KRAMER

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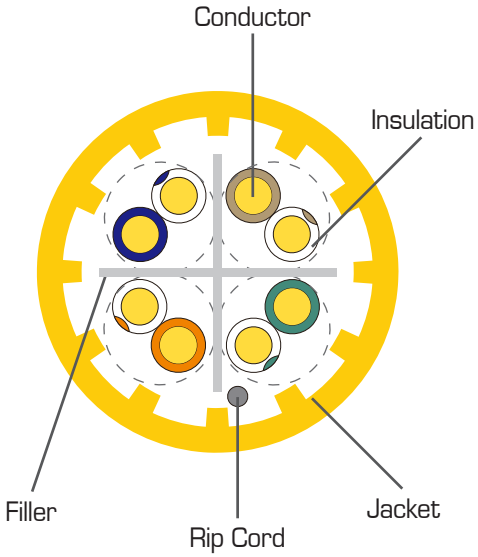
BCLS-31YL

CAT6A U/UTP LSZH Cable



Kramer's BCLS-31YL is a high performance CAT6A U/UTP cable designed for IT, LAN and Ethernet installations. Constructed with 23AWG solid bare copper conductors with a cross filler in a LSZH jacket with internal rip cord and sequential markings every meter and packed on a fumigated plywood reel make this cable exceed CAT6A specifications to provide additional performance and bandwidth over the basic standard The unique Zigzag jacket design provides excellent performance of "six around one" bundle transmission

Product Description	CAT6A U/UTP, 23AWG solid bare copper, LSZH. With cross filler. With rip cord.
Product Features	High performance of single cable transmission. Zigzag jacket design provides excellent performance of six around one bundle transmission. Round and smooth jacket without twisted stripe. High quality of safety property. Sweep frequency up to 650 MHz.
Applications	Structure cabling for horizontal and building backbone cable. Designed for IT, LAN and Ethernet installations. IEEE 802.3an 10GBASE-T and legacy speeds. CDDI / ATM / Token Ring IEEE 802.3af (PoE) / IEEE 802.3at (PoE+)

Applicable Standard

THIRD PARTY TESTING 3P

Performance Standards:

ANSI/TIA-568-C.2 (2009)	Balanced Twisted-Pair Telecommunications Cabling and Components Standards
ISO/IEC 11801 (Edition 2.2)	Information technology - Generic cabling for customer premises
IEC 61156-5 (Edition 2.0)	Multicore and symmetrical pair/quad cables for digital communications - Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1000 MHz - Horizontal floor wiring - Sectional specification
EN 50288-11-1:2012	Multi-element metallic cables used in analogue and digital communication and control - Part 11-1: Sectional specification for un-screened cables characterized up to 500 MHz - Horizontal and building backbone cables

Standards for flammability, acidity and smoke:

EN 50173-1:2011	Information technology - Generic cabling systems - Part 1: General requirements
IEC 60332-1-2	Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame
IEC 61034-1 / 61034-2	Measurement of smoke density of cables burning under defined conditions
IEC 60754-2	Test on gases evolved during combustion of materials from cables

EU Directive 2011/65/EC (RoHS 2)

EU Directive 2006/95/EC (LVD)

CE compliance date: 2010.01.01

MATERIAL AND CONSTRUCTION

Conductor	Material	23AWG solid bare copper	
Insulation	Material	Polyolefin (PO)	
	Color code & diameter	Blue & white	1.17 ± 0.02 mm
		Orange & white	1.12 ± 0.02 mm
		Green & white	1.15 ± 0.02 mm
		Brown & white	1.10 ± 0.02 mm
Twisted	Description	Left hand direction	
Filler	Material	Polyolefin (PO)	
Assembly	Description	Left hand direction	
Rip cord	Material	Polyester multi-yarn	
Jacket	Material	Low smoke zero halogen (LSZH)	
	Diameter	8.3 ± 0.2 mm	
	Thickness	1.10 ± 0.01 mm	
	Color	Yellow [Pantone 116C]	

