



**Melville Division**  
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Melville – April 22, 2004

Signamax Connectivity Systems  
Mr. Stephen Daily  
1810 N.E. 144<sup>th</sup> Street  
North Miami, FL 33181

Reference: E247365, 04CA18578

Subject: Category 6 Channel Testing to ANSI/TIA/EIA-568-B.2-1 and ISO/IEC 11801 Documents

Gentlemen,

We have completed the Category 6 performance testing of the submitted channel configurations. The channel configurations were tested in accordance to the Category 6 requirements as stated in the following documents:

- 1) TIA/EIA 568B.2-1 the ANSI/TIA/EIA *Transmission Performance Specifications for 4 Pair 100 Ohm cabling* dated June 20, 2002
- 2) International Standard *ISO/IEC JTC 1/SC 25 11801: 2002 2ND Edition* dated September 2002

The channel configurations assembled utilizing the following components did comply with all applicable performance transmission requirements as specified in the above referenced documents.

1. Horizontal Cable: Type CMP Signamax Cable, Part No. BC6-4PL
2. Patch Cords: Signamax 14 & 3 FT. Category 6+ Patch Cord with Snag-Proof Boots, Part No. C6C-114GY-14FB and C6C-114GY-3FB.
3. Consolidation/Transition Point: Signamax Category 6+ 4-Pair 110 Wiring Block w/Mounting Legs, Part No. 110WB6-96PR-L. Category 6+ 4-Pair 110 IDC Connecting Clip, Part No. 110CB6-4PR.
4. Jack: Signamax Category 6+ Keystone Jack, Part No. KJ458-C6C
5. Patch Panel: Signamax 24-Port Category 6+ Patch Panel, Part No. 24458MD-C6C

Also per your request we have swept the test frequency, without a limit check, to 750 MHz. For your convenience, we have attached the corresponding test data.

It should be understood that these results apply only to the particular channel solution submitted for testing. The test results indicated in this report are not intended to imply Listing, Verification or other Recognition of any product material. UL has not established a Factory Follow-Up Service Program to determine conformance to the subsequently produced material, nor has any provision been established to apply any registered mark of UL to such material.

In no event shall Underwriters Laboratories Inc. be responsible to any one for whatever use or non-use is made of the information contained in this Report and in no event shall Underwriters Laboratories Inc., its employees, or its agents incur any obligation of liability for damages, including but not limited to, consequential damages, arising out of or in connection with the use, or inability to use, the information contained in this Report.

This letter and the attached data completes this assignment. Our Accounting Department will be notified to bill you for the charges incurred.

Should you have any questions, please do not hesitate to contact the undersigned.

Very Truly Yours,

Robert Bellasai, RCDD (Ext. 22871)  
Staff Engineer  
Conformity Assessment Services

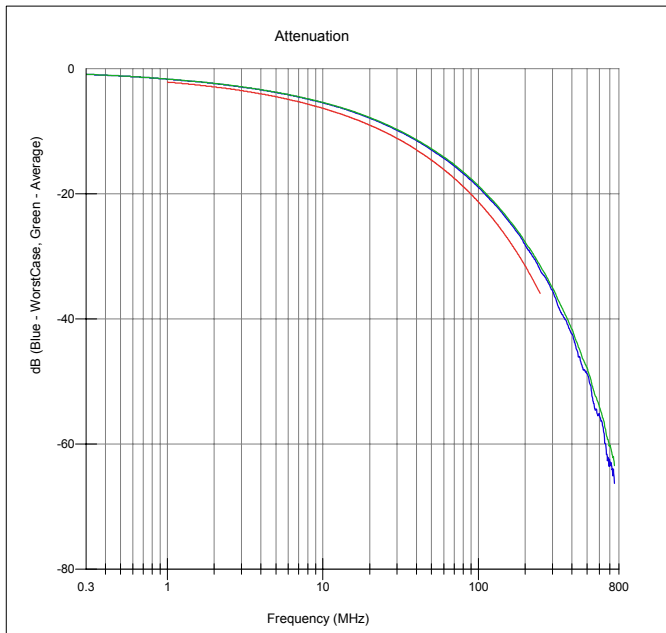
Reviewed By:

Jerry Matiatos (Ext. 22972)  
Manager  
Conformity Assessment Services

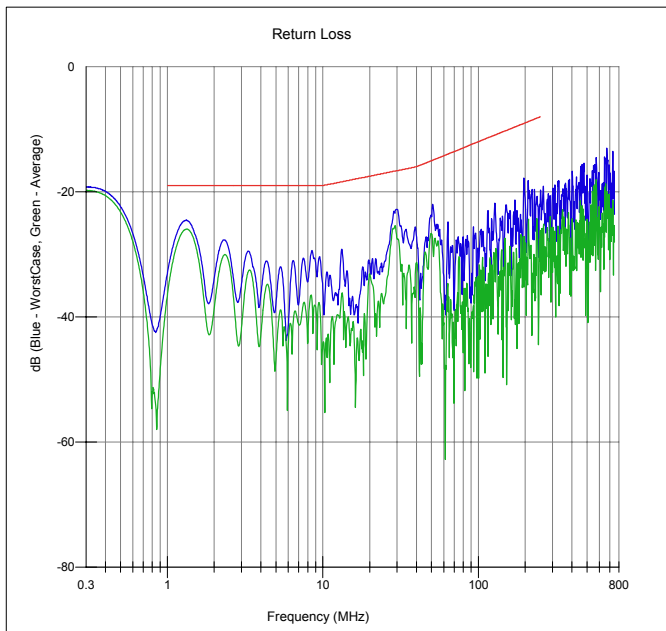


## Summary

<b>Cable Type</b>	04 Pair	<b>Engineer</b>	Bellasai
<b>Project Number</b>	04CA18578	<b>Test Description</b>	Category 6 Channel 750Mhz
<b>File Number</b>	E247365	<b>Test Started</b>	4/22/2004 2:56:26 PM
<b>Manufacture</b>	Signamax Connectivity Systems	<b>Length</b>	100 m
<b>Pre-Test Comments</b>	Signamax UTP CMP CAT 6	<b>Test Status:</b>	Complies
<b>Technician</b>	Andy		



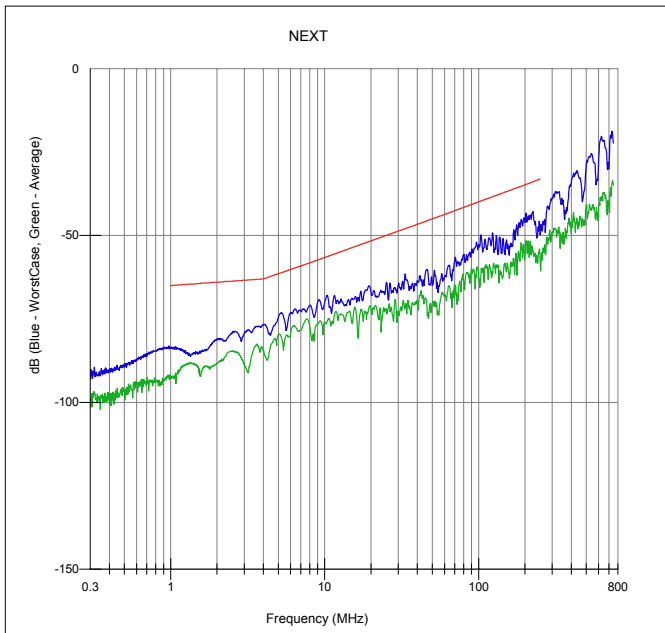
Attenuation			
Freq	Worst Case	Average	Spec
1.	-1.7	-1.7	-2.0
4.	-3.4	-3.4	-4.0
8.	-4.8	-4.8	-5.7
10.	-5.5	-5.4	-6.3
16.	-7.0	-6.9	-8.0
20.	-7.9	-7.8	-9.0
25.	-8.9	-8.8	-10.1
31.25	-10.1	-9.9	-11.4
62.5	-14.6	-14.4	-16.5
100.	-19.0	-18.7	-21.3
200.	-28.2	-27.7	-31.6
250.	-32.2	-31.5	-35.9
350.	-39.4	-38.5	
400.	-42.4	-41.7	
450.	-46.2	-45.0	
500.	-48.8	-47.8	
550.	-53.4	-51.4	
600.	-55.2	-54.0	
650.	-59.7	-57.2	
700.	-62.8	-60.2	
750.	-66.3	-63.5	



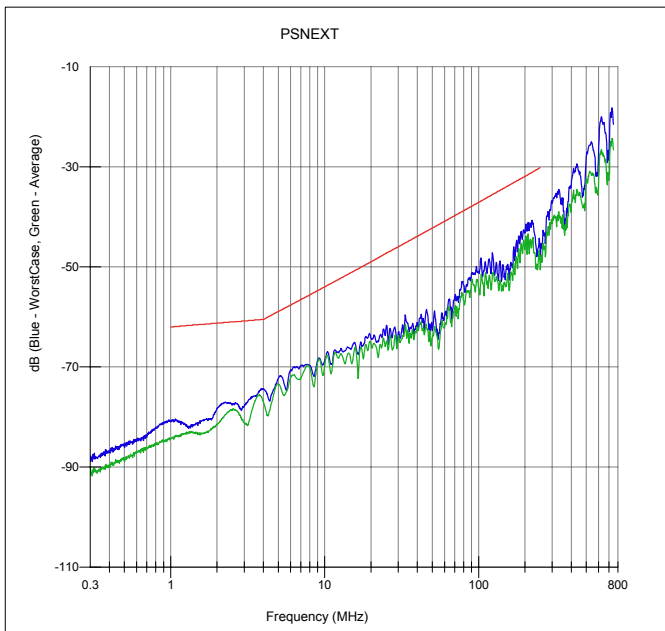
Return Loss			
Freq	Worst Case	Average	Spec
1.	-33.0	-36.6	-19.0
4.	-36.3	-42.7	-19.0
8.	-34.4	-44.2	-19.0
10.	-35.6	-44.3	-19.0
16.	-39.6	-45.8	-18.0
20.	-31.4	-33.1	-17.5
25.	-31.2	-36.9	-17.0
31.25	-25.3	-29.6	-16.5
62.5	-33.6	-39.3	-14.0
100.	-29.8	-36.0	-12.0
200.	-20.9	-34.0	-9.0
250.	-21.4	-26.6	-8.0
350.	-19.8	-24.5	
400.	-18.3	-26.4	
450.	-20.6	-26.3	
500.	-17.7	-24.5	
550.	-17.8	-21.1	
600.	-19.3	-23.9	
650.	-15.2	-21.4	
700.	-19.3	-30.0	
750.	-23.6	-28.0	

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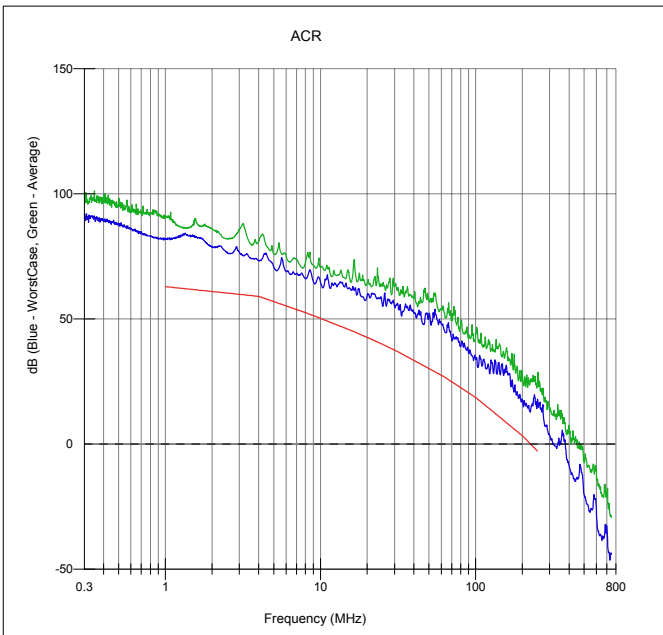
NEXT			
Freq	Worst Case	Average	Spec
1.	-83.8	-92.4	-65.0
4.	-76.7	-84.7	-63.0
8.	-70.9	-77.4	-58.2
10.	-70.1	-76.0	-56.6
16.	-68.7	-73.0	-53.2
20.	-67.2	-72.2	-51.6
25.	-64.7	-72.0	-50.0
31.25	-66.3	-71.4	-48.4
62.5	-60.1	-67.2	-43.4
100.	-52.7	-62.4	-39.9
200.	-46.0	-55.3	-34.8
250.	-48.7	-56.7	-33.1
350.	-40.3	-52.0	
400.	-33.8	-48.2	
450.	-32.9	-46.1	
500.	-28.5	-40.8	
550.	-26.8	-41.2	
600.	-28.4	-43.2	
650.	-21.5	-37.3	
700.	-30.1	-41.2	
750.	-22.3	-34.8	



