

## 1. Overview

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

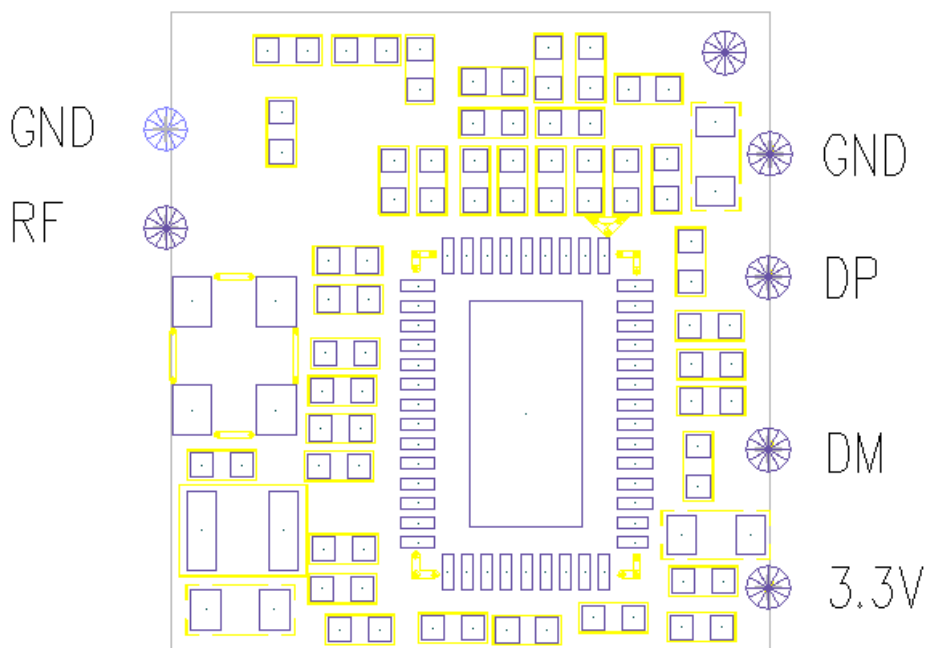
Model Name	B18188E-V0			
wlan standard	IEEE 802.11 a/b/g/n			
Host interface	USB2.0			
Main Chipset	RTL8188ETV			
PCBA Dimension	12.2×13×1.6(L×W×H)±0.15mm			
Operating conditions				
Voltage	3.3V			
Operating Temperature	-20~ +80° C ambient temperature			
Storage Temperature	-40 ~ 100° C ambient temperature			
Operating Humidity	5 to 90% maximum (non-condensing)			
Electrical Specification				
Frequency Range	2.4~2.4835 GHz ISM Band			
Data 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

