DCM Test Report

Cable Type	: 4x2x24 x FEP	Factory Number	:	Data File Name	: DA048703.XLD
Cable I.D.	: FTP#24X4P CABLE	Order Number	:	Specification File	: FTP SLOT CAT6E-400Mhz.LDS
Temperature	: 28.00 蚓	Operator	: WEI	Test Date	: 04/23/2010
Length	: 305.00 m	Number of Pairs to Test	: 4	Test Time	: 04:47:34 AM
Starting Position	: 4				

Pass - Fail Test Certificate - 4 Pairs

High Frequency

Test Type	Test Result
Input Impedance (Zin)(Ohms)(Open/Short)	**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**
ATT to NEXT Ratio (ACR)(dB/100.0 m)	**OK**
Power Sum ACR (PS ACR)(dB/100.0 m)	**OK**

Low Frequency

Test Type	Test Result
Conductor Resistance(Ohms/100.0 m)@20C	**OK**
Resistance Unbalance(%)@20C	**OK**
Cap. Unbalance to Ground(pF/0.0 m)@1000Hz	**OK**
Cap. Unbalance to Shield(pF/100.0 m)@1000Hz	**OK**

Signature:	Approved:	Date:

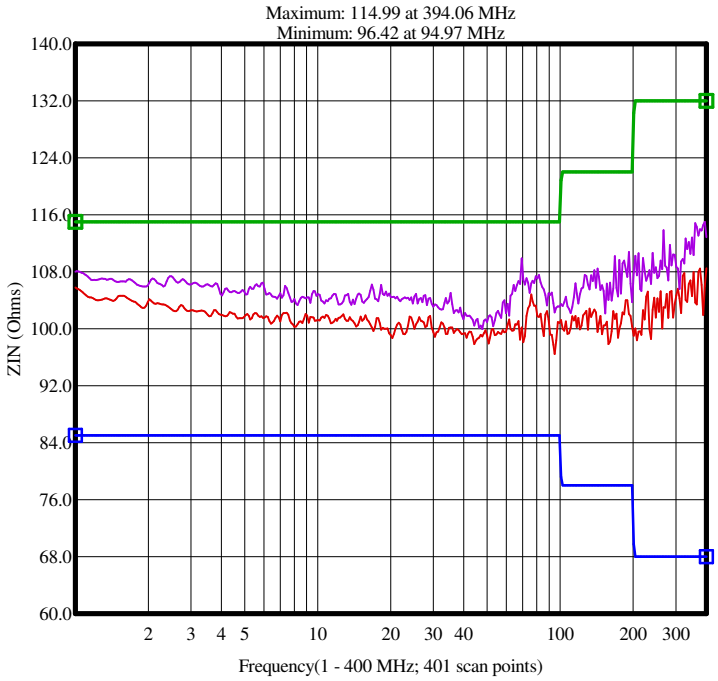
DCM Test Report

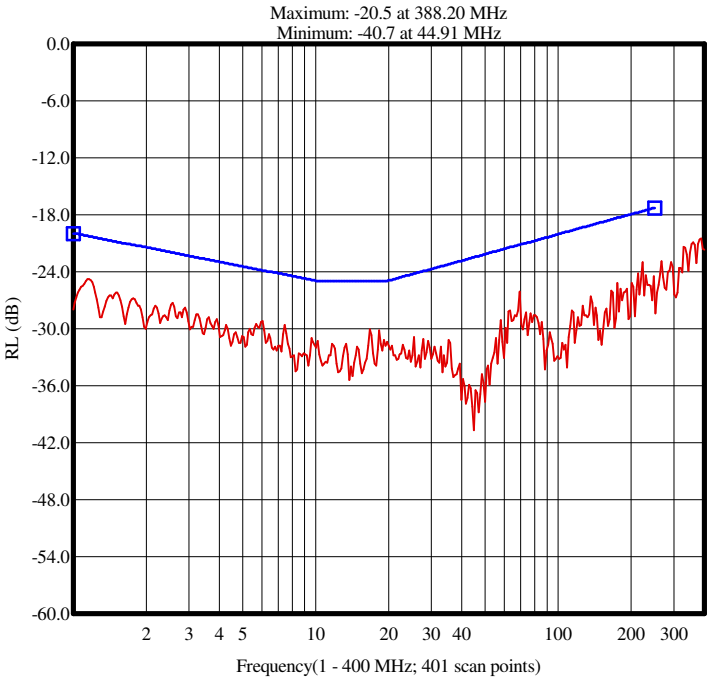
Cable Type	: 4x2x24 x FEP	Factory Number	:	Data File Name	: DA048703.XLD
Cable I.D.	: FTP#24X4P CABLE	Order Number	:	Specification File	: FTP SLOT CAT6E-400Mhz.LDS
Temperature	: 28.00 蚓	Operator	: WEI	Test Date	: 04/23/2010
Length	: 305.00 m	Number of Pairs to Test	: 4	Test Time	: 04:47:34 AM
Starting Position	: 4				

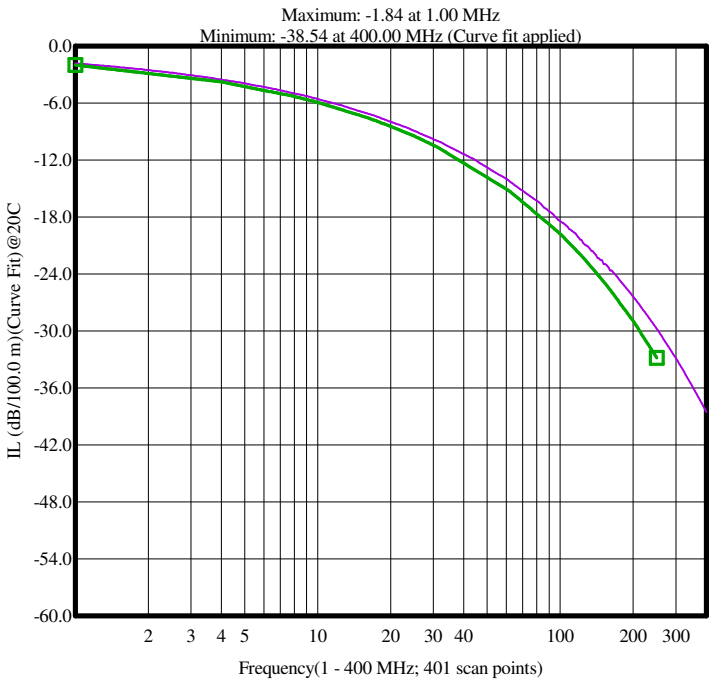
Worst Case Summary

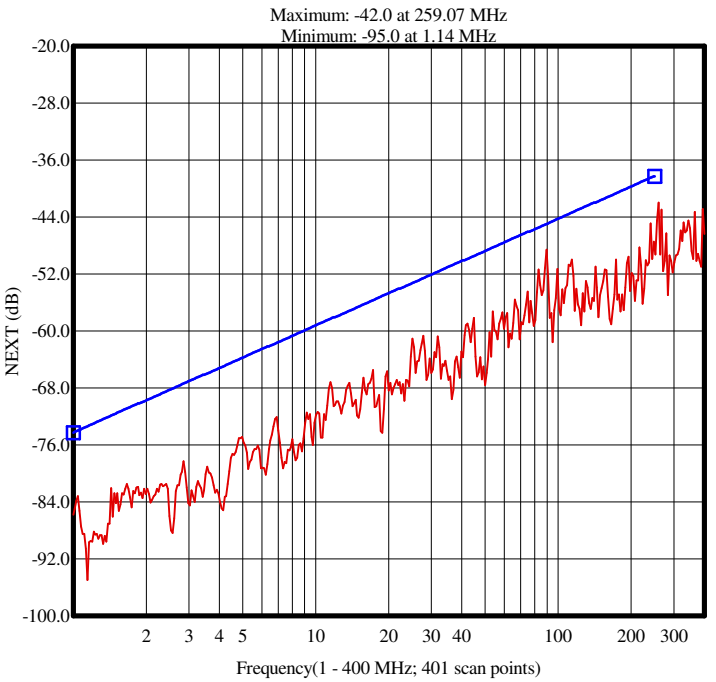
High Frequency

Test Type	Specification	Measured (Pair)	Margin	@ Frequency (MHz)	Test Result
Input Impedance (Zin)(Open/Short)	85.00 (Min)	96.42 (Pair 3)	11.42	94.97	Passed
Input Impedance (Zin)(Open/Short)	115.00 (Max)	109.86 (Pair 2)	5.14	69.34	Passed
Return Loss (RL)	20.3 (Min)	24.8 (Pair 4)	4.5	1.16	Passed
Insertion Loss (IL)(Curve Fit)@20C	2.02 (Max)	1.84 (Pair 1)	0.18	1.00	Passed
Near End Crosstalk Loss (NEXT)	45.0 (Min)	48.6 (Pairs 2-4)	3.6	89.44	Passed
Power Sum NEXT(PSNEXT)	43.0 (Min)	47.9 (Pair 2)	4.9	89.44	Passed
ATT to NEXT Ratio (ACR)	26.3 (Min)	31.5 (Pairs 2-4)	5.2	89.44	Passed
Power Sum ACR (PS ACR)	24.4 (Min)	30.8 (Pair 2)	6.4	89.44	Passed







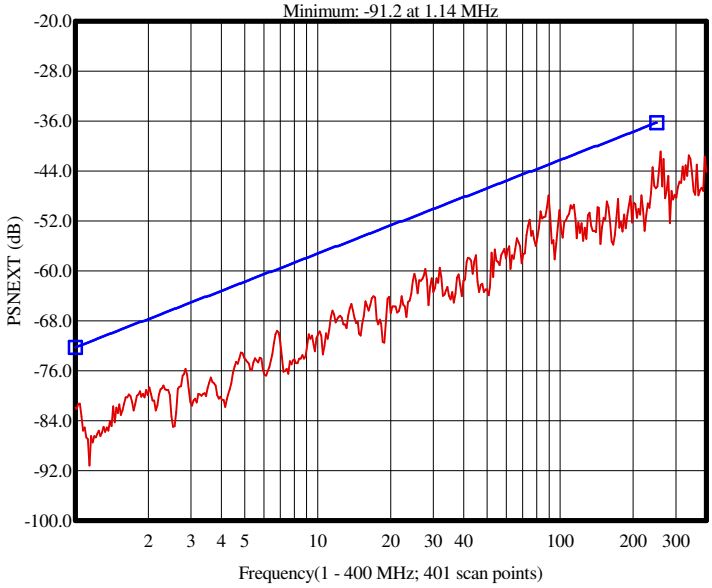


N/A = Not Applicable.
--- = Disable/Bypassed Pair.

