User Manual

WiFi Module MTEK-WG001

User's Manual

Rev.1.0

Indemnification

- Manufacturer, importer, or agency shall not bear any responsibility with respect to accidental damage including injury or other damage caused by improper use or operation of this product.

- The information of the user guide is written based on the product specification. Our company is adding new functions and will continuously apply new technologies.

    All specifications may be changed without notice to an individual user.

Caution

Before using this product, a user should well understand the cautions and use it properly.

As the cautions displayed are important for safety, a user must be well aware of them.

This describes the requirements and proposals of operation. Read the items carefully to properly operate a product not to be damaged

Important	This describes the requirements and proposals of operation. Read the items carefully to properly operate a product not to be damaged.

The above information describes the damage that may occur when this device is wrongly used.

- Connect the product power according to the user manual. If not, the product may be damaged.

- Do not spill water over the product and expose to the moisture. The product may be damaged.

- Do not place a metal object on the product. The product may be damaged.

- Do not remodel this product arbitrarily.

- Do not touch this product with wet hands.

FCC statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

 (1) this device may not cause harmful interference, and

 (2) this device must accept any interference received, including interference that may cause undesired operation.

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- These limits are designed to provide reasonable protection against harmful interference in a residential installation.

- This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

- If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

  - Reorient or relocate the receiving antenna.

  - Increase the separation between the equipment and receiver.

  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

  - Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

- This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

LABELING REQUIREMENTS:

The Original Equipment Manufacturer (OEM) must ensure that FCC labelling requirements are met. This includes a clearly visible label on the outside of the OEM enclosure specifying the appropriate MTEK C&K., Ltd. FCC identifier for this product as well as the FCC Notice above. The FCC identifier is FCC ID: 2AIORMTEK-WG001.

In any case the end product must be labeled exterior with
"Contains FCC ID: 2AIORMTEK-WG001"

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1. Overview

This manual describes the WiFi Module developed by MTEK C&K Co., Ltd.

The main function of the WiFi module is to send the data of the device connected to UART through the AP function.

2. Spec

	MTEK-WG001
Radio Protocol	IEEE 802.11b/g/n compatible
Pin Count	5 Pins
RF Output Power (Typical)	+15 dBm (802.11b), +11 dBm (802.11n)
RF Sensitivity	-95 dBm
Wake From Standby Time	1 ms (1 millisecond)
RF Operating Frequency	2.4 - 2.495 GHz
Supported Data Rates	72, 65, 58, 43, 29, 22, 14, 7 Mbps (802.11n), 54, 48, 36, 24, 18, 12, 9, 6 Mbps (802.11g) 11, 5.5, 2, 1 Mbps (802.11b)
Antenna Options	External antenna (u.FL connector)
Operating Temperature	-40°C to +85°C
Security Protocols	WPA/WPA2 - Personal, WPA/WPA2 - Enterprise (PEAP, EAP-FAST, EAP-TLS, EAP-TTLS), WEP, TLS/SSL Client and Server, HTTPs
Networking Protocols	TCP, UDP, IPv4, IPv6, TLS Client and Server, SNTP client, DHCP Client and Server v4, DHCP Client and Server v6, DNS Client and Server, mDNS, DNS-SD, HTTP Client and Server, and XML Parser
I/O Interface	UART, GPIO, JTAG
Internal Flash	2 MB
Dimensions	26 mm x 42 mm x 6 mm (inc. shield)
I/O Voltage	1.8V or 3.3V VDDIO
Operating Voltage	2.7-3.6V
V BAT	2.7-3.6V

3. Function Setting

3.1 AP

SSID : mtektoy01, mtektoy02 ….. mtektoyXX form.

Password : mtek5918 (Planned changes from factory, Current settings).

IP Address : 192.168.1.1

Port : 8000

3.2 UART

Baud rate : 115200bps
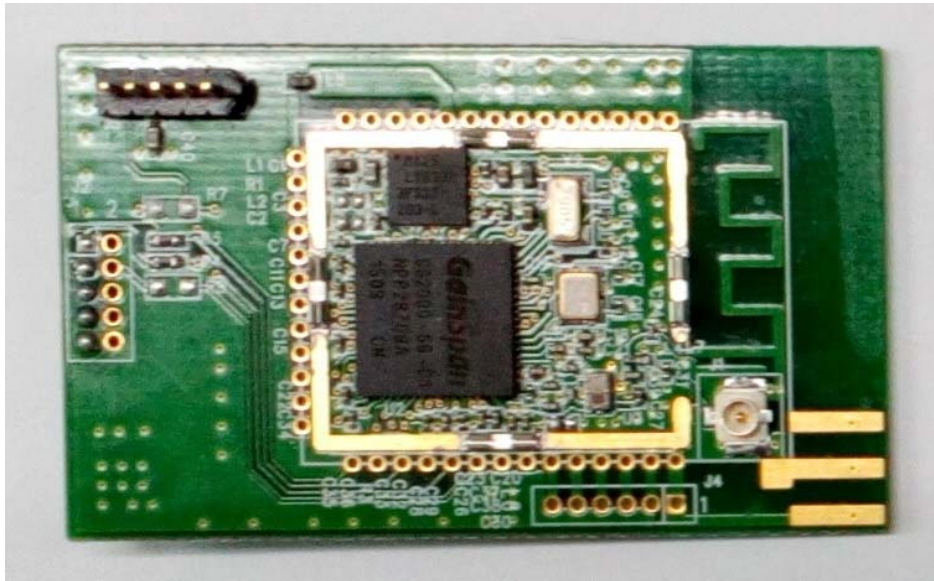
Data bit : 7bit

Parity bit : none

Stop bit : 1 bit

Flow control : none

4. Function

4.1 Access the MTEK-WG001 module network from a smart device or other WiFi device to connect the socket to the 8000 port. Then, this module sends the data sent to the socket to the UART or the data sent from the UART to a connected WiFi socket.

5. MTEK-WG001 Connector

5.1 Connector for the internal debug of J5/J4 MTEK C&K J4 MTEK C&K

5.2 J2 UART and power supply terminal UART.

J2 Pin Structure

Pin No.	Pin Function
1	UART TX0
2	GPIO31
3	UART Rx0
4	GPIO30
5	VIN
6	VIN
7	GPIO10
8	GPIO10
9	GND
10	GND

5.3 J1 RF IPEX, MHF PCB connector (2.4 GHz antenna connector)

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6. Mechanical Dimension(Integral Antenna)

The following paragraphs provide the requirements for the size.

Antenna Size (Length x Width x Height)	48 × 8 × 1 mm
Weight	N / A
Connector	I-PEX MHF
Cable Length	130 mm
Radiator Material	Copper
Operation Temperature	− 30 ⌣ 70 (℃)
Operation Humidity	10 ⌣ 90 (%)