

**DCM Test Report**

Cable Type : 4x2x24 x PVC	Factory Number : 879835	Data File Name : DA011732.E2G
Cable I.D. : UTP4-C5e-SOLID	Order Number : 2013/5/155	Specification File : Категория5е (100) ТУ 020-2002.2GS
Temperature : 29.00 °C	Operator : Fake Checker	Test Date : 19/06/2013
Length : 305.00 m	Number of Pairs to Test : 4	Test Time : 03:30:18 PM
Starting Position : 1	Test Head : UTP Test Head	

**Pass - Fail Test Certificate - 4 Pairs**

**High Frequency**

Test Type	Test Result
<b>Input Impedance (Zin)(Ohms)(Open/Short)</b>	<b>Passed</b>
<b>Return Loss (RL)(dB)(Terminated)</b>	<b>Passed</b>
<b>Insertion Loss (IL)(dB/100.0 m)@20C</b>	<b>Failed</b>
<b>Near End Crosstalk (NEXT)(dB)</b>	<b>Passed</b>
<b>ATT to FEXT Ratio (ACRF)(dB/100.0 m)</b>	<b>Passed</b>
<b>Power Sum NEXT(PSNEXT)(dB)</b>	<b>Passed</b>
<b>Power Sum ACRF (PSACRF)(dB/100.0 m)</b>	<b>Passed</b>
<b>Velocity of Propagation (VOP)(%c)</b>	<b>Passed</b>

Signature:	Approved:	Date:
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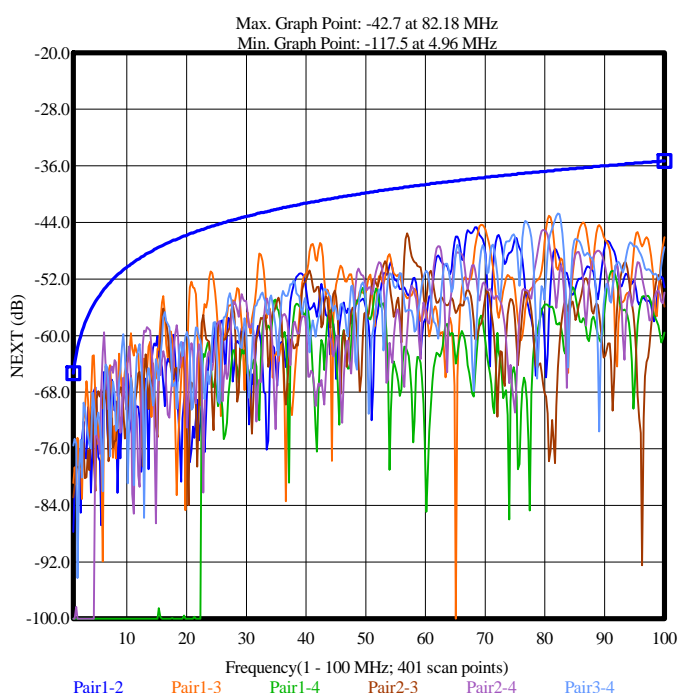
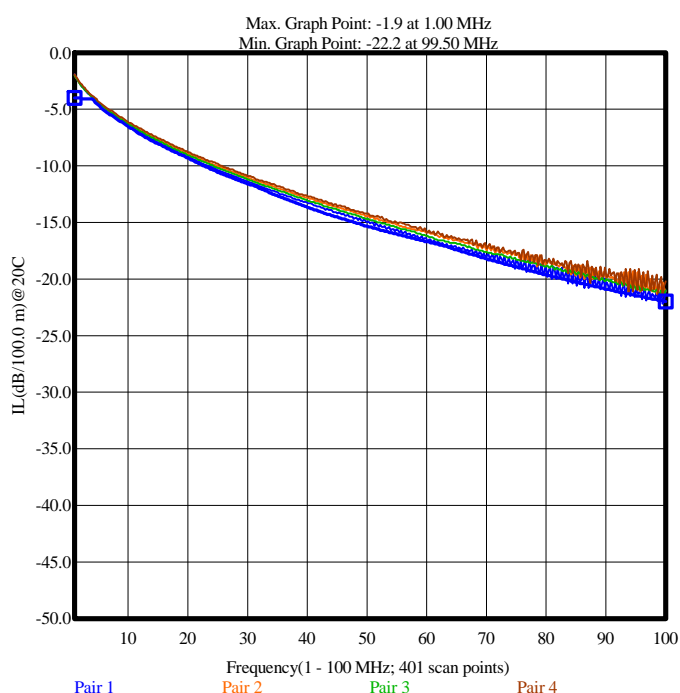
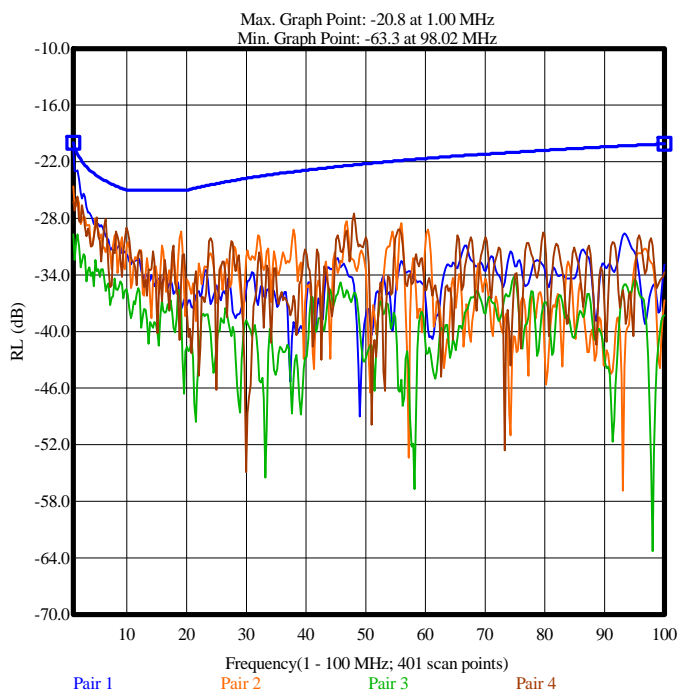
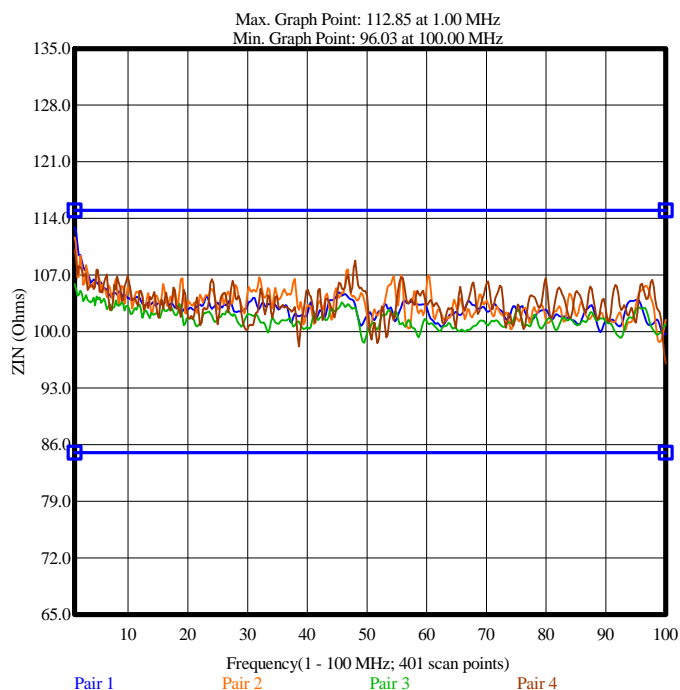
### DCM Test Report

Cable Type : 4x2x24 x PVC	Factory Number : 879835	Data File Name : DA011732.E2G
Cable I.D. : UTP4-CSe-SOLID	Order Number : 2013/5/155	Specification File : Категория5е (100) ТУ 020-2002.2GS
Temperature : 29.00 °C	Operator : Fake Checker	Test Date : 19/06/2013
Length : 305.00 m	Number of Pairs to Test : 4	Test Time : 03:30:18 PM
Starting Position : 1	Test Head : UTP Test Head	

