Arduino MKR1000 WIFI with Headers Mounted

Arduino MKR1000 is a powerful board that combines the functionality of the Zero and the Wi-Fi Shield. It is the ideal solution for makers wanting to design IoT projects with minimal previous experience in networking.

Arduino MKR1000 has been designed to offer a practical and cost effective solution for makers seeking to add Wi-Fi connectivity to their projects with minimal previous experience in networking.It is based on the Atmel ATSAMW25 SoC (System on Chip), that is part of the SmartConnect family of Atmel Wireless devices, specifically designed for IoT projects and devices.

The ATSAMW25 is composed of three main blocks:

- SAMD21 Cortex-M0+ 32bit low power ARM MCU
- WINC1500 low power 2.4GHz IEEE® 802.11 b/g/n Wi-Fi
- ECC508 CryptoAuthentication

The ATSAMW25 includes also a single 1x1 stream PCB Antenna.

The design includes a Li-Po charging circuit that allows the Arduino/Genuino MKR1000 to run on battery power or external 5V, charging the Li-Po battery while running on external power. Switching from one source to the other is done automatically.A good 32 bit computational power similar to the Zero board, the usual rich set of I/O interfaces, low power Wi-Fi with a Cryptochip for secure communication, and the ease of use of the Arduino Software (IDE) for code development and programming. All these features make this board the preferred choice for the emerging IoT battery-powered projects in a compact form factor.The USB port can be used to supply power (5V) to the board.The Arduino MKR1000 is able to run with or without the Li-Po battery connected and has limited power consumption.

The MKR1000 Wifi module supports certificate SHA-256.

Warning: Unlike most Arduino & Genuino boards, the MKR1000 runs at 3.3V. The maximum voltage that the I/O pins can tolerate is 3.3V. Applying voltages higher than 3.3V to any I/O pin could damage the board. While output to 5V digital devices is possible, bidirectional communication with 5V devices needs proper level shifting.

For information on getting started see http://arduino.cc/en/Guide/HomePage.

Microcontroller	SAMD21 Cortex-M0+ 32bit low power ARM MCU
Board power supply (USB/VIN)	5V
Supported batteries (not supplied)	3.7V LiPo 700mAh minimum
Circuit operating voltage	3.3V
Digital I/O pins	8
PWM Pins	12 (0, 1, 2, 3, 4, 5, 6, 7, 8, 10, A3 - or 18 -, A4 -or 19)
UART	1
SPI	1
I2C	1
Analog input pins	7 (ADC 8/10/12 bit)
Analog output pins	1 (DAC 10 bit)
External interrupts	8 (0, 1, 4, 5, 6, 7, 8, A1 -or 16-, A2 - or 17)
DC Current per I/O pin	7 mA
Flash memory	256 KB
SRAM	32 KB
EEPROM	No
Clock speed	32.768kHz (RTC), 48MHz
LEDs	6
Length	61.5mm
Width	25mm