

Project Number: G104239938

Date Issued: 6/13/2022

ETL Verified Certificate of Conformance number: 104054953CRT-002

Test Report Number: 104239938CRT-006c



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 8/12/2021 for Quarter 3 2021 follow-up testing.

The testing was performed at Intertek located in Cortland, NY from 9/1/2021 through 9/1/2021, 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

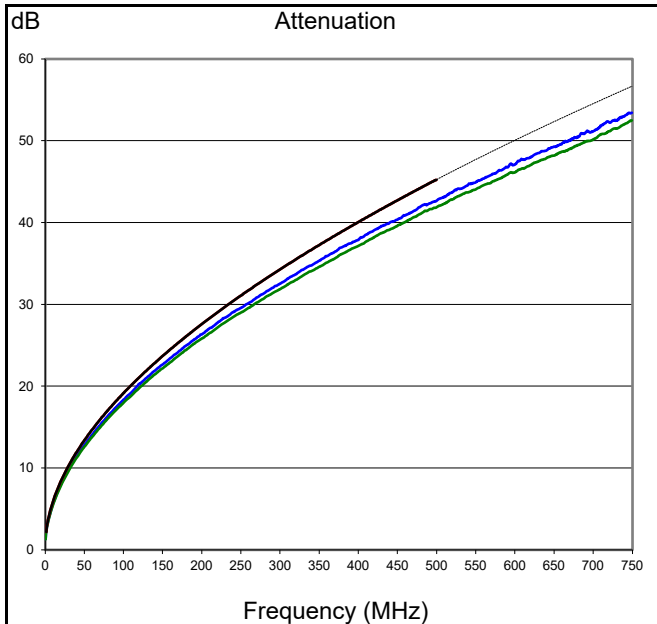
A handwritten signature in black ink that reads "Craig L. Williams".

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

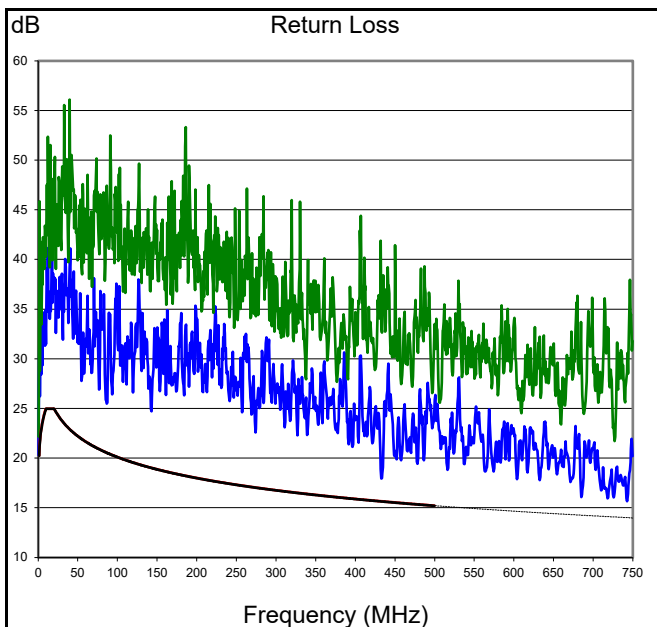
Summary

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

Test Started 9/1/2021 9:14
Technician Craig Williams
Report No. 104239938CRT-006c
Length (m) 100
Temperature 20.5 °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	5.0	4.9	5.3	5.3
10	5.6	5.4	5.9	5.9
16	7.1	7.0	7.5	7.5
20	8.0	7.8	8.4	8.4
25	8.9	8.8	9.4	9.4
31.25	9.4	9.2	10.5	10.5
62.5	14.4	14.1	15.0	15.0
100	18.3	17.9	19.1	19.1
250	29.5	29.0	31.1	31.1
500	42.6	41.9	45.3	45.3
600	47.1	46.1		
750	53.4	52.5		
Limit Margin (dB) :			0.17	0.17
Frequency (MHz) :			1.75	1.75



