



# Unex IMA-EEBL Demo Kit Setup Guide

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## Safety Warnings

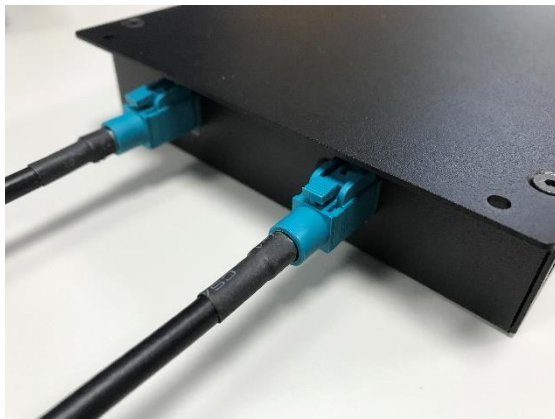
1. The demo should be done in a safe site to avoid accidents with other vehicles or pedestrians
2. The applications described in this document are designed for demonstration purpose only. The driver(s) should still hold full responsibility for the safety of property, equipment, passengers, pedestrians, driver himself/herself, and all parties involved in the action of demonstration.

## Demonstration Prerequisites

1. One OBU and mobile device pair should be installed in a demo car.
2. 2 demo cars are needed for an IMA or EEBL live demonstration.
3. The demo should be conducted on open ground free of obstructions like buildings or trees to maximize communication range.

## OBU Setup

1. Mount the OBU-201 inside the cabin of the test vehicle securely.
2. Connect both DSRC antenna cables to the OBU-201.



3. Connect the GPS antenna cable to the OBU-201.





4. Mount the DSRC and GPS antennas on the car roof as illustrated.



5. Connect OBU-201 with RS232-Bluetooth adapter (EX-23). Make sure the null modem (orange DE9 adapter) is added between OBU-201 and EX-23.



6. Connect the EX-23 power cable to a power source.
7. Connect OBU-201 power adapter and plug the adapter into a 100-240V AC power source. In case the AC power outlet is not available in the demo car, a portable AC outlet battery pack is suggested.
8. The OBU-201 is configured to perform IMA/EEBL function upon boot-up.

## APP Requirement

1. APK: unex\_v2x.apk
2. OS: Android 4.0 or later

## Installation of APK

1. User may need to check with mobile device vendor for instructions of installing an APK file. Usually it can be done with the android built-in app File Manager: use File Manager to locate the APK file, and then tap to install it.
2. The “**Unex iRoadSafe**” icon will appear on the app list.

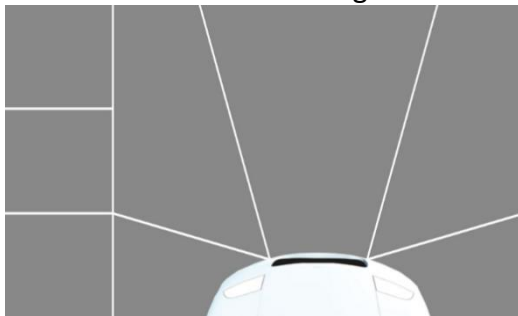
## Connecting OBU with Bluetooth

1. Turn on Bluetooth on your mobile devices.
2. Connect to “**Hotlife**” with password “**0000**”. Note that one mobile device should be paired with only one OBU.
3. Turn on the app after OBU is turned on.

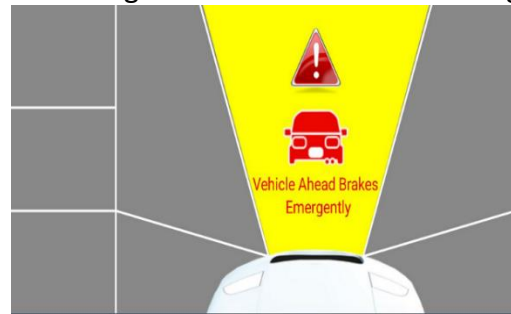


## GUI on Mobile Device

APP Home Page



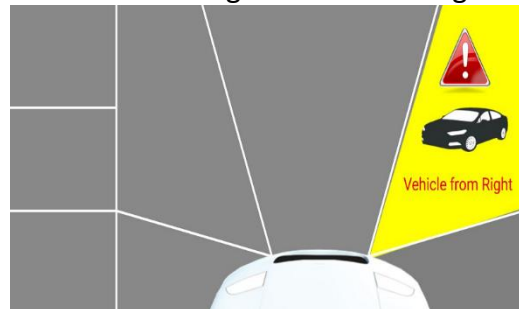
EEBL Warning: Vehicle Ahead Brakes Emergently



