LDF1RK-50

LDF1-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated fire retardant jacket, B2ca s1a d0 a1 Compliant

Product Classification

Product Type	Coaxial wireless cable
Product Brand	HELIAX®
Product Series	LDF1-50

General Specifications

Product Number	520100502/00
Flexibility	Standard
Jacket Color	Black
Performance Note	Attenuation values typical, guaranteed within 5%

Dimensions

Diameter Over Dielectric	6.858 mm | 0.27 in
Diameter Over Jacket	9.017 mm | 0.355 in
Inner Conductor OD	2.54 mm | 0.1 in
Outer Conductor OD	7.874 mm | 0.31 in
Nominal Size	1/4 in

Electrical Specifications

Cable Impedance	50 ohm ±1 ohm
Capacitance	77 pF/m | 23.47 pF/ft
dc Resistance, Inner Conductor	5.151 ohms/km | 1.57 ohms/kft
dc Resistance, Outer Conductor	4.003 ohms/km | 1.22 ohms/kft
dc Test Voltage	2200 V
Inductance	0.194 µH/m | 0.059 µH/ft
Insulation Resistance	100000 MOhms-km
Jacket Spark Test Voltage (rms)	5000 V
Operating Frequency Band	1 – 15800 MHz

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Peak Power	12.1 kW
Velocity	86 %

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
680–960 MHz	1.201	20.79
1700–2200 MHz	1.201	20.79
2200–2700 MHz	1.433	14.99

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
1.0	0.394	0.12	12.1
1.5	0.483	0.147	12.1
2.0	0.558	0.17	12.1
10.0	1.254	0.382	5.83
20.0	1.781	0.543	4.11
30.0	2.188	0.667	3.34
50.0	2.838	0.865	2.58
85.0	3.724	1.135	1.96
88.0	3.791	1.156	1.93
100.0	4.049	1.234	1.81
108.0	4.213	1.284	1.74
150.0	4.993	1.522	1.47
174.0	5.392	1.644	1.36
200.0	5.798	1.767	1.26
204.0	5.858	1.785	1.25
300.0	7.168	2.185	1.02
400.0	8.342	2.543	0.88
450.0	8.88	2.706	0.82
460.0	8.984	2.738	0.81
500.0	9.391	2.862	0.78
512.0	9.511	2.899	0.77
600.0	10.351	3.155	0.71
700.0	11.244	3.427	0.65
800.0	12.084	3.683	0.61

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824.0	12.278	3.742	0.6
894.0	12.833	3.911	0.57
960.0	13.339	4.066	0.55
1000.0	13.639	4.157	0.54
1218.0	15.192	4.63	0.48
1250.0	15.41	4.697	0.47
1500.0	17.04	5.194	0.43
1700.0	18.266	5.567	0.4
1794.0	18.823	5.737	0.39
1800.0	18.858	5.748	0.39
2000.0	20.003	6.097	0.37
2100.0	20.559	6.266	0.36
2200.0	21.104	6.432	0.35
2300.0	21.64	6.596	0.34
2500.0	22.686	6.914	0.32
2700.0	23.701	7.224	0.31
3000.0	25.171	7.672	0.29
3400.0	27.048	8.244	0.27
3600.0	27.956	8.521	0.26
3700.0	28.403	8.657	0.26
3800.0	28.846	8.792	0.25
3900.0	29.284	8.925	0.25
4000.0	29.719	9.058	0.25
4100.0	30.149	9.189	0.24
4200.0	30.576	9.319	0.24
4300.0	30.999	9.448	0.24
4400.0	31.419	9.576	0.23
4500.0	31.835	9.703	0.23
4600.0	32.249	9.829	0.23
4700.0	32.659	9.954	0.22
4800.0	33.066	10.078	0.22
4900.0	33.47	10.201	0.22
5000.0	33.871	10.323	0.22
6000.0	37.742	11.503	0.19
8000.0	44.888	13.681	0.16

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8800.0	47.579	14.501	0.15
10000.0	51.475	15.689	0.14
12000.0	57.664	17.575	0.13
14000.0	63.552	19.37	0.12
15800.0	68.646	20.922	0.11

Material Specifications

Dielectric Material	Foam PE
Jacket Material	Non-halogenated, fire retardant polyolefin
Inner Conductor Material	Copper-clad aluminum wire
Outer Conductor Material	Corrugated copper

Mechanical Specifications

Minimum Bend Radius, multiple Bends	76.2 mm | 3 in
Minimum Bend Radius, single Bend	38.1 mm | 1.5 in
Number of Bends, minimum	15
Number of Bends, typical	30
Tensile Strength	91 kg | 200.62 lb
Bending Moment	1.4 N-m | 12.391 in lb
Flat Plate Crush Strength	1.4 kg/mm | 78.396 lb/in

Environmental Specifications

Installation temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Storage Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Attenuation, Ambient Temperature	68 °F | 20 °C
Average Power, Ambient Temperature	104 °F | 40 °C
Average Power, Inner Conductor Temperature	212 °F | 100 °C
EN50575 CPR Cable EuroClass Fire Performance	B2ca
EN50575 CPR Cable EuroClass Smoke Rating	s1a
EN50575 CPR Cable EuroClass Droplets Rating	d0
EN50575 CPR Cable EuroClass Acidity Rating	a1
Fire Retardancy Test Method	IEC 60332-1-2 | IEC 60332-3C-24 | NFPA 130-2010 | UL 1666 /CATVR/CMR | UL 1685

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Smoke Index Test Method	IEC 61034
Toxicity Index Test Method	IEC 60754-1 | IEC 60754-2

Packaging and Weights

Cable weight	0.09 kg/m | 0.06 lb/ft

Regulatory Compliance/Certifications

Agency	Classification
CENELEC	EN 50575 compliant, Declaration of Performance (DoP) available
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on www.andrew.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant

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