

StickS3

SKU:K150





Description

StickS3 is a compact and high-performance programmable controller designed for remote control and IoT applications. It is powered by the ESP32-S3-PICO-1-N8R8 main controller, supports 2.4 GHz Wi-Fi wireless communication, and integrates 8MB Flash and 8MB PSRAM to meet diverse application development needs, delivering excellent performance and expandability. For human-machine interaction, it features a 1.14" LCD display, a 6-axis IMU sensor, and programmable buttons. The audio system adopts an ES8311 mono audio codec, combined with a high-sensitivity MEMS microphone and an AW8737 power amplifier, enabling clear sound capture and high-fidelity audio output to empower voice recognition and interactive experiences. It also integrates IR transmitter and receiver modules and a 250mAh lithium battery, making it suitable for smart home control, AI voice assistants, and IoT project development scenarios.

Note

Input Power Caution

By default, the bottom Grove port and the top Hat2-Bus EXT_5V port operate in DC 5V output mode. Do not input power through these output ports while in output mode, otherwise there is a risk of short circuit and device damage.

Features

- Integrated ESP32-S3-PICO-1-N8R8 main controller
- 8MB Flash and 8MB PSRAM
- ES8311 mono audio codec chip
- MEMS microphone + speaker
- Integrated IR transmitter + IR receiver
- Magnetic back design
- Expansion interfaces:
 - Expandable Hat2 bus (2.54-16P)
 - HY2.0-4P port
- Development Platform
 - Arduino
 - UiFlow2
 - ESP-IDF

