

Project Number: G104239938

Date Issued: 11/27/2024

ETL Verified Certificate of Conformance number: 104212898CRT-002

Test Report Number: 104239938CRT-025c



Applicant:

Berk-Tek LLC
132 White Oak Rd
New Holland, PA 17557

Manufacturer:

Berk-Tek LLC
132 White Oak Rd
New Holland, PA 17557

Applicant Contact: Mr. Michael Boland

Mfg. Contact: Mr. Michael Boland

Dear Mr. Boland

Intertek is pleased to provide this letter report covering the testing of your 4-pair, 23 AWG, U/UTP, CMR, horizontal (solid) cable covered by ETL Verified certificate of conformance number 104212898CRT-002. The sample was randomly selected by an Intertek inspector from your manufacturing facility, Berk-Tek LLC, on 10/23/2024 for Quarter 4 2024 follow-up testing.

The testing was performed at Intertek located in Cortland, NY from 11/5/2024 through 11/5/2024, to the ANSI/TIA-568.2-D and LM-SST standard(s) for category 6A and passed the applicable requirements.

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.

Sincerely,

A handwritten signature in black ink that reads "Antoine Pelletier".

Antoine Pelletier
Project Engineer
Global Cabling Products Testing
e-mail: antoine.pelletier@intertek.com
Phone: (607) 758-6718

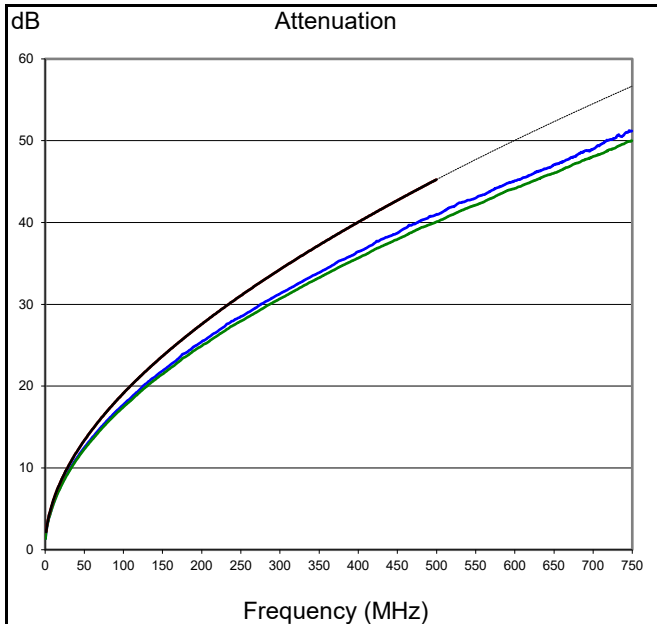
A handwritten signature in black ink that reads "Craig L. Williams".

Craig L. Williams
Technician
Global Cabling Products Testing
Phone: (607) 758-6321

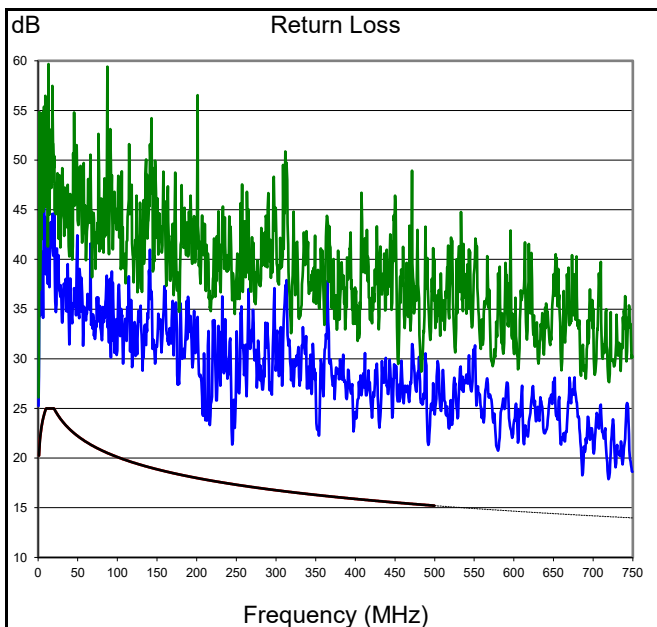
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-SST
 ANSI/TIA-568.2-D, Category 6A
Part Number LM-SST CMR UTP
Description **Berk-Tek LM-SST CMR**
 4X23 U/UTP-CMR-Solid

