

Project Number: G104239938

Date Issued: 8/19/2024

ETL Verified Certificate of Conformance number: 104054953CRT-002

Test Report Number: 104239938CRT-024f



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, CMP, horizontal (solid) cable covered by ETL Verified certificate of conformance number 104054953CRT-002. The sample was randomly selected by an Intertek inspector from your manufacturing facility, Berk-Tek LLC, on 7/23/2024 for Quarter 3 2024 follow-up testing.

The testing was performed at Intertek located in Cortland, NY from 8/9/2024 through 8/9/2024, 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

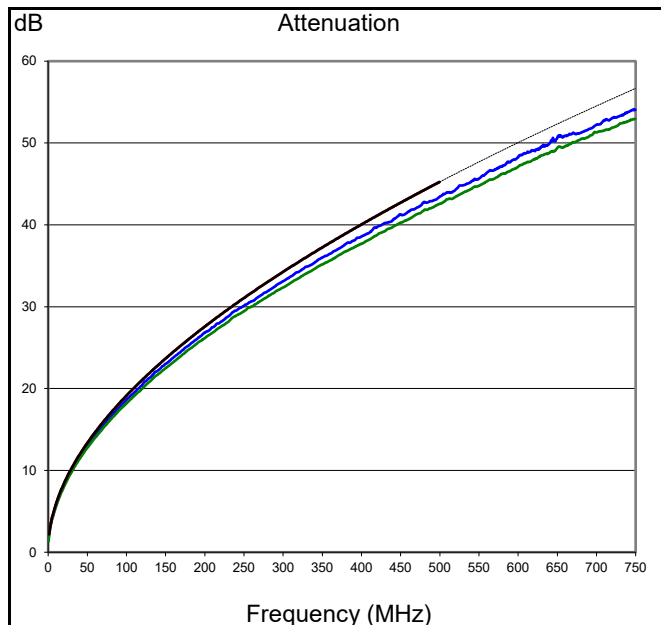
A handwritten signature in black ink that reads "David Ayers".

David Ayers
Technician
Global Cabling Products Testing
Phone: (607) 758-6321

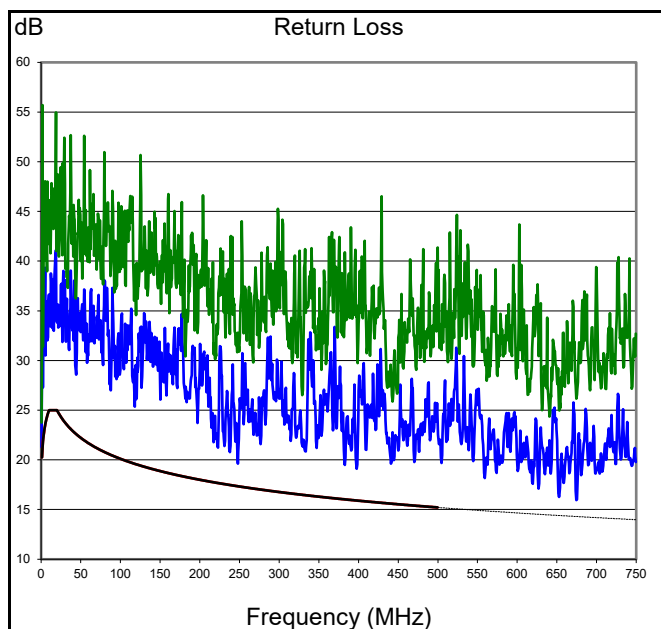
Summary

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

Test Started 8/9/2024 9:56
Technician David Ayers
Report No. 104239938CRT-024f
Length (m) 100
Temperature 21.9 °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	3.8	3.7	3.8	3.8
8	5.1	5.0	5.3	5.3
10	5.7	5.6	5.9	5.9
16	7.3	7.1	7.5	7.5
20	8.1	7.9	8.4	8.4
25	9.1	8.9	9.4	9.4
31.25	9.6	9.4	10.5	10.5
62.5	14.6	14.3	15.0	15.0
100	18.6	18.2	19.1	19.1
250	30.1	29.4	31.1	31.1
500	43.4	42.6	45.3	45.3
600	48.3	47.1		
750	54.1	52.9		
Limit Margin (dB) :			0.11	0.11
Frequency (MHz) :			2.37	2.37



