

# L4P43A-PNM-3M

LDF4-50A SureFlex® Jumper with interface type N Male, 3 m



## Product Classification

<b>Product Type</b>	Wireless transmission cable assembly
<b>Product Brand</b>	HELIAX®   SureFlex®
<b>Product Series</b>	LDF4-50A

## General Specifications

<b>Body Style, Connector A</b>	Straight
<b>Interface, Connector A</b>	N Male
<b>Interface, Connector B</b>	Sold separately
<b>Specification Sheet Revision Level</b>	A

## Dimensions

<b>Length</b>	3 m   9.843 ft
<b>Nominal Size</b>	1/2 in

## Electrical Specifications

<b>DTF, Connector A</b>	-32 dB
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## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
710–806 MHz	1.201	20.79
806–970 MHz	1.15	23.13
1420–1530 MHz	1.15	23.13
1700–2180 MHz	1.15	23.13
2535–2655 MHz	1.201	20.79
3400–3800 MHz	1.25	19.08
4400–4900 MHz	1.41	15.56

## Jumper Assembly Sample Label

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## Environmental Specifications

**Immersion Test Method** Meets IEC 60529:2001, IP68 in mated condition

## Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

## Included Products

- L4PNM – Type N Male for 1/2 in LDF4-50A cable
- L4PNM-H – Type N Male for 1/2 in LDF4-50A cable. Only available through distribution
- LDF4-50A – LDF4-50A, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket Halogen free jacketing non-fire-retardant (General propose cable for outdoor use only)

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Type N Male for 1/2 in LDF4-50A cable

## Product Classification

<b>Product Type</b>	Wireless and radiating connector
<b>Product Brand</b>	HELIAX®

## General Specifications

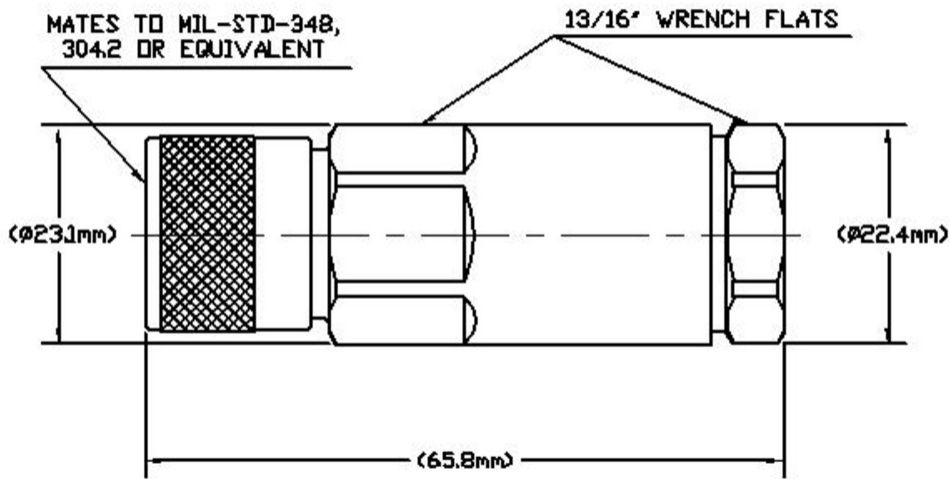
<b>Body Style</b>	Straight
<b>Cable Family</b>	LDF4-50A
<b>Inner Contact Attachment Method</b>	Solder
<b>Inner Contact Plating</b>	Gold
<b>Interface</b>	N Male
<b>Mounting Angle</b>	Straight
<b>Outer Contact Attachment Method</b>	Self-flare
<b>Outer Contact Plating</b>	Trimetal
<b>Pressurizable</b>	No

## Dimensions

<b>Length</b>	65.79 mm   2.59 in
<b>Diameter</b>	23.11 mm   0.91 in
<b>Nominal Size</b>	1/2 in

## Outline Drawing

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## Electrical Specifications

<b>3rd Order IMD at Frequency</b>	-116 dBm @ 910 MHz
<b>3rd Order IMD Test Method</b>	Two +43 dBm carriers
<b>Insertion Loss Coefficient, typical</b>	0.05
<b>Cable Impedance</b>	50 ohm
<b>Connector Impedance</b>	50 ohm
<b>Inner Contact Resistance, maximum</b>	2 mOhm
<b>Operating Frequency Band</b>	0 – 8800 MHz
<b>Outer Contact Resistance, maximum</b>	0.3 mOhm
<b>RF Operating Voltage, maximum (vrms)</b>	707 V

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
3.5–4.4 GHz	1.152	23.02
45–920 MHz	1.036	35.05
920–2700 MHz	1.058	31
2700–3500 MHz	1.106	25.96
4400–5300 MHz	1.196	20.99
5300–6200 MHz	1.222	20.01
6200–8800 MHz	1.29	18

