

1. Overview

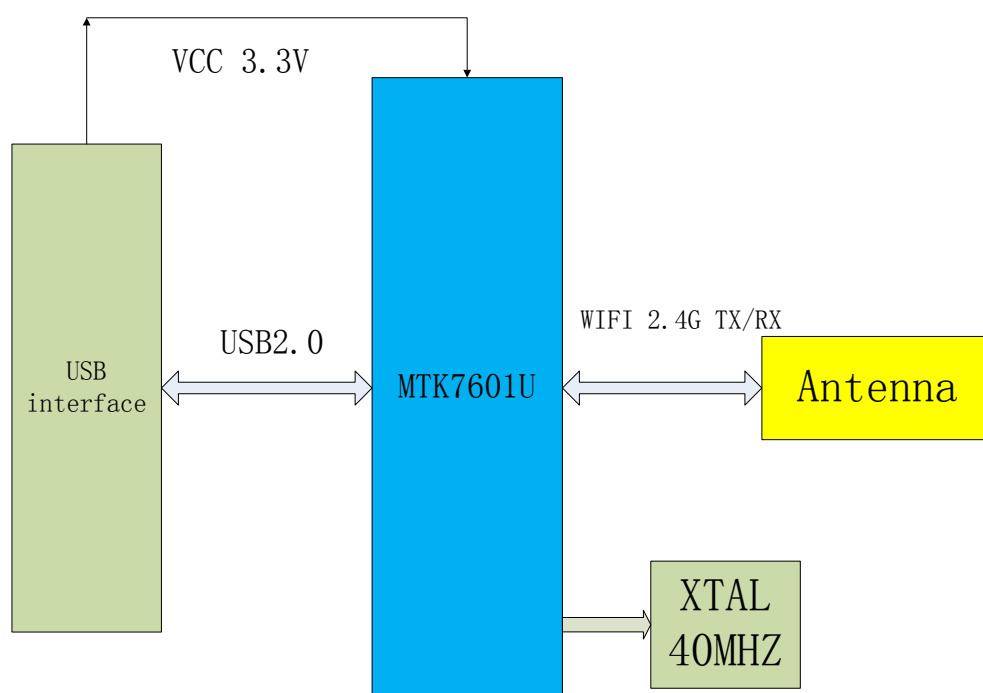
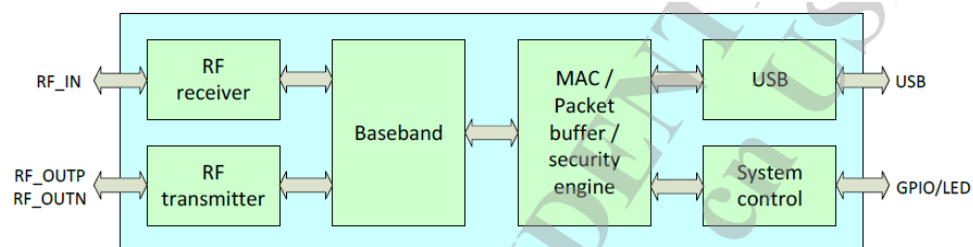
The CDW-507601U-10 is a highly integrated WI-FI single chip which supports 150Mbps PHY rate. It fully complies with IEEE 802.11n and IEEE 802.11b/g standards, offering feature-rich wireless connectivity at high standards, and delivering reliable, cost-effective throughput from an extended distance. Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. Intelligent MAC design deploys a high efficient DMA engine and hardware data processing accelerators which offloads the host processor.

The CDW-507601U-10 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.

