



REPORT INTERTEK / ETL SEMKO

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Phone Number: 1-800-345-3851 Fax Number: 607-758-3648

ORDER NO.: 3022866

DATE: July 18, 2005

REPORT NO.: 3022866-038

RENDERED TO:

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

TEST: Performance testing of the cabling configurations as defined in and to the requirements of ANSI/TIA/EIA-568-B.1 "Transmission Performance Specification for 4 Pair 100 Ω Category 5e Cabling", dated June 2002.

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:

ASTM D4566-98, dated December 10, 1998, Standard Test Methods for Electrical Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable

TIA/EIA-568-B.1, dated April 12, 2001, Commercial Building Telecommunications Cabling Standard

TIA/EIA-568-B.2, dated April 23, 2001, Commercial Building Telecommunications Cabling Standard

AUTHORIZATION: The tests were authorized by Dr. Shadi AbuGhazaleh, representing, Hubbell Premise Wiring.

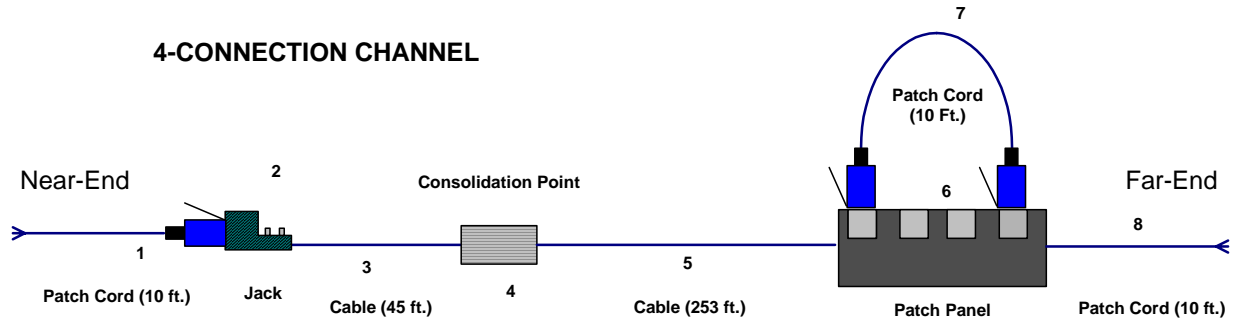
SPECIMEN DESCRIPTION: The Client Submitted 1 complete worst-case 4-Connection Channel configuration as defined in TIA/EIA 568-B.1.

DATE OF TEST: 04/06/2005

An independent organization testing for safety, performance, and certification.

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SAMPLE DESCRIPTION:



<u>Component ID</u>	<u>Manufacturer</u>	<u>Part Number</u>	<u>Description</u>
3,5	Hubbell Premise Wiring	C5EPRPW	SPEEDGAIN Cat 5e UTP
6	Hubbell Premise Wiring	P5E**U ¹	SPEEDGAIN C5e Patch Panel
1,8	Hubbell Premise Wiring	PCX5E	Equipment Cord
7	Hubbell Premise Wiring	PCX5E	Cross Connect
4	Hubbell Premise Wiring	110BLK	110 Block
2	Hubbell Premise Wiring	HXJ5E	Wall Outlet

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>
Hewlett Packard Automatic Cable Test System	HP46152A	87CT10L	N/A	11/02/2004

PROCEDURE:**Measurements**Insertion Loss

The Insertion Loss of the four conductor pairs was measured in accordance with ASTM D4566-98, Paragraph 26. Losses due to reflection, radiation, etc. are assumed to be part of the attenuation.

Near-End Crosstalk (NEXT)

NEXT measurements were made between the six combinations of the four conductor pairs, from both ends, in accordance with ASTM D4566-98, Paragraph 24.

Far End Crosstalk (FEXT)

FEXT was measured on twelve permutations of four conductor pairs, from one end only, in accordance with ASTM D4566-98, Paragraph 25.

Return Loss

Return Loss was measured from both ends in accordance with ASTM D4566-98, Paragraph 45.3.

Propagation Delay

Propagation Delay is computed in accordance with ASTM D4566-98, Paragraph 40.

CalculationsNEXT Power Sum

NEXT Power Sum was determined by the method outlined in ASTM D4566-98, Paragraph 24.

Attenuation to Cross Talk Ratio

ACR was calculated by subtracting Attenuation from Crosstalk (NEXT).

ACR Power Sum

PS ACR was determined using the same procedure as ACR except that the Power Sum NEXT was used in the computation in lieu of the Worse Case NEXT.

Equal Level FEXT

ELFEXT is computed by using the Attenuation and Far-End Crosstalk for each pair and the method outlined in TIA/EIA 568-B.1, Paragraph 11.2.4.7.

ELFEXT Power Sum

Power Sum ELFEXT is calculated using the Attenuation and FEXT for each conductor pair and the method outlined in ASTM D4566-98, Paragraph 25 and TIA/EIA 568-B.1, Paragraph 11.2.4.8.

Delay Skew

Delay Skew is calculated in accordance with ASTM D4566-98, Paragraph 40 and TIA/EIA 568-B.1, Paragraph 11.2.4.11.

REQUIREMENTS AND RESULTS:**Measurements**Attenuation

Attenuation was tested to the requirement of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.4 and ANSI/TIA/EIA-568-B.2, Paragraph 4.3.4.7.

Near-End Crosstalk (NEXT)

Near-End Crosstalk was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.5.

Return Loss

Return Loss was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.9.

CalculationsACR

ACR was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.4 and 11.2.4.9.

NEXT Power Sum

NEXT Power Sum was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.6.

PS ACR

PS ACR was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.4 and 11.2.4.6.

ELFEXT

ELFEXT was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.7.

ELFEXT Power Sum

ELFEXT Power Sum was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.8.

Propagation Delay

Propagation Delay was tested to the requirements of TIA/EIA 568-B.1, Paragraph 11.2.4.10.

Delay Skew

Delay Skew was tested to the requirements of ANSI/TIA/EIA-568-B.1, Paragraph 11.2.4.11.

See Appendix A for Test Results.

CONCLUSION:

The channel configuration, as previously described was tested under the SAT (Supplier Applicant Testing Program) of ETL Intertek Testing Services in accordance with the procedures 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.

Approved By:



Stephen Comer
Laboratory Supervisor
Global Cabling Products Testing

Reviewed By:



Kathy Heath
Program Administrator
Global Cabling Products Testing

Appendix A
Test Results

Any data reported above 100 MHz is for indication only.



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Attenuation (Near End)

Client Hubbell Premise Wiring **Report No** 3022866-038
Specification 4Connec-C5EChannel
File Name TR487x1e (4CC) HUBB C5E **Length(m)** 100
Test Started 4/6/2005 11:59:21 AM **Temperature** 21.67 °C
Description Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1
Operator Name S. Schultz **Test Status:** Complies

Attenuation Near End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-1.80	-1.80	-1.80	-1.80
4.	-3.70	-3.60	-3.70	-3.70
8.	-5.30	-5.20	-5.30	-5.30
10.	-6.00	-5.85	-5.90	-5.90
16.	-7.66	-7.50	-7.60	-7.56
20.	-8.61	-8.50	-8.60	-8.51
25.	-9.70	-9.56	-9.66	-9.60
31.25	-10.90	-10.80	-10.90	-10.81
62.5	-15.77	-15.60	-15.77	-15.67
100.	-20.39	-20.29	-20.39	-20.30
150.	-25.63	-25.43	-25.73	-25.53
155.	-26.08	-25.98	-26.18	-25.98
200.	-30.11	-29.96	-30.26	-30.01
250.	-34.20	-33.91	-34.30	-34.00
300.	-37.89	-37.49	-37.99	-37.59
350.	-41.50	-41.10	-41.50	-41.10



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Attenuation (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

Attenuation Far End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-1.80	-1.80	-1.80	-1.80
4.	-3.73	-3.60	-3.70	-3.70
8.	-5.30	-5.20	-5.30	-5.30
10.	-6.00	-5.85	-5.90	-5.90
16.	-7.66	-7.50	-7.60	-7.56
20.	-8.60	-8.50	-8.51	-8.51
25.	-9.70	-9.56	-9.66	-9.60
31.25	-10.91	-10.80	-10.90	-10.81
62.5	-15.80	-15.67	-15.80	-15.70
100.	-20.49	-20.29	-20.49	-20.39
150.	-25.63	-25.33	-25.56	-25.33
155.	-26.08	-25.88	-26.08	-25.88
200.	-30.06	-29.81	-30.16	-29.91
250.	-34.20	-33.90	-34.21	-33.91
300.	-37.89	-37.39	-37.99	-37.59
350.	-41.50	-41.10	-41.50	-41.10



Near End Cross Talk (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

NEXT Near End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Green	Orange - Brown	Green - Brown
1.	-86.50	-86.10	-87.30	-103.80	-86.00	-84.00
4.	-75.21	-71.79	-77.04	-72.40	-76.94	-68.43
8.	-69.31	-67.52	-81.93	-64.91	-76.83	-67.72
10.	-65.40	-65.30	-67.37	-62.38	-80.52	-64.48
16.	-65.79	-56.27	-70.11	-65.91	-72.79	-60.94
20.	-65.71	-60.50	-65.86	-62.68	-75.91	-58.64
25.	-63.35	-55.06	-83.91	-59.38	-64.92	-56.42
31.25	-58.56	-55.76	-66.13	-59.87	-65.44	-56.79
62.5	-53.85	-49.76	-78.31	-51.20	-63.21	-48.32
100.	-59.55	-43.99	-54.84	-52.70	-63.42	-45.39
150.	-53.79	-44.76	-66.19	-43.48	-53.20	-57.91
155.	-44.09	-44.74	-53.35	-52.74	-50.63	-50.66
200.	-58.32	-40.77	-47.59	-45.00	-44.74	-53.59
250.	-48.09	-38.86	-49.52	-39.36	-44.23	-40.00
300.	-52.68	-38.70	-61.82	-41.99	-35.75	-39.20
350.	-45.60	-37.10	-52.80	-42.80	-41.40	-42.50



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Near End Cross Talk (Far End)

Client Hubbell Premise Wiring **Report No** 3022866-038
Specification 4Connec-C5EChannel
File Name TR487x1e (4CC) HUBB C5E **Length(m)** 100
Test Started 4/6/2005 11:59:21 AM **Temperature** 21.67 °C
Description Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1
Operator Name S. Schultz **Test Status:** Complies

NEXT Far End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Green	Orange - Brown	Green - Brown
1.	-81.70	-88.70	-84.10	-96.40	-85.40	-85.80
4.	-77.51	-67.20	-71.77	-74.80	-71.73	-73.06
8.	-76.81	-67.70	-72.00	-67.72	-77.12	-69.11
10.	-67.38	-69.02	-66.47	-65.75	-78.17	-79.74
16.	-64.39	-68.74	-73.10	-61.72	-64.46	-65.14
20.	-61.92	-64.22	-62.10	-59.88	-63.69	-62.45
25.	-58.90	-63.96	-62.41	-63.20	-59.15	-63.50
31.25	-55.39	-54.86	-56.73	-60.72	-66.10	-66.89
62.5	-54.69	-50.32	-50.53	-67.39	-61.18	-56.63
100.	-46.47	-46.44	-50.82	-60.38	-53.58	-50.26
150.	-46.69	-43.71	-44.04	-46.06	-53.44	-48.96
155.	-50.48	-45.41	-50.71	-49.84	-51.33	-45.97
200.	-40.94	-42.61	-49.64	-43.58	-40.43	-54.70
250.	-41.25	-33.24	-49.30	-39.75	-37.80	-40.40
300.	-36.61	-36.23	-46.91	-36.87	-44.16	-40.88
350.	-36.40	-28.60	-51.20	-36.30	-42.40	-38.40



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NEXT Power Sum (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS NEXT Near End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-81.80	-83.20	-81.90	-80.80
4.	-69.33	-69.67	-65.73	-67.40
8.	-65.21	-63.41	-61.71	-67.12
10.	-61.15	-60.54	-59.10	-62.61
16.	-55.67	-62.39	-54.67	-60.14
20.	-58.49	-60.74	-55.46	-57.82
25.	-54.46	-57.05	-51.82	-55.79
31.25	-53.64	-55.68	-52.33	-55.83
62.5	-48.31	-49.12	-44.82	-48.19
100.	-43.54	-51.23	-41.26	-44.88
150.	-43.87	-42.49	-40.86	-50.95
155.	-41.09	-42.42	-42.89	-46.18
200.	-39.73	-41.53	-39.00	-42.08
250.	-38.02	-37.66	-34.63	-38.24
300.	-38.48	-34.69	-34.86	-34.03
350.	-36.40	-38.20	-35.20	-38.70



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Attenuation to Cross Talk Ratio (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

ACR Near End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Green	Orange - Brown	Green - Brown
1.	84.70	84.30	85.50	102.00	84.20	82.20
4.	71.51	68.09	73.34	68.80	73.34	64.73
8.	64.01	62.22	76.63	59.71	71.63	62.42
10.	59.40	59.30	61.37	56.54	74.68	58.58
16.	58.13	48.61	62.44	58.41	65.29	53.34
20.	57.09	51.89	57.25	54.18	67.41	50.04
25.	53.65	45.36	74.21	49.82	55.36	46.76
31.25	47.66	44.86	55.23	49.07	54.64	45.89
62.5	38.08	33.99	62.53	35.60	47.61	32.55
100.	39.16	23.60	34.45	32.41	43.13	25.00
150.	28.16	19.13	40.57	18.06	27.77	32.18
155.	18.02	18.66	27.28	26.76	24.65	24.49
200.	28.21	10.66	17.47	15.04	14.79	23.34
250.	13.89	4.66	15.31	5.45	10.32	5.70
300.	14.79	0.81	23.93	4.50	-1.75	1.21
350.	4.10	-4.40	11.30	1.70	0.30	1.00



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Attenuation to Cross Talk Ratio (Far End)

Client Hubbell Premise Wiring **Report No** 3022866-038
Specification 4Connec-C5EChannel
File Name TR487x1e (4CC) HUBB C5E **Length(m)** 100
Test Started 4/6/2005 11:59:21 AM **Temperature** 21.67 °C
Description Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1
Operator Name S. Schultz **Test Status:** Complies

ACR Far End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Green	Orange - Brown	Green - Brown
1.	79.90	86.90	82.30	94.60	83.60	84.00
4.	73.78	63.47	68.04	71.20	68.13	69.36
8.	71.51	62.40	66.70	62.52	71.92	63.81
10.	61.38	63.02	60.47	59.90	72.33	73.84
16.	56.72	61.07	65.44	54.22	56.96	57.54
20.	53.32	55.62	53.50	51.38	55.19	53.94
25.	49.20	54.26	52.71	53.64	49.60	53.84
31.25	44.48	43.95	45.82	49.92	55.30	55.99
62.5	38.89	34.52	34.73	51.72	45.51	40.83
100.	25.98	25.95	30.32	40.08	33.29	29.77
150.	21.06	18.08	18.41	20.73	28.11	23.40
155.	24.40	19.34	24.63	23.97	25.45	19.89
200.	10.89	12.55	19.58	13.76	10.61	24.54
250.	7.04	-0.96	15.10	5.85	3.90	6.19
300.	-1.28	-1.66	9.02	-0.53	6.77	2.88
350.	-5.10	-12.90	9.70	-4.80	1.30	-3.10



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Power Sum ACR (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS ACR Near End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	80.00	81.40	80.10	79.00
4.	65.63	66.07	62.03	63.70
8.	59.91	58.21	56.41	61.82
10.	55.15	54.69	53.20	56.71
16.	48.01	54.89	47.07	52.58
20.	49.88	52.24	46.86	49.31
25.	44.76	47.49	42.16	46.19
31.25	42.74	44.88	41.43	45.02
62.5	32.54	33.52	29.05	32.52
100.	23.15	30.94	20.87	24.58
150.	18.24	17.06	15.13	25.43
155.	15.01	16.44	16.71	20.20
200.	9.61	11.57	8.75	12.06
250.	3.81	3.75	0.32	4.24
300.	0.59	-2.81	-3.13	-3.57
350.	-5.10	-2.90	-6.30	-2.40



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Power Sum ACR (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS ACR Far End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	77.40	78.30	82.00	78.50
4.	61.87	65.67	61.90	63.70
8.	60.60	61.62	58.01	61.61
10.	56.68	57.45	57.95	60.04
16.	54.94	51.07	51.92	53.86
20.	49.29	48.31	48.50	49.37
25.	46.74	45.65	49.06	46.91
31.25	39.92	43.21	42.78	45.05
62.5	30.85	37.75	33.43	33.61
100.	22.25	25.25	24.33	26.19
150.	14.16	17.60	15.37	17.16
155.	17.23	19.77	15.74	17.92
200.	8.24	6.83	9.67	9.89
250.	-1.67	0.69	-2.50	1.75
300.	-4.70	-4.09	-5.26	0.87
350.	-13.60	-8.30	-14.00	-4.30



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FEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

FEXT Near End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Blue	Orange - Green	Orange - Brown
1.	-73.20	-76.20	-77.60	-73.30	-78.00	-85.90
4.	-63.57	-66.33	-68.24	-63.67	-66.97	-73.73
8.	-59.60	-63.20	-64.50	-59.40	-62.10	-68.80
10.	-58.40	-61.60	-62.95	-58.60	-61.75	-67.75
16.	-56.70	-58.76	-60.94	-56.54	-58.96	-65.44
20.	-56.29	-58.18	-59.90	-56.10	-57.11	-63.56
25.	-55.86	-57.82	-58.74	-55.70	-55.54	-62.30
31.25	-55.30	-57.89	-56.49	-55.50	-54.89	-61.41
62.5	-52.37	-57.05	-54.47	-52.63	-54.95	-57.27
100.	-55.09	-57.79	-54.20	-54.88	-67.58	-57.21
150.	-54.07	-57.11	-58.47	-54.27	-55.66	-62.51
155.	-54.05	-55.47	-58.72	-54.27	-57.05	-64.76
200.	-56.56	-54.17	-57.94	-57.13	-66.22	-74.41
250.	-59.90	-56.81	-61.48	-59.31	-59.62	-73.07
300.	-61.97	-62.15	-62.00	-61.78	-66.18	-73.16
350.	-64.30	-66.20	-64.30	-62.70	-70.50	-84.00



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FEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

FEXT Near End (dB)						
Frequency	Green - Blue	Green - Orange	Green - Brown	Brown - Blue	Brown - Orange	Brown - Green
1.	-76.60	-77.50	-87.10	-77.30	-84.60	-86.20
4.	-66.40	-66.80	-75.40	-67.97	-74.03	-76.30
8.	-63.50	-62.10	-69.10	-64.70	-69.10	-69.10
10.	-61.71	-61.50	-67.40	-63.70	-67.51	-68.21
16.	-59.17	-58.60	-62.79	-61.91	-65.30	-63.56
20.	-58.69	-57.50	-62.06	-61.21	-64.54	-61.48
25.	-58.06	-56.24	-60.38	-59.30	-63.74	-59.50
31.25	-57.08	-55.20	-60.01	-56.49	-63.09	-59.19
62.5	-58.33	-56.07	-62.39	-55.22	-59.23	-61.68
100.	-61.09	-66.09	-57.27	-54.01	-58.47	-57.40
150.	-56.04	-56.13	-57.40	-59.03	-62.27	-58.07
155.	-55.71	-56.68	-57.81	-58.98	-62.75	-57.72
200.	-53.87	-65.34	-68.93	-59.28	-69.52	-70.16
250.	-56.64	-60.87	-62.85	-61.61	-69.45	-62.92
300.	-60.05	-63.99	-62.34	-60.69	-69.92	-62.79
350.	-71.00	-68.00	-68.40	-64.00	-83.50	-70.70



ETL SEMKO

FEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

FEXT Far End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Blue	Orange - Green	Orange - Brown
1.	-75.10	-76.30	-77.50	-73.40	-77.70	-84.40
4.	-64.70	-66.34	-67.94	-63.50	-66.77	-73.84
8.	-59.40	-63.40	-64.60	-59.60	-62.10	-68.90
10.	-57.64	-61.75	-63.60	-58.35	-61.40	-67.41
16.	-55.66	-59.04	-62.00	-56.64	-58.60	-65.10
20.	-55.02	-58.61	-61.11	-56.29	-57.49	-64.42
25.	-56.32	-58.10	-59.24	-55.90	-56.18	-63.74
31.25	-57.89	-56.89	-56.49	-55.29	-55.11	-62.99
62.5	-52.63	-58.20	-55.15	-52.30	-56.07	-59.27
100.	-53.26	-61.18	-53.91	-54.99	-66.28	-58.37
150.	-53.47	-56.01	-59.07	-54.07	-56.10	-62.17
155.	-53.62	-55.63	-58.98	-54.05	-56.68	-62.60
200.	-58.64	-53.81	-59.28	-56.50	-65.16	-69.66
250.	-58.82	-56.64	-61.51	-60.00	-60.68	-69.45
300.	-60.64	-59.85	-60.69	-61.97	-64.09	-70.10
350.	-63.80	-70.90	-64.20	-64.20	-67.60	-83.40



ETL SEMKO

FEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

FEXT Far End (dB)						
Frequency	Green - Blue	Green - Orange	Green - Brown	Brown - Blue	Brown - Orange	Brown - Green
1.	-75.90	-77.50	-87.20	-77.80	-85.20	-88.80
4.	-66.40	-68.96	-76.20	-68.10	-73.50	-75.10
8.	-63.20	-64.60	-69.10	-64.50	-68.90	-69.01
10.	-61.50	-59.59	-68.10	-62.90	-67.70	-67.30
16.	-58.70	-56.76	-63.44	-60.90	-65.34	-62.56
20.	-58.09	-56.85	-61.50	-59.89	-63.41	-61.91
25.	-57.80	-56.58	-59.46	-58.60	-62.34	-60.34
31.25	-57.80	-54.12	-59.10	-56.49	-61.49	-60.01
62.5	-56.95	-55.05	-61.73	-54.55	-57.27	-62.39
100.	-57.70	-66.13	-57.39	-54.10	-57.03	-57.17
150.	-57.04	-55.94	-58.04	-58.37	-62.44	-57.40
155.	-55.47	-56.09	-57.75	-58.57	-64.72	-57.78
200.	-54.13	-66.92	-69.90	-57.89	-74.87	-68.80
250.	-56.80	-58.74	-62.73	-61.48	-72.29	-62.86
300.	-62.25	-66.78	-62.79	-62.00	-73.51	-62.71
350.	-66.10	-71.20	-70.60	-64.30	-83.00	-68.40



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Power Sum FEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS FEXT Near End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-70.60	-71.60	-73.70	-76.60
4.	-60.87	-61.60	-63.40	-66.57
8.	-57.10	-57.40	-59.10	-62.10
10.	-56.05	-56.30	-58.20	-60.65
16.	-53.87	-54.20	-55.16	-57.90
20.	-53.40	-53.50	-53.79	-56.79
25.	-52.66	-52.70	-52.50	-55.44
31.25	-51.49	-51.90	-52.19	-54.00
62.5	-50.00	-50.27	-52.30	-52.20
100.	-50.99	-53.18	-54.39	-51.20
150.	-51.23	-51.60	-52.07	-54.17
155.	-51.10	-51.83	-51.82	-54.75
200.	-51.41	-55.86	-53.83	-57.54
250.	-53.93	-57.08	-54.31	-58.91
300.	-56.01	-59.47	-58.57	-59.02
350.	-59.90	-62.70	-63.80	-62.80



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Power Sum FEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS FEXT Far End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-70.60	-72.90	-73.80	-76.30
4.	-60.80	-62.93	-63.24	-66.44
8.	-57.10	-57.90	-59.20	-62.20
10.	-55.70	-55.24	-58.00	-61.10
16.	-53.64	-52.90	-55.00	-58.54
20.	-53.09	-52.44	-54.20	-57.31
25.	-52.50	-52.92	-53.14	-55.60
31.25	-51.60	-52.11	-52.11	-53.99
62.5	-49.40	-49.83	-53.40	-53.07
100.	-50.59	-51.57	-55.37	-51.30
150.	-51.34	-51.19	-51.67	-54.69
155.	-50.90	-51.47	-51.81	-54.60
200.	-51.11	-57.90	-53.36	-58.56
250.	-54.20	-55.63	-54.52	-58.71
300.	-57.28	-59.54	-57.03	-58.28
350.	-60.00	-63.00	-64.00	-63.30



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ELFEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

ELFEXT Near End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Blue	Orange - Green	Orange - Brown
1.	-71.40	-74.40	-75.80	-71.50	-76.20	-84.10
4.	-59.87	-62.63	-64.54	-60.07	-63.37	-70.13
8.	-54.30	-57.90	-59.20	-54.20	-56.90	-63.60
10.	-52.40	-55.60	-56.95	-52.75	-55.91	-61.91
16.	-49.04	-51.10	-53.27	-49.04	-51.46	-57.94
20.	-47.68	-49.56	-51.29	-47.60	-48.61	-55.06
25.	-46.16	-48.12	-49.04	-46.14	-45.98	-52.74
31.25	-44.40	-46.99	-45.59	-44.70	-44.09	-50.61
62.5	-36.60	-41.28	-38.70	-37.03	-39.35	-41.67
100.	-34.70	-37.40	-33.81	-34.59	-47.29	-36.92
150.	-28.44	-31.49	-32.84	-28.84	-30.23	-37.09
155.	-27.98	-29.39	-32.65	-28.29	-31.08	-38.79
200.	-26.44	-24.06	-27.83	-27.17	-36.26	-44.45
250.	-25.70	-22.60	-27.28	-25.40	-25.71	-39.16
300.	-24.08	-24.26	-24.11	-24.28	-28.69	-35.66
350.	-22.80	-24.70	-22.80	-21.60	-29.40	-42.90



ETL SEMKO

ELFEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

ELFEXT Near End (dB)						
Frequency	Green - Blue	Green - Orange	Green - Brown	Brown - Blue	Brown - Orange	Brown - Green
1.	-74.80	-75.70	-85.30	-75.50	-82.80	-84.40
4.	-62.70	-63.10	-71.70	-64.27	-70.33	-72.60
8.	-58.20	-56.80	-63.80	-59.40	-63.80	-63.80
10.	-55.81	-55.60	-61.50	-57.80	-61.61	-62.31
16.	-51.57	-51.00	-55.19	-54.34	-57.74	-56.00
20.	-50.09	-48.90	-53.46	-52.70	-56.02	-52.96
25.	-48.40	-46.58	-50.72	-49.70	-54.14	-49.90
31.25	-46.18	-44.30	-49.11	-45.69	-52.28	-48.39
62.5	-42.55	-40.30	-46.62	-39.55	-43.55	-46.01
100.	-40.70	-45.70	-36.88	-33.71	-38.17	-37.10
150.	-30.31	-30.40	-31.67	-33.50	-36.74	-32.54
155.	-29.53	-30.51	-31.63	-33.00	-36.78	-31.75
200.	-23.61	-35.08	-38.67	-29.27	-39.50	-40.14
250.	-22.34	-26.56	-28.54	-27.60	-35.44	-28.91
300.	-22.05	-25.99	-24.35	-23.09	-32.32	-25.20
350.	-29.50	-26.50	-26.90	-22.90	-42.40	-29.60



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ELFEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

ELFEXT Far End (dB)						
Frequency	Blue - Orange	Blue - Green	Blue - Brown	Orange - Blue	Orange - Green	Orange - Brown
1.	-73.30	-74.50	-75.70	-71.60	-75.90	-82.60
4.	-60.97	-62.60	-64.20	-59.90	-63.17	-70.24
8.	-54.10	-58.10	-59.30	-54.40	-56.90	-63.70
10.	-51.64	-55.75	-57.60	-52.51	-55.55	-61.56
16.	-48.00	-51.37	-54.34	-49.14	-51.10	-57.60
20.	-46.42	-50.01	-52.51	-47.79	-48.99	-55.92
25.	-46.62	-48.40	-49.54	-46.34	-46.62	-54.18
31.25	-46.99	-45.99	-45.59	-44.49	-44.31	-52.19
62.5	-36.83	-42.40	-39.35	-36.63	-40.40	-43.60
100.	-32.77	-40.69	-33.42	-34.70	-45.99	-38.08
150.	-27.84	-30.39	-33.44	-28.74	-30.77	-36.84
155.	-27.54	-29.55	-32.90	-28.18	-30.81	-36.72
200.	-28.59	-23.76	-29.23	-26.69	-35.34	-39.85
250.	-24.61	-22.43	-27.30	-26.10	-26.77	-35.54
300.	-22.75	-21.96	-22.80	-24.58	-26.69	-32.70
350.	-22.30	-29.40	-22.70	-23.10	-26.50	-42.30



ETL SEMKO

ELFEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

ELFEXT Far End (dB)						
Frequency	Green - Blue	Green - Orange	Green - Brown	Brown - Blue	Brown - Orange	Brown - Green
1.	-74.10	-75.70	-85.40	-76.00	-83.40	-87.00
4.	-62.70	-65.26	-72.50	-64.40	-69.80	-71.40
8.	-57.90	-59.30	-63.80	-59.20	-63.60	-63.71
10.	-55.60	-53.69	-62.20	-57.00	-61.80	-61.40
16.	-51.10	-49.16	-55.84	-53.34	-57.77	-55.00
20.	-49.58	-48.34	-52.99	-51.38	-54.90	-53.40
25.	-48.14	-46.92	-49.80	-49.00	-52.74	-50.74
31.25	-46.90	-43.22	-48.20	-45.69	-50.68	-49.20
62.5	-41.15	-39.25	-45.93	-38.85	-41.57	-46.69
100.	-37.21	-45.64	-36.90	-33.71	-36.63	-36.78
150.	-31.49	-30.39	-32.49	-33.04	-37.11	-32.07
155.	-29.39	-30.02	-31.67	-32.69	-38.84	-31.91
200.	-23.97	-36.76	-39.75	-27.97	-44.96	-38.89
250.	-22.60	-24.53	-28.52	-27.57	-38.38	-28.95
300.	-24.26	-28.78	-24.80	-24.41	-35.92	-25.12
350.	-24.60	-29.70	-29.10	-23.20	-41.90	-27.30



ETL SEMKO

Power Sum ELFEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS ELFEXT Near End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-68.80	-69.80	-71.90	-74.80
4.	-57.17	-58.00	-59.70	-62.87
8.	-51.80	-52.20	-53.80	-56.80
10.	-50.05	-50.45	-52.30	-54.75
16.	-46.21	-46.70	-47.56	-50.34
20.	-44.79	-45.00	-45.19	-48.28
25.	-42.96	-43.14	-42.84	-45.84
31.25	-40.59	-41.10	-41.29	-43.19
62.5	-34.23	-34.67	-36.53	-36.53
100.	-30.60	-32.89	-34.00	-30.90
150.	-25.60	-26.17	-26.34	-28.64
155.	-25.02	-25.85	-25.65	-28.78
200.	-21.30	-25.90	-23.57	-27.53
250.	-19.72	-23.17	-20.01	-24.90
300.	-18.12	-21.98	-20.58	-21.42
350.	-18.40	-21.60	-22.30	-21.70



ETL SEMKO

Power Sum ELFEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

PS ELFEXT Far End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-68.80	-71.10	-72.00	-74.50
4.	-57.07	-59.33	-59.54	-62.74
8.	-51.80	-52.70	-53.90	-56.91
10.	-49.70	-49.39	-52.10	-55.20
16.	-45.97	-45.40	-47.40	-50.97
20.	-44.49	-43.94	-45.69	-48.80
25.	-42.80	-43.36	-43.48	-46.00
31.25	-40.69	-41.31	-41.21	-43.19
62.5	-33.60	-34.15	-37.60	-37.37
100.	-30.10	-31.28	-34.88	-30.91
150.	-25.71	-25.86	-26.11	-29.36
155.	-24.82	-25.59	-25.73	-28.72
200.	-21.06	-28.09	-23.20	-28.64
250.	-20.00	-21.73	-20.31	-24.80
300.	-19.39	-22.14	-19.03	-20.69
350.	-18.50	-21.90	-22.50	-22.20



ETL SEMKO

Structural Return Loss (Terminated Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

SRL Near End (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-32.80	-31.30	-32.20	-29.30
4.	-45.43	-36.86	-38.12	-39.67
8.	-52.45	-47.71	-56.30	-41.51
10.	-58.89	-42.08	-51.20	-41.39
16.	-43.23	-49.17	-57.77	-43.64
20.	-47.85	-40.99	-51.52	-74.31
25.	-56.73	-40.94	-44.37	-59.05
31.25	-40.86	-38.01	-44.52	-35.03
62.5	-56.15	-49.91	-47.01	-32.44
100.	-55.61	-51.65	-42.82	-29.03
150.	-52.24	-52.08	-27.23	-34.18
155.	-32.01	-30.36	-36.02	-36.22
200.	-32.64	-37.76	-29.53	-61.34
250.	-22.75	-30.79	-26.07	-38.88
300.	-18.88	-27.76	-27.71	-26.00
350.	-21.20	-26.70	-25.70	-26.40



ETL SEMKO

Return Loss (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

Return Loss (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-34.40	-46.20	-37.60	-46.90
4.	-38.18	-49.81	-48.03	-53.09
8.	-38.01	-44.09	-39.20	-58.27
10.	-42.67	-70.94	-45.90	-52.14
16.	-56.82	-59.97	-50.88	-52.16
20.	-53.14	-44.36	-54.96	-48.69
25.	-47.67	-42.35	-53.12	-48.00
31.25	-36.54	-38.01	-40.68	-34.03
62.5	-43.80	-43.72	-43.54	-32.14
100.	-42.62	-41.58	-44.95	-28.93
150.	-44.38	-40.53	-27.56	-34.25
155.	-29.85	-32.62	-36.95	-36.22
200.	-30.25	-33.74	-29.13	-62.60
250.	-23.77	-28.58	-26.37	-38.68
300.	-18.28	-29.85	-27.42	-26.00
350.	-22.00	-25.20	-26.00	-26.40



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Return Loss (Far End)

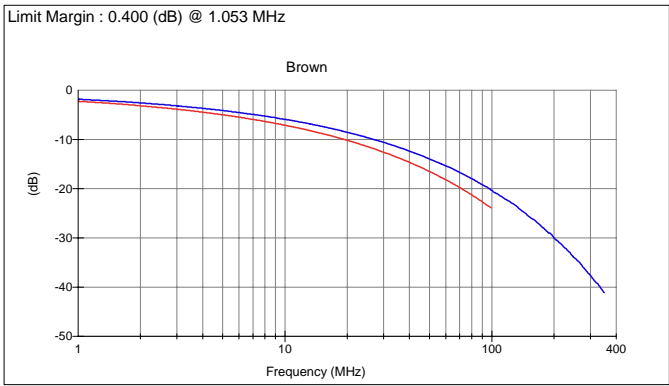
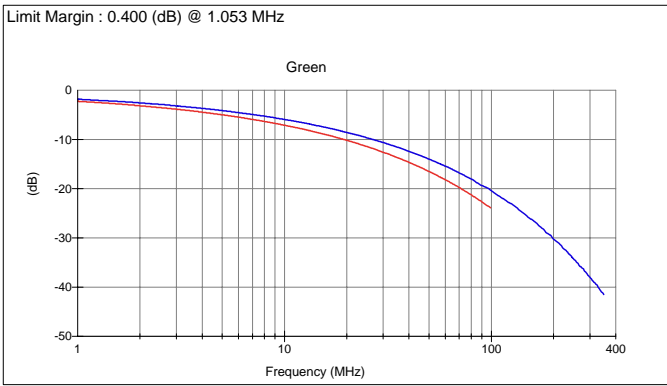
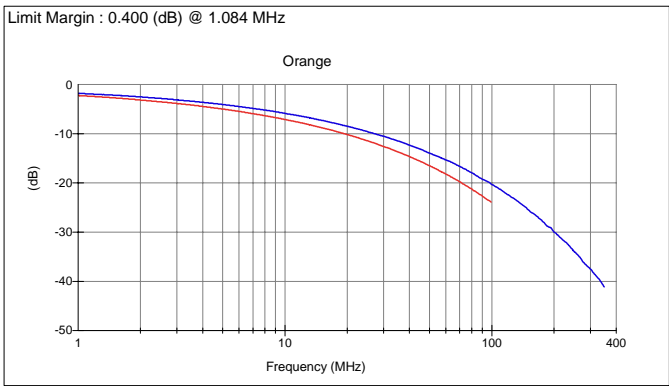
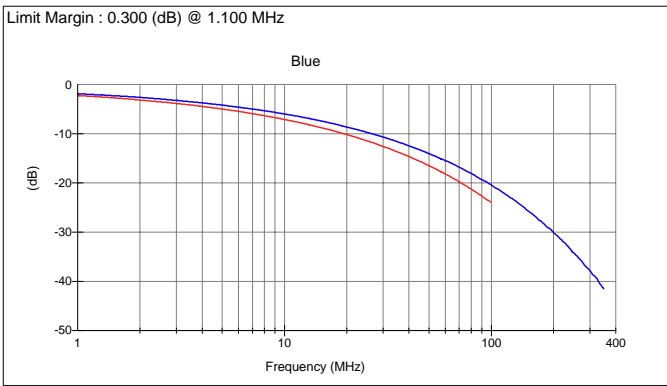
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

Return Loss (dB)				
Frequency	Blue	Orange	Green	Brown
1.	-35.20	-42.20	-38.70	-39.30
4.	-39.12	-55.17	-39.61	-45.78
8.	-44.97	-36.41	-50.65	-36.71
10.	-40.08	-35.12	-44.27	-36.14
16.	-35.14	-38.34	-37.16	-40.46
20.	-39.90	-40.51	-39.91	-52.62
25.	-38.56	-42.16	-38.29	-39.77
31.25	-46.79	-42.04	-57.54	-69.26
62.5	-27.68	-25.09	-27.37	-34.87
100.	-42.44	-36.91	-30.05	-44.63
150.	-25.40	-29.61	-26.28	-26.43
155.	-25.47	-20.48	-18.44	-20.78
200.	-27.48	-23.99	-23.42	-29.68
250.	-35.96	-37.80	-38.35	-31.98
300.	-25.94	-32.17	-30.62	-32.73
350.	-26.30	-21.70	-25.60	-31.90



