



Heat Treated FSJ1-50A, HELIAX® Superflexible 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>	FSJ1-50A

## General Specifications

<b>Flexibility</b>	Superflexible
<b>Jacket Color</b>	Black
<b>Performance Note</b>	Attenuation values typical, guaranteed within 5%

## Dimensions

<b>Diameter Over Dielectric</b>	4.826 mm   0.19 in
<b>Diameter Over Jacket</b>	7.366 mm   0.29 in
<b>Inner Conductor OD</b>	1.905 mm   0.075 in
<b>Outer Conductor OD</b>	6.35 mm   0.25 in
<b>Nominal Size</b>	1/4 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±1 ohm
<b>Capacitance</b>	79.4 pF/m   24.201 pF/ft
<b>dc Resistance, Inner Conductor</b>	9.843 ohms/km   3 ohms/kft
<b>dc Resistance, Outer Conductor</b>	6.562 ohms/km   2 ohms/kft
<b>dc Test Voltage</b>	1600 V
<b>Inductance</b>	0.2 µH/m   0.061 µH/ft
<b>Insulation Resistance</b>	100000 MOhms-km

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<b>Jacket Spark Test Voltage (rms)</b>	5000 V
<b>Operating Frequency Band</b>	1 – 18000 MHz
<b>Peak Power</b>	6.4 kW
<b>Velocity</b>	82 %

## VSWR/Return Loss

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

## Attenuation

<b>Frequency (MHz)</b>	<b>Attenuation (dB/100 m)</b>	<b>Attenuation (dB/100 ft)</b>
<b>0.5</b>	0.407	0.124
<b>1.0</b>	0.577	0.176
<b>1.5</b>	0.707	0.215
<b>2.0</b>	0.816	0.249
<b>10.0</b>	1.833	0.559
<b>20.0</b>	2.6	0.792
<b>30.0</b>	3.192	0.973
<b>50.0</b>	4.136	1.261
<b>85.0</b>	5.419	1.652
<b>88.0</b>	5.516	1.681
<b>100.0</b>	5.889	1.795
<b>108.0</b>	6.12	1.867
<b>150.0</b>	7.25	2.21
<b>174.0</b>	7.825	2.385
<b>200.0</b>	8.408	2.563
<b>204.0</b>	8.495	2.589
<b>300.0</b>	10.373	3.162
<b>400.0</b>	12.051	3.673
<b>450.0</b>	12.817	3.906
<b>500.0</b>	13.545	4.128
<b>512.0</b>	13.715	4.18
<b>600.0</b>	14.909	4.544

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700.0	16.175	4.93
800.0	17.362	5.292
824.0	17.637	5.376
894.0	18.42	5.614
960.0	19.134	5.832
1000.0	19.556	5.96
1218.0	21.738	6.626
1250.0	22.044	6.719
1500.0	24.326	7.414
1700.0	26.038	7.936
1794.0	26.813	8.172
1800.0	26.862	8.187
2000.0	28.455	8.673
2100.0	29.227	8.908
2200.0	29.984	9.139
2300.0	30.727	9.365
2500.0	32.174	9.806
2700.0	33.576	10.233
3000.0	35.602	10.851
3400.0	38.183	11.638
3700.0	40.041	12.204
4000.0	41.841	12.753
5000.0	47.5	14.477
6000.0	52.747	16.077
8000.0	62.37	19.01
8800.0	65.974	20.108
10000.0	71.173	21.693
12000.0	79.393	24.198
14000.0	87.172	26.569
15800.0	93.872	28.611
16000.0	94.601	28.833
18000.0	101.745	31.01

## Material Specifications

**Dielectric Material**

Foam PE

**Jacket Material**

PE

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<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>	25.4 mm   1 in
<b>Minimum Bend Radius, single Bend</b>	25.4 mm   1 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	20
<b>Tensile Strength</b>	68 kg   149.914 lb
<b>Bending Moment</b>	1.1 N-m   9.736 in lb
<b>Flat Plate Crush Strength</b>	1.8 kg/mm   100.795 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>	0.07 kg/m   0.047 lb/ft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
UL/ETL Certification	Compliant

