



EU type-examination certificate (Module B) 172141367/AA/02

Issued 02 March 2023
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This certificate has THREE Annexes

In compliance with the procedure specified in the **Radio Equipment Directive Scheme RD_061**, Kiwa Nederland B.V. declares as designated Notified Body 0063 for the Radio Equipment Directive, that the stated product complies with the essential requirements, in accordance with Article 3 of Directive 2014/53/EU and amending Directive (EU) 2022/2380, as indicated under Annex 1 of this certificate, based on the applicable technical standards and specifications as listed in Annex 2 of this certificate.

Product description: Wi-Fi & Bluetooth Internet of Things Module
Trademark: WROOM
Type designation: ESP32-WROOM-32U
Hardware / Software: V2.1 / V1.0

This certificate is granted to manufacturer:

Name: ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD
Address: Room 204, Building 2, 690 Bibo Road, Zhangjiang Hitech Park
City: Shanghai
Country: China

This certificate remains valid as long as the stated product stays in compliance with the essential requirements of the Radio Equipment Directive.

Ron Scheepers
Managing director



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Chamber of commerce
08090048

CERTIFICATE

General Conditions

For each product to which this EU-type examination certificate relates, it has complied to the essential requirements as follows:

Article 3.1

Radio equipment shall be constructed so as to ensure:

- C (a) the protection of health and safety of persons and of domestic animals and the protection of property, including the objectives with respect to safety requirements set out in Directive 2014/35/EU, but with no voltage limit applying;
- C (b) an adequate level of electromagnetic compatibility as set out in Directive 2014/30/EU.

Article 3.2

- C Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

Article 3.3

Radio equipment within certain categories or classes shall be so constructed that it complies with the following essential requirements:

- NA (a) radio equipment interworks with accessories other than the charging devices for the categories or classes of radio equipment, specified in Part I of Annex Ia, which are specifically referred to in paragraph 4 of this Article
- NA (b) radio equipment interworks via networks with other radio equipment;
- NA (c) radio equipment can be connected to interfaces of the appropriate type throughout the Union;
- NA (d) radio equipment does not harm the network or its functioning nor misuse network resources, thereby causing an unacceptable degradation of service;.
- NA (e) radio equipment incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected;
- NA (f) radio equipment supports certain features ensuring protection from fraud;
- NA (g) radio equipment supports certain features ensuring access to emergency services;
- NA (h) radio equipment supports certain features in order to facilitate its use by users with a disability;
- NA (i) radio equipment supports certain features in order to ensure that software can only be loaded into the radio equipment where the compliance of the combination of the radio equipment and software has been demonstrated.

Article 3.4

- (a) Radio equipment falling within the categories or classes specified in Part I of Annex Ia shall be so constructed that it complies with the specifications relating to charging capabilities set out in that Annex for the relevant category or class of radio equipment.

Legend

C	=	Conform
NC	=	Not Conform
NA	=	Not applicable (for this equipment)
NP	=	Not performed (for this certificate)

- This EU-type examination certificate is limited to the Radio Equipment Directive.
- This EU-type examination certificate is part of the Conformity Assessment procedure Module B and C, as described in annex III of the Radio Equipment Directive.
- The validity of this EU-type examination certificate is limited to products, which are equal to the one(s) assessed for this EU-type examination.
- When the manufacturer (or holder of this EU-type examination certificate) is placing the listed products on the European market or the countries of the EEA, he is obliged to label the products with the prescribed CE logo. The CE logo stands for conformity to all applicable Directives.
Next to the CE logo the manufacturer has to draw up and issue a Declaration of Conformity, declaring that the product(s) described in this EU type-examination certificate, are in compliance with Directive 2014/53/EU and any other applicable EU harmonization legislation.
- Each product shall be identified by means of type, batch and/or serial numbers and the name of the manufacturer and/or importer.
- If the equipment is to be modified, Kiwa shall be notified immediately. Depending on the modifications, Kiwa may have additional examinations carried out in consultation with the applicant.
- Enforcement of a new amending directive voids the validity of this EU-type examination certificate.
- In case any referenced standard in this EU-type examination certificate is withdrawn or superseded and the presumption of conformity with the essential requirements has ceased, investigation by Kiwa is needed to determine the validity of this EU-type examination certificate.

Remarks and observations

The following conditions are applicable:

AA/02: Update standards as described in the filing.

AA/01: Update typo made in the address of the manufacturer.

Documentation lodged for this EU-type examination

Test Reports:

- TA Technology (Shanghai) Co., Ltd.: RXA1710-0354RF01, 07 December 2017
- TA Technology (Shanghai) Co., Ltd.: RXA1710-0354EMF, 07 December 2017
- TA Technology (Shanghai) Co., Ltd.: RXA1710-0354EMC, 07 December 2017
- TA Technology (Shanghai) Co., Ltd.: RXA1710-0354SAF, 07 December 2017
- TA Technology (Shanghai) Co., Ltd.: R2301A0002-E1, 24 February 2023
- TA Technology (Shanghai) Co., Ltd.: R2301A0002-L1, 24 February 2023
- TA Technology (Shanghai) Co., Ltd.: R2301A0002-M1, 24 February 2023
- TA Technology (Shanghai) Co., Ltd.: R2301A0002-R1, 24 February 2023

Product Documentation:

- Test setup photos
- RED declarations

Technical Standards and Specifications

The product is compliant with:

EN 300 328	July, 2019	V2.2.2
EN 301 489-1	November, 2019	V2.2.3
EN 301 489-17	September, 2020	V3.2.4
EN 50665	November, 2017	
EN 55032:2015+A11:2020	March, 2020	
EN 55035:2017+A11:2020	May, 2020	
EN IEC 62311	January, 2020	
EN IEC 62368-1:2020+A11:2020	March, 2020	
IEC 62368-1	October, 2018	Ed. 3.0

Technical features and characteristics

The product includes the following features and characteristics:

Bluetooth

- Operating frequency range: 2402-2480 MHz (79 channels)
- Maximum output power: -0.58 dBm EIRP average (calculated)
- Maximum antenna gain: 2.33 dBi

Bluetooth LE

- Operating frequency range: 2402-2480 MHz (40 channels)
- Maximum output power: 2.56 dBm EIRP average (calculated)
- Maximum antenna gain: 2.33 dBi

IEEE 802.11b/g/n (20/40 MHz)

- Operating frequency range: 2412-2472 MHz (13/9 channels)
- Maximum output power: 19.69 dBm EIRP average (calculated)
- Maximum antenna gain: 2.33 dBi

The product as described in this EU-type examination includes the following type designations:

- Product description: Wi-Fi & Bluetooth Internet of Things Module
- Trademark: WROOM
- Type designation: ESP32-WROOM-32U
- Hardware version: V2.1
- Software version: V1.0