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PROJECT NO.: 3030592-311

DATE: May 4, 2010

TEST REPORT NO.: 3030592CRT-077

RENDERED TO:



Ortronics, Incorporated  
125 Eugene O'Neil Drive  
New London, CT 06320



Ph (860) 445-3800 / Fax (860) 405-2970

**TEST:**

Performance testing of the cabling configurations as defined in and to the requirements of ANSI/TIA-568-C.2 Balanced Twisted-Pair Telecommunications Cabling and Components Standard.

**STATEMENT OF LIMITATIONS:**

The purpose of this report is to provide electrical performance data on the test sample. It is not valid to use this report for any other purpose.

**STANDARDS USED:**

ANSI/TIA-568-C.2 Balanced Twisted-Pair Telecommunications Cabling and Components Standard approved August 11, 2009.

**AUTHORIZATION:**

The project was authorized by Robert Aekins, representing, Ortronics Incorporated.

**SPECIMEN DESCRIPTION:**

GT3 CAT 6 Channel, 4-Connector, 100 meters

**DATE OF TEST:**

30 March 2010

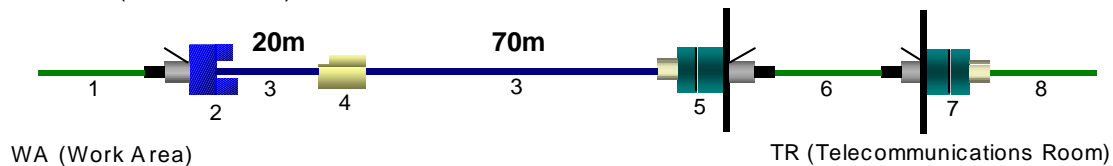
**TEST REPORT REVISION HISTORY:**

First Issue:	May 4, 2010	Original Document
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**SAMPLE DESCRIPTION:**

Channel (4 Connector)



<u>Component ID</u>	<u>Manufacturer</u>	<u>Part Number</u>	<u>Length/Qty</u>	<u>Description</u>
3	BerkTek	BerkTek LANmark 2000	90m	Horizontal Cable, C6 UTP CMP
5,7	Ortronics, Inc.	OR-PHD66U24	2	Clarity C6 Patch Panel
2	Ortronics, Inc.	OR-TJ600-13	1	Clarity C6 Workstation Outlet
1,6,8	Ortronics, Inc.	OR-MC609-02	3m / 3	Clarity C6 Patch Cords, 9 ft
4	Ortronics, Inc.	OR-110ABC6100	1	Clarity C6 110 Block (CP)

**EQUIPMENT LIST:**

The following equipment was employed in conducting the tests.

<u>Equipment Used</u>	<u>Model Number</u>	<u>Serial Number</u>	<u>Control Number</u>	<u>Calibration Date</u>
Agilent Technologies Network Analyzer	E5071B	MY42403324	N/A	06/03/2009
Hewlett Packard Multimeter	34401A	US36035667	N/A	06/03/2009

**RESULTS:**

See appendix A for the test results.

**CONCLUSION:**

The channel configuration, as previously described, was tested under the SAT program of Intertek in accordance with the standard contained herein, and did comply with the indicated applicable transmission requirements.

These procedures and requirements were taken from the standards referred to on page 1.

Reviewed and approved by:

*Antoine Pelletier*  
 Antoine Pelletier  
 Engineer  
 Global Cabling Products Testing

*Kathy Heath*  
 Kathy Heath  
 Program Coordinator  
 Global Cabling Products Testing

