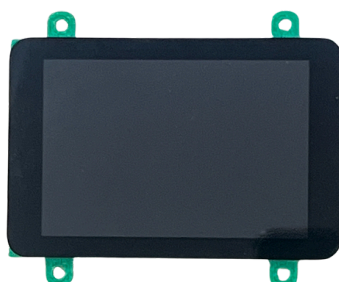


PK200-ES3

3.5" Open Frame Panel Kit



Features

- Powered by Xtensa® 32-bit L7, Dual -Core, low-power Microprocessor
- Consists with 8MB PSRAM and 16MB NOR Flash
- Built-in 802.11b/g/n Wi-Fi and Bluetooth 5.0 for connectivity
- Operating system: FreeRTOS, develops with LVGL Library for friendly UI/UX Design
- The compact size 3.5" panel kit is easy to affix on limited space for IoT application



Introduction

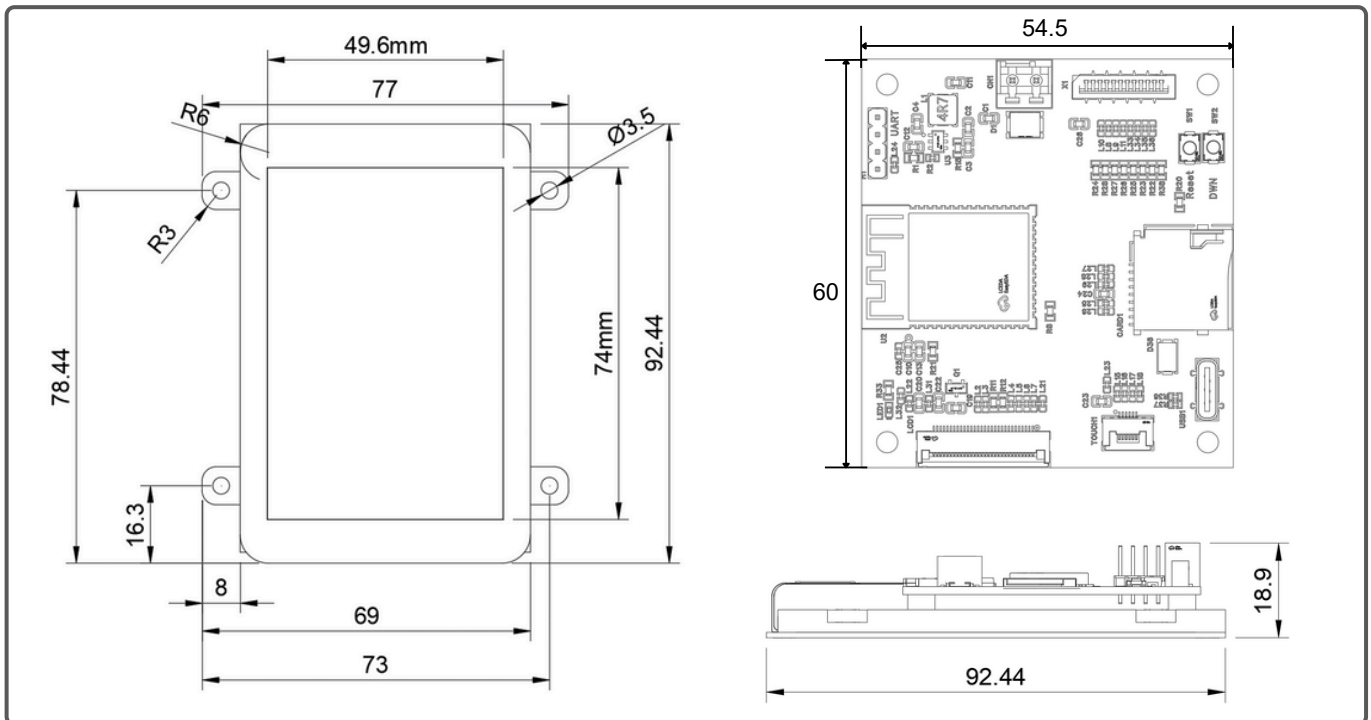
PK200-ES3 is a 3.5inch Open Frame Panel kit powered by the ESP32-S3 with a dual-core microprocessor running up to 240MHz, offers a powerful solution for embedded and IoT applications. The kit features a 3.5" TFT LCD with 320 x 480 resolution, 300 cd/m² brightness and with touch screen function, ensuring a interactive and responsive user experience with the clear and vibrant display. PK200-ES3 supports multiple interfaces, including Type-C for debugging, and various GPIO/I2C/UART/PWM functions. With its open frame kit design, this panel can be easily positioned in either landscape or portrait orientation, allowing it to adapt seamlessly to the customer's spatial design requirements. This panel kit is ideal for smart home systems, industrial controls, and portable monitoring devices, delivering reliable performance even in demanding environments.

