

# AL4RPV-50R

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AL4RPV-50, HELIAX® Plenum Rated Air Dielectric Coaxial Cable, corrugated aluminum, 1/2 in, Red PVC jacket



- This product is part of the CommScope Wired for Wireless® Solution

## Product Classification

<b>Product Type</b>	Air coaxial cable
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	AL4-50
<b>Ordering Note</b>	CommScope® standard product (Global)

## General Specifications

<b>Flexibility</b>	Standard
<b>Jacket Color</b>	Red

## Dimensions

<b>Diameter Over Jacket</b>	15.748 mm   0.62 in
<b>Inner Conductor OD</b>	4.572 mm   0.18 in
<b>Outer Conductor OD</b>	14.046 mm   0.553 in
<b>Nominal Size</b>	1/2 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm $\pm$ 2 ohm
<b>Capacitance</b>	75.459 pF/m   23 pF/ft
<b>dc Resistance, Inner Conductor</b>	1.575 ohms/km   0.48 ohms/kft
<b>dc Resistance, Outer Conductor</b>	1.575 ohms/km   0.48 ohms/kft
<b>dc Test Voltage</b>	4000 V
<b>Inductance</b>	0.19 $\mu$ H/m   0.058 $\mu$ H/ft
<b>Insulation Resistance</b>	100000 Mohms•km
<b>Jacket Spark Test Voltage (rms)</b>	5000 V
<b>Operating Frequency Band</b>	1 – 6000 MHz

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<b>Peak Power</b>	40 kW
<b>Power Attenuation</b>	2.325
<b>Pulse Reflection</b>	0.5%
<b>Velocity</b>	88 %

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>700–894 MHz</b>	1.13	24.3
<b>806–960 MHz</b>	1.13	24.3
<b>1700–2200 MHz</b>	1.13	24.3

## 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>	0.216	0.066	35.37
<b>1.5</b>	0.264	0.081	28.84
<b>2.0</b>	0.306	0.093	24.95
<b>10.0</b>	0.691	0.211	11.04
<b>20.0</b>	0.985	0.3	7.75
<b>30.0</b>	1.213	0.37	6.29
<b>50.0</b>	1.581	0.482	4.83
<b>85.0</b>	2.087	0.636	3.66
<b>88.0</b>	2.126	0.648	3.59
<b>100.0</b>	2.274	0.693	3.35
<b>108.0</b>	2.368	0.722	3.22
<b>150.0</b>	2.821	0.86	2.7
<b>174.0</b>	3.054	0.931	2.5
<b>200.0</b>	3.292	1.003	2.32
<b>204.0</b>	3.327	1.014	2.29
<b>300.0</b>	4.104	1.251	1.86
<b>400.0</b>	4.808	1.465	1.59
<b>450.0</b>	5.134	1.565	1.49
<b>460.0</b>	5.197	1.584	1.47
<b>500.0</b>	5.445	1.659	1.4
<b>512.0</b>	5.517	1.682	1.38
<b>600.0</b>	6.032	1.839	1.26
<b>700.0</b>	6.583	2.007	1.16

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800.0	7.105	2.166	1.07
824.0	7.227	2.203	1.06
894.0	7.574	2.308	1.01
960.0	7.892	2.405	0.97
1000.0	8.081	2.463	0.94
1218.0	9.068	2.764	0.84
1250.0	9.207	2.806	0.83
1500.0	10.256	3.126	0.74
1700.0	11.053	3.369	0.69
1794.0	11.416	3.48	0.67
1800.0	11.439	3.487	0.67
2000.0	12.192	3.716	0.63
2100.0	12.559	3.828	0.61
2200.0	12.92	3.938	0.59
2300.0	13.276	4.046	0.57
2500.0	13.975	4.259	0.55
2700.0	14.656	4.467	0.52
3000.0	15.649	4.77	0.49
3400.0	16.928	5.159	0.45
3600.0	17.551	5.349	0.43
3700.0	17.859	5.443	0.43
3800.0	18.164	5.536	0.42
3900.0	18.467	5.628	0.41
4000.0	18.768	5.72	0.41
4100.0	19.066	5.811	0.4
4200.0	19.363	5.902	0.39
4300.0	19.658	5.991	0.39
4400.0	19.951	6.081	0.38
4500.0	20.241	6.169	0.38
4600.0	20.531	6.257	0.37
4700.0	20.818	6.345	0.37
4800.0	21.104	6.432	0.36
4900.0	21.388	6.519	0.36
5000.0	21.671	6.605	0.35
6000.0	24.42	7.443	0.31

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## Material Specifications

<b>Dielectric Material</b>	PE spline
<b>Jacket Material</b>	PVC
<b>Inner Conductor Material</b>	Copper-clad aluminum wire
<b>Outer Conductor Material</b>	Corrugated aluminum

## Mechanical Specifications

<b>Minimum Bend Radius, multiple Bends</b>	127 mm   5 in
<b>Minimum Bend Radius, single Bend</b>	63.5 mm   2.5 in
<b>Number of Bends, minimum</b>	15
<b>Tensile Strength</b>	79 kg   174.165 lb
<b>Bending Moment</b>	5 ft lb   6.779 N-m
<b>Flat Plate Crush Strength</b>	1.429 kg/mm   80 lb/in

## Environmental Specifications

<b>Installation temperature</b>	-5 °C to +60 °C (+23 °F to +140 °F)
<b>Operating Temperature</b>	-20 °C to +85 °C (-4 °F to +185 °F)
<b>Storage Temperature</b>	-20 °C to +85 °C (-4 °F to +185 °F)
<b>Average Power, Ambient Temperature</b>	104 °F   40 °C
<b>Average Power, Inner Conductor Temperature</b>	212 °F   100 °C
<b>Fire Retardancy Test Method</b>	NFPA 262/CATVP/CMP

## Packaging and Weights

<b>Cable weight</b>	0.208 kg/m   0.14 lb/ft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
c(ETL)us Certification	CATVP/CMP
ETL Certification	CATVP/CMP
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

