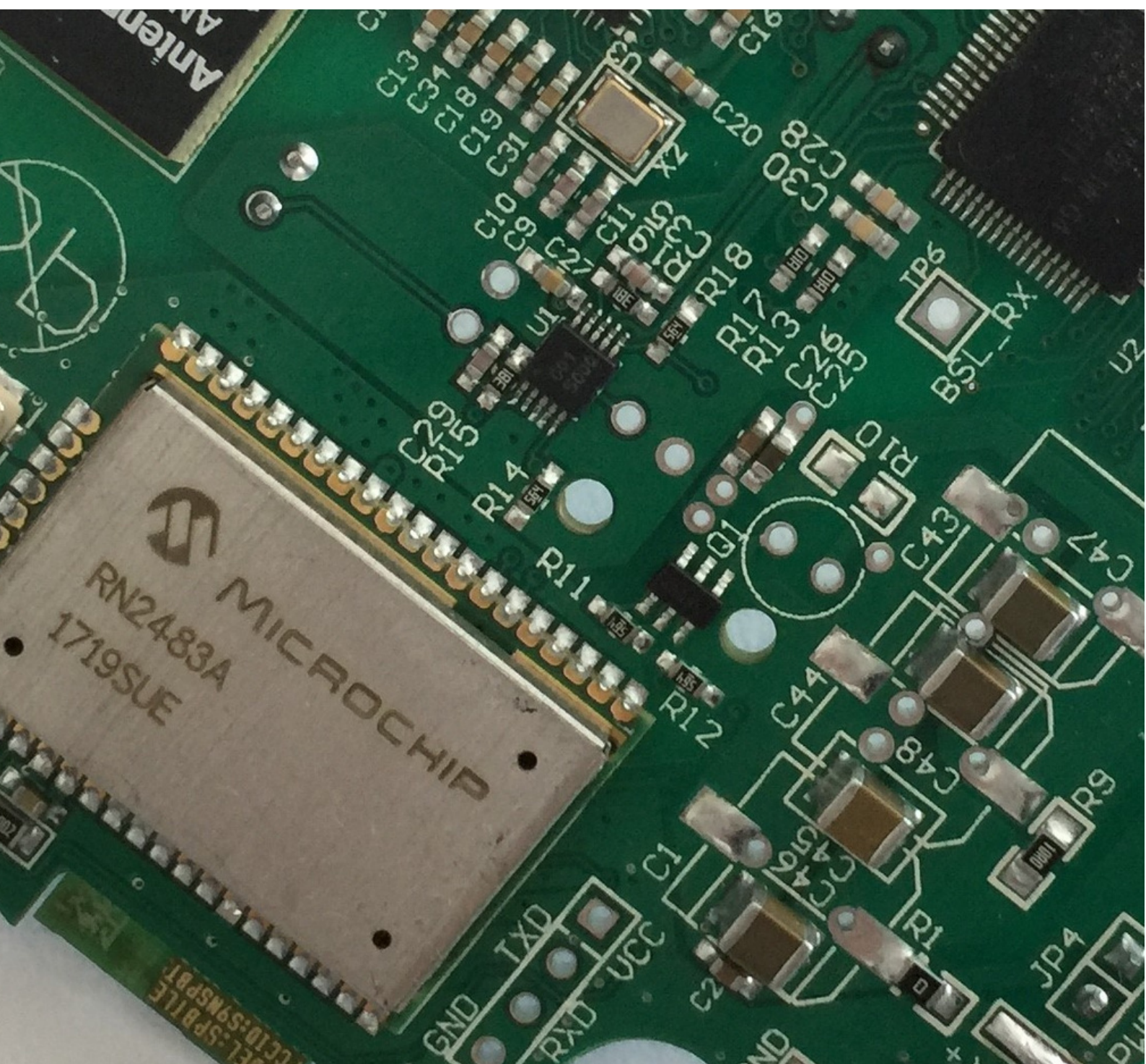


IOT SOLUTIONS





VEHICLE COUNTING

BENEFITS

- Vehicle counting
- Average speed monitoring
- Data transmission at regular time intervals
- Immediate alerts when speed falls below a threshold value

FEATURES

- Wireless LoRaWAN or NB-IoT sensors
- Three detection technologies (ambient light, IR, magnetic)
- Easy installation and maintenance operations
- Long-life battery - more than 5 years

SKY LIGHT TRAFFIC SENSOR



A sensor to monitor the stream of vehicles



WIRELESS SENSOR LORAWAN or NB-IoT

Sky Light Traffic Sensor is a wireless sensor to count vehicles and estimate the average speed of the traffic flow.

