H7-50

H7-50, HELIAX® Standard Air Dielectric Coaxial Cable, corrugated copper, 1-5/8 in, unjacketed

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	1-5/8 in
Cable Volume	14.0 ft^3/kft | 1300.6 L/km
Cable Weight	1.55 kg/m | 1.04 lb/ft
Diameter Over Jacket	50.292 mm | 1.980 in
Inner Conductor OD	18.0340 mm | 0.7100 in
Outer Conductor OD	46.482 mm | 1.830 in

Electrical Specifications

Cable Impedance	50 ohm ±0.5 ohm
Capacitance	22.1 pF/ft | 72.5 pF/m
dc Resistance, Inner Conductor	0.722 ohms/km | 0.220 ohms/kft
dc Resistance, Outer Conductor	0.328 ohms/km | 0.100 ohms/kft
dc Test Voltage	11000 V
Inductance	1.870 µH/m | 0.570 µH/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	10000 V
Operating Frequency Band	1 – 2700 MHz
Peak Power	305.0 kW
Power Attenuation	3.356
Velocity	92 %

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)

Mechanical Specifications

Bending Moment	40.7 N-m | 30.0 ft lb
Flat Plate Crush Strength	175.0 lb/in | 3.1 kg/mm
Minimum Bend Radius, Multiple Bends	508.00 mm | 20.00 in
Number of Bends, minimum	15
Number of Bends, typical	30
Pressurization, maximum	0 N/mm^2 | 30 psi
Tensile Strength	340 kg | 750 lb

Note

Performance Note	Values typical, unless otherwise stated

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	0.045	0.014	243.45
1	0.064	0.02	171.92
1.5	0.079	0.024	140.23
2	0.091	0.028	121.34
10	0.204	0.062	53.85
20	0.291	0.089	37.86
30	0.358	0.109	30.77
50	0.465	0.142	23.67
85	0.612	0.187	17.99
88	0.623	0.19	17.67
100	0.666	0.203	16.53
108	0.693	0.211	15.88
150	0.824	0.251	13.37
174	0.891	0.271	12.36
200	0.959	0.292	11.48
204	0.969	0.295	11.36
300	1.19	0.363	9.25
400	1.389	0.423	7.92
450	1.481	0.451	7.43
460	1.499	0.457	7.35
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500	1.569	0.478	7.02
512	1.589	0.484	6.93
600	1.733	0.528	6.35
700	1.887	0.575	5.84
800	2.032	0.619	5.42
824	2.066	0.63	5.33
894	2.162	0.659	5.09
960	2.25	0.686	4.89
1000	2.302	0.702	4.78
1218	2.573	0.784	4.28
1250	2.611	0.796	4.22
1500	2.898	0.883	3.80
1700	3.114	0.949	3.54
1794	3.213	0.979	3.43
1800	3.219	0.981	3.42
2000	3.422	1.043	3.22
2100	3.521	1.073	3.13
2200	3.619	1.103	3.04
2300	3.714	1.132	2.96
2500	3.902	1.189	2.82
2700	4.084	1.245	2.70

** Values typical, guaranteed within 5%*

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
China RoHS SJ/T 11364-2014	Above Maximum Concentration Value (MCV)