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Title ITT-V2X-RSU-N2 User Guide		Document Type User Guide	

ITT-V2X-RSU-N2 USER GUIDE

TITLE

1 Summery

1.1 Purpose

→ This Device is based on state of the art technology, IEEE 802.11P, is used for the vehicle safety using Wireless communication covering 3 to 27Mbps and 5.86 to 5.92GHz Frequency.

This Device provides short latency communication. It can be easily and comfortably implemented for inside and outside car networking application with its advantages; efficient, robust and reliable networking.

1.2 Definition of terms

- IEEE: Institute of Electrical and Electronics Engineers
- IEEE 802.11p: Standard for wireless access in vehicle to vehicle environments
- WAVE(Wireless Access in vehicular Environments)
- V2V: Vehicle-to-Vehicle
- V2I: Vehicle-to-Infrastructure
- RF: Radio Frequency

2 Product specification

2.1 Electrical specification

Division	Standard	Remark
Input voltage	PoE DC +48V	IEEE 802.3at
Power consumption	12W	
Dimension	254(W)x265(H)x167(D)mm	
Weight	3Kg	
Operating temperature	-35℃ ~ +85℃	0 ~ 90%

2.2 Specification

Division	Standard	Remark
Specification	IEEE 802.11p	
Frequency Range	5.855GHz ~ 5.925GHz	7Channel
Rated RF Output	18 dBm (±1.5 dB)	MAX
Modulation	BPSK/QPSK/16QAM/64QAM	
Data rate	3, 4.5, 6, 9, 12, 18, 24, 27Mbps	
Channel Bandwidth	10MHz	
RF Impedance	≤ 1 Watt	
Impedance	50 Ω	
Support channel	172(5860MHz), 174(5870MHz), 176(5880MHz, 178(5890MHz), 180(5900MHz), 182(5910MHz), 184(5920MHz)	7ch
Ethernet	1Gbps	

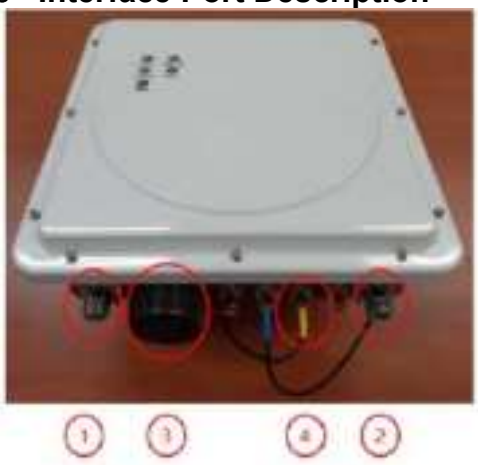
2.3 Interface Connector

Division	Standard	Remark
MS Connector (Socket)	MS3102A-28-11	
WAVE RF Port	RP-N-Type 50ohm, 2EA	
GPS RF Port	RP-SMA(M) 50ohm, 1EA	
MS Connector (Plug)	MS3106A-28-11	
Ethernet Connector	RJ-45 Plug	IEEE 802.3 compliant
Debug Connector	SMH250-03	RS 232
Length	TBD	

