THREE BANDS GSM – L1 GPS – WiFi

870 ÷ 960 MHz, 1575.42 MHz, 2400 ÷ 2485 MHz

TGLWD1-R

TRANSPORT

POLOMARCONI.IT

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

Electrical Specifications

Frequency band (MHz)	876 ÷ 960 2400 ÷ 2485
Impedance (Ω)	50
VSWR	<1.8:1
Gain (dB over λ/4 monopole)	0
Max rated power (W)	30
Polarization	vertical
SATELLITE NAVIGATION AND GEOLOCALIZATION BAND	
Frequency band (MHz)	1574.42 ÷ 1576.42
Impedance (Ω)	50
Polarization	Right Hand Circular Polarization (RHCP)
Gain (dBic)	≥ 25 (typical 27), @T_0=25°C, V_{DC}=5V
Noise Figure (dB)	≤ 2.5, @T_0=25°C, V_{DC}=5V
Operating supply voltage (V_{DC})	3.0 ÷ 7.0
Current consumption (mA)	≤ 35, @T_0=25°C, V_{DC}=5V
Satellite navigation and geolocalization supported systems	GPS

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.

Mechanical Specifications

Connectors	N female for GSM/R and WiFi TNC female for GPS
Dimensions (mm, Height x Width x Depth)	70x80x145
Total weight (kg)	abt. 0.5 kg
Base material	Aluminium with SURTEC 650 treatment
Radome material	High impact polycarbonate
Connectors material	Silver plated brass
Mounting	on metallic surface (600x600 mm minimum)
Operating Temp. range (°C)	-40 ÷ +70
Reliability	above to 200,000 hours

Environmental Characteristics

ATMOSPHERIC and CLIMATIC CONDITIONS according to NF EN 60068	
Temperature conditions:	-40°C, +70°C
Atmospheric pressure:	-40°C, +70°C, 95% HR at 2000 mt
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/s², 30m/s², 50m/s², 30ms
Impacts:	50 J
PREAMPLIFIER EMC according to CEI 61000 and ETSI GSM 11-10	
Radiated electromagnetic fields:	20 V/m (30 MHz – 1 GHz)
Electrostatic discharges:	±15 kV on air, ±8 kV on contact
Pulsed magnetic fields:	1000 A/m
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)

MOUNTING FLANGE

Mounting: on a conductive surface with a minimum size of 600x600 mm; it's advisable to keep the mounting surface clean for a better electrical contact.
TGLWD1 4 holes flange: flange with 4 M10 studs included;

Grounding and high voltage protection: Our antennas have passed the strict SNCF's tests that approved our products as protected against lighting 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 amplifier GPS as the internal GPS is already amplified.

Approved by: SNCF, SNCB, TRENITALIA