

# HK NATER TECH LIMITED

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## DJH-WF-68E Specification

Customer: \_\_\_\_\_

Description: DJH-WF-68E V1.2

Customer P/N: \_\_\_\_\_

Date: \_\_\_\_\_

Customer		
Approve	Auditing	Admit

Provider		
Approve	Auditing	Admit

Customer:

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# **Product Specifications**

## **WLAN 11b/g/n USB module (1T1R)**

**DJH-WF-68E**

**Version: V1.2**

# Overview

WF-68E is a WLAN 11n USB module, which fully supports the features and Functional compliance of IEEE802.11n,e and i 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.

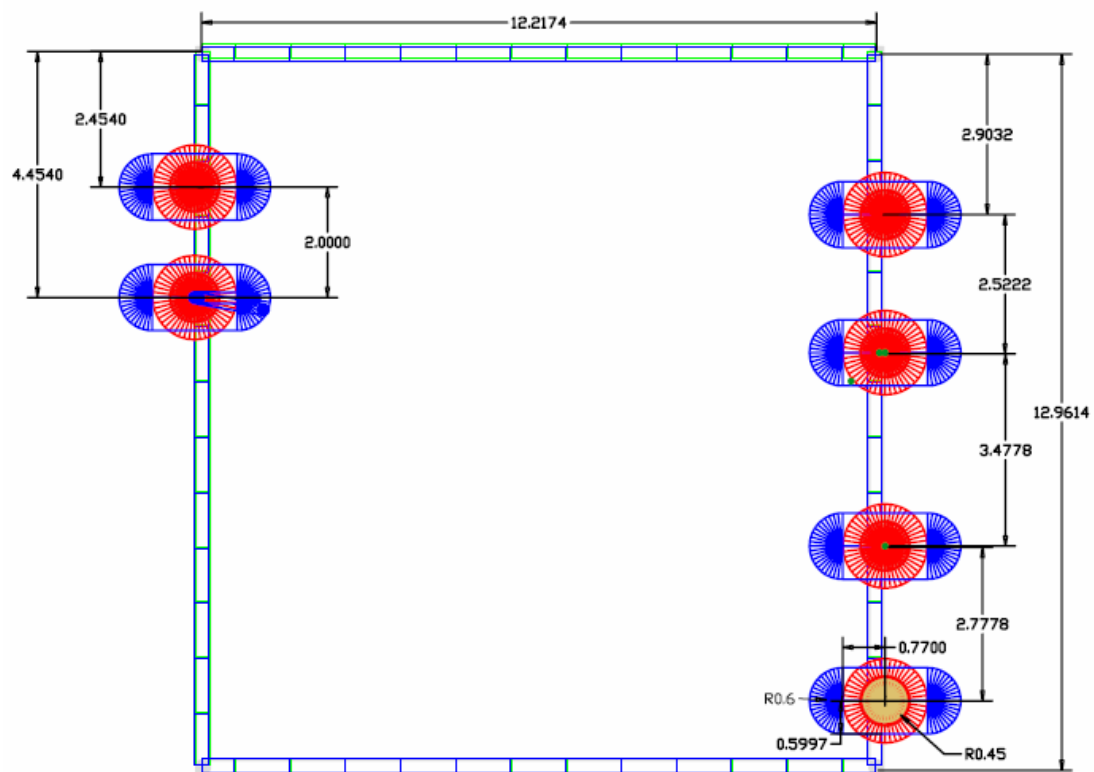
# Features

- \* Operates in 2.4 GHz frequency bands
- \* 1x1 MIMO technology improves effective throughput and range existing 802.11 b/g products
- \* Data rates: up to 150Mbps
- \* 802.11e-compatible bursting and I standards
- \* BPSK, QPSK, 16 QAM, 64 QAM modulation schemes
- \* WEP, TKIP, and AES, WPA, WPA2 hardware encryption schemes

