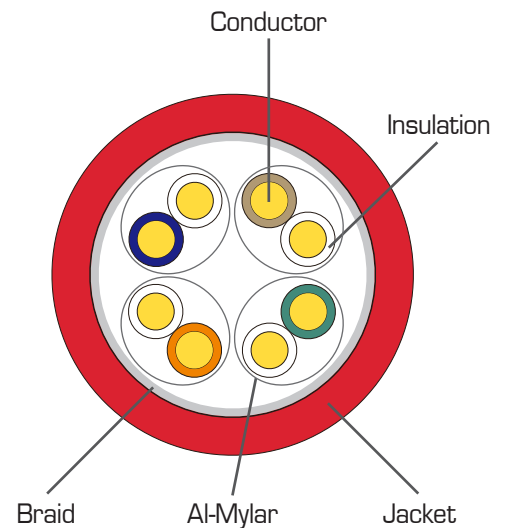


BCLS-45RD-5

CAT7 S/FTP LSZH Cable



Kramer's BCLS-45RD is a high performance CAT7 S/FTP cable designed for IT, LAN and Ethernet installations. Constructed with 23AWG solid bare copper conductors where each pair is individually shielded with metal foil screen and the entire cable is shielded with a tinned copper braid in a LSZH jacket with sequential markings every meter and packed on a fumigated plywood reel make this cable exceed CAT7 specifications to provide additional performance and bandwidth over the basic standard



Product Description	CAT7 S/FTP, 23AWG solid bare copper, LSZH. Each pair twist with metal foil screen. With braid wire.
Product Features	High performance of transmission. High quality of safety properties. Sweep frequency up to 750 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

Performance 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 50173-1:2011	Information technology. Generic cabling systems. General requirements
EN 50288-4-1:2013	Multi-element metallic cables used in analogue and digital communication and control - Part 4-1: Sectional specification for screened cables characterized up to 600 MHz - Horizontal and building backbone cables
EN 50173-1:2011	Information technology. Generic cabling systems, General requirements
Standards for flammability, acidity and smoke:	
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	1.33 ± 0.02 mm
		Orange & white	1.30 ± 0.02 mm
		Green & white	1.33 ± 0.02 mm
Brown & white		1.30 ± 0.02 mm	
Twisted	Description	Left hand direction	
Shield	Material	Al Mylar tape	
	Description	100 % coverage and aluminum side facing out	
Assembly	Description	Left hand direction	
Braid	Material	Tinned copper	
	Description	> 30 % coverage	
Jacket	Material	Low smoke zero halogen (LSZH)	
	Diameter	7.70 ± 0.2 mm	
	Thickness	0.50 ± 0.05 mm	
	Color	Red [Pantone 1797C]	

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	≤ 9.5 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	≤ 160 pF/100m
Characteristic Impedance	@1~100MHz, 100±15 Ohm
Insulation Tensile Strength	2400 PSI MIN. (1.69 Kg/m ²)
NVP	73%

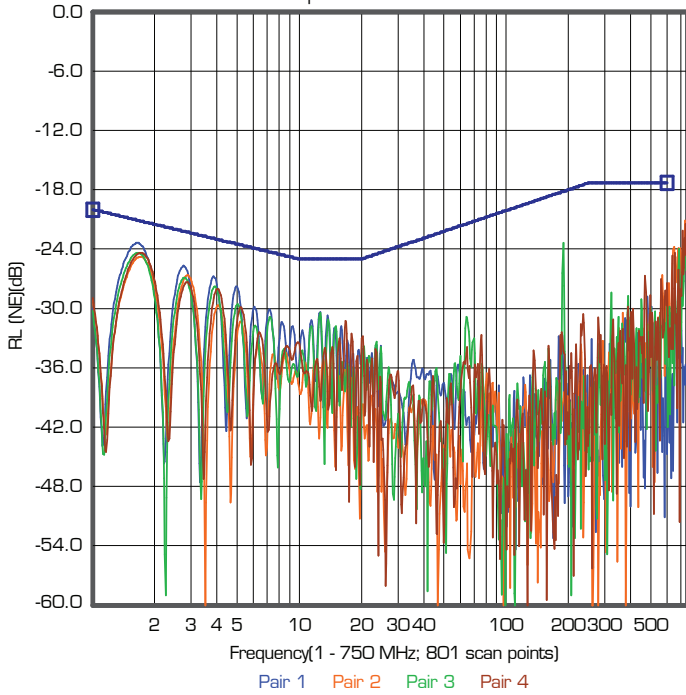
TRANSMISSION PERFORMANCE (AT 20°C)

