

## WiFi 6 click

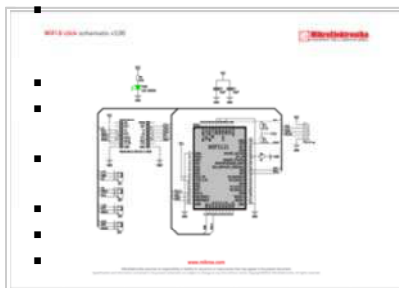
From MikroElektronika Documentation

**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](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

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

### 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>)

Retrieved from "[http://docs.mikroe.com/index.php?title=WiFi\\_6\\_click&oldid=937](http://docs.mikroe.com/index.php?title=WiFi_6_click&oldid=937)"

---

- This page was last modified on 17 September 2016, at 08:08.
- Content is available under Creative Commons Attribution unless otherwise noted.