IEEE 802.11 a/b/g/n/ac/ax 1T1R+BLE 5.0 IOT Module

Module: WL1NM1001

(Reolink料号:48.01.001.0082)

(MediaTek：MT7931AN)

客户认可 Customer Approval Section		
Customer Name		
Department		
Approval		Date：

拟制 DESIGN	审核 CHECK	批准 APPROVAL
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2024-05-13	2024-05-13	2024-05-13

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1. General Description

This document is to specify the product requirements for 802.11a/b/g/n/ac/ax and BLE5.0 1T1R IOT Module. It is based on MT7931AN low-power chipset that complied with IEEE 802.11n, and it is also backward complied with IEEE 802.11b/g standard from 2.4~2.5GHz. It is also backward complied with IEEE 802.11a standard from 5.15~5.825GHz wideband and IEEE 802.11b/g standard from 2.4~2.5GHz. It can be used to provide up to 54Mbps for IEEE 802.11a and IEEE 802.11g, 11Mbps for IEEE 802.11b and 72.2Mbps for IEEE802.11n. The BLE part supports latest 5.0

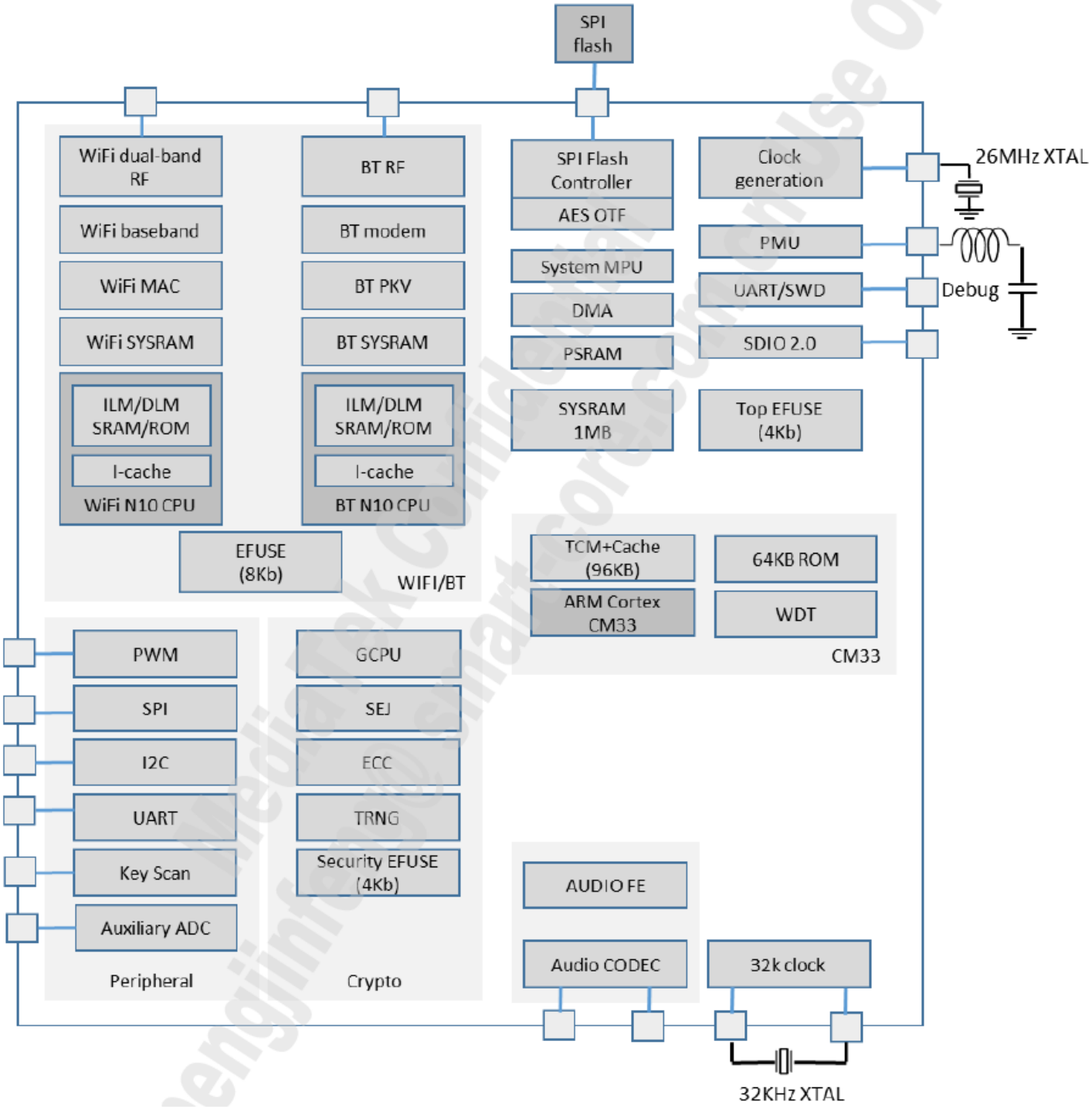
The MT7931AN is a highly integrated single chip that features an ARM® Cortex-M33 application processor, a low power 1x1 802.11a/b/g/n/ac/ax dual-band Wi-Fi subsystem, a Bluetooth v5.0 subsystem and a Power Management Unit (PMU). The Wi-Fi subsystem and a Bluetooth v5.0 subsystem offer feature-rich wireless connectivity at high standards, and deliver reliable, cost-effective throughput from an extended distance. Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. The MT7931AN is designed to support standard based features in the areas of security, quality of service and international regulations, giving end users the greatest performance any time and in any circumstance. The MT7931AN is based on ARM® Cortex-M33 with floating point microcontroller (MCU) including SRAM/ROM memory. The chip also supports rich peripheral interfaces, including SDIO, SPI master, I2C, I2S, IR input, UART, AUXADC, PWM, and GPIOs.

