

# 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

<b>Brand</b>	HELIAX®
<b>Product Series</b>	LDF1-50
<b>Product Type</b>	Coaxial wireless cable

## Standards And Qualifications

<b>EN50575 CPR Cable EuroClass</b>	B2ca   s1a   d0   a1
------------------------------------	----------------------

## Construction Materials

<b>Jacket Material</b>	Non-halogenated, fire retardant polyolefin
<b>Outer Conductor Material</b>	Corrugated copper
<b>Dielectric Material</b>	Foam PE
<b>Flexibility</b>	Standard
<b>Inner Conductor Material</b>	Copper-clad aluminum wire
<b>Jacket Color</b>	Black

## Dimensions

<b>Nominal Size</b>	1/4 in
<b>Cable Weight</b>	0.06 lb/ft   0.09 kg/m
<b>Diameter Over Dielectric</b>	6.858 mm   0.270 in
<b>Diameter Over Jacket</b>	9.017 mm   0.355 in
<b>Inner Conductor OD</b>	2.5400 mm   0.1000 in
<b>Outer Conductor OD</b>	7.874 mm   0.310 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±1 ohm
<b>Capacitance</b>	23.0 pF/ft   77.0 pF/m
<b>dc Resistance, Inner Conductor</b>	1.570 ohms/kft   5.151 ohms/km
<b>dc Resistance, Outer Conductor</b>	1.220 ohms/kft   4.003 ohms/km
<b>dc Test Voltage</b>	2200 V
<b>Inductance</b>	0.059 µH/m   0.018 µH/ft
<b>Insulation Resistance</b>	100000 Mohms•km
<b>Jacket Spark Test Voltage (rms)</b>	5000 V
<b>Operating Frequency Band</b>	1 – 15800 MHz
<b>Peak Power</b>	12.1 kW

# LDF1RK-50

---

**Velocity** 86 %

## 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)

## Mechanical Specifications

**Bending Moment** 1.4 N-m | 1.0 ft lb  
**Fire Retardancy Test Method** IEC 60332-1 | IEC 60332-3C-24 | NFPA 130-2010 | UL 1666/CATVR/CMR | UL 1685  
**Flat Plate Crush Strength** 80.0 lb/in | 1.4 kg/mm  
**Minimum Bend Radius, Multiple Bends** 76.20 mm | 3.00 in  
**Minimum Bend Radius, Single Bend** 38.10 mm | 1.50 in  
**Number of Bends, minimum** 15  
**Number of Bends, typical** 30  
**Smoke Index Test Method** IEC 61034  
**Tensile Strength** 91 kg | 200 lb  
**Toxicity Index Test Method** IEC 60754-1 | IEC 60754-2

## Note

**Performance Note** Values typical, unless otherwise stated

## Standard Conditions

**Attenuation, Ambient Temperature** 20 °C | 68 °F  
**Average Power, Ambient Temperature** 40 °C | 104 °F  
**Average Power, Inner Conductor Temperature** 100 °C | 212 °F

## Return Loss/VSWR

Frequency Band	VSWR	Return Loss (dB)
680–960 MHz	1.2	20.80
1700–2200 MHz	1.2	20.80
2200–2700 MHz	1.43	15.00

## Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.278	0.085	12.10
1	0.394	0.12	12.10
1.5	0.483	0.147	12.10
2	0.558	0.17	12.10
10	1.254	0.382	5.83
20	1.781	0.543	4.11
30	2.188	0.667	3.34
50	2.838	0.865	2.58
85	3.724	1.135	1.96
88	3.791	1.156	1.93
100	4.049	1.234	1.81
108	4.213	1.284	1.74
150	4.993	1.522	1.47
174	5.392	1.644	1.36
200	5.798	1.767	1.26
204	5.858	1.785	1.25
300	7.168	2.185	1.02
400	8.342	2.543	0.88
450	8.88	2.706	0.82
460	8.984	2.738	0.81
460	8.984	2.738	0.81
500	9.391	2.862	0.78
512	9.511	2.899	0.77
600	10.351	3.155	0.71
700	11.244	3.427	0.65
800	12.084	3.683	0.61
824	12.278	3.742	0.60
894	12.833	3.911	0.57
960	13.339	4.066	0.55
1000	13.639	4.157	0.54
1218	15.192	4.63	0.48
1250	15.41	4.697	0.47
1500	17.04	5.194	0.43
1700	18.266	5.567	0.40
1794	18.823	5.737	0.39
1800	18.858	5.748	0.39
2000	20.003	6.097	0.37
2100	20.559	6.266	0.36
2200	21.104	6.432	0.35
2300	21.64	6.596	0.34
2500	22.686	6.914	0.32
2700	23.701	7.224	0.31
3000	25.171	7.672	0.29
3400	27.048	8.244	0.27
3600	27.956	8.521	0.26

# LDF1RK-50

---

3700	28.403	8.657	0.26
3800	28.846	8.792	0.25
3900	29.284	8.925	0.25
4000	29.719	9.058	0.25
4100	30.149	9.189	0.24
4200	30.576	9.319	0.24
4300	30.999	9.448	0.24
4400	31.419	9.576	0.23
4500	31.835	9.703	0.23
4600	32.249	9.829	0.23
4700	32.659	9.954	0.22
4800	33.066	10.078	0.22
4900	33.47	10.201	0.22
5000	33.871	10.323	0.22
6000	37.742	11.503	0.19
8000	44.888	13.681	0.16
8800	47.579	14.501	0.15
10000	51.475	15.689	0.14
12000	57.664	17.575	0.13
14000	63.552	19.37	0.12
15800	68.646	20.922	0.11

\* Values typical, guaranteed within 5%

## Regulatory Compliance/Certifications

### Agency

RoHS 2011/65/EU

ISO 9001:2015

China RoHS SJ/T 11364-2014

CENELEC

### Classification

Compliant

Designed, manufactured and/or distributed under this quality management system

Below Maximum Concentration Value (MCV)

EN 50575 compliant, Declaration of Performance (DoP) available



CENELEC