Test Started 11/5/2024 10:56
Technician Craig Williams
Report No. 104239938CRT-025c
Length (m) 100
Temperature 22.1 °C
Test Status **PASS**



Attenuation				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	2.0	2.0	2.1	2.1
4	3.7	3.6	3.8	3.8
8	4.9	4.9	5.3	5.3
10	5.5	5.4	5.9	5.9
16	7.0	6.9	7.5	7.5
20	7.8	7.7	8.4	8.4
25	8.8	8.6	9.4	9.4
31.25	9.2	9.0	10.5	10.5
62.5	13.9	13.7	15.0	15.0
100	17.7	17.4	19.1	19.1
250	28.5	27.9	31.1	31.1
500	41.0	40.1	45.3	45.3
600	45.1	44.2		
750	51.2	50.0		
Limit Margin (dB) :			0.19	0.19
Frequency (MHz) :			1.12	1.12

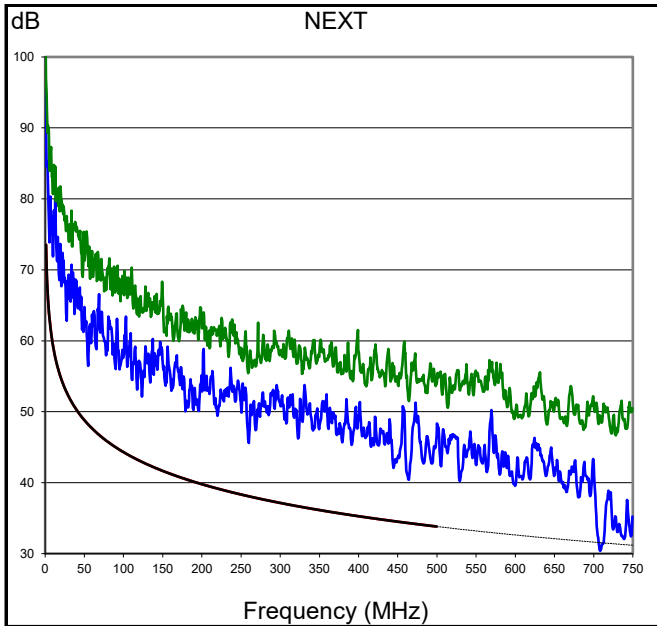


Return Loss				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	28.2	30.4	20.0	20.0
4	37.9	42.0	23.0	23.0
8	42.2	48.3	24.5	24.5
10	38.5	46.1	25.0	25.0
16	43.8	48.8	25.0	25.0
20	40.4	49.2	25.0	25.0
25	38.2	47.1	24.3	24.3
31.25	36.8	47.3	23.6	23.6
62.5	36.5	43.5	21.5	21.5
100	30.8	45.1	20.1	20.1
250	27.8	37.5	17.3	17.3
500	24.5	40.0	15.2	15.2
600	23.8	30.5		
750	18.6	30.1		
Limit Margin (dB) :			3.97	3.97
Frequency (MHz) :			244.75	244.75

