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Shenzhen LA-WE2S WIFI Module User Manual

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Shenzhen LA-WE2S WIFI Module

Product Overview

LA-WE2S is a Low-Power Embedded WiFi module. It is composed of a highly integrated radio frequency chip TR6260S1 and a small number of peripheral devices, with built-in WiFi network protocol stack and rich library functions. LA-WE2S 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.
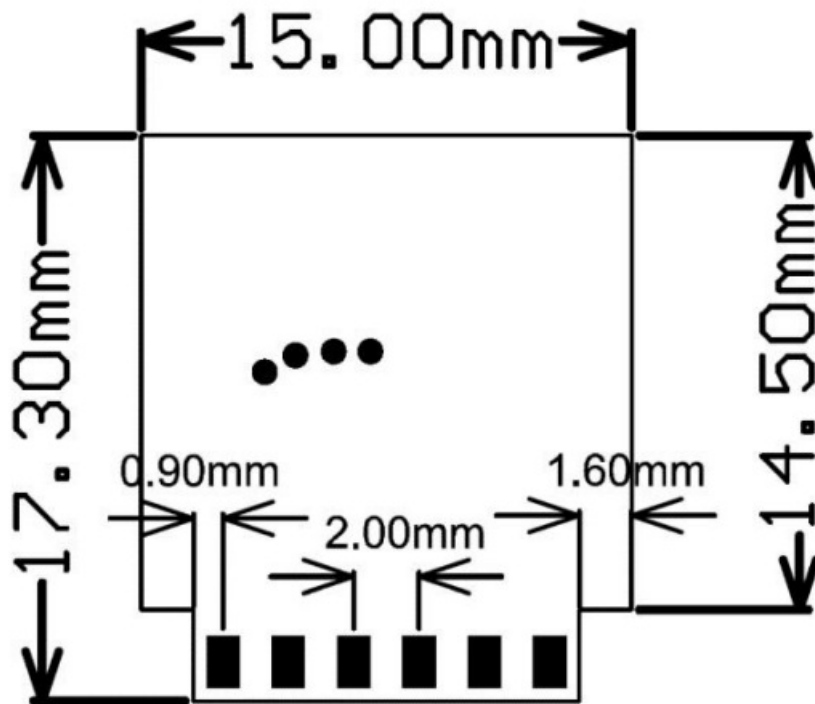
Product Characteristics

- 2.4GHzIEEE802.11b/g/n
- Adopt low power 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

Main Application Fields

- All kinds of electrical occasions
- It is used in such scenes as switching socket, wall switch, wall socket and circuit breaker, and supports voice control and Amazon cloud voice.
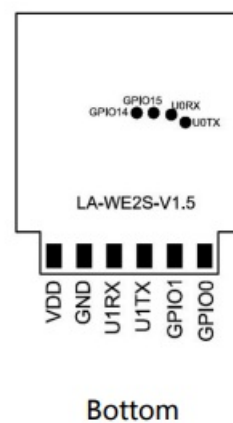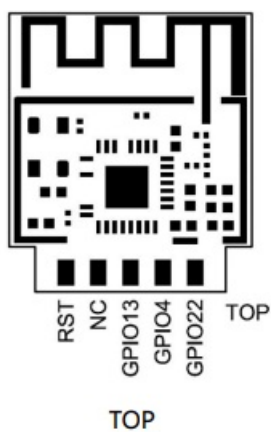- The TYWE2S module compatible with pin2pin graffiti

