User Manual

wifi module

model:CDW-337632U-01

1. Overview

The CDW-337632U-01 is a highly integrated single chip which has built in a 2x2 dual-band wireless LAN radio and Bluetooth radio.It supports IEEE 802.11a/b/g/n standard and provides the highest PHY rate up to 300Mbps, offering feature-rich wireless connectivity and reliable throughput from an extended distance.It includes Bluetooth EDR and LE radio which complies with Bluetooth v2.1+EDR,v3.0,and v4.0+BLE. Optimzed RF architecture and baseband algorithms provide superb performance and low power consumption.

The CDW-337632U-01 integrates PA/LNA such that the number of the external components is reduced to minimum. Intelligent MAC design deploys a high efficient DMA engine and hardware data processing accelerators which offloads the host processor.

The CDW-337632U-01 supports the 802.11i security standard and implements hardware acceleration for TKIP,CCMP and WAPI. The device also supports 802.11e Qos for video, voice, and multimedia applications.

The CDW-337632U-01 can provide a comcurrent operation of Wi-Fi and Bluetooth over USB interface. An intelligent Wi-Fi/Bluetooth coexistence algorithm is implemented to reach the best Wi-Fi and Bluetooth radio performance.

2. Features

2.1 WLAN

- IEEE 802.11a/b/g/n compliant
- Max Bandwith 40MHz
- Embedded high-performance 32-bit RISC microprocessor
- Dual-band 2T2R mode with data rate up to 300Mbps
- Support STBC,LDPC,MRC,and transmit Beamforming
- Greenfield,mixed mode,legacy modes support
- Frame aggregation
- Integrated LNA,PA,and T/R switch
- Optional external LNA and PA support.
- IEEE 802.11d/e/h/i/k/r/w support
- Security support for WGA WPA/WPA2 personal,WPS2.0,WAPI

- Supports 802.11w proteced managed frames
- QoS support of WFA WMM,WMM PS
- Supports Wi-Fi Direct
- Fully compliance with USB v2.0 High-speed mode
- Wake on WLAN

2.2 Buletooth

- Bluetooth specification v2.1+EDR
- Bluetooth v4.0 Low Energy(LE)
- Standard HCI interface over USB super-speed,high-speed and full-speed mode
- High speed UART up to 4Mbps BAUD rate
- Integrated BALUN and PA with 9dBm transmit power
- Best-in-class BT/Wi-Fi coexistence performance
- Scatternet support:Up to 4 piconets simultaneously with background inquiry/page scan
- Up to 3 simulaneous active ACL links
- Support SCO and SCO link with re-transmission
- Support wide-band speech and hardware accelerated SBC codec for A2DP streaming
- Packet loss concealment
- Channel assessment or AFH
- 3DD support

3. General Specification

Model	CDW-337632U-01
Product Name	wifi module
Major Chipset	MT7632UN
Standard	IEEE802.11a/b/g/n, 802.3, 802.3u, BT2.1/3.0/4.0
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60, 90,120 and maximum of 300Mbps
Modulation Method	BPSK/ QPSK/ 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 Division Multiplexing)
Operation Mode	Ad hoc, Infrastructure
OS Support	Win7 32/64,Win8 32/64,Android,linux
Security	WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0
Operating Temperature	-20~ +80° C ambient temperature
Storage Temperature	-40 ~ 125°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Dimension	16x23x2.2mm (LxWxH)±0.2mm

