



3933 US ROUTE 11, CORTLAND, NEW YORK 13045, U.S.A.
Phone Number: 1-800-345-3851 Fax Number: 607-758-3648

PROJECT NO.: 3161280CRT-311

DATE: September 18, 2008

TEST REPORT NO.: 3161280CRT-001

RENDERED TO:

HellermannTyton

HellermannTyton Corporate
7930 North Faulkner Road
Milwaukee, WI 53224
USA

HCM

Hitachi Cable Manchester

Hitachi Cable Manchester
900 Holt Avenue
Manchester, NH 03109
USA

TEST:

Performance testing of the cabling configurations as defined in and to the requirements of ANSI/TIA/EIA-568-B.2-10, Transmission Performance Specification for 4 Pair 100 Ω Category 6 Cabling.

STATEMENT OF LIMITATIONS:

At the client's request, 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-B.2-10, Transmission Performance Specifications for 4 Pair, 100 Ω Augmented Category 6 Cabling, dated March 28, 2008.

AUTHORIZATION:

The project was authorized by, HellermannTyton Corporation & Hitachi Cable Manchester, Inc. with Purchase Order No. 28941.

DATE OF TEST:

September 17, 2008 through September 18, 2008

TEST REPORT REVISION HISTORY:

First Issue: September 18, 2008 Original Document

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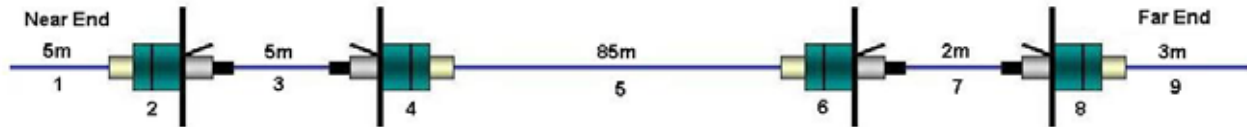
EQUIPMENT LIST:

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>
Hewlett Packard Automatic Cable Test System	HP46152A	3903U01003	03/06/2008

SAMPLE DESCRIPTION:

(4 Connectors channel, bundled in a 6 around 1 configuration)



<u>Component ID</u>	<u>Manufacturer</u>	<u>Part Number</u>	<u>Description</u>
7	Hellermann Tyton	PC6CTP7	Equipment Cord (2m)
9	Hellermann Tyton	PC6SCTP10	Equipment Cord (3m)
1, 3	Hellermann Tyton	PC6SCTP14	Equipment Cord (5m)
2,4,6,8	Hellermann Tyton	RJ45FC6AS	Wall Outlet
5	Hitachi	30233-8	Horizontal Cable
2,4,6,8	Hellermann Tyton	PP24MOD6AS	Patch Panel

The samples were received on September 17, 2008 and were in good condition. All samples were supplied by the client.

RESULTS: See appendixes A and B for the test results.

CONCLUSION:

The channel configuration, as previously described and supplied by the client, was tested in accordance with the standard, and did comply with the indicated applicable transmission requirements. The testing was performed at Intertek located in Cortland, New York.

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

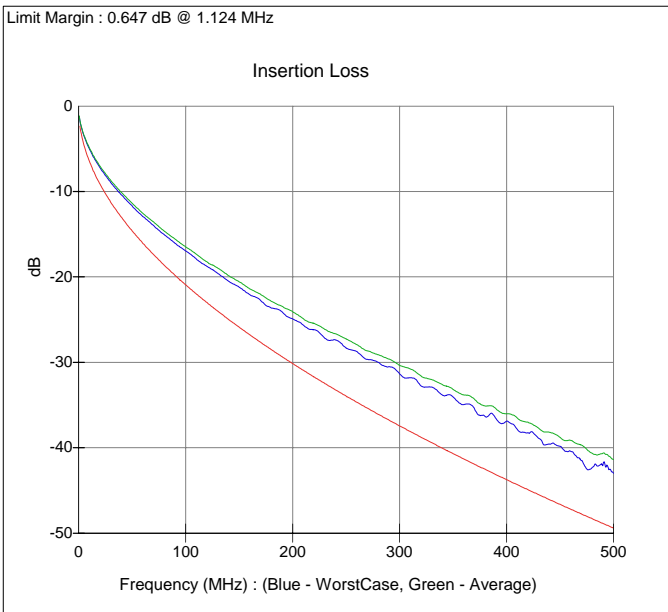
John Cash
 John Cash
 Technician
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Kathy Heath
 Kathy Heath
 Project Coordinator
 Global Cabling Products Testing

