



LPR3576 Embedded Computer

Datasheet

V1.0



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

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Version History

Version	Date	Description
V1.0	2024/11/15	Initial version
V1.1	2025/10/10	Update operating system

Contents

1.Product Introduction	3
2.Function Overview	4
3.Technical Specifications	6
4.Appearance and Dimensions	8
5.Interface Definition	9
6.Application Scenarios	11
7.Ordering Model	12
8.About Neardi	13

1.Product Introduction

The LPR3576 is a multifunctional intelligent host meticulously designed based on the Rockchip RK3576 chip platform, featuring a quad-core A72 and a quad-core A53, with an integrated NPU offering up to 6 Tops of computing power, supporting up to 8K30fps decoding and 4K60fps encoding.

The LPR3576 has a variety of interfaces, including 3 Type-A USB 3.0 ports and 2 Type-C USB ports; it has 1 onboard mini-PCIe interface for external 4G/5G modules; it reserves an eMMC connector and a UFS socket, 1 M.2 key M interface for 2242 SSD storage expansion; it supports dual-band WiFi 6 and BT 5.4; it has 2 Gigabit Ethernet ports, RS485, CANBUS, 5V, 3.3V OUT, and other common interfaces, supporting 1 HDMI output.

The LPR3576 supports Android, buildroot, Debian, and Ubuntu systems, offering high performance, high reliability, and high expandability, and provides users with open system source code. Users can develop and customize based on this product, and our company provides comprehensive technical support for developers and enterprise users, enabling them to efficiently complete research and development work and significantly shorten the product development and mass production cycle.



2. Function Overview



High-Performance Processor

CPU	Octa-core 64-bit architecture (4A72+4A53), high performance, low power consumption
GPU	ARM Mali-G52 MC3 GPU, dedicated 2D graphics acceleration module
NPU	6TOPS computing power for AI-related tasks.
VPU	8K30fps decoding, 4K60fps encoding
DDR	LPDDR4/4X, with options for 4/8/16GB
eMMC	eMMC, with options for 8/16/32/128GB



Rich Interfaces

- 1 HDMI output
- 2 Gigabit Ethernet ports, dual-band WiFi 6
- 1 onboard MIPI PCIe interface, expandable for 4G/5G modules
- 1 onboard M.2 M-Key interface, supporting external NVMe protocol 2242 SSD
- 3 Type-A USB 3.0 ports, 2 Type-C ports
- 2 CANFD, 1 RS485



Operating System

- Android
- Linux (Buildroot / Debian / Ubuntu)

OpenEuler



Open Source Materials

WIKI Documentation <http://www.neardi.com/cms/en/wiki.html>

Quick Start

Firmware Upgrade

Android Development

Linux Development

Kernel Drivers

DEMO

System Customization

Accessories

Frequently Asked Questions (FAQ)

Release Notes

Hardware Materials

Product 2D/3D Drawings

Software Materials

Firmware Tools and Drivers

Android Source Code and Images

U-Boot and Kernel Source Code

Debian/Ubuntu/Buildroot System Files

3. Technical Specifications

Basic Parameters

SOC	RK3576 Octa-core 64-bit architecture processor (4A72+4A53)
GPU	Mali-G52 MC3, 2D Graphics Engine, RGA dual core, VDPP, VPSS, 16M ISP, JPEG Encoder/Decoder
NPU	6TOPS computing power Supports int4/int8/int16/FP16/BF16/TF32.
VPU	Supports 8K30fps/4K120fps decoding (H265/HEVC, VP9, AVS2, AV1) and 4K60fps decoding (H264/AVC) Supports 4K60fps video encoding (H265/HEVC, H264/AVC)
DDR	LPDDR4/4X, with options for 4GB/8GB/16GB.
eMMC	eMMC, with options for 8/16/32/128GB
PMU	RK806
OS	Android / Ubuntu / Buildroot / Debian/OpenEuler

Hardware Specifications

Power	DC12V - 3A (DC Jack 5.5*2.1mm / 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
Operating Temperature	-20 ~ 75°C (Commercial)
Temperature	-40 ~ 85°C (Industrial)
Weight	Approximately 689g (excluding peripherals)
Static power	1.392W
Dynamic power	6.756W

Static power: The system is powered on, but the development board is not connected to any external modules and is not running any programs.

