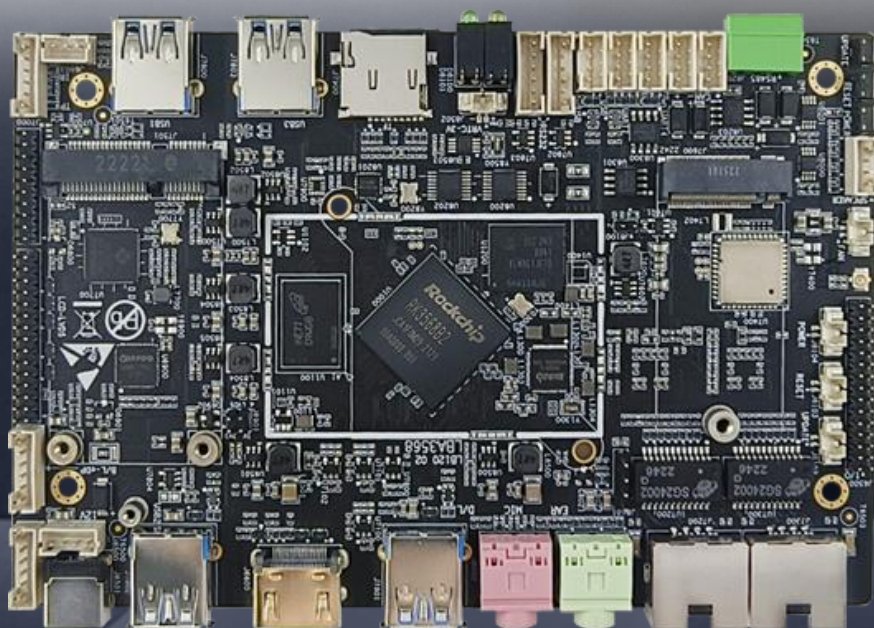




LBA3568 Development Board

Datasheet

V1.0



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

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Version History

Version	Date	Description
V1.0	2022/8/23	Initial version

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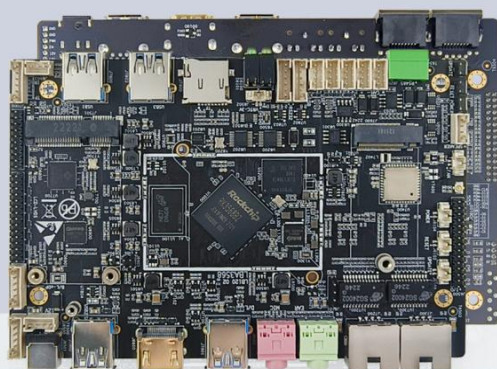
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1.Product Introduction

The LBA3568 is an exquisitely designed multifunctional industry application board based on the Rockchip RK3568 chip platform. The board is versatile, with a rich set of interfaces, compact size, and slim profile, making it suitable for products with limited structural space.

The LBA3568 features 3*USB 3.0 HOST ports and 1*USB 3.0 OTG, along with 2*USB 2.0 HOST interfaces, capable of connecting multiple USB cameras externally. It also has 1* mini-PCIe interface that, in addition to supporting 4G modules, can also connect to our company's mini-PCIe interface NPU computing card developed based on the RK1808, combining with multiple cameras to form an artificial intelligence vision computing board card that supports 3.0 TOPS computational power. Additionally, the LBA3568 supports common communication module interfaces such as dual-frequency WIFI, BT5.0, 1000M Ethernet, UART, I2C, CANBUS, supports HDMI output, dual-channel LVDS, and various display interfaces.

The LBA3568 supports Android, Linux, and Ubuntu systems, offering advantages such as high performance, high reliability, and high scalability, 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	RK3568, 22nm process, quad-core 64-bit Cortex-A55, with a maximum clock speed of up to 2.0GHz.
GPU	ARM G52 2EE, with integrated high-performance 2D acceleration hardware
NPU	1TOPS
VPU	4K video decoding, 1080P video encoding
DDR	LPDDR4 memory, with options for 1GB, 1GB, 4GB or 8GB capacities.
eMMC	eMMC 5.1 storage, with options for 8GB,16GB,32GB,64GB,or128GB capacities.