### Worst Case Summary

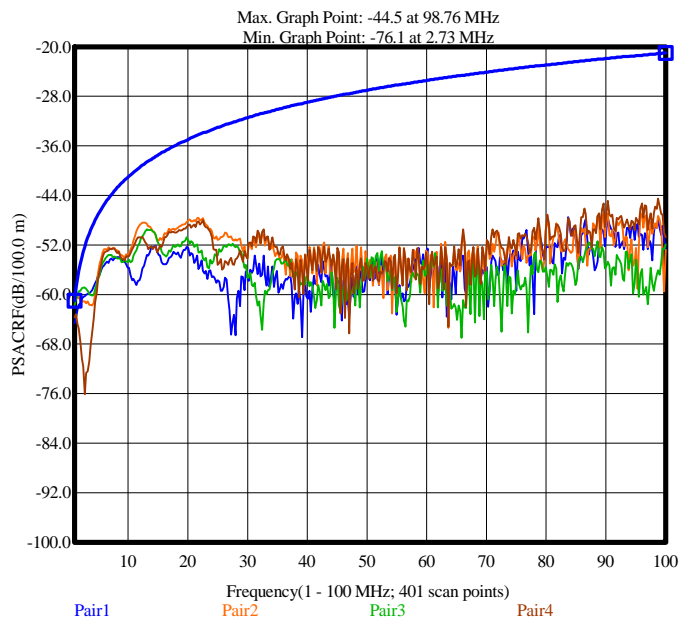
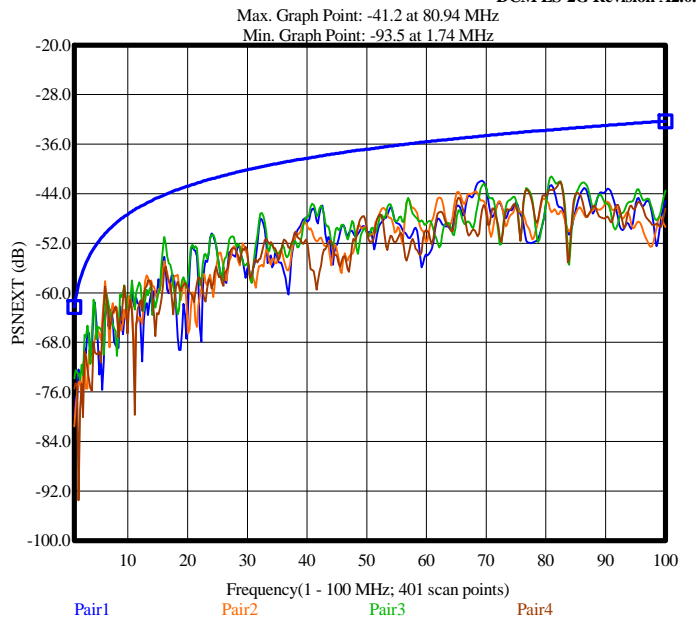
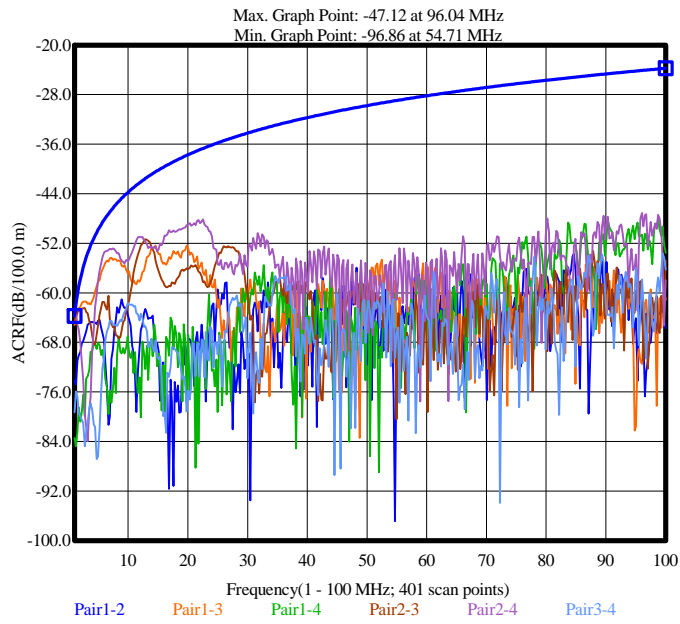
#### High Frequency

Test Type	Specification	Measured (Pair)	Margin	@ Frequency (MHz)	Test Result
Input Impedance (Zin)(Open/Short)	85.00 (Min)	96.03 (Pair 4)	11.03	100.00	Passed
Input Impedance (Zin)(Open/Short)	115.00 (Max)	112.85 (Pair 1)	2.15	1.00	Passed
Return Loss (RL)(T)	20.0 (Min)	20.8 (Pair 1)	0.8	1.00	Passed
Insertion Loss (IL)@20C	20.4 (Max)	20.8 (Pair 1)	-0.4	86.39	Failed
Near End Crosstalk (NEXT)	42.7 (Min)	48.4 (Pairs 1-3)	5.7	32.19	Passed
ATT to FEXT Ratio (ACRF)	63.75 (Min)	63.82 (Pairs 2-4)	0.07	1.00	Passed
Power Sum NEXT(PSNEXT)	44.2 (Min)	51.0 (Pair 3)	6.8	16.10	Passed
Power Sum ACRF (PSACRF)	61.0 (Min)	61.0 (Pair 2)	0.0	1.00	Passed
Velocity of Propagation (VOP)	65.00 (Min)	67.70 (Pair 1)	2.70	100.00	Passed



