

# F2R-HMHR-P-W1

## Base Product



FSJ2RK-50 Jumper with interface types 4.3-10 Male and 4.3-10 Male Right Angle with HELIX® SureGuard weatherproofing boot on straight end only, variable length

## Product Classification

<b>Product Type</b>	Wireless transmission cable assembly
<b>Product Series</b>	FSJ2-50

## General Specifications

<b>Body Style, Connector A</b>	Straight
<b>Body Style, Connector B</b>	Right angle
<b>Interface, Connector A</b>	4.3-10 Male
<b>Interface, Connector B</b>	4.3-10 Male
<b>Specification Sheet Revision Level</b>	A
<b>Variable Length</b>	For custom lengths contact 828-324-2200 or 1-800-982-1708 (toll free), or your local CommScope representative

## Dimensions

<b>Nominal Size</b>	3/8 in
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## Electrical Specifications

<b>3rd Order IMD Static</b>	-110 dBm
<b>3rd Order IMD Static Test Method</b>	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

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## Jumper Assembly Sample Label



## Environmental Specifications

<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>	d0
<b>EN50575 CPR Cable EuroClass Acidity Rating</b>	a1
<b>Immersion Test Method</b>	Meets IEC 60529:2001, IP68 in mated condition
<b>Weatherproofing Method</b>	HELIAX® SureGuard weatherproofing boot

## Packaging and Weights

<b>Included</b>	Weatherproofing boot
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## Included Products

- F2HM-S2 – 4.3-10 Male for 3/8 in foam coaxial cable, factory attached
- F2HR-S2 – 4.3-10 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

# F2HM-S2

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4.3-10 Male for 3/8 in foam coaxial cable, factory attached

## Product Classification

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

## General Specifications

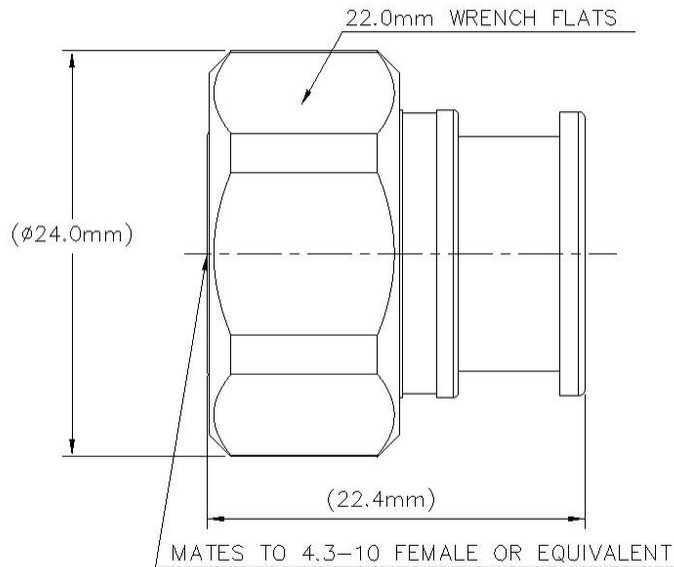
<b>Body Style</b>	Straight
<b>Inner Contact Attachment Method</b>	Solder
<b>Inner Contact Plating</b>	Silver
<b>Interface</b>	4.3-10 Male
<b>Outer Contact Attachment Method</b>	Solder
<b>Outer Contact Plating</b>	Trimetal

## Dimensions

<b>Length</b>	25.91 mm   1.02 in
<b>Diameter</b>	23.88 mm   0.94 in
<b>Nominal Size</b>	3/8 in

## Outline Drawing

# F2HM-S2



## Electrical Specifications

<b>3rd Order IMD at Frequency</b>	-119 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>dc Test Voltage</b>	2300 V
<b>Inner Contact Resistance, maximum</b>	1 mOhm
<b>Insulation Resistance, minimum</b>	5000 MOhm
<b>Operating Frequency Band</b>	0 – 6000 MHz
<b>Outer Contact Resistance, maximum</b>	1 mOhm
<b>Peak Power, maximum</b>	13.2 kW
<b>RF Operating Voltage, maximum (vrms)</b>	813 V

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
0-3000 MHz	1.041	33.94

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<b>3000–4000 MHz</b>	1.065	30.04
<b>4000–6000 MHz</b>	1.119	25.01

## Mechanical Specifications

<b>Connector Retention Tensile Force</b>	671.68 N   151 lbf
<b>Connector Retention Torque</b>	2.7 N-m   23.897 in lb
<b>Coupling Nut Proof Torque</b>	8 N-m   70.806 in lb
<b>Coupling Nut Retention Force</b>	449.98 N   101.16 lbf
<b>Interface Durability</b>	100 cycles
<b>Mechanical Shock Test Method</b>	IEC 60068-2-27

## Environmental Specifications

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

## Packaging and Weights

<b>Weight, net</b>	32.3 g   0.071 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
REACH-SVHC	Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
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)

