

## Sencity Rail MIMO Antenna 1399.99.0057

SWA-0825/360/5/30/MIMO

### Description

Railway rooftop antenna for 2G/3G/4G cellular and WiFi 2.4 and 5 GHz bands.  
 Supports 2x2 cellular MIMO for UMTS and LTE.  
 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	1.8	1.5	1.9
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	5	5	5
Port Isolation (dB)	18	18	18	18

  

	Band 5	Band 6
Band Name		GPS/Glonass
Frequency (MHz)	4900 - 6425	1574.4 - 1610
VSWR	1.8	1.5
Impedance (Ohm)	50	50
Gain (dBi)	7.5	
Port Isolation (dB)	30	

#### Ports

	Port 1	Port 2	Port 3
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

#### 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

DC Grounding Yes  
 Composite Power max (W) 10

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

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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, 25 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 outdoor  
Operation temperature (°C) -40 to 85  
Storage temperature (°C) -55 to 85  
IP rating IP69  
Solar radiation DIN 75220  
RoHS 2011/65/EU compliant  
REACH 2006/1907/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

### Additional Information

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