| Includes

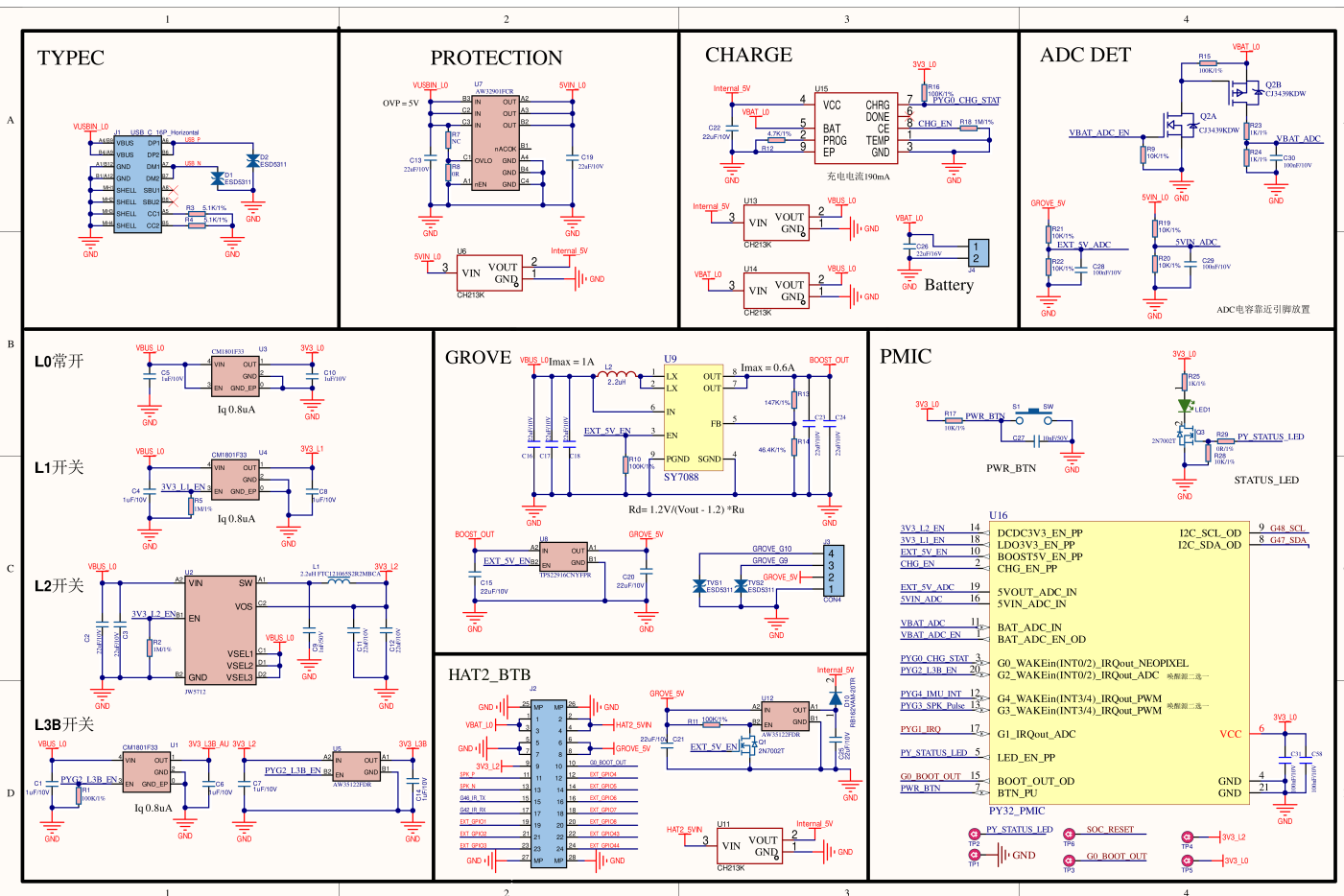
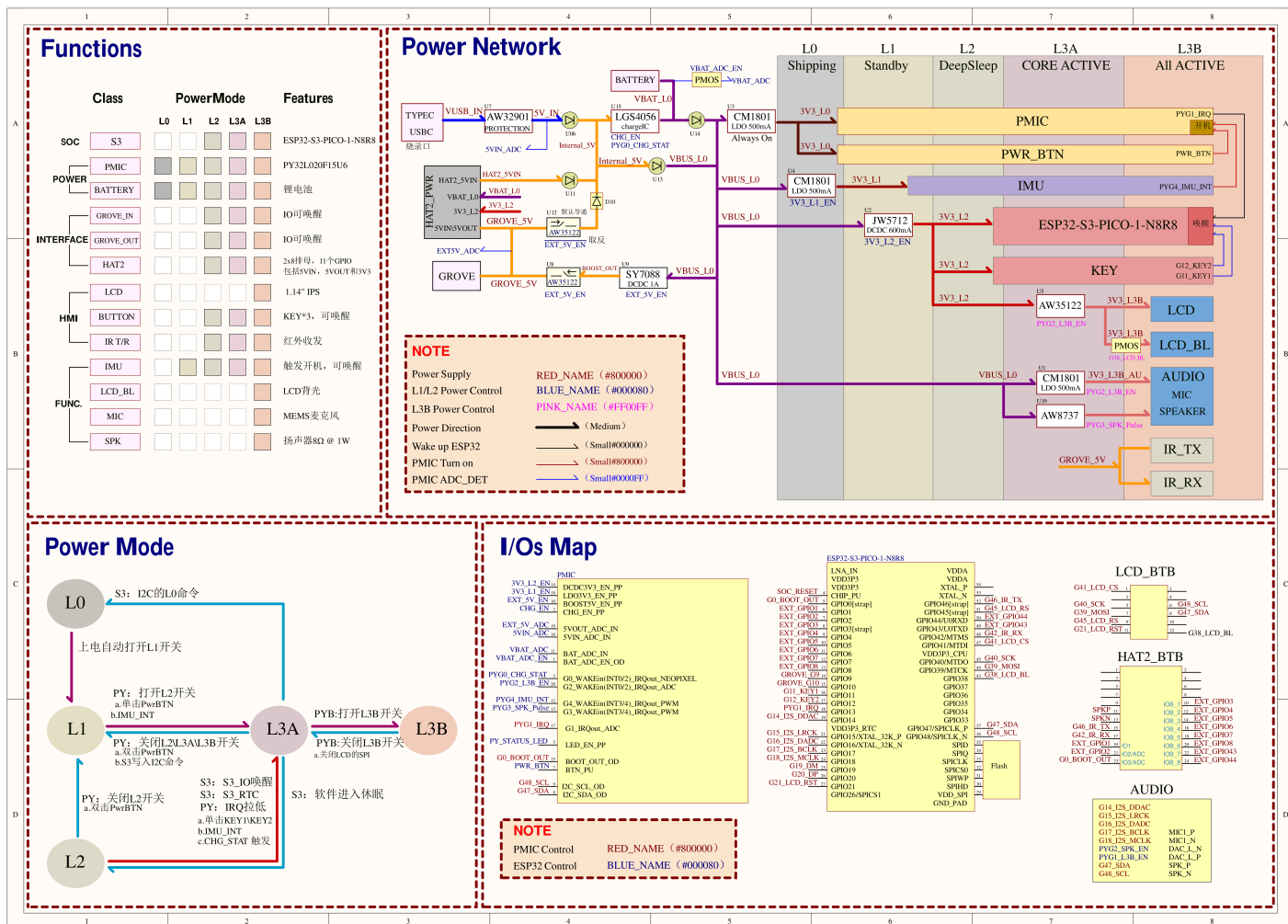
