



# WLAN ROOFTOP DIRECTIONAL LOW PROFILE ANTENNA

4900 ÷ 5935 MHz

T01362002

POLOMARCONI.IT

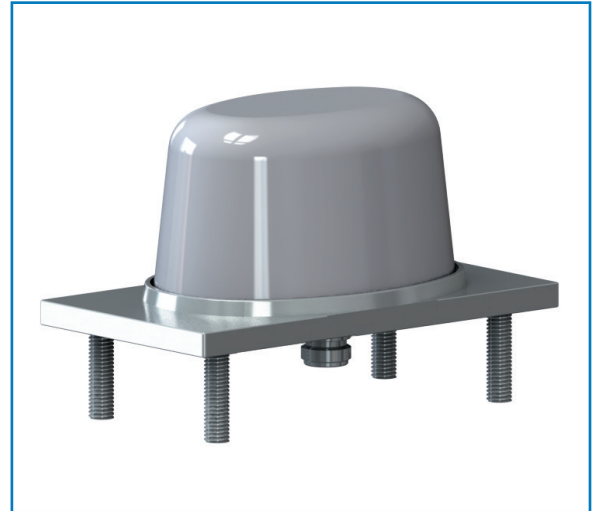
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TRANSPORT

## Electrical Specifications

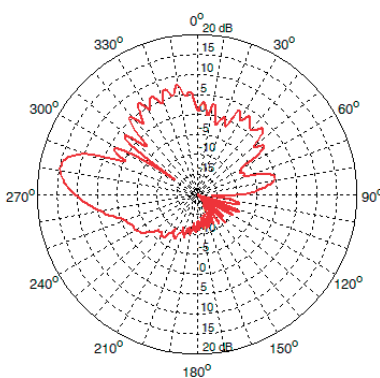
### WLAN BAND

|  |                                  |                         |
|--|----------------------------------|-------------------------|
| Frequency range (MHz)  | 4900 ÷ 5935                      |                         |
| Impedance ( $\Omega$ )   | 50                               |                         |
| VSWR   | $\leq 1.8:1$                     |                         |
| Polarization   | linear, vertical                 |                         |
| Gain (dBi)   |                                  |                         |
|  | @ 0° of elevation above horizon: | $\geq 8$                |
|  | @15° of elevation above horizon: |                         |
|  | in 4900÷5935MHz band             | $\geq 12$               |
|  | in 5475÷5875MHz band             | $\geq 12.5$             |
| HPBW (deg)   | Horizontal plane                 | $41^\circ \pm 10^\circ$ |
|  | Vertical plane                   | $16^\circ \pm 4^\circ$  |
| Cross-polarization discrimination (dB) in maximum gain direction | Horizontal plane                 | $\geq 15$               |
|  | Vertical plane                   | $\geq 15$               |
| Front-to-back ration (dB)  | Horizontal plane                 |                         |
|  | in 4900÷5935MHz band             | $\geq 10$               |
|  | in 5475÷5875MHz band             | $\geq 12$               |
|  | Vertical plane                   | $\geq 12$               |
| Maximum rated RF power (W)                                       | 50                               |                         |

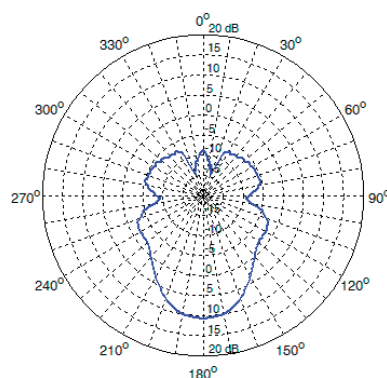


**NOTE:** The above indicated electrical values are measured with the antenna installed at the center of 1000x1000mm metallic conductive ground plane.

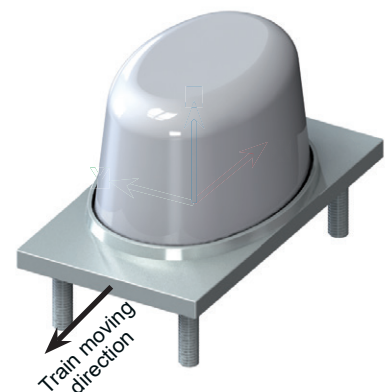
## RADIATION PATTERNS



Vertical plane:  $\theta$  variable,  $\varphi = 0^\circ$



Horizontal plane:  $\theta = 90^\circ$ ,  $\varphi$  variable



**NOTE:** The above indicated radiation patterns are measured with the antenna installed at the center of 1000x1000mm metallic conductive ground plane.



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## Mechanical Specifications

|   |  |
|---|--|
| Connector                               | N female   |
| Dimensions (Height x Width x Depth, mm) | 70 x 80 x 145  |
| Weight (kg)                             | abt. 1.0   |
| Mounting                                | the antenna need to be installed in longitudinal position with respect to the wind / driving direction   |
| Ground plane requirement                | the above indicated VSWR values are also valid for installations on non-metallic surfaces, but, in order to obtain the above indicated gain and beamwidth values, it is necessary to install the antenna at the center of a metallic conductive ground plane of minimum dimensions 1000x1000mm; it's advisable to keep the mounting surface clean and free from paint for an optimal electrical contact. |
| Materials                               | Body<br>Aluminium with SURTEC 650 treatment  |
|   | Radome<br>High impact polycarbonate  |
|   | Connector<br>Silver plated brass   |
| Operating temperature range (°C)        | -40 ÷ +85  |

## Environmental Specifications

### ATMOSPHERIC and CLIMATIC CONDITIONS according to NF EN 60068

|                                |                                    |
|--------------------------------|------------------------------------|
| Temperature conditions         | -40°C, +85°C                       |
| Atmospheric pressure           | -40°C, +85°C, 95% HR at 2000 m     |
| Rain, hail, snow, frost        | 1000 mm/h, 1 J impact, 0.5 m, 3 cm |
| Combined wind and train speed: | 530 km/h                           |

### MECHANICAL CONDITIONS according to NF EN 60068, 61373 and 15-818

|  |   |
|--|---|
| Free falls                                     | 1 m   |
| Hits (vertical, cross-sectional, longitudinal) | 30m/s <sup>2</sup> , 30m/s <sup>2</sup> , 50m/s <sup>2</sup> , 30ms |
| Impacts  | 50 J  |

### DC GROUNDING, HIGH VOLTAGE AND HIGH CURRENT PROTECTION according to UIC533

RoHS 2011/65/EU compliant

Flammability rating according to NF F16-101/102, CEN/TS 45545 (2009)

## MOUNTING FLANGE

Mounting flange holes are indicated in the relevant mounting instruction document.