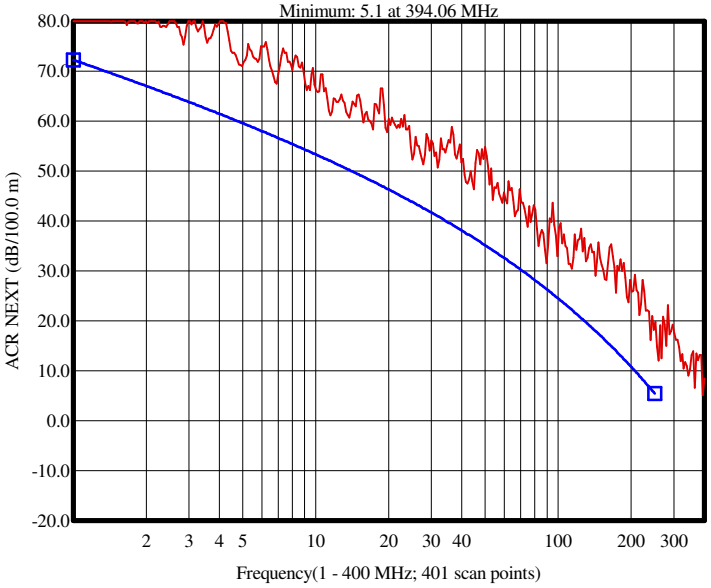
* = Measured value out of spec.
xxx = No entry.

*** = Measured value is invalid.

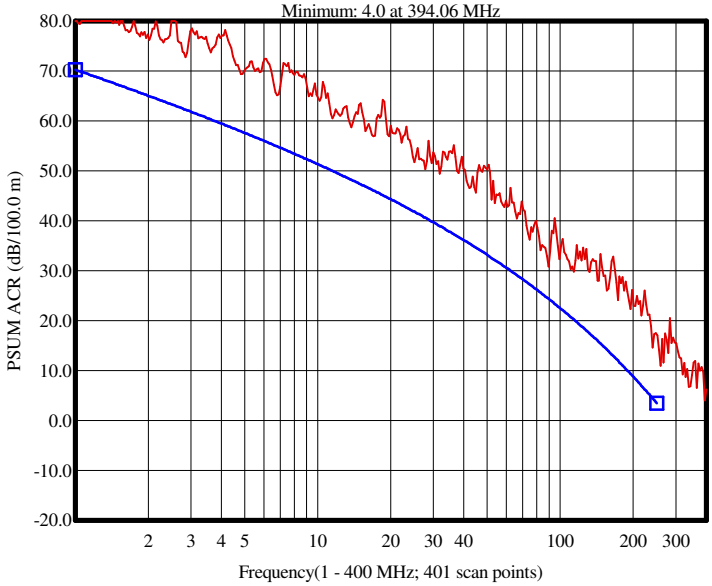
Maximum: -40.9 at 259.07 MHz
Minimum: -91.2 at 1.14 MHz



Maximum: 93.1 at 1.14 MHz
Minimum: 5.1 at 394.06 MHz



Maximum: 89.3 at 1.14 MHz
Minimum: 4.0 at 394.06 MHz



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Worst Case Summary

Low Frequency

Statistical Parameter	Maximum		Minimum		Average Maximum		Standard Deviation		
Test Type	Spec Limit	Measured	Spec Limit	Measured	Spec Limit	Measured	Spec Limit	Measured	Result
Conductor Resistance(Ohms/100.0 m)@20C	9.38	7.69	xxx	7.32	xxx	7.50	xxx	0.153	Passed
Resistance Unbalance(%)	5.00	0.36	xxx	0.04	xxx	0.21	xxx	0.112	Passed
Cap. Unbalance to Ground(pF/0.0 m)@1000Hz	330.00	0.00	xxx	0.00	xxx	0.00	xxx	1.000	Passed
Cap. Unbalance to Shield(pF/100.0 m)@1000Hz	330.00	0.58	xxx	0.37	xxx	0.47	xxx	0.073	Passed

Detail: Resistance/Capacitance Measurement -Normalized

Test Types	Conductor Resistance Ra @20C	Conductor Resistance Rb @20C	Resistance Unbalance	Capacitance Unbalance to Ground @1000 Hz	Capacitance Unbalance to Shield @1000 Hz	Test Result
Unit	Ohms/100.0 m	Ohms/100.0 m	%	pF/0.0 m	pF/100.0 m	
Max Spec	9.38	9.38	5.00	330.00	330.00	
Min Spec	xxx	xxx	xxx	xxx	xxx	
Pair 1 [4]	7.69	7.67	0.36	0.00	0.48	Passed
Pair 2 [5]	7.37	7.37	0.04	0.00	0.37	Passed
Pair 3 [6]	7.62	7.60	0.24	0.00	0.47	Passed
Pair 4 [7]	7.33	7.32	0.21	0.00	0.58	Passed

N/A = Not Applicable.
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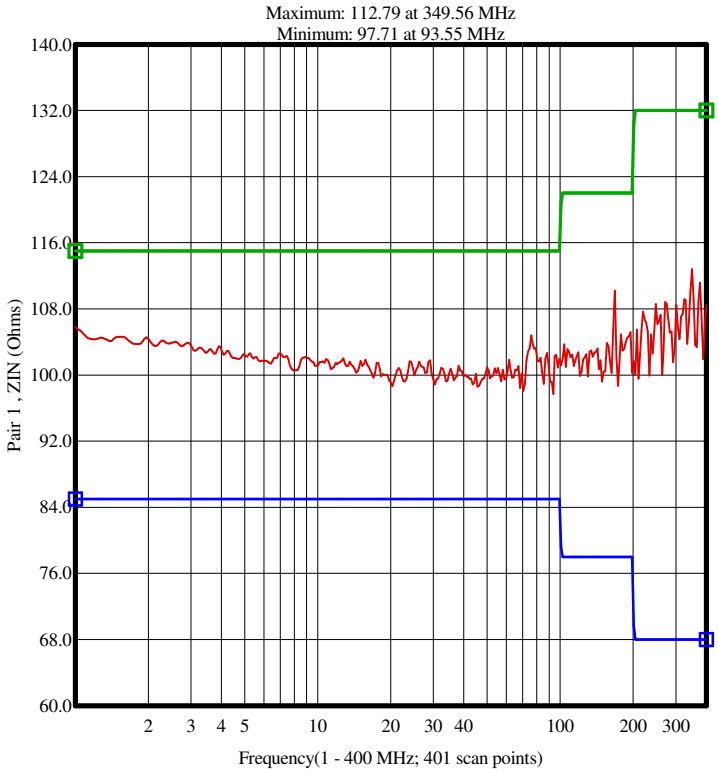
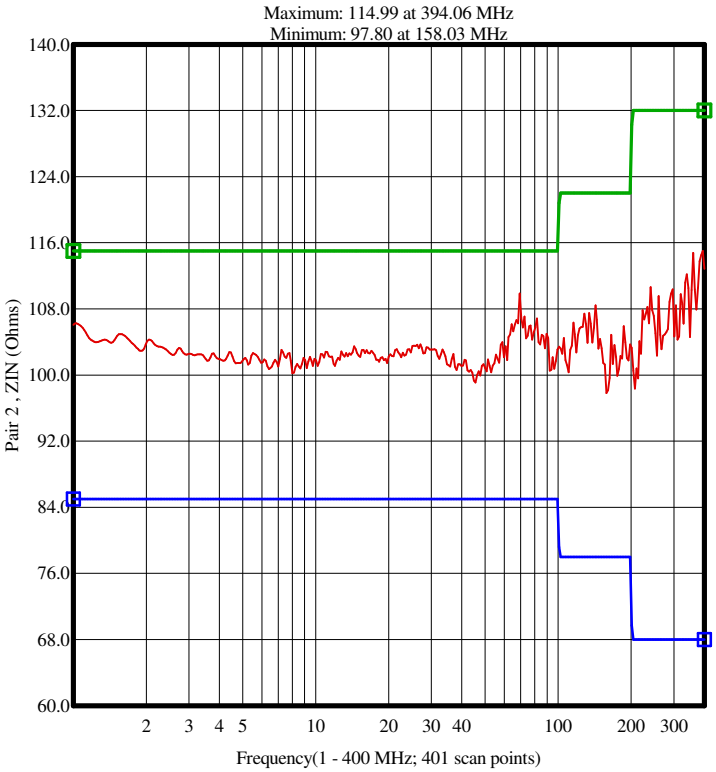
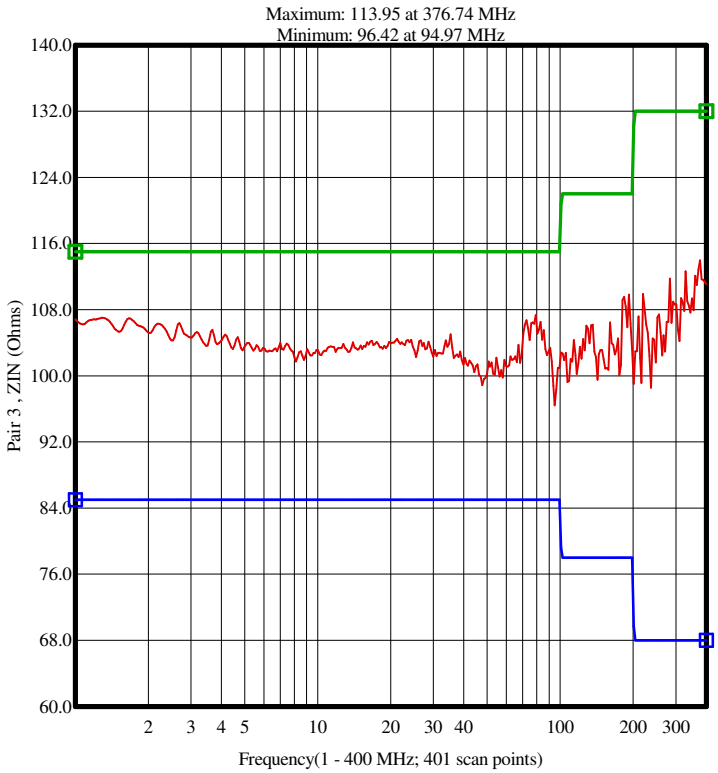
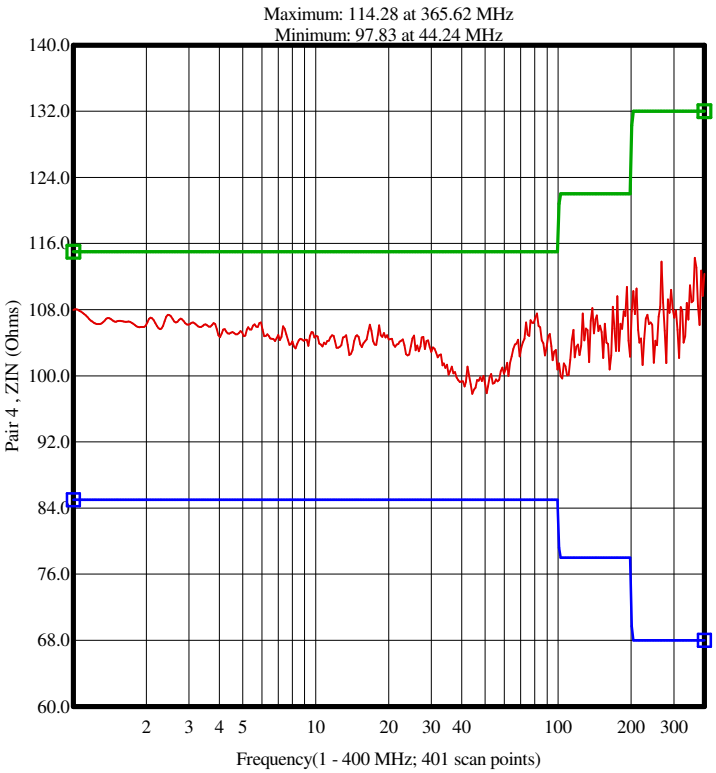
Summary and Graphic: Input Impedance (Zin)(Open/Short)

