

# NA RSU-C320 Roadside Terminal Product Specification

< Version 0.1 >



## 1. Product introduction

NA RSU-C320 roadside terminal is an intelligent roadside terminal independently developed by iSmartWays for the North American market, mainly for intelligent network connection, intelligent transportation and other fields. The product satisfies the communication requirements of 4G/5G cellular networks in North America. It has the capabilities of perception fusion, vehicle-road coordination, data intelligence, and platform access. It can receive road condition information from traffic signals/edge calculators/cloud platforms and broadcast in real time Provide real-time and efficient traffic efficiency and safety services to passing vehicles, reduce and avoid traffic accidents.

## 2. Product features

- ◆ Meet the requirements of North American operator frequency bands
- ◆ Meet the LTE-V communication of 3GPP R14 standard, support PC5 (mode 4) communication
- ◆ Support local operation and remote WEB interface operation and maintenance, and OTA remote upgrade, can access third-party operation and maintenance management platform
- ◆ Supports meter-level positioning accuracy to meet positioning needs in different environments
- ◆ Built-in HSM module, meets North American FIPS-140-2 Level 3 certification requirements
- ◆ Support V2X differential data forwarding, meet RTCM2.X, RTCM3.X format
- ◆ Software security meets IEEE 1609.2 protocol requirements
- ◆ Support NTP network clock synchronization as a clock source
- ◆ Support WIFI, Ethernet communication
- ◆ Support POE power supply
- ◆ Meet IP66 protection level

## 3. Product function

Function	Description
Assistance Drive	Broadcast Roadside messages include TIM, MAP, SPAT.....to OBU

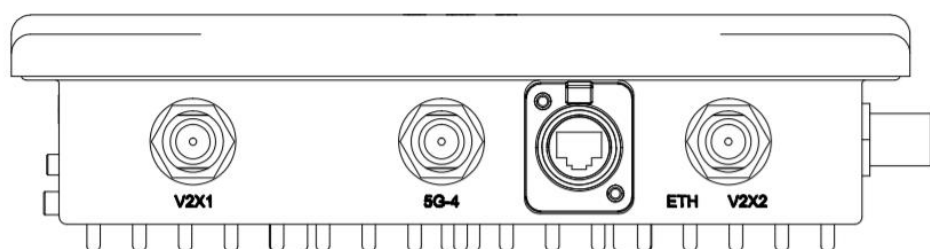
Vehicle-Road cooperation	Help OBU calculate scenes like GLOSA(Green Light Optimal Speed Advisory), EVW(Emergency Vehicle Warning), IVS, EVP.....
Flexible Message update	Cloud server can communicate with RSU to update it's MAP or TIM ...messages in real-time
Intersection monitor	Collect BSM message from OBU to realize count the vehicle flow of the intersection

#### 4. Specification parameters

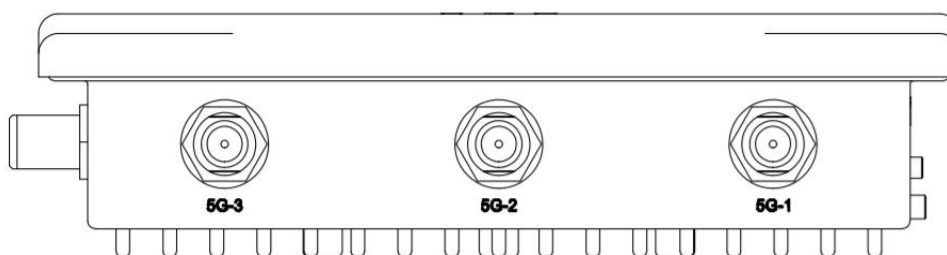
System parameters	
OS	Linux 5.10
CPU	Cortex-A35 Quad-Core 1.2GHz
RAM	LPDDR4 2GB
ROM	eMMC 8GB, support 32GB TF card
Cellular	WCDMA/FDD-LTE/TDD-LTE/5G NR
V2X	C-V2X PC 5 mode4(3GPP Rel.14)
GNSS	Support Beidou/GPS/GLONASS/Galileo/QZSS, Maximum date update frequency 10Hz
WiFi	2.4GHz, built-in antenna
Ethernet	10/100/1000Mbps*1
SIM card	Micro-SIM, support Hot plug; Compatible with eSIM card design
HSM	Built-in HSM module, meeting FIPS-140-2 Level3 requirements
Electrical Environmental Characteristics	
Power Supply	IEEE802.3 af/at POE, DC9~36V
Operating temperature	-40°C ~+85°C
Storage temperature	-40°C ~+85°C
Electrostatic discharge	IEC61000-4-2(ESD)±8kV(air), ±4kV(contact)
Power consumption	<12W
Operating humidity	10% ~ 95%(无凝结)
Vibration	MIL-STD-810G
Physical Characteristics	

