CDW-63822CU-00/01

DATASHEET

Software：

客　　户 Customer	客户承认 Approve（请盖印章）	日期 Date

拟制 Design	审核 Check	批准 Approve	版本 Version	日期 Date
刘丽君			V1.1	2020.06.16

深圳市中龙通电子科技有限公司
CHINA DRAGON TECHNOLOGY LIMITED
工厂地址：深圳市宝安区沙井街道南浦路林坡坑蚝三第一工业园B4栋
电话：(86　755) 81449957
传真：(86　755)81449967
E-mail:
Info@cdtech.cnHttp://w
ww.cdtech.cn

更改记录：

Reversion History：

版本 Version	日期 Date	更改内容 Modification
1.0	2020.03.23	Draft
1.1	2020.06.16	Update 1.Modular photo
1.2	2025.06.12	Update 1.remove the -01 subversion

FCC Statement

The requirement for KDB 996369 D03:

2.2 List of applicable FCC rules
FCC CFR Title 47 Part 15 Subpart B
FCC CFR Title 47 Part 15 Subpart C Section 15.247
FCC CFR Title 47 Part 15 Subpart E Section 15.407

2.3 Summarize the specific operational use conditions
The module has been certified for Fix, Mobile, Portable applications. This transmitter must not be co‐located or operating in conjunction with any other antenna or transmitter.

2.4 Limited module procedures
Not applicable

2.5 Trace antenna designs
Not applicable

2.6 RF exposure considerations
This modular complies with FCC RF 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. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

2.7 Antennas
Glue Stick antenna with antenna gain4.62dBi, The antenna is permanently attached, can't be replaced.

2.8 Label and compliance information
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.
Warning: Changes or modifications to this unit 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 andused 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.

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 Transmitter Module FCC ID: R8S-MTXPR Or Contains FCC ID: R8S-MTXPR"

2.9 Information on test modes and additional testing requirements
The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 15.247/15.407) list 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. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed when contains digital circuity.

2.10 Additional testing, Part 15 Subpart B disclaimer
When testing host product, the host manufacture should follow FCC KDB Publication 996369 D04 Module Integration Guide for testing the host products. The host manufacturer may operate their product during the measurements.

2.11Note EMI Considerations

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.

2.11 How to make changes

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. According to the KDB 996369 D02 Q&A Q12, that a host manufacture only needs to do an evaluation (i.e., no C2PC required when no emission exceeds the limit of any individual device (including unintentional radiators) as a composite. The host manufacturer must fix any failure.

For USA: The frequency stability of all transmission frequencies of U-NII-1 and U-NII-3 meets the requirements of 47 CFR FCC Part15.407(g), and the manufacturer declares that their transmission is maintained at Band U-NII-1, and U-NII-3.

IC STATEMENT

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada'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

L'émetteur/récepteur exempt de licencecontenu dans le présentappareilestconforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes :

(1) L'appareil ne doit pas produire de brouillage;

(2) L'appareil doit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

IC Radiation Exposure Statement

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device .

This modular complies with IC RF 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. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body. Cette modulaire doit êtreinstallé et utilisé à une distance minimum de 20 cm entre le radiateur et le corps de l'utilisateur.

If the IC 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 IC: 21019-MTXPR"

when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada'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

2. L'émetteur/récepteur exempt de licencecontenu dans le présentappareilestconforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes :
(1) L'appareil ne doit pas produire de brouillage;
(2) L'appareil doit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

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

This radio transmitter [IC: 21019-MTXPR] has been approved by Innovation, Science and Economic Development Canada 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.
Type of antenna used: Glue Stick Antenna
Maximum antenna gain: 4.62dBi(ANT 1&2)
Impedance required by antenna: 50Ω
Manufacture: Jiade Technology Co., Ltd