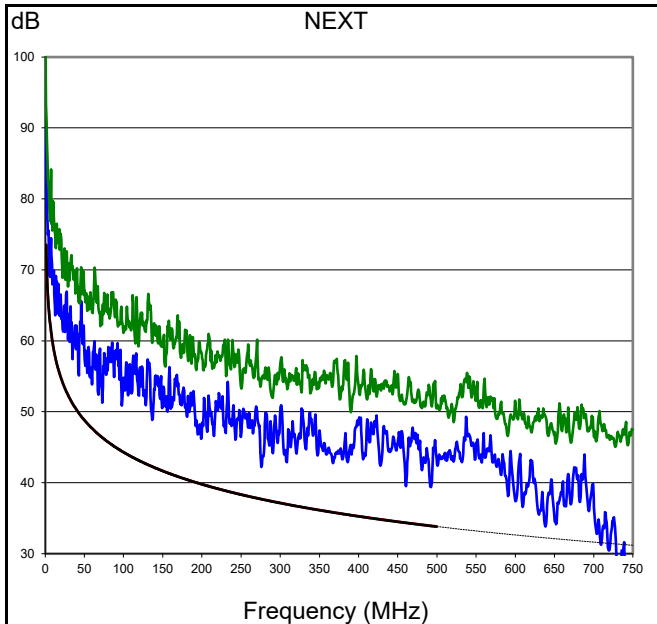
Return Loss				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	27.3	28.4	20.0	20.0
4	31.2	33.5	23.0	23.0
8	34.7	39.0	24.5	24.5
10	31.5	40.3	25.0	25.0
16	34.8	44.0	25.0	25.0
20	37.0	43.7	25.0	25.0
25	36.8	42.0	24.3	24.3
31.25	38.2	45.0	23.6	23.6
62.5	36.4	48.5	21.5	21.5
100	33.8	42.7	20.1	20.1
250	27.5	35.6	17.3	17.3
500	25.0	32.9	15.2	15.2
600	22.6	33.9		
750	20.2	31.8		
Limit Margin (dB) :			2.29	2.29
Frequency (MHz) :			432.78	432.78

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

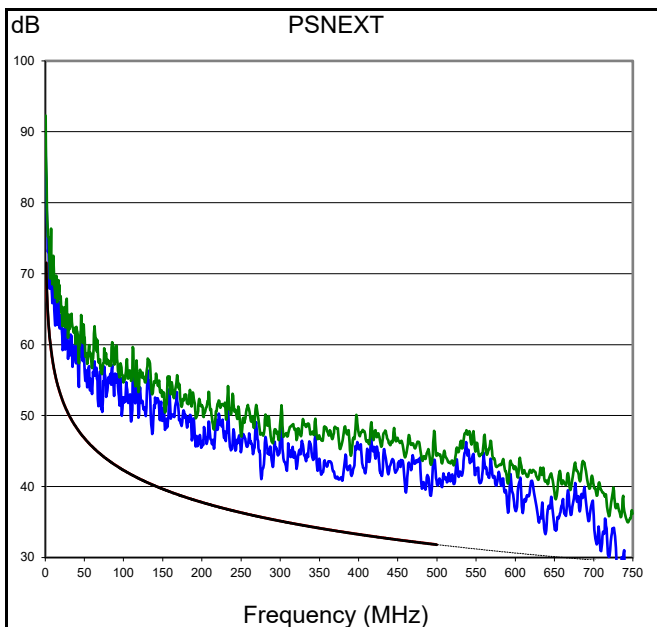
Summary

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 9/1/2021 9:14
Technician Craig Williams
Report No. 104239938CRT-006c
Length (m) 100
Temperature 20.5 °C
Test Status **PASS**



NEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	84.4	93.3	74.3	74.3
4	75.5	82.0	65.3	65.3
8	72.1	76.5	60.8	60.8
10	69.2	77.0	59.3	59.3
16	63.9	74.2	56.2	56.2
20	66.5	75.1	54.8	54.8
25	62.2	73.0	53.3	53.3
31.25	66.9	72.6	51.9	51.9
62.5	59.1	67.3	47.4	47.4
100	54.8	61.1	44.3	44.3
250	46.5	53.6	38.3	38.3
500	43.4	50.5	33.8	33.8
600	37.4	51.1		
750	24.1	47.4		
Limit Margin (dB) :			4.53	4.53
Frequency (MHz) :			275.99	275.99