Dimension	235*210*62mm
Color	Gray
Shell material	Aluminum Alloy
Net weight	1.8KG
Degree of protection	IP66

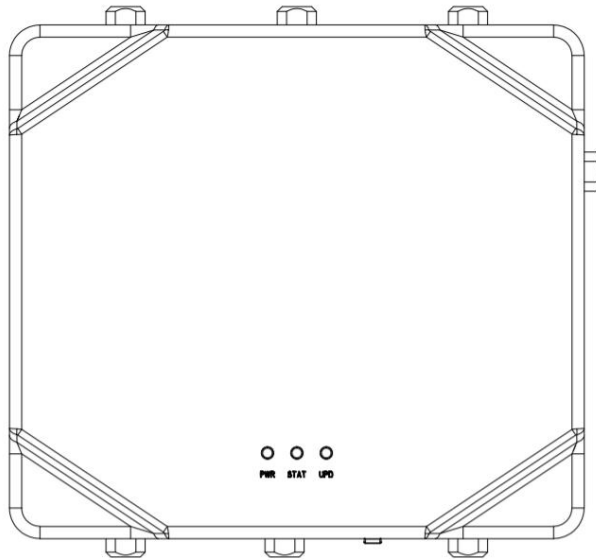
## 5. Port description



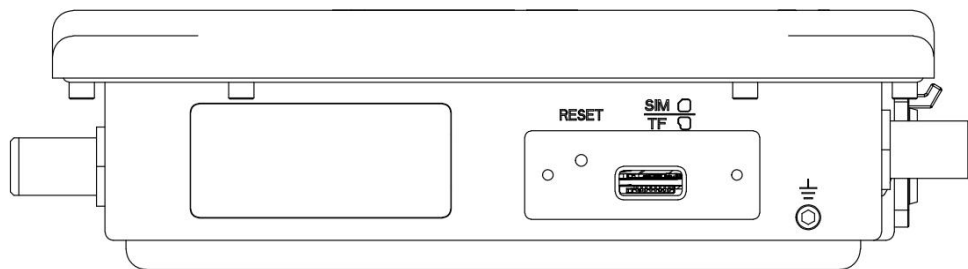
No.	Port	Description
1	V2X1	V2X main antenna, N-Female
2	5G-4	5G-4 antenna connector, N-Female
3	ETH	POE & Ethernet
4	V2X2	V2X diversity antenna, N-Female



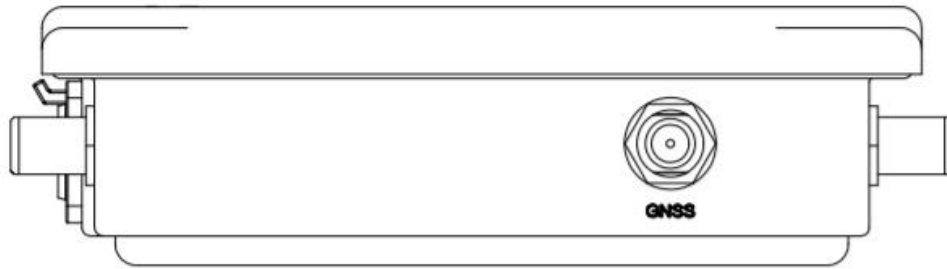
No.	Port	Description
1	5G-3	5G-3 antenna connector, N-Female
2	5G-2	5G-2 antenna connector, N-Female
3	5G-1	5G-1 antenna connector, N-Female



No.	Port	Description
1	PWR	Power indicator. Color: green; Status: On: Normal power on.
2	STAT	Operation status indicator. Color: green; Status: Blinking (1Hz): The device is starting ON: Working OFF: System error
3	UPD	Upgrade status indicator. Color: green; Status: ON: In the process of upgrading OFF: Default



No.	Port	Description
1	SIM	SIM card slot
2	TF	TF card slot
3	RESET	Forced reset button for device configuration initialization



No.	Port	Description
1	GNSS	GNSS antenna connector, N-Female

## 6. Kit List

No.	Name	Quantity
1	RSU-C320	1
2	V2X Omni-directional FRP Antenna	2
3	5G Omni-directional FRP Antenna	4
4	GNSS Antenna	1
5	AC/DC Power Adapter	1
6	PoE power supply	1
7	Bracket	1
8	Hose clamp	2
9	Waterproof network port connector	1
10	GPS Antenna Adapter	1
11	AC power cable	1
12	Cable	1
13	mounting screws	4