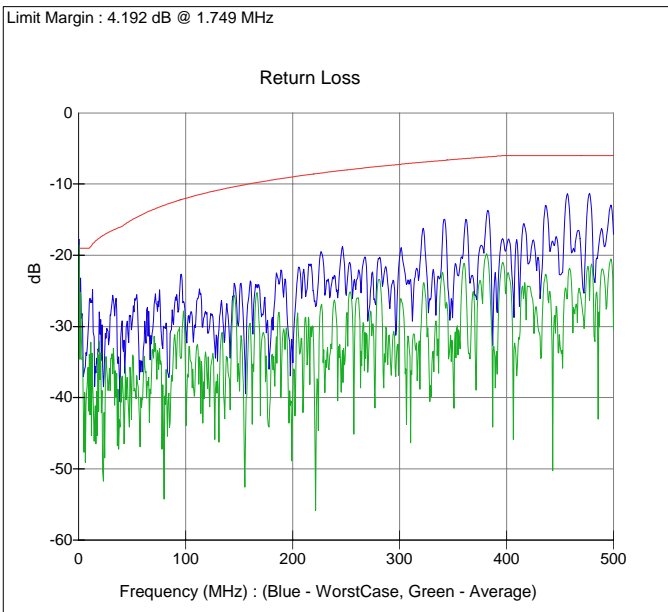


Summary

Client	Hellermann	Report No	3161280
Specification	TIA 568B2-10 - Augmented Cat 6 (Channel)		
Part No	Cat. 6A shielded	Length(m)	100
Test Started	9/17/2008 4:46:15 PM	Temperature	20 °C
Description	4 Connector Channel	Appendix	A
Technician	Development	Test Status	Complies



Insertion Loss			
Freq	Worst Case	Average	Spec
1.	1.6	1.6	2.3
4.	3.2	3.1	4.2
8.	4.5	4.4	5.8
10.	5.1	4.9	6.5
16.	6.4	6.3	8.2
20.	7.2	7.1	9.2
25.	8.1	7.9	10.3
31.25	9.2	8.9	11.5
62.5	13.2	12.8	16.4
100.	17.0	16.5	20.9
250.	28.3	27.2	33.9
500.	43.0	41.4	49.4

