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Project Number: 3193544

Date Issued: 10/29/2009

Certificate of Conformance Number: J99011244-002

**Test Report Number: 3193544CRT-040e**



**Applicant:**

Nexans Inc. DBA Berk-Tek  
132 White Oak Road  
New Holland, PA 17557

Applicant Contact: Mr. Charles Clauser

**Manufacturer:**

Nexans Inc. DBA Berk-Tek  
132 White Oak Road  
New Holland, PA 17557USA

Mfg. Contact: Mr. Charles Clauser

Dear Mr. Charles Clauser;

Intertek is pleased to provide this letter report covering the testing of (1) one 4 Pair, 23 AWG, UTP, CMR, Non-Plenum Riser, Horizontal (solid) Cable, Part Number: LanMark 1000 10032458. The sample was selected from your manufacturer facility, Nexans Inc. DBA Berk-Tek, by the Intertek Inspector Mr. Ronald Williams on 10/14/2009, for Q409 Quarterly Follow-up Testing.

The testing was performed at Intertek located in Cortland, NY on 10/20/2009, to the TIA 568-C.2, ISO 11801 Category 6, and the Berk-Tek LanMark 1000 specification and did comply with the applicable requirements of the specification.

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 for test summary results

Sincerely,

Antoine Pelletier  
Engineer  
Global Cabling Products Testing  
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Email: antoine.pelletier@intertek.com

John Cash  
Technician  
Global Cabling Products Testing  
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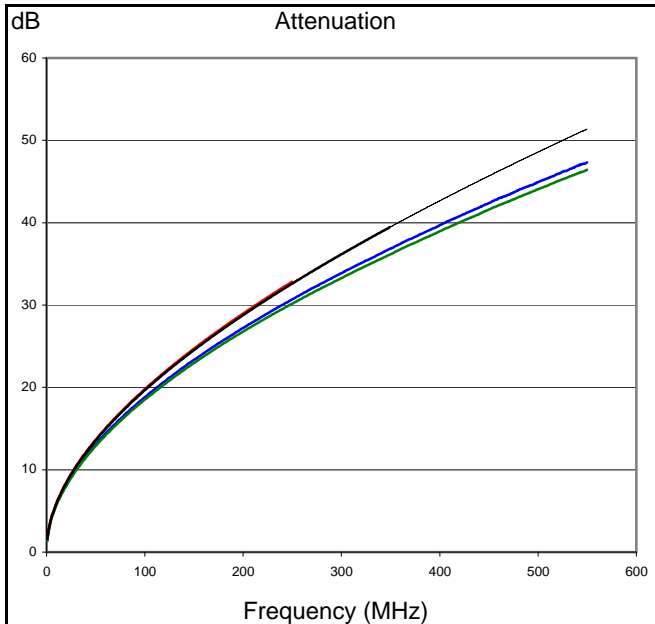
Appendix A

Test Results

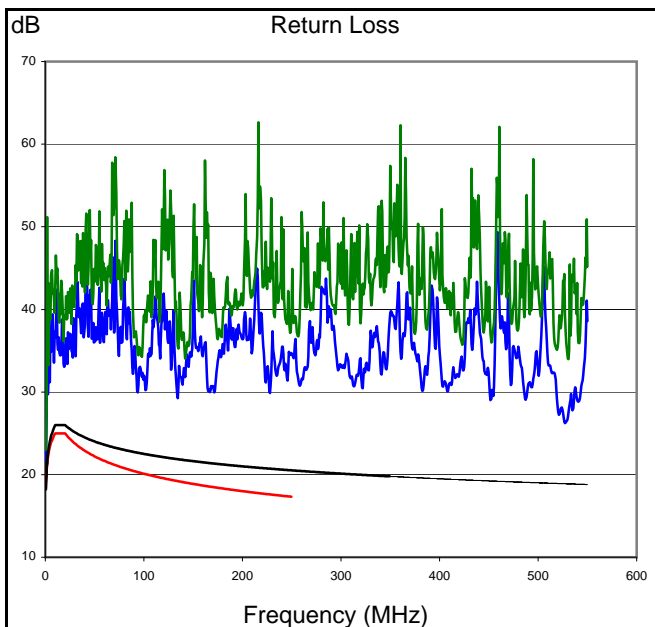
Summary

**Client** Nexans, INC, DBA Berk-Tek  
**Specifications** Berk-Tek LANmark-1000  
 TIA-568-C.2, Category 6  
 ISO/IEC 11801, Category 6  
**Part number** LanMark 1000 10032458  
**Description** **Berk-Tek LANmark-1000 CMR**  
 4X23 UTP-CMR-Solid