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

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

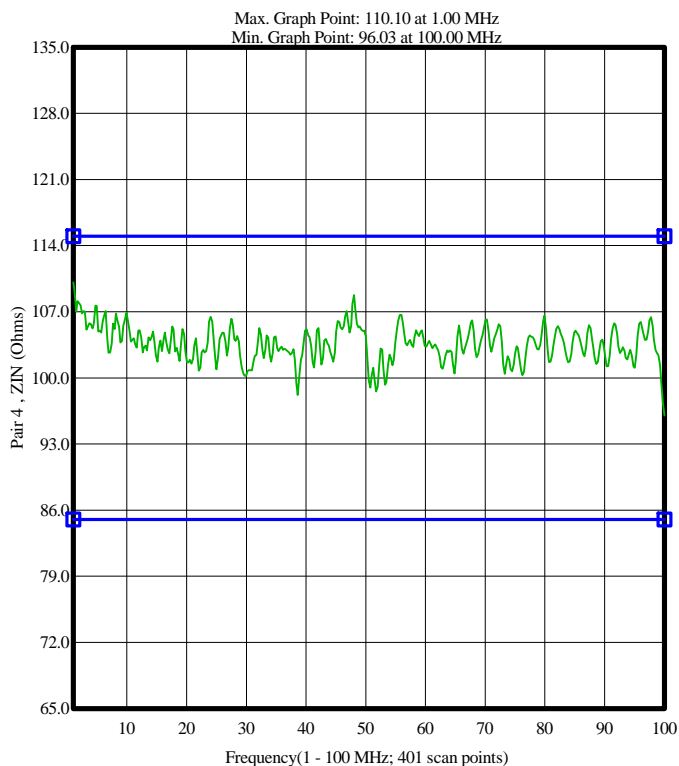
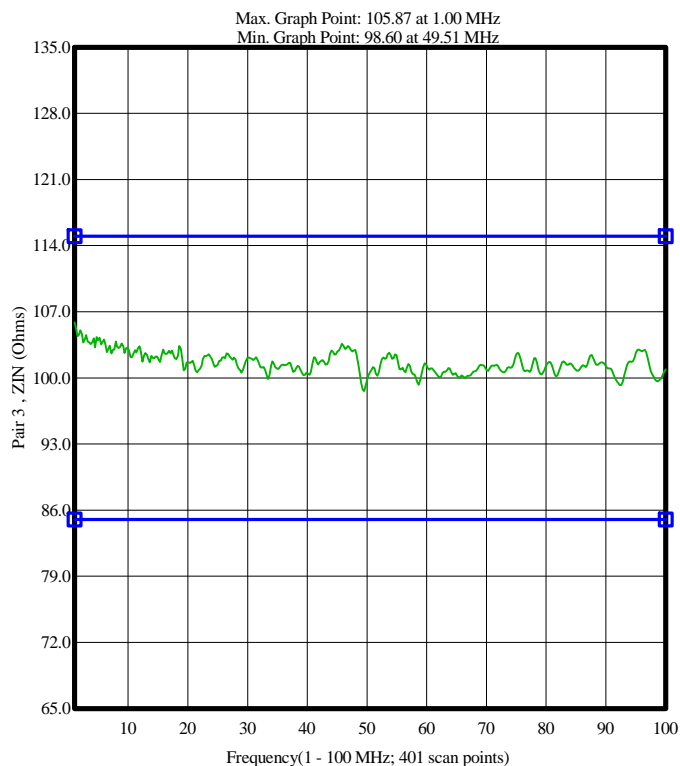
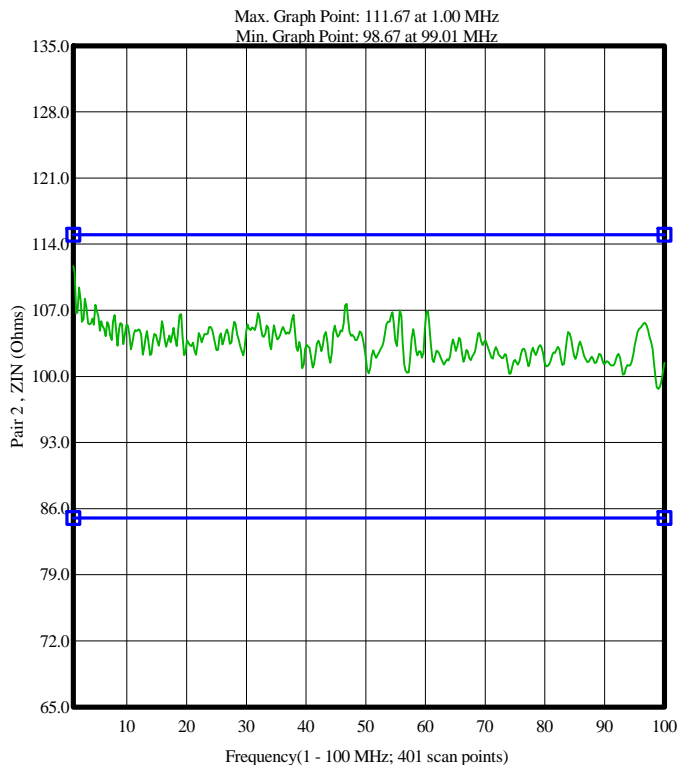
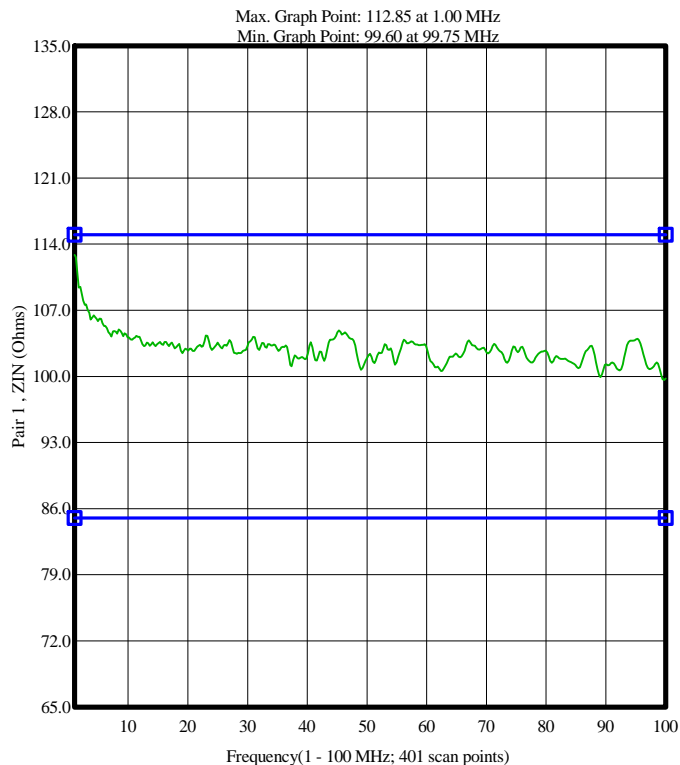


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### Summary and Graphic: Input Impedance (Zin)(Open/Short)

Pair	Specification		Measured(Ohms)		Margin (Ohms)		@ Frequency (MHz)		Test Result
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Pair 1	85.00	115.00	99.60	112.85	14.60	2.15	99.75	1.00	Passed
Pair 2	85.00	115.00	98.67	111.67	13.67	3.33	99.01	1.00	Passed
Pair 3	85.00	115.00	98.60	105.87	13.60	9.13	49.51	1.00	Passed
Pair 4	85.00	115.00	96.03	110.10	11.03	4.90	100.00	1.00	Passed