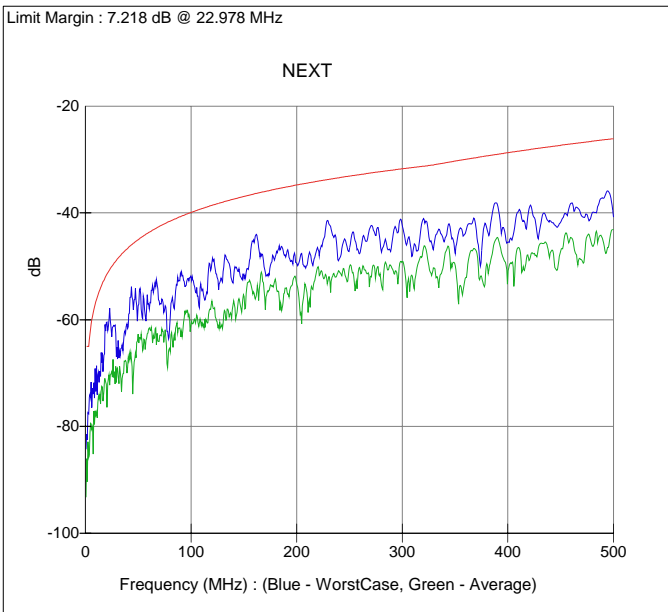


Return Loss			
Freq	Worst Case	Average	Spec
1.	29.7	31.4	19.0
4.	35.4	38.5	19.0
8.	33.0	37.9	19.0
10.	26.4	35.7	19.0
16.	36.4	45.5	18.0
20.	32.6	36.6	17.5
25.	31.5	36.6	17.0
31.25	26.9	34.6	16.5
62.5	31.3	36.5	14.0
100.	30.3	39.7	12.0
250.	26.3	30.2	8.0
500.	17.1	30.4	6.0

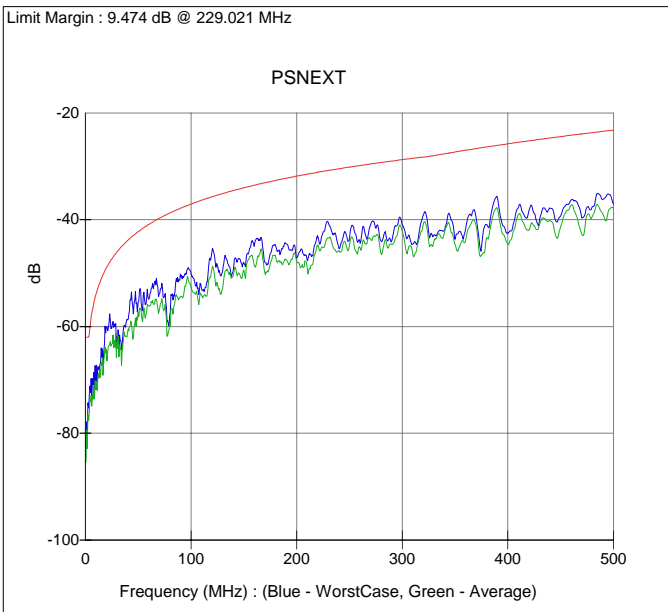


Summary

Client	Hellermann	Report No	3161280
Specification	TIA 568B2-10 - Augmented Cat 6 (Channel)		
Part No	Cat. 6A shielded	Length(m)	100
Test Started	9/17/2008 4:46:15 PM	Temperature	20 °C
Description	4 Connector Channel	Appendix	A
Technician	Development	Test Status	Complies



NEXT			
Freq	Worst Case	Average	Spec
1.	83.1	87.5	65.0
4.	74.2	82.8	63.1
8.	71.9	77.1	58.2
10.	73.9	77.8	56.6
16.	67.1	72.7	53.2
20.	60.6	73.1	51.6
25.	62.8	70.0	50.0
31.25	65.1	71.0	48.4
62.5	54.5	61.7	43.4
100.	52.2	60.9	39.9
250.	46.8	50.2	33.1
500.	40.8	43.1	26.1

