



Heat Treated FSJ1RK-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated, fire retardant polyolefin jacket

## Product Classification

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

## General Specifications

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

## Dimensions

<b>Diameter Over Dielectric</b>	4.826 mm   0.19 in
<b>Diameter Over Jacket</b>	7.62 mm   0.3 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
<b>Jacket Spark Test Voltage (rms)</b>	4000 V
<b>Operating Frequency Band</b>	1 – 18000 MHz

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<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>	1.21	20.8
<b>1700–2200 MHz</b>	1.21	20.8
<b>2200–2700 MHz</b>	1.44	15

## Attenuation

<b>Frequency (MHz)</b>	<b>Attenuation (dB/100 m)</b>	<b>Attenuation (dB/100 ft)</b>	<b>Average Power (kW)</b>
<b>1.0</b>	0.577	0.176	6.4
<b>1.5</b>	0.707	0.215	6.4
<b>2.0</b>	0.816	0.249	6.4
<b>10.0</b>	1.833	0.559	3.99
<b>20.0</b>	2.6	0.792	2.81
<b>30.0</b>	3.192	0.973	2.29
<b>50.0</b>	4.136	1.261	1.77
<b>85.0</b>	5.419	1.652	1.35
<b>88.0</b>	5.516	1.681	1.33
<b>100.0</b>	5.889	1.795	1.24
<b>108.0</b>	6.125	1.867	1.19
<b>150.0</b>	7.25	2.21	1.01
<b>174.0</b>	7.825	2.385	0.93
<b>200.0</b>	8.408	2.563	0.87
<b>204.0</b>	8.495	2.589	0.86
<b>300.0</b>	10.373	3.162	0.71
<b>400.0</b>	12.051	3.673	0.61
<b>450.0</b>	12.817	3.906	0.57
<b>460.0</b>	12.965	3.952	0.56
<b>500.0</b>	13.545	4.128	0.54
<b>512.0</b>	13.715	4.18	0.53
<b>600.0</b>	14.909	4.544	0.49
<b>700.0</b>	16.175	4.93	0.45
<b>800.0</b>	17.362	5.292	0.42
<b>824.0</b>	17.637	5.376	0.41

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894.0	18.42	5.614	0.4
960.0	19.134	5.832	0.38
1000.0	19.556	5.96	0.37
1218.0	21.738	6.626	0.34
1250.0	22.044	6.719	0.33
1500.0	24.326	7.414	0.3
1700.0	26.038	7.936	0.28
1794.0	26.813	8.172	0.27
1800.0	26.862	8.187	0.27
2000.0	28.455	8.673	0.26
2100.0	29.227	8.908	0.25
2200.0	29.984	9.139	0.24
2300.0	30.727	9.365	0.24
2500.0	32.174	9.806	0.23
2700.0	33.576	10.233	0.22
3000.0	35.602	10.851	0.21
3400.0	38.183	11.638	0.19
3600.0	39.428	12.017	0.19
3700.0	40.041	12.204	0.18
3800.0	40.647	12.389	0.18
3900.0	41.247	12.571	0.18
4000.0	41.841	12.753	0.17
4100.0	42.429	12.932	0.17
4200.0	43.012	13.11	0.17
4300.0	43.59	13.286	0.17
4400.0	44.163	13.46	0.17
4500.0	44.73	13.633	0.16
4600.0	45.293	13.805	0.16
4700.0	45.852	13.975	0.16
4800.0	46.405	14.144	0.16
4900.0	46.955	14.311	0.16
5000.0	47.5	14.477	0.15
6000.0	52.747	16.077	0.14
8000.0	62.37	19.01	0.12
8800.0	65.974	20.108	0.11
10000.0	71.173	21.693	0.1

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<b>12000.0</b>	79.393	24.198	0.09
<b>14000.0</b>	87.172	26.569	0.08
<b>15800.0</b>	93.872	28.611	0.08
<b>16000.0</b>	94.601	28.833	0.08
<b>18000.0</b>	101.745	31.01	0.07

## Material Specifications

<b>Dielectric Material</b>	Foam PE
<b>Jacket Material</b>	Non-halogenated, fire retardant polyolefin
<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>	-40 °C to +60 °C (-40 °F to +140 °F)
<b>Storage Temperature</b>	-40 °C to +60 °C (-40 °F to +140 °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
<b>Fire Retardancy Test Method</b>	UL 1666/CATVR/CMR
<b>Smoke Index Test Method</b>	IEC 61034
<b>Toxicity Index Test Method</b>	IEC 60754-1   IEC 60754-2

## Packaging and Weights

<b>Cable weight</b>	0.07 kg/m   0.047 lb/ft
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## Regulatory Compliance/Certifications

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

