

SENCITY® Tram MIMO Antenna
1399.99.0206

Properties

- Supports 2G/3G/4G/5G cellular, Wifi 2.4/5 GHz, Wifi 6E and GNSS (Beidou, Galileo, GPS, Glonass)
- Rugged vehicle rooftop multi-band antenna for Light Rail
- Meets EN50155 and fire retardant according to EN 45545-2.
- Works without metal ground plane
- 5 separate ports for 2x2 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



Electrical data				
	Band 1	Band 2	Band 3	Band 4
Name				
Frequency	694 MHz ... 790 MHz	790 MHz ... 960 MHz	1710 MHz ... 2170 MHz	2400 MHz ... 2690 MHz
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	1.8	1.7	1.7	2
Gain	4 dBi	4 dBi	5 dBi	6 dBi
Isolation between Ports	10 dB	10 dB	12 dB	10 dB
Ambient Temperature	25 °C	25 °C	25 °C	25 °C
Composite Power max	40 W	40 W	40 W	40 W

	Band 5	Band 6	Band 7	Band 8
Name				GNSS (black)
Frequency	2400 MHz ... 2690 MHz	3400 MHz ... 3800 MHz	4900 MHz ... 7125 MHz	1559 MHz ... 1610 MHz
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	2	1.7	1.8	1.8

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	Band 5	Band 6	Band 7	Band 8
Gain	5.5 dBi	6 dBi	7 dBi	
Isolation between Ports	18 dB	18 dB	25 dB	
Ambient Temperature	25 °C	25 °C	25 °C	
Composite Power max	30 W	30 W	30 W	

Electrical remarks

Remarks	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), apart from VSWR 2.5 below 840 MHz and VSWR 3 below 750 MHz. Indicated gain values will be achieved on a metallic ground plane of 1 x 1 m or larger. Port 3,4 performance in Band 6 is given with typical values of VSWR 2 only.
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Ports				
	Port 1	Port 2	Port 3	Port 4
Port name	Cell 1 (white)	Cell 2 (white)	Wifi 1 (blue)	WiFi 2 (blue)
Connector	SMA, jack (female)	SMA, jack (female)	SMA, 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	0.15 m	0.21 m	0.22 m	0.28 m
Polarization	vertical	vertical	vertical	vertical
DC grounded	No	No	Yes	Yes

	Port 5
Port name	GNSS (black)
Connector	TNC, plug (male)
Cable type	RADOX_RF_316_D
Cable length	0.27 m
Polarization	circular right
DC grounded	No

Connections					
	Port 1	Port 2	Port 3	Port 4	Port 5
Port name	Cell 1 (white)	Cell 2 (white)	Wifi 1 (blue)	WiFi 2 (blue)	GNSS (black)
Band 1	✓	✓			
Band 2	✓	✓			
Band 3	✓	✓			
Band 4			✓	✓	
Band 5	✓	✓			
Band 6	✓	✓	✓	✓	
Band 7			✓	✓	
Band 8					✓

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Electrical data LNA	
LNA is connected to	Port 5
Input voltage	3 V ... 5 V
Current consumption	20 mA
Noise figure	1.6 dB
Total gain @90° elevation	30 dBic

Mechanical data	
Weight	0.5 kg
Dimensions	98 mm x 83 mm x 208 mm (Height x Width x Depth)
Mounting breakthrough	Ø 30 mm

Material data	
Radome material	PC (Polycarbonate)
Radome colour	RAL 9017 (black)
Back plate/base plate material	Aluminium

Environmental data	
Operation temperature	-40 °C ... 85 °C
Storage temperature	-40 °C ... 85 °C
Transport temperature	-40 °C ... 85 °C
Environment (application)	Outdoor
Ingress protection (IP Rating)	Mated / IP68, IP69k
Flammability rating	EN 45545-2 NFPA-130
Solar radiation	DIN 75220

Environmental remarks	
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	

Ordering information		
Item description	Item number	Product name
1399.99.0206	85163180	SENCITY® Tram MIMO Antenna

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