WaveBee Road AV1023A

V2X Roadside Unit (RSU)

Now part of Keysight's V2X product portfolio, the WaveBee Road is a powerful roadside unit that can be easily integrated into existing system environments, regardless of the manufacturer or type of traffic engineering system.

It is used for both centrally (TMC) and decentrally controlled systems in public traffic areas. Stand-alone operation without further connections is also possible, allowing for capability in a V2X test field or on test sites.

Equipped with the modular WaveBee V2X communication stack, Keysight's WaveBee Road unit is not only suitable for "classic" V2I or I2V message types and corresponding applications but can also be used as a development platform for other use cases. The included SDK uses the proven WDS interface, which means that the application developer or integrator is not required to have knowledge of the ASN.1 data structures.

Figure 1. WaveBee Road AV1023A

KEYSIGHT

Five features

- Multi V2X regional standard support (ETSI, SAE, CSAE)
- Hybrid communication DSRC and C-V2X
- PoE interface and rail mounted antenna for flexible installation
- Combined application and communication system
- Expandable with traffic radar or other sensor technology

Due to the sophisticated system architecture, additional traffic sensors can be connected directly, such as to generate V2X messages from radar or camera data.

The WaveBee Road is thus perfectly designed for use in the smart city context, whether for traffic flow optimization, public transport prioritization, for Vulnerable Road Users(VRU) protection systems and many other applications.

Typical areas of application

- Research and development
- Application development
- Proving ground equipment
- Smart City Deployment
- Vulnerable Road Users (VRU) protection
- V2X equipment for traffic lights

Technical Details

In everyday use, the WaveBee Road has proven itself in C-ITS deployments in urban areas as well as on highways, in test fields and on test sites. The support of several V2X communication standards as well as mobile radio qualifies the WaveBee Road for international use.

The robust design, according to protection class IP67, ensures safe operation with low maintenance costs. The PoE interface and the LTE modem enable easy installation and good integrability as well as accessibility of the system for remote monitoring and system updates over the air.

Communication standard	EU, US, China
Power supply	PoE IEEE 802.3bt PoE IEEE 802.3at (with limitations) Passive PoE (37-57 V)
GNSS	Dedicated u-blox GNSS Receiver GPS/GLONASS/Galileo/Beidou Differential GNSS possibility
Communication technology	DSRC (IEEE802.11p) C-V2X (PC-5 sidelink)
Weight	4.1 kg (excl. mounting plate, which is 1.3 kg)
Dimensions	280/280/110 mm (W/H/D) without antennas 650/280/130 mm (W/H/D) with antennas and mounting plate
System	i.MX8M Quad CPU 2 GB RAM 16 GB eMMC mass storage Hardware Security Module (eHSM)
Connectivity	Ethernet; Cellular 3G/4G/5G
Enclosure	Aluminum, Heavy-duty steel
Operating temperature	-40° C to 85° C (-40ºF to 185ºF), max. 95% humidity

Specifications are subject to change without notice due to product updates and future developments.

Ordering configuration

Configure your WaveBee-Road by choosing regional software

Choose your software

Product models	Product description
AV2003CNA	WaveBee Road Configuration CN (C-SAE)
AV2003EUA	WaveBee Road Configuration EU (ETSI)
AV2003USA	WaveBee Road Configuration US (SAE)