Specification

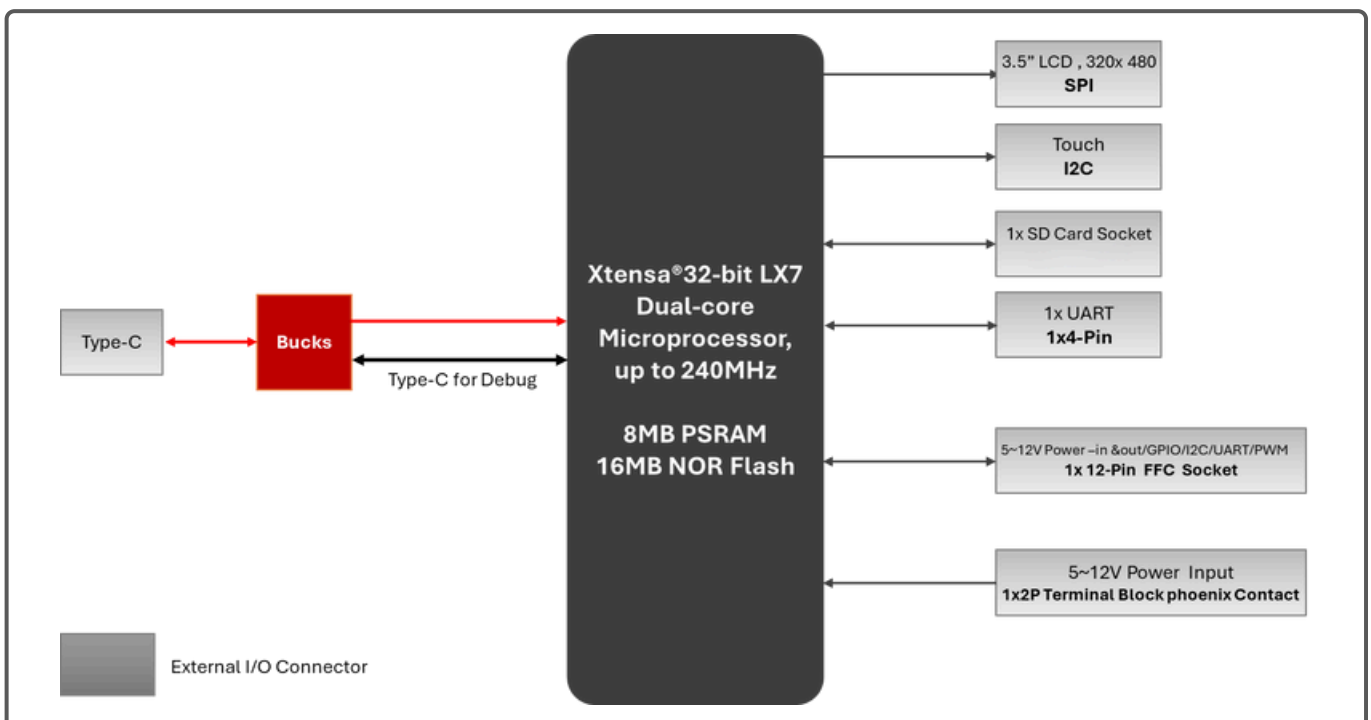
System	Processor	Xtensa® 32-bit L7, Dual -Core Microprocessor , up to 240MHz
	RAM	8MB PSRAM
	Storage	16MB NOR Flash
	Connectivity	802.11b/g/n + Bluetooth 5.0
	Display	3.5" TFT LCD, 320 x 480 pixels
	Touch	Support via I2C Interface, PCAP Touch Screen
	Brightness	300 cd/m ²
I/O Interface	USB Port	1x Type-C for Debug
	UART	1, 4-Pin Header
	SD Card Socket	1 x Micro SD Slot
	Others	1 x 12-Pin FFC Socket, supports 8x GPIO/I2C/UART/PWM and 5~12V Power In & Out, RTC Battery support via PH 1.25mm
Power Supply		5~12V Power Input, via 1x 2P Terminal Block Phoenix Contact
Mechanism Dimension		92.44 x 77mm (w/ Frame); 60x 54.5mm (Board only)
Operating Temperature		0°C ~ 50°C
Operating System		FreeRTOS with LVGL



