Data Sheet

SENCITY® Tram MULTI Antenna
1399.99.0251

Description

Rugged vehicle rooftop multi-band antenna for Light Rail.
Supports TETRA, LTE450, 2G/3G/4G/5G cellular, Wifi 2.4/5 GHz, Wifi 6E and Dual Band GNSS (Beidou, Galileo, GPS, Glonass).
6 separate ports for 2x2 TETRA/cellular MIMO and 3x3 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	TETRA/LTE450	Cellular	Cellular	Cellular
Frequency (MHz)	380 - 470	617 - 960	1350 - 2700	3300 - 4200
VSWR	2.5	2.1	2.1	2.1
Impedance (Ohm)	50	50	50	50
Gain (dBi)	3	2	4	4
Composite power max (W)	40	40	40	40
Ambient temperature (°C)	25	25	25	25
Port isolation (dB)	3	8	15	20

	Band 5	Band 6	Band 7	Band 8 / Band 9
Band Name	Cellular	WiFi	WiFi	GNSS
Frequency (MHz)	4900 - 7125	2400 - 2500	4900 - 7125	1164 – 1279 / 1559 - 1610
VSWR	2.1	2.1	2.1	1.5 / 1.8
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	6	6	
Composite power max (W)	40	30	30	
Ambient temperature (°C)	25	25	25	
Port isolation (dB)	20	20	20	

Ports

	Port 1 to 2	Port 3 to 5	Port 6
Port name	Tetra 1-2 (white)	WiFi 1-3 (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 / 9
Port 1 to 2	X	X	X	X	X			
Port 3 to 5						X	X	
Port 6								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 6
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