	Specification		Measured(Ohms)		Margin (Ohms)		@ Frequency (MHz)		
Pair [Position]	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Test Result
Pair 1 [4]	85.00	115.00	97.71	105.77	12.71	9.23	93.55	1.00	Passed
Pair 2 [5]	85.00	115.00	99.10	109.86	14.10	5.14	45.58	69.34	Passed
Pair 3 [6]	85.00	115.00	96.42	107.33	11.42	7.67	94.97	79.34	Passed
Pair 4 [7]	85.00	115.00	97.83	108.05	12.83	6.95	44.24	1.02	Passed









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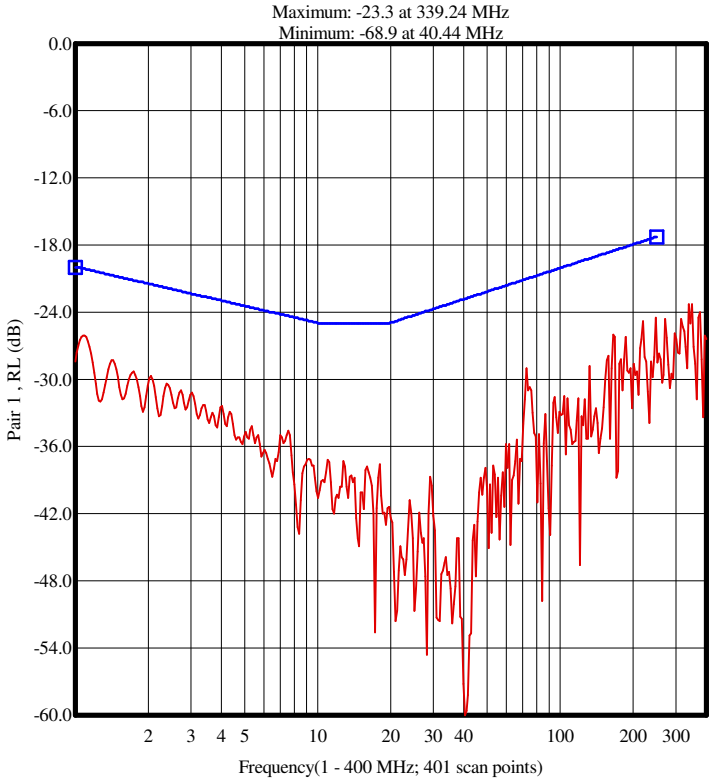
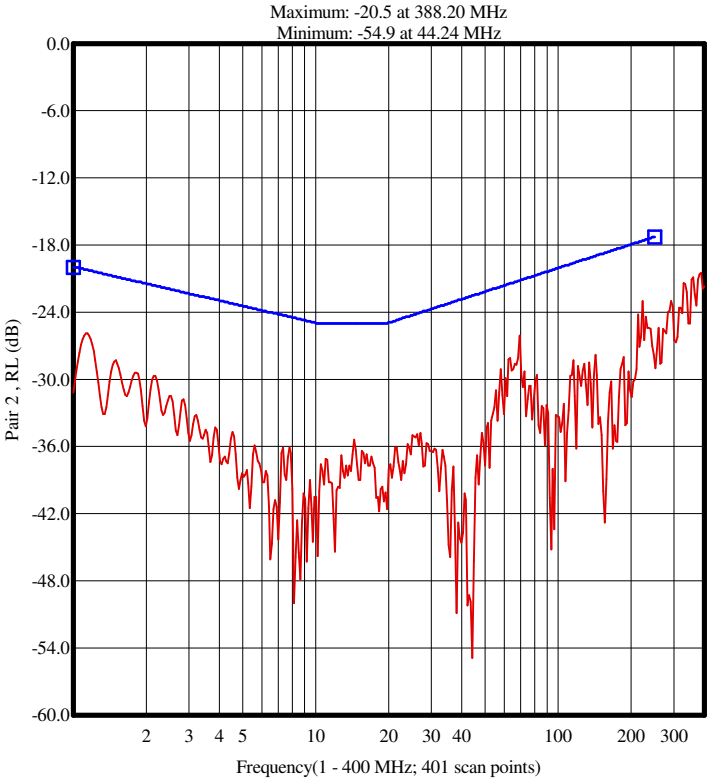
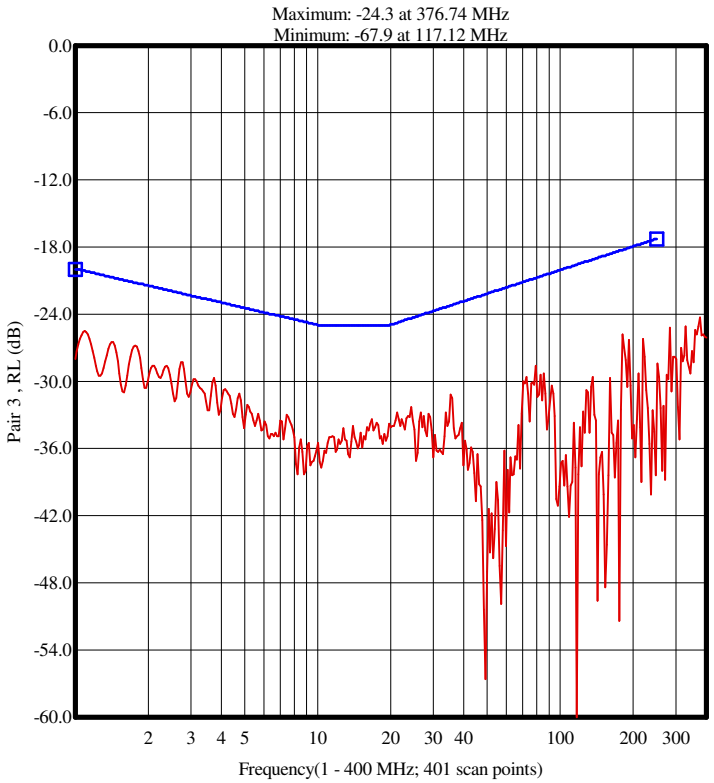
Summary and Graphic: Return Loss (RL)

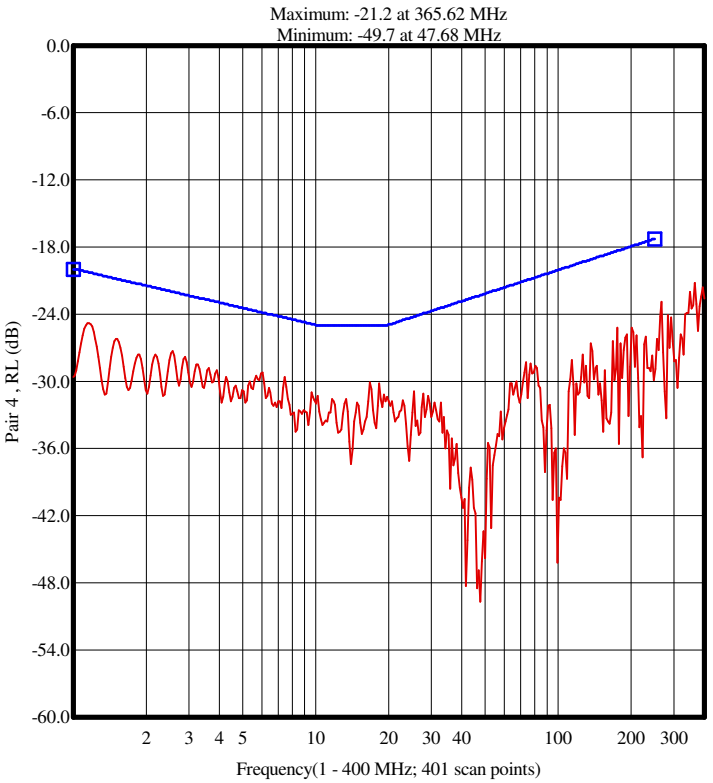
(Formula):RL>=20.0+5.0*Log(f); 25.0; 25.0-7.0*Log(f/20.0) (Refer to manual)

Pair [Position]	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 [4]	20.1	26.1	6.0	1.08	Passed
Pair 2 [5]	21.2	26.1	4.9	69.34	Passed
Pair 3 [6]	20.1	25.5	5.4	1.09	Passed
Pair 4 [7]	20.3	24.8	4.5	1.16	Passed