Overall Dimension

PCB Package Size

Bottom view

Top view

Pin Definition

TOP

TOP
RST NC GPIO13 GPIO4 GPIO22

Bottom

GPIO15 U0RX
GPIO14 U0TX

LA-WE2S-V1.5

VDD GND U1RX U1TX GPIO1 GPIO0
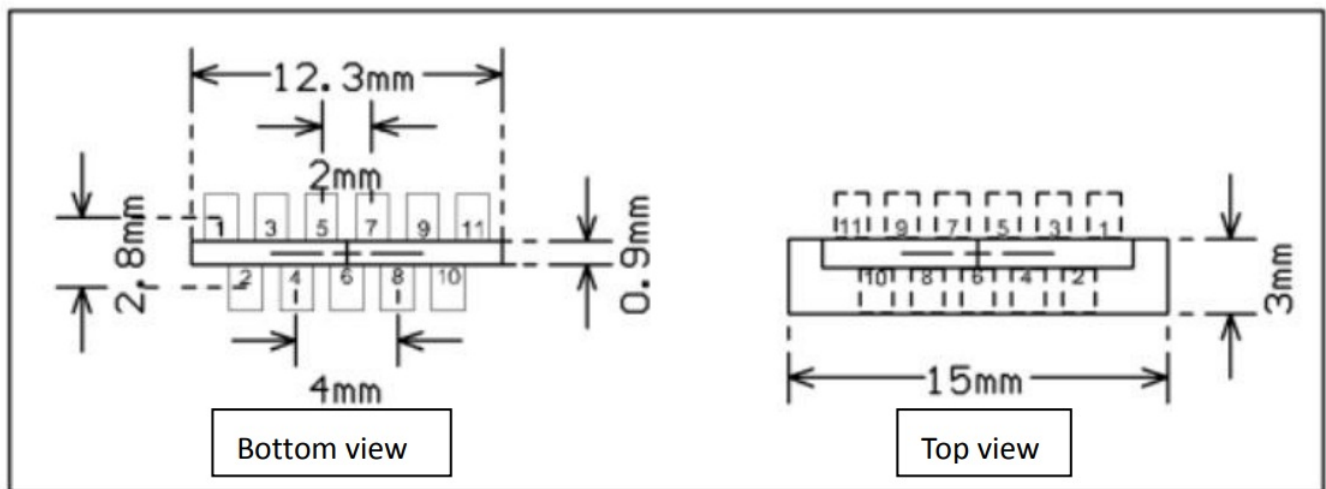
TOP		Bottom	
No.	Name	Illustration	
1	RST	Low level reset	
2	NC	N.C.	
3	GPIO13	Digital IO	
4	GPIO4	Digital IO	
5	GPIO22	Digital IO	
6	GPIO0	Digital IO	
7	GPIO1	Digital IO	
8	U1TX	UART1_TX and Digital IO	
9	U1RX	UART1_RX and Digital IO	
10	GND	Power ground	
11	VDD	Power 3.3V	

Electrical Parameters

Absolute electrical parameters

Parameters	Description	Minimum	Maximum	Unit
TS	Working temperature	-20	85	°C
VDD	Supply voltage	-0.3	3.6	V

Working conditions

Parameters	Description	Minimum	Typical	Maximum	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			12	mA

Power consumption in operation mode

Working mode	Working status, Ta=25°C	Average	Unit
Fast connect distribution network status	The module is in the state of fast connection distribution network, Wi-Fi indicator light flashes quickly	120	mA
Hot spot distribution network status	The module is in hot distribution network state, Wi-Fi indicator light flashes slowly	122	mA
Network connection status	The module is in the networking state, and the Wi Fi indicator is always on	105	mA

Networking attempt	The module is in the working state of disconnection (trying to connect to the network), and the WiFi indicator is always off	110	mA

RF Characteristics

Basic RF characteristics

Parameter item	Detailed description
Working frequency	2.412~2.462GHz
WiFi standard	IEEE 802.11b/g/n(Channel 1-11)
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)

WiFi output power

TX continuous transmission power

Parameter		Minimum	Typical	Maximum	Unit
Mode	Rate			m	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