2. Features

- Support IEEE 802.11 a/b/g/n/ac/ax+BLE5.0
- Supports 1x1 20MHz bandwidth, MCS0~8(256-QAM) in 2.4/5 GHz band
- Support uplink MU-OFDMA TX and downlink MU-OFDMA RX
- Embedded 4MB pSRAM for applications
- Support BT5.0 2M_PHY/Long Range/Advertising Extension/SAM/CS#2/High Duty Cycle Non-Connectable ADV
- Wi-Fi security WFA WPA/WPA2/WPA3 personal, WPS2.0
- Support WiFi and BT co-existence
- Rich peripherals such as SDIO, SPI master, I2C, I2S, IR input, UART, AUXADC, PWM, and GPIOs
- HSF

3. Application Diagrams

3.1 Functional Block Diagram



3.2 General Requirements

3.2.1 IEEE 802.11b Section

	Feature	Detailed Description
3.2.1.1	Standard	● IEEE 802.11b
3.2.1.2	Radio and Modulation Schemes	● DQPSK , DBPSK and CCK with DSSS
3.2.1.3	Operating Frequency	● 2400 ～ 2483.5MHz ISM band
3.2.1.4	Channel Numbers	● 13 channels for Worldwide
3.2.1.5	Data Rate	● at most 11Mbps
3.2.1.6	Media Access Protocol	● CSMA/CA with ACK
3.2.1.7	Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, and at room Temp. 25℃ ● 16±2 dBm at 11Mbps
3.2.1.8	Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame (1000-byte PDUs) Error Rate<8% at room Temp. 25℃ ● -83 dBm for 11Mbps

3.2.2 IEEE 802.11g Section

	Feature	Detailed Description
3.2.2.1	Standard	● IEEE 802.11g
3.2.2.2	Radio and Modulation Type	● QPSK , BPSK , 16QAM ,64QAM with OFDM
3.2.2.3	Operating Frequency	● 2400 ～ 2483.5MHz ISM band
3.2.2.4	Channel Numbers	● 13 channels for Worldwide
3.2.2.5	Data Rate	● at most 54Mbps
3.2.2.6	Media Access Protocol	● CSMA/CA with ACK
3.2.2.7	Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, at room Temp. 25℃ ● 14±2 dBm at 54Mbps
3.2.2.8	Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame (1000-byte PDUs) Error Rate<10% at room Temp. 25℃ ● -70 dBm for 54Mbps

