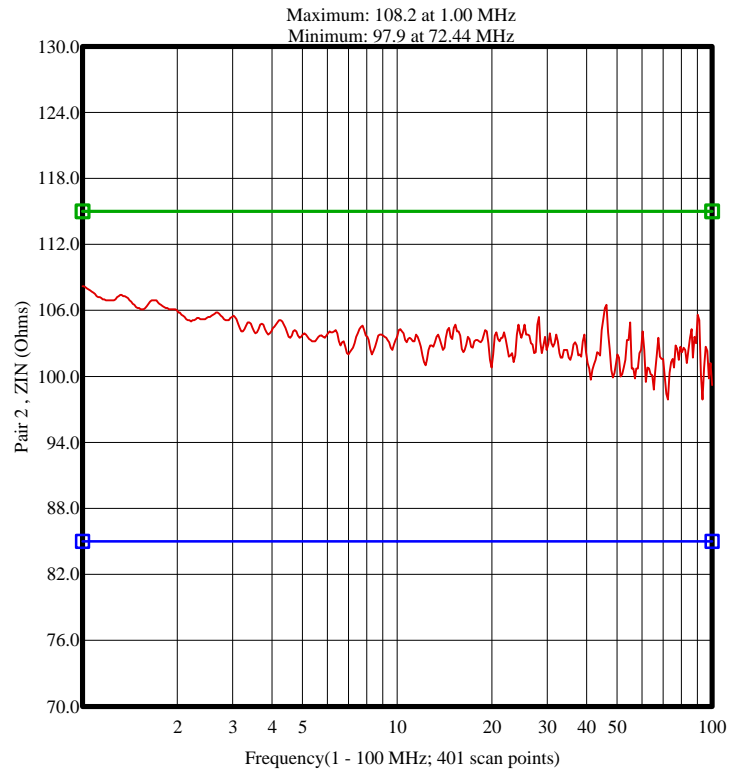
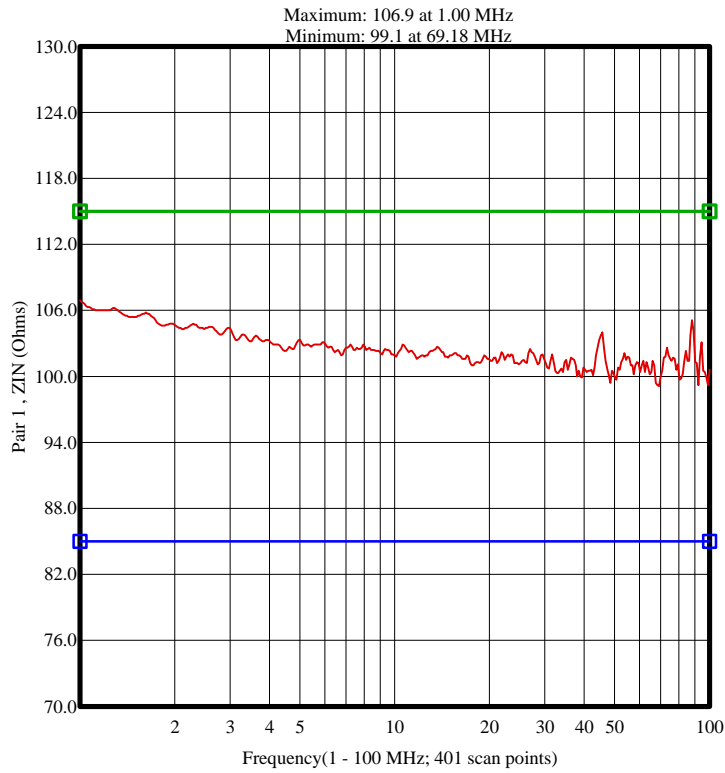
Test Types	Conductor Resistance Ra @20C	Conductor Resistance Rb @20C	Resistance Unbalance	Mutual Capacitance @1000 Hz	Capacitance Unbalance to Ground @1000 Hz	Capacitance Unbalance to Shield @1000 Hz	Test Result
Unit	Ohms/100.0 m	Ohms/100.0 m	%	nF/100.0 m	pF/100.0 m	pF/100.0 m	
Max Spec	9.38	9.38	5.00	5.60	330.00	330.00	
Min Spec	xxx	xxx	xxx	xxx	xxx	xxx	
Pair 1 [11]	8.57	8.66	1.04	5.00	11.19	0.18	Passed Passed Passed Passed
Pair 2 [12]	8.46	8.46	0.08	4.85	3.19	0.07	
Pair 3 [13]	8.62	8.59	0.31	5.07	1.77	0.18	
Pair 4 [14]	8.40	8.42	0.24	4.81	-7.72	0.22	

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Summary and Graphic: Input Impedance (Zin)(Open/Short)

