

SENCITY® Tram MULTI Antenna 1399.99.0219

Description

Rugged vehicle rooftop multi-band antenna for Light Rail.
 Supports 2G/3G/4G/5G cellular, Wifi 2.4/5 GHz, Wifi 6E and
 Dual Band GNSS (Beidou, Galileo, GPS, Glonass).
 7 separate ports for 4x4 cellular MIMO and 2x2 Wifi MIMO plus GNSS.
 Meets EN50155 railway standard.
 Fire retardant acc. to EN45545-2 and NFPA-130.
 Single hole mounting, easy cabling feed-through.



Product Configuration

Technical Data

Electrical Data

| | Band 1 | Band 2 | Band 3 | Band 4 |
|--------------------------|--------------|--------------|--------------|--------------|
| Band Name | Cellular 1-4 | Cellular 1-4 | Cellular 1-4 | Cellular 1-4 |
| Frequency (MHz) | 617 - 960 | 1350 - 2700 | 3300 - 4200 | 4900 - 7125 |
| VSWR | 2 | 2.1 | 2 | 2 |
| Impedance (Ohm) | 50 | 50 | 50 | 50 |
| Gain (dBi) | 2 | 4 | 4 | 5 |
| Composite power max (W) | 40 | 40 | 40 | 40 |
| Ambient temperature (°C) | 25 | 25 | 25 | 25 |
| Port isolation (dB) | 9 | 18 | 15 | 18 |

| | Band 5 | Band 6 | Band 7 | Band 8 |
|--------------------------|-------------|-------------|-------------|-------------|
| Band Name | WiFi 1-2 | WiFi 1-2 | GNSS | GNSS |
| Frequency (MHz) | 2400 - 2500 | 4900 - 7125 | 1164 - 1279 | 1559 - 1610 |
| VSWR | 2 | 2 | 1.5 | 1.8 |
| Impedance (Ohm) | 50 | 50 | 50 | 50 |
| Gain (dBi) | 6 | 6 | | |
| Composite power max (W) | 30 | 30 | | |
| Ambient temperature (°C) | 25 | 25 | | |
| Port isolation (dB) | 24 | 24 | | |

Ports

| | Port 1 to 4 | Port 5 to 6 | Port 7 |
|------------------|------------------|------------------|------------------|
| Port name | Cell 1-4 (white) | WiFi 1-2 (blue) | GNSS (black) |
| Connector | SMA, plug (male) | SMA, plug (male) | TNC, plug (male) |
| Cable Type | RADOX_RF_316_D | RADOX_RF_316_D | RADOX_RF_316_D |
| Cable Length (m) | 0.3 | 0.3 | 0.3 |
| Polarization | Vertical | Vertical | Circular right |
| DC Grounded | Yes | Yes | No |

Connections

| | Band 1 | Band 2 | Band 3 | Band 4 | Band 5 | Band 6 | Band 7 | Band 8 |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Port 1 to 4 | X | X | X | X | | | | |
| Port 5 to 6 | | | | | X | X | | |
| Port 7 | | | | | | | X | 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 and Isolation is provided as typical values. Indicated VSWR values are mostly valid for installations on non-metallic surfaces also (no specific ground plane requirements). Indicated gain values will be achieved on a metallic ground plane of 1 x 1 m or larger.

Electrical Data LNA

| | |
|------------------------------|---------|
| LNA noise figure dB | 2 |
| LNA current consumption (mA) | 45 |
| LNA is connected to | Port 7 |
| LNA input voltage range: | 3..5V |
| LNA gain | 38 dB |
| Total gain @90° elevation: | 42 dBiC |

Mechanical Data

| | |
|-----------------------|------------------------------|
| Dimensions (mm) | 210 x 60 (Diameter x Height) |
| Weight (kg) | 1.1 |
| 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
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

(Order separately)
9091.99.0250 Metal ground plane foil 0.6x0.6m

Related Documents

| | |
|----------------------|----------------|
| Mounting instruction | DOC-0001163416 |
| Painting instruction | DOC-0000256180 |
| Security instruction | DOC-0000278984 |
| Outline drawing | DOU-01158994 |
| 3D-model | DOC-0001155892 |