

## Sencity Rail MIMO Low Profile Antenna 1399.99.0057

### Description

Railway rooftop antenna for Cellular and WiFi bands.  
 Supports 2x2 Cellular MIMO for 3G and 4G.  
 Supports 2x2 WiFi MIMO in Wi-Fi 4 / Wi-Fi 6 bands.  
 Rugged design, meets EN 50155 railway standard.  
 Embedded combined GPS/Glonass antenna with integrated LNA.  
 Fire retardant acc. to DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2.  
 Extremely low profile (40mm).



### Product Configuration

### Technical Data

#### Electrical Data

	Band 1	Band 2	Band 3	Band 4
Frequency (MHz)	790 - 806	806 - 870	870 - 960	1350 - 2700
VSWR	2.2	1.9	1.5	1.9
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	5	5	5
Composite power max (W)	50	50	50	40
Ambient temperature (°C)	25	25	25	25
Port Isolation (dB)	18	18	18	18

  

	Band 5	Band 6
Band Name		GPS/Glonass
Frequency (MHz)	4900 - 6425	1574.4 - 1610
VSWR	2	1.5
Impedance (Ohm)	50	50
Gain (dBi)	7.5	
Composite power max (W)	30	
Ambient temperature (°C)	25	
Port Isolation (dB)	30	

#### Ports

	Port 1	Port 2	Port 3
Port name	Cell/Wifi1	Cell/Wifi2	GPS/Glonass
Connector	N, jack (female)	N, jack (female)	TNC, plug (male)
Cable Type	ENVIROFLEX_316_D	ENVIROFLEX_316_D	ENVIROFLEX_316_D
Cable Length (m)	0.2	0.2	0.14
Polarization	vertical	vertical	circular right
DC grounded	Yes	Yes	No

#### Connections

	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6
Port 1	X	X	X	X	X	
Port 2	X	X	X	X	X	
Port 3						X

#### General Data

## Sencity Rail MIMO Low Profile Antenna 1399.99.0057

Indicated VSWR and gain values are valid for a metallic ground plane of 0.5 x 1 m or larger.

### Electrical Data LNA

LNA noise figure dB	1.8
LNA current consumption (mA)	30
LNA is connected to	Port 3

LNA input voltage range: 3...5V

Total gain @90° elevation: 37dBiC

Values for LNA power consumption, noise figure and gain are given for a 5V operating voltage and may differ slightly for a lower voltage

EMC: EN 50121-3-2:2001, ETSI EN 301 489-1 V1.8.1 (2008-04)

### Mechanical Data

Dimensions (mm)	40 x 100 x 465 (Height x Width x Depth)
Weight (kg)	1.2

High-voltage-protection: no voltage on RF port, if catenary line touches antenna (EN 50124-1, 3.8 kVDC, 27.5 kVAC)

High-current-protection: Designed acc. to UIC 533, DC-grounded antenna element (protection against lightning and short circuit with catenary lines(40kA/0.1s).

Corrosion: Low corrosion design acc. to MIL-F-14072(E).

Mounting: Shall be installed in longitudinal position to the wind/driving direction. 4x composite sealing washers included for silicone-free sealing of the mounting screws.

### Environmental Data

Environmental conditions	indoor/outdoor
Operation temperature (°C)	-40 to 85
Storage temperature (°C)	-55 to 85
IP rating	IP69
Flammability rating	DIN 5510
Solar radiation	DIN 75220
2011/65/EU (RoHS - including 2015/863 and 2017/2102)	compliant
WEEE 2012/19/EU	no special marking needed
REACH 1907/2006/EC	compliant

Environmental tests: EN 50155

Flammability rating: DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2

### Material Data

Radome colour	RAL 7043 (dark grey)
Radome material	ASA (acrylic ester-styrene-acrylonitrile)
Back plate/base plate material	Aluminium

### Related Products

9090.99.0062 Sencity Rail Mounting plate \*\*\*Customer specific\*\*\*

9091.99.0257 Sencity Rail - M10 sealing washer kit

### Related Documents

Mounting instruction	DOC-0000714303
Painting instruction	DOC-0000256180
Security instruction	DOC-0000278984
Outline drawing	DOU-00297490
3D-model	DOC-0000468135
CE compliancy	DOC-0000785728

### Additional Information

This product meets the Deutsche Bahn specifications for rolling stock equipment. Protected by Patents: DE202015009331(U1), US10116056(B2), CN106663861B.