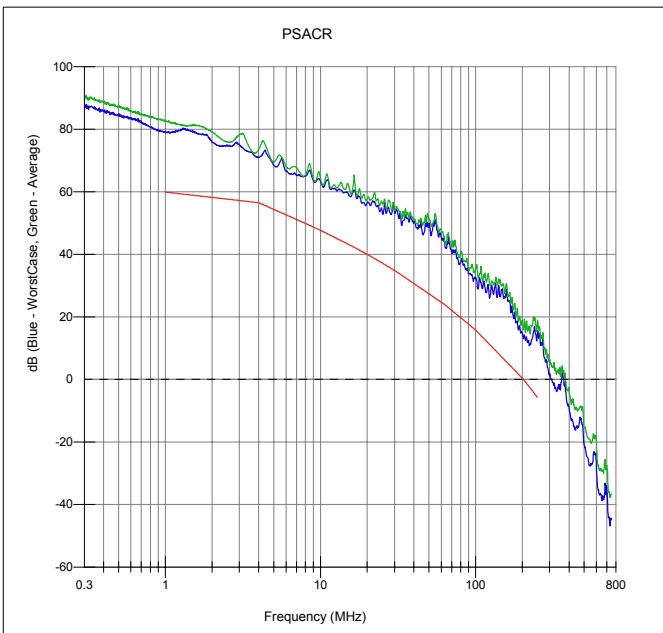
PSNEXT			
Freq	Worst Case	Average	Spec
1.	-80.9	-84.4	-62.0
4.	-74.4	-76.9	-60.5
8.	-69.7	-70.2	-55.6
10.	-68.8	-69.7	-54.0
16.	-66.3	-66.9	-50.6
20.	-64.4	-65.5	-49.0
25.	-62.3	-65.2	-47.3
31.25	-63.9	-64.7	-45.7
62.5	-58.4	-60.2	-40.6
100.	-50.9	-54.4	-37.1
200.	-43.2	-46.5	-31.9
250.	-46.9	-49.9	-30.2
350.	-37.2	-40.9	
400.	-33.2	-38.0	
450.	-31.4	-35.6	
500.	-27.9	-32.5	
550.	-26.1	-31.4	
600.	-27.6	-33.7	
650.	-21.2	-27.8	
700.	-28.7	-32.7	
750.	-21.5	-26.6	

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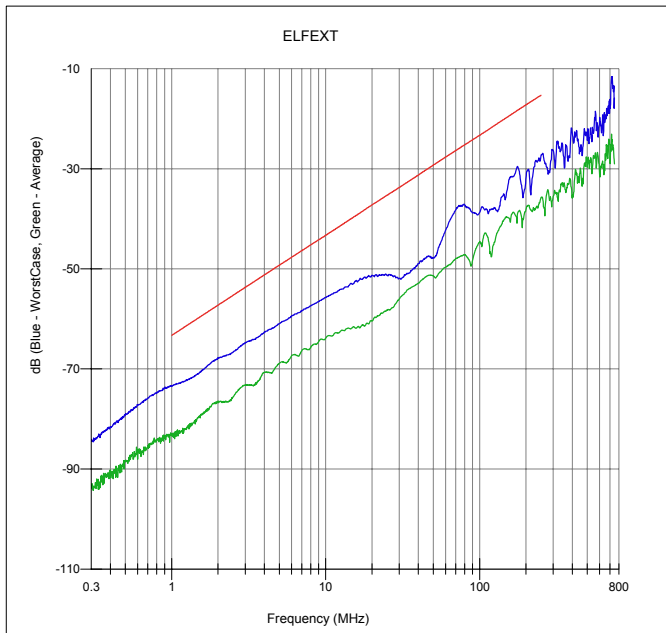
ACR			
Freq	Worst Case	Average	Spec
1.	82.1	90.7	62.9
4.	73.3	81.3	59.0
8.	66.1	72.6	52.5
10.	64.6	70.5	50.2
16.	61.8	66.1	45.2
20.	59.3	64.3	42.6
25.	55.8	63.1	39.9
31.25	56.2	61.4	37.0
62.5	45.8	52.7	26.9
100.	33.8	43.5	18.6
200.	17.9	27.3	3.3
250.	16.8	24.8	-2.8
350.	0.9	13.1	
400.	-8.6	6.2	
450.	-13.4	0.7	
500.	-20.3	-7.4	
550.	-26.6	-10.7	
600.	-26.9	-11.4	
650.	-38.2	-20.5	
700.	-32.8	-19.6	
750.	-44.0	-29.4	