Attenuation (Near End)

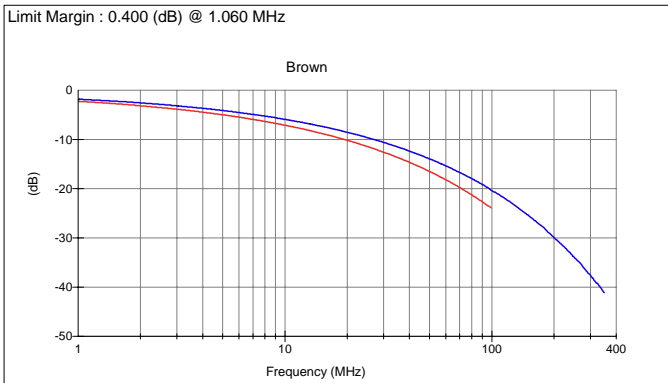
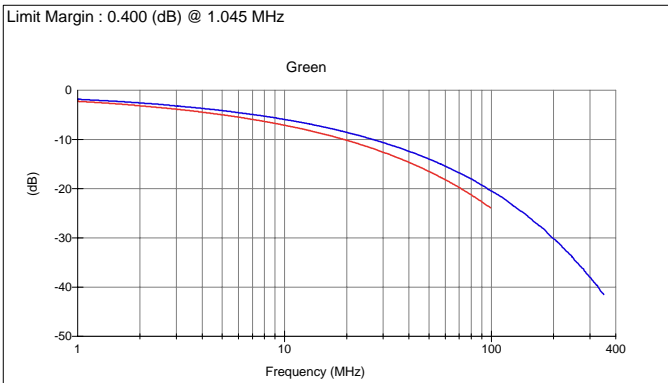
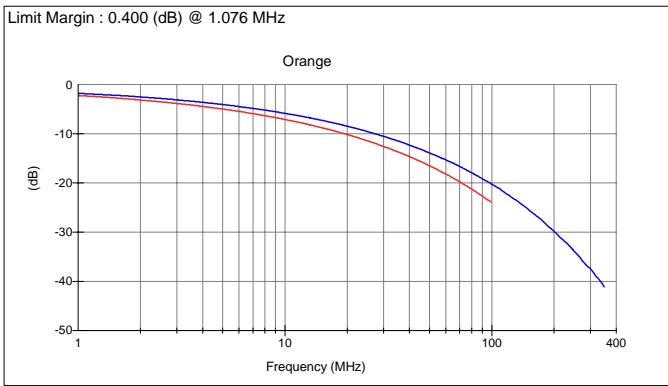
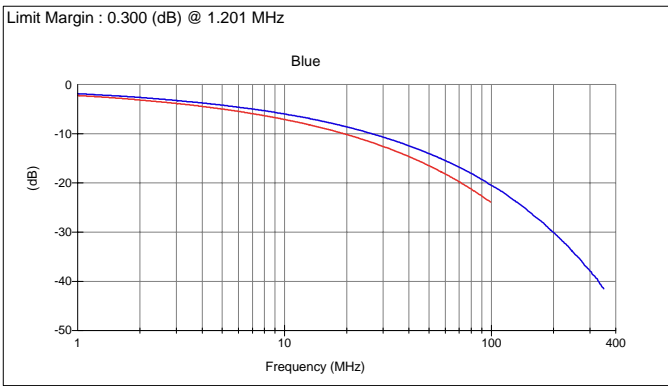
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Attenuation (Far End)

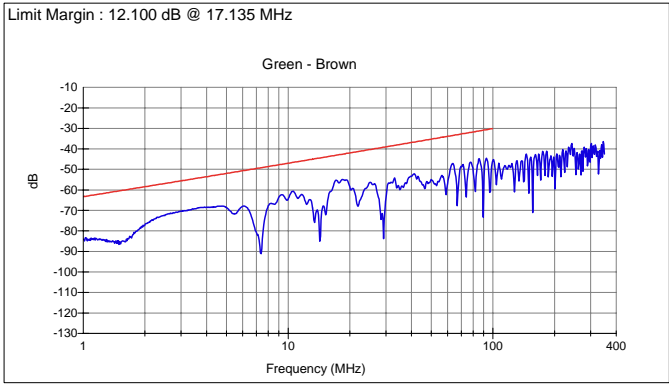
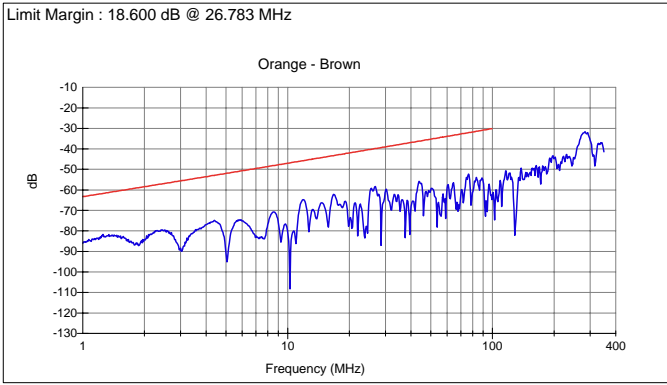
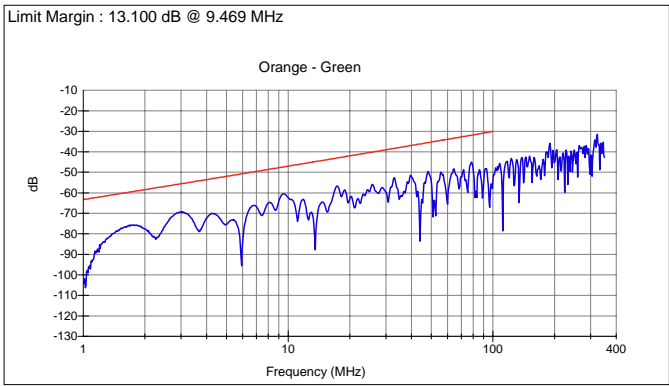
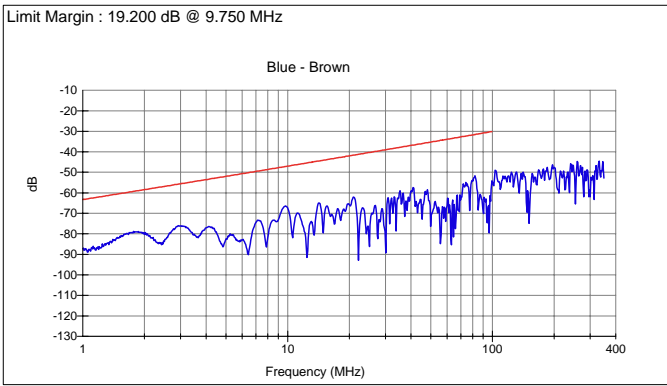
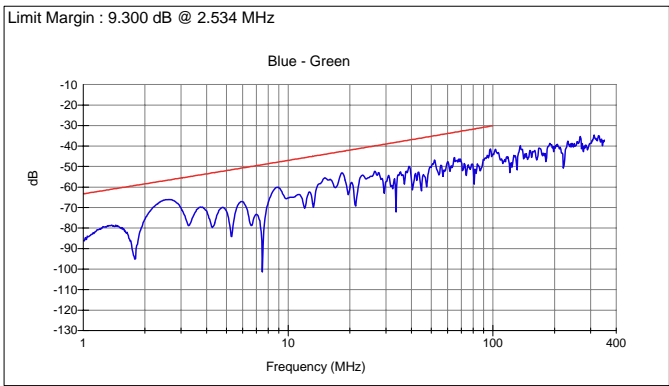
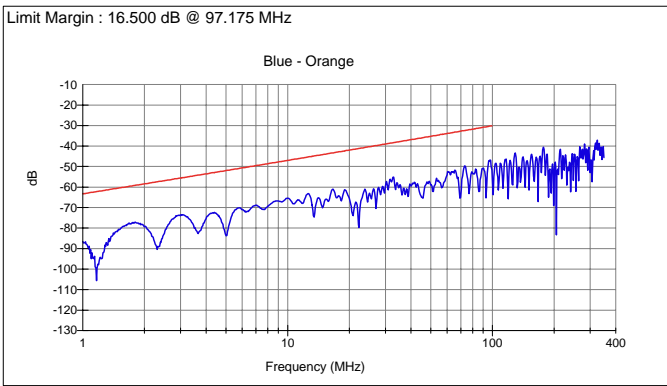
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Near End Cross Talk (Near End)

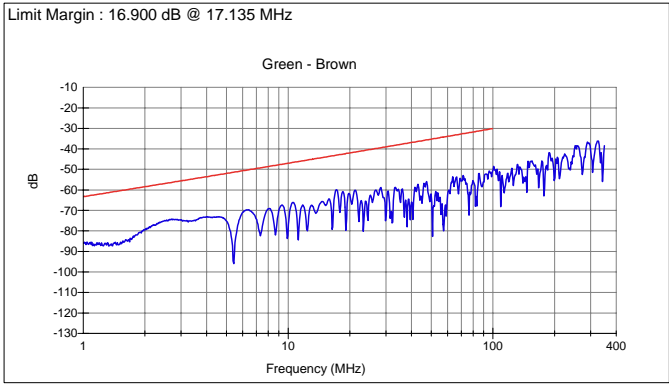
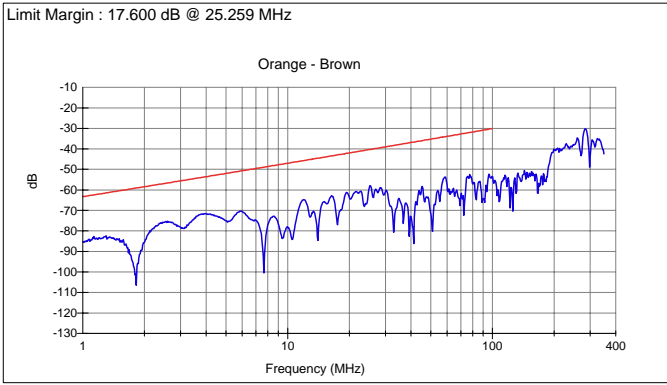
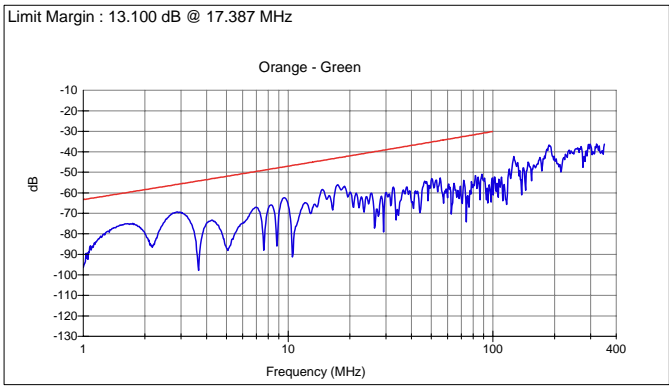
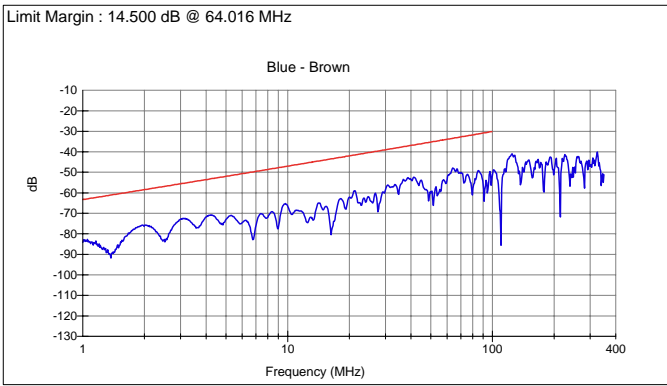
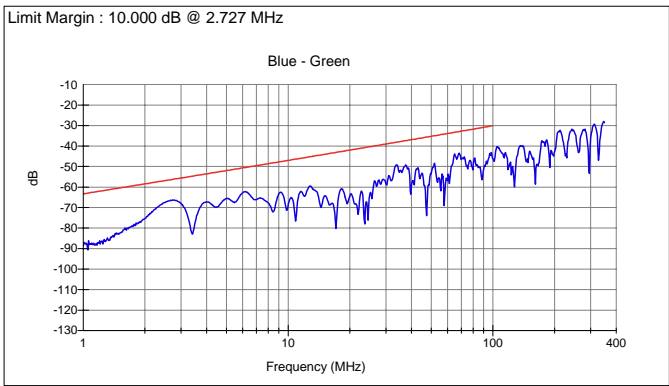
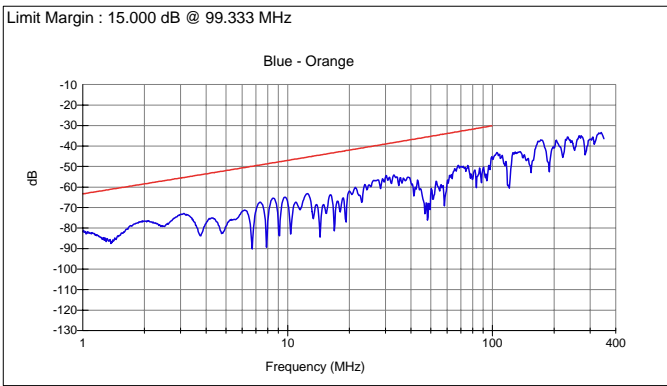
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Near End Cross Talk (Far End)

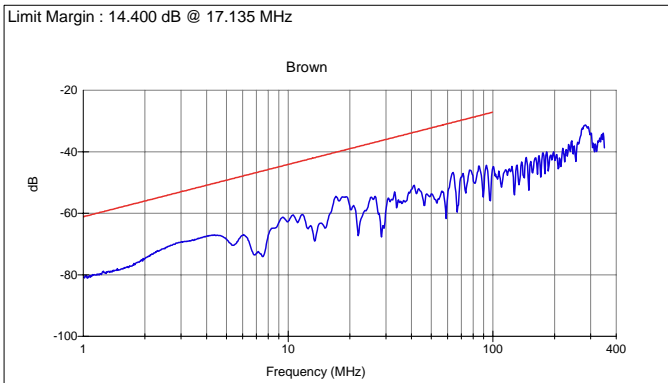
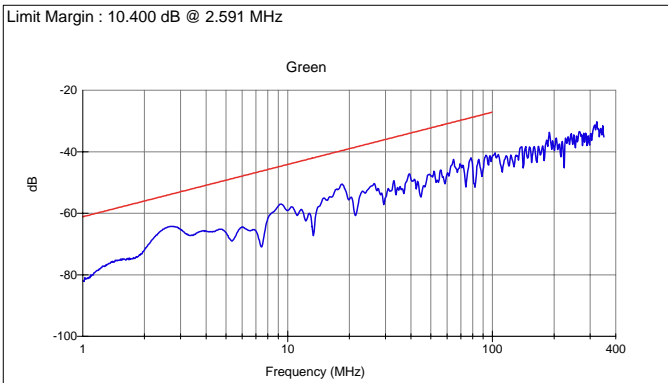
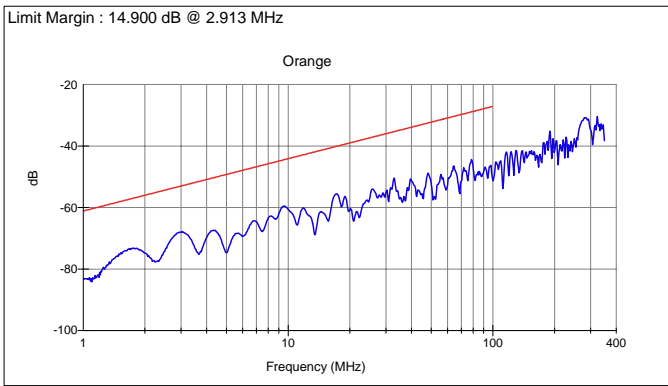
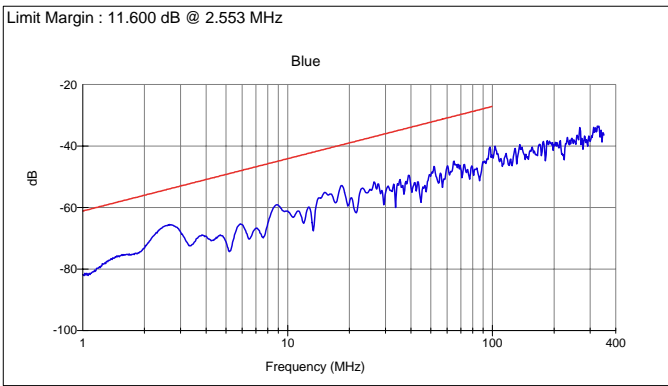
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Power Sum NEXT (Near End)

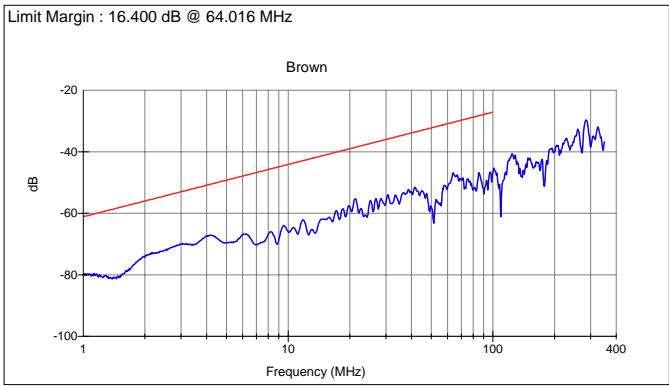
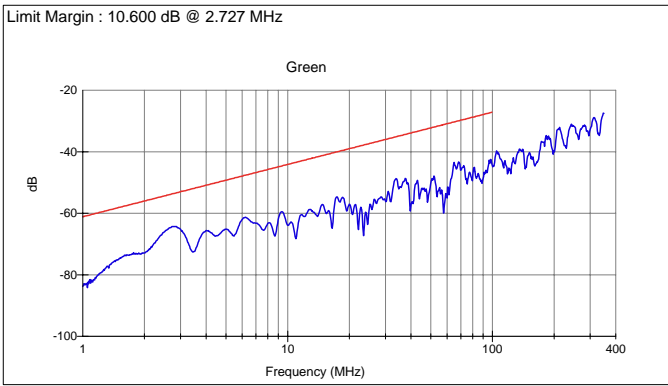
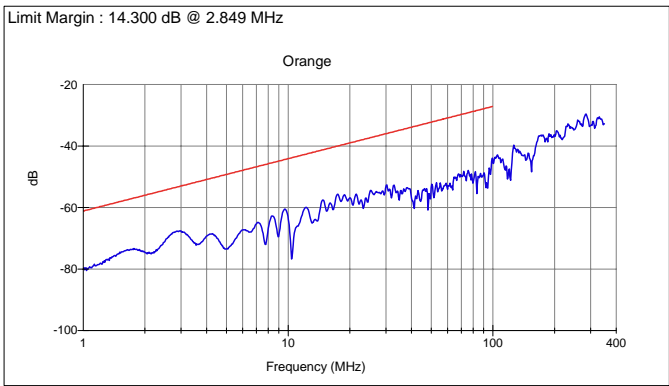
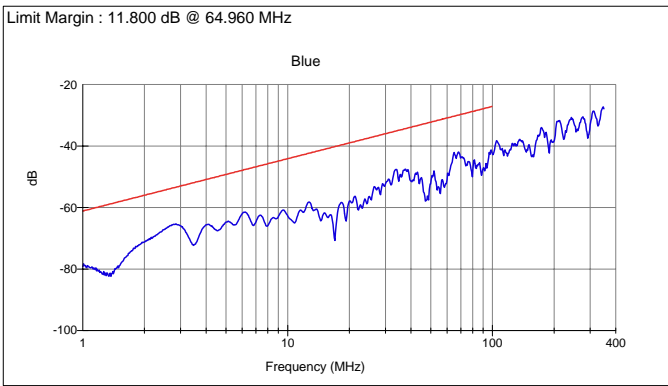
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Power Sum NEXT (Far End)