2. Features

- IEEE 802.11b/g/n
- Embedded high-performance 32-bit RISC microprocessor
- Highly integrated RF with 55nm CMOS technology
- 1T1R mode with support of 150Mbps PHY rate
- Integrate high efficiency switching regulator
- Best –in-class power consumption performance
- MT7601U chip compact 5mm x 5mm QFN40L package
- 1/2/3/4-wire PTA Wi-Fi/Bluetooth coexistence support
- 802.11d/h/k compliant
- Security support for WPA WPA/WPA2 personal, WPS2.0, WAPI
- Supports 802.11w protected managed frames
- QoS support of WFA WMM, WMM PS
- Supports Wi-Fi Direct
- Fully compliance with USB v2.0 High-speed mode

3.Functional Block Diagram



3. EEPROM Information

Reg Domain	Worldwide Configured by driver
	Offset 0x38 for 5G:0xFF
	Offset 0x39 for 2.4G:0xFF
Vendor ID	0x148F
Product ID	0x7601

4.General Specification

Model Name	CDW-507601U-10					
wlan standard	IEEE 802.11 b/g/n					
Host interface	USB2.0					
Main Chipset	MT7601U					
PCBA Dimension	38×26×2.9(L×W×H)±0.15mm					
Operating conditions						
Voltage	3.3V±10%					
Operating Temperature	-20~ +80° C ambient temperature					
Storage Temperature	-40 ~ 120° C ambient temperature					
Operating Humidity	5 to 90% maximum (non-condensing)					
Electrical Specification						
Frequency Range	2.4~2.4835 GHz ISM Band					
Date rates	1, 2, 5.5, 6, 11, 12, 18, 22, 24, 30, 36, 48, 54, 60, 90, 120 and maximum of 150Mbps					
OS support	Windows2000, XP32-64, Vista32/64, Win732/64, Linux, Mac, Android, WIN CE					
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)					
Modulation	BPSK/ QPSK/ 16-QAM/ 64-QAM					
Security	WEP, TKIP, AES, WPA, WPA2					
Output power	Mode	Data Rate	Min	Typ	Max	Unit
	802.11b	1, 2, 5.5, 11Mbps	15.5	17	18.5	dBm
	802.11g	6, 9, 12, 24, 36, 48Mbps	14.5	16	17.5	dBm
		54Mbps	13.5	15	16.5	dBm
	802.11n HT20&HT40	MCS0	15.5	17	18.5	dBm
		MCS6	13.5	15	16.5	dBm
		MCS7	12.5	14	15.5	dBm
EVM	802.11b	11Mbps	-	-27	-10	dB
	802.11g	54Mbps	-	-32	-25	dB
	802.11n HT20	mcs7	-	-34	-28	dB
	802.11n HT40	mcs7	-	-33	-28	dB
RX sensitivity	802.11b	11Mbps	-	-88	-76	dBm

(802.11b FER $\leq$ 8% 802.11g/n FER $\leq$ 10%)	802.11g	54Mbps	-	-75	-65	dBm
	802.11n HT20	mcs7	-	-73	-64	dBm
	802.11n HT40	mcs7	-	-71	-61	dBm

5.DC Characteristics

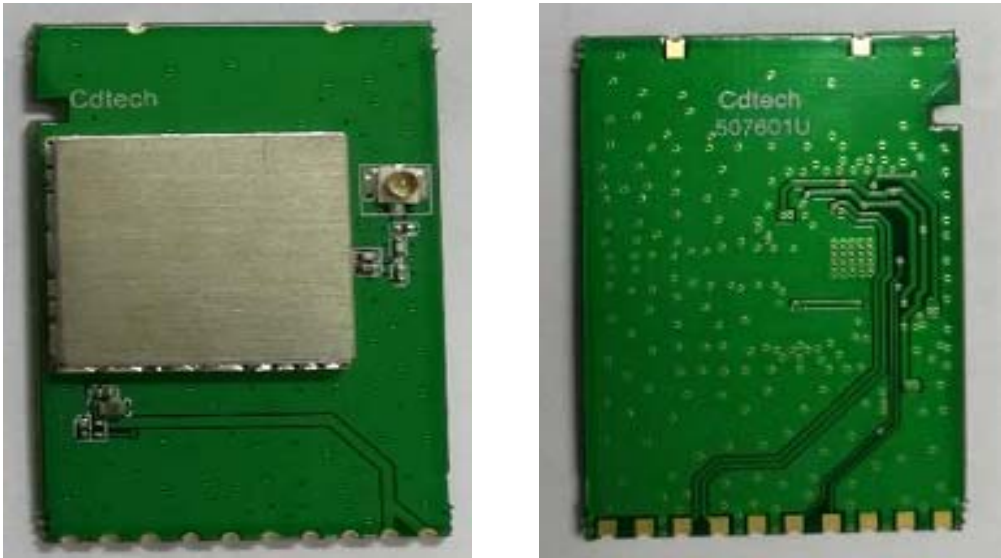
Description	TYPE	Unit
Sleep mode	1.1	mA
RX Active,HT40,MCS7	151	mA
RX Power saving, DTIM=1	15	mA
RX Listen	6	mA
TX HT40,mcs7 @15dBm	210	mA
TX CCK,11Mbps @19dBm	242	mA

