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January 30, 2012

Test Report Number: 3022866CRT-060
Project Number: 3022866-311

Hubbell Premise Wiring
40 Waterview Drive Shelton, CT 06484

TEST:

C6A Permanent Link testing of the cabling configuration as defined in and to the requirements of TIA-568-C.2, *Balanced Twisted Pair Telecommunications Cabling and Components Standard.*

STANDARD USED:

ANSI/TIA-568-C.2-2009: Balanced Twisted-Pair Telecommunications Cabling and Components Standard.

SECTIONS:

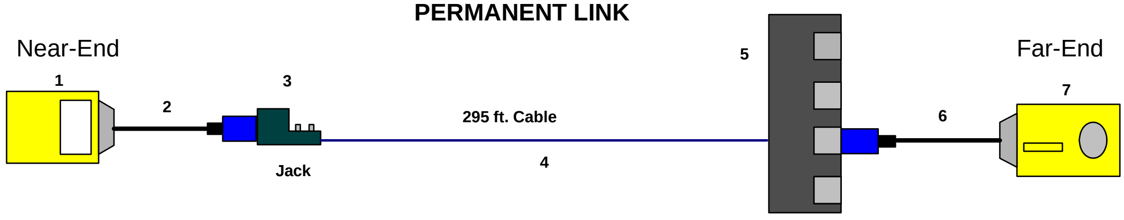
6.2: Channel transmission performance (6.2.1 to 6.2.26)

AUTHORIZATION:

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

SAMPLE DESCRIPTION:

The client supplied and tested a 2-connection channel as illustrated below.



Component Id	Manufacturer	Description	Part number
1, 7	Fluke Networks	DTX-1800	Fluke MAIN & REMOTE Units
2,6	Fluke Networks	DTX-PLA002	FlukeC6A Permanent Link Adapters
3	Hubbell Premise Wiring	HJ6Axx[1]	NEXTSPEED Ascent C6A Jack
4	Hubbell Premise Wiring	C6ASCSLSZHxx[1]	SPEEDChannel C6A LSZH UTP cable
5	Hubbell Premise Wiring	HP6A	NEXTSPEED Ascent C6A Patch Panel

1. 'xx' is the color of jack, cable, (black, blue, etc…)

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Intertek Testing Services NA, Inc.

Intertek

Hubbell Premise Wiring

Test report number 3022866CRT-060
January 30, 2012

EQUIPMENT LIST:

The following equipment was employed in conducting the tests.

Equipment used	Model number	Serial number	Calibration date	Calibration due date
Fluke Networks (Portable Cable Analyzer)	DTX-1800	8582073	04/29/2008	04/29/2009

DATE OF TEST:

September 26, 2008

TEST REPORT REVISION HISTORY:

First Issue:	February 20, 2009	Original Document
Second Issue:	January 30, 2012	Revised part numbers

RESULTS: See appendix A for the test results.

CONCLUSION:

The channel cabling configuration, as previously described and supplied by the client, was tested in accordance with the standard referred to on page 1, and did comply with the indicated applicable transmission requirements. The testing was performed at the client's facility as part of their qualifications under Intertek's SAT program.

The procedures and requirements were taken from the standard referred to on page 1.

Reviewed and Approved By:

Antoine Pelletier
Antoine Pelletier
Engineer
Global Cabling Products Testing

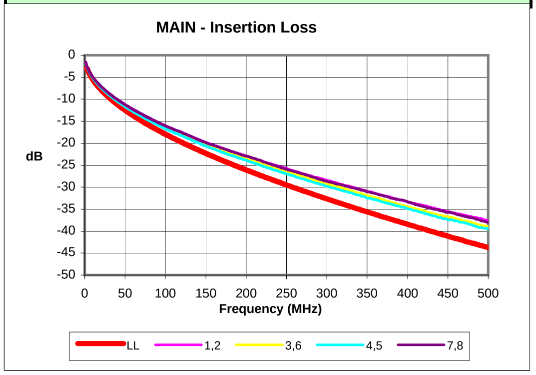
Kathy Heath
Kathy Heath
Program Coordinator
Global Cabling Products Testing

