

# ES443

## 1. General Description

ES443 is a 4G (Cat.1) OBDII GPS Tracker. It supports following communication protocols: SAE J1850 PWM, SAE J1850 VPW, ISO9141-2, ISO14230-4 (KWP2000) and ISO 15765-4. ES443 can read BLE sensors (tire pressure sensor) via its embedded BLE module. It can read vehicle information such as VIN, RPM, odometer, fuel level, engine oil and coolant temperatures etc.



## 2. Main Functions

- **Tracking:** Send GPS information to server with configurable report interval
- **Report BLE sensor:** Read and report data from BLE sensors (e.g. tire pressure sensor)
- **Bluetooth-positioning:** It can broadcast BLE ID and/or scan BLE tags for positioning purpose
- **Driving Behavior Detection:** Report harsh braking, harsh acceleration and impact
- **Intelligent Engine On/Off Detection:** Detect engine on/off via OBD or proprietary detecting method by vibration
- **Trip Start and Trip End Detection:** Report trip start and trip end
- **Mileage Report:** Report mileage for reimbursement purpose
- **Tamper Alert:** Send messages if the power supply is disconnected
- **Over Speed Limit Alert:** Report over speed limit
- **CAN, K-Line, J-Line communication:** Read VIN, RPM and many other standard vehicle parameters
- **Power Saving Mode:** Device automatically switch to low-power mode when it detects engine is OFF
- **Storing Message:** The device stores up to 100 messages if out of coverage and send the stored messages once the device regains coverage
- **Geo-fence:** It supports circle and polygon setting
- **OTA (Over the Air):** Firmware can be remotely upgraded

## 3. Specification

### Physical and Electrical

Dimensions: 50.6mm \*49mm \*26mm

Weight: 47g

Battery Capacity: 110mAh

Supply Voltage: 6VDC ~ 42VDC

Power Consumption:

-Active mode:< 45mA @12VDC

-Sleep mode:< 10mA @12VDC

Operation temperature: -20°C to +65°C

Storage temperature: -40°C to +85°C

LTE Module: Quectel EG915NEA

Antenna: Built-in Cellular, BLE and GPS

Sim Card: Micro SIM(3FF)

LED Indicators: 3 for GPS, cellular  
and charging status

### Comprehensive IOs

J Line: J1850 PWM VPW

K Line: ISO9141, ISO14230 (KWP2000)

CAN-BUS: ISO15765 (11/29Bit 250/500K)

### GPS specification

Sensitivity Tracking: -162dBm

Position Accuracy (CEP 50): <2.5m

### Cellular Communication

CAT.1:

LTE FDD: B1/B3/B7/B8/B20/B28

GSM: B3/B8

### Protocol

HTTP/TCP/UDP/SMS//MQTT