Pair [Position]	Specification		Measured(Ohms)		Margin (Ohms)		@ Frequency (MHz)		Test Result
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Pair 1 [11]	85.0	115.0	99.1	106.9	14.1	8.1	69.18	1.00	Passed
Pair 2 [12]	85.0	115.0	97.9	108.2	12.9	6.8	72.44	1.00	Passed
Pair 3 [13]	85.0	115.0	97.5	106.1	12.5	8.9	91.20	1.00	Passed
Pair 4 [14]	85.0	115.0	96.6	108.9	11.6	6.1	94.41	46.77	Passed



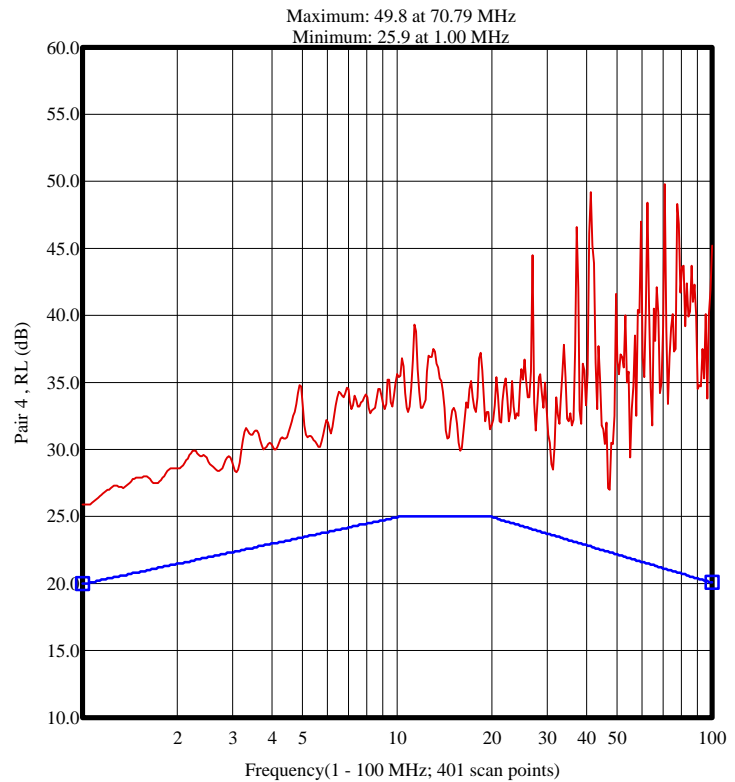
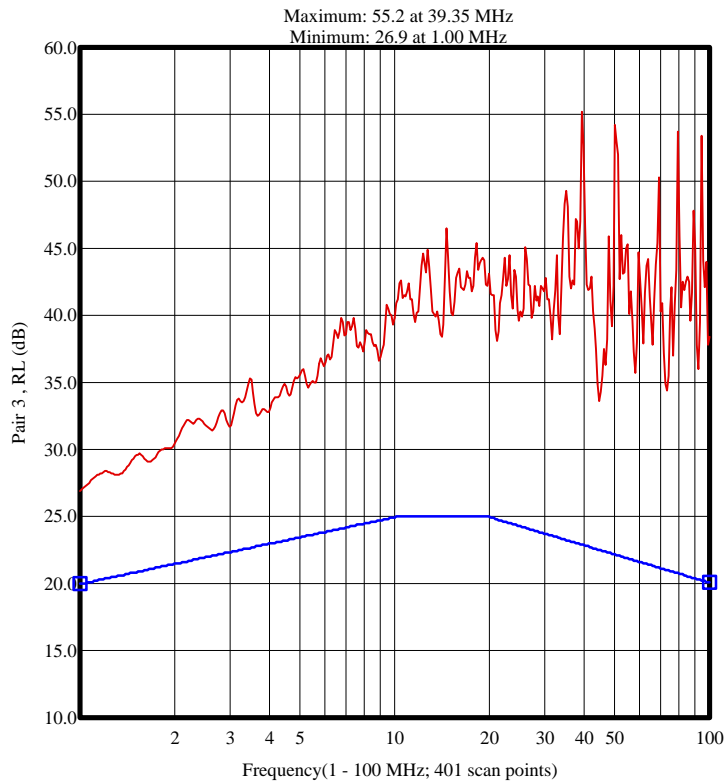
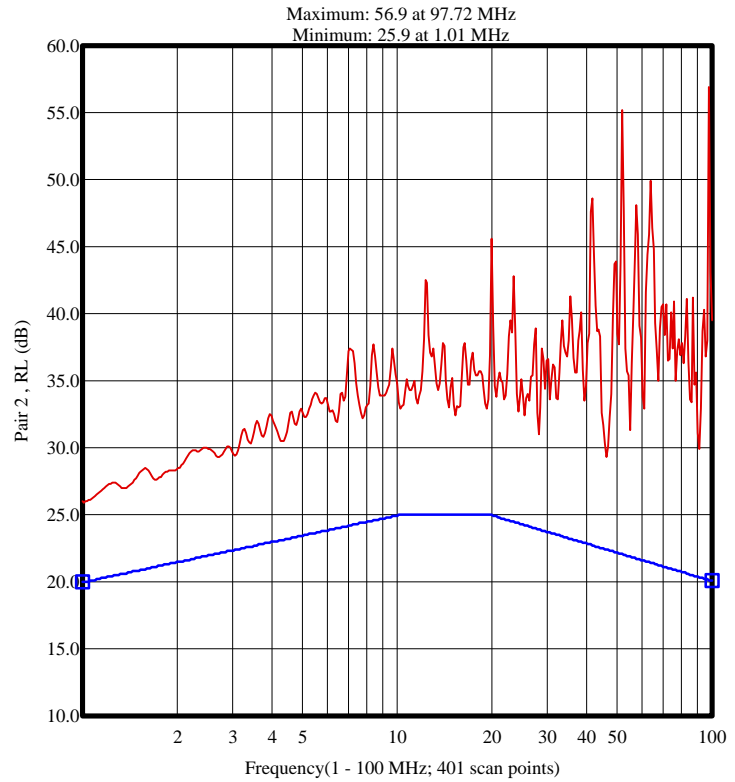
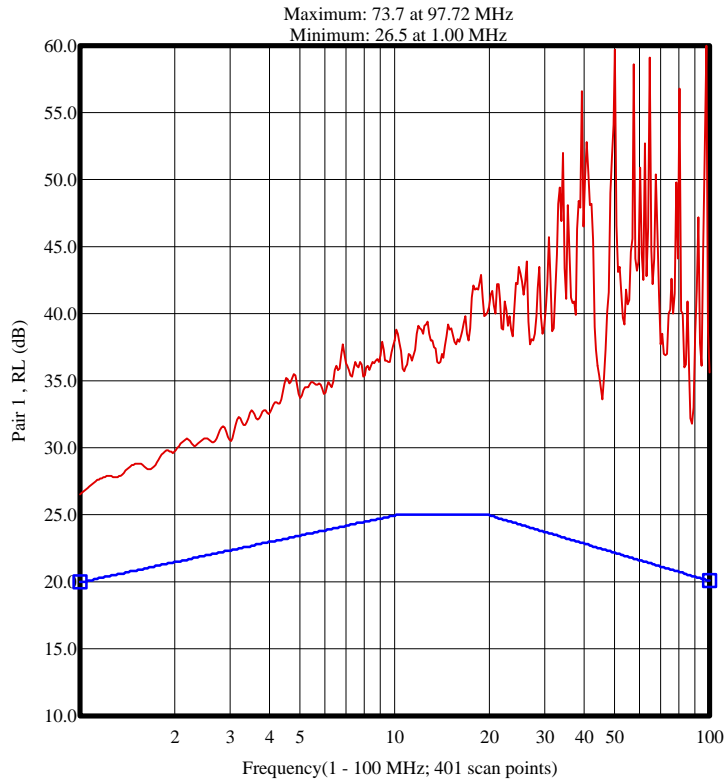
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Summary and Graphic: Return Loss (RL)(Open/Short)

