

## Sencity Rail MIMO Antenna 1399.17.0222

### Description

Railway rooftop antenna for Cellular and WiFi bands.  
 Supports 2x2 Cellular MIMO for 3G, 4G and 5G.  
 Supports 2x2 WiFi MIMO in all Wi-Fi 6E bands.  
 Rugged design, meets EN 50155 railway standard.  
 Fire retardant acc. to BS 6853, NF F16-101/102, EN 45545-2.  
 Works on non-metallic surfaces.  
 Dedicated grounding contact (optional).  
 Cable conduit support (optional).  
 Note: For NFPA-130 approval use antenna 1399.17.0221.



### Product Configuration

### Technical Data

#### Electrical Data

|                          | Band 1    | Band 2    | Band 3    | Band 4      |
|--------------------------|-----------|-----------|-----------|-------------|
| Frequency (MHz)          | 617 - 694 | 694 - 790 | 790 - 960 | 1350 - 2700 |
| VSWR                     | 1.7       | 1.7       | 1.7       | 1.8         |
| Impedance (Ohm)          | 50        | 50        | 50        | 50          |
| Gain (dBi)               | 6         | 5         | 6         | 7.5         |
| Composite power max (W)  | 250       | 180       | 130       | 130         |
| Ambient temperature (°C) | 25        | 25        | 25        | 25          |
| Port Isolation (dB)      | 15        | 15        | 15        | 20          |

  

|                          | Band 5      | Band 6      | Band 7      |
|--------------------------|-------------|-------------|-------------|
| Frequency (MHz)          | 2700 - 3300 | 3300 - 4900 | 4900 - 7125 |
| VSWR                     | 2           | 2.1         | 1.9         |
| Impedance (Ohm)          | 50          | 50          | 50          |
| Gain (dBi)               | 6.5         | 6.5         | 7.5         |
| Composite power max (W)  | 100         | 100         | 100         |
| Ambient temperature (°C) | 25          | 25          | 25          |
| Port Isolation (dB)      | 25          | 25          | 35          |

#### Ports

|                  | Port 1           | Port 2           |
|------------------|------------------|------------------|
| Connector        | N, jack (female) | N, jack (female) |
| Cable Type       | ENVIROFLEX_142   | ENVIROFLEX_142   |
| Cable Length (m) | 0.2              | 0.2              |
| Polarization     | vertical         | vertical         |
| DC grounded      | Yes              | Yes              |

#### Connections

|        | Band 1 | Band 2 | Band 3 | Band 4 | Band 5 | Band 6 | Band 7 |
|--------|--------|--------|--------|--------|--------|--------|--------|
| Port 1 | X      | X      | X      | X      | X      | X      | X      |
| Port 2 | X      | X      | X      | X      | X      | X      | X      |

#### General Data

Indicated VSWR values are valid for a metallic ground plane of 0.5 x 0.5m or larger. In the 790-7125 MHz band, 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.

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### Mechanical Data

|                 |   |
|-----------------|---|
| Dimensions (mm) | 81.6 x 102.5 x 352.5 (Height x Width x Depth) |
| Weight (kg)     | 1.5   |

High-voltage-protection: no voltage on RF port, if the catenary line touches the 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/0.125s, 70kA/0.05s).

Corrosion: Low corrosion design acc. to MIL-DTL-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                 |
| Transport temperature (°C)                           | -40 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 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

9091.99.0235 Sencity Rail Antenna grounding kit

9091.99.0236 Sencity Rail antenna conduit support Kit

9091.99.0256 Sencity Rail - M8 sealing washer kit

9091.99.0261 Sencity Rail antenna mounting plate

### Related Documents

|                      |                |
|----------------------|----------------|
| Mounting instruction | DOC-0000443802 |
| Painting instruction | DOC-0000256180 |
| Security instruction | DOC-0000278984 |
| Outline drawing      | DOU-00258855   |
| 3D-model             | DOC-0000450919 |

### Additional Information

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

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