1. Overview

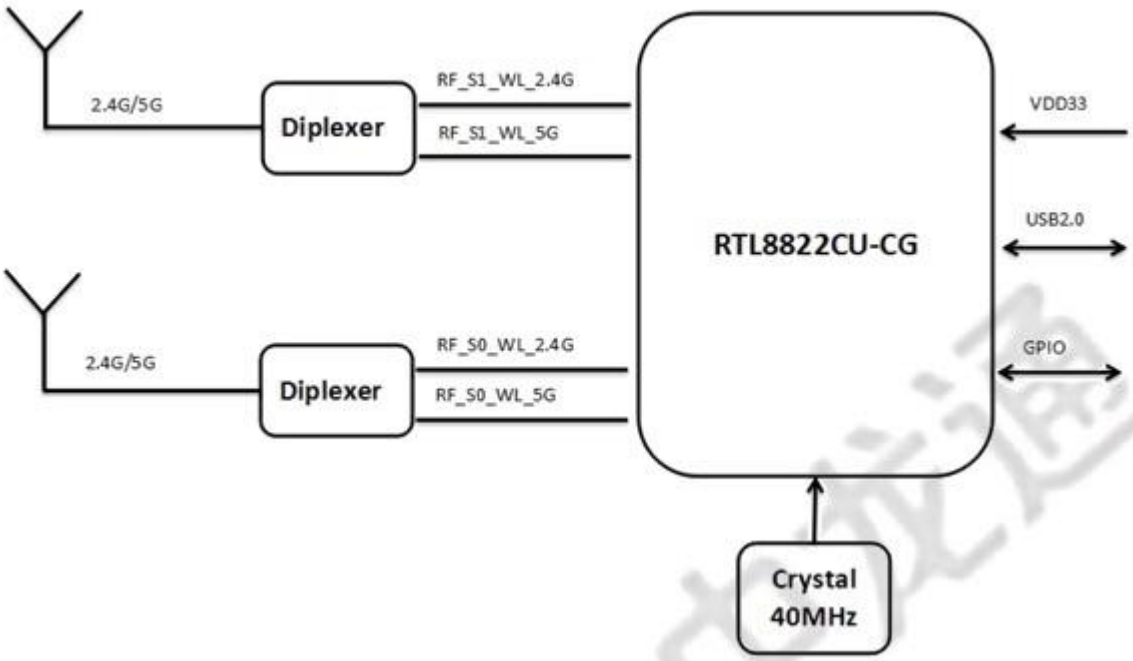
The CDW-63822CU-00/01 is a highly integrated single-chip that support 2-stream 802.11ac solutions with Multi-user MIMO (Multiple-Input, Multiple-Output) with Wireless LAN (WLAN) USB2.0 network interface controller It combines a WLAN MAC, a 2T2R capable WLAN baseband, and RF in s single chip. The CDW-63822CU-00/01 provides a complete solution for a high-performance integrated wireless device.

2. Features

2.1 WLAN

- IEEE 802.11a/b/g/n/ac compatibleWLAN
- 20MHz / 40MHz / 80MHz bandwidthtransmission
- Complies with USB2.0 for WLAN controller
- Dual-band 2T2R mode with data rate up to867Mbps
- Support 802.11ac 2x2,Wave-2 compliant withMU-MIMO
- Complete 802.11n MIMO solution for 2.4GHz and 5Ghz band
  Maximum PHY data rate up to 173.3 Mbps using 20MHzbandwidth,
  400Mbps using 40MHz bandwidth, and 866.7Mbps using 80MHz bandwidth
- Short Guard Interval(400ns)
- Soundingpacket

3. System BlockDiagram



SharedAnt (CDW-63822CU-00)

4. GeneralSpecification

Model	CDW-63822CU-00
Product Name	WIFi 11a/b/g/n/ac 2T2R Module
Major Chipset	Realtek RTL8822CU-CG
Standard	IEEE802.11a/b/g/n/ac
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60, 90,120 and maximum of 867Mbps
Modulation Method	DSSS/DBPSK/DQPSK/16-QAM/ 64-QAM/256QAM
Frequency Band	2.4~2.4835GHz ,5.0~5.8 GHz
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE802.11a/g/n/ac: OFDM (Orthogonal rthogonal Frequency DivisioMultiplexing)
Interface	USB2.0
Operating Temperature	0°C to 70°C
Storage Temperature	-20°C to 85°C
Humidity	5 to90% maximum(non-condensing)
Dimension	27x18x2.4mm (LxWxH)±0.2mm

5. DC Characteristics

Symbol	Parameter	Min.	Typ.	Max	Units
VD33	3.3V I/O supply Voltage	3.0	3.3	3.6	V
IDD_3.3V	3.3V Rating Current	--	--	800	mA
VD10	1.05V Core Supply Voltage	0.945	1.05	1.155	V
V_{IH}	Input high Voltage	2.0	3.3	3.6	V
V_{IL}	Input low Voltage	--	0	0.9	V
V_{OH}	output high Voltage	2.97	--	3.3	V
V_{OL}	output low Voltage	0	--	0.33	V