Appendix A

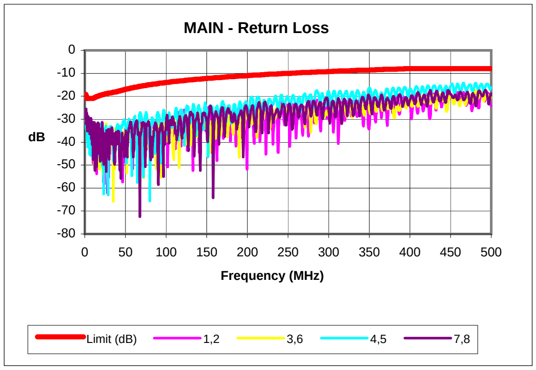
Test results

This appendix contains 5 pages.

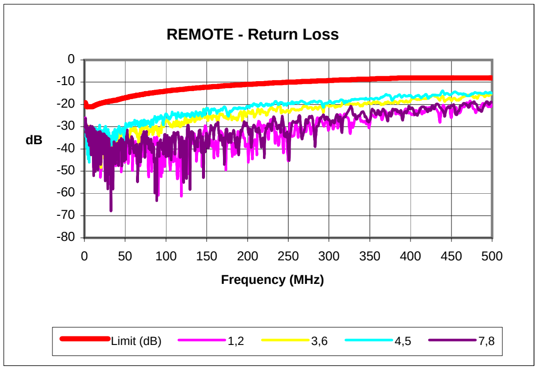
TEST REPORT: 3022866-060



Frequency	Worst Case	TIA Spec
1.0	-1.6	-3.0
10.0	-5.2	-5.5
31.3	-9.2	-9.8
62.5	-13.1	-14.0
100.0	-16.7	-18.0
155.0	-21.0	-22.7
200.0	-23.9	-26.1
250.0	-27.0	-29.5
350.0	-32.5	-35.6
500.0	-39.6	-43.8



Frequency	Worst Case	TIA Spec
1	-28.7	-19.1
10	-33.9	-21
31.3	-33.6	-18.5
62.5	-31.4	-16
100	-29.9	-14
155	-24	-12.1
200	-25.4	-11
250	-20.4	-10
350	-16.3	-8.6
500	-16.1	-8



Frequency	Worst Case	TIA Spec
1	-26	-19.1
10	-31.2	-21
31.3	-34.2	-18.5
62.5	-29.1	-16
100	-24.2	-14
155	-22.9	-12.1
200	-20.7	-11
250	-19.5	-10
350	-17.3	-8.6
500	-15	-8

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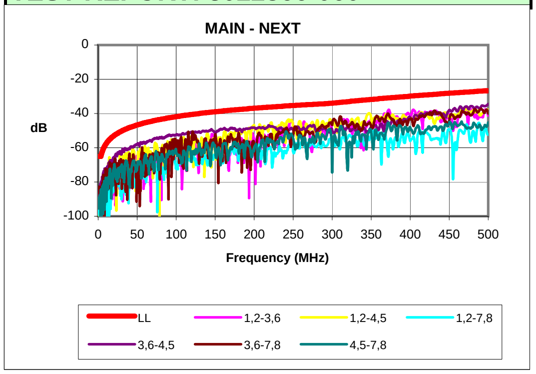
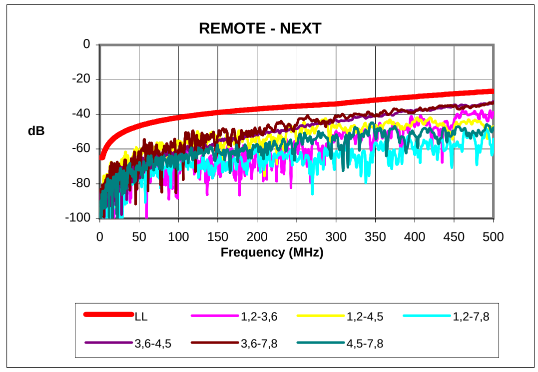
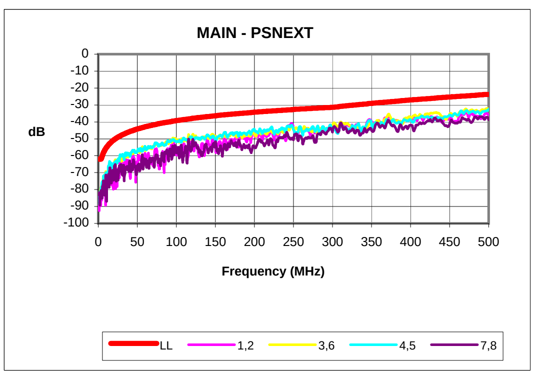