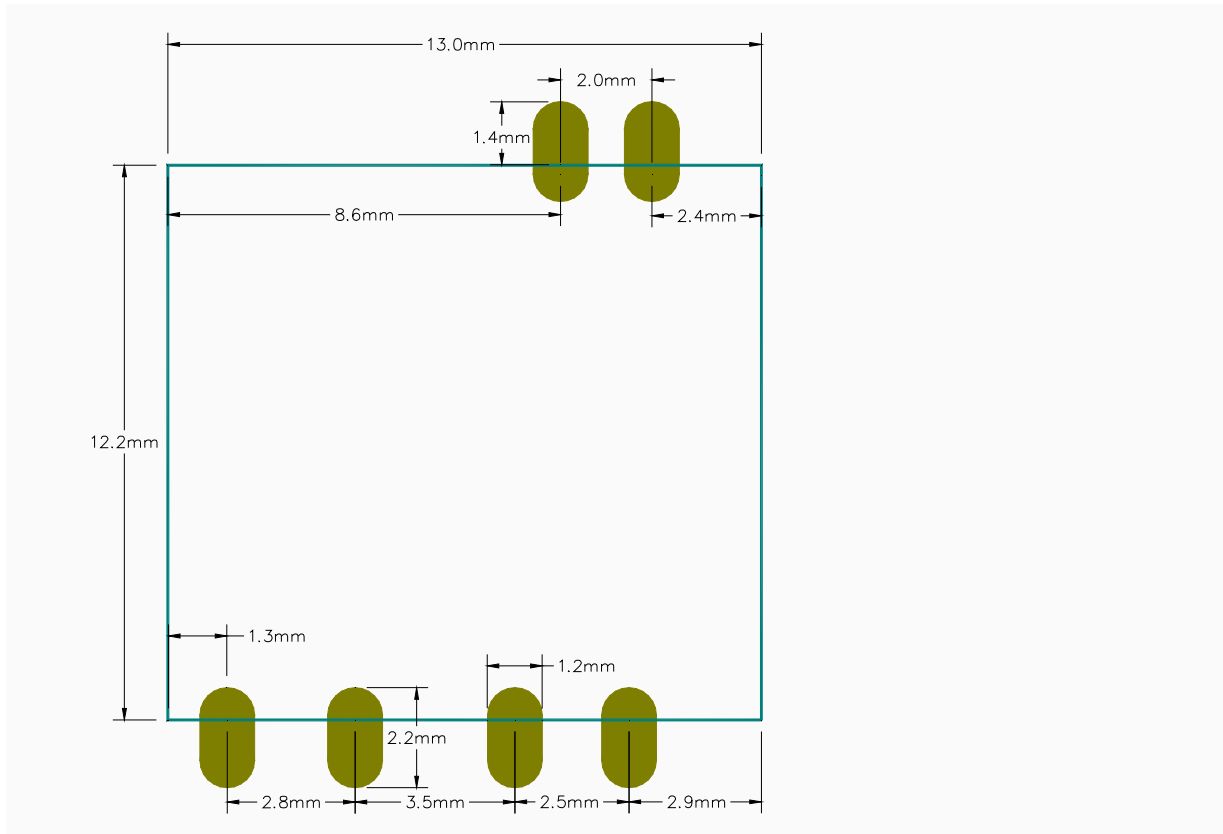
Description	TYP	Unit
Sleep mode	5	mA
RX Active,HT40,MCS7	145	mA
TX HT40,mcs7 @15dBm	200	mA
TX CCK,11Mbps @19dBm	310	mA

