

SENCITY® Rail Excel Antenna

1356.17.0042

Properties

- Railway rooftop bi-directional antenna for Wi-Fi bands between 4900 and 5975 MHz
- Vertically polarized radiation pattern
- Rugged design, meets EN 50155 Railway Standard
- Fire retardant according to EN 45545-2 and NFPA-130
- Works also on non-metallic surfaces



Electrical data				
	Band 1	Band 2	Band 3	Band 4
Frequency	4900 MHz ... 5150 MHz	5150 MHz ... 5470 MHz	5470 MHz ... 5725 MHz	5725 MHz ... 5935 MHz
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	1.7	1.6	1.6	1.6
Gain	11.5 dBi	11.5 dBi	11.5 dBi	11.5 dBi
HPBW vertical	20 °	17 °	17 °	19 °
HPBW horizontal	47 °	43 °	36 °	35 °
Ambient Temperature	25 °C	25 °C	25 °C	25 °C
Composite Power max	300 W	300 W	300 W	300 W

Electrical remarks	
Remarks	Indicated VSWR values are also valid for installations on non-metallic surfaces (no specific ground plane requirements). Indicated gain values will be achieved on a metallic ground plane of 1 x 1 m or larger. High-voltage-protection: no voltage on RF port, if the catenary line touches antenna (EN 50124-1, 27.5 kVAC/1min). High-current-protection: Designed acc. to UIC 533, DC-grounded antenna element protection against lightning and short circuit with catenary lines (EN50388, EN 50122-1, 40kA/0.1sec)

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Electrical remarks	
	The above listed parameters are valid for port 1. Port2 meets the following specification: frequency range 4900 - 5150 MHz, VSWR 1.7, Gain 12.5 dBi frequency range 5150 - 5470 MHz, VSWR 1.6, Gain 13.0 dBi frequency range 5470 - 5725 MHz, VSWR 1.6, Gain 13.0 dBi frequency range 5725 - 5935 MHz, VSWR 1.6, Gain 13.0 dBi Please refer to the outline drawing to identify port 1 and port 2

Ports		
	Port 1	Port 2
Port name	Forward	Backward
Connector	N, jack (female)	N, jack (female)
Polarization	vertical	vertical
DC grounded	Yes	Yes

Connections		
	Port 1	Port 2
Port name	Forward	Backward
Band 1	✓	✓
Band 2	✓	✓
Band 3	✓	✓
Band 4	✓	✓

Mechanical data	
Weight	1.4 kg
Dimensions	90 mm x 260 mm x 100 mm (Height x Width x Depth)
Windload	Wind Speed survival: 500 km/h
Remarks	Corrosion: Low corrosion design according to MIL-F-14072(E), 96 hours Salt Spray test. Mounting: Shall be installed in longitudinal position to the wind/driving direction. Suitable for installation on high-speed trains with a maximum speed of 500 km/hr.

Material data	
Radome material	PC (Polycarbonate)
Radome colour	RAL 7043 (dark grey)
Back plate/base plate material	Aluminum
Back plate/base plate colour	RAL 7043 (dark grey)

Environmental data	
Operation temperature	-55 °C ... 85 °C
Storage temperature	-55 °C ... 85 °C
Transport temperature	-55 °C ... 85 °C
Environment (application)	Outdoor
Ingress protection (IP Rating)	IP67, IP69
Flammability rating	EN 45545-2 R24 HL3
Solar radiation	UL 746C, FI

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Environmental remarks

Environmental tests: EN 50155:2018-05

Flammability rating: EN45545-2:2013 + A1:2015, NFPA-130:2017

Tested according to ISO 4589-2:2017, NFX 70-100-1:2006, ISO 5659-2:2011.

Antennas with production date prior to 01-Oct-2020 do not have NFPA-130 compliance.

Additional Information

This product meets the Deutsche Bahn specifications for rolling stock equipment.

There is no applicable EU directive nor related harmonized standard for passive antennas. Consequently, there is no CE marking on these antennas and no EU Declaration of Conformity can be issued.

Ordering information

Item number	Item description
84027010	1356.17.0042

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