

SENCITY® Tram Antenna 1399.99.0201

Description

Rugged vehicle rooftop multi-band antenna for Light Rail.
 Supports 2G/3G/4G/5G cellular and Wifi 2.4/5 GHz, Wifi 6E bands and GNSS (Beidou, Galileo, GPS, Glonass).
 Meets EN50155 railway standard.
 Fire retardant acc. to EN45545-2 and NFPA-130.
 Offers a stick antenna socket and separate connector for each application
 Single hole mounting, easy cabling feed-through.
 Works also on non-metallic surfaces



Product Configuration

Technical Data

Electrical Data

| | Band 1 | Band 2 | Band 3 | Band 4 |
|--------------------------|-----------|-----------|-------------|-------------|
| Frequency (MHz) | 694 - 790 | 790 - 960 | 1710 - 2690 | 1710 - 2690 |
| VSWR | 2.1 | 1.8 | 2 | 1.8 |
| Impedance (Ohm) | 50 | 50 | 50 | 50 |
| Gain (dBi) | 5 | 5 | 4 | 6 |
| Composite power max (W) | 40 | 40 | 40 | 40 |
| Ambient temperature (°C) | 25 | 25 | 25 | 25 |
| Port Isolation (dB) | 25 | 25 | 25 | 25 |

| | Band 5 | Band 6 | Band 7 | Band 8 |
|--------------------------|-------------|-------------|-------------|--------|
| Band Name | | | GNSS | Socket |
| Frequency (MHz) | 3400 - 3800 | 4900 - 7125 | 1559 - 1610 | |
| VSWR | 2 | 2 | 1.8 | |
| Impedance (Ohm) | 50 | 50 | 50 | |
| Gain (dBi) | 6 | 7 | | |
| Composite power max (W) | 30 | 30 | | |
| Ambient temperature (°C) | 25 | 25 | | |
| Port Isolation (dB) | 25 | 20 | | |

Ports

| | Port 1 | Port 2 | Port 3 | Port 4 |
|------------------|--------------------|--------------------|--------------------|--------------------|
| Port name | Cell 1 (white) | WiFi 1 (blue) | GNSS (black) | (red) |
| Connector | SMA, jack (female) | SMA, jack (female) | TNC, jack (female) | SMA, jack (female) |
| Cable Type | RADOX_RF_316_D | RADOX_RF_316_D | RADOX_RF_316_D | RADOX_RF_316_D |
| Cable Length (m) | 0.21 | 0.2 | 0.26 | 0.3 |
| Polarization | vertical | vertical | circular right | |
| DC grounded | No | No | No | No |

Connections

| | Band 1 | Band 2 | Band 3 | Band 4 | Band 5 | Band 6 | Band 7 | Band 8 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Port 1 | X | X | X | | X | | | |
| Port 2 | | | | X | | X | | |
| Port 3 | | | | | | | X | |
| Port 4 | | | | | | | | X |

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General Data

Ground plane: Indicated VSWR values are valid for a metallic ground plane of 0.5 x 0.5m or larger. Indicated VSWR values are mostly valid for installations on non-metallic surfaces also (no specific ground plane requirements), apart from VSWR 2.5 below 840 MHz and VSWR 3 below 750 MHz.

Electrical Data LNA

| | |
|------------------------------|---------|
| LNA noise figure dB | 1.6 |
| LNA current consumption (mA) | 20 |
| LNA is connected to | Port 3 |
| LNA input voltage range: | 3..5V |
| Total gain @90° elevation: | 30 dBiC |

Mechanical Data

| | |
|---------------------------|--|
| Dimensions (mm) | 82 x 83 x 208 (Heigth x Width x Depth) |
| Weight (kg) | 0.41 |
| Stick antenna max. length | 0.5m |
| Mounting breakthrough | Ø30mm |

Environmental Data

| | |
|--|---------------------|
| Environmental conditions | outdoor |
| Operation temperature (°C) | -40 to 85 |
| Storage temperature (°C) | -40 to 85 |
| Transport temperature (°C) | -40 to 85 |
| IP rating | IP68, IP69k |
| Flammability rating | EN45545-2, NFPA-130 |
| Solar radiation | DIN 75220 |
| 2011/65/EU (RoHS - including 2015/863 and 2017/2102) | compliant |
| REACH 1907/2006/EC | compliant |

Environmental tests: EN50155:2018-05

High-voltage protection: EN50124-1:2017-03 (tested without stick antenna)

Low corrosion designed acc. to MIL-F-14072D

This Antenna is compliant with the Radio Equipment Directive 2014/53/EU CE-Mark

Material Data

| | |
|--------------------------------|--------------------|
| Radome colour | RAL 9017 (black) |
| Radome material | PC (Polycarbonate) |
| Back plate/base plate material | Aluminium |

Related Products

9091.99.0250 Metal ground plane foil 0.6x0.6m

Related Documents

| | |
|----------------------|----------------|
| Mounting instruction | DOC-0001163411 |
| Painting instruction | DOC-0000256180 |
| Security instruction | DOC-0000278984 |
| Outline drawing | DOU-01107852 |
| 3D-model | DOC-0001108180 |