

**HCA550-50J****5-1/2" HELIFLEX® Air-Dielectric Coaxial Cable**

HELIFLEX® 5-1/2" low loss air dielectric cable

Features / Benefits

- **Low Attenuation**
The low attenuation of HELIFLEX® coaxial cable results in highly efficient signal transfer in your RF system.
- **Complete Shielding**
The solid outer conductor of HELIFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Low VSWR**
Special low VSWR versions of HELIFLEX® coaxial cables contribute to low system noise.
- **Outstanding Intermodulation Performance**
HELIFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **High Power Rating**
Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, HELIFLEX® cable provides safe long term operating life at high transmit power levels.
- **Wide Range of Application**
Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical Features**APPLICATIONS**

Applications	TV & Radio	HF Defense	Cable Solutions
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STRUCTURE

Cable Type	HCA
Size	5-1/2"
Jacket Option	Outdoor
Inner Conductor Material	Corrugated Copper Tube
Dielectric Material	Helical Polyethylene Spacer
Outer Conductor Material	Corrugated Copper
Jacket Material	Black Polyethylene

**HCA550-50J****5-1/2" HELIFLEX® Air-Dielectric Coaxial Cable****MECHANICAL SPECIFICATIONS**

Inner Conductor Diameter	58mm (2.28in)
Dielectric Diameter	127mm (5in)
Outer Conductor Diameter	140.5mm (5.53in)
Jacket Diameter	147.1mm (5.79in)
Cable Weight	7.5kg/m (5lb/ft)
Min Bending Radius, Single Bend	800mm (31in)
Min. Bending Radius, Repeated Bends	1,500mm (59in)
Bending Moment	580 Nm (428 lbf*ft)
Tensile Strength	4,000N (900lb)
Air Volume	14l/m (0.1507ft³/ft)
Recommended / Maximum Clamp Spacing	1 / 2 m (3.3 / 6.6) ft

ELECTRICAL SPECIFICATIONS

Impedance	50 +/- 0.5 Ω
Max. Operating Frequency	0.86 GHz
Velocity	96 %
Capacitance	70pF/m (21.3pF/ft)
Inductance	0.175 μ H/m (0.053 μ H/ft)
Peak Power Rating	2,250 kW
RF Peak Voltage	15,000 v
Jacket Spark	8,000 V RMS
DC-Resistance Inner Conductor	0.2 Ω /km (0.06 Ω /kft)
DC-Resistance Outer Conductor	0.057 Ω /km (0.017 Ω /kft)
Return Loss (VSWR) Performance	Standard
Min. Return Loss (Max. VSWR)	Typical 20.8dBdB (1.2 VSWR or better within the operation bands of most global frequency ranges. Premium also available. Contact factory for options in your specific frequency band.VSWR)

TESTING AND ENVIRONMENTAL

Fire Performance	Halogene Free
Compliance	RoHS 2011/65/EU China RoHS SJ/T 11364-2006 IEC 60754-1/-2 Halogen Acid Gases REACH (EC 1907/2006) IEC 60754-1/-2 Halogen Acid Gases
Phase Stabilized	Phase matched cables and assemblies are available upon request.
Installation Temperature	-40°C to 60°C (-40°F to 140°F)
Storage Temperature	-70°C to 85°C (-94°F to 185°F)
Operation Temperature	-50°C to 85°C (-58°F to 185°F)



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ATTENUATION AND POWER RATING

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.015	0.005	1890
1	0.021	0.006	1330
1.5	0.026	0.008	1090
2	0.03	0.009	940
10	0.067	0.021	418
20	0.096	0.029	294
30	0.118	0.036	239
50	0.153	0.047	184
88	0.205	0.062	138
100	0.219	0.067	129
108	0.228	0.069	124
150	0.27	0.082	105
174	0.292	0.089	97.7
200	0.314	0.096	91.1
300	0.39	0.119	74
400	0.455	0.139	64
450	0.485	0.148	60.3
500	0.513	0.156	57.2
512	0.52	0.158	56.5
600	0.567	0.173	52.2
700	0.616	0.188	48.5
800	0.663	0.202	45.4
824	0.674	0.206	44.7
894	0.706	0.215	43
Note	Standard Conditions: For attenuation: VSWR 1.0, cable temperature 20°C (68°F). For average power: VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 115°C (239°F). No solar loading.		

External Document Links

Notes