3.2.3 IEEE 802.11a Section

	Feature	Detailed Description
3.2.3.1	Standard	● IEEE 802.11a
3.2.3.2	Radio and Modulation Type	● QPSK , BPSK , 16QAM ,64QAM with OFDM
3.2.3.3	Operating Frequency	● 5.15~5.25GHz ● 5.25~5.35GHz ● 5.47~5.725GHz ● 5.725~5.825GHz
3.2.3.4	Data Rate	● at most 54Mbps
3.2.3.5	Media Access Protocol	● CSMA/CA with ACK
3.2.3.6	Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain,at room Temp. 25℃ ● 14±2 dBm at 54Mbps
3.2.3.7	Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame (1000-byte PDUs) Error Rate<10% at room Temp. 25℃ ● -70 dBm for 54Mbps

3.2.4 IEEE 802.11n Section

	Feature	Detailed Description
3.2.4.1	Standard	● IEEE 802.11n
3.2.4.2	Radio and Modulation Type	● BPSK , QPSK , 16QAM ,64QAM with OFDM
3.2.4.3	Operating Frequency	● 2.4GHz :2400 ~ 2483.5MHz for ISM band ● 5GHz : 5.15~5.25GHz；5.25~5.35GHz； 5.47~5.725GHz；5.725~5.825GHz；
3.2.4.4	Data Rate	● at most 72.2 Mbps
3.2.4.5	Media Access Protocol	● CSMA/CA with ACK
3.2.4.6	Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, at room Temp. 25℃
		● 2.4GHz Band/HT20 13±2dBm at MCS7
		● 5GHz Band/HT20 13±2dBm at MCS7
3.2.4.7	Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame(1000-byte PDUs)Error Rate=10% and at room Temp. 25℃
		● 2.4GHz Band/HT20 -68dBm at MCS7
		● 5GHz Band/HT20 -68dBmat MCS7

3.2.5 IEEE 802.11ac Section

	Feature	Detailed Description
3.2.5.1	Standard	● IEEE 802.11ac
3.2.5.2	Radio and Modulation Type	● QPSK , BPSK , 16QAM ,64QAM,256QAM with OFDM
3.2.5.3	Operating Frequency	● 5GHz : 5.15~5.25GHz； 5.25~5.35GHz； 5.47~5.725GHz；5.725~5.825GHz；
3.2.5.4	Data Rate	● at most 86.6 Mbps
3.2.5.5	Media Access Protocol	● CSMA/CA with ACK
3.2.5.6	Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, at room Temp. 25℃ ● 13±2dBm VHT20
3.2.5.7	Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame(1000-byte PDUs)Error Rate<10% at room Temp. 25℃ ● 5GHz Band/VHT20 -64dBm at MCS8

3.2.6 IEEE 802.11ax Section

	Feature	Detailed Description
3.2.6.1	Standard	● IEEE 802.11ax
3.2.6.2	Radio and Modulation Type	● QPSK , BPSK , 16QAM ,64QAM,256QAM, 1024QAM with OFDM
3.2.6.3	Operating Frequency	● 2G: 2400 ～ 2483.5MHz ISM band ● 5GHz : 5.15~5.25GHz； 5.25~5.35GHz； 5.47~5.725GHz；5.725~5.825GHz；
3.2.6.4	Data Rate	● at most 103.2Mbps
3.2.6.5	Media Access Protocol	● CSMA/CA with ACK
3.2.6.6	Transmitter Output Power at Antenna Connector	● Typical RF Output Power at each RF chain, at room Temp 25℃
		● 2.4GHz Band/HE20 12±2dBm
		● 5GHz Band/HE20 12±2dBm
3.2.6.7	Receiver Sensitivity at Antenna Connector	● Typical Sensitivity at each RF chain. @Frame(1000-byte PDUs)Error Rate<10% at room Temp. 25℃
		● 2GHz Band/HE20 -57dBm at MCS8
		● 5GHz Band/HE20 -57dBm at MCS8

