

LPR3576 Embedded Computer

Product Manual

V1.0



Shanghai Neardi Technology Co., Ltd.
www.neardi.com

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Due to product version upgrades or other needs, our company may update the manual. If you need the latest version of the manual, please contact our company. We always adhere to the principle of customer first and provide customers with fast and efficient support services. If you have any needs, please feel free to contact our company at any time. Contact information is as follows:

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Version History

Version	Date	Description
V1.0	2026/3/23	Initial version

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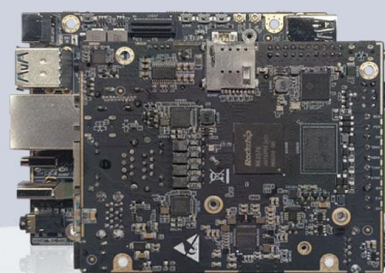
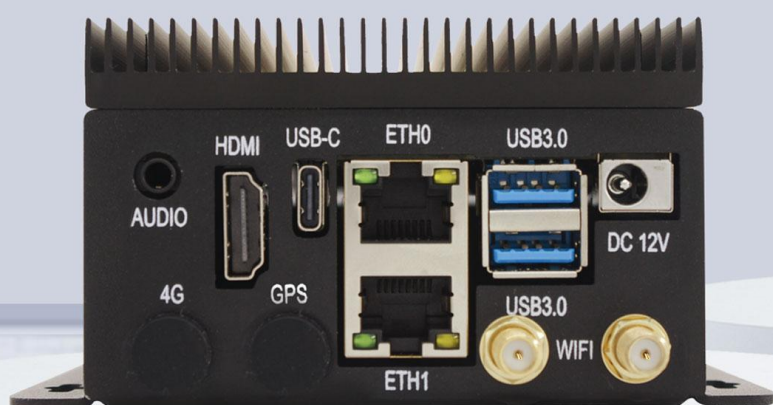
1.Product Introduction

The LPR3576 is a versatile intelligent host meticulously designed based on the Rockchip RK3576 platform. It adopts a quad-core Cortex-A72 + quad-core Cortex-A53 architecture, with a built-in NPU delivering up to 6 TOPS of computing power. It supports up to 8K@30fps video decoding and 4K@60fps video encoding.

The LPR3576 is equipped with diverse interfaces, including 3× Type-A USB 3.0, 2× Type-C USB; onboard 1× mini-PCIe interface supporting external 4G/5G modules; 1× M.2 Key M interface supporting 2242 SSD storage expansion. It supports dual-band Wi-Fi 6 and BT 5.4, along with 2× Gigabit Ethernet, RS485, CANBUS, 5V, 3.3V OUT and other common interfaces, and 1× HDMI output.

The LPR3576 supports Android, Buildroot, Debian, and Ubuntu operating systems, featuring high performance, reliability, and scalability. Full system source code is provided to users.

Users can conduct secondary development and customization based on this product. Our company provides comprehensive technical support for developers and enterprise users, enabling efficient R&D work and greatly shortening the product development and mass production cycle.



2. Function Overview



SOC

CPU	8-core 64-bit architecture (4*A72+4*A53)
GPU	ARM Mali-G52 MC3 GPU, Dedicated 2D Graphics Acceleration Module
NPU	6TOPS
VPU	8K@30fps Decoding, 4K@60fps Encoding
DDR	LPDDR5,2/4/8/16GB
eMMC	eMMC,16/32/64/128GB



Interfaces

1 x HDMI Output
2 x Gigabit Ethernet Ports, Dual-band Wi-Fi 6
1 x Onboard MIPI PCIe Interface, expandable for 4G/5G modules
1 x Onboard M.2 M-Key Interface, supports external 2242 NVMe SSD
3 x Type-A USB 3.0, 2 x Type-C
2*CANFD, 1*RS485



OS

Android
Linux (Buildroot / Debian / Ubuntu) \OpenEuler



Open Source Resources

WIKI

[Quick Start](#)

[Firmware Upgrade](#)

[Android Development](#)

[Linux Development](#)

[Kernel & Drivers](#)

DEMO

[System Customization](#)

[Accessories](#)

[FAQ](#)

[Release Notes](#)

Hardware Documentation

[Product 2D/3D Drawings](#)

