**Product  Description**

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| **Hardware Specifications** |  |
| Chipset | ESPRESSIF-ESP32 240MHz Xtensa® single-/dual-core 32-bit LX6 microprocessor |
| FLASH | QSPI flash 4MB /16MB |
| SRAM | 520 kB SRAM |
| Button | Reset |
| USB to TTL | CP2104 |
| Modular interface | UART、SPI、SDIO、I2C、LED PWM、TV PWM、I2S、IRGPIO、ADC、capacitor touch sensor、DACLNA  pre-amplifier |
| Display | IPS ST7789V 1.14 Inch |
| Working voltage | 2.7V-4.2V |
| Working current | About 67MA |
| Sleep current | About 350uA |
| Working temperature range | -40℃ ~ +85℃ |
| Size&Weight | 51.52\*25.04\*8.54mm(7.81g) |
| Power Supply Specifications |  |
| Power Supply | USB 5V/1A |
| Charging current | 500mA |
| Battery | 3.7V lithium battery |
| JST Connector | 2Pin 1.25mm |
| USB | Type-C |
| **Wi-Fi** |  |
| Standard | FCC/CE-RED/IC/TELEC/KCC/SRRC/NCC（esp32 chip） |
| Protocol | 802.11 b/g/n(802.11n，speed up to150Mbps)A-MPDU and A-MSDU polymerization，support 0.4μS Protection interval |
| Frequency range | 2.4GHz~2.5GHz(2400M~2483.5M) |
| Transmit Power | 22dBm |
| Communication distance | 300m |
| **Bluetooth** |  |
| Protocol | Meet bluetooth v4.2BR/EDR and BLE standard |
| Radio frequency | With -97dBm sensitivity NZIF receiver Class-1,Class-2&Class-3 emitter AFH |
| Audio frequency | CVSD&SBC audio frequency |
| **Software specification** |  |
| Wi-Fi Mode | Station/SoftAP/SoftAP+Station/P2P |
| Security mechanism | WPA/WPA2/WPA2-Enterprise/WPS |
| Encryption Type | AES/RSA/ECC/SHA |
| Firmware upgrade | UART download/OTA（Through network/host to download and write firmware） |
| Software Development | Support cloud server development /SDK for user firmware development |
| Networking protocol | IPv4、IPv6、SSL、TCP/UDP/HTTP/FTP/MQTT |
| User Configuration | AT + Instruction set, cloud server, android/iOSapp |
| OS | FreeRTOS |