3.2.7 Bluetooth Section

Feather		**Description**	
General specification			
Bluetooth standard	BluetoothLE V5.0		
Frequency band	2402MHz-2480MHz		
Channel Numbers	40 channels for BLE		
RF specification			
	Min (dBm)	Type (dBm)	Max (dBm)
BLE Output Power		5	
Sensitive @PER=30.8% FOR BLE		-90	

4. Electrical and Thermal Characteristics

4.1 Temperature Limit Ratings

Parameter	**Minimum**	**Maximum**	**Units**
Storage Temperature	-40	+125	℃
Ambient Operating Temperature	-30	+125	℃

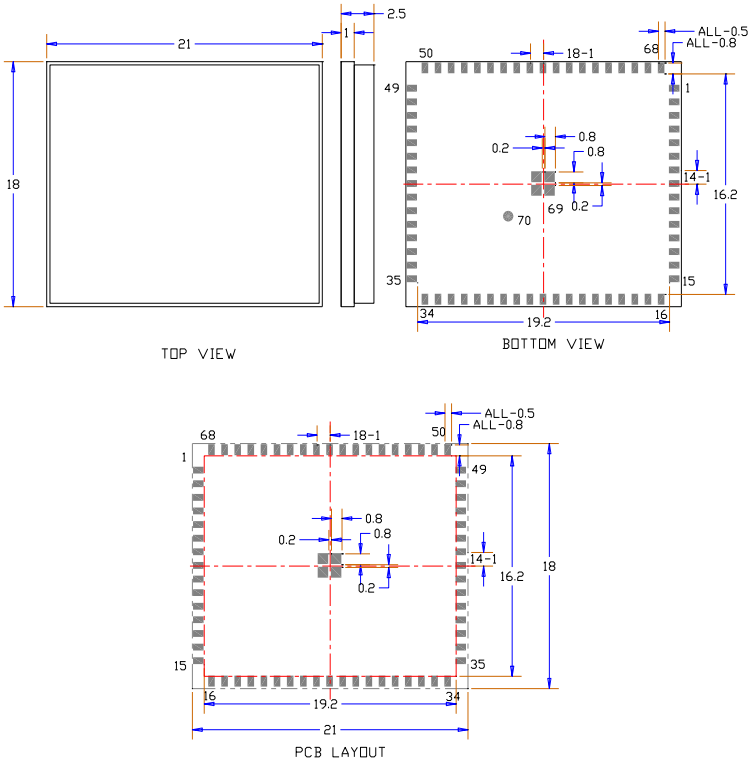
4.2 General Section

	Feature	**Detailed Description**
4.2.1	Antenna Type	● PAD
4.2.2	Operating Voltage	● 3.3V±10%
4.2.3	Current Consumption	● ＜100mA@RX ● ＜800mA@TX

4.3 Mechanical Requirements

	Feature	**Detailed Description**
4.3.1	Length	● 21mm
4.3.2	Width	● 18mm
4.3.3	Height	● 1.0mm(PCB)

5. Mechanical Dimensions



Size error range:

DIM (MM)	Tolerance (MM)
0-5	±0.15
5-10	±0.20
10-50	±0.30

6. Pin define

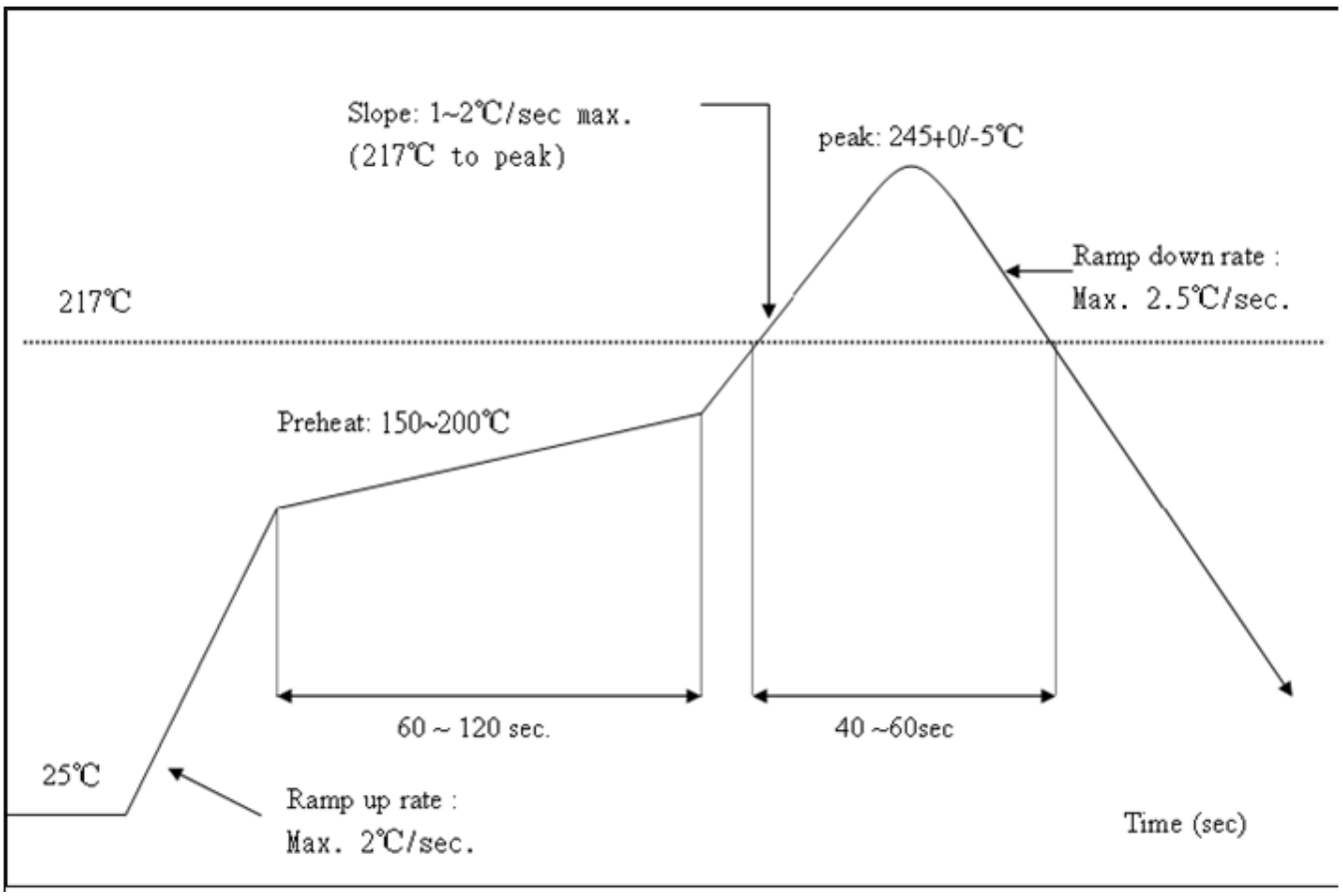
Pin	Name	Description	Pin	Name	Description
1	VDD33_RTC	32K Clock 3.3V power	**29**	GND	GND
2	GND	GND	**30**	GND	GND
3	VDDIO	Digital lO power	**31**	GND	GND
4	GND	GND	**32**	VDD33	Input power 3.3V
5	GND	GND	**33**	VDD33	Input power 3.3V
6	GND	GND	**34**	GND	GND
7	SDIO_D1	SDIO_DAT1	**35**	MICBIAS	CODEC_ADC ADC0 MICBIAS OUTPUT
8	SDIO_D0	SDIO_DAT0	**36**	GND	GND
9	GND	GND	**37**	AU_VIN1_N	CODEC_ADC ADC1 RCH N_port input
10	SDIO_CLK	SDIO_CLK	**38**	AU_VIN1_P	CODEC_ADC ADC1 RCH P_port input
11	GND	GND	**39**	GND	GND
12	SDIO_CMD	SDIO_CMD	**40**	AU_VIN0_N	CODEC_ADC ADC0 LCH N_port input
13	SDIO_D3	SDIO_DAT3	**41**	AU_VIN0_P	CODEC_ADC ADC0 LCH P_port input
14	SDIO_D2	SDIO_DAT2	**42**	GND	GND
15	GND	GND	**43**	AU_VOLP	CODEC_DAC Left_chanel P_port output signal
16	RST	RESET	**44**	AU_VORP	CODEC_DAC Right_chanel P_port output signal
17	GPIO_B_0	GPIO12	**45**	GND	GND
18	GPIO_B_10	GPIO22	**46**	GPIO_T_1	GPIO42
19	GPIO_B_12	GPIO24	**47**	GPIO_T_3	GPIO44
20	GPIO_B_2	GPIO14	**48**	KPROW_1	GPIO48
21	GPIO_B_4	GPIO16	**49**	KPCOL_0	GPIO50
22	GPIO_B_3	GPIO15	**50**	GND	GND
23	GPIO_B_5	GPIO17	**51**	NC/BT_RF	Option. 需要BT单独一路天线时可选此pin
24	GPIO_B_6	GPIO18	**52**	GND	GND
25	GPIO_B_7	GPIO19	**53**	NC	NC
26	GPIO_B_8	GPIO20	**54**	GND	GND
27	GPIO_B_9	GPIO21	**55**	GND	GND
28	GPIO_B_11	GPIO23	**56**	GND	GND

