

Code: ESP-WROOM-32

## WI-FI + BLUETOOTH + BLUETOOTH LE MODULE **ESP-WROOM-32** Espressif

The ESP-WROOM-32 radio communication module allows you to extend projects based on various microcontrollers with wireless communication in the 2.4 GHz band. The device allows you to use Wi-Fi (802.11 b/g/n), Bluetooth / Bluetooth LE protocols and, if necessary, your own protocols written by the user.

The system is equipped with two Xtensa® 32-bit LX6 microprocessors and an additional low-power auxiliary processor that allows performing simple operations (e.g. listening for transmissions, timer, waiting for a wake-up signal) without using the main processors. The integrated 4 MB Flash memory will also help in using the additional capabilities of the controller. Everything can be programmed via the appropriate USB -> UART 3.3V interface using the Arduino IDE or Eclipse IDE environment.

**Attention!** During programming and using the module, pay attention to the voltage levels of the logic circuits. The module has been designed for use with a voltage of 3.3 V<sub>DC</sub> both on the supply side of the device and in the logical layer. Supplying 5 V<sub>DC</sub> voltage to the inputs may cause permanent damage to the module.



Supported standards:	IEEE 802.11 b/g/n, Bluetooth LE
Processor:	2 x Xtensa® 32-bit LX6
Supported transmission speeds:	max. 150 Mbps
Operation modes:	Station / Soft AP / Station + Soft AP
Antenna type:	Indoor
Interface:	UART 3.3 V, SDIO, SPI, I2C, I2S, GPIO, ADC, DAC, PWM, TWAI®, RMT
Frequency range:	2.4 GHz
Receiver sensitivity:	<ul style="list-style-type: none"> <li>• 11b 11M : -88 dBm</li> <li>• 11g 54M : -75 dBm</li> <li>• 11n HT20 MCS0 : -93 dBm</li> <li>• 11n HT20 MCS7 : -70 dBm</li> <li>• 11n HT40 MCS0 : -90 dBm</li> <li>• 11n HT40 MCS7 : -70 dBm</li> <li>• Bluetooth : -94 dBm</li> </ul>
Security measures:	WEP / TKIP / AES, Hash (SHA-2), RSA, ECC
Operation temp:	-40 °C ... 85 °C
Weight:	0.001 kg
Dimensions:	25.5 x 18 x 3.2 mm
Manufacturer / Brand:	Espressif
Guarantee:	2 years