Data Sheet

SENCITY® OMNI-M Antenna

1399.99.0321

Description

7-Port antenna.
Supports 4x4 Cellular MIMO for 3G, 4G and 5G.
Supports 2x2 Wi-Fi MIMO in all Wi-Fi 6E bands.
Embedded GNSS with integrated LNA supports GPS L1+L2+L5, Galileo E1+E5a+E5b, BeiDou B1+B2+B3 and GLONASS G1+G2 bands.
4 radiators for Cellular bands.
2 radiators for Wi-Fi/WiMAX bands.
Rugged design, meets EN 60068 Standard.
Single hole mount on cabinet or roof.

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	2.0	2.1	2.0	2.0
Impedance (Ohm)	50	50	50	50
Gain (dBi)	2	4	4	5
Composite power max (W)	80	80	80	80
Ambient temperature (°C)	25	25	25	25
Port Isolation (dB)	9	18	15	18

	Band 5	Band 6	Band 7	Band 8
Band Name	Wi-Fi 1-2	Wi-Fi 1-2	GNSS 1	GNSS 2
Frequency (MHz)	2400 – 2500	4900 – 7125	1164 - 1279	1555 - 1610
VSWR	2.0	2.0	1.5	1.5
Impedance (Ohm)	50	50	50	50
Gain (dBi)	6	6		
Composite power max (W)	80	80		
Ambient temperature (°C)	25	25		
Port Isolation (dB)	24	24		

Ports

	Port 1 to 4	Port 5 to 6	Port 7
Port name	Cellular 1-4	Wi-Fi 1-2	GNSS
Connector	N, jack (female)	N, jack (female)	TNC, plug (male)
Cable Type	ENVIROFLEX_316_D	ENVIROFLEX_316_D	ENVIROFLED_316_D
Polarization	vertical	Vertical	circular right
DC grounded	Yes	Yes	

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 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 500 x 500 mm or larger.
Please refer to the outline drawing to read the cable pigtail length of each port.

Electrical Data LNA

LNA noise figure dB	1.6
LNA current consumption (mA)	40
LNA is connected to	Port 7

This Antenna is compliant with the Radio Equipment Directive 2014/53/EU
ETSI EN 303 413 V.1.1.1 (2017-06)
ETSI EN 301 489-1 V2.2.3 (2019-03)
ETSI EN 301 489-19 V2.1.1 (2019-04)
LNA input voltage range: 3...5V
Total gain @90° elevation: 30 dBiC
Values for LNA power consumption, noise figure and gain are given for a 5V operating voltage and may differ slightly for a lower voltage.

Mechanical Data

Dimensions (mm)	211.5 x 62.5 (Diameter x Height)
Weight (kg)	1.2

Corrosion: Low corrosion design according to MIL-F-14072(E), 96 hours Salt Spray test.
Mounting: Shall be installed in longitudinal position to the wind/driving direction.
Suitable for installation on vehicles with a maximum speed of 160 km/hr.

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
Solar radiation	UL 746C, F1
2011/65/EU (RoHS -including 2015/863 and 2017/2102)	compliant acc. Annex III
Lead-free soldered	yes
WEEE 2012/19/EU	no special marking needed
ELV 2000/53/EC	compliant
REACH 1907/2006/EC	compliant

Environmental tests: EN 60068
EN 60068-2-1 Cold temperature test Ad, -55°C, 16h
EN 60068-2-2 Dry heat test Bd +85°C, 16h
EN 60068-2-30 Damp heat cyclic test Db, +25/55°C, 2 cycles
EN 60068-2-11 Salt Mist test Ka, 96h
EN 61373 § 9 Mechanical Vibration test, Cat. 2
EN 61373 § 10 Mechanical shock test, Cat. 2
EN 60529 Ingress protection test, IP69

Material Data

Radome colour	RAL 7044 (light grey)
Radome material	PC (Polycarbonate)
Back plate/base plate material	Aluminum