

COTGW-U2301 Specification

Version 1.0.0

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Rev.	Date	Contents of Revision Change	Remark
1.0.0	2021-9-15	Initial release	WSY

1 PRODUCT OVERVIEW

General Description

The COTGW-U2301 is a complete,small 802.11a/b/g/n Wi-Fi Solution optimized for low-cost, a consumer electronic devices, the module integrates all Wi-Fi functionality in a package friendly to low-cost PCB design, requiring only a **5.0V** power supply .

The module based on the QCA9531 which integrates an 802.11n 2x2. MIMO MAC/BB/ radio It supports 802.11 n operations up to 144 Mbps for 20 MHz and 300 Mbps for 40 MHz, compatible 802.11b/g/n.

The **baord**support AP mode, client mode at the same time , and include mass service application software to reduce the research and design work of customer.

Applications Stage

- Smart home network equipment
- Wireless WIFI device, unmanned aerial vehicle
- Dual band Router, Industry Controller and so on.

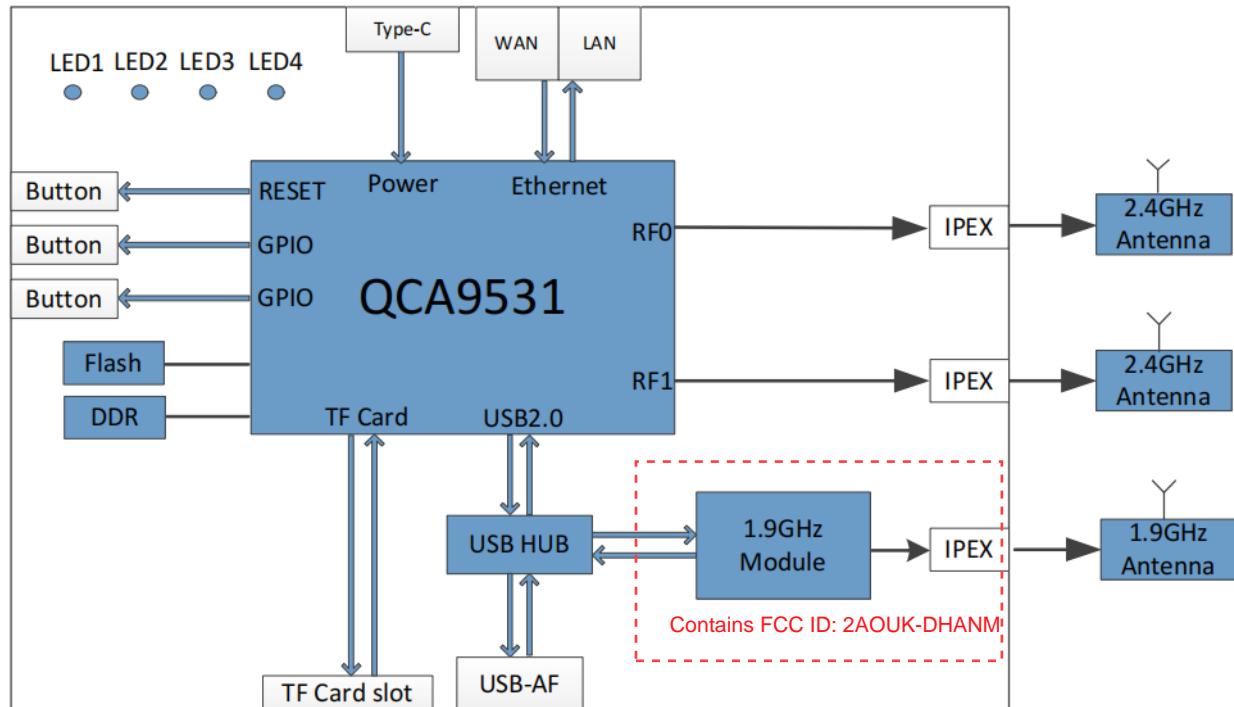
Features

- Chipset: QCA9531 MIPS 24Kc 650MHz
- RAM: **128Mbyte DDR2**
- Flash: **32Mbyte spi nor flash**
- WiFi: 802.11 b/g/n 2.4G 300Mbps,
- 1xUSB2.0 ,**1XTF CARD ,3XBUTTON,4XLED**
- 2x 10/100Mbps Ethernet Port(1 wan + 1Lan)
- **With 1.9GHz DECT Module**
- Antenna: **3xIPEX**
- **5V power supply**
- Size:45.7mm x 34.0mm x 4.0mm Weight: 4.0
- TX Power:**17dBm(Max)**