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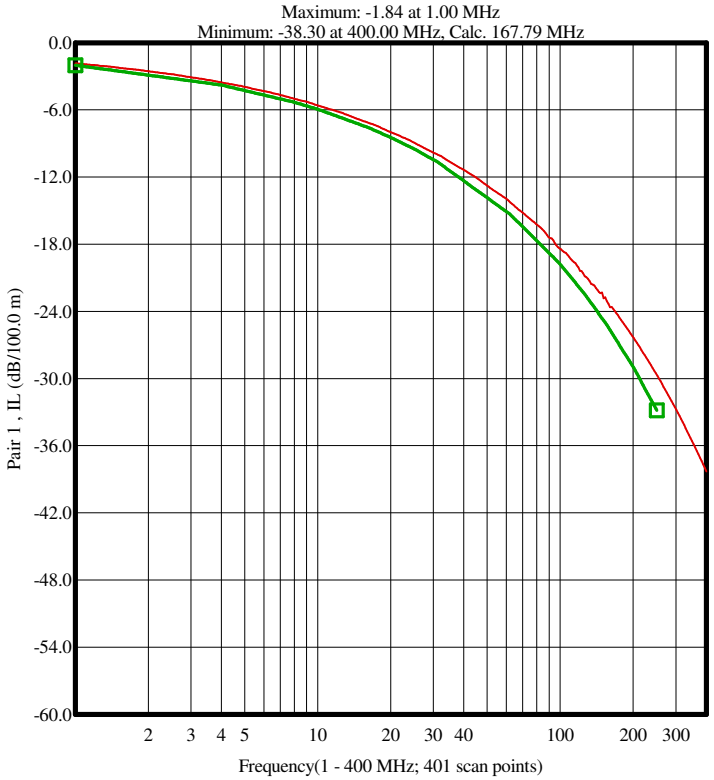
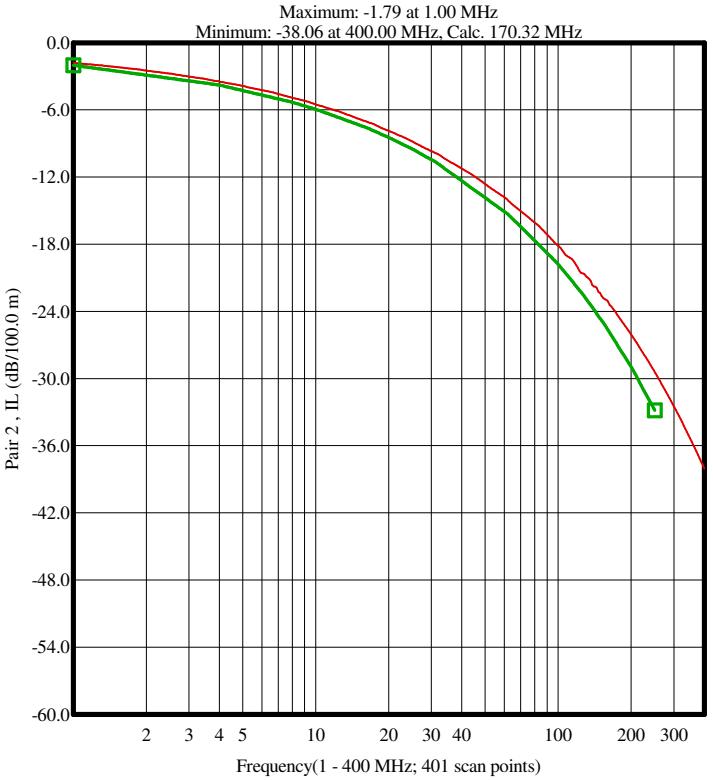
xxx = No entry.

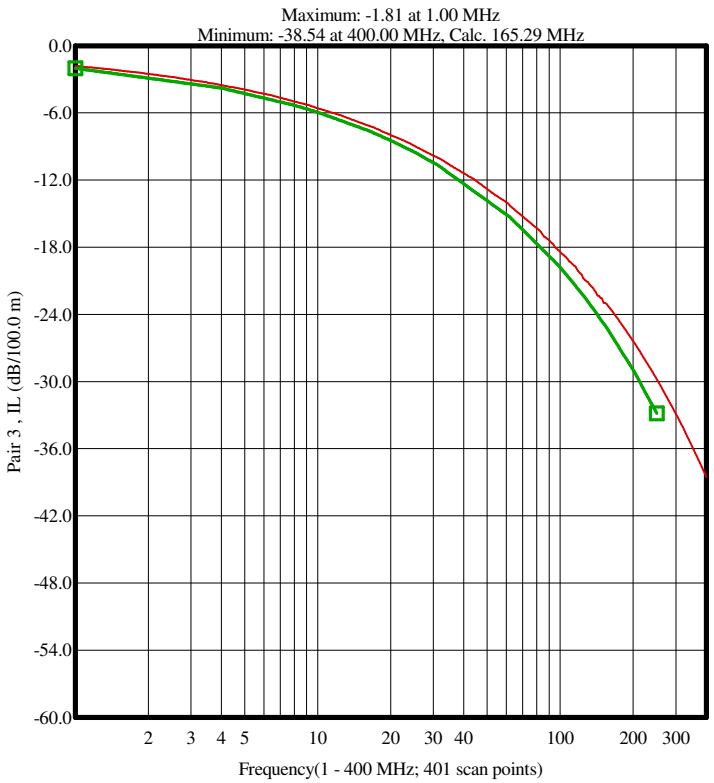
*** = Measured value is invalid.

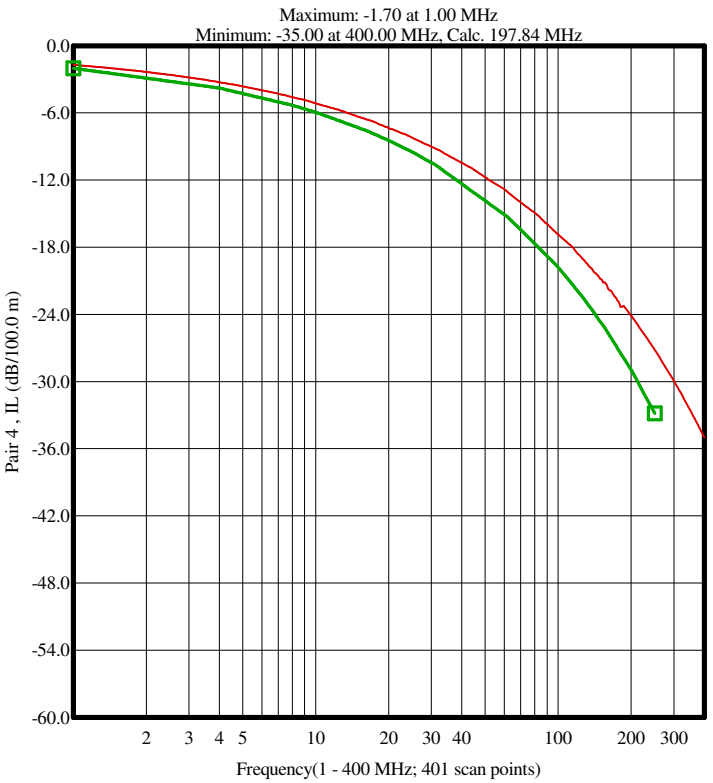
Summary and Graphic: Insertion Loss (IL)(Curve Fit)@20C

Pair [Position]	Spec (Max)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1 [4]	2.02	1.84	0.18	1.00	Passed
Pair 2 [5]	2.03	1.81	0.22	1.02	Passed
Pair 3 [6]	2.03	1.82	0.21	1.02	Passed
Pair 4 [7]	2.02	1.70	0.32	1.00	Passed









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

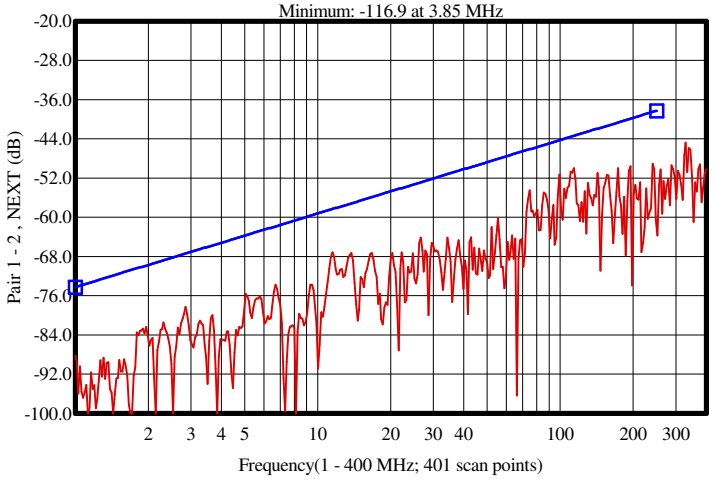
*** = Measured value is invalid.