Freq. MHz	IL	NEXT	PS NEXT	ACR	PS ACR	ACR-F	PS ACR-F	RL	Propagation Delay	Delay Skew
	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
4	3.74	78.00	75.00	74.26	71.26	78.00	75.00	23.01	552.00	25.00
8	5.24	78.00	75.00	72.76	69.76	75.94	72.94	24.52	546.73	
10	5.86	78.00	75.00	72.14	69.14	74.00	71.00	25.00	545.38	
16	7.41	78.00	75.00	70.59	67.59	69.92	66.92	25.00	543.00	
20	8.29	78.00	75.00	69.71	66.71	67.98	64.98	25.00	542.05	
25	9.29	78.00	75.00	68.71	65.71	66.04	63.04	24.32	541.20	
31.25	10.41	78.00	75.00	67.59	64.59	64.10	61.10	23.64	540.44	
62.5	14.88	75.46	72.46	60.58	57.58	58.08	55.08	21.54	538.55	
100	19.02	72.40	69.40	53.38	50.38	54.00	51.00	20.11	537.60	
150	23.56	69.76	66.76	46.20	43.20	50.48	47.48	18.87	536.94	
200	27.47	67.88	64.88	40.41	37.41	47.98	44.98	18.00	536.55	
250	30.97	66.43	63.43	35.46	32.46	46.04	43.04	17.32	536.28	
300	34.19	65.24	62.24	31.05	28.05	44.46	41.46	17.30	536.08	
350	37.19	64.24	61.24	27.05	24.05	43.12	40.12	17.30	535.92	
400	40.01	63.37	60.37	23.36	20.36	41.96	38.96	17.30	535.80	
450	42.69	62.60	59.60	19.91	16.91	40.94	37.94	17.30	535.70	
500	45.26	61.92	58.92	16.66	13.66	40.02	37.02	17.30	535.61	
550	47.72	61.29	58.29	13.57	10.57	39.19	36.19	17.30	535.54	
600	50.10	60.73	57.73	10.63	7.63	38.44	35.44	17.30	535.47	
700	54.63	59.72	56.72	5.09	2.09	37.10	34.10	16.63	535.36	
750	56.80	59.27	56.27	2.47	N.A.	36.50	33.50	16.33	535.31	