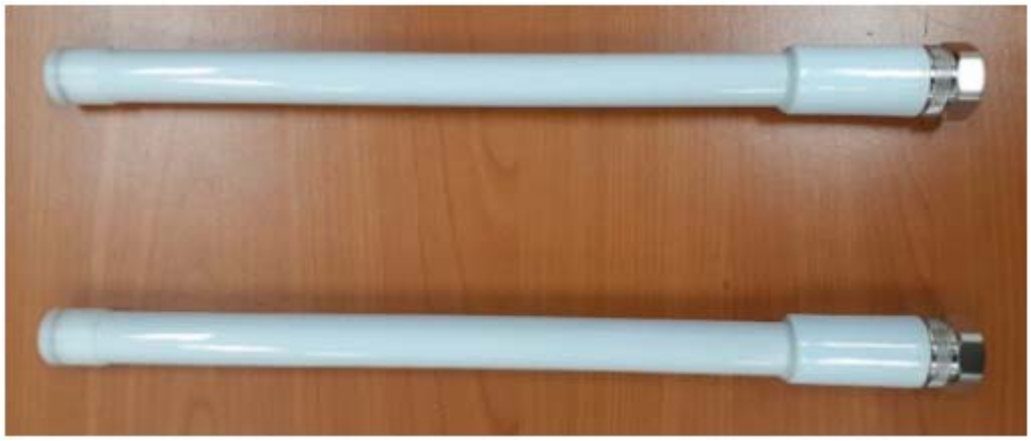
2.4 Antenna Specification

Type	Division	Standard	Remark
WAVE	Frequency Range	5.855GHz ~ 5.925GHz	
	Antenna Type	Omni-directional	
	Polarization	Vertical	
	Gain	8.0 dBi (Max)	
	Impedance	50 Ω	
	RF Connector	RP-N-Type 50ohm	Port 2EA
	Dimension	Length: 286mm,diameter: 24.0ϕ	
	weight	100g	
	Water Proof	IP6	
	Temperature [℃]	-40℃ ~ +85℃	Humidity 0~90%
GPS	Frequency Range	1575.42MHz±3MHz	
	Antenna Type	Patch	
	Polarization	RHCP	
	Antenna Gain	3dBi	
	LNA Gain	29.0dB	typ.
	Impedance	50 Ω	
	RF Connector	RP-SMA 50ohm	Port 1EA
	Dimension	62.8(W) x 68(H) x 12(D)m,m	
	Weight	70g	
	Water Proof	IP6	
	Temperature [℃]	-40℃ ~ +85℃	Humidity 0~90%

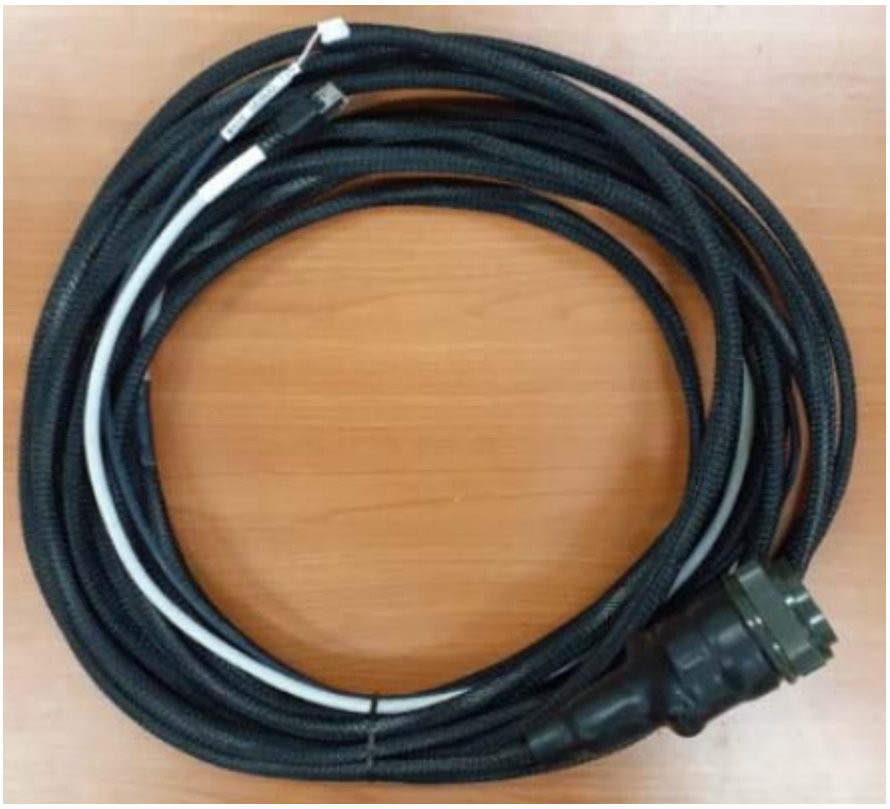
2.5 Interface Port Description



No	Standard	Description
1	RP-N-Type	WAVE RF PORT 1
2	RP-N-Type	WAVE RF PORT 2
3	MS Connector	Power, Ethernet, Debug
4	RP-SMA	GPS
5	GPS Antenna	GPS Antenna
6	LED Indigator	Power LED



< Omni Antenna >



<Interface Cable >

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequeny bands are country dependen and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Wireless 5 GHz Band Statements:

This equipment could only been operated at 5860-5920 MHz frequency band.