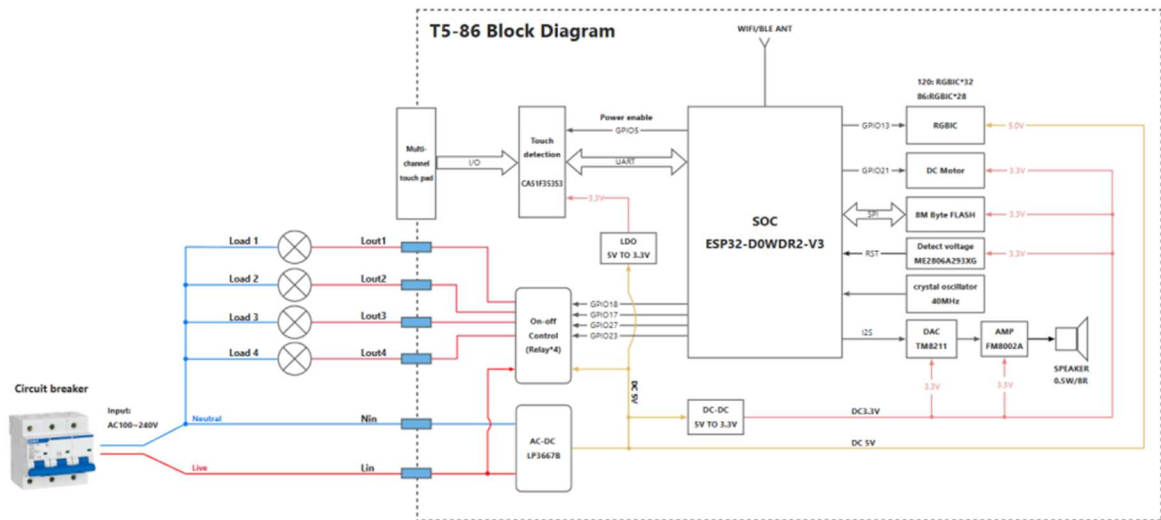


# T5 Development Material

## Block Diagram



## Program introduction

This product is developed using Espressif's ESP32-D0WDR2-V3 chip, which integrates 2.4 GHz Wi-Fi and Bluetooth dual-mode in a single chip solution. It adopts Taiwan Semiconductor Manufacturing Company (TSMC) low power 40-nanometer technology, which has ultra-high RF performance, stability, versatility, and reliability, as well as ultra-low power consumption to meet different power consumption requirements and is suitable for various application scenarios.

Before undertaking secondary development, it is recommended to understand the scheme and the corresponding development environment through official channels. The following are the official website and development community:

Espressif official website: <https://www.espressif.com.cn/en/home>

This product series has touch function, and the function is implemented by a separate MCU with the model CA51F353S3. Specific information can be found on their official website.

