

# Product Specifications



## AVA5RK-50

AVA5-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 7/8 in, black non-halogenated, fire retardant polyolefin jacket



## CHARACTERISTICS

### Construction Materials

Jacket Material	Non-halogenated, fire retardant polyolefin
Outer Conductor Material	Corrugated copper
Dielectric Material	Foam PE
Flexibility	Standard
Inner Conductor Material	Copper tube
Jacket Color	Black

### Dimensions

Nominal Size	7/8 in
Cable Weight	0.35 lb/ft   0.53 kg/m
Diameter Over Dielectric	24.130 mm   0.950 in
Diameter Over Jacket	27.940 mm   1.100 in
Inner Conductor OD	9.3980 mm   0.3700 in
Outer Conductor OD	25.400 mm   1.000 in

### Electrical Specifications

Cable Impedance	50 ohm $\pm$ 1 ohm
Capacitance	22.3 pF/ft   73.2 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

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Pulse Reflection	0.5%
Velocity	91%

## Environmental Specifications

Installation Temperature	-25 °C to +60 °C (-13 °F to +140 °F)
Operating Temperature	-30 °C to +80 °C (-22 °F to +176 °F)
Storage Temperature	-30 °C to +80 °C (-22 °F to +176 °F)

## General Specifications

Brand	HELIAX®
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## Mechanical Specifications

Bending Moment	19.0 N-m   14.0 ft lb
Fire Retardancy Test Method	IEC 60332-1   IEC 60332-3C-24   IEEE 383   UL-1685   UL-VW1/CATVX
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
Smoke Index Test Method	IEC 61034
Tensile Strength	159 kg   350 lb
Toxicity Index Test Method	IEC 60754-1   IEC 60754-2

## 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

## Return Loss

Frequency Band	VSWR	Return Loss (dB)
698–806 MHz	1.13	24.30
806–960 MHz	1.13	24.30
1700–2170 MHz	1.13	24.30

## 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

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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

## Regulatory Compliance/Certifications

### Agency

UL/ETL Certification  
RoHS 2002/95/EC  
China RoHS SJ/T 11364-2006

### Classification

CATVR  
Compliant  
Below Maximum Concentration Value (MCV)



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