

# LDF1-50



LDF1-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black PE jacket

## Product Classification

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

## Construction Materials

<b>Jacket Material</b>	PE
<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>	0.09 kg/m
<b>Diameter Over Dielectric</b>	6.858 mm   0.270 in
<b>Diameter Over Jacket</b>	8.763 mm   0.345 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 $\pm$ 1 ohm
<b>Capacitance</b>	76.8 pF/m   23.4 pF/ft
<b>dc Resistance, Inner Conductor</b>	5.151 ohms/km
<b>dc Resistance, Outer Conductor</b>	4.003 ohms/km
<b>dc Test Voltage</b>	2200 V
<b>Inductance</b>	0.194 $\mu$ H/m   0.059 $\mu$ H/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
<b>Velocity</b>	86 %

## Environmental Specifications

<b>Installation Temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
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<b>Operating Temperature</b>	-55 °C to +85 °C (-67 °F to +185 °F)
<b>Storage Temperature</b>	-70 °C to +85 °C (-94 °F to +185 °F)

## Mechanical Specifications

<b>Bending Moment</b>	1.4 N-m   1.0 ft lb
<b>Flat Plate Crush Strength</b>	1.4 kg/mm
<b>Minimum Bend Radius, Multiple Bends</b>	76.20 mm   3.00 in
<b>Minimum Bend Radius, Single Bend</b>	38.10 mm   1.50 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	30
<b>Tensile Strength</b>	91 kg   201 lb

## Note

<b>Performance Note</b>	Values typical, unless otherwise stated
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## Standard Conditions

<b>Attenuation, Ambient Temperature</b>	20 °C   68 °F
<b>Average Power, Ambient Temperature</b>	40 °C   104 °F
<b>Average Power, Inner Conductor Temperature</b>	100 °C   212 °F

## Return Loss/VSWR

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>	<b>VSWR, typical</b>	<b>Return Loss, typical (dB)</b>
806–960 MHz	1.15	23.00		
1700–2000 MHz	1.15	23.00		
4000–6000 MHz	1.43	15.00	1.29	18.00

## 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
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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

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

### Classification

Compliant

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

Above Maximum Concentration Value (MCV)