WiFi receiving sensitivity

RX receiving sensitivity

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

Application schematic diagram

Application of breaker

TOP				
1	2	3	4	5
RST	NC	GPIO13	GPIO4	GPIO22

Key — Wifi light

BOTTOM						
11	10	9	8	7	6
VDD	GND	GPIO2	GPIO3	GPIO1	GPIO0

3.3V
10uF
0.1uF

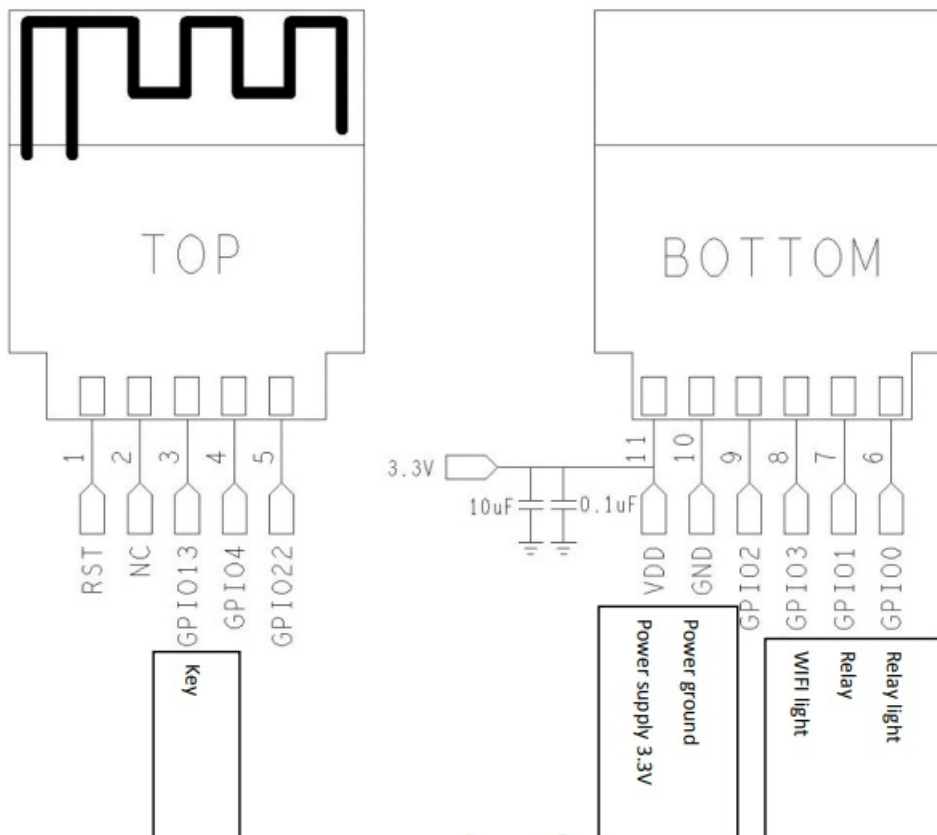Power supply 3.3V / Power ground

Relay
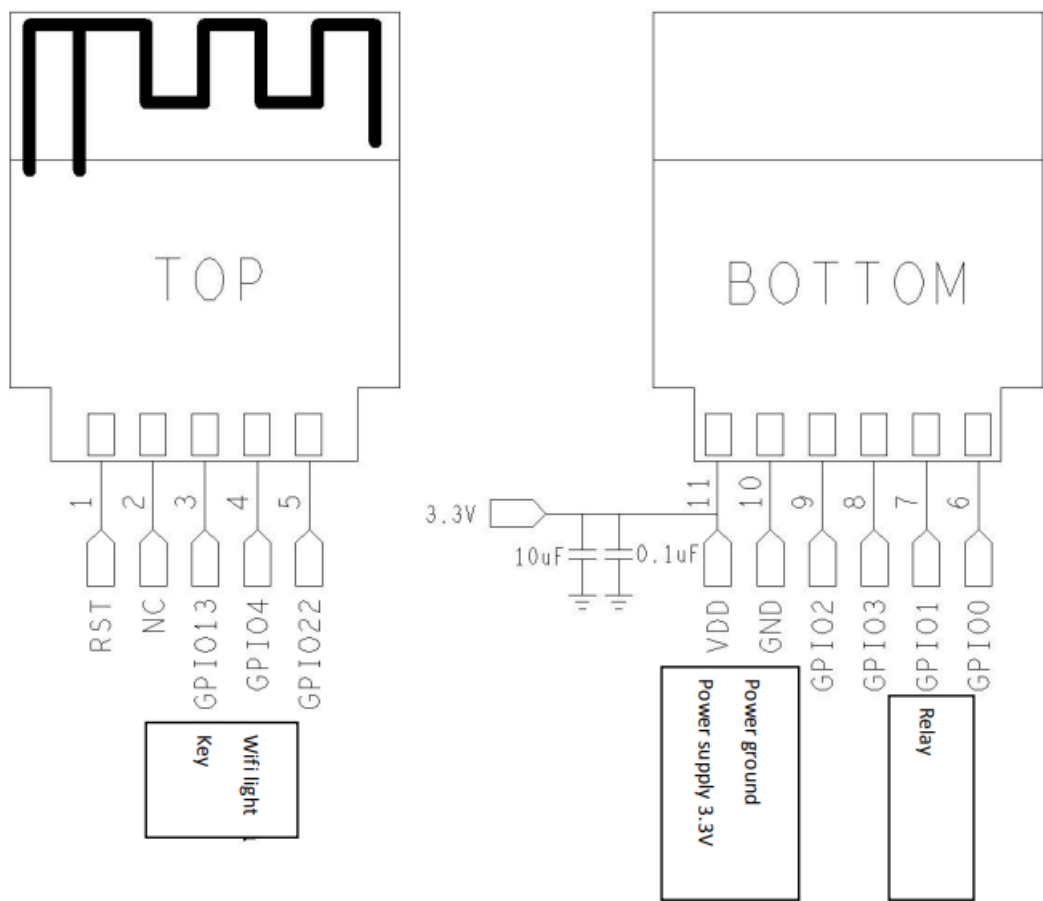
Non-metering version of smart socket