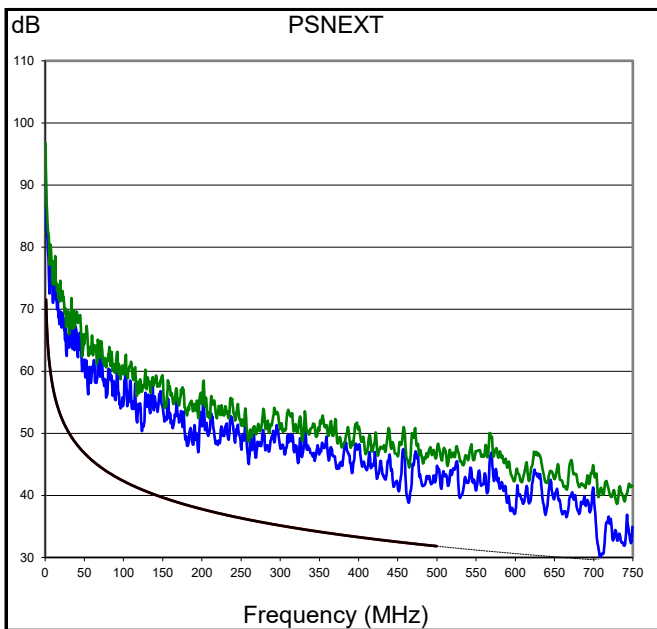
Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification

Summary

Client	Berk-Tek LLC	Test Started	11/5/2024 10:56
Specifications	Berk-Tek LM-SST ANSI/TIA-568.2-D, Category 6A	Technician	Craig Williams
Part Number	LM-SST CMR UTP	Report No.	104239938CRT-025c
Description	Berk-Tek LM-SST CMR 4X23 U/UTP-CMR-Solid	Length (m)	100
		Temperature	22.1 °C
		Test Status	PASS



NEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	91.2	97.0	74.3	74.3
4	78.9	89.9	65.3	65.3
8	76.7	85.0	60.8	60.8
10	71.9	80.7	59.3	59.3
16	74.6	80.6	56.2	56.2
20	70.7	81.3	54.8	54.8
25	68.9	76.9	53.3	53.3
31.25	62.8	77.6	51.9	51.9
62.5	64.2	71.0	47.4	47.4
100	57.7	66.8	44.3	44.3
250	51.4	58.0	38.3	38.3
500	46.7	53.9	33.8	33.8
600	39.7	49.9		
750	35.2	50.5		
Limit Margin (dB) :			6.10	6.10
Frequency (MHz) :			464.02	464.02



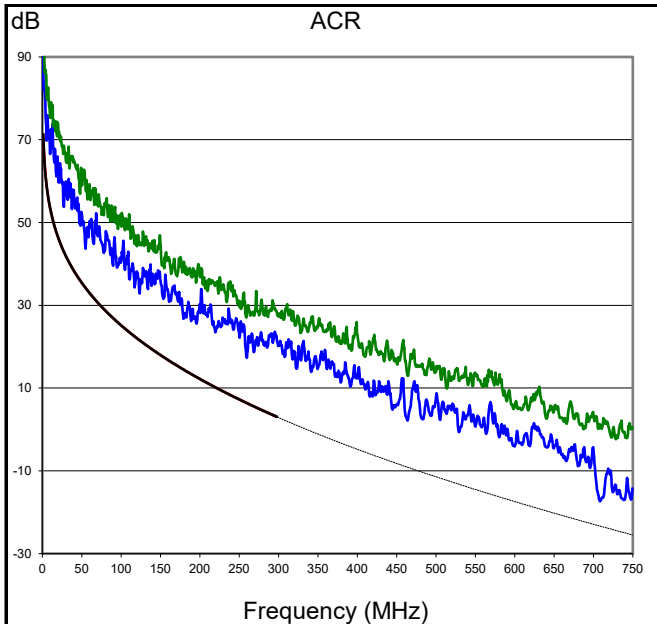
PSNEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	88.7	91.3	72.3	72.3
4	78.2	82.1	63.3	63.3
8	73.8	78.2	58.8	58.8
10	71.0	73.9	57.3	57.3
16	71.4	73.9	54.2	54.2
20	68.5	73.2	52.8	52.8
25	66.7	69.4	51.3	51.3
31.25	62.5	68.0	49.9	49.9
62.5	61.8	64.2	45.4	45.4
100	54.6	59.6	42.3	42.3
250	47.9	51.5	36.3	36.3
500	43.7	46.5	31.8	31.8
600	37.4	43.1		
750	34.9	41.5		
Limit Margin (dB) :			6.49	6.49
Frequency (MHz) :			464.02	464.02

