LA-WE3L User manual

File No.：20200907-V2.0

Contents

1 Product Overview

LA-WE3L is a Low-Power Embedded Wi-Fi module It is composed of a highly integrated radio frequency chip TR6260S1 and a small number of peripheral devices, with built-in Wi-Fi network protocol stack and rich library functions. LA-WE3L is embedded with low-power 32-bit microcontroller, 1Mbyte flash memory and rich peripheral resources. Users can develop embedded WiFi products to meet their own needs based on these.

1.1 Product Characteristics

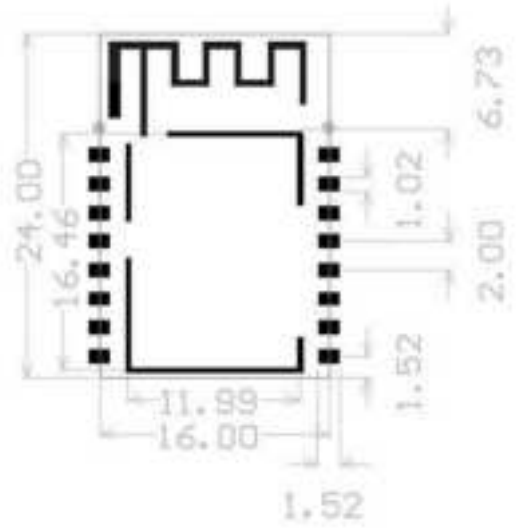
- 2.4GHz，EEE802.11b/g/n
- Adopt low power with 32-bit CPU, and the main frequency is up to 160MHz
- Support STA/AP working mode
- Support WEP/WPA-PSK/WPA2-PSK
- Support SmartConfig with one click distribution network
- Support 5-channel PWM constant current output of R / G / B / CW (brightness) / WW (color temperature)

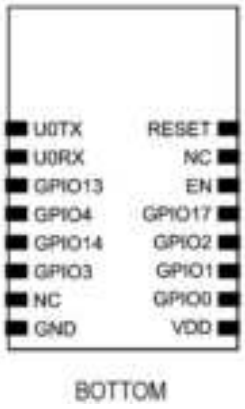
1.2 Main Application Fields

- All kinds of lighting occasions

- It is used in bulb lamp, ceiling lamp, wall switch, wall socket, adapter socket and other smart home products. It supports voice control and Amazon cloud voice
- The TYWE3Lmodule of pin2pin compatible with graffiti

3 Overall Dimension

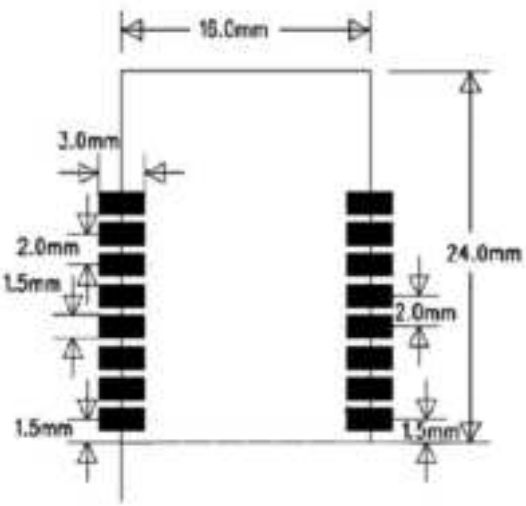




BOTTOM

Unit:mm

4 PCB Package Size



5 Pin Definition

No.	Name	Description No.
1	RESET	Low level reset
2	NC	N.C.
3	EN	Module power enable pin
4	GPIO17	Wake up function and digital IO
5	GPIO2	UART1_ RX and digital IO
6	GPIO1	Digital IO
7	GPIO0	Digital IO
8	VDD	Power supply 3.3V
9	GND	Power ground
10	NC	N.C.
11	GPIO13	UART1_TX and Digital IO
12	GPIO14	ADC input and Digital IO
13	GPIO4	Digital IO
14	GPIO13	Digital IO
15	U0RX	UART0_RX and Digital IO
16	U0TX	UART0_TX and Digital IO

6 Electrical Parameters

6.1 Absolute electrical parameters

Parameters	Description	Minimum	Maximum	Unit
TS	Working temperature	-20	105	℃
VDD	Supply voltage	-0.3	3.6	V

6.2 Working conditions

Parameters	Description	Minimum	Typical	Minimum	Unit
VDD	Working voltage	3.0	3.3	3.6	V
VDDIO	IO voltage	1.8	3.3	3.6	V
VIL	IO low level input	-0	-	0.3*VIO	V
VIH	IO high level input	0.7*VIO	-	VIO	V
VTH	COMS threshold	-	0.5 VIO		V
Imax	IO maximum drive capability			12	mA