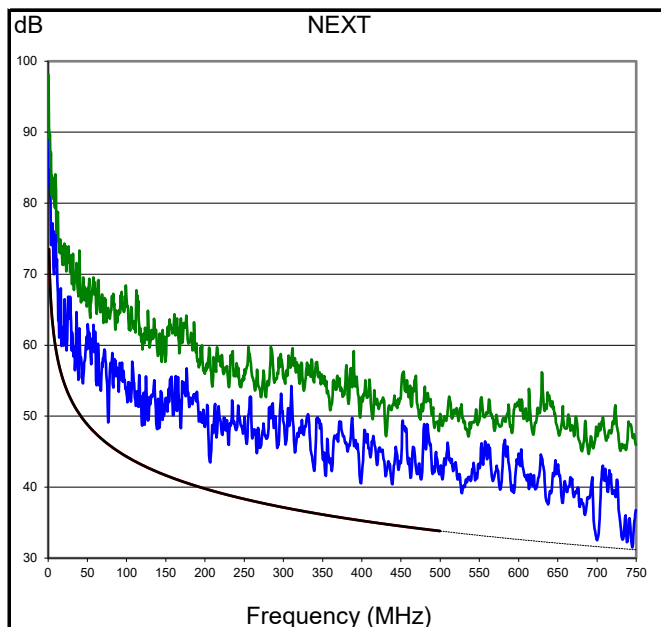
Return Loss				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	28.4	29.3	20.0	20.0
4	33.5	40.8	23.0	23.0
8	32.0	48.0	24.5	24.5
10	36.6	45.9	25.0	25.0
16	33.0	47.3	25.0	25.0
20	33.8	45.7	25.0	25.0
25	37.6	49.4	24.3	24.3
31.25	37.0	49.9	23.6	23.6
62.5	36.9	41.2	21.5	21.5
100	29.1	40.2	20.1	20.1
250	23.7	30.9	17.3	17.3
500	23.6	41.4	15.2	15.2
600	19.3	29.8		
750	19.8	32.7		
Limit Margin (dB) :			2.28	2.28
Frequency (MHz) :			247.88	247.88

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

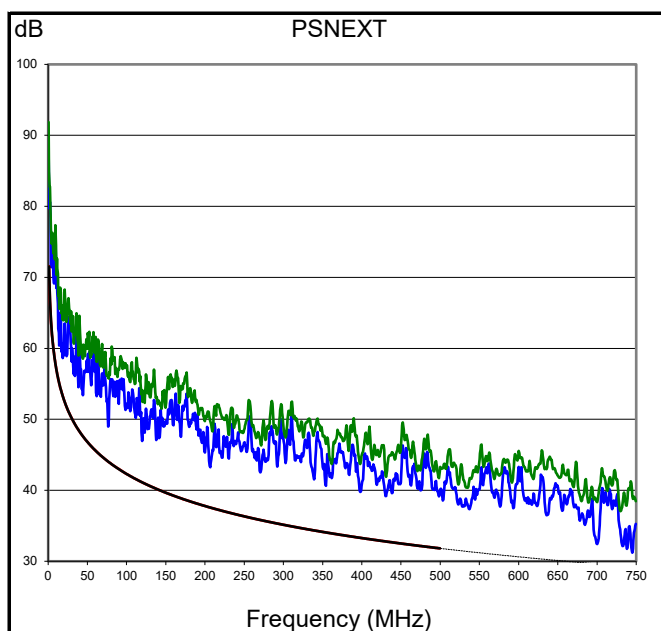
Summary

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

Test Started 8/9/2024 9:56
Technician David Ayers
Report No. 104239938CRT-024f
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



NEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	84.7	90.7	74.3	74.3
4	74.1	81.1	65.3	65.3
8	72.1	80.0	60.8	60.8
10	73.6	81.9	59.3	59.3
16	68.0	74.1	56.2	56.2
20	59.9	71.4	54.8	54.8
25	63.3	73.0	53.3	53.3
31.25	63.7	72.0	51.9	51.9
62.5	54.8	65.8	47.4	47.4
100	53.3	66.7	44.3	44.3
250	48.6	55.1	38.3	38.3
500	41.8	50.1	33.8	33.8
600	44.7	52.0		
750	36.7	45.9		
Limit Margin (dB) :			3.10	3.10
Frequency (MHz) :			76.71	76.71