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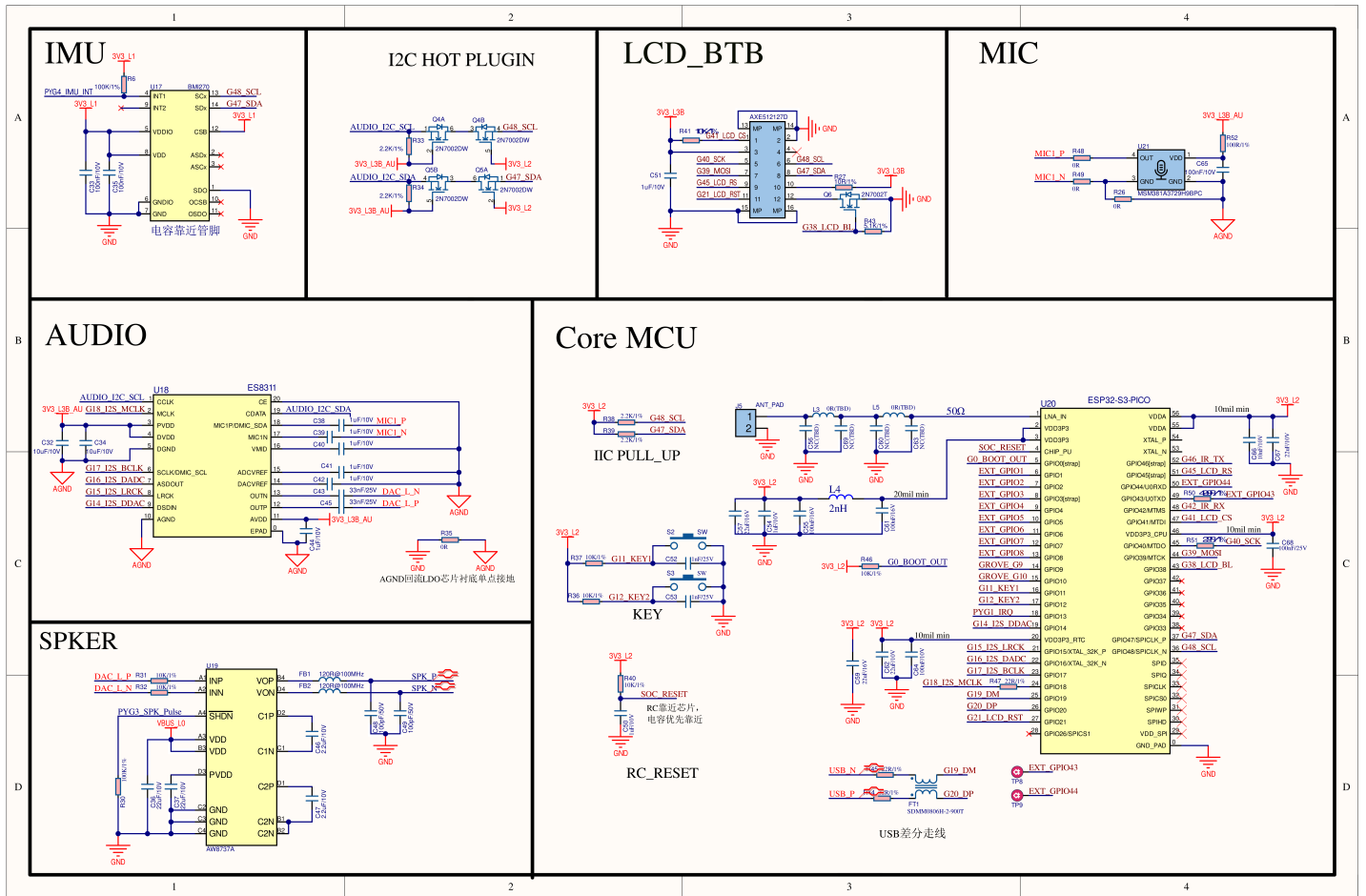
| Specifications

