

WiFi ESP click carries the [ESP-WROOM-02](#) module that integrates ESP8266EX. The click is designed to run on a 3.3V power supply. It communicates with the target microcontroller over UART interface and the following pins on the mikroBUS™ line: RST, CS.

Access point and WiFi client mode

WiFi ESP click can function in both **AP (Access Point)** WiFi mode, as well as in **WiFi client mode**. The click brings easy implementation and usage.

The module supports the following network protocols: **IPv4/TCP/UDP/HTTP/FTP**. Thanks to this the click can operate as a *client device* requesting a file from a *file server device* (FTP - file transfer protocol) in local network systems, or request a web page via internet (IP/TCP/HTTP). It can also be used as a small *web server*, for example a wireless weather station prototype, etc.

Station mode is default when the click is in WiFi client mode.

ESP-WROOM-02 module features

ESP-WROOM-02 carries ESP8266EX highly integrated Wi-Fi SoC solution to meet the continuous demands for efficient power usage, compact design and reliable performance in the industry.

Besides the Wi-Fi functionalities, ESP8266EX integrates an enhanced version of Tensilica's L106 Diamond series 32-bit processor and on-chip SRAM. As well as antenna switches, RF balun, power amplifier, low noise receiver amplifier, filters and power management modules.

With the complete and self-contained Wi-Fi networking capabilities, it can perform as either a standalone application (WROOM module itself) or the slave to an MCU host which is the primary intention of the click board as a whole. So, this click board is applied to any microcontroller design as a Wi-Fi adaptor through UART interface (RX,TX lines on mikroBUS pin socket).

For more information see the [datasheet](#).

Advanced usage

There are additional pad headers onboard (HSPI/GPIO interface of the module) for advanced usage.


For more information see the Documentation tab.

Specifications

Type	Wi-Fi
Applications	Create smart appliances, home automation systems, wireless data loggers, etc
MCU	ESP-WROOM-02
Key Features	Protocols: IPv4, TCP/UDP/HTTP/FTP, 802.11 b/g/n standard, UART interface, 3.3V power supply
Key Benefits	The click can function in both AP mode and WiFi client mode
Interface	GPIO,UART
Input Voltage	3.3V
Compatibility	mikroBUS
Click board size	M (42.9 x 25.4 mm)

Pinout diagram

This table shows how the pinout on **WiFi ESP click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin					Pin	Notes
	NC	1	AN	PWM	16	NC	
HW Reset	RST	2	RST	INT	15	NC	
Chip enable (active high)	EN	3	CS	TX	14	TX	UART0_TXD / Transmit end in UART download (program) mode
	NC	4	SCK	RX	13	RX	UART0_RXD / Receive end in UART download (program) mode
	NC	5	MISO	SCL	12	NC	
	NC	6	MOSI	SDA	11	NC	
Power supply	+3.3V	7	3.3V	5V	10	NC	
Ground	GND	8	GND	GND	9	GND	Ground

Additional pins

Name	I/O	Description
CLK	IO	HSPI_CLK / GPIO14
SDO	IO	HSPI_MISO / GPIO12
SDI	IO	HSPI_MOSI / GPIO13
CS	IO	HSPI_CS / GPIO15
IO0	IO	GPIO0 (UART download mode - pull down, Flash boot - pull up)
GND		GND

Buttons and LEDs

Designator	Name	Type (LED, BUTTON...)	Description
LD1	PWR	LED	Power Supply ON