IMA Warning: Vehicle from Left

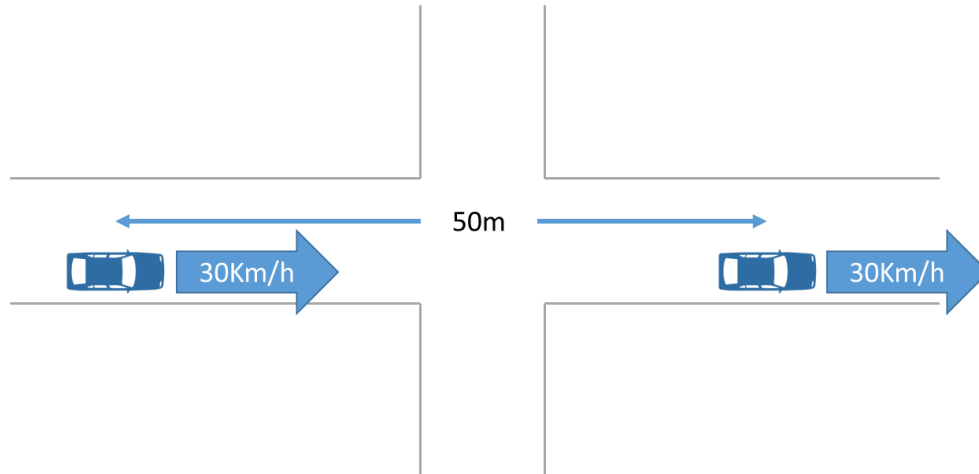


IMA Warning: Vehicle from Right



## EEBL Demonstration Steps

1. Park the 2 demo cars 50m away, in the same direction.
2. The 2 cars start at the same time and maintain 30km/hr speed.
3. The driver in the front car hits the brake **very hard** to simulate emergency braking.
4. The mobile device in the rear car will show EEBL warning.
5. If the rear car is not moving, the EEBL will not be triggered.
6. Rear car should brake immediately once the warning is triggered to avoid accident.
7. Trigger area: front 300m, 20 degree wide.

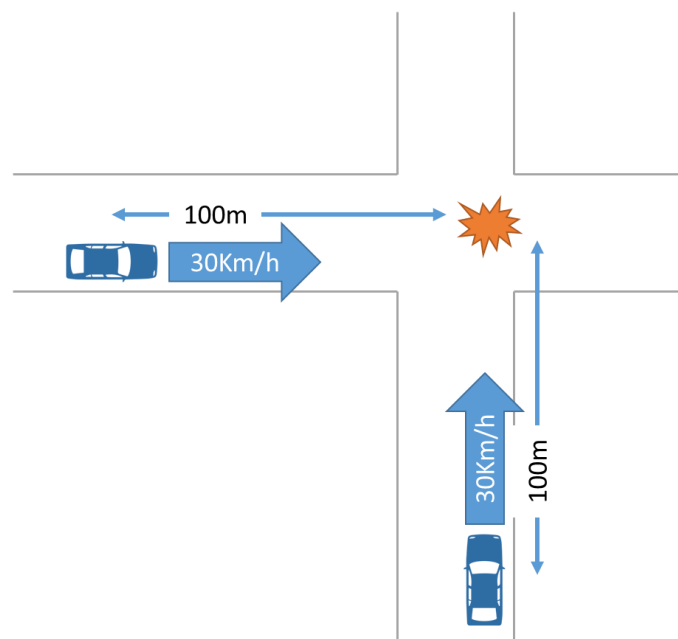


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### IMA Demonstration Steps

1. Park the 2 demo cars 100m away from a perpendicular intersection, both heading the intersection.
2. The 2 cars start at the same time and maintain 30km/hr speed, aiming to reach the intersection at the same time.
3. 5 seconds before reaching the intersection, mobile devices in both cars will show IMA warning.
4. Both car should brake immediately once the warning is triggered to avoid accident.
5. Trigger area: left and right 300m, 20 degree wide.



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