

Project Number: G104239938

Date Issued: 3/12/2024

ETL Verified Certificate of Conformance number: 102713771CRT-002a

Test Report Number: 104239938CRT-022c



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, OSP, horizontal (solid) cable covered by ETL Verified certificate of conformance number 102713771CRT-002a. The sample was randomly selected by an Intertek inspector from your manufacturing facility, Berk-Tek LLC, on 2/13/2024 for Quarter 1 2024 follow-up testing.

The testing was performed at Intertek located in Cortland, NY from 3/8/2024 through 3/12/2024, to the ISO/IEC 11801-1 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, reading "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, reading "David Ayers".

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

Summary

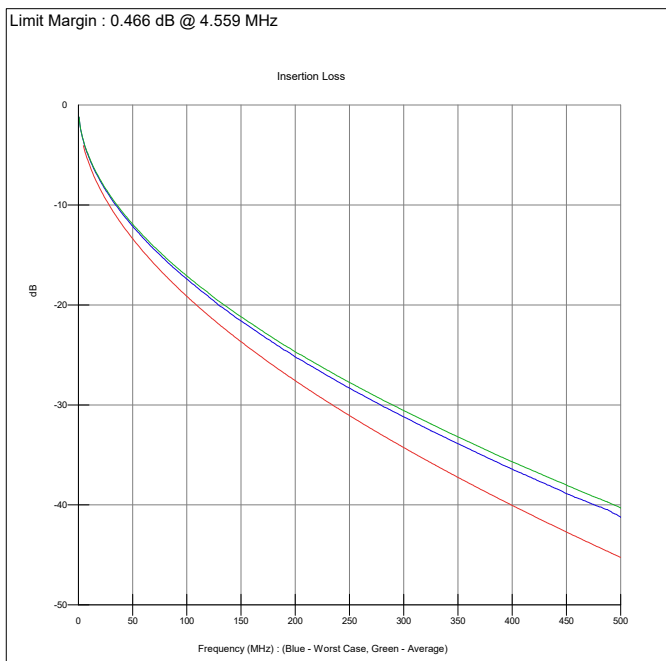
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

DC Resistance (Ohms)		
Worst Case	Average	Spec
7.2	7.1	9.5
7.2	7.1	9.5

DC Resistance Unbalance (%)		
Worst Case	Average	Spec
0.7	0.2	2.0

DC Resistance Unbalance Pair-Pair (%)		
Worst Case	Average	Spec
1.7	1.0	5.0

Capacitance Unbalance Pair-Ground (pF/100m)		
Worst Case	Average	Spec
56.0	24.6	160.0

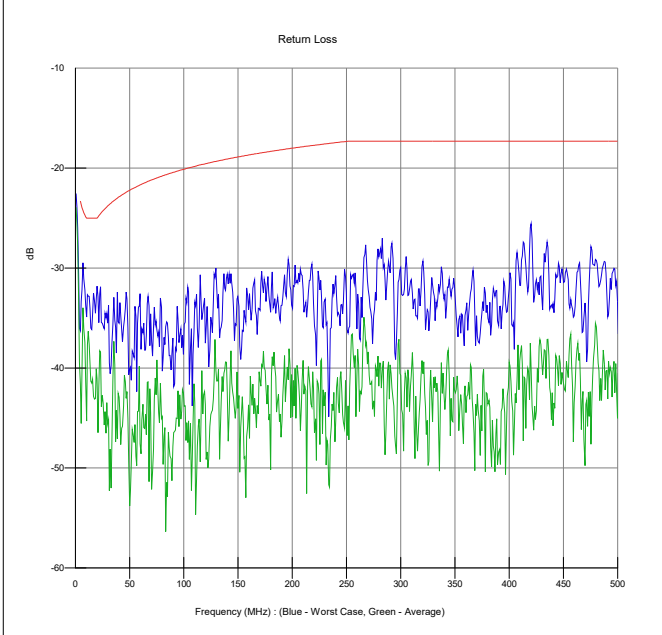


Insertion Loss			
Freq	Worst Case	Average	Spec
1.	1.6	1.6	
4.	3.3	3.3	
8.	4.7	4.7	5.3
10.	5.3	5.2	5.9
16.	6.7	6.6	7.5
20.	7.6	7.4	8.4
25.	8.5	8.3	9.4
31.25	9.5	9.3	10.5
62.5	13.6	13.4	15.0
100.	17.4	17.1	19.1
250.	28.3	27.8	31.1
500.	41.2	40.3	45.2

