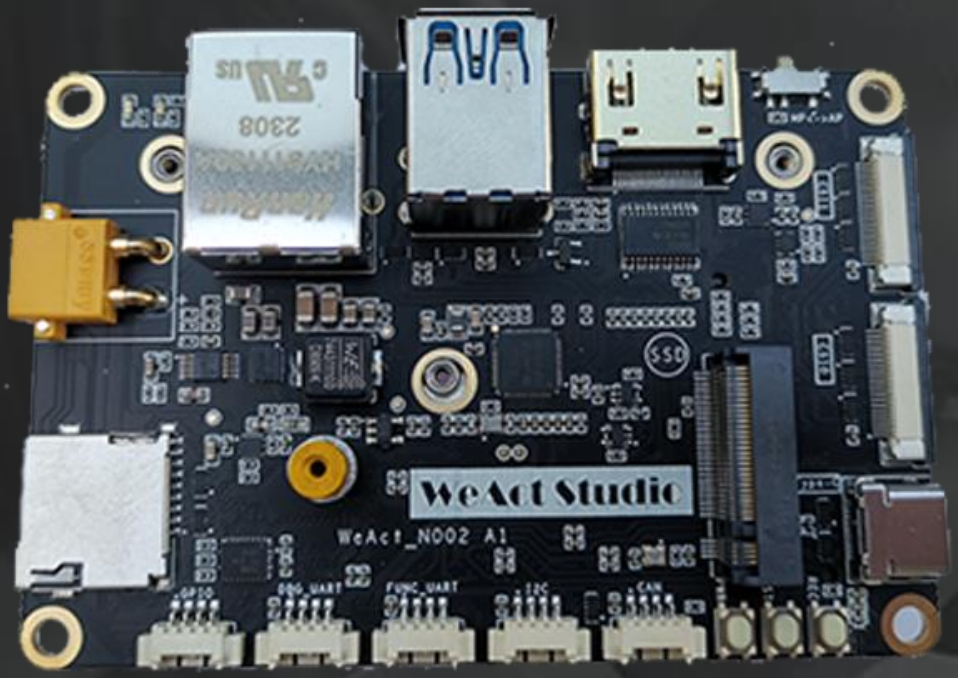


WeAct Studio

N002
CARRIER BOARD

User Manual

WeAct Studio

Catalog

REVISION HISTORY

Draft Date	Revision	Description	Hardware
2023.07.16	V1.0	1. Initial	A1

1. PRODUCT PARAMETER

- Supported NVIDIA Jetson Nano&XavierNX&TX2NX&OrinNX&Orin Nano Carrier Board;
- Supported DC XT30（**12-27V**）[**Supported 6S Battery**]
- The power on sequence of the full power supply is designed in strict accordance with NVIDIA recommendations, with discharge circuit;
- The power inlet is equipped with undervoltage, overvoltage, overcurrent and anti reverse connection protection, which makes it more safe to use;
- Support one Gigabit adaptive network port for network debugging, data commu nication, etc;
- Support 2 ports USB3.2 Gen1 for data transmission, output by USB3.2 Gen1 hub and share usb3.2 Gen1 bandwidth;
- Support 3 ports of USB2.0, of which 1 channel of OTG is used for system burning and data transmission, and the other 2 channels are host for data transmission;
- **Support Type C DRD, USB3.2 Gen2 bandwidth, and support HOST/Device switching (Only supports Orin series core boards)**
- Support 1 HDMI (2K) interface for screen display;
- Support 1 Mirco SD card for external TF card and data storage (Un-supported Orin NX/NANO);
- Support 1 port CAN, 2 port UART, 2 port IO and other interfaces to provide more convenient data transmission;
- Support 1 port PCIE M.2 KEYM interface, Support PCIE3.0 X 4 NVME protocol with 2242 size Solid HardDisk（SSD）;
- Support 1 port PCIE M.2 KEYE interface, Supported wireless WIFI、BlueTooth and 4G internet card
- Support 2 port 4Lane MIPI CSI Camera Interface, which can collect binocular camera data at the same time for binocular recognition

- All interfaces are equipped with ESD protection to prevent damage to the carrier plate caused by static electricity;
- The small carrier plate has compact structure, and the size is only 60mm * 90mm;
- Regularly update the device trees of different versions to be compatible with different Tegra kernel versions;