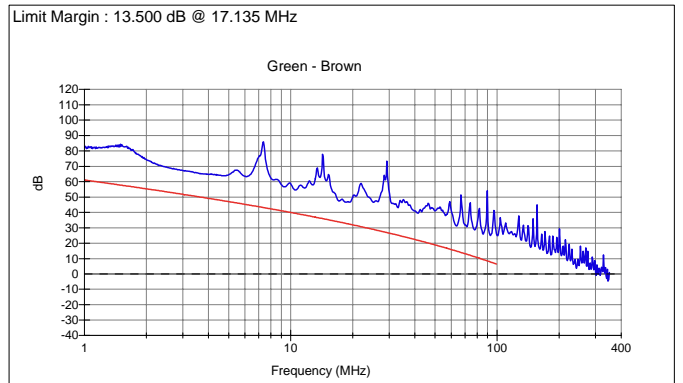
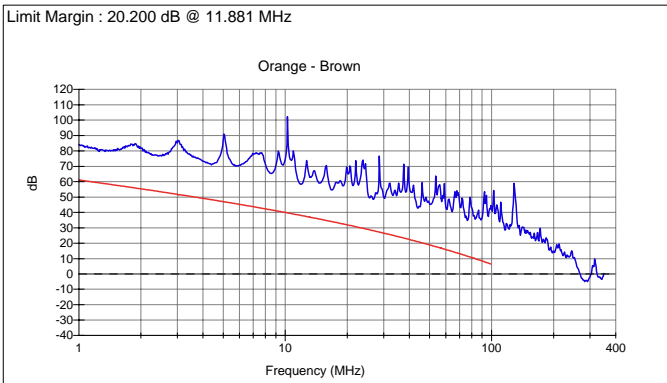
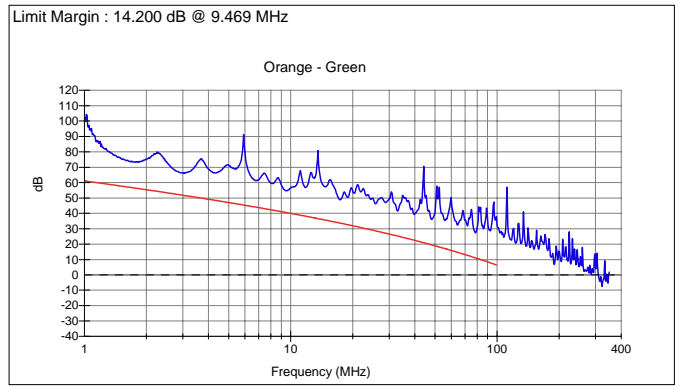
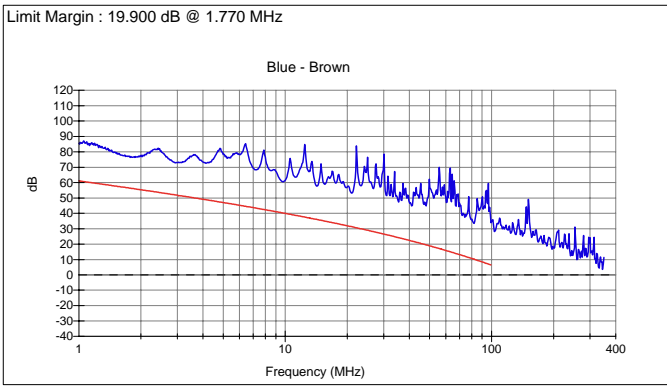
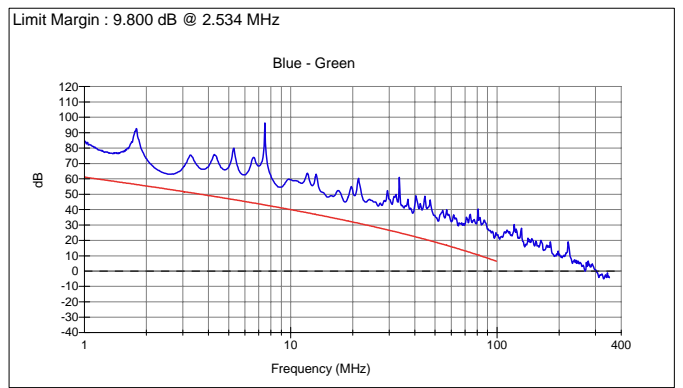
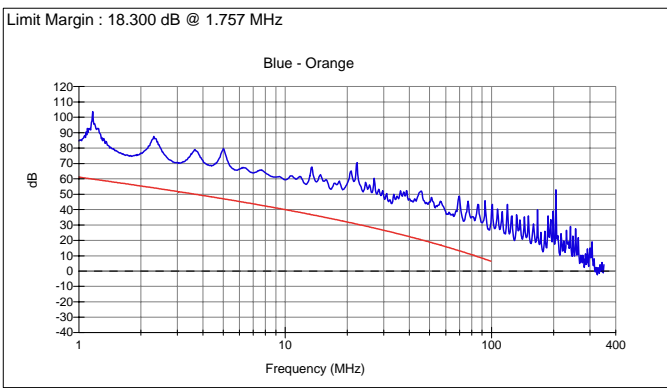
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Attenuation to Cross Talk Ratio (Near End)

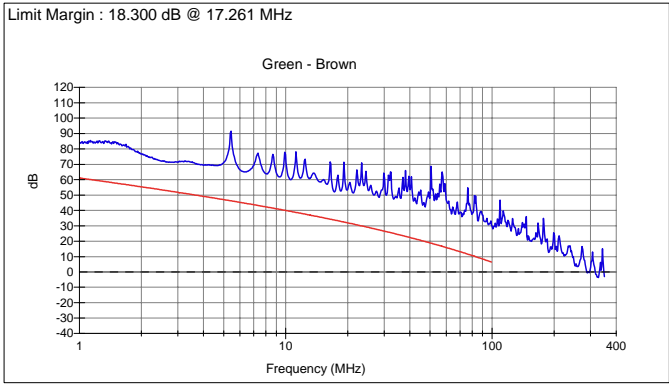
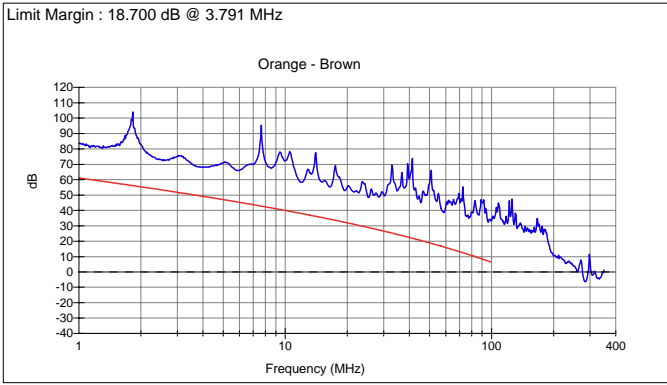
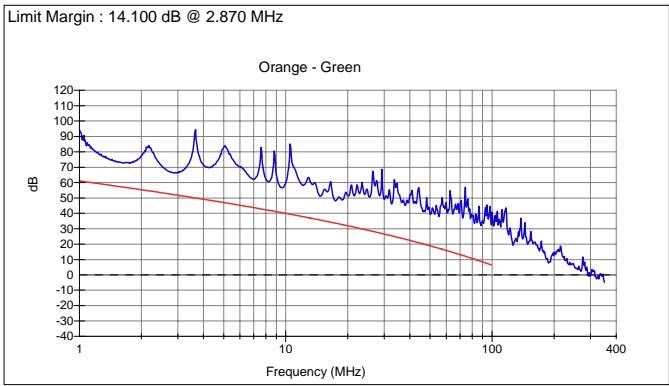
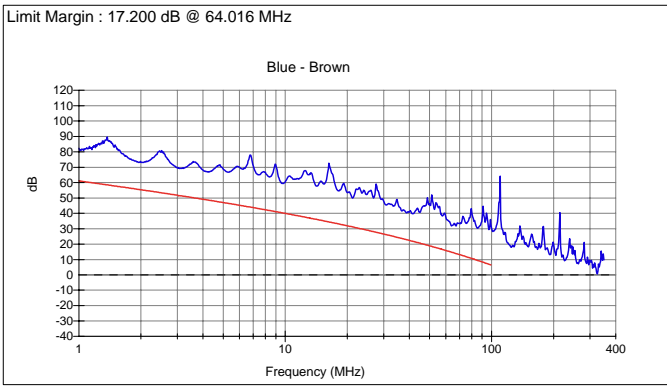
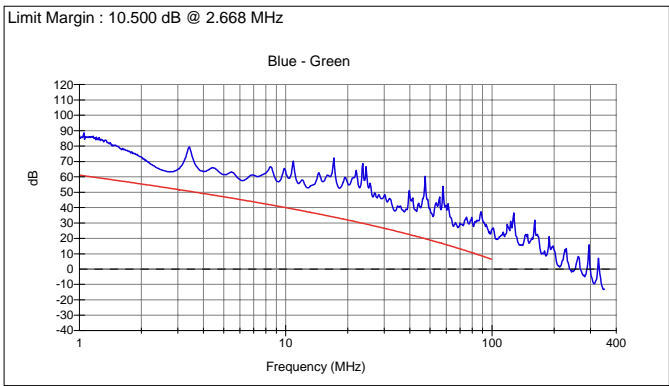
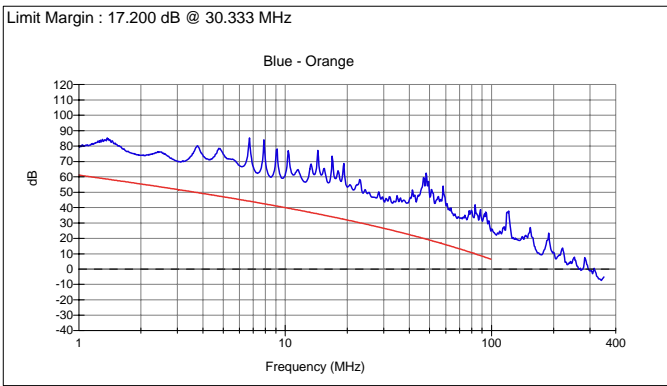
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Attenuation to Cross Talk Ratio (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

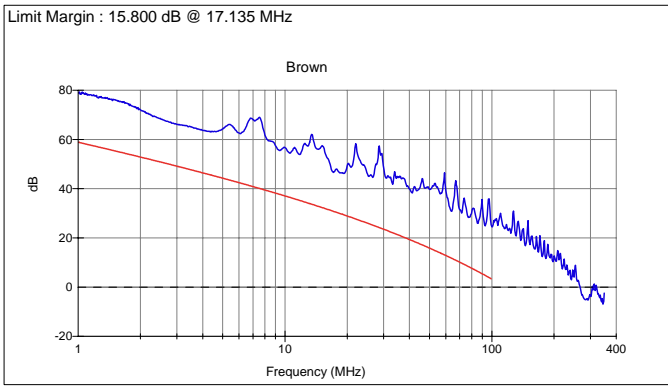
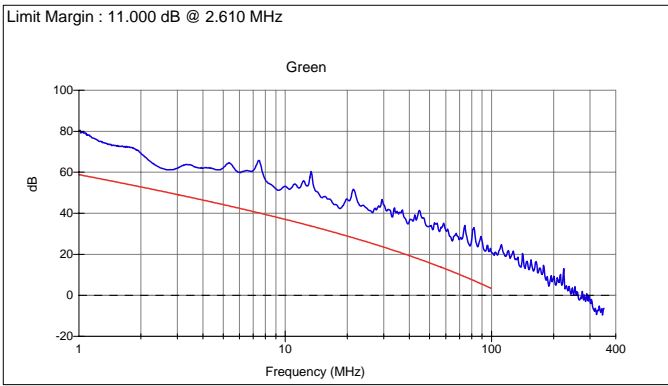
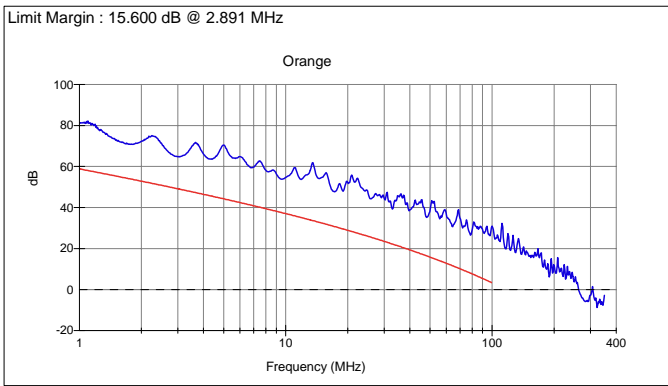
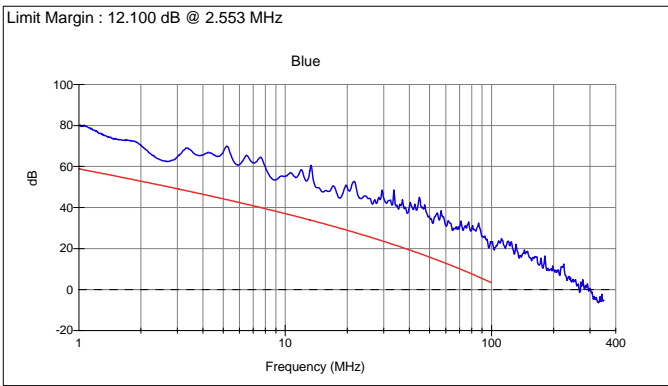




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Power Sum ACR (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

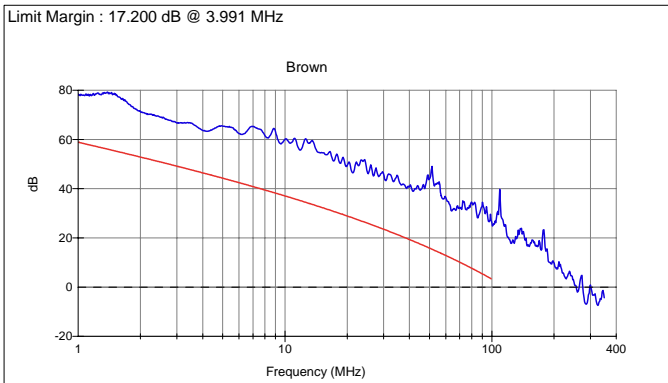
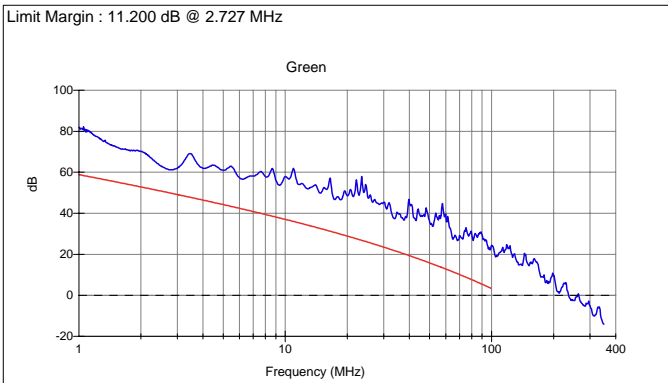
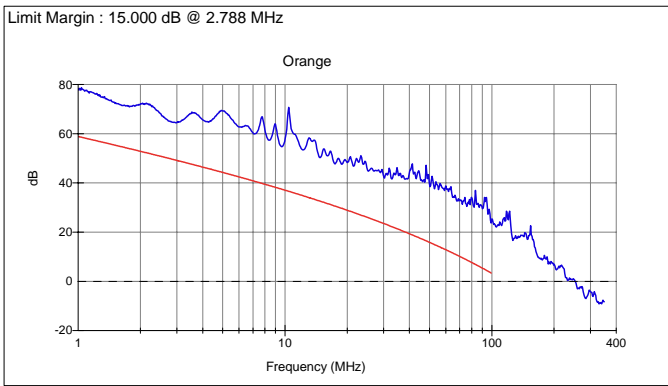
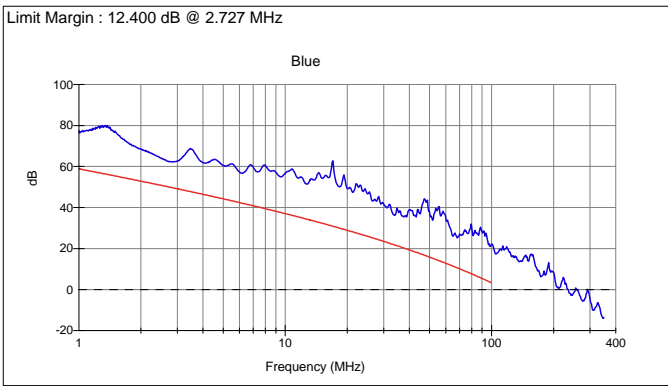




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Power Sum ACR (Far End)