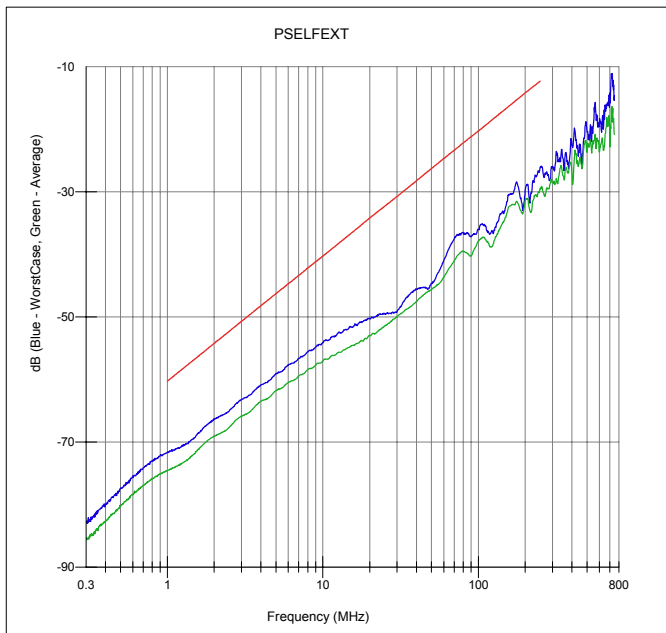
PSACR			
Freq	Worst Case	Average	Spec
1.	79.2	82.8	59.9
4.	71.0	73.6	56.5
8.	65.0	65.4	49.9
10.	63.3	64.3	47.7
16.	59.3	60.1	42.6
20.	56.5	57.7	40.0
25.	53.5	56.4	37.2
31.25	53.9	54.8	34.3
62.5	44.1	45.8	24.1
100.	32.5	35.7	15.8
200.	15.0	18.8	0.4
250.	14.6	18.4	-5.7
350.	-2.2	2.3	
400.	-9.1	-3.7	
450.	-14.8	-9.4	
500.	-20.9	-15.3	
550.	-27.3	-19.9	
600.	-27.6	-20.3	
650.	-38.5	-29.3	
700.	-34.2	-27.5	
750.	-44.8	-36.9	

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ELFEXT			
Freq	Worst Case	Average	Spec
1.	-73.5	-83.2	-63.4
4.	-62.6	-70.7	-51.2
8.	-57.4	-65.7	-45.2
10.	-55.7	-63.8	-43.3
16.	-52.5	-61.7	-39.2
20.	-51.3	-60.4	-37.2
25.	-51.3	-58.3	-35.3
31.25	-51.9	-55.4	-33.4
62.5	-41.1	-49.2	-27.3
100.	-38.7	-44.5	-23.3
200.	-31.6	-38.0	-17.2
250.	-27.3	-35.7	-15.3
350.	-27.4	-33.4	
400.	-23.1	-35.6	
450.	-26.5	-29.9	
500.	-24.3	-29.6	
550.	-22.7	-27.6	
600.	-20.6	-30.9	
650.	-20.4	-28.9	
700.	-16.6	-25.1	
750.	-15.9	-29.0	



PSELFEXT			
Freq	Worst Case	Average	Spec
1.	-71.7	-74.6	-60.4
4.	-60.9	-63.5	-48.2
8.	-55.6	-58.4	-42.2
10.	-54.1	-57.0	-40.3
16.	-51.3	-54.5	-36.2
20.	-50.3	-53.0	-34.2
25.	-49.5	-51.5	-32.3
31.25	-48.5	-49.6	-30.4
62.5	-40.0	-42.9	-24.3
100.	-36.0	-37.8	-20.3
200.	-30.0	-31.5	-14.2
250.	-26.0	-29.4	-12.3
350.	-24.6	-27.4	
400.	-22.6	-27.3	
450.	-22.6	-24.5	
500.	-20.5	-23.6	
550.	-19.2	-22.1	
600.	-19.1	-23.6	
650.	-17.7	-22.4	
700.	-14.6	-19.4	
750.	-14.6	-20.8	