*Values above 600 MHz are for information only

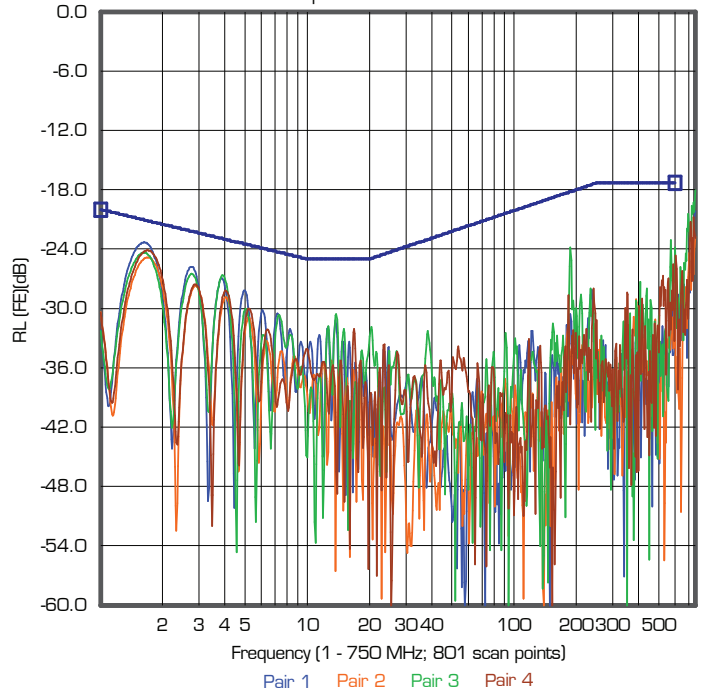
RL (NE) vs. Frequency

Max. Graph Point: -21.1 at 733.96 MHz
 Min. Graph Point: -68.5 at 98.27 MHz



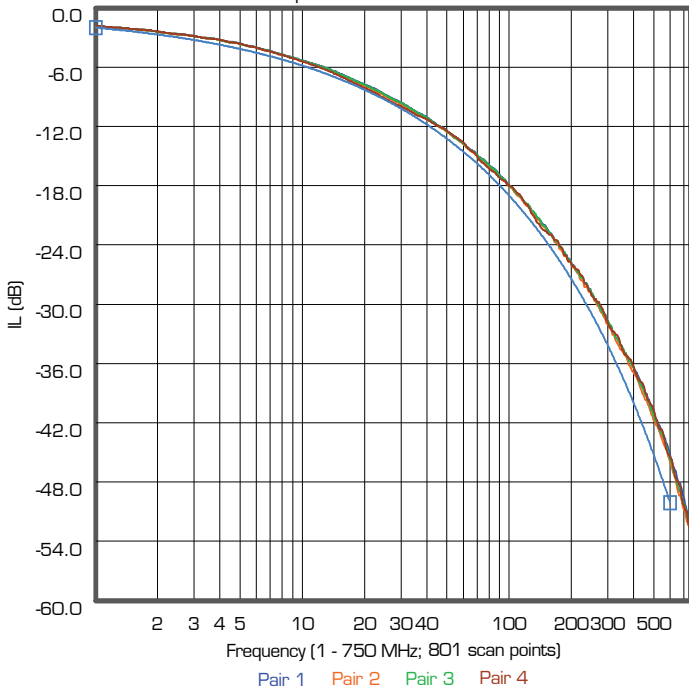
RL (FE) vs. Frequency

Max. Graph Point: -18.1 at 750.00 MHz
 Min. Graph Point: -63.6 at 72.35 MHz



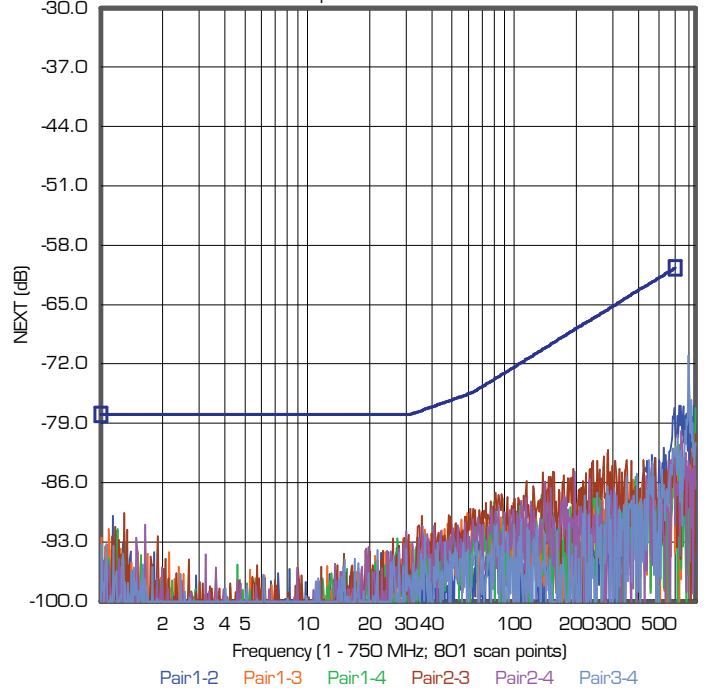
IL vs. Frequency

Max. Graph Point: -1.80 at 1.00 MHz
 Min. Graph Point: -52.55 at 750.00 MHz



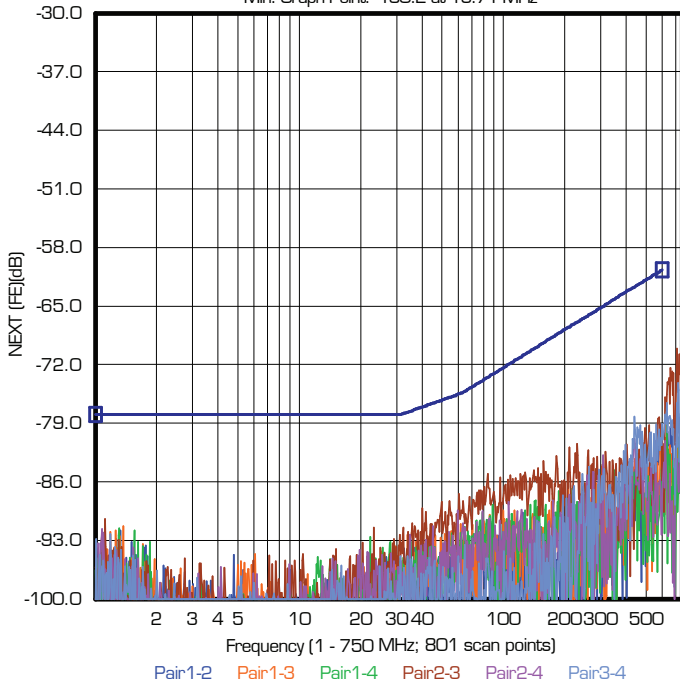
