

AVA5-50, HELIAX® Andrew Virtual Air™ Premium Coaxial Cable, corrugated copper, 7/8 in, black PE jacket (Halogen free jacketing non-fire-retardant)

Product Classification

Product Type Coaxial wireless cable

Product Brand HELIAX®
Product Series AVA5-50

Ordering Note CommScope® non-standard product | Not available in the United States

or Canada

General Specifications

Flexibility Standard

Jacket Color Black

Performance Note Attenuation values typical, guaranteed within 5%

Dimensions

Diameter Over Dielectric24.13 mm | 0.95 inDiameter Over Jacket27.991 mm | 1.102 inInner Conductor OD9.449 mm | 0.372 inOuter Conductor OD25.4 mm | 1 in

Nominal Size 7/8 in

Electrical Specifications

Cable Impedance 50 ohm ±1 ohm

Capacitance 73 pF/m | 22.25 pF/ft

dc Resistance, Inner Conductor1.435 ohms/km | 0.437 ohms/kftdc Resistance, Outer Conductor1.116 ohms/km | 0.34 ohms/kft

dc Test Voltage 6000 V

Inductance $0.184 \, \mu H/m \, \mid \, 0.056 \, \mu H/ft$

Insulation Resistance 100000 M0hms-km

Jacket Spark Test Voltage (rms) 8000 V

COMMSCOPE®

Operating Frequency Band 1 - 5000 MHz

Peak Power 91 kW
Velocity 91 %

Attenuation

1.0 0.113 0.034 74.43 1.5 0.138 0.042 60.73 2.0 0.16 0.049 52.56 1.0 0.359 0.11 23.37 2.0 0.51 0.156 16.46 30.0 0.627 0.191 13.39 50.0 0.814 0.248 10.32 85.0 1.068 0.326 7.86 88.0 1.088 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.583 0.787 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 <tr< th=""><th>Frequency (MHz)</th><th>Attenuation (dB/100 m)</th><th>Attenuation (dB/100 ft)</th><th>Average Power (kW)</th></tr<>	Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
2.0 0.16 0.049 52.56 10.0 0.359 0.11 23.37 20.0 0.51 0.156 16.46 30.0 0.627 0.191 13.39 50.0 0.814 0.248 10.32 85.0 1.068 0.326 7.86 88.0 1.088 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.507 5.05 204.0 1.682 0.507 5.05 204.0 2.059 0.628 4.08 450.0 2.398 0.778 3.25 500.0 2.73 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6	1.0	0.113	0.034	74.43
10.0 0.359 0.11 23.37 20.0 0.51 0.156 16.46 30.0 0.627 0.191 13.39 50.0 0.814 0.248 10.32 85.0 1.068 0.326 7.86 88.0 1.088 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 450.0 2.398 0.731 3.5 450.0 2.583 0.787 3.29 460.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.0	1.5	0.138	0.042	60.73
20.0 0.51 0.156 16.46 30.0 0.627 0.191 13.39 50.0 0.814 0.248 10.32 85.0 1.068 0.326 7.86 88.0 1.088 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.553 0.778 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.694 1.126 2.27 960.0 3.841 1.171 2.19	2.0	0.16	0.049	52.56
30.0 0.627 0.191 13.39 50.0 0.814 0.248 10.32 85.0 1.068 0.326 7.86 88.0 1.098 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.583 0.787 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.06 2.42 824.0 3.694 1.12	10.0	0.359	0.11	23.37
50.00.8140.24810.3285.01.0680.3267.8688.01.0880.3327.72100.01.1620.3547.23108.01.2090.3686.95150.01.4330.4375.86174.01.5480.4725.43200.01.6650.5075.05204.01.6820.5134.99300.02.0590.6284.08400.02.3980.7313.5450.02.5830.7783.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5941.1262.27960.03.8411.1712.191000.03.9271.1972.14	20.0	0.51	0.156	16.46
85.0 1.068 0.326 7.86 88.0 1.088 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.583 0.787 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.996 2.6 800.0 3.478 1.06 2.42 824.0 3.694 1.126 2.27 960.0 3.841 1.171 2.19 1000.0 3.927 1.1	30.0	0.627	0.191	13.39
88.0 1.088 0.332 7.72 100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.553 0.778 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.06 2.42 824.0 3.534 1.077 2.38 894.0 3.841 1.171 2.19 1000.0 3.927 1.197 2.14	50.0	0.814	0.248	10.32
100.0 1.162 0.354 7.23 108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.553 0.778 3.29 460.0 2.583 0.787 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.06 2.42 824.0 3.534 1.077 2.38 894.0 3.694 1.126 2.27 960.0 3.841 1.171 2.19 1000.0 3.927 1.197 2.14	85.0	1.068	0.326	7.86
108.0 1.209 0.368 6.95 150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.553 0.778 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.06 2.42 824.0 3.694 1.126 2.27 960.0 3.841 1.171 2.19 1000.0 3.927 1.197 2.14	88.0	1.088	0.332	7.72
150.0 1.433 0.437 5.86 174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.553 0.778 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.06 2.42 824.0 3.534 1.077 2.38 894.0 3.694 1.126 2.27 960.0 3.841 1.171 2.19 1000.0 3.927 1.197 2.14	100.0	1.162	0.354	7.23
174.0 1.548 0.472 5.43 200.0 1.665 0.507 5.05 204.0 1.682 0.513 4.99 300.0 2.059 0.628 4.08 400.0 2.398 0.731 3.5 450.0 2.553 0.778 3.29 460.0 2.583 0.787 3.25 500.0 2.7 0.823 3.11 512.0 2.735 0.834 3.07 600.0 2.977 0.907 2.82 700.0 3.235 0.986 2.6 800.0 3.478 1.06 2.42 824.0 3.534 1.077 2.38 894.0 3.694 1.126 2.27 960.0 3.841 1.171 2.19 1000.0 3.927 1.197 2.14	108.0	1.209	0.368	6.95
200.01.6650.5075.05204.01.6820.5134.99300.02.0590.6284.08400.02.3980.7313.5450.02.5530.7783.29460.02.5830.7873.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	150.0	1.433	0.437	5.86
204.01.6820.5134.99300.02.0590.6284.08400.02.3980.7313.5450.02.5530.7783.29460.02.5830.7873.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	174.0	1.548	0.472	5.43
300.02.0590.6284.08400.02.3980.7313.5450.02.5530.7783.29460.02.5830.7873.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	200.0	1.665	0.507	5.05
400.02.3980.7313.5450.02.5530.7783.29460.02.5830.7873.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	204.0	1.682	0.513	4.99
450.02.5530.7783.29460.02.5830.7873.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	300.0	2.059	0.628	4.08
460.02.5830.7873.25500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	400.0	2.398	0.731	3.5
500.02.70.8233.11512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	450.0	2.553	0.778	3.29
512.02.7350.8343.07600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	460.0	2.583	0.787	3.25
600.02.9770.9072.82700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	500.0	2.7	0.823	3.11
700.03.2350.9862.6800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	512.0	2.735	0.834	3.07
800.03.4781.062.42824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	600.0	2.977	0.907	2.82
824.03.5341.0772.38894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	700.0	3.235	0.986	2.6
894.03.6941.1262.27960.03.8411.1712.191000.03.9271.1972.14	800.0	3.478	1.06	2.42
960.03.8411.1712.191000.03.9271.1972.14	824.0	3.534	1.077	2.38
1000.0 3.927 1.197 2.14	894.0	3.694	1.126	2.27
	960.0	3.841	1.171	2.19
1218.0 4.377 1.334 1.92	1000.0	3.927	1.197	2.14
	1218.0	4.377	1.334	1.92

