



BlueTOAD® Spectra™ CV DSRC/C-V2X Roadside Unit (RSU)

Combine travel time analytics with vehicle-to-infrastructure applications



Delivers integrated travel time and Connected Vehicle (CV) data



Provides the foundation for managing a full suite of V2X applications, including signal priority and preemption



BlueARGUS uses Basic Safety Message (BSM) data aggregation and management

Travel Time and Signal Priority

Integrated travel-time and CV data management in one Roadside Unit, Iteris's BlueTOAD Spectra CV and BlueARGUS travel time solutions provide the foundation for managing a full suite of travel time and Origin/Destination reporting utilities with data collected from the implementation of a variety of Connected Vehicle applications. The 5.9 GHz (DSRC/C-V2X) standards based Signal Request Message (SRM), Basic Safety Message (BSM) and Traveler Information Messages (TIM) designed into the BlueTOAD Spectra CV manages multiple, simultaneous priority requests to deliver a complete range of V2X signal priority, pedestrian safety and emergency vehicle preemption applications, including:

- Intelligent Signal Timing applications
- Emergency Vehicle Preemption
- Freight Signal Priority
- Transit Signal Priority and mobility efficiency
- Pedestrian & Bicycle mobility and safety
- Data collection, management, and analytics
- Delivering new levels of roadside sensor capabilities

TravelSmart mobile App

Iteris' BlueTOAD Spectra CV Roadside Unit is now deployed to connect its TravelSmart smartphone App and Connected Vehicles technology to a robust data collection and analytics platform- BlueARGUS™.



With the TravelSmart mobile app you get:

- SPaT Status Display & Management
- Location Based Services: Travel Times, Incidents (in real time)
- User-Defined Route Creation & Management
- TravelSmart App available for iOS® or Android®
- CV Data collection, management and analytics



BlueTOAD Spectra CV Roadside Unit

Connecting mobile devices and Connected Vehicles to Iteris' data collection and analysis platform – Realize ROI on Day One.

Delivering new levels of roadside sensor capabilities, Iteris has combined two wireless technologies – Bluetooth® (2.4 GHz), Dedicated Short Range Communications and Cellular Vehicle to Everything (5.9 GHz) – into one RSU. BlueTOAD Spectra combines DSRC/C-V2X with real time and historical Bluetooth® device detection, providing the essential V2X interconnectivity for safety and mobility applications in Connected Vehicle (CV) initiatives, while providing synchronization with transportation agency Travel Time and Performance Measures based systems.

Through its extensive experience working with transportation agencies and engineering services partners to install and maintain roadside technology, as well as its very popular BlueARGUS™ web-based analytics software, Iteris is providing the multi-purpose Vehicle-to-Infrastructure (V2I) roadside application platform that is the foundation to enable a variety of Connected Vehicle applications:

- Travel time and speed data collection, management and Performance Measures analytics
- Intelligent Signal Timing applications
- Transit/Freight Signal Priority and mobility efficiency
- Emergency Vehicle Priority and Preemption
- Pedestrian & Bicycle mobility and safety

BlueARGUS is now optimized for travel-time and V2X data visualization, using discoverable (unpaired) and non-discoverable (paired) Bluetooth detection along with Basic Safety Message (BSM) data aggregation and management. By implementing this integrated safety and mobility traffic monitoring system, city traffic departments, county, state, MPO's and engineering service providers can now realize ROI on day one for their adoption of Connected Vehicle initiatives.

The Iteris Connected Vehicle platform, enabled for today's safety and mobility monitoring systems.

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Specifications

BLUETOAD SPECTRA CV (DSRC/C-V2X) RSU

(Bluetooth - 2.4 GHz, Dedicated Short Range Communications and Cellular Vehicle to Everything - 5.9 GHz)

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|--|---|
| Standards Compliance | DSRC Roadside Unit (RSU) Specifications Version 4.1 2016 SAE-J2735 specifications and SAE-J2945/1 IEEE 802.11p, 1609.3 (WSMP), 1609.4, 802.3at Standards IEEE 1609.2, Draft ETSI EN 302 571 and 3GPP, Release 14/15 for C-V2X |
| V2X Security | NIST/Brainpool ECC up to 384b V2X-embedded HSM (Hardware Security Module) storage to 500+ keys |
| C-V2X | C-V2X Qualcomm® QC 9150 Chipset 3GPP Release 14/15 C-V2X PC5 (5G Upgradeable) |
| Power Specifications | Operating Voltage: 37-57 VDC Power over Ethernet (PoE) - 110/220 VAC supply to injector |
| Operating Range | -34 degrees C (-30 degrees F) to +74 degrees C (+165 degrees F) |
| Processor | ARMv9 32-bit Co-Processor NXP i.MX6 Processor 2GB DDR Memory 4GB Flash Onboard Storage 8GB Removable microSD Card Linux Yocto V4.14 Operating System |
| Interface Options | PoE - Ethernet 10 BASE-T / 100 BASE-T Static or DHCP IP Addressing IPv6, IPv4 Dual antenna supports two modes: 1. Single-channel mode (2 antenna diversity operation) 2. Dual-channel mode (1 antenna per channel), 2 independent IEEE 802.11p radios operating on different radio channels. IEEE 802.11p Class C (5 GHz band) 2.4 GHz Bluetooth Demodulator |
| Bluetooth Radio (adjustable) Transmit Power Range: | -90 dBm to +20 dBm miniPCIe slot for optional LTE cellular radio interface 100% to 10% power attenuation settings in 10% decrements |
| Antennae | 2 - 2 dBi Omni (Bluetooth Discoverable and Non-Discoverable Detector) 2 - 8 dBi (5 GHz DSRC/C-V2X antennas) Dual-Channel 5.x GHz RF paths (5.18 GHz to 5.93 GHz) LNA active GNSS (GPS) |
| Enclosure | Aluminum Die-Cast Enclosure Dimensions: 10.7" x 9.7" x 3.5" Weight: < 10 lbs. |