(Cat 5e): $RL \geq 20+5*\log(f)$; 25 ; $25-7*\log(f/20)$; (Refer to manual)

Pair [Position]	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 [11]	20.0	26.5	6.5	1.00	Passed
Pair 2 [12]	20.0	25.9	5.9	1.01	Passed
Pair 3 [13]	20.0	26.9	6.9	1.00	Passed
Pair 4 [14]	22.4	27.1	4.7	46.77	Passed

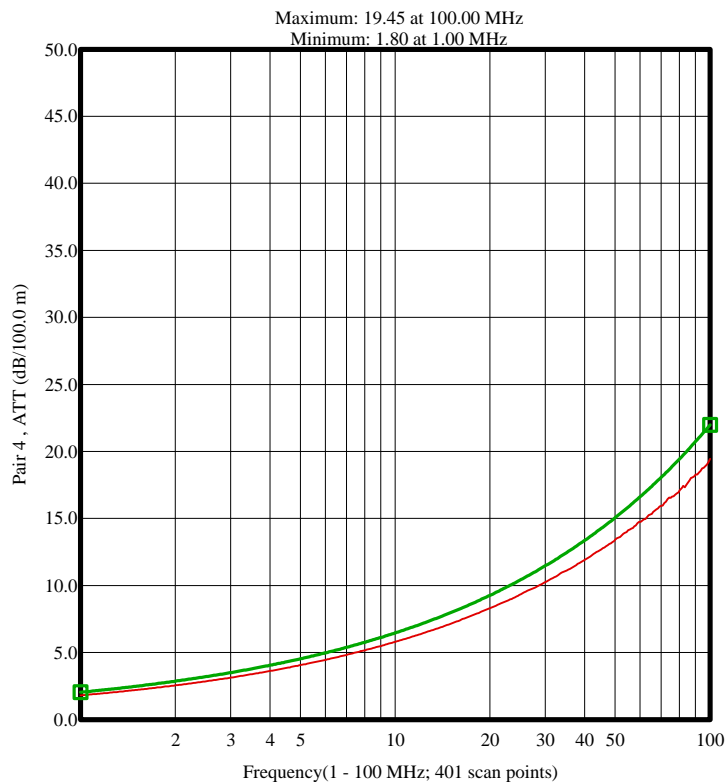
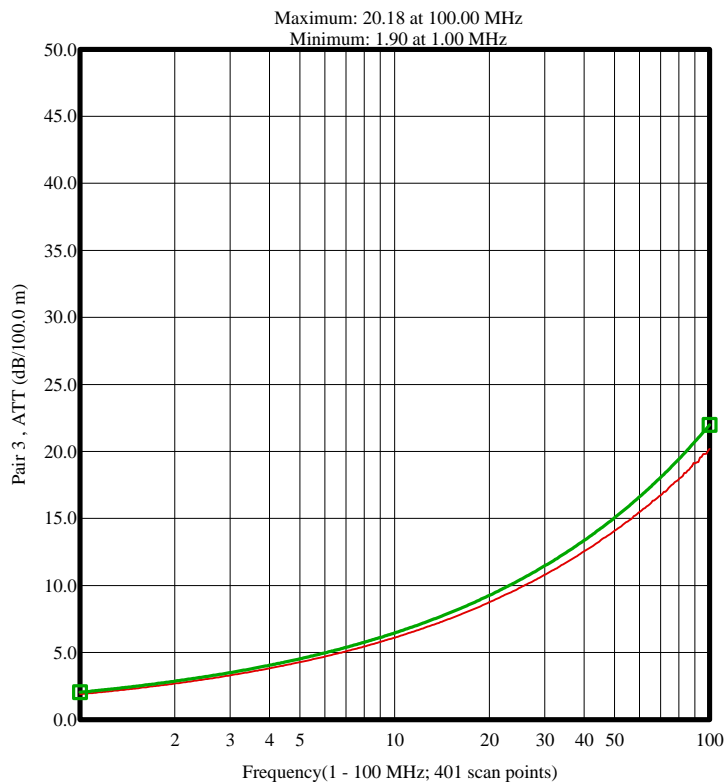
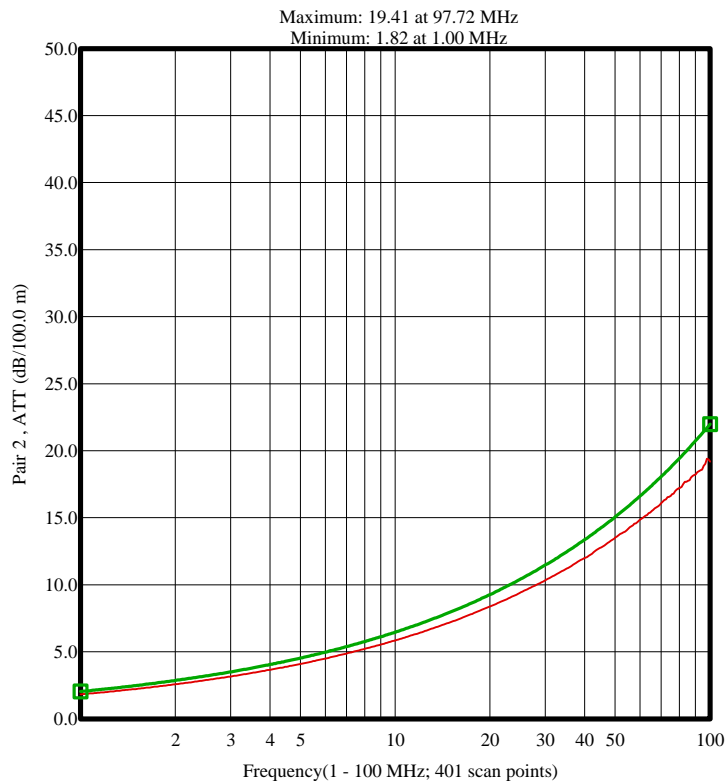
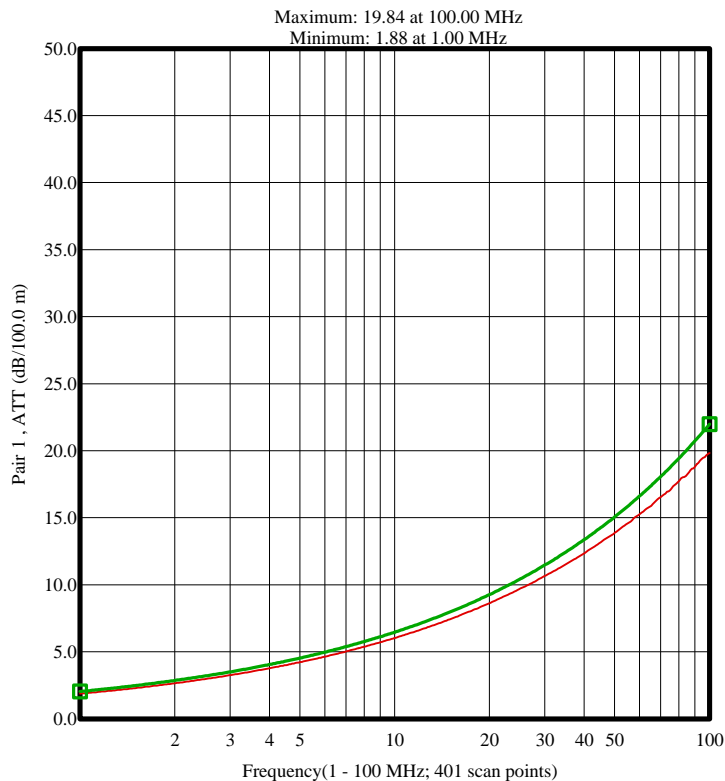


