# F2R-HRDR-P

Base Product

FSJ2RK-50 SureFlex® Jumper with interface types 4.3-10 Male Right Angle and 7-16 DIN Male Right Angle, variable length

## Product Classification

| | |
|---|---|
| **Product Type** | Wireless transmission cable assembly |
| **Product Series** | FSJ2-50 |

## General Specifications

| | |
|---|---|
| **Body Style, Connector A** | Right angle |
| **Body Style, Connector B** | Right angle |
| **Interface, Connector A** | 4.3-10 Male |
| **Interface, Connector B** | 7-16 DIN Male |
| **Orientation** | 0° |
| **Specification Sheet Revision Level** | A |
| **Variable Length** | For custom lengths contact 828-324-2200 or 1-800-982-1708 (toll free), or your local CommScope representative |

## Dimensions

| | |
|---|---|
| **Nominal Size** | 3/8 in |

## Electrical Specifications

| | |
|---|---|
| **3rd Order IMD** | -110 dBm |
| **3rd Order IMD Test Method** | Two +43 dBm carriers |

## VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|---|---|---|
| **698–960 MHz** | 1.11 | 26.4 |
| **1700–2200 MHz** | 1.11 | 26.4 |
| **2200–2700 MHz** | 1.11 | 26.4 |

## Jumper Assembly Sample Label

# F2R-HRDR-P


## Environmental Specifications

| | |
|---|---|
| **EN50575 CPR Cable EuroClass Fire Performance** | B2ca |
| **EN50575 CPR Cable EuroClass Smoke Rating** | s1a |
| **EN50575 CPR Cable EuroClass Droplets Rating** | d0 |
| **EN50575 CPR Cable EuroClass Acidity Rating** | a1 |
| **Immersion Test Method** | Meets IEC 60529:2001, IP68 in mated condition |

## Included Products

| | | |
|---|---|---|
| F2HR-S2 | – | 4.3-10 Male Right Angle for 3/8 in foam and air coaxial cable, factory attached |
| F2TDR-LS | – | 7-16 DIN Male Right Angle for 3/8 in foam and air coaxial cable, factory attached |
| FSJ2RK-50 | – | FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black non-halogenated, fire retardant polyolefin jacket B2ca s1a d0 a1 Compliant |

# F2HR-S2

4.3-10 Male Right Angle for 3/8 in foam and air coaxial cable, factory attached

## Product Classification

| | |
|---|---|
| **Product Type** | Wireless and radiating connector |
| **Product Brand** | HELIAX® \| SureFlex® |

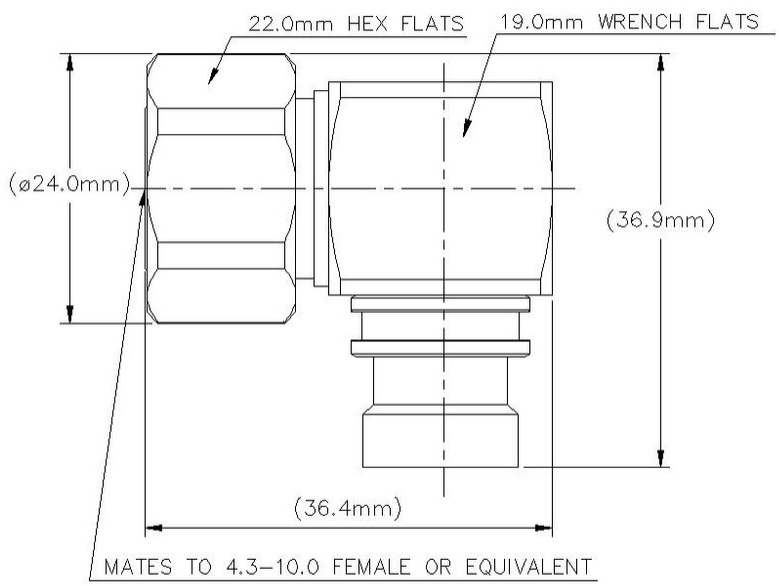
## General Specifications

| | |
|---|---|
| **Body Style** | Right angle |
| **Inner Contact Attachment Method** | Solder |
| **Inner Contact Plating** | Silver |
| **Interface** | 4.3-10 Male |
| **Outer Contact Attachment Method** | Solder |
| **Outer Contact Plating** | Trimetal |

## Dimensions

| | |
|---|---|
| **Height** | 34.29 mm \| 1.35 in |
| **Width** | 32.26 mm \| 1.27 in |
| **Length** | 23.88 mm \| 0.94 in |
| **Nominal Size** | 3/8 in |

