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PROJECT NO.: 3022866-311

DATE: February 10, 2009

TEST REPORT NO.: 3022866CRT-086

RENDERED TO:

Hubbell Premise Wiring
14 Lord's Hill Road
Stonington, CT. 06378

TEST:

C6 Permanent Link testing of the cabling configuration as defined in and to the requirements of TIA-568-C.2 (Draft 2.2), *Balanced Twisted Pair Telecommunications Cabling And Components Standard*, with internal channel parameter limits extended per guidelines of TIA TSB-155 (excluding ANEXT).

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.

STANDARD USED:

ASTM D4566-98 dated December 1998, Standard Test Methods for Electrical Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable.

TIA-568-C.2 (Draft 2.2): *Balanced Twisted Pair Telecommunications Cabling And Components Standard*, dated December 2008.

TSB-155, Guidelines for the Assessment and Mitigation of Installed Category 6 Cabling to Support 10GBASE-T dated March 2007.

AUTHORIZATION:

The project was authorized by, Dr. Shadi AbuGhazaleh, representing Hubbell Premise Wiring.

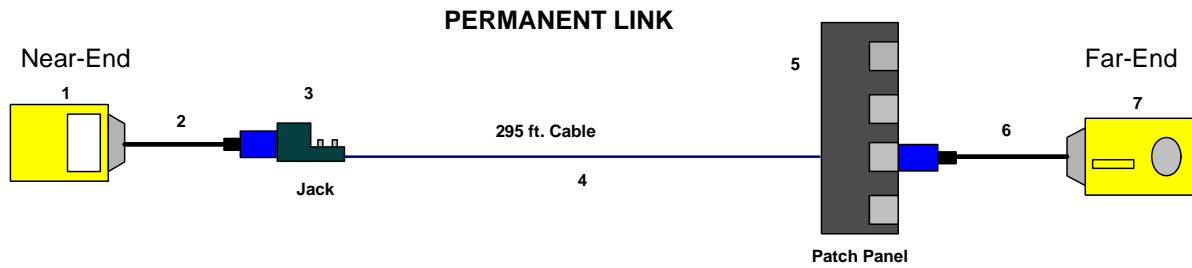
DATE OF TEST:

10/27/2008

TEST REPORT REVISION HISTORY:

First Issue: February 10, 2009 Original Document

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Permanent Link (2 connectors)

SAMPLE DESCRIPTION:

<u>Component ID</u>	<u>Manufacturer</u>	<u>Part Number</u>	<u>Description</u>
1, 7	Fluke Networks	DTX-1800	Fluke MAIN & REMOTE Units
2, 6	Fluke Networks	DTX-PLA002	FlukeC6A Permanent Link Adapters
3, 5	Hubbell	SJ6	Shielded C6 Jack
4	Hubbell	C6FTPSPX ¹	NEXTSPEED C6 FTP CMP Cable

1. X is cable color (blue, grey, etc.)

EQUIPMENT LIST:

The following equipment was employed in conducting the tests.

<u>Equipment Used</u>	<u>Model Number</u>	<u>Serial Number</u>	<u>Calibration Date</u>
Fluke Networks (Portable Cable Analyzer)	DTX-1800	8582073	04/29/08

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. Alien Crosstalk was not measured.

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

Reviewed and approved by:

Antoine Pelletier
 Engineer
 Global Cabling Products Testing

Kathy Heath
 Project Coordinator
 Global Cabling Products Testing

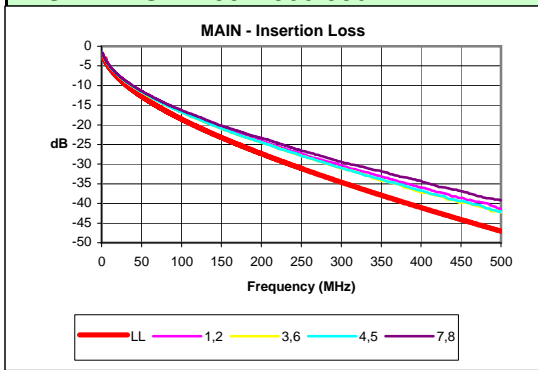
Appendix A

Test results

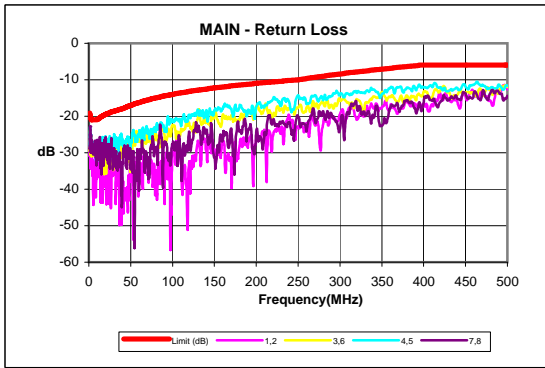
Any data reported above 500 MHz is for indication only.