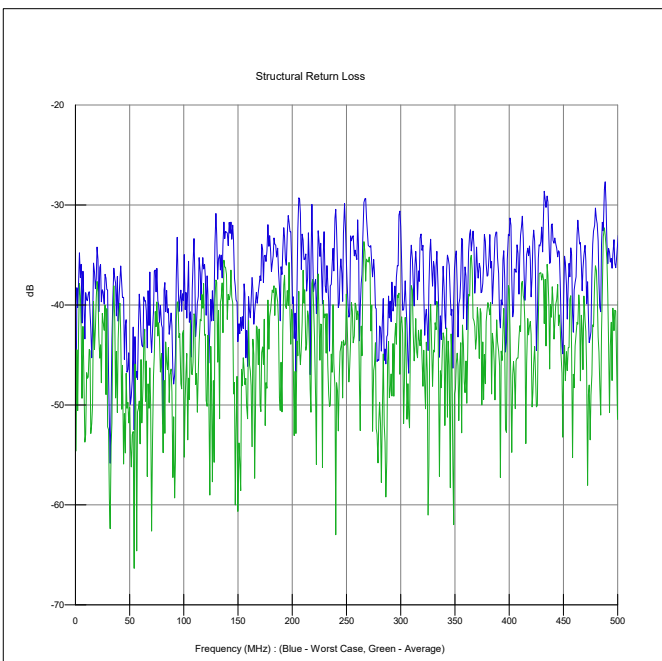
Summary

Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 5.230 dB @ 6.995 MHz



Return Loss			
Freq	Worst Case	Average	Spec
1.	23.3	24.9	
4.	36.1	40.1	
8.	32.2	36.3	24.5
10.	35.2	44.1	25.0
16.	34.8	41.3	25.0
20.	31.8	41.2	25.0
25.	35.6	42.9	24.3
31.25	38.8	51.4	23.6
62.5	36.3	44.5	21.5
100.	37.9	43.2	20.1
250.	33.6	45.7	17.3
500.	35.3	43.9	17.3

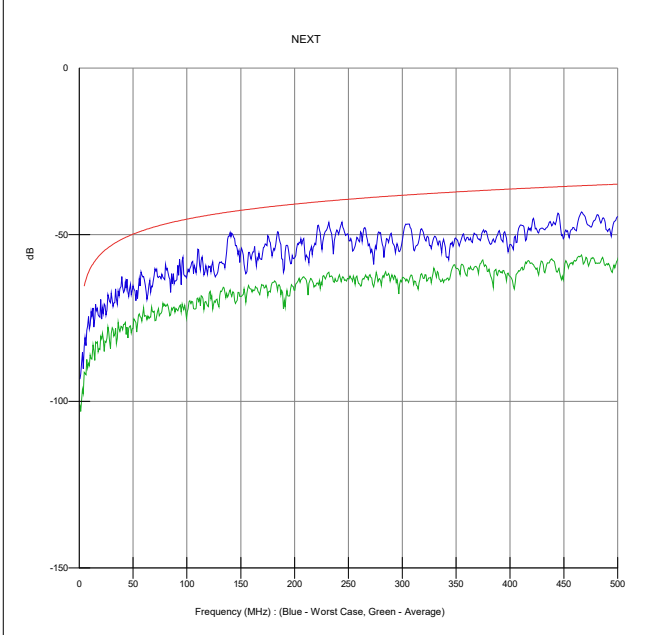


Structural Return Loss			
Freq	Worst Case	Average	Spec
1.	44.7	48.4	
4.	35.7	38.2	
8.	42.0	48.0	
10.	39.3	48.6	
16.	41.7	49.0	
20.	34.2	37.7	
25.	38.5	41.0	
31.25	53.2	58.5	
62.5	45.9	46.6	
100.	37.0	49.6	
250.	37.4	39.8	
500.	33.8	48.6	