## Outline Drawing




## Electrical Specifications

| | |
|---|---|
| **3rd Order IMD at Frequency** | -119 dBm @ 910 MHz |
| **3rd Order IMD Test Method** | Two +43 dBm carriers |
| **Insertion Loss Coefficient, typical** | 0.05 |
| **Average Power at Frequency** | 676.0 W @ 900 MHz |
| **Cable Impedance** | 50 ohm |
| **Connector Impedance** | 50 ohm |
| **dc Test Voltage** | 2300 V |
| **Inner Contact Resistance, maximum** | 1 mOhm |
| **Insulation Resistance, minimum** | 5000 MOhm |
| **Operating Frequency Band** | 0 – 6000 MHz |
| **Outer Contact Resistance, maximum** | 1 mOhm |
| **Peak Power, maximum** | 13.2 kW |
| **RF Operating Voltage, maximum (vrms)** | 813 V |
| **Shielding Effectiveness** | -110 dB |

## VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|---|---|---|
| **0–960 MHz** | 1.036 | 35.05 |
| **1710–2200 MHz** | 1.046 | 32.96 |
| **2200–2700 MHz** | 1.065 | 30.04 |
| **2700–3000 MHz** | 1.065 | 30.04 |
| **3000–6000 MHz** | 1.222 | 20.01 |

## Mechanical Specifications

| | |
|---|---|
| **Connector Retention Tensile Force** | 671.68 N \| 151 lbf |
| **Connector Retention Torque** | 2.7 N-m \| 23.897 in lb |
| **Coupling Nut Proof Torque** | 8 N-m \| 70.806 in lb |
| **Coupling Nut Retention Force** | 449.98 N \| 101.16 lbf |
| **Interface Durability** | 100 cycles |
| **Interface Durability Method** | IEC 61169-4:17 |
| **Mechanical Shock Test Method** | IEC 60068-2-27 |

## Environmental Specifications

| | |
|---|---|
| **Operating Temperature** | -55 °C to +85 °C (-67 °F to +185 °F) |
| **Storage Temperature** | -65 °C to +125 °C (-85 °F to +257 °F) |
| **Attenuation, Ambient Temperature** | 20 °C \| 68 °F |
| **Average Power, Ambient Temperature** | 40 °C \| 104 °F |
| **Average Power, Inner Conductor Temperature** | 100 °C \| 212 °F |
| **Corrosion Test Method** | IEC 60068-2-11 |
| **Immersion Depth** | 1 m |
| **Immersion Test Mating** | Mated |
| **Immersion Test Method** | IEC 60529:2001, IP68 |
| **Moisture Resistance Test Method** | IEC 60068-2-3 |
| **Thermal Shock Test Method** | IEC 60068-2-14 |
| **Vibration Test Method** | IEC 60068-2-6 |

## Packaging and Weights

| | |
|---|---|
| **Weight, net** | 65.47 g \| 0.144 lb |

## Regulatory Compliance/Certifications

# F2HR-S2

| Agency | Classification |
|---|---|
| CHINA-ROHS | Above maximum concentration value |
| ROHS | Compliant/Exempted |
| UK-ROHS | Compliant |


## * Footnotes

| | |
|---|---|
| **Insertion Loss Coefficient, typical** | 0.05√¯freq (GHz) (not applicable for elliptical waveguide) |
| **Immersion Depth** | Immersion at specified depth for 24 hours |

# F2TDR-LS

7-16 DIN Male Right Angle for 3/8 in foam and air coaxial cable, factory attached

## Product Classification

| | |
|---|---|
| **Product Type** | Wireless and radiating connector |
| **Product Brand** | HELIAX® \| SureFlex® |

