

RSE651 DSRC TRANSCEIVER

VERSATILE, HIGH PERFORMING DSRC TRANSCEIVER



OVERVIEW

The Q-Free RSE651 is the modern workhorse of DSRC transceivers. It is high-performing and the smallest and lightest transceiver available on the market.

With accurate positioning technology including virtual lobe functionality, the RSE651 is truly versatile and can be used for a variety of CEN DSRC compliant applications, such as:

- Electronic tolling – especially multi-lane free flow (MLFF) operations due to synchronization and highly accurate Q-Point positioning
- Congestion charging
- Electronic registration identification
- Digital Tachograph verification
- Access control and parking

Save money, time, and trouble during configuration, installation, and operation with Power over Ethernet (POE) and single cable installation.

The Q-Free RSE651 also features high-performance and storage capacity and supports high-speed read and write to all CEN DSRC on-board units (OBUs).

BENEFITS

- Utilize in CEN DSRC compliant applications
- Verify active status with multi-color LED human-machine interface (HMI)
- Save money, time, and trouble during configuration, installation, and operation
- Mount on a gantry over the lane or on a roadside pole
- Support a wide variety of tolling, parking, and access control applications



DURABLE,
LIGHTWEIGHT
TRANSCEIVER



COST EFFECTIVE,
MULTIPURPOSE
SOLUTION

INDUSTRY-LEADING FEATURES

The Q-Free RSE651 is a flexible product that features:

- Multi-lane/single-lane configuration
- Transparent/stand-alone software
- Built-in security hardware with high-speed Message Authentication Code (MAC) calculation
- Easy configuration of transceiver parameters to avoid cross-talk between neighbouring lanes

FUTURE-PROOF AND BACKWARD COMPATIBLE

- Backwards compatible with RSE650
- Compatible with any CEN DSRC compliant OBU
- Supports high speed read and write to all CEN DSRC OBU's
- Can be remotely upgraded to support future applications
- Built-in Web interface for easy management

PERFORMANCE AND RELIABILITY

- High processing capacity – short transaction times
- Low-power technology
- Compact design
- Reduced maintenance (no battery, no fan)
- Short replacement time
- Only one cable in single lane installation (POE)

QPOINT POSITIONING TECHNOLOGY

Q-Free's QPoint Positioning Technology measures position in x/y coordinates of OBU with centimeter precision, which enables:

- Accurate positioning/tracking of OBU's in multilane applications
- Virtual communication zones for single lane applications
- Vehicle speed indication



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Product specifications may change at any time without notice and may not be available in all markets.
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TECHNICAL SPECIFICATIONS

Max vehicle speed:	>200 km/h
Operating frequency:	5.7975, 5.8025, 5.8075 and 5.8125 GHz
Typical communication zone:	3.5 x 6 m (W x L) @ 6m height 45° installation angle
Downlink bit rate:	500 kbps
Uplink bit rate:	250 kbps
Sub carrier frequencies:	1.5 MHz (profile 0) 2.0 MHz (profile 1)
Receiver sensitivity:	Better than Class 3 (EN 300 674)
Antenna polarization:	Left hand circular
Radiated power (EIRP):	Max 33 dBm, (SW Adjustable)
Ethernet:	1000BASE-T, 100BASE-TX, 10BASE-T
Power supply:	PoE, IEEE 802.3at Type 1 Class 3
Power consumption:	Max 12 Watts
Connectors:	M12 (IEC61076-2-101)
Temperature:	-33°C to +55°C (-27°F to +131°F)
IP rating:	IP65
MTBF:	>100,000 hours
CEN TC278 DSRC:	EN 13372 EN 12253 Physical Layer EN 12795 Data Link Layer EN 12834 Application Layer EN 300 674
Safety:	EN 60950-1
Equipment for outdoor installation:	EN 60950-22
Applications:	ISO 14906 / EN 15509 EFC / ISO 17264 / EN 16312 ERI
Human exposure:	EN62232
RoHS:	2011/65/EU
WEEE:	2012/19/EU
Dimensions:	310 x 170 x 60 mm
Weight:	2 kg