Summary

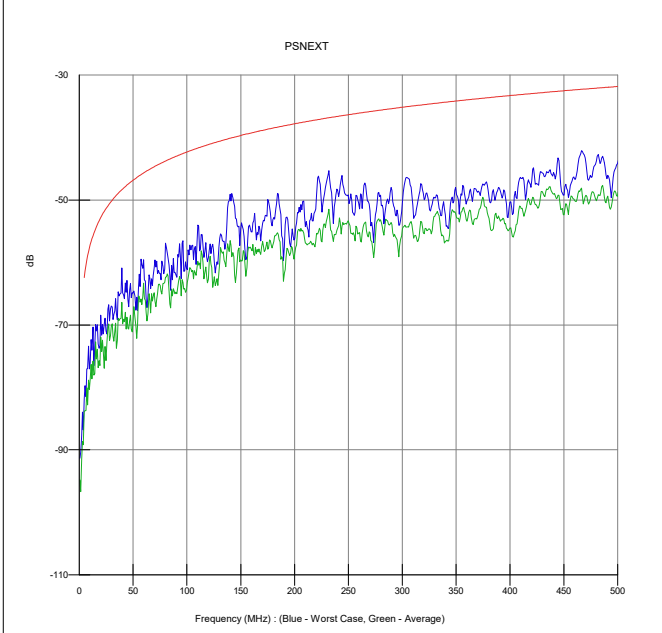
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 6.218 dB @ 140.143 MHz



NEXT			
Freq	Worst Case	Average	Spec
1.	92.7	102.2	
4.	90.4	95.6	
8.	76.8	89.7	61.8
10.	77.5	87.0	60.3
16.	72.8	82.5	57.2
20.	69.5	80.5	55.8
25.	75.0	82.0	54.3
31.25	71.6	78.3	52.9
62.5	68.4	74.8	48.4
100.	62.8	74.0	45.3
250.	50.7	63.2	39.3
500.	44.5	57.4	34.8

Limit Margin : 8.469 dB @ 231.884 MHz

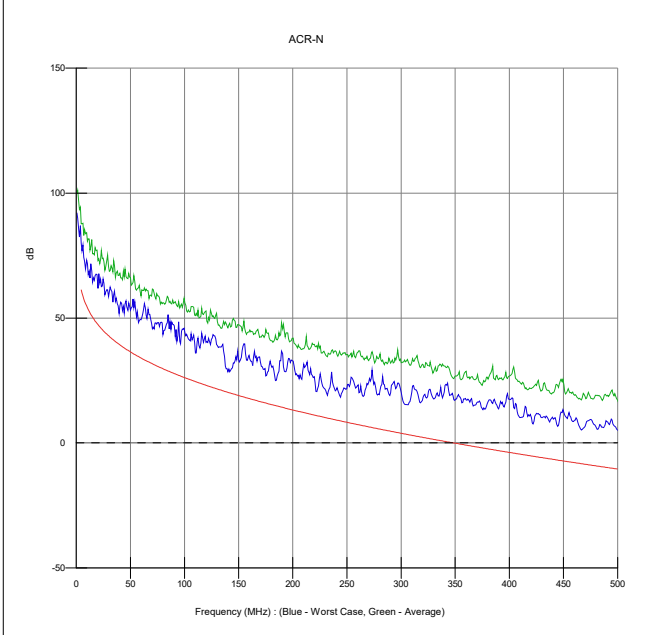


PSNEXT			
Freq	Worst Case	Average	Spec
1.	91.1	96.0	
4.	86.0	87.5	
8.	76.1	81.9	58.8
10.	76.8	79.2	57.3
16.	70.9	75.3	54.2
20.	68.5	72.0	52.8
25.	71.3	75.2	51.3
31.25	68.9	71.6	49.9
62.5	66.4	68.5	45.4
100.	61.8	63.8	42.3
250.	49.7	53.4	36.3
500.	44.0	49.2	31.8

Summary

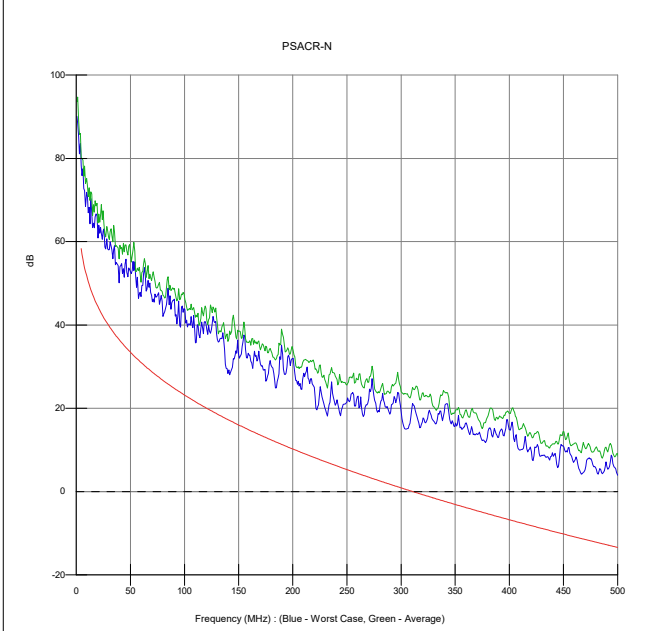
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 8.218 dB @ 140.143 MHz