4. DC Characteristics

4.1 WLAN current consumption

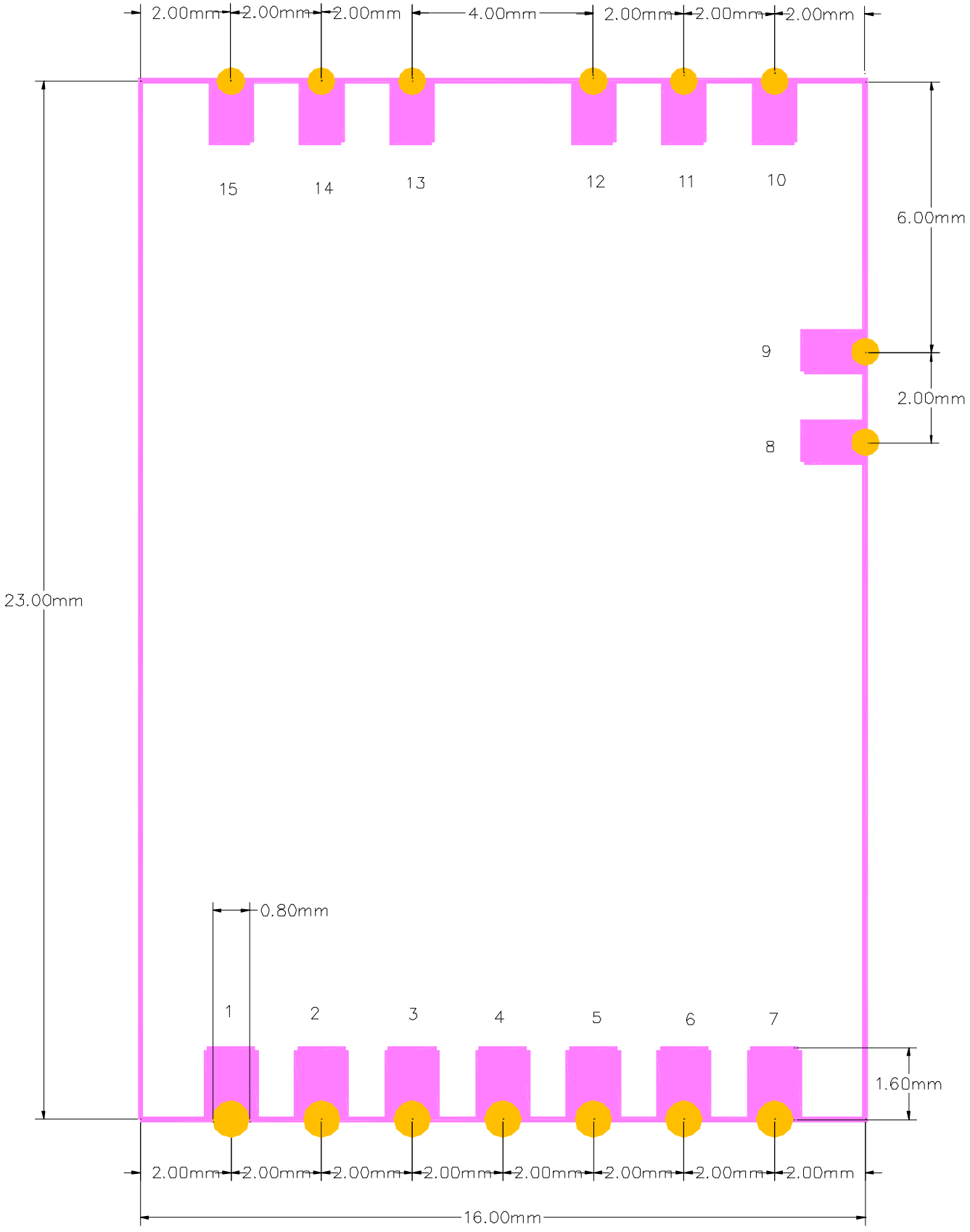
Description	TYP	Unit
Sleep mode	1.5	mA
2GHz RX Active,HT40,MCS15	296	mA
5GHz RX Active,HT40,MCS15	296	mA
RX Power saving, DTIM=1	65	mA
RX Listen	236	mA
2GHz TX HT40,mcs15 @17dBm	672	mA
2GHz TX HT40,mcs8 @20dBm	756	mA
5GHz TX HT40,mcs15 @15.5dBm	784	mA
5GHz TX HT40,mcs8 @16.5dBm	864	mA
2GHz TX CCK,11Mbps @20dBm	464	mA

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

4.2 Bluetooth current consumption

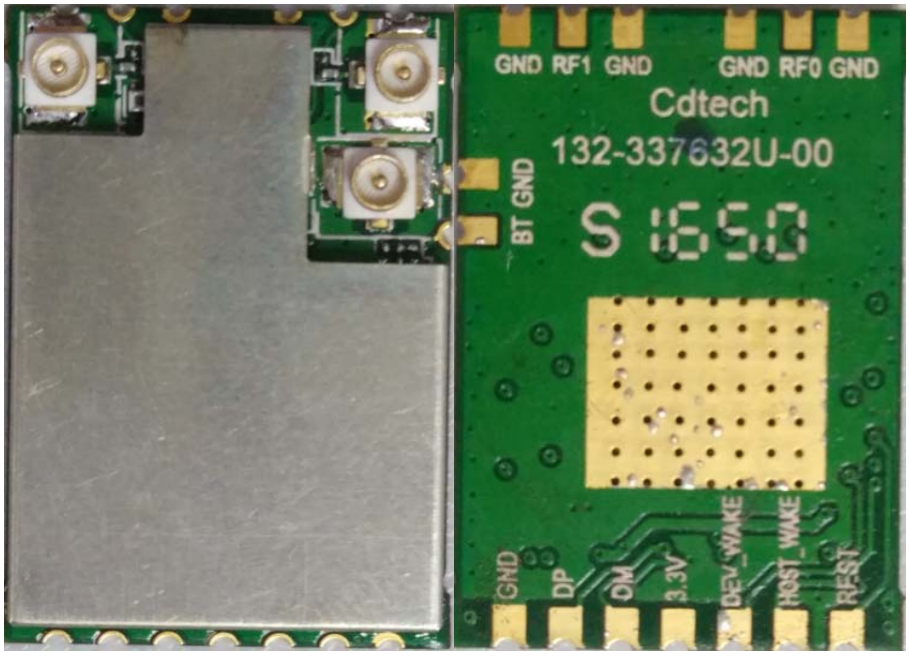
Description	TYP	Unit
Sleep mode	1.5	mA
Bluetooth continuous transmit(TX output power:9dBm)	69	mA
Bluetooth continuous receive	44	mA
Bluetooth SCO connection, HV3 packets+sniff mode+scan (Page scan internal=1.28sec,inquiry scan interval=2.56s,sniff interval=500ms)	32	mA
Bluetooth page scan+inquiry scan (Page scan interval=1.28s,inquiry scan interval=2.56s)	2	mA
Bluetooth page scan (Page scan interval=1.28s)	2	mA