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification

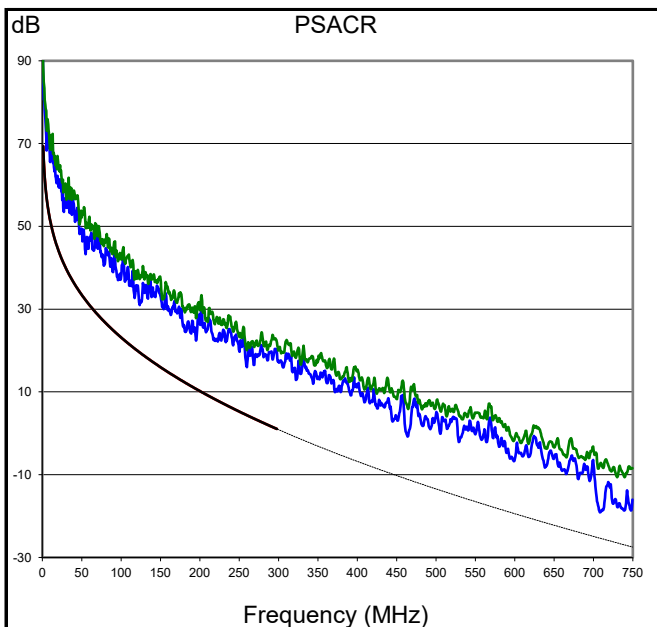
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-SST
 ANSI/TIA-568.2-D, Category 6A
Part Number LM-SST CMR UTP
Description Berk-Tek LM-SST CMR
 4X23 U/UTP-CMR-Solid

Test Started 11/5/2024 10:56
Technician Craig Williams
Report No. 104239938CRT-025c
Length (m) 100
Temperature 22.1 °C
Test Status **PASS**



ACR				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	89.3	95.0	72.2	72.2
4	75.2	86.3	61.5	61.5
8	71.8	80.1	55.4	55.4
10	66.5	75.3	53.4	53.4
16	67.8	73.7	48.8	48.8
20	62.9	73.6	46.4	46.4
25	60.1	68.3	44.0	44.0
31.25	53.8	68.5	41.4	41.4
62.5	50.8	57.3	32.4	32.4
100	40.4	49.4	25.2	25.2
250	23.7	30.1	7.3	7.3
500	7.1	13.8		
600	-4.1	5.9		
750	-14.2	0.6		
Limit Margin (dB) :			9.45	9.45
Frequency (MHz) :			54.85	54.85



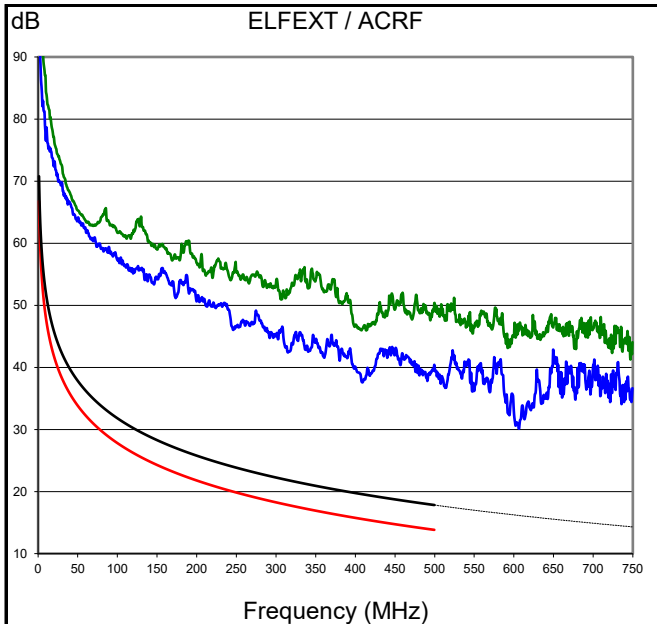
PSACR				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	86.8	89.3	70.2	70.2
4	74.7	78.5	59.5	59.5
8	69.1	73.3	53.4	53.4
10	65.5	68.5	51.4	51.4
16	64.5	67.0	46.8	46.8
20	60.7	65.5	44.4	44.4
25	58.3	60.8	42.0	42.0
31.25	53.5	59.0	39.4	39.4
62.5	48.5	50.5	30.4	30.4
100	37.3	42.1	23.2	23.2
250	20.2	23.5	5.3	5.3
500	4.1	6.4		
600	-6.3	-1.1		
750	-16.1	-8.4		
Limit Margin (dB) :			11.06	11.06
Frequency (MHz) :			54.85	54.85