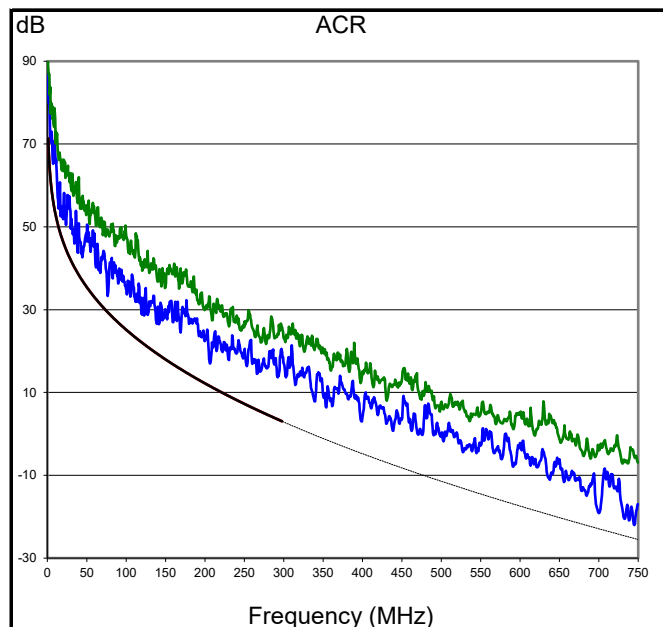
PSNEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	82.4	84.9	72.3	72.3
4	71.4	74.8	63.3	63.3
8	70.4	72.7	58.8	58.8
10	72.5	74.5	57.3	57.3
16	65.1	67.9	54.2	54.2
20	59.0	63.9	52.8	52.8
25	60.9	65.1	51.3	51.3
31.25	62.4	65.3	49.9	49.9
62.5	54.0	59.4	45.4	45.4
100	52.2	57.6	42.3	42.3
250	46.7	48.5	36.3	36.3
500	39.8	42.8	31.8	31.8
600	43.3	45.5		
750	35.2	38.5		
Limit Margin (dB) :			4.93	4.93
Frequency (MHz) :			76.71	76.71

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

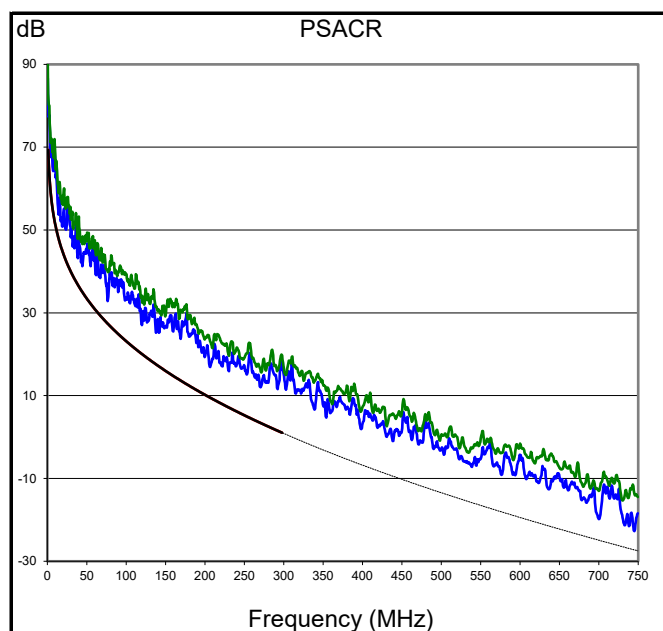
Summary

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

Test Started 8/9/2024 9:56
Technician David Ayers
Report No. 104239938CRT-024f
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



ACR				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	82.7	88.7	72.2	72.2
4	70.4	77.4	61.5	61.5
8	67.0	75.0	55.4	55.4
10	67.9	76.4	53.4	53.4
16	60.8	67.0	48.8	48.8
20	51.9	63.4	46.4	46.4
25	54.3	64.1	44.0	44.0
31.25	54.4	62.7	41.4	41.4
62.5	40.6	51.6	32.4	32.4
100	35.2	48.5	25.2	25.2
250	19.2	25.7	7.3	7.3
500	-0.8	7.6		
600	-2.2	5.1		
750	-17.0	-6.9		
Limit Margin (dB) :			3.91	3.91
Frequency (MHz) :			76.71	76.71