Pin	Name	Description	Pin	Name	Description
57	GND	GND	**63**	GND	GND
58	GND	GND	**64**	GND	GND
59	GND	GND	**65**	GND	GND
60	GND	GND	**66**	GND	GND
61	GND	GND	**67**	WIFI_RF	WIFI_RF
62	GND	GND	**68**	GND	GND

7. DC Characteristics（VDDIO=3.3V）

名称	参数	最小值	TYPE	最大值	单位
V_{IL}	低电平输入	-0.3		0.25*VDD33	V
V_{IH}	高电平输入	0.625*VDD3.3		3.63	V
V_{OL}	低电平输出	-0.3		0.45	V
V_{OH}	高电平输出	VDD3.3-0.45		VDD3.3+0.3	V

8. Recommended Reflow Profile



参考 IPC/JEDEC 标准. 峰值温度 ：245±5° C Times： ≤2 s

FCC WARNING

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

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.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

15.105 Information to the user.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

Radiation Exposure Statement:

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

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

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination.

The firmware setting is not accessible by the end user.

The final end product must be labelled in a visible area with the following:

“Contains Transmitter Module FCC ID:2AYHE-2402A”

Requirement per KDB996369 D03

2.2 List of applicable FCC rules

List the FCC rules that are applicable to the modular transmitter. These are the rules that specifically establish the bands of operation, the power, spurious emissions, and operating fundamental frequencies. DO NOT list compliance to unintentional-radiator rules (Part 15 Subpart B) since that is not a condition of a module grant that is extended to a host manufacturer. See also Section 2.10 below concerning the need to notify host manufacturers that further testing is required.3

Explanation: This module meets the requirements of FCC part 15C(15.247).FCC Part 15.407

2.3 Summarize the specific operational use conditions

Describe use conditions that are applicable to the modular transmitter, including for example any limits on antennas, etc. For example, if point-to-point antennas are used that require reduction in power or compensation for cable loss, then this information must be in the instructions. If the use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual. In addition, certain information may also be needed, such as peak gain per frequency band and minimum gain.

Explanation: EUT has only one external antenna, yes, the module contains a permanent attached antenna with antenna gain of 2.4G: 2.89dBi, 5G antenna 2.55dBi, and the condition of use of the prototype is mobile.The customer also has a different antenna with an antenna gain of 2.4G: 3.85dBi and a 5G antenna of 3.21dBi, and the condition of use of the prototype is mobile.