6. ElectricalCharacteristics

6.1 WiFi Section:

Feature	Description
WLAN Standard	IEEE 802.11a/b/g/n/ac WiFi compliant
Frequency	2.400 GHz ~ 2.497 GHz (2.4 GHz ISM Band)
Number of	2.4GHz：Ch1 ~ Ch14
Modulation	802.11b : DQPSK, DBPSK, CCK 802.11 g/n : OFDM /64-QAM,16-QAM, QPSK, BPSK
Output Power	802.11b /11Mbps : 17dBm ± 2 dB @ EVM ≤ -15dB
	802.11g /54Mbps : 15 dBm ± 2 dB @ EVM ≤ -28dB
	802.11n /MCS7 : 14 dBm ± 2 dB @ EVM ≤ -30dB
Receive Sensitivity (11b,20MHz) @8% PER	- 1Mbps PER @ -96 dBm, typical
	- 2Mbps PER @ -93 dBm, typical
	- 5.5Mbps PER @ -92 dBm, typical
	- 11Mbps PER @ -89 dBm, typical
Receive Sensitivity (11g,20MHz) @10% PER	- 6Mbps PER @ -93 dBm, typical
	- 9Mbps PER @ -89 dBm, typical
	- 12Mbps PER @ -88 dBm, typical
	- 18Mbps PER @ -85 dBm, typical
	- 24Mbps PER @ -82 dBm, typical
	- 36Mbps PER @ -80 dBm, typical
	- 48Mbps PER @ -78 dBm, typical
	- 54Mbps PER @ -76 dBm, typical
Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -93 dBm, typical
	- MCS=1 PER @ -88 dBm, typical
	- MCS=2 PER @ -87 dBm, typical
	- MCS=3 PER @ -83 dBm, typical
	- MCS=4 PER @ -79 dBm, typical
	- MCS=5 PER @ -78 dBm, typical
	- MCS=6 PER @ -76 dBm, typical
	- MCS=7 PER @ -74 dBm, typical
	- MCS=0 PER @ -90 dBm, typical
	- MCS=1 PER @ -86 dBm, typical

	- MCS=2 PER @ -83 dBm, typical
	- MCS=3 PER @ -81 dBm, typical
	- MCS=4 PER @ -78 dBm, typical
	- MCS=5 PER @ -76 dBm, typical
	- MCS=6 PER @ -74 dBm, typical
	- MCS=7 PER @ -72 dBm, typical
Maximum Input Level	802.11b : -10 dBm
	802.11g/n : -20 dBm
Antenna	Small antennas with 0~2 dBi peak gain

