



3933 US Route 11
Cortland, New York 13045

Telephone: +1 (800) 345-3851
Facsimile: +1 (607) 758-6637
www.intertek.com

Project Number: G100283649
Certificate of Conformance Number: 9836069CRT-005

Date Issued: 8/7/2014

Test Report Number: G100283649CRT-029a



Applicant:
Berk-Tek LLC
132 White Oak Rd.
New Holland, PA 17557
Applicant Contact: Mr. Darren Scott

Manufacturer:
Berk-Tek LLC
132 White Oak Rd.
New Holland, PA 17557
Mfg. Contact: Mr. Darren Scott

Dear Mr. Darren Scott;

Intertek is pleased to provide this letter report covering the testing of one (1) 4 Pair, 24 AWG, UTP, CMR, Non-Plenum Riser, Horizontal (solid) Cable, Part Number: LANmark-350. The sample was selected from your manufacturer facility, Berk-Tek LLC, by the Intertek Inspector Mr. Ronald Williams on 4/1/2014, for Quarter 2, 2014 Quarterly Follow-up Testing.

The testing was performed at Intertek located in Cortland, NY on 8/6/2014, to the TIA-568-C.2; ISO/IEC 11801 and LANmark-350 Category 5e specifications and did comply with the applicable requirements of the specifications.

We have appreciated this opportunity to be of service to you. If there are any questions regarding this letter or any other services offered by Intertek, Please do not hesitate to contact us.

Refer to Appendix A for test summary results

Sincerely,

Antoine Pelletier
Engineer
Global Cabling Products Testing
Phone: (607) 758-6718

John Cash
Technician
Global Cabling Products Testing
Phone: (607) 758-6677



This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only the sample tested. This report by itself does not imply that the material, product or service is or has ever been under an Intertek certification program.

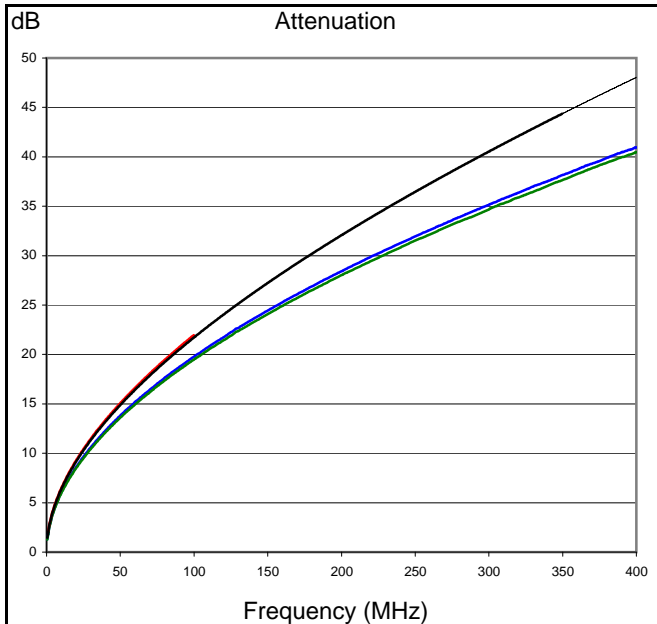
Appendix A

Test Results

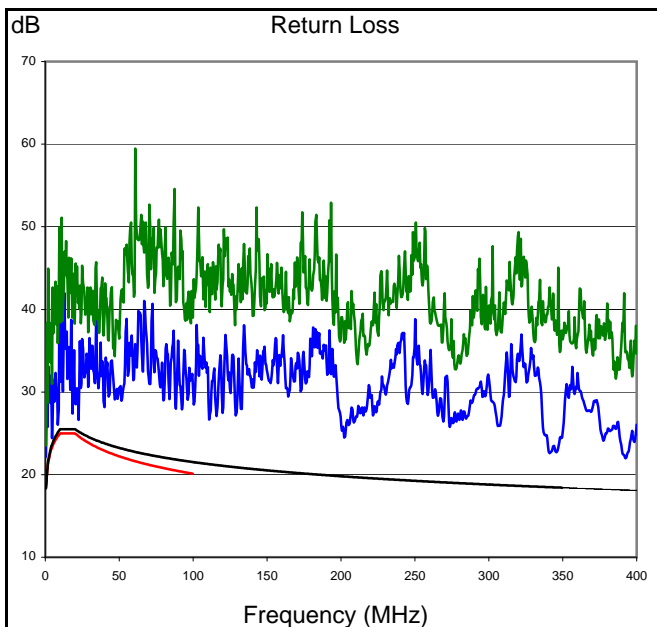
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-350
 ANSI/TIA-568-C.2, Category 5e
 ISO/IEC 11801, Category 5e
Part Number LANmark-350
Description **Berk-Tek LANmark-350 CMR**
 4X24 UTP-CMR-Solid

