

Certifications



meshLium



CERTIFICATIONS

EUROPA (ETSI)

In compliance with the 1999/05/EC directive, Libelium Comunicaciones Distribuidas declares that N-vio complies with the following norms:

EN 55022:1998

EN 55022:1998/A1:2000

EN 55022:1998/A2:2003

EN 61000-4-2:1995

EN 61000-4-2/A1:1998

EN 61000-4-2/A2:2001

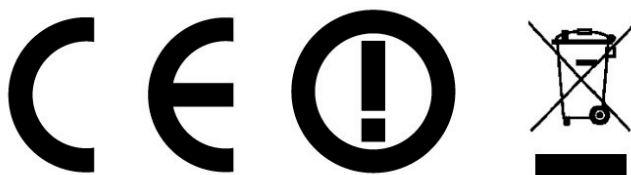
EN 61000-4-3:2006

EN 61000-4-4:2004

EN 61000-4-6:1996

EN 61000-4-6/A1:2001

UNE-EN 60950-1:2007



ETSI EN 301 489-1 V1.6.1 , EN 300 328

Date: 30/03/2009

You can ask for the product's Declaration of Conformity through the contact section at: <http://www.libelium.com>.

Meshlium is equipment defined as a wireless communication device that offers:

- short and long-distance data, voice and image communication
- wireless access to electronic communication networks and wireless connection on local networks between computers and/or terminals and peripheral devices
- geolocation
- joining cable networks to wireless networks at different frequencies
- joining wireless networks at different frequencies to each other
- output of information obtained from wireless sensor networks
- to act as a data storage station

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- to capture information from the surrounding environment by means of connected interfaces, peripherals and sensors
- to interact with the surrounding environment by activating/deactivating electronic mechanisms (both analogue and digital)

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Characteristics of use of the equipment:

- equipment declared a non-mobile device
- equipment prepared for handling by qualified personnel only
- equipment for installation in zones of restricted access for qualified personnel only
- the configuration of additional modules, antenna and other accessories, must be carried out by qualified personnel only

Limitations of Use

The Bluetooth modules have a variable transmission power of 13-17dBm. They fulfil standard IEEE 802.15.1 - Bluetooth 1.2.

The low power Wifi module has a transmission power of 18dBm for 2.4GHz and 16dBm for 5GHz, which can be regulated using the configuration software. It fulfils standards IEEE 802.11a/b/g.

The high power 5GHz Wifi module has a transmission power of 28dBm, which can be regulated using the configuration software. It fulfils standard IEEE 802.11a.

The ZigBee/IEEE 802.15.4 module has a maximum transmission power of 20dBm. It is regulated by EN 301 489-1 v 1.4.1 (2002-04) and EN 301 489-17 V1.2.1 (2002 - 08). It must be limited using the configuration software to a maximum power of 12'11dBm (PL=0).

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

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

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

Note: The 850MHz band is not allowed in Spain. For further information about frequency and power restrictions contact the official regulation office in your country.

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The pigtail used to connect the radio module to the antenna's connector introduces a loss of approximately 1dBi for the 5GHz module and 0.25dBi for 2.4GHz, 868MHz, 900MHz and GSM/GPRS.

The broadcasting power at which the Wifi, XBee 2.4GHz, XBee 868MHz, XBee 900MHz modules function can be limited using the configuration software. It is the installer's responsibility to choose the correct power in each case, taking into account the following limitations:

The broadcasting power of any of the modules added to that of the antenna minus the loss introduced by the pigtail and cable joining the connector to the antenna (in the event of having an extra connection cable) must never exceed 20dBm (100mW) in the 2.4GHz frequency band, 30dBm in the 5470MHz-5725MHz band, 23dBm in the 5150MHz-5350MHz band, and 27dBm in the 868MHz band following ETSI/EU regulations.

It is the installer's responsibility to correctly configure the equipment's various parameters, whether hardware or software, in order to ensure compliance with the regulations of each country where it is used.

Specific limitations for the 2.4GHz band

-In Belgium it is authorised for use outdoors only on channels 11(2462MHz), 12(2467MHz) and 13(2472MHz). It can be used without a licence if for private use over a distance of less than 300m. For a greater distance or public use, an IBPT license is required.

-In France, its use is restricted to channels 10 (2457MHz), 11(2462MHz), 12(2467MHz), and 13(2472MHz). A license is required for both indoor and outdoor use. Please contact ARCEP (<http://www.arcep.fr>) for further information.

-In Germany, a license is necessary for its use outdoors.

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- In Italy, a license is necessary for its use indoors. Outdoor use is not permitted.
- In Holland, a license is necessary for its use outdoors.
- In Norway, use is prohibited near Ny-Alesund in Svalbard. For further information visit Norway Posts and Telecommunications (<http://www.npt.no>).

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Specific limitations for the 868MHz band

- In Italy the maximum transmission power is 14dBm.
- In the Slovak Republic the maximum transmission power is 10dBm.

IMPORTANT

*Libelium Comunicaciones Distribuidas S.L does not list the entire set of standards that must be met for each country. Libelium customers assume full responsibility for learning and meeting the required guidelines for each country in their distribution market. For more information relating to European compliance refer to the following web sites: 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>*