2.4GHz RF Specification

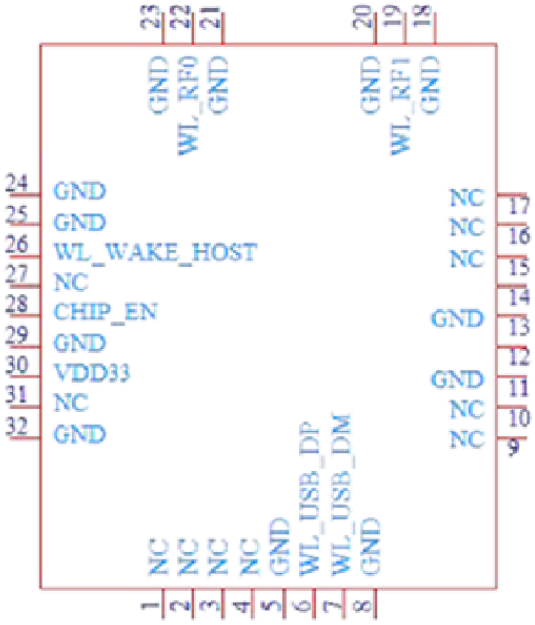
6.2 5GHz RFSpecification

Feature	Description
WLAN Standard	IEEE802.11a/n/ac 2x2, WiFicompliant
Frequency Range	4.900 GHz ~ 5.845 GHz (5.0 GHz ISM Band)
Number of Channels	5.0GHz：Please see the table
Modulation	802.11a:OFDM/64-QAM,16-QAM,QPSK,BPSK 802.11n:OFDM/64-QAM,16-QAM,QPSK,BPSK 802.11ac : OFDM /256-QAM
Output Power	802.11a /54Mbps : 15 dBm ± 2 dB @ EVM ≤ -25dB
	802.11n HT20 /MCS7 : 14 dBm ± 2 dB @ EVM ≤ -28dB
	802.11n HT40 /MCS7 : 14 dBm ± 2 dB @ EVM ≤ -28dB
	802.11ac VHT20 /MCS8 : 13 dBm ± 2 dB @ EVM ≤ -30dB
	802.11ac VHT40 /MCS9 : 12 dBm ± 2 dB @ EVM ≤ -32dB
	802.11ac VHT80 /MCS9 : 12 dBm ± 2 dB @ EVM ≤ -32dB
Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps PER @ -94 dBm,typical
	- 9Mbps PER @ -90 dBm,typical
	- 12Mbps PER @ -88 dBm,typical
	- 18Mbps PER @ -85 dBm,typical
	- 24Mbps PER @ -83 dBm,typical
	- 36Mbps PER @ -81 dBm,typical
	- 48Mbps PER @ -78 dBm,typical
	- 54Mbps PER @ -76 dBm,typical
Receive Sensitivity	- MCS=0 PER @ -93 dBm,typical
	- MCS=1 PER @ -89 dBm,typical
	- MCS=2 PER @ -87 dBm,typical
	- MCS=3 PER @ -85 dBm,typical

	- MCS=4 PER @ -80 dBm,typical
	- MCS=5 PER @ -77 dBm,typical
	- MCS=6 PER @ -75 dBm,typical
	- MCS=7 PER @ -74 dBm,typical
Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0 PER @ -91 dBm,typical
	- MCS=1 PER @ -88 dBm,typical
	- MCS=2 PER @ -85 dBm,typical
	- MCS=3 PER @ -82 dBm,typical
	- MCS=4 PER @ -78 dBm,typical
	- MCS=5 PER @ -76 dBm,typical
	- MCS=6 PER @ -73 dBm,typical
	- MCS=7 PER @ -71 dBm,typical
Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0,NSS1 PER @ -94 dBm,typical
	- MCS=1,NSS1 PER @ -89 dBm,typical
	- MCS=2,NSS1 PER @ -85 dBm,typical
	- MCS=3,NSS1 PER @ -83 dBm,typical
	- MCS=4,NSS1 PER @ -77 dBm,typical
	- MCS=5,NSS1 PER @ -75 dBm,typical
	- MCS=6,NSS1 PER @ -73 dBm,typical
	- MCS=7,NSS1 PER @ -71 dBm,typical
	- MCS=8,NSS1 PER @ -69 dBm,typical
Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0,NSS1 PER @ -91 dBm,typical
	- MCS=1,NSS1 PER @ -88dBm,typical
	- MCS=2,NSS1 PER @ -85 dBm,typical
	- MCS=3,NSS1 PER @ -81 dBm,typical
	- MCS=4,NSS1 PER @ -78 dBm,typical
	- MCS=5,NSS1 PER @ -75 dBm,typical
	- MCS=6,NSS1 PER @ -72 dBm,typical
	- MCS=7,NSS1 PER @ -70 dBm,typical
	- MCS=8,NSS1 PER @ -68 dBm,typical
	- MCS=9,NSS1 PER @ -66 dBm,typical
Receive Sensitivity	- MCS=0,NSS1 PER @ -88 dBm,typical
	- MCS=1,NSS1 PER @ -85 dBm,typical
	- MCS=2,NSS1 PER @ -81 dBm,typical
	- MCS=3,NSS1 PER @ -78 dBm,typical
	- MCS=4,NSS1 PER @ -75 dBm,typical

	- MCS=5,NSS1 PER @ -72 dBm,typical
	- MCS=6,NSS1 PER @ -69 dBm,typical
	- MCS=7,NSS1 PER @ -67 dBm,typical
	- MCS=8,NSS1 PER @ -65 dBm,typical
	- MCS=9,NSS1 PER @ -63 dBm,typical
Maximum Input Level	802.11a/n/ac : -20 dBm
Antenna Reference	Small antennas with 0~2 dBi peak gain