Data are sent to the server at scheduled time intervals from 2 to 60 minutes. You can get the overall counting, occupation time and average speed detected by the sensors.



TOP LEVEL TECHNOLOGY

Sky Light sensors use three different technologies to detect vehicles:

- ambient light variation sensor;
- active infrared sensor;
- magnetic field sensor.

A unique algorithm combines all three measurements in real-time to give the most accurate data.



AUTOMATIC ALERTS

A brilliant feature of Sky Light Traffic Sensor is the possibility to receive immediate alerts when the system detects that the average speed of the traffic flow falls below a selected threshold.



EASY ROAD WORKS

Sky Light Sensor is an in-ground sensor that fits every kind of surface. The installation requires drilling a hole using common roadwork tools. Installation and maintenance operations are quick and localised so that it is not necessary to interrupt traffic completely.



REPLACEABLE SENSORS

The cavity in the ground holds a casing fixed with resins or cement. This is the housing where the sensor is fastened with screws. This unique feature makes Sky Light Sensor easily replaceable in case of road maintenance works.



REPLACEABLE BATTERY

Sky Light Traffic Sensor has an estimated battery life of 5 years, depending on the transmission settings and on traffic. However, when the battery runs out, it can be easily replaced. This option leads on to an extension of the product's life, as well as remarkable savings.



TRAFFIC SUPERVISOR

BENEFITS

- Vehicle counting, speed detection and classification
- Detection of the direction of travel on two-way lanes
- Wrong-way driving detection
- Immediate alerts when traffic is slower than a specific speed value

FEATURES

- Wireless sensors and a LoRaWAN or NB-IoT central unit
- Three detection technologies (ambient light, IR, magnetic)
- Easy installation and maintenance operations
- Fully battery-powered system

TRAFFIC SUPERVISOR



A wireless system to have traffic under control



WIRELESS SYSTEM LORAWAN or NB-IoT

Traffic Supervisor is made up of in-ground wireless sensors to detect vehicles. A local LoRaWAN central unit processes data coming from the sensors. Then, information is sent to a LoRaWAN network server at scheduled time intervals.



REPLACEABLE SENSORS

A cavity drilled in the ground holds a casing fixed with resins or cement. This is the housing where the sensor is fastened with screws. This unique feature makes Sky Light Sensor easily replaceable in case of road maintenance works.



MULTIPURPOSE SYSTEM

The system can be set to work in one of the following modes according to the specific project.

- Vehicle counting in one or more lanes with an estimation of the average speed of the traffic flow for each transmission interval.
- Vehicle counting in one or more lanes, calculation of speed for each transit and then averaged over the measurement interval. Vehicles are grouped by classes of length or speed.
- Vehicle counting and detection of the direction of travel of each vehicle.



TOP LEVEL TECHNOLOGY

Sky Light sensors use three different technologies to detect vehicles:

- ambient light variation sensor;
- active infrared sensor;
- magnetic field sensor.

A unique algorithm combines all three measurements in real-time to give the most accurate data.



REPLACEABLE BATTERY

Traffic Supervisor is a fully battery-powered system. Both traffic sensors and the central unit use lithium batteries. When the battery of a sensor or a central unit runs out, it can be easily replaced. This option leads on to an extension of the product's life, as well as remarkable savings.



SMART PARKING

BENEFITS

- Parking bay occupancy detection and real-time transmission
- Automatic authentication of users in reserved parking bays
- Anonymous recognition of parking permits
- Total integration with third-party systems or apps

FEATURES

- Made with Sky Light Parking Sensor with LoRaWAN or NB-IoT radio
- Three detection technologies (ambient light, IR, magnetic)
- Easy installation and maintenance operations
- User identification using Parking Angel hardware token

SKY LIGHT PARKING SENSOR



A sensor to monitor the occupation of parking bays



WIRELESS SENSORS LORAWAN or NB-IoT

Sky Light Parking Sensor is a wireless device that can determine whether a parking bay is vacant or occupied.