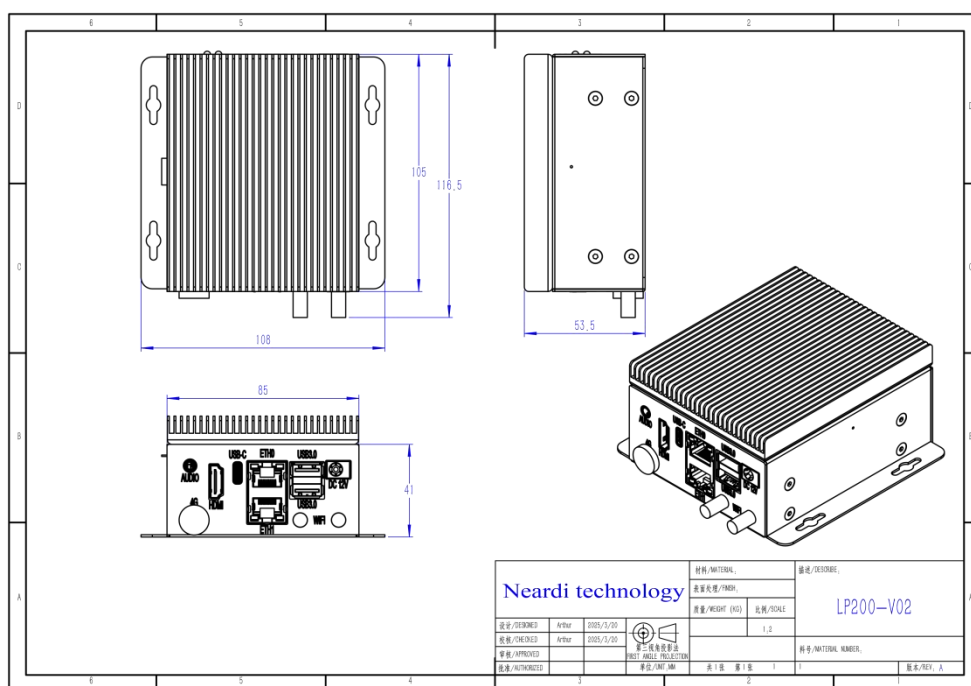
Dynamic power: The power consumption of the device when it is actively running applications, playing videos, gaming, or in other active states.

