

# CERTIFICADO DE EXAMEN UE DE TIPO

## EU-TYPE EXAMINATION CERTIFICATE



No. **0370-RED-5056**

<b>EMITIDO POR / ISSUED BY</b>	LGAI TECHNOLOGICAL CENTER - No. 0370 (APPLUS)	
<b>SOLICITANTE / APPLICANT</b>	<b>Espressif Systems (Shanghai) Co.,Ltd.</b>	
<b>FABRICANTE (Nombre, Dirección)</b> <i>MANUFACTURER (Name, Address)</i>	<b>Espressif Systems (Shanghai) Co.,Ltd.</b> Suite 204, Block 2, 690 Bibo Road, Zhang Jiang Hi-Tech Park, Shanghai, China	
<b>COMERCIALIZADO POR (marca)</b> <i>COMMERCIALISED BY (Brand)</i>	<b>ESPRESSIF</b>	
<b>PRODUCTO</b> <i>PRODUCT</i>	<b>Wi-Fi Internet of Things Module</b>	
<b>TIPOS</b> <i>TYPES</i>	ESP32-S2-SOLO&ESP32-S2-SOLO-U	
<b>Versión HW / FMW</b> <i>HW / FMW version</i>	SW: V1.1.3.0 HW: V1.4	
<b>DIRECTIVA APLICABLE</b> <i>APPLICABLE DIRECTIVE</i>	<b>DIRECTIVA 2014/53/UE DEL PARLAMENTO EUROPEO Y DEL CONSEJO, DE 16 DE ABRIL DE 2014, RELATIVA A LA ARMONIZACIÓN DE LAS LEGISLACIONES DE LOS ESTADOS MIEMBROS SOBRE LA COMERCIALIZACIÓN DE EQUIPOS RADIOELÉCTRICOS</b> <i>DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 APRIL 2014 ON THE HARMONISATION OF THE LAWS OF THE MEMBER STATES RELATING TO THE MAKING AVAILABLE ON THE MARKET OF RADIO EQUIPMENT</i>	
<b>DESCRIPCIÓN</b> <i>DESCRIPTION</i>	<b>The device is a Wi-Fi Internet of Things Module with Wi-Fi 2.4G.</b>	
<b>CUMPLE CON LOS REQUISITOS ESENCIALES</b> <i>MEET ESSENTIAL REQUIREMENTS</i>	Art.3.1a Salud y Seguridad / <i>Art.3.1a Health &amp; Safety</i> <input checked="" type="checkbox"/>	Art. 3.2 Uso eficiente del espectro radioeléctrico / <i>Art.3.2 Efficient use of Radio spectrum</i> <input checked="" type="checkbox"/>
	Art.3.1b EMC / <i>Art.3.1b EMC</i> <input checked="" type="checkbox"/>	Art 3.3 Características especiales / <i>Art.3.3 Special characteristics</i> <input type="checkbox"/>

Este documento carece de validez sin su anexo, cuyo número coincide con el del presente certificado. // *This document is not valid without its technical annex, whose number coincides with the number of the certificate.*

La evaluación de la documentación técnica entregada se encuentran recogidos en el expediente técnico número: 22/36401100  
*The evaluation of the technical documentation delivered is included in the technical file number: 22/36401100*

Restricciones (si aplican) / *Restrictions (if apply):*

Bellaterra, 13 de abril de 2022 // *13th April 2022*



LGAI Technological Center, S.A.

José Luis Medina  
Director  
Electrical & Electronics - Spain

Este Certificado es válido mientras no se produzcan cambios en el estado de la técnica que indiquen que el equipo radioeléctrico aprobado ya no puede cumplir los requisitos esenciales de la Directiva 2014/53/UE y no haya notificaciones en el tipo aprobado que puedan afectar a la conformidad con los requisitos esenciales de la Directiva 2014/53/UE  
*This Certificate is valid as long as there are no changes in the prior art indicating that the approved radio equipment can no longer meet the essential requirements of Directive 2014/53/UE and there are no notifications of the approved type that may affect the Accordance with the essential requirements of Directive 2014/53/UE*

## **ANEXO TÉCNICO**

### *TECHNICAL ANNEX*

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## **A. MODEL DESCRIPTION**

### **A.1. GENERAL INFORMATION ON THE RADIO EQUIPMENT:**

**Manufacturing country:** China  
**Brand:** ESPRESSIF  
**Commercial designation:** ESPRESSIF  
**Country of commercialization:** European Union  
**Radio service:** Wi-Fi 2.4G  
**Application:** Wi-Fi Internet of Things Module

