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Wasmote Certifications

1. CE



In accordance with the 1999/05/CE directive, Libelium Comunicaciones Distribuidas S.L. declares that the Wasmote device conforms to the following regulations:

EN 55022:1998
EN 55022:1998/A1:2000
EN 55022:1998/A2:2003
EN 61000-4-3:2002
EN 61000-4-3/A1:2002
EN 61000-4-3:2006
UNE-EN 60950-1:2007

Compliant with ETSI EN 301 489-1 V1.6.1, EN 300 328, Date: 26/03/2009

If desired, the Declaration of Conformity document can be requested using the contact section at:
<http://www.libelium.com/contact>

Wasmote is a piece of equipment defined as a wireless sensor capture, geolocalisation and communication device which allows:

- short and long distance data, voice and image communication
- capture of analog and digital sensor data directly connected or through probes
- wireless access enablement to electronic communication networks as well as local networks allowing cable free connection between computers and/or terminals or peripheral devices
- geospatial position information
- interconnection of cabled networks with wireless networks of different frequencies
- interconnection of wireless networks of different frequencies between each other
- output of information obtained in wireless sensor networks
- use as a data storage station
- capture of environmental information through interface interconnection, peripherals and sensors
- interaction with the environment through the activation and deactivation of electronic mechanisms (both analog and digital)

2. FCC



Waspote models:

Model 1- FCC (XBee PRO series 1 OEM + GPRS Hilo)

FCC ID: XKM-WASP01 comprising

- FCC ID: OUR-XBEEPRO

- FCC ID: VW3HILOC

Model 2- FCC (XBee PRO ZB series 2 + GPRS Hilo)

FCC ID: XKM-WASP02 comprising

- FCC ID: MCQ-XBEEPRO2*

- FCC ID: VW3HILOC

Model 3 - FCC (XBee 900MHz + GPRS Hilo)

FCC ID: XKM-WASP03 comprising

- FCC ID: MCQ-XBEE09P

- FCC ID: VW3HILOC

Model 4 - FCC (XBee 900MHz XSC + GPRS Hilo)

FCC ID: XKM-WASP04 comprising

- FCC ID: MCQ-XBEEXSC

- FCC ID: VW3HILOC

Installation and operation of any Waspote model must assure a separation distance of 20 cm from all persons, to comply with RF exposure restrictions.

Module Grant Restrictions

FCC ID OUR-XBEEPRO

The antenna(s) used for this transmitter must be installed to provide the separation distances, as described in this filing, and must not be co-located or operating in conjunction with any other antenna or transmitter. Grantee must coordinate with OEM integrators to ensure the end-users of products operating with this module are provided with operating instructions and installation requirements to satisfy RF exposure compliance. Separate approval is required for all other operating configurations, including portable configurations with respect to 2.1093 and different antenna configurations. Power listed is continuously variable from the value listed in this entry to 0.0095W

FCC ID MCQ-XBEEPRO2

OEM integrators and End-Users must be provided with transmitter operation conditions for satisfying RF exposure compliance. The instruction manual furnished with the intentional radiator shall contain language in the installation instructions informing the operator and the installer of this responsibility. This grant is valid only when the device is sold to OEM integrators and the OEM integrators are instructed to ensure that the end user has no manual instructions to remove or install the device.

FCC ID MCQ-XBEEXSC

For operations in mobile RF exposure conditions, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 23 cm from all persons with the maximum allowable antenna gains of 9.2 dBi Omni-directional antenna or 15.1 dBi Yagi antenna. Antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter, OEM integrators, end-users, and professional installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance. End-users are prohibited from access to any programming parameters, professional installation adjustment is required for setting module power and antenna gain to meet EIRP compliance ξ FCC 15.247(b)(4).

FCC ID VW3HILOC

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. OEM integrators must be provided with antenna installation instructions. OEM integrators and end-Users must be provided with transmitter operation conditions for satisfying RF exposure compliance.

3. IC

Waspote models:

Model 1- IC (XBee PRO series 1 OEM + GPRS Hilo)

IC: 8472A-WASP01 comprising

- IC: 4214A-XBEEPRO
- IC: 2599H-HILO

Model 2- IC (XBee PRO ZB series 2 + GPRS Hilo)

IC: 8472A-WASP02 comprising

- IC: 1846A-XBEEPRO2
- IC: 2599H-HILO

Model 3- IC (XBee 900MHz + GPRS Hilo)

IC: 8472A-WASP03 comprising

- IC: 1846A-XBEE09P
- IC: 2599H-HILO

Model 4 - IC (XBee 900MHz XSC + GPRS Hilo)

IC: 8472A-WASP04 comprising

- IC: 1846A-XBEE XSC
- IC: 2599H-HILO

The term "IC:" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

Installation and operation of any Waspote model must assure a separation distance of 20 cm from all persons, to comply with RF exposure restrictions.

