F1A-NMNR-6-P

FSJ1-50A SureFlex® Jumper with interface types N Male and N Male Right Angle, 6 ft

Product Classification

| Product Type | | SureFlex® Premium, static PIM |
|------------------------------------|------|-------------------------------|
| Product Brand | | HELIAX® SureFlex® |
| Product Series | | FSJ1-50A |
| General Specifications | | |
| Body Style, Connector A | | Straight |
| Body Style, Connector B | | Right angle |
| Interface, Connector A | | N Male |
| Interface, Connector B | | N Male |
| Specification Sheet Revision Level | | А |
| Dimensions | | |
| Length | | 1.829 m 6.001 ft |
| Nominal Size | | 1/4 in |
| Electrical Specifications | | |
| 3rd Order IMD Static | | -107 dBm |
| 3rd Order IMD Static Test Method | | Two +43 dBm carriers |
| VSWR/Return Loss | | |
| Frequency Band | VCWD | Poturn Loss |

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|-------|------------------|
| 698–960 MHz | 1.152 | 23.02 |
| 1700–2200 MHz | 1.152 | 23.02 |
| 2200–2700 MHz | 1.152 | 23.02 |

Jumper Assembly Sample Label

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F1A-NMNR-6-P



Environmental Specifications

Immersion Test Method

Meets IEC 60529:2001, IP68 in mated condition

Regulatory Compliance/Certifications

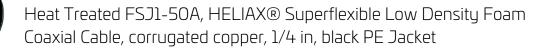
| Agency | Classification |
|------------------|--|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |
| | |
| Included Product | S |

| 35422-33 | - | Heat Treated FSJ1-50A, HELIAX® Superflexible Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black PE Jacket |
|------------|---|--|
| 35422-75 | - | Heat Treated FSJ1RK-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated, fire retardant polyolefin jacket |
| FSJ1-50A | - | FSJ1-50A, HELIAX® Superflexible Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black PE jacket |
| FSJ1RK-50A | - | FSJ1-50A, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black non- halogenated, fire retardant polyolefin jacket, B2ca s1a dO a1 Compliant |



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Product Classification

| Product Type | Coaxial wireless cable |
|--------------------------------|---|
| Product Brand | HELIAX® |
| Product Series | FSJ1-50A |
| General Specifications | |
| Flexibility | Superflexible |
| Jacket Color | Black |
| Performance Note | Attenuation values typical, guaranteed within 5% |
| Dimensions | |
| Diameter Over Dielectric | 4.826 mm 0.19 in |
| Diameter Over Jacket | 7.366 mm 0.29 in |
| Inner Conductor OD | 1.905 mm 0.075 in |
| Outer Conductor OD | 6.35 mm 0.25 in |
| Nominal Size | 1/4 in |
| Electrical Specifications | |
| Cable Impedance | 50 ohm ±1 ohm |
| Capacitance | 79.4 pF/m 24.201 pF/ft |
| dc Resistance, Inner Conductor | 9.843 ohms/km 3 ohms/kft |

| Capacitance | 79.4 pF/m 24.201 pF/ft |
|---------------------------------|----------------------------|
| dc Resistance, Inner Conductor | 9.843 ohms/km 3 ohms/kft |
| dc Resistance, Outer Conductor | 6.562 ohms/km 2 ohms/kft |
| dc Test Voltage | 1600 V |
| Inductance | 0.2 µH/m 0.061 µH/ft |
| Insulation Resistance | 100000 MOhms-km |
| Jacket Spark Test Voltage (rms) | 5000 V |
| Operating Frequency Band | 1 – 18000 MHz |
| Peak Power | 6.4 kW |

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Velocity

82 %

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 |

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) |
|-----------------|------------------------|-------------------------|
| 0.5 | 0.407 | 0.124 |
| 1.0 | 0.577 | 0.176 |
| 1.5 | 0.707 | 0.215 |
| 2.0 | 0.816 | 0.249 |
| 10.0 | 1.833 | 0.559 |
| 20.0 | 2.6 | 0.792 |
| 30.0 | 3.192 | 0.973 |
| 50.0 | 4.136 | 1.261 |
| 85.0 | 5.419 | 1.652 |
| 88.0 | 5.516 | 1.681 |
| 100.0 | 5.889 | 1.795 |
| 108.0 | 6.12 | 1.867 |
| 150.0 | 7.25 | 2.21 |
| 174.0 | 7.825 | 2.385 |
| 200.0 | 8.408 | 2.563 |
| 204.0 | 8.495 | 2.589 |
| 300.0 | 10.373 | 3.162 |
| 400.0 | 12.051 | 3.673 |
| 450.0 | 12.817 | 3.906 |
| 500.0 | 13.545 | 4.128 |
| 512.0 | 13.715 | 4.18 |
| 600.0 | 14.909 | 4.544 |
| 700.0 | 16.175 | 4.93 |
| 800.0 | 17.362 | 5.292 |
| 824.0 | 17.637 | 5.376 |

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<u>35422</u>-33

| 894.0 | 18.42 | 5.614 |
|---------|---------|--------|
| 960.0 | 19.134 | 5.832 |
| 1000.0 | 19.556 | 5.96 |
| 1218.0 | 21.738 | 6.626 |
| 1250.0 | 22.044 | 6.719 |
| 1500.0 | 24.326 | 7.414 |
| 1700.0 | 26.038 | 7.936 |
| 1794.0 | 26.813 | 8.172 |
| 1800.0 | 26.862 | 8.187 |
| 2000.0 | 28.455 | 8.673 |
| 2100.0 | 29.227 | 8.908 |
| 2200.0 | 29.984 | 9.139 |
| 2300.0 | 30.727 | 9.365 |
| 2500.0 | 32.174 | 9.806 |
| 2700.0 | 33.576 | 10.233 |
| 3000.0 | 35.602 | 10.851 |
| 3400.0 | 38.183 | 11.638 |
| 3700.0 | 40.041 | 12.204 |
| 4000.0 | 41.841 | 12.753 |
| 5000.0 | 47.5 | 14.477 |
| 6000.0 | 52.747 | 16.077 |
| 8000.0 | 62.37 | 19.01 |
| 8800.0 | 65.974 | 20.108 |
| 10000.0 | 71.173 | 21.693 |
| 12000.0 | 79.393 | 24.198 |
| 14000.0 | 87.172 | 26.569 |
| 15800.0 | 93.872 | 28.611 |
| 16000.0 | 94.601 | 28.833 |
| 18000.0 | 101.745 | 31.01 |
| | | |

Material Specifications

| Dielectric Material | Foam PE |
|--------------------------|---------------------------|
| Jacket Material | PE |
| Inner Conductor Material | Copper-clad aluminum wire |
| Outer Conductor Material | Corrugated copper |

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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 | 15 |
| Number of Bends, typical | 20 |
| Tensile Strength | 68 kg 149.914 lb |
| Bending Moment | 1.1 N-m 9.736 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

Cable weight

0.07 kg/m | 0.047 lb/ft

Regulatory Compliance/Certifications

Classification

ISO 9001:2015 UL/ETL Certification Designed, manufactured and/or distributed under this quality management system Compliant

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Agency

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Heat Treated FSJ1RK-50B, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black non-halogenated, fire retardant polyolefin jacket

Product Classification

| Product Type | Coaxial wireless cable |
|---------------------------------|--|
| Product Brand | HELIAX® |
| Product Series | FSJ1-50B |
| General Specifications | |
| Flexibility | Superflexible |
| Jacket Color | Black |
| Performance Note | Attenuation values typical, guaranteed within 5% |
| Dimensions | |
| Diameter Over Dielectric | 4.826 mm 0.19 in |
| Diameter Over Jacket | 7.62 mm 0.3 in |
| Inner Conductor OD | 1.905 mm 0.075 in |
| Outer Conductor OD | 6.35 mm 0.25 in |
| Nominal Size | 1/4 in |
| Electrical Specifications | |
| Cable Impedance | 50 ohm ±1 ohm |
| Capacitance | 79.4 pF/m 24.201 pF/ft |
| dc Resistance, Inner Conductor | 9.843 ohms/km 3 ohms/kft |
| dc Resistance, Outer Conductor | 6.562 ohms/km 2 ohms/kft |
| dc Test Voltage | 1600 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 – 18000 MHz |
| Peak Power | 6.4 kW |

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Velocity

82 %

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 |

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 1.0 | 0.577 | 0.176 | 6.4 |
| 1.5 | 0.707 | 0.215 | 6.4 |
| 2.0 | 0.816 | 0.249 | 6.4 |
| 10.0 | 1.833 | 0.559 | 3.99 |
| 20.0 | 2.6 | 0.792 | 2.81 |
| 30.0 | 3.192 | 0.973 | 2.29 |
| 50.0 | 4.136 | 1.261 | 1.77 |
| 85.0 | 5.419 | 1.652 | 1.35 |
| 88.0 | 5.516 | 1.681 | 1.33 |
| 100.0 | 5.889 | 1.795 | 1.24 |
| 108.0 | 6.125 | 1.867 | 1.19 |
| 150.0 | 7.25 | 2.21 | 1.01 |
| 174.0 | 7.825 | 2.385 | 0.93 |
| 200.0 | 8.408 | 2.563 | 0.87 |
| 204.0 | 8.495 | 2.589 | 0.86 |
| 300.0 | 10.373 | 3.162 | 0.71 |
| 400.0 | 12.051 | 3.673 | 0.61 |
| 450.0 | 12.817 | 3.906 | 0.57 |
| 460.0 | 12.965 | 3.952 | 0.56 |
| 500.0 | 13.545 | 4.128 | 0.54 |
| 512.0 | 13.715 | 4.18 | 0.53 |
| 600.0 | 14.909 | 4.544 | 0.49 |
| 700.0 | 16.175 | 4.93 | 0.45 |
| 800.0 | 17.362 | 5.292 | 0.42 |
| 824.0 | 17.637 | 5.376 | 0.41 |
| | | | |

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| 894.0 | 18.42 | 5.614 | 0.4 |
|--------|--------|--------|------|
| 960.0 | 19.134 | 5.832 | 0.38 |
| 1000.0 | 19.556 | 5.96 | 0.37 |
| 1218.0 | 21.738 | 6.626 | 0.34 |
| 1250.0 | 22.044 | 6.719 | 0.33 |
| 1500.0 | 24.326 | 7.414 | 0.3 |
| 1700.0 | 26.038 | 7.936 | 0.28 |
| 1794.0 | 26.813 | 8.172 | 0.27 |
| 1800.0 | 26.862 | 8.187 | 0.27 |
| 2000.0 | 28.455 | 8.673 | 0.26 |
| 2100.0 | 29.227 | 8.908 | 0.25 |
| 2200.0 | 29.984 | 9.139 | 0.24 |
| 2300.0 | 30.727 | 9.365 | 0.24 |
| 2500.0 | 32.174 | 9.806 | 0.23 |
| 2700.0 | 33.576 | 10.233 | 0.22 |
| 3000.0 | 35.602 | 10.851 | 0.21 |
| 3400.0 | 38.183 | 11.638 | 0.19 |
| 3600.0 | 39.428 | 12.017 | 0.19 |
| 3700.0 | 40.041 | 12.204 | 0.18 |
| 3800.0 | 40.647 | 12.389 | 0.18 |
| 3900.0 | 41.247 | 12.571 | 0.18 |
| 4000.0 | 41.841 | 12.753 | 0.17 |
| 4100.0 | 42.429 | 12.932 | 0.17 |
| 4200.0 | 43.012 | 13.11 | 0.17 |
| 4300.0 | 43.59 | 13.286 | 0.17 |
| 4400.0 | 44.163 | 13.46 | 0.17 |
| 4500.0 | 44.73 | 13.633 | 0.16 |
| 4600.0 | 45.293 | 13.805 | 0.16 |
| 4700.0 | 45.852 | 13.975 | 0.16 |
| 4800.0 | 46.405 | 14.144 | 0.16 |
| 4900.0 | 46.955 | 14.311 | 0.16 |
| 5000.0 | 47.5 | 14.477 | 0.15 |
| 6000.0 | 52.747 | 16.077 | 0.14 |
| 8000.0 | 62.37 | 19.01 | 0.12 |
| 8800.0 | 65.974 | 20.108 | 0.11 |
| | | | |