# General Specification

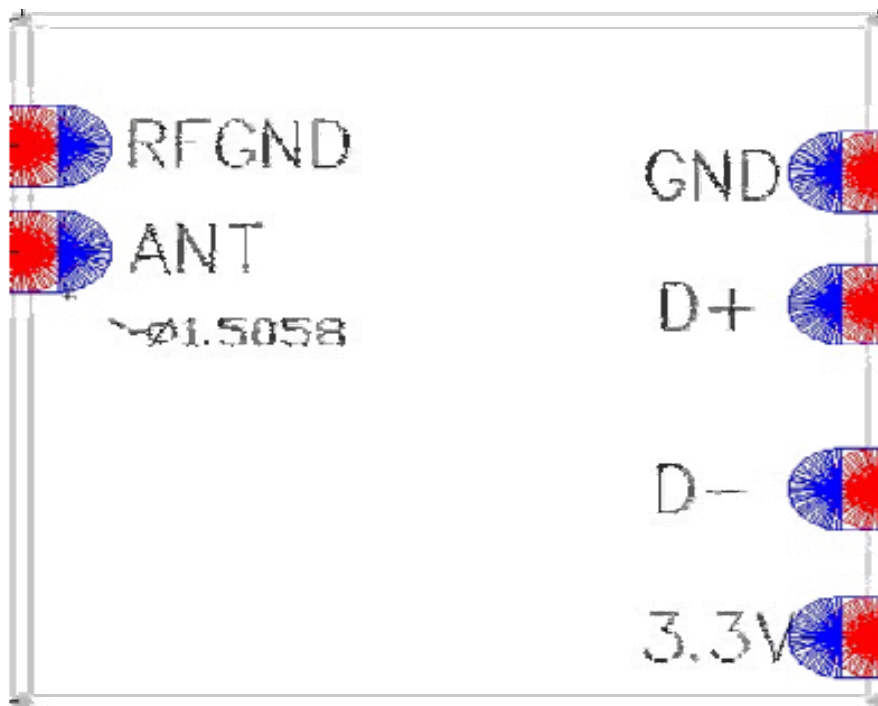
Model	DJ H-WF-68E
Product Name	WLAN 11n USB module
Major Chipset Realtek	RTL8188ETV
Standard	802.11b/g/n, 802.3, 802.3u
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 and maximum of 150Mbps
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM
Frequency Band	2.4 ~ 2.4835 GHz ISM Band
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
RF Output Power	< 13dBm@11n,< 18dBm@11b,< 14dBm@11g
Operation Mode	Ad hoc, Infrastructure
Receiver Sensitivity	11Mbps -86dBm@8%,54Mbps -73dBm@10%,130Mbps -66dBm@10%
Operation Range	Up to 180 meters in open space
LED	
OS Support	Windows 2000,XP32-64,Vista 32/64,Win7 32/64,Linux,Mac, Android, WIN CE
Security	WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0
Power Consumption	DC3.3V Maximum power dissipation in 80MA
Operating Temperature	-20 ~ 60°C ambient temperature
Storage Temperature	-10 ~ 70°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Dimension	12. 9614 x 12.2174 x 1.6mm (LxWxH) +-0.2MM