USAGE & ENVIRONMENTAL CONDITION

Temperature range	Storage & shipping	-20°C to 60°C
	Installation	0°C to 60°C
	Operation	-20°C to 60°C
Minimum bending radius		≥ 4 times of overall diameter
Maximum pulling tension		≤ 110 N

PHYSICAL & ELECTRICAL CHARACTERISTICS (AT 20°C)

Temperature & voltage rating	60°C / 300V
Spark test	2.5 KV DC
AC leakage current through overall jacket	≤ 10mA (1.5KV AC)
Cable cold bend	-20°C for 4 hr
Conductor DC resistance	≤ 9.38 Ω/100m
Resistance unbalance	≤ 5%
Dielectric strength	1.5 KV ac for 2 s
Insulation resistance	≥ 5000 MΩ•m
Mutual capacitance	≤ 5.6 nF/100m
Capacitance unbalance pair-to-ground	≤ 330 pF/100m
Characteristic Impedance	@1~100MHz,100±15 Ohm
Coupling Attenuation	AT 30 MHz ≤ 55dB; AT 500 MHz ≤ 41 dB
Insulation Tensile Strength	2400 PSI MIN. (1.69 Kg/m^2)
NVP	67%

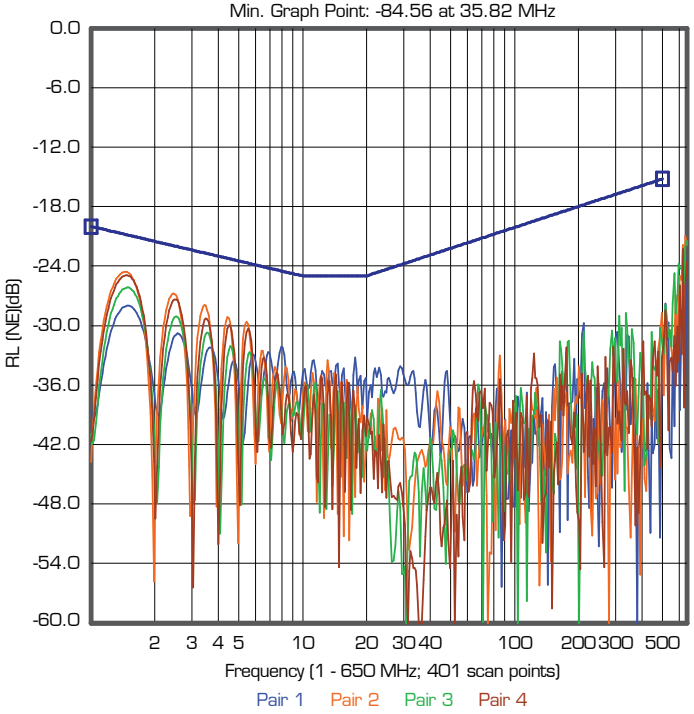
TRANSMISSION PERFORMANCE (AT 20°C)