**APPENDIX A**

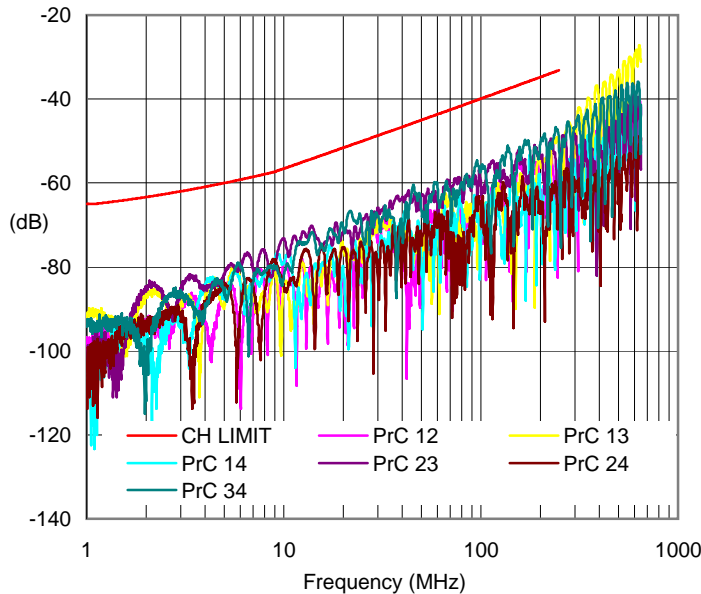
Test Results

Any data shown above 250 MHz is for indication only.

This appendix contains 7 pages.

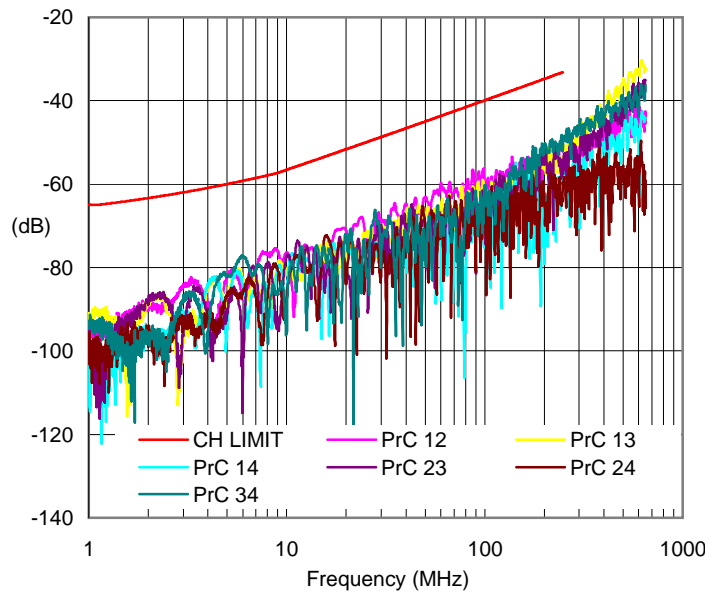


**NEXT as measured from the TELECOMMUNICATIONS ROOM (TR)**



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Measured Value (dB)	CH LIMIT Value (dB)	
Swept Freq	240.1	13.3	46.8	33.4	
Discrete Points	1.00	28.2	93.2	65.0	
	4.00	21.1	84.1	63.0	
	8.00	18.2	76.4	58.2	
	10.00	16.6	73.2	56.6	
	16.00	21.2	74.4	53.2	
	20.00	18.7	70.3	51.6	
	25.00	19.0	69.1	50.0	
	31.25	17.9	66.3	48.4	
	62.50	20.9	64.3	43.4	
	100.00	16.9	56.8	39.9	
	200.00	16.0	50.8	34.8	
	250.00	18.4	51.5	33.1	
	300.00			46.7	n/a
	400.00			42.8	n/a
	500.00			33.0	n/a
650.00			31.1	n/a	

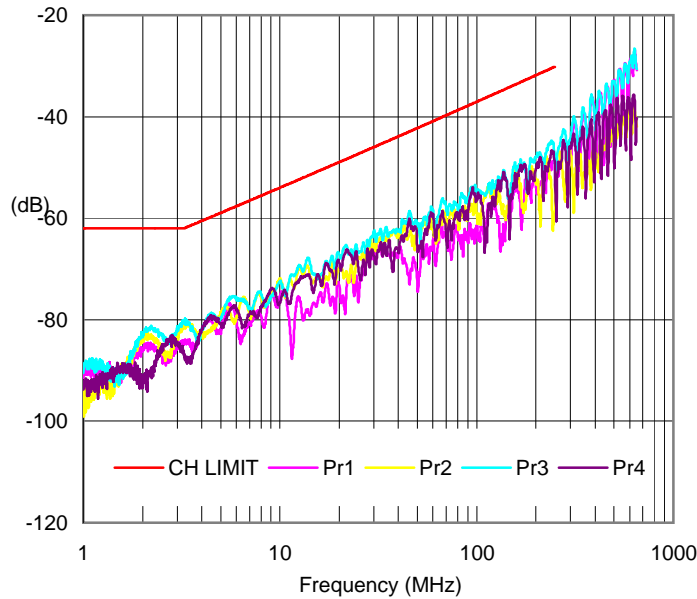
**NEXT as measured from the WORK AREA (WA)**