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Summary and Graphic: Attenuation (ATT)(Curve Fit)@20C
 (Formula): $ATT \leq [(1.967 * \sqrt{f}) + (0.023 * f) + (0.050 / \sqrt{f})] * 1.000$ (Refer to manual)

Pair [Position]	Spec (Max)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1 [11]	2.10	1.94	0.16	1.07	Passed
Pair 2 [12]	2.08	1.87	0.21	1.05	Passed
Pair 3 [13]	2.08	1.94	0.14	1.05	Passed
Pair 4 [14]	2.09	1.86	0.23	1.06	Passed



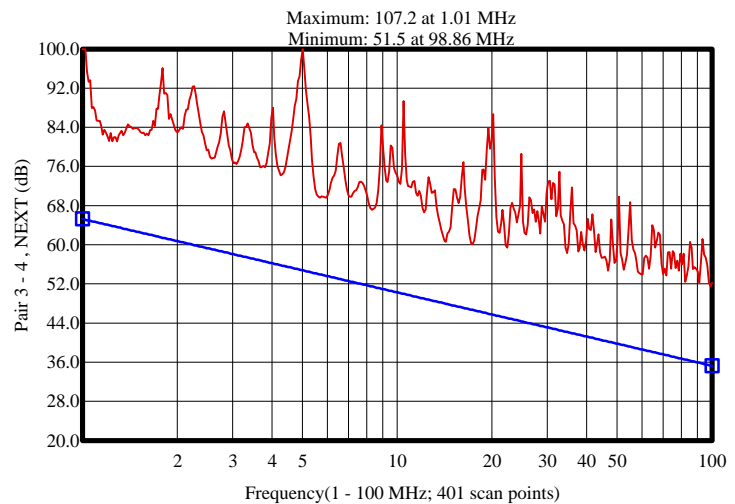
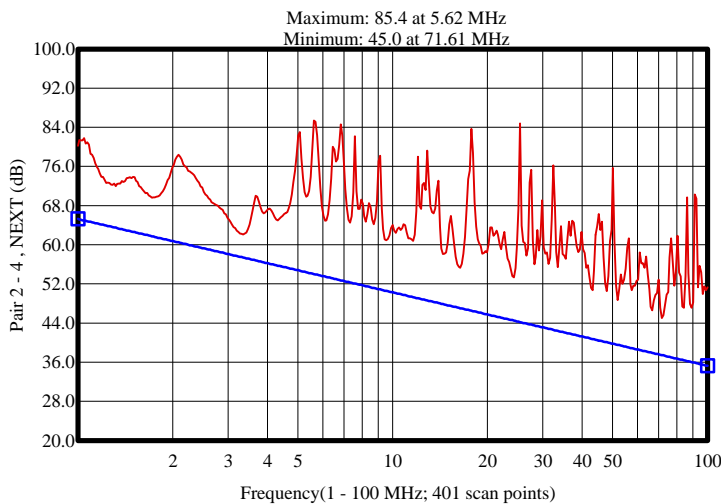
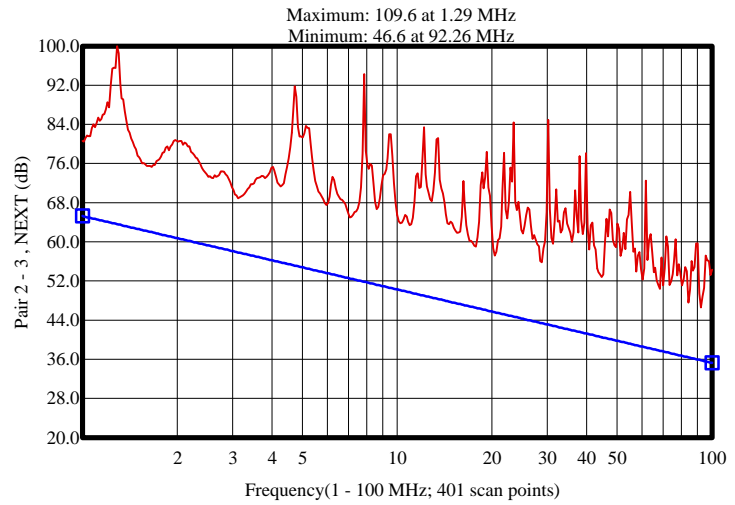
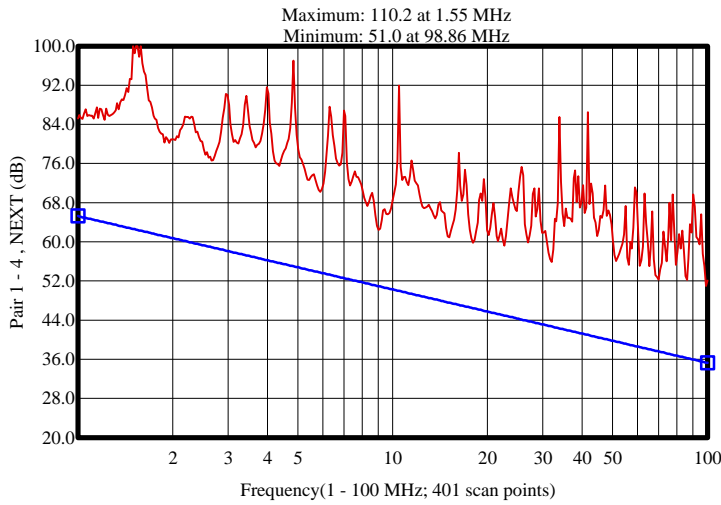
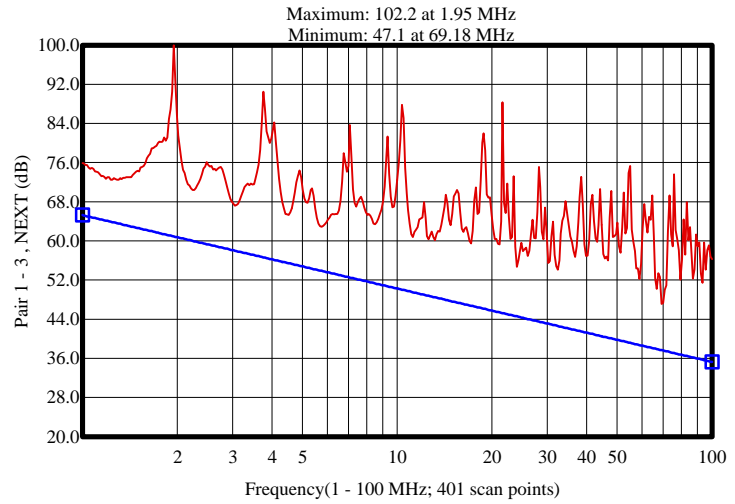
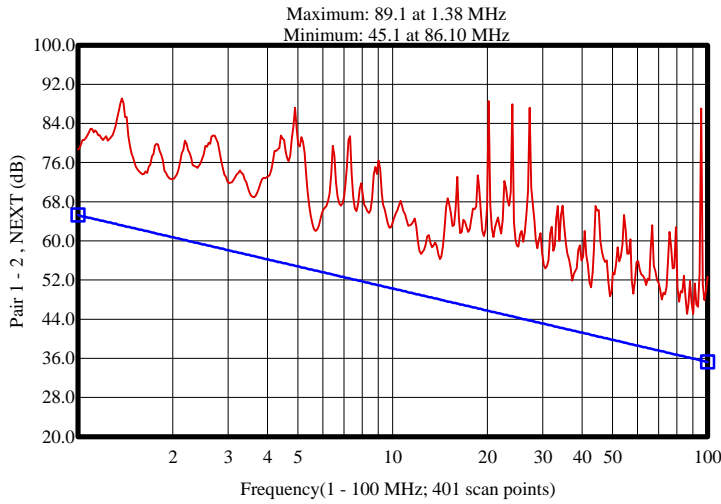
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Summary and Graphic: Near End Crosstalk (NEXT)