Test Started 8/6/2014 9:39
Technician John Cash
Report No. 100283649CRT-029a
Length (m) 100
Temperature 20 °C
Test Status **PASS**



Attenuation						
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec	
1	1.8	1.8	2.0	2.5	N/A	
4	3.8	3.7	4.0	4.3	4.1	
8	5.4	5.3	5.7	5.9	5.8	
10	6.0	6.0	6.4	6.6	6.5	
16	7.7	7.6	8.1	8.4	8.3	
20	8.6	8.5	9.2	9.4	9.3	
25	9.6	9.5	10.3	10.5	10.4	
31.25	10.9	10.7	11.6	11.8	11.7	
62.5	15.5	15.3	16.8	17.1	17.0	
100	19.8	19.5	21.7	22.0	22.0	
250	32.0	31.5	36.5			
350	38.2	37.7	44.4			
400	41.0	40.5				
Limit Margin (dB) : 0.16 0.49 0.28						
Frequency (MHz) : 1.00 3.50 3.50						



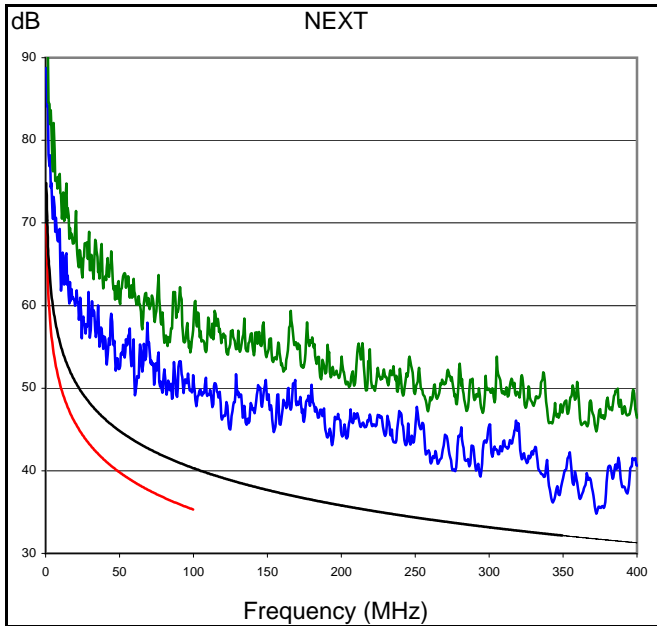
Return Loss						
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec	
1	31.1	38.3	20.0	20.0	N/A	
4	32.0	38.3	23.3	23.0	23.0	
8	30.1	42.8	25.0	24.5	24.5	
10	34.0	39.6	25.5	25.0	25.0	
16	35.4	46.3	25.5	25.0	25.0	
20	29.3	38.3	25.5	25.0	25.0	
25	36.4	45.3	24.9	24.3	24.3	
31.25	35.6	40.6	24.4	23.6	23.6	
62.5	34.9	48.5	22.7	21.5	21.5	
100	30.9	39.0	21.5	20.1	20.1	
250	38.8	46.8	19.2			
350	25.2	36.4	18.4			
400	26.0	34.6				
Limit Margin (dB) : 0.83 1.15 1.15						
Frequency (MHz) : 4.50 4.50 4.50						