5. Dimension & Pin Assignments



NO.	Nam	Description
1	RST	reset
2	WF-WOW	WIFI wake
3	DEV-WOW	Host wake
4	3.3V	Power supply 3.3V is required
5	UDM	USB negative differential data lines
6	UDP	USB positive differential data lines
7	GND	Ground connections
8	BT-RF	Bluetooth ant
9	GND	Ground connections
10	GND	Ground connections
11	WL-RF1	WIFI-RF signal one
12	GND	Ground connections
13	GND	Ground connections
14	WF-RF0	WIFI-RF signal zero
15	GND	Ground connections

6. Modular photo

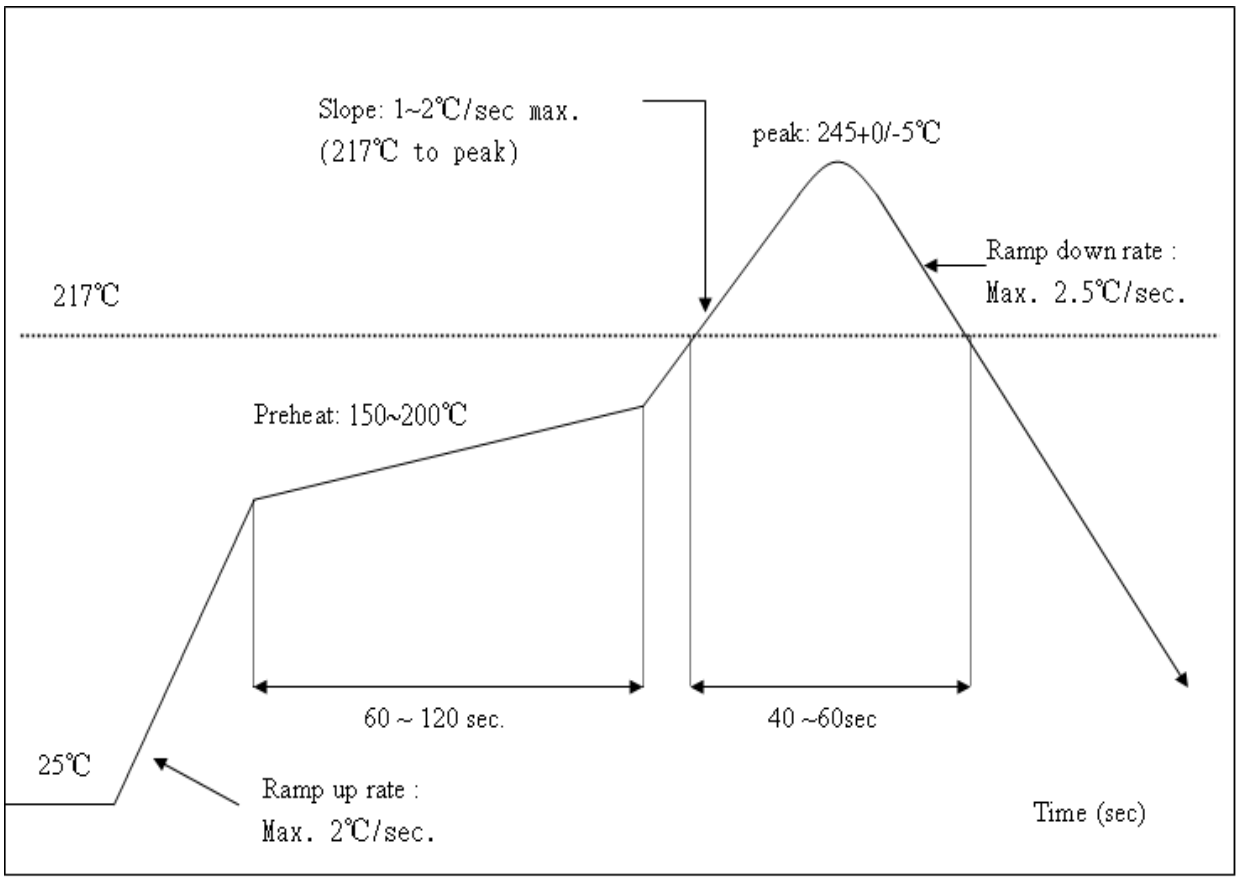


7. Recommended Reflow Profile

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 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 **2AFBVCDW337632U01**”