



Organismo Notificado N° 0370

CERTIFICADO DE EXAMEN UE DE TIPO EU-TYPE EXAMINATION CERTIFICATE



No. **0370-RED-3500**

EMITIDO POR / ISSUED BY	LGA TECHNOLOGICAL CENTER - No. 0370 (APPLUS)	
SOLICITANTE / APPLICANT	BeagleBoard.org Foundation 4467 Ascot Court Oakland Township, Michigan, US 48306	
FABRICANTE (Nombre, Dirección) <i>MANUFACTURER (Name, Address)</i>	Embest Technology Co., Ltd. Tower B 4/F, Shanghai Building, Nanshan Yungu Innovation Industry Park, Liuxian Ave. No.1183, Taoyuan St., Nanshan District, Shenzhen, China.	
COMERCIALIZADO POR (marca) <i>COMMERCIALISED BY (Brand)</i>	N/A	
PRODUCTO <i>PRODUCT</i>	Beaglebone AI	
TIPOS <i>TYPES</i>	Beaglebone AI	
Versión HW / FMW <i>HW / FMW version</i>	SW: V1.0 HW: A1	
DIRECTIVA APLICABLE <i>APPLICABLE DIRECTIVE</i>	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 <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>	
DESCRIPCIÓN <i>DESCRIPTION</i>	The device is a 2.4GHz & 5GHz Wi-Fi, BT EDR, BLE Beaglebone AI.	
CUMPLE CON LOS REQUISITOS ESENCIALES <i>MEET ESSENTIAL REQUIREMENTS</i>	Art.3.1a Salud y Seguridad / <i>Art.3.1a Health & Safety</i>	<input checked="" type="checkbox"/> Art. 3.2 Uso eficiente del espectro radioeléctrico / <i>Art.3.2 Efficient use of Radio spectrum</i>
	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>

Este documento carece de validez sin su anexo, cuyo número coincide con el 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: 19/31705477
The evaluation of the technical documentation delivered is included in the technical file number: 19/31705477

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

Bellaterra, 2 de agosto 2019 // 2nd August 2019

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Applus⁺
LGA Technological Center, S.A.

Xavier Ruiz Peña
Managing Director, Product Conformity B.U.



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/EU and there are no notifications of the approved type that may affect the Accordance with the essential requirements of Directive 2014/53/EU

ANEXO TÉCNICO *TECHNICAL ANNEX*

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A. MODEL DESCRIPTION

A.1. GENERAL INFORMATION ON THE RADIO EQUIPMENT:

Manufacturing country: US
Brand: N/A
Commercial designation: N/A
Country of commercialization: European Union
Radio service: 2.4GHz & 5GHz Wi-Fi, BT EDR, BLE
Application: Beaglebone AI

A.1.1 TRADE VERSIONS/VARIANTS: Beaglebone AI

A.2. FEATURES: Beaglebone AI

A.3. SOFTWARE VERSION(S): V1.0

A.4. HARDWARE VERSION(S): A1

A.5. OTHER COMPONENTS

- **Disposable antenna** YES ☐ NO ☒
 - **Antenna gain (dBi)*:**
(*) only in case of YES

N/A

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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	Bluetooth	F_min: 2402MHz F_max : 2480MHz	9.17 dBm	IR-163	UN-85
Band 2	BLE	F_min: 2402MHz F_max : 2480MHz	3.78 dBm	IR-163	UN-85
Band 3	WiFi 2.4GHz	F_min: 2412MHz F_max : 2472MHz	17.39 dBm	IR-163	UN-85
Band 4	WiFi 5.2GHz	F_min: 5180MHz F_max : 5240MHz	8.69 dBm	IR-12	UN-128
Band 5	WiFi 5.6GHz	F_min: 5500MHz F_max : 5700MHz	8.65 dBm	IR-12	UN-128
Band 6	WiFi 5.8GHz	F_min: 5745MHz F_max : 5825MHz	4.51 dBm	IR-82	UN-130

N/A: Not applicable

N/D: Not defined

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

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

FREQUENCY BANDS	SERVICE	CHANNELLING	MODULATION/BAND OCCUPATION	DIRECTION/SEPARATION	DUTY CYCLE
Band 1	Bluetooth	N/A	Digital	N/A	N/D
Band 2	BLE	N/A	Digital	N/A	N/D
Band 3	WiFi 2.4GHz	N/A	Digital	N/A	N/D
Band 3	WiFi 5.2GHz	N/A	Digital	N/A	N/D
Band 3	WiFi 5.6GHz	N/A	Digital	N/A	N/D
Band 4	WiFi 5.8GHz	N/A	Digital	N/A	N/D

N/A: Not applicable

N/D: Not defined

Requires license/Use authorization: YES ☒ NO ☐

NOTE mobile service: Class I, because of product is a mobile station.

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B. TEST PROTOCOL

REQUIREMENT	STANDARD	Laboratory	Report no.
Health and Safety (Article 3.1a)	EN 60950-1: 2006+ A11:2009 + A1:2010+ A12:2011+A2:2013	Shenzhen CTL Testing Technology Co., Ltd.	CTL1906244051-WS
	EN 62311:2008		CTL1906244051-WH
EMC (Article 3.1b)	ETSI EN 301 489-1 V2.1.1		CTL1906244051-WE
	ETSI EN 301 489-3 V2.1.1		
	ETSI EN 301 489-17 V3.1.1		
Radio Aspects (Article 3.2)	EN 300 328 V2.1.1		CTL1906244051-WR01
			CTL1906244051-WR02
			CTL1906244051-WR03
	EN 301 893 V2.1.1		CTL1906244051-WR04
	EN 300 440 V2.2.1		CTL1906244051-WR05

C. RESTRICTIONS

Restrictions YES ☒ NO ☒

Describe restrictions: Indoor use for frequency range 5.15GHz to 5.35GHz.

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ANEXO TÉCNICO *TECHNICAL ANNEX*

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D. ACTIVITIES CARRIED OUT BY THE NB

Technical Documentation Review

- | | | |
|---|---|--|
| <input checked="" 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.

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[Signature]