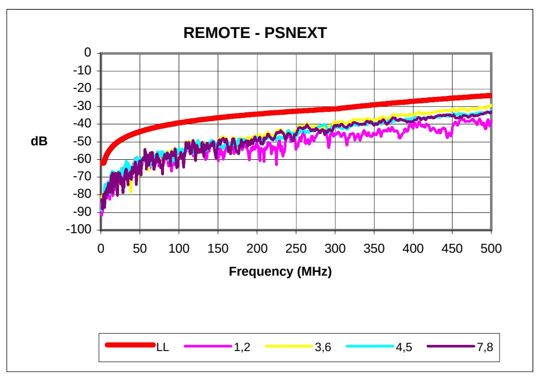
Frequency	Worst Case	TIA Spec
1	-83.8	-65
10	-72.2	-57.8
31.3	-60.7	-50
62.5	-56.9	-45.1
100	-52.6	-41.8
155	-49.8	-38.7
200	-46.9	-36.9
250	-46.7	-35.3
350	-42.7	-31.8
500	-34.4	-26.7



Frequency	Worst Case	TIA Spec
1	-83.9	-65
10	-74.7	-57.8
31.3	-64.2	-50
62.5	-60.6	-45.1
100	-57.1	-41.8
155	-49	-38.7
200	-50.6	-36.9
250	-46.4	-35.3
350	-40.9	-31.8
500	-32.4	-26.7



Frequency	Worst Case	TIA Spec
1.0	-82.0	-62.0
10.0	-69.5	-55.5
31.3	-59.2	-47.5
62.5	-55.8	-42.7
100.0	-51.5	-39.3
155.0	-48.3	-36.2
200.0	-44.4	-34.3
250.0	-43.8	-32.7
350.0	-39.7	-29.1
500.0	-32.5	-23.8



Frequency	Worst Case	TIA Spec
1	-82.3	-62.0
10	-72.4	-55.5
31.3	-62.7	-47.5
62.5	-58.2	-42.7
100	-55.4	-39.3
155	-47.8	-36.2
200	-47.7	-34.3
250	-44.1	-32.7
350	-37.8	-29.1
500	-29.2	-23.8

