



***JKS6***

***GPS Tracking Device***

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# Declaration of Conformance

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## Manufacturer:

**Name:** Wistron NeWeb Corporation

**Address:** 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C

## Radio Equipment:

**Model:** JKS6

**Description:** GPS Tracking Device

**Marketing Name:** JKS6

**Radio-related Software Version:**

**Supplied Accessories and Components:** NA

We, Wistron NeWeb Corporation, declare under our sole responsibility that the product described above conforms to the relevant Union harmonization legislation:

**RE Directive (2014/53/EU), RoHS Directive (2011/65/EU)**

The following harmonized standards and/or other relevant standards have been applied:

### 1. Health and Safety (Article 3.1(a) of the RE Directive)

- EN 62311:2008
- EN 60950-1:2006/A11:2009+A1:2010+A12:2011+A2:2013

### 2. Electromagnetic compatibility (Article 3.1 (b) of the RE Directive)

- Final Draft ETSI EN 301 489-1 V2.1.1,
- Draft ETSI EN 301 489-3 V2.1.0
- Final Draft ETSI EN 301 489-17 V3.1.1
- Draft ETSI EN 301 489-52 V1.1.0

### 3. Radio frequency spectrum usage (Article 3.2 of the RE Directive)

- ETSI EN 301 908-1 V11.1.1, ETSI EN 301 908-2 V11.1.1
- ETSI EN 300 328 V2.1.1
- Draft ETSI EN 301 511 V12.1.10
- Draft ETSI EN 300 440 V2.1.0

### 4. RoHS Directive (2011/65/EU)

- EN 50581:2012

# Safety Instruction

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- Only authorized service providers shall replace the battery in this device.
- Do not disassemble, open, crush, bend, deform, puncture, or shred.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazards.
- Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazardous occurrences.
- Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazardous occurrences.
- Promptly dispose of used batteries in accordance with local regulations.
- Avoid dropping the device or battery. If the device or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- Improper battery use may result in a fire, explosion or other hazardous event.
- For those host devices that utilize a USB port as a charging source, the host device's user manual shall include a statement that the device shall only be connected to CTIA certified adapters, products that bear the USB-IF logo or products that have

# Regulatory Statement

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## Specific Absorption Rate information

This mobile device meets the government's requirements for exposure to radio waves. Your mobile device is a radio transmitter and receiver. The exposure standard for mobile devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit adopted by Europe is 2.0 W/kg averaged over 10 grams of tissue. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. The minimum distance between the user and/or any bystander and the radiating structure of the transmitter is 20cm.

## FCC Regulations:

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.

This device 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 and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation if this equipment does cause harmful interference to radio or television 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:

- 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 radio/TV technician for help.

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

### RF Exposure Information

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

# 1. Getting Started

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## 1.1 Unpacking Information

Included in the package are the following items:

- JKS6 GPS Tracking Device
- Cable x1

## 1.2 Introduction

The JKS6 is a self-contained tracking device that combines GPS location with LTE Cat. 1 and 3G network connectivity. The device responds to user or server requests. Data reports contain all location data and the system status.

The device comes pre-configured from the factory, ready to use. It can be updated and configured either through a serial connection, an OTA (over the air) IP connection, or through SMS messaging.

## 2. Ports and LED Indicators

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### 2.1 Ports



	Port	Description
1	8 Wire Port	Vin, GND, Open drain output, GPIO6, GPI, GPIO4, GPIO5, GND
2	Micro-USB	For manufacture and debugging



## 2.2 LED Indicators

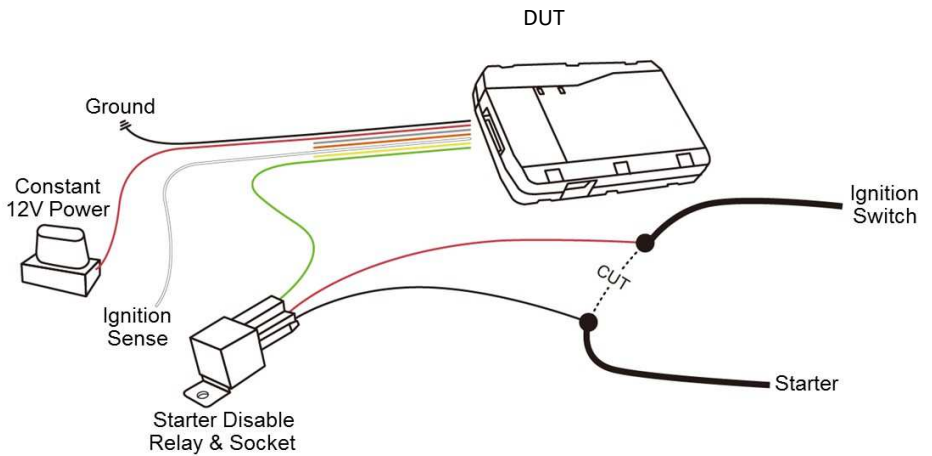


LED	Indication	Description
<b>WWAN</b>	Flashing slowly	System is powering up and initializing
	Solid	WWAN data connection acquired
	Flashing quickly	WWAN data connection temporarily lost
	Off	Device is off or in hibernation mode
	Blip once every 30 seconds	Device is in monitoring or standby mode (keep 'off')
	Intermittent blips	FOTA session is on-going (keep 'off')
<b>GPS</b>	Flashing slowly	System is powering up and initializing
	Solid	GPS signal acquired
	Flashing quickly	GPS signal temporarily lost
	Off	Device is off or in hibernation mode
	Blip once every 30 seconds	Device is in monitoring or standby mode (blip)
	Intermittent blips	FOTA session is on-going (blip)

# 3. Installation

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The image below shows how the JKS6 tracking device is installed.



# 4. Specifications

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## Hardware & software

- WAN module: M14QS
  - LTE CAT1(B2/4/5/12/B25/26), B4/12 are roaming bands for ATT
  - GPS/GLONASS/aGPS
- USIM 3FF
- Microcontroller
  - STM32 F030
  - ADC/UART/SPI/I2C/GPIO
  - 5 power mode control

## Backup battery

- Li-ion battery
  - Spec: 170 mAh/3.7 V
  - Max discharge current: 5 C
  - Operation temperature range:  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$

## Buzzer

- Electro-magnetic buzzer
- Operating voltage: 3 V to 6.5 V
- Resonant frequency:  $2700 \pm 300$  Hz
- Sound output at 10 cm:  $\geq 83$  dBm

## Mechanical

- Dimensions: 92.8 mm  $\times$  60 mm  $\times$  16.5 mm
- Interface:
  - 8 wires: Vin, GND, Open drain output, GPIO6, GPI, GPIO4, GPIO5, GND
  - Micro-USB: For manufacture and debugging

## Others

- Operating temperature:  $-20^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$