

# Product Specifications

AVA5-50

AVA5-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 7/8 in, black PE jacket



## CHARACTERISTICS

### Construction Materials

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

### Dimensions

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Nominal Size	7/8 in
Cable Weight	0.30 lb/ft   0.45 kg/m
Diameter Over Dielectric	24.130 mm   0.950 in
Diameter Over Jacket	27.991 mm   1.102 in
Inner Conductor OD	9.4488 mm   0.3720 in
Outer Conductor OD	25.400 mm   1.000 in

### Electrical Specifications

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Cable Impedance	50 ohm $\pm$ 1 ohm
Capacitance	22.0 pF/ft   73.0 pF/m
dc Resistance, Inner Conductor	0.410 ohms/kft   1.435 ohms/km
dc Resistance, Outer Conductor	0.340 ohms/kft   1.116 ohms/km
dc Test Voltage	6000 V
Inductance	0.184 $\mu$ H/m   0.056 $\mu$ H/ft
Insulation Resistance	100000 MOhm
Jacket Spark Test Voltage (rms)	8000 V
Operating Frequency Band	1 – 5000 MHz
Peak Power	91.0 kW
Pulse Reflection	0.5%

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Velocity 91%

## Environmental Specifications

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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)

## General Specifications

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Brand HELIAX®

## Mechanical Specifications

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Bending Moment	19.0 N-m   14.0 ft lb
Flat Plate Crush Strength	75.0 lb/in
Minimum Bend Radius, Multiple Bends	254.00 mm   10.00 in
Minimum Bend Radius, Single Bend	127.00 mm   5.00 in
Number of Bends, minimum	15
Number of Bends, typical	30
Tensile Strength	159 kg   350 lb

## Standard Conditions

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

## Return Loss/VSWR

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

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## Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.076	0.023	91.00
1	0.108	0.033	77.97
1.5	0.132	0.04	63.61
2	0.153	0.046	55.06
10	0.343	0.105	24.48
20	0.487	0.149	17.23
30	0.599	0.183	14.02
50	0.777	0.237	10.81
88	1.039	0.317	8.08
100	1.11	0.338	7.57
108	1.155	0.352	7.27
150	1.369	0.417	6.14
174	1.479	0.451	5.68
200	1.591	0.485	5.28
300	1.968	0.6	4.27
400	2.292	0.698	3.67
450	2.44	0.744	3.44
500	2.581	0.787	3.25
512	2.614	0.797	3.21
600	2.846	0.868	2.95
700	3.093	0.943	2.72
800	3.325	1.014	2.53
824	3.379	1.03	2.49
894	3.533	1.077	2.38
960	3.673	1.119	2.29
1000	3.756	1.145	2.24
1250	4.247	1.294	1.98
1500	4.7	1.432	1.79
1700	5.04	1.536	1.67
1800	5.205	1.586	1.61
2000	5.523	1.683	1.52
2100	5.678	1.731	1.48
2200	5.83	1.777	1.44
2300	5.979	1.822	1.40
2500	6.27	1.911	1.34
2700	6.553	1.997	1.28
3000	6.963	2.122	1.21
3400	7.487	2.282	1.12
3700	7.866	2.397	1.07
4000	8.234	2.51	1.02
5000	9.396	2.864	0.89

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