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LANmark Specification

Summary

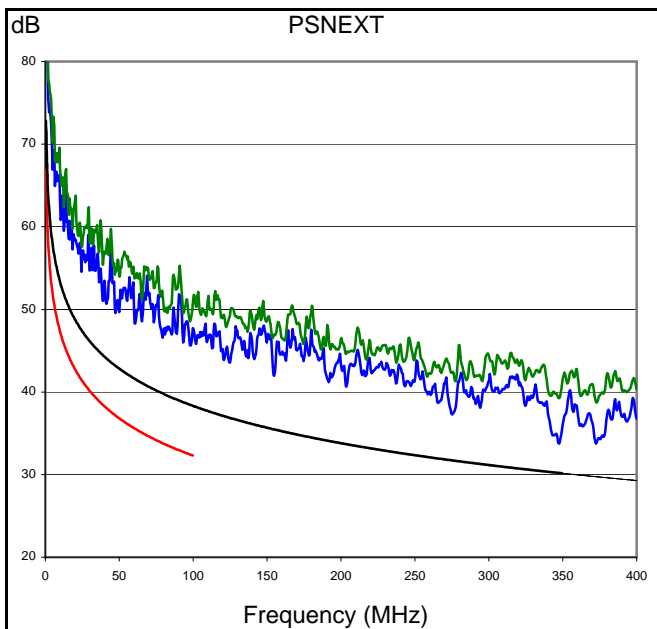
Client Berk-Tek LLC
Specifications Berk-Tek LANmark-350
 ANSI/TIA-568-C.2, Category 5e
 ISO/IEC 11801, Category 5e
Part Number LANmark-350
Description **Berk-Tek LANmark-350 CMR**
 4X24 UTP-CMR-Solid

Test Started 8/6/2014 9:39
Technician John Cash
Report No. 100283649CRT-029a
Length (m) 100
Temperature 20 °C
Test Status **PASS**



NEXT					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	84.1	92.4	70.3	65.3	N/A
4	74.9	81.5	61.3	56.3	56.3
8	67.9	74.1	56.8	51.8	51.8
10	64.7	73.6	55.3	50.3	50.3
16	60.3	68.1	52.3	47.2	47.2
20	60.0	69.0	50.8	45.8	45.8
25	58.4	63.4	49.3	44.3	44.3
31.25	60.5	65.1	47.9	42.9	42.9
62.5	51.4	60.2	43.4	38.4	38.4
100	51.6	57.0	40.3	35.3	35.3
250	45.7	49.7	34.3		
350	39.1	47.6	32.2		
400	40.6	46.4			

Limit Margin (dB) : 3.88 10.55 10.55
 Frequency (MHz) : 343.07 60.43 60.43



PSNEXT					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	81.9	85.8	68.3	62.3	N/A
4	72.6	75.4	59.3	53.3	53.3
8	65.5	67.8	54.8	48.8	48.8
10	63.1	66.9	53.3	47.3	47.3
16	58.5	61.5	50.3	44.2	44.2
20	58.4	62.9	48.8	42.8	42.8
25	56.5	57.6	47.3	41.3	41.3
31.25	57.5	59.7	45.9	39.9	39.9
62.5	49.8	54.0	41.4	35.4	35.4
100	47.7	50.8	38.3	32.3	32.3
250	41.8	44.5	32.3		
350	36.1	41.6	30.2		
400	36.8	40.3			

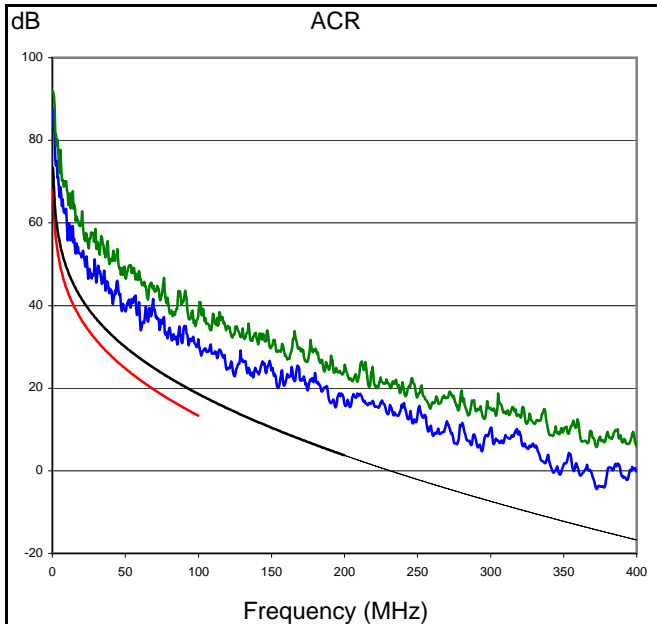
Limit Margin (dB) : 3.55 12.40 12.40
 Frequency (MHz) : 347.57 47.44 47.44

