

AVA7-50

AVA7-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 1-5/8 in, black PE jacket



CHARACTERISTICS

Construction Materials

Jacket Material	PE
Dielectric Material	Foam PE
Flexibility	Standard
Inner Conductor Material	Corrugated copper tube
Jacket Color	Black
Outer Conductor Material	Corrugated copper

Dimensions

Nominal Size	1-5/8 in
Cable Weight	1.07 kg/m 0.72 lb/ft
Diameter Over Dielectric	1.750 in 44.450 mm
Diameter Over Jacket	1.960 in 49.784 mm
Inner Conductor OD	0.720 in 18.288 mm
Outer Conductor OD	1.830 in 46.482 mm

Electrical Specifications

Cable Impedance	50 ohm \pm 1 ohm
Capacitance	72 pF/m 22 pF/ft
dc Resistance, Inner Conductor	0.410 ohms/kft 1.435 ohms/km
dc Resistance, Outer Conductor	0.160 ohms/kft 0.525 ohms/km
dc Test Voltage	11000 V
Inductance	0.057 μ H/ft 0.187 μ H/m
Insulation Resistance	100000 MOhm
Jacket Spark Test Voltage (rms)	10000 V
Operating Frequency Band	1 – 2700 MHz
Peak Power	302.0 kW
Pulse Reflection	0.5%
Velocity	92%

Product Specifications



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	35.0 ft lb 47.5 N-m
Flat Plate Crush Strength	1.6 kg/mm 90.0 lb/in
Minimum Bend Radius, Multiple Bends	15.00 in 381.00 mm
Minimum Bend Radius, Single Bend	8.00 in 203.20 mm
Number of Bends, minimum	15
Number of Bends, typical	50
Tensile Strength	400 lb 181 kg

Standard Conditions

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

Return Loss

Frequency Band	VSWR	Return Loss (dB)
806–960 MHz	1.13	24.30
1700–2170 MHz	1.13	24.30

Attenuation

Frequency (MHz)	Attenuation (dB/100 ft)	Attenuation (dB/100 m)	Average Power (kW)
0.5	0.013	0.044	166.49
1	0.019	0.062	117.56
1.5	0.023	0.076	95.88
2	0.027	0.088	82.96
10	0.06	0.197	36.78
20	0.086	0.281	25.84
30	0.105	0.346	21.00
50	0.137	0.45	16.14
88	0.184	0.603	12.03
100	0.197	0.645	11.26
108	0.205	0.672	10.81
150	0.243	0.798	9.09
174	0.263	0.864	8.41
200	0.284	0.93	7.81
300	0.352	1.156	6.28
400	0.412	1.351	5.37
450	0.439	1.441	5.04
500	0.465	1.527	4.76
512	0.471	1.547	4.69
600	0.515	1.689	4.30

Product Specifications



700	0.561	1.84	3.95
800	0.604	1.982	3.66
824	0.614	2.016	3.60
894	0.643	2.11	3.44
960	0.67	2.197	3.30
1000	0.685	2.249	3.23
1250	0.779	2.554	2.84
1500	0.865	2.838	2.56
1700	0.93	3.053	2.38
1800	0.962	3.157	2.30
2000	1.024	3.359	2.16
2100	1.054	3.457	2.10
2200	1.083	3.554	2.04
2300	1.112	3.649	1.99
2500	1.169	3.836	1.89
2700	1.224	4.017	1.81

Regulatory Compliance/Certifications

Agency

RoHS 2002/95/EC

Classification

Compliant