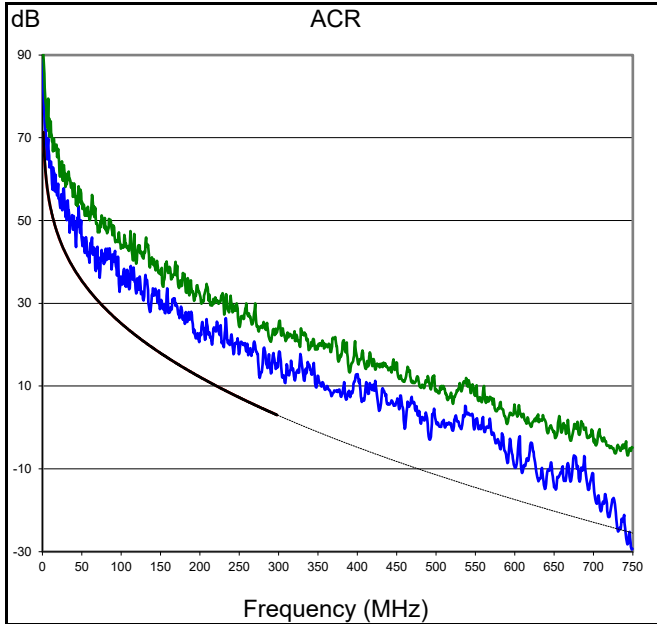
PSNEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	83.5	86.7	72.3	72.3
4	73.8	75.1	63.3	63.3
8	68.4	70.9	58.8	58.8
10	67.9	70.6	57.3	57.3
16	62.8	66.9	54.2	54.2
20	64.2	66.8	52.8	52.8
25	59.9	64.6	51.3	51.3
31.25	64.0	66.5	49.9	49.9
62.5	56.1	61.6	45.4	45.4
100	52.6	54.6	42.3	42.3
250	44.8	47.2	36.3	36.3
500	40.8	44.3	31.8	31.8
600	36.5	42.8		
750	24.0	36.2		
Limit Margin (dB) :			5.36	5.36
Frequency (MHz) :			275.99	275.99

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

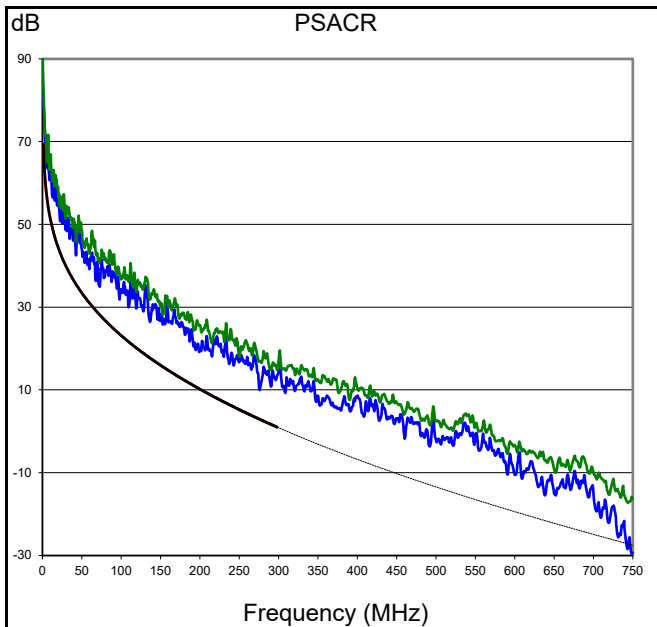
Summary

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 9/1/2021 9:14
Technician Craig Williams
Report No. 104239938CRT-006c
Length (m) 100
Temperature 20.5 °C
Test Status **PASS**



ACR				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	82.5	91.4	72.2	72.2
4	71.9	78.4	61.5	61.5
8	67.2	71.6	55.4	55.4
10	63.9	71.6	53.4	53.4
16	57.0	67.3	48.8	48.8
20	58.9	67.3	46.4	46.4
25	53.5	64.3	44.0	44.0
31.25	57.8	63.4	41.4	41.4
62.5	44.7	53.3	32.4	32.4
100	36.5	43.2	25.2	25.2
250	17.7	24.6	7.3	7.3
500	1.8	8.7		
600	-9.7	5.1		
750	-29.3	-4.9		
Limit Margin (dB) :			6.05	6.05
Frequency (MHz) :			72.96	72.96