**Immersion Depth** Immersion at specified depth for 24 hours

# F2HR-S2

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

## Product Classification

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

## General Specifications

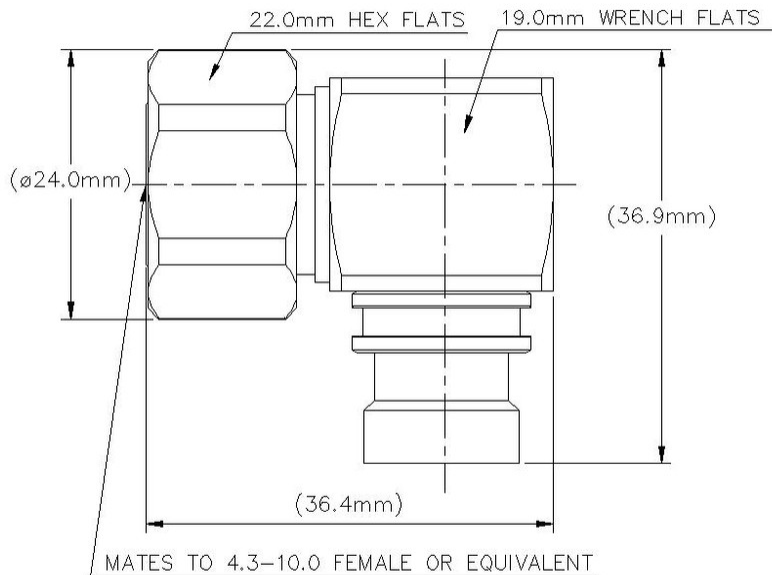
<b>Body Style</b>	Right angle
<b>Inner Contact Attachment Method</b>	Solder
<b>Inner Contact Plating</b>	Silver
<b>Interface</b>	4.3-10 Male
<b>Outer Contact Attachment Method</b>	Solder
<b>Outer Contact Plating</b>	Trimetal

## Dimensions

<b>Height</b>	34.29 mm   1.35 in
<b>Width</b>	32.26 mm   1.27 in
<b>Length</b>	23.88 mm   0.94 in
<b>Nominal Size</b>	3/8 in

## Outline Drawing

# F2HR-S2



## Electrical Specifications

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

## VSWR/Return Loss



# F2HR-S2

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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
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## Regulatory Compliance/Certifications

# F2HR-S2

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## Agency

CHINA-ROHS

ROHS

UK-ROHS



## Classification

Above maximum concentration value

Compliant/Exempted

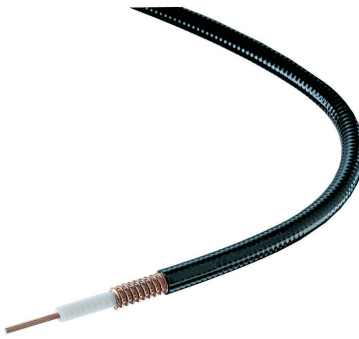
Compliant

## \* Footnotes

**Insertion Loss Coefficient, typical**  $0.05\sqrt{\text{freq}} \text{ (GHz)}$  (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 sladd0 a1 Compliant

## Product Classification

<b>Product Type</b>	Coaxial wireless cable
<b>Product Brand</b>	HELIAX®   SureFlex®
<b>Product Series</b>	FSJ2-50

## General Specifications

<b>Product Number</b>	520102002/00   SZ520102002/00
<b>Flexibility</b>	Superflexible
<b>Jacket Color</b>	Black
<b>Performance Note</b>	Attenuation values typical, guaranteed within 5%

## Dimensions

<b>Diameter Over Dielectric</b>	7.112 mm   0.28 in
<b>Diameter Over Jacket</b>	10.922 mm   0.43 in
<b>Inner Conductor OD</b>	2.794 mm   0.11 in
<b>Outer Conductor OD</b>	9.652 mm   0.38 in
<b>Nominal Size</b>	3/8 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm $\pm$ 1 ohm
<b>Capacitance</b>	80 pF/m   24.384 pF/ft
<b>dc Resistance, Inner Conductor</b>	4.232 ohms/km   1.29 ohms/kft
<b>dc Resistance, Outer Conductor</b>	4.987 ohms/km   1.52 ohms/kft
<b>dc Test Voltage</b>	2300 V
<b>Inductance</b>	0.2 $\mu$ H/m   0.061 $\mu$ H/ft

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

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>680–960 MHz</b>	1.201	20.79
<b>1700–2200 MHz</b>	1.201	20.79
<b>2200–2700 MHz</b>	1.433	14.99

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

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<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>	d0
<b>EN50575 CPR Cable EuroClass Acidity Rating</b>	a1
<b>Fire Retardancy Test Method</b>	IEC 60332-1-2   IEC 60332-3-24   NFPA 130-2010   UL 1666/CATVR /CMR   UL 1685
<b>Smoke Index Test Method</b>	IEC 61034
<b>Toxicity Index Test Method</b>	IEC 60754-1   IEC 60754-2

## Packaging and Weights

**Cable weight** 0.13 kg/m | 0.087 lb/ft

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