Freq. MHz	IL	NEXT	PS NEXT	ACR	PS ACR	ACRF	PS ACR-F	RL	Propagation Delay	Delay Skew	PS ANEXT	PS AACR-F
	Max. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Max. ns/100m	Max. ns/100m	Min. dB/100m	Min. dB/100m
1	2.08	78.30	76.30	76.22	74.22	71.80	68.80	20.00	570.00	45.00	67.00	67.00
4	3.80	69.27	67.27	65.47	63.47	59.76	56.76	23.01	552.00		67.00	66.16
8	5.31	64.75	62.75	59.44	57.44	53.74	50.74	24.52	546.73		67.00	60.14
10	5.93	63.30	61.30	57.37	55.37	51.80	48.80	25.00	545.38		67.00	58.20
16	7.49	60.24	58.24	52.75	50.75	47.72	44.72	25.00	543.00		67.00	54.12
20	8.38	58.78	56.78	50.41	48.41	45.78	42.78	25.00	542.05		67.00	52.18
25	9.38	57.33	55.33	47.95	45.95	43.84	40.84	24.32	541.20		67.00	50.24
31.25	10.50	55.88	53.88	45.37	43.37	41.90	38.90	23.64	540.44		67.00	48.30
62.5	14.99	51.36	49.36	36.37	34.37	35.88	32.88	21.54	538.55		65.56	42.28
100	19.14	48.30	46.30	29.17	27.17	31.80	28.80	20.11	537.60		62.50	38.20
150	23.68	45.66	43.66	21.98	19.98	28.28	25.28	18.87	536.94		59.86	34.68
200	27.58	43.78	41.78	16.21	14.21	25.78	22.78	18.00	536.55		57.98	32.18
250	31.07	42.33	40.33	11.26	9.26	23.84	20.84	17.32	536.28		56.53	30.24
300	34.27	41.14	39.14	6.88	4.88	22.26	19.26	16.77	536.08		55.34	28.66
350	37.25	40.14	38.14	2.89	0.89	20.92	17.92	16.30	535.92		54.34	27.32
400	40.05	39.27	37.27	N.A.	N.A.	19.76	16.76	15.89	535.80		53.47	26.16
450	42.71	38.50	36.50	N.A.	N.A.	18.74	15.74	15.53	535.70		52.70	25.14
500	45.26	37.82	35.82	N.A.	N.A.	17.82	14.82	15.21	535.61		52.02	24.22
550	47.70	37.19	35.19	N.A.	N.A.	16.99	13.99	14.92	535.54		51.39	23.39
600	50.05	36.63	34.63	N.A.	N.A.	16.24	13.24	14.66	535.47		50.83	22.64
650	52.33	36.11	34.11	N.A.	N.A.	15.54	12.54	14.42	535.41		50.31	21.94

