

## Modular Approval Request Letter

**FCC ID: 2AC7Z-ESP32WROOM32U**

**Data: January 12, 2018**

Gentlemen:

There's a Wi-Fi Internet of Things Module that would like to have your authorization as a modular approval. The specific product as below, with its designed features and specified description, meets special requirements for full modular approval on FCC Public Notice 15.212 Released: June 26, 2000 by cross-reference list below.

Company	ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD
Model Name	Wi-Fi & Bluetooth Internet of Things Module
Model Number	ESP32-WROOM-32U
FCC ID	2AC7Z-ESP32WROOM32U

Requirement of Public Notice 15.212	Reference to ESP32-WROOM-32U
1. The modular transmitter must have its own RF shielding.	The module has its own RF shielding. Please see external photo.pdf
2. The modular transmitter must have buffered modulation/data inputs.	The modular has buffered data inputs, it is integrated in chip ESP32. Please see schematic.pdf
3. The modular transmitter must have its own power supply regulation.	As we showed in the module's schematic , VDD33 is system's main power input, its working voltage is 2.7~3.6v and we suggest to use typical voltage 3.3v to power the system. And there are several LDOs in our chip(ESP32-D0WD), when power on, it will convert the voltage to the whole chip. Please see schematic.pdf
4. The modular transmitter must comply with the antenna requirements of Section 15.203 and 15.204(c).	The ESP32-WROOM-32U meets the FCC antenna requirements. It is an On-board antenna, Please see internal photo.pdf
5. The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing.	The ESP32-WROOM-32U was tested in a stand-alone configuration via com serial interface. Please see test set-up photo.pdf
6. The modular transmitter must be labeled with its own FCC ID number, and, if the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.	The label position of ESP32-WROOM-32U is clearly indicated. If the FCC ID of the module cannot be seen when it is installed, then the host label must include the text: Contains FCC ID: 2AC7Z-ESP32WROOM32U. Please see the label.pdf
7. The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.	The ESP32-WROOM-32U is compliant with all applicable FCC rules. Detail instructions are given in the Users Manual. Please see user manual.pdf
8. The modular transmitter must comply with any applicable RF exposure requirements. For example, FCC Rules in Sections 2.1091, 2.1093 and specific Sections of Part 15, including 15.319(i), 15.407(f), 15.253(f) and 15.255(g), require that Unlicensed PCS, UNII and millimeter wave devices perform routine environmental evaluation for RF Exposure to demonstrate compliance. In addition, spread spectrum transmitters operating under Section 15.247 are required to address RF Exposure compliance in accordance with Section 15.247(b)(4).	The ESP32-WROOM-32U is approved to comply with the applicable RF exposure requirement, please see the MPE evaluation with 20cm as the distance restriction.

Thank you.

Sincerely,

*Minjie Cai*

Minjie Cai / Marketing Manager  
ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD