

# LDF1-50

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



## Product Classification

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

## General Specifications

<b>Flexibility</b>	Standard
<b>Jacket Color</b>	Black

## Dimensions

<b>Diameter Over Dielectric</b>	6.858 mm   0.27 in
<b>Diameter Over Jacket</b>	8.763 mm   0.345 in
<b>Inner Conductor OD</b>	2.54 mm   0.1 in
<b>Outer Conductor OD</b>	7.874 mm   0.31 in
<b>Nominal Size</b>	1/4 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm $\pm$ 1 ohm
<b>Capacitance</b>	76.8 pF/m   23.409 pF/ft
<b>dc Resistance, Inner Conductor</b>	5.151 ohms/km   1.57 ohms/kft
<b>dc Resistance, Outer Conductor</b>	4.003 ohms/km   1.22 ohms/kft
<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

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**Peak Power** 12.1 kW

**Velocity** 86 %

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)	VSWR, typical	Return Loss, typical (dB)
806–960 MHz	1.15	23.13		
1700–2000 MHz	1.15	23.13		
4000–6000 MHz	1.44	15	1.29	18

## 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
824.0	12.278	3.742	0.6

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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
8800.0	47.579	14.501	0.15
10000.0	51.475	15.689	0.14

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<b>12000.0</b>	57.664	17.575	0.13
<b>14000.0</b>	63.552	19.37	0.12
<b>15800.0</b>	68.646	20.922	0.11

## Material Specifications

<b>Dielectric Material</b>	Foam PE
<b>Jacket Material</b>	PE
<b>Inner Conductor Material</b>	Copper-clad aluminum wire
<b>Outer Conductor Material</b>	Corrugated copper

## Mechanical Specifications

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

## Environmental Specifications

<b>Installation temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
<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)
<b>Attenuation, Ambient Temperature</b>	68 °F   20 °C
<b>Average Power, Ambient Temperature</b>	104 °F   40 °C
<b>Average Power, Inner Conductor Temperature</b>	212 °F   100 °C

## Packaging and Weights

<b>Cable weight</b>	0.09 kg/m   0.06 lb/ft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
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 <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>

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ROHS

Compliant