Note: All result is measured at the antenna port and VDD33 is 3.3V

6.Pin Description

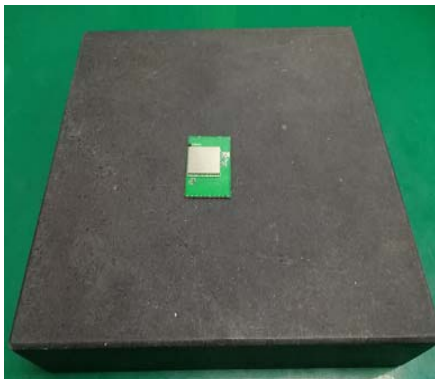
NO	Name	Description
1	VCC	Power supply 3.3V is required
2	VCC	Power supply 3.3V is required
3	UDM	USB negative differential data lines
4	UDP	USB positive differential data lines
5	GND	Ground connections
6	RST_N	GPIO Wi-Fi RST(active low)
7	WoWLAN	Wake on WLAN Host Interrupt(active high)
8	GND	Ground connections
9	GND	Ground connections
10	GND	Ground connections
11	GND	Ground connections
12	GND	Ground connections

7.Module photo

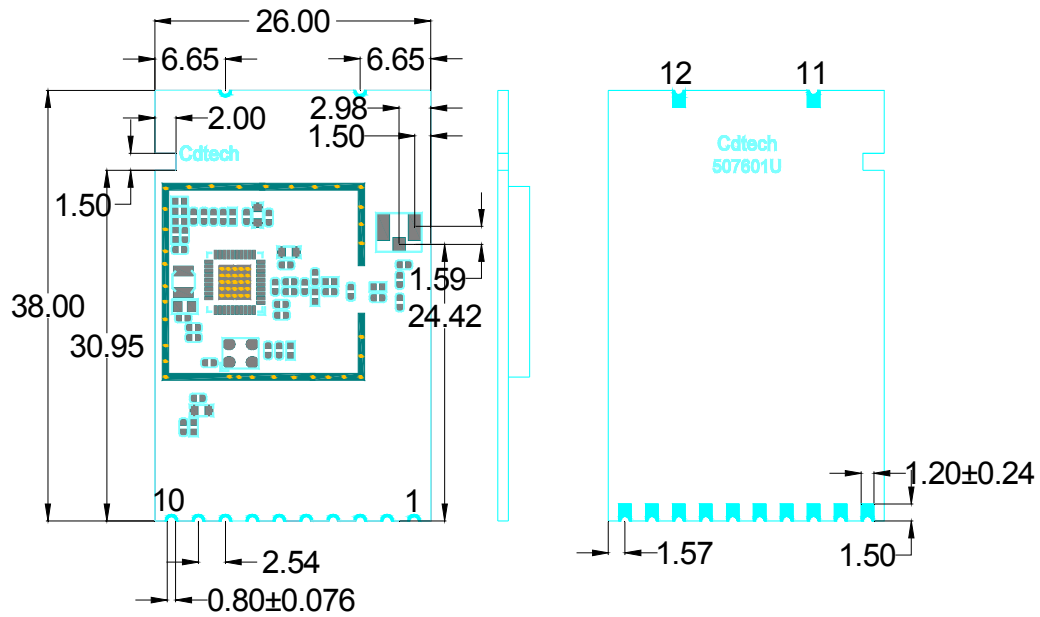


PCBA EVENNESS

PCBA 平整度标准	≤0.1mm	
工具	大理石平台、标准塞尺	

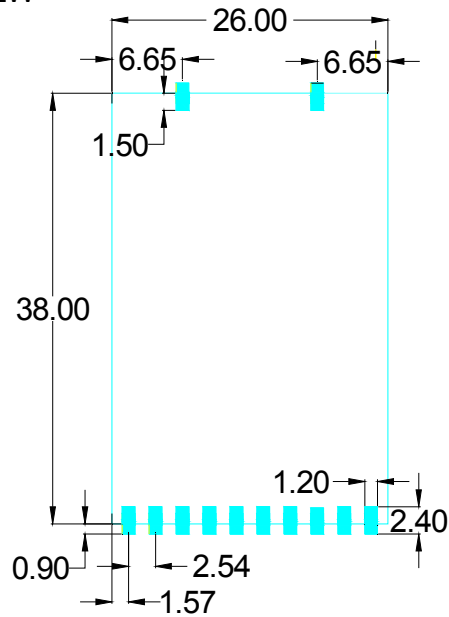


8.Modular PCB Decal size(unit:mm)



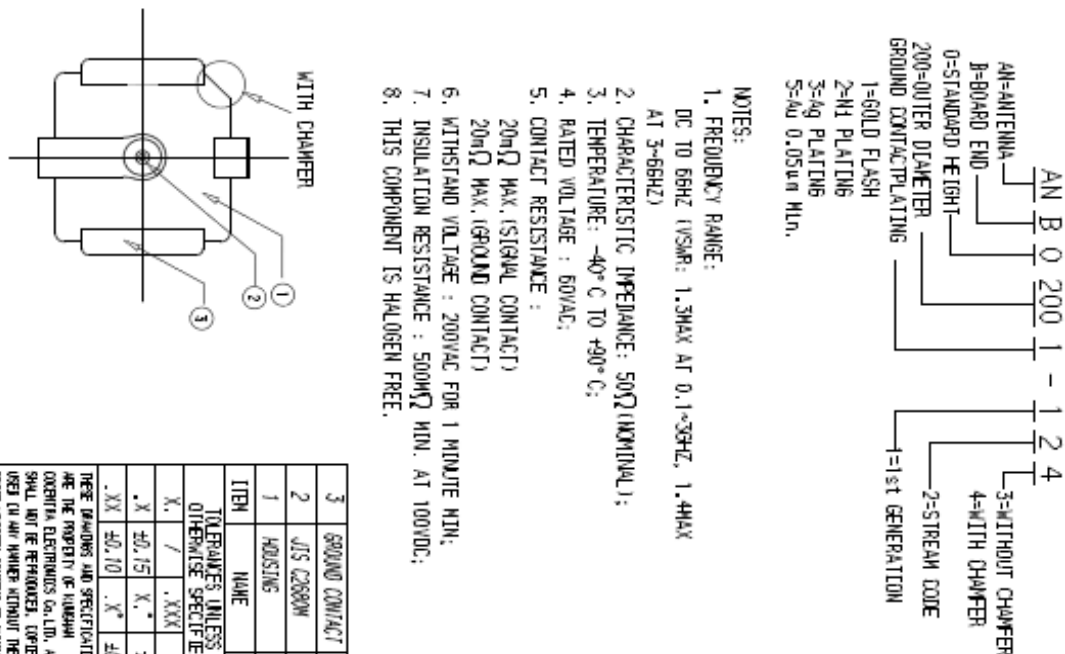
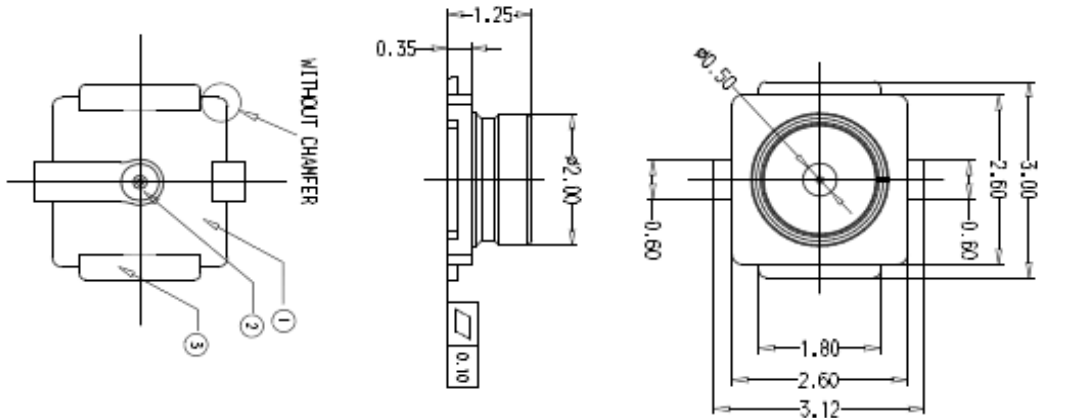
TOP VIEW

BOTTOM VIEW

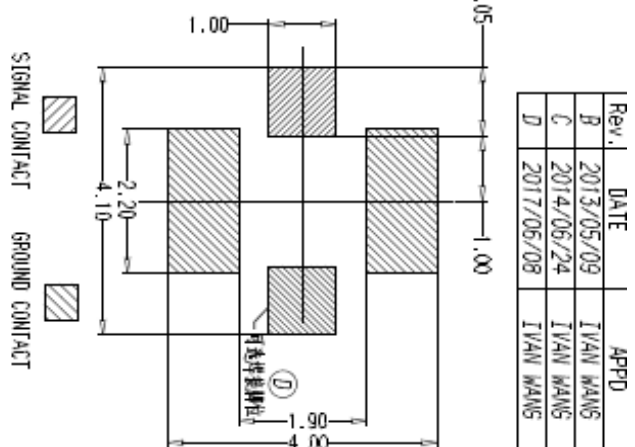


PCB LAYOUT

9.IPEX Connector spec



- NOTES:
1. FREQUENCY RANGE:
DC TO 66HZ (VSWR: 1.3MAX AT 0.1~35HZ, 1.4MAX AT 3~66HZ)
 2. CHARACTERISTIC IMPEDANCE: 50Ω (NOMINAL);
 3. TEMPERATURE: -40° C TO +90° C;
 4. RATED VOLTAGE : 60VAC;
 5. CONTACT RESISTANCE :
20mΩ MAX. (SIGNAL CONTACT)
20mΩ MAX. (GROUND CONTACT)
 6. WITHSTAND VOLTAGE : 200VAC FOR 1 MINUTE MIN;
 7. INSULATION RESISTANCE : 500MΩ MIN. AT 100VDC;
 8. THIS COMPONENT IS HALOGEN FREE.