Software Documentation

[Flashing Tool & Drivers](#)

[Android Source Code & Images](#)

[U-Boot & Kernel Source Code](#)

[System Files for Debian/Ubuntu/Buildroot](#)

3.Specifications

Basic Specifications

SOC	8-core 64-bit processor (4*A72+4*A53)
GPU	Mali-G52 MC3,2D Graphics Engine ,RGA dual core,VDPP,VPSS,16M ISP ,JPEG Encoder/Decoder
NPU	6TOP; int4/int8/int16/FP16/BF16/TF32
VPU	Supports 8K@30fps / 4K@120fps decoding (H.265/HEVC, VP9, AVS2, AV1) and 4K@60fps decoding(H264/AVC) Supports 4K@60fps video encoding (H.265/HEVC, H.264/AVC)
DDR	LPDDR5, 2GB/4GB/8GB/16GB
eMMC	eMMC, 16GB/32GB/64GB/128GB
PMU	RK806
OS	Android / Ubuntu / Buildroot / Debian/OpenEuler

Hardware Parameters

Power	DC12V - 3A (DC Jack 5.5*2.0mm / PH2.0 wafer connector)
USB	3*Type-A USB3.0
	1* Type-C USB
	1*Type-C USB Debug
Display	1*Type-A HDMI up to 8K@30fps or 4K@120fps

Audio	φ3.5mm earphone Jack with L/R audio out
Mini-PCIe	Onboard mini PCIe for 2G/3G/4G/5G modules.
M.2	Onboard M.2 NGFF (M-KEY) PCIe V2.0 x1lane with NVMe SSD supported
SIM card	Micro sim slot for Mini-PCIe 4G/5G LTE module
RJ-45	2*10/100/1000-Mbps data transfer rates
Serial port	2*CANFD,1*RS485

Other Parameters

Dimensions	L*W*H(mm) 108*105*53.5
Temperature	-20 ~ 75°C (Business) -40 ~ 85°C (Industrial)
Weight	Approx. 689g (without peripherals)
Static Power Consumption	1.392W
Dynamic Power Consumption	6.756W

Static Power Consumption: System boots up with no external modules connected and no programs running on the development board.

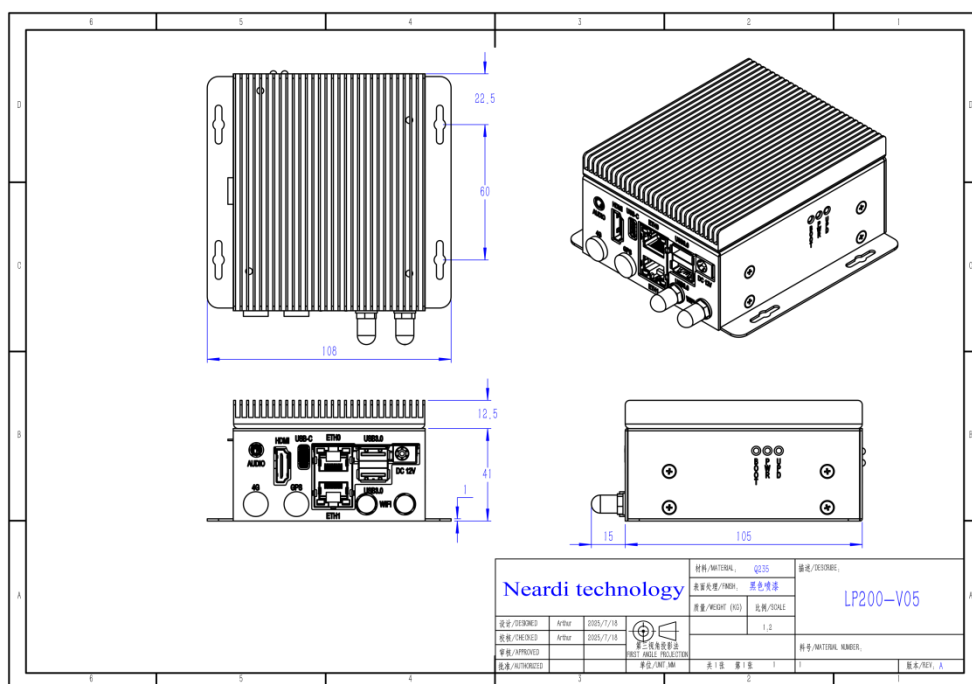
Dynamic Power Consumption: Power consumption when the device is active, such as running applications, playing videos, gaming, etc.