*Values above 500 MHz are for information only

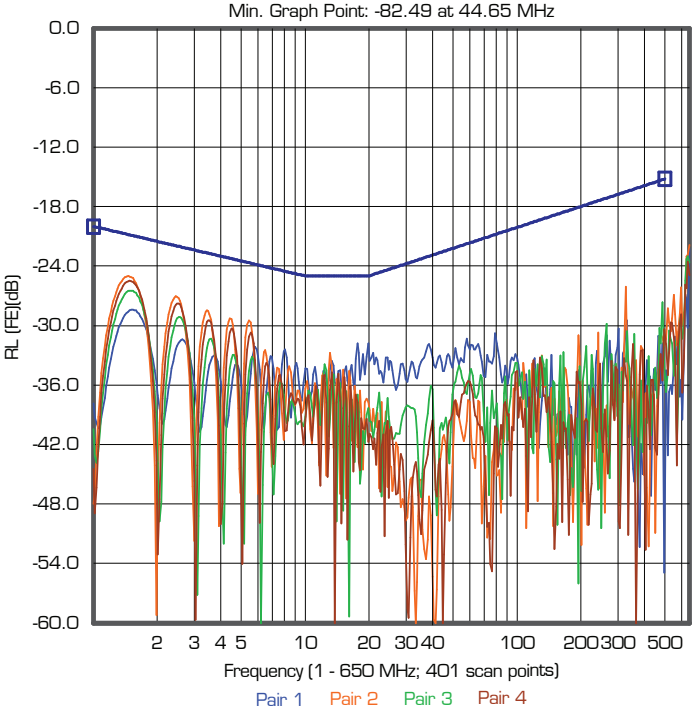
RL (NE) vs. Frequency

Max. Graph Point: -20.97 at 640.94 MHz
Min. Graph Point: -84.56 at 35.82 MHz



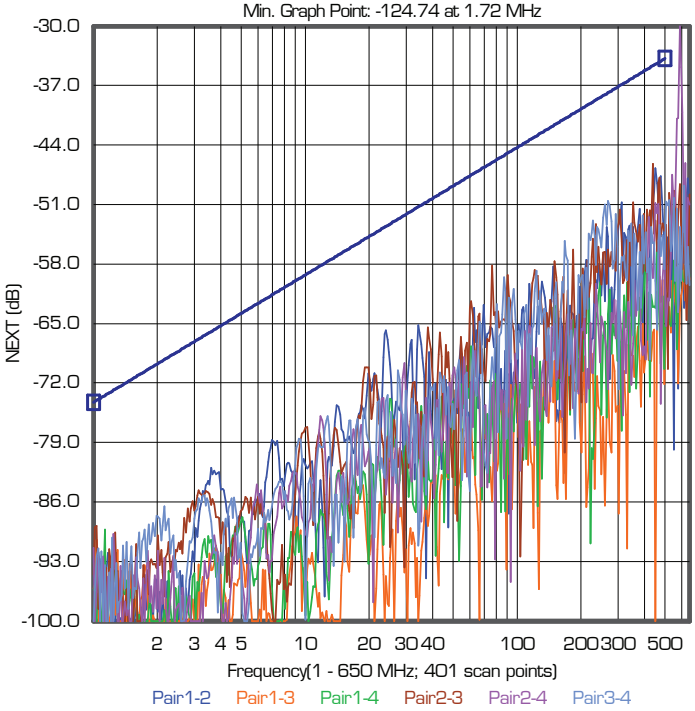
RL (FE) vs. Frequency

Max. Graph Point: -21.87 at 650.00 MHz
Min. Graph Point: -82.49 at 44.65 MHz



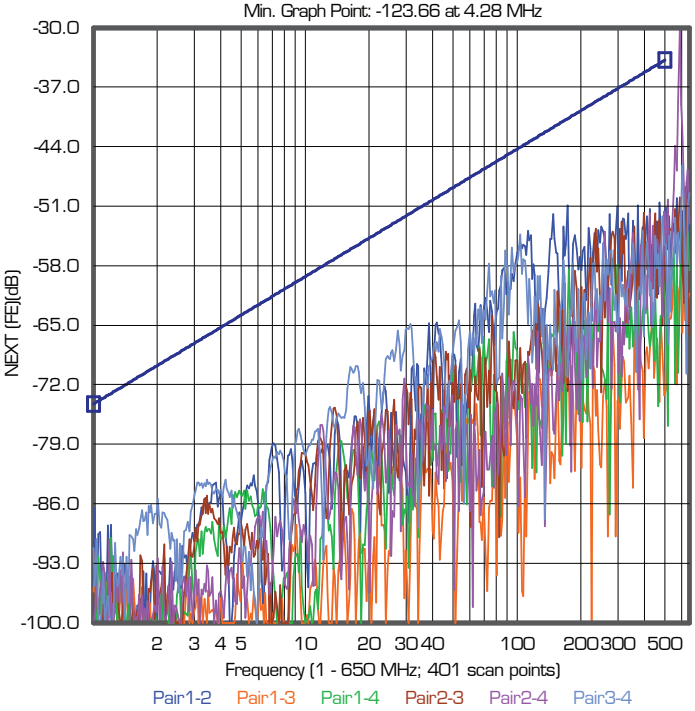
NEXT vs. Frequency

Max. Graph Point: -28.01 at 586.58 MHz
Min. Graph Point: -124.74 at 1.72 MHz



