



# Wi-Fi CERTIFIED™ Certificate



This certificate lists the features that have successfully completed Wi-Fi Alliance interoperability testing. Learn more: [www.wi-fi.org/certification/programs](http://www.wi-fi.org/certification/programs)

**Certification ID: WFA77387**

## Product Info

<b>Date of Certification</b>	November 28, 2023
<b>Company</b>	Espressif Systems (Shanghai) Co., Ltd.
<b>Product Name</b>	Wi-Fi & Bluetooth Internet of Things Module
<b>Product Model Variant</b>	ESPRESSIF ESP32-WROOM-32D
<b>Model Number</b>	ESP32-WROOM-32D
<b>Category</b>	Other
<b>Sub-category</b>	Embedded Module

## Summary of Certifications

CLASSIFICATION	CERTIFICATION
<b>Access</b>	Wi-Fi Protected Setup™
<b>Connectivity</b>	2.4 GHz Spectrum Capabilities Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n
<b>Optimization</b>	WMM®
<b>Security</b>	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2018-04 WPA3™-Enterprise 2018-04 WPA3™-Personal 2019-08 WPA™-Enterprise WPA™-Personal



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Role: Station

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## Wi-Fi Components

### Wi-Fi Component Operating System

FreeRTOS, version:V8.2.0

### Wi-Fi Component Firmware

bdd9eff

### RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	1	1

## Certifications

### 2.4 GHz Spectrum Capabilities

20 MHz Channel Width in 2.4 GHz  
40 MHz Channel Width in 2.4 GHz

### Protected Management Frames

### WMM®

### WPA2™-Enterprise 2018-04

EAP methods  
EAP TLS  
EAP TTLS  
PEAPv0

### WPA2™-Personal 2018-04

### WPA3™-Enterprise 2018-04

EAP methods  
EAP TLS  
EAP TTLS  
PEAPv0

### WPA3™-Personal 2019-08

### WPA™-Enterprise

### WPA™-Personal

### Wi-Fi CERTIFIED™ b

### Wi-Fi CERTIFIED™ g

### Wi-Fi CERTIFIED™ n

A-MPDU Tx  
Short Guard Interval  
STBC

### Wi-Fi Protected Setup™

PIN  
Pushbutton