## Dimensions:

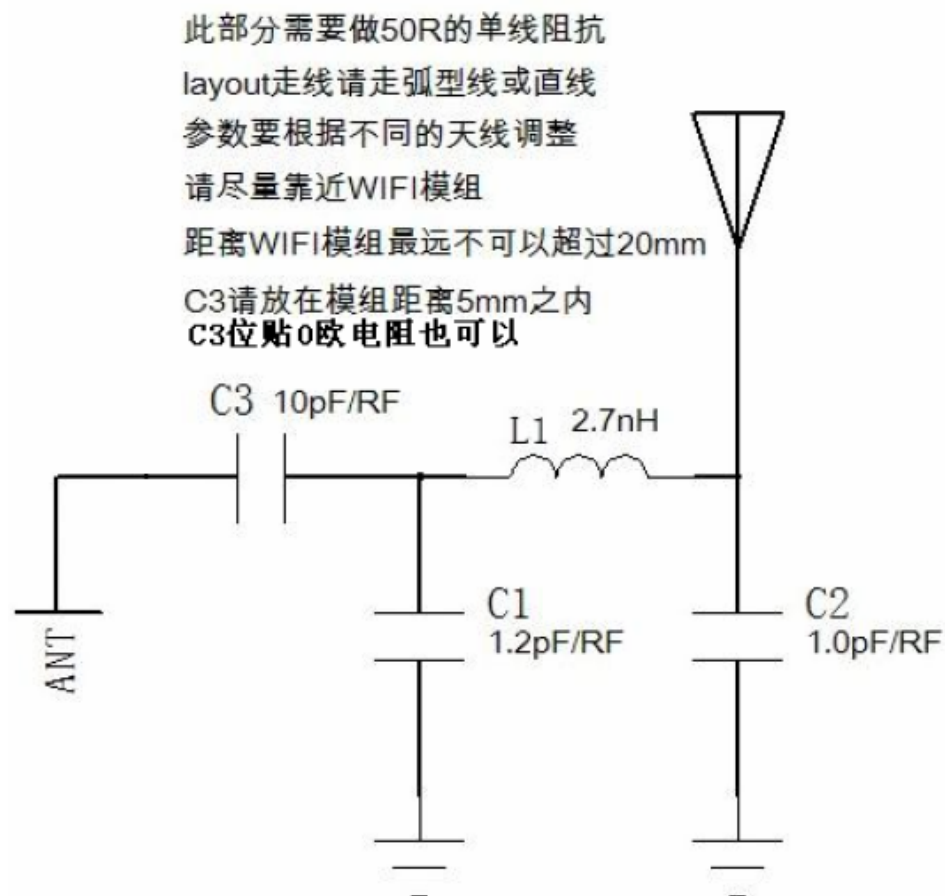


The PCB tolerances within + / -0.2 or so

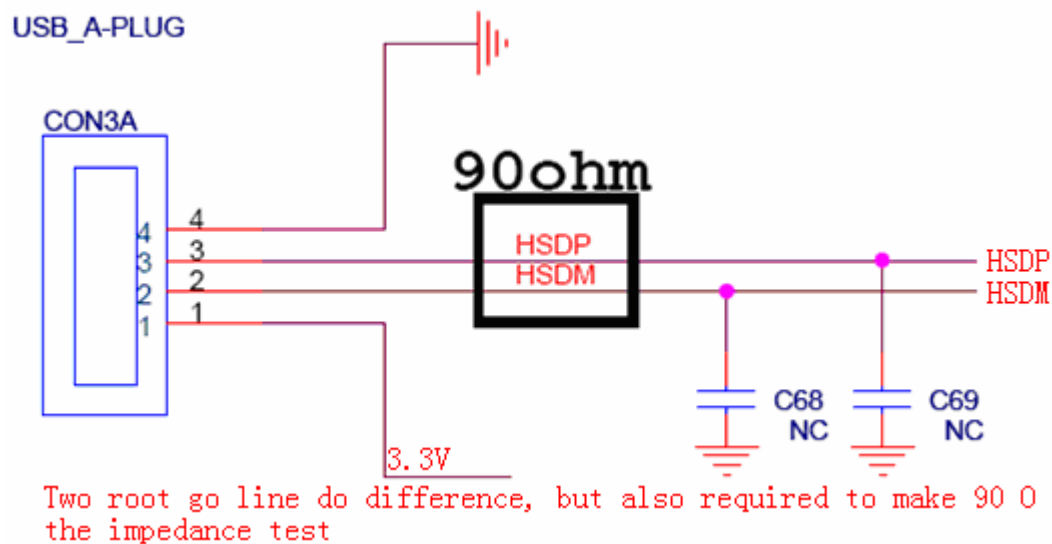
## PIN Definition



## External antenna reference design



## USB interface electrical characteristics



# DC Characteristics

Symbol	Parameter	Minimum	Typical	Maximum	Units
VD33A, VD33D	3.3V I/O Supply Voltage	3.1	3.3	3.5	V
VD15A, VD15D	1.5V Supply Voltage	1.4	1.5	1.6	V
IDD33	3.3V Rating Current	-	-	400	mA