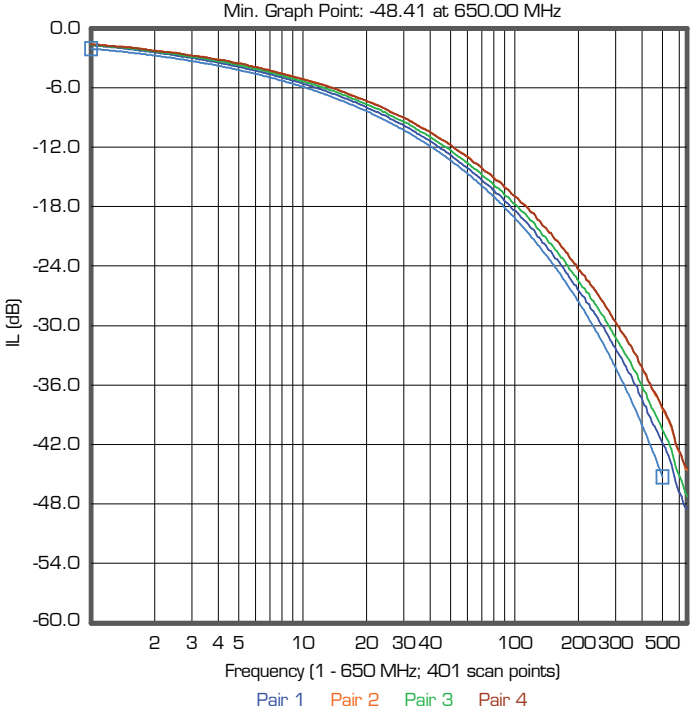
NEXT (FE) vs. Frequency

Max. Graph Point: -25.56 at 586.58 MHz
Min. Graph Point: -123.66 at 4.28 MHz



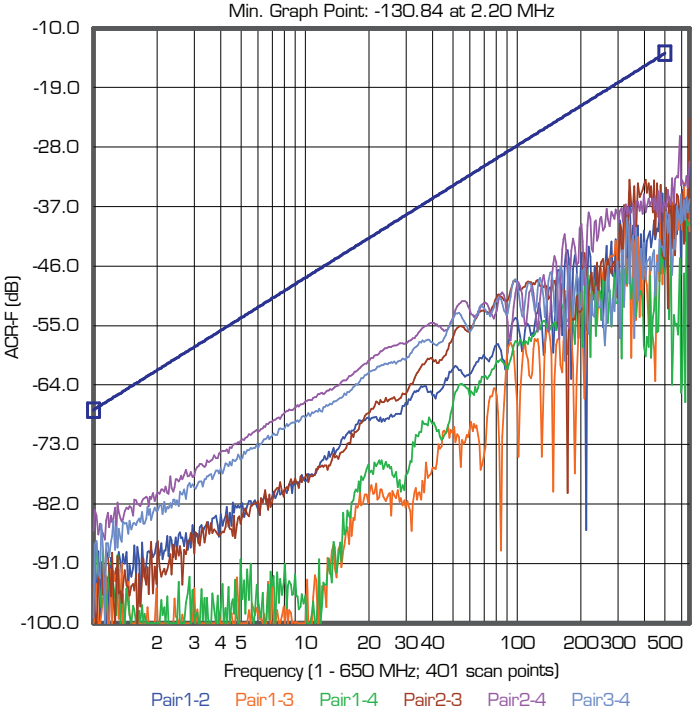
IL vs. Frequency

Max. Graph Point: -1.61 at 1.00 MHz
Min. Graph Point: -48.41 at 650.00 MHz



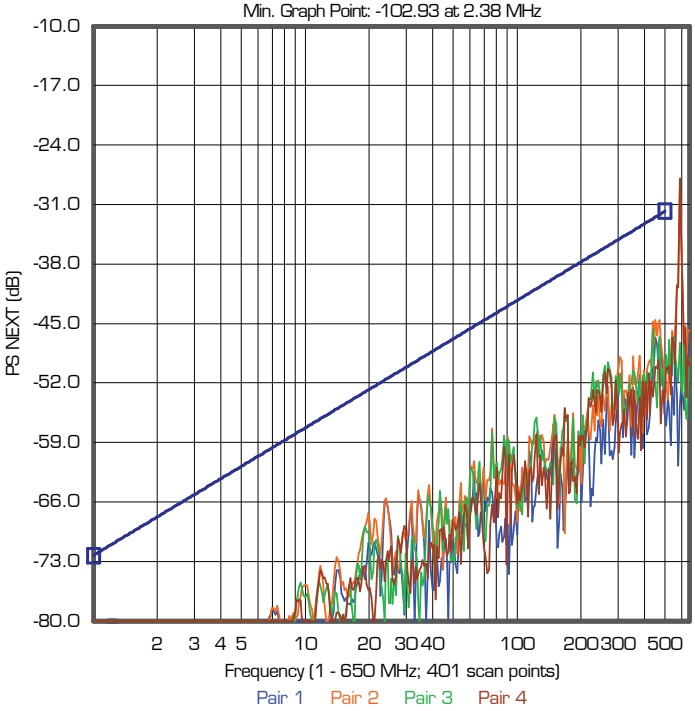
ACR-F vs. Frequency

Max. Graph Point: -23.69 at 650.00 MHz
Min. Graph Point: -130.84 at 2.20 MHz



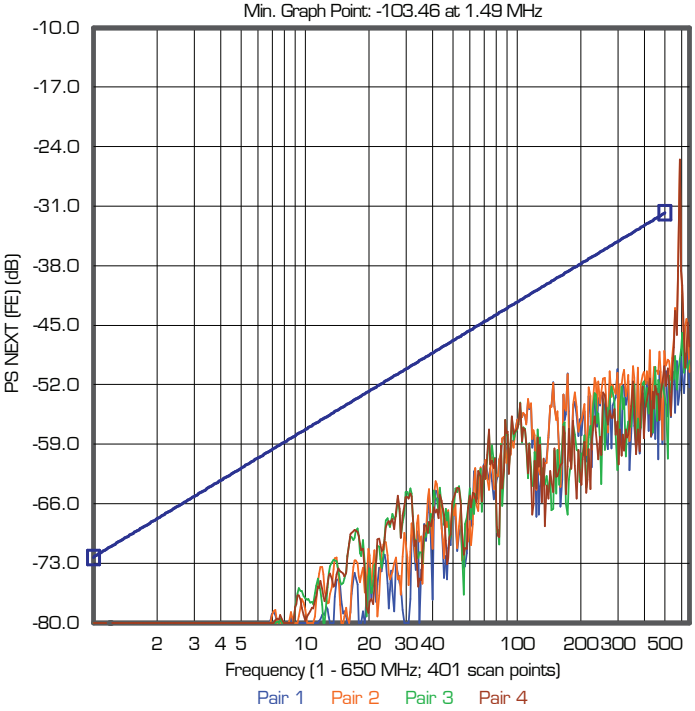
PS NEXT vs. Frequency