Summary and Graphic: Near End Crosstalk Loss (NEXT)

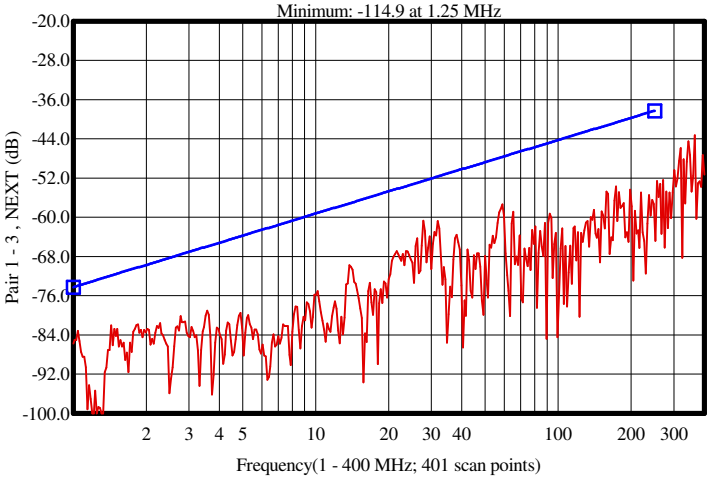
(Formula): NEXT >= 44.300 - 15.000 * Log(f/100.000)

Pair [Position]	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 - 2	43.4	50.0	6.6	113.67	Passed
Pair 1 - 3	52.6	60.7	8.1	27.81	Passed
Pair 1 - 4	45.2	60.7	15.5	86.80	Passed
Pair 2 - 3	46.0	55.8	9.8	77.00	Passed
Pair 2 - 4	45.0	48.6	3.6	89.44	Passed
Pair 3 - 4	74.1	83.9	9.8	1.03	Passed

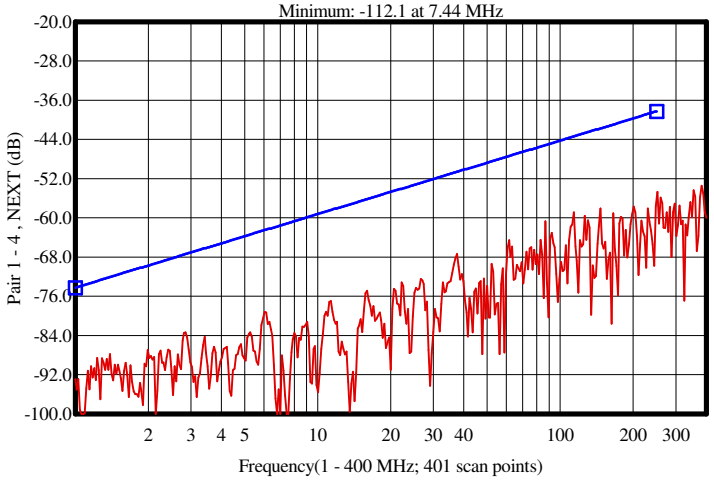
Maximum: -44.8 at 329.23 MHz
Minimum: -116.9 at 3.85 MHz



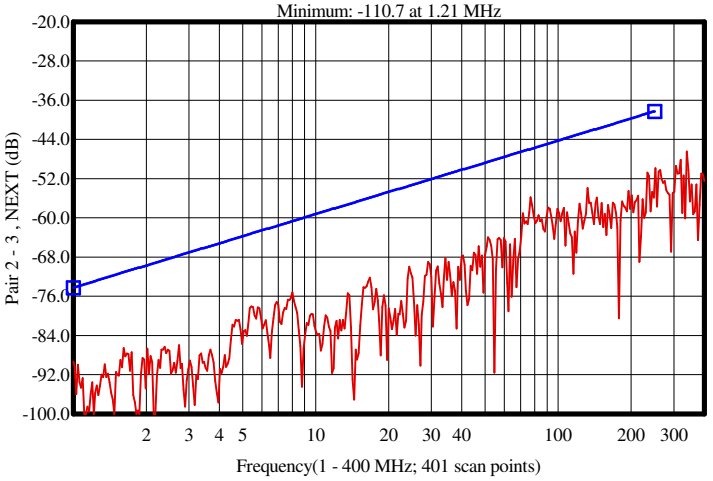
Maximum: -43.3 at 365.62 MHz
Minimum: -114.9 at 1.25 MHz



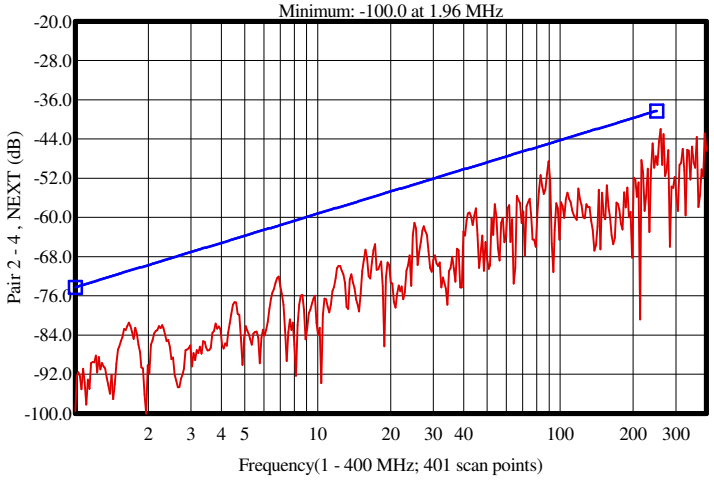
Maximum: -53.5 at 382.43 MHz
Minimum: -112.1 at 7.44 MHz



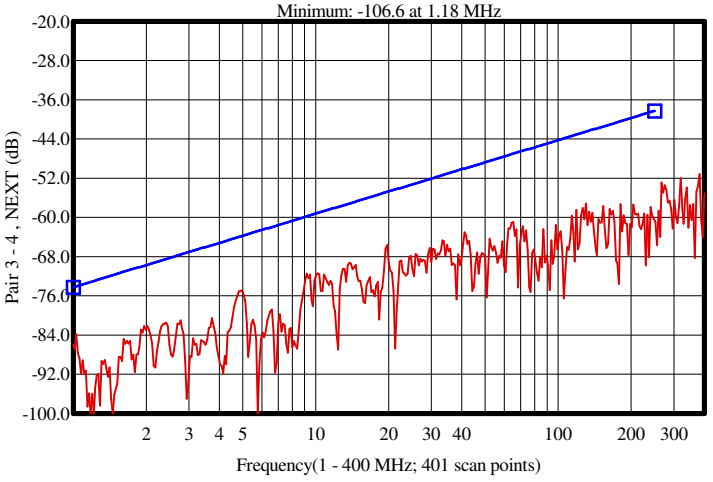
Maximum: -46.5 at 339.24 MHz
Minimum: -110.7 at 1.21 MHz



Maximum: -42.0 at 259.07 MHz
Minimum: -100.0 at 1.96 MHz



Maximum: -51.2 at 382.43 MHz
Minimum: -106.6 at 1.18 MHz



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

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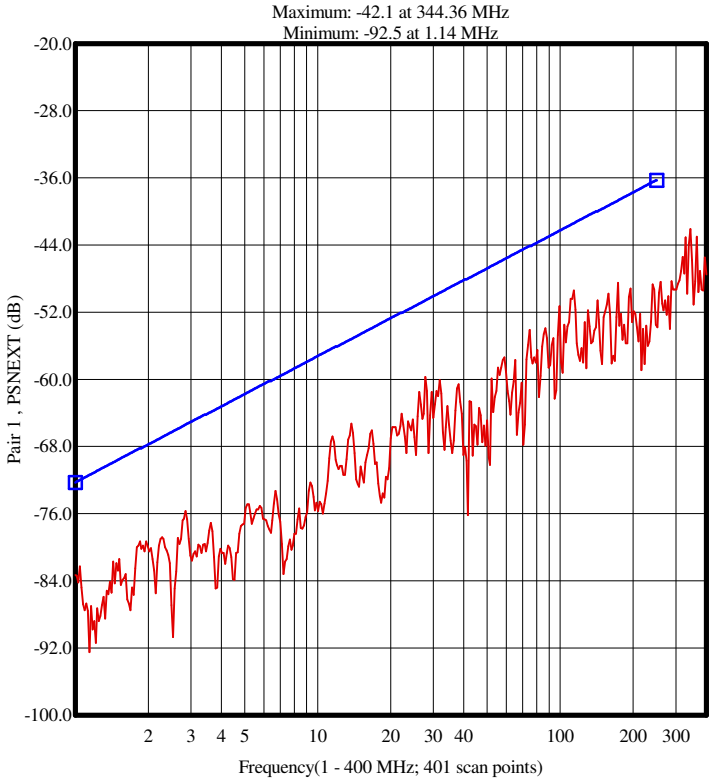
xxx = No entry.

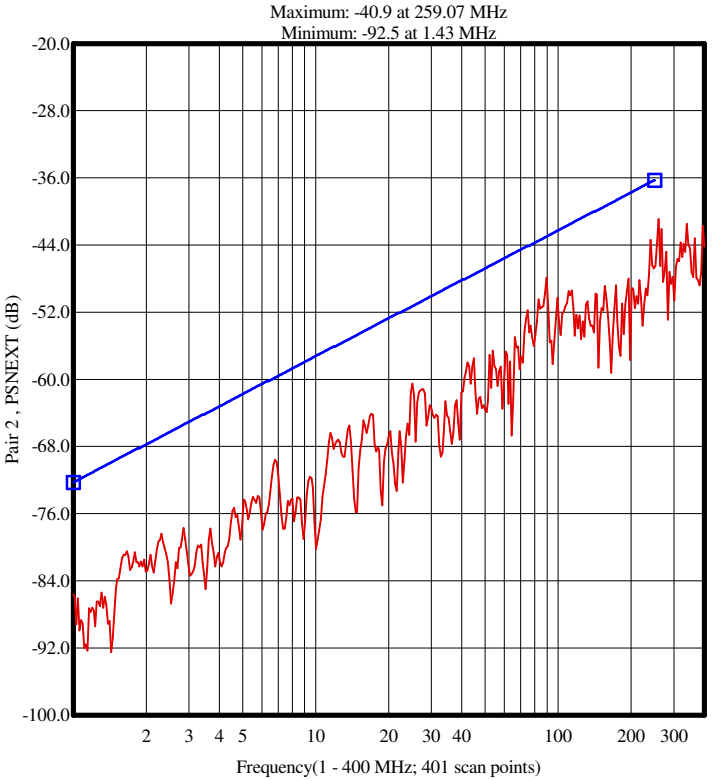
*** = Measured value is invalid.