# Power Consumption

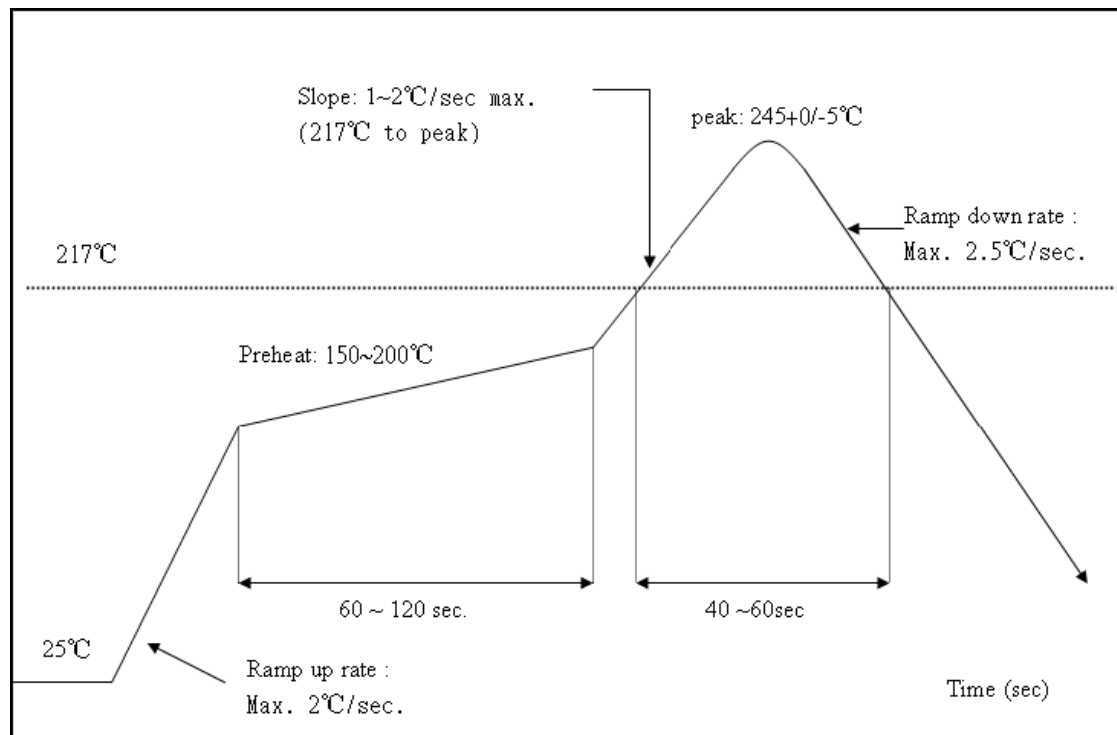
Parameters	Sym	Conditions	Min	Typ	Max	Unit
3.3V Supply Voltage	Vc33		3.1	3.3	3.5	V
1.5V Supply Voltage	Vc15		1.4	1.5	1.6	V
Receiving Tests the biggest receive						
3.3V Current Consumption	Icc33rx	H40MCS7		65		MA
3.3V Current Consumption	Icc33rx	OFDM 54M		70		MA
Transmission Biggest transmission test						
3.3V Current Consumption	Icc33tx	H40 MCS7		80		MA
3.3V Current Consumption	Icc33tx	OFDM 54M		85		MA
The depth waits for an opportunity	Icc33tx/rx			2		MA
Deep sleep	Ic33tx/rx			2		MA

## Recommended Reflow Profile

Referred to IPC/JEDEC standard.

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

Number of Times :  $\leq 2$  times



## ENVIRONMENTAL

### Operating

Operating Temperature:  $0^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$   
Relative Humidity: 5-90% (non-condensing)

### Storage

Temperature:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  (non-operating)  
Relevant Humidity: 5-95% (non-condensing)