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| 10000.0 | 71.173 | 21.693 | 0.1 |
|---------|---------|--------|------|
| 12000.0 | 79.393 | 24.198 | 0.09 |
| 14000.0 | 87.172 | 26.569 | 0.08 |
| 15800.0 | 93.872 | 28.611 | 0.08 |
| 16000.0 | 94.601 | 28.833 | 0.08 |
| 18000.0 | 101.745 | 31.01 | 0.07 |

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 | 15 |
| Number of Bends, typical | 20 |
| Tensile Strength | 68 kg 149.914 lb |
| Bending Moment | 1.1 N-m 9.736 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 |
| Fire Retardancy Test Method | UL 1666/CATVR/CMR |
| Smoke Index Test Method | IEC 61034 |
| Toxicity Index Test Method | IEC 60754-1 IEC 60754-2 |

Packaging and Weights

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35422-75

Cable weight

0.07 kg/m | 0.047 lb/ft

Regulatory Compliance/Certifications

Agency

Classification

ISO 9001:2015

UL/ETL Certification

Designed, manufactured and/or distributed under this quality management system Compliant



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FSJ1-50A, HELIAX® Superflexible Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black PE jacket

Product Classification

| Product Type | Coaxial wireless cable |
|---------------------------------|---|
| Product Brand | HELIAX® SureFlex® |
| Product Series | FSJ1-50A MLOC |
| General Specifications | |
| Product Number | 887009902/00 SZ887009902/00 |
| Flexibility | Superflexible |
| Jacket Color | Black |
| Performance Note | Attenuation values typical, guaranteed within 5% |
| Dimensions | |
| Diameter Over Dielectric | 4.826 mm 0.19 in |
| Diameter Over Jacket | 7.366 mm 0.29 in |
| Inner Conductor OD | 1.905 mm 0.075 in |
| Outer Conductor OD | 6.35 mm 0.25 in |
| Nominal Size | 1/4 in |
| Electrical Specifications | |
| Cable Impedance | 50 ohm ±1 ohm |
| Capacitance | 79.4 pF/m 24.201 pF/ft |
| dc Resistance, Inner Conductor | 9.843 ohms/km 3 ohms/kft |
| dc Resistance, Outer Conductor | 7.216 ohms/km 2.199 ohms/kft |
| dc Test Voltage | 1600 V |
| Inductance | 0.2 μH/m 0.061 μH/ft |
| Insulation Resistance | 100000 MOhms-km |
| Jacket Spark Test Voltage (rms) | 5000 V |

Operating Frequency Band

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1 – 18000 MHz

| Peak Power | 6.4 kW |
|------------|--------|
| Velocity | 82 % |

VSWR/Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|-------|------------------|
| 680–960 MHz | 1.201 | 20.8 |
| 1700–2200 MHz | 1.201 | 20.8 |
| 2200–2700 MHz | 1.433 | 15 |