Rev.	DATE	APPD
B	2013/05/09	IVAN WANG
C	2014/06/24	IVAN WANG
D	2017/06/08	IVAN WANG

3	GROUND CONTACT	1	JIS C5191R-4	Au 0.03µm Min. over Ni 1.27µm Min.
2	JIS C2680W	1	JIS C2680W	Au 0.05µm Min. over Ni 1.27µm Min.
1	HOLDING	1	LCP E6808	UL94V-0, GF=30%
ITEM	NAME	Q'TY	MATERIAL	FINISH
TOLERANCES (UNLESS OTHERWISE SPECIFIED)				
X, .X	.XX	X, .X	.XX	.XX
.XX	±0.15	.X	±0.5	±0.5
THESE DIMENSIONS AND SPECIFICATIONS ARE THE PROPERTY OF RUIZHAN COORDINATE ELECTRONICS Co.,LTD. AND SHALL NOT BE REPRODUCED, COPIED OR USED IN ANY MANNER WITHOUT THE PRIOR WRITTEN CONSENT OF RUIZHAN COORDINATE ELECTRONICS Co.,LTD.				
SERIES: RF BOARD END				
PART No.: ANB02001-124				
CKD: EL QUAY				
DR: Jack Zhang				
UNITS: MM				
FINISH: SCALE: 1:1				
SHEET: 1/1				
REV.:				

10. Shielding cover spec

A0	----	2017-02-10	品名/Name	图截号	材料/Product name	颜色/Color	本色	一般公差/Tolerance			
	 百微科技		 第三角投影 Third angle projection	处理/Treatment 设计/Design 常有泰	校白铜 去油 审核/Check	比例/Scale 单位/Unit 精度/Approval	2:1	mm	Bores	Metal	Plastic
									0~20	±0.05	±0.2
									21~30	±0.1	±1
版本/Ver.		设计变更/Design alteration	日期/Date								

Material

OKCu

东莞市全达金属材料有限公司

DONG GUAN FENGDA ALLOY MATERIAL CO. LTD

产品技术质量证明书

PRODUCT CERTIFICATE

合同号(Contract No.):

订货单位(Buyer):

百微

日期(date) 2017.9.14

单位地址: 东莞市长安镇霄边管理区东华巷2号东华科技园

电话: 0769-81664718 81664719 传真: 0769-81608468

企业网站: www.0769quanda.com 电子邮箱: feng15888@163.com

包装(packing) () 件(pcs) TKG/JL/J110-054

产品名称	金属及合金牌号	状态	规格(mm)	数量(kg)	技术条件	加工批号	熔炼批号	制造方法Manufacture Methods	班次
洋白铜	C7701	1/2H	0.2*38/36	108.4	参照GB/T14945-64	A1706/07-020	Z42018	轧制	23

抗拉强度(N. mm2)	伸长率(%a11.3)	硬度(HV)	电阻率(率)(LACS%)	晶粒度(mm)	缠绕试验	扩口试验	压扁试验	内应力试验	断口试验	探伤检查	表面质量尺寸检查	合格印鉴
531	28	159	/	/	/	/	/	/	/	OK	OK	
化学成份 (Composition) (%)												
Cu	Ni	Fe	Mn	Pb	Zn	/	/	/	/	杂质	化学成份	填表 List-maker
54.93	16.97	0.094	0.13	0.004	余量	/	/	/	/	0.11	OK	

注明: 1. 验收后如有质量异议, 需方在货物及资料到达之日起十五日内提出书面异议, 请持本证书或复印文件寄回, 以便处理;

2. 本产品技术质量证明书检测项目填实测数据, 定性检测项目合格划 "√", 不检测项目划斜线 " / " .

3. 本产品技术质量证明书未加盖产品合格证专用章无效.

4. 保管方面注意几点: (1) 堆放要干燥. (2) 防止酸, 碱, 汗水及有害气体的腐蚀.

5. 本产品保证尺寸公差, 机械性能, 化学成份和表面质量, 若保管不善引起自动断裂, 变色及变质由使用单位负责.