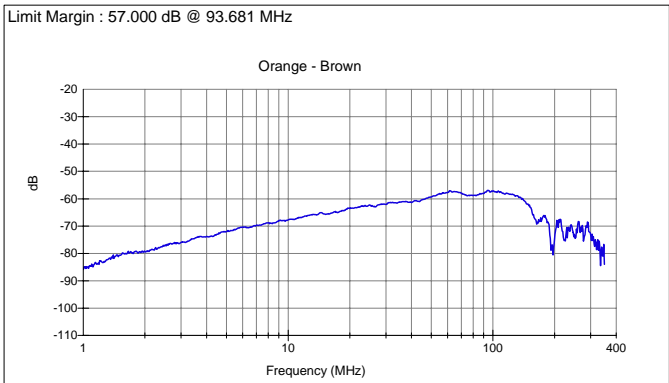
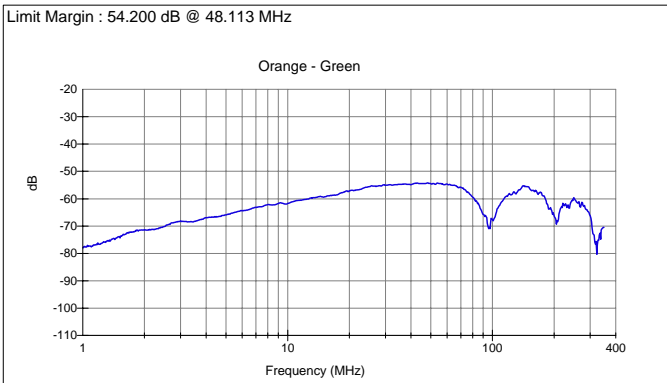
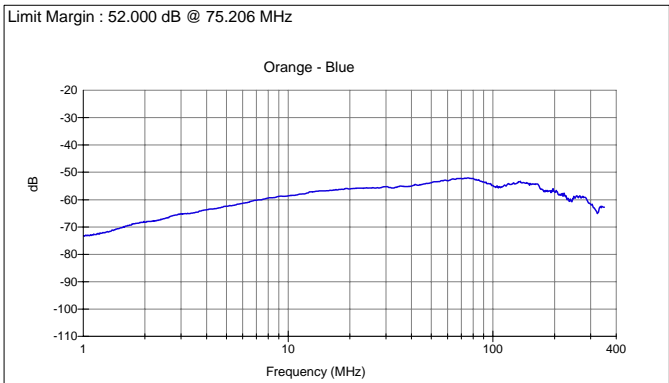
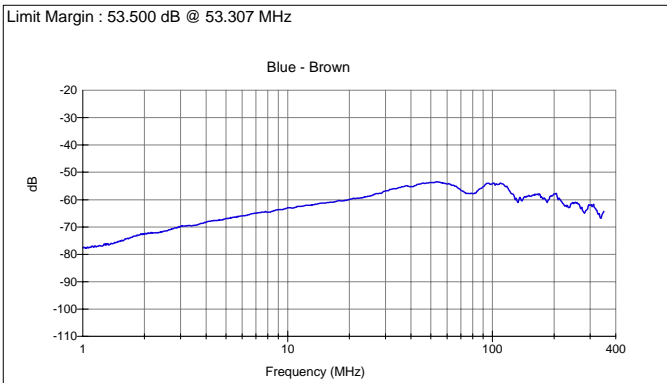
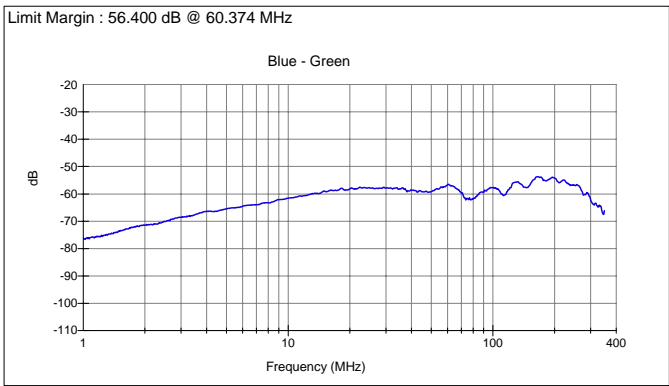
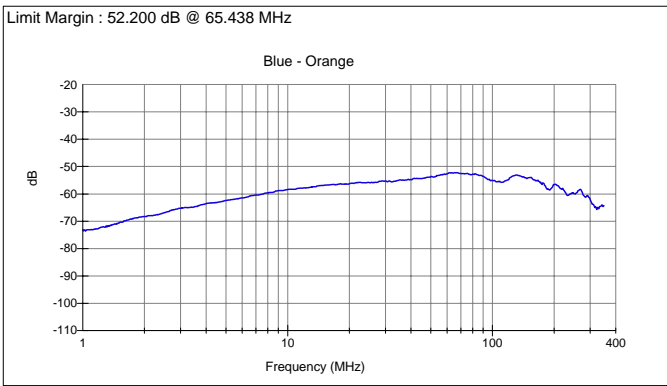
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Far End Cross Talk (Near End)

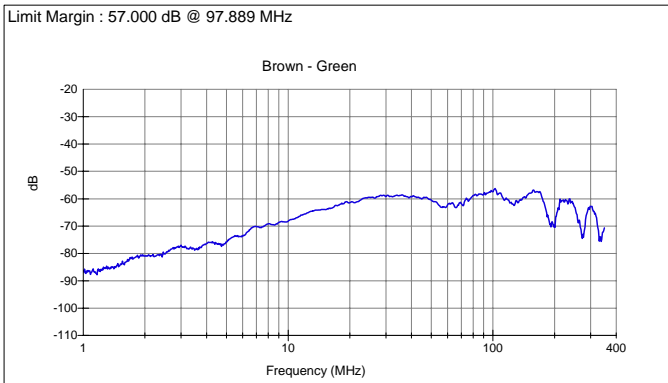
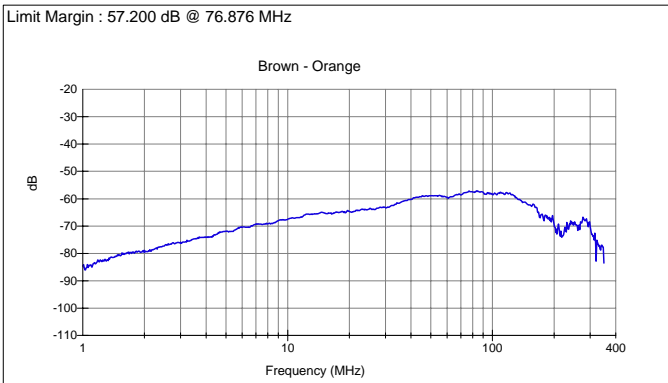
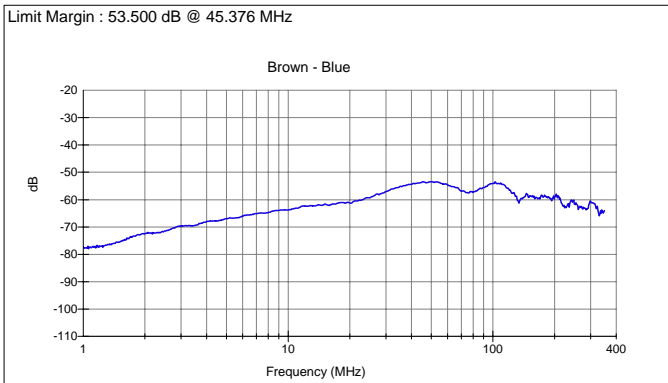
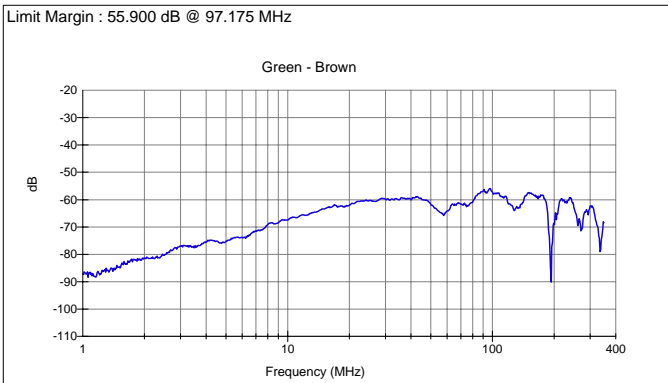
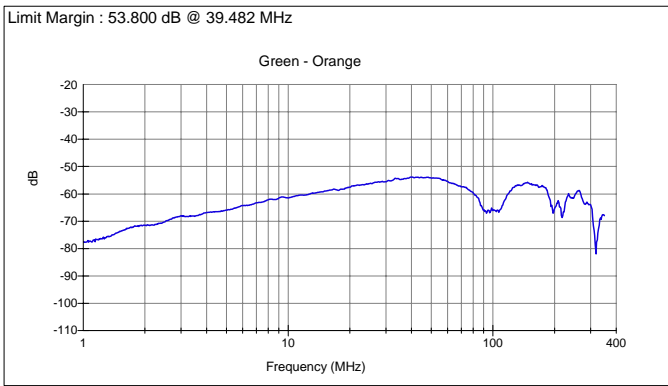
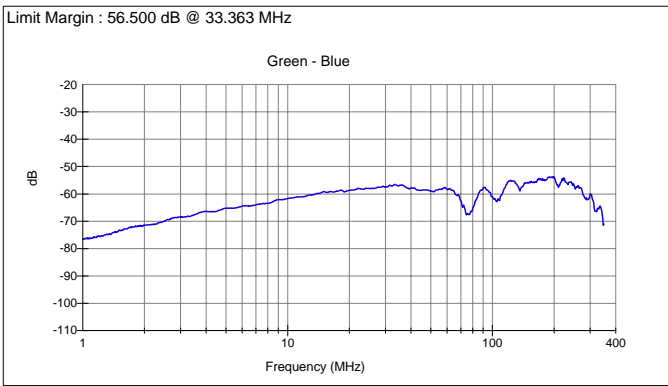
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Far End Cross Talk (Near End)

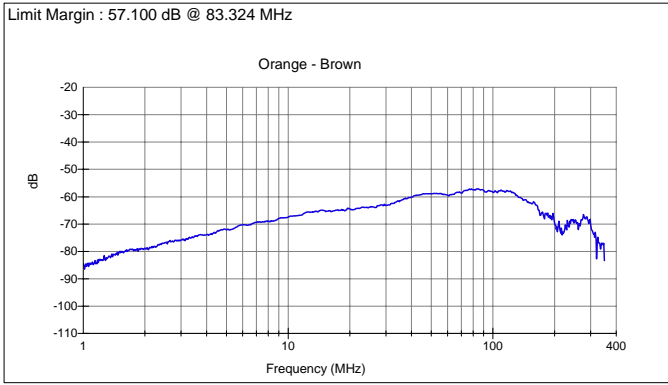
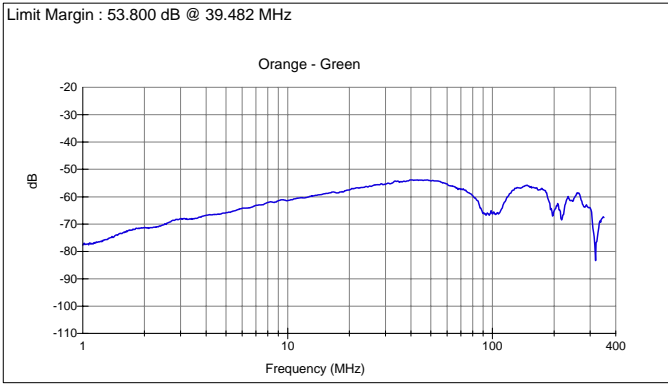
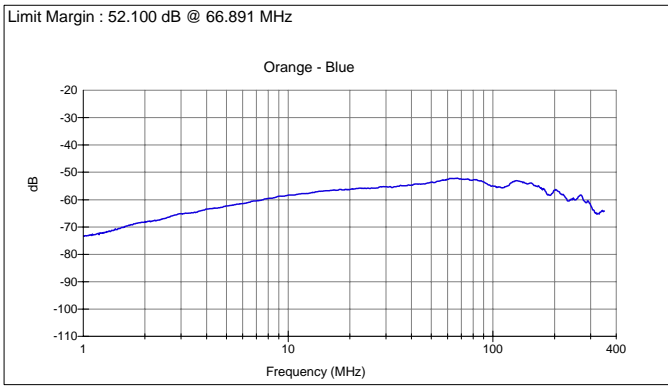
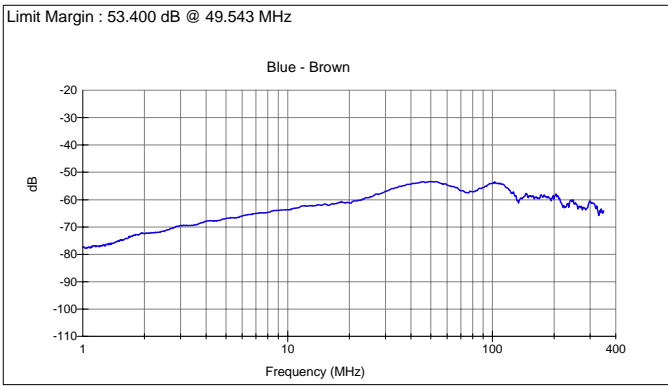
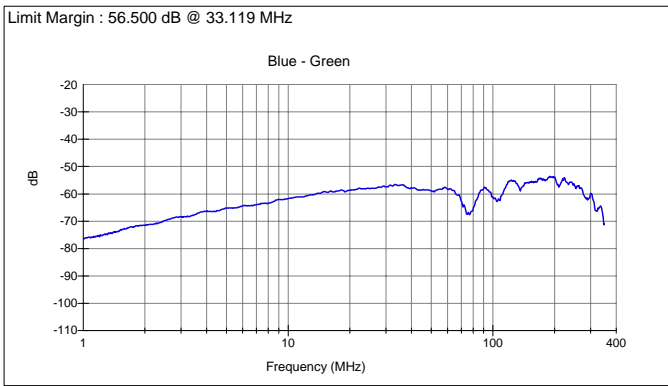
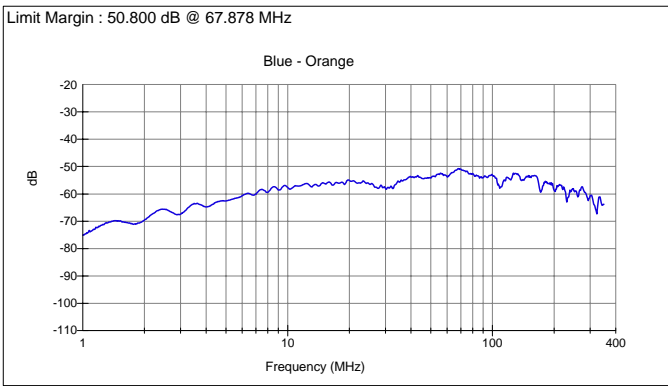
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Far End Cross Talk (Far End)

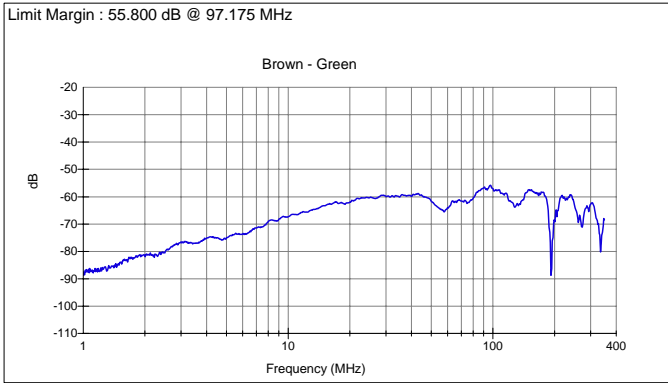
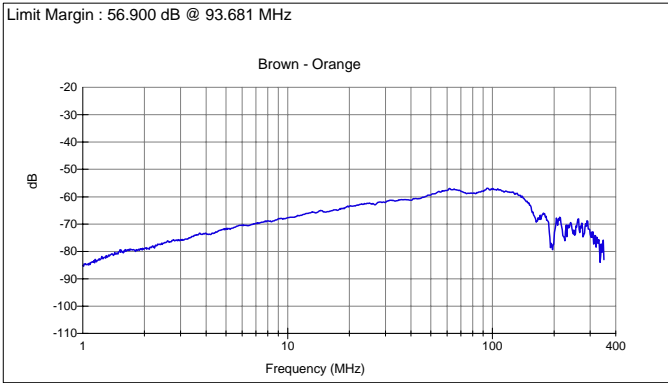
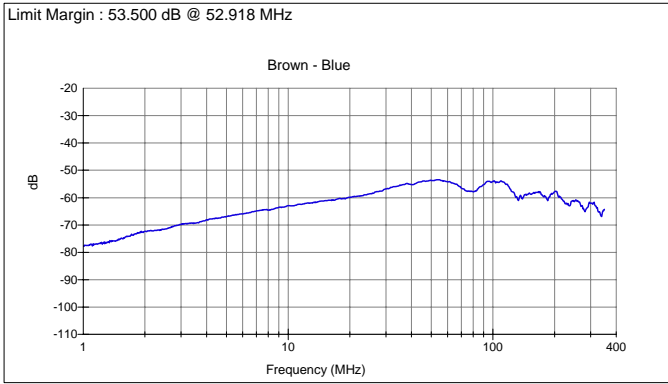
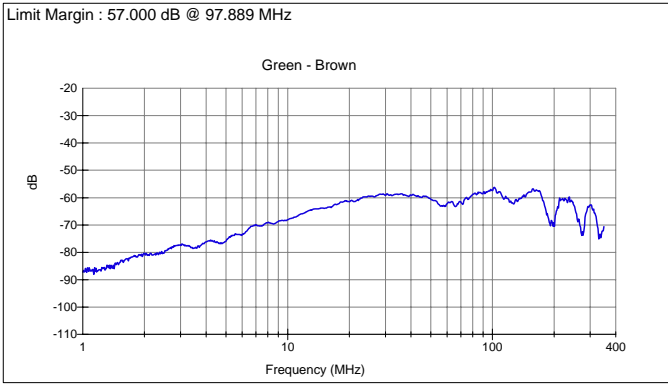
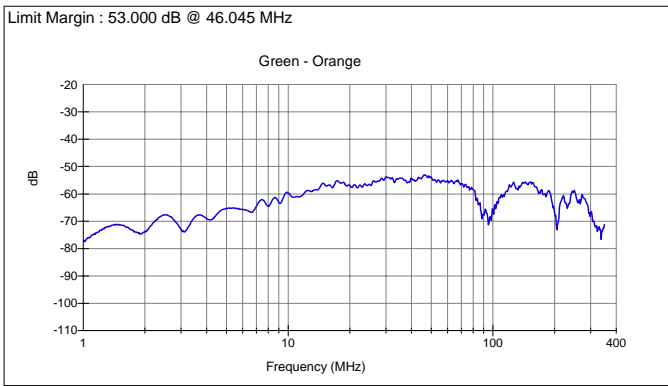
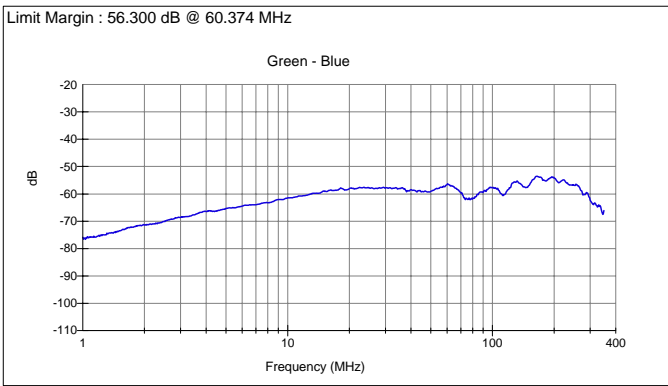
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Far End Cross Talk (Far End)

