

**RLKU114-50JFLAH-BAA****1-1/4" RADIAFLEX® RLKU Cable, A-series**

- BAA Compliant. RFS is proud to announce that the product of RLK114-50JFLA-BAA manufactured by RFS Meriden Factory in CT, U.S. is BAA compliant with Federal Transit Administration's requirements.
- RADIAFLEX® functions as a distributed antenna to provide communications in tunnels, mines and large building complexes and is the solution for any application in confined areas.
- Slots in the copper outer conductor allow a controlled portion of the internal RF energy to be radiated into the surrounding environment. Conversely, a signal transmitted near the cable will couple into the slots and be carried along the cable length.
- RADIAFLEX® is used for both one-way and two-way communication systems and because of its broadband capability, a single radiating cable can handle multiple communication systems simultaneously.
- This RADIAFLEX® radiating cable utilize a low-loss cellular polyethylene foam dielectric and a smooth copper outer conductor which offers a superior electrical performance together with good bending properties.

FEATURES / BENEFITS

- BAA Compliant
- Ultra wideband from 30 MHz to 2700 MHz
- For applications in tunnels and buildings
- Low coupling loss variations



picture shows generic slot pattern

Technical features**GENERAL SPECIFICATIONS**

| | | |
|------|--|-------|
| Size | | 1-1/4 |
|------|--|-------|

ELECTRICAL SPECIFICATIONS

| | | |
|--|-------------------------------------|---|
| Max. Operating Frequency | MHz | 2700 |
| Cable Type | | RLKU |
| Impedance | Ohm | 50 +/- 2 |
| Velocity, percent | % | 90 |
| Capacitance | pF/m (pF/ft) | 74 (22.6) |
| DC-resistance inner conductor, ohm/km (ohm/1000ft) | Ω /km (Ω /1000ft) | 0.83 (0.253) |
| DC-resistance outer conductor, ohm/km (ohm/1000ft) | Ω /km (Ω /1000ft) | 1.75 (0.534) |
| Stop bands | MHz | 540-610 |
| Frequency Selection | MHz | 600, 900, 1800/1900, 2200, 2400, 2500, 2700 |

**MECHANICAL SPECIFICATIONS**

| | | |
|--|--------------|---|
| Jacket | | JFL, EN50575:2017 classified cable |
| Jacket Description | | Halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin + flame barrier tape above outer conductor for lowest cable loss |
| Slot Design | | Groups of vertical slots at short intervals |
| Inner Conductor Material | | Corrugated Copper Tube |
| Outer Conductor Material | | Overlapping Copper Strip |
| Diameter Inner Conductor | mm (in) | 13.9 (0.55) |
| Diameter Outer Conductor | mm (in) | 34 (1.34) |
| Diameter over Jacket Nominal | mm (in) | 38.1 (1.5) |
| Minimum Bending Radius, Single Bend | mm (in) | 500 (20) |
| Cable Weight | kg/m (lb/ft) | 0.87 (0.58) |
| Tensile Force | N (lb) | 2000 (440) |
| Indication of Slot Alignment | | Guides opposite to slots |
| Recommended / Maximum Clamp Spacing | m (ft) | 1.3 (4.3) |
| Minimum Distance to Wall | mm (in) | 80 (3.15) |

TESTING AND ENVIRONMENTAL

| | | |
|-------------------------------|--|--|
| Jacket Testing Methods | | Test methods for fire behaviour of cable : IEC 60754-1/-2 smoke emission: halogen free, non corrosive IEC 61034 low smoke IEC 60332-1 flame retardant IEC 60332-3-24 fire retardant NFPA130 (ed. 2014) Ch.12 (NFPA70) via UL-1685/FT4/IEEE1202 UL1666, ASTM E 662, NES711 and NES713 EN50575:2017 (Hannover production) class Dca s1 d2 a1 |
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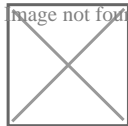
TEMPERATURE SPECIFICATIONS

| | | |
|---------------------------------|--------|-------------------------|
| Storage Temperature | °C(°F) | -70 to 85 (-94 to 185) |
| Installation Temperature | °C(°F) | -25 to 60 (-13 to 140) |
| Operation Temperature | °C(°F) | -40 to 85 (-40 to 185) |

**ATTENUATION AND POWER RATING**

| Frequency, MHz | Longitudinal Loss, dB/100 m (dB/100 ft) | Coupling Loss 50%, dB | Coupling Loss 95%, dB |
|----------------|---|-----------------------|-----------------------|
| 75 | 0.71 (0.23) | 58 (61) | 68 (71) |
| 150 | 1.08 (0.33) | 64 (67) | 75 (78) |
| 500 | 2.03 (0.62) | 69 (73) | 81 (84) |
| 700 | 2.55 (0.78) | 62 (65) | 66 (69) |
| 800 | 2.75 (0.84) | 62 (65) | 67 (70) |
| 860 | 2.88 (0.88) | 67 (70) | 73 (76) |
| 870 | 2.90 (0.89) | 68 (71) | 74 (77) |
| 900 | 2.97 (0.91) | 64 (67) | 67 (70) |
| 1900 | 5.39 (1.64) | 62 (65) | 67 (70) |
| 2000 | 5.69 (1.64) | 63 (66) | 69 (72) |
| 2100 | 5.96 (1.82) | 62 (65) | 67 (70) |
| 2200 | 6.37 (1.94) | 61 (64) | 66 (69) |
| 2300 | 6.79 (2.07) | 62 (65) | 67 (70) |
| 2400 | 7.32 (2.23) | 61 (64) | 67 (70) |
| 2700 | 9.12 (2.78) | 61 (64) | 67 (70) |

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**External Document Links**[Web URL to CPR resources with DoP and CE-label download folders](#)**Notes**

- Coupling loss as well as longitudinal attenuation of RADIAFLEX® cables are measured by the free space method according to IEC 61196-4.
- Coupling loss values are measured with a radial (below 550 MHz) or parallel (above 550 MHz) orientated dipole antenna.
- The coupling loss values given in brackets are average values of all three spatial orientations (radial, parallel and orthogonal) of dipole antenna.
- Coupling loss values are given with a tolerance of +5 dB and longitudinal loss values with a tolerance of +5%. Note: Measured values below nominal are better. They are not limited by any tolerance-range.
- In case of a conflict of operational and stop band, please contact RFS for further assistance.
- As with any radiating cable, the performance in building or tunnel environments may deviate from figures based on free space method.

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