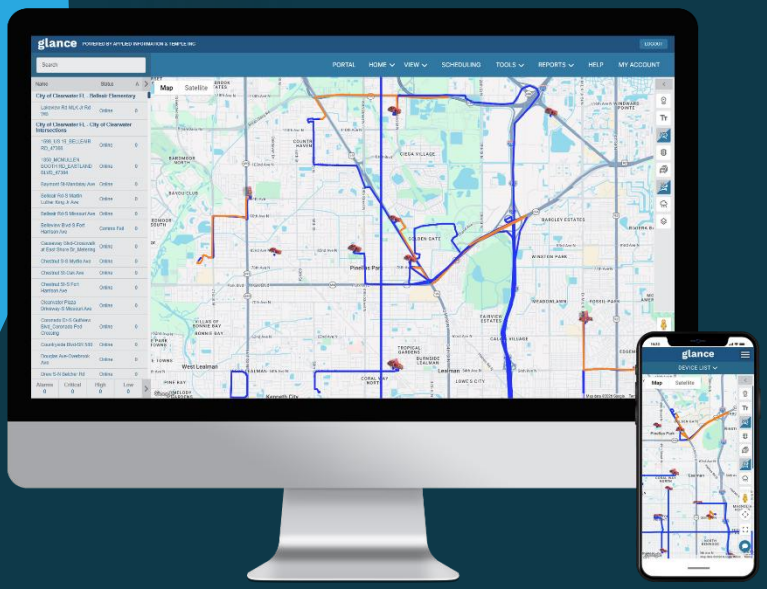



APPLIED INFORMATION




# AI-500-065-02

## C-V2X Enabled On Board Unit (OBU)

## OVERVIEW

The AI-500-065-02 C-V2X OBU is a connected vehicle device designed to support Emergency Vehicle Preemption (EVP) and Transit Signal Priority (TSP) applications using CV technology. The unit enables consistent and reliable priority request generation through a multi-radio communications platform that combines C-V2X Direct (5.9 GHz), cellular connectivity, and 900 MHz radio technologies to support robust communications across redundant pathways.

Using C-V2X Direct communications, the AI-500-065-02 exchanges low-latency safety and priority messages with C-V2X Roadside Units (RSUs) at signalized intersections. This enables equipped vehicles to issue priority or pre-emption requests in real time, supporting reduced emergency response times, improved transit schedule adherence, and enhanced safety for school transportation operations. The OBU operates within standards-based connected vehicle environments and is interoperable with C-V2X RSUs from multiple manufacturers, allowing agencies to deploy infrastructure without vendor lock-in.

In addition to its primary C-V2X Direct communication capability, the AI-500-065-02 incorporates cellular connectivity and a 900 MHz radio to support redundancy and extended coverage. This architecture provides multiple communication paths, ensuring reliable priority request delivery across a range of roadway and network conditions. The device integrates with Applied Information's Glance® platform for centralized fleet monitoring, device management, and system performance visibility.

The OBU can be deployed as part of an onboard priority solution where higher location accuracy or lower latency is required. While the unit can interface with the TravelSafely™ mobile application for testing and demonstration purposes, typical deployments operate without driver interaction and are installed as embedded vehicle equipment for automated pre-emption and priority operations.

## FEATURES & BENEFITS

- Multi-radio communications platform
- Enhanced GPS with dead reckoning
- Interoperable C-V2X communications
- Fleet monitoring via Glance Platform
- Preemption and priority solution
- Seamless infrastructure integration
- Real-time vehicle monitoring
- Future-ready connected vehicle deployments

## HARDWARE SPECIFICATION

| AI-500-065-02 | |
|---|---|
| **Connectivity** | |
| Cell Modem | Yes |
| 900 MHz Radio | Yes |
| 5.9 GHz Radio | Yes |
| Bluetooth | Yes |
| C-V2X Direct Enabled | Yes |
| Enhanced GPS with Dead Reckoning | Yes |
| Ethernet Port (10/100 Base-T) | Yes |

| **I/O** | |
|---|---|
| Digital Outputs | 2 |
| Digital Inputs | 7 |
| USB Port | 1 |

| **Miscellaneous** | |
|---|---|
| Operating Systems | Linux |
| Operating Temperature | -40°C to 80°C |
| Humidity | 5–95% non-condensing |
| Dimensions | 5.5"L x 8.5"W x 3.5"H |
| Input Voltage | 10–30 V DC |
| Power Consumption (Avg.) | 3.75 W |
| In Service Light | Yes |
| Battery Backed Memory | Yes |

| **Suitable for** | |
|---|---|
| C-V2X Applications | Yes |
| EVP | Yes |
| TSP | Yes |
| School Bus Safety Applications | Yes |

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