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LANmark Specification

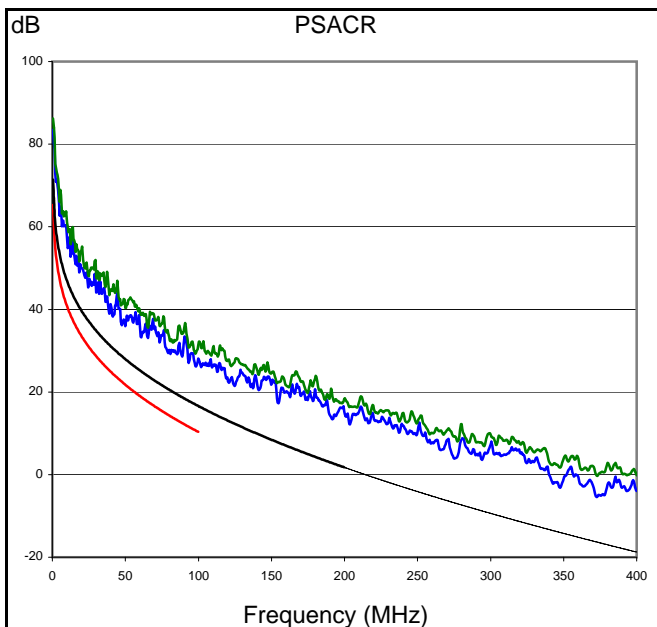
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-350
 ANSI/TIA-568-C.2, Category 5e
 ISO/IEC 11801, Category 5e
Part Number LANmark-350
Description **Berk-Tek LANmark-350 CMR**
 4X24 UTP-CMR-Solid

Test Started 8/6/2014 9:39
Technician John Cash
Report No. 100283649CRT-029a
Length (m) 100
Temperature 20 °C
Test Status **PASS**



ACR					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	82.3	90.6	68.3	62.8	N/A
4	71.2	77.8	57.3	52.0	52.2
8	62.7	68.8	51.1	45.8	46.0
10	58.9	67.7	48.9	43.7	43.8
16	52.6	60.5	44.1	38.9	39.0
20	51.6	60.4	41.6	36.4	36.5
25	48.7	53.8	39.1	33.8	33.9
31.25	49.7	54.3	36.3	31.1	31.1
62.5	36.0	44.9	26.6	21.3	21.4
100	31.8	37.5	18.6	13.3	13.3
250	14.0	18.0			
350	1.6	9.8			
400	-0.1	5.8			
Limit Margin (dB) : 6.88 12.15 12.10					
Frequency (MHz) : 60.43 60.43 60.43					



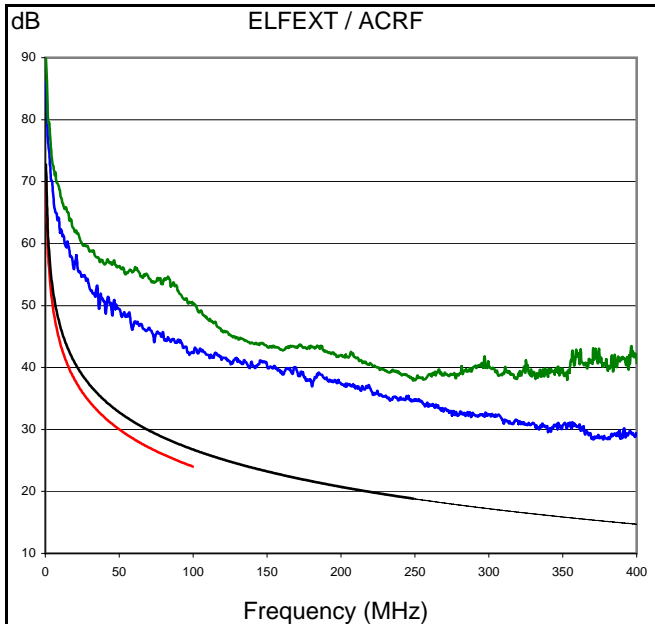
PSACR					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	80.2	84.0	66.3	59.8	N/A
4	68.9	71.7	55.3	49.0	49.2
8	60.1	62.5	49.1	42.8	43.0
10	57.1	61.0	46.9	40.7	40.8
16	50.9	53.9	42.1	35.9	36.0
20	50.0	54.4	39.6	33.4	33.5
25	47.1	48.1	37.1	30.8	30.9
31.25	46.6	49.0	34.3	28.1	28.1
62.5	34.4	38.8	24.6	18.3	18.4
100	28.1	31.3	16.6	10.3	10.3
250	10.6	12.9			
350	-0.9	3.9			
400	-4.0	-0.2			
Limit Margin (dB) : 7.50 13.75 13.69					
Frequency (MHz) : 47.44 47.44 38.95					