4. Appearance and Dimensions

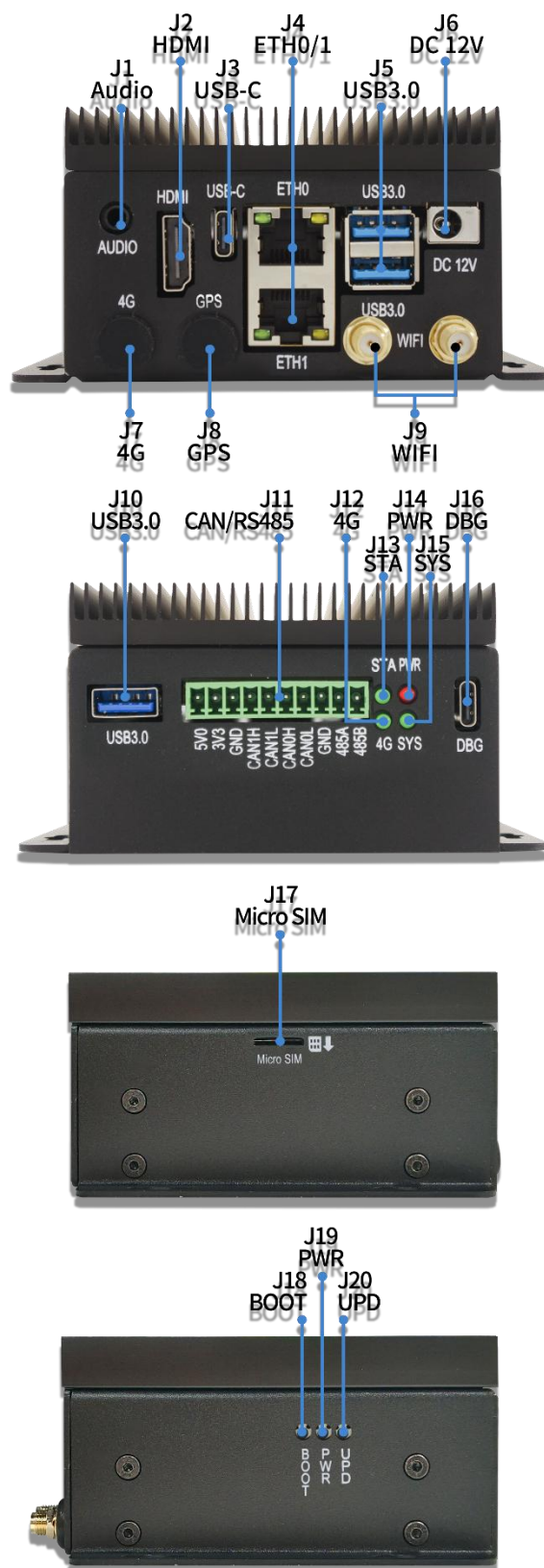
4.1 Appearance



4.2 Dimensions



5.Interface Description



Part reference	Part Name	Part Specifications	Part Description
J1	Audio	φ3.5mm 3-L Jack	L/R audio out
J2	HDMI	Type-A HDMI	HDMI Tx
J3	USB-C	Type-C Socket	Type-C with USB3.0
J4	ETH0/1	Gigabit Ethernet	10/100/1000-Mbps data transfer rates
J5	USB3.0	Type-A USB3.0	USB3.0
J6	DC 12V	DC 5.5*2.1mm	Main power supply, DC12V – 3A
J7	4G	ANT_JACK	4G ANT
J8	GPS	ANT_JACK	GPS ANT
J9	WIFI	ANT_JACK	WIFI ANT
J10	USB3.0	Type-A USB3.0	USB3.0
J11	CAN/RS485	3.5mm 10pin wafer	CANBUS and RS485 Bus signals
J12	4G	Green LED	3G/4G Module Status Indicator
J13	STA	Green LED	Work status Status Indicator
J14	PWR	Red LED	Power status indicate
J15	SYS	Green LED	SYS status indicate
J16	DBG	Type-C Socket	USB 2.0 Debug
J17	Micro SIM	Push-Push Micro SIM Socket	For Micro SIM Card (1.8/3.3V)
J18	BOOT	push-button	Key for system boot
J19	PWR	push-button	Key for system Power
J20	UPD	push-button	Key for system update

