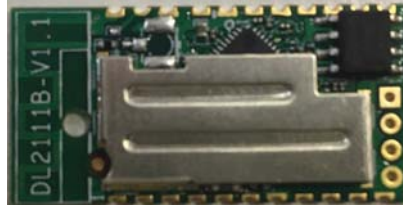


# User Manual of Wi-Fi Module DL2111B-V1.0.1(MW300)



**Product Name: Wi-Fi Module**

**Product No.: DL2111B**

**Hardware Version: V1.1**

**Document Version: V1.0.1**

## Features

- Support 802.11b/g/n20 Standard
- 512KB RAM / 2MB FLASH Inside
- Access to Ayla Cloud
- Support AT command
- OTA
- Support Smart Configure and AP mode
- Size: 15 mm × 30 mm × 3.5 mm
- Voltage: 3.3 V
- Certification: FCC、CE

## Applications

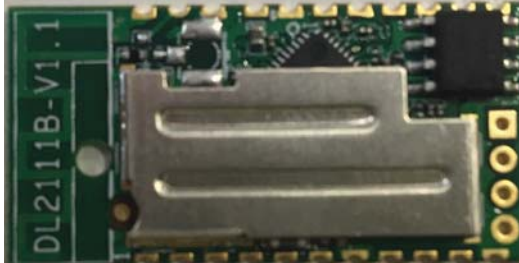
- Smart lighting
- Smart Household Appliance
- Industrial Automation
- Electrical
- Sensors and Controller
- Wi-Fi Communication Products
- Other IOT Applications

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## 1.Introduction

### 1.1 Pictures



Top Side



Bottom Side

### Module Appearance

### 1.2 Size

Size (mm) : 15\* 30\*3.5,

Thickness of PCB (Printed Circuit Board) 1.0mm, Tolerance: 0.3mm

Reference:

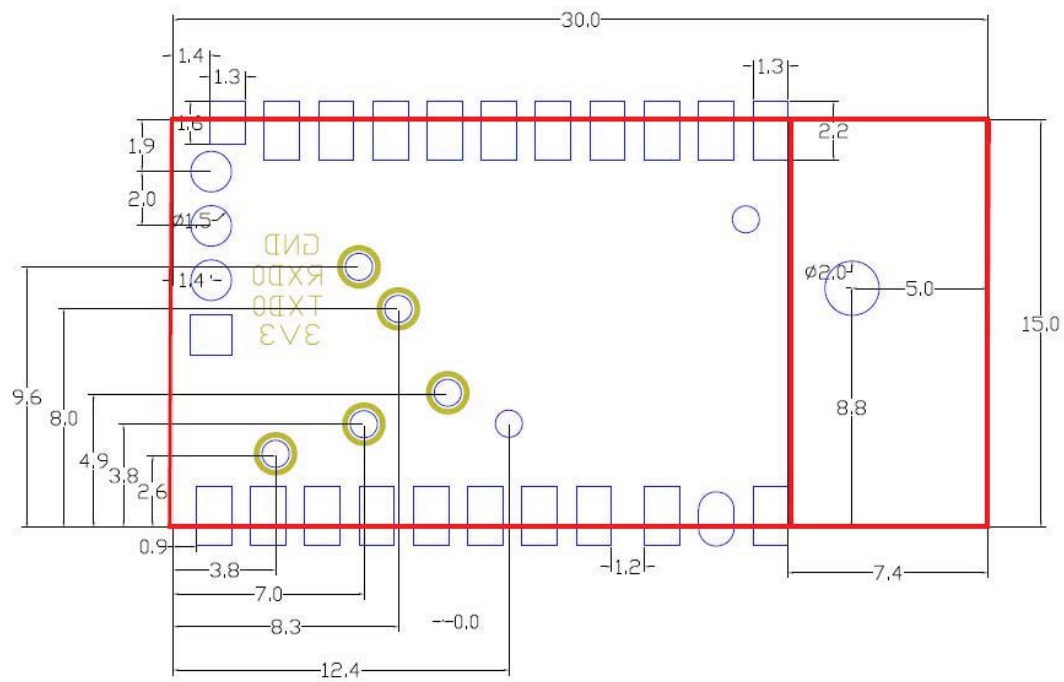


TO P.dxf



B0 TT0 M .dxf

### 1.3 Pin Arrangement

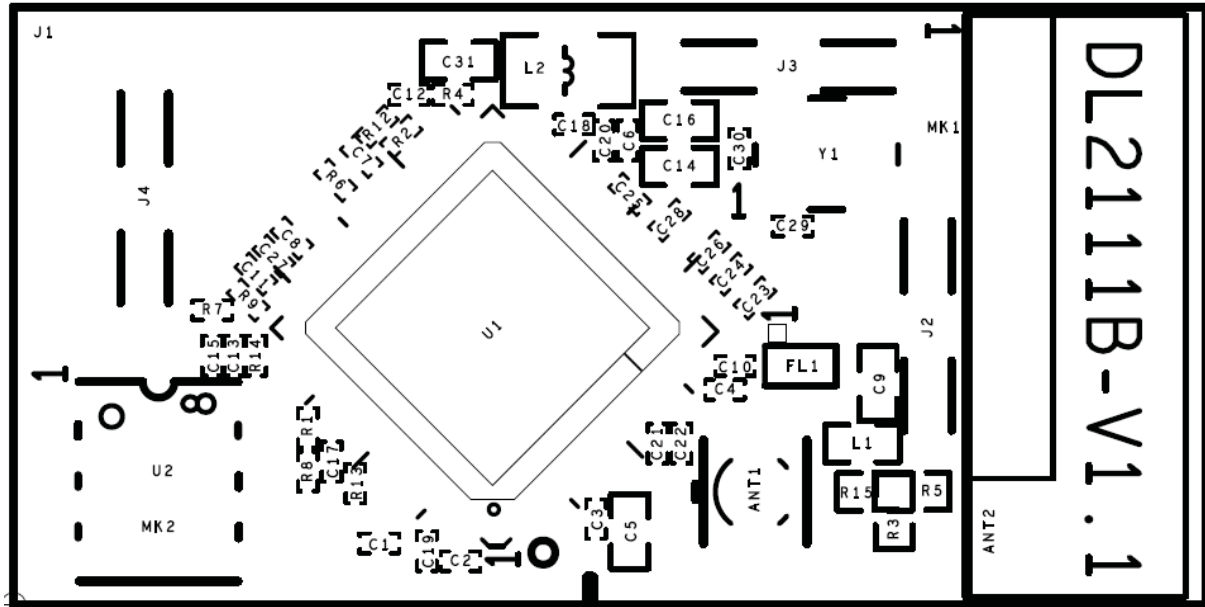


Pin Arrangement

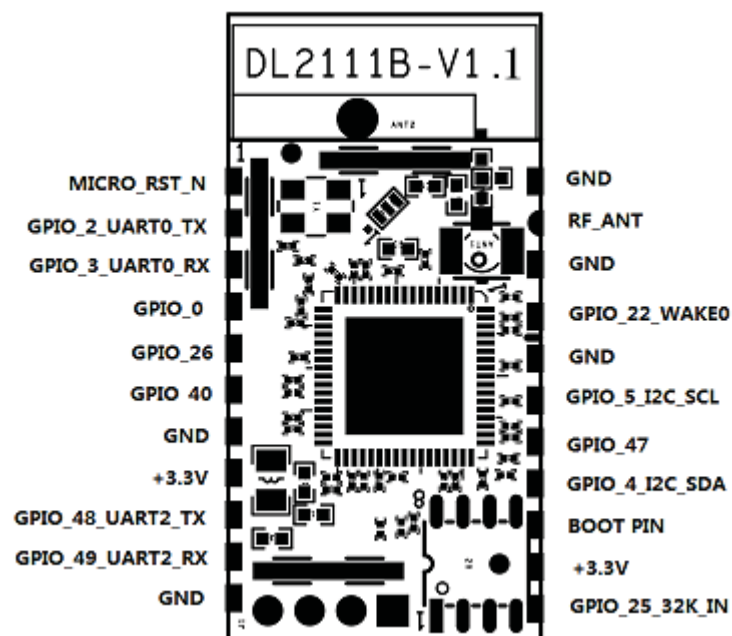


## 1.4 Definitions of Pin

### 1.4.1 Packaging



Packaging Diagram



Pin Definitions

Please keep on contact with Delan.

