# WLAN Module Spec-WM101-Rel

**Revision**

V2.1,2019.8

V2.2,2019.12

V3.1,2021.10.12

## 1. Introduction

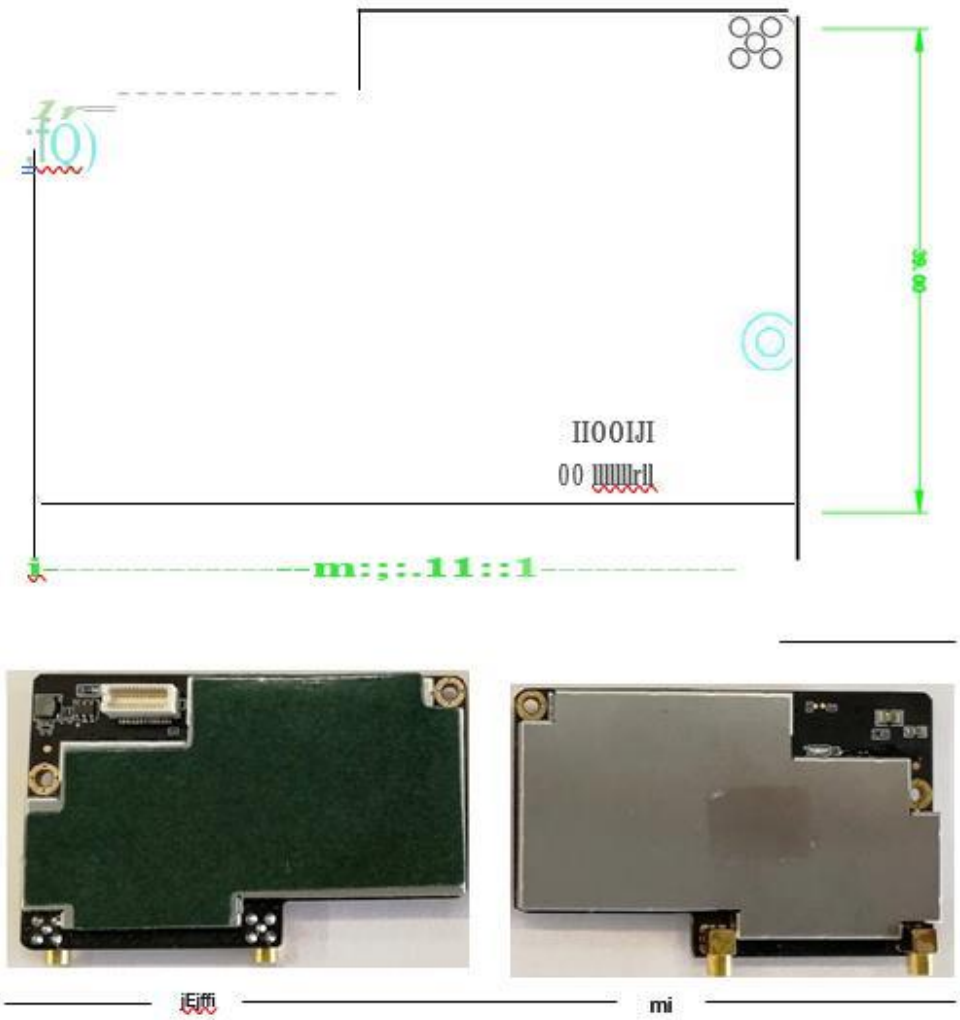
WLAN module,complies with IEEE 802.11 /b/g/n/a/ n HT20/ n HT40 standard.

## 2. Specification:

| | |
|---|---|
| Model | WM101 |
| Material Coding | 01-036-00143/01-036-00196/01-036-00212 |
| Input Voltage | 5V |
| Current | <1200mA |
| Connector | 30pin，Model: DF12E(5.0)-30DP-0.5V(81) |
| Interface | UART0：1，115200，8N1，console<br>UART1：1，1000000，8N1，traffic<br>USB2.0：1，traffic<br>RGMII：1，traffic or test |
| Antenna Connector | 2 port，MMCX Female |

| | |
|---|---|
| Transmitting Power | (1) 2.400-2.483GHz(2) 5745-5825 MHz<br>SRRC: ≤17 dBm<br>FCC: ≤25 dBm<br>CE: ≤17 dBm<br>MIC: ≤17 dBm |
| Frequency Range | (1) 2.400-2.483GHz<br>(2) 5745-5825 MHz |
| Size | L*W*H: 62mm*39mm*7.3mm |
| Operating Temperature | -10~50℃ |