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Measured Value (dB)	CH LIMIT Value (dB)	
Swept Freq	245.2	15.0	48.3	33.3	
Discrete Points	1.00	25.9	90.9	65.0	
	4.00	21.1	84.1	63.0	
	8.00	18.6	76.8	58.2	
	10.00	19.7	76.3	56.6	
	16.00	19.4	72.6	53.2	
	20.00	19.8	71.4	51.6	
	25.00	22.6	72.6	50.0	
	31.25	20.2	68.6	48.4	
	62.50	18.0	61.3	43.4	
	100.00	19.5	59.4	39.9	
	200.00	16.6	51.3	34.8	
	250.00	15.9	49.0	33.1	
	300.00			46.2	n/a
	400.00			44.6	n/a
	500.00			35.1	n/a
650.00			32.7	n/a	

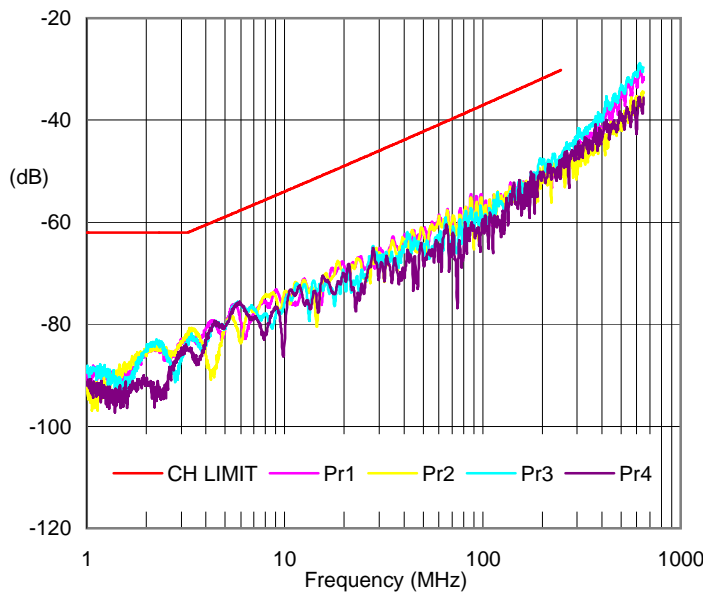


PSNEXT as measured from the TELECOMMUNICATIONS ROOM (TR)



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)	
Swept Freq	240.1	14.3	44.8	30.5	
Discrete Points	1.00	28.5	90.5	62.0	
	4.00	21.2	81.8	60.5	
	8.00	19.3	74.9	55.6	
	10.00	17.9	71.9	54.0	
	16.00	20.7	71.3	50.6	
	20.00	18.2	67.1	49.0	
	25.00	19.5	66.8	47.3	
	31.25	17.6	63.4	45.7	
	62.50	20.4	61.0	40.6	
	100.00	18.1	55.2	37.1	
	200.00	16.2	48.1	31.9	
	250.00	18.4	48.6	30.2	
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	400.00			41.6	n/a
	500.00			32.7	n/a
650.00			30.7	n/a	

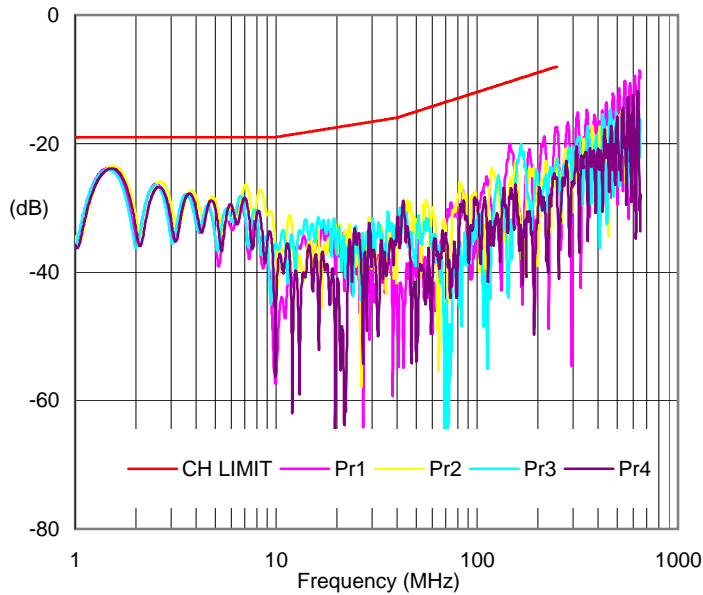
PSNEXT as measured from the WORK AREA (WA)