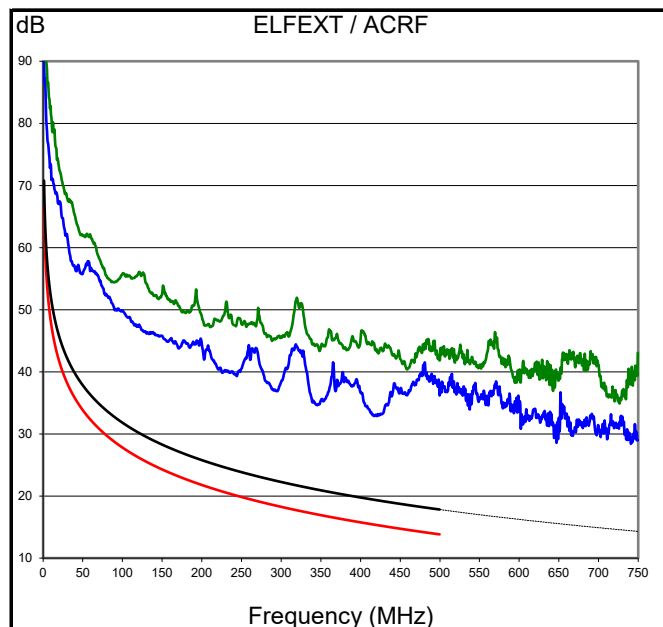
PSACR				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	80.4	82.9	70.2	70.2
4	67.7	71.1	59.5	59.5
8	65.3	67.7	53.4	53.4
10	66.8	68.9	51.4	51.4
16	57.8	60.8	46.8	46.8
20	50.9	56.0	44.4	44.4
25	51.8	56.1	42.0	42.0
31.25	52.9	55.9	39.4	39.4
62.5	39.8	45.1	30.4	30.4
100	33.7	39.4	23.2	23.2
250	17.4	19.0	5.3	5.3
500	-3.0	0.2		
600	-4.4	-1.6		
750	-18.4	-14.5		
Limit Margin (dB) :			5.50	5.50
Frequency (MHz) :			76.71	76.71

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

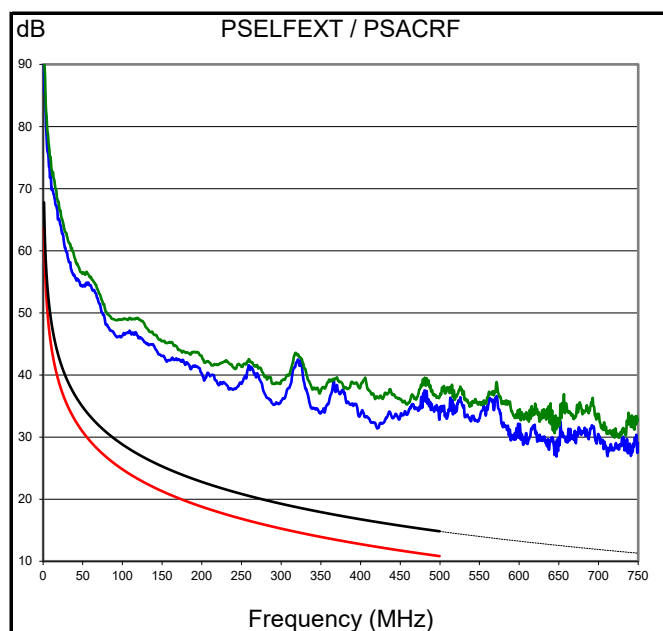
Summary

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

Test Started 8/9/2024 9:56
Technician David Ayers
Report No. 104239938CRT-024f
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



ELFEXT / ACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	92.5	98.3	71.8	67.8
4	79.8	89.6	59.8	55.8
8	74.4	83.9	53.7	49.7
10	73.1	81.4	51.8	47.8
16	68.7	76.1	47.7	43.7
20	67.0	73.0	45.8	41.8
25	64.7	70.0	43.8	39.8
31.25	62.7	68.6	41.9	37.9
62.5	56.3	61.0	35.9	31.9
100	49.9	55.7	31.8	27.8
250	40.5	47.8	23.8	19.8
500	36.2	41.8	17.8	13.8
600	34.8	40.3		
750	29.0	43.1		
Limit Margin (dB) :			13.49	17.49
Frequency (MHz) :			417.17	417.17