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LANmark Specification

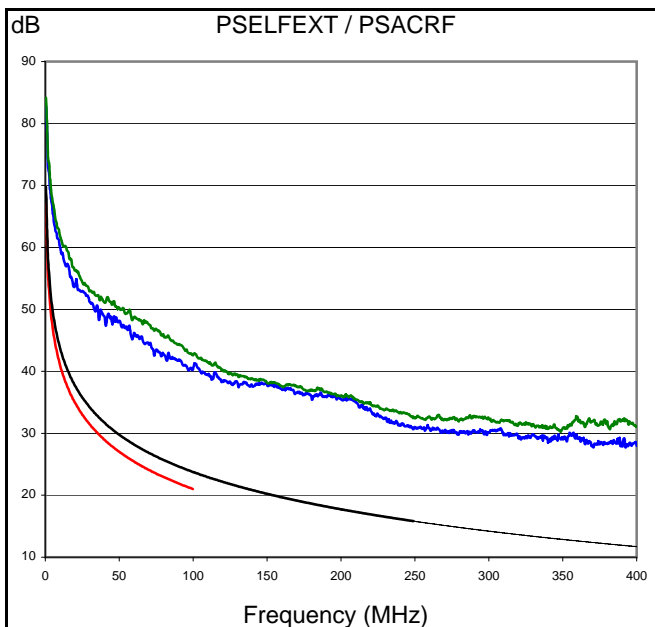
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-350
 ANSI/TIA-568-C.2, Category 5e
 ISO/IEC 11801, Category 5e
Part Number LANmark-350
Description **Berk-Tek LANmark-350 CMR**
 4X24 UTP-CMR-Solid

Test Started 8/6/2014 9:39
Technician John Cash
Report No. 100283649CRT-029a
Length (m) 100
Temperature 20 °C
Test Status **PASS**



ELFEXT / ACRF					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	82.0	86.3	66.8	63.8	N/A
4	70.2	75.3	54.7	51.8	52.0
8	64.1	69.8	48.7	45.7	45.9
10	61.7	68.5	46.8	43.8	44.0
16	59.3	64.1	42.7	39.7	39.9
20	56.6	61.9	40.7	37.8	38.0
25	54.8	60.0	38.8	35.8	36.0
31.25	52.4	58.9	36.9	33.9	34.1
62.5	47.4	55.7	30.8	27.9	28.1
100	42.4	50.2	26.8	23.8	24.0
250	34.6	38.0	18.8		
350	30.7	39.7			
400	29.0	40.7			
Limit Margin (dB) :			13.92	16.88	16.68
Frequency (MHz) :			36.46	36.46	36.46