Rich Interfaces

3 Type-A USB 3.0 HOST ports, 1 Type-C USB 3.1 OTG port, and 2 USB 2.0 interfaces.

2 UART interfaces, 1 RS232 interface, 1 CANBUS interface, and 1 RS485 interface.

2 Gigabit Ethernet ports, dual-band WIFI 6, and BT5.0.

1 MIPI PCIe interface for the expansion of 4G/5G modules.

1 M.2 M-Key interface, supporting external NVMe protocol SSDs.

1 HDMI transmitter (TX) and 1 LVDS (Low Voltage Differential Signaling) interface.



Operating System

Android

Linux (Buildroot / Debian / Ubuntu)



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

Chip Datasheet

Product 2D/3D Drawings

Core Board Pin Definitions

Baseboard Reference Schematic

Baseboard Reference PCB

Key Bill of Materials (BOM)

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	RK3568, 22nm process, quad-core 64-bit Cortex-A55, with a maximum clock speed of 2.0GHz.
GPU	ARM G52 2EE, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, and has a high-quality 2D graphics engine built-in..
NPU	Offers up to 1 TOPS of computational power; supports hybrid operations of INT8/INT16/FP16/BFP16 MAC; compatible with deep-learning frameworks such as TensorFlow, TF-lite, Pytorch, Caffe, ONNX, MXNet, Keras, and Darknet.
VPU	Capable of 4K VP9 and 4K H265 video decoding at up to 60fps. Capable of 1080P H265/H264 video encoding at up to 100fps. Equipped with an 8M ISP with HDR capabilities.
DDR	LPDDR4 RAM, with options for 1GB/2GB/4GB/8GB (Optional).
eMMC	eMMC 5.1 storage, with options for 8GB/16GB/32GB/64GB/128GB (Optional).
PMU	RK806
OS	Android / Ubuntu / Buildroot / Debian

Hardware Specifications

Power	DC12V - 2A (DC Jack 5.5*2.1mm / PH2.0 wafer connector)
USB	1*Type-A USB3.0 OTG+3*Type-A USB3.0 HOST + 2*4Pin PH2.0 USB2.0 HOST connector

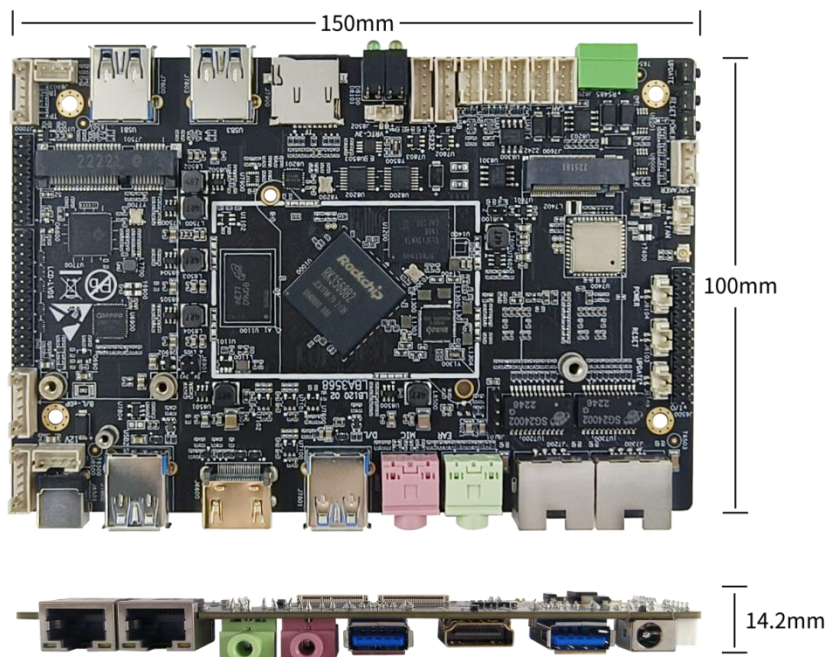
Display	Type-A HDMI 2.0 up to 4K@60fps
	Dual channel LVDS up to 1080P@60HZ
Audio	φ3.5mm earphone Jack with L/R audio out
	φ3.5mm microphone Jack with Mic in
	2x 2.7W ClassD audio Output
Camera	1x MIPI-CSI Camera Interface
PCle	mini PCle for 2G/3G/4G LTE module
M.2	M.2 NGFF (M-KEY) PCIE V2.1 x4 with NVMe SSD supported
SD card	Compatible with SDIO 3.0 protocol, system boot up supported
SIM card	Micro sim slot for Mini-PCle 4G LTE module
Serial port	2x Uart, 2x RS232, 1x RS485, 1x CAN BUS
Keys	3x keys (power, reset, update)
Net work	10/100/1000Mbps Ethernet (Realtek RTL8211E)
	Wi-Fi 2.4GHz/5GHz,802.11a/b/g/n/ac,up to 433 Mbps (AP6275SR3)
	BT V5.0 with BLE supported
	2G/3G/4G LTE module supported (optional)
Storage	MicroSD (TF) Card Compatible with SDIO3.0