## 1.4.2 Definitions of Pin

Pin	Marks	Characteristics	Descriptions
1	MICRO_RST_N	O, TTL3.3V	Reset Module
2	GPIO_2_UART0_TX	O, TTL3.3V	Test Interface, TX
3	GPIO_3_UART0_RX	I, TTL3.3V	Test Interface, RX
4	GPIO_0	IO, TTL3.3V	GPIO, GPIO_0
5	GPIO_26	IO, TTL3.3V	GPIO, GPIO_26
6	GPIO_40	IO, TTL3.3V	GPIO, GPIO_40
7	GND	GND	GND
8	+3.3V	3.3V Power	Power
9	GPIO_48_UART2_TX	O, TTL3.3V	Data Interface, TX
10	GPIO_49_UART2_RX	I, TTL3.3V	Data Interface, RX
11	GND	GND	GND
12	GND	GND	GND
13	GPIO_49_UART2_RX	I, TTL3.3V	Data Interface, RX
14	GPIO_48_UART2_TX	O, TTL3.3V	Data Interface, TX
15	+3.3V	3.3V Power	Power
16	GPIO_25_32K_IN	IO,TTL3.3V	GPIO25, or 32K_IN Input
17	+3.3V	3.3V Power	Power
18	BOOT PIN	I, TTL3.3V	BOOT PIN
19	GPIO_4_I2C_SDA	IO, Pull-up 10K, TTL3.3V	2C_SDA, or GPIO_4
20	GPIO_47	TTL3.3V	GPIO_47
21	GPIO_5_I2C_SCL	O, Pull-up 10K, TTL3.3V	2C_SCL, or GPIO_5
22	GND	GND	Ground

23	GPIO_22_WAKE0	IO, TTL3.3V	GPIO22 or WAKE UP
24	GND	GND	Ground
25	RF_ANT		RF Output
26	GND	GND	Ground

Remarks:

I-Input, O-Output, GND-Ground

## 2. Electrical Features

Items	Conditions	Min	Typical	Max	Unit
Storage Temp	/	-55	/	125	℃
Working Temp	/	-30	/	85	℃
Max Welding Temp	/	/	/	260	℃
Working Voltage	/	/	3.3	/	V
Working Current	Sending continuously	/	200	/	mA
Working Current (In Average)	DTIM=100ms	/	60	/	mA

## 3. RF index

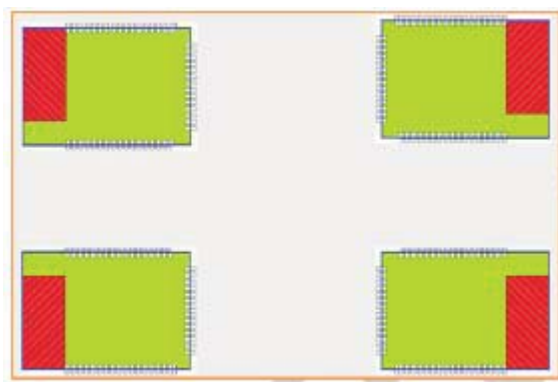
Items	Descriptions
Wi-Fi Standard	802.11b/g/n20
Frequency	2.412GHz-2.462GHz
Transmitting Power	802.11b: Maximum 18dBm(@11Mbps)
	802.11g: Maximum 17dBm(@54Mbps)

	802.11n: Maximum 15dBm(@HT20,MCS7)
Receiving Sensitivity	802.11b: -85dBm(@11Mbps,CCK)
	802.11g: -71dBm(@54Mbps,OFDM)
	802.11n: -68dBm(@HT20,MCS7)
Antenna	Outside: IPEX connector (reserver)
	Inside: PCB Antenna