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)	
Swept Freq	194.9	15.5	47.5	32.1	
Discrete Points	1.00	26.7	88.7	62.0	
	4.00	20.4	80.9	60.5	
	8.00	18.9	74.5	55.6	
	10.00	19.5	73.5	54.0	
	16.00	19.6	70.2	50.6	
	20.00	19.8	68.8	49.0	
	25.00	21.8	69.1	47.3	
	31.25	19.9	65.6	45.7	
	62.50	19.3	59.9	40.6	
	100.00	21.2	58.3	37.1	
	200.00	16.8	48.7	31.9	
	250.00	17.0	47.1	30.2	
	300.00			44.0	n/a
	400.00			40.1	n/a
	500.00			33.4	n/a
650.00			29.6	n/a	

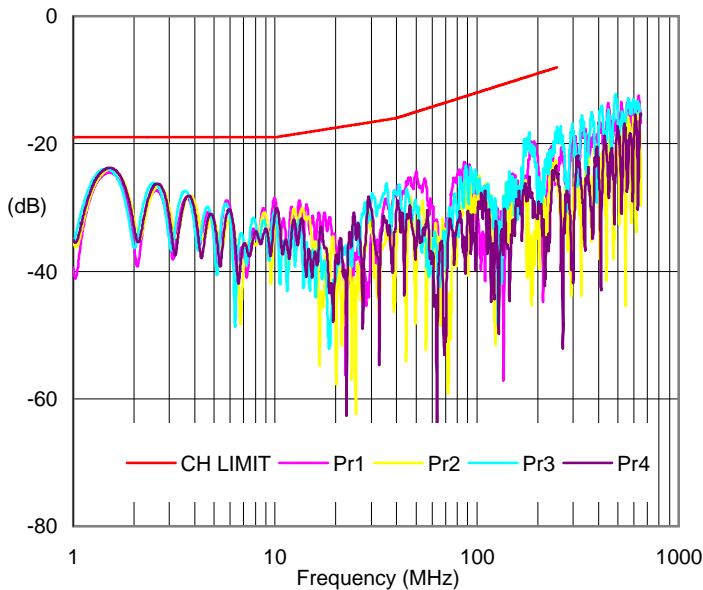


RL as measured from the TELECOMMUNICATIONS ROOM (TR)



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Measured Value (dB)	CH LIMIT Value (dB)	
Swept Freq	1.6	4.5	23.5	19.0	
Discrete Points	1.00	15.5	34.5	19.0	
	4.00	9.3	28.3	19.0	
	8.00	10.2	29.2	19.0	
	10.00	16.6	35.6	19.0	
	16.00	14.5	32.5	18.0	
	20.00	18.0	35.5	17.5	
	25.00	16.1	33.1	17.0	
	31.25	18.7	35.2	16.5	
	62.50	19.8	33.8	14.0	
	100.00	17.1	29.1	12.0	
	200.00	15.9	24.8	9.0	
	250.00	9.6	17.6	8.0	
	300.00			22.9	n/a
	400.00			20.9	n/a
	500.00			16.0	n/a
650.00			9.7	n/a	

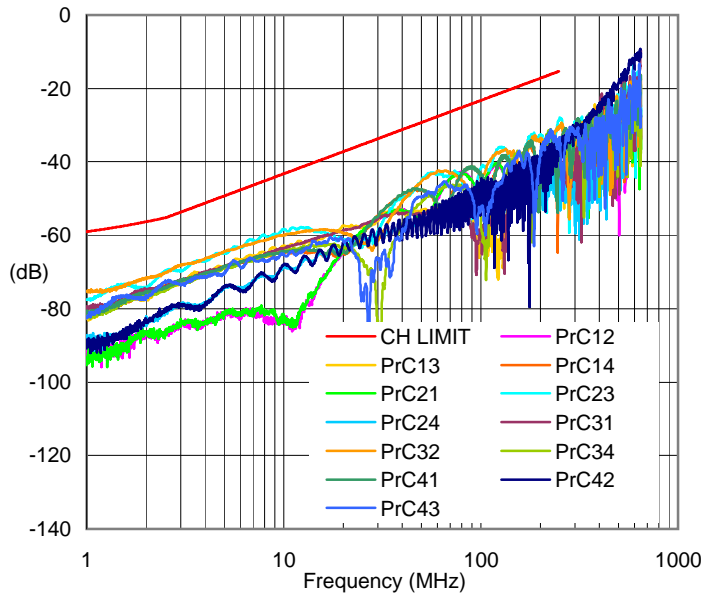
RL as measured from the WORK AREA (WA)



