

ONX3248G035

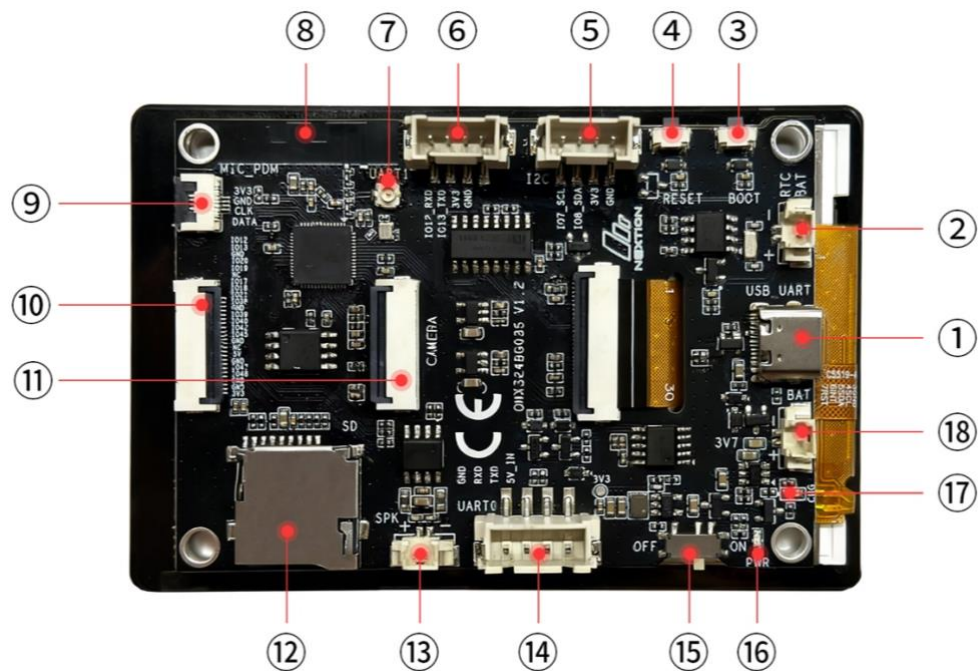
Product Overview

ONX3248G035 is a highly functional LCD development board. It utilizes the ESP32-S3 processor with powerful data processing capabilities and integrates 2.4GHz Wi-Fi and Bluetooth 5 (LE) functionality, providing users with stable and reliable wireless connectivity. The board comes with a 3.5-inch high-definition display with capacitive touch support, and features peripheral interfaces such as UART, I2C, Microphone, Camera, Speaker, and multiple GPIOs, making it easy to develop and embed applications into products.

Product Features

- **Powerful Core Performance:** Equipped with the ESP32-S3 high-performance Xtensa® 32-bit LX7 dual-core processor, running at up to 240 MHz, and stacked with 8MB PSRAM and an external 16MB Flash, providing ample computing power and storage space for complex graphical interfaces and AI applications.
- **Integrated Interactive Display:** Features a capacitive touch LCD screen with a dedicated driver and touch controller chip, delivering clear color display and smooth touch experience.
- **Comprehensive Wireless Connectivity:** Supports 2.4GHz Wi-Fi and Bluetooth® 5 LE, with an onboard antenna for long-range transmission and a reserved external antenna interface.
- **Rich Peripheral Expansion:**
 - **Multimedia:** Includes a 24-pin camera interface and a digital microphone interface, supporting image capture and AI voice applications.
 - **Storage:** Onboard Micro SD card slot for easy storage expansion.
 - **Interfaces:** Provides Grove-standard I2C, UART, and other interfaces, greatly simplifying the process of connecting external sensors and devices.
- **Professional Power and Clock Management:** Integrated lithium battery charging management circuit supports portable applications. Built-in RTC real-time clock chip, combined with a backup battery, ensures accurate timekeeping even in offline states.
- **Convenient Development and Debugging:** Uses a Type-C interface for power supply, firmware flashing, and log printing, supports automatic download mode, comprehensively optimizing the development experience and simplifying connection and debugging processes.

Hardware Description



Interface Name	Description	Connector Type
1. USB_UART	USB to UART, for firmware burning, log printing, power supply	USB-C
2. RTC BAT	RTC battery interface, Voltage: 3V	MX1.25-2P
3. BOOT Button	Press and hold the Boot button, then press the Reset button once to enter "Firmware Download" mode.	
4. RESET Button	RESET Button	
5. I2C Interface	Uses Grove standard pinout	PH2.0-2P (Grove)
6. UART1 Interface	Uses Grove standard pinout	PH2.0-2P (Grove)
7. External Antenna Connector	Can switch to external antenna by desoldering resistor	IPEX-1
8. Antenna	On-board antenna	
9. MIC_PDM Interface	Digital Microphone interface	FPC-4P 0.5mm pitch
10. GPIOs	Provides 5V, 3.3V, GND, and 14 IO pins	FPC-24P 0.5mm pitch

11. CAMERA Interface	Supports mainstream OV2640, OV5640, etc. cameras	FPC-24P 0.5mm pitch
12. SD	MicroSD Slot	
13. SPK	Speaker interface, supports up to 2W speaker	MX1.25-2P
14. UART0 Interface	For serial communication, firmware burning, log printing, power supply	PH2.54-4P
15. Power Switch		
16. PWR	Power indicator, ON: Red / OFF: Off	
17. CHG	No battery connected: Off; Battery connected, Charging: Red, Fully charged: Off	
18. BAT	Li-ion battery interface, Voltage: 3.7V	MX1.25-2P

Product Parameters

Product Description	OPEN NEXTION TOUCH SCREEN DEVELOPMENT BOARD
Model Name	ONX3248G035
FCC ID	2APN5-G035
Size	3.5"
Resolution	320x480
Color	262K
Brightness	300nit
Touch Type	Capacitive
MCU	ESP32-S3R8
Flash	16 MB
ROM	384KB
SRAM	512KB
PSRAM	8 MB
Panel Driver	ST7796
Touch Driver	CST826

Operating Voltage	DC 5V-1A
Working Temperature	-20~70°C
Storage Temperature	-30~80°C
Weight	Net weight: 61g Gross weight: 118g

FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.