This appendix contains 4 Pages.

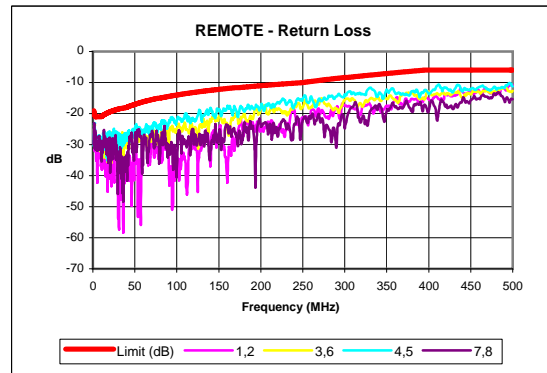
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Frequency	Worst Case	TIA Spec
1.0	-1.7	-3.0
10.0	-5.1	-5.5
31.3	-9.1	-10.0
62.5	-13.1	-14.4
100.0	-16.8	-18.6
155.0	-21.3	-23.7
200.0	-24.5	-27.4
250.0	-27.9	-31.1
350.0	-34.2	-37.9
500.0	-42.3	-47.1

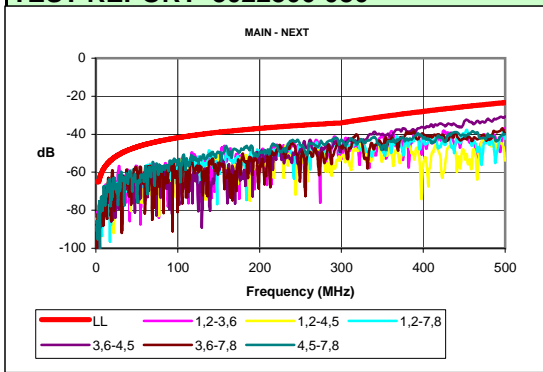


Frequency	Worst Case	TIA Spec
1	-27.2	-19.1
10	-26.5	-21
31.3	-26	-18.5
62.5	-25.7	-16
100	-21	-14
155	-17.5	-12.1
200	-17.4	-11
250	-14.2	-10
350	-13.3	-7.1
500	-11.6	-6

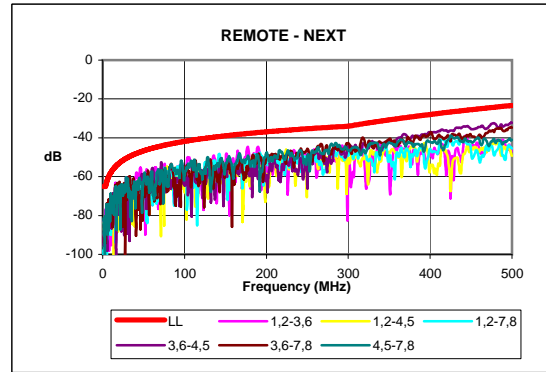


Frequency	Worst Case	TIA Spec
1	-24.9	-19.1
10	-29.4	-21
31.3	-27.2	-18.5
62.5	-24.8	-16
100	-22.2	-14
155	-18.9	-12.1
200	-17.8	-11
250	-15.3	-10
350	-12.3	-7.1
500	-10.8	-6

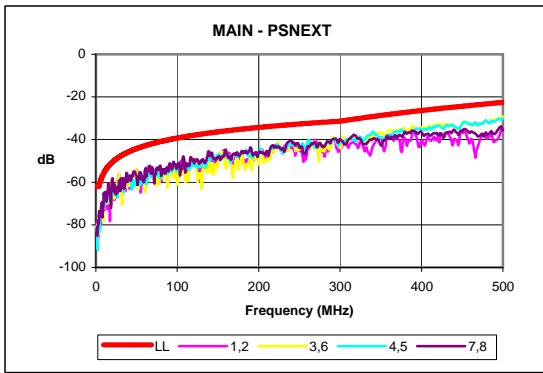
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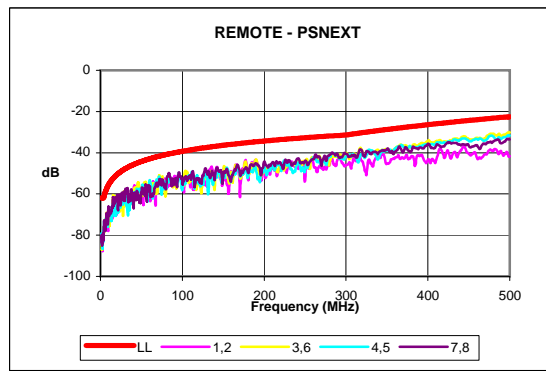
Frequency	Worst Case	TIA Spec
1	-85.3	-65.0
10	-68.4	-57.8
31.3	-60.6	-50.0
62.5	-57.4	-45.1
100	-54.9	-41.8
155	-48.4	-38.7
200	-48.5	-36.9
250	-46.0	-35.3
350	-39.8	-30.8
500	-30.6	-23.4