Jinrui Technology official website: <https://www.cachip.com.cn>

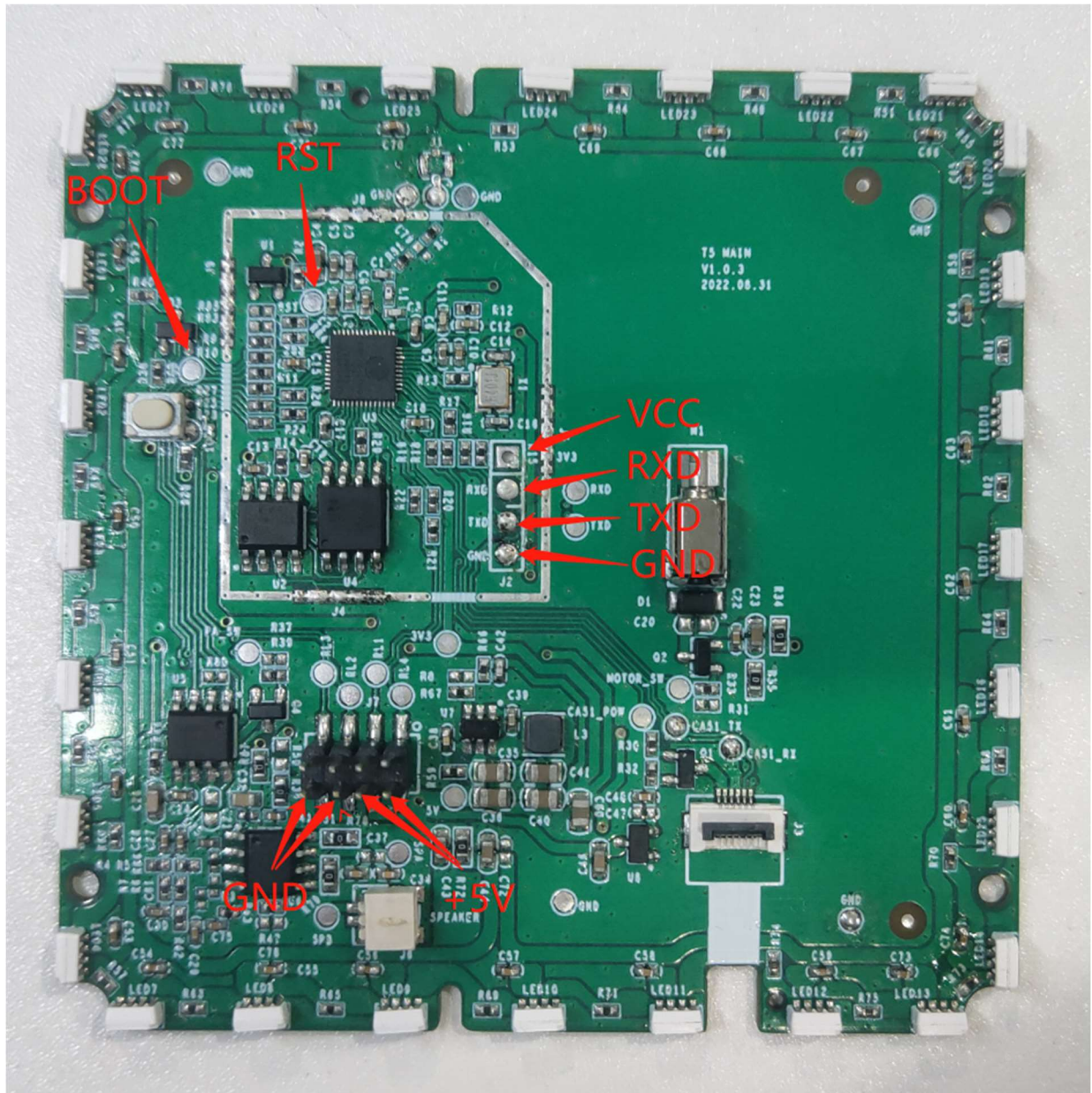
## I/O Description

Chip Function				
Chip Name	Pin No.	IO Name	Function	Note
ESP32-D0WDR2-V3	Pin9	CHIP_PU	ESP_RST	Reset pin, active low.
	Pin15	GPI026	PA_SW	Power Amplifier (PA) enable control, active high.
	Pin16	GPI027	RELAY3	Relay 3 control output, active high.
	Pin20	GPI013	RGBIC	RGBIC LED control signal output, data format must follow RGBIC LED protocol. Refer to the Tiancheng TC4018RGB-3CJH LED protocol.
	Pin21	GPI015	I2S_SDATA	I2S audio bus serial data output.
	Pin22	GPI02	I2S_SCLK	I2S audio bus clock output.
	Pin23	GPI00	BOOT	ESP32 download mode enable

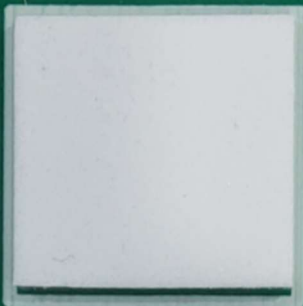
			control, the pin is pulled low at system power-up to enter download mode.
Pin24	GPI04	I2S_LRCK	I2S audio bus frame clock output.
Pin27	GPI017	RELAY2	Relay 2 control output, active high.
Pin34	GPI05	CA51_POW	Touch circuit enable control, active low.
Pin35	GPI018	RELAY1	Touch circuit enable control, active low.
Pin36	GPI023	RELAY4	Touch circuit enable control, active low.
Pin38	GPI019	CA51_RXD	Touch detection circuit communication serial port, data receive end.
Pin39	GPI022	CA51_TXD	Touch detection circuit communication serial port, data transmit end.
Pin40	GPI03	ESP_UORXD	Program download/debug port, RXD.
Pin41	GPI01	ESP_UOTXD	Program download/debug port, TXD.

	Pin42	GPI021	MOTOR_SW	Vibration motor enable control output, active high.
CA51F353S3	Pin4	P1.1	TOUCH1	Touch button 1 detection.
	Pin5	P1.2	TOUCH2	Touch button 2 detection.
	Pin6	P1.5	TOUCH3	Touch button 3 detection.
	Pin7	P1.6	TOUCH4	Touch button 4 detection.
	Pin8	P3.5	TOUCH5	Touch button 5 detection.
	Pin9	P3.4	TOUCH6	Touch button 6 detection.
	Pin10	P0.7	TOUCH7	Touch button 7 detection.
	Pin11	P0.6	TOUCH8	Touch button 8 detection.
	Pin12	P0.1	TOUCH9	Touch button 9 detection.
	Pin13	P0.0	TOUCH10	Touch button 10 detection.
	Pin14	P3.1	CA51_RXD	Serial port for communication with ESP32, RXD.
	Pin15	P3.0	CA51_TXD	Serial port for communication with ESP32, RXD.

# PCBA



**B** YX-02  
E526676  
**RA** 94V-0  
2250  
RoHS



T5-86 Touch  
V1.0.1  
2022.11.07