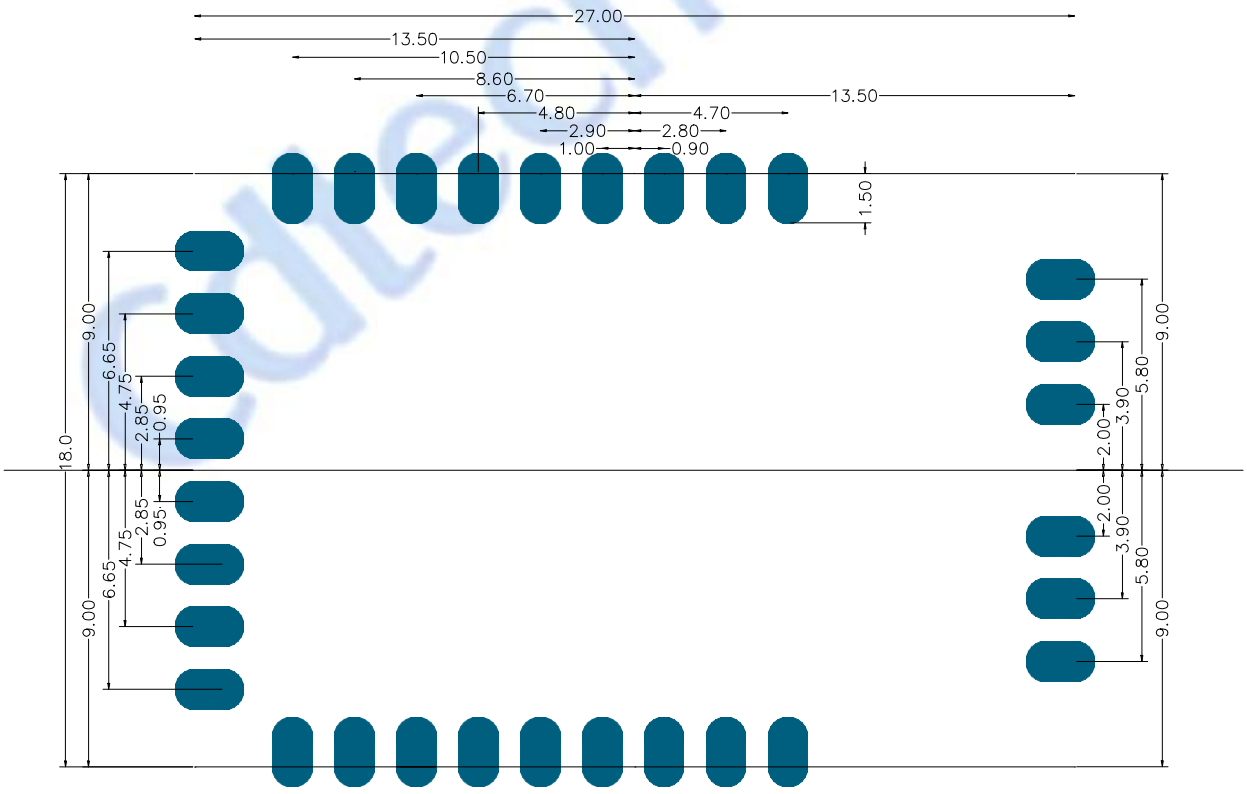
7. Dimension &PinAssignment



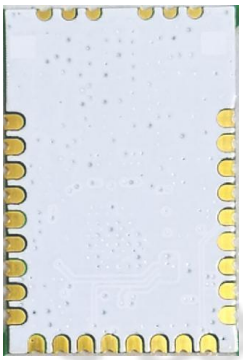
NO	Nam	Type	Descri
1	NC	_	No connection (Floating)
2	NC	_	No connection (Floating)
3	NC	_	No connection (Floating)
4	NC	_	No connection (Floating)
5	GND	_	Ground connections
6	USB_DP	I/O	USB data+ (USB2.0)
7	USB_DM	I/O	USB data- (USB2.0)
8	GND	_	Ground connections
9	NC	_	No connection (Floating)
10	NC	_	No connection (Floating)
11	GND	_	Ground connections
12			
13	GND	_	Ground connections
14			
15	NC	_	No connection (Floating)
16	NC	_	No connection (Floating)
17	NC	_	No connection (Floating)