4. Use of equipment characteristics

- Equipment to be located in an area of restricted access, where only expert appointed personnel can access and handle it.
- The integration and configuration of extra modules, antennas and other accessories must also be carried out by expert personnel.

5. Limitations of use

The ZigBee/IEEE 802.15.4 module has a maximum transmission power of 20dBm.

It is regulated according to EN 301 489-1 v 1.4.1 (202-04) and EN 301 489-17 V1.2.1 (2002-08). The configuration software must be used to limit to a maximum power of 12'11dBm (PL=0).

The 868MHz XBee module has a maximum transmission power of 27dBm. This module is regulated only for use in Europe.

The 900MHz XBee module has a maximum power of 20dBm. This module is regulated only for use in the United States.

The GSM/GPRS module has a power of 2W (Class 4) for the 850MHz/900MHz band and 1W (Class 1) for the 1800MHz and 1900MHz frequency band.

Important: In Spain the use of the 850MHz band is not permitted. For more information contact the official organisation responsible for the regulation of power and frequencies in your country.

The cable (pigtail) used to connect the radio module with the antenna connector shows a loss of approximately 0.25dB for GSM/GPRS.

The broadcast power at which the Wifi, XBee 2.4GHz, XBee 868MHz, XBee 900MHz operate can be limited through the configuration software. It is the responsibility of the installer to choose the correct power in each case, considering the following limitations:

The broadcast power of any of the modules added to that of the antenna used minus the loss shown by the pigtail and the cable that joins the connector with the antenna (in the event of using an extra connection cable) must not exceed 20dBm (100mW) in the 2.4GHz frequency band and 27dBm for the 868MHz band, according to the ETSI/EU regulation.

It is the responsibility of the installer to configure the different parameters of the equipment correctly, whether hardware or software, to comply with the pertinent regulation of each country in which it is going to be used.

Specific limitations for the 2.4GHz band.

- In Belgium, outdoor use is only on channels 11(2462MHz), 12(2467MHz) and 13(2472MHz) only. It can be used without a licence if it is for private use and at a distance less than 300m. Over longer distances or for public use, an I'IBPT licence is required.
- In France the use of channels 10(2457MHz), 11(2462MHz), 12(2467MHz) and 13(2472MHz) is restricted. A licence is required for any use both indoors and outdoors. Contact ARCEP (<http://www.arcep.fr>) for further information.
- In Germany a licence is required for outdoor use.
- In Italy a licence is required for indoor use. Outdoor use is not permitted.
- In Holland a licence is required to outdoor use.
- In Norway, use near Ny-Alesund in Svalbard is prohibited. For further information enter Norway Posts and Telecommunications (<http://www.npt.no>).

Specific limitations for the 868MHz band.

- In Italy the maximum broadcast power is 14dBm.
- In the Slovakian Republic the maximum broadcast power is 10dBm.

IMPORTANT

It is the responsibility of the installer to find out about restrictions of use for frequency bands in each country and act in accordance with the given regulations. Libelium Comunicaciones Distribuidas S.L does not list the entire set of standards that must be met for each country. For further information go to:

CEPT ERC 70-03E - Technical Requirements, European restrictions and general requirements: <http://www.ero.dk>

R&TTE Directive - Equipment requirements, placement on market: <http://www.ero.dk>

6. Maintenance

- In this section, the term “Waspote” encompasses both the Waspote device itself as well as its modules and sensor boards.
- Take care when handling Waspote, do not let it fall, knock it or move it suddenly.
- Avoid having the devices in high temperature areas as it could damage the electronic components.
- The antennas should be connected carefully. Do not force them when fitting them as the connectors could be damaged.
- Do not use any type of paint on the device, it could harm the operation of the connections and closing mechanisms.

7. Disposal and recycling

- In this section, the term “Waspote” encompasses both the Waspote device itself as well as its modules and sensor boards.
- When Waspote reaches the end of its useful life, it must be taken to an electronic equipment recycling point.
- The equipment must be disposed of in a selective waste collection system, and not that for urban solid residue. Please manage its disposal properly.
- Your distributor will inform you about the most appropriate and environmentally friendly disposal process for the used product and its packaging.

