

# Aircom<sup>®</sup> 15

ultra low-loss up to 10 GHz



Aircom 15 is an ultra-low-loss coaxial cable designed for a maximum frequency of 10 GHz. It is distinguished by its lightweight construction and very low attenuation. This cable is precision-manufactured with a hybrid inner conductor made of copper-clad aluminum wire (CCA), where the copper cladding covers the inner aluminum core. The combination of copper's excellent electrical conductivity and aluminum's lightweight properties in this composite material makes Aircom 15 ideal for a wide range of RF applications.

The aluminum core's precise formability ensures minimal impurities across the entire frequency range, contributing to a high-performance RF line through the skin effect. Additionally, Aircom 15 is well-suited for digital transmission modes, thanks to its outstanding PIM (passive intermodulation) performance.

The cable's remarkably low attenuation is achieved through a low-loss PE dielectric, which also provides resistance to moisture. Aircom 15 features double shielding, comprising a thin, overlapping aluminum foil and an additional shield braiding made of tinned copper wires with 70% coverage. The black PVC jacket of Aircom 15 is UV-stabilized. This cable is particularly well-suited for mobile communication, antenna system installations, and various other RF and 5G applications.

## Key features

Diameter	14.0 ± 0.3 mm
Impedance	50 ± 2 Ω
Attenuation at 1 GHz/100 m	8.7 dB
<b>f max</b>	<b>10 GHz</b>
<b>Euroclass according to EN 50575</b>	<b>Fca</b>

## Characteristics

- Conductor material according to DIN EN 13602 Cu-ETP-A
- Screen material according to DIN EN 13602 Cu-ETP-A...-B
- Insulation material according to DIN EN 50290-2-23 (VDE 0819), Table L/MD (HD 624.3)
- Jacket material according to DIN EN 50290-2-22 (VDE 0819), compound type TM 52 (HD 624.2)
- RoHS compliant (Directive 2011/65/EC & 2015/863/EU RoHS 3)
- UV-resistant

## Technical Data

Inner conductor	Hybrid CCA – bare copper-clad aluminium wire
Inner conductor Ø	1 × 4.4 mm
Dielectric	blue foamed cellular polyethylene (PE) with skin
Dielectric Ø	11.3 mm
Outer conductor 1	aluminium-laminated foil overlapping
Shielding factor	100 %
Outer conductor 2	shield braiding of tinned copper wires
Shielding factor	70 %
Outer conductor Ø	12.1 mm
Jacket	PVC black, UV-stabilized
Weight	166 kg/km
Min. Bending radius	5 × Ø single, 10 × Ø repeated
Temperature range	-55 to +85 °C transport & fixed installation -40 to +85 °C mobile application
Pulling strength	1400 N

## Electrical Data at 20 °C

Capacitance (1 kHz)	78 nF/km
Velocity factor	0.85
Shielding attenuation 1 GHz	≥ 80 dB
DC-resistance inner conductor	≤ 2.0 Ω/km
DC-resistance outer conductor	5 Ω/km
Insulation resistance	≥ 10 GΩ*km
Test Voltage DC (wire/screen)	9 kV
Max. voltage	7 kV

## Aircom 15 RG 213/U RG 58/U

Capacitance	78 pF/m	101 pF/m	102 pF/m
Velocity factor	0.85	0.66	0.66
Attenuation (dB/100m)			
10 MHz	0.70	2.00	5.00
100 MHz	2.40	7.00	17.00
500 MHz	5.80	17.00	39.00
1000 MHz	8.70	22.50	54.60
3000 MHz	16.90	58.50	118.00

## Typ. Attenuation (dB/100 m at 20 °C)

10 MHz	0.70	1296 MHz	10.00
20 MHz	0.90	1500 MHz	10.90
50 MHz	1.46	1800 MHz	12.20
100 MHz	2.40	2000 MHz	13.10
144 MHz	2.77	2400 MHz	14.70
200 MHz	3.25	3000 MHz	16.90
300 MHz	4.10	4000 MHz	20.20
432 MHz	5.23	5000 MHz	23.50
500 MHz	5.80	6000 MHz	26.50
800 MHz	7.60	8000 MHz	32.10
1000 MHz	8.70	10000 MHz	37.50

## Max. Power Handling (W at 40 °C)

10 MHz	8700	3000 MHz	375
100 MHz	2660	5000 MHz	270
500 MHz	1100	6000 MHz	240
1000 MHz	740	8000 MHz	195
2000 MHz	470	10000 MHz	170
2400 MHz	430		

## Typ. Attenuation (dB/100 m at 20 °C)