(Cat 5e): NEXT >= 67 - 15 * Log(f/0.772)

Pair [Position]	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 - 2	53.9	62.0	8.1	5.69	Passed
Pair 1 - 3	64.1	72.7	8.6	1.19	Passed
Pair 1 - 4	50.9	62.4	11.5	9.02	Passed
Pair 2 - 3	35.8	46.6	10.8	92.26	Passed
Pair 2 - 4	57.4	62.1	4.7	3.35	Passed
Pair 3 - 4	47.9	60.6	12.7	14.29	Passed



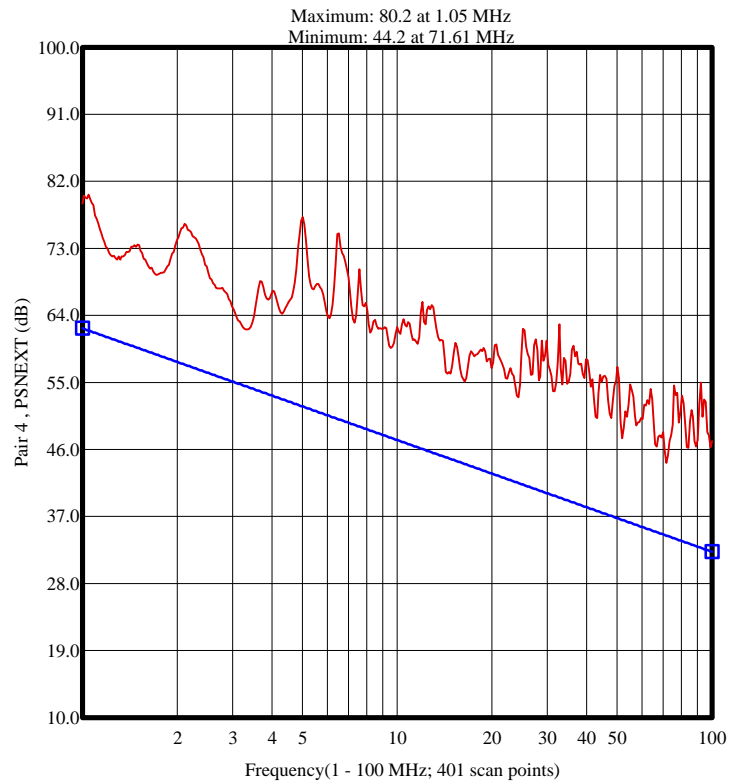
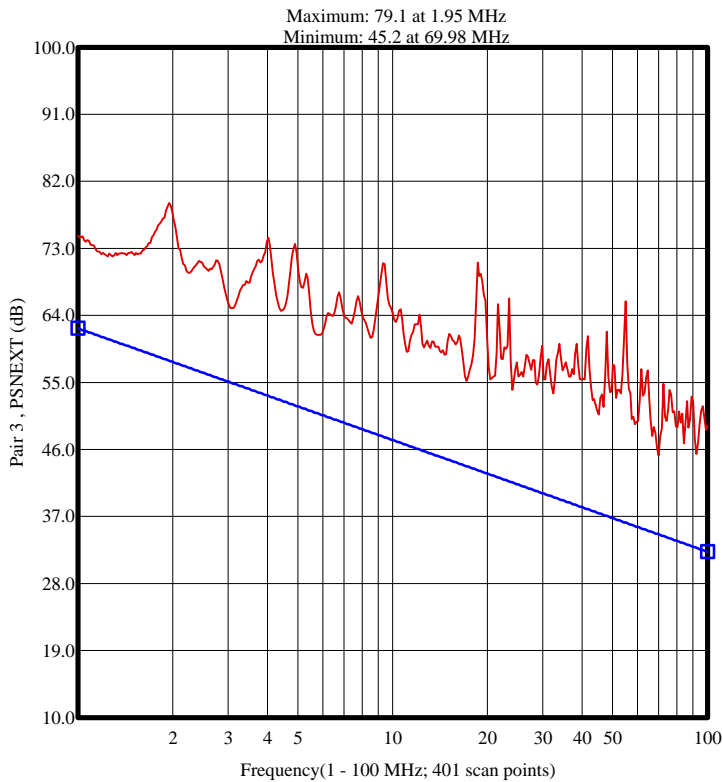
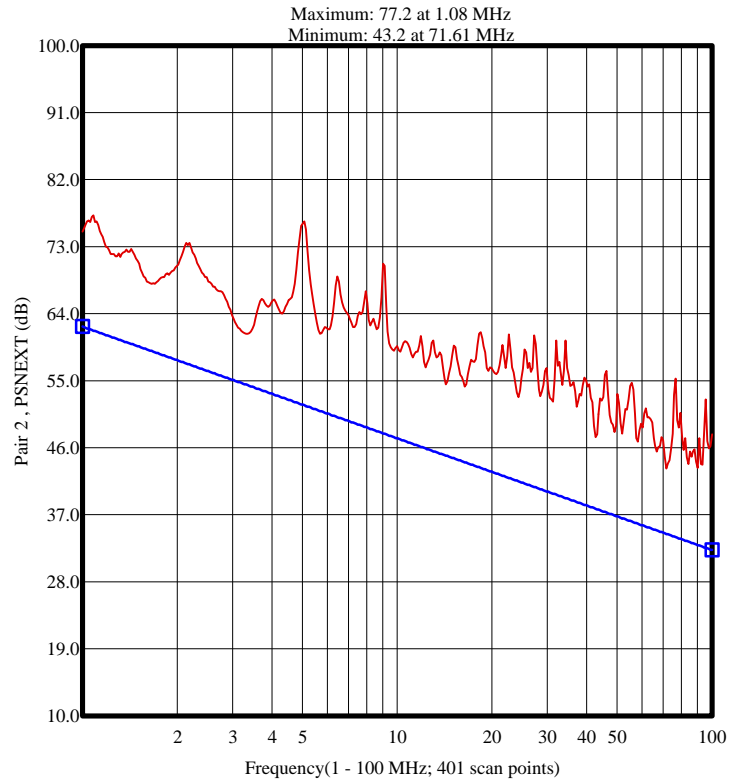
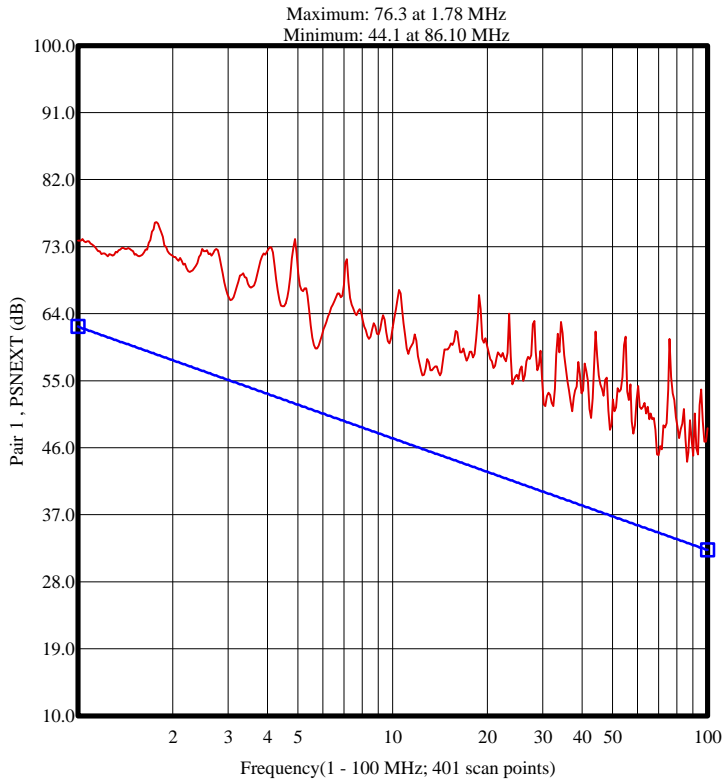
N/A = Not Applicable.
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xxx = No entry.

