

## Certificate

of  
Radio Equipment in JAPAN

No: 201-180720 / 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: **Sterling-LWB5 Module**  
Trademark: **Laird**  
Type designation: **450-0168**  
Hardware / Software version: **1.0 / 6.37.39.77**  
Variants: **See Annex 3**

Manufacturer: **Laird Technologies**  
Address: **W66N220 Commerce Court, Cedarburg**  
City: **53012 Wisconsin**  
Country: **United States**

This certificate is granted to:

Name: **Laird Technologies**  
Address: **W66N220 Commerce Court, Cedarburg**  
City: **53012 Wisconsin**  
Country: **United States**

This certificate has THREE Annexes.

Zevenaar, 12 October 2018

**CAB**



David Chen  
Product Assessor



- 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 IEEE 802.11a/b/g/n/ac & Bluetooth:

Listed are 2 Dipoles, 1 PIFA and 1 Chip antenna's with max antenna peak gain 2.5 dBi at 2.4 GHz and 4 dBi at 5 GHz.

## Documentation lodged for this type-examination

### Test Reports:

- International Certification Corp.: JR770305-01AC, 08 October 2018
- International Certification Corp.: JR770305-01AD, 08 October 2018
- International Certification Corp.: JR770305-01AE, 08 October 2018
- International Certification Corp.: JR770305-01AN, 08 October 2018

### Product Documentation:

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

## 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, Paragraph 1, Article 2

Item 19-3, Paragraph 1, Article 2

Item 19-3-2, Paragraph 1, Article 2

## Technical features and characteristics

The product includes the following features and characteristics:

### Bluetooth (incl. AFH)

- Operating frequency range: 2402-2480 MHz (79 channels)
- ITU designation: 78M7 F1D,G1D
- Maximum output power: 0.40 mW/MHz rated

### Bluetooth LE

- Operating frequency range: 2402-2480 MHz (40 channels)
- ITU designation: 1M31 F1D
- Maximum output power: 4.00 mW rated

### IEEE 802.11b

- Operating frequency range: 2412-2472 MHz (13 channels)
- ITU designation: 11M3 G1D
- Maximum output power: 2.00 mW/MHz rated

### IEEE 802.11g

- Operating frequency range: 2412-2472 MHz (13 channels)
- ITU designation: 17M2 D1D,G1D
- Maximum output power: 1.00 mW/MHz rated

### IEEE 802.11n 20 MHz

- Operating frequency range: 2412-2472 MHz (13 channels)
- ITU designation: 18M2 D1D,G1D
- Maximum output power: 0.50 mW/MHz rated

### IEEE 802.11n 40 MHz

- Operating frequency range: 2422-2462 MHz (9 channels)
- ITU designation: 36M8 D1D,G1D
- Maximum output power: 0.15 mW/MHz rated

### IEEE 802.11a

- Operating frequency range: 5180-5240 MHz (4 channels)
- ITU designation: 17M2 D1D,G1D
- Maximum output power: 2.5 mW/MHz rated

### IEEE 802.11n 20 MHz

- Operating frequency range: 5180-5240 MHz (4 channels)
- ITU designation: 18M2 D1D,G1D
- Maximum output power: 1.5 mW/MHz rated

### IEEE 802.11n 40 MHz

- Operating frequency range: 5190-5230 MHz (2 channels)
- ITU designation: 36M9 D1D,G1D
- Maximum output power: 0.5 mW/MHz rated

### IEEE 802.11ac (VHT20)

- Operating frequency range: 5180-5240 MHz (4 channels)
- ITU designation: 18M2 D1D,G1D
- Maximum output power: 1.5 mW/MHz rated

### IEEE 802.11ac (VHT40)

- Operating frequency range: 5190-5230 MHz (2 channels)
- ITU designation: 36M9 D1D,G1D
- Maximum output power: 0.5 mW/MHz rated

**IEEE 802.11ac (VHT80)**

- Operating frequency range: 5210 MHz
- ITU designation: 75M9 D1D,G1D
- Maximum output power: 0.25 mW/MHz rated

**IEEE 802.11a**

- Operating frequency range: 5260-5320 MHz (4 channels)
- ITU designation: 17M4 D1D,G1D
- Maximum output power: 2.5 mW/MHz rated

**IEEE 802.11n 20 MHz**

- Operating frequency range: 5260-5320 MHz (4 channels)
- ITU designation: 18M3 D1D,G1D
- Maximum output power: 1.5 mW/MHz rated

**IEEE 802.11n 40 MHz**

- Operating frequency range: 5270-5310 MHz (2 channels)
- ITU designation: 37M0 D1D,G1D
- Maximum output power: 0.5 mW/MHz rated

**IEEE 802.11ac (VHT20)**

- Operating frequency range: 5260-5320 MHz (4 channels)
- ITU designation: 18M3 D1D,G1D
- Maximum output power: 1.5 mW/MHz rated

**IEEE 802.11ac (VHT40)**

- Operating frequency range: 5270-5310 MHz (2 channels)
- ITU designation: 36M9 D1D,G1D
- Maximum output power: 0.5 mW/MHz rated

**IEEE 802.11ac (VHT80)**

- Operating frequency range: 5290 MHz
- ITU designation: 76M0 D1D,G1D
- Maximum output power: 0.25 mW/MHz rated

**IEEE 802.11a**

- Operating frequency range: 5500-5700 MHz (11 channels)
- ITU designation: 17M6 D1D,G1D
- Maximum output power: 2.5 mW/MHz rated

**IEEE 802.11n 20 MHz**

- Operating frequency range: 5500-5700 MHz (11 channels)
- ITU designation: 18M3 D1D,G1D
- Maximum output power: 1.5 mW/MHz rated

**IEEE 802.11n 40 MHz**

- Operating frequency range: 5510-5670 MHz (5 channels)
- ITU designation: 37M0 D1D,G1D
- Maximum output power: 0.25 mW/MHz rated

**IEEE 802.11ac (VHT20)**

- Operating frequency range: 5500-5700 MHz (11 channels)
- ITU designation: 18M3 D1D,G1D
- Maximum output power: 1.5 mW/MHz rated

**IEEE 802.11ac (VHT40)**

- Operating frequency range: 5510-5670 MHz (5 channels)
- ITU designation: 37M0 D1D,G1D
- Maximum output power: 0.25 mW/MHz rated

**IEEE 802.11ac (VHT80)**

- Operating frequency range: 5530-5610 MHz (2 channels)
- ITU designation: 76M0 D1D,G1D
- Maximum output power: 0.15 mW/MHz rated

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

- Product description:	Sterling-LWB5 Module
- Trademark:	Laird
- Type designation:	450-0168
- Hardware version:	1.0
- Software version:	6.37.39.77

- Product description:	Sterling-LWB5 Module
- Trademark:	Laird
- Type designation:	450-0169
- Hardware version:	1.0
- Software version:	6.37.39.77