

## CDW-B18188E-V0

## 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	吴培培	刘平	V1.8	2017.05.25

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更改记录:

Reversion History:

版本 Version	日期 Date	更改内容 Modification
1.0	2014.06.27	First release
1.1	2014.09.18	modify error
1.2	2015.07.27	modify error
1.3	2016.02.19	Add package
1.4	2016.04.11	modify error
1.5	2016.08.18	Module name change
1.6	2016.11.04	Add PCBA OEM
1.7	2017.01.14	Update format
1.8	2017.05.25	Add crystal supplier; change package quantity

## 1. Overview

CDW-B18188E-V0 is a WLAN 11 b/g/n USB module, which fully supports the features and Functional compliance of IEEE 802.11 b/g/n standards. It supports up to 150Mbps high-speed wireless network connections. It is designed to provide excellent performance with low power Consumption and enhance the advantages of robust system and cost-effective. It is targeted at competitive superior performance, better power Management applications.

## 2. Features

- 6 -pin 1.524mm, Total Size 13x12.2x1.6mm
- single chip for IEEE 802.11b/g/n compatible WLAN
- Complete 802.11n solution for 2.4GHz band
- 72.2Mbps receive PHY rate and 72.2Mbps transmit PHY rate using 20MHz bandwidth
- 150Mbps receive PHY rate and 150Mbps transmit PHY rate using 40MHz bandwidth
- Compatible with 802.11n specification
- Backward compatible with 802.11b/g devices while operating in 802.11n mode

### Interface

- Complies with USB 1.0/1.1/2.0 for WLAN Standards Supported
- IEEE 802.11b/g/n compatible WLAN
- IEEE 802.11e QoS Enhancement (WMM)
- 802.11i (WPA, WPA2). Open, shared key, and pair-wise key authentication services

### 3. General Specification

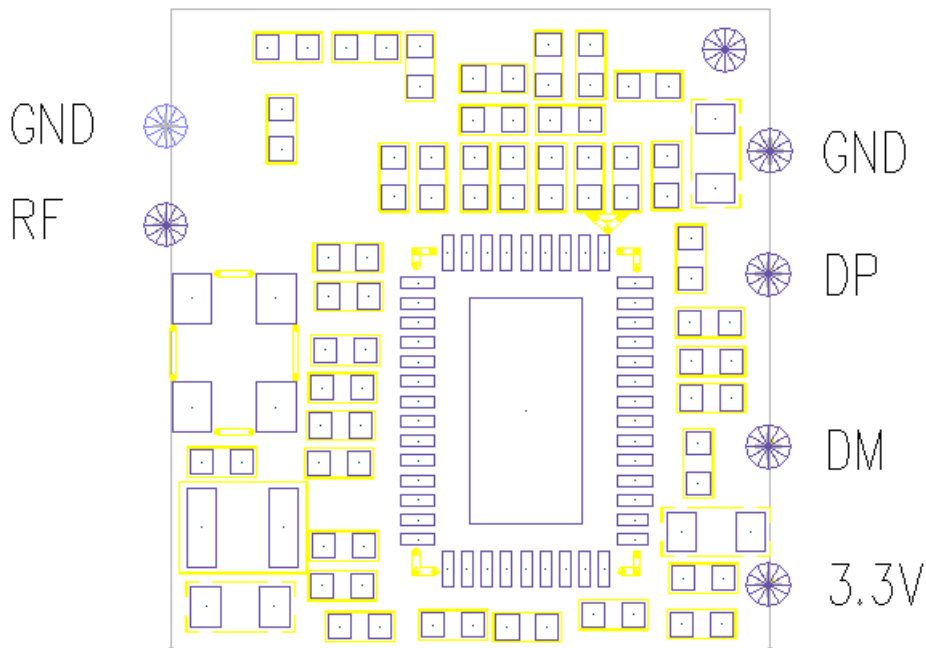
Model Name	CDW-B18188E-V0			
wlan standard	IEEE 802.11 a/b/g/n			
Host interface	USB2.0			
Main Chipset	RTL8188ETV			
PCBA Dimension	12.2×13×1.6(L×W×H)±0.15mm			
Operating conditions				
Voltage	3.3V			
Operating Temperature	-20~ +80° C ambient temperature			
Storage Temperature	-40 ~ 100° C ambient 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 Typical Power tolerance +/-2dB; EVM	Mode	Data Rate	Power	Unit
	11b	1, 2, 5.5, 11Mbps	18	dBm
	11g	6, 9, 12, 24, 36, 48Mbps	16	dBm
		54Mbps	15	dBm
	11n HT20&HT40	mcs0, mcs1, mcs2, mcs3, mcs4, mcs5	17	dBm
		mcs6	15	dBm
		mcs7	14	dBm
	11b	11Mbps	-26	dB
	11g	54Mbps	-32	dB
	11n HT20	mcs7	-34	dB
	11n HT40	mcs7	-33	dB
RX sensitivity	Mode	Data Rate	sensitivity	Unit
	11b	11Mbps	-86	dBm
	11g	54Mbps	-73	dBm
	11n HT20	mcs7	-71	dBm
	11n HT40	mcs7	-68	dBm