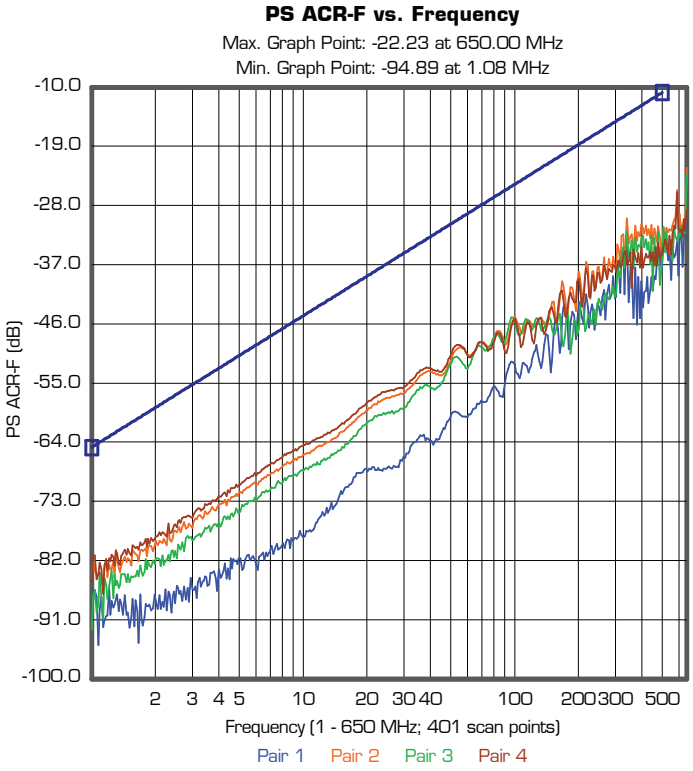
Max. Graph Point: -27.97 at 586.58 MHz
Min. Graph Point: -102.93 at 2.38 MHz



PS NEXT (FE) vs. Frequency

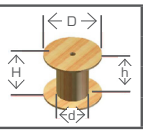
Max. Graph Point: -25.54 at 586.58 MHz
Min. Graph Point: -103.46 at 1.49 MHz





SHIPPING INFORMATION:

Item	Dimension	Nominal net weight
Cable	500 m	31.63 kg (69.73 lb)
Plywood reel	D500 x d220 x H330 x h300 mm	4.2 kg
Pallet	1150 x1150 x120 mm	14.1 kg



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