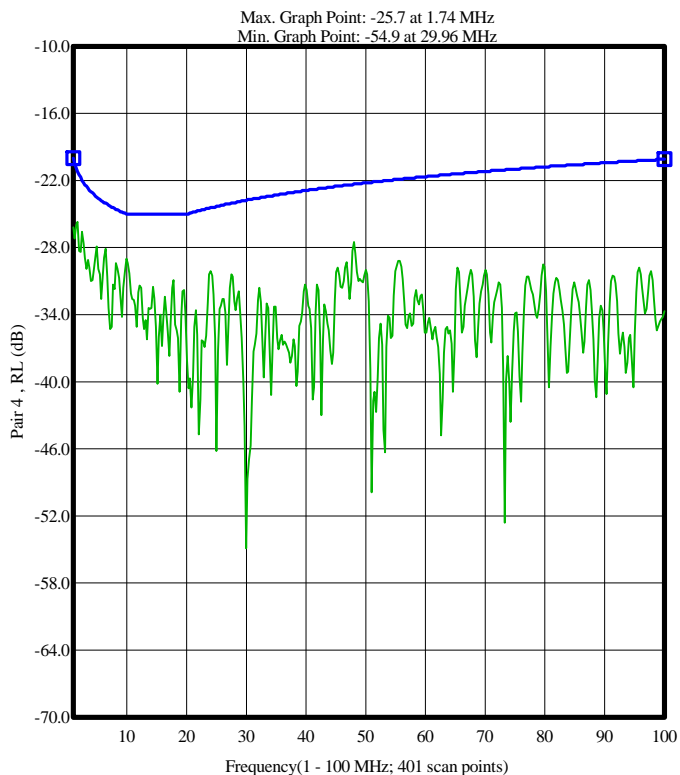
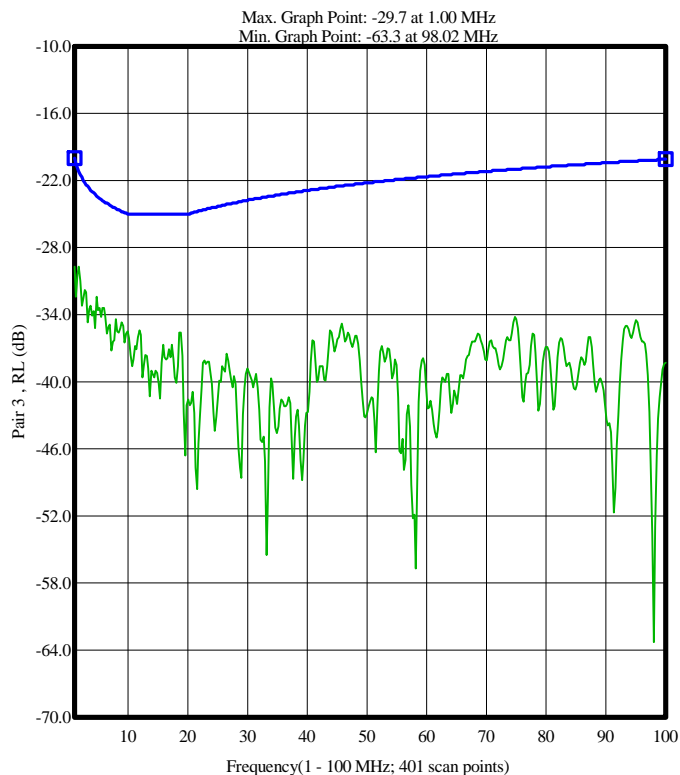
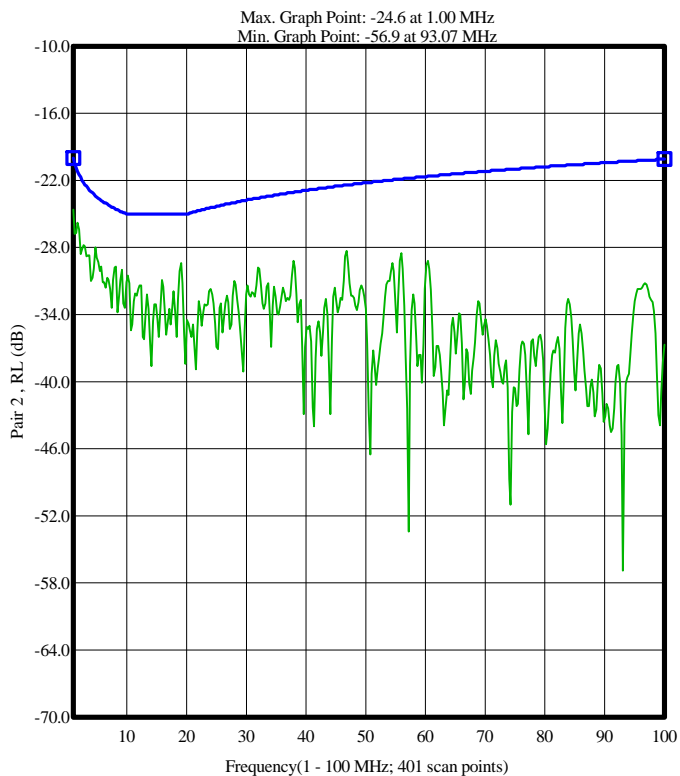
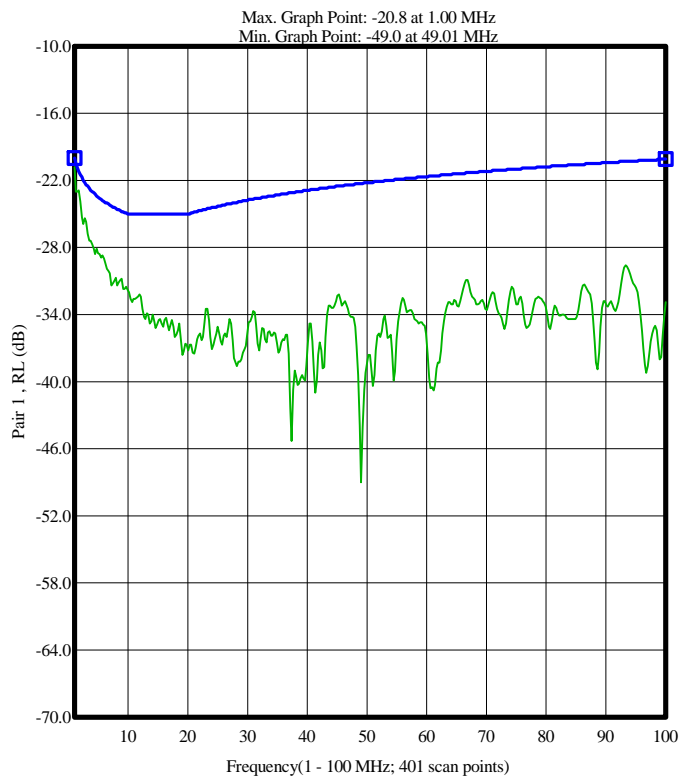
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### Summary and Graphic: Return Loss (RL)(Terminated)

(Formula): $RL \geq 20.0 + 5.0 * \log(f)$ ; 25.0; 25.0-7.0\*Log(f/20.0)

Pair	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1	20.0	20.8	0.8	1.00	Passed
Pair 2	25.0	29.4	4.4	19.07	Passed
Pair 3	21.2	29.7	8.5	1.74	Passed
Pair 4	25.0	29.0	4.0	9.91	Passed



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xxx = No entry.

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

Pair	Spec (Max)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1	20.4	20.8	-0.4	86.39	Failed
Pair 2	4.1	3.9	0.2	3.97	Passed
Pair 3	4.2	4.1	0.1	4.22	Passed
Pair 4	21.3	21.2	0.1	93.81	Passed



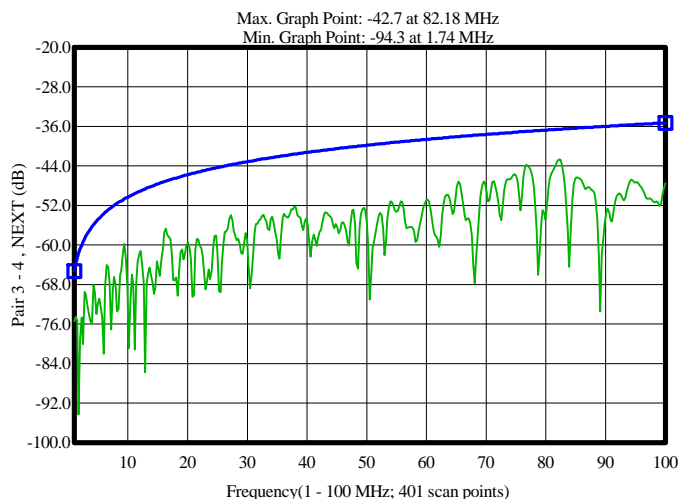
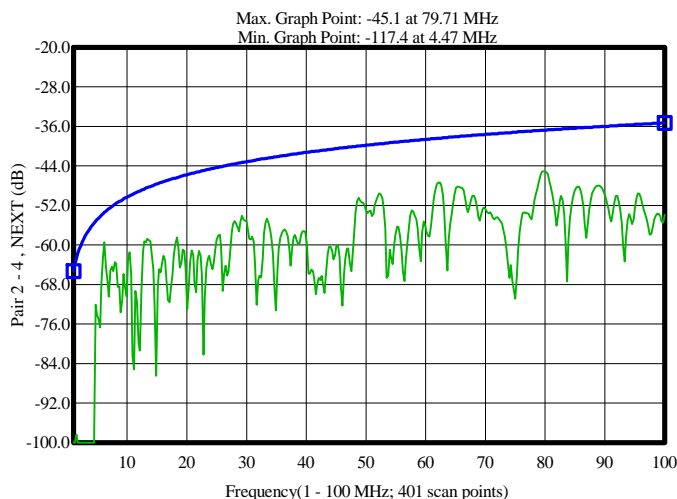
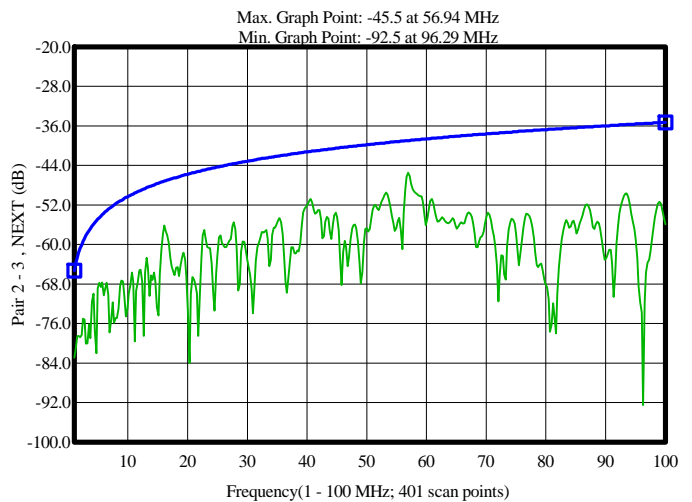
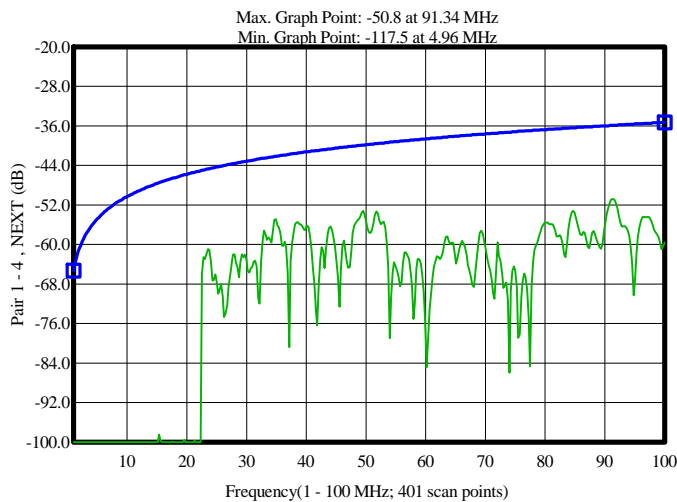
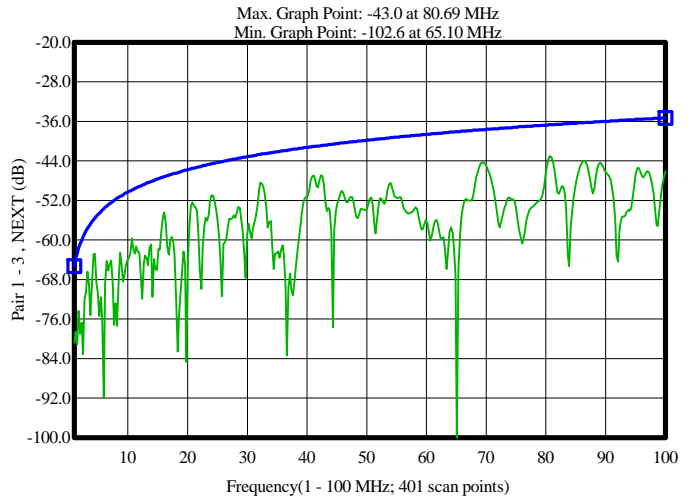
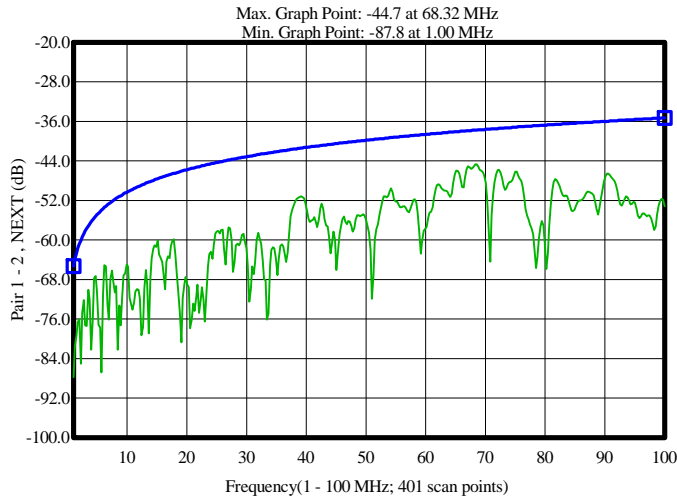
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xxx = No entry.