**Test Started** 10/20/2009 12:23  
**Technician** John Cash  
**Report No.** 3193544CRT-040e  
**Length (m)** 100  
**Temperature** 20 °C  
**Test Status** **PASS**



Attenuation					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	2.0	1.9	2.2	2.2	N/A
4	3.7	3.6	3.7	3.8	3.8
8	5.2	5.1	5.3	5.3	5.4
10	5.9	5.7	5.9	6.0	6.0
16	7.4	7.2	7.6	7.6	7.7
20	8.1	8.0	8.4	8.4	8.5
25	9.2	9.1	9.5	9.5	9.6
31.25	10.3	10.1	10.6	10.7	10.8
62.5	14.6	14.4	15.2	15.3	15.4
100	18.8	18.5	19.7	19.8	19.9
250	30.7	30.2	32.6	32.8	33.0
350	36.8	36.2	39.5		
550	47.3	46.4			
Limit Margin (dB) :			0.03	0.05	0.10
Frequency (MHz) :			3.93	3.93	4.62



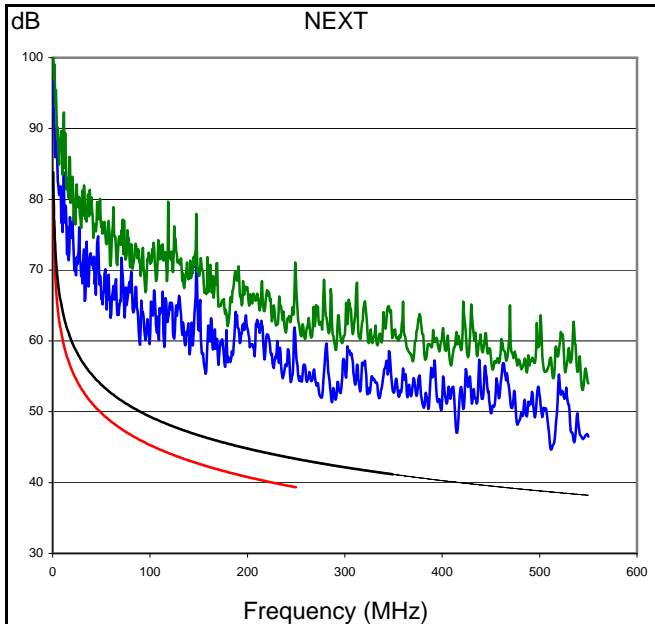
Return Loss					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	27.2	28.2	20.4	20.4	N/A
4	40.2	43.1	23.6	23.0	23.0
8	36.4	42.4	25.4	24.5	24.5
10	37.3	42.4	26.0	25.0	25.0
16	34.6	43.5	26.0	25.0	25.0
20	33.3	39.3	26.0	25.0	25.0
25	37.1	42.6	25.5	24.3	24.3
31.25	39.4	43.4	25.0	23.6	23.6
62.5	38.3	42.8	23.6	21.6	21.6
100	32.0	39.2	22.5	20.1	20.1
250	34.7	39.2	20.5	17.3	17.3
350	38.6	48.9	19.8		
550	38.6	45.2			
Limit Margin (dB) :			6.72	6.80	7.88
Frequency (MHz) :			1.19	1.19	4.62