## 4. DC Characteristics

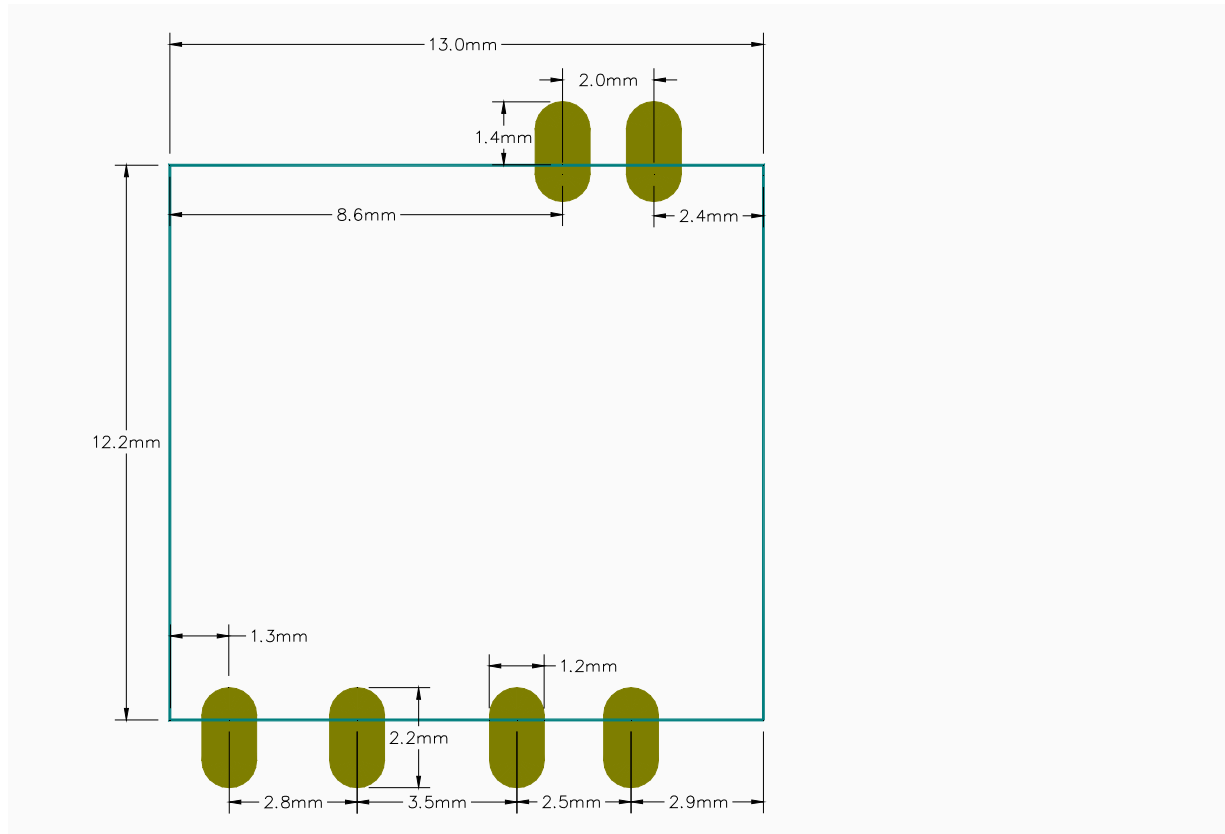
Description	TYP	Unit
Sleep mode	5	mA
RX Active,HT40,MCS7	145	mA
TX HT40,mcs7 @15dBm	200	mA
TX CCK,11Mbps @19dBm	310	mA

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

## 5. Pin Description and PCB size



NO	Name	Description
1	VCC	Power supply 3.3V is required
2	UDM	USB negative differential data lines
3	UDP	USB positive differential data lines
4	GND	Ground connections
5	GND	Ground connections
6	ANT	RF out External PI-type circuit is requested