Other Parameters

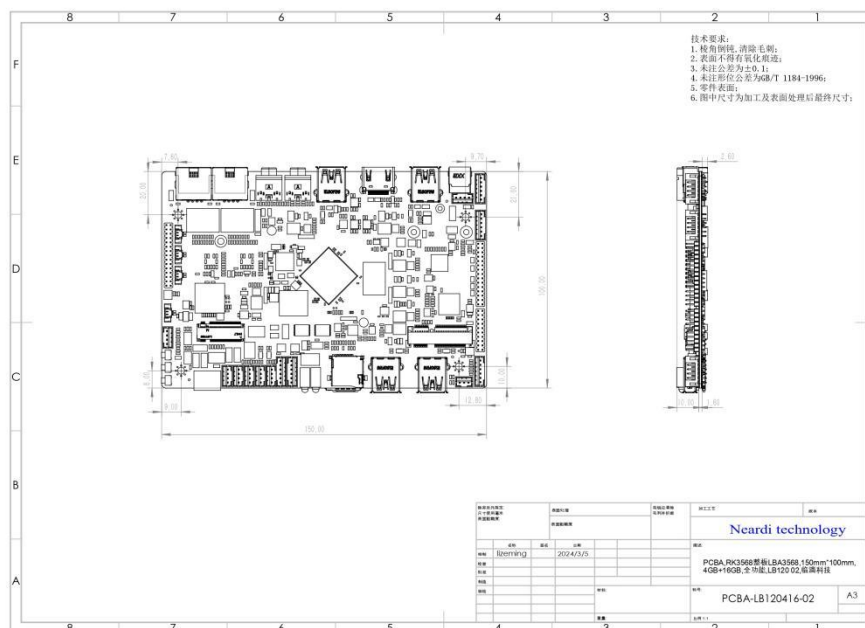
Dimensions	Length * Width * Height (mm) 150*100*14.2
Operating Temperature	-10 ~ 70°C
Weight	Approximately 116.5g g (excluding peripherals)