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Measured Value (dB)	CH LIMIT Value (dB)	
Swept Freq	1.5	4.8	23.8	19.0	
Discrete Points	1.00	16.0	35.0	19.0	
	4.00	10.1	29.1	19.0	
	8.00	13.4	32.4	19.0	
	10.00	9.6	28.6	19.0	
	16.00	17.8	35.7	18.0	
	20.00	19.3	36.8	17.5	
	25.00	15.5	32.5	17.0	
	31.25	12.1	28.6	16.5	
	62.50	18.4	32.4	14.0	
	100.00	13.8	25.8	12.0	
	200.00	13.2	22.2	9.0	
	250.00	9.4	17.4	8.0	
	300.00			18.6	n/a
	400.00			17.8	n/a
	500.00			15.0	n/a
650.00			15.3	n/a	



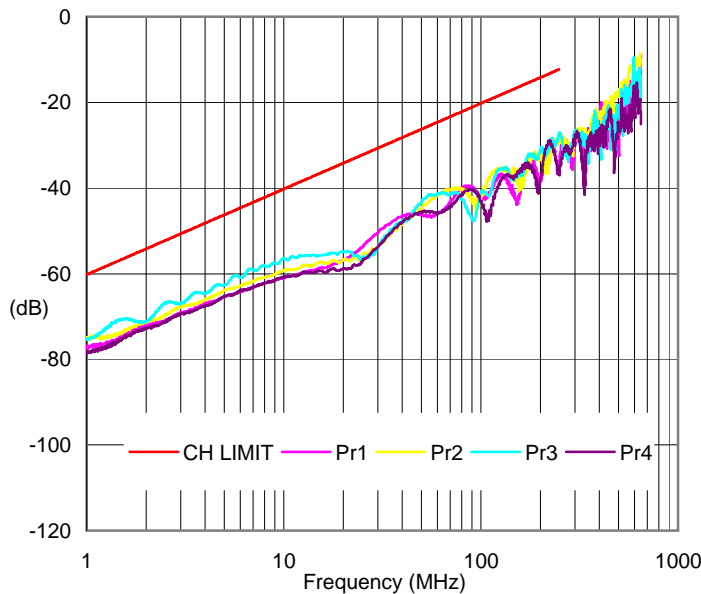
ELFEXT



Worst Case Margin

	Frequency Point (MHz)	Calculated Margin (dB)	Measured Value (dB)	CH LIMIT Value (dB)	
Swept Freq	250.0	13.2	28.5	15.3	
Discrete Points	1.00	12.1	75.4	63.3	
	4.00	15.2	66.4	51.2	
	8.00	14.9	60.1	45.2	
	10.00	15.1	58.3	43.3	
	16.00	19.3	58.5	39.2	
	20.00	20.2	57.4	37.2	
	25.00	21.8	57.1	35.3	
	31.25	20.0	53.4	33.4	
	62.50	15.3	42.6	27.3	
	100.00	18.5	41.8	23.3	
	200.00	15.4	32.7	17.2	
	250.00	13.2	28.5	15.3	
	300.00			29.8	n/a
	400.00			24.3	n/a
500.00			18.2	n/a	
650.00			10.4	n/a	