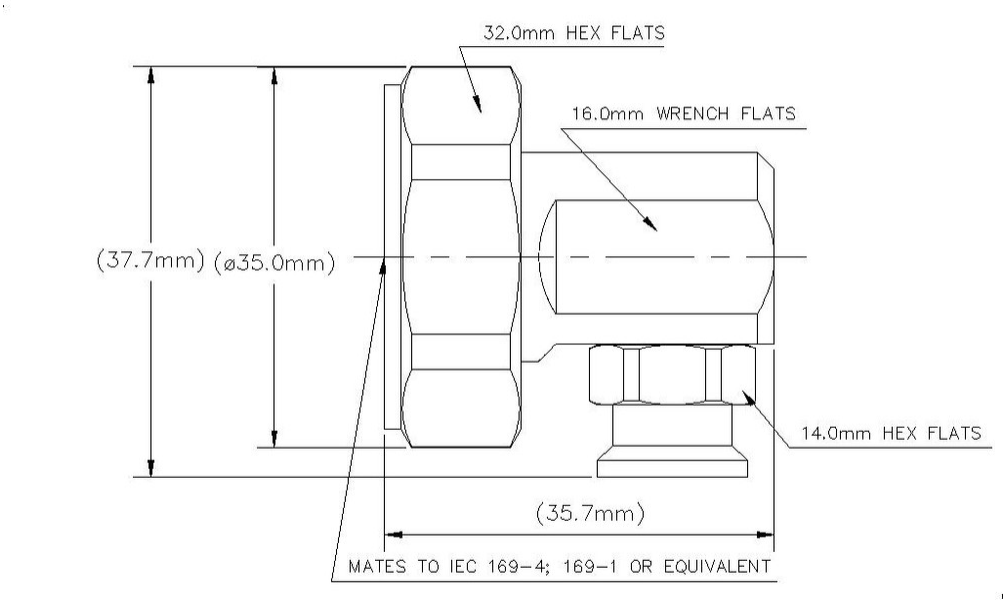
## General Specifications

| | |
|---|---|
| **Body Style** | Right angle |
| **Inner Contact Attachment Method** | Solder |
| **Inner Contact Plating** | Silver |
| **Interface** | 7-16 DIN Male |
| **Outer Contact Attachment Method** | Solder |
| **Outer Contact Plating** | Trimetal |
| **Pressurizable** | No |

## Dimensions

| | |
|---|---|
| **Height** | 37.59 mm \| 1.48 in |
| **Width** | 35.05 mm \| 1.38 in |
| **Length** | 35.81 mm \| 1.41 in |
| **Nominal Size** | 3/8 in |

## Outline Drawing




## Electrical Specifications

| | |
|---|---|
| **3rd Order IMD at Frequency** | -112 dBm @ 910 MHz |
| **3rd Order IMD Test Method** | Two +43 dBm carriers |
| **Insertion Loss Coefficient, typical** | 0.05 |
| **Average Power at Frequency** | 0.7 kW @ 900 MHz |
| **Cable Impedance** | 50 ohm |
| **Connector Impedance** | 50 ohm |
| **dc Test Voltage** | 2300 V |
| **Inner Contact Resistance, maximum** | 0.4 mOhm |
| **Insulation Resistance, minimum** | 10000 MOhm |
| **Operating Frequency Band** | 0 – 6000 MHz |
| **Outer Contact Resistance, maximum** | 1.5 mOhm |
| **Peak Power, maximum** | 13.2 kW |
| **RF Operating Voltage, maximum (vrms)** | 813 V |
| **Shielding Effectiveness** | -110 dB |

## VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|---|---|---|
| **0–960 MHz** | 1.036 | 35.05 |
| **1710–2200 MHz** | 1.046 | 32.96 |
| **2200–2700 MHz** | 1.065 | 30.04 |
| **2700–3000 MHz** | 1.065 | 30.04 |
| **3000–6000 MHz** | 1.222 | 20.01 |

## Mechanical Specifications

| | |
|---|---|
| **Connector Retention Tensile Force** | 934.13 N \| 210 lbf |
| **Connector Retention Torque** | 2.3 N-m \| 20.357 in lb |
| **Coupling Nut Proof Torque** | 35 N-m \| 309.776 in lb |
| **Coupling Nut Proof Torque Method** | IEC 61169-16:9.3.11 |
| **Coupling Nut Retention Force** | 1000 N \| 224.81 lbf |
| **Coupling Nut Retention Force Method** | IEC 61169-15:9.3.11 |
| **Insertion Force** | 199.99 N \| 44.96 lbf |
| **Interface Durability** | 500 cycles |
| **Interface Durability Method** | IEC 61169-4:17 |
| **Mechanical Shock Test Method** | IEC 60068-2-27 |

## Environmental Specifications

| | |
|---|---|
| **Operating Temperature** | -55 °C to +85 °C (-67 °F to +185 °F) |
| **Storage Temperature** | -65 °C to +125 °C (-85 °F to +257 °F) |
| **Attenuation, Ambient Temperature** | 20 °C \| 68 °F |
| **Average Power, Ambient Temperature** | 40 °C \| 104 °F |
| **Average Power, Inner Conductor Temperature** | 100 °C \| 212 °F |
| **Corrosion Test Method** | IEC 60068-2-11 |
| **Immersion Depth** | 1 m |
| **Immersion Test Mating** | Mated |
| **Immersion Test Method** | IEC 60529:2001, IP68 |
| **Moisture Resistance Test Method** | IEC 60068-2-3 |
| **Thermal Shock Test Method** | IEC 60068-2-14 |
| **Vibration Test Method** | IEC 60068-2-6 |

