

**Bay Area Compliance Laboratories Corp.**

**JAPAN MIC  
CERTIFICATE OF TYPE APPROVAL**

**Certificate Number:** 211-180419

**Certificate Holder:** Espressif Systems (Shanghai) PTE Ltd.  
Room 204, Building 2, 690 Bibo Road, Pudong Dist., Shanghai, China

**Manufacturer:** Espressif Systems (Shanghai) PTE Ltd.

**Model Number(s):** ESP32-WROVER-B, ESP32-WROVER-IB

**Type of Equipment:** Article 2 Paragraph 1, Item 19, Item 19-2  
Low Power Data Communications System in the 2.4 GHz Band  
Specified Radio Equipment Specified in Article 38-2-2,  
Paragraph 1, Item 1 of the Radio Law

**Category:** Bluetooth/BLE: 2402-2480 MHz

**Frequency Range:** Wi-Fi: 2412-2472 MHz, 2422-2462 MHz, 2484 MHz (802.11b CH 14)

**Modulation(s):** Bluetooth: GFSK,  $\pi/4$ -DQPSK, 8DPSK; BLE: GFSK  
Wi-Fi: DSSS, OFDM

**Channel Spacing:** Bluetooth: 1 MHz (79 CH); BLE: 2 MHz (40 CH)  
Wi-Fi: 5 MHz (13 CH @ 20 MHz BW, 9 CH @ 40 MHz BW)

**Type of Emissions:** Bluetooth/BLE: F1D; Wi-Fi: G1D, D1D  
Bluetooth: 0.2 mW/MHz; BLE: 1.0 mW  
Wi-Fi: 6.0 mW/MHz (802.11b CH1-13 & CH14)  
2.5 mW/MHz (802.11g/n20), 0.8 mW/MHz (802.11n40)

**Antenna Output Power:** 2.5 mW/MHz (802.11g/n20), 0.8 mW/MHz (802.11n40)

**Antenna Type:** PCB Antenna, 3.74 dBi; IPEX External, 2.33 dBi

**Standards Applied:** MIC Notices NO. 88 Annex 1, 43, 44  
B1804268, RSHA180425002-24A, RSHA180425002-24B,  
RSHA180425002-24C, RSHA180425002-24D

**Remark:**

**Registered Certification Body:** RCB ID: 211  
Bay Area Compliance Laboratories Corp.  
1274 Anvilwood Ave., Sunnyvale, CA 94089, USA  
Tel: 1-(408)-732-9162 Fax: 1-(408)-732-9164  
www.baclcorp.com

This certificate is issued to the applicant for the product(s) listed above which is (are) compliant with the Radio Law (Law No. 131, 1950) and Amendments.

Authorized by: *Daniel Deng*  
Daniel Deng, Certifier



Issue Date: 2018-06-04

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