18	GND	_	Ground connections
19	NC	I/O	WL_RF1 I-PEX
20	GND	_	Ground connections
21	GND	_	Ground connections
22	NC	I/O	WL_RF0 I-PEX
23	GND	_	Ground connections
24	GND	_	Ground connections
25	GND	_	Ground connections
26	WL_WAKE	O	WLAN wake up HOST
27	NC	_	No connection (Floating)
28	CHIP_EN	I	Shutdown Chip when pulled low
29	GND	_	Ground connections
30	VDD33	I	3.3V Voltage input
31	NC	_	No connection (Floating)
32	GND	_	Ground connections

Dimension (Unit: mm)



8. Modularphoto

CDW-63822CU-00		
Dimension	**27x18x2.4mm (LxWxH)±0.2mm**	

9. Key material list

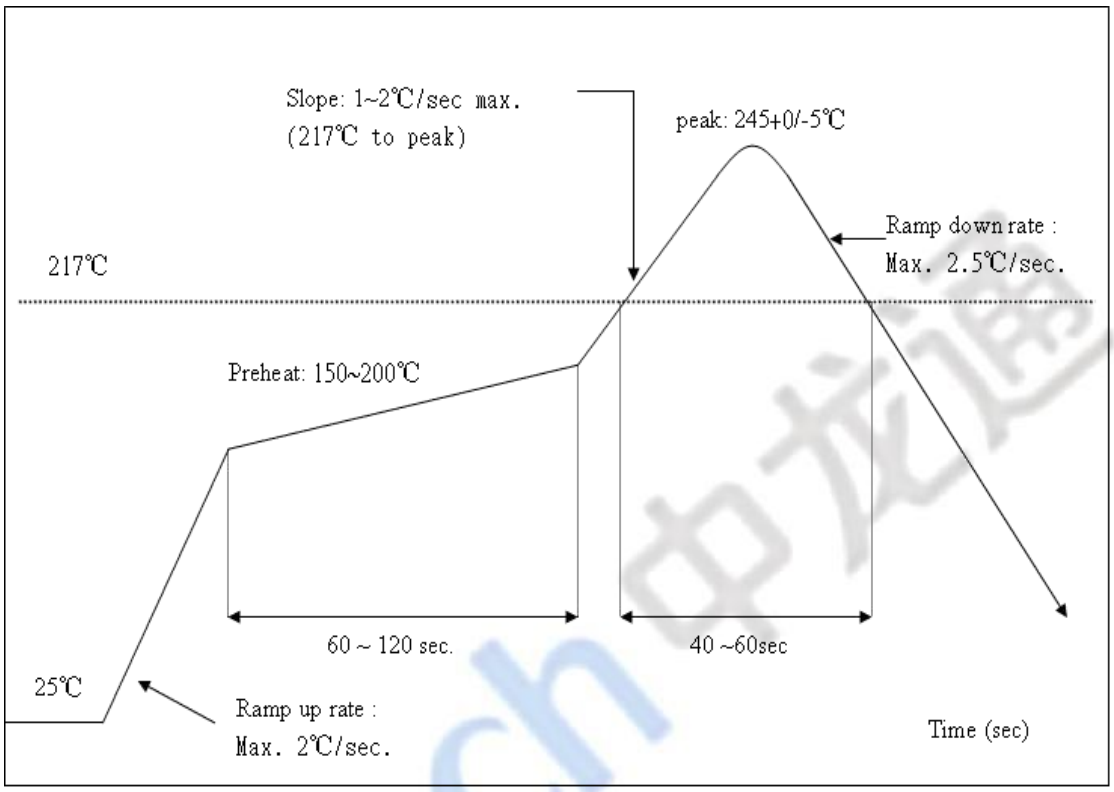
Type	P/N	supplier
Crystal	40Mhz	JWT ， FK , SFJ
WIFI IC	RTL8822CU-CG	RTL
Diplexers	DPX165900DT-8025A1 SLFD18-5R950G-08T LD18D2450LAN-D34/M	TDK，Sunlord,GLEAD
PCBA VER	63822CU	A,O,S