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification

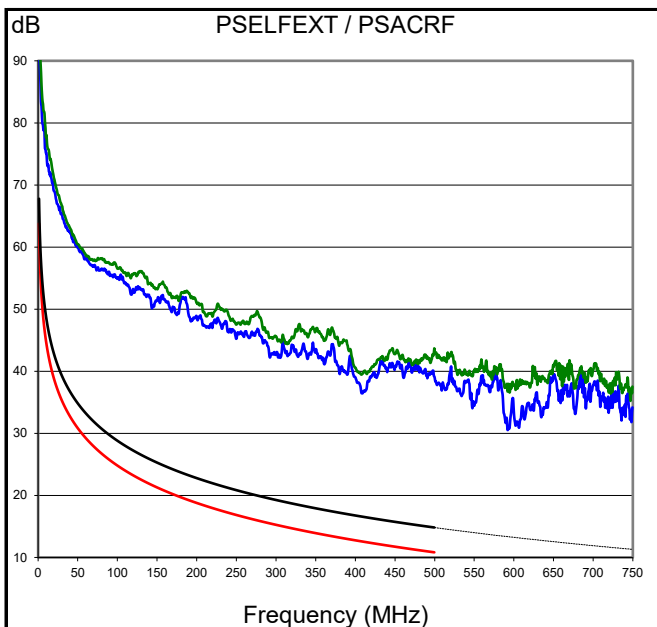
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-SST
 ANSI/TIA-568.2-D, Category 6A
Part Number LM-SST CMR UTP
Description Berk-Tek LM-SST CMR
 4X23 U/UTP-CMR-Solid

Test Started 11/5/2024 10:56
Technician Craig Williams
Report No. 104239938CRT-025c
Length (m) 100
Temperature 22.1 °C
Test Status **PASS**



ELFEXT / ACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	95.9	104.2	71.8	67.8
4	85.3	93.1	59.8	55.8
8	81.2	87.9	53.7	49.7
10	76.5	84.4	51.8	47.8
16	74.9	79.8	47.7	43.7
20	72.4	77.1	45.8	41.8
25	70.5	74.3	43.8	39.8
31.25	69.8	73.4	41.9	37.9
62.5	62.0	63.4	35.9	31.9
100	57.3	61.7	31.8	27.8
250	46.5	55.3	23.8	19.8
500	40.4	50.4	17.8	13.8
600	32.5	45.1		
750	36.6	44.1		
Limit Margin (dB) :		18.02	22.02	
Frequency (MHz) :		409.05	409.05	