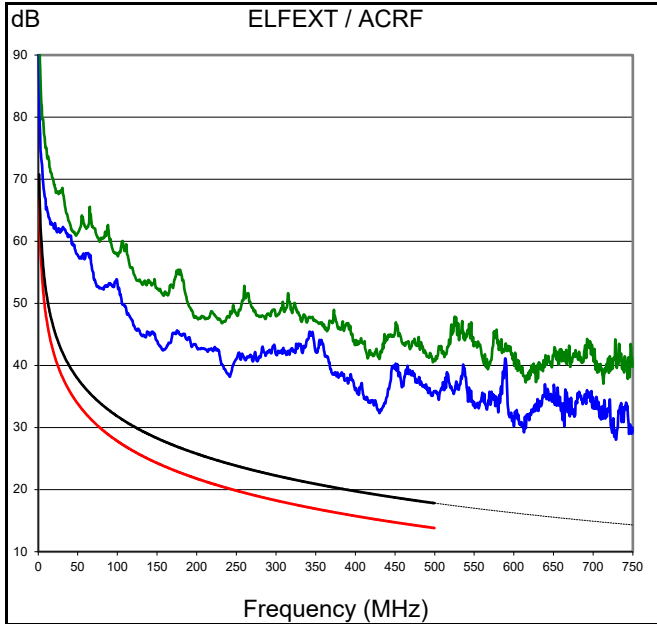
PSACR				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	81.6	84.7	70.2	70.2
4	70.2	71.5	59.5	59.5
8	63.6	66.0	53.4	53.4
10	62.6	65.2	51.4	51.4
16	55.7	59.9	46.8	46.8
20	56.2	59.0	44.4	44.4
25	51.0	55.8	42.0	42.0
31.25	54.6	57.3	39.4	39.4
62.5	41.8	47.5	30.4	30.4
100	34.3	36.7	23.2	23.2
250	16.7	18.3	5.3	5.3
500	-1.8	2.4		
600	-10.6	-3.4		
750	-29.4	-16.3		
Limit Margin (dB) :			6.79	6.79
Frequency (MHz) :			72.96	72.96

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

Summary

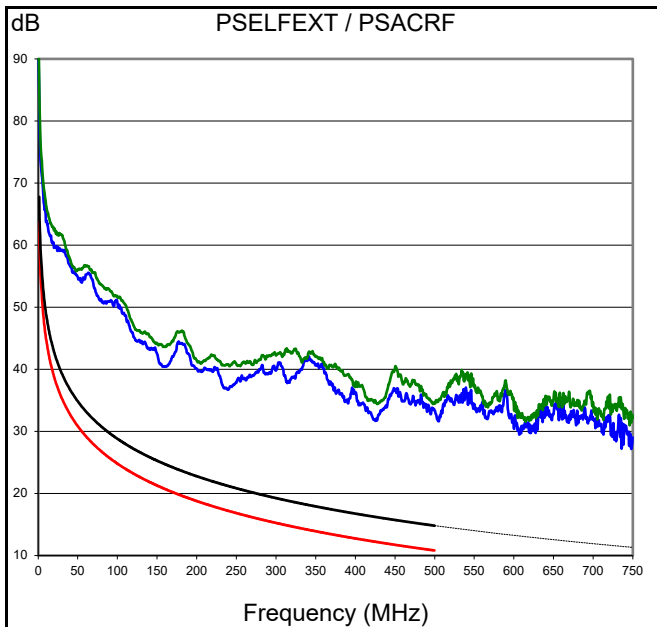
Client Berk-Tek LLC
Specifications Berk-Tek LM-SST
 ANSI/TIA-568.2-D, Category 6A
Part Number LM-SST CMP UTP
Description **Berk-Tek LM-SST CMP**
 4X23 U/UTP-CMP-Solid

Test Started 9/1/2021 9:14
Technician Craig Williams
Report No. 104239938CRT-006c
Length (m) 100
Temperature 20.5 °C
Test Status **PASS**



ELFEXT / ACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	85.0	93.6	71.8	67.8
4	72.6	81.8	59.8	55.8
8	67.2	76.8	53.7	49.7
10	65.2	75.2	51.8	47.8
16	63.1	71.1	47.7	43.7
20	62.1	69.1	45.8	41.8
25	62.1	68.0	43.8	39.8
31.25	61.4	67.9	41.9	37.9
62.5	58.1	62.3	35.9	31.9
100	53.4	57.8	31.8	27.8
250	41.0	48.3	23.8	19.8
500	35.9	41.0	17.8	13.8
600	30.3	40.0		
750	30.0	39.8		

