C-V2X Roadside Unit

Roadside units (RSUs) positioned along the roads serve as a bridge for communication with vehicles in traffic and the cellular network infrastructure, as they support both direct and indirect connections, which are among the most functional features of the C-V2X protocol. Roadside units play a key role in communication across many different application domains where the C-V2X protocol is endorsed.

APPLICATION DOMAINS

- Traffic management and regulation

- Immediate road condition and safety alerts

- Smart city initiatives

- Infrastructure enhancements and upkeep

- Location-based services

- Crisis communications

GENERAL CHARACTERISTICS

- V2X communication through C-V2X technology

- 3GPP Rel-15 compatibility

- LTE/5G compatibility

- GNSS compatibility

- Seamless integration

- Hardware Security Module integration for high security

SUPPORTED SCENARIOS

Roadworks warning, in vehicle signage, in vehicle speed limit, emergency vehicle approaching, weather conditions, slow or stationary vehicle warning, GLOSA, emergency electronic brake light, traffic jam ahead warning, hazardous location notification, shockwave damping, signal violation, intersection safety, traffic signal priority request by designated vehicles, off street parking information, on street parking information and management, park & ride information, information on AFV fueling & charging stations, traffic information and smart routing, zone access control for urban areas, vulnerable road user protection (pedestrians and cyclists), cooperative collision risk warning, motorcycle approaching indication, wrong way driving, limited access warning, detour notification, decentralized floating car data, vehicle software/ data provisioning and update, local electronic commerce, media downloading

- Cellular Network Antennas
- GNSS Antenna
- Ethernet Interface
- C-V2X Antennas

WIRELESS CONNECTIVITY

C-V2X   Quectel AG550Q

Cellular Network   5G/4G LTE/ 3G/2G/LPWA

CONNECTION INTERFACES

Antennas

1 x GNSS, 2 x C-V2X, 2 x 5G/4G LTE/3G/2G/LPWA

Power   POE+, POE++

PACKAGE CONTENTS

Antennas

1 x GNSS, 2 x C-V2X Non-directional, 2 x 5G/4G LTE/3G/2G/LPWA Non-directional

KEY ATTRIBUTES

Processor	1.4 GHz ARM Cortex-A53 processor with quad cores
Operating System	Embedded Linux
RAM	768 MB
Flash / Storage	32 GB eMMC
Ethernet	10/100/1000 Mbps
Power Supply	POE+, POE++
Receiver Sensitivity	C-V2X:-95 dBm
Maximum Transmit Power	C-V2X:23 dBm
Bandwidth	10 & 20 MHz
GNSS Services	GPS, GLONASS, BeiDou, Galileo ve QZSS
GNSS Sensitivity	-143 dBm, 1.5m doğruluk
Operating Temperature	-40°c + 85°c
Dimensions	270mm x 160mm x 66mm
Sealing	IP65

In the final functional product, there may be variations in the provided standards and scenarios.

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