ACR-N			
Freq	Worst Case	Average	Spec
1.	91.1	100.6	
4.	87.0	92.3	
8.	72.0	85.0	56.5
10.	72.2	81.8	54.4
16.	66.0	75.8	49.8
20.	62.0	73.1	47.4
25.	66.5	73.7	45.0
31.25	62.4	69.0	42.4
62.5	54.8	61.4	33.4
100.	45.6	56.9	26.2
250.	22.4	35.4	8.3
500.	5.1	17.0	-10.4

Limit Margin : 10.965 dB @ 141.766 MHz

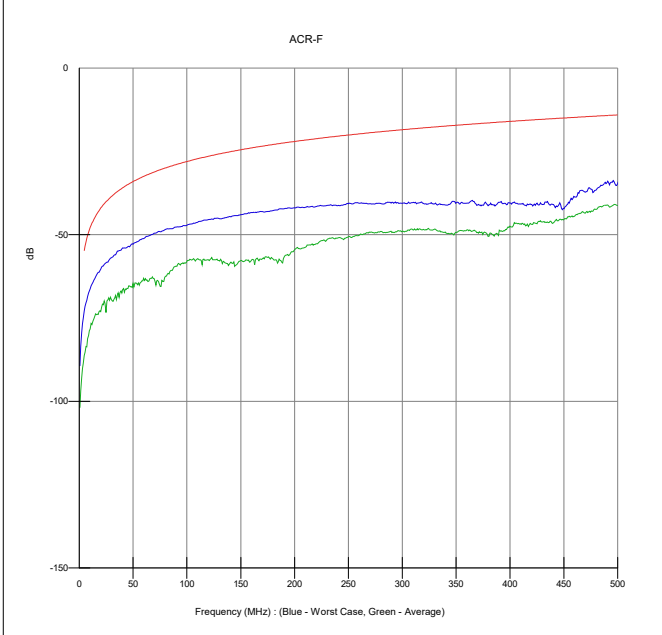


PSACR-N			
Freq	Worst Case	Average	Spec
1.	89.4	94.3	
4.	82.6	84.2	
8.	71.4	77.2	53.5
10.	71.5	74.0	51.4
16.	64.4	68.7	46.8
20.	60.9	64.5	44.4
25.	62.9	66.8	42.0
31.25	59.8	62.2	39.4
62.5	52.9	55.1	30.4
100.	44.6	46.7	23.2
250.	22.0	25.7	5.3
500.	4.0	8.9	-13.4

Summary

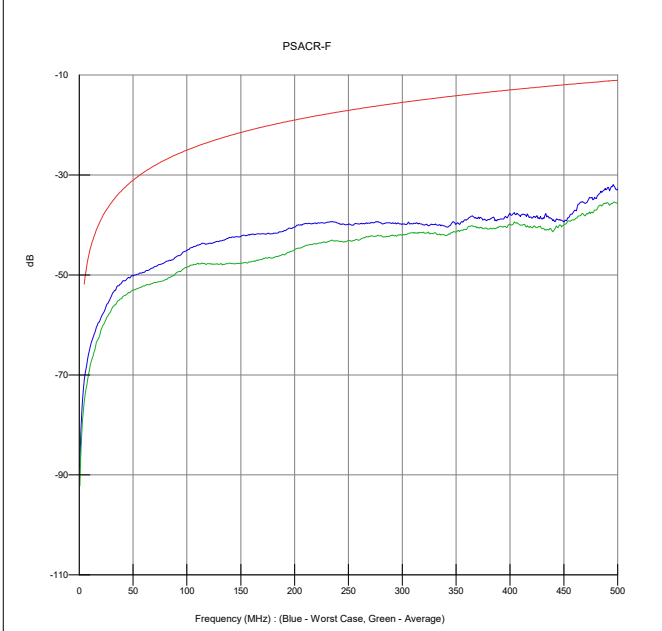
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 17.903 dB @ 35.411 MHz



