



Certificate of Radio Equipment in JAPAN 201-240198 / 00

Issued 19 April 2024
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This certificate has THREE Annexes

Kiwa Nederland B.V., operating as Japan Conformity Assessment Body (CAB ID Number: 201), according procedure RD_740, declares that the listed product complies with the Technical Regulations Conformity Certification of Specified Radio equipment (ordinance of MPT N° 37,1981)

Product description: B SoM
Trademark: Particle
Type designation: B524
Hardware / Software: V1.00 / v2.2.0

Manufacturer: Particle Industries, Inc
Address: 325 9th Street
City: San Francisco, CA 94103
Country: United States Of America

This certificate is granted to:

Name: Particle Industries, Inc
Address: 325 9th Street
City: San Francisco, CA 94103
Country: United States Of America

Ron Scheepers
Managing director



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Chamber of commerce
08090048

CERTIFICATE

- 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:



Remarks and observations

The following conditions are applicable:

Antennas for Bluetooth:

PCB antenna, max gain of 2 dBi at 2.4 GHz

Monopole antenna, max gain of 2.9 dBi at WCDMA Band, max gain of 2.9 dBi at LTE Band

Documentation lodged for this type-examination

Test Reports:

- Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch: RJ2401WDG0172, 12 April 2024
- BV 7Layers Communications Technology (Shenzhen) Co. Ltd.: W7L-P24010014RJ02, 09 April 2024
- BV 7Layers Communications Technology (Shenzhen) Co. Ltd.: W7L-P24010014RJ03, 09 April 2024

Product Documentation:

- Assembly drawings
- Bill of materials
- Block diagram
- Electrical diagrams
- Antenna specifications
- Internal photos
- External photos
- Manual
- Production quality
- Test setup 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

Chapter IV, section 4.3.3 article 49.6.4

Chapter IV, section 4.3.4 article 49.6.5

Chapter IV, section 4.4.5 article 49.6.9

Radio equipment specified in:

Item 11-19, Paragraph 1, Article 2

Item 11-3, Paragraph 1, Article 2

Item 11-7, Paragraph 1, Article 2

Item 19, Paragraph 1, Article 2

Technical features and characteristics

The product includes the following features and characteristics:

Bluetooth LE_1M

- Operating frequency range: 2402-2480 MHz (40 channels)
- ITU designation: F1D
- Maximum output power: 7 mW rated

Bluetooth LE_2M

- Operating frequency range: 2404-2478 MHz (37 channels)
- ITU designation: F1D
- Maximum output power: 8 mW rated

WCDMA Band I

- Operating frequency range: 1922.6-1977.4 MHz (200kHz interval 275 channels)
- ITU designation: 5M00 G1A,G1B,G1C,G1D,G1E,G1F,G1X,G7W
- Maximum output power: 24 dBm rated

HSUPA Band I

- Operating frequency range: 1922.6-1977.4 MHz (200kHz interval 275 channels)
- ITU designation: 5M00 G1A,G1B,G1C,G1D,G1E,G1F,G1X,G7W
- Maximum output power: 24 dBm rated

WCDMA Band VIII

- Operating frequency range: 902.6-912.4 MHz (200kHz interval 50 channels)
- ITU designation: 5M00 G1A,G1B,G1C,G1D,G1E,G1F,G1X,G7W
- Maximum output power: 24 dBm rated

HSUPA Band VIII

- Operating frequency range: 902.6-912.4 MHz (200kHz interval 50 channels)
- ITU designation: 5M00 G1A,G1B,G1C,G1D,G1E,G1F,G1X,G7W
- Maximum output power: 24 dBm rated

LTE FDD Band 1

- Operating frequency range: 1922.5-1927.1 MHz (100kHz interval 47 channels)
- ITU designation: 5M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 10 dBm rated

LTE FDD Band 1

- Operating frequency range: 1927.2-1977.5 MHz (100kHz interval 504 channels)
- ITU designation: 5M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 1

- Operating frequency range: 1925.0-1934.6 MHz (100kHz interval 97 channels)
- ITU designation: 10M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 10 dBm rated

LTE FDD Band 1

- Operating frequency range: 1934.7-1975.0 MHz (100kHz interval 404 channels)
- ITU designation: 10M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 1

- Operating frequency range: 1927.5-1942.1 MHz (100kHz interval 147 channels)
- ITU designation: 15M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 10 dBm rated

LTE FDD Band 1

- Operating frequency range: 1942.2-1972.5 MHz (100kHz interval 304 channels)
- ITU designation: 15M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 1

- Operating frequency range: 1932.5-1932.5 MHz (The maximum length of continuous Resource Block used is 30 RBs with bandwidth 5.4 MHz in 1927.19 MHz - 1937.81 MHz)
- ITU designation: 15M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 1

- Operating frequency range: 1930.0-1949.6 MHz (100kHz interval 197 channels)
- ITU designation: 20M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 10 dBm rated

LTE FDD Band 1

- Operating frequency range: 1949.7-1970.0 MHz (100kHz interval 204 channels)
- ITU designation: 20M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 1

- Operating frequency range: 1930.0-1930.0 MHz (The maximum length of continuous Resource Block used is 24 RBs with bandwidth 4.32 MHz in 1925.32 MHz -1934.68 MHz)
- ITU designation: 20M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 3

- Operating frequency range: 1712.5-1782.5 MHz (100kHz interval 701 channels)
- ITU designation: 5M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 3

- Operating frequency range: 1715.0-1780.0 MHz (100kHz interval 651 channels)
- ITU designation: 10M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 3

- Operating frequency range: 1717.5-1777.5 MHz (100kHz interval 601 channels)
- ITU designation: 15M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 3

- Operating frequency range: 1720.0-1775.0 MHz (100kHz interval 551 channels)
- ITU designation: 20M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 8

- Operating frequency range: 902.5-907.4 MHz (100kHz interval 50 channels)(The maximum length of continuous Resource Block used is 20 RBs with bandwidth 3.6 MHz)
- ITU designation: 5M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 8

- Operating frequency range: 907.5-912.5 MHz (100kHz interval 51 channels)
- ITU designation: 5M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 8

- Operating frequency range: 910.0-910.0 MHz (The maximum length of continuous Resource Block used is 32 RBs with bandwidth 5.76 MHz in 906.22 MHz-914.5 MHz)
- ITU designation: 10M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 8

- Operating frequency range: 907.5-907.5 MHz
- ITU designation: 15M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 28

- Operating frequency range: 716.5-716.5 MHz
- ITU designation: 3M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 28

- Operating frequency range: 719.5-731.5 MHz (100kHz interval 121 channels)
- ITU designation: 3M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 28

- Operating frequency range: 720.5-730.5 MHz (100kHz interval 101 channels)
- ITU designation: 5M00 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 28

- Operating frequency range: 723.0-728.0 MHz (100kHz interval 51 channels)
- ITU designation: 10M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

LTE FDD Band 28

- Operating frequency range: 725.5-725.5 MHz
- ITU designation: 15M0 D1A,D1B,D1C,D1D,D1F,D1X,D7W,G1A,G1B,G1C,G1D,G1F,G1X,G7W
- Maximum output power: 23 dBm rated

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

- Product description: B SoM
- Trademark: Particle
- Type designation: B524
- Hardware version: V1.00
- Software version: v2.2.0