4. Appearance and Dimensions

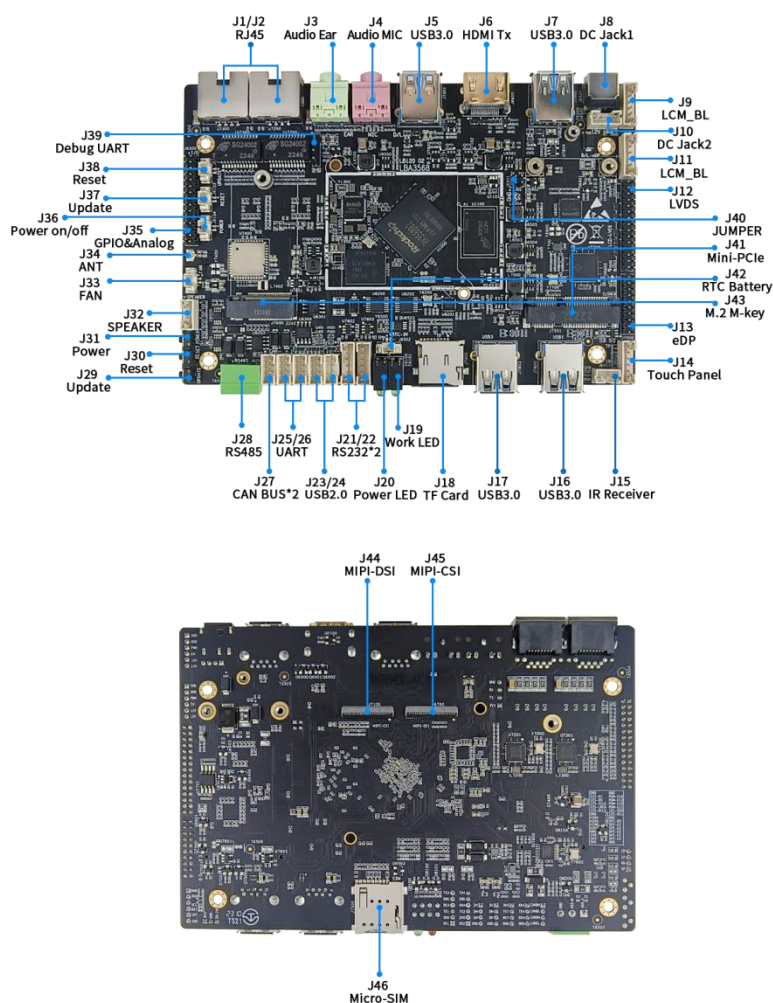
4.1 Appearance



4.2 Dimensions



5.Interface Definition



Part reference	Part Name	Part Specifications	Part Description
J1	RJ45	Gigabit Ethernet 0	10/100/1000-Mbps data transfer rates
J2	RJ45	Gigabit Ethernet 1	10/100/1000-Mbps data transfer rates
J3	Audio Jack1	φ3.5mm 3-L Jack	L/R audio out
J4	Audio Jack2	φ3.5mm 3-L Jack	Micphone In
J5	USB3.0	Type-A USB3.0 OTG	USB3.0 OTG
J6	HDMI Tx	Type-A HDMI 2.0	HDMI 2.0 Transmitter up to 4K@30HZ
J7	USB3.0	Type-A USB3.0 HOST	USB3.0 HOST
J8	DC Jack1	DC 5.5*2.1mm	Main power supply, DC12V – 3A
J9	LCM_BL	PH2.0mm 6pin wafer	LVDS LCM backlight control
J10	DC Jack2	PH2.0mm 4pin wafer	DC12V-3A power in
J11	LCM_BL	PH2.0mm 6pin wafer	eDP LCM backlight control
J12	LVDS	PH2.0mm 2x15pin header	Dual channel 24bit LVDS output
J13	eDP	PH2.0mm 2x10pin header	eDP LCM