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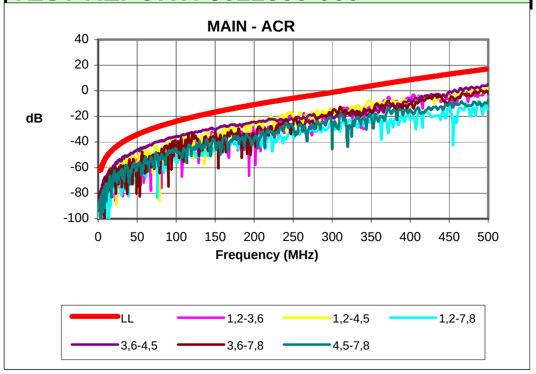
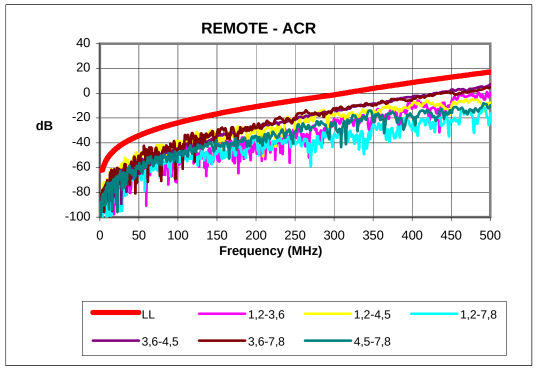
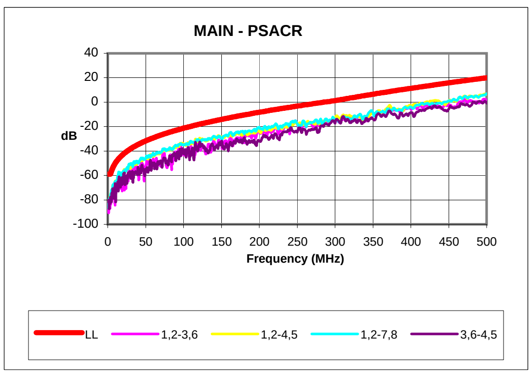


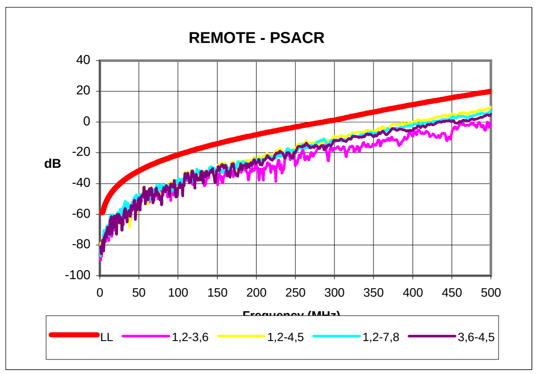
Frequency	Worst Case	TIA Spec
1	-82.3	-62.0
10	-67	-52.3
31.3	-51.5	-40.2
62.5	-43.8	-31.1
100	-35.9	-23.8
155	-28.8	-16.0
200	-23	-10.8
250	-20.2	-5.8
350	-10.2	3.8
500	5.2	17.1



Frequency	Worst Case	TIA Spec
1	-82.4	-62.0
10	-69.5	-52.3
31.3	-55	-40.2
62.5	-48	-31.1
100	-40.4	-23.8
155	-28.8	-16.0
200	-26.7	-10.8
250	-20.4	-5.8
350	-8.4	3.8
500	7.2	17.1

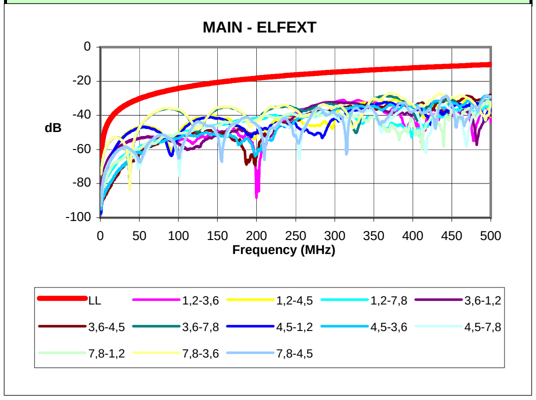


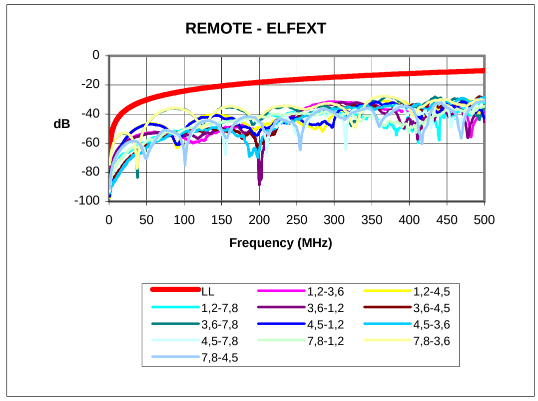
Frequency	Worst Case	TIA Spec
1	-80.4	-59.0
10	-64.5	-50.0
31.3	-50	-37.7
62.5	-42.7	-28.7
100	-35.1	-21.3
155	-27.3	-13.5
200	-20.5	-8.2
250	-17.7	-3.2
350	-8.7	6.5
500	7.1	20.0