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

(Formula):  $NEXT \geq 67.000 - 15.000 * \log(f/0.772)$

Pair	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 - 2	37.8	44.7	6.9	68.32	Passed
Pair 1 - 3	42.7	48.4	5.7	32.19	Passed
Pair 1 - 4	42.2	54.9	12.7	34.91	Passed
Pair 2 - 3	39.0	45.5	6.5	56.94	Passed
Pair 2 - 4	53.4	59.5	6.1	6.20	Passed
Pair 3 - 4	36.6	42.7	6.1	82.18	Passed



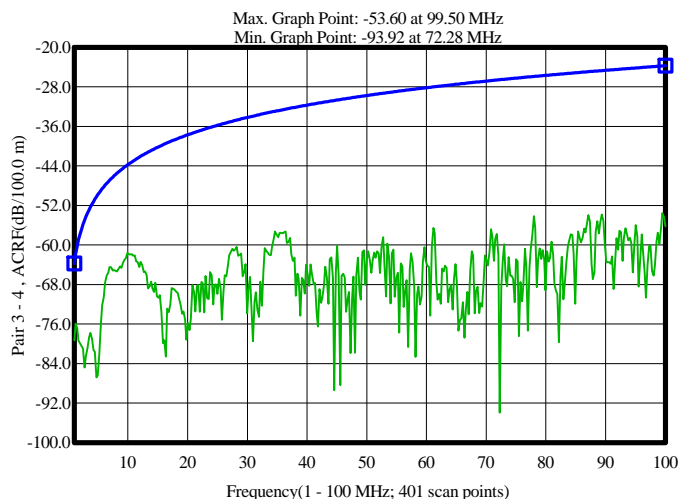
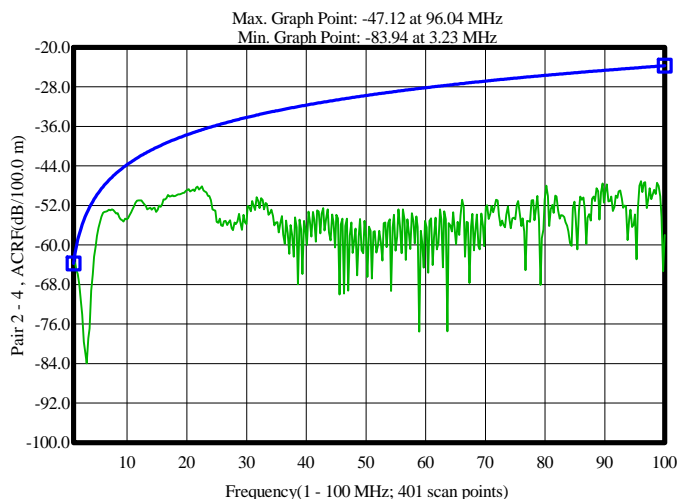
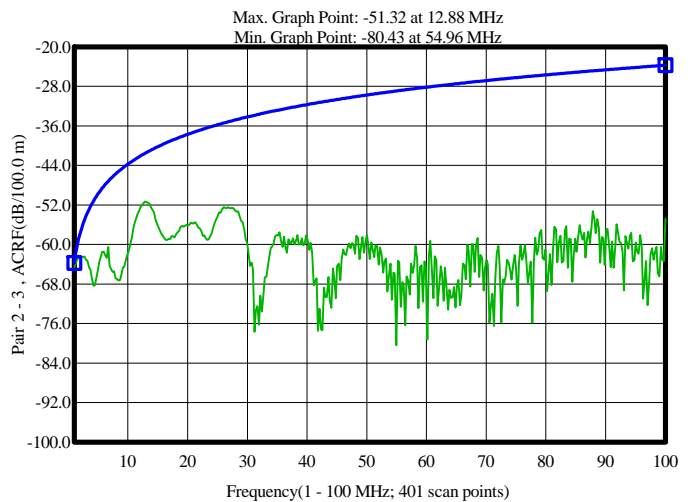
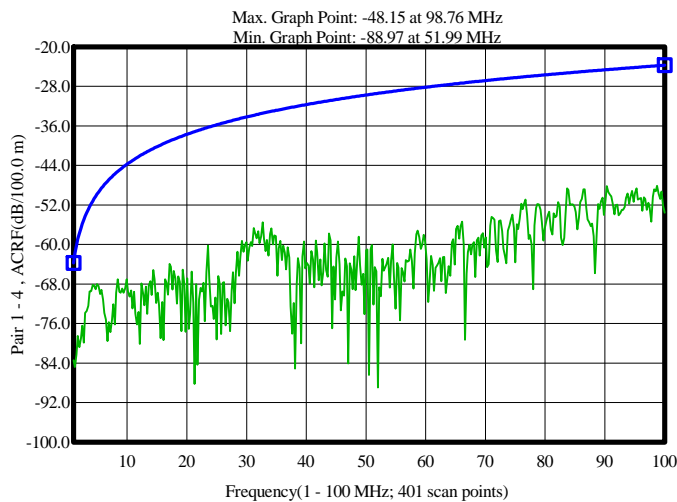
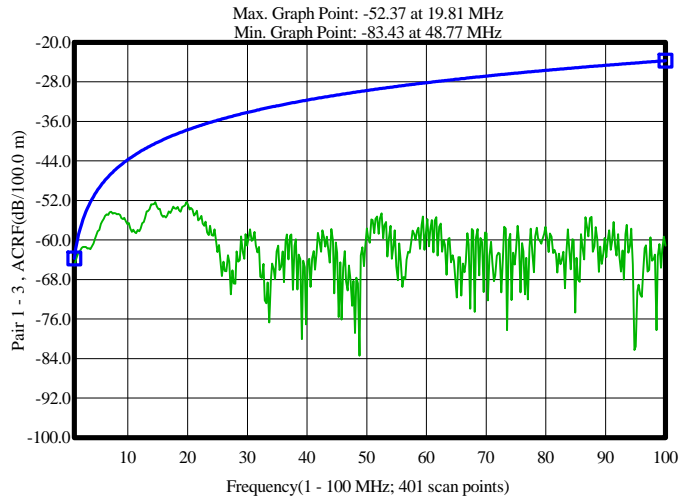
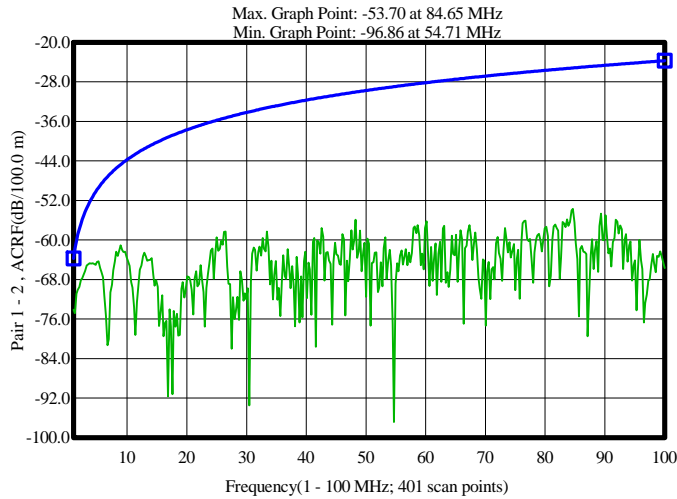
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### Summary and Graphic: ATT to FEXT Ratio (ACRF)