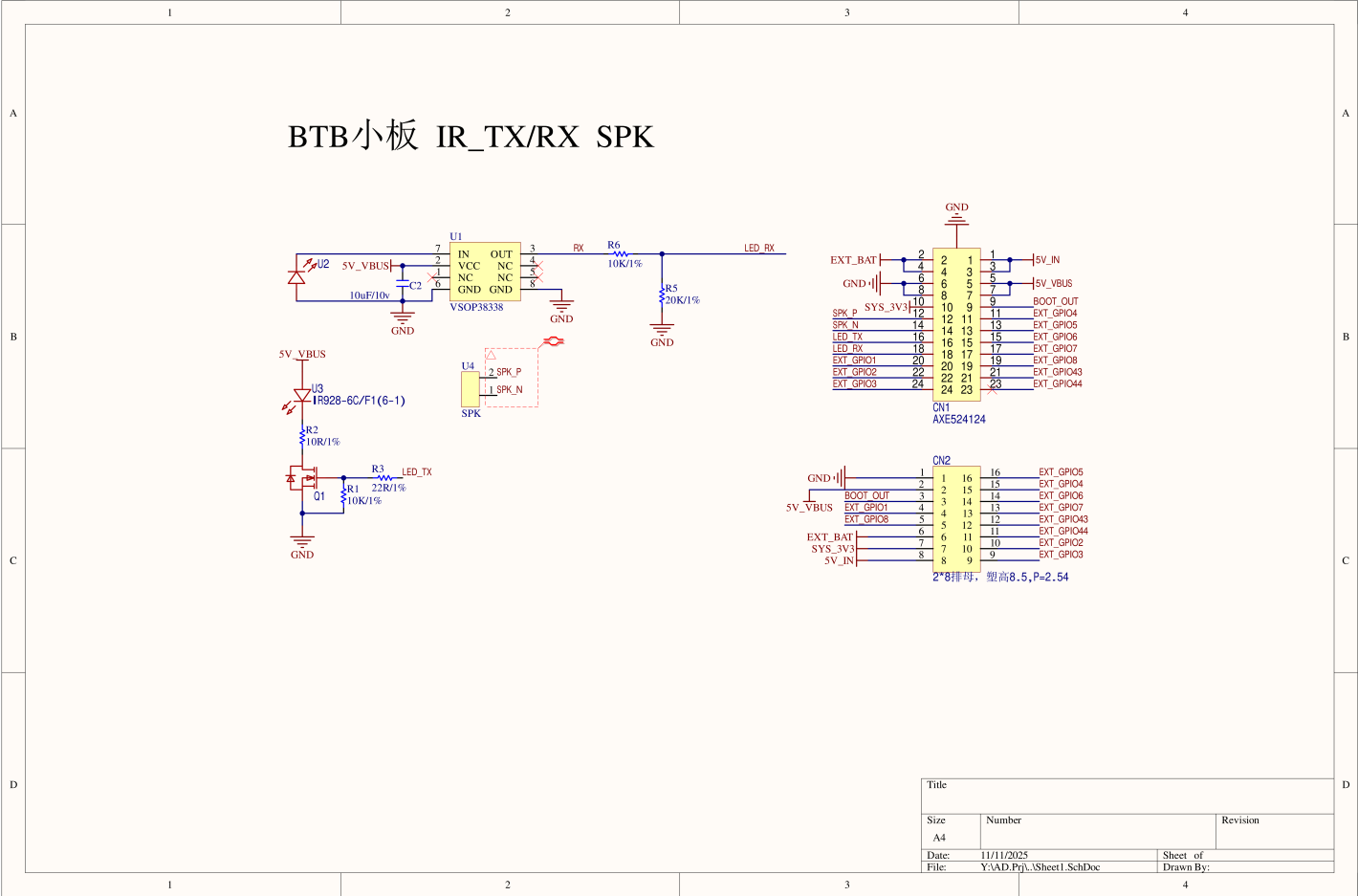
Specification	Parameter
SoC	ESP32-S3-PICO-1-N8R8 @ Dual-core Xtensa LX7 processor, up to 240MHz
Flash	8MB
PSRAM	8MB
Wi-Fi	2.4 GHz Wi-Fi
Power Input	USB Type-C DC 5V
Audio Codec	ES8311: 24-bit resolution, I2S protocol
Microphone	MEMS microphone, SNR: 65 dB
Speaker	AW8737 power amplifier + 8Ω@1W 2011 enclosure speaker
Operating Temperature	0 ~ 40°C
Battery Capacity	250mAh
Grove Load Capacity	No-load: 5V
	Max: 4.88V@0.38A
Power Consumption	Power-off: 4.2V@14.02uA
	L1: 4.2V@52.47uA
	L2: 4.2V@102.40uA
	L3A: 4.2V@36.69mA
	Full load: 4.2V@519.02mA
Product Size	48.0 x 24.0 x 15.0mm
Product Weight	31.3g
Package Size	110.0 x 65.0 x 15.0mm
Gross Weight	45.2g

