

# Product Specifications

COMMSCOPE®



## AVA7-50

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

### Construction Materials

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

### Dimensions

Nominal Size	1-5/8 in
Cable Weight	0.70 lb/ft   1.00 kg/m
Diameter Over Dielectric	44.450 mm   1.750 in
Diameter Over Jacket	51.054 mm   2.010 in
Inner Conductor OD	18.1610 mm   0.7150 in
Outer Conductor OD	46.355 mm   1.825 in

### Electrical Specifications

Cable Impedance	50 ohm $\pm 1$ ohm
Capacitance	22.0 pF/ft   72.2 pF/m
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	15000 V
Inductance	0.187 $\mu$ H/m   0.057 $\mu$ H/ft
Insulation Resistance	100000 Mohms•km
Jacket Spark Test Voltage (rms)	10000 V
Operating Frequency Band	1 – 2700 MHz
Peak Power	302.0 kW
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)

### General Specifications

Brand	HELIAX®
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Ordering Note

CommScope® standard product in Asia Pacific | CommScope® standard product in Europe, the Middle East, and Africa | CommScope® standard product in Mexico, Central America, and South America | CommScope® standard product in the United States and Canada

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## Mechanical Specifications

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

## Return Loss/VSWR

Frequency Band	VSWR	Return Loss (dB)
680–800 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	0.044	0.013	166.49
1	0.062	0.019	117.56
1.5	0.076	0.023	95.88
2	0.088	0.027	82.96
10	0.197	0.06	36.78
20	0.281	0.086	25.84
30	0.346	0.105	21.00
50	0.45	0.137	16.14
88	0.603	0.184	12.03
100	0.645	0.197	11.26
108	0.672	0.205	10.81
150	0.798	0.243	9.09
174	0.864	0.263	8.41
200	0.93	0.284	7.81
300	1.156	0.352	6.28
400	1.351	0.412	5.37
450	1.441	0.439	5.04
500	1.527	0.465	4.76

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512	1.547	0.471	4.69
600	1.689	0.515	4.30
700	1.84	0.561	3.95
800	1.982	0.604	3.66
824	2.016	0.614	3.60
894	2.11	0.643	3.44
960	2.197	0.67	3.30
1000	2.249	0.685	3.23
1250	2.554	0.779	2.84
1500	2.838	0.865	2.56
1700	3.053	0.93	2.38
1800	3.157	0.962	2.30
2000	3.359	1.024	2.16
2100	3.457	1.054	2.10
2200	3.554	1.083	2.04
2300	3.649	1.112	1.99
2500	3.836	1.169	1.89
2700	4.017	1.224	1.81

\* Values typical, guaranteed within 5%

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## Regulatory Compliance/Certifications

### Agency

RoHS 2011/65/EU  
China RoHS SJ/T 11364-2006  
ISO 9001:2008

### Classification

Compliant  
Below Maximum Concentration Value (MCV)  
Designed, manufactured and/or distributed under this quality management system