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 1.0 | 0.577 | 0.176 | 6.4 |
| 1.5 | 0.707 | 0.215 | 6.4 |
| 2.0 | 0.816 | 0.249 | 6.4 |
| 10.0 | 1.833 | 0.559 | 3.99 |
| 20.0 | 2.6 | 0.792 | 2.81 |
| 30.0 | 3.192 | 0.973 | 2.29 |
| 50.0 | 4.136 | 1.261 | 1.77 |
| 85.0 | 5.419 | 1.652 | 1.35 |
| 88.0 | 5.516 | 1.681 | 1.33 |
| 100.0 | 5.889 | 1.795 | 1.24 |
| 108.0 | 6.125 | 1.867 | 1.19 |
| 150.0 | 7.25 | 2.21 | 1.01 |
| 174.0 | 7.825 | 2.385 | 0.93 |
| 200.0 | 8.408 | 2.563 | 0.87 |
| 204.0 | 8.495 | 2.589 | 0.86 |
| 300.0 | 10.373 | 3.162 | 0.71 |
| 400.0 | 12.051 | 3.673 | 0.61 |
| 450.0 | 12.817 | 3.906 | 0.57 |
| 460.0 | 12.965 | 3.952 | 0.56 |
| 500.0 | 13.545 | 4.128 | 0.54 |
| 512.0 | 13.715 | 4.18 | 0.53 |
| 600.0 | 14.909 | 4.544 | 0.49 |
| 700.0 | 16.175 | 4.93 | 0.45 |
| 800.0 | 17.362 | 5.292 | 0.42 |

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| 824.0 | 17.637 | 5.376 | 0.41 |
|--------|--------|--------|------|
| 894.0 | 18.42 | 5.614 | 0.4 |
| 960.0 | 19.134 | 5.832 | 0.38 |
| 1000.0 | 19.556 | 5.96 | 0.37 |
| 1218.0 | 21.738 | 6.626 | 0.34 |
| 1250.0 | 22.044 | 6.719 | 0.33 |
| 1500.0 | 24.326 | 7.414 | 0.3 |
| 1700.0 | 26.038 | 7.936 | 0.28 |
| 1794.0 | 26.813 | 8.172 | 0.27 |
| 1800.0 | 26.862 | 8.187 | 0.27 |
| 2000.0 | 28.455 | 8.673 | 0.26 |
| 2100.0 | 29.227 | 8.908 | 0.25 |
| 2200.0 | 29.984 | 9.139 | 0.24 |
| 2300.0 | 30.727 | 9.365 | 0.24 |
| 2500.0 | 32.174 | 9.806 | 0.23 |
| 2700.0 | 33.576 | 10.233 | 0.22 |
| 3000.0 | 35.602 | 10.851 | 0.21 |
| 3400.0 | 38.183 | 11.638 | 0.19 |
| 3600.0 | 39.428 | 12.017 | 0.19 |
| 3700.0 | 40.041 | 12.204 | 0.18 |
| 3800.0 | 40.647 | 12.389 | 0.18 |
| 3900.0 | 41.247 | 12.571 | 0.18 |
| 4000.0 | 41.841 | 12.753 | 0.17 |
| 4100.0 | 42.429 | 12.932 | 0.17 |
| 4200.0 | 43.012 | 13.11 | 0.17 |
| 4300.0 | 43.59 | 13.286 | 0.17 |
| 4400.0 | 44.163 | 13.46 | 0.17 |
| 4500.0 | 44.73 | 13.633 | 0.16 |
| 4600.0 | 45.293 | 13.805 | 0.16 |
| 4700.0 | 45.852 | 13.975 | 0.16 |
| 4800.0 | 46.405 | 14.144 | 0.16 |
| 4900.0 | 46.955 | 14.311 | 0.16 |
| 5000.0 | 47.5 | 14.477 | 0.15 |
| 6000.0 | 52.747 | 16.077 | 0.14 |
| 8000.0 | 62.37 | 19.01 | 0.12 |
| | | | |