Limit Margin (dB) : 12.39 16.39
 Frequency (MHz) : 3.00 3.00



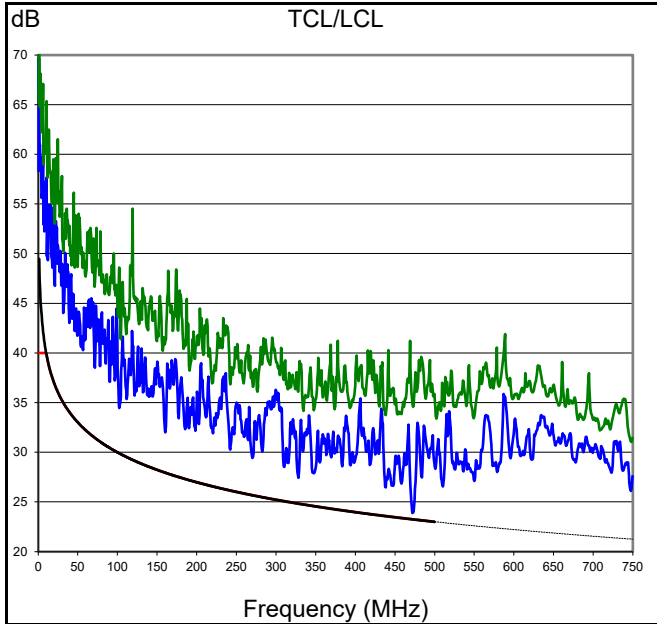
PSELFEXT / PSACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	83.6	86.1	68.8	64.8
4	71.3	73.6	56.8	52.8
8	65.7	68.2	50.7	46.7
10	63.8	66.5	48.8	44.8
16	61.5	63.5	44.7	40.7
20	59.6	62.4	42.8	38.8
25	59.7	61.9	40.8	36.8
31.25	59.4	61.8	38.9	34.9
62.5	55.4	56.6	32.9	28.9
100	50.8	51.7	28.8	24.8
250	37.8	40.9	20.8	16.8
500	33.4	34.7	14.8	10.8
600	30.4	33.4		
750	29.0	32.1		

Limit Margin (dB) : 14.50 18.50
 Frequency (MHz) : 3.00 3.00

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

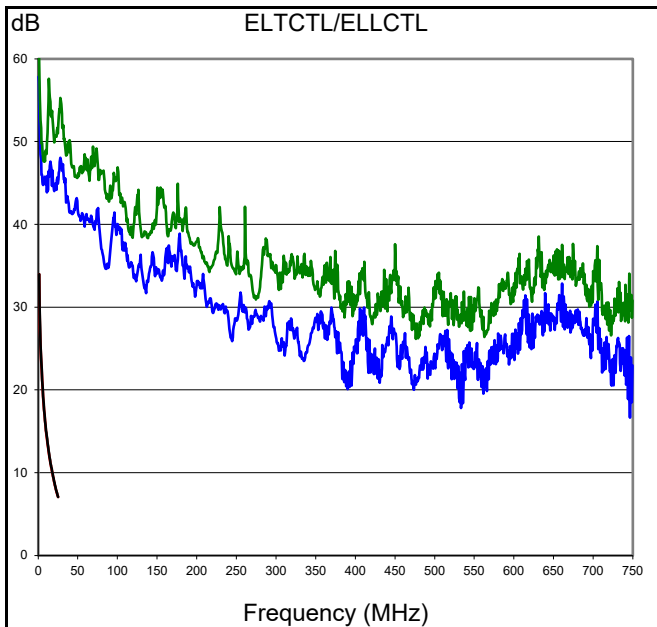
Summary

Client	Berk-Tek LLC	Test Started	9/1/2021 9:14
Specifications	Berk-Tek LM-SST ANSI/TIA-568.2-D, Category 6A	Technician	Craig Williams
Part Number	LM-SST CMP UTP	Report No.	104239938CRT-006c
Description	Berk-Tek LM-SST CMP 4X23 U/UTP-CMP-Solid	Length (m)	100
		Temperature	20.5 °C
		Test Status	PASS



TCL/LCL				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	69.7	73.8	50.0	40.0
4	55.6	62.3	44.0	40.0
8	52.2	60.1	41.0	40.0
10	55.3	61.7	40.0	40.0
16	52.4	58.2	38.0	38.0
20	50.2	56.0	37.0	37.0
25	50.8	61.5	36.0	36.0
31.25	48.2	53.7	35.1	35.1
62.5	42.6	52.2	32.0	32.0
100	41.7	45.5	30.0	30.0
250	34.7	39.5	26.0	26.0
500	28.9	35.9	23.0	23.0
600	32.3	35.6		
750	27.6	31.4		