J14	Touch Panel	PH2.0mm 6pin wafer	I2C and power for Touch Panel
J15	IR Receiver	PH2.0mm 3pin wafer	IR Receiver
J16	USB3.0	Type-A USB3.0 HOST	USB3.0 HOST
J17	USB3.0	Type-A USB3.0 HOST	USB3.0 HOST
J18	TF Card	Push-Push TF socket	TF Card
J19	Work LED	Green led *2	Work status and 3G/4G Module Status Indicator
J20	Power LED	Red and Green LEDs	Power status indicate
J21	RS232*2	PH2.0mm 6pin wafer	Dual channel RS232
J22	RS232*2	PH2.0mm 6pin wafer	Dual channel RS232
J23	USB2.0_1	PH2.0mm 4pin wafer	The first USB2.0 host for external devices
J24	USB2.0_2	PH2.0mm 4pin wafer	The second USB2.0 host for external devices
J25	UART	PH2.0mm 4pin wafer	UART 3.3V
J26	UART	PH2.0mm 4pin wafer	UART 3.3V
J27	CAN BUS*2	PH2.0mm 4pin wafer	Dual channel CAN Bus
J28	RS485	3.81mm pitch 3Pin Connector	MIPI-CSI 4lane or 2*2Lane for external cameras
J29	Update	push-button	Key for system recovery or other function
J30	Reset	push-button	Key for system reset
J31	Power	push-button	Key for system Power ON/Off
J32	SPEAKER	PH2.0mm 4pin wafer	Dual channel audio Output for Speaker
J33	FAN	PH2.0mm 2pin wafer	12V Output for FAN Power
J34	ANT	I-PXE,MHF Φ=2.0	Antenna0 for WiFi
J35	GPIO&Analog	PH2.0mm 2x15pin header	GPIO and analog signal
J36	Power on/off	PH2.0mm 2pin wafer	Socket for External Power Key
J37	Update	PH2.0mm 2pin wafer	Socket for External Update Key
J38	Reset	PH2.0mm 2pin wafer	Socket for External Reset Key
J39	Debug UART	PH2.0mm 4pin wafer	Debug UART for CPU
J40	JUMPER	PH2.0mm 2x2pin header	Voltage Select for LVDS Panel Power
J41	Mini-PCle	Mini-PCle 52pin socket	For 2G/3G/4G LTE module used
J42	RTC Battery	PH2.0mm 2pin wafer	Battery for RTC 3.0V Input
J43	M.2 M-key	Standard M.2 M-key connector	M.2 NGFF (M-KEY) with PCIE V3.0 x2
J44	MIPI-DSI	30pin 0.5mm pitch FPC connector	For MIPI-LCM 4Lane
J45	MIPI-CSI	30pin 0.5mm pitch FPC connector	For MIPI-Camera 4Lane
J46	Micro-SIM	Push-Push Micro SIM Socket	For Micro SIM Card (1.8/3.3V)

6. Pin Definition

RJ45(J1/J2)

Pin number	Pin name	Voltage level	Notice
1	DA+	-	-
2	DA-	-	-
3	DB+	-	-
4	DC+	-	-
5	DC-	-	-
6	DB-	-	-
7	DD+	-	-
8	DD-	-	-

Audio Jack1 (J3)

Pin number	Pin name	Voltage level	Notice
1	GND	-	-
2	EarPhone right out	-	0.5V RMS @32Ohm Load
3	NC	-	
4	Detect	-	Low-Plug Out; High-Plug In
5	EarPhone right out	-	0.5V RMS @32Ohm Load

Audio Jack2 (J4)

Pin number	Pin name	Voltage level	Notice
1	GND	GND	-
2	Mic in	-	Vp-p < 0.8V
3	NC	-	-
4	NC	-	-
5	Mic in	-	Vp-p < 0.8V

USB3.0 OTG (J5)

Pin number	Pin name	Voltage level	Notice
1	VBUS	+5V	5V/1A Output @ Host mode / +5V Input @ Device mode
2	D-	GND	USB 1.1/2.0 DP
3	D+	-	USB 1.1/2.0 DM
4	GND	GND	-
5	RX-	-	USB3.0 SSRX-
6	RX+	-	USB3.0 SSR+
7	GND	-	
8	TX-	-	USB3.0 SSTX-
9	TX+	-	USB3.0 SSTX+

HDMI Tx (J6)