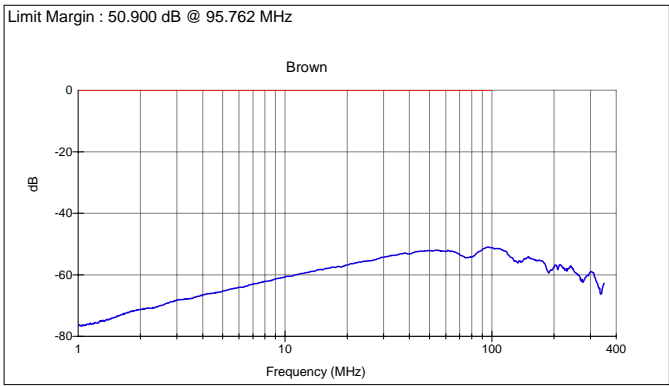
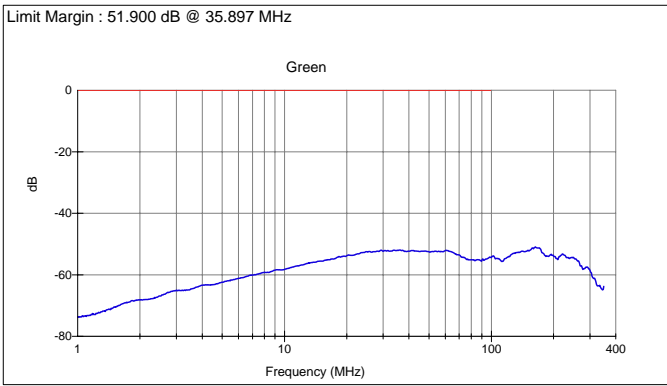
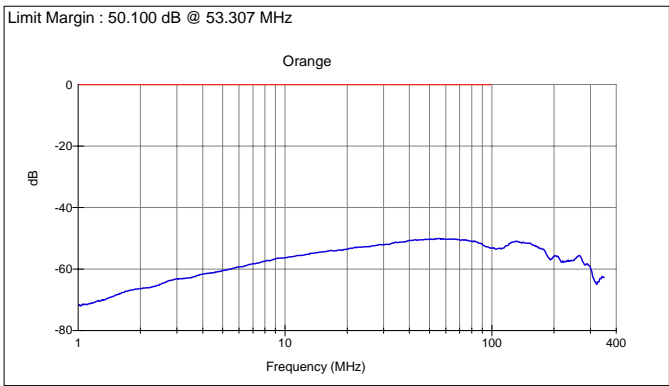
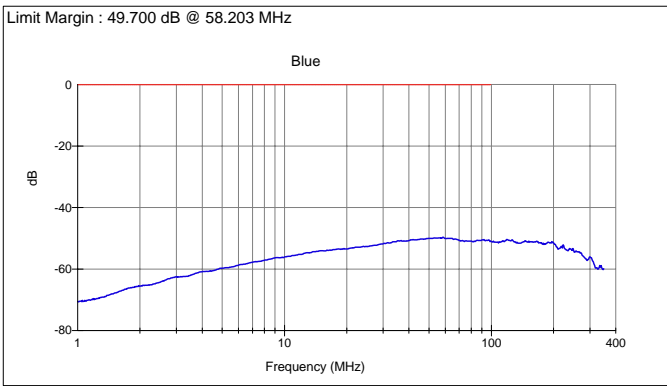
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Power Sum FEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

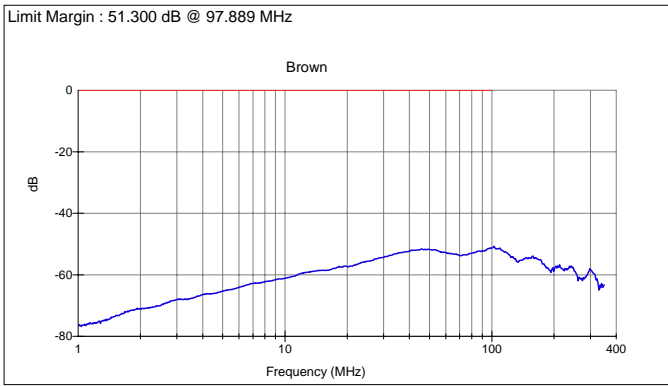
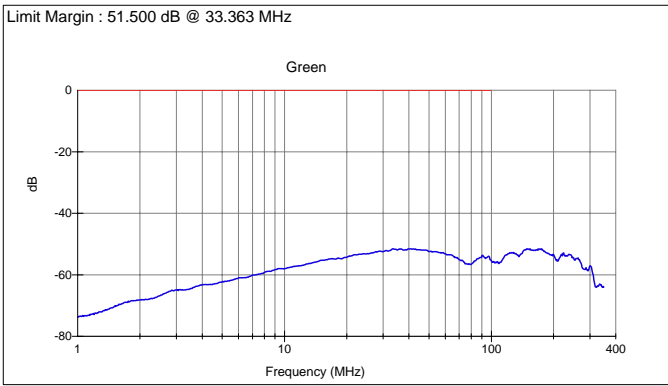
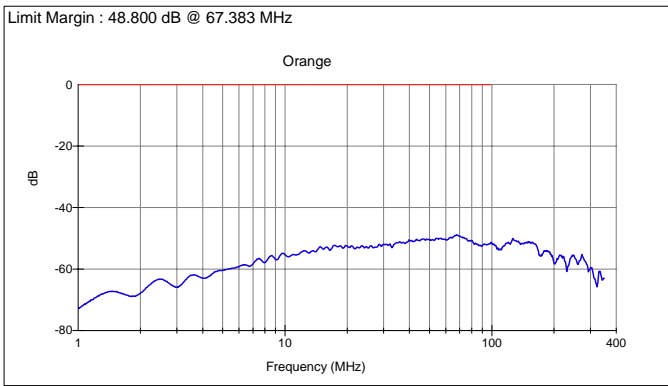
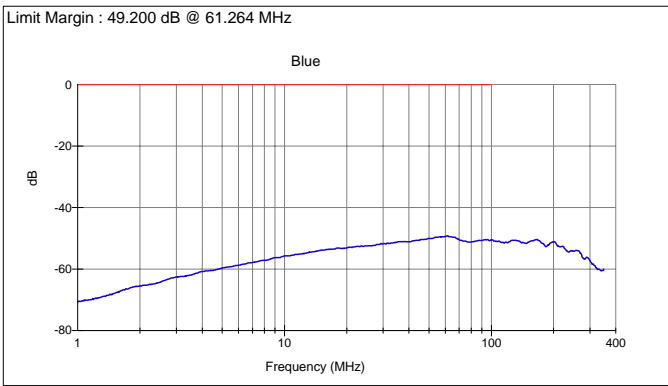




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Power Sum FEXT (Far End)

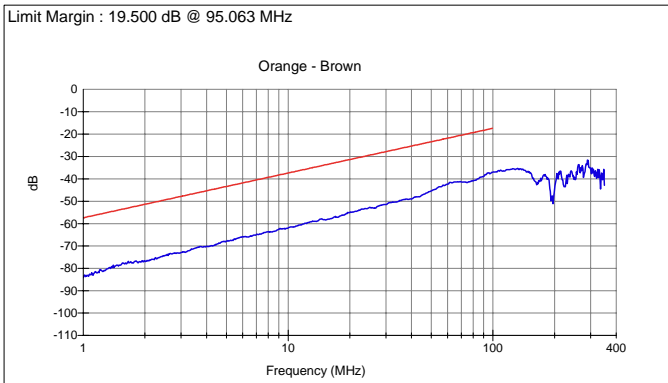
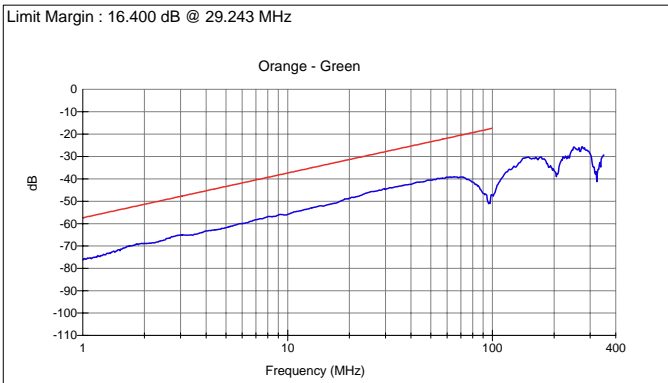
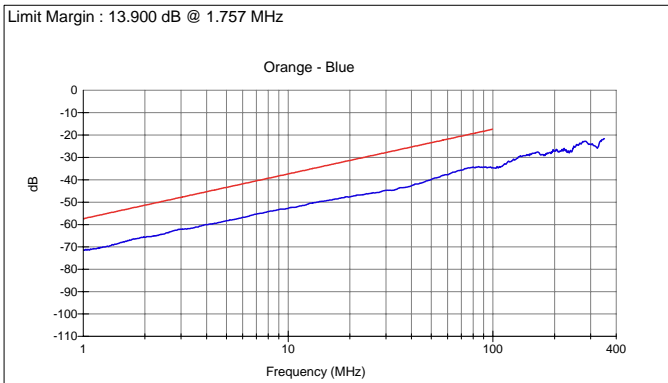
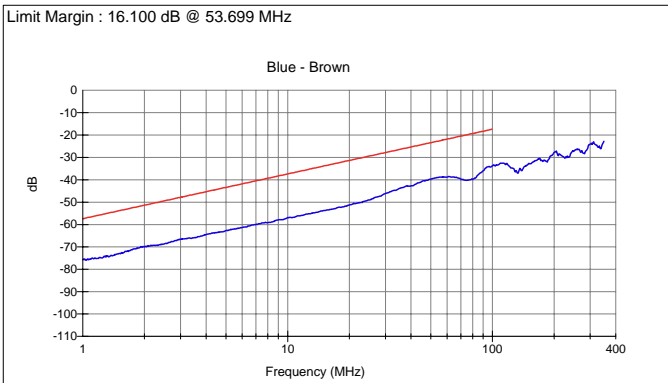
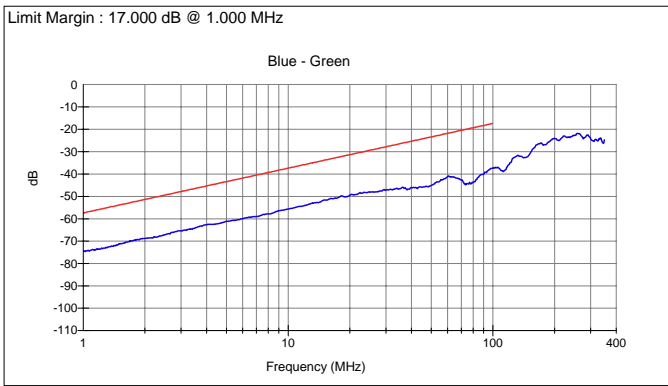
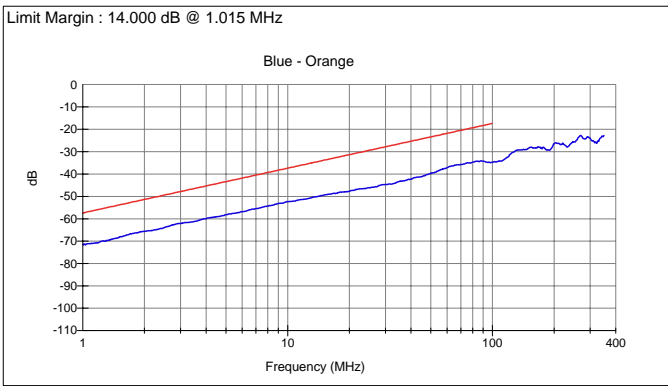
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Equal Level Far End Cross Talk (Near End)

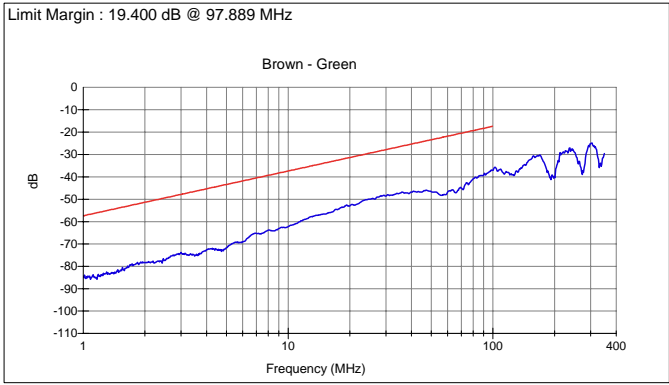
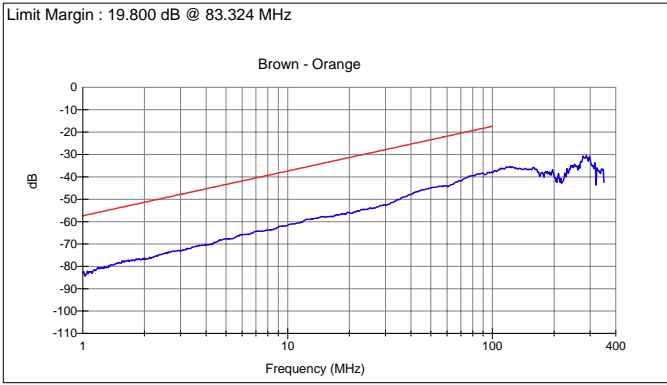
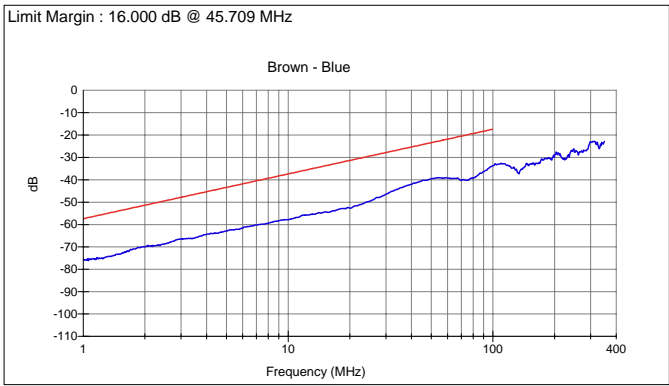
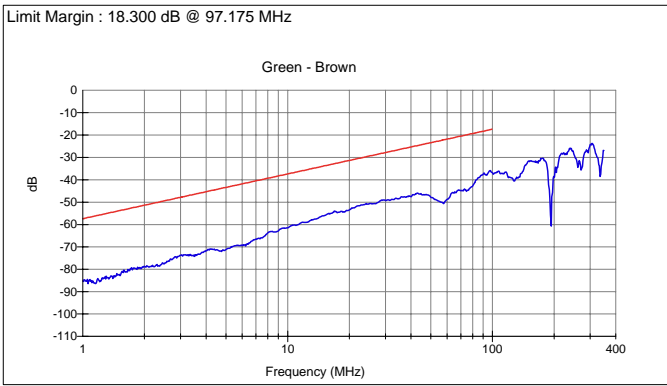
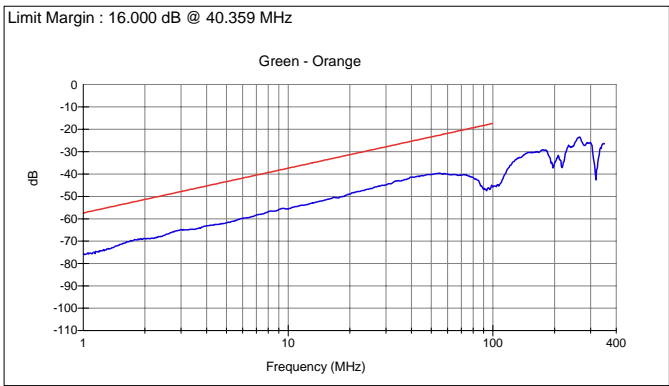
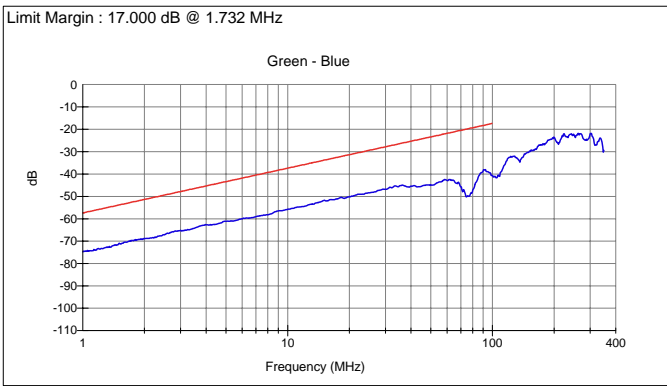
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Equal Level Far End Cross Talk (Near End)