Limit Margin (dB) : 0.65 0.65
Frequency (MHz) : 472.14 472.14



ELTCTL/ELLCTL				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	57.2	61.5	35.0	35.0
4	46.0	49.8	23.0	23.0
8	45.3	48.0	16.9	16.9
10	44.8	49.0	15.0	15.0
16	47.3	53.2	10.9	10.9
20	44.2	50.4	9.0	9.0
25	44.9	51.0	7.0	7.0
31.25	47.6	53.6		
62.5	40.6	47.8		
100	40.0	45.5		
250	28.5	34.0		
500	24.4	31.0		
600	24.7	32.9		
750	23.0	30.8		

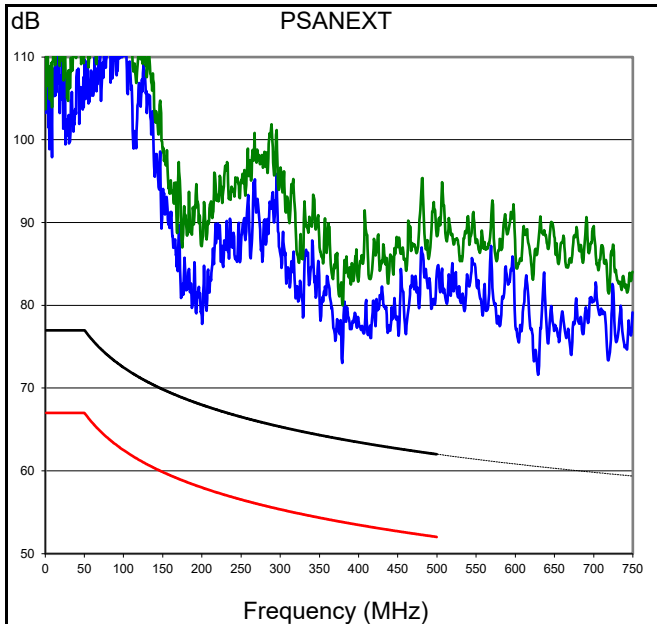
Limit Margin (dB) : 22.19 22.19
Frequency (MHz) : 1.75 1.75

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

Summary

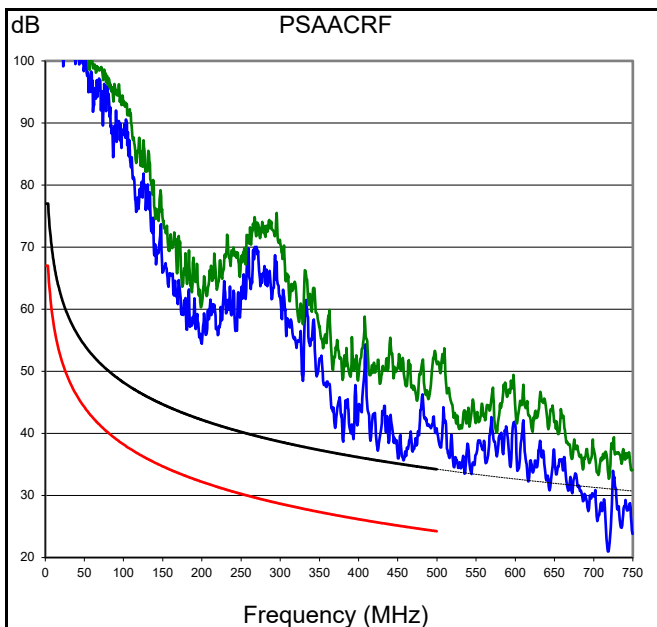
Client Berk-Tek LLC
Specifications Berk-Tek LM-SST
 ANSI/TIA-568.2-D, Category 6A
Part Number LM-SST CMP UTP
Description **Berk-Tek LM-SST CMP**
 4X23 U/UTP-CMP-Solid

Test Started 9/1/2021 9:14
Technician Craig Williams
Report No. 104239938CRT-006c
Length (m) 100
Temperature 20.5 °C
Test Status **PASS**



