SIMPLE ENGINEERING SOLUTIONS FOR COMPLEX TECHNOLOGICAL TASKS

GPS Beacon NB-IoT

GEOLOCATION FOR THE INTERNET OF THINGS

GPS Beacon NB-IoT **"Smartico BCN-NB"** is a device for geolocation and data transmission of the location and status of the device through **NB-IoT** networks. The device is equipped with a modern GPS-receiver, providing a high-quality signal even in dense urban areas. For motion detection, a sensitive accelerometer is built into the device, which allows optimizing energy consumption. The GPS beacon has a magnetic field sensor, which allows it to be used in various scenarios, for example, monitoring the location of the container and opening doors. The built-in temperature sensor allows you to track the temperature out of bounds during the transport of goods and foods. The device is powered by an internal battery and allows you to work up to several years offline.

Specifications	
Compliance with LTE	Cat NB1
Frequency Bands	B1, B3, B5, B8, B20, B28
Data encryption	AES-128 CTR
GPS receiver channels	66
Magnetic sensor	Built-in
Accelerometer	Built-in
Temperature sensor	Built-in
Archive of geopoints	8000
Antenna Type	Built-in
Ambient temperature, °C	-30 …+75°C
Built-in battery	Li-SOCl2 A
Battery capacity, mAh	3400
Weight, g	130
Dimensions, WxDxH mm	60x80x30
Ingress protection	IP67

KEY FEATURES:

- Monitoring and transmission of the following parameters:
  - latitude, longitude, altitude, speed, direction;
  - the presence of an external magnetic field;
  - battery discharge;
  - monitoring the performance of internal sensors;
  - motion and fall detector;
- Scheduled and event triggering;
- Flexible configuration of operating modes and energy saving;
- Request geoposition on command from the server;
- Emergency tracking mode;
- The presence of built-in non-volatile memory, archiving, built-in real-time clock;
- Data transmission in mobile networks using NB-IoT technology (Cat NB1, Bands: B1, B3, B5, B8, B20, B28).
- High-level protocols support by customer's request: COAP, LWM2M, DTLS, MQTT
- Possibility of positioning through the cellular base stations without using GPS;
- Small dimensions;
- Battery life up to 2 years.

FIELDS OF APPLICATION:

- equipment location control;
- geoobjects visit control;
- warehouse logistics;
- railway transport;
- cargo safety control;
- foods & goods temperature control.

ADVANTAGES OF THE SYSTEM BASED ON NB-IoT:

- No need to deploy a network, using the resources of mobile operators;
- Sustainable communications in dense urban areas;
- Autonomy of the end devices (more than 5 years from the built-in batteries);
- Transmission of data arrays with confirmation, data integrity control;
- Using TCP / IP stacks for data transfer, including a secure DTLS connection;
- Ability to expand and change the functionality of devices due to update by air (OTA);
- Flexible custom reporting functionality and software analytics;
- Export data to any analytical and billing systems.

NB-IoT

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