ST4915

Tracking Device

ST Sunlab Ltd.

Asset Tracker with longer battery lifetime

The ST4915 is a multi-purpose tracking device useful for varied applications such as trailer or container management, vehicle/motorcycle tracking or any kind of valuable asset tracking. The ST4915 supports 4G LTE M1 networks and has a water resistant (IP67 compliant) rugged, hard-case. Designed to minimize power consumption efficiently, the device incorporates a large battery suitable for longer-term usage.

Key Features

- Network: LTE Cat. M1/NB-IoT
- Extremely Low Power Consumption
- Low Battery Alert
- Built-in 3-axis accelerometer
- WI-FI - B/G/N Support 2.4GHz only
- BLE - 2.4Ghz Support.
- 2G Quad band- Only use fallback
- GNSS- GPS, GLONASS, SBAS Engine, AGPS
- Maintenance Server Supported (Optional)
- Firmware upgradeable remotely (OTA)
- Waterproof compliant: IP67 (without humidity sensor), IP65 (with humidity sensor)

GENERAL SPECIFICATION

Frequency	**LTE Cat M1 : B2, B4, B12, B66** **LTE Cat NB2 : B2, B4, B66, B85**
Power	Class 5 (21dBm+1.7/-3.0dBm) for LTE-FDD / LTE-TDD bands Class 4 (33dBm±2dB) for GSM850 / EGSM900 Class 1 (30dBm±2dB) for DCS1800 / PCS1900
Battery	Battery: 3.6V, 57Ah Primary Battery
Motion sensor	Built-in 3-axis accelerometer
WiFi Network	WI-FI B/G/N Support 2.4GHz only
BLE	2.4Ghz Support.
Power Consumption	Active mode : 40~60mA Deep sleep mode : less than 10uA (without sensors and GPS_BackUp off) Deep sleep mode : less than 45uA (GPS_Backup on)
Dust and water Resistant	IP67 (without humidity sensor)
Temperature Range	-30°C ~ +85°C
LED Indicator	LTE Network Status, GPS Status, POWER
Packet Switched data rate	LTE Cat M1 DL : Max 588 kbps / UL : Max 1119 kbps
PC Sync Track	USB cable
Dimension	62(W) × 258(L) ×61(T) mm
Weight	714g
Approval	CE, FCC, IC, PTCRB

GPS RECEIVER SPECIFICATION

Receiver Type	GPS + GLONASS concurrent
	GPS L1 C/A, QZSS L1 C/A/S, GLONASS L10F
	BeiDou B1I/B1C, Galileo E1B/C
	SBAS : WAAS, EGNOS, MASA, GAGAN
	AGPS (Optional)
Update Rate	18Hz (Single GNSS)
	5Hz (4 Concurrent GNSS)
Accuracy[1]	Position 1.5m CEP
Acquisition [2]	Cold starts <24s
	Aided start <2s
	Hot start <1s
Sensitivity [3]	Tracking -167dBm
	Reacquisition -161dBm
	Acquisition -149dBm
Antenna type	Patch Antenna

*1) All SV @ −130 dBm

*2) It depends on aiding data connection speed and latency

*3) The 3 figures were measured with a good active antenna.

AVAILABLE OPERATION / FEATURES

Configuration	either by 4G, SMS or PC
Parameter Change	either by 4G, SMS or PC
Command /Control	either by 4G, or SMS
Reporting	either by SMS (as a back up)
4G/GPRS Communication	TCP/UDP
4G/GPRS Connection	either always connected or upon needed
WI-FI	Support WPS(WI-FI positioning system)
BLE	Support the data reporting of external temperature by BLE
Basic Data reported	NMEA location, GPS signal status, Message No, Speed
Data Storage	up to 2,000 locations, in case of transmission failure or cost issue

Reports	Possible to send location report periodically and be adjusted the interval within a limited range
Report Back up	possible (IP address for backup server or Backup SMS reporting)
Power down	Deep sleep (less than 15uA): GPS_Backup Off Deep sleep (less than 45uA): GPS_Backup ON
Firmware Upgrade	by OTA (Over The Air) or pc tool.

INSTALLATION, CONFIGURATION AND PROTOCOL

Most important point is to install the unit horizontally in order to have the top cover to see the sky
For the details of product handlings / installations, please refer to the attached pictures.

Note 1 : *Do not take out SIM card when the power line is connected.*
Before taking out SIM card, disconnect power line first.
Note 2 : *Configuration or Parameter setting should be done before installation.*

Configuration :   Refer to separate document and software tool for configuration.
Protocol : Refer to separate document for the standard protocol

FCC Part 15.19
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
FCC Part 15.21
Any changes or modifications (including the antennas) to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.