Single indicator application
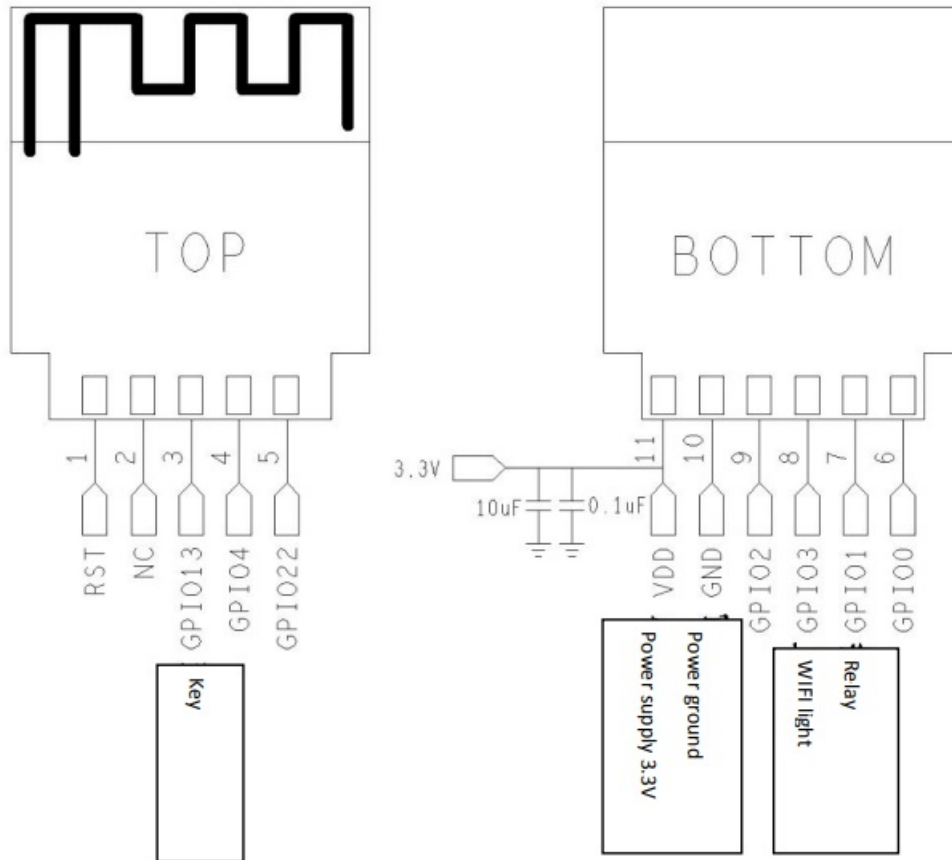
Dual indicator application

Metering version smart socket

Single indicator application

TOP

Pin	Name	Function
1	RST	
2	NC	
3	GPIO13	Key
4	GPIO4	Power pulse
5	GPIO22	Current / voltage pulse

BOTTOM

3.3V

10uF   0.1uF

Pin	Name	Function
11	VDD	Power supply 3.3V
10	GND	Power ground
9	GPIO2	
8	GPIO3	Configure output value
7	GPIO1	WIFI light
6	GPIO0	Relay

Dual indicator application

TOP

BOTTOM

1	2	3	4	5
RST	NC	GPIO13	GPIO4	GPIO22
		Key	Power pulse	Current / voltage pulse

3.3V

10uF 0.1uF

11	10	9	8	7	6
VDD	GND	GPIO2	GPIO3	GPIO1	GPIO0
Power supply 3.3V	Power ground	Configure output value	WIFI light	Relay	Relay light

Application Scenarios

- Support all kinds of intelligent lamps and sockets

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-WE2S" 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.

Documents / Resources

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