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## Mechanical Specifications

<b>Attachment Durability</b>	25 cycles
<b>Connector Retention Tensile Force</b>	889.64 N   200 lbf
<b>Connector Retention Torque</b>	5.42 N-m   47.998 in lb
<b>Coupling Nut Proof Torque</b>	4.52 N-m   39.997 in lb
<b>Coupling Nut Retention Force</b>	444.82 N   100 lbf
<b>Coupling Nut Retention Force Method</b>	MIL-C-39012C-3.25, 4.6.22
<b>Interface Durability</b>	500 cycles
<b>Interface Durability Method</b>	IEC 61169-16:9.5

## Environmental Specifications

<b>Attenuation, Ambient Temperature</b>	20 °C   68 °F
<b>Average Power, Ambient Temperature</b>	40 °C   104 °F

## Packaging and Weights

<b>Weight, net</b>	108.86 g   0.24 lb
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Below maximum concentration value
ROHS	Compliant
UK-ROHS	Compliant



## \* Footnotes

**Insertion Loss Coefficient, typical** 0.05√freq (GHz) (not applicable for elliptical waveguide)

# L4PNM-H



Type N Male for 1/2 in LDF4-50A cable. Only available through distribution

## Product Classification

<b>Product Type</b>	Wireless and radiating connector
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	LDF4-50A
<b>Ordering Note</b>	ANDREW® non-standard product

## General Specifications

<b>Body Style</b>	Straight
<b>Cable Family</b>	LDF4-50A
<b>Inner Contact Attachment Method</b>	Solder
<b>Inner Contact Plating</b>	Gold
<b>Interface</b>	N Male
<b>Mounting Angle</b>	Straight
<b>Outer Contact Attachment Method</b>	Self-flare
<b>Outer Contact Plating</b>	Trimetal
<b>Pressurizable</b>	No

## Dimensions

<b>Length</b>	66.04 mm   2.6 in
<b>Diameter</b>	25.4 mm   1 in
<b>Nominal Size</b>	1/2 in

## Electrical Specifications

<b>Insertion Loss Coefficient, typical</b>	0.05
<b>Cable Impedance</b>	50 ohm
<b>Connector Impedance</b>	50 ohm
<b>Inner Contact Resistance, maximum</b>	2 mOhm
<b>Operating Frequency Band</b>	0 – 8800 MHz

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<b>Outer Contact Resistance, maximum</b>	0.3 mOhm
<b>RF Operating Voltage, maximum (vrms)</b>	707 V

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>3.5–4.4 GHz</b>	1.152	23.02
<b>45–920 MHz</b>	1.036	35.05
<b>920–2700 MHz</b>	1.058	31
<b>2700–3500 MHz</b>	1.106	25.96
<b>4400–5300 MHz</b>	1.196	20.99
<b>5300–6200 MHz</b>	1.222	20.01
<b>6200–8800 MHz</b>	1.29	18

## Mechanical Specifications

<b>Attachment Durability</b>	25 cycles
<b>Connector Retention Tensile Force</b>	889.64 N   200 lbf
<b>Connector Retention Torque</b>	5.42 N-m   47.998 in lb
<b>Coupling Nut Proof Torque</b>	4.52 N-m   39.997 in lb
<b>Coupling Nut Retention Force</b>	444.82 N   100 lbf
<b>Coupling Nut Retention Force Method</b>	MIL-C-39012C-3.25, 4.6.22
<b>Interface Durability</b>	500 cycles
<b>Interface Durability Method</b>	IEC 61169-16:9.5

## Environmental Specifications

<b>Attenuation, Ambient Temperature</b>	20 °C   68 °F
<b>Average Power, Ambient Temperature</b>	40 °C   104 °F

## Packaging and Weights

<b>Weight, net</b>	108.86 g   0.24 lb
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant

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UK-ROHS

Compliant



\* Footnotes

**Insertion Loss Coefficient, typical**  $0.05\sqrt{\text{freq}}$  (GHz) (not applicable for elliptical waveguide)



# LDF4-50A



LDF4-50A, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket Halogen free jacketing non-fire-retardant (General propose cable for outdoor use only)

## Product Classification

<b>Product Type</b>	Coaxial wireless cable
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	LDF4-50A
<b>Ordering Note</b>	ANDREW® standard product (Global)

## General Specifications

<b>Product Number</b>	520094002/00   SZ520094902/00
<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>	12.954 mm   0.51 in
<b>Diameter Over Jacket</b>	15.875 mm   0.625 in
<b>Inner Conductor OD</b>	4.826 mm   0.19 in
<b>Outer Conductor OD</b>	13.97 mm   0.55 in
<b>Nominal Size</b>	1/2 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm $\pm$ 1 ohm
<b>Capacitance</b>	75.8 pF/m   23.104 pF/ft
<b>dc Resistance, Inner Conductor</b>	1.48 ohms/km   0.451 ohms/kft
<b>dc Resistance, Outer Conductor</b>	2.69 ohms/km   0.82 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>	8000 V

