

Gper

Data Sheet



General Description

The Gper tracker is the 1st LoRa GPS Tracker in South Korea. Gper is an independent device that collects location data through GPS to protect your family members and assets. Gper uses LoRa network that is provided by SK Telecom.

We have launched our product in November 2016. More than 3,000 devices are commercially available for a number of organisations such as the government, businesses and also many private uses (such as for vehicles, dementia patients and even kids etc.)

1. Estimated Lifetime

Standby state current consumption

Location collection period	Expected usage time
10sec	18.7h
1min	22.5h
5min	112.5h
10min	187.5h
30min	300h

Current consumption during LoRa transmission

Location collection period	Expected usage time
10sec	18.7h
1min	22.5h
5min	112.5h
10min	187.5h
30min	300h

Current consumption in GPS operation

Location collection period	Expected usage time
10sec	18.7h
1min	22.5h
5min	112.5h
10min	187.5h
30min	300h

※ If there is time that does not move, use time increases

2. Data communication support

LoRa Module	SoluM TLT01CS1	
Product Specification		
Size	TYP. 20*22*2.7 mm (W*L*H)	
Operating Voltage	3.0~3.6V	
Memory	RAM : 20KB, Flash 128KB	
Wireless Communication	920MHz ISM Band – LoRa™ Technology	
ESD(Human Body Model)	JEDEC JS-001 Standard ±1kV , Class 2	
Absolute Ratings		
Supply Voltage(VCC_RF, VCC_BB)	MIN : 3.0V TYP : 3.3V MAX : 3.6V	
Operating Temperature	MIN : -20℃ MAX : 65℃	
Storage Temperature	MIN : -30℃ MAX : 85℃	
Power Consumption		
TX Mode	38 mA	
RX Mode	10mA	
Sleep Mode	10uA	
Power Consumption		
TX	Transmit Frequency	Condition : ISM Band MIN : 917 MHz MAX : 923.5 MHz
	Transmit Power	Condition : Including ANT Gain MAX : 14dBm
	Frequency Deviation	Condition : 25℃ Typ : ±25 KHz
RX	Receiving Sensitivity	Condition : Conductive SF=7,BW=125KHz Typ : -123 dBm

3. Triaxial acceleration sensor

Module	BOSCH BMA250E
Operating Conditions	
Supply Voltage Internal Domains	1.62V ~ 3.6V
Supply Voltage I/O Domains	1.2V ~ 3.6V
Voltage Input	0.3V ~ 0.7V
Voltage Output	0.2V ~ 0.8V

4. Position accuracy

GPS Module	Quectel L80		
General Specification			
L1 Band Receiver (1575.42MHz)	Channel	Tracking : 22 Acquisition : 66	
	SBAS	WAAS, EGNOS, MSAS, GAGAN	
Horizontal Position Accuracy	Autonomous	<2.5 m CEP	
Velocity Accuracy	Without aid	<0.1m/s	
Acceleration Accuracy	Without aid	0.1m/s ²	
Timing Accuracy	1PPSout	10ns	
Reacquisition Time		<1s	
TTFF@-130dBm with EASY™	Cold Start	<15s	
	Warm Start	<5s	
	Hot start	<1s	
TTFF@-130dBm without EASY™	Cold Start	<35s	
	Warm Start	<30s	
	Hot start	<1s	
Environmental	Operating Temperature	-40 °C to 85 °C	
	Storage Temperature	-45 °C to 125 °C	
Dynamic Performance	Maximum Altitude	Max.18000m	
	Maximum Velocity	Max.515m/s	
	Maximum Acceleration	4G	
Dimensions	16.0 x 16.0 x 6.45mm	Weight	6.0g

5. Power management

Rated voltage	3.7V
Battery capacity	500mAh
Battery type	Li-polymer
Power consumption	LoRa Module : TX 25mA ~ 35mA
	GPS : 22mA ~ 28mA

6. Physical configuration

Dimensions	50mm x 50mm x 18.8mm	Weight	39g
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