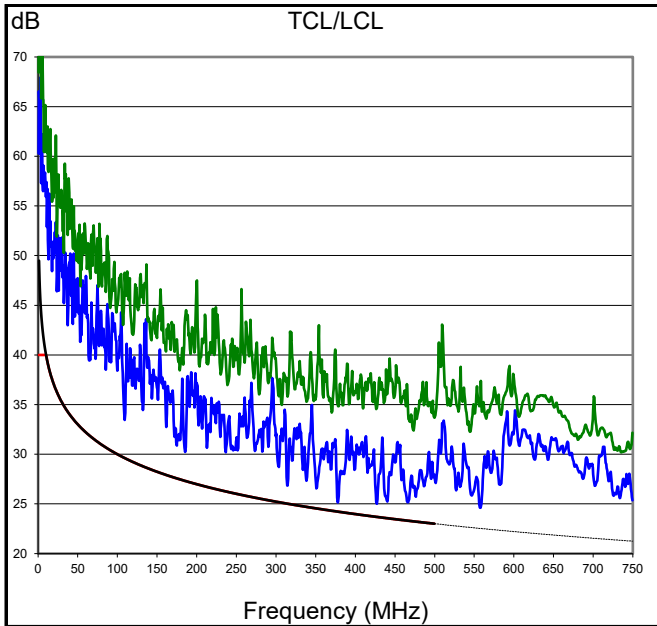


PSELFEXT / PSACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	93.0	96.6	68.8	64.8
4	82.7	86.1	56.8	52.8
8	78.5	81.5	50.7	46.7
10	75.1	77.7	48.8	44.8
16	71.3	73.9	44.7	40.7
20	69.0	71.1	42.8	38.8
25	66.8	68.5	40.8	36.8
31.25	66.4	67.6	38.9	34.9
62.5	57.8	58.5	32.9	28.9
100	54.9	56.6	28.8	24.8
250	45.2	47.5	20.8	16.8
500	39.2	43.7	14.8	10.8
600	32.9	37.6		
750	34.2	37.5		
Limit Margin (dB) :		19.86	23.86	
Frequency (MHz) :		408.42	408.42	

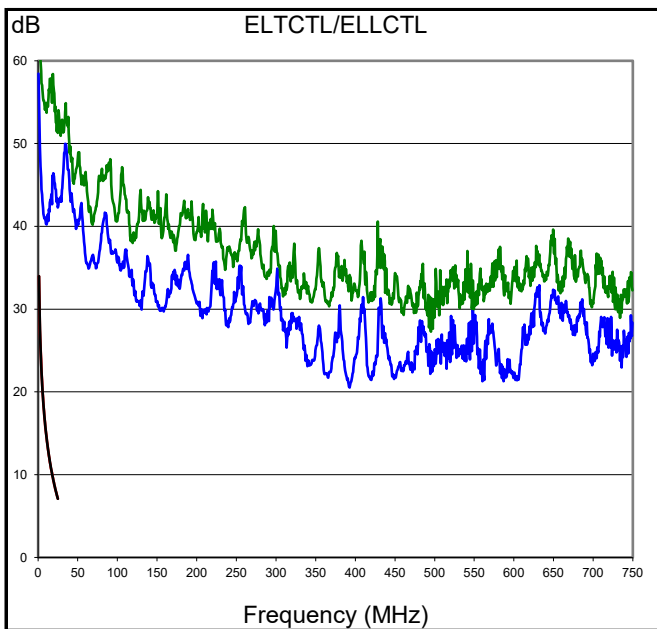
Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification

Summary

Client	Berk-Tek LLC	Test Started	11/5/2024 10:56
Specifications	Berk-Tek LM-SST ANSI/TIA-568.2-D, Category 6A	Technician	Craig Williams
Part Number	LM-SST CMR UTP	Report No.	104239938CRT-025c
Description	Berk-Tek LM-SST CMR 4X23 U/UTP-CMR-Solid	Length (m)	100
		Temperature	22.1 °C
		Test Status	PASS



TCL/LCL				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	66.5	75.8	50.0	40.0
4	61.8	66.2	44.0	40.0
8	57.9	64.4	41.0	40.0
10	55.9	61.7	40.0	40.0
16	50.9	59.7	38.0	38.0
20	51.4	59.7	37.0	37.0
25	52.0	55.0	36.0	36.0
31.25	51.8	56.1	35.1	35.1
62.5	44.1	49.5	32.0	32.0
100	38.4	45.3	30.0	30.0
250	31.3	39.5	26.0	26.0
500	28.0	33.7	23.0	23.0
600	32.6	37.4		
750	25.4	32.2		
Limit Margin (dB) :			0.92	0.92
Frequency (MHz) :			377.81	377.81



