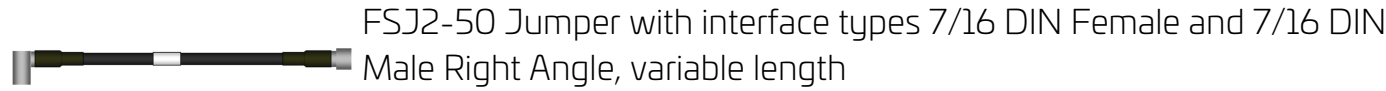


# F2A-DFDR-P

Base Product



## Product Classification

|                |                                      |
|----------------|--------------------------------------|
| Product Type   | Wireless transmission cable assembly |
| Product Brand  | HELIAX®   SureFlex®                  |
| Product Series | FSJ2-50                              |

## General Specifications

|                                    |  |
|------------------------------------|--|
| Body Style, Connector A            | Straight   |
| Body Style, Connector B            | Right angle  |
| Interface, Connector A             | 7-16 DIN Female  |
| Interface, Connector B             | 7-16 DIN Male  |
| Specification Sheet Revision Level | A  |
| Variable Length                    | For custom lengths, contact your local ANDREW representative |

## Dimensions

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

## Electrical Specifications

|                           |                      |
|---------------------------|----------------------|
| 3rd Order IMD Static      | -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

# F2A-DFDR-P



## Environmental Specifications

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

## Included Products

- |          |   |   |
|----------|---|---|
| F2TDF-LS | - | 7-16 DIN Female 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             |
| FSJ2-50  | - | FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket |

# F2TDF-LS

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7-16 DIN Female 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

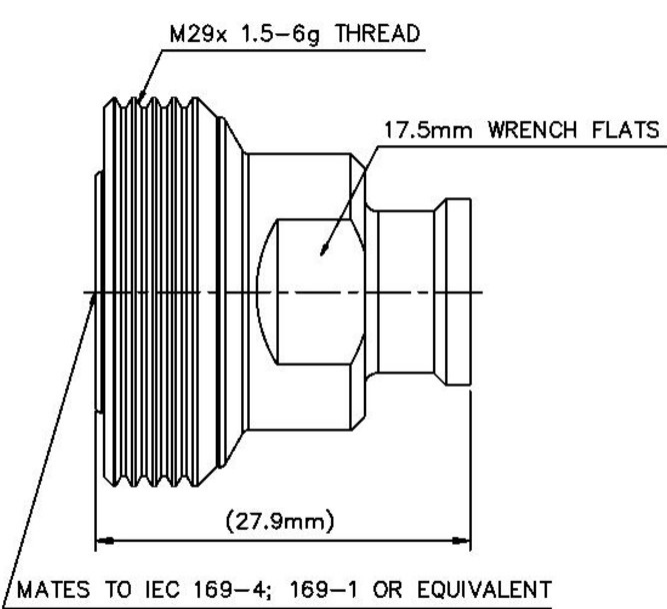
|                                 |                 |
|---------------------------------|-----------------|
| Body Style                      | Straight        |
| Inner Contact Attachment Method | Solder          |
| Inner Contact Plating           | Silver          |
| Interface                       | 7-16 DIN Female |
| Outer Contact Attachment Method | Solder          |
| Outer Contact Plating           | Trimetal        |
| Pressurizable                   | No              |

## Dimensions

|              |                    |
|--------------|--------------------|
| Length       | 27.94 mm   1.1 in  |
| Diameter     | 28.96 mm   1.14 in |
| Nominal Size | 3/8 in             |

## Outline Drawing

# F2TDF-LS



## 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) |
|----------------|------|------------------|
|----------------|------|------------------|

# F2TDF-LS

|               |       |       |
|---------------|-------|-------|
| 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 | 1.152 | 23.02 |

## 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   |
| Insertion Force Method              | IEC 61169-15:9.3.5     |
| 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                         |

# F2TDF-LS

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## Packaging and Weights

**Weight, net** 44.69 g | 0.099 lb

### \* 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

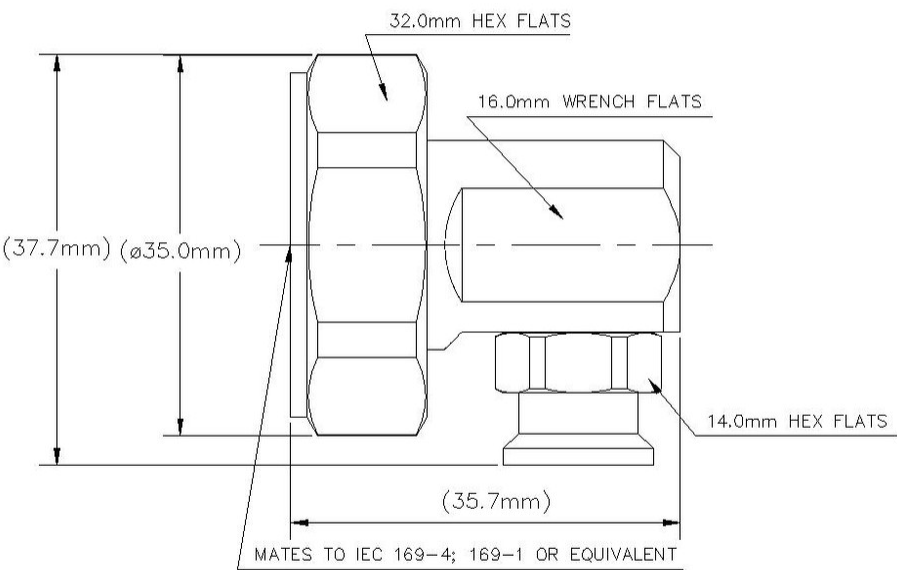
|                                 |               |
|---------------------------------|---------------|
| Body Style                      | Right angle   |
| Inner Contact Attachment Method | Solder        |
| Inner Contact Plating           | Silver        |
| Interface                       | 7-16 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

# F2TDR-LS



## 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



# F2TDR-LS

| 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                         |

# F2TDR-LS

## 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

|  |  |
|--|--|
| <b>Insertion Loss Coefficient, typical</b> | 0.05√~freq (GHz) (not applicable for elliptical waveguide) |
| <b>Immersion Depth</b>                     | Immersion at specified depth for 24 hours                  |

# FSJ2-50



FSJ2-50, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 3/8 in, black PE jacket

## Product Classification

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

## General Specifications

|                  |  |
|------------------|--|
| Product Number   | 887019902/00   SZ887019902/00                    |
| 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     | 10.541 mm   0.415 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                     | 79.7 pF/m   24.293 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                 |

# FSJ2-50

|            |         |
|------------|---------|
| Peak Power | 13.2 kW |
| Velocity   | 83 %    |

## VSWR/Return Loss

| Frequency Band | VSWR  | Return Loss (dB) |
|----------------|-------|------------------|
| 2.5–2.7 GHz    | 1.106 | 25.96            |
| 680–800 MHz    | 1.106 | 25.96            |
| 800–960 MHz    | 1.106 | 25.96            |
| 1700–2200 MHz  | 1.101 | 26.36            |

## Material Specifications

|                          |                           |
|--------------------------|---------------------------|
| Dielectric Material      | Foam PE                   |
| Jacket Material          | PE                        |
| 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            | 20                        |
| 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                      | -55 °C to +85 °C (-67 °F to +185 °F) |
| Storage Temperature                        | -70 °C to +85 °C (-94 °F to +185 °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                      |

## Packaging and Weights

# FSJ2-50

**Cable weight** 0.12 kg/m | 0.081 lb/ft

## Regulatory Compliance/Certifications

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