Frequency	Worst Case	TIA Spec
1.0	-84.8	-65.0
10.0	-69.1	-57.8
31.3	-63.4	-50.0
62.5	-60.4	-45.1
100.0	-56.5	-41.8
155.0	-49.9	-38.7
200.0	-47.6	-36.9
250.0	-45.7	-35.3
350.0	-40.9	-30.8
500.0	-32.3	-23.4

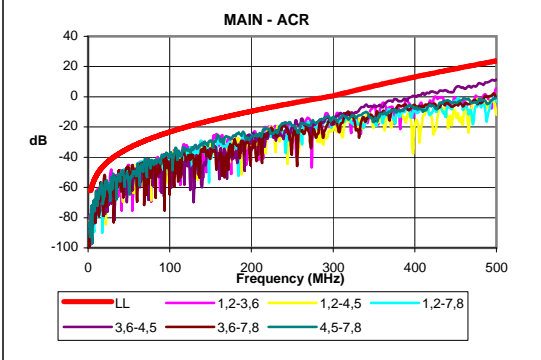


Frequency	Worst Case	TIA Spec
1	-82.1	-62
10	-65.4	-55.5
31.3	-58.6	-47.5
62.5	-54.3	-42.7
100	-52.4	-39.3
155	-46.8	-36.2
200	-45.8	-34.3
250	-43	-32.7
350	-36.5	-28.7
500	-29.2	-22.5

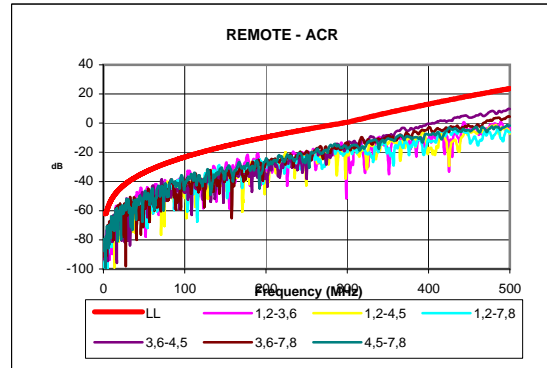


Frequency	Worst Case	TIA Spec
1	-81.7	-62
10	-66.5	-55.5
31.3	-59.5	-47.5
62.5	-56.7	-42.7
100	-53.2	-39.3
155	-47.5	-36.2
200	-44.2	-34.3
250	-43.8	-32.7
350	-38.2	-28.7
500	-30.2	-22.5

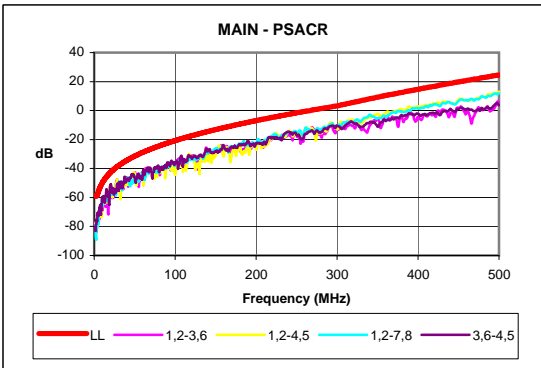
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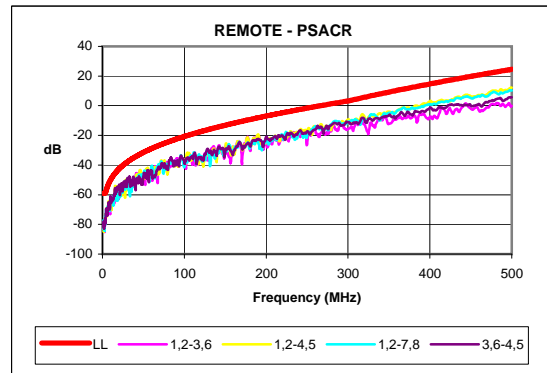
Frequency	Worst Case	TIA Spec
1	-83.7	-62
10	-63.4	-52.3
31.3	-51.6	-40
62.5	-44.6	-30.7
100	-38.6	-23.2
155	-27.1	-15
200	-25.1	-9.5
250	-19.4	-4.2
350	-5.6	7.1
500	11.4	23.7