## 6. Modular photo

对应物料	型号规格	供应厂家
Crystal	40Mhz	晶威特, 福晶, 泰晶
PCBA VER	132.B18188E-02	怡科通, 博敏

### Crystal physical photo



晶威特 40MHz 3225 封装

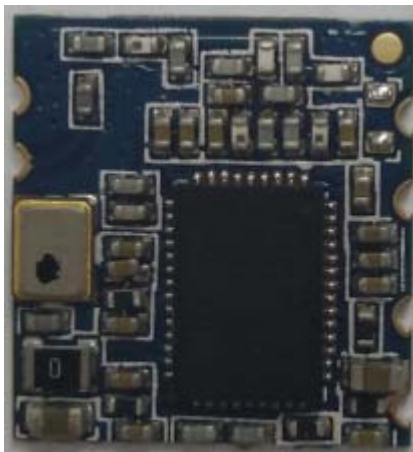


福晶 40MHz 3225 封装

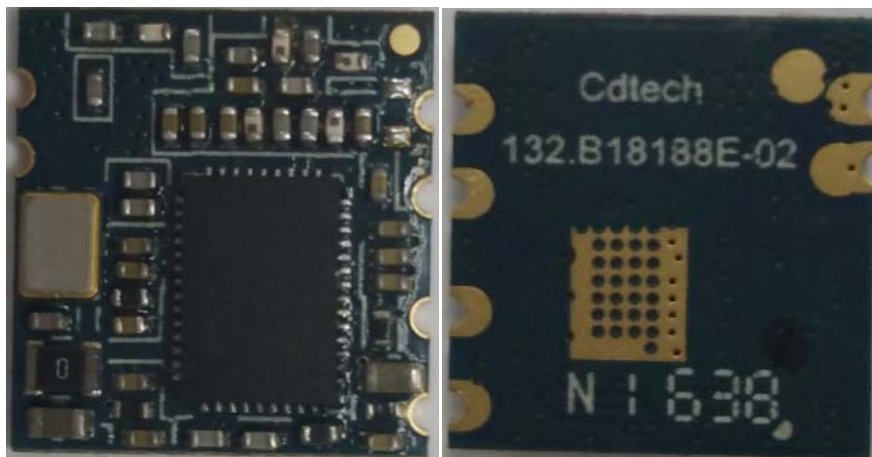


泰晶 40MHz 3225 封装

### PCBA physical photo



怡科通供应的 PCBA



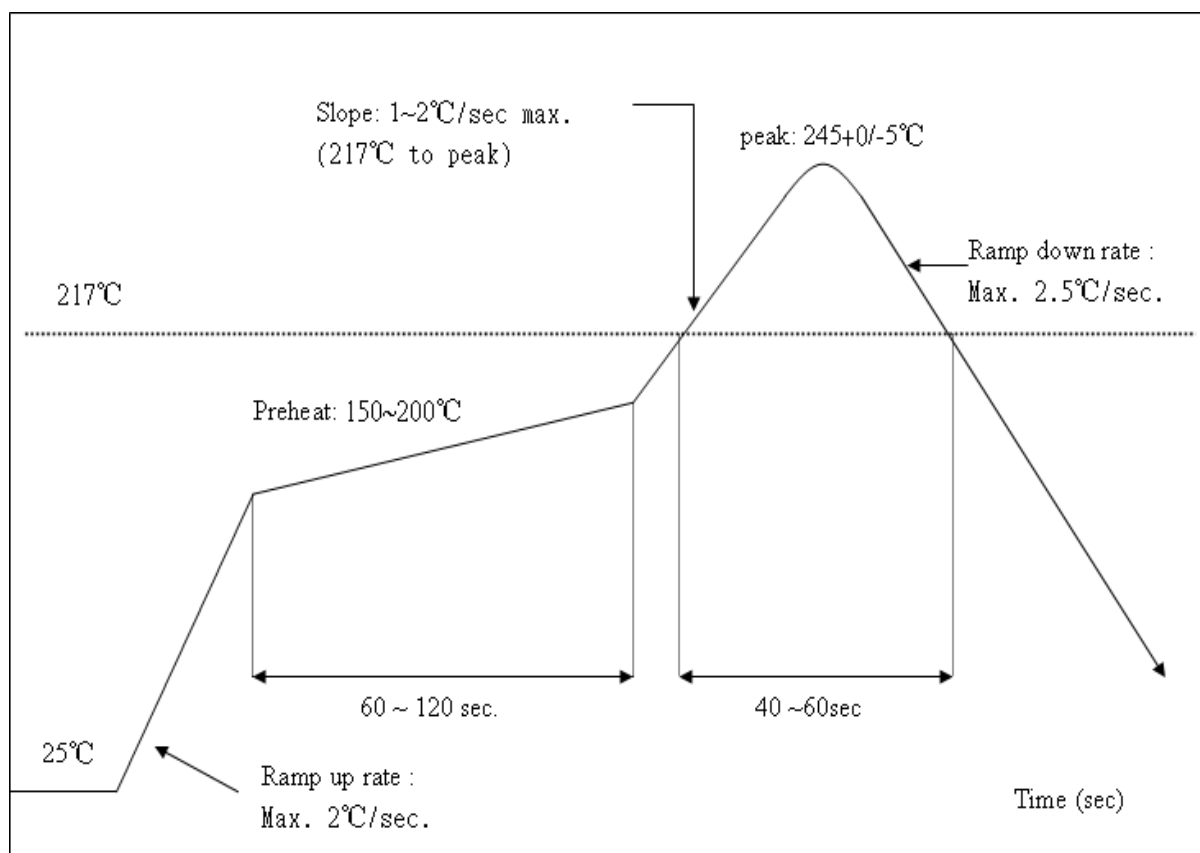
博敏供应的 PCBA

## 7. Recommended Reflow Profile

Referred IPC/JEDEC standard.

