

# OBU615F DSRC TRANSPONDER

LOW-POWER, FUTURE-PROOF ON-BOARD UNIT WITH RF IMMUNITY



## OVERVIEW

The Q-Free OBU615F is a compact, on-board unit (OBU) that blends unobtrusively into a vehicle's interior and supports a wide variety of applications, including:

- Electronic tolling
- Congestion charging
- Automatic vehicle Identification (AVI)
- Electronic registration identification (ERI)
- Access control and parking

The OBU615F is small and light weight, enabling low-cost postal distribution to end users. Easily mount and remove the OBU from the windshield using a slide-in bracket that also serves as a removal detector. The OBU615F features a total of four beep patterns to alert drivers with the option for custom specific beep signals.

The latest technology ensures the lowest possible current draw while supporting the fastest DSRC processing on the market while integrated signal discrimination enables unprecedented battery life and immunity to radio frequency (RF) sources.

Combining more than twenty years of experience, proven technology, and current state-of-the-art design, it supports all 5.8 GHz CEN DSRC protocols.

## BENEFITS

- Immune to radio frequency interference from the Wi-Fi enabled devices found in or around the vehicle as well as LTE networks
- Utilize low-power technology with ultra fast, state-of-the-art DSRC processing
- Blend unobtrusively into the interior of any vehicle
- Mount and remove OBU with ease to the windshield using a slide-in bracket
- Customize top and bottom surfaces of OBU with a branded private label that is applied in production



ULTR-FAST  
DSRC  
PROCESSING



RF IMMUNITY TO  
WI-FI AND LTE  
SOURCES

## OPERATIONAL FEATURES

- Removal detection: OBU detects removal from or insertion into bracket
- Activation: Insert the OBU in its bracket to activate
- Transport mode: Prevent use of battery before installation
- Eco-friendly: No need for additional radio frequency shielding packaging material during transport
- Bracket activation mode where the OBU is operating only when inserted into the bracket (optional)

## MULTI-APPLICATION SUPPORT

- EN15509/SmartDSRC/PISTA/TIS/ST1-Chile/GSS/A1/OGS
- Large application memory with up to six EN15509 applications
- Uses the DSRC RF interface to personalize OBU
- Same personalization process as OBU610
- Supports:
  - Multiple and custom applications (elements)
  - Secure personalization and adding of new applications and data content
  - Several personalization and key distribution schemes
  - Both EN13372 set A and B enabling universal DSRC compliance

## STANDARDS

CEN TC728:	EN13372 EN 12253 physical layer EN 12795 datalink layer EN 12834 application layer
Safety:	EN 60950-1
Environmental:	IEC 60721-3-5 Class 5K3 / 5K4H / 5B1 / 5C1 / 5S1 / 5F1 / 5M3
Applications:	ISO 14906/EN15509 EFC ISO 17264/EN16312 ERI AS 4962-2005 ETC
EU directive compliance:	RED 2014/53/EC RoHS 2011/65/EU WEEE 2012/19/EU

## LIFETIME & FUTURE-PROOF TECHNOLOGY

The OBU615F boasts a long lifetime with intelligent signal discrimination - making it a future proof technology:

- Standard version has a seven-year lifespan
- Future-proof OBU technology with RF immunity from all Wi-Fi sources found in or around the vehicle
- No compromise on performance with ultra-fast DSRC processing

## TECHNICAL SPECIFICATIONS

Operating frequency:	5.8 GHz CF
Downlink bit rate:	500kbps
Uplink bit rate:	250kbps
Sub-carrier frequencies:	1.5 MHz (profile 0) 2.0 MHz (profile 1)
RTTT profiles:	EN 13372 sets A and B
Maximum communication range:	≤ 10m
Maximum radiated power:	-21.4 dBm (EIRP)
Power supply:	Single battery coin cell
Battery life time (MTBF):	> 7 years
Transaction capacity:	Class A2 ref ISO 14815
Environmental conditions:	Class H1 ref ISO 14815
IP grade:	IP40
Buzzer sound level:	> 55 dBA @ 1m
Operating temperature:	-40°C to +85°C
Storage temperature:	-40°C to +40°C
Dimensions (HWD):	With Bracket: 69 x 40 x 19 mm Without Bracket: 69 x 40 x 20 mm
Weight:	30 g



Example OBU615F units