(Formula):  $ACRF \geq 66.00 - 20.00 * \log(f/0.772)$

Pair	Spec (Min)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1 - 2	63.75	74.14	10.39	1.00	Passed
Pair 1 - 3	63.75	65.19	1.44	1.00	Passed
Pair 1 - 4	51.25	68.14	16.89	4.22	Passed
Pair 2 - 3	63.75	64.64	0.89	1.00	Passed
Pair 2 - 4	63.75	63.82	0.07	1.00	Passed
Pair 3 - 4	61.83	75.92	14.09	1.25	Passed



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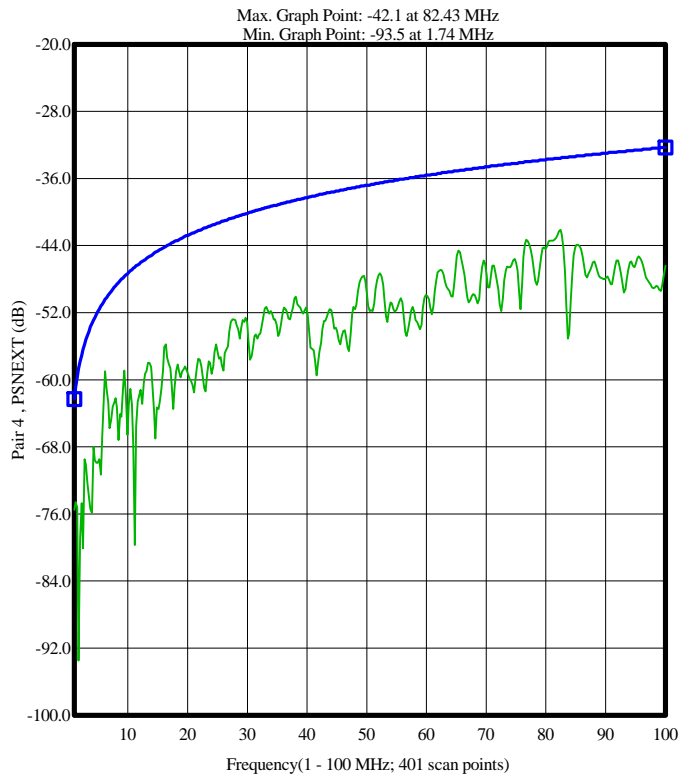
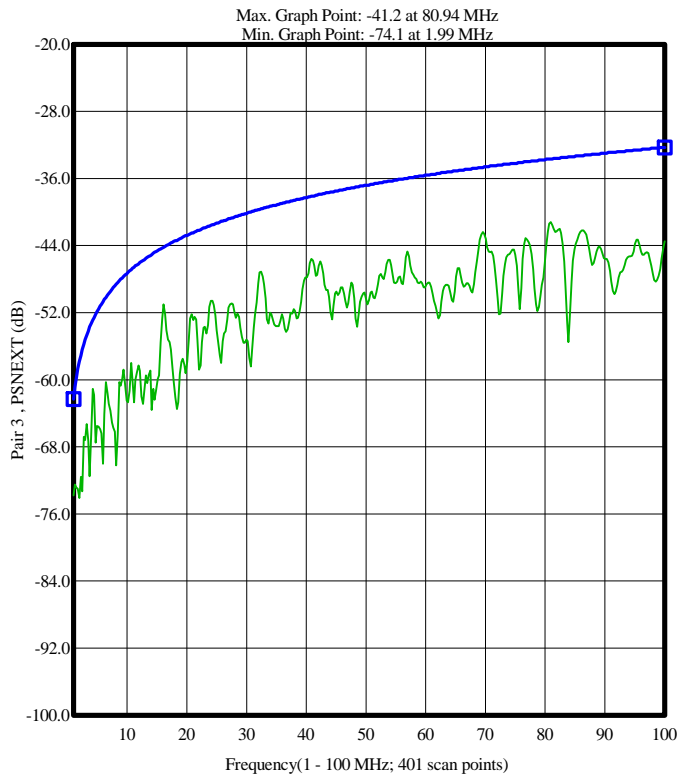
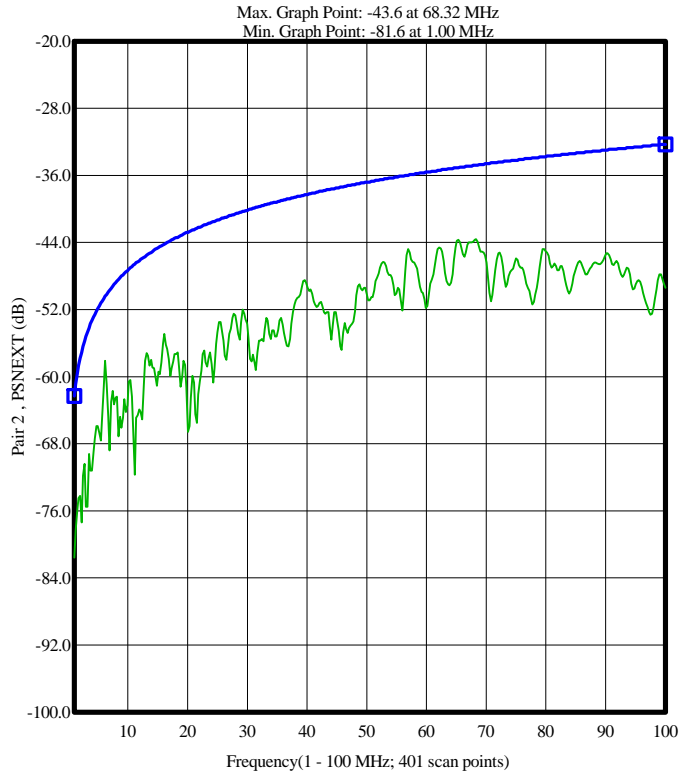
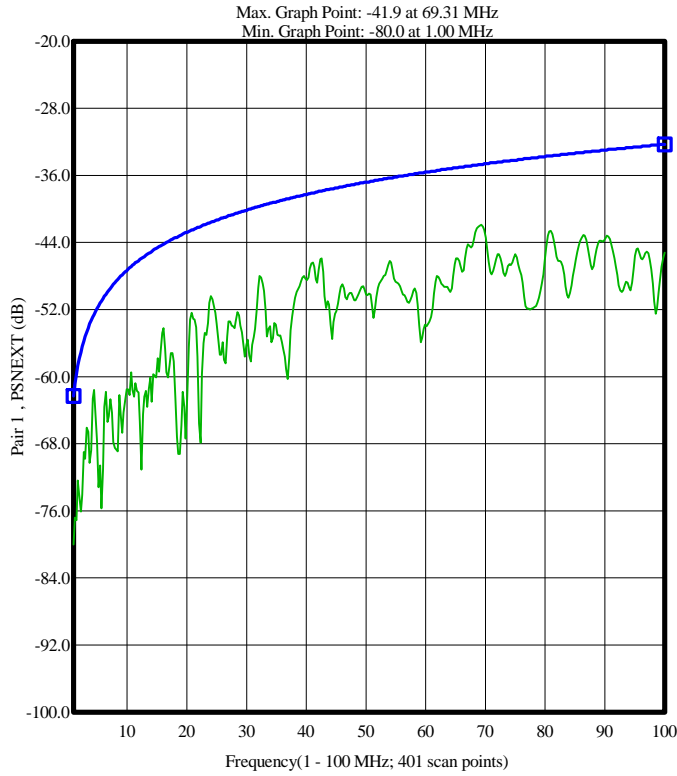
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xxx = No entry.