PSELFEXT

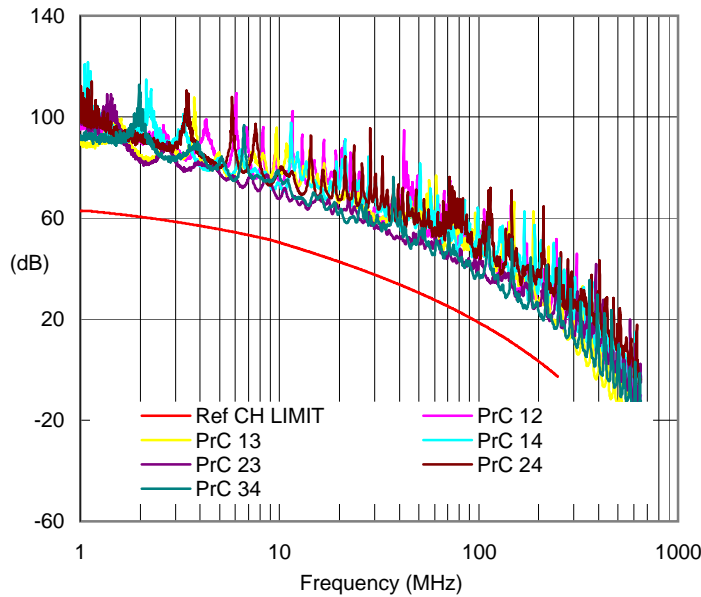


Worst Case Margin

	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)	
Swept Freq	1.4	13.7	70.8	57.2	
Discrete Points	1.00	14.9	75.1	60.3	
	4.00	16.5	64.7	48.2	
	8.00	16.1	58.3	42.2	
	10.00	16.2	56.4	40.3	
	16.00	19.4	55.6	36.2	
	20.00	20.6	54.8	34.2	
	25.00	21.5	53.8	32.3	
	31.25	19.2	49.6	30.4	
	62.50	16.9	41.2	24.3	
	100.00	21.2	41.4	20.3	
	200.00	16.9	31.1	14.2	
	250.00	15.2	27.5	12.3	
	300.00			27.5	n/a
	400.00			22.7	n/a
500.00			17.6	n/a	
650.00			9.6	n/a	

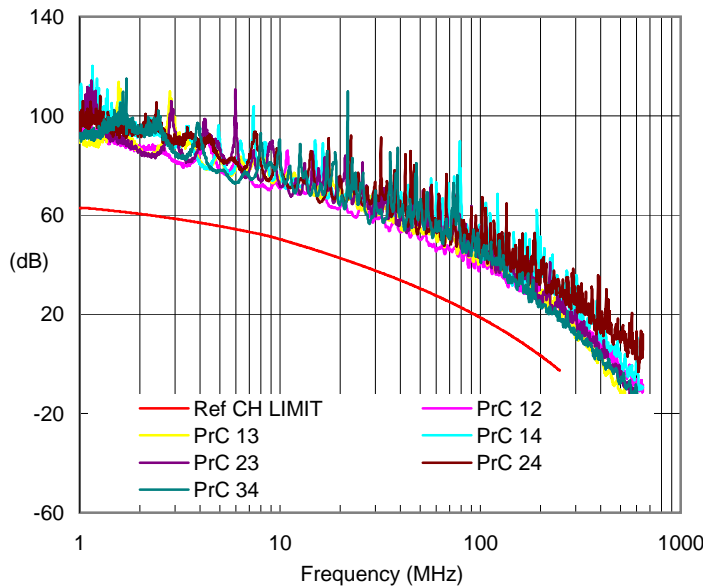


Pair-to-Pair ACR as measured from the TELECOMMUNICATIONS ROOM (TR)



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)	
Swept Freq	45.5	16.1	47.9	31.8	
Discrete Points	1.00	28.6	91.5	62.9	
	4.00	21.6	80.6	59.0	
	8.00	18.8	71.3	52.5	
	10.00	17.3	67.5	50.2	
	16.00	22.0	67.2	45.2	
	20.00	19.5	62.1	42.6	
	25.00	20.0	59.9	39.9	
	31.25	19.0	56.1	37.0	
	62.50	22.5	49.4	26.9	
	100.00	19.0	37.6	18.6	
	200.00	19.8	23.1	3.3	
	250.00	22.7	19.9	-2.8	
	300.00			12.1	n/a
	400.00			1.7	n/a
500.00			-13.5	n/a	
650.00			-23.2	n/a	

