Uni-Kit Breakout Board - Wi-Fi

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Uni-Kit Breakout Board Wi-Fi is a compact add-on board that allows users to connect easily and securely with cloud applications and other devices. This board features the ESP8266, a small 2.4GHz WiFi (802.11 b/g/n) module from Espressif Systems that uses the ESP8266 series of SoC. The module uses UART communication alongside several other features like the module wake-up, various operational event detection, and UART for debugging. The rich set of ESP8266 features makes this Breakout Board ideal for smart homes, industrial automation, health care, consumer electronics, and many more.

Uni-Kit Breakout Board Wi-Fi is supported by the uni-SDK library, which includes functions that simplify software development.

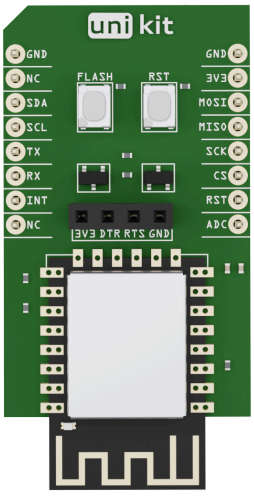

Figure: Uni-Kit Breakout Board Wi-Fi

HOW DOES IT WORK?

The Uni-Kit Breakout Board Wi-Fi interfaces with a host MCU through UART communication, which involves sending commands using RX and TX pins operating at a rate of 115200 bps. Besides the UART pins, this Breakout Board also employs other pins of the mikroBUS™ socket to enhance its functionality. For example, the INT pin detects significant events during operation, and the device-enabled pin RST offers a switch operation to turn ON/OFF the module.

On the board, it is possible to find an additional unpopulated header with UART pins for debugging and a header with user-configurable general-purpose I/O pins. There are two buttons with the labels FLASH and RST.

This Breakout Board can be operated with a 3.3V logic voltage level. The board must perform appropriate logic voltage level conversion before using MCUs with different logic levels. Also, it comes equipped with a library containing functions and an example code that can be used, as a reference, for further development.

SPECIFICATIONS

Type	WiFi, Cloud Routers
Applications	Can be used for smart homes, industrial automation, health care, consumer electronics, and generic IoT sensor hubs and data logger applications
On-board modules	ESP8266
Interface	UART
Compatibility	mikroBUS™
Board size	M (42.9 x 25.4 mm)
Input Voltage	3.3V

PINOUT DIAGRAM

This table shows how the pinout on the Uni-Kit Breakout Board corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS				Pin	Notes
	ADC (Short JP5)	1	AN	PWM	16	**NC**	
Reset	**RST**	2	RST	INT	15	**INT**	Module Wake-Up
	CS (Short JP2)	3	CS	RX	14	**RX**	UART RX
	CLK (Short JP4)	4	SCK	TX	13	**TX**	UART TX
	MISO (Short JP1)	5	MISO	SCL	12	NC	I2C CLOCK
	MOSI (Short JP3)	6	MOSI	SDA	11	NC	I2C DATA
Power Supply	**3.3V**	7	3.3V	5V	10	NC	
Ground	**GND**	8	GND	GND	9	**GND**	Ground

ELECTRICAL SPECIFICATIONS

Description	Min	Typ	Max	Unit
Supply Voltage	-	3.3	-	V
Frequency Range	-	2.4	-	GHz
Data Rate	-	-	150	Mbps

SOFTWARE SUPPORT

A library for the Uni-Kit Breakout Board is available as a demo application (example). The demo can run on all the Uni-Kit development boards.