## 3. Dimensions



## 4.IO

| Pin NO. | Name | I/O | Function | Power Domain(V) | Pin NO. | Name | I/O | Function | Power Domain(V) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | VCC | I/O | Power Supply | 5 | 2 | VCC | I/O | Power Supply | 5 |
| 3 | VCC | I/O | Power Supply | 5 | 4 | VCC | I/O | Power Supply | 5 |
| 5 | EMDC | O | Eth phy MDC | | 6 | EMDIO | I/O | Eth phy MDIO | |
| 7 | GND | I/O | GND | | 8 | GND | I/O | GND | |
| 9 | GND | I/O | GND | | 10 | GND | I/O | GND | |
| 11 | UART1 RX | I | UART1 RX | | 12 | UART1 TX | O | UART1 TX | |
| 13 | RGMII RXDV | I | RGMII RXDV | | 14 | USB DM | I/O | USB DM | |
| 15 | RGMII RXCLK | I | RGMII RXCLK | | 16 | USB DP | I/O | USB DP | |
| 17 | RGMII RXD0 | I | RGMII RXD0 | | 18 | UART0 RX | I | UART0 RX | |
| 19 | RGMII RXD1 | I | RGMII RXD1 | | 20 | RGMII TXD0 | O | RGMII TXD0 | |
| 21 | RGMII RXD2 | I | RGMII RXD2 | | 22 | RGMII TXD1 | O | RGMII TXD1 | |
| 23 | RGMII RXD3 | I | RGMII RXD3 | | 24 | UART0 TX | O | UART0 TX | |
| 25 | Hard Reset | I | Hard Reset | | 26 | Soft Reset | I | Soft Reset | |
| 27 | RGMII TXEN | O | RGMII TXEN | | 28 | RGMII TXD2 | O | RGMII TXD2 | |
| 29 | RGMII TXCLK | O | RGMII TXCLK | | 30 | RGMII TXD3 | O | RGMII TXD3 | |

Connector Model: DF12E(5.0)-30DP-0.5V(81)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. 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.
This equipment 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. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID:2A46G-WM101A" any similar wording that expresses the same meaning may be used.
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

The module is limited to OEM installation ONLY.
The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

The host manufacture is recommended to use D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.
The module complies with FCC Part 15.247 ,15.407 and apply for Single module approval.

## Antennas:

| Antenna | Model | Frequency (MHz) | Antenna Type | MAX Antenna Gain (dBi) |
|---|---|---|---|---|
| 1 | 030396FWFA | 2412-2462 | FPC Antenna | 2.7 |
| 2 | 030396FWFA | 2412-2462 | FPC Antenna | 2.7 |

| Antenna | Model | Frequency (MHz) | Antenna Type | MAX Antenna Gain (dBi) |
|---|---|---|---|---|
| 1 | 030396FWFA | 5150-5850 | FPC Antenna | 2.3 |
| 2 | 030396FWFA | 5150-5850 | FPC Antenna | 2.3 |

The module is intended for OEM installation only. The intended use is generally not for the general public. It is generally for industry/commercial use.
The connector is within the transmitter enclosure and can only be accessed by disassembly of the transmitter that is not normally required. the user has no access to the connector.
Installation must be controlled. Installation requires special training

The end user manual shall include FCC Part 15 compliance statements related to the transmitter as show in this manual. (FCC Statement). Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.

The devices must be installed and used in strict accordance with the manufacturer's instruction as described in the user documentation that comes with the product.

Any company of the host device which install this modular should perform the test of radiated & condicted emission and spurious emission etc. according to FCC Part 15C: 15.247 , 15.407and 15.209 & 15.207, 15B class B requirement, only if the test result comply with FCC part 15C: 15.247,15.407 and 15.209 & 15.207, 15B class B requirement. Then the host can be sold legally.

This modular transmitter is only FCC authorized for the specific rule parts 47CFR Part 15C (15.247, DTS&15.407 NII) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

Trace antenna designs: Not applicable.
Any deviation(s) from the defined parameters of the antenna trace,as describedby the instructions, require that the host product manufacturer must notify the module grantee that they wish to change the antenna trace design. In this case, a Class II permissive change application is required to be filed by the grantee, or the host manufacturer can take responsibility through the change in FCC ID (new application) procedure followed by a Class II permissive change application.