Data are sent to a LoRaWAN or NB-IoT server.



TOP LEVEL TECHNOLOGY

Sky Light sensors use three different technologies to detect vehicles:

- ambient light variation sensor;
- active infrared sensor;
- magnetic field sensor.

A unique algorithm combines all three measurements in real-time to give the most accurate data.



REPLACEABLE BATTERY

Sky Light Parking Sensor has an estimated battery life of more than 10 years. However, when the battery runs out, it can be easily replaced. This option leads on to an extension of the product's life, as well as remarkable savings.



REPLACEABLE SENSORS

A cavity drilled in the ground holds a casing fixed with resins or cement. This is the housing where the sensor is fastened with screws. This unique feature makes Sky Light Sensor easily replaceable in case of road maintenance works.



INTEGRATED BLUETOOTH TECHNOLOGY

Sky Light Parking sensor may also have a BLE module inside to use beacon technology. The module can be set to one of the following modes:

1. Beacon advertising mode, to be captured by third-party apps for user authentication
2. Scanner mode, paired with our *Parking Angel* hardware token.

PARKING ANGEL



powered by Sky Light Parking Sensor



AN AMAZING FEATURE

Parking Angel is a unique option of Sky Light Parking Sensor.

When a parking bay becomes occupied, the sensor detects whether the driver is authorised to park in the bay or not, using BLE technology.

Data from the sensors can be used to build super flexible systems to meet every customer needs.



AUTOMATIC AUTHENTICATION SYSTEM

Authentication happens using one of the following systems.

- **Parking Angel hardware token.**

This device is manufactured by Nabla Quadro. Drivers can leave the device inside the vehicle and be automatically recognised when they park in a reserved bay.

- **Third-party mobile apps.**

The sensor can be set to send beacons that can be captured by and integrated into any system to create solutions for any need.



AIRCRAFT SENSOR

BENEFITS

- Aircraft parking stand occupancy detection checking once a second
- Automatic detection and communication of the exact in-block and off-block times
- Possibility to use integrated BLE technology to identify users
- Data available for integration with airport operations and management systems

FEATURES

- Wireless LoRaWAN or NB-IoT sensors
- Bluetooth Low Energy module integrated
- Easy installation and maintenance operations
- Long-life battery - more than 5 years

SKY LIGHT AIRCRAFT SENSOR



A sensor for automatic detection of in-block and off-block time



WIRELESS LORAWAN SENSORS

Sky Light Aircraft Sensor is a wireless device to determine whether a stand for aircraft parking is vacant or occupied. Data are sent to a LoRaWAN or NB-IoT server.



AUTOMATIC BLOCK TIME DETECTION

The system determines the exact time when an airplane parks and then leaves a stand. Communication with the server is automatic, eliminating any possible discrepancies between the captain's communication and that of the handling company.



INTEGRATION WITH AIRPORT MANAGEMENT SYSTEMS

Data coming from the sensors provide useful information to manage and organise airport activities.



OPTIMAL LAYOUT

Many tests have been carried out at Milano Malpensa Airport to find out the optimal layout. Typically, four to six sensors are installed in each stand to detect different airplanes with the best accuracy.



REPLACEABLE SENSORS

A cavity drilled in the ground holds a casing fixed with resins or cement. This is the housing where the sensor is fastened with screws. This unique feature makes Sky Light Sensor easily replaceable in case of road maintenance works.



INTEGRATED BLUETOOTH TECHNOLOGY

Sky Light sensors may also have a BLE module inside. Beacon advertising can be activated in all the situations when it is useful to identify operators working near the parking stands. It is possible to use the information from the beacon for many different purposes.



REPLACEABLE BATTERY

Sky Light Aircraft Sensor has an estimated battery life of 5 years. However, when the battery runs out, it can be easily replaced. This option leads on to an extension of the product's life, as well as remarkable savings.