## Packaging and Weights

| | |
|---|---|
| **Weight, net** | 79.34 g \| 0.175 lb |

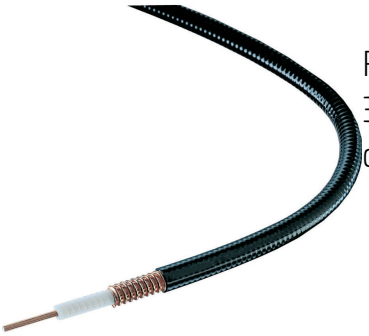
## Regulatory Compliance/Certifications

| Agency | Classification |
|---|---|
| CHINA-ROHS | Above maximum concentration value |
| ROHS | Compliant/Exempted |
| UK-ROHS | Compliant/Exempted |


## * Footnotes

| | |
|---|---|
| **Insertion Loss Coefficient, typical** | 0.05√¯freq (GHz) (not applicable for elliptical waveguide) |
| **Immersion Depth** | Immersion at specified depth for 24 hours |

# FSJ2RK-50



FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black non-halogenated, fire retardant polyolefin jacket B2ca s1a d0 a1 Compliant

## Product Classification

| | |
|---|---|
| **Product Type** | Coaxial wireless cable |
| **Product Brand** | HELIAX® \| SureFlex® |
| **Product Series** | FSJ2-50 |

## General Specifications

| | |
|---|---|
| **Product Number** | 520102002/00 \| SZ520102002/00 |
| **Flexibility** | Superflexible |
| **Jacket Color** | Black |
| **Performance Note** | Attenuation values typical, guaranteed within 5% |

## Dimensions

| | |
|---|---|
| **Diameter Over Dielectric** | 7.112 mm \| 0.28 in |
| **Diameter Over Jacket** | 10.922 mm \| 0.43 in |
| **Inner Conductor OD** | 2.794 mm \| 0.11 in |
| **Outer Conductor OD** | 9.652 mm \| 0.38 in |
| **Nominal Size** | 3/8 in |

## Electrical Specifications

| | |
|---|---|
| **Cable Impedance** | 50 ohm ±1 ohm |
| **Capacitance** | 80 pF/m \| 24.384 pF/ft |
| **dc Resistance, Inner Conductor** | 4.232 ohms/km \| 1.29 ohms/kft |
| **dc Resistance, Outer Conductor** | 4.987 ohms/km \| 1.52 ohms/kft |
| **dc Test Voltage** | 2300 V |
| **Inductance** | 0.2 µH/m \| 0.061 µH/ft |

| | |
|---|---|
| **Insulation Resistance** | 100000 MOhms-km |
| **Jacket Spark Test Voltage (rms)** | 4000 V |
| **Operating Frequency Band** | 1 – 13400 MHz |
| **Peak Power** | 13.2 kW |
| **Velocity** | 83 % |

## VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|---|---|---|
| **680–960 MHz** | 1.201 | 20.79 |
| **1700–2200 MHz** | 1.201 | 20.79 |
| **2200–2700 MHz** | 1.433 | 14.99 |

## Material Specifications

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

## Mechanical Specifications

| | |
|---|---|
| **Minimum Bend Radius, multiple Bends** | 25.4 mm \| 1 in |
| **Minimum Bend Radius, single Bend** | 25.4 mm \| 1 in |
| **Number of Bends, minimum** | 30 |
| **Number of Bends, typical** | 50 |
| **Tensile Strength** | 95 kg \| 209.439 lb |
| **Bending Moment** | 2.3 N-m \| 20.357 in lb |
| **Flat Plate Crush Strength** | 1.8 kg/mm \| 100.795 lb/in |

## 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) |
| **Attenuation, Ambient Temperature** | 68 °F \| 20 °C |
| **Average Power, Ambient Temperature** | 104 °F \| 40 °C |
| **Average Power, Inner Conductor Temperature** | 212 °F \| 100 °C |

| | |
|---|---|
| **EN50575 CPR Cable EuroClass Fire Performance** | B2ca |
| **EN50575 CPR Cable EuroClass Smoke Rating** | s1a |
| **EN50575 CPR Cable EuroClass Droplets Rating** | d0 |
| **EN50575 CPR Cable EuroClass Acidity Rating** | a1 |
| **Fire Retardancy Test Method** | IEC 60332-1-2 \| IEC 60332-3-24 \| NFPA 130-2010 \| UL 1666/CATVR /CMR \| UL 1685 |
| **Smoke Index Test Method** | IEC 61034 |
| **Toxicity Index Test Method** | IEC 60754-1 \| IEC 60754-2 |

## Packaging and Weights

| | |
|---|---|
| **Cable weight** | 0.13 kg/m \| 0.087 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 www.commscope.com/ProductCompliance |
| ROHS | Compliant |
| UK-ROHS | Compliant |