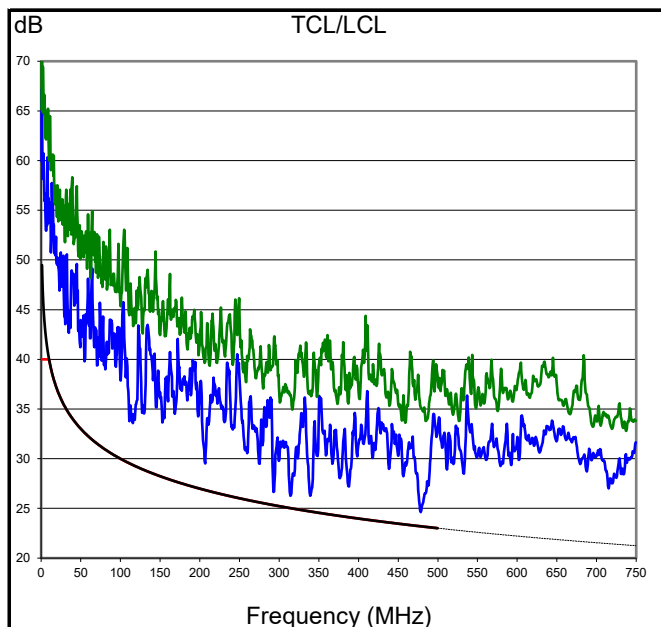
PSELFEXT / PSACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	90.0	92.0	68.8	64.8
4	78.7	81.8	56.8	52.8
8	73.4	76.0	50.7	46.7
10	71.7	74.2	48.8	44.8
16	67.3	69.9	44.7	40.7
20	65.1	67.4	42.8	38.8
25	62.7	64.6	40.8	36.8
31.25	60.4	63.1	38.9	34.9
62.5	53.6	55.3	32.9	28.9
100	46.3	48.9	28.8	24.8
250	38.6	41.3	20.8	16.8
500	32.8	36.5	14.8	10.8
600	31.8	34.1		
750	29.1	32.8		
Limit Margin (dB) :			15.07	19.07
Frequency (MHz) :			420.91	420.91

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

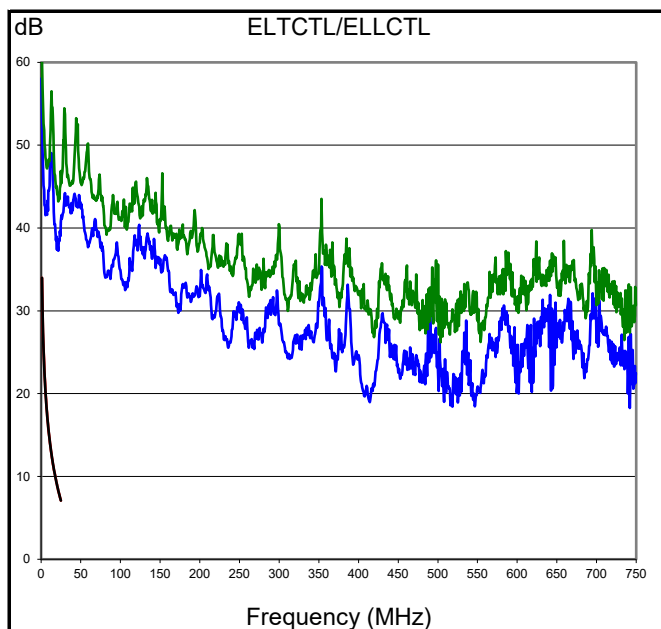
Summary

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

Test Started 8/9/2024 9:56
Technician David Ayers
Report No. 104239938CRT-024f
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



