

Q-FREE RSE650 DSRC TRANSCEIVER

- Smallest DSRC transceiver on the market
- Remote status monitoring and upgrade of transceiver
- 50 % reduction in power consumption



OVERVIEW

The Q-Free RSE650 DSRC Transceiver is the smallest and most energy efficient CEN DSRC antenna on the market. The same hardware supports several different applications such as: ETC (Electronic Toll Collection), ERI (Electronic Registration Identification), Access Control and Parking.

The RSE650 can be connected directly to a TPC (Toll Plaza Computer), an LC (Lane Controller), or to a standard Ethernet LAN/WAN switch for remote access. The RSE650 is typically mounted either on a gantry

over the lane, hanging from a toll plaza overhead structure, or mounted on a roadside pole. A specially designed mounting bracket for flexible mounting and positioning is available.

The RSE650 has a robust and reliable design in duty aluminium and ABS plastic. While still only weighing only 3 kg it provides easy installation and is designed to operate 24/7 under tough environmental conditions such as heat, rain, cold and dust.





BENEFITS

One Flexible Product

- 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

Reliable

- No moving parts
- Time to replace less than ten minutes
- Only one cable per transceiver needed for installation (Power over Ethernet (PoE) technology)

Small Size

- 3 kg
- 310 mm x 170 mm x 70 mm

Future Proof and Backward Compatible

- Compatible with any CEN DSRC compliant OBU (On-Board Unit)
- Supports high speed reading and writing to all CEN DSRC OBU's
- The transceiver can be remotely upgraded to support future applications
- Built in Web interface for remote management

QPoint Positioning Technology

- Measures position of OBU with centimetre precision in horizontal and vertical directions
- Enables accurate positioning of OBU's in all vehicles and motorbikes
- Enables virtual tolling zones for single lane applications

TECHNICAL SPECIFICATION

Max vehicle speed:	> 200 km/h	Receiver sensitivity:	Better than -103 dBm (BER<10 ⁻⁶)
Operating frequency:	5.7975, 5.8025, 5.8075 and 5.8125 GHz	Antenna polarization:	Left hand circular
Typical communication zone:	3 m x 4 m (W x L) @ 6m height, 45 degree installation angle	Radiated power (EIRP):	33 dBm, 2Watt max (SW Adjustable)
Downlink bit rate:	500 kbps	Network for data communication:	Ethernet 100 BaseTX
Uplink bit rate:	250 kbps	Power supply:	Power over Ethernet
Sub carrier frequencies:	1.5 MHz (profile 0) and 2.0 MHz (profile 1)	Power consumption:	~ 12 Watts
RTTT profiles:	EN13372 Set A and Set B	Connectors:	Snap on, no tools required
Standards:		Operating temperature:	-33 °C to +55 °C
CEN TC278 DSRC	EN 13372	IP grade:	IP65
	EN 12253 Physical Layer	Tested for wind speeds up to:	100 km/h
	EN 12795 Data Link Layer	Classification of environmental parameters:	IEC 60721-3-4 Class G1 (parameters 4K4/4K2a/4Z5/4M6/4Z8/4S3/4Z10/4B1/4C2)
	EN 12834 Application Layer	MTBF:	> 50 000 hours
Safety	EN 60950-1		
Applications	ISO 14906/EN 15509 EFC ISO 17264/EN 16312 ERI		



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