VizComm View TempTale GEO Eagle 3G

Real Time Tracking Temperature Monitor

User Manual
Rev.0

Rev No	Revision Details	By	Date
0	New Release	Eunice Law	12-Jan-2018

Operating Description

Temp Tale GEO Eagle 3G (Global) is real-time tracking device to monitor health of perishable goods product during transit period inside container truck or sea onboard ocean containers. The tracking device reports remotely its temperature history and location information in periodic intervals to a remote server.

The device are consist of temperature sensor, light sensor, status LED's, 2push button switches, battery level sensor, non-volatile storage EEPROM memory and 3G/2G modem module for internet connectivity to transmit data (no voice application required).
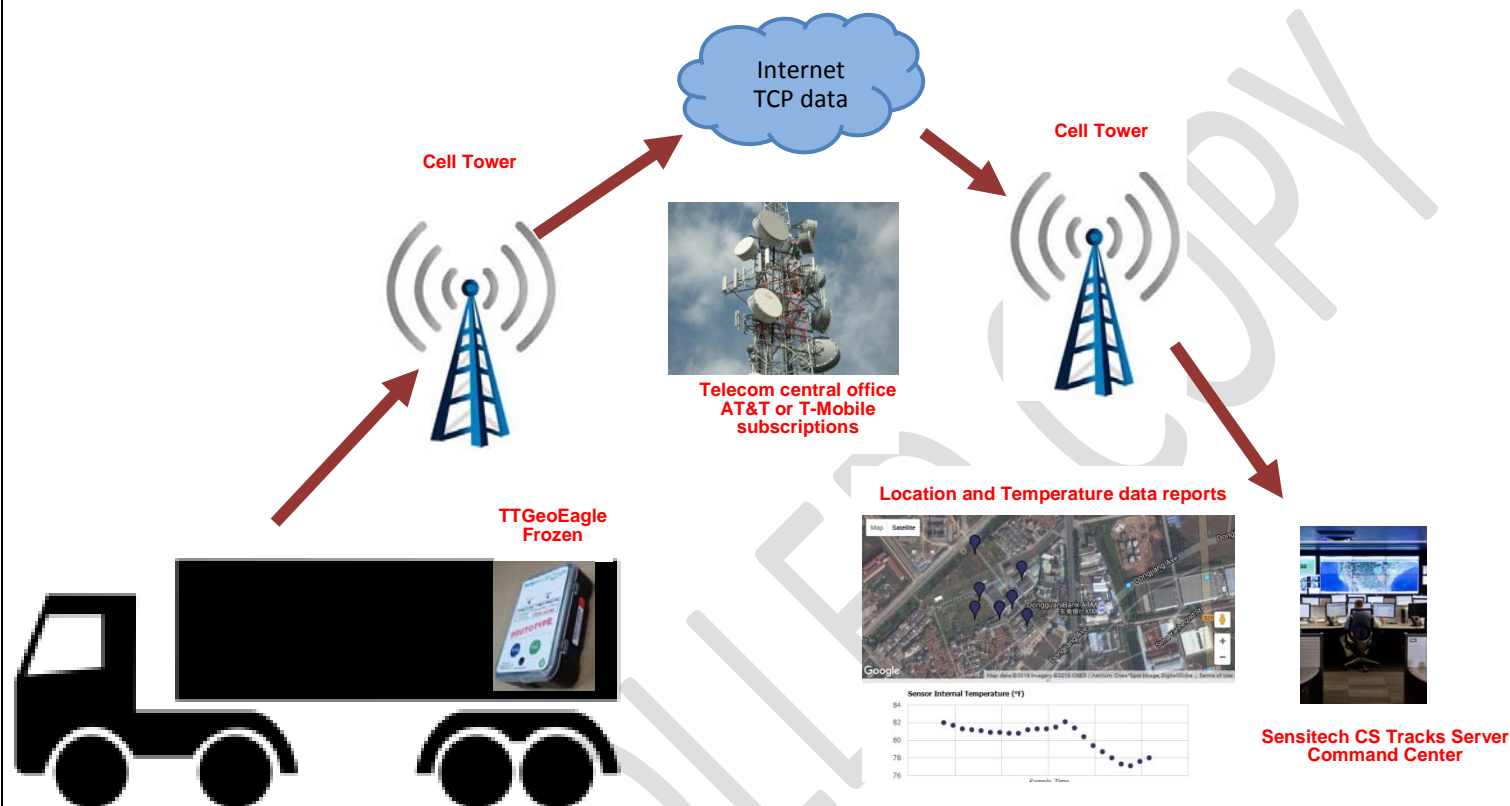
The application of cellular data transmission is active only when the device is within land geographical areas with cellular towers. In areas with poor signal or no 3G network, the 3G modem has a 2G fallback feature to switch over 2G network to continue its data reporting to remote server. For ocean container condition, the tracking device shall set to a timer mode with disabled cellular data transmission and device goes to sleep mode, while the temperature recording is still active that wakes up in a specific time intervals to record temperature data w/o cellular data transmission.