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

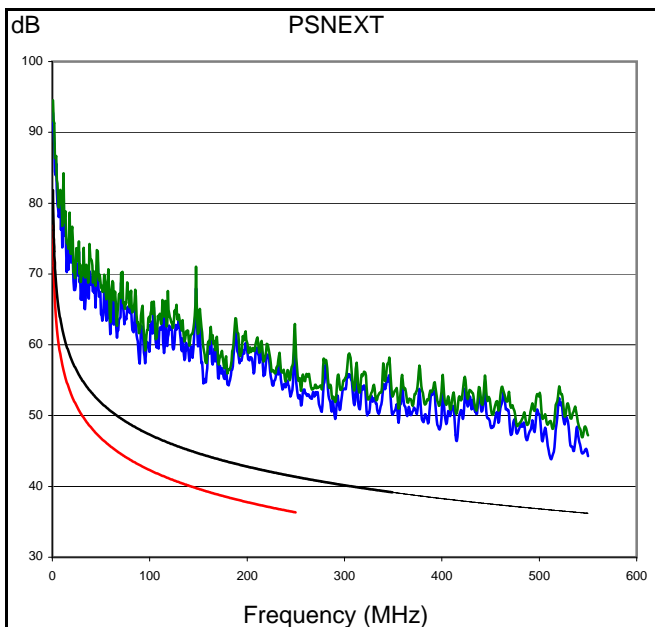
Summary

**Client** Nexans, INC, DBA Berk-Tek  
**Specifications** Berk-Tek LANmark-1000  
 TIA-568-C.2, Category 6  
 ISO/IEC 11801, Category 6  
**Part number** LanMark 1000 10032458  
**Description** **Berk-Tek LANmark-1000 CMR**  
 4X23 UTP-CMR-Solid

**Test Started** 10/20/2009 12:23  
**Technician** John Cash  
**Report No.** 3193544CRT-040e  
**Length (m)** 100  
**Temperature** 20 °C  
**Test Status** **PASS**



NEXT					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	93.0	97.4	78.2	73.2	N/A
4	89.4	92.2	70.4	65.4	66.4
8	81.8	88.5	65.7	60.7	61.7
10	75.4	83.5	64.2	59.2	60.2
16	71.4	80.2	61.1	56.1	57.1
20	76.4	82.6	59.9	54.9	55.9
25	70.8	79.8	58.3	53.3	54.3
31.25	71.7	77.7	56.9	51.8	52.8
62.5	67.0	76.3	52.5	47.5	48.5
100	61.2	70.9	49.3	44.3	45.3
250	58.7	69.1	43.3	38.3	39.3
350	52.9	60.5	41.2		
550	46.5	54.0			
Limit Margin (dB) :			8.90	14.00	13.00
Frequency (MHz) :			286.93	157.11	157.11



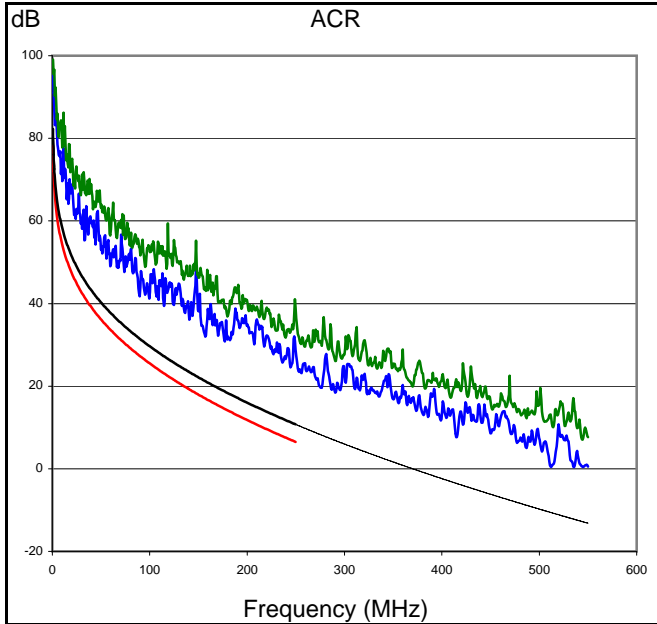
PSNEXT					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	90.2	91.7	76.2	71.2	N/A
4	85.6	86.7	68.4	63.4	63.4
8	79.9	81.9	63.7	58.7	58.7
10	73.8	76.8	62.2	57.2	57.2
16	70.6	73.6	59.1	54.1	54.1
20	74.5	76.0	57.9	52.9	52.9
25	70.0	73.1	56.3	51.3	51.3
31.25	69.1	70.4	54.9	49.8	49.8
62.5	66.4	69.0	50.5	45.5	45.5
100	60.2	63.2	47.3	42.3	42.3
250	56.7	60.6	41.3	36.3	36.3
350	50.1	52.7	39.2		
550	44.3	47.2			
Limit Margin (dB) :			9.17	14.33	14.33
Frequency (MHz) :			290.36	89.79	89.79