Pin number	Pin name	Voltage level	Notice
1	D2P	-	-
2	D2_GND	GND	-
3	D2N	-	-
4	D1P	-	-
5	D1_GND	GND	-
6	D1N	-	-
7	D0P	-	-
8	D0_GND	GND	-
9	D0N	-	-
10	CLKP	-	-
11	CLK_GND	GND	-
12	CLKN	-	-
13	NC	-	Not Connected
14	NC	-	Not Connected
15	SCL	-	-
16	SDA	-	-
17	GND	GND	-
18	+5V	+5V	-
19	HPD	-	-

USB3.0 HOST (J7)

Pin number	Pin name	Voltage level	Notice
1	VBUS	+5V	5V/1A Output
2	D-	GND	USB 1.1/2.0 DP
3	D+	-	USB 1.1/2.0 DM
4	GND	GND	-
5	RX-	-	USB3.0 SSRX-
6	RX+	-	USB3.0 SSR+
7	GND	-	-
8	TX-	-	USB3.0 SSTX-
9	TX+	-	USB3.0 SSTX+

DC Jack 1 (J8)

Pin number	Pin name	Voltage level	Notice
1	DC-IN	12V	-
2	GND	GND	-
3	GND	GND	-
4	Earth	Earth	Connented to GND through 1M Ohm Resistor parallel with 1nF capacitor

LCM BackLight for LVDS (J9)

Pin number	Pin name	Voltage level	Notice
1	GND	GND	-
2	GND	GND	-
3	BL_ADJ	3.3V	GPIO0_C4_PWM5
4	BL_EN	3.3V	GPIO0_C5_D
5	VCC12V_BL	12V	-
6	VCC12V_BL	12V	-

DC Jack 2 (J10)

Pin number	Pin name	Voltage level	Notice
1	DC-IN	12V	-
2	DC-IN	12V	-
3	GND	GND	-
4	GND	GND	-

LCM_BL for eDP (J11)

Pin number	Pin name	Voltage level	Notice
1	GND	GND	-
2	GND	GND	-
3	BL_ADJ	3.3V	GPIO2_C5_D
4	BL_EN	3.3V	GPIO4_D2_D
5	VCC12V_BL	12V	-
6	VCC12V_BL	12V	-

LVDS LCM (J12)

Pin number	Pin name	Voltage level	Notice
1	VCC_LVDS	3.3V/5V	-
2	VCC_LVDS	optional by	-
3	VCC_LVDS	jumper	-
4	GND	GND	-
5	GND	GND	-
6	GND	GND	-
7	RXO0M	-	-
8	RXO0P	-	-
9	RXO1M	-	-
10	RXO1P	-	-
11	RXO2M	-	-
12	RXO2P	-	-
13	GND	GND	-
14	GND	GND	-
15	RXOCM	-	-

16	RXOCP	-	-
17	RXO3M	-	-
18	RXO3P	-	-
19	RXE0M	-	-
20	RXE0P	-	-
21	RXE1M	-	-
22	RXE1P	-	-
23	RXE2M	-	-
24	RXE2P	-	-
25	GND	GND	-
26	GND	GND	-
27	RXECM	-	-
28	RXECP	-	-
29	RXE3M	-	-
30	RXE3P	-	-

eDP (J13)

Pin number	Pin name	Voltage level	Notice
1	VDD	3.3V or 5V	Default 3.3V
2	VDD	3.3V or 5V	Default 3.3V
3	GND	GND	-
4	GND	GND	-
5	EDP_TX_D0N	-	-
6	EDP_TX_D0P	-	-
7	EDP_TX_D1N	-	-
8	EDP_TX_D1P	-	-
9	EDP_TX_D2N	-	-
10	EDP_TX_D2P	-	-
11	EDP_TX_D3N	-	-
12	EDP_TX_D3P	GND	-
13	GND	-	-
14	GND	-	-
15	EDP_TX_AUXN	-	-
16	EDP_TX_AUXP	-	-
17	GND	GND	-
18	GND	GND	-
19	GND	GND	-
20	EDP_HPDIN	3.3V	GPIO0_C0-D

Touch Panel (J14)

Pin number	Pin name	Voltage level	Notice
1	GND	GND	-
2	I2C_SDA_TP	3.0V	GPIO4_B4-I2C2_SDA

