



EUCARAY® RMC 78-B "A" Series

7/8" radiating cable optimized for GSM and GSM-R applications.

Radiating Cables

Eupen EUCARAY® radiating cables have been developed to provide RF-coverage for wireless applications in confined areas. They provide homogeneous and continuous RF-coverage, and allow simultaneous transmission of multiple wireless services. EUCARAY® radiating cables are engineered and produced in Belgium to highest quality standards for best performance and longest lifetime.

Product Description

The EUCARAY® RMC 78-B "A" Series radiating cable offers best performance to cost relation for medium frequencies. The size of 7/8" features low loss and low bending radius.



Features and Benefits

- From 30 to 2400 MHz with resonant frequencies*
- Robust Cable, with low bending radius
- Main Applications: TETRA, GSM-900, GSM-R

Certification and Fire Behaviour

Halogen-free, Low-smoke and Flame-retardant outer jacket:

- Low corrosive gas emission acc. to IEC 60754-2
- Flame retardant acc. to IEC 60332-1-2 and IEC 60332-3 Cat. C
- Low smoke emission acc. to IEC 61034
- Reaction to fire according EN60332-1-2 E_{ca}
- Compliant to EN 50575

Ordering Information

Ordering name: **RMC 78-B-HLFR "A" Series**

Recommended connectors and cable preparation tool:

- 7-16 Female: [716FR78A](#)
- N Female: [NF50R78A](#); [NM50R78A](#)
- Tool: [SPTC50R78](#)

^{*)} EUCARAY® achieves low coupling losses due to the patented slot design. Resonant frequencies are narrow-band VSWR peaks that usually occur in non-used bands of the radio-spectrum. Their amplitude generally decreases the higher the order.

More information under: www.radiating-cables.com

www.eupen.com



EUCARAY® RMC 78-B "A" Series

Technical Information

| | | |
|--|---------------------|---|
| • Size | | 7/8" |
| • Frequency range | MHz | 30 - 2400 |
| • Recommended Frequency bands | | TETRA, GSM-900, GSM-R |
| • Cable Type | | RMC (Radiated Mode Cable) |
| • Material | | Flame retardant polyolefin |
| • Slot design | | Groups of slots at short intervals |
| • Impedance | Ω | 50 +/- 2 |
| • Velocity Ratio | % | 88 |
| • Capacitance | pF/m (pF/ft) | 72 (22) |
| • Inner Conductor DC resistance | Ω/1000m (Ω/1000 ft) | 1.63 (0.5) |
| • Outer Conductor DC resistance | Ω/1000m (Ω/1000 ft) | 2.50 (0.76) |
| • Inner Conductor Material | | Smooth copper tube |
| • Dielectric Material | | Cellular polyethylene |
| • Outer Conductor Material | | Overlapping corrugated copper foil with slot groups |
| • Diameter Inner Conductor | mm (in) | 9.2 (0.362) |
| • Diameter Dielectric | mm (in) | 23.5 (0.925) |
| • Diameter over Jacket | mm (in) | 27.0 (1.063) |
| • Minimum Bending Radius, Single Bend | mm (in) | 350 (13.78) |
| • Cable Weight | kg/m (lb/ft) | 0.400 (0.269) |
| • Tensile Strength | daN (lbf) | 130 (287) |
| • Indication of Slot Alignment | | embossed line 180° opposite |
| • 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) |
| • Longitudinal Loss and Coupling Loss ⁽¹⁾ | | |

| Frequency | Longitudinal Loss dB/100m (dB/100ft) | Coupling Loss | |
|-----------|---|---------------|-----------|
| | | C50% (dB) | C95% (dB) |
| 75 MHz | 1.30 (0.40) | 56 | 67 |
| 150 MHz | 1.62 (0.49) | 60 | 65 |
| 225 MHz | 1.91 (0.58) | 62 | 72 |
| 380 MHz | 2.47 (0.75) | 60 | 64 |
| 450 MHz | 2.72 (0.83) | 59 | 63 |
| 790 MHz | 3.84 (1.17) | 54 | 57 |
| 870 MHz | 4.10 (1.25) | 53 | 56 |
| 900 MHz | 4.19 (1.28) | 53 | 56 |
| 960 MHz | 4.38 (1.34) | 52 | 55 |
| 1800 MHz | 6.97 (2.13) | 66 | 78 |
| 2170 MHz | 8.08 (2.46) | 65 | 76 |
| 2400 MHz | 8.77 (2.67) | 64 | 75 |

| | | |
|---------------------------------------|---------|---|
| • Resonant Frequencies | MHz | 63;189;315;441;567;693;819;945(+/-5 MHz);1071;1197;1323;1449;1575;1701;1827;1953;2079;2205;2331 |
| • Recommended Clamp Spacing | m (ft) | 1.0 (3.28) |
| • Distance to Wall Recommended / Min. | mm (in) | 80 - 180 (3.15 - 7.00) / 50 (1.96) |

The above stated values are nominal values and subject to manufacturing tolerances as follows: Longitudinal Loss +/- 5 % and Coupling Loss +/- 5 dB.

As with any radiating cable, the performance in building or tunnel may deviate from figures measured according to the IEC 61196-4 standard.

¹⁾ Measured in tunnel according to **IEC 61196-4 - Ground Level Method**.

Distance = 2m. C50 & (C95) are the average coupling losses with 50% (95%) probability calculated in accordance with the standard.

Coupling loss measurements taken in accordance with IEC 61196-4 - Free Space Method are available on request.

All information on this datasheet is subject to change without notice.