NEXT vs. Frequency

Max. Graph Point: -71.1 at 696.54 MHz
 Min. Graph Point: -138.7 at 1.48 MHz



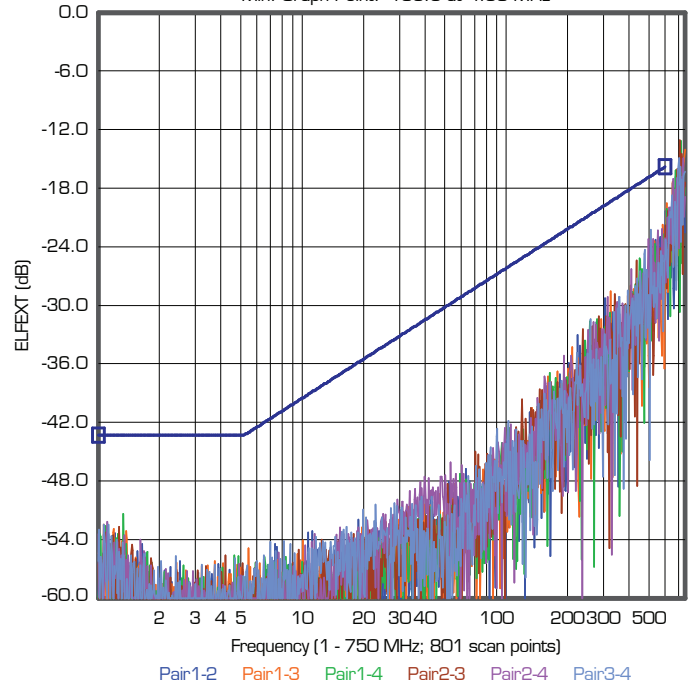
NEXT (FE) vs. Frequency

Max. Graph Point: -70.1 at 707.23 MHz
 Min. Graph Point: -130.2 at 16.71 MHz



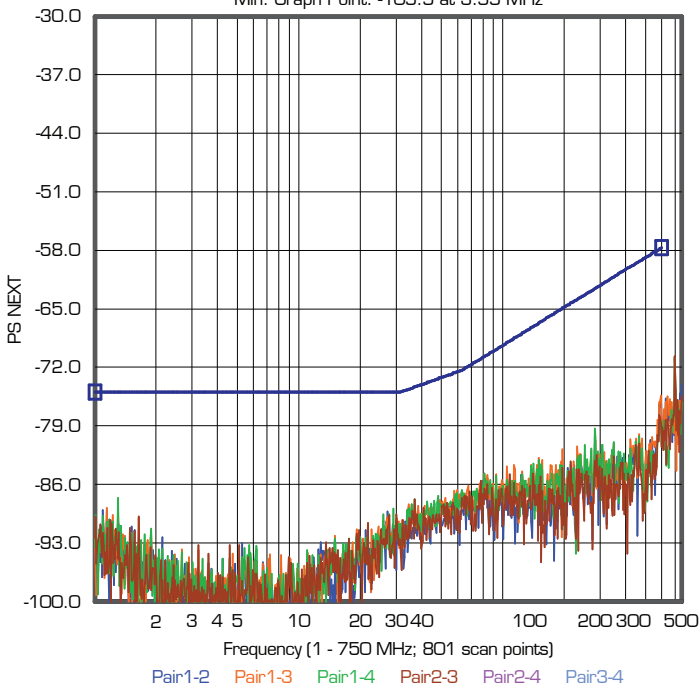
ELFEXT vs. Frequency

Max. Graph Point: -29.6 at 707.23 MHz
 Min. Graph Point: -136.6 at 4.68 MHz



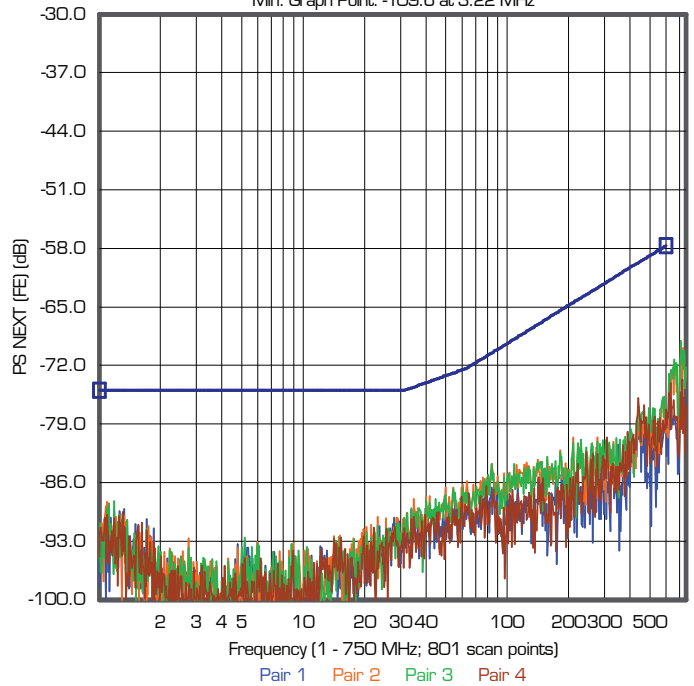
PS NEXT vs. Frequency

Max. Graph Point: -70.7 at 696.54 MHz
 Min. Graph Point: -109.9 at 3.99 MHz