It was envisioned that this product will be used in a variety of transport situations, varying from short parcel delivery trips. The rate at which the devices logs and reports data will be variable in order to allow usage flexibility of battery and memory consumption to accommodate different trip durations, but the following use cases were defined in some transportation scenarios in the table below.

	OTR	Temperature Recording Intervals	GSM Tower Reporting Intervals	Temperature accuracy
Food customers	**7 days**	15mins	15mins	- 20 to +85 °C ± 0.5C
	17 days	15mins	30mins	
	26 days	15mins	60mins	
Frozen Food customers	**7 days**	15mins	15mins	- 30 to +85 °C ± 0.5C
	17 days	15mins	30mins	
	26 days	15mins	60mins	
Ocean container	**90 days**	60mins	60mins	- 20 to +85 °C ± 0.5C

Below illustration is an activated real-time tracking device inside a container truck transporting food stuffs in various domestic areas.

Applicant Information

Company Name: SENSITECH Inc.

Address: 800 Cummings Center # 258X, Beverly, MA 01915

Manufacturer Information

Company Name: SENSITECH Inc.

Address: 800 Cummings Center # 258X, Beverly, MA 01915

Importer Information

Company Name: XXXXXXXXXXX

Address: XXXXXXXXXXXXXXXXX

Product General Description

- **Product Name**
  - TempTale GEO Eagle

- **Model Name**
  - T11012710

- **Operating Voltage:**
  - Extreme Low: 4.8V
  - Normal: 6V
  - Extreme High: 7.5V

- **Operating Temperature:**
  - Extreme Low: -20℃
  - Nominal: 25℃
  - Extreme High: 55℃

- **Frequency of oscillator**
  - 32.768kHz

- **Type of Antenna**
  - ➢ PCB Trace antenna

- **Antenna frequency**
  - ➢ GSM850
  - ➢ EGSM900
  - ➢ GSM1800
  - ➢ GSM1900
  - ➢ UMTS800
  - ➢ UMTS850
  - ➢ UMTS900
  - ➢ UMTS1900
  - ➢ UMTS2100

- **FCC ID**
  - ➢ SRMT11012710

- **IC**
  - ➢ 10224A-201510UC20

RF Specifications

Note: mentioned specifications are in the Quectel's UC20G 3G module for reference

1. **Operating Frequencies**
   Quad band GSM operating frequencies 850/900/1800/1900MHz
   Dual-band UMTS operating frequencies 800/850/900/1900/2100MHz

Band	Frequencies	Receive	Transmit
GSM	850MHz	869–894MHz	824–849MHz
EGSM	1900MHz	925–960MHz	880–915MHz
DCS	1800MHz	1805–1880MHz	1710–1785MHz
PCS	1900MHz	1930–1990MHz	1850–1910MHz
UMTS	800MHz	875-885MHz	830-840MHz
UMTS	850MHz	869–894MHz	824–849MHz
UMTS	900MHz	925-960MHz	880-915MHz
UMTS	1900MHz	1930–1990MHz	1850–1910MHz
UMTS	2100MHz	2110-2170MHz	1920-1980MHz

2. **Antenna Requirement**

Type	Requirements
Frequency Range	• GSM850/900/1800/1900MHz • UMTS800MHz/UMTS850MHz/UMTS900MHz/UMTS1900MHz/UMTS2100MHz
VSWR	<2
Max Input Power	50W
Input Impedance	50Ω
Polarization	Vertical