ACR-F			
Freq	Worst Case	Average	Spec
1.	85.9	98.9	
4.	74.3	87.9	
8.	68.3	80.9	49.9
10.	66.4	78.4	48.0
16.	62.1	74.0	43.9
20.	60.3	73.1	42.0
25.	58.4	72.7	40.0
31.25	56.6	70.0	38.1
62.5	50.5	63.6	32.1
100.	47.1	58.0	28.0
250.	40.6	50.6	20.0
500.	34.5	41.2	14.0

Limit Margin : 18.164 dB @ 35.411 MHz

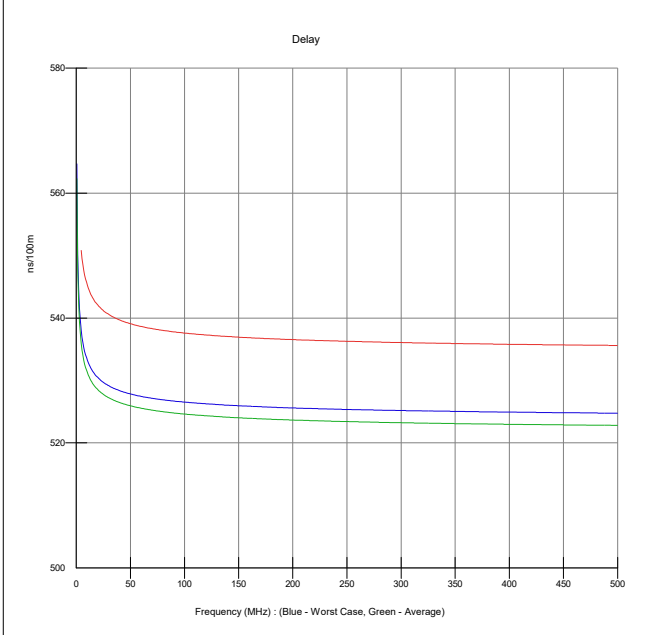


PSACR-F			
Freq	Worst Case	Average	Spec
1.	84.5	88.6	
4.	72.5	76.8	
8.	66.6	70.7	46.9
10.	64.6	68.4	45.0
16.	60.4	63.4	40.9
20.	58.7	61.2	39.0
25.	56.2	58.8	37.0
31.25	53.5	56.4	35.1
62.5	49.1	51.9	29.1
100.	45.1	48.5	25.0
250.	39.8	43.1	17.0
500.	32.8	35.5	11.0

Summary

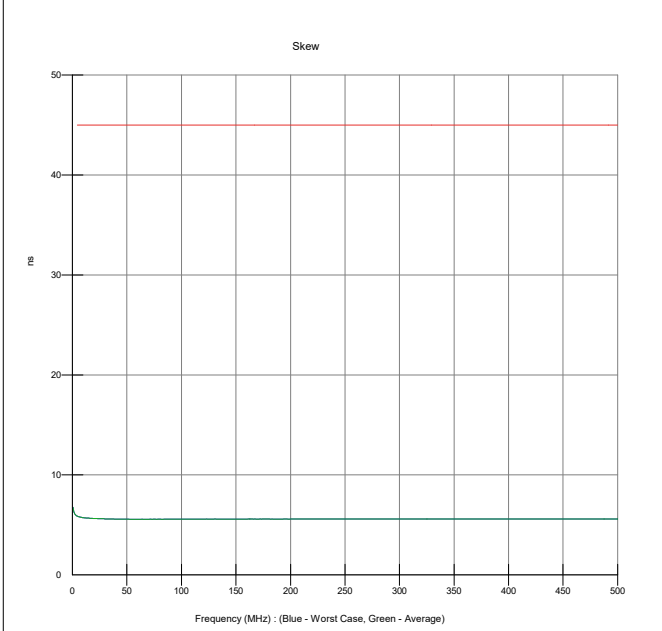
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 10.840 ns/100m @ 456.774 MHz



Delay			
Freq	Worst Case	Average	Spec
1.	555.8	553.4	
4.	539.1	537.0	
8.	534.5	532.5	546.7
10.	533.4	531.4	545.4
16.	531.3	529.3	543.0
20.	530.5	528.5	542.0
25.	529.7	527.8	541.2
31.25	529.0	527.1	540.4
62.5	527.4	525.5	538.6
100.	526.5	524.6	537.6
250.	525.4	523.4	536.3
500.	524.8	522.8	535.6