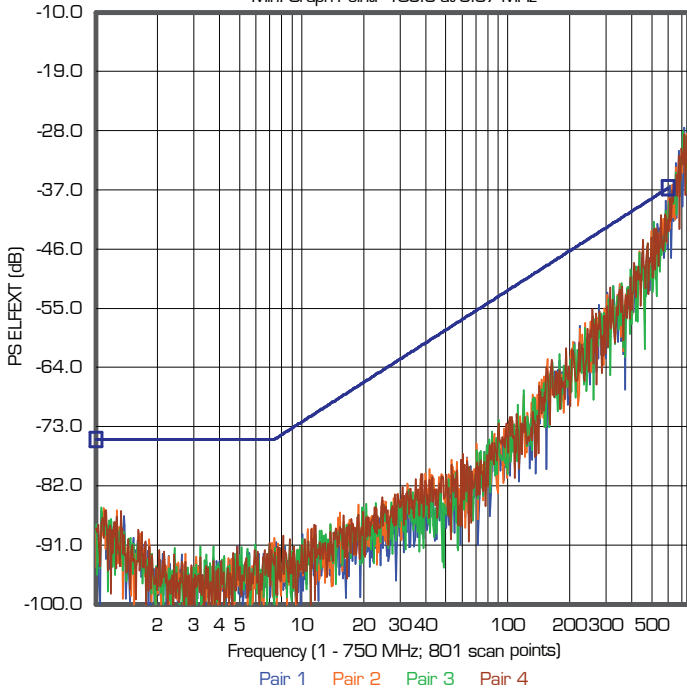
PS NEXT (FE) vs. Frequency

Max. Graph Point: -69.1 at 707.23 MHz
 Min. Graph Point: -109.6 at 3.22 MHz



PS ELFEXT vs. Frequency

Max. Graph Point: -27.6 at 717.92 MHz
 Min. Graph Point: -105.3 at 3.37 MHz



KRAMER ELECTRONICS
 E-mail: info@kramerel.com
 Web: www.KramerAV.com

SHIPPING INFORMATION:

Item	Dimension	Nominal net weight	
Cable	500 m	27.68 kg (61.02 lb)	
Plywood reel	D450 x d220 x H330 x h300 mm	3.9 kg	
Pallet	1150 x 1150 x 120 mm	14.1 kg	