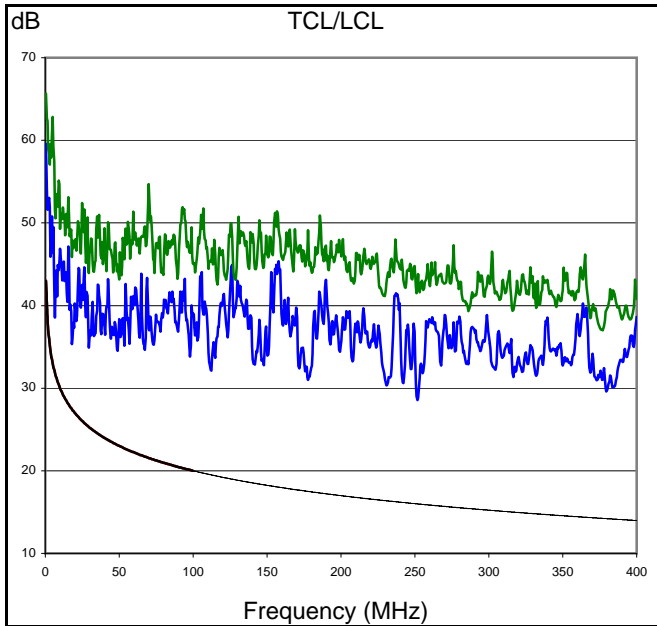
PSELFEXT / PSACRF					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	79.5	80.5	63.8	60.8	N/A
4	67.8	69.4	51.7	48.8	49.0
8	61.5	63.1	45.7	42.7	42.9
10	60.2	61.8	43.8	40.8	41.0
16	56.7	58.5	39.7	36.7	36.9
20	53.7	56.3	37.7	34.8	35.0
25	53.0	54.5	35.8	32.8	33.0
31.25	51.1	52.9	33.9	30.9	31.1
62.5	45.8	48.4	27.8	24.9	25.1
100	40.2	42.6	23.8	20.8	21.0
250	30.9	32.4	15.8		
350	29.1	30.8			
400	28.0	31.1			
Limit Margin (dB) :			14.80	17.99	18.20
Frequency (MHz) :			248.69	1.50	5.99

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LANmark Specification

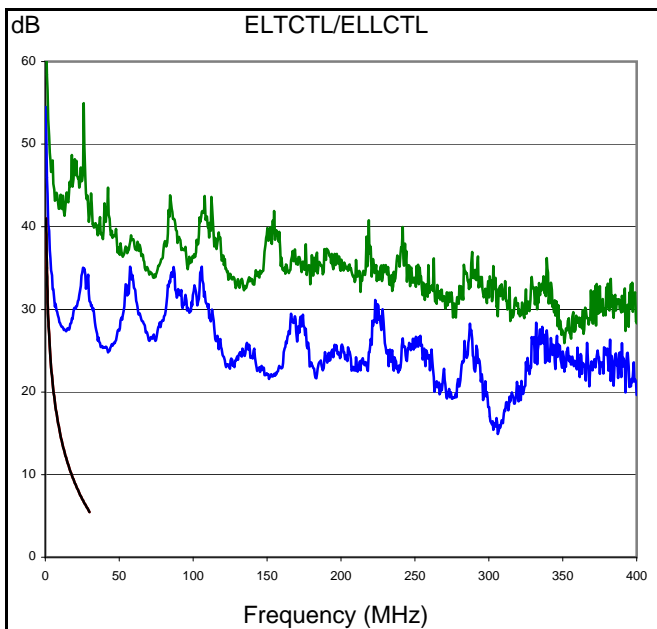
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-350
 ANSI/TIA-568-C.2, Category 5e
 ISO/IEC 11801, Category 5e
Part Number LANmark-350
Description **Berk-Tek LANmark-350 CMR**
 4X24 UTP-CMR-Solid

Test Started 8/6/2014 9:39
Technician John Cash
Report No. 100283649CRT-029a
Length (m) 100
Temperature 20 °C
Test Status **PASS**



TCL/LCL					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	53.8	62.6	40.0	N/A	40.0
4	48.6	57.9	34.0	N/A	34.0
8	41.1	53.2	31.0	N/A	31.0
10	46.9	49.3	30.0	N/A	30.0
16	45.6	51.0	28.0	N/A	28.0
20	40.3	47.9	27.0	N/A	27.0
25	42.5	52.4	26.0	N/A	26.0
31.25	38.6	48.0	25.1	N/A	25.1
62.5	39.9	47.8	22.0	N/A	22.0
100	39.1	45.1	20.0	N/A	20.0
250	33.3	43.6			
350	32.7	41.9			
400	38.6	40.8			
Limit Margin (dB) :			6.66	N/A	6.66
Frequency (MHz) :			6.49	N/A	6.49