Frequency	Worst Case	TIA Spec
1	-83.1	-62
10	-64.1	-52.3
31.3	-54.4	-40
62.5	-47.3	-30.7
100	-39.7	-23.2
155	-29.4	-15
200	-24.2	-9.5
250	-19.1	-4.2
350	-8.2	7.1
500	9.7	23.7



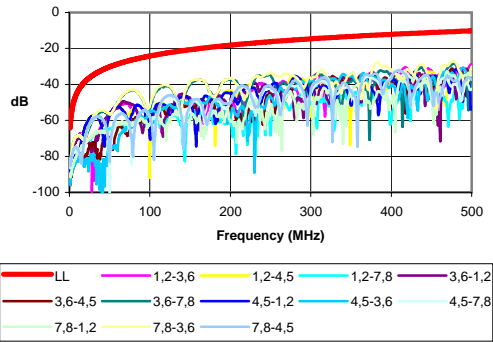
Frequency	Worst Case	TIA Spec
1	-80.5	-59
10	-60.4	-50
31.3	-49.5	-37.5
62.5	-41.4	-28.3
100	-36.1	-20.7
155	-25.5	-12.5
200	-22.4	-6.9
250	-15.1	-1.6
350	-2.3	9.2
500	13.1	24.6



Frequency	Worst Case	TIA Spec
1	-80	-59
10	-61.5	-50
31.3	-50.5	-37.5
62.5	-43.8	-28.3
100	-36.4	-20.7
155	-26.2	-12.5
200	-20.8	-6.9
250	-17.2	-1.6
350	-4.2	9.2
500	12.1	24.6

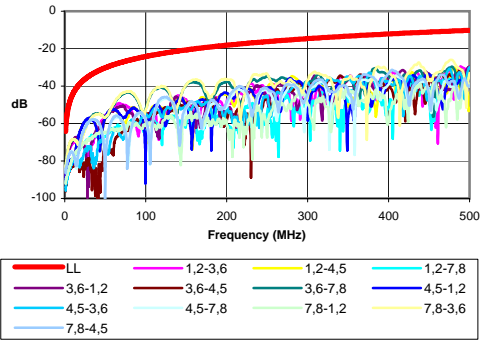
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MAIN - ACRF (ELFEXT)



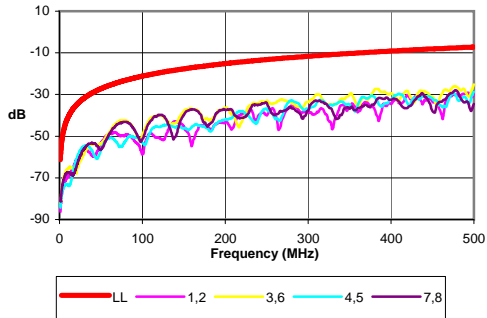
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1	-83.4	-64.2
10	-68.6	-44.2
31.3	-56.9	-34.3
62.5	-48	-28.3
100	-51.8	-24.2
155	-37.4	-20.4
200	-36.7	-18.2
250	-33.3	-16.2
350	-34.1	-13.3
500	-28.9	-10.2

REMOTE - ACRF (ELFEXT)



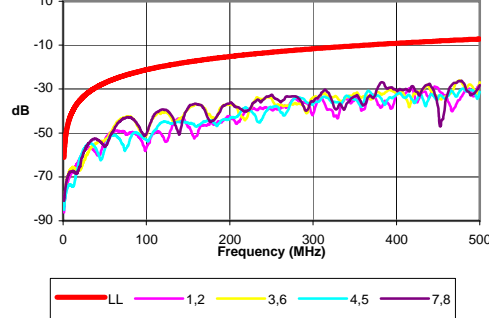
Frequency	Worst Case	TIA Spec
1	-83.4	-64.2
10	-68.5	-44.2
31.3	-56.9	-34.3
62.5	-47.9	-28.3
100	-52.3	-24.2
155	-37.4	-20.4
200	-36.5	-18.2
250	-33.5	-16.2
350	-35.1	-13.3
500	-29.8	-10.2

MAIN - PSELFEXT



Frequency	Worst Case	TIA Spec
1	-81.3	-61.2
10	-65.8	-41.2
31.3	-54.5	-31.3
62.5	-46.6	-25.3
100	-49.6	-21.2
155	-37	-17.4
200	-36.5	-15.2
250	-32.9	-13.2
350	-30	-10.3
500	-25.2	-7.2

REMOTE - PSELFEXT



Frequency	Worst Case	TIA Spec
1	-80.9	-61.2
10	-66.2	-41.2
31.3	-54.6	-31.3
62.5	-46.4	-25.3
100	-50.5	-21.2
155	-37.1	-17.4
200	-36.5	-15.2
250	-32.6	-13.2
350	-32.1	-10.3
500	-26.9	-7.2