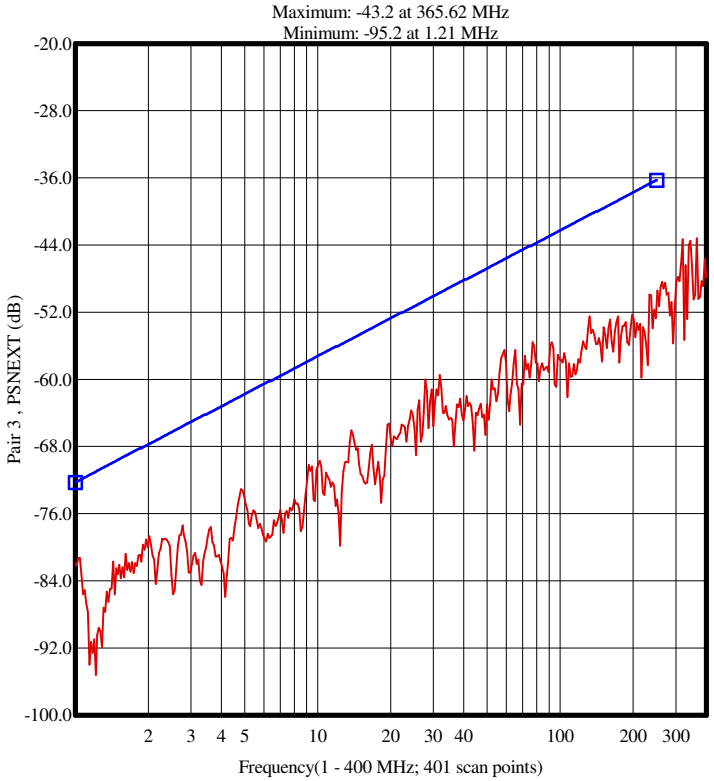
Summary and Graphic: Power Sum NEXT(PSNEXT)

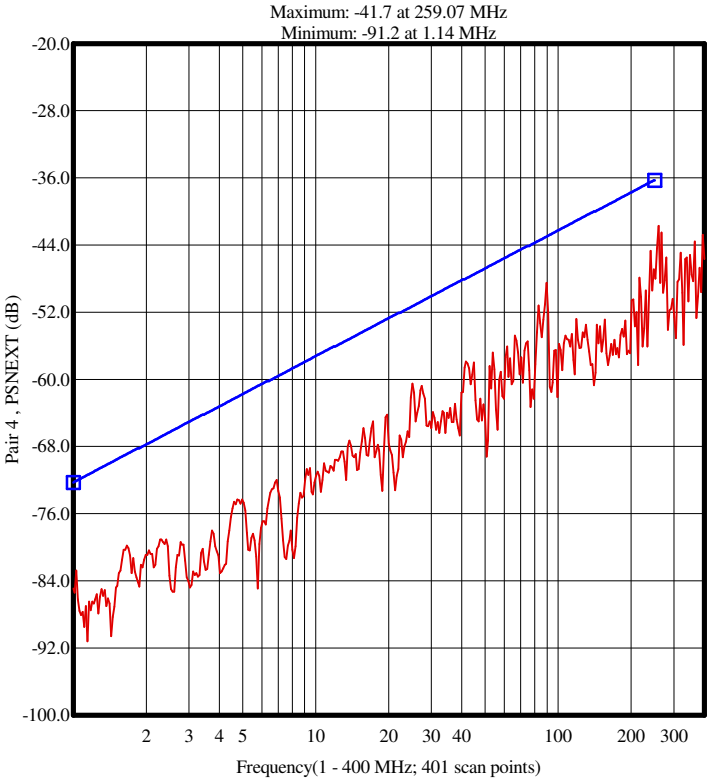
(Formula): PSNEXT >= 42.30 - 15.00 * Log(f/100.000)

Pair [Position]	Spec (Min)(dB)	Measured(dB)	Margin (dB)	@ Frequency (MHz)	Test Result
Pair 1 [4]	41.4	49.4	8.0	113.67	Passed
Pair 2 [5]	43.0	47.9	4.9	89.44	Passed
Pair 3 [6]	72.1	81.3	9.2	1.03	Passed
Pair 4 [7]	43.0	48.5	5.5	89.44	Passed









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

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xxx = No entry.

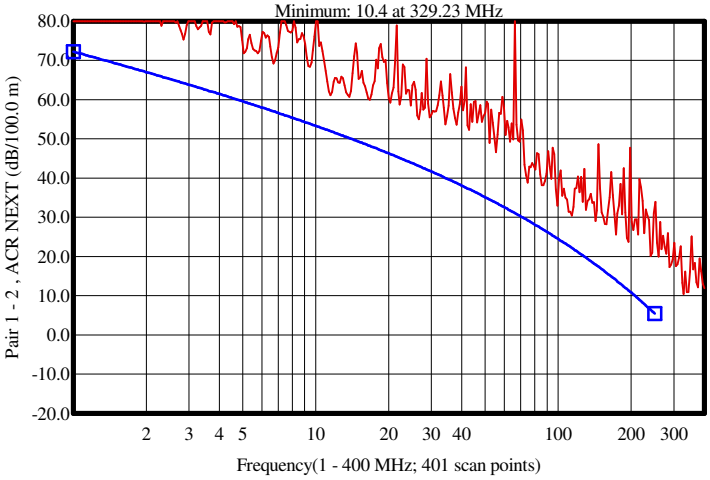
*** = Measured value is invalid.

Summary and Graphic: ATT to NEXT Ratio (ACR)

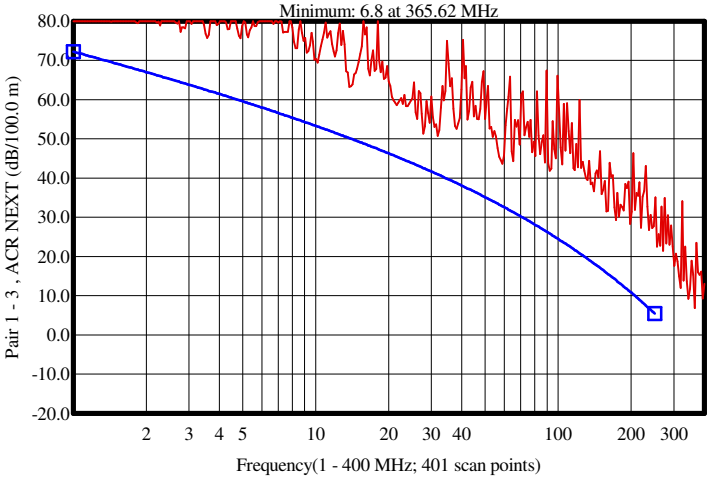
(Formula): ACR(next) >= (1.000 * NEXT Formula) - (1.000 * IL Formula) + 0.000 (Refer to manual)

Pair [Position]	Spec (Min)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1 - 2	22.2	30.4	8.2	113.67	Passed
Pair 1 - 3	42.5	51.3	8.8	27.81	Passed
Pair 1 - 4	69.8	85.7	15.9	1.39	Passed
Pair 2 - 1	22.2	30.7	8.5	113.67	Passed
Pair 2 - 3	28.8	40.0	11.2	77.00	Passed
Pair 2 - 4	26.3	31.5	5.2	89.44	Passed

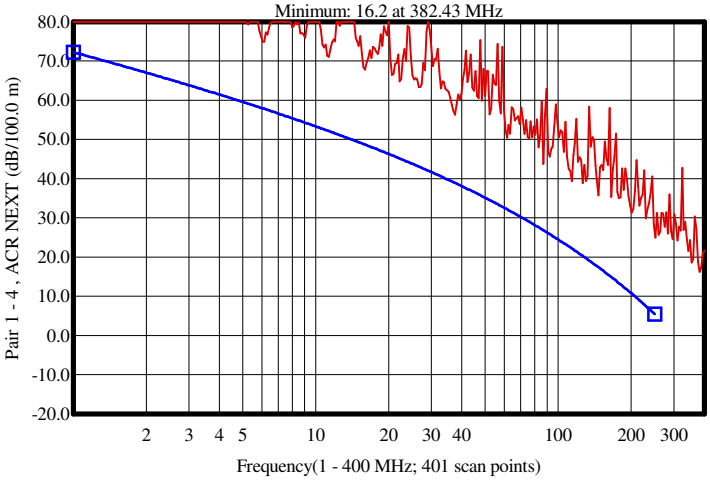
Maximum: 113.4 at 3.85 MHz
Minimum: 10.4 at 329.23 MHz



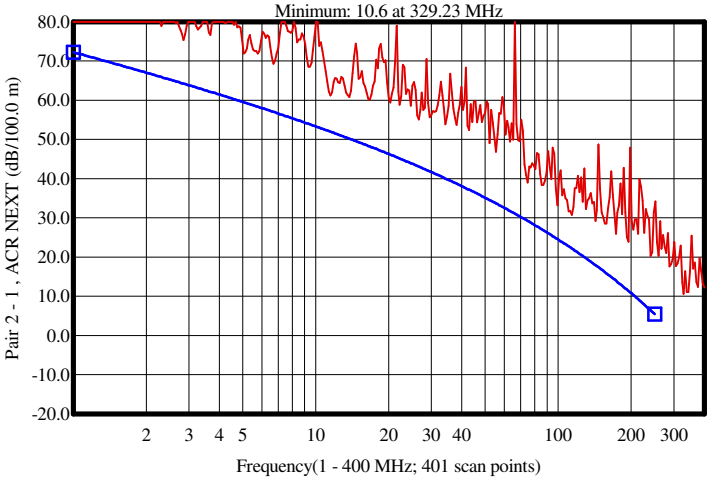
Maximum: 112.9 at 1.25 MHz
Minimum: 6.8 at 365.62 MHz



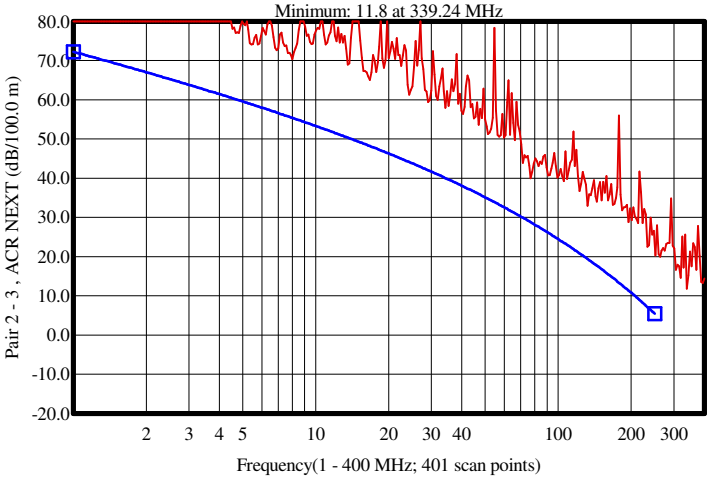
Maximum: 107.3 at 7.44 MHz
Minimum: 16.2 at 382.43 MHz



