

### Cable Specifications

#### 50 Ohm Radiating Cable 7/8" - AR078J50/ AR078FX50

Description	Product Number
<b>Standard Cable</b>	
7/8", Black Polyethylene Jacket	AR078J50
<b>Fire Retardant Cable</b>	
7/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket, IEC332-1	AR078FX50
<b>Physical Dimensions</b>	
Center Dia., in (mm)	0.383 (9.73)
Dia. Over Dielectric, in (mm)	0.961 (24.58)
Dia. Over Outer Conductor, in (mm)	1.015 (25.70)
Max. Dia. Over Jacket, in (mm)	1.154 (29.31)
Center Conductor	Solid Copper Tube
Outer Conductor	Dual Slotted Solid Aluminum Tube
<b>Electrical Characteristics</b>	
Maximum Frequency, GHz	5
Peak Power Rating, KW	90
DC Res, Ohms/1000 ft (1000m)	
Center	0.47 (1.54)
Outer	0.24 (0.78)
DC Breakdown, kV	6.7
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, mH/ft (m)	0.056 (0.184)
Jacket Spark, kV RMS	8
VSWR Installed, typical, optimized bands	1.30
VSWR Installed, typical, broadband	1.38
Impedance, Ohms	50
Velocity of Propagation	91%
<b>Mechanical Characteristics</b>	
Min. Bend. Rad., in (mm) – Single	5 (127)
Min. Bend. Rad., in (mm) – Multiple	10 (254)
Cable Weight, lb/ft (kg/m)	0.29 (0.43)
Bending Moment, ft.lb (N'm)	26 (35.1)
Tensile Strength, lb (kg)	734 (333.6)
Flat Plate Crush, lb/in (kg/mm)	132 (2.36)
Number of Bends	20
Temperature, °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss (95%)			
Frequency MHz	**Attenuation		*Coupling Loss dB
	dB/100 ft	dB/100m	
150	0.40	1.31	64
450	0.78	2.56	66
500	0.83	2.72	66
700	1.03	3.39	67
800	1.13	3.69	67
870	1.19	3.91	67
900	1.22	4.00	67
960	1.26	4.15	67
1700	1.87	6.13	68
1800	1.94	6.38	68
1900	2.02	6.62	68
2000	2.10	6.90	68
2100	2.16	7.08	68
2200	2.22	7.29	68
2400	2.33	7.66	68
2600	2.44	8.00	68
2650	2.47	8.10	68

#### Standard Conditions:

Test per IEC61196-4

\*95% Coupling Loss at 6 ft (2 m), ± 5 dB  
The coupling loss values given are average values of all three antenna orientations (radial, parallel, and orthogonal) of dipole antenna.

\*\*Attenuation ± 10% at 68°F