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| 8800.0 | 65.974 | 20.108 | 0.11 |
|---------|---------|--------|------|
| 10000.0 | 71.173 | 21.693 | 0.1 |
| 12000.0 | 79.393 | 24.198 | 0.09 |
| 14000.0 | 87.172 | 26.569 | 0.08 |
| 15800.0 | 93.872 | 28.611 | 0.08 |
| 16000.0 | 94.601 | 28.833 | 0.08 |
| 18000.0 | 101.745 | 31.01 | 0.07 |

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 | 15 |
| Number of Bends, typical | 20 |
| Tensile Strength | 68 kg 149.914 lb |
| Bending Moment | 0.7 N-m 6.196 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 |
| Average Power, Ambient Temperature | 104 °F 40 °C |

Packaging and Weights

Cable weight

0.07 kg/m | 0.047 lb/ft



Regulatory Compliance/Certifications

Agency

Classification

CHINA-ROHS ISO 9001:2015 **REACH-SVHC** ROHS Compliant **UK-ROHS** Compliant

UL/ETL Certification



Below maximum concentration value Designed, manufactured and/or distributed under this quality management system Compliant as per SVHC revision on www.andrew.com/ProductCompliance Compliant

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FSJ1-50A, HELIAX® Superflexible Foam Coaxial Cable, corrugated copper, 1/4 in, black nonhalogenated, fire retardant polyolefin jacket, B2ca s1a dO a1 Compliant

Product Classification **Product Type** Coaxial wireless cable **Product Brand** HELIAX® | SureFlex® **Product Series** FSJ1-50A | MLOC General Specifications Flexibility Superflexible **Jacket Color** Black Performance Note Attenuation values typical, guaranteed within 5% Dimensions **Diameter Over Dielectric** 4.826 mm | 0.19 in **Diameter Over Jacket** 7.62 mm | 0.3 in **Inner Conductor OD** 1.905 mm | 0.075 in **Outer Conductor OD** 6.35 mm | 0.25 in **Nominal Size** 1/4 in **Electrical Specifications** Cable Impedance 50 ohm ±1 ohm Capacitance 79.4 pF/m | 24.201 pF/ft dc Resistance, Inner Conductor 9.843 ohms/km | 3 ohms/kft 7.216 ohms/km | 2.199 ohms/kft dc Resistance, Outer Conductor dc Test Voltage 1600 V 0.2 µH/m | 0.061 µH/ft

dc Resistance, Outer Conductor dc Test Voltage Inductance Insulation Resistance Jacket Spark Test Voltage (rms) Operating Frequency Band Peak Power Velocity

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100000 MOhms-km

1 - 18000 MHz

4000 V

6.4 kW 82 %

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 |

Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 1.0 | 0.577 | 0.176 | 6.4 |
| 1.5 | 0.707 | 0.215 | 6.4 |
| 2.0 | 0.816 | 0.249 | 6.4 |
| 10.0 | 1.833 | 0.559 | 3.99 |
| 20.0 | 2.6 | 0.792 | 2.81 |
| 30.0 | 3.192 | 0.973 | 2.29 |
| 50.0 | 4.136 | 1.261 | 1.77 |
| 85.0 | 5.419 | 1.652 | 1.35 |
| 88.0 | 5.516 | 1.681 | 1.33 |
| 100.0 | 5.889 | 1.795 | 1.24 |
| 108.0 | 6.125 | 1.867 | 1.19 |
| 150.0 | 7.25 | 2.21 | 1.01 |
| 174.0 | 7.825 | 2.385 | 0.93 |
| 200.0 | 8.408 | 2.563 | 0.87 |
| 204.0 | 8.495 | 2.589 | 0.86 |
| 300.0 | 10.373 | 3.162 | 0.71 |
| 400.0 | 12.051 | 3.673 | 0.61 |
| 450.0 | 12.817 | 3.906 | 0.57 |
| 460.0 | 12.965 | 3.952 | 0.56 |
| 500.0 | 13.545 | 4.128 | 0.54 |
| 512.0 | 13.715 | 4.18 | 0.53 |
| 600.0 | 14.909 | 4.544 | 0.49 |
| 700.0 | 16.175 | 4.93 | 0.45 |
| 800.0 | 17.362 | 5.292 | 0.42 |
| 824.0 | 17.637 | 5.376 | 0.41 |