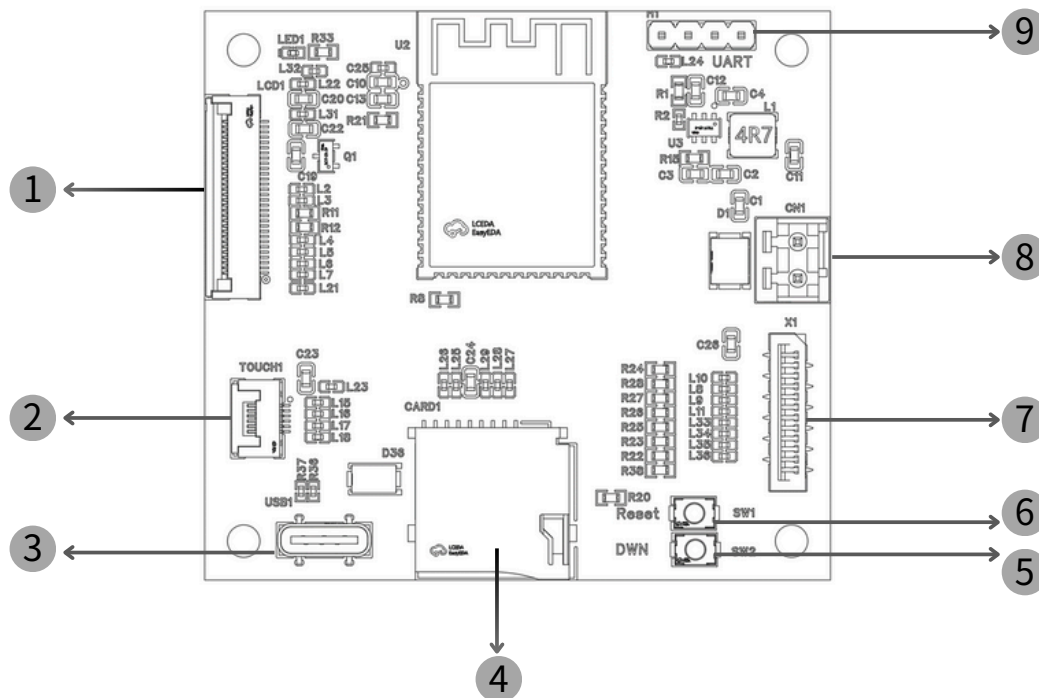
Dimension(mm)



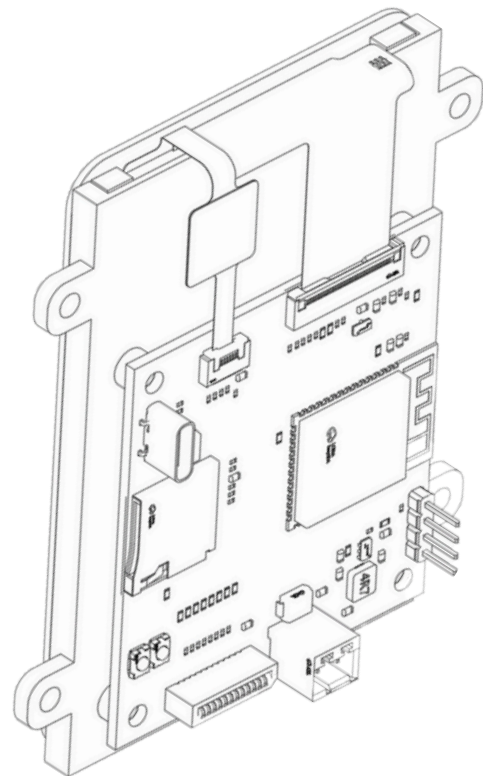
Block Diagram



I/O Briefing



- 1 SPI conn. for 3.5" LCD
- 2 I2C for Touch
- 3 Type-C JTag/ Power
- 4 Micro SD Slot
- 5 SW2: FW Download Button
- 6 SW1: Reset Button
- 7 12-Pin Power I/O
- 8 5-12V Power Input, 1x 2P
Terminal Block Phoenix Contact
- 9 UART: 4-Pin Header, 2.54mm



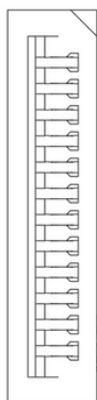
Pin Definition

4 Micro SD Card



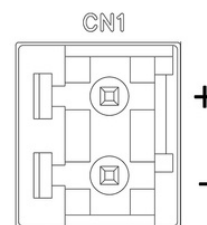
PIN	IO No.	Remark
CLK	IO12	3.3V
CMD	IO13	3.3V
D0	IO11	3.3V
D3/CD	IO27	3.3V

7 12-Pin Power I/O, 1.0mm FFC Connector

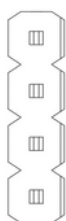


PIN	IO No.	Function	Remark
1	5~12V	Power In/Out	
2	5~12V	Power In/Out	
3	IO14	GPIO/ADC	
4	IO47	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
5	IO48	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
6	IO45	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
7	IO38	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
8	IO39	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
9	IO40	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
10	IO41	GPIO/I2C/UART/PWM	Pull up 10K/3.3V
11	GND	GND	
12	GND	GND	

8 5-12V Power Input



9 UART, 2.54mm PIN Header



PIN	IO No.	Function	Remark
1	3.3V	Power Out	
2	RXD0	GPIO	
3	TXD0	GPIO	
4	GND	GND	