



# MULTI BAND GSM/DCS/L1 GPS/G1 GLONASS/WiFi

870 ÷ 960 MHz, 1710 ÷ 1880 MHz, 1575.42 MHz,  
1609 MHz, 2400 ÷ 2485 MHz

PDBLG1WD

POLOMARCONI.IT

POLOMARCONI offers a very wide range of wireless products. Our products can be tailored according to the customer's need.

TRANSPORT

## Electrical Specifications

Frequency band (MHz)	870 ÷ 960 1710 ÷ 1880 2400 ÷ 2485
Impedance ( $\Omega$ )	50
VSWR	<2:1
Continuous Max. Power (W)	30
Polarization	vertical
Gain (dB) over $\lambda/4$ monopole	0
Op. temperature range ( $^{\circ}\text{C}$ )	-40 ÷ +70

## SATELLITE AND GEOLOCALISATION BANDS

Frequency bands (MHz)	Band1 Band2	1574.42 ÷ 1576.42 1599 ÷ 1605
Output impedance ( $\Omega$ )		50
Polarization		Right Hand Circular Polarization (RHCP)
Gain (dBic)		$\geq 25$ (typical 27), @ $T_0=25^{\circ}\text{C}$ , $V_{\text{DC}}=5\text{V}$
Noise Figure (dB)		$\leq 2.5$ , @ $T_0=25^{\circ}\text{C}$ , $V_{\text{DC}}=5\text{V}$
Operating supply voltage ( $V_{\text{DC}}$ )		3 ÷ 7
Current consumption (mA)		$\leq 35$ , @ $T_0=25^{\circ}\text{C}$ , $V_{\text{DC}}=5\text{V}$
Satellite navigation and geolocalisation supported systems		GPS and GLONASS

## Mechanical Specifications

Connectors		Silver plated brass
Type of connection		N female for GSM, DCS, WiFi TNC female for L1 GPS and G1 GLONASS
Dimensions (mm)		140x80x145
Weight (kg)		0.6
Base material		Aluminium with SURTEC 650 treatment
Radome		High impact polycarbonate
Mounting		on metallic surface (500 x 500 mm minimum)
Reliability		above to 200,000 hours

## Environmental Characteristics

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

Temperature conditions	-40 $^{\circ}\text{C}$ , +70 $^{\circ}\text{C}$
Atmospheric pressure	-40 $^{\circ}\text{C}$ , +70 $^{\circ}\text{C}$ , 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

### GROUNDING and HIGH VOLTAGE PROTECTION according to NF EN 50388 and NF EN 50123

Short-circuit currents flow / time before breaking	70 kA / 5 ms – 40 kA / 100 ms (DC) 31,5 kA / 10 ms – 15 kA / 100 ms (AC)
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Patent n° 1548873

Antenna for train with protective means against high voltages.

Patent has been used by SNCF and by the most important producers of trains.



## MOUNTING FLANGE

Mounting: on a conductive surface with a minimum size of 500 x 500 mm; it's advisable to keep the mounting surface clean for a better electrical contact.

PDBLG1WD 4 holes flange.

**Grounding and high voltage protection:** Our antennas have passed the strict SNCF's tests that approved our products as protected against lightning and high-tension voltage thanks to our patented DC and AC grounded system. **Advantage:** amplifier included; there is no need of an external low noise GPS amplifier as the internal GPS signal is already amplified. **Approved by:** SNCF, SNCB, TRENITALIA