| Schematics

- [StickS3 Schematics PDF](#)







PinMap

LCD

ESP32-S3	G39	G40	G45	G41	G21	G38
ST7789V2	MOSI	SCK	RS	CS	RST	BL

IMU & PMIC

ESP32-S3	G48	G47
BMI270	SCL	SDA
PMIC	SCL	SDA

PMIC

PMIC	G0	G1	G2	G3	G4
Battery Charge	PYG0_CHG_STAT				
ESP32-S3		PYG1_IRQ			
L3B Power			PYG2_L3B_EN		
Speaker				PYG3_SPK_Pulse	
IMU INT					PYG4_IMU_INT

Audio

ESP32-S3	G18	G14	G17	G15	G16	G48	G47
ES8311	MCLK	DOUT	BCLK	LRCK	DIN	SCL	SDA

Button

ESP32-S3	G11	G42
KEY1	Input	
KEY2		Input

IR

ESP32-S3	G46	G42
IR	IR_TX	IR_RX

HY2.0-4P

- PORT.A

HY2.0-4P	Black	Red	Yellow	White
PORT.CUSTOM	GND	5V	G9	G10

Hat2-Bus

PIN	LEFT	RIGHT	PIN
GND	1	2	G5
EXT_5V	3	4	G4
G8	5	6	G6
G1	7	8	G7
G0	9	10	G43
BAT	11	12	G44
3V3_L2	13	14	G2
5VIN	15	16	G3

Model Size

[StickS3 Model Size PDF](#)

