

H5-50

H5-50, HELIAX® Standard Air Dielectric Coaxial Cable, corrugated copper, 7/8 in, un-jacketed



OBSOLETE

Product Classification

Product Type	Air coaxial cable
Product Brand	HELIAX®
Product Series	H5-50

General Specifications

Flexibility	Standard
--------------------	----------

Dimensions

Inner Conductor OD	9.144 mm 0.36 in
Outer Conductor OD	25.4 mm 1 in
Nominal Size	7/8 in
Cable Volume	325.161 L/km 3.5 ft³/kft

Electrical Specifications

Cable Impedance	50 ohm \pm 0.5 ohm
Capacitance	72.835 pF/m 22.2 pF/ft
dc Resistance, Inner Conductor	0.82 ohms/km 0.25 ohms/kft
dc Resistance, Outer Conductor	0.656 ohms/km 0.2 ohms/kft
dc Test Voltage	6000 V
Inductance	0.187 μ H/m 0.057 μ H/ft
Insulation Resistance	100000 MOhms-km
Jacket Spark Test Voltage (rms)	8000 V

H5-50

Operating Frequency Band	1 – 5200 MHz
Peak Power	90 kW
Power Attenuation	2.781
Velocity	92 %

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
1.0	0.116	0.035	78.44
1.5	0.143	0.043	63.98
2.0	0.165	0.05	55.36
10.0	0.372	0.113	24.56
20.0	0.529	0.161	17.26
30.0	0.65	0.198	14.03
50.0	0.846	0.258	10.79
85.0	1.113	0.339	8.19
88.0	1.134	0.346	8.05
100.0	1.212	0.369	7.53
108.0	1.262	0.385	7.23
150.0	1.499	0.457	6.09
174.0	1.622	0.494	5.63
200.0	1.746	0.532	5.23
204.0	1.764	0.538	5.17
300.0	2.168	0.661	4.21
400.0	2.532	0.772	3.6
450.0	2.7	0.823	3.38
460.0	2.732	0.833	3.34
500.0	2.86	0.872	3.19
512.0	2.897	0.883	3.15
600.0	3.161	0.963	2.89
700.0	3.443	1.049	2.65
800.0	3.708	1.13	2.46
824.0	3.77	1.149	2.42
894.0	3.946	1.203	2.31
960.0	4.108	1.252	2.22
1000.0	4.203	1.281	2.17

H5-50

1218.0	4.701	1.433	1.94
1250.0	4.771	1.454	1.91
1500.0	5.297	1.614	1.72
1700.0	5.695	1.736	1.6
1794.0	5.876	1.791	1.55
1800.0	5.888	1.794	1.55
2000.0	6.262	1.908	1.46
2100.0	6.444	1.964	1.42
2200.0	6.623	2.019	1.38
2300.0	6.799	2.072	1.34
2500.0	7.144	2.177	1.28
2700.0	7.479	2.28	1.22
3000.0	7.967	2.428	1.15
3400.0	8.594	2.619	1.06
3600.0	8.898	2.712	1.03
3700.0	9.048	2.758	1.01
3800.0	9.197	2.803	0.99
3900.0	9.344	2.848	0.98
4000.0	9.49	2.893	0.96
4100.0	9.636	2.937	0.95
4200.0	9.78	2.981	0.93
4300.0	9.923	3.024	0.92
4400.0	10.065	3.068	0.91
4500.0	10.206	3.111	0.89
4600.0	10.346	3.153	0.88
4700.0	10.485	3.196	0.87
4800.0	10.623	3.238	0.86
4900.0	10.76	3.28	0.85
5000.0	10.897	3.321	0.84

Material Specifications

Dielectric Material	PE
Jacket Material	Unjacketed
Inner Conductor Material	Copper tube
Outer Conductor Material	Corrugated copper

H5-50

Mechanical Specifications

Minimum Bend Radius, multiple Bends	254 mm 10 in
Number of Bends, minimum	15
Number of Bends, typical	20
Tensile Strength	363 kg 800.277 lb
Bending Moment	25 ft lb 33.895 N-m
Flat Plate Crush Strength	4.465 kg/mm 250 lb/in
Pressurization, maximum	0.207 N/mm ² 30 psi

Environmental Specifications

Installation temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-70 °C to +85 °C (-94 °F to +185 °F)
Attenuation, Ambient Temperature	68 °F 20 °C
Average Power, Ambient Temperature	104 °F 40 °C
Average Power, Inner Conductor Temperature	212 °F 100 °C

Packaging and Weights

Cable weight	0.804 kg/m 0.54 lb/ft
---------------------	-------------------------

Regulatory Compliance/Certifications

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