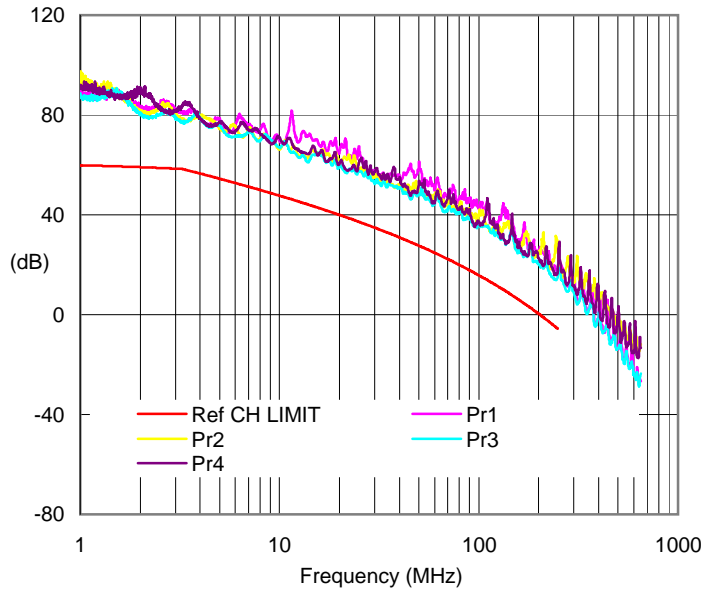
Pair-to-Pair ACR as measured from the WORK AREA (WA)



Worst Case Margin					
	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)	
Swept Freq	87.0	17.7	38.9	21.2	
Discrete Points	1.00	26.3	89.2	62.9	
	4.00	21.6	80.6	59.0	
	8.00	19.2	71.8	52.5	
	10.00	20.4	70.6	50.2	
	16.00	20.2	65.3	45.2	
	20.00	20.7	63.3	42.6	
	25.00	23.5	63.4	39.9	
	31.25	21.3	58.3	37.0	
	62.50	19.7	46.6	26.9	
	100.00	21.7	40.3	18.6	
	200.00	20.4	23.6	3.3	
	250.00	20.6	17.7	-2.8	
	300.00			11.6	n/a
	400.00			3.5	n/a
500.00			-11.5	n/a	
650.00			-21.6	n/a	



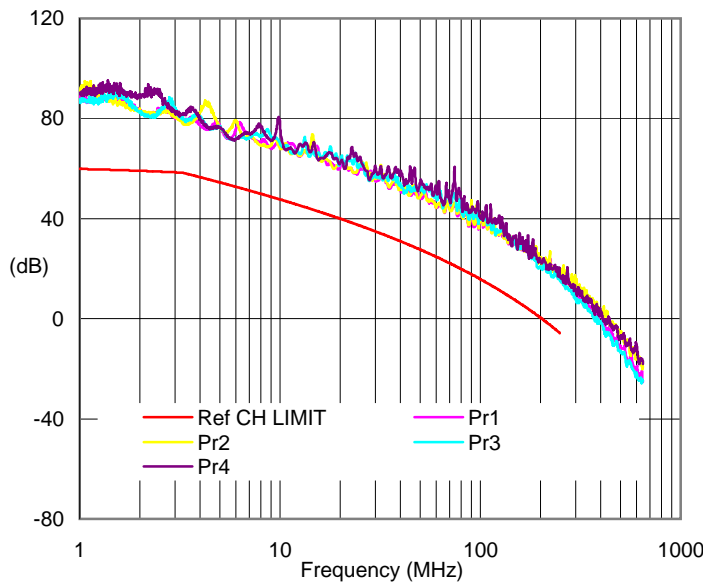
Power Sum (PS) ACR as measured from the TELECOMMUNICATIONS ROOM (TR)



Worst Case Margin

	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)
Swept Freq	13.8	16.9	61.1	44.2
Discrete Points	1.00	28.9	88.8	59.9
	4.00	21.7	78.3	56.5
	8.00	19.9	69.8	49.9
	10.00	18.6	66.3	47.7
	16.00	21.5	64.1	42.6
	20.00	19.1	59.0	39.9
	25.00	20.4	57.6	37.2
	31.25	18.8	53.1	34.3
	62.50	22.3	46.4	24.1
	100.00	20.4	36.2	15.8
	200.00	20.0	20.3	0.3
	250.00	22.8	17.0	-5.8
	300.00		8.8	n/a
	400.00		0.5	n/a
500.00		-13.7	n/a	
650.00		-26.6	n/a	

Power Sum (PS) ACR as measured from the WORK AREA (WA)

