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WiFi 6 click

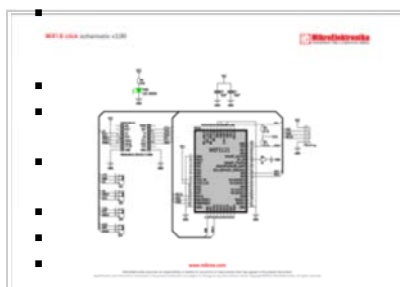
From MikroElektronika Documentation

WiFi 6 click is a mikroBUS™ add-on board with Bluegiga's WF121-A self-contained Wi-Fi module. With a fully integrated radio and 32-bit microcontroller, this module is ideal for embedded applications.

The module's 2.4GHz band radio is fully compliant with IEEE 802.11b/g/n and offers excellent radio performance. Allows end user applications to be embedded onto the integrated PIC32MX695H, a 32-bit 80MHz microcontroller with 128KB RAM and 512KB Flash memory, for development of lower-cost and smaller sized products. Also integrated on-board is a single power supply.

WiFi 6 click communicates with the target MCU through the mikroBUS™ UART (TX, RX), SPI, or I2C, with additional functionality provided by CTS pin (in place of default mikroBUS™ INT pin); a mikroProg connector allows to update the firmware of the internal PIC32. SPI interface can be accessed by jumpers on the click board. The board is designed to use a 3.3V power supply only.

Features and usage notes



Schematic also available in PDF
(http://docs.mikroe.com/File:WiFi_6_click_schematic)

- Bluetooth coexistence system allows co-located WiFi and Bluetooth devices to be aware of each other. WF121-A supports sharing the integrated antenna or antenna connector with a Bluetooth device through the BT_RF pad.
- I2C, SPI and UART interfaces.
- mikroProg connections for updating firmware for the on-board PIC32.

The integrated firmware provides Wi-Fi and networking stack services (TCP/IP, UDP, DHCP, DNS).

BGAPI host protocol for modem like usage.

BGScript scripting language or native C-development for self-contained applications.

On-board 32-bit embedded PIC32MX695H 80MHz, 128kB RAM and 512kB Flash memory MCU.

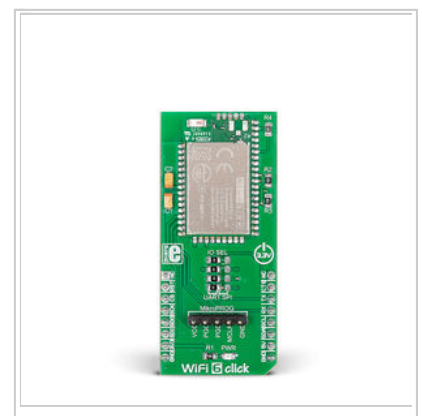
TX Power: +17dBm

RX Sensitivity: -97 dBm

Automatically powers on RF circuitry only when needed for power saving functionality.

PIC32-series 32-bit MCU on module can reach a performance of 125 DMIPS while keeping low power consumption.

WiFi 6 click



WiFi 6 click

IC/Module	WF121-A (http://www.silabs.com/Support%20Documents/RegisteredDocs/WF121-DataSheet.pdf)
Interface	UART (TX, RX), I2C (SCK, SDA), SPI (SCK, CS, MISO, MOSI), CTS
Power supply	3.3V
Website	www.mikroe.com/click/wifi-6 (http://www.mikroe.com/click/wifi-6)

Programming

This snippet shows how easy it is to connect to the WiFi 6 click and begin communication.

```

1 void main ()
2 {
3
4 //TFT display output initialization.
5 init_TFT();
6
7 //USB UART initialization.
8 UART1_Init(115200);
9 show_status("\r\n*****",1);
10 show_status("UART1 initialized",1);
11
12 //WF121 UART initialization.
13 init_WF121_UART();
14
15 //Initialize BGLIB with our output function for sending messages.
16 BGLIB_INITIALIZE(uart_output);
17
18 //Send a Hello command to verify the serial port is working.
19 goto_state(wlan_state_hello);
20 }

```

Code examples that demonstrate the usage of WiFi 6 click with MikroElektronika hardware, written for mikroC for ARM is available on Libstock (<http://libstock.mikroe.com/projects/view/1910/wifi-6-click-library>).

Resources

- WF121-A datasheet (<http://www.silabs.com/Support%20Documents/RegisteredDocs/WF121-DataSheet.pdf>)
- WiFi 6 click code examples on Libstock (<http://libstock.mikroe.com/projects/view/1910/wifi-6-click-library>)
- mikroBUS standard specifications (<http://download.mikroe.com/documents/standards/mikrobus/mikrobus-standard-specification-v200.pdf>)

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