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

(Formula):  $PSNEXT \geq 62.30 - 15.00 * \log(f/1.000)$

Pair	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1	34.7	41.9	7.2	69.31	Passed
Pair 2	50.4	58.1	7.7	6.20	Passed
Pair 3	44.2	51.0	6.8	16.10	Passed
Pair 4	33.6	42.1	8.5	82.43	Passed



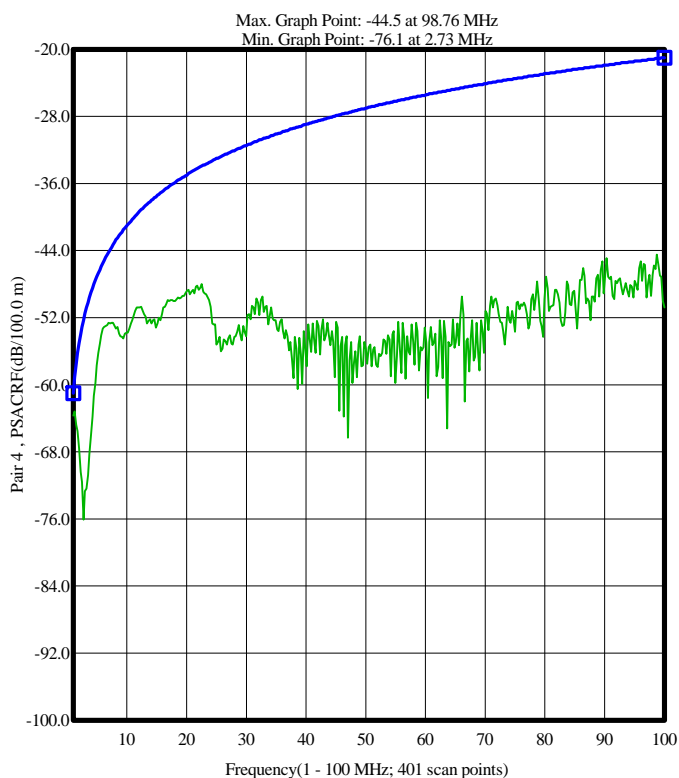
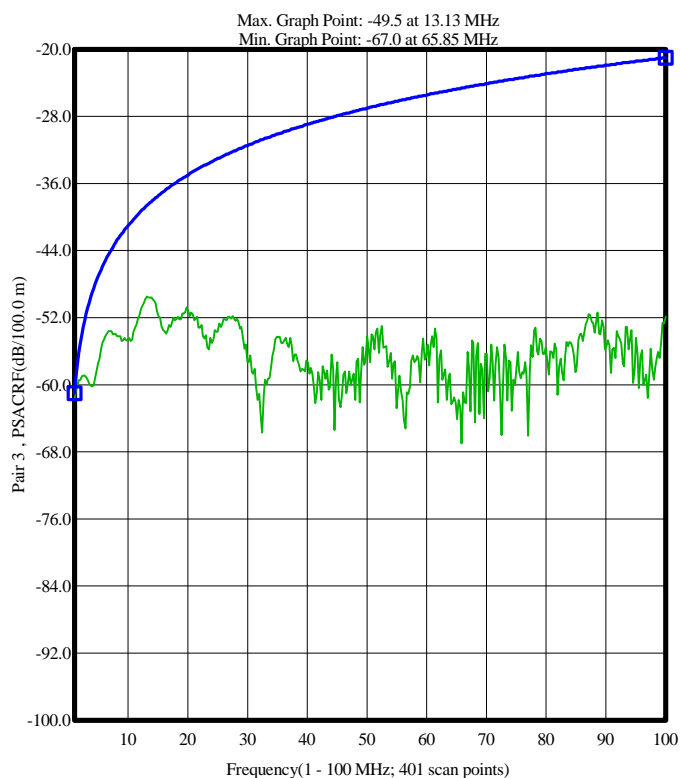
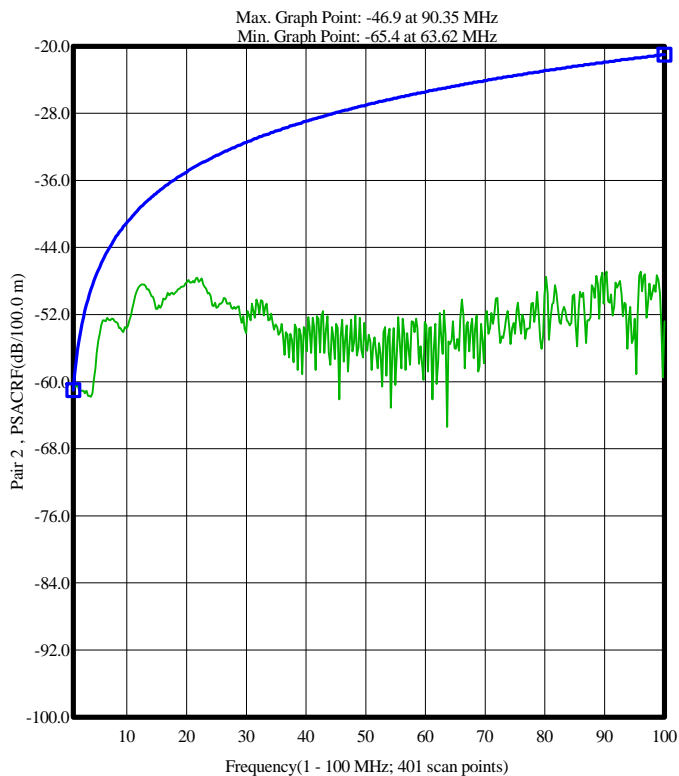
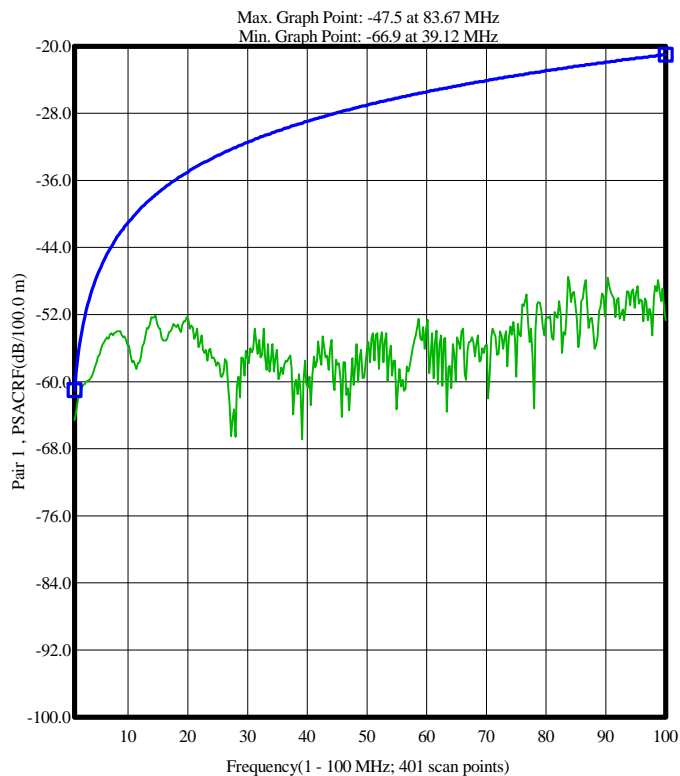
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### Summary and Graphic: Power Sum ACRF (PSACRF)