### MTBF caculation

Over 150,000hours



<p><b>Wireless module before the SMT note:</b></p> <p>1.When customers Open stencil must be sure the hole bigger to the Wireless module plate, please press 1 to 1 and 0.7 mm is widened to open outward, the thickness of 0.12 mm.</p> <p>2.Can't get the wifi module bare hands when needs,must we wear the gloves and static ring.</p> <p>3.The furnace temperature according to the size of the customer the mainboard ,generally like to stick on a tablet standard temperature of 250 + - 5,can do 260 + - 5.</p> <p><b>Storage and use Wifi module control should pay attention to the following matters:</b></p> <p><b>1.Module of the storage life of vacuum packaging:</b></p> <p>1-1.Storage life: 12 months. Storage conditions:&lt;40℃. Relative humidity:&lt;90%R.H.</p> <p>1-2.After this bag is opened , devices that will be subjected to infrared reflow, vapor-phase reflow, or equivalent processing must be :</p> <p>1-3.Check the humidity card :stored at <math>\leq 20\%RH</math>.If :30%~40%(pink)or greater than 40%(red).Labeling module has moisture absorption.</p> <p>① Mounthed within 168 hours at factory conditions of: <math>t \leq 30^{\circ}C</math>, <math>\leq 60\%R.H</math>.</p> <p>② Once opened, the workshop the preservation of life for 168 hours.</p> <p>1-4.If baking is required,devices may be baked for:</p> <p>① Modules must be to remove module moisture problem.</p> <p>② Baking temperature: 125 ℃, 8 hours.</p> <p>③ After baking, put proper amount of desiccant to seal packages.</p> <p>1-5.Module vacuum packing 2000 PCS per disc.</p> <p><b>2.Module reel packaging items as follows.</b></p> <p>2-1.Storage life: 12 months. Storage conditions:&lt;40℃. Relative humidity:&lt;90%R.H.</p> <p>2-2.Module apart packing after 168 hours, To launch patch need to bake, to remove the module hygroscopic, baking temperature conditions: 125℃, 8hours.</p> <p>2-3.Reel packing 2000 PCS or 1000 PCS per disc.</p> <p><b>3.Module pallet packaging items as follows:</b></p> <p>3-1.Storage life: 3 months. Storage conditions:&lt;40℃. Relative humidity:&lt;90%R.H.</p> <p>3-2.Module if not used within 48 hours, before launch the need for baking, baking temperature: 125 ℃, 8 hours.</p> <p>3-3.Pallet packaging each plate is 100 PCS to 1000 PCS or 2000 PCS shipment.</p>	<p><b>Wifi 模块贴片装机前注意事项:</b></p> <p>1.客户在开钢网时一定要将 wifi 模块焊盘的孔开大, 请按 1 比 1 再向外扩大 0.7mm 比例开钢网, 厚度按 0.12mm.</p> <p>2.有需要拿 wifi 模块时不可以光手去拿, 一定要戴上手套以及静电环.</p> <p>3.过炉温度要根据客户主板的大小而定, 一般像平板电脑上的标准温度为250+-5°, 也可以做到260+-5°</p> <p><b>Wifi 模块储存及使用管制应注意事项如下:</b></p> <p>1.模块的真空包装之储存期限:</p> <p>1-1.保存期限: 12个月, 储存环境条件: 温度在: &lt;40℃, 相对湿度: &lt;90%R.H.</p> <p>1-2.模块包装被拆后, SMT 组装之时限:</p> <p>1-3.检查湿度卡: 显示值应小于30% (蓝色), 如: 30%~40%(粉红色) 或者大于40% (红色) 表示模块已吸湿气.</p> <p>① 工厂环境温度湿度管制: <math>\leq 30^{\circ}C</math>, <math>\leq 60\%R.H</math>.</p> <p>② 拆封后, 车间的保存寿命为 168 小时.</p> <p>1-4.如在拆封后的 168 个小时内未使用完, 需要烘烤, 烘烤条件如下:</p> <p>① 模块须重新烘烤, 以除去模块吸湿问题.</p> <p>② 烘烤温度条件: 125℃, 8 小时.</p> <p>③ 烘烤后, 放入适量的干燥剂再密封包装.</p> <p>1-5.模块真空包装每盘 2000pcs, 真空包装图片&lt;1&gt;</p> <p>2.模块卷盘包装事项如下:</p> <p>2-1.保存期限: 12个月, 储存环境条件: 温度在: &lt;40℃, 相对湿度: &lt;90%R.H.</p> <p>2-2.模块拆开包装168小时后, 如要上线贴片需要重新烘烤, 以除去模块吸湿问题, 烘烤温度条件25℃, 8小时。</p> <p>2-3.卷盘包装标准为每盘 2000pcs, 也可以 1000pcs.</p> <p>3.模块托盘包装事项如下:</p> <p>3-1.保存期限: 3个月, 储存环境条件: 温度在: &lt;40℃, 相对湿度: &lt;90%R.H.</p> <p>3-2.模块如在 48 小时内未使用, 在上线之前需要进行烘烤, 烘烤温度条件: 125℃, 8 小时。</p> <p>3-3.托盘包装每盘为 100pcs, 以 1000pcs 或 2000pcs 出货.</p>
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