



## LDF4RK-50A

**LDF4-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black non-halogenated, fire retardant polyolefin jacket B2ca-s1a-d0,a1**

### Product Classification

|                |                        |
|----------------|------------------------|
| Brand          | HELIAX®   SureFlex®    |
| Product Series | LDF4-50A               |
| Product Type   | Coaxial wireless cable |

### Standards And Qualifications

|                             |                 |
|-----------------------------|-----------------|
| EN50575 CPR Cable EuroClass | B2ca   s1a   d0 |
|-----------------------------|-----------------|

### Construction Materials

|                          |  |
|--------------------------|--|
| Jacket Material          | Non-halogenated, fire retardant polyolefin |
| Outer Conductor Material | Corrugated copper                          |
| Dielectric Material      | Foam PE                                    |
| Flexibility              | Standard                                   |
| Inner Conductor Material | Copper-clad aluminum wire                  |
| Jacket Color             | Black                                      |

### Dimensions

|                          |                        |
|--------------------------|------------------------|
| Nominal Size             | 1/2 in                 |
| Cable Weight             | 0.17 lb/ft   0.25 kg/m |
| Diameter Over Dielectric | 12.954 mm   0.510 in   |
| Diameter Over Jacket     | 16.002 mm   0.630 in   |
| Inner Conductor OD       | 4.8260 mm   0.1900 in  |
| Outer Conductor OD       | 13.970 mm   0.550 in   |

### Electrical Specifications

|                                 |                                |
|---------------------------------|--------------------------------|
| Cable Impedance                 | 50 ohm ±1 ohm                  |
| Capacitance                     | 23.1 pF/ft   75.8 pF/m         |
| dc Resistance, Inner Conductor  | 0.450 ohms/kft   1.480 ohms/km |
| dc Resistance, Outer Conductor  | 0.820 ohms/kft   2.690 ohms/km |
| dc Test Voltage                 | 4000 V                         |
| Inductance                      | 0.190 µH/m   0.058 µH/ft       |
| Insulation Resistance           | 100000 Mohms•km                |
| Jacket Spark Test Voltage (rms) | 5000 V                         |
| Operating Frequency Band        | 1 – 8800 MHz                   |
| Peak Power                      | 40.0 kW                        |
| Velocity                        | 88%                            |

### Environmental Specifications

|                          |                                      |
|--------------------------|--------------------------------------|
| Installation Temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Operating Temperature    | -40 °C to +60 °C (-40 °F to +140 °F) |
| Storage Temperature      | -40 °C to +60 °C (-40 °F to +140 °F) |

IDF4RK-50A

## General Specifications

|               |  |
|---------------|--|
| Brand         | HELIAX®  |
| Ordering Note | CommScope® standard product in Asia Pacific   CommScope® standard product in Europe, the Middle East, and Africa |

## Mechanical Specifications

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Bending Moment                      | 3.8 N-m   2.8 ft lb               |
| Fire Retardancy Test Method         | NFPA 130-2010   UL 1666/CATVR/CMR |
| Flat Plate Crush Strength           | 110.0 lb/in   2.0 kg/mm           |
| Minimum Bend Radius, Multiple Bends | 127.00 mm   5.00 in               |
| Minimum Bend Radius, Single Bend    | 50.80 mm   2.00 in                |
| Number of Bends, minimum            | 15                                |
| Number of Bends, typical            | 50                                |
| Smoke Index Test Method             | IEC 61034                         |
| Tensile Strength                    | 113 kg   250 lb                   |
| Toxicity Index Test Method          | IEC 60754-1   IEC 60754-2         |

## 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            |
| 800–960 MHz    | 1.13 | 24.30            |
| 1700–2000 MHz  | 1.13 | 24.30            |
| 2300–2700 MHz  | 1.13 | 24.30            |

IDF4RK-50A

## Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 0.5             | 0.149                  | 0.045                   | 40.00              |
| 1               | 0.211                  | 0.064                   | 36.11              |
| 1.5             | 0.259                  | 0.079                   | 29.46              |
| 2               | 0.299                  | 0.091                   | 25.50              |
| 10              | 0.672                  | 0.205                   | 11.35              |
| 20              | 0.954                  | 0.291                   | 7.99               |
| 30              | 1.172                  | 0.357                   | 6.51               |
| 50              | 1.521                  | 0.463                   | 5.02               |
| 85              | 1.995                  | 0.608                   | 3.82               |
| 88              | 2.031                  | 0.619                   | 3.76               |
| 100             | 2.169                  | 0.661                   | 3.52               |
| 108             | 2.256                  | 0.688                   | 3.38               |
| 150             | 2.673                  | 0.815                   | 2.85               |
| 174             | 2.887                  | 0.88                    | 2.64               |
| 200             | 3.103                  | 0.946                   | 2.46               |
| 204             | 3.135                  | 0.956                   | 2.43               |
| 300             | 3.835                  | 1.169                   | 1.99               |
| 400             | 4.462                  | 1.36                    | 1.71               |
| 450             | 4.749                  | 1.447                   | 1.61               |
| 500             | 5.021                  | 1.53                    | 1.52               |
| 512             | 5.085                  | 1.55                    | 1.50               |
| 600             | 5.533                  | 1.686                   | 1.38               |
| 700             | 6.009                  | 1.831                   | 1.27               |
| 800             | 6.456                  | 1.968                   | 1.18               |
| 824             | 6.56                   | 1.999                   | 1.16               |
| 894             | 6.855                  | 2.089                   | 1.11               |
| 960             | 7.124                  | 2.171                   | 1.07               |
| 1000            | 7.284                  | 2.22                    | 1.05               |
| 1218            | 8.11                   | 2.472                   | 0.94               |
| 1250            | 8.226                  | 2.507                   | 0.93               |
| 1500            | 9.093                  | 2.771                   | 0.84               |
| 1700            | 9.744                  | 2.97                    | 0.78               |
| 1794            | 10.039                 | 3.06                    | 0.76               |
| 1800            | 10.058                 | 3.066                   | 0.76               |
| 2000            | 10.666                 | 3.251                   | 0.72               |
| 2100            | 10.961                 | 3.341                   | 0.70               |
| 2200            | 11.251                 | 3.429                   | 0.68               |
| 2300            | 11.535                 | 3.516                   | 0.66               |
| 2500            | 12.09                  | 3.685                   | 0.63               |
| 2700            | 12.627                 | 3.849                   | 0.60               |
| 3000            | 13.407                 | 4.086                   | 0.57               |
| 3400            | 14.401                 | 4.389                   | 0.53               |
| 3700            | 15.118                 | 4.608                   | 0.50               |
| 4000            | 15.815                 | 4.82                    | 0.48               |
| 5000            | 18.01                  | 5.489                   | 0.42               |
| 6000            | 20.055                 | 6.113                   | 0.38               |
| 8000            | 23.826                 | 7.262                   | 0.32               |
| 8800            | 25.244                 | 7.694                   | 0.30               |

\* Values typical, guaranteed within 5%

## Regulatory Compliance/Certifications

# Product Specifications

IDF4RK-50A

## Agency

UL/ETL Certification  
RoHS 2011/65/EU  
China RoHS SJ/T 11364-2006  
ISO 9001:2008  
CENELEC

## Classification

CATVR/CMR  
Compliant  
Below Maximum Concentration Value (MCV)  
Designed, manufactured and/or distributed under this quality management system  
Compliant, DoP (Declaration of Performance) document available

