



GENERAL INFORMATION

FCCID: 2AFCS-PWC10

1.1. Product description



HIKOB WISE COW
Version 1.1-2466

2 General description

The HIKOB WISE COW is a wireless magneto resistive sensor, ultra-compact, and energy autonomous. This is one of the acquisition nodes composing the HIKOB wireless radio network aimed at instantaneously transfer information on presence of vehicles in parking lots, or passing vehicles on traffic lines.

The HIKOB WISE COW Parking detects parked vehicles, and the HIKOB WISE COW Traffic detects passing vehicles. Both detections are based on the earth's magnetic field variations measurements. Measures are broadcasted through the HIKOB radio network, possibly using routers, and are treated by the HIKOB GATEWAY, platform supplying and managing data, allowing monitoring.



Figure 1: External view of HIKOB WISE COW

The HIKOB WISE COW sensor is delivered already assembled, ready to be installed. The HIKOB WISE COW casing is water resistant, IP 67 (EN 60529 protocol). The first number 6 identifies protection against complete ingress of dust, the second number 7, identifies protection against the effects of immersion in water under stated conditions of pressure and time.



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4 Installation

You need one HIKOB WISE COW Parking sensor per parking spot, and two HIKOB WISE COW Traffic sensors per traffic line to measure speed.

Here are HIKOB recommendations to draw your installation map:

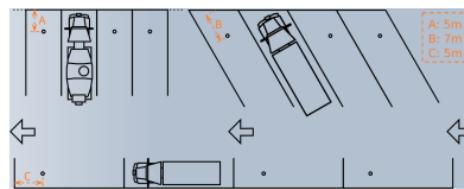


Figure 2: Truck parking

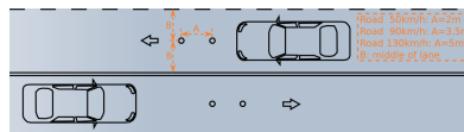


Figure 3: Traffic

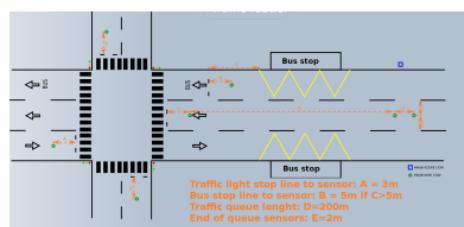


Figure 4: Urban traffic



1.2. Characteristics

1.2.1. Operating Temperature

- Min: -20°C
- Max: +80°C

1.2.2. Power supply

- Type : Primary battery Li/SOCl2
- Pack : 1S4P SL-761 3.7V / 6Ah
- Manufacturer: TADIRAN
- Average consumption: < 300_W

1.2.3. Frequency

- Quartz Cortex-M3 MCU : 32kHz
- Cortex-M3 MCU : variable between 32 kHz and 4 MHz
- Quartz of radio components : 16 MHz
- Radio : 2.45 GHz
- Bus SPI : 4 MHz
- Bus I2C : 400 kHz
- Buck : charging-dependant frequency, 2MHz max.

1.2.4. Radio

- Type : chip
- Radio component manufacturer: Atmel
- Radio component reference: AT86RF233
- Antenna type: patch SMD 25x25mm
- Antenna gain: +3dBi
- Spectrum use: DSSS
- Modulation: O-QPSK
- Frequency band: 2405 - 2480MHz
- Modulation width: 2.8MHz
- Number of channels: 15
- Channel width: 5MHz
- Transmission rate: 250kbits/s 802.15.4e
- Output power: +4dBm

1.3. Tested System Details

See test report

LCIE
Laboratoire de Moirans
Z.I. Centr'Alp
170, Rue de Chatagnon
38430 MOIRANS-FRANCE



1.4. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-2003, FCC Part 15 Subpart C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.5. Test facility

Tests have been performed from May 6th, 2015 to June 17th, 2015.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-2003 in a letter dated March 25th, 2008 (registration number 94821).

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.