2 HARDWARE OVERVIEW

Block Diagram

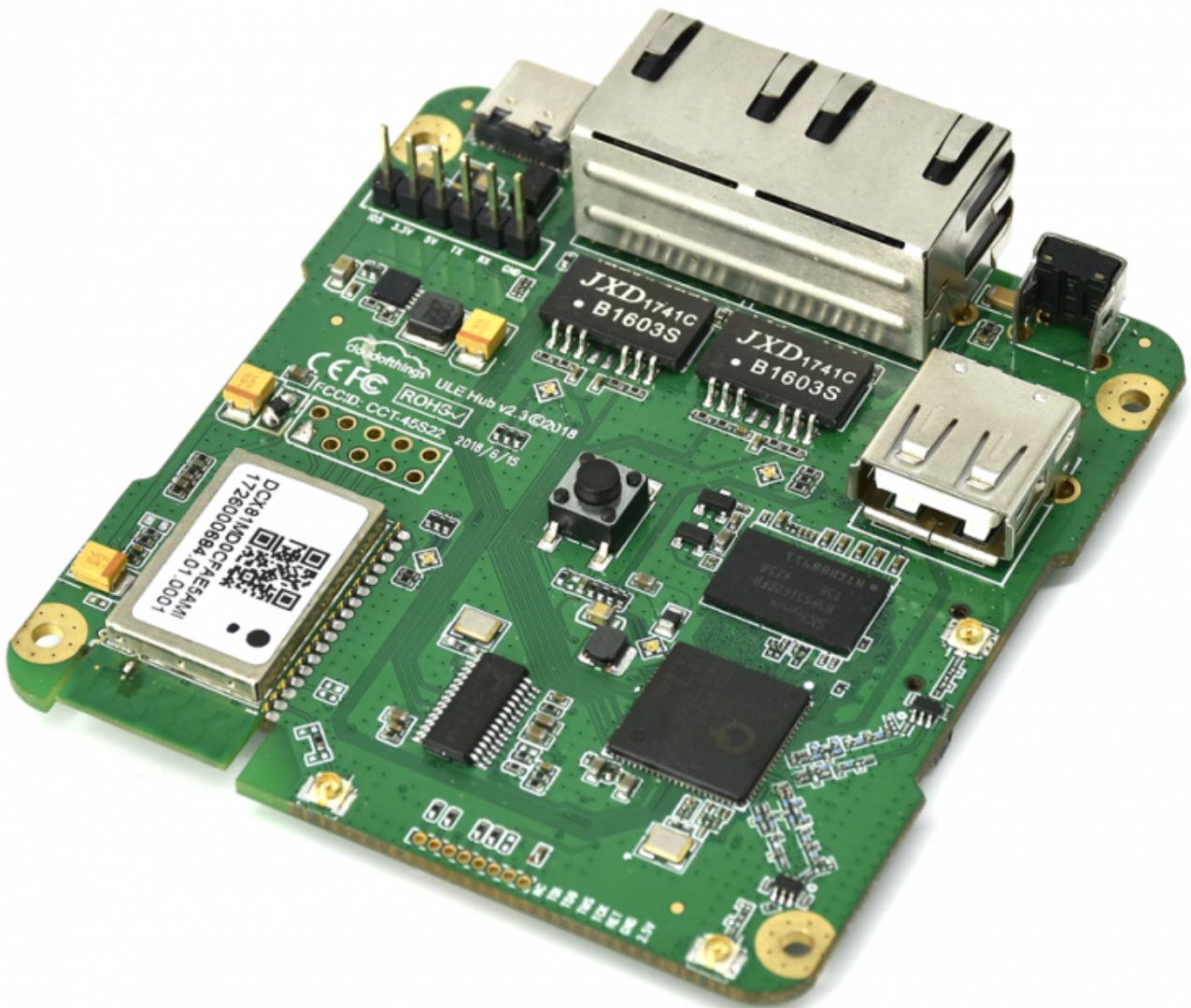
The general Hardware architecture is shown below Figure:



3 HARDWARE picture

PCBA

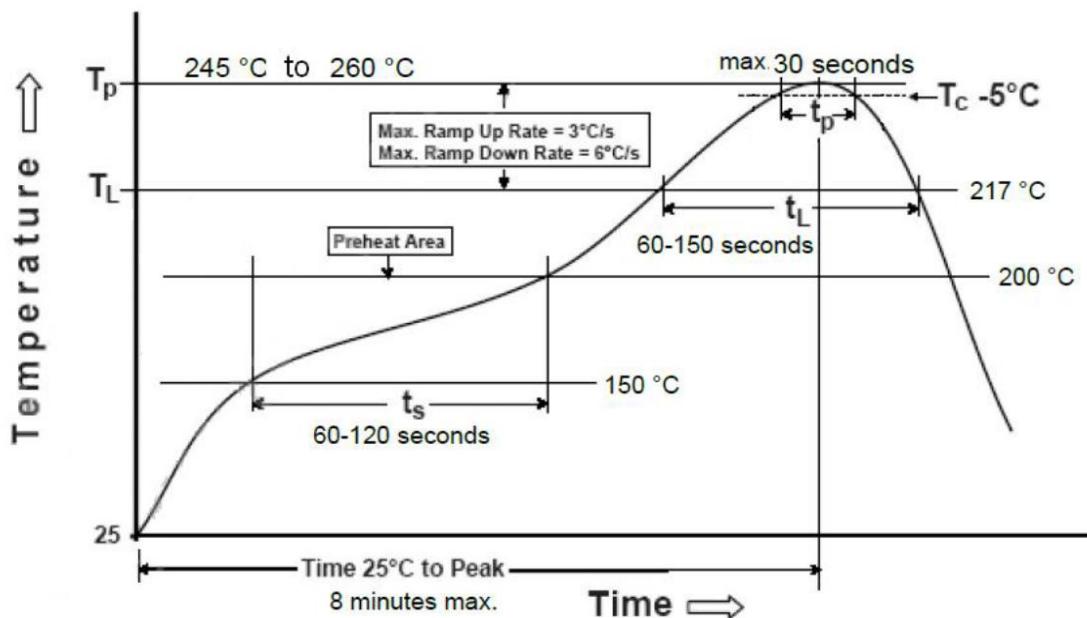
The general Hardware **picture** is shown below Figure:



4 MANUFACTURING PROCESS RECOMMENDATIONS

When the module is welded, please note that it's heating time and heating temperature, if you do not know how to set the corresponding parameters, please refer to the following figure, it helps to make the module get good welding performance, and not to appear unnecessary problems. Of course, you can adjust according to the actual situation.

Manufacturing Process Recommendations



5 ENVIRONMENT

Power Supply	5V ±5%
Operating Temperature	0°C ~ 70°C
Storage Temperature	-40°C ~ 80°C
Operating Humidity	10%~90% non-condensing
Storage Humidity	Storage Humidity: 5%~90% non-condensing

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.

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

NOTE: 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 important announcement

Important Note:

Radiation Exposure Statement

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 and your body.

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

Country Code selection feature to be disabled for products marketed to the US/Canada.

This device is intended only for OEM integrators under the following conditions:

1. The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2. The transmitter module may not be co-located with any other transmitter or antenna,
3. For all products market in US, OEM has to limit the operation channels in CH1 to CH11 for 2.4G band by supplied firmware programming tool. OEM shall not supply any tool or info to the end-user regarding to Regulatory Domain change. (if modular only test Channel 1-11)

As long as the three conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Important Note:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following " Contains
FCC ID: **2A27FCOTGW-U2301**"

Manual Information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01

2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

2.3 Specific operational use conditions

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.

2.4 Limited module procedures

This module is Limited single modular without shielding, host manufacturer have to consult with module manufacturer for the module limiting conditions when integrate the module in the host. module manufacturer should reviews detailed test data or host designs prior to giving the host manufacturer approval.

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

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.

2.7 Antennas

This radio transmitter FCC ID:2A27FCOTGW-U2301 has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna No.	Operate frequency band	Antenna Type	Maximum antenna gain
Antenna 0	2400-2500MHz	FPC Antenna	3.0dBi
Antenna 1	2400-2500MHz	FPC Antenna	3.0dBi

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID:2A27FCOTGW-U2301".

2.9 Information on test modes and additional testing requirements

Host manufacturer which install this modular with limit modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C:15.247 and 15.209 requirement, only if the test result comply with FCC part 15.247 and 15.209 requirement, then the host can be sold legally.

2.10 Additional testing, Part 15 Subpart B disclaimer

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.