1250.0	4.44	1.353	1.89
1500.0	4.912	1.497	1.71
1700.0	5.268	1.605	1.59
1794.0	5.429	1.655	1.55
1800.0	5.439	1.658	1.54
2000.0	5.771	1.759	1.46
2100.0	5.933	1.808	1.42
2200.0	6.091	1.856	1.38
2300.0	6.247	1.904	1.34
2500.0	6.55	1.996	1.28
2700.0	6.845	2.086	1.23
3000.0	7.272	2.217	1.15
3400.0	7.819	2.383	1.07
3600.0	8.083	2.464	1.04
3700.0	8.213	2.503	1.02
3800.0	8.342	2.542	1.01
3900.0	8.47	2.581	0.99
4000.0	8.596	2.62	0.98
4100.0	8.722	2.658	0.96
4200.0	8.846	2.696	0.95
4300.0	8.969	2.734	0.94
4400.0	9.092	2.771	0.92
4500.0	9.213	2.808	0.91
4600.0	9.333	2.845	0.9
4700.0	9.453	2.881	0.89
4800.0	9.572	2.917	0.88
4900.0	9.689	2.953	0.87
5000.0	9.806	2.989	0.86

VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
450-680 MHz	1.101	26.36
680-800 MHz	1.101	26.36
806-960 MHz	1.101	26.36
1700-2200 MHz	1.101	26.36

COMMSCOPE®

Material Specifications

Dielectric Material Foam PE

Jacket Material PE

Inner Conductor Material Copper tube

Outer Conductor Material Corrugated copper

Mechanical Specifications

Minimum Bend Radius, multiple Bends254 mm | 10 inMinimum Bend Radius, single Bend127 mm | 5 in

Number of Bends, minimum 15 Number of Bends, typical 30

 Tensile Strength
 159 kg | 350.535 lb

 Bending Moment
 19 N-m | 168.164 in lb

 Flat Plate Crush Strength
 1.3 kg/mm | 72.797 lb/in

Environmental Specifications

Installation temperature $-40 \,^{\circ}\text{C}$ to $+60 \,^{\circ}\text{C}$ ($-40 \,^{\circ}\text{F}$ to $+140 \,^{\circ}\text{F}$)

Operating Temperature $-55 \,^{\circ}\text{C}$ to $+85 \,^{\circ}\text{C}$ ($-67 \,^{\circ}\text{F}$ to $+185 \,^{\circ}\text{F}$)

Storage Temperature $-70 \,^{\circ}\text{C}$ to $+85 \,^{\circ}\text{C}$ ($-94 \,^{\circ}\text{F}$ to $+185 \,^{\circ}\text{F}$)

Attenuation, Ambient Temperature $68 \,^{\circ}\text{F} \mid 20 \,^{\circ}\text{C}$ Average Power, Ambient Temperature $104 \,^{\circ}\text{F} \mid 40 \,^{\circ}\text{C}$ Average Power, Inner Conductor Temperature $212 \,^{\circ}\text{F} \mid 100 \,^{\circ}\text{C}$

EN50575 CPR Cable EuroClass Fire Performance Fca

Packaging and Weights

Cable weight $0.45 \text{ kg/m} \mid 0.302 \text{ lb/ft}$

Regulatory Compliance/Certifications

Agency Classification

CENELEC EN 50575 compliant, Declaration of Performance (DoP) available

CENELEC

