

# FSJ4-50B



FSJ4-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket (Halogen free jacketing non-fire-retardant)

## Product Classification

<b>Brand</b>	HELIAX®   SureFlex®
<b>Product Series</b>	FSJ4-50B
<b>Product Type</b>	Coaxial wireless cable

## Standards And Qualifications

<b>EN50575 CPR Cable EuroClass</b>	Fca
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## Construction Materials

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

## Dimensions

<b>Nominal Size</b>	1/2 in
<b>Cable Weight</b>	0.21 kg/m
<b>Diameter Over Dielectric</b>	8.890 mm   0.350 in
<b>Diameter Over Jacket</b>	13.462 mm   0.530 in
<b>Inner Conductor OD</b>	3.5560 mm   0.1400 in
<b>Outer Conductor OD</b>	12.192 mm   0.480 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm $\pm$ 1 ohm
<b>Capacitance</b>	82.7 pF/m   25.2 pF/ft
<b>dc Resistance, Inner Conductor</b>	2.690 ohms/km
<b>dc Resistance, Outer Conductor</b>	5.120 ohms/km
<b>dc Test Voltage</b>	2500 V

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<b>Inductance</b>	0.207 $\mu$ H/m   0.063 $\mu$ H/ft
<b>Insulation Resistance</b>	100000 Mohms•km
<b>Jacket Spark Test Voltage (rms)</b>	5000 V
<b>Operating Frequency Band</b>	1 – 10200 MHz
<b>Peak Power</b>	22.5 kW
<b>Velocity</b>	81 %

## 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)

## General Specifications

<b>Ordering Note</b>	CommScope® standard product (Global)
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## Mechanical Specifications

<b>Bending Moment</b>	2.7 N-m   2.0 ft lb
<b>Flat Plate Crush Strength</b>	2.0 kg/mm
<b>Minimum Bend Radius, Multiple Bends</b>	31.75 mm   1.25 in
<b>Minimum Bend Radius, Single Bend</b>	31.75 mm   1.25 in
<b>Number of Bends, minimum</b>	20
<b>Tensile Strength</b>	79 kg   174 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>
680–800 MHz	1.2	20.80
800–960 MHz	1.2	20.80
1700–2200 MHz	1.2	20.80
2300–2700 MHz	1.2	20.80

## Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.231	0.07	22.50
1	0.327	0.1	22.50
1.5	0.401	0.122	22.50
2	0.463	0.141	22.50
10	1.044	0.318	10.14
20	1.485	0.453	7.12
30	1.828	0.557	5.79
50	2.377	0.724	4.45
85	3.13	0.954	3.38
88	3.187	0.971	3.32
100	3.406	1.038	3.11
108	3.546	1.081	2.98
150	4.214	1.285	2.51
174	4.558	1.389	2.32
200	4.908	1.496	2.16
204	4.96	1.512	2.13
300	6.095	1.858	1.74
400	7.121	2.17	1.49
450	7.592	2.314	1.39
460	7.684	2.342	1.38
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500	8.042	2.451	1.32
512	8.148	2.483	1.30
600	8.891	2.71	1.19
700	9.683	2.951	1.09
800	10.431	3.179	1.01
824	10.605	3.232	1.00
894	11.101	3.383	0.95
960	11.555	3.522	0.92
1000	11.824	3.604	0.89
1218	13.226	4.031	0.80
1250	13.423	4.091	0.79
1500	14.906	4.543	0.71
1700	16.027	4.885	0.66
1794	16.537	5.04	0.64
1800	16.57	5.05	0.64
2000	17.624	5.371	0.60
2100	18.137	5.528	0.58
2200	18.641	5.682	0.57
2300	19.138	5.833	0.55
2500	20.11	6.129	0.53
2700	21.056	6.418	0.50
3000	22.432	6.837	0.47
3400	24.198	7.375	0.44
3600	25.055	7.636	0.42

3700	25.478	7.765	0.42
3800	25.898	7.893	0.41
3900	26.314	8.02	0.40
4000	26.727	8.146	0.40
4100	27.136	8.271	0.39
4200	27.542	8.394	0.38
4300	27.946	8.517	0.38
4400	28.346	8.639	0.37
4500	28.744	8.761	0.37
4600	29.139	8.881	0.36
4700	29.531	9.001	0.36
4800	29.921	9.119	0.35
4900	30.308	9.238	0.35
5000	30.693	9.355	0.34
6000	34.427	10.493	0.31
8000	41.403	12.619	0.26
8800	44.054	13.427	0.24
10000	47.914	14.604	0.22

\* 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  
 Above Maximum Concentration Value (MCV)  
 EN 50575 compliant, Declaration of Performance (DoP) available