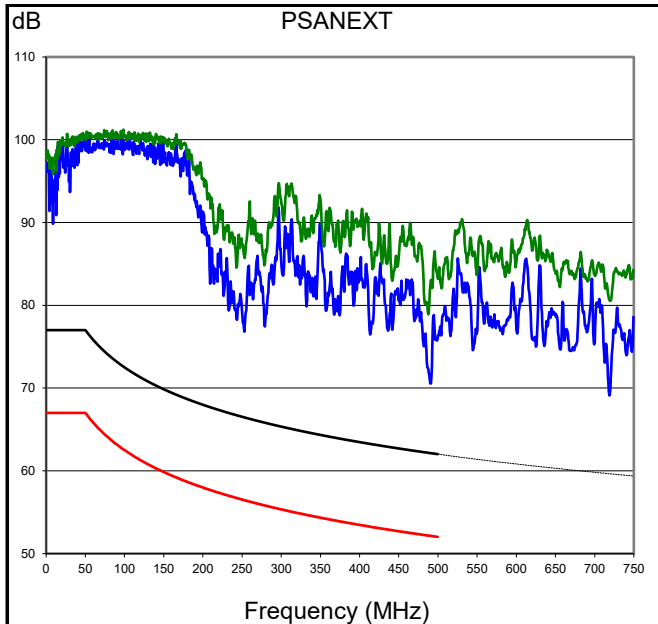
ELTCTL/ELLCTL				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	55.7	68.6	35.0	35.0
4	44.5	57.3	23.0	23.0
8	41.0	54.8	16.9	16.9
10	40.3	54.9	15.0	15.0
16	43.0	56.3	10.9	10.9
20	46.0	56.3	9.0	9.0
25	42.3	51.3	7.0	7.0
31.25	43.1	52.7		
62.5	35.4	43.6		
100	35.6	40.7		
250	31.4	36.7		
500	23.6	29.0		
600	22.2	33.6		
750	28.4	32.3		
Limit Margin (dB) :			21.64	21.64
Frequency (MHz) :			1.75	1.75

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification

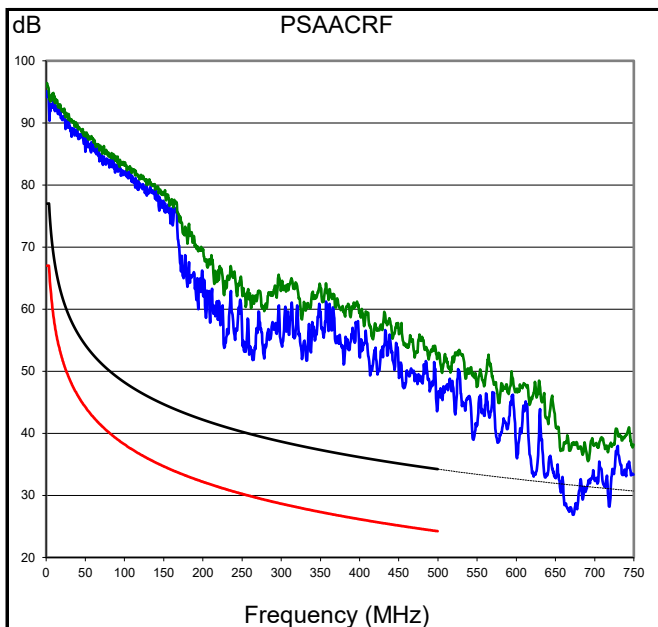
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-SST
 ANSI/TIA-568.2-D, Category 6A
Part Number LM-SST CMR UTP
Description **Berk-Tek LM-SST CMR**
 4X23 U/UTP-CMR-Solid

Test Started 11/5/2024 10:56
Technician Craig Williams
Report No. 104239938CRT-025c
Length (m) 100
Temperature 22.1 °C
Test Status **PASS**



PSANEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	97.0	98.0	77.0	67.0
4	91.4	96.5	77.0	67.0
8	95.2	97.8	77.0	67.0
10	93.2	97.7	77.0	67.0
16	95.5	98.1	77.0	67.0
20	98.4	99.4	77.0	67.0
25	97.1	99.1	77.0	67.0
31.25	97.9	99.8	77.0	67.0
62.5	98.7	100.3	75.6	65.6
100	99.6	100.7	72.5	62.5
250	79.6	87.5	66.5	56.5
500	76.0	83.5	62.0	52.0
600	77.1	85.2		
750	78.6	84.3		
Limit Margin (dB) :			8.40	18.40
Frequency (MHz) :			490.88	490.88