## 4. Antenna Designing Reference

### 4.1 PCB Antenna

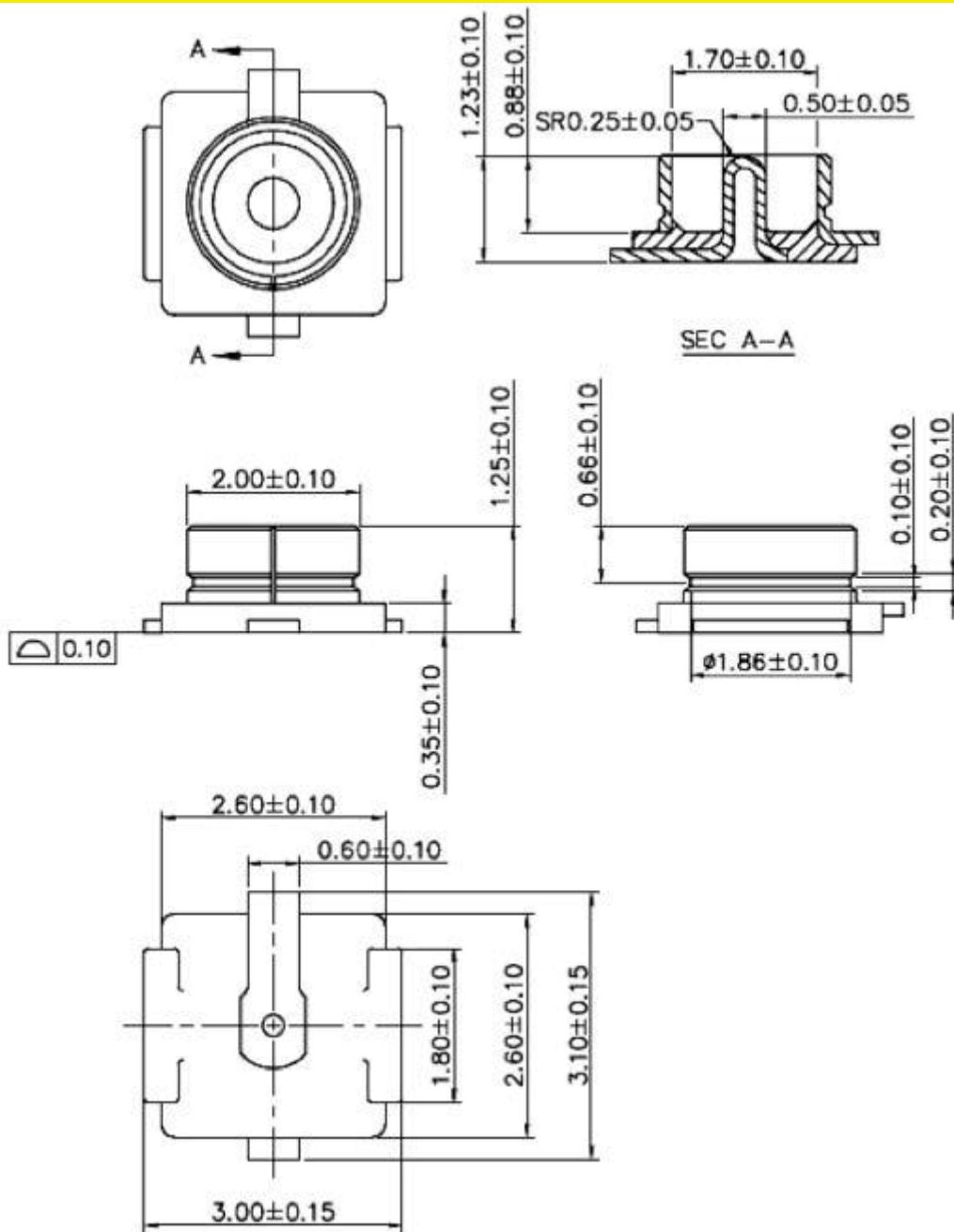
When using PCB antenna, please make sure there are no metal plate in 20mm from the antenna. Please inquire of our engineers about the designing.