Note: 1. If after acceptance of objection to the arrival of the goods and information within 15 days from the date of the written objection, I would be grateful if the certificate or photocopying documents sent back to treatment;

2. This product quality certificates of Reclamation project measured data, qualitative detection of qualified project is zoned "√" not of the project is zoned slash " / "

11.UL File



File E213371 Vol 3 Auth. Page 1 Issued: 2017-07-10
Revised: 2017-07-13

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

COMPONENT - WIRING, PRINTED
(ZPMV2,ZPMV8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

Applicant: 155004 (Party Site)
SHENZHEN BOMIN ELECTRONIC CO LTD
(937869-001) LONGWANG MIAO IND ZONE, BLK 21
BAISHI XIA FUYONG TOWN
BAO'AN DISTRICT
SHENZHEN
GUANGDONG 518103 CHINA

Recognized Company: 155004 (Party Site)
SAME AS APPLICANT
(937869-001)

13.Reliability test spec

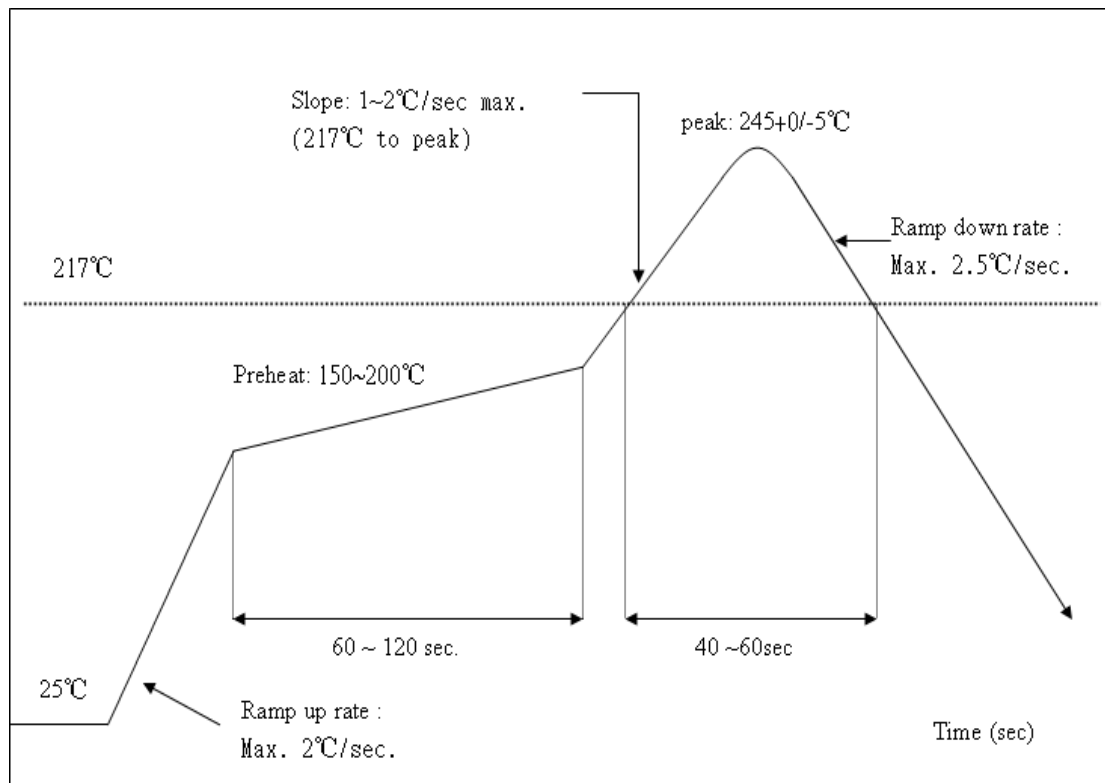
Test project	Test content and reception standard
高温运行试验 High temperature operation	Please see enclosed the list of Reliability test
低温运行试验 Low temperature operation	
整箱跌落试验 Drop test of package	
模拟汽车运输振动试验 Simulated transport vibration experiment	
ESD 试验 Electro-Static discharge	

14.Recommended Reflow Profile

Referred IPC/JEDEC standard.

Peak Temperature : <250°C

Number of Times : 2 times



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 20cm 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 module should not be installed and operated simultaneously with other radios except additional RF exposure was evaluated for simultaneously transmission.

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 **ROWCDW-507601U-10**”