Frequency	Worst Case	TIA Spec
1.0	-80.7	-59.0
10.0	-67.2	-50.0
31.3	-53.5	-37.7
62.5	-45.4	-28.7
100.0	-38.7	-21.3
155.0	-27.2	-13.5
200.0	-23.8	-8.2
250.0	-17.7	-3.2
350.0	-5.9	6.5
500.0	9.8	20.0

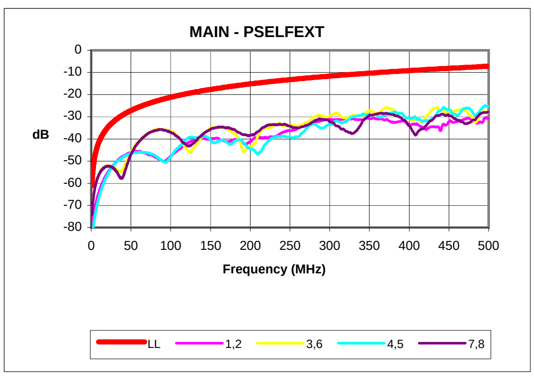
TEST REPORT: 3022866-060

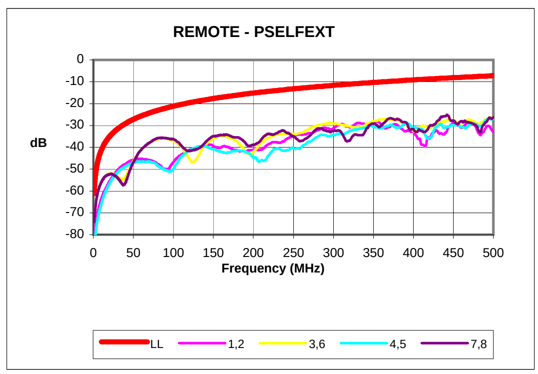




Frequency	Worst Case	TIA Spec
1	-74.5	-64.2
10	-56.3	-44.2
31.3	-51.5	-34.3
62.5	-40.3	-28.3
100	-36.5	-24.2
155	-35.1	-20.4
200	-41.5	-18.2
250	-35.9	-16.2
350	-30.2	-13.3
500	-27.9	-10.2

Frequency	Worst Case	TIA Spec
1	-74.5	-64.2
10	-56.3	-44.2
31.3	-51.7	-34.3
62.5	-40.4	-28.3
100	-36.7	-24.2
155	-35.2	-20.4
200	-41.5	-18.2
250	-35.5	-16.2
350	-29.4	-13.3
500	-28.5	-10.2





Frequency	Worst Case	TIA Spec
1.0	-74.2	-61.2
10.0	-55.8	-41.2
31.3	-50.5	-31.3
62.5	-39.9	-25.3
100.0	-36.3	-21.2
155.0	-34.9	-17.4
200.0	-38.3	-15.2
250.0	-34.0	-13.2
350.0	-27.2	-10.3
500.0	-25.3	-7.2

Frequency	Worst Case	TIA Spec
1	-74.2	-61.2
10	-55.9	-41.2
31.3	-50.1	-31.3
62.5	-40.1	-25.3
100	-36.3	-21.2
155	-34.7	-17.4
200	-38.9	-15.2
250	-33.9	-13.2
350	-28	-10.3
500	-26.2	-7.2

