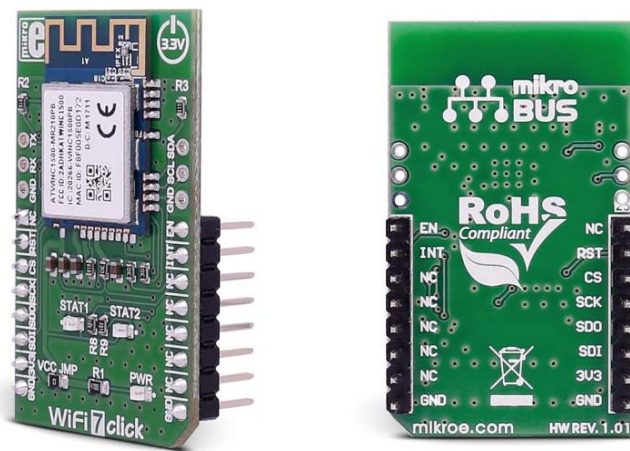


WiFi 7 click

PID: MIKROE-2046



WiFi 7 click carries the ATWINC1510-MR210PB IEEE 802.11 b/g/n module, specifically optimized for low-power IoT applications. The click is designed to run on a 3.3V power supply. It communicates with the target microcontroller over SPI interface, with additional functionality provided by the following pins on the mikroBUS™ line: PWM, INT, RST.

ATWINC1510-MR210PB features

The ATWINC1510-MR210PB is a low-power consumption 802.11 b/g/n module which is specifically optimized for low-power IoT applications.

The module has a Cortus APS3 32-bit processor. This processor performs many of the MAC functions, including but not limited to association, authentication, power management, security key management, and MSDU aggregation/de-aggregation. In addition, the processor provides flexibility for various modes of operation, such as STA and AP modes.

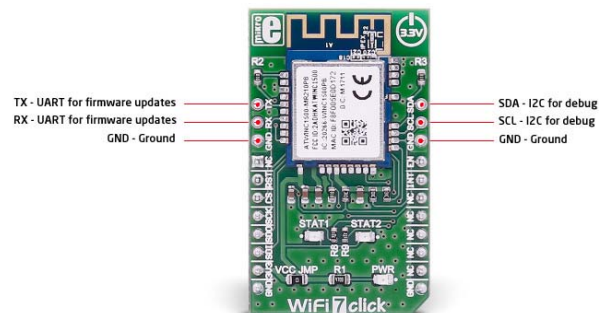
Module current consumption

The table below describes the current consumption of the ATWINC1510-MR210PB module:

Device state	Code rate	Output power, dBm	Current consumption ⁽¹⁾	
			I _{VBATT}	I _{VDDIO}
ON_Transmit	802.11b 1Mbps	19.5	294mA	22mA
	802.11b 11Mbps	20.5	290mA	22mA
	802.11g 6Mbps	19.5	292mA	22mA
	802.11g 54Mbps	17.5	250mA	22mA
	802.11n MCS 0	18.0	289mA	22mA
	802.11n MCS 7	15.5	244mA	22mA
ON_Receive	802.11b 1Mbps	N/A	52.5mA	22mA
	802.11b 11Mbps	N/A	52.5mA	22mA
	802.11g 6Mbps	N/A	55.0mA	22mA
	802.11g 54Mbps	N/A	57.5mA	22mA
	802.11n MCS 0	N/A	54.0mA	22mA
	802.11n MCS 7	N/A	58.5mA	22mA
ON_Doze	N/A	N/A	380µA	<10µA
Power_Down	N/A	N/A	<0.5µA	<3.5µA

Additional pins

Additional pins on the WiFi 7 click, besides the ones on the mikroBUS™ line:



Key features

- ATWINC1510-MR210PB
 - IEEE® 802.11 b/g/n 20MHz solution
 - Integrated PCB antenna
 - Supports IEEE 802.11 WEP, WPA, WPA2 Security
- SPI interface
- 3.3V power supply

Specification

Type	Wi-Fi
Applications	Optimized for low power IoT applications
On-board modules	ATWINC1510-MR210PB
Key Features	IEEE® 802.11 b/g/n 20MHz solution, integrated PCB antenna, supports IEEE 802.11 WEP, WPA, WPA2 Security
Interface	SPI
Power Supply	3.3V
Compatibility	mikroBUS
Click board size	M (42.9 x 25.4 mm)

Pinout diagram

This table shows how the pinout on **WiFi 7 click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	 mikroBUS™				Pin	Notes
Not connected	NC	1	AN	PWM	16	EN	Module Enable
Active-Low Hard Reset	RST	2	RST	INT	15	INT	Device Interrupt output
Chip select	CS	3	CS	TX	14	NC	Not connected
SPI Clock	SCK	4	SCK	RX	13	NC	Not connected
SPI Master Input Slave Output	MISO	5	MISO	SCL	12	NC	Not connected
SPI Master Output Slave Input	MOSI	6	MOSI	SDA	11	NC	Not connected
Power supply	+3.3V	7	3.3V	5V	10	NC	Not connected
Ground	GND	8	GND	GND	9	GND	Ground

Programming

Code examples for WiFi 7 click, written for MikroElektronika hardware and compilers are available on Libstock.

Code snippet

The following code snippet shows the default main function for all examples.

```
01 void main(void)
02 {
03     systemInit();
04     printf("Project built for Click Board\r\n");
05     printf("Starting driver initialization...\r\n");
06
07     hal_wifi7_init();
08     m2m_wifi_init();
09     while (1)
10     {
11         ApplicationTask();
12         m2m_wifi_task();
13     }
14 }
```