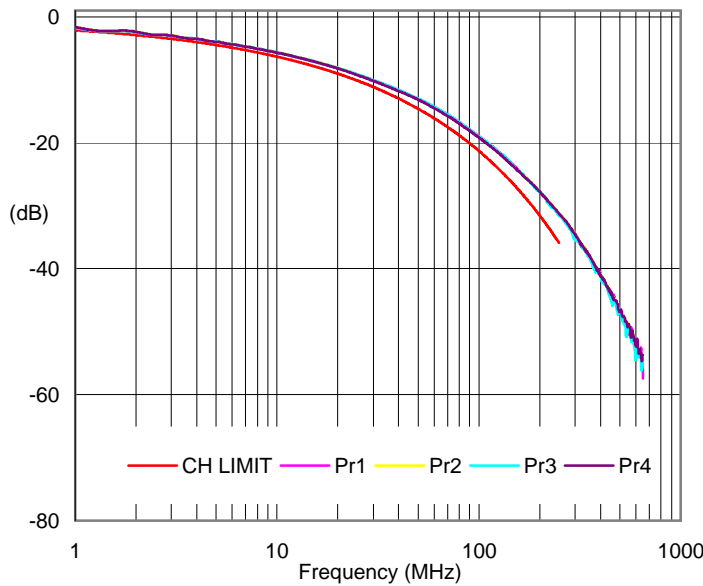


Worst Case Margin

	Frequency Point (MHz)	Calculated Margin (dB)	Calculated Value (dB)	CH LIMIT Value (dB)
Swept Freq	5.8	18.2	71.3	53.1
Discrete Points	1.00	27.1	87.0	59.9
	4.00	20.9	77.4	56.5
	8.00	19.5	69.4	49.9
	10.00	20.2	67.9	47.7
	16.00	20.4	63.0	42.6
	20.00	20.6	60.6	39.9
	25.00	22.8	60.0	37.2
	31.25	21.0	55.3	34.3
	62.50	21.2	45.3	24.1
	100.00	23.5	39.3	15.8
	200.00	20.6	20.9	0.3
	250.00	21.3	15.5	-5.8
	300.00		8.5	n/a
	400.00		-1.0	n/a
500.00		-13.2	n/a	
650.00		-25.3	n/a	



INSERTION LOSS (ATTN)



Worst Case Margin				
	Frequency Point (MHz)	Calculated Margin (dB)	Measured Value (dB)	CH LIMIT Value (dB)
Swept Freq	1.26	0.15	2.21	2.36
Discrete Points	1.00	0.39	1.8	2.1
	4.00	0.51	3.5	4.0
	8.00	0.56	5.1	5.7
	10.00	0.62	5.7	6.3
	16.00	0.76	7.3	8.0
	20.00	0.82	8.2	9.0
	25.00	0.89	9.2	10.1
	31.25	0.99	10.4	11.4
	62.50	1.66	14.8	16.5
	100.00	2.11	19.2	21.3
	200.00	3.75	27.8	31.5
	250.00	4.32	31.6	35.9
	300.00		35.5	n/a
	400.00		41.1	n/a
	500.00		46.8	n/a
	650.00		57.5	n/a

**GLOSSARY of TERMS**

- Calculated Margin:** The minimum difference in dB between the measured value and the CH LIMIT value at the specified frequency point for all tested pairs ( $CalculateMargin_{RL100MHz} = MeasuredValue_{RL100MHz} - CH\ LIMITValue_{RL100MHz}$  (dB)).
- Discrete Points:** Specific reference points of interest in MHz within the swept frequencies.
- Frequency Point:** A specific frequency point in megahertz (MHz) for which the data indicated is applicable.
- CH LIMIT Value:** The calculated response CH LIMIT in dB at the indicated frequency point as calculated using applicable equations defined by the appropriate standard.
- Measured Value:** The worst case measured response in dB at the frequency indicated for all tested pairs.
- Swept Freq:** The band of measured values from 1 MHz to the upper frequency CH LIMIT as defined by the category of test.
- Swept Freq (Margin):** The minimum margin in dB detected across the Swept Frequency band.
- Worst Case:** A composite value calculated from the maximum response of each pair or pair combination at a given frequency. ( $WorstCase_{RL100MHz} = Max(Pr1_{RL100MHz}, Pr2_{RL100MHz}, Pr3_{RL100MHz}, Pr4_{RL100MHz})$ )