

Aircell® 5

thin, low loss and stray radiation resistant



Aircell 5 is a flexible and thin coaxial cable with 5 mm outer diameter for the frequency range from DC to 10 GHz. Its low loss characteristics in relation to the diameter and the ability to use standard RG 58 connectors make this cable the number one choice not only for Wireless LAN applications but also for general RF communications.

The low attenuation of Aircell 5 is achieved by using advanced manufacturing techniques and low loss PE-LLC dielectric with a foaming rate of more than 70%. This unique dielectric also offers water resistance and long term stability. Aircell 5 features a solid inner conductor extruded from low oxygen copper (OFC). Further advantages of this cable include the use of double shielding which is constructed of overlapping 100 % tight copper foil and an additional shield braiding of bare copper wires with 70 % coverage. The copper foil has an applied PE coating which prevents foil cracking due to short radius bends. The black PVC jacket of Aircell 5 is UV-stabilized.

Since Aircell 5 features the same dimensions as RG 58 type cables (5 mm outer diameter), almost all standard coaxial connectors for 5 mm coaxial cables can be used. Aircell 5 is the right choice, when a thin, low loss and microwave rated cable is required. It can be used for numerous RF applications.

Key features

Diameter	5,0 ± 0,2 mm
Impedance	50 ± 2 Ω
Attenuation at 1 GHz/100 m	29,54 dB
f max	10 GHz
Euroclass acc. to EN 50575	Eca

Characteristics

- Insulating material according to DIN EN 50290-2-23 (VDE 0819), table 2/A (HD 624.3)
- Jacket material according to DIN EN 50290-2-22 (VDE 0819), compound type TM 52 (HD 624.2)
- Flame retardant according to IEC 60332-1-2
- Flame retardant according to UN/ECE-R 118:2019-06 § 6.2.6, ISO 6722-1:2011-10 § 5.22
- RoHS compliant (Directive 2011/65/EC & 2015/863/EU RoHS 3)
- UV-resistant

Technical data

Inner conductor	bare copper wire
Inner conductor Ø	1 x 1,13 mm
Dielectric	foamed Polyethylene (PE) with skin
Dielectric Ø	3,1 mm
Outer conductor 1	copper foil overlapped
Shielding factor	100%
Outer conductor 2	shield braiding of bare copper wires
Shielding factor	70%
Outer conductor Ø	3,7 mm
Jacket	PVC black, UV-resistant
Weight	35 kg/km
Min. Bending radius	4XØ single, 8XØ repeated
Temperature range	-55 to +85°C Transport & fixed installation -40 to +85°C Flexible use
Pulling strength	100 N

Electrical data at 20°C

Capacitance (1 kHz)	78 nF/km
Velocity factor	0,85
Screening attenuation 1 GHz	≥ 90 dB
DC-resistance Inner conductor	≤ 20,5 Ω/km
DC-resistance Outer conductor	22 Ω/km
Insulation resistance	≥ 10 GΩ*km
Test voltage (wire/screen rms 50 Hz 1 Min.)	1000 V
Max. Voltage	2,5 kV

	Aircell 5	RG 58/U	RG 213/U
Capacity	78 pF/m	102 pF/m	101 pF/m
Velocity factor	0,85	0,66	0,66
Attenuation (dB/100m)			
10 MHz	2,78	5,00	2,00
100 MHz	8,93	17,00	7,00
500 MHz	20,49	39,00	17,00
1000 MHz	29,54	54,60	22,50
3000 MHz	53,57	118,00	58,50

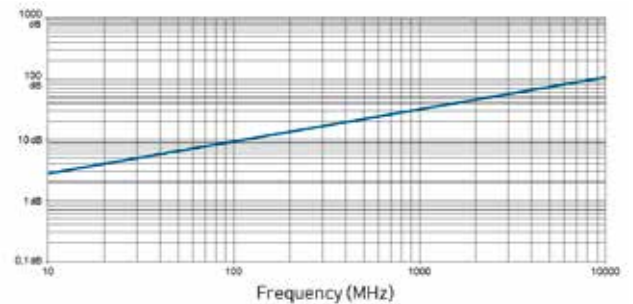
Typ. Attenuation (db/100 m at 20°C)

5 MHz	1,97	1000 MHz	29,54
10 MHz	2,78	1296 MHz	33,92
50 MHz	6,28	1500 MHz	36,70
100 MHz	8,93	1800 MHz	40,50
144 MHz	10,76	2000 MHz	42,88
200 MHz	12,74	2400 MHz	47,38
300 MHz	15,70	3000 MHz	53,57
432 MHz	18,99	4000 MHz	62,88
500 MHz	20,49	5000 MHz	71,30
800 MHz	26,24	6000 MHz	78,85
		10000 MHz	106,40

Max. Power handling (W at 40°C)

10 MHz	1.885	3000 MHz	98
100 MHz	587	4000 MHz	83
500 MHz	256	5000 MHz	74
1000 MHz	178	6000 MHz	66
2000 MHz	122	10000 MHz	49

Typ. Attenuation (db/100 m at 20°C)



Typ. Return loss