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<b>Operating Frequency Band</b>	1 – 8800 MHz
<b>Peak Power</b>	40 kW
<b>Velocity</b>	88 %

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>680–800 MHz</b>	1.13	24.3
<b>800–960 MHz</b>	1.13	24.3
<b>1700–2200 MHz</b>	1.13	24.3
<b>2300–2700 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>	0.211	0.064	36.11
<b>1.5</b>	0.259	0.079	29.46
<b>2.0</b>	0.299	0.091	25.5
<b>10.0</b>	0.672	0.205	11.35
<b>20.0</b>	0.954	0.291	7.99
<b>30.0</b>	1.172	0.357	6.51
<b>50.0</b>	1.521	0.463	5.02
<b>85.0</b>	1.995	0.608	3.82
<b>88.0</b>	2.031	0.619	3.76
<b>100.0</b>	2.169	0.661	3.52
<b>108.0</b>	2.256	0.688	3.38
<b>150.0</b>	2.673	0.815	2.85
<b>174.0</b>	2.887	0.88	2.64
<b>200.0</b>	3.103	0.946	2.46
<b>204.0</b>	3.135	0.956	2.43
<b>300.0</b>	3.835	1.169	1.99
<b>400.0</b>	4.462	1.36	1.71
<b>450.0</b>	4.749	1.447	1.61
<b>460.0</b>	4.804	1.464	1.59
<b>500.0</b>	5.021	1.53	1.52
<b>512.0</b>	5.085	1.55	1.5
<b>600.0</b>	5.533	1.686	1.38

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<b>700.0</b>	6.009	1.831	1.27
<b>800.0</b>	6.456	1.968	1.18
<b>824.0</b>	6.56	1.999	1.16
<b>894.0</b>	6.855	2.089	1.11
<b>960.0</b>	7.124	2.171	1.07
<b>1000.0</b>	7.284	2.22	1.05
<b>1218.0</b>	8.11	2.472	0.94
<b>1250.0</b>	8.226	2.507	0.93
<b>1500.0</b>	9.093	2.771	0.84
<b>1700.0</b>	9.744	2.97	0.78
<b>1794.0</b>	10.039	3.06	0.76
<b>1800.0</b>	10.058	3.066	0.76
<b>2000.0</b>	10.666	3.251	0.72
<b>2100.0</b>	10.961	3.341	0.7
<b>2200.0</b>	11.251	3.429	0.68
<b>2300.0</b>	11.535	3.516	0.66
<b>2500.0</b>	12.09	3.685	0.63
<b>2700.0</b>	12.627	3.849	0.6
<b>3000.0</b>	13.407	4.086	0.57
<b>3400.0</b>	14.401	4.389	0.53
<b>3600.0</b>	14.882	4.536	0.51
<b>3700.0</b>	15.118	4.608	0.5
<b>3800.0</b>	15.353	4.679	0.5
<b>3900.0</b>	15.585	4.75	0.49
<b>4000.0</b>	15.815	4.82	0.48
<b>4100.0</b>	16.042	4.889	0.48
<b>4200.0</b>	16.268	4.958	0.47
<b>4300.0</b>	16.492	5.027	0.46
<b>4400.0</b>	16.714	5.094	0.46
<b>4500.0</b>	16.934	5.161	0.45
<b>4600.0</b>	17.153	5.228	0.44
<b>4700.0</b>	17.37	5.294	0.44
<b>4800.0</b>	17.585	5.36	0.43
<b>4900.0</b>	17.798	5.425	0.43
<b>5000.0</b>	18.01	5.489	0.42

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<b>6000.0</b>	20.055	6.113	0.38
<b>8000.0</b>	23.826	7.262	0.32
<b>8800.0</b>	25.244	7.694	0.3

## Material Specifications

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

## Mechanical Specifications

<b>Minimum Bend Radius, multiple Bends</b>	127 mm   5 in
<b>Minimum Bend Radius, single Bend</b>	50.8 mm   2 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	50
<b>Tensile Strength</b>	113 kg   249.122 lb
<b>Bending Moment</b>	3.8 N-m   33.633 in lb
<b>Flat Plate Crush Strength</b>	2 kg/mm   111.995 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>	0.22 kg/m   0.148 lb/ft
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## Regulatory Compliance/Certifications

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

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REACH-SVHC	Compliant as per SVHC revision on <a href="http://www.andrew.com/ProductCompliance">www.andrew.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant

