LoRaWAN GPS Tracker for Truck

Description

The ETS IoT LoRaWAN GPS Tracker is an open source GPS tracker base on Ultra Low Power STM32L072 MCU and SX1276/1278 LoRa Module.

ETS IoT LoRaWAN GPS Tracker includes a low power GPS module L70 and 9-axis accelerometer for motion and attitude detection. The power for both of the GPS module and accelerometer can be controlled by MCU to achieve the best energy profile for different applications.

The LoRa wireless technology used in ETS IoT LoRaWAN GPS Tracker allows the user to send data and reach extremely long ranges at low data-rates. It provides ultra-long range spread spectrum communication and high interference immunity whilst minimizing current consumption. It targets professional tracking service.

ETS IoT LoRaWAN GPS Tracker is powered directly from Truck Battery circuit, which target for real time tracking with short tracking uplink.

ETS IoT LoRaWAN GPS Tracker is an open source product, it is based on the STM32Cube HAL drivers and lots of libraries can be found in ST site for rapid development.

Features

- LoRaWAN 1.0.3 compliant
- Regular/ Real-time GPS tracking
- Built-in 9 axis accelerometer
- Motion sensing capability
- 12 – 24 V Input
- Tri-color LED
- SOS/Alarm button
- Bands: IN865

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Specification
System
- MCU: STM32L072CZT6
- Flash:192KB
- RAM:20KB
- EEPROM:6KB

GPS,L70R
- Acquisition: 16mA
- Tracking: 13mA
- Cold Start: <35s
- 8uA@Backup Mode
- Warm Start: <30s
- Accuracy: < 2.5m CEP
- ReHot Start: <1s

Accelerometer
- MPU9250 9-axis
- triple-axis MEMS gyroscope
- triple-axis MEMS accelerometer
- triple-axis MEMS magnetometer
- 3.5mA operating current

Power Consumption
- Sleeping Mode: 77uA
- Tracking: max: 38mA
- LoRa Transmit: 24 ~ 150mA