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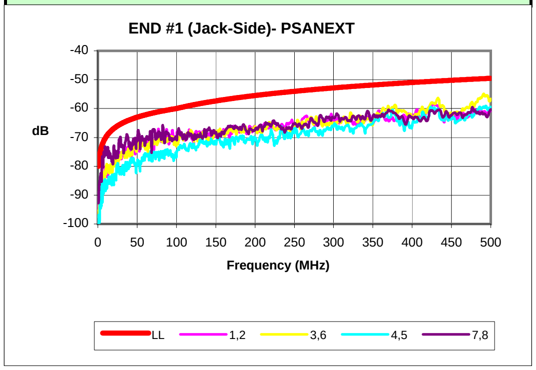
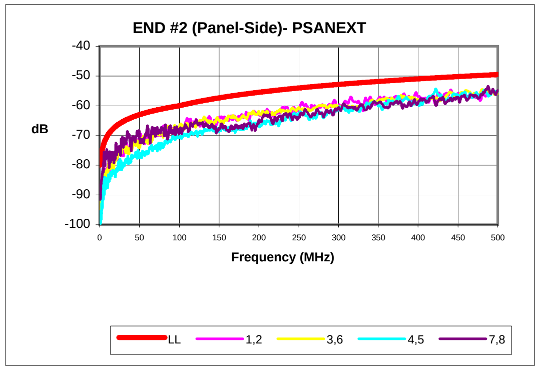
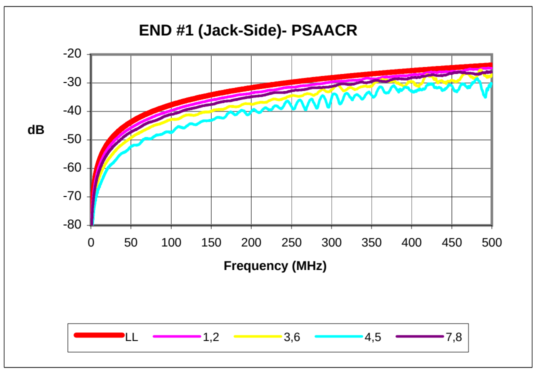
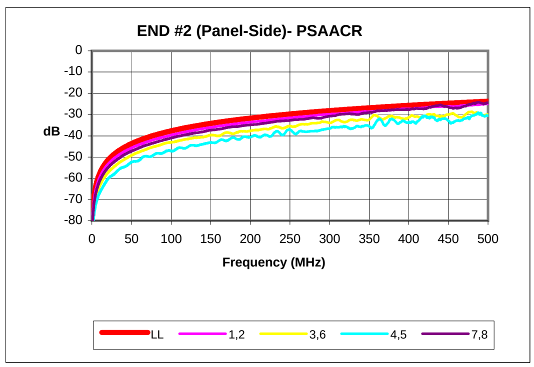




Frequency	Worst Case	TIA Spec
1	-92.8	-80.0
10	-74.2	-70.0
31.3	-73.1	-65.1
62.5	-69.6	-62.0
100	-69.9	-60.0
155	-68.0	-57.1
200	-66.2	-55.5
250	-65.4	-54.0
350	-62.7	-51.8
500	-56.7	-49.5

Frequency	Worst Case	TIA Spec
1	-91.5	-80.0
10	-76.1	-70.0
31.3	-71.2	-65.1
62.5	-69.9	-62.0
100	-67.6	-60.0
155	-64.4	-57.1
200	-61.9	-55.5
250	-60.6	-54.0
350	-57.5	-51.8
500	-54.8	-49.5





Frequency	Worst Case	TIA Spec
1	-79.1	-77.7
10	-59.6	-57.7
31.3	-49.7	-47.8
62.5	-43.8	-41.8
100	-39.7	-37.7
155	-35.8	-33.9
200	-33.6	-31.7
250	-31.5	-29.7
350	-28.6	-26.8
500	-24.9	-23.7

Frequency	Worst Case	TIA Spec
1	-79.0	-77.7
10	-59.5	-57.7
31.3	-49.7	-47.8
62.5	-43.8	-41.8
100	-39.7	-37.7
155	-35.8	-33.9
200	-33.6	-31.7
250	-31.5	-29.7
350	-28.6	-26.8
500	-24.4	-23.7