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

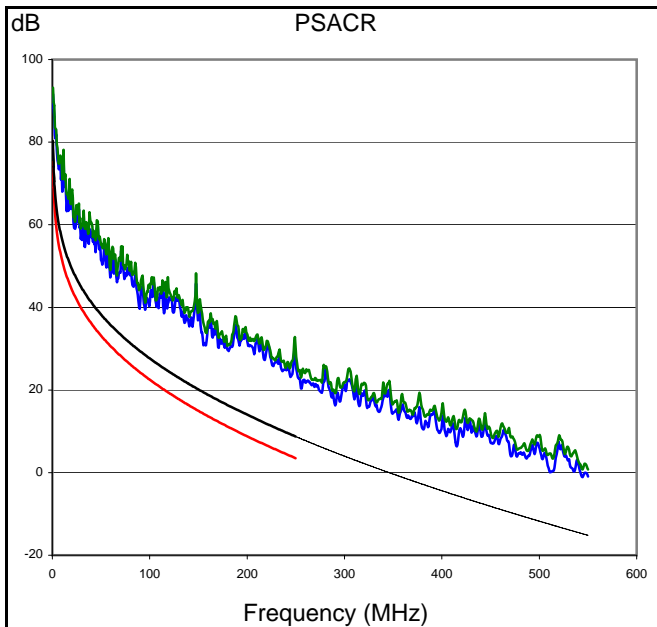
Summary

**Client** Nexans, INC, DBA Berk-Tek  
**Specifications** Berk-Tek LANmark-1000  
 TIA-568-C.2, Category 6  
 ISO/IEC 11801, Category 6  
**Part number** LanMark 1000 10032458  
**Description** **Berk-Tek LANmark-1000 CMR**  
 4X23 UTP-CMR-Solid

**Test Started** 10/20/2009 12:23  
**Technician** John Cash  
**Report No.** 3193544CRT-040e  
**Length (m)** 100  
**Temperature** 20 °C  
**Test Status** **PASS**



ACR					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	91.0	95.5	76.0	71.0	N/A
4	85.9	88.6	66.7	61.6	62.6
8	76.8	83.4	60.4	55.4	56.3
10	69.6	77.7	58.3	53.2	54.2
16	64.1	73.0	53.6	48.5	49.4
20	68.4	74.6	51.5	46.5	47.4
25	61.7	70.8	48.8	43.7	44.7
31.25	61.6	67.6	46.2	41.1	42.1
62.5	52.4	61.9	37.3	32.2	33.1
100	42.8	52.4	29.6	24.5	25.4
250	28.8	39.0	10.7	5.5	6.3
350	17.0	24.4			
550	0.6	7.7			
Limit Margin (dB) :			9.63	14.71	13.78
Frequency (MHz) :			32.78	32.78	32.78



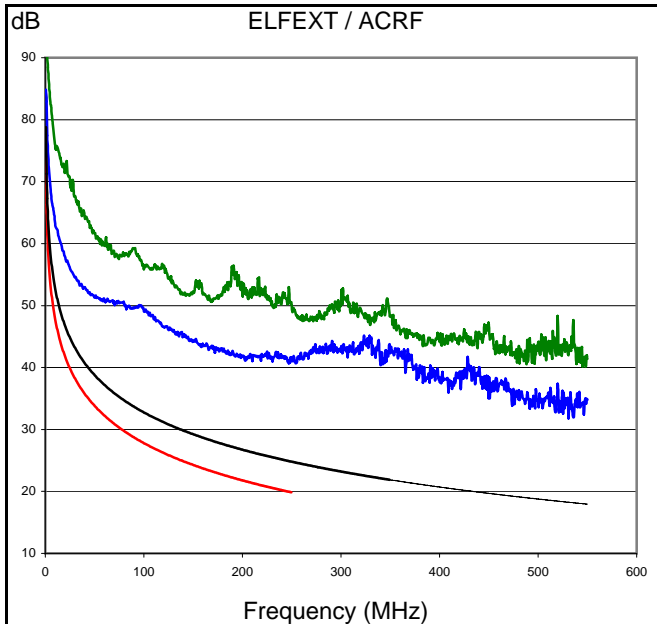
PSACR					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	88.2	89.7	74.0	69.0	N/A
4	81.9	83.1	64.7	59.6	59.6
8	74.9	76.8	58.4	53.4	53.3
10	68.0	71.0	56.3	51.2	51.2
16	63.3	66.3	51.6	46.5	46.4
20	66.5	68.0	49.5	44.5	44.4
25	61.0	64.0	46.8	41.7	41.7
31.25	59.0	60.3	44.2	39.1	39.1
62.5	51.9	54.7	35.3	30.2	30.1
100	41.5	44.7	27.6	22.5	22.4
250	27.3	30.4	8.7	3.5	3.3
350	14.2	16.5			
550	-0.9	0.8			
Limit Margin (dB) :			10.15	15.29	15.40
Frequency (MHz) :			89.79	89.79	89.79