10. Recommended ReflowProfile

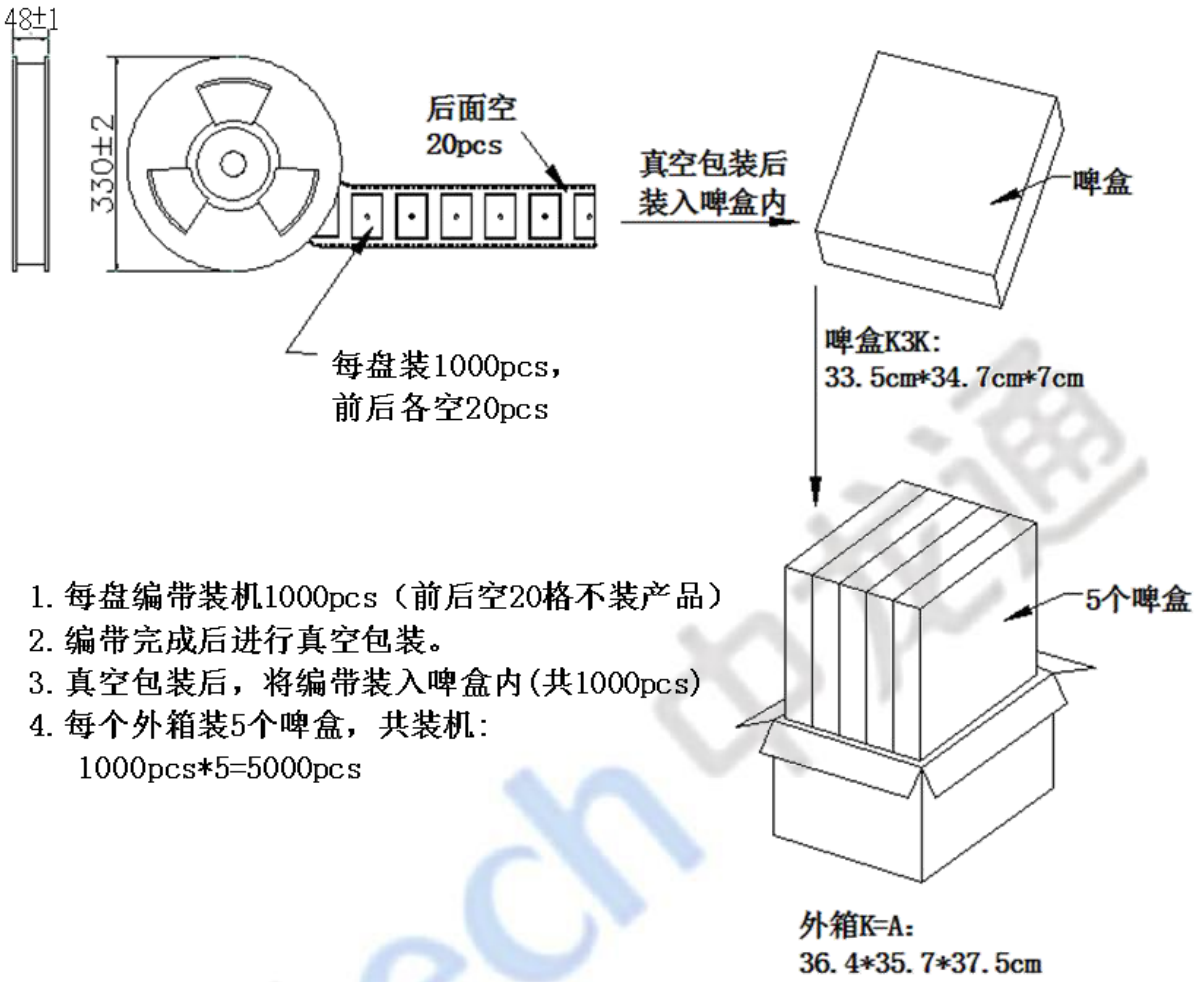
Referred IPC/JEDEC standard.

Peak Temperature :<250°C

Number ofTimes: 2times



11. Packing information



1. 每盘编带装机1000pcs（前后空20格不装产品）
2. 编带完成后进行真空包装。
3. 真空包装后，将编带装入啤盒内(共1000pcs)
4. 每个外箱装5个啤盒，共装机:
   1000pcs*5=5000pcs

ESD CAUTION

The CDW-63822CU-00/01 is ESD (electrostatic discharge) sensitive device and may be damaged with ESD or spike voltage. Although CDW-63822CU-00/01 is with built-in ESD protection circuitry, please handle with care to avoid the permanent malfunction or the performancedegradation.