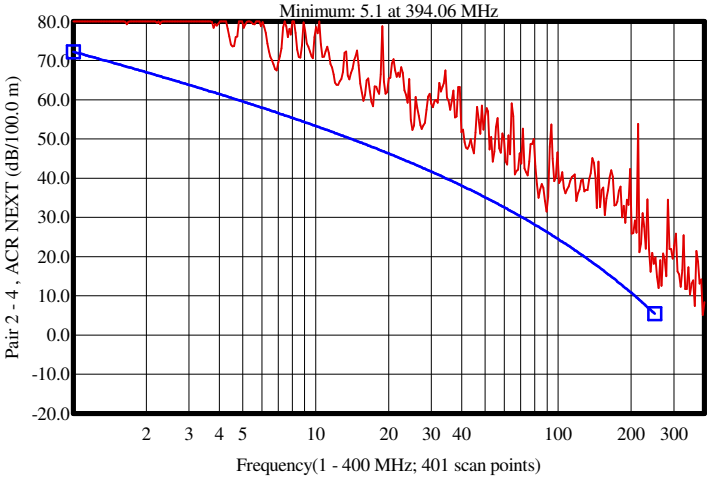
Maximum: 113.5 at 3.85 MHz
Minimum: 10.6 at 329.23 MHz



Maximum: 108.7 at 1.21 MHz
Minimum: 11.8 at 339.24 MHz



Maximum: 97.7 at 1.00 MHz
Minimum: 5.1 at 394.06 MHz



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

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

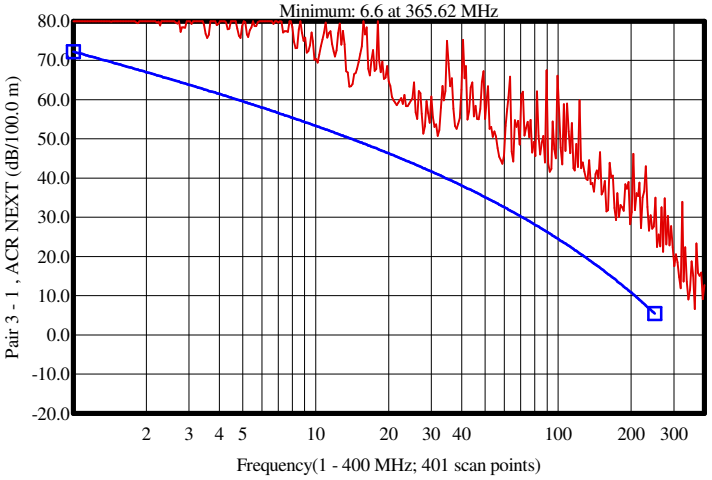
*** = Measured value is invalid.

Summary and Graphic: ATT to NEXT Ratio (ACR)

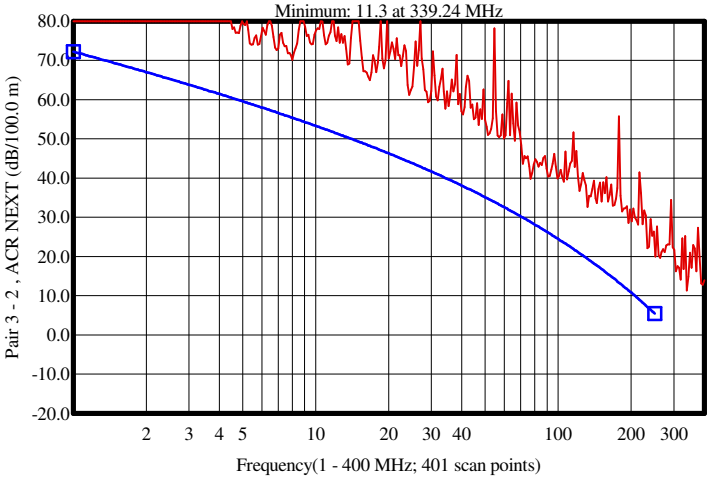
(Formula): ACR(next) >= (1.000 * NEXT Formula) - (1.000 * IL Formula) + 0.000 (Refer to manual)

Pair [Position]	Spec (Min)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 3 - 1	42.5	51.3	8.8	27.81	Passed
Pair 3 - 2	28.8	39.8	11.0	77.00	Passed
Pair 3 - 4	72.0	82.1	10.1	1.03	Passed
Pair 4 - 1	70.7	86.7	16.0	1.23	Passed
Pair 4 - 2	26.3	32.7	6.4	89.44	Passed
Pair 4 - 3	72.0	82.2	10.2	1.03	Passed

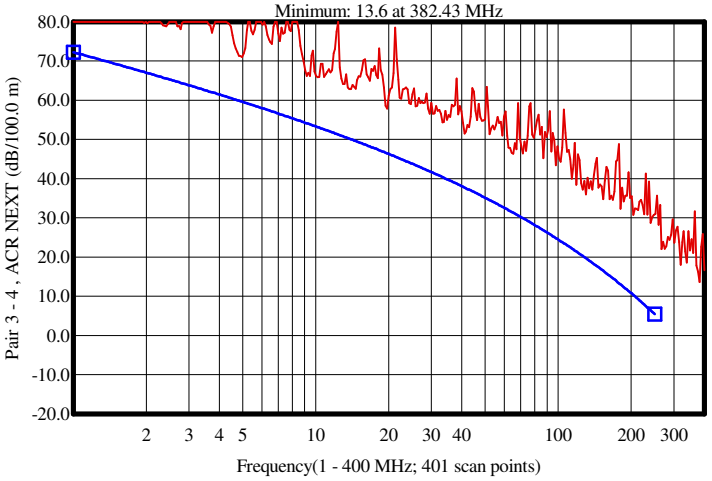
Maximum: 112.9 at 1.25 MHz
Minimum: 6.6 at 365.62 MHz



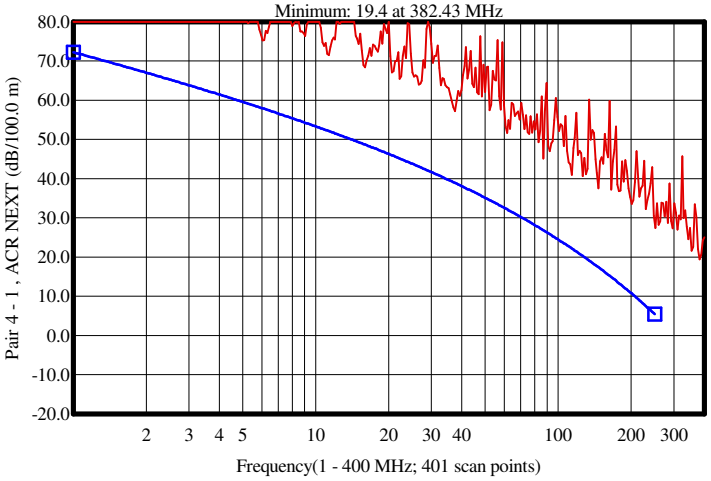
Maximum: 108.7 at 1.21 MHz
Minimum: 11.3 at 339.24 MHz



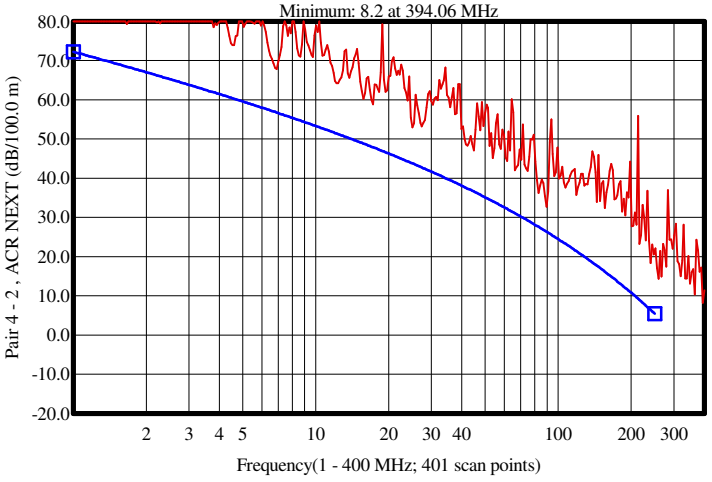
Maximum: 104.6 at 1.18 MHz
Minimum: 13.6 at 382.43 MHz



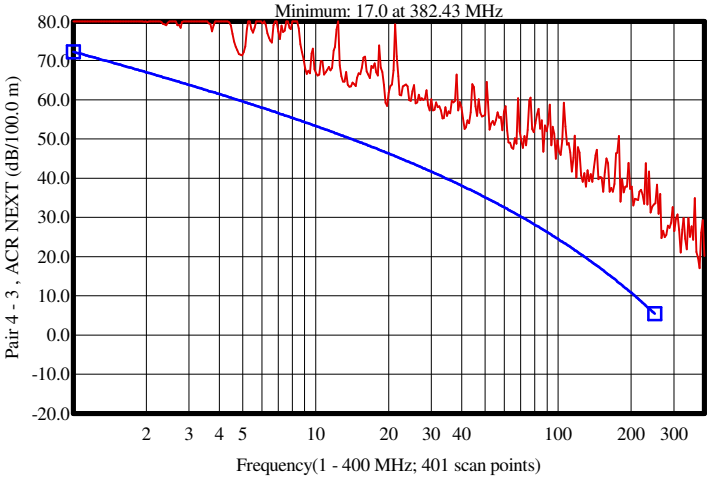
Maximum: 107.7 at 7.44 MHz
Minimum: 19.4 at 382.43 MHz



Maximum: 97.8 at 1.00 MHz
Minimum: 8.2 at 394.06 MHz



Maximum: 104.7 at 1.18 MHz
Minimum: 17.0 at 382.43 MHz



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

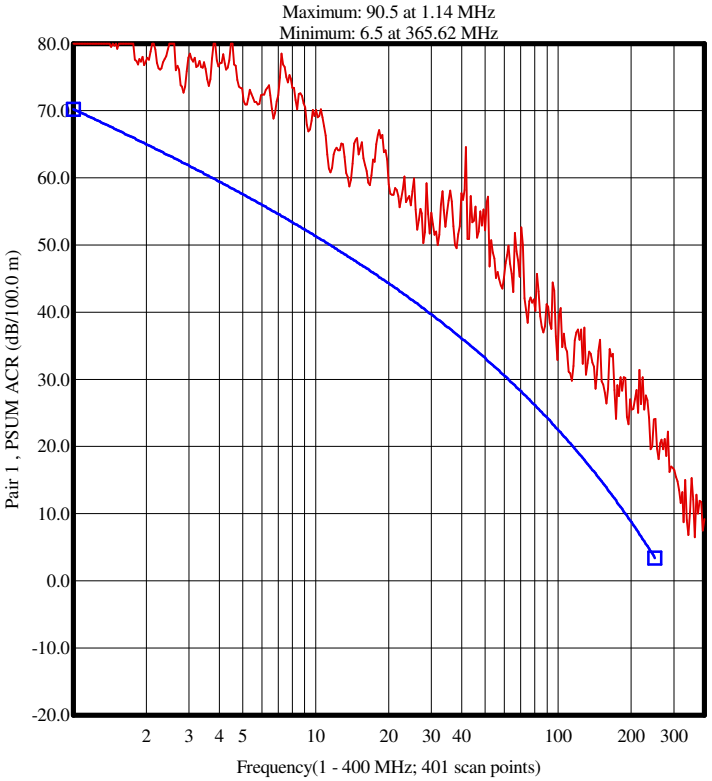
* = Measured value out of spec.
xxx = No entry.

