# BlueTOAD® CV

(DSRC/C-V2X Roadside Unit)

## Combine traveler information with vehicle-to-infrastructure data

Delivers integrated traveler information 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

## Traffic signal priority and pre-emption

More than just delivering integrated traveler information and Connected Vehicle (CV) data, Iteris' RSU solution (5.9 GHz wireless and BlueARGUS™) provides the foundation for managing a full suite of V2X applications, including signal priority and preemption. The DSRC/C-V2X standard Signal Request Messaging (SRM) and Traveler Information Message (TIM) processing available in the Iteris RSU provides for the ability to implement dedicated applications to manage simultaneous priority requests to deliver the complete range of V2X signal priority, preemption and personal mobile applications, including:

- Intelligent Signal Timing applications
- Emergency Vehicle Preemption
- Transit, public works or freight vehicle Signal Priority and mobility efficiency applications
- Pedestrian & Bicycle mobility and safety

## TravelSmart mobile app

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



With the TravelSmart mobil app you get:

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

## iteris®

## Delivering new levels of roadside sensor capabilities

Iteris has combined two wireless technologies – Dedicated Short Range Communications (DSRC) and Cellular Vehicle to Everything (C-V2X) 5.9 GHz technology – into one RSU. BlueTOAD CV combines DSRC and C-V2X, providing the essential V2X interconnectivity for safety and mobility applications in Connected Vehicle (CV) initiatives.

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, enabling a variety of Connected Vehicle applications:

• Vehicle BSM and CV data collection, management and Performance Measures analytics shared with Intelligent Signal Timing applications

BlueARGUS is now optimized for travel-time and V2X data visualization, using 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 RSU serves as the platform to manage and visualize the complete range of V2X applications, and the primary information source for personal mobile applications.

## Specifications

### BLUETOAD DSRC/C-V2X RSU

| | |
|---|---|
| Standards Compliance | DSRC Roadside Unit (RSU) Specifications Version 4.1<br>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 |
| Power Specifications | Operating Voltage: 37-57 VDC |
| | Power over Ethernet (PoE)<br>- 110/220 VAC supply to injector |
| Operating Range | -34° C (-30° F) to +74°C (+165° F) |
| Processor | ARMv9 32-bit Co-Processor |
| | NXP i.MX6 Processor |
| | 2GB DDR Memory |
| | 4GB Flash Onboard Storage |
| | 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) |
| Antennae | 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"<br>Weight: < 10 lbs. |

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