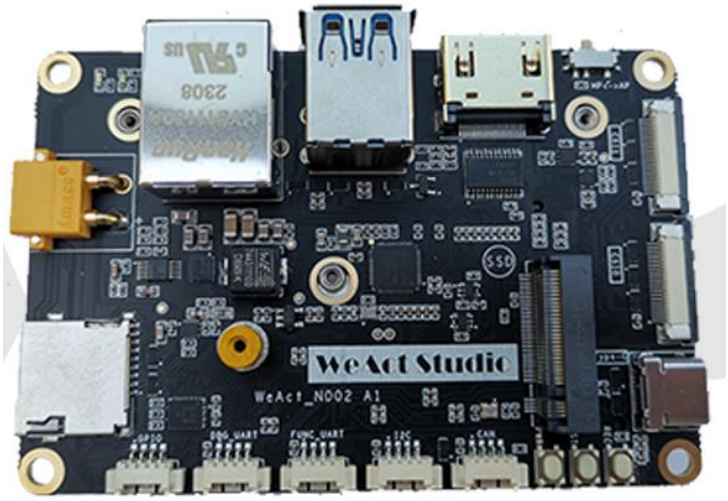


Figure 1. Top View

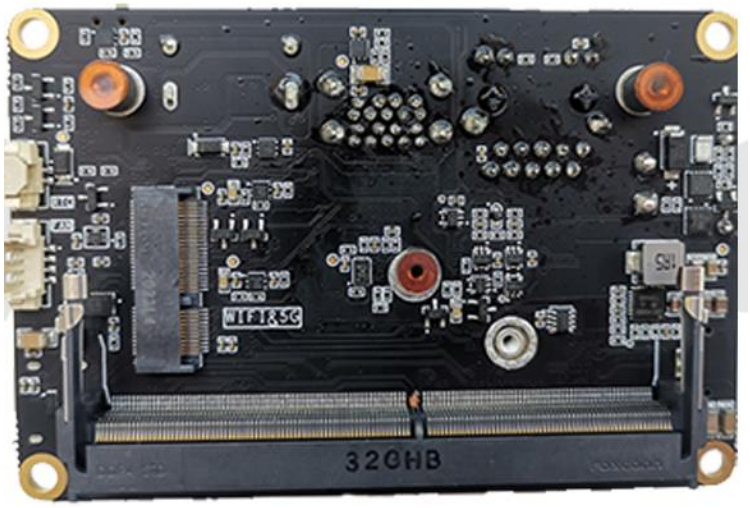


Figure 2.Bottom View

2. APPLICATION SCENARIO

√ Deep Learning

√ Machine Vision

√ Laboratory

√ Robot Competition

√ UAV

√ Driverless

√ AGV Navigation

3. FUNCTION SUPPORTED LIST

	Nano	TX2NX	XavierNX	OrinNano	OrinNX
GigaEthernet	√	√	√	√	√
USB3.2 Gen1 X 2	√	√	√	√	√
HDMI	√	√	√	√	√
SD Card*	√	√	√	X	X
M.2 SSD(2242)	√	√	√	√	√
M.2 WIFI(2230)	X	√	√	√	√
CSI 4Lane X 2	√	√	√	√	√
USB2.0 OTG(TypeC)	√	√	√	√	√
USB3.2 Gen2 DRD	X	X	X	√	√
3.3 V GPIO X 4	√	√	√	√	√
3.3V DEBUG UART	√	√	√	√	√
3.3V FUNC UART	√	√	√	√	√
3.3V I2C	√	√	√	√	√
3.3V CAN(H/L)	√	√	√	√	√
3.3V RTC	√	√	√	√	√
5V FAN Interfaces	√	√	√	√	√
Auto Power	√	√	√	√	√