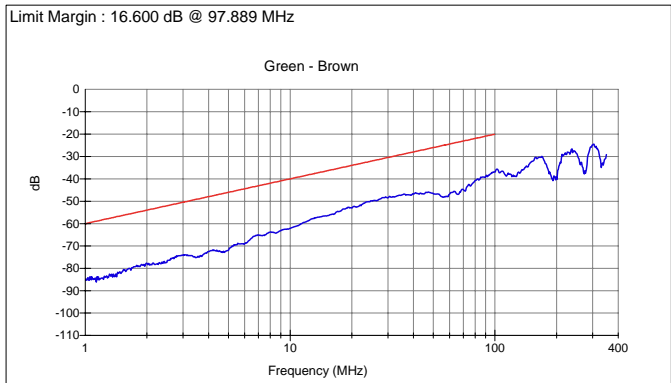
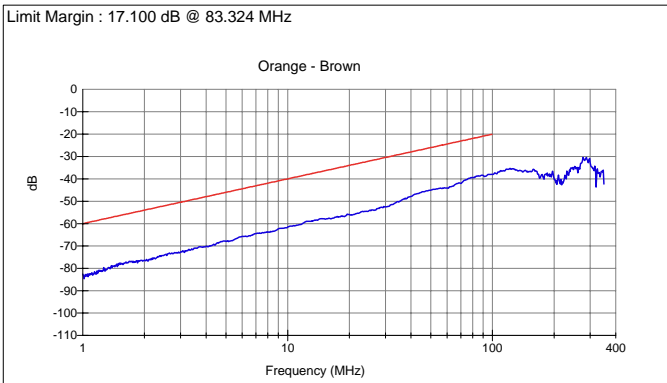
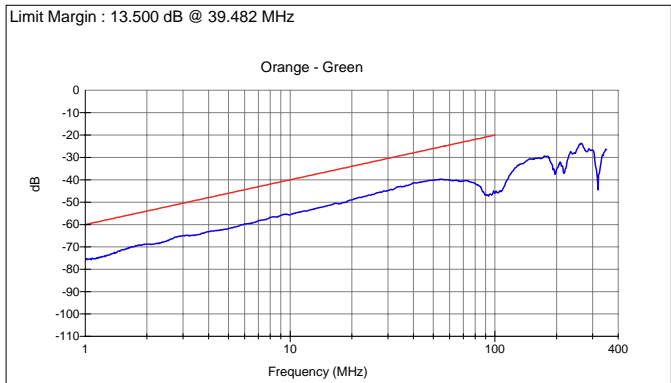
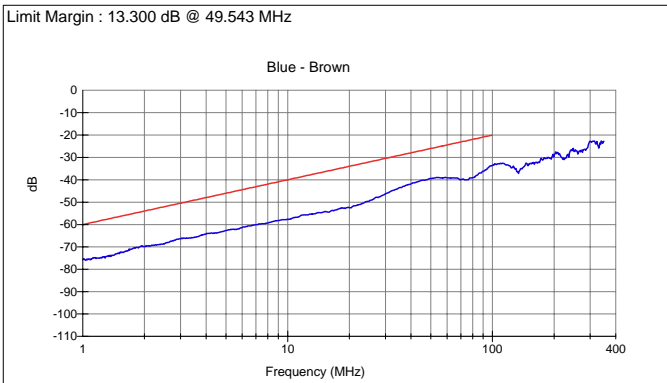
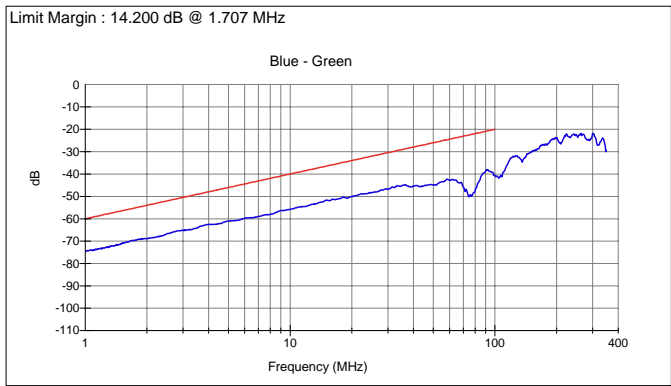
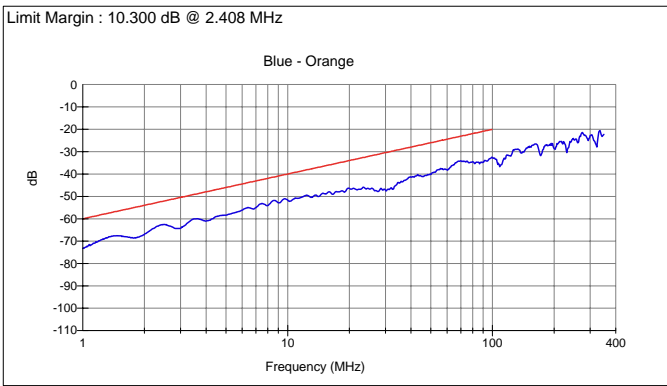
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Equal Level Far End Cross Talk (Far End)

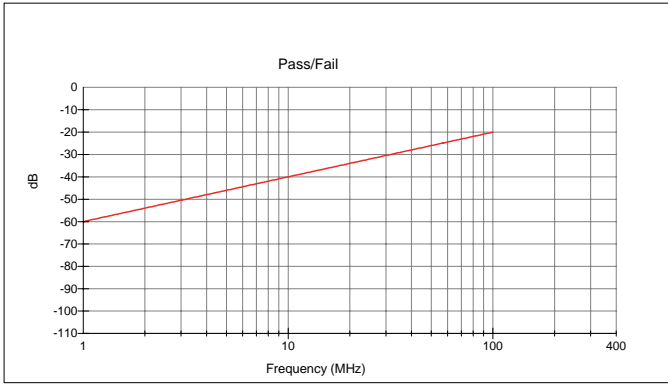
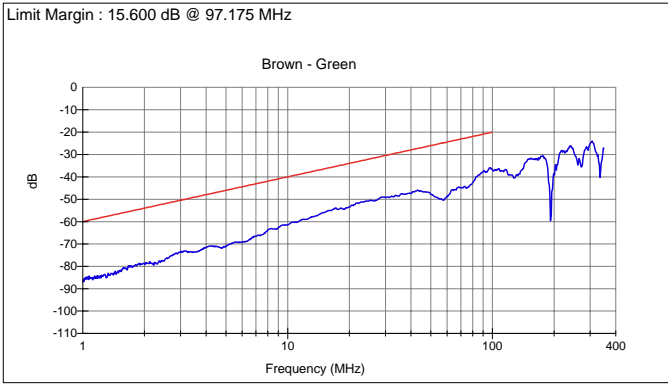
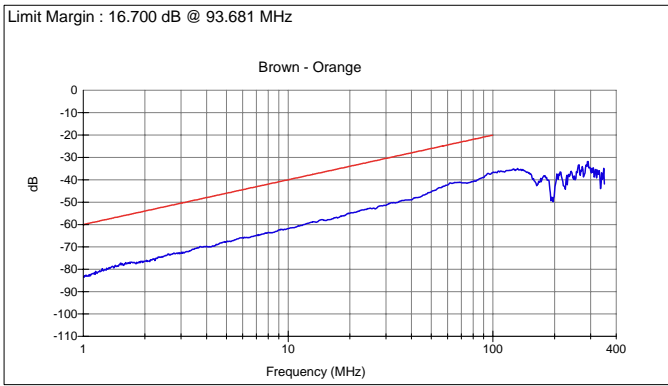
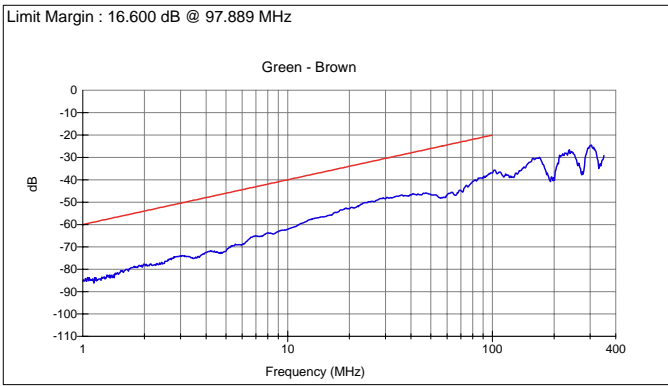
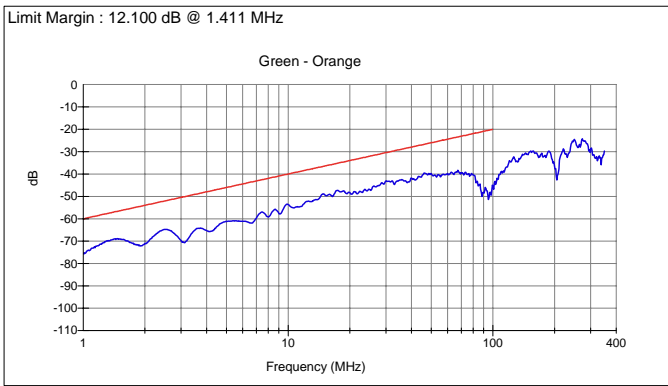
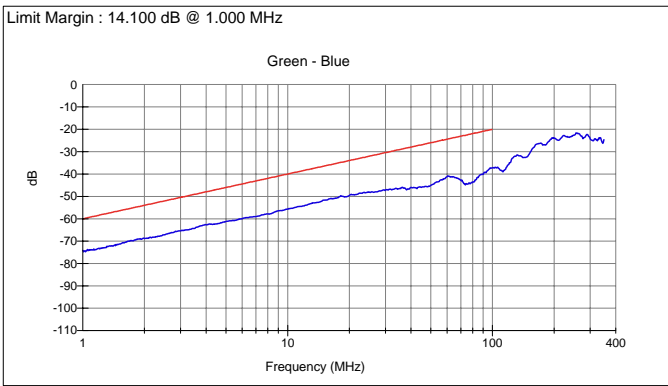
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Equal Level Far End Cross Talk (Far End)

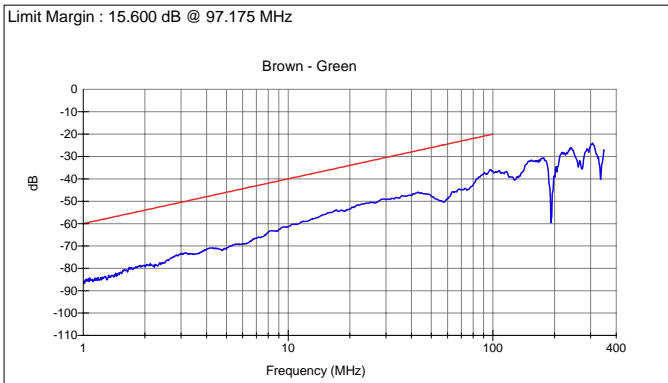
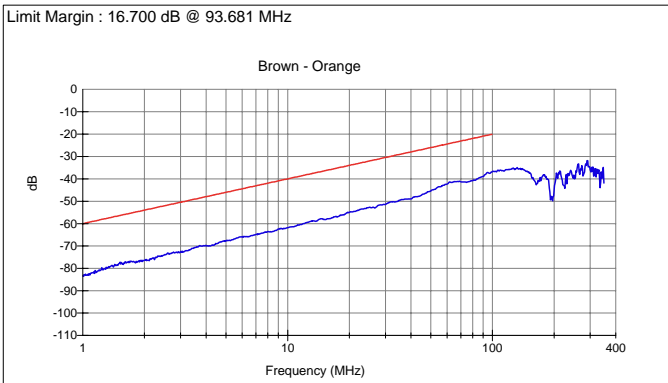
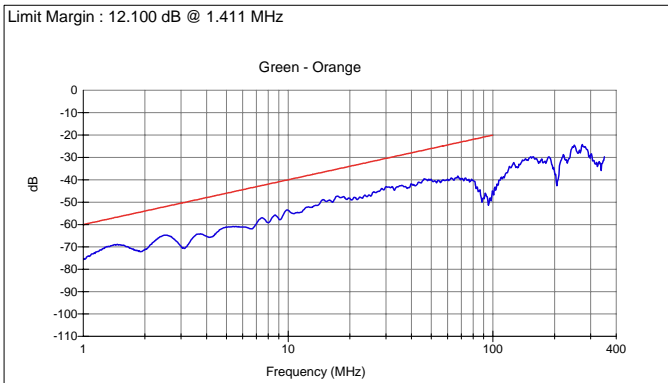
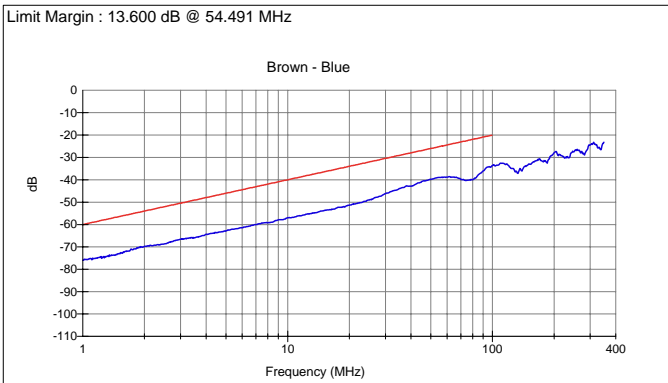
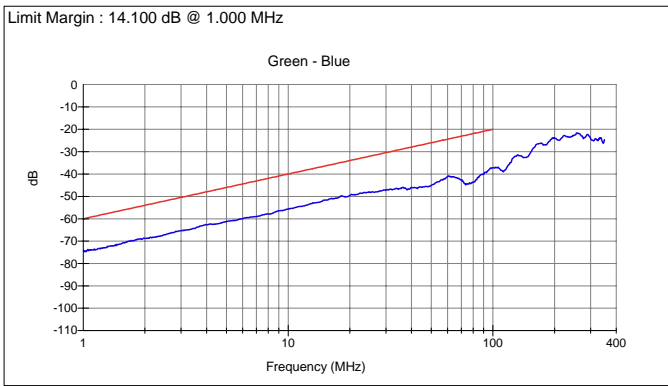
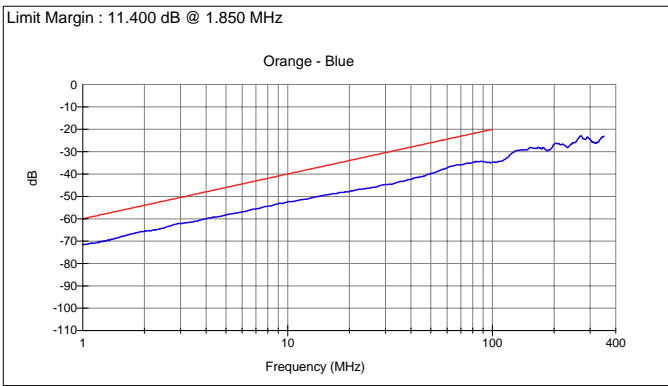
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Equal Level Far End Cross Talk (Far End)

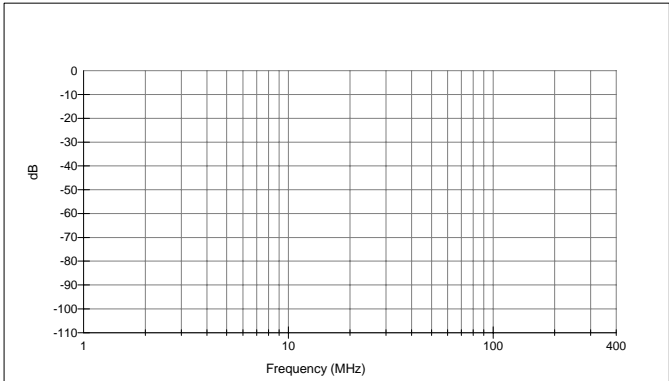
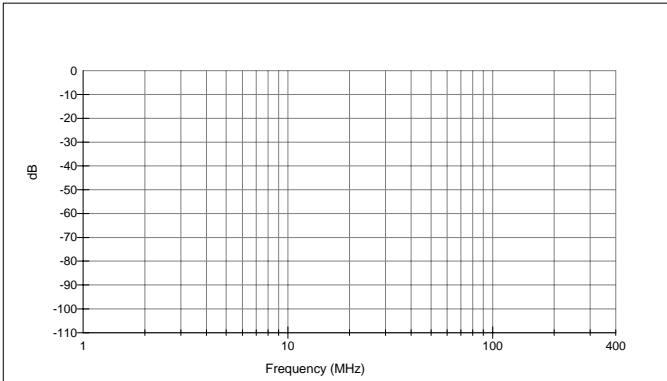
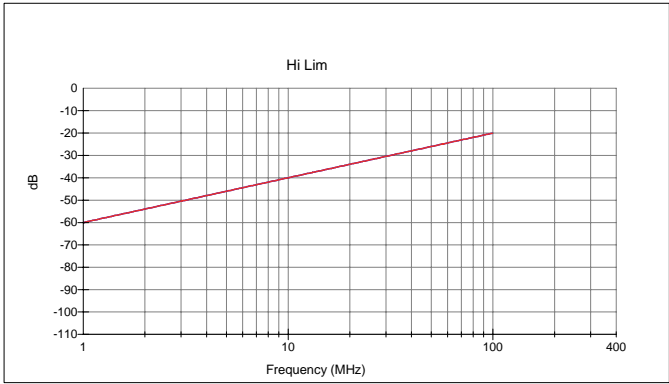
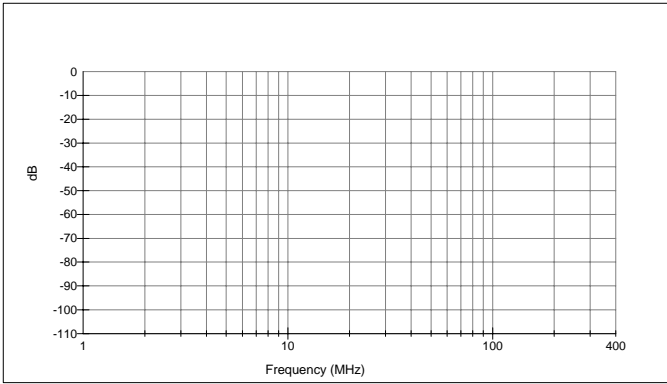
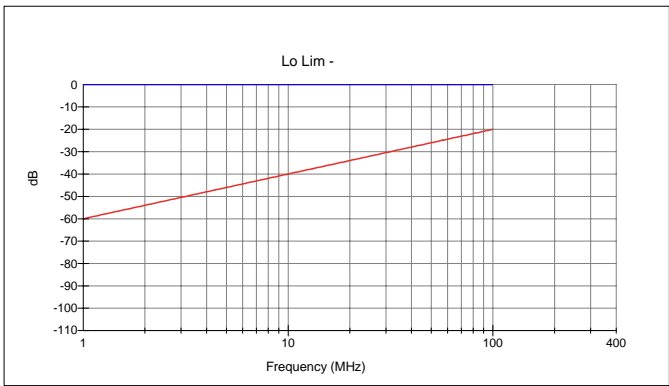
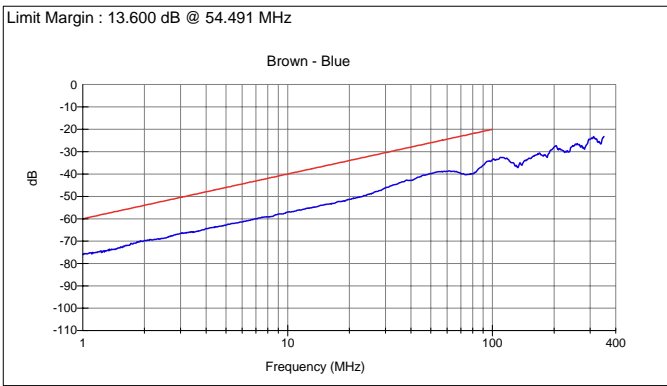
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Equal Level Far End Cross Talk (Far End)