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

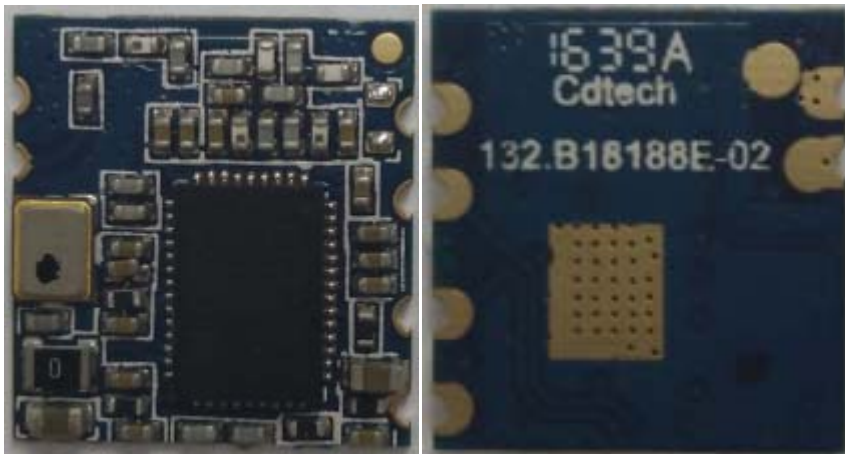


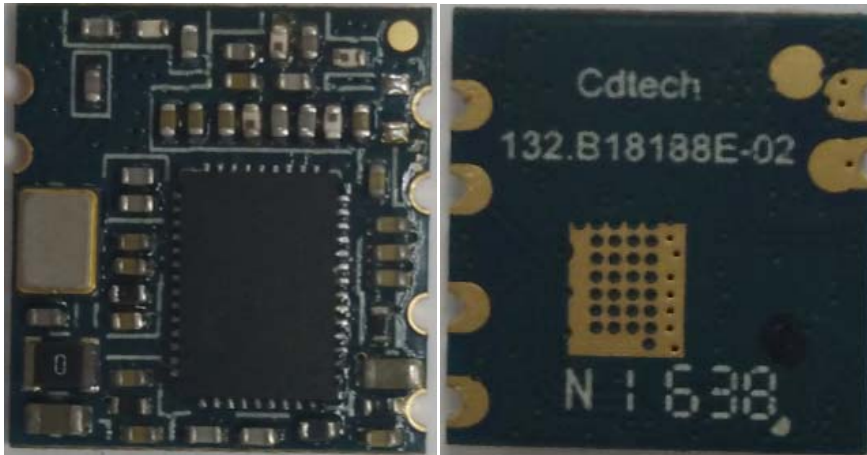
福晶 40MHz 3225 封装



泰晶 40MHz 3225 封装

### PCBA physical photo



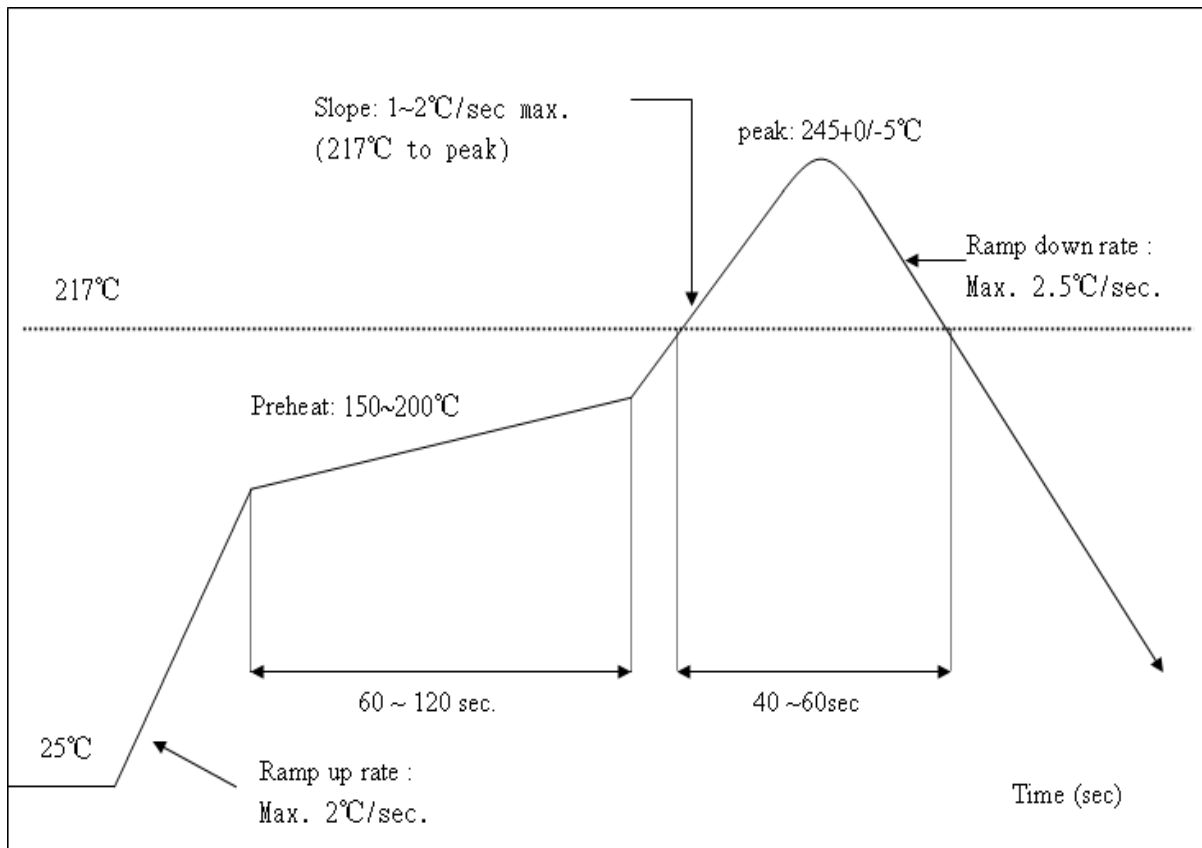


## 7. Recommended Reflow Profile

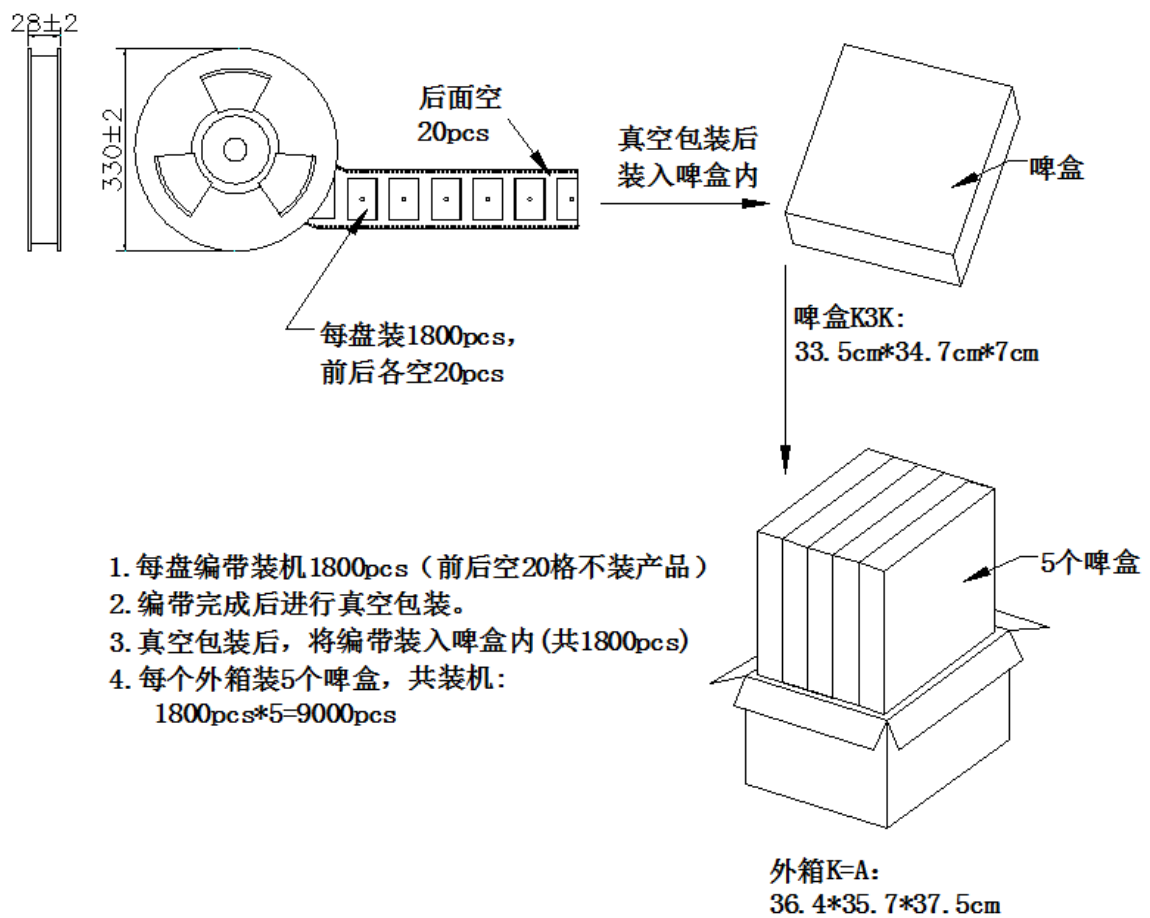
Referred IPC/JEDEC standard.

Peak Temperature : <math><250^{\circ}\text{C}</math>

Number of Times : 2 times



## 8. Package



### ESD CAUTION

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