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

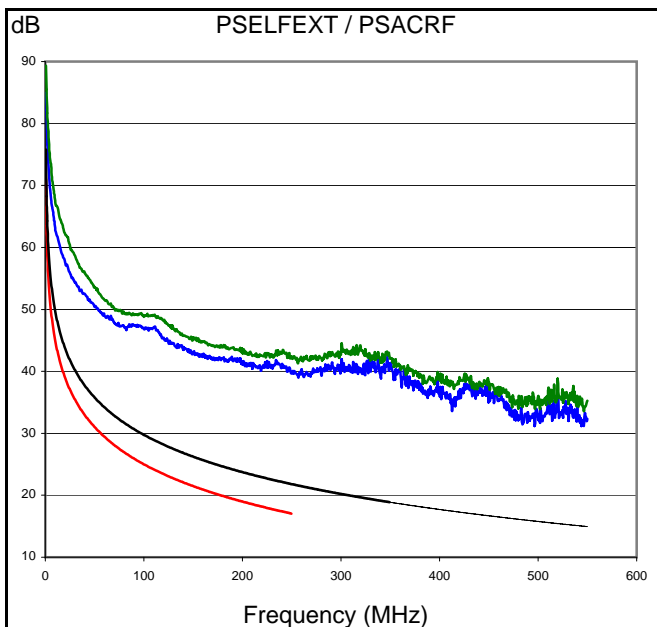
Summary

**Client** Nexans, INC, DBA Berk-Tek  
**Specifications** Berk-Tek LANmark-1000  
 TIA-568-C.2, Category 6  
 ISO/IEC 11801, Category 6  
**Part number** LanMark 1000 10032458  
**Description** **Berk-Tek LANmark-1000 CMR**  
 4X23 UTP-CMR-Solid

**Test Started** 10/20/2009 12:23  
**Technician** John Cash  
**Report No.** 3193544CRT-040e  
**Length (m)** 100  
**Temperature** 20 °C  
**Test Status** **PASS**



ELFEXT / ACRF					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	82.9	93.5	71.3	66.3	N/A
4	71.6	85.3	60.9	55.9	50.1
8	65.6	78.5	54.6	49.7	43.9
10	63.0	75.6	52.7	47.7	41.9
16	59.9	72.8	48.5	43.6	37.8
20	58.0	71.4	46.8	41.9	36.1
25	55.9	69.1	44.7	39.8	34.0
31.25	54.3	66.7	42.8	37.9	32.1
62.5	50.7	61.0	37.0	32.0	26.2
100	49.1	55.9	32.7	27.8	22.0
250	41.1	50.6	24.8	19.8	14.0
350	43.8	48.3	21.9		
550	34.8	41.4			
Limit Margin (dB) :			10.18	15.13	21.04
Frequency (MHz) :			1.87	1.87	6.68