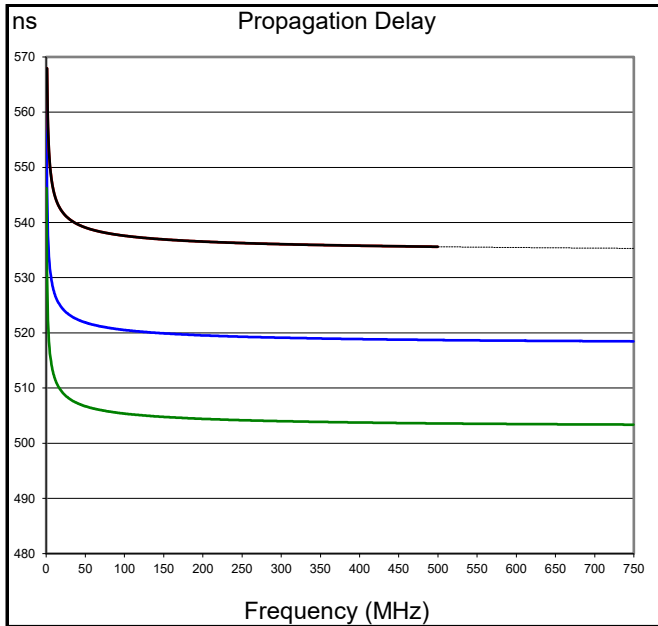


PSAACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	95.1	96.4	77.0	67.0
4	90.3	93.7	76.2	66.2
8	93.1	94.7	70.1	60.1
10	92.3	94.0	68.2	58.2
16	92.1	92.8	64.1	54.1
20	90.7	91.9	62.2	52.2
25	89.0	90.9	60.2	50.2
31.25	90.4	91.4	58.3	48.3
62.5	85.3	86.8	52.3	42.3
100	82.0	83.1	48.2	38.2
250	58.0	63.4	40.2	30.2
500	44.2	52.2	34.2	24.2
600	36.4	46.8		
750	33.3	38.2		
Limit Margin (dB) :			9.31	19.31
Frequency (MHz) :			499.00	499.00

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification

Summary

Client	Berk-Tek LLC	Test Started	11/5/2024 10:56
Specifications	Berk-Tek LM-SST ANSI/TIA-568.2-D, Category 6A	Technician	Craig Williams
Part Number	LM-SST CMR UTP	Report No.	104239938CRT-025c
Description	Berk-Tek LM-SST CMR 4X23 U/UTP-CMR-Solid	Length (m)	100
		Temperature	22.1 °C
		Test Status	PASS



Propagation Delay				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	546.9	531.4	570.0	570.0
4	532.6	517.3	552.0	552.0
8	528.6	513.3	546.7	546.7
10	527.5	512.3	545.4	545.4
16	525.4	510.1	543.0	543.0
20	524.6	509.4	542.0	542.0
25	523.8	508.6	541.2	541.2
31.25	523.5	508.3	540.4	540.4
62.5	521.4	506.2	538.6	538.6
100	520.5	505.4	537.6	537.6
250	519.3	504.2	536.3	536.3
500	518.7	503.6	535.6	535.6
600	518.6	503.5		
750	518.5	503.4		
Limit Margin (dB) :			16.90	16.90
Frequency (MHz) :			499.00	499.00

Delay Skew			
Freq. MHz	Worst case	LM-SST Spec	TIA Spec
1-500	26.53	45	45

Low frequency measurements						
Parameter	Worst Case	Average	LM-SST		TIA	
			Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.96	4.84	5.10	0.15	5.60	0.65
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	35.25	21.72	330.00	294.75	330.00	294.75
Conductor DC resistance (Ω)	7.34	7.23	9.38	2.04	9.38	2.04
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.29%	0.19%	2.00%	1.71%	2.00%	1.71%

Legend : Blue - Worst Case; Green - Average; Red - TIA Specification; Black - LM-SST Specification