

H5-50



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

Product Classification

Brand	HELIAX®
Product Type	Air coaxial cable

Construction Materials

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

Dimensions

Nominal Size	7/8 in
Cable Volume	3.5 ft ³ /kft 325.2 L/km
Cable Weight	0.80 kg/m 0.54 lb/ft
Inner Conductor OD	9.1440 mm 0.3600 in
Outer Conductor OD	25.400 mm 1.000 in

Electrical Specifications

Cable Impedance	50 ohm ±0.5 ohm
Capacitance	22.2 pF/ft 72.8 pF/m
dc Resistance, Inner Conductor	0.820 ohms/km 0.250 ohms/kft
dc Resistance, Outer Conductor	0.656 ohms/km 0.200 ohms/kft
dc Test Voltage	6000 V
Inductance	1.870 µH/m 0.570 µH/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	8000 V
Operating Frequency Band	1 – 5200 MHz
Peak Power	90.0 kW
Power Attenuation	2.781
Velocity	92 %

Environmental Specifications

Installation Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
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Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-70 °C to +85 °C (-94 °F to +185 °F)

Mechanical Specifications

Bending Moment	33.9 N-m 25.0 ft lb
Flat Plate Crush Strength	250.0 lb/in 4.5 kg/mm
Minimum Bend Radius, Multiple Bends	254.00 mm 10.00 in
Number of Bends, minimum	15
Number of Bends, typical	20
Pressurization, maximum	0 N/mm ² 30 psi
Tensile Strength	363 kg 800 lb

Note

Performance Note	Values typical, unless otherwise stated
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Standard Conditions

Attenuation, Ambient Temperature	20 °C 68 °F
Average Power, Ambient Temperature	40 °C 104 °F
Average Power, Inner Conductor Temperature	100 °C 212 °F

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.082	0.025	90.00
1	0.116	0.035	78.44
1.5	0.143	0.043	63.98
2	0.165	0.05	55.36
10	0.372	0.113	24.56
20	0.529	0.161	17.26
30	0.65	0.198	14.03
50	0.846	0.258	10.79
85	1.113	0.339	8.19
88	1.134	0.346	8.05
100	1.212	0.369	7.53
108	1.262	0.385	7.23
150	1.499	0.457	6.09
174	1.621	0.494	5.63
200	1.746	0.532	5.23
204	1.764	0.538	5.17
300	2.168	0.661	4.21
400	2.532	0.772	3.60
450	2.7	0.823	3.38
460	2.732	0.833	3.34
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500	2.86	0.872	3.19
512	2.897	0.883	3.15
600	3.161	0.963	2.89
700	3.442	1.049	2.65
800	3.708	1.13	2.46
824	3.769	1.149	2.42
894	3.946	1.203	2.31
960	4.107	1.252	2.22
1000	4.203	1.281	2.17
1218	4.7	1.432	1.94
1250	4.77	1.454	1.91
1500	5.296	1.614	1.72
1700	5.694	1.735	1.60
1794	5.875	1.791	1.55
1800	5.886	1.794	1.55
2000	6.26	1.908	1.46
2100	6.442	1.964	1.42
2200	6.621	2.018	1.38
2300	6.798	2.072	1.34
2500	7.142	2.177	1.28
2700	7.478	2.279	1.22
3000	7.965	2.428	1.15
3400	8.592	2.619	1.06
3600	8.896	2.711	1.03

3700	9.045	2.757	1.01
3800	9.194	2.802	0.99
3900	9.342	2.847	0.98
4000	9.488	2.892	0.96
4100	9.633	2.936	0.95
4200	9.777	2.98	0.93
4300	9.92	3.023	0.92
4400	10.062	3.067	0.91
4500	10.203	3.11	0.89
4600	10.343	3.152	0.88
4700	10.482	3.195	0.87
4800	10.62	3.237	0.86
4900	10.757	3.279	0.85
5000	10.893	3.32	0.84

* Values typical, guaranteed within 5%

Regulatory Compliance/Certifications

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