Limit Margin : 39.132 ns @ 4.559 MHz

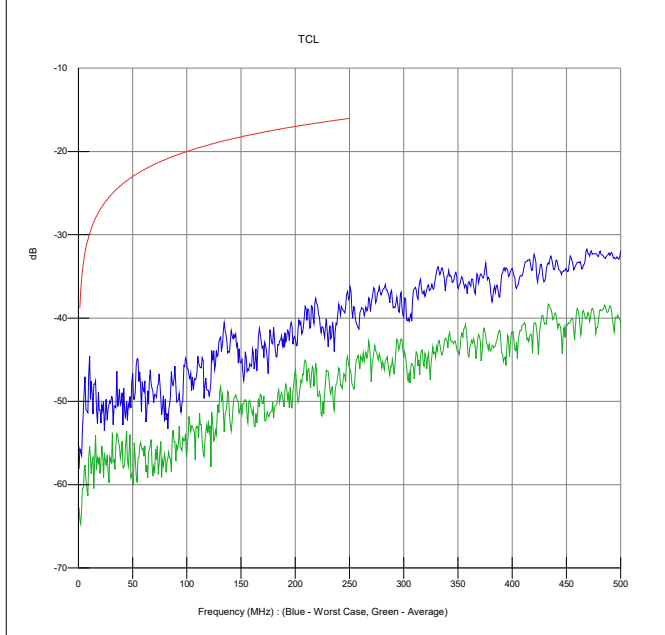


Skew			
Freq	Worst Case	Average	Spec
1.	6.5	6.5	
4.	5.9	5.9	
8.	5.8	5.8	45.0
10.	5.7	5.7	45.0
16.	5.7	5.7	45.0
20.	5.6	5.6	45.0
25.	5.6	5.6	45.0
31.25	5.6	5.6	45.0
62.5	5.5	5.5	45.0
100.	5.6	5.6	45.0
250.	5.6	5.6	45.0
500.	5.6	5.6	45.0

Summary

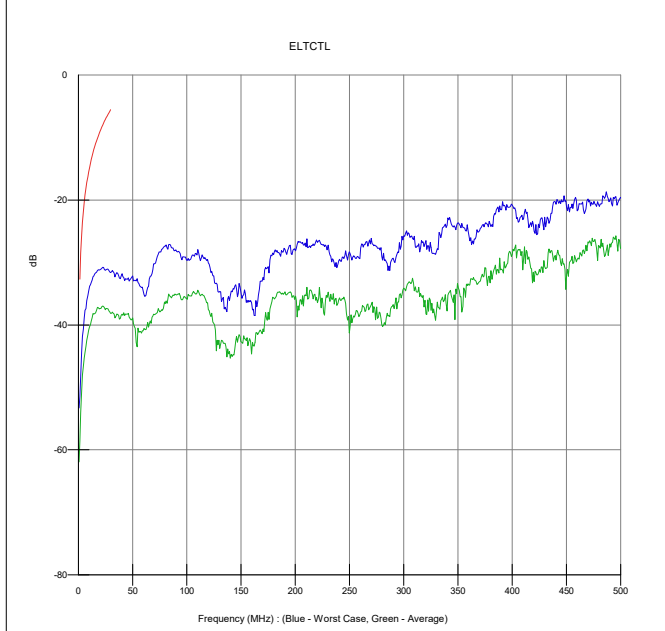
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 14.671 dB @ 10.243 MHz



TCL			
Freq	Worst Case	Average	Spec
1.	56.6	63.7	39.6
4.	53.9	60.5	34.0
8.	51.2	60.6	31.0
10.	45.2	55.8	30.0
16.	48.1	54.4	28.0
20.	51.1	58.6	27.0
25.	51.2	57.1	26.0
31.25	49.7	54.2	25.1
62.5	52.6	58.2	22.0
100.	45.8	56.1	20.0
250.	37.2	46.1	16.0
500.	32.0	40.7	

