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C e r t i f i c a t e

Of

Radio Equipment in JAPAN

No.: 142150137/AA/00

Telefication, operating as Conformity Assessment Body (CAB ID Number: 201) with respect to Japan, declares that the listed product complies with the Technical Regulations Conformity Certification of Specified Radio equipment (ordinance of MPT N° 37,1981)

Product description: **45 Series WB module with Bluetooth**
Trademark: **Laird Technologies**
Family name: **--**
Type designation: **WB45NBT**
Serial No: **--**
Hard-|Software release No: **1|3.4.0.6**

Manufacturer: **Laird Technologies**
Address: **11160 Thompson Ave.**
City: **KS 66219 Lenexa**
Country: **United States**

This certificate is granted to:

Name: **Laird Technologies**
Address: **11160 Thompson Ave.**
City: **KS 66219 Lenexa**
Country: **United States**

This certificate has THREE Annexes.

Zevenaar, 24 April 2014

CAB

W.J.M. Jong
Manager Product Certification

RvA PRODUCTS RvA C 224

- The validity of this Certificate is limited to products, which are equal to the one examined in the type-examination.

- When the manufacturer (or holder of this certificate) is placing the product on the Japanese market, the product must be affixed with the following Specified Radio Equipment marking:

R 201-140137

Remarks and observations

The following conditions are applicable:

Antennas for IEEE 802.11a/b/g/n & Bluetooth:
Dipole antenna, max gain of 2 dBi at 2.4 GHz and max gain of 2 dBi at 5 GHz
Antennas for IEEE 802.11a/b/g/n & Bluetooth:
PCB Dipole antenna, max gain of 2.79 dBi at 2.4 GHz and max gain of 4 dBi at 5 GHz
Antennas for IEEE 802.11a/b/g/n & Bluetooth:
PIFA antenna, max gain of 2.5 dBi at 2.4 GHz and max gain of 3.5 dBi at 5 GHz

Documentation lodged for this type-examination

Test Reports:

- International Certification Corp.: JR411703AC, 23 April 2014
- International Certification Corp.: JR411703AD, 23 April 2014
- International Certification Corp.: JR411703AE, 23 April 2014
- International Certification Corp.: JR411703AN, 23 April 2014

Product Documentation:

- Assembly drawings
- Bill of materials
- Block diagram
- Electric diagrams
- Antenna specifications
- Photos

Technical Standards and Specifications

The product shows no non-compliances with:

- Equipment Radio Regulations: 2008 (including amendments)

  Chapter I, General Provisions
  Chapter II, Transmitting Equipment
  Chapter III, Receiving Equipment
  Chapter IV, section 4.17 article 49.20

Radio equipment specified in:
item (19)-2 of article 2, paragraph 1
Item (19) of article 2, paragraph 1
Item (19)-3 of article 2, paragraph 1
Item (19)-3-2 of article 2, paragraph 1

Technical features and characteristics

The product includes the following features and characteristics:

IEEE 802.11b 14 ch:
- Operating frequency range: 2484 MHz (1 channel)
- Operating frequency band: 2400-2483.5 MHz
- Modulation method(s): DSSS: DBPSK, DQPSK, CCK
- ITU designation: 20M4G1D
- Maximum output power: 2.5 mW/MHz rated

IEEE 802.11b:
- Operating frequency range: 2412-2472 MHz (13 channels)
- Operating frequency band: 2400-2483.5 MHz
- Modulation method(s): DSSS: DBPSK, DQPSK, CCK
- ITU designation: 13M9G1D
- Maximum output power: 5.5 mW/MHz rated

IEEE 802.11g:
- Operating frequency range: 2412-2472 MHz (13 channels)
- Operating frequency band: 2400-2483.5 MHz
- Modulation method(s): OFDM: BPSK, QPSK, 16QAM, 64QAM
- ITU designation: 17M0D1D
- Maximum output power: 3 mW/MHz rated

IEEE 802.11n 20 MHZ:
- Operating frequency range: 2412-2472 MHz (13 channels)
- Operating frequency band: 2400-2483.5 MHz
- Modulation method(s): OFDM: BPSK, QPSK, 16QAM, 64QAM
- ITU designation: 18M3D1D
- Maximum output power: 3 mW/MHz rated

IEEE 802.11a:
- Operating frequency range: 5180-5320 MHz (8 channels)
- Operating frequency band: 5150-5350 MHz
- Modulation method(s): OFDM: BPSK, QPSK, 16QAM, 64QAM
- ITU designation: 16M7D1D
- Maximum output power: 3 mW/MHz rated

IEEE 802.11a:
- Operating frequency range: 5500-5700 MHz (11 channels)
- Operating frequency band: 5470-5725 MHz
- Modulation method(s): OFDM: BPSK, QPSK, 16QAM, 64QAM
- ITU designation: 16M7D1D
- Maximum output power: 2 mW/MHz rated

IEEE 802.11an 20 MHz:
- Operating frequency range: 5180-5320 MHz (8 channels)
- Operating frequency band: 5150-5350 MHz
- Modulation method(s): OFDM: BPSK, QPSK, 16QAM, 64QAM
- ITU designation: 17M8D1D
- Maximum output power: 2.5 mW/MHz rated

IEEE 802.11an 20 MHz:
- Operating frequency range: 5500-5700 MHz (11 channels)
- Operating frequency band: 5470-5725 MHz
- Modulation method(s): OFDM: BPSK, QPSK, 16QAM, 64QAM
- ITU designation: 17M7D1D
- Maximum output power: 2 mW/MHz rated

Bluetooth LE:

- Operating frequency range: 2402-2480 MHz (40 channels)
- Operating frequency band: 2400-2483.5 MHz
- Modulation method(s): GFSK
- ITU designation: 1M27F1D
- Maximum output power: 6.5 mW rated

Bluetooth (incl. AFH):
- Operating frequency range: 2402-2480 MHz (79 channels)
- Operating frequency band: 2400-2483.5 MHz
- Modulation method(s): FHSS: GFSK, pi/4 DQPSK, 8DPSK
- ITU designation: 78M8F1D
- Maximum output power: 0.25 mW/MHz rated

The product as described in this Certificate includes the following type designations:

- Product description: 45 Series WB module with Bluetooth
- Trademark: Laird Technologies
- Type Designation: WB45NBT
- Hardware version: 1
- Software version: 3.4.0.6