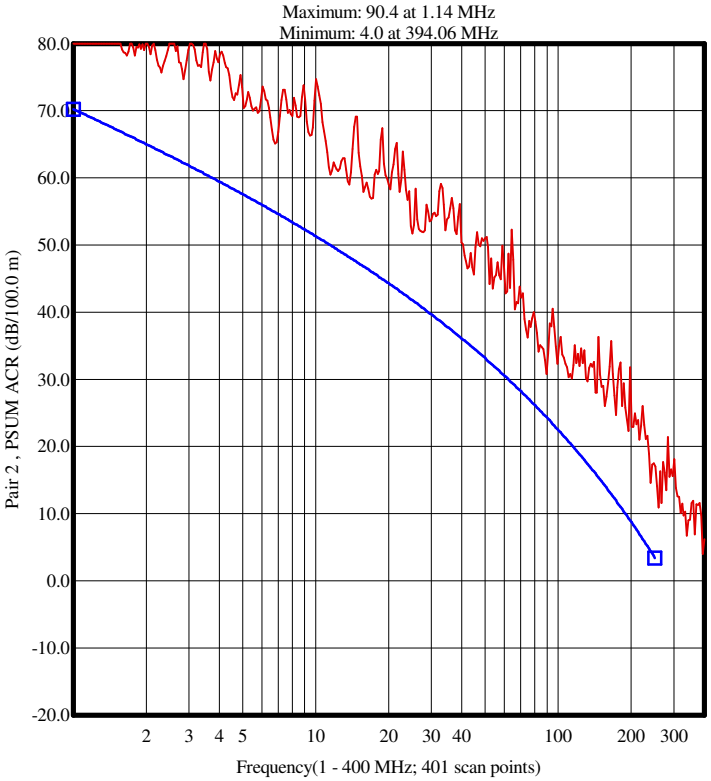
*** = Measured value is invalid.

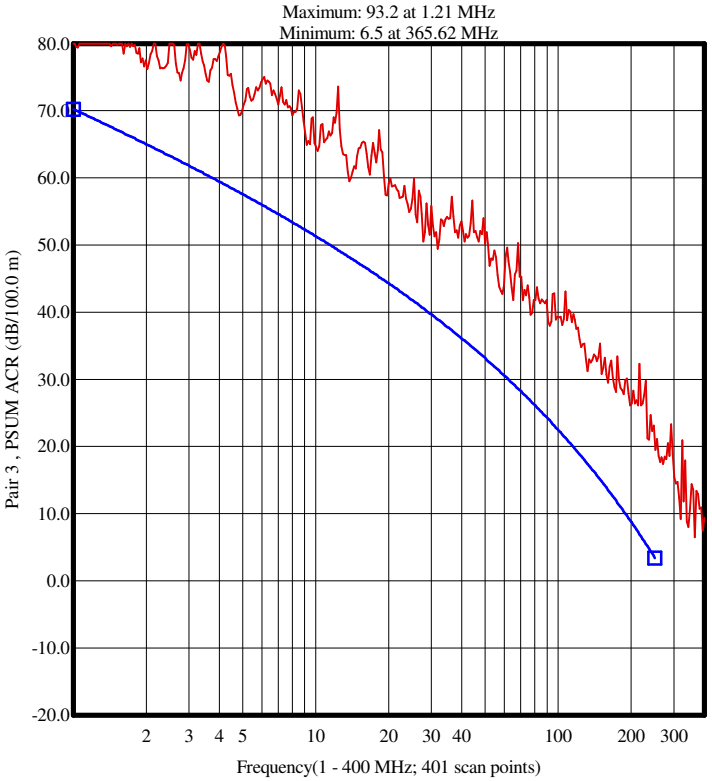
Summary and Graphic: Power Sum ACR (PS ACR)

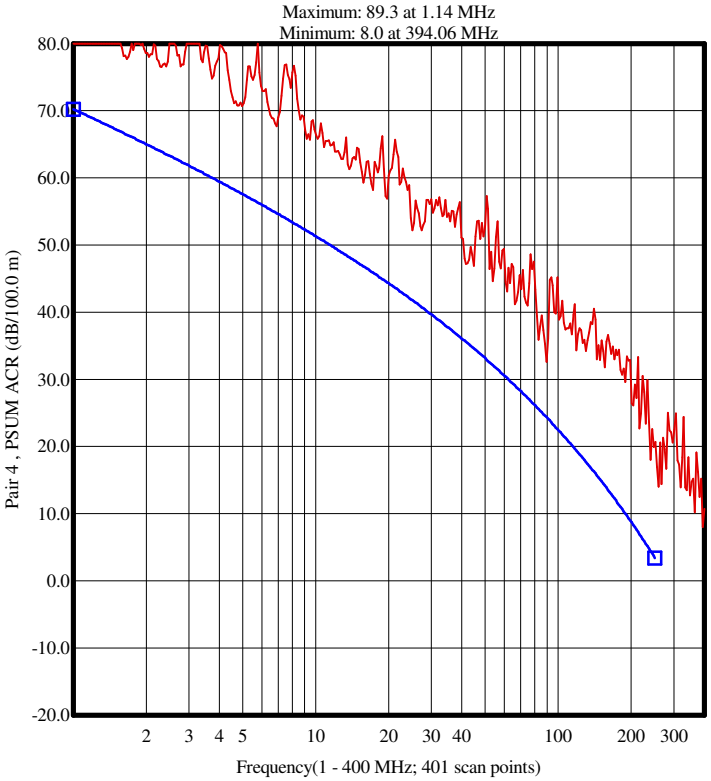
(Formula): PS ACR >= [74.000-15.000*Log(f/0.772)]-[1.808*SQRT(f)+0.017*f+0.200/SQRT(f)]+0.000*Log(f) (Refer to manual)

Pair [Position]	Spec (Min)(dB/100.0 m)	Measured(dB/100.0 m)	Margin (dB/100.0 m)	@ Frequency (MHz)	Test Result
Pair 1 [4]	20.2	29.8	9.6	113.67	Passed
Pair 2 [5]	24.4	30.8	6.4	89.44	Passed
Pair 3 [6]	70.0	79.5	9.5	1.03	Passed
Pair 4 [7]	24.4	32.6	8.2	89.44	Passed









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

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

*** = Measured value is invalid.

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

(Formula):RL>=20.0+5.0*Log(f); 25.0; 25.0-7.0*Log(f/20.0) (Refer to manual)

Frequency	1.00	4.00	8.00	10.00	16.00	20.00	25.00	31.25	62.50	100.00
Min Spec	20.0	23.0	24.5	25.0	25.0	25.0	24.3	23.6	21.5	20.1
Pair 1 [4]	28.4	32.5	39.2	40.4	37.9	42.4	50.0	51.4	44.4	33.1
Pair 2 [5]	31.2	36.6	39.2	40.5	37.4	38.0	35.2	36.3	28.2	33.4
Pair 3 [6]	28.0	32.0	34.9	35.7	34.1	34.1	34.2	36.2	36.9	38.5
Pair 4 [7]	29.6	30.3	32.9	31.9	33.5	31.8	33.0	32.5	32.4	43.6

Continue:Return Loss (RL)(dB)

Frequency	200.00	250.00
Min Spec	18.0	17.3
Pair 1 [4]	29.7	27.0
Pair 2 [5]	31.4	28.5
Pair 3 [6]	34.3	32.2
Pair 4 [7]	26.2	29.3

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 [4]	1.84	3.55	5.00	5.60	7.11	7.99	8.94	9.99	14.29	18.42
Pair 2 [5]	1.79	3.48	4.91	5.51	7.01	7.88	8.83	9.87	14.15	18.13
Pair 3 [6]	1.81	3.52	4.98	5.58	7.10	7.98	8.94	10.00	14.34	18.42
Pair 4 [7]	1.70	3.26	4.59	5.14	6.54	7.35	8.22	9.19	13.15	16.87
Average	1.78	3.45	4.87	5.45	6.94	7.80	8.73	9.76	13.98	17.96

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 [4]	20.68	22.99	26.33	29.68
Pair 2 [5]	20.59	22.89	26.08	29.43
Pair 3 [6]	20.80	23.06	26.41	29.80
Pair 4 [7]	18.95	21.14	24.13	27.18
Average	20.25	22.51	25.73	29.02

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

(Formula): NEXT >= 44.300 - 15.000 * Log(f/100.000)

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	88.2	85.0	82.5	88.3	70.3	68.4	72.0	67.0	67.0	54.5
Pair 1 - 3	85.8	83.5	84.6	75.9	83.9	72.6	69.2	63.6	75.3	80.6
Pair 1 - 4	92.9	88.9	83.8	95.2	75.1	91.0	75.8	80.5	67.9	70.9
Pair 2 - 3	89.3	93.9	75.4	82.9	74.3	78.5	72.1	71.9	78.1	58.6
Pair 2 - 4	99.5	84.5	85.1	83.3	68.7	73.3	61.4	69.8	64.7	61.2
Pair 3 - 4	85.9	89.2	85.8	72.1	77.2	69.2	70.2	68.1	62.3	65.2

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	51.9	60.4	62.5
Pair 1 - 3	61.5	56.9	62.0
Pair 1 - 4	70.3	58.2	55.8
Pair 2 - 3	60.0	56.2	52.2
Pair 2 - 4	55.5	56.4	48.6
Pair 3 - 4	61.2	61.8	60.7

N/A = Not Applicable.
--- = Disable/Bypassed Pair.
* = Measured value out of spec.
xxx = No entry.
*** = Measured value is invalid.