EUCARAY® RMC 12-CH

1/2" radiating cable optimized for applications at 5 GHz such as WLAN.

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 12-CH radiating cable is best performing at highest frequencies and to be used inside buildings, tunnels, rail and production environment. The size of 1/2" features low weight and small bending radius.

Features and Benefits

- From 5000 to 6000 MHz with resonant frequencies*
- Robust Cable with low fading at short Aerial to Cable distance
- Main Applications: WLAN controlled Transportation and Automation Systems
- Optimised for WLAN applications in 5.15 - 5.35 and 5.47 - 5.85 GHz bands

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
- Fulfils the requirements of EN 45545-2:2013+A1:2015

Ordering Information

Ordering name: **RMC 12-CH-HLFR**

Recommended connectors and cable preparation tool:
- 7-16 / 4.3-10 Type: 716FR12; 43FR12
- N Type: NF50R12 ; NM50R12
- Tool: SPTC50R12

*) 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 12-CH

Technical Information

• Size		1/2"
• Frequency range	MHz	5000 - 6000
• Recommended Frequency bands		5150-5350 and 5470-5850 MHz
• Cable Type		RMC (Radiated Mode Cable)
• Material		Flame retardant polyolefin
• Slot design		Groups of slots at short intervals
• Impedance	Ω	50 +/- 3
• Velocity Ratio	%	88
• Capacitance	pF/m (pF/ft)	76 (23.2)
• Inner Conductor DC resistance	Ω/1000m (Ω/1000 ft)	1.48 (0.45)
• Outer Conductor DC resistance	Ω/1000m (Ω/1000 ft)	2.80 (0.85)
• Inner Conductor Material		Copper clad aluminium wire
• Dielectric Material		Cellular polyethylene
• Outer Conductor Material		Overlapping copper foil with slot groups, bonded to the jacket
• Diameter Inner Conductor	mm (in)	4.8 (0.189)
• Diameter Dielectric	mm (in)	12.4 (0.488)
• Diameter over Jacket	mm (in)	15.5 (0.61)
• Minimum Bending Radius, Single Bend	mm (in)	200 (7.87)
• Cable Weight	kg/m (lb/ft)	0.232 (0.156)
• Tensile Strength	daN (lbf)	110 (243)
• 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	Coupling Loss	
	dB/100m (dB/100ft)	$C_{50\%}$ (dB)	$C_{95\%}$ (dB)
2400 MHz	12.3 (3.75)	67	77
5200 MHz	24.6 (7.50)	62	71
5500 MHz	26.3 (8.02)	60	61
5800 MHz	29.4 (8.96)	55	59

• Resonant Frequencies	MHz	415, 1246, 2077, 2907, 3738, 4568, 5399 MHz
• Recommended Clamp Spacing	m (ft)	0.5 (1.64)
• 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.