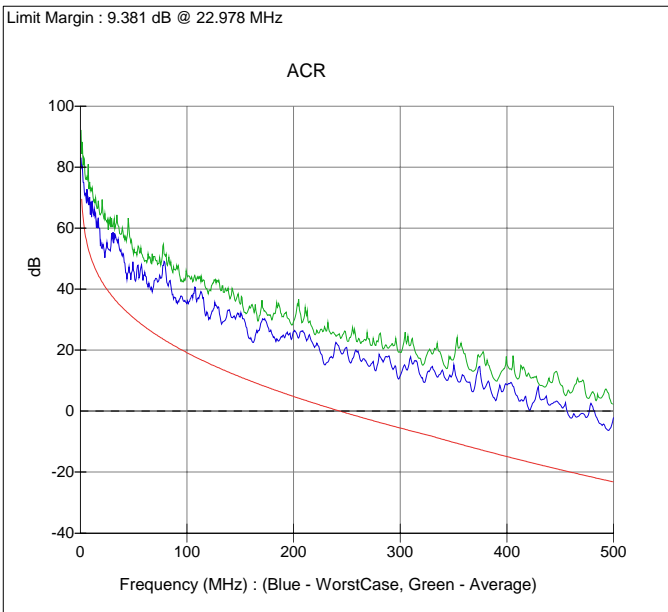


PSNEXT			
Freq	Worst Case	Average	Spec
1.	78.8	80.7	62.0
4.	72.1	74.6	60.6
8.	68.6	71.1	55.6
10.	70.7	71.5	54.0
16.	64.7	66.1	50.6
20.	60.1	64.8	49.0
25.	60.2	63.2	47.3
31.25	61.4	62.8	45.7
62.5	52.8	55.4	40.6
100.	50.1	52.6	37.1
250.	43.8	44.9	30.2
500.	37.1	37.9	23.2

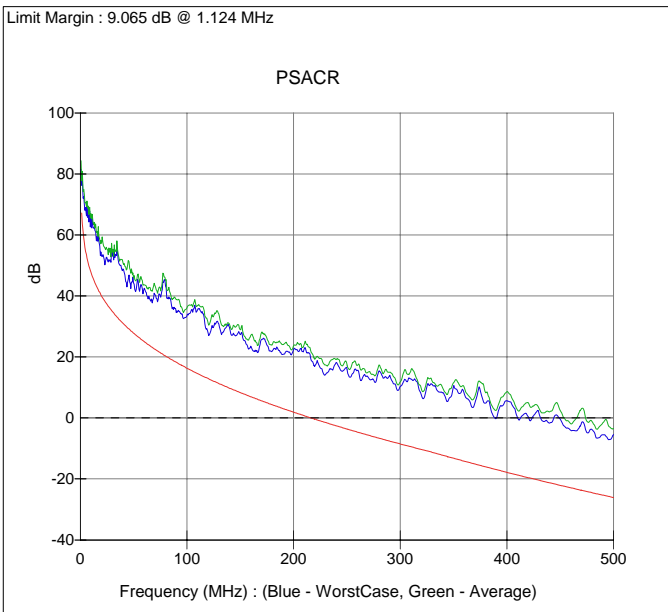


Summary

Client	Hellermann	Report No	3161280
Specification	TIA 568B2-10 - Augmented Cat 6 (Channel)		
Part No	Cat. 6A shielded	Length(m)	100
Test Started	9/17/2008 4:46:15 PM	Temperature	20 °C
Description	4 Connector Channel	Appendix	A
Technician	Development	Test Status	Complies



ACR			
Freq	Worst Case	Average	Spec
1.	81.6	85.9	70.3
4.	71.1	79.7	59.0
8.	67.5	72.8	52.4
10.	69.1	72.9	50.2
16.	60.9	66.5	45.1
20.	53.5	66.1	42.6
25.	54.9	62.2	39.9
31.25	56.2	62.2	37.0
62.5	41.7	49.0	27.1
100.	35.6	44.7	19.2
250.	20.4	23.4	-0.7
500.	-2.1	2.3	-23.2