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| 894.0 | 18.42 | 5.614 | 0.4 |
|--------|--------|--------|------|
| 960.0 | 19.134 | 5.832 | 0.38 |
| 1000.0 | 19.556 | 5.96 | 0.37 |
| 1218.0 | 21.738 | 6.626 | 0.34 |
| 1250.0 | 22.044 | 6.719 | 0.33 |
| 1500.0 | 24.326 | 7.414 | 0.3 |
| 1700.0 | 26.038 | 7.936 | 0.28 |
| 1794.0 | 26.813 | 8.172 | 0.27 |
| 1800.0 | 26.862 | 8.187 | 0.27 |
| 2000.0 | 28.455 | 8.673 | 0.26 |
| 2100.0 | 29.227 | 8.908 | 0.25 |
| 2200.0 | 29.984 | 9.139 | 0.24 |
| 2300.0 | 30.727 | 9.365 | 0.24 |
| 2500.0 | 32.174 | 9.806 | 0.23 |
| 2700.0 | 33.576 | 10.233 | 0.22 |
| 3000.0 | 35.602 | 10.851 | 0.21 |
| 3400.0 | 38.183 | 11.638 | 0.19 |
| 3600.0 | 39.428 | 12.017 | 0.19 |
| 3700.0 | 40.041 | 12.204 | 0.18 |
| 3800.0 | 40.647 | 12.389 | 0.18 |
| 3900.0 | 41.247 | 12.571 | 0.18 |
| 4000.0 | 41.841 | 12.753 | 0.17 |
| 4100.0 | 42.429 | 12.932 | 0.17 |
| 4200.0 | 43.012 | 13.11 | 0.17 |
| 4300.0 | 43.59 | 13.286 | 0.17 |
| 4400.0 | 44.163 | 13.46 | 0.17 |
| 4500.0 | 44.73 | 13.633 | 0.16 |
| 4600.0 | 45.293 | 13.805 | 0.16 |
| 4700.0 | 45.852 | 13.975 | 0.16 |
| 4800.0 | 46.405 | 14.144 | 0.16 |
| 4900.0 | 46.955 | 14.311 | 0.16 |
| 5000.0 | 47.5 | 14.477 | 0.15 |
| 6000.0 | 52.747 | 16.077 | 0.14 |
| 8000.0 | 62.37 | 19.01 | 0.12 |
| 8800.0 | 65.974 | 20.108 | 0.11 |
| | | | |

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| 10000.0 | 71.173 | 21.693 | 0.1 |
|---------|---------|--------|------|
| 12000.0 | 79.393 | 24.198 | 0.09 |
| 14000.0 | 87.172 | 26.569 | 0.08 |
| 15800.0 | 93.872 | 28.611 | 0.08 |
| 16000.0 | 94.601 | 28.833 | 0.08 |
| 18000.0 | 101.745 | 31.01 | 0.07 |

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 | 15 |
| Number of Bends, typical | 20 |
| Tensile Strength | 68 kg 149.914 lb |
| Bending Moment | 0.7 N-m 6.196 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 | sla |
| EN50575 CPR Cable EuroClass Droplets Rating | d0 |
| EN50575 CPR Cable EuroClass Acidity Rating | al |

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| Fire Retardancy Test Meth | od | 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 | | 0.07 kg/m 0.047 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.andrew.com/ProductCompliance | |
| ROHS | Compliant | |
| UK-ROHS | Compliant | |
| UL/ETL Certification | Compliant | |
| | | |

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