Limit Margin : 18.272 dB @ 3.748 MHz

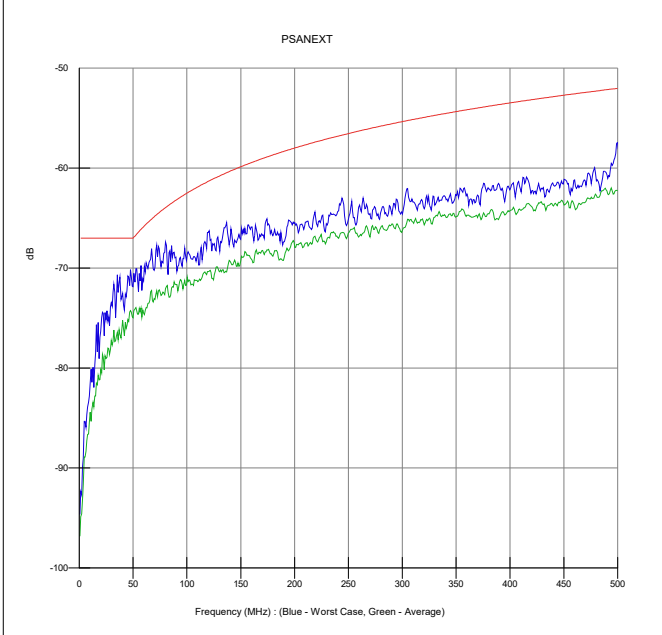


ELTCTL			
Freq	Worst Case	Average	Spec
1.	52.2	59.9	34.2
4.	41.5	47.6	23.0
8.	35.9	42.2	16.9
10.	34.1	40.4	15.0
16.	31.6	38.0	10.9
20.	31.1	37.4	9.0
25.	31.2	37.5	7.0
31.25	31.3	38.0	
62.5	35.0	40.6	
100.	29.6	35.8	
250.	28.4	40.9	
500.	19.6	27.7	

Summary

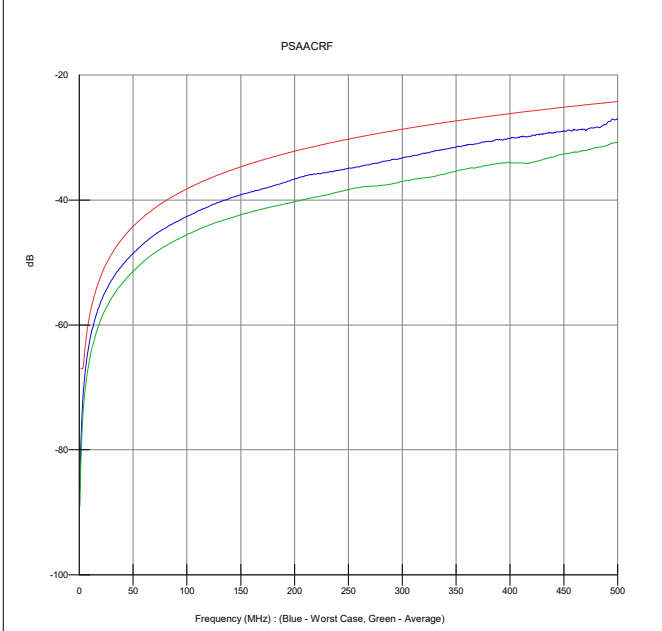
Client	Berk-Tek	Report No	104239938CRT-022c
Specification	ISO-IEC 11801-1 Cat 6A Cable		
Part No	LM-10G OSP UTP	Length (m)	100.
Test Started	3/11/2024 2:42:27 PM	Temperature	24 °C
Description	4 Pair 23 AWG UUTP OSP Solid		
Operator Name	David Ayers	Test Status	Complies

Limit Margin : 2.953 dB @ 67.074 MHz



PSANEXT			
Freq	Worst Case	Average	Spec
1.	94.1	95.6	67.0
4.	88.3	90.8	67.0
8.	83.8	86.6	67.0
10.	82.0	84.7	67.0
16.	75.9	81.5	67.0
20.	76.3	80.2	67.0
25.	75.6	79.0	67.0
31.25	72.6	77.4	67.0
62.5	69.6	74.0	65.6
100.	68.9	71.3	62.5
250.	65.1	66.5	56.5
500.	57.6	62.3	52.0

Limit Margin : 2.698 dB @ 494.932 MHz



PSAACRF			
Freq	Worst Case	Average	Spec
1.	82.2	85.0	67.0
4.	70.2	73.1	66.2
8.	64.3	67.1	60.1
10.	62.3	65.2	58.2
16.	58.2	61.1	54.1
20.	56.3	59.2	52.2
25.	54.4	57.3	50.2
31.25	52.5	55.4	48.3
62.5	46.6	49.4	42.3
100.	42.6	45.6	38.2
250.	34.9	38.3	30.2
500.	27.0	30.8	24.2