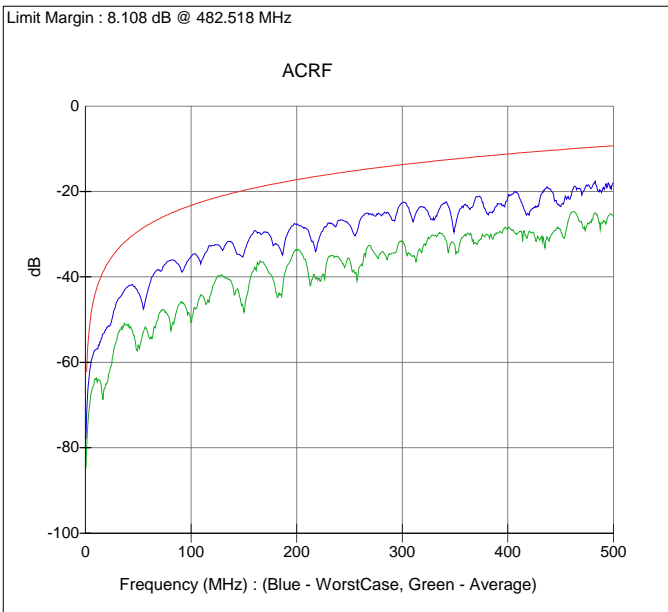


PSACR			
Freq	Worst Case	Average	Spec
1.	77.3	79.1	67.9
4.	69.0	71.6	56.5
8.	64.3	66.8	49.9
10.	65.8	66.6	47.6
16.	58.6	59.9	42.5
20.	53.0	57.7	39.9
25.	52.3	55.3	37.2
31.25	52.5	53.9	34.3
62.5	40.0	42.6	24.3
100.	33.5	36.1	16.3
250.	16.4	17.6	-3.6
500.	-5.4	-3.5	-26.1

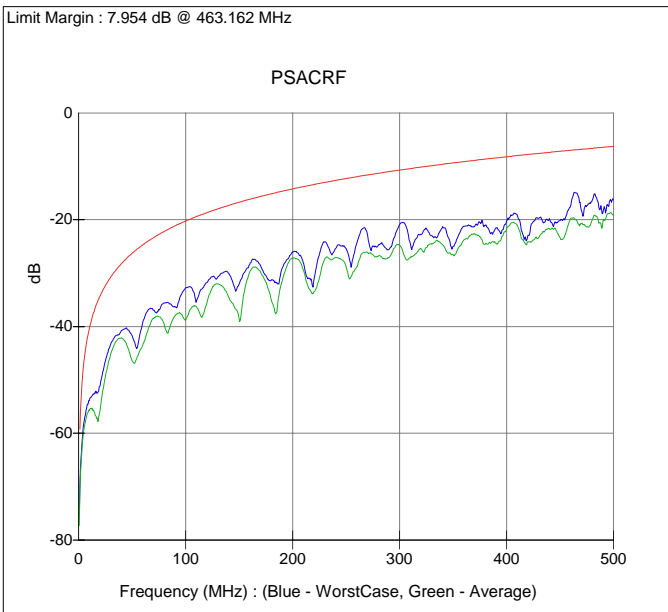


Summary

Client	Hellermann	Report No	3161280
Specification	TIA 568B2-10 - Augmented Cat 6 (Channel)		
Part No	Cat. 6A shielded	Length(m)	100
Test Started	9/17/2008 4:46:15 PM	Temperature	20 °C
Description	4 Connector Channel	Appendix	A
Technician	Development	Test Status	Complies



ACRF			
Freq	Worst Case	Average	Spec
1.	73.3	81.1	63.0
4.	62.1	69.8	51.2
8.	57.5	65.3	45.2
10.	57.1	63.9	43.3
16.	53.6	67.5	39.2
20.	52.1	65.1	37.2
25.	50.0	60.0	35.3
31.25	45.2	53.1	33.4
62.5	40.3	54.1	27.3
100.	35.2	50.6	23.3
250.	27.7	35.9	15.3
500.	18.0	25.9	9.3

