

PRELIMINARY

TS3306

On-Board Units.



The TS3306 on-board unit is a lightweight and compact model in the PREMID® TS3300 series of on-board units, designed for applications serving commercial vehicle operations and road tolling markets as well as for the USDOT's Connected Vehicle Safety Pilot program.

The TS3306 designed for the 5.9 GHz Dedicated Short Range Communication (DSRC). It supports both vehicle-to-vehicle and vehicle-to-roadside communications.

The TS3306 features:

Ease of installation. Attach to the front windshield like a toll tag, connect to the vehicle power and it is ready to go in minutes. An optional mounting bracket can be used to detect device removal by a user.

User interface at hand. LEDs and a built-in buzzer inform about its status. A push button can enable self declaration of vehicle passengers for HOT-lanes. Additionally, TS3306 on-board unit can link to a smartphone or a PDA via a Bluetooth wireless link. Road signage, traveler advisories, toll transactions can be displayed by an application running on the user devices.

Open Standards. TS3306 implements WAVE standards including IEEE 802.11p, IEEE1609 (IEEE 1609.2, IEEE 1609.3, IEEE 1609.4, IEEE 1609.11) and SAE J2735.

Data Security. The on-board unit supports over-the-air security including encrypted and digitally signed messages. The 128-bit Advanced Encryption Standard (AES) security and the elliptic-curve cryptography specified in the IEEE 1609.2 standard are implemented.

GPS positioning. The built-in GPS receiver makes the device aware of its own location. Traffic information and road signage can now be displayed where it is most convenient and relevant for a user. Additionally, TS3306 supports infrastructure-supported localization technology.

Flexible interfaces. Besides Bluetooth, the TS3306 also supports USB and an optional CAN vehicle interface which expand device versatility.



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TS3306 is being tested in several field and pilot tests. It is also targeted toward the US DOT Qualified Product Listing for the US DOT Connected Vehicle Safety Pilot.



Target 5.9GHz DSRC Applications:

- Commercial vehicle inspection
- Electronic toll collection
- HOT lanes
- Electronic Payment & Access control
- Transit Signal Priority
- Traveler Information (SAE J2735 formats)
- Signal Phase & Timing (SAE J2735, CAMP formats)
- Applications for the USDOT Safety Pilot
 - Curve Speed Warning
 - Cooperative Intersection Collision Avoidance System – Violations
 - Vehicle Awareness Device application (Basic Safety Messages)
 - Vehicle safety advisories (Basic Safety Messages)

Features

- Compatible with IEEE 802.11p and 1609.3, .4 and .11 specifications
- AES 128 bit authentication and 1609.2 security
- Bluetooth interface to laptop or smartphone
- Built-in GPS receiver
- User feedback and self-declaration capabilities

Technical Features

WAVE communication

- IEEE 802.11p
- IEEE 1609.3, .4 and .11

Power Supply

- 12 / 24 V DC vehicle power supply

Security

- AES-128 bit security, 1609.2 security

MMI

- Buzzer >55 dBA @ 1 m
- Configurable buzzer tunes
- LEDs
- Button

Casing

- Two-toned color PC/ABS

Dimensions

- 3.15 in. x 2.36 in. x 1.18 in.

Weight

- 2.82 oz

Interfaces

- Internal DSRC and GPS antennas
- Optional external DSRC Antenna
- Bluetooth
- MicroSD card
- USB interface

Accessories

- Mounting bracket

Temperature range, storage

- -40° - +85°
(IEC 60721-2-1)

Temperature range, operating

- -40° - +85°
(IEC 60721-2-1, including solar radiation)

Humidity

- Max 95% rel humidity, non condensing
(IEC 60721-3-5, Class 5K2)

Communication

- Built-in GPS receiver



Kapsch Group

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