6.Application Scenarios



AI



Machine Vision



Industrial Control



Energy and Power



Tablet PC



VR



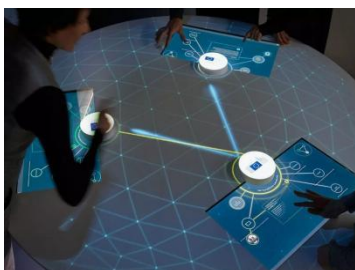
Smart Logistics



New Retail



Commercial Display



Object Recognition



Vehicle Terminal



Security Monitoring

7.Order Model

Model	Status	CPU	DDR	eMMC	Temp
LP20021603	MTO	RK3576	2GB	16GB	-20°C - 75°C
LP20043203	MP	RK3576	4GB	32GB	-20°C - 75°C
LP20086403	MP	RK3576	8GB	64GB	-20°C - 75°C
LP2009A803	MP	RK3576	16GB	128GB	-20°C - 75°C
LP200432J3	MTO	RK3576J	4GB	32GB	-40°C - 85°C
LP200864J3	MP	RK3576J	8GB	64GB	-40°C - 85°C
LP2009A8J3	MTO	RK3576J	16GB	128GB	-40°C - 85°C

*Non-standard custom → contact by email: sales@neardi.com

FCC Warning

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

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.

Radiation Exposure Statement

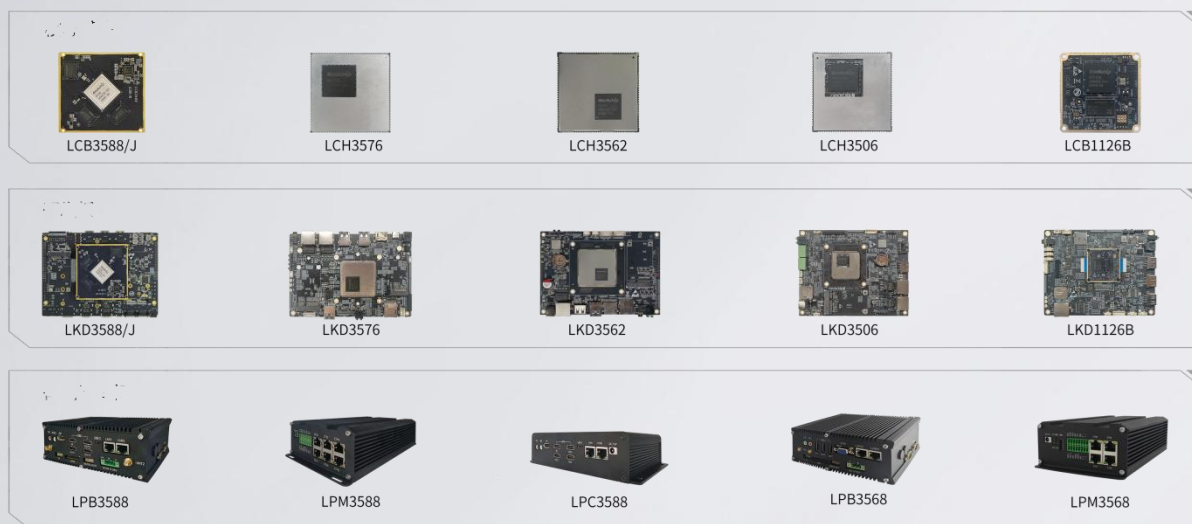
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

8.About

Founded in 2014, **Shanghai Neardi Technologies Co., Ltd.** is a national high-tech enterprise in China. We specialize in the R&D and manufacturing of enterprise-level open-source hardware platforms, providing customers with core modules, industrial boards, development kits, touch panels, and industrial control hosts.

Adhering to the core philosophy of technological innovation and professional service, we leverage our technical advantages and industry experience to help partners achieve rapid mass production of products.

Rockchip



HiSi



NVIDIA



Vehicle Terminal



WIFI6 Module