Diagram



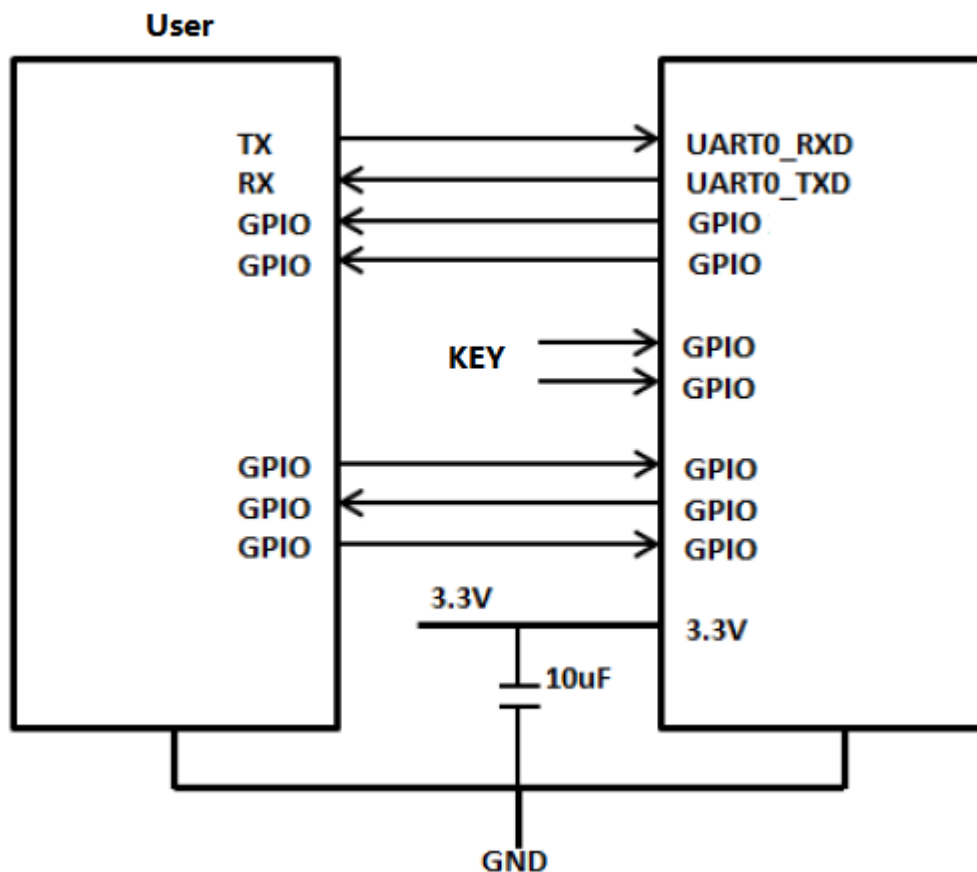
## 4.2 Outside Antenna



The IPEX connector size

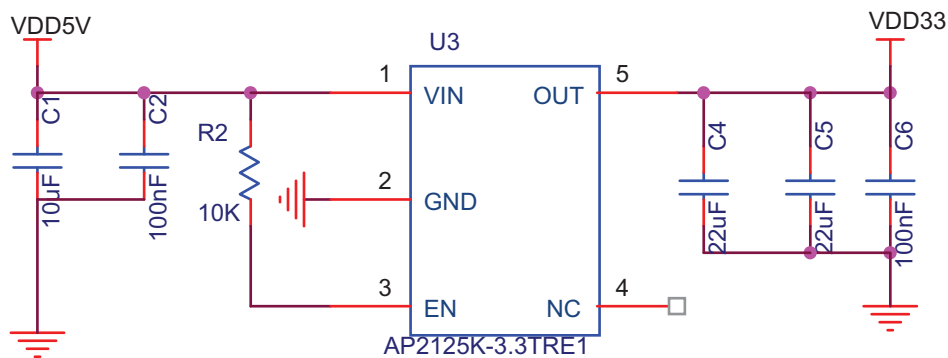
## 5. Typical Application

### 5.1 Typical Application Connecting

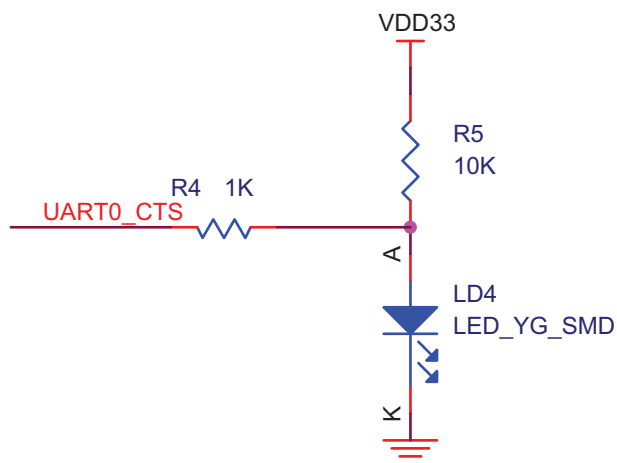


Typical Applications Diagram

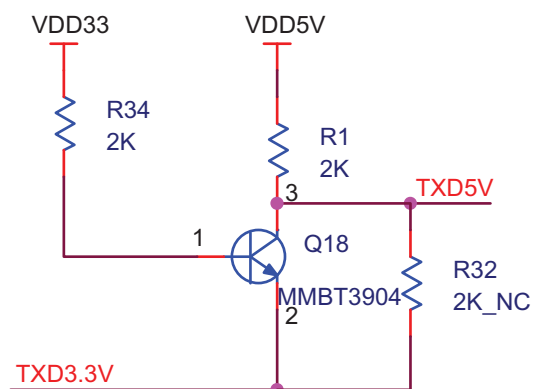
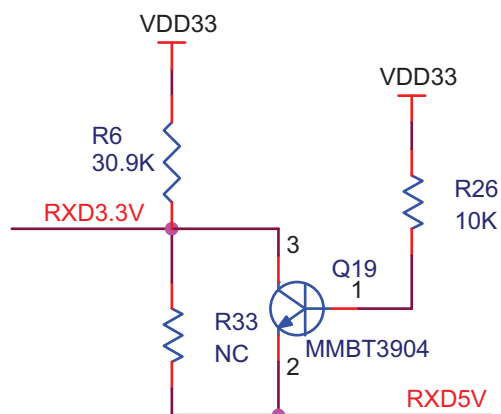
### 5.2 Periphery Circuits Reference



Transfer 5V Power to 3.3V Power.



