

# F4R-HPDMDM-3M



HELIAX® 1/2" Superflexible Fire retardant SureFlex® Jumper with interface types 7-16 DIN Male and 7-16 DIN Male, 3 m, with black non-halogenated fire retardant polyolefin jacket

## Product Classification

|                |                                   |
|----------------|-----------------------------------|
| Product Type   | SureFlex® HP, HELIAX® performance |
| Product Brand  | HELIAX®   SureFlex®               |
| Product Series | RSJ4-50                           |

## General Specifications

|                                    |               |
|------------------------------------|---------------|
| Body Style, Connector A            | Straight      |
| Body Style, Connector B            | Straight      |
| Interface, Connector A             | 7-16 DIN Male |
| Interface, Connector B             | 7-16 DIN Male |
| Specification Sheet Revision Level | A             |

## Dimensions

|              |                |
|--------------|----------------|
| Length       | 3 m   9.843 ft |
| Nominal Size | 1/2 in         |

## Electrical Specifications

|                                  |                      |
|----------------------------------|----------------------|
| 3rd Order IMD Static Test Method | Two +43 dBm carriers |
| 3rd Order IMD, typical           | -116 dBm             |
| DTF, Connector A                 | -34 dB               |
| DTF, Connector B                 | -34 dB               |

## VSWR/Return Loss

| Frequency Band | VSWR, typical | Return Loss, typical (dB) |
|----------------|---------------|---------------------------|
| 680–960 MHz    | 1.065         | 30.04                     |
| 1700–2200 MHz  | 1.065         | 30.04                     |
| 2200–2700 MHz  | 1.106         | 25.96                     |

# F4R-HPDMDM-3M

## Jumper Assembly Sample Label



## Environmental Specifications

|  |   |
|--|---|
| EN50575 CPR Cable EuroClass Fire Performance | B2ca  |
| EN50575 CPR Cable EuroClass Smoke Rating     | s1a   |
| EN50575 CPR Cable EuroClass Droplets Rating  | d1  |
| EN50575 CPR Cable EuroClass Acidity Rating   | a1  |
| 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

|            |  |
|------------|--|
| FSJ4RK-50B | – FSJ4RK-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/2 in, black non-halogenated, fire retardant polyolefin jacket B2ca-s1a-d1-a1 (CPR testing is conducted annually please reference the website for latest classification) |
|------------|--|

# FSJ4RK-50B



FSJ4RK-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/2 in, black non-halogenated, fire retardant polyolefin jacket B2ca-s1a-d1-a1 (CPR testing is conducted annually please reference the website for latest classification)

## Product Classification

|                |  |
|----------------|--|
| Product Type   | Coaxial wireless cable                   |
| Product Brand  | HELIAX®   SureFlex®                      |
| Product Series | FSJ4-50B                                 |
| Ordering Note  | ANDREW® standard product in Asia Pacific |

## General Specifications

|                  |  |
|------------------|--|
| Product Number   | 520094502/00   SZ520094502/00                    |
| Flexibility      | Superflexible                                    |
| Jacket Color     | Black  |
| Performance Note | Attenuation values typical, guaranteed within 5% |

## Dimensions

|                          |                     |
|--------------------------|---------------------|
| Diameter Over Dielectric | 8.89 mm   0.35 in   |
| Diameter Over Jacket     | 13.462 mm   0.53 in |
| Inner Conductor OD       | 3.556 mm   0.14 in  |
| Outer Conductor OD       | 12.192 mm   0.48 in |
| Nominal Size             | 1/2 in              |

## Electrical Specifications

|                                 |                               |
|---------------------------------|-------------------------------|
| Cable Impedance                 | 50 ohm ±1 ohm                 |
| Capacitance                     | 82.7 pF/m   25.207 pF/ft      |
| dc Resistance, Inner Conductor  | 2.69 ohms/km   0.82 ohms/kft  |
| dc Resistance, Outer Conductor  | 5.12 ohms/km   1.561 ohms/kft |
| dc Test Voltage                 | 2500 V                        |
| Inductance                      | 0.207 µH/m   0.063 µH/ft      |
| Insulation Resistance           | 100000 MOhms-km               |
| Jacket Spark Test Voltage (rms) | 4000 V                        |

# FSJ4RK-50B

|                          |               |
|--------------------------|---------------|
| Operating Frequency Band | 1 – 10200 MHz |
| Peak Power               | 22.5 kW       |
| Velocity                 | 81 %          |

## VSWR/Return Loss

| Frequency Band | VSWR  | Return Loss (dB) |
|----------------|-------|------------------|
| 680–800 MHz    | 1.201 | 20.8             |
| 800–960 MHz    | 1.201 | 20.8             |
| 1700–2200 MHz  | 1.201 | 20.8             |
| 2300–2700 MHz  | 1.201 | 20.8             |

## Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 1.0             | 0.327                  | 0.1                     | 22.5               |
| 1.5             | 0.401                  | 0.122                   | 22.5               |
| 2.0             | 0.463                  | 0.141                   | 22.5               |
| 10.0            | 1.044                  | 0.318                   | 10.12              |
| 20.0            | 1.485                  | 0.453                   | 7.11               |
| 30.0            | 1.828                  | 0.557                   | 5.78               |
| 50.0            | 2.377                  | 0.724                   | 4.44               |
| 85.0            | 3.13                   | 0.954                   | 3.38               |
| 88.0            | 3.187                  | 0.971                   | 3.32               |
| 100.0           | 3.406                  | 1.038                   | 3.1                |
| 108.0           | 3.546                  | 1.081                   | 2.98               |
| 150.0           | 4.214                  | 1.285                   | 2.51               |
| 174.0           | 4.558                  | 1.389                   | 2.32               |
| 200.0           | 4.908                  | 1.496                   | 2.15               |
| 204.0           | 4.96                   | 1.512                   | 2.13               |
| 300.0           | 6.095                  | 1.858                   | 1.73               |
| 400.0           | 7.121                  | 2.17                    | 1.48               |
| 450.0           | 7.592                  | 2.314                   | 1.39               |
| 460.0           | 7.684                  | 2.342                   | 1.37               |
| 500.0           | 8.042                  | 2.451                   | 1.31               |
| 512.0           | 8.148                  | 2.483                   | 1.3                |
| 600.0           | 8.891                  | 2.71                    | 1.19               |

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|        |        |       |      |
|--------|--------|-------|------|
| 700.0  | 9.683  | 2.951 | 1.09 |
| 800.0  | 10.431 | 3.179 | 1.01 |
| 824.0  | 10.605 | 3.232 | 1    |
| 894.0  | 11.101 | 3.383 | 0.95 |
| 960.0  | 11.555 | 3.522 | 0.91 |
| 1000.0 | 11.824 | 3.604 | 0.89 |
| 1218.0 | 13.226 | 4.031 | 0.8  |
| 1250.0 | 13.423 | 4.091 | 0.79 |
| 1500.0 | 14.906 | 4.543 | 0.71 |
| 1700.0 | 16.027 | 4.885 | 0.66 |
| 1794.0 | 16.537 | 5.04  | 0.64 |
| 1800.0 | 16.57  | 5.05  | 0.64 |
| 2000.0 | 17.624 | 5.371 | 0.6  |
| 2100.0 | 18.137 | 5.528 | 0.58 |
| 2200.0 | 18.641 | 5.682 | 0.57 |
| 2300.0 | 19.138 | 5.833 | 0.55 |
| 2500.0 | 20.11  | 6.129 | 0.53 |
| 2700.0 | 21.056 | 6.418 | 0.5  |
| 3000.0 | 22.432 | 6.837 | 0.47 |
| 3400.0 | 24.198 | 7.375 | 0.44 |
| 3600.0 | 25.055 | 7.636 | 0.42 |
| 3700.0 | 25.478 | 7.765 | 0.41 |
| 3800.0 | 25.898 | 7.893 | 0.41 |
| 3900.0 | 26.314 | 8.02  | 0.4  |
| 4000.0 | 26.727 | 8.146 | 0.4  |
| 4100.0 | 27.136 | 8.271 | 0.39 |
| 4200.0 | 27.542 | 8.394 | 0.38 |
| 4300.0 | 27.946 | 8.517 | 0.38 |
| 4400.0 | 28.346 | 8.639 | 0.37 |
| 4500.0 | 28.744 | 8.761 | 0.37 |
| 4600.0 | 29.139 | 8.881 | 0.36 |
| 4700.0 | 29.531 | 9.001 | 0.36 |
| 4800.0 | 29.921 | 9.119 | 0.35 |
| 4900.0 | 30.308 | 9.238 | 0.35 |
| 5000.0 | 30.693 | 9.355 | 0.34 |

# FSJ4RK-50B

|         |        |        |      |
|---------|--------|--------|------|
| 6000.0  | 34.427 | 10.493 | 0.31 |
| 8000.0  | 41.403 | 12.619 | 0.26 |
| 8800.0  | 44.054 | 13.427 | 0.24 |
| 10000.0 | 47.914 | 14.603 | 0.22 |

## Material Specifications

|                                 |  |
|---------------------------------|--|
| <b>Dielectric Material</b>      | Foam PE                                    |
| <b>Jacket Material</b>          | Non-halogenated, fire retardant polyolefin |
| <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> | 31.75 mm   1.25 in      |
| <b>Minimum Bend Radius, single Bend</b>    | 31.75 mm   1.25 in      |
| <b>Number of Bends, minimum</b>            | 30                      |
| <b>Number of Bends, typical</b>            | 50                      |
| <b>Tensile Strength</b>                    | 79 kg   174.165 lb      |
| <b>Bending Moment</b>                      | 2.7 N-m   23.897 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>                        | -40 °C to +60 °C (-40 °F to +140 °F)              |
| <b>Storage Temperature</b>                          | -40 °C to +60 °C (-40 °F to +140 °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                                   |
| <b>EN50575 CPR Cable EuroClass Fire Performance</b> | B2ca  |
| <b>EN50575 CPR Cable EuroClass Smoke Rating</b>     | s1a   |
| <b>EN50575 CPR Cable EuroClass Droplets Rating</b>  | d1  |
| <b>EN50575 CPR Cable EuroClass Acidity Rating</b>   | a1  |
| <b>Fire Retardancy Test Method</b>                  | IEC 60332-1-2   NFPA 130-2010   UL 1666/CATVR/CMR |
| <b>Smoke Index Test Method</b>                      | IEC 61034   |

# FSJ4RK-50B

Toxicity Index Test Method

IEC 60754-1 | IEC 60754-2

## Packaging and Weights

Cable weight

0.24 kg/m | 0.161 lb/ft

## Regulatory Compliance/Certifications

| Agency               | Classification   |
|----------------------|--|
| 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   |
| 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  |
| UL/ETL Certification | CATVR/CMR  |