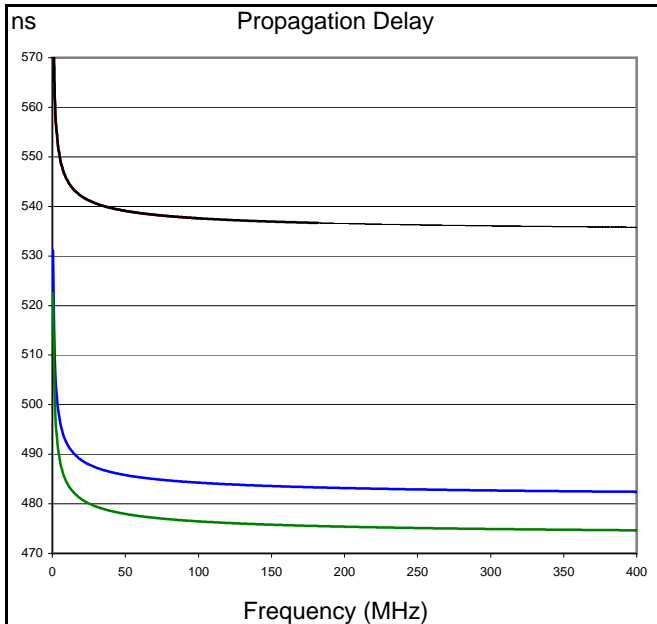
ELTCTL/ELLCTL					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	46.0	58.4	35.0	N/A	35.0
4	34.8	46.6	23.0	N/A	23.0
8	29.7	43.9	16.9	N/A	16.9
10	28.3	42.2	15.0	N/A	15.0
16	27.5	44.1	10.9	N/A	10.9
20	30.2	48.2	9.0	N/A	9.0
25	34.4	45.5	7.0	N/A	7.0
31.25	30.5	42.8			
62.5	30.3	38.2			
100	31.7	36.5			
250	25.4	33.8			
350	24.9	27.1			
400	19.6	28.3			
Limit Margin (dB) :			10.99	N/A	10.99
Frequency (MHz) :			1.00	N/A	1.00

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LANmark Specification

Summary

Client Berk-Tek LLC
Specifications Berk-Tek LANmark-350
 ANSI/TIA-568-C.2, Category 5e
 ISO/IEC 11801, Category 5e
Part Number LANmark-350
Description **Berk-Tek LANmark-350 CMR**
 4X24 UTP-CMR-Solid

Test Started 8/6/2014 9:39
Technician John Cash
Report No. 100283649CRT-029a
Length (m) 100
Temperature 20 °C
Test Status **PASS**



Propagation Delay					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	517.0	508.8	570.0	570.0	N/A
4	498.9	490.9	552.0	552.0	552.0
8	493.5	485.6	546.7	546.7	546.7
10	492.2	484.2	545.4	545.4	545.4
16	489.8	481.9	543.0	543.0	543.0
20	488.8	480.9	542.0	542.0	542.0
25	487.9	480.1	541.2	541.2	541.2
31.25	487.2	479.3	540.4	540.4	540.4
62.5	485.3	477.4	538.6	538.6	538.6
100	484.3	476.5	537.6	537.6	537.6
250	482.9	475.1			
350	482.5	474.8			
400	482.4	474.7			
Limit Margin (dB) :			52.96	52.96	53.06
Frequency (MHz) :			2.00	2.00	3.00

Delay Skew				
Freq. MHz	Worst case	LANmark Spec	TIA Spec	ISO/IEC Spec
1-100	15.34	25	45	45

Low frequency measurements								
Parameter	Worst Case	Average	LANmark		TIA		ISO/IEC	
			Spec	Margin	Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.67	3.44	5.60	0.93	5.60	0.93	N/A	N/A
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	25.12	10.66	160.00	134.88	330.00	304.88	160.00	134.88
Conductor DC resistance (Ω)	8.89	6.50	9.38	0.49	9.38	0.49	9.50	0.61
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.40%	0.08%	2.00%	1.60%	2.50%	2.10%	2.00%	1.60%

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LANmark Specification