6.3 Power consumption in operation mode

Working mode	Working status, Ta=25℃	Average	Unit
Fast connect distribution network	The module is in the state of fast connection distribution network, Wi-Fi indicator light flashes quickly	78	mA
Hot spot distribution network status	The module is in hot distribution network state, Wi-Fi indicator light flashes slowly	95	mA

etwork connection status	The module is in the networking state, and the Wi-Fi indicator is always on	54	mA
Networking attempt	The module is in the working state of disconnection (trying to connect to the network), and the Wi-Fi indicator is always off	65	mA

7 RF Characteristics

7.1 Basic RF characteristics

Basic RF characteristics

Parameter item	Detailed description
Working frequency	2.412~2.462GHz
WiFi standard	IEEE 802.11b/g/n(Channel1-11)
Data transmission rate	11b:1,2,5.5,11 (Mbps) 11g:6,9,12,18,24,36,48,54(Mbps) 11n:HT20 MCS7
Antenna type	PCB antenna (default)

7.2 WiFi output power

TX continuous transmission power

Parameter		Minimum	Typical	Maximum	Unit
Mode	Rate				dBm
RF average output power,802.11b CCK	11M	-	18	-	dBm
RF average output power,802.11g	54M	-	16	-	dBm
RF average output power,802.11n	HT20-MCS7	-	14	-	dBm
Frequency error		-10	-	10	ppm

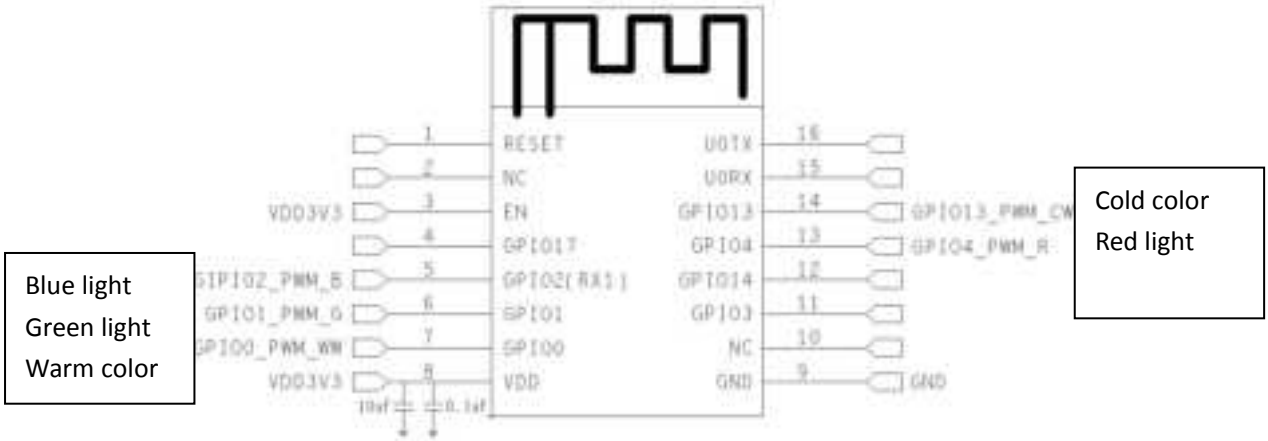
7.3 Wi-Fi receiving sensitivity

RX receiving sensitivity

Parameter		Minimum	Typical	Maximum	Unit
Mode	**Rate**				**dBm**
F average output power,802.11b CCK	11M	-	-88.0	-	dBm
F average output power,802.11g	54M	-	-74.0	-	dBm
F average output power,802.11n	HT20-MCS7	-	-70.6	-	dBm
Frequency error		-10	-	10	ppm

