

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

Product Type	Coaxial wireless cable
Product Brand	HELIAX® SureFlex®
Product Series	FSJ1-50B

General Specifications

Flexibility	Superflexible
Jacket Color	Black
Performance Note	Values typical, guaranteed within 5% Values typical, unless otherwise stated

Dimensions

Diameter Over Dielectric	4.826 mm 0.19 in
Diameter Over Jacket	7.62 mm 0.3 in
Inner Conductor OD	1.905 mm 0.075 in
Outer Conductor OD	6.35 mm 0.25 in
Nominal Size	1/4 in

Electrical Specifications

Attenuation, Ambient Temperature	68 °F 20 °C
Cable Impedance	50 ohm ±1 ohm
Capacitance	79.4 pF/m 24.201 pF/ft
dc Resistance, Inner Conductor	9.843 ohms/km 3 ohms/kft
dc Resistance, Outer Conductor	7.216 ohms/km 2.199 ohms/kft
dc Test Voltage	1600 V
Inductance	0.2 µH/m 0.061 µH/ft

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Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	4000 V
Operating Frequency Band	1 – 18000 MHz
Peak Power	6.4 kW
Power Attenuation	2.23
Pulse Reflection	1%
Velocity	82 %

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
680–960 MHz	1.21	20.8
1700–2200 MHz	1.21	20.8
2200–2700 MHz	1.44	15

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
1.0	0.577	0.176	6.4
1.5	0.707	0.215	6.4
2.0	0.816	0.249	6.4
10.0	1.833	0.559	3.99
20.0	2.6	0.792	2.81
30.0	3.192	0.973	2.29
50.0	4.136	1.261	1.77
85.0	5.419	1.652	1.35
88.0	5.516	1.681	1.33
100.0	5.889	1.795	1.24
108.0	6.125	1.867	1.19
150.0	7.25	2.21	1.01
174.0	7.825	2.385	0.93
200.0	8.408	2.563	0.87
204.0	8.495	2.589	0.86
300.0	10.373	3.162	0.71
400.0	12.051	3.673	0.61
450.0	12.817	3.906	0.57
460.0	12.965	3.952	0.56
500.0	13.545	4.128	0.54

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512.0	13.715	4.18	0.53
600.0	14.909	4.544	0.49
700.0	16.175	4.93	0.45
800.0	17.362	5.292	0.42
824.0	17.637	5.376	0.41
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

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

Material Specifications

Dielectric Material	Foam PE
Jacket Material	Non-halogenated, fire retardant polyolefin
Inner Conductor Material	Copper-clad aluminum wire
Outer Conductor Material	Corrugated copper

Mechanical Specifications

Minimum Bend Radius, multiple Bends	1 in 25.4 mm
Minimum Bend Radius, single Bend	1 in 25.4 mm
Number of Bends, minimum	15
Number of Bends, typical	20
Tensile Strength	68 kg 149.914 lb
Bending Moment	0.7 N-m 6.196 in lb
Flat Plate Crush Strength	1.8 kg/mm 100.795 lb/in

Environmental Specifications

Installation temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Storage Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Average Power, Ambient Temperature	104 °F 40 °C
Average Power, Inner Conductor Temperature	212 °F 100 °C
EN50575 CPR Cable EuroClass	B2ca a1 d0 s1a
Fire Retardancy Test Method	IEC 60332-1 IEC 60332-3-24 NFPA 130-2010 UL 1666/CATVR

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/CMR | UL 1685

Smoke Index Test Method

IEC 61034

Toxicity Index Test Method

IEC 60754-1 | IEC 60754-2

Packaging and Weights

Cable weight

0.07 kg/m | 0.506 lb/ft

Regulatory Compliance/Certifications

Agency

Classification

CENELEC

EN 50575 compliant, Declaration of Performance (DoP) available

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 www.commscope.com/ProductCompliance

ROHS

Compliant

UL/ETL Certification

Compliant