PSANEXT				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	107.4	108.5	77.0	67.0
4	101.5	106.5	77.0	67.0
8	104.7	109.3	77.0	67.0
10	105.8	109.4	77.0	67.0
16	110.0	112.4	77.0	67.0
20	107.7	110.1	77.0	67.0
25	108.7	111.6	77.0	67.0
31.25	101.7	107.6	77.0	67.0
62.5	107.1	111.0	75.6	65.6
100	110.2	111.8	72.5	62.5
250	87.0	95.0	66.5	56.5
500	83.7	88.4	62.0	52.0
600	77.5	86.3		
750	79.1	84.1		

Limit Margin (dB) : 9.21 19.21
 Frequency (MHz) : 379.06 379.06



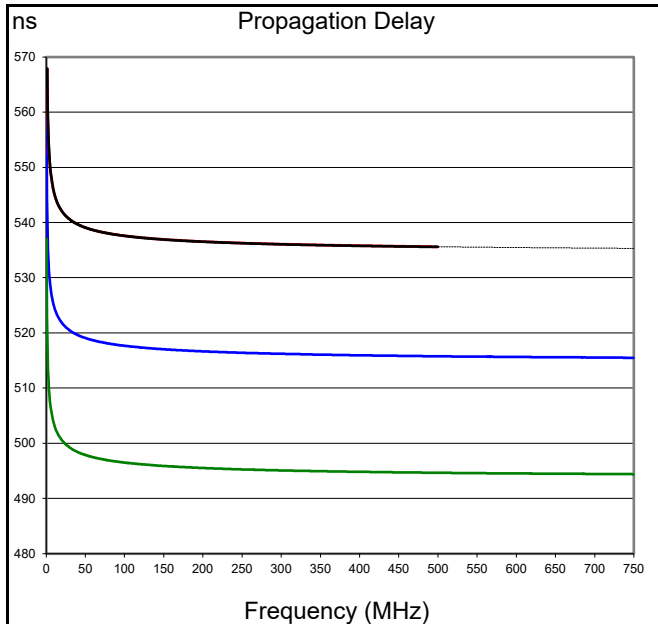
PSAACRF				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	105.5	107.1	77.0	67.0
4	105.4	107.6	76.2	66.2
8	107.1	108.5	70.1	60.1
10	105.6	107.8	68.2	58.2
16	105.8	106.8	64.1	54.1
20	106.1	107.0	62.2	52.2
25	104.4	105.7	60.2	50.2
31.25	102.9	105.0	58.3	48.3
62.5	92.8	98.8	52.3	42.3
100	89.0	92.9	48.2	38.2
250	61.6	67.8	40.2	30.2
500	40.8	51.3	34.2	24.2
600	41.2	43.6		
750	23.8	34.1		

Limit Margin (dB) : 0.65 10.65
 Frequency (MHz) : 457.15 457.15

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

Summary

Client	Berk-Tek LLC	Test Started	9/1/2021 9:14
Specifications	Berk-Tek LM-SST ANSI/TIA-568.2-D, Category 6A	Technician	Craig Williams
Part Number	LM-SST CMP UTP	Report No.	104239938CRT-006c
Description	Berk-Tek LM-SST CMP 4X23 U/UTP-CMP-Solid	Length (m)	100
		Temperature	20.5 °C
		Test Status	PASS



Propagation Delay				
Freq. MHz	Worst Case	Average	LM-SST Spec	TIA Spec
1	544.4	522.9	570.0	570.0
4	530.0	508.6	552.0	552.0
8	526.0	504.6	546.7	546.7
10	524.9	503.5	545.4	545.4
16	522.7	501.4	543.0	543.0
20	521.9	500.6	542.0	542.0
25	521.1	499.8	541.2	541.2
31.25	520.8	499.5	540.4	540.4
62.5	518.6	497.4	538.6	538.6
100	517.7	496.5	537.6	537.6
250	516.4	495.3	536.3	536.3
500	515.8	494.6	535.6	535.6
600	515.6	494.5		
750	515.5	494.4		

Limit Margin (dB) : 19.84 19.84
Frequency (MHz) : 480.26 480.26

Delay Skew			
Freq. MHz	Worst case	LM-SST Spec	TIA Spec
1-500	40.03	45	45

Low frequency measurements						
Parameter	Worst Case	Average	LM-SST		TIA	
			Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.83	4.59	5.10	0.27	5.60	0.77
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	19.54	11.00	330.00	310.47	330.00	310.47
Conductor DC resistance (Ω)	7.81	7.71	9.38	1.57	9.38	1.57
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.93%	0.34%	2.00%	1.07%	2.00%	1.07%

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