2.4 Limited module procedures

If a modular transmitter is approved as a "limited module," then the module manufacturer isresponsible for approving the host environment that the limited module is used with. The manufacturer of a limited module must describe, both in the filing and in the installation instructions, the alternative means that the limited module manufacturer uses to verify that the host meets the necessary requirements to satisfy the module limiting conditions.

A limited module manufacturer has the flexibility to define its alternative method to address the conditions that limit the initial approval, such as: shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation. The alternative method could include that the limited module manufacturer reviews detailed test data or host designs prior to giving the host manufacturer approval.

This limited module procedure is also applicable for RF exposure evaluation when it is necessary to demonstrate compliance in a specific host. The module manufacturer must state how control of the product into which the modular transmitter will be installed will be maintained such that full compliance of the product is always ensured. For additional hosts other than the specific host originally granted with a limited

module, a Class II permissive change is required on the module grant to register the additional host as a specific host also approved with the module.
Explanation: The module is a single module.

2.5 Trace antenna designs

For a modular transmitter with trace antenna designs, see the guidance in Question 11 of KDB Publication 996369 D02 FAQ – Modules for Micro-Strip Antennas and traces. The integration information shall include for the TCB review the integration instructions for the following aspects: layout of trace design, parts list (BOM), antenna, connectors, and isolation requirements.

a) Information that includes permitted variances (e.g., trace boundary limits, thickness, length, width, shape(s), dielectric constant, and impedance as applicable for each type of antenna);

b) Each design shall be considered a different type (e.g., antenna length in multiple(s) of frequency, the wavelength, and antenna shape (traces in phase) can affect antenna gain and must be considered);

c) The parameters shall be provided in a manner permitting host manufacturers to design the printed circuit (PC) board layout;

d) Appropriate parts by manufacturer and specifications;

e) Test procedures for design verification; and

f) Production test procedures for ensuring compliance.

The module grantee shall provide a notice that any deviation(s) from the defined parameters of the antenna trace, as described by 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.

Explanation: No, The module has no tracking antenna design, is External antenna.

2.6 RF exposure considerations

It is essential for module grantees to clearly and explicitly state the RF exposure conditions that permit a host product manufacturer to use the module. Two types of instructions are required for RF exposure information: (1) to the host product manufacturer, to define the application conditions (mobile, portable – xx cm from a person's body); and (2) additional text needed for the host product manufacturer to provide to end users in their end-product manuals. If RF exposure statements and use conditions are not provided, then the host product manufacturer is required to take responsibility of the module through a change in FCC ID (new application).

Explanation: This module complies with FCC RF radiation exposure limits set forth for an uncontrolled environment, This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body." This module is designed to comply with the FCC statement,
FCC ID: 2AYHE-2402A

2.7 Antennas

A list of antennas included in the application for certification must be provided in the instructions. For modular transmitters approved as limited modules, all applicable professional installer instructions must be included as part of the information to the host product manufacturer. The antenna list shall also identify the antenna types (monopole, PIFA, dipole, etc. (note that for example an “omni-directional antenna” is not considered to be a specific “antenna type”)).

For situations where the host product manufacturer is responsible for an external connector, for example with an RF pin and antenna trace design, the integration instructions shall inform the installer that unique antenna connector must be used on the Part 15 authorized transmitters used in the host product. The module manufacturers shall provide a list of acceptable unique connectors.

Explanation: The EUT only have one external antenna, Yes, the module contains a permanently attached antenna, The antenna gain is 2.4G: 2.89dBi, 5G antenna 2.55dBi。There is also a different antenna used together The antenna gain is 2.4G: 3.85dBi, 5G antenna 3.21dBi

2.8 Label and compliance information

Grantees are responsible for the continued compliance of their modules to the FCC rules. This

includes advising host product manufacturers that they need to provide a physical or e-label stating “Contains FCC ID” with their finished product. See Guidelines for Labeling and User Information for RF Devices – KDB Publication 784748.