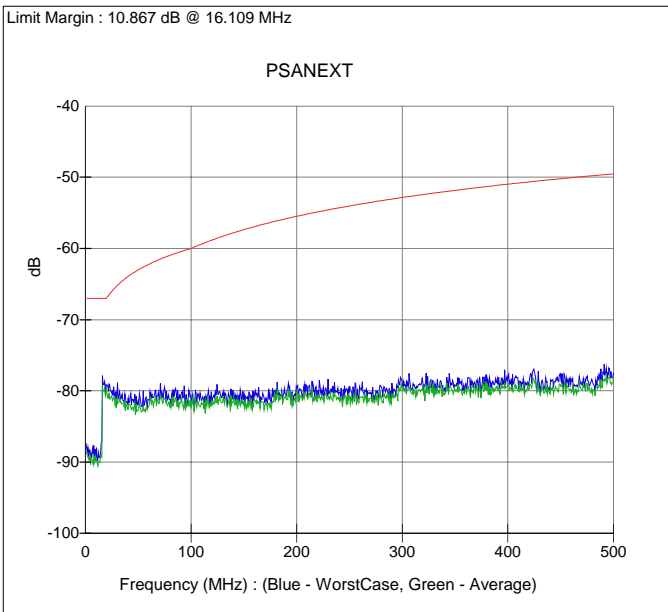


PSACRF			
Freq	Worst Case	Average	Spec
1.	70.9	72.2	60.0
4.	59.4	60.7	48.2
8.	54.6	56.2	42.2
10.	53.8	55.7	40.3
16.	52.2	56.7	36.2
20.	51.0	55.6	34.2
25.	46.4	49.3	32.3
31.25	42.8	44.4	30.4
62.5	37.8	42.1	24.3
100.	32.8	38.8	20.3
250.	25.4	28.8	12.3
500.	16.3	19.3	6.3

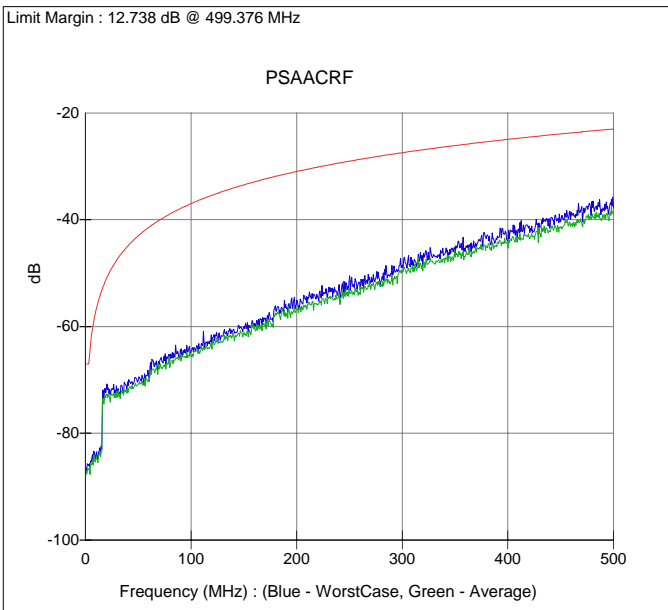


Summary

Client	Hellermann	Report No	3161280
Specification	TIA 568B2-10 - Augmented Cat 6 (Channel)		
Part No	Cat. 6A shielded	Length(m)	100
Test Started	9/17/2008 4:46:15 PM	Temperature	20 °C
Description	4 Connector Channel	Appendix	A
Technician	Development	Test Status	Complies



PSANEXT			
Freq	Worst Case	Average	Spec
1.	88.1	88.7	67.0
4.	88.3	89.4	67.0
8.	87.7	89.3	67.0
10.	89.5	89.8	67.0
16.	79.7	81.3	67.0
20.	79.4	79.7	67.0
25.	80.7	80.9	66.0
31.25	81.3	81.6	65.1
62.5	80.8	81.7	62.0
100.	81.3	81.7	60.0
250.	79.7	80.9	54.0
500.	77.5	78.2	49.5



PSAACRF			
Freq	Worst Case	Average	Spec
1.	87.4	87.5	67.0
4.	86.1	87.3	65.0
8.	83.4	84.0	58.9
10.	84.1	84.8	57.0
16.	75.0	75.5	52.9
20.	72.4	72.7	51.0
25.	72.1	72.8	49.0
31.25	72.0	72.3	47.1
62.5	67.6	68.8	41.1
100.	64.7	65.4	37.0
250.	50.9	53.5	29.0
500.	37.8	38.6	23.0