

# AVA6P-50-43B

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AVA6-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 1-1/4 in, black PE jacket

## Product Classification

<b>Product Type</b>	Coaxial wireless cable
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	AVA6-50

## General Specifications

<b>Flexibility</b>	Standard
<b>Jacket Color</b>	Black
<b>Performance Note</b>	Attenuation values typical, guaranteed within 5%

## Dimensions

<b>Diameter Over Dielectric</b>	34.036 mm   1.34 in
<b>Diameter Over Jacket</b>	39.624 mm   1.56 in
<b>Inner Conductor OD</b>	14.021 mm   0.552 in
<b>Outer Conductor OD</b>	36.068 mm   1.42 in
<b>Nominal Size</b>	1-1/4 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±1 ohm
<b>Capacitance</b>	72 pF/m   21.946 pF/ft
<b>dc Resistance, Inner Conductor</b>	1.74 ohms/km   0.53 ohms/kft
<b>dc Resistance, Outer Conductor</b>	0.75 ohms/km   0.229 ohms/kft
<b>dc Test Voltage</b>	8500 V
<b>Inductance</b>	0.187 µH/m   0.057 µH/ft
<b>Insulation Resistance</b>	100000 MOhms-km

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<b>Jacket Spark Test Voltage (rms)</b>	10000 V
<b>Operating Frequency Band</b>	1 – 4000 MHz
<b>Peak Power</b>	180 kW
<b>Velocity</b>	92 %

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>710–806 MHz</b>	1.2	20.83
<b>806–970 MHz</b>	1.15	23.13
<b>1420–1530 MHz</b>	1.15	23.13
<b>1700–2180 MHz</b>	1.15	23.13
<b>2535–2655 MHz</b>	1.2	20.83

## Attenuation

<b>Frequency (MHz)</b>	<b>Attenuation (dB/100 m)</b>	<b>Attenuation (dB/100 ft)</b>	<b>Average Power (kW)</b>
<b>1.0</b>	0.079	0.024	82.63
<b>1.5</b>	0.097	0.03	67.41
<b>2.0</b>	0.113	0.034	58.33
<b>10.0</b>	0.253	0.077	25.89
<b>20.0</b>	0.36	0.11	18.21
<b>30.0</b>	0.443	0.135	14.8
<b>50.0</b>	0.576	0.176	11.39
<b>85.0</b>	0.758	0.231	8.66
<b>88.0</b>	0.772	0.235	8.51
<b>100.0</b>	0.825	0.251	7.96
<b>108.0</b>	0.858	0.262	7.65
<b>150.0</b>	1.019	0.311	6.44
<b>174.0</b>	1.102	0.336	5.96
<b>200.0</b>	1.186	0.361	5.53
<b>204.0</b>	1.198	0.365	5.48
<b>300.0</b>	1.471	0.448	4.46
<b>400.0</b>	1.717	0.523	3.82
<b>450.0</b>	1.829	0.558	3.59
<b>460.0</b>	1.851	0.564	3.54
<b>500.0</b>	1.937	0.59	3.39

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512.0	1.962	0.598	3.34
600.0	2.14	0.652	3.07
700.0	2.329	0.71	2.82
800.0	2.507	0.764	2.62
824.0	2.548	0.777	2.58
894.0	2.666	0.813	2.46
960.0	2.774	0.846	2.37
1000.0	2.838	0.865	2.31
1218.0	3.171	0.967	2.07
1250.0	3.218	0.981	2.04
1500.0	3.569	1.088	1.84
1700.0	3.835	1.169	1.71
1794.0	3.955	1.206	1.66
1800.0	3.963	1.208	1.66
2000.0	4.212	1.284	1.56
2100.0	4.333	1.321	1.51
2200.0	4.452	1.357	1.47
2300.0	4.569	1.393	1.44
2500.0	4.798	1.462	1.37
2700.0	5.021	1.53	1.31
3000.0	5.345	1.629	1.23
3400.0	5.76	1.755	1.14
3600.0	5.961	1.817	1.1
3700.0	6.06	1.847	1.08
3800.0	6.16	1.877	1.07
4000.0	6.36	1.94	1.03

## Material Specifications

<b>Dielectric Material</b>	Foam PE
<b>Jacket Material</b>	PE
<b>Inner Conductor Material</b>	Corrugated copper tube
<b>Outer Conductor Material</b>	Corrugated copper

## Mechanical Specifications

<b>Minimum Bend Radius, multiple Bends</b>	203.2 mm   8 in
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<b>Minimum Bend Radius, single Bend</b>	152.4 mm   6 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	40
<b>Tensile Strength</b>	154 kg   339.511 lb
<b>Bending Moment</b>	29.8 N-m   263.752 in lb
<b>Flat Plate Crush Strength</b>	1.3 kg/mm   72.797 lb/in

## Environmental Specifications

<b>Installation temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
<b>Operating Temperature</b>	-55 °C to +85 °C (-67 °F to +185 °F)
<b>Storage Temperature</b>	-70 °C to +85 °C (-94 °F to +185 °F)
<b>Attenuation, Ambient Temperature</b>	68 °F   20 °C
<b>Average Power, Ambient Temperature</b>	104 °F   40 °C
<b>Average Power, Inner Conductor Temperature</b>	212 °F   100 °C

## Packaging and Weights

<b>Cable weight</b>	0.68 kg/m   0.457 lb/ft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CENELEC	EN 50575 compliant, Declaration of Performance (DoP) available
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