Explanation: The host system using this module, should have label in a visible area indicated the following texts: "Contains FCC ID: 2AYHE-2402A

2.9 Information on test modes and additional testing requirements

Additional guidance for testing host products is given in KDB Publication 996369 D04 Module Integration Guide. Test modes should take into consideration different operational conditions for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product.

The grantee should provide information on how to configure test modes for host product evaluation for different operational conditions for a stand-alone modular transmitter in a host, versus with multiple, simultaneously transmitting modules or other transmitters in a host.

Grantees can increase the utility of their modular transmitters by providing special means, modes, or instructions that simulates or characterizes a connection by enabling a transmitter. This can greatly simplify a host manufacturer’s determination that a module as installed in a host complies with FCC requirements.

Explanation: Can increase the utility of our modular transmitters by providing instructions that simulates or characterizes a connection by enabling a transmitter.

2.10 Additional testing, Part 15 Subpart B disclaimer

The grantee should include a statement that the modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) 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. If the grantee markets their product as being Part 15

Subpart B compliant (when it also contains unintentional-radiator digital circuity), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

Explanation: The host shoule be evaluated by the FCC Subpart B.

This product uses External antenna ,The antenna gain is 2.4G: 2.89dBi, 5G antenna 2.55dBi,There is also a different antenna used together The antenna gain is 2.4G: 3.85dBi, 5G antenna 3.21dBi

IC statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science
and Economic DevelopmentCanada's licence-exempt RSS(s). Operation is subject to the following
two conditions:

(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired

operation of the device.

The term "IC: " before the certification/registration number only signifies that the Industry Canada
technical specifications were met.

This product meets the applicable Industry Canada technical specifications.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS)
d'Innovation, Sciences etDéveloppement économique Canada. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pasproduire de brouillage,et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible
d'en compromettre le fonctionnement.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme auxCNR
d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

1)L'appareil ne doit pas produire de brouillage;
2)L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est

susceptible d'en compromettre lefonctionnement.

Please notice that if the ISED certification number is not visible when the module is installed inside
another device, then theoutside of the device into which the module is installed o display a label referring to the enclosed module. This exteriorlabel can use wording such as the following:
"Contains IC: 26839-2402A" any similar wording that expresses the same meaningmay be
used. l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie

Canada, précédé des mots «Contient un module d'émission », du mot « IC: 26839-2402A » ou d'une formulation similaireexprimant le même sens, comme suit

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 andcompliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure andcompliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 etla conformité

à l'expositionde RSS-102 rf, utilisateurs peut obtenir l'information canadienne surl'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna ortransmitter. This equipment should be installed and operated with a minimum distance of 20centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ouémetteur. Cet équipementdevrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

Operation of this device is restricted to indoor use only. (5150-5250MHz)

Le fonctionnement de cet appareil est limité à une utilisation en intérieur uniquement. (5150-5250MHz)

Cet émetteur radio IC : 26839-2402A a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous, avec le gain maximal admissible indiqué. Les types d'antenne non inclus dans cette liste qui ont un gain supérieur au gain maximum indiqué pour tout type répertorié sont strictement interdits pour une utilisation avec cet appareil.

The radio transmitter IC: 26839-2402A Ehas been approved by The Ministry of Innovation, Science and Economic Development of Canada to use the following antenna types with the specified maximum allowed gain. Antenna types not included in this list, whose gain is higher than the maximum gain of any type listed, are strictly prohibited from use with this device.

ANT1

Type of antenna:	External antenna
Antenna Gain:	2.4G :2400-2500(2.89dBi) 5G :5150-5850MHz(2.55dBi)
Impedance:	50hm
Manufacture:	Shenzhen Yingjia Chuang electronic technology Co., LTD
Model:	YJC-60302-B26

ANT2

Type of antenna:	External antenna
Antenna Gain:	2.4G :2400-2500(3.85dBi) 5G :5150-5850MHz(3.21dBi)
Impedance:	50hm
Manufacture:	SHENZHEN 3GTX ANTENNA TECHNOLOGY CO.,LTD.
Model:	B26