TCL/LCL				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	67.2	71.6	50.0	40.0
4	55.9	66.6	44.0	40.0
8	60.3	62.4	41.0	40.0
10	53.7	60.1	40.0	40.0
16	53.6	60.5	38.0	38.0
20	49.6	54.3	37.0	37.0
25	50.8	55.8	36.0	36.0
31.25	48.5	53.6	35.1	35.1
62.5	42.1	48.2	32.0	32.0
100	38.2	45.5	30.0	30.0
250	38.7	46.1	26.0	26.0
500	33.0	38.3	23.0	23.0
600	32.2	37.5		
750	31.7	33.8		
Limit Margin (dB) : 1.26 1.26				
Frequency (MHz) : 314.09 314.09				



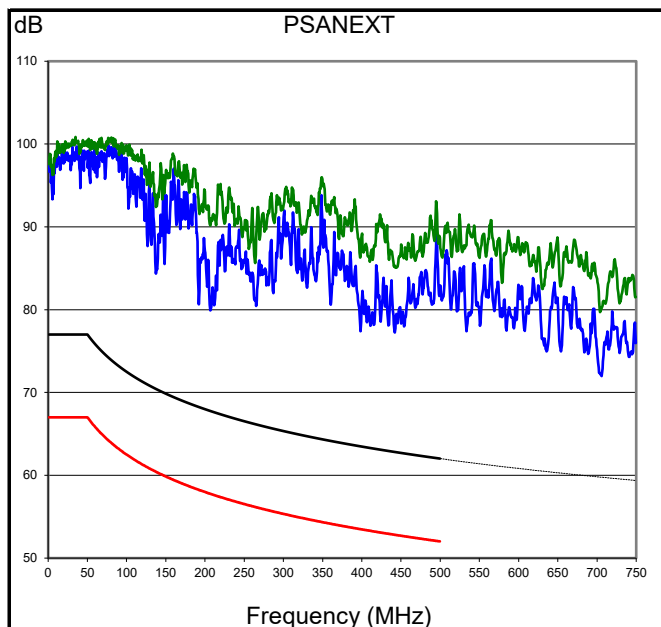
ELTCTL/ELLCTL				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	54.0	60.6	35.0	35.0
4	42.8	50.2	23.0	23.0
8	43.3	47.8	16.9	16.9
10	44.5	48.3	15.0	15.0
16	41.9	49.0	10.9	10.9
20	37.4	44.5	9.0	9.0
25	40.7	46.9	7.0	7.0
31.25	41.7	47.5		
62.5	38.7	45.9		
100	35.0	41.2		
250	30.8	39.0		
500	24.9	31.3		
600	21.0	31.0		
750	22.5	30.7		
Limit Margin (dB) : 19.02 19.02				
Frequency (MHz) : 1.75 1.75				

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

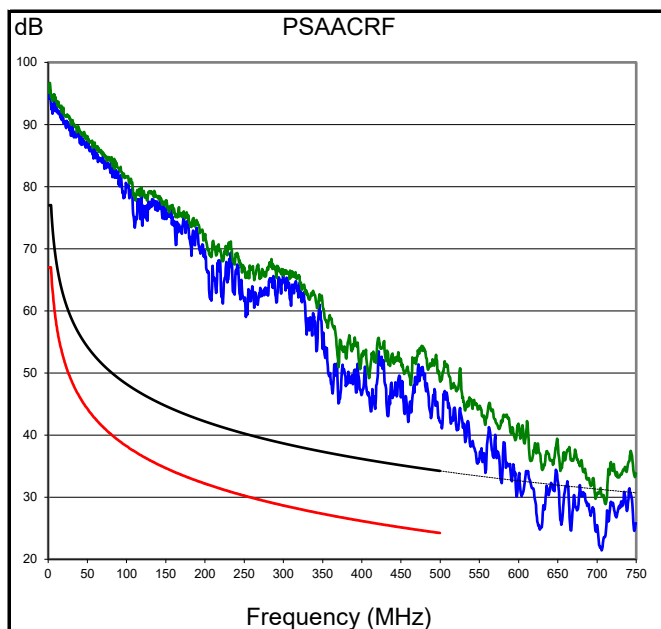
Summary

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

Test Started 8/9/2024 9:56
Technician David Ayers
Report No. 104239938CRT-024f
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



PSANEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	97.9	98.3	77.0	67.0
4	96.2	97.5	77.0	67.0
8	96.5	97.9	77.0	67.0
10	97.4	98.4	77.0	67.0
16	98.0	99.2	77.0	67.0
20	97.7	98.9	77.0	67.0
25	98.3	99.6	77.0	67.0
31.25	98.1	99.8	77.0	67.0
62.5	96.0	98.8	75.6	65.6
100	98.3	99.9	72.5	62.5
250	85.8	89.7	66.5	56.5
500	82.1	88.7	62.0	52.0
600	82.9	88.1		
750	76.0	81.5		
Limit Margin (dB) : 12.14 22.14				
Frequency (MHz) : 206.65 206.65				

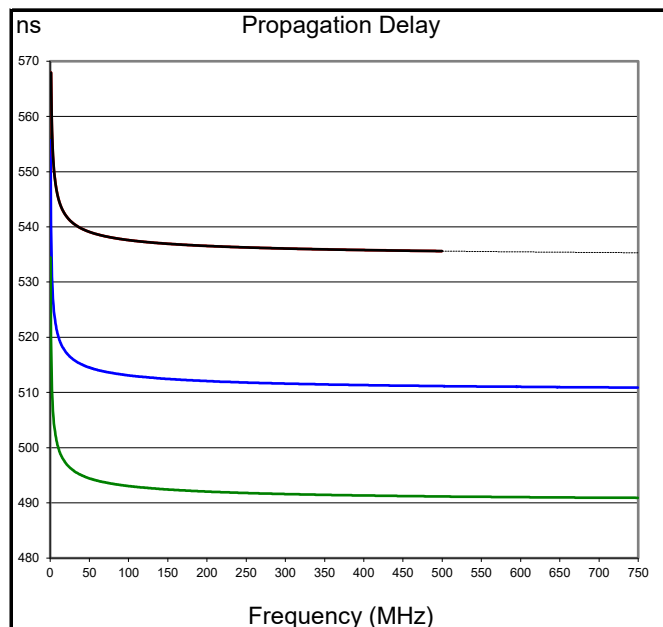


PSAACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	95.2	96.6	77.0	67.0
4	92.5	94.5	76.2	66.2
8	93.8	94.8	70.1	60.1
10	92.9	93.7	68.2	58.2
16	91.0	92.6	64.1	54.1
20	90.1	91.7	62.2	52.2
25	90.4	91.4	60.2	50.2
31.25	89.0	90.8	58.3	48.3
62.5	84.6	85.8	52.3	42.3
100	80.3	81.5	48.2	38.2
250	61.8	66.7	40.2	30.2
500	42.2	48.8	34.2	24.2
600	33.5	41.6		
750	25.8	33.9		
Limit Margin (dB) : 7.12 17.12				
Frequency (MHz) : 459.02 459.02				

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

Summary

Client	Berk-Tek LLC	Test Started	8/9/2024 9:56
Specifications	Berk-Tek LM-SST ANSI/TIA-568.2-D, Category 6A	Technician	David Ayers
Part Number	LM-SST CMP UTP	Report No.	104239938CRT-024f
Description	Berk-Tek LM-SST CMP 4X23 U/UTP-CMP-Solid	Length (m)	100
		Temperature	21.9 °C
		Test Status	PASS



Propagation Delay				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	540.6	520.0	570.0	570.0
4	525.7	505.4	552.0	552.0
8	521.5	501.3	546.7	546.7
10	520.4	500.2	545.4	545.4
16	518.2	498.0	543.0	543.0
20	517.3	497.2	542.0	542.0
25	516.5	496.4	541.2	541.2
31.25	516.2	496.1	540.4	540.4
62.5	514.0	494.0	538.6	538.6
100	513.1	493.1	537.6	537.6
250	511.8	491.8	536.3	536.3
500	511.2	491.2	535.6	535.6
600	511.0	491.0		
750	510.9	490.9		
Limit Margin (dB) : 24.45 24.45				
Frequency (MHz) : 477.76 477.76				

Delay Skew			
Freq. MHz	Worst case	LM-SST Spec	TIA Spec
1-500	38.79	45	45

Low frequency measurements						
Parameter	Worst Case	Average	LM-SST		TIA	
			Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.89	4.65	5.10	0.21	5.60	0.71
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	12.53	11.23	330.00	317.47	330.00	317.47
Conductor DC resistance (Ω)	7.86	7.74	9.38	1.52	9.38	1.52
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.63%	0.19%	2.00%	1.37%	2.00%	1.37%

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