

# FSJ1RK-50B



FSJ1-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated, fire retardant polyolefin jacket, B2ca s1a d0 a1 Compliant

## Product Classification

<b>Brand</b>	HELIAX®   SureFlex®
<b>Product Series</b>	FSJ1-50B
<b>Product Type</b>	Coaxial wireless cable

## Standards And Qualifications

<b>EN50575 CPR Cable EuroClass</b>	B2ca   s1a   d0   a1
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## 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>	Superflexible
<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>	0.07 kg/m
<b>Diameter Over Dielectric</b>	4.826 mm   0.190 in
<b>Diameter Over Jacket</b>	7.620 mm   0.300 in
<b>Inner Conductor OD</b>	1.9050 mm   0.0750 in
<b>Outer Conductor OD</b>	6.350 mm   0.250 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±1 ohm
<b>Capacitance</b>	79.4 pF/m   24.2 pF/ft
<b>dc Resistance, Inner Conductor</b>	9.843 ohms/km
<b>dc Resistance, Outer Conductor</b>	7.216 ohms/km
<b>dc Test Voltage</b>	1600 V

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<b>Inductance</b>	0.200 $\mu$ H/m   0.061 $\mu$ H/ft
<b>Insulation Resistance</b>	100000 Mohms•km
<b>Jacket Spark Test Voltage (rms)</b>	4000 V
<b>Operating Frequency Band</b>	1 – 18000 MHz
<b>Peak Power</b>	6.4 kW
<b>Velocity</b>	82 %

## Environmental Specifications

<b>Installation Temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
<b>Operating Temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
<b>Storage Temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)

## Mechanical Specifications

<b>Bending Moment</b>	0.7 N-m   0.5 ft lb
<b>Fire Retardancy Test Method</b>	IEC 60332-1   IEC 60332-3-24   NFPA 130-2010   UL 1666/CATVR/CMR   UL 1685
<b>Flat Plate Crush Strength</b>	1.8 kg/mm
<b>Minimum Bend Radius, Multiple Bends</b>	25.40 mm   1.00 in
<b>Minimum Bend Radius, Single Bend</b>	25.40 mm   1.00 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	20
<b>Smoke Index Test Method</b>	IEC 61034
<b>Tensile Strength</b>	68 kg   150 lb
<b>Toxicity Index Test Method</b>	IEC 60754-1   IEC 60754-2

## 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>
680–960 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	0.407	0.124	6.40
1	0.577	0.176	6.40
1.5	0.707	0.215	6.40
2	0.816	0.249	6.40
10	1.833	0.559	3.99
20	2.6	0.792	2.81
30	3.192	0.973	2.29
50	4.136	1.261	1.77
85	5.419	1.652	1.35
88	5.516	1.681	1.33
100	5.889	1.795	1.24
108	6.125	1.867	1.19
150	7.25	2.21	1.01
174	7.825	2.385	0.93
200	8.408	2.563	0.87
204	8.495	2.589	0.86
300	10.373	3.162	0.71
400	12.051	3.673	0.61
450	12.817	3.906	0.57
460	12.965	3.952	0.56
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500	13.545	4.128	0.54
512	13.715	4.18	0.53
600	14.909	4.544	0.49
700	16.175	4.93	0.45
800	17.362	5.292	0.42
824	17.637	5.376	0.41
894	18.42	5.614	0.40
960	19.134	5.832	0.38
1000	19.556	5.96	0.37
1218	21.738	6.626	0.34
1250	22.044	6.719	0.33
1500	24.326	7.414	0.30
1700	26.038	7.936	0.28
1794	26.813	8.172	0.27
1800	26.862	8.187	0.27
2000	28.455	8.673	0.26
2100	29.227	8.908	0.25
2200	29.984	9.139	0.24
2300	30.727	9.365	0.24
2500	32.174	9.806	0.23
2700	33.576	10.233	0.22
3000	35.602	10.851	0.21
3400	38.183	11.638	0.19
3600	39.428	12.017	0.19

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3700	40.041	12.204	0.18
3800	40.647	12.389	0.18
3900	41.247	12.571	0.18
4000	41.841	12.753	0.17
4100	42.429	12.932	0.17
4200	43.012	13.11	0.17
4300	43.59	13.286	0.17
4400	44.163	13.46	0.17
4500	44.73	13.633	0.16
4600	45.293	13.805	0.16
4700	45.852	13.975	0.16
4800	46.405	14.144	0.16
4900	46.955	14.311	0.16
5000	47.5	14.477	0.15
6000	52.747	16.077	0.14
8000	62.37	19.01	0.12
8800	65.974	20.108	0.11
10000	71.173	21.693	0.10
12000	79.393	24.198	0.09
14000	87.172	26.569	0.08
15800	93.872	28.611	0.08
16000	94.601	28.833	0.08
18000	101.745	31.01	0.07

\* Values typical, guaranteed within 5%

## Regulatory Compliance/Certifications

### Agency

UL/ETL Certification  
 RoHS 2011/65/EU  
 ISO 9001:2015  
 China RoHS SJ/T 11364-2014  
 CENELEC

### Classification

Compliant  
 Compliant  
 Designed, manufactured and/or distributed under this quality management system  
 Above Maximum Concentration Value (MCV)  
 EN 50575 compliant, Declaration of Performance (DoP) available