Summary and Graphic: Power Sum NEXT(PSNEXT)

(Cat 5e): PSNEXT >= 64 - 15 * Log(f/0.772)

Pair [Position]	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 [11]	50.9	59.3	8.4	5.69	Passed
Pair 2 [12]	54.5	61.3	6.8	3.31	Passed
Pair 3 [13]	55.0	65.0	10.0	3.05	Passed
Pair 4 [14]	54.5	62.1	7.6	3.31	Passed



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Detail Discrete Frequencies ---Attenuation (ATT)(dB/100.0 m)(Curve Fit)@20C

(Formula): $ATT \leq [(1.967 * \sqrt{f}) + (0.023 * f) + (0.050 / \sqrt{f})] * 1.000$ (Refer to manual)

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	100.00
Max Spec	2.04	4.05	5.76	6.46	8.24	9.26	10.42	11.72	16.99	21.97
Pair 1 [11]	1.88	3.77	5.38	6.03	7.69	8.62	9.69	10.88	15.59	19.84
Pair 2 [12]	1.82	3.66	5.22	5.85	7.46	8.38	9.41	10.57	15.16	19.19
Pair 3 [13]	1.90	3.82	5.45	6.11	7.79	8.75	9.82	11.03	15.80	20.18
Pair 4 [14]	1.80	3.62	5.17	5.79	7.39	8.31	9.34	10.49	14.98	19.45

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