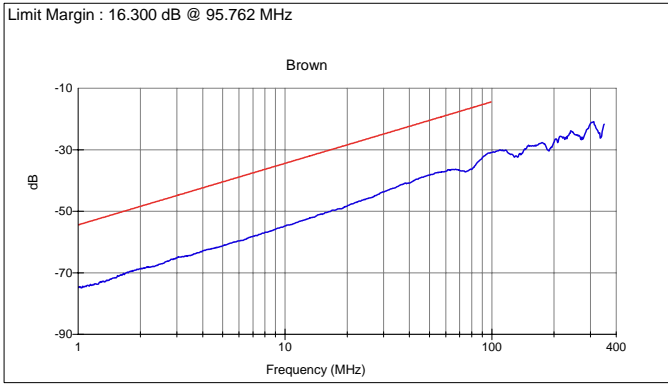
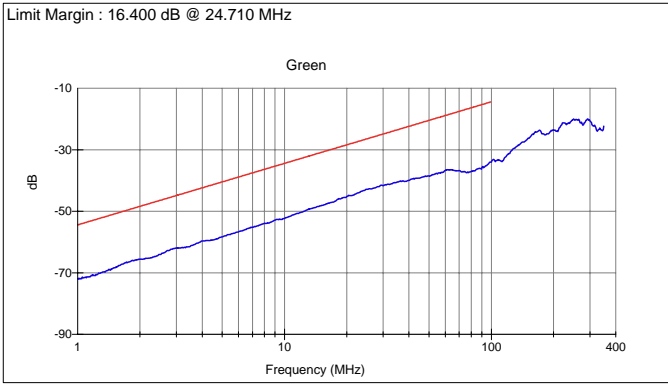
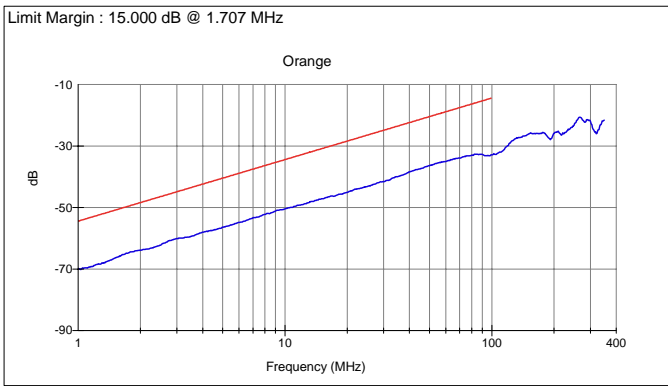
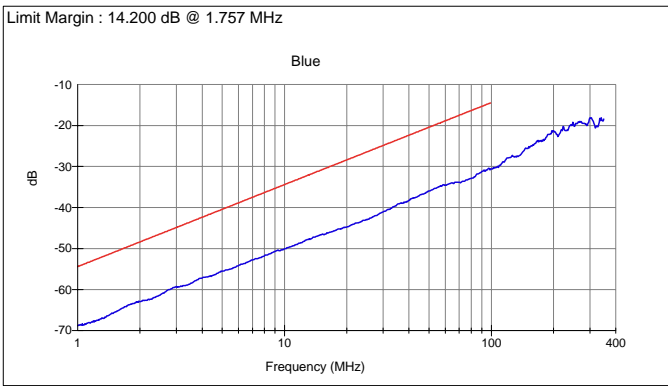
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Power Sum ELFEXT (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

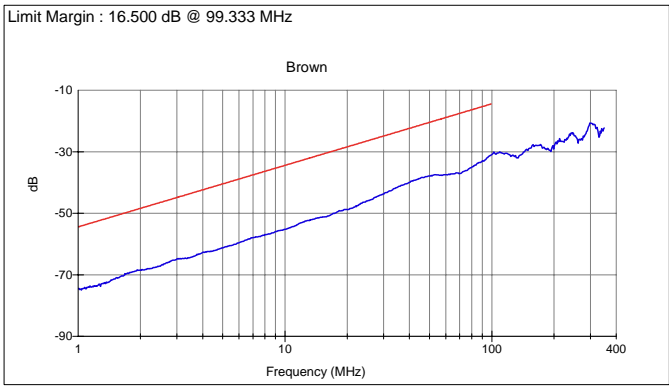
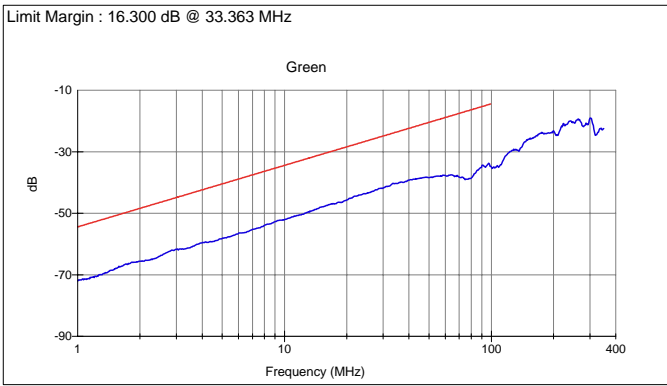
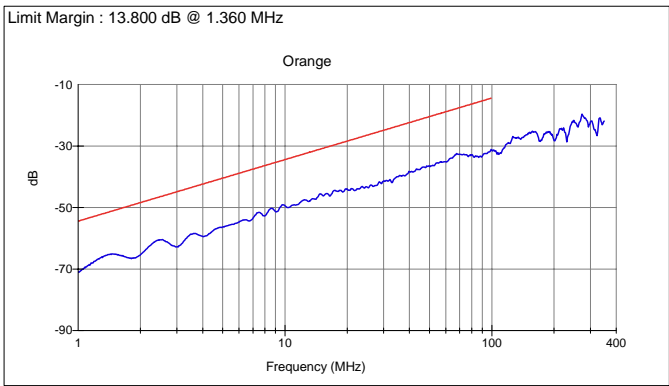
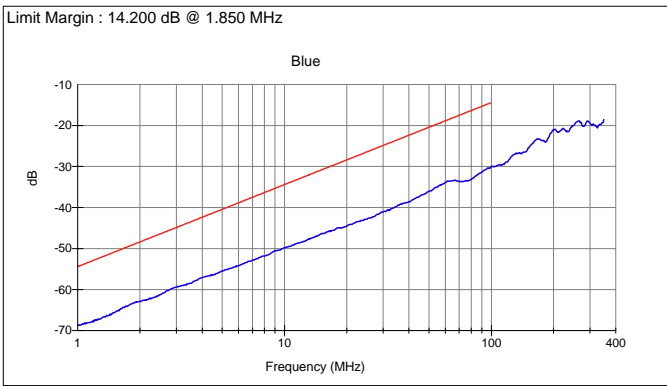




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Power Sum ELFEXT (Far End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

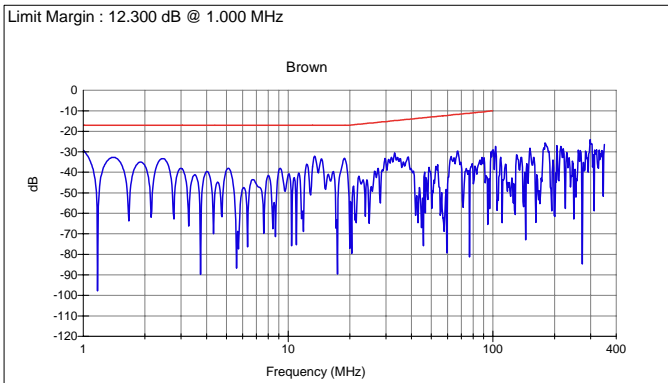
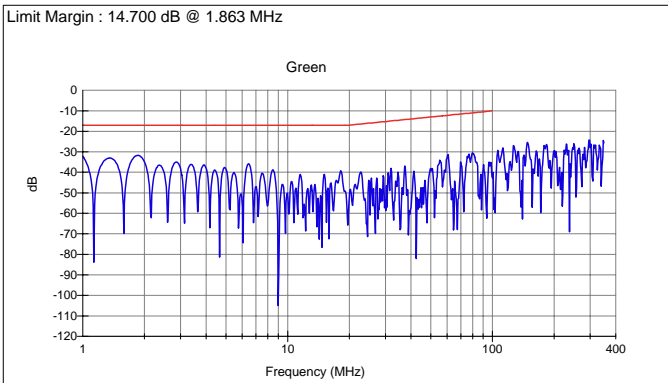
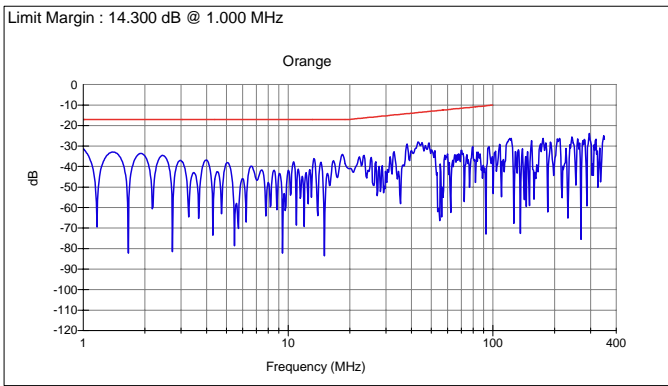
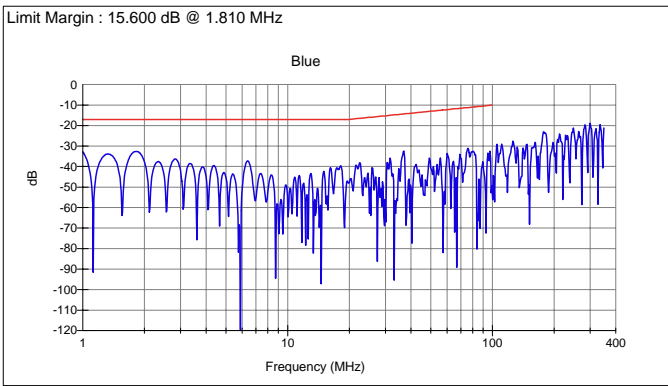




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Structural Return Loss (Terminated Near End)

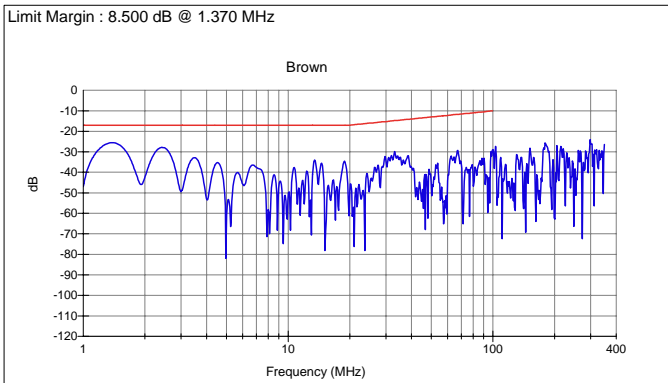
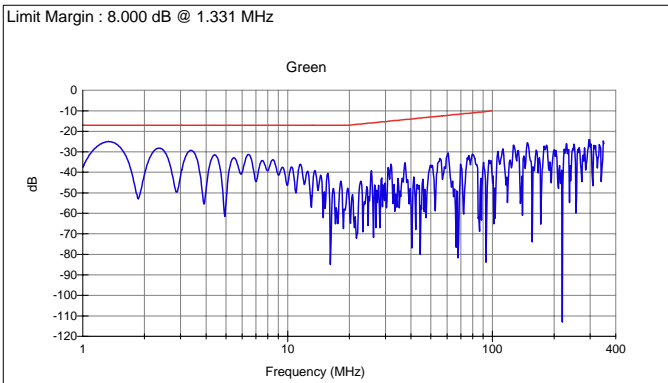
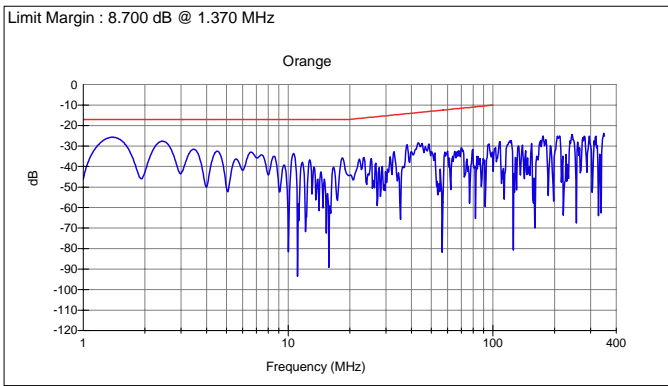
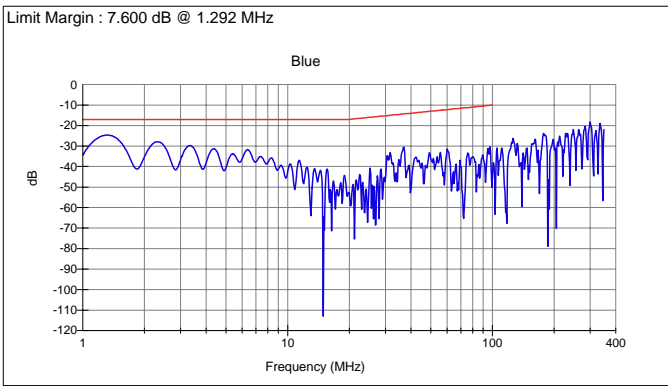
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Return Loss (Near End)

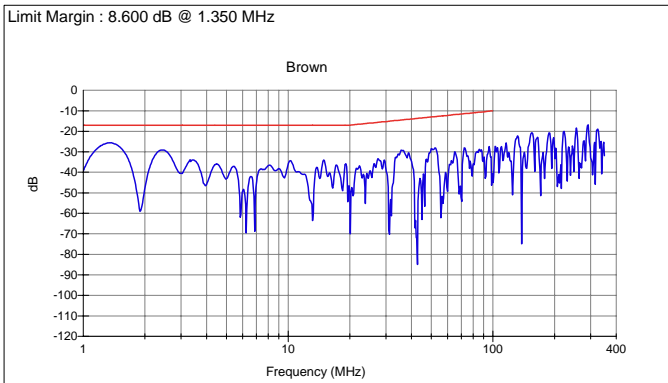
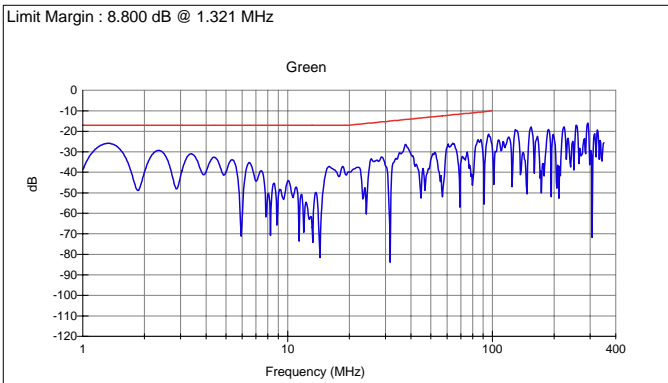
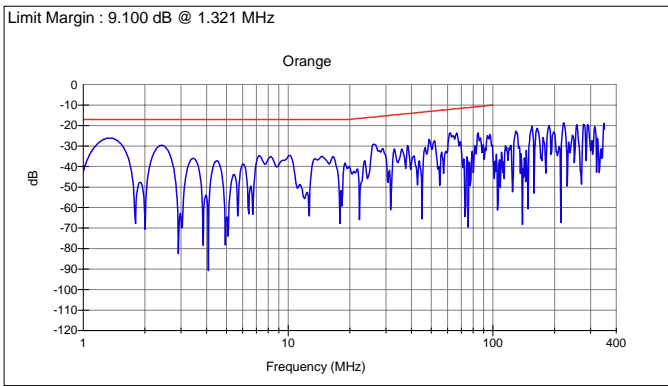
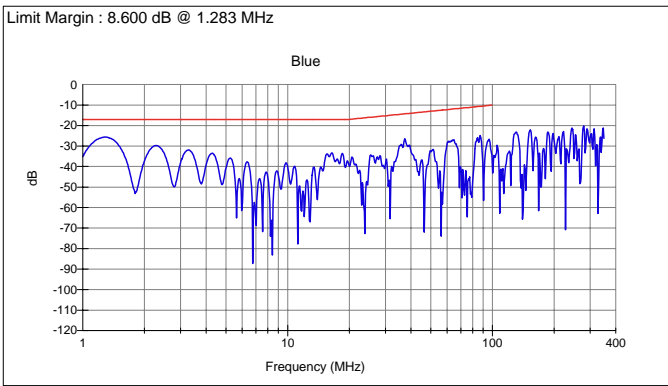
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Return Loss (Far End)

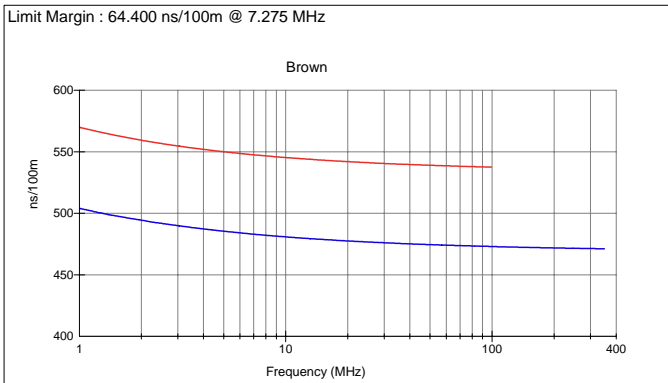
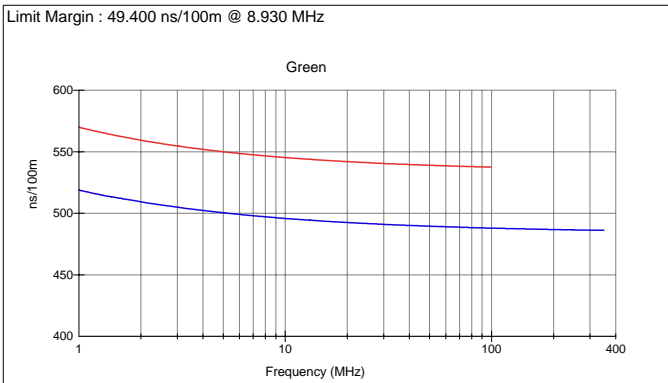
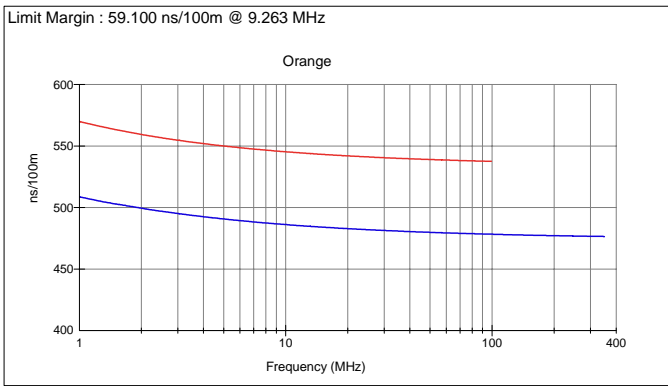
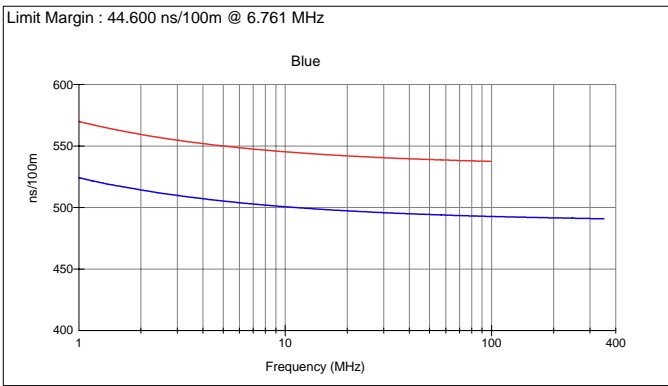
Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Propagation Delay (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies





Delay Skew (Near End)

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

Limit Margin : 24.600 Skew (ns) @ 1.255 MHz





Group Delay Near

Client	Hubbell Premise Wiring	Report No	3022866-038
Specification	4Connec-C5EChannel		
File Name	TR487x1e (4CC) HUBB C5E	Length(m)	100
Test Started	4/6/2005 11:59:21 AM	Temperature	21.67 °C
Description	Hubbell Premise Wiring- SPEEDGAIN Category 5e UTP 4CC, Test 1		
Operator Name	S. Schultz	Test Status:	Complies

