

# Low loss coaxial cable for radio communications

## Characteristics

Diameter	5,0 mm
Impedance	50 Ohm
Attenuation @ 1 GHz/100m	32,8 dB
fmax	10 GHz

aircell® 5

**AIRCELL®5** is a small, 5 mm (o.d.), flexible coaxial cable usable from DC to 10 GHz. It's relative low loss characteristics plus the ability to use standard RG 58 connectors makes this cable the number one choice not only for Wireless LAN but also for general RF communications.

The low attenuation of **AIRCELL®5** is achieved through advanced manufacturing techniques and the use of a 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 center 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 copperfoil plus an additional woven copperbraid with 72% coverage. A screening efficiency of > 85 dB@1GHz is realized.

The copperfoil has an applied PE-coating which prevents foil cracking due to short radius bends. The black PE sheath of **AIRCELL®5** is uv-stabilized.

One of the major advantages of **AIRCELL®5** is its ability to use commonly available coaxial connectors. Since **AIRCELL®5** features the same dimensions as RG 58 type cables, standard connectors may be used.

In some cases, due to connector manufacturing tolerances, a slight filing of the cables center conductor maybe required.

**AIRCELL®5** is the right choice, when a thin, microwave rated cable is required. It's economical price makes it the clear leader for today's demanding applications.

## RG 58 und AIRCELL® 5 Connectors (extract)



Reverse Polarity Connectors for Wireless LAN

# Technical data



AIRCELL is a registered trademark of SSB-Electronic GmbH.

## Construction

Centre conductor	solid copper wire, OFC
Centre conductor Ø	1 x 1,05 mm
Dielectric Ø	2,95 mm
Outer conductor 1	Copperfoil, PE coated
Shielding factor	100%
Outer conductor 2	Copper braid
Shielding factor	72 %
Sheath	black PVC, uv-resistant
Outer diameter Ø	5,0 mm

## Mechanical specifications

Min. bending radius	one single bending	2,5 cm
	15 repeated bendings	5 cm
Temperature range	storage	-70 bis -85 °C
	installation	-40 bis +60 °C
	operation	-55 bis +85 °C

## Electrical specifications

Impedance @ 1 GHz	> 85 dB	
DC-resistance		
	Centre conductor	20,3 Ohm/km
	Outer conductor	13,6 Ohm/km
RF Peak Voltage	400 V	
RF Peak Power	1600 Watt	
Cut-off Frequency	33 GHz	

## Max. power handling (W @40°C)

10 MHz	1600
100 MHz	510
500 MHz	220
1000 MHz	150
2000 MHz	100
3000 MHz	80
4000 MHz	70
5000 MHz	60
6000 MHz	60

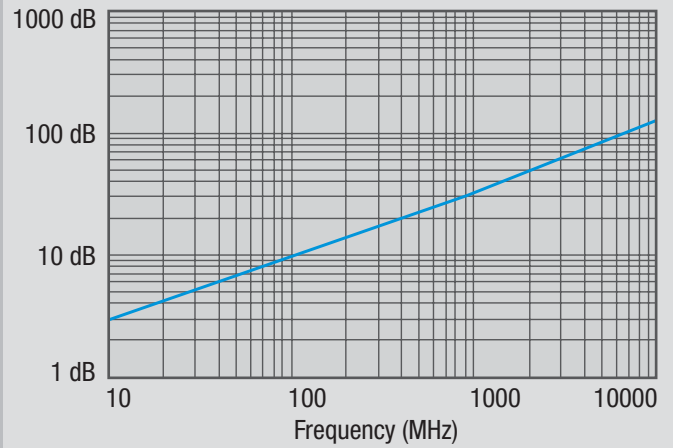
## Typ. attenuation (dB/100m@20°C)

5 MHz	2,14
10 MHz	3,03
50 MHz	6,86
100 MHz	9,78
144 MHz	11,80
200 MHz	14,00
300 MHz	17,29
432 MHz	20,95
500 MHz	22,64
800 MHz	29,11
1000 MHz	32,84
1296 MHz	37,83
1500 MHz	40,99
1800 MHz	45,35
2000 MHz	48,09
2400 MHz	53,26
3000 MHz	60,43
4000 MHz	71,28
5000 MHz	81,18
6000 MHz	90,39
10000 MHz	123,00

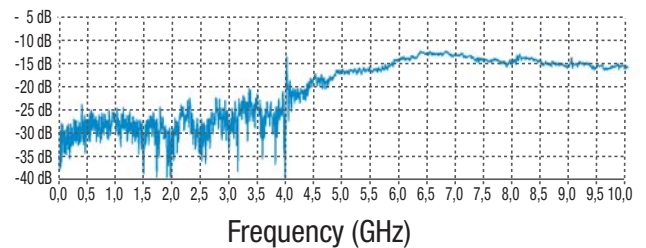
## For your information

	AIRCELL® 5	RG 58/U	ECOFLEX® 10
Capacity pF/m	82	102	78
Velocity factor	0,82	0,66	0,85
attenuation dB/100 m			
10 MHz	3,03	5,0	1,2
100 MHz	9,78	17,0	4,0
500 MHz	22,64	39,0	9,6
1000 MHz	32,84	54,6	14,2
3000 MHz	60,43	118	27,0

## Attenuation (dB/100 m) @ 20°C



## Return loss



Due to production tolerances the RTL may have different characteristics