3. **TRP Requirements**

Frequency	Min
GSM850	+25dBm
EGSM900	+25dBm
DCS1800	+25dBm
PCS1900	+25dBm
UMTS800	+25dBm
UMTS850	+25dBm
UMTS900	+25dBm
UMTS1900	+25dBm
UMTS2100	+25dBm

4. **TIS Requirements**

Frequency	Min Sensitivity
GSM850	< −105dBm
EGSM900	< −105dBm
DCS1800	< −105dBm
PCS1900	< −105dBm
UMTS800	< −107dBm
UMTS850	< −107dBm
UMTS900	< −107dBm
UMTS1900	< −107dBm
UMTS2100	< −107dBm

5. **Module Conducted RF Power**

| Frequency	Max
GSM850	+33dBm
EGSM900	+33dBm
DCS1800	+30dBm
PCS1900	+30dBm
UMTS2100	+24dBm
UMTS1900	+24dBm
UMTS900	+24dBm
UMTS850	+24dBm
UMTS800	+24dBm

User Interface

Green LED:
1. Mode status
   16 blinks – Un-configured device
   8 blinks – Start-up delay Mode
   4 blinks – Sleep Mode
   2 blinks – Run Mode
   1 blink – Stop Mode

2. Self-Test rapid blinking approx. 30s

3. Transmit Busy 5s blinking interval for less than 2mins.

Status Button:
When pressed will activate status LED.
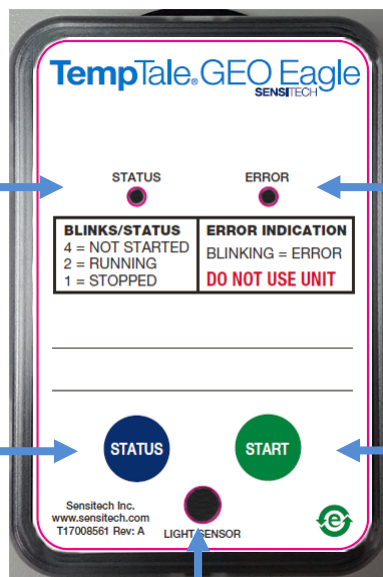
Red LED:
Error LED blinks when it comes true into 3 conditions:
1. Low Battery
2. No SIM card
3. Modem failed in self-test

Start/Stop Button:

Starting the device:
1. If device is not started, pressed START button will activate device immediately if Start Key option is disabled.
2. If device is not started, pressed hold START button for 3s will activate device if Start Key option is enabled.

Stopping the device:
1. If device had been started, pressed START button will de-activate device immediately if Stop Key option is enabled.
2. If device had been started, pressed hold START button for 5s will de-activate device if Stop Key delay option is enabled.

Light Sensor peephole:
Light status will be checked 30s sampling interval. Response is unnoticeable to user.

Auto-Answer Operating Instruction

Step 1: Press "START/STOP" button (bottom at right hand side) and hold 5s, the GREEN and RED LEDs simultaneously blink for 30s. It enters initial state.

Step 2: After 30s, the GREEN and RED LEDs stop blinking and turn off. It begins auto-answering mode. It is waiting a call and it can answer the call automatically. You can press "STATUS" button (Bottom at left hand side) to see GREEN LED blinking two times. It represents the device enters start mode.

Step 3: In order to save battery, press "START/STOP" button and hold 5s to stop auto-answering when testing is completed. After pressing the button, you can see RED LED will blink two times to show the device entering stop mode already.

FCC Warning

FCC Statements:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

  • Reorient or relocate the receiving antenna.
  • Increase the separation between the equipment and receiver.
  • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  • Consult the dealer or an experienced technician for help.

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 my cause undesired operation.

MODIFICATION: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

IC Statements:

-English:
This device complies with Industry Canada RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

-French:
Leprésent appareil est conforme aux CNR d'Industrie Canada applicable aux appareils radio
Exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement."

Safety Warning

● **Battery Warning Label**

a) Risk of explosion if battery is replaced by an incorrect type

b) Dispose of used batteries according to the instructions

c) Use only the types of the batteries which are indicated in this manual

● **Safety Use Distance**
   ➤ 7-10 meters

● **Antenna Safety Use Distance**
   ➤ To comply with FCC/IC/CE RF exposure limits for general population / uncontrolled exposure, under normal use conditions, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 31 cm from all persons