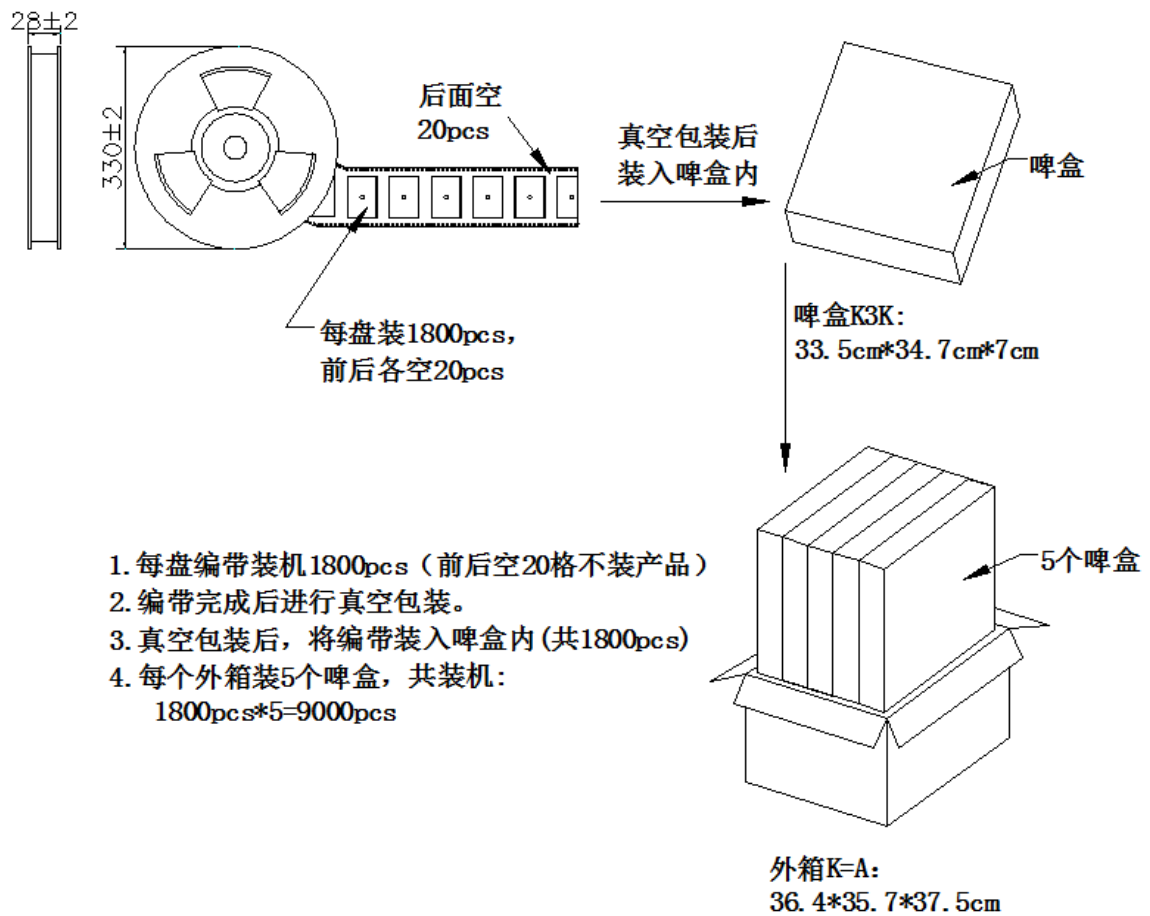
Peak Temperature :  $<250^{\circ}\text{C}$

Number of Times : 2 times





## 8. Package



### ESD CAUTION

The CDW-B18188E-V0 is ESD (electrostatic discharge) sensitive device and may be damaged with ESD or spike voltage. Although CDW-B18188E-V0 is with built-in ESD protection circuitry, please handle with care to avoid the permanent malfunction or the performance degradation.