#### **A.1.1 TRADE VERSIONS/VARIANTS: ESP32-S2-SOLO&ESP32-S2-SOLO-U**

### **A.2. FEATURES: Wi-Fi Internet of Things Module**

### **A.3. SOFTWARE VERSION(S): V1.1.3.0**

### **A.4. HARDWARE VERSION(S): V1.4**

### **A.5. OTHER COMPONENTS**

- **Disposable antenna** YES  NO 
  - **Antenna gain (dBi)\*: 2.33 dBi (ESP32-S2-SOLO-U);**  
(\* ) only in case of YES

## ANEXO TÉCNICO

### TECHNICAL ANNEX

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#### A.6. OPERATING FREQUENCIES AND MAXIMUM POWER EMITTED BY BAND

BAND	SERVICE	OPERATIONAL FREQUENCY (TX)	MAX POWER*	CNAF IR	CNAF/ UN-XXX
Band 1	WiFi 2.4GHz	F_min: 2412MHz F_max: 2472MHz	19.97 dBm	IR-163	UN-85

N/A: Not applicable  
N/D: Not defined

\* Conducted power for mobile technologies and EIRP for other technologies.

#### A.7. OTHER PARAMETERS OF RADIO INTERFACE SPECIFICATIONS (RI)

Requires license/Use authorization: YES  NO

## ANEXO TÉCNICO

### TECHNICAL ANNEX

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## B. TEST PROTOCOL

REQUIREMENT	STANDARD	Laboratory	Report no.
<b>Health and Safety</b> <b>(Article 3.1a)</b>	EN IEC 62368-1:2020+A11:2020	TA Technology (Shanghai) Co., Ltd.	R2106A0532-L1
	EN 50665:2017		R2106A0532-L2
	EN IEC 62311:2020		R2106A0532-M1
<b>EMC</b> <b>(Article 3.1b)</b>	EN 301 489-1 V2.2.3	TA Technology (Shanghai) Co., Ltd.	R2106A0532-E1
	EN 301 489-17 V3.2.4		
	EN 55032:2015+A11:2020		
	EN 55035:2017+A11:2020		
<b>Radio Aspects</b> <b>(Article 3.2)</b>	EN 300 328 V2.2.2	TA Technology (Shanghai) Co., Ltd.	R2106A0532-R1

## C. RESTRICTIONS

Restrictions: YES  NO

Describe restrictions: N/A

## **ANEXO TÉCNICO** *TECHNICAL ANNEX*

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### **D. ACTIVITIES CARRIED OUT BY THE NB**

#### **Technical Documentation Review**

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Assembly drawings(s)                   | <input checked="" type="checkbox"/> Block diagram   | <input checked="" type="checkbox"/> Circuit diagram/schematics   |
| <input checked="" type="checkbox"/> External photographs        | <input checked="" type="checkbox"/> Label drawing/location                                    | <input checked="" type="checkbox"/> User manual                  |
| <input checked="" type="checkbox"/> Internal photographs        | <input checked="" type="checkbox"/> Operational description                                   | <input checked="" type="checkbox"/> Risk Assessment              |
| <input checked="" type="checkbox"/> Test set-up photographs     | <input checked="" type="checkbox"/> Test reports  | <input checked="" type="checkbox"/> EU declaration of conformity |
| <input checked="" type="checkbox"/> Bill of materials           | <input checked="" type="checkbox"/> PCB layout  |  |
| <input type="checkbox"/> Installation diagrams and explanations | <input checked="" type="checkbox"/> List of applied (harmonized and non-harmonized) standards |  |

#### **Other activities**

- RIS
- EFIS/CNAF
- Review Technical Justifications
- Analysis report
- EU type certification issued

### **E. ADDITIONAL INFORMATION:**

Radio Equipment Directive 2014/53/EU, Article 10.4: Manufacturers shall keep the technical documentation and the EU declaration of conformity for 10 years after the radio equipment has been placed on the market.

Radio Equipment Directive 2014/53/EU, Annex III, Module B.7: The manufacturer shall inform the notified body that holds the technical documentation relating to the EU-type examination certificate of all modifications to the approved type that may affect the conformity of the radio equipment with the essential requirements of this Directive or the conditions for validity of that certificate. Such modifications shall require additional approval in the form of an addition to the original EU-type examination certificate.

This review includes draft standards, deviations from the standards and technical justification for compliance.