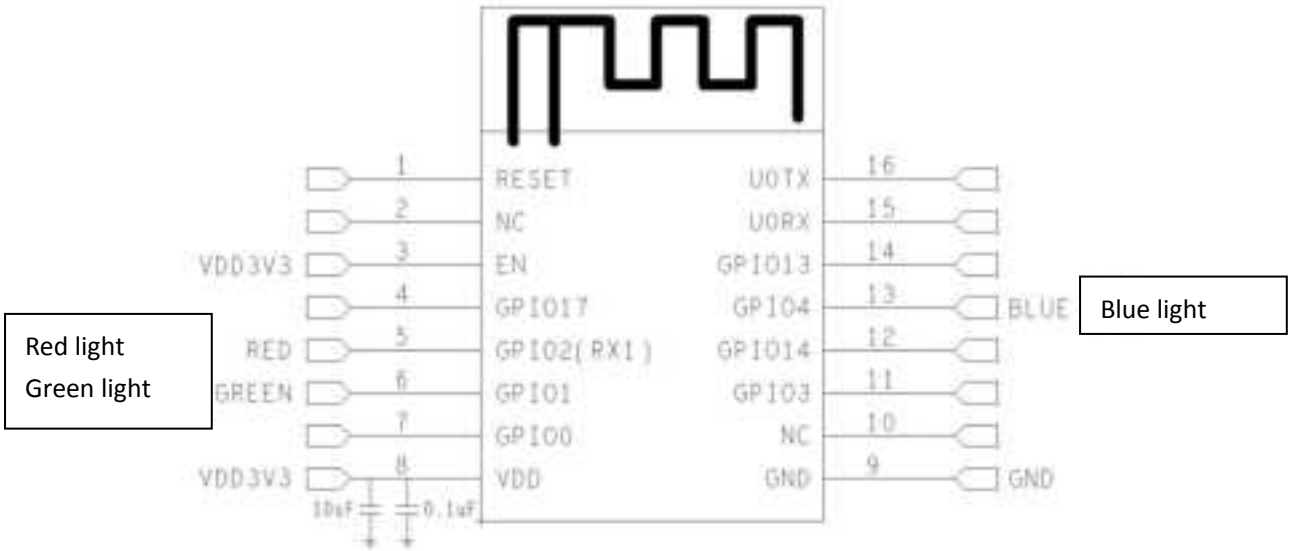
8 Application Schematic Diagram

8.1 Dimming application of five PWM lamps

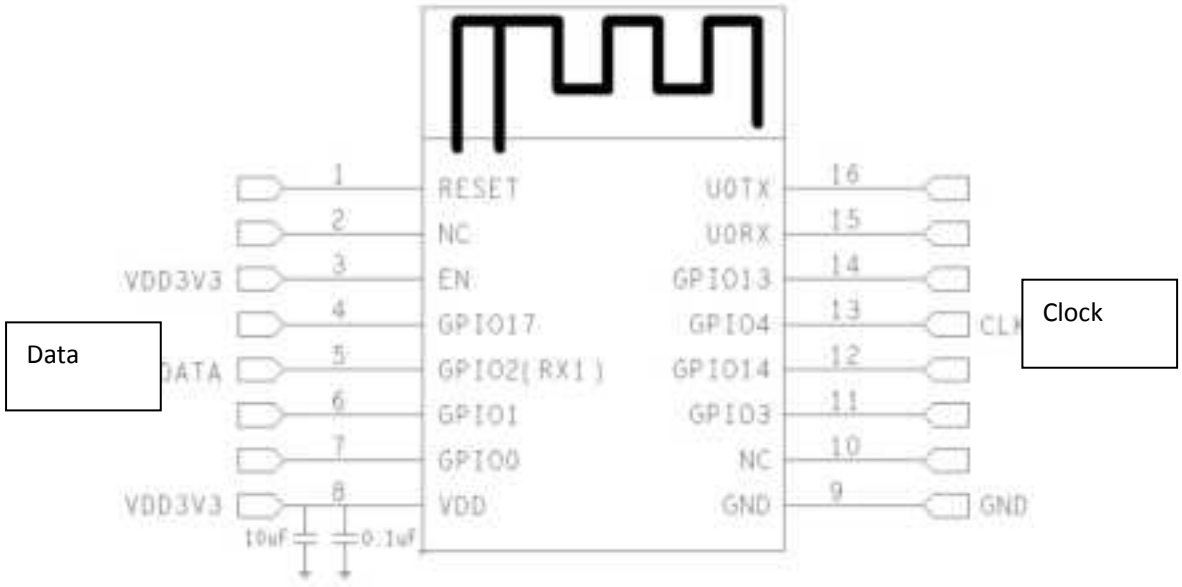


The module can support five PWM channels, and the user can select the corresponding PWM interface according to the actual product situation. The corresponding color can also modify the customized firmware according to the actual needs;

8.2 Application of three-way RGB light strip



8.3 Application of bulb lamp with IIC interface



9 Application Scenarios

◆ Support all kinds of WiFi chandeliers, ceiling lamps, desk lamps, downlights, etc

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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID:2AXJE-LA-WE3L" any similar wording that expresses the same meaning may be used.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The module is limited to OEM installation ONLY.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations.

There is requirement that the grantee provide guidance to the host manufacturer for compliance with Part 15B requirements.

The OEM integrator is responsible for ensuring that the end-user has no manual instructions to rem-ove or install module.

The module is limited to installation in mobile or fixed application.