

WaveBee Plus

V2X development and streaming platform

Now part of Keysight's V2X product portfolio, WaveBee Plus is a powerful connectivity platform for V2X and vehicle data streaming as well as a communication hub with a wide range of applications.

Thanks to multiple interfaces, its modular WaveBee V2X communication stack, and its design as an open Linux system, WaveBee Plus facilitates integration into existing system environments, whether for laboratory setups or vehicle installations.

This system design has proven itself particularly useful in the development processes of the automotive industry, as it enables a time- and resource-saving “desk-to-car and back” process approach.

A powerful API gives the developer full access to every single facility and entity of the WaveBee V2X stack without having to worry about ASN.1 encodings. The specification of message types is encapsulated. Developers only adapt their application for the WDS (WaveDataService) interface. The WaveBee stack handles the standard-compliant encoding and decoding of the messages. Individual message types and payloads are also supported. A modular, service-oriented architecture (SOA) greatly facilitates integration in distributed system environments and debugging, significantly reducing the time required for application development.



Figure 1. WaveBee Plus

Five features

- Powerful V2X, data streaming and edge computing platform
- Supported V2X standards: ETSI, SAE, CSAE
- Hybrid V2X communication technology (DSRC and C-V2X) and 4G/5G cellular
- Unique WDS interface
- Modular hardware architecture for fast customizing

Extensive hardware interfaces and high computing power predestine the WaveBee Plus not only for use as a V2X communication solution but also as a data streaming platform, sensor fusion hub, or edge computing system.

Our more than 20 years of automotive experience have gone into the eighth generation of WaveBee Plus. This technology meets the requirements of a multifunctional connectivity solution for various use cases: New Mobility Services, ADAS, and Automated and Connected Driving.

Typical areas of application

- Research and development
- On-Board Unit (OBU) for test vehicles/prototyping
- Application development
- Data streaming, edge computing
- Communication hub
- V2X Day 1 and future use cases

Technical Details



Figure 2. Test drives for checking Road Side Units (RSUs) at traffic signals with WaveBee Plus in the vehicle



Figure 3. Application for V2X EU Day 1 use case “stationary vehicle” with WaveBee Plus in the vehicle

Communication standard	ETSI, SAE, CSAE
Weight	0.95 kg
Dimensions	170/160/31 mm (6.7/6.3/1.2 Inch)
Communication technology	DSRC (IEEE 802.11p) C-V2X (PC-5 sidelink)
System	i.MX8X Quad Plus CPU 2 GB RAM 8 GB eMMC mass storage Hardware Security Module (eHSM)
GNSS	Dedicated u-blox GNSS Receiver GPS/GLONASS/Galileo/Beidou Differential GNSS possibility
Operating temperature	-40°C to 80°C (-40°F to 176°F)

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

Ordering configuration

Configure your WaveBee-Plus by choosing regional software and accessories.

Choose your software

Product Models	Product Description
AV2002CNA	WaveBee Plus Configuration CN (C-SAE)
AV2002EUA	WaveBee Plus Configuration EU (ETSI)
AV2002USA	WaveBee Plus Configuration US (SAE)

Accessories

Item	Description
AV1022A-102	WaveBee Plus antenna kit vehicle