(Formula):  $PSACRF >= 61.000 - 20.000 * \text{Log}(f/1.000)$

Pair	Spec (Min)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1	61.0	64.6	3.6	1.00	Passed
Pair 2	61.0	61.0	0.0	1.00	Passed
Pair 3	61.0	61.8	0.8	1.00	Passed
Pair 4	61.0	63.7	2.7	1.00	Passed



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xxx = No entry.

**Summary: Velocity of Propagation (VOP)**

Sweep Frequency Range: 1 - 100 MHz; 1601 scan points

Pair	Spec (Min)(%)	Measured(%)	Margin (%)	@ Frequency (MHz)	Test Result
Pair 1	65.00	67.70	2.70	100.00	Passed
Pair 2	65.00	69.64	4.64	100.00	Passed
Pair 3	65.00	68.57	3.57	100.00	Passed
Pair 4	65.00	70.39	5.39	100.00	Passed

**Detail Discrete Frequencies ---Input Impedance (Zin)(Ohms)(Open/Short)**

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	32.50	62.50
Max Spec	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00
Min Spec	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00
Pair 1	112.85	106.25	104.67	104.13	103.52	102.76	103.56	104.03	103.53	100.58
Pair 2	111.67	105.67	106.13	105.44	105.44	103.50	102.81	105.06	104.89	102.08
Pair 3	105.87	103.81	103.68	103.07	102.75	101.67	101.36	102.06	101.10	100.30
Pair 4	110.10	105.62	105.63	106.62	103.44	101.93	100.94	101.86	104.13	101.67

**Continue:Input Impedance (Zin)(Ohms)(Open/Short)**

Frequency	100.00									
Max Spec	115.00									
Min Spec	85.00									
Pair 1	99.77									
Pair 2	101.44									
Pair 3	100.89									
Pair 4	96.03									

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

(Formula): $RL \geq -20.0 + 5.0 * \log(f)$ ; 25.0; 25.0-7.0\*Log(f/20.0)

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	31.25	62.50	100.00	
Min Spec	20.0	23.0	24.5	25.0	25.0	25.0	23.6	21.5	20.1	
Pair 1	20.8	27.7	30.9	31.9	34.7	37.1	34.0	36.5	32.9	
Pair 2	24.6	31.0	29.8	30.9	31.3	35.4	32.2	38.3	36.7	
Pair 3	29.7	34.1	34.7	35.7	37.4	41.7	39.7	40.0	38.3	
Pair 4	26.2	31.0	31.0	29.1	35.3	37.0	37.2	42.0	33.7	

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

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	31.25	62.50	100.00	
Max Spec	4.0	4.1	5.8	6.5	8.3	9.3	11.8	17.0	22.0	
Pair 1	1.9	4.0	5.7	6.4	8.2	9.2	11.6	16.8	21.0	
Pair 2	2.0	3.9	5.6	6.2	7.9	8.9	11.3	16.2	21.1	
Pair 3	2.0	3.9	5.6	6.3	8.0	9.0	11.4	16.6	21.0	
Pair 4	1.9	3.8	5.4	6.1	7.8	8.8	11.1	16.0	20.2	

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

(Formula):  $NEXT \geq 67.000 - 15.000 * \log(f/0.772)$

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	31.25	62.50	100.00	
Min Spec	65.3	56.3	51.8	50.3	47.3	45.8	42.9	38.4	35.3	
Pair 1 - 2	87.8	81.4	70.2	65.2	65.9	68.6	66.4	49.2	53.2	
Pair 1 - 3	80.8	68.3	74.1	63.9	54.8	68.5	56.1	59.7	46.1	
Pair 1 - 4	113.7	104.9	117.4	109.6	107.3	107.7	63.5	62.8	59.6	
Pair 2 - 3	82.9	71.4	74.9	71.9	56.8	72.2	67.2	54.7	55.9	
Pair 2 - 4	110.4	108.0	63.6	67.8	62.7	71.1	60.5	47.7	53.9	
Pair 3 - 4	75.5	75.0	69.6	73.3	58.7	59.6	57.3	56.1	47.5	

**Detail Discrete Frequencies ---ATT to FEXT Ratio (ACRF)(dB/100.0 m)**

(Formula):  $ACRF \geq 66.00 - 20.00 * \log(f/0.772)$

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	31.25	62.50	100.00	
Min Spec	63.75	51.71	45.69	43.75	39.67	37.73	33.86	27.83	23.75	
Pair 1 - 2	74.14	64.77	63.78	63.81	76.23	68.06	61.66	64.33	65.71	
Pair 1 - 3	65.19	61.23	54.67	56.72	55.22	52.75	58.98	59.44	61.15	
Pair 1 - 4	83.44	69.27	74.37	67.97	76.34	69.37	56.91	65.04	53.57	
Pair 2 - 3	64.64	67.08	66.88	61.78	58.57	56.12	76.72	65.33	54.74	
Pair 2 - 4	63.82	68.87	53.40	54.76	51.14	48.92	52.35	53.82	57.97	
Pair 3 - 4	79.28	79.20	65.26	61.72	79.53	76.57	71.04	68.47	56.24	

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

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

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

(Formula): PSNEXT >= 62.30 - 15.00 \* Log(f/1.000)

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	31.25	62.50	100.00	
Min Spec	62.3	53.3	48.8	47.3	44.2	42.8	39.9	35.4	32.3	
Pair 1	80.0	68.0	68.6	61.5	54.4	63.6	55.1	48.7	45.2	
Pair 2	81.6	70.9	62.5	62.4	55.4	65.4	58.5	44.9	49.4	
Pair 3	73.8	65.9	67.3	62.6	51.7	58.2	53.4	51.5	43.5	
Pair 4	75.5	74.9	62.5	65.3	57.2	59.2	54.8	46.9	46.4	

**Detail Discrete Frequencies ---Power Sum ACRF (PSACRF)(dB/100.0 m)**

(Formula): PSACRF >=61.000-20.000\*Log(f/1.000)

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	31.25	62.50	100.00	
Min Spec	61.0	49.0	42.9	41.0	36.9	35.0	31.1	25.1	21.0	
Pair 1	64.6	59.2	54.1	55.7	55.1	52.5	54.0	57.4	52.7	
Pair 2	61.0	61.7	52.8	53.5	50.4	48.1	51.9	53.1	52.8	
Pair 3	61.8	60.2	54.1	54.6	53.6	51.1	58.6	57.6	51.9	
Pair 4	63.7	65.8	53.1	53.8	51.1	48.9	51.0	53.3	50.8	

**Detail Discrete Frequencies ---Velocity of Propagation (VOP)(%c)**

Frequency	1.00	100.00								
Min Spec	65.00	65.00								
Pair 1	999.00	67.70								
Pair 2	999.00	69.64								
Pair 3	999.00	68.57								
Pair 4	999.00	70.39								

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

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