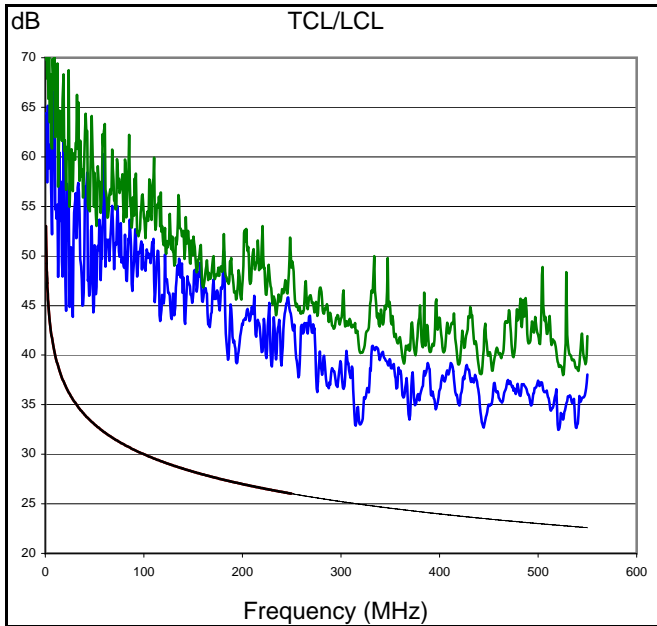
PSELFEXT / PSACRF					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	82.1	85.5	68.3	63.3	N/A
4	71.5	76.1	57.9	52.9	53.1
8	65.5	69.7	51.6	46.7	46.9
10	62.9	67.3	49.7	44.7	44.9
16	59.2	64.0	45.5	40.6	40.8
20	57.8	62.3	43.8	38.9	39.1
25	55.7	59.9	41.7	36.8	37.0
31.25	54.1	58.0	39.8	34.9	35.1
62.5	48.6	51.5	34.0	29.0	29.2
100	47.0	48.8	29.7	24.8	25.0
250	39.7	42.4	21.8	16.8	17.0
350	41.3	42.1	18.9		
550	32.3	35.3			
Limit Margin (dB) :			13.10	18.05	17.97
Frequency (MHz) :			1.87	1.87	10.12

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

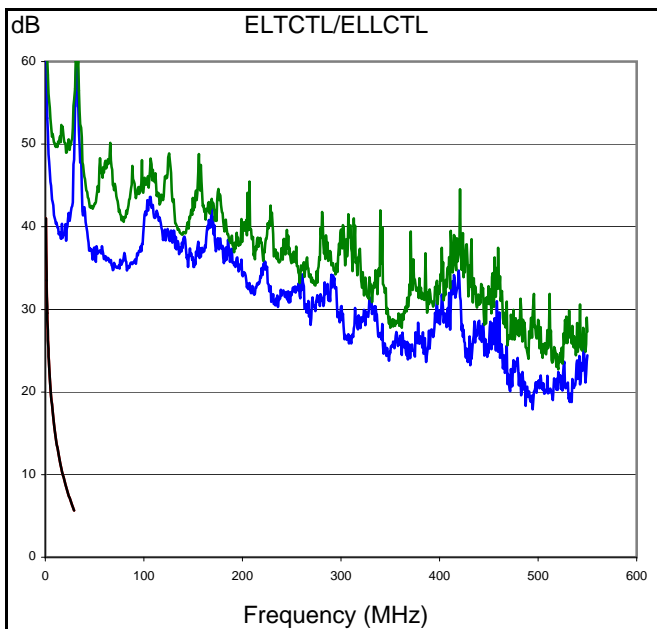
Summary

**Client** Nexans, INC, DBA Berk-Tek  
**Specifications** Berk-Tek LANmark-1000  
 TIA-568-C.2, Category 6  
 ISO/IEC 11801, Category 6  
**Part number** LanMark 1000 10032458  
**Description** **Berk-Tek LANmark-1000 CMR**  
 4X23 UTP-CMR-Solid

**Test Started** 10/20/2009 12:23  
**Technician** John Cash  
**Report No.** 3193544CRT-040e  
**Length (m)** 100  
**Temperature** 20 °C  
**Test Status** **PASS**



TCL/LCL					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	64.4	72.1	49.3	40.0	49.3
4	59.0	71.9	44.1	40.0	44.1
8	59.6	68.3	40.9	40.0	40.9
10	54.7	62.0	39.9	39.9	39.9
16	57.5	63.4	37.9	37.9	37.9
20	51.1	61.7	37.0	37.0	37.0
25	48.5	57.7	36.0	36.0	36.0
31.25	51.8	61.4	35.0	35.0	35.0
62.5	50.4	56.3	32.1	32.1	32.1
100	49.3	53.9	30.0	30.0	30.0
250	43.8	48.8	26.0	26.0	26.0
350	39.6	45.4			
550	38.1	41.9			
Limit Margin (dB) :			7.71	7.71	7.71
Frequency (MHz) :			21.11	21.11	21.11