*SD Card Version Core Board Unsupport External SD Slot

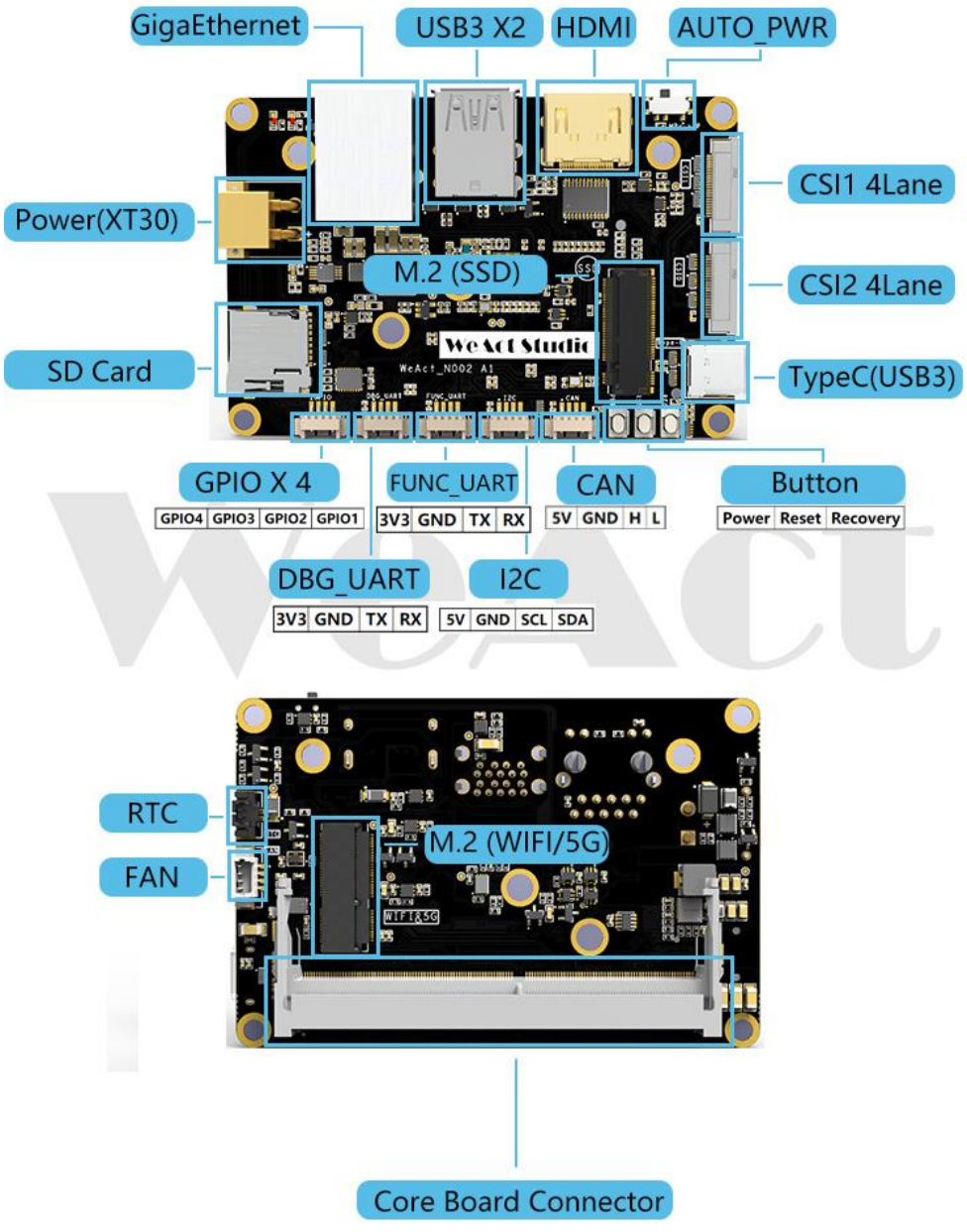
All Supported:

▲ Power Protection: Reverse Connection / UnderVoltage
OverVoltage / Shot Circuit Protection

▲ Interface Protection: ESD Protection

Figure 3. Function Support Lists

4. HARDWARE INTERFACES DESCRIPTION



5. HARDWARE PARAMETER

KEY	1 x Power On Key 1 x Recovery Key 1 x Reset Key
LED	1 x Power Status LED (Red) 1 x System Status LED （Green）
SD	1 x Mirco SD Interfaces
USB	1 x USB3.2 Gen1*2 1 x USB2,0 OTG Type C Interfaces 2 x USB2.0 HOST Interfaces(Same with USB3.2 Gen1 connector)
TypeC(USB)	1 x USB3.2 Gen2 Type C
CSI	2 x 4 Lane MIPI CSI Interface
PCIE	1 x PCIE M.2 KEYM(SSD) Interface 1 x PCIE M.2 KEYE(WIFI) Interface
HDMI	HDMI A Interfaces
Ethernet	1 x 1000M RJ45
CAN	1 Port，1 x 4P 1.25 Connector
UART	2 Port，2 x 4P 1.25 Connector
GPIO	4 Port，1 x 4P 1.25 Connector
I2C	1 Port，1 x 4P 1.25 Connector
FAN	1 x TX1.25 Connector
Auto Power On	1 x Side Switch
POWER	1 x XT30 Connector

RTC Power	1 x RTC Battery Interfaces

6. ELECTRICAL PROPERTIES

Parameter	Minimum	Typical	Maximum
Temperature	0℃	/	70℃
Voltage	12V	12V	27V

7. MECHANICAL SIZE