4. Appearance and Dimensions

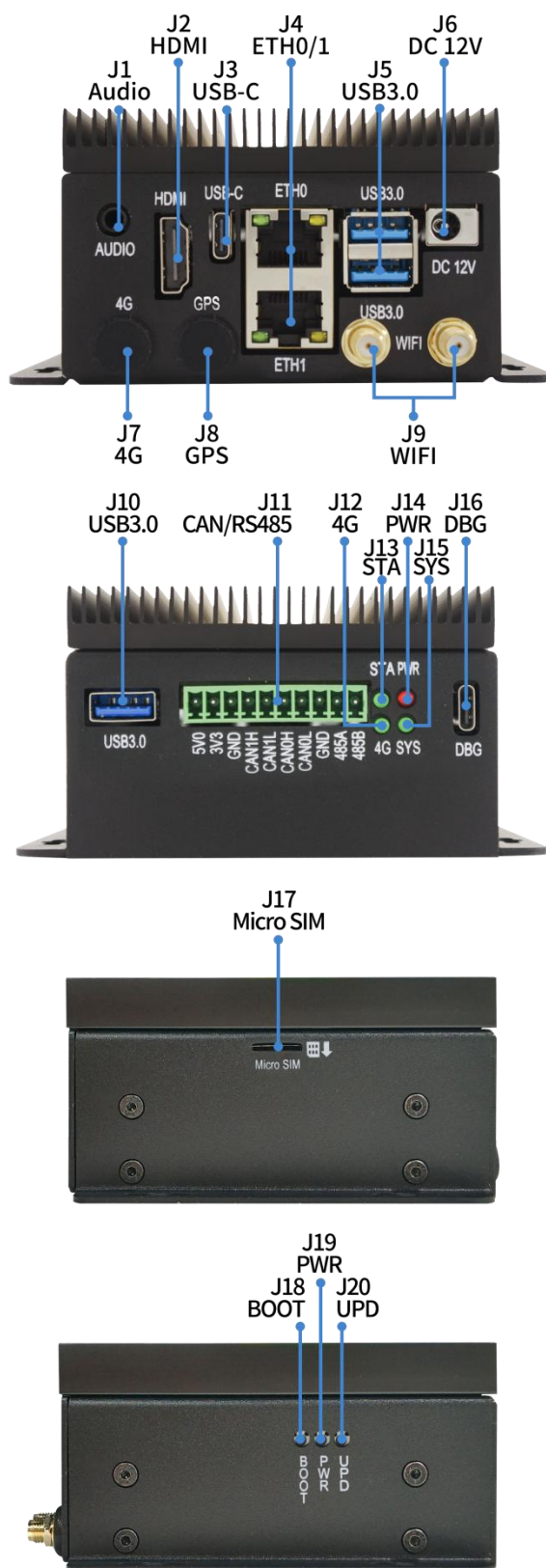
4.1 Appearance



4.2 Dimensions



5.Interface Definition



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



Smart Tablet



VR



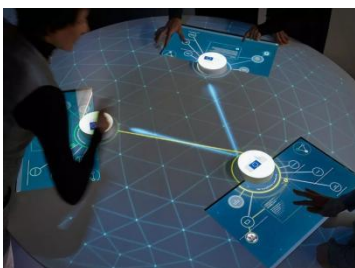
Smart Logistics



New



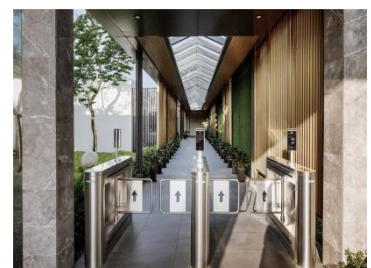
Smart Commercial



Object Recognition



Vehicle terminal



Security Surveillance

7.Ordering Model

Product Model	Status	CPU	DDR	eMMC	Operating Temperature
LP20021603	Produce on demand	RK3576	2GB	16GB	-20°C - 75°C
LP20043203	Mass production	RK3576	4GB	32GB	-20°C - 75°C
LP20086403	Mass production	RK3576	8GB	64GB	-20°C - 75°C
LP2009A803	Mass production	RK3576	16GB	128GB	-20°C - 75°C
LP200432J3	Produce on demand	RK3576J	4GB	32GB	-40°C - 85°C
LP200864J3	Mass production	RK3576J	8GB	64GB	-40°C - 85°C
LP2009A8J3	Produce on demand	RK3576J	16GB	128GB	-40°C - 85°C

*For customized non-standard orders, please contact us via email at sales@neardi.com.

8.About Neardi

Shanghai Neardi Technology Co., Ltd., established in 2014, is a national high-tech enterprise, a strategic partner of Rockchip, and an authorized agent of Black Sesame Technologies. The company supports a variety of chip platforms including Rockchip, HISI, NVIDIA, Black Sesame Technologies, and WiFi modules. It focuses on the research and development and production of enterprise-level open-source hardware platforms, providing customers with core modules, industry boards, development boards, touch panels, and industrial control hosts. Adhering to the core concepts of technological innovation and professional service, the company leverages its technical strengths and industry experience to help partners achieve rapid product mass production.

Company Advantages

Software Design / Custom OS / Product ODM / Bulk Delivery

Products

Rockchip

System On Module



LCB3588/J



LCB3568/J



LCB3566



LCH3576



LCH3562

Development Board



LKD3588/J



LKD3576



LKD3568/J



LKD3566



LKD3562

Embedded Computer



LPB3588



LPM3588



LPC3588



LPB3568



LPM3568

HISI



LCB3403V100



LCB3519AV200



LKD3403V100



LBA3403V100



LPA3403V100

NVIDIA



LKD Orin Nano



LKD Orin NX



LKD Xavier NX



LPD Orin Nano

Vehicle Terminal



LPA3588



LPA3568



LPA3399Pro



LPS3399Pro

WIFI Module



FD7352S



FD7352P



FD7352U



FD7352M



FD7155U



FD7256S