3	I2C_SCL_TP	3.0V	GPIO4_B5-I2C2_SCL
4	TP_RESET	3.3V	GPIO0_B6-u
5	TP_INT	3.3V	GPIO0_B5-u
6	VCC3V0_TOUCH	3.0V	Power for Touch panel

IR Receiver (J15)

Pin number	Pin name	Voltage level	Notice
1	VCC3V3_PMU	+3.3V	3.3V Output for IR Module
2	GND	GND	-
3	IR_IN	3.3V	GPIO0_C2-PWM3

USB3.0 HOST (J16/J17)

Pin number	Pin name	Voltage level	Notice
1	VBUS	+5V	5V/1A Output
2	D-	GND	USB 1.1/2.0 DP
3	D+	-	USB 1.1/2.0 DM
4	GND	GND	-
5	RX-	-	USB3.0 SSRX-
6	RX+	-	USB3.0 SSR+
7	GND	GND	
8	TX-	-	USB3.0 SSTX-
9	TX+	-	USB3.0 SSTX+

TF Card (J18)

Pin number	Pin name	Voltage level	Notice
1	Data2	VCCIO_SD	GPIO1_D7
2	Data3	VCCIO_SD	GPIO2_A0
3	CMD	VCCIO_SD	GPIO2_A1
4	VDD	VCCIO_SD	-
5	CLK	VCCIO_SD	GPIO2_A2
6	GND	-	-
7	Data0	VCCIO_SD	GPIO1_D5
8	Data1	VCCIO_SD	GPIO1_D6
9	Card-Detect	3.3V	GPIO0_A4-u

Work LED (J19)

Pin number	Pin name	Voltage level	Notice
1	LED1+	-	Green LED for 3G/4G Module
2	LED1-	-	-
3	LED2+	-	Green LED for system status
4	LED2-	-	-

Power LED (J20)

Pin number	Pin name	Voltage level	Notice
1	LED1+	-	Red LED for Power OK
2	LED1-	-	
3	LED2+	-	Green LED for system status
4	LED2-	-	

RS232 * 2 (J21/J22)

Pin number	Pin name	Voltage level	Notice
1	RS232_RX1	-	-
2	VCC5V0_EXT	+5V	+5V Output
3	RS232_TX1	-	-
4	RS232_RX3	-	-
5	GND	GND	-
6	RS232_TX3	-	-

USB2.0 HOST (J23/J24)

Pin number	Pin name	Voltage level	Notice
1	+5V	+5V	5V/1A Output
2	D-	-	-
3	D+	-	-
4	GND	GND	-

UART (J25/J26)

Pin number	Pin name	Voltage level	Notice
1	VCC3V3_EXT	+3.3V	3.3V Output
2	UART7_TX	-	GPIO3_C4
3	UART7_RX	-	GPIO3_C5
4	GND	GND	-

CAN BUS *2 (J27)

Pin number	Pin name	Voltage level	Notice
1	CAN0_H	-	-
2	CAN0_L	-	-
3	CAN1_H	-	-
4	CAN1_L	-	-

RS485 (J28)

Pin number	Pin name	Voltage level	Notice
1	RS485-A	-	UART9
2	RS485-B	-	UART9
3	GND	-	-

Update Key(J29)

Pin number	Pin name	Voltage level	Notice
1	SARADC_VIN0	0~1.8V	Key for system recovery or other function

Reset Key (J30)

Pin number	Pin name	Voltage level	Notice
1	RESETn	-	Push to Reset the system

Power ON/OFF (J31)

Pin number	Pin name	Voltage level	Notice
1	PWR_KEY	-	-

SPEAKER (J32)

Pin number	Pin name	Voltage level	Notice
1	SPK_OUT_R+	-	2.7W ClassD audio Output
2	SPK_OUT_R-	-	
3	SPK_OUT_L+	-	2.7W ClassD audio Output
4	SPK_OUT_L-	-	

FAN (J33