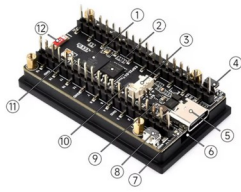


## Resource Profile



1. ESP32-S3R8  
Dual core processor running at up to 240MHz
2. W25Q128 16MB Flash
3. MX125 3.7V Li-Ion Battery Interface  
For connecting lithium batteries, supports charging and discharging functions
4. RESET key  
System reset for easy debugging
5. USB Type-C port  
Supports power input and data transfer
6. Micro SD card slot (back)  
For extended storage, Micro SD card support
7. Charging indicator  
Lights up when charging, goes out when full
8. BOOT button  
For downloading programmes or entering boot mode
9. WS2812 (back, non-touch version only)  
RGB light beads, support colourful light effects
10. QMI8658 (back)  
IMU 6-axis inertial sensor (3-axis gyroscope + 3-axis accelerometer)
11. IPEX1 external antenna interface (touchscreen version only)  
Need to modify solder joint access
12. Patch ceramic antenna  
On-board antenna design for space saving and signal stability

## LCD screen parameters

Display Panel	LCD	Display Size	1.9 Inch
Display Resolution	170 × 320	Display Colour	262K
Display Brightness	500cd/m <sup>2</sup>	Contrast Ratio	900:1
Communication Interface	SPI	Driver IC	ST7789V2
Touch	Support (with touch version only)	Touch IC	CST816 (with touch version only)



LCD Interface	S3 Control Pin	Description
LCD_RST	GPIO9	LCD Reset Pin
LCD_CLK	GPIO10	LCD Clock Pin
LCD_DC	GPIO11	LCD Command /Data Selection Pins
LCD_CS	GPIO12	LCD chip select pin
LCD_DIN	GPIO13	LCD Data Pin
LCD_BL	GPIO14	LCD backlight pin



Touch Controls		
LCD Interface	S3 Control Pin	Description
TP_RST	GPIO17	TP reset pin (NC)
TP_INT	GPIO21	Wedding 15 pin dL
TP_SDA	GPIO47	TP data pin
TP_SCL	GPIO48	TP clock pin

Touch IC:  
CST816 (with touch version only)  
LCD screen parameters:  
Display panel: LCD  
Display size: 1.9 inches  
Display resolution: 170 × 320  
Display color: 262K  
Display brightness: 500cd/m<sup>2</sup>  
Contrast ratio: 900:1  
Communication interface: SPI  
Driver IC: ST789V2  
Touch: Supports (only with touch version)  
Touch IC: CST816 (with touch version only)

boards, strong compatibility and expandability