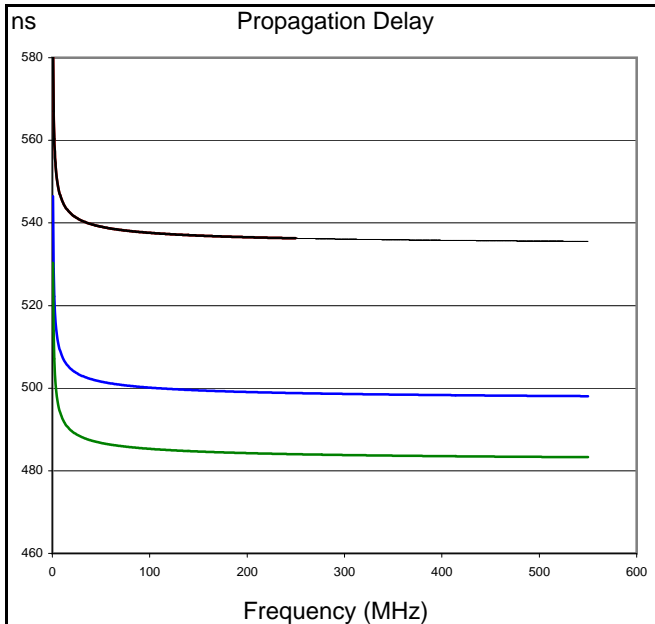
ELTCTL/ELLCTL					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	60.0	66.1	33.5	33.5	33.5
4	47.9	55.2	23.1	23.1	23.1
8	42.6	50.7	16.9	16.9	16.9
10	40.8	49.8	14.9	14.9	14.9
16	38.6	52.3	10.8	10.8	10.8
20	39.2	50.1	9.1	9.1	9.1
25	41.2	50.0	7.0	7.0	7.0
31.25	60.3	63.4			
62.5	35.9	47.1			
100	40.2	44.9			
250	31.7	35.6			
350	24.9	29.1			
550	24.4	27.3			
Limit Margin (dB) :			23.60	23.60	23.60
Frequency (MHz) :			1.87	1.87	1.87

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

### Summary

**Client** Nexans, INC, DBA Berk-Tek  
**Specifications** Berk-Tek LANmark-1000  
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 ISO/IEC 11801, Category 6  
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**Length (m)** 100  
**Temperature** 20 °C  
**Test Status** **PASS**



Propagation Delay					
Freq. MHz	Worst Case	Average	LANmark Spec	TIA Spec	ISO/IEC Spec
1	528.9	513.8	567.0	567.0	N/A
4	514.3	499.3	552.1	552.1	552.1
8	509.0	494.0	546.7	546.7	546.7
10	507.6	492.7	545.3	545.3	545.3
16	505.3	490.4	542.9	542.9	542.9
20	504.5	489.6	542.1	542.1	542.1
25	503.6	488.7	541.2	541.2	541.2
31.25	502.9	488.0	540.4	540.4	540.4
62.5	501.1	486.3	538.6	538.6	538.6
100	500.1	485.3	537.6	537.6	537.6
250	498.8	484.0	536.3	536.3	536.3
350	498.5	483.7			
550	498.1	483.3			
Limit Margin (dB) :			37.46	37.46	37.46
Frequency (MHz) :			132.38	132.38	132.38

Delay Skew				
Freq. MHz	Worst case	LANmark Spec	TIA Spec	ISO/IEC Spec
1-250	27.82	35	45	45

Low frequency measurements								
Parameter	Worst Case	Average	LANmark		TIA		ISO/IEC	
			Spec	Margin	Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.79	4.65	5.60	0.81	5.60	0.81	N/A	N/A
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	20.50	10.57	160.00	139.50	330.00	309.50	160.00	139.50
Conductor DC resistance (Ω)	7.49	7.40	9.38	1.89	9.38	1.89	9.50	2.01
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.69%	0.26%	1.50%	0.81%	2.50%	1.81%	2.00%	1.31%
DC Resistance Unbalance between pairs (%)	1.01%	0.51%	4.00%	2.99%	N/A	N/A	4.00%	2.99%

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