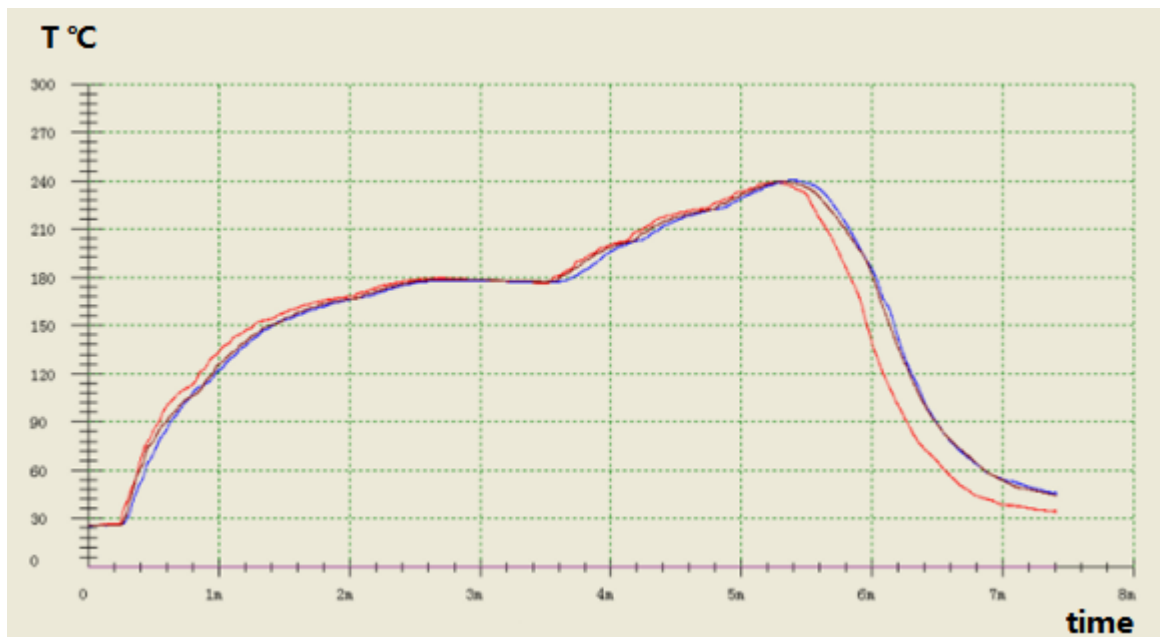
### Reference Circuits for Single Indicator Light



### Transfer 5V-TTL to 3.3V-TTL

## 6. Packaging and Production

### 6.1 Recommending Reflow Temperature Curve



Reflow Temperature Curve

#### Reflow Index

Items	Temp (°C)	Time (sec)
Reflow Time	Over 30 °C	482s
Reflow Temp	Maximum 240.4 °C	

### 6.2 Production Instructions

1. Seals Storage Term: Under the circumstances of temperature lower than 30°C and humidity less than 60%, the module can be stored for 6 months.
2. After unsealing over 168 hours, the module needs to be reheated before using.

3. Please make ESD protection for modules before mounting.

### **6.3 Packaging**

No.	Packaging	Module number per tray	Tray number per box	Module number per box
DL2111B	Trays	50	8	400

## **7. FCC Warnings**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the 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 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 your body

### **7.1 FCC Label Instructions:**

The outside of final products that contains this module device must display a label referring to the enclosed module. This exterior label can use wording such as: "Contains Transmitter Module FCC ID: 2AILF-DL2111B" or "Contains FCC ID: 2AILF-DL2111B" Any similar wording that expresses the same meaning may be used.

## **8. Contact Information**

Hangzhou Delan Technology Co., Ltd.

Tel: 0571-2813 7003

Address: 5/F, Hangzhou Qianjiang Buildiang , No.398 , Tianmushan Road.Xihu District, Hangzhou  
Zhejiang , China

Website: [www.delaniot.com](http://www.delaniot.com)

E-mail: [delan@idelan.cn](mailto:delan@idelan.cn)