

AirCell®

Radiating Cable



Product Specification

50 Ohm Radiating Cable, 1-5/8" - AR158FV50-1B

Description	Product Number
Fire Retardant Cable	
1-5/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket, Conforms to IEC332-1, IEC332-3C, UL1685-12, FT4/IEEE1202 (NFPA-130), CMG-LS	AR158FV50-1B
Features & Benefits	
100% Made in the USA (Buy America, Title 49 Compliant)	
NFPA-130/NFPA-502 Compliant (2017 Edition) & CMG-LS Listed	
No Water Migration 15 Year Warranty	
Indication of Slot Alignment	None
Recommended Hanger Spacing, ft (m)	6 (2)
Minimum Distance to Wall, in (mm)	2 (50.8)
Jacket Color	Black
Physical Dimensions	
Center Diameter, in (mm)	0.727 (18.47)
Diameter Over Dielectric, in (mm)	1.881 (47.78)
Diameter Over Outer Conductor, in (mm)	1.897 (48.18)
Maximum Diameter Over Jacket, in (mm)	1.997 (50.72)
Center Conductor	Solid Copper Tube
Outer Conductor	Dual Slotted Solid Aluminum Tube
Electrical Characteristics	
Maximum Frequency, GHz	2.7
Peak Power Rating, KW	306
DC Resistance, Ohms/1,000 ft (1,000 m)	
Center	0.22 (0.72)
Outer	0.10 (0.33)
DC Breakdown, kV	11
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, µH/ft (m)	0.056 (0.184)
Jacket Spark, kV RMS	8
VSWR min. (dB)	1.38 (16.0)
VSWR in-band, (dB)	1.30 (17.7)
Impedance, Ohms	50 ± 2
Velocity of Propagation	91%
Stop Bands, MHz	620-630, 1245-1250, 1378-1382
Mechanical Characteristics	
Minimum Bend Radius, in (mm) - Single	20 (508)
Cable Weight, lb/ft (kg/m)	0.83 (1.23)
Bending Moment, ft lb (N m)	60 (81)
Tensile Strength, lb (kg)	1,500 (682)
Flat Plate Crush, lb/in (kg/mm)	150 (2.68)
Recommended Install Temp., °F (°C)	-10° to 170° (-23° to 77°)
Recommended Storage Temp., °F (°C)	-40° to 170° (-40° to 77°)
Recommended Operating Temp., °F (°C)	-40° to 185° (-40° to 85°)
Regulatory Compliance/Certifications	
RoHS 2011/65/EU Compliant	
TL 9000 H-V - All Cables designed and manufactured under this quality management system	



Electrical Performance			
Frequency, MHz	Attenuation		Coupling Loss
	dB/100 ft	dB/100 m	95%, dB
150	0.20	0.67	75 (77)
450	0.42	1.38	77 (79)
700	0.51	1.66	74 (76)
800	0.54	1.77	73 (76)
900	0.59	1.93	72 (75)
960	0.61	1.99	70 (74)
1700	1.03	3.39	69 (72)
1800	1.12	3.67	69 (72)
1900	1.10	3.61	65 (69)
2000	1.18	3.88	66 (70)
2100	1.21	3.96	66 (69)
2200	1.26	4.13	69 (71)
2400	1.54	5.04	67 (69)
2600	1.98	6.51	66 (68)
2700	2.22	7.29	62 (65)

Notes:

- Coupling Loss and Attenuation Values are measured in accordance with the IEC 61196-4 Free Space Test Method
- Coupling Loss values are measured with a radial (below 330 MHz) or orthogonal (above 330 MHz) orientated dipole antenna
- The Coupling Loss values in parentheses are the mean values of all three spatial orientations (radial, parallel and orthogonal) of dipole antenna
- Coupling Loss Tolerance of ± 10 dB at 6 ft (2m), 95%
- Attenuation Tolerance of ± 10% at 68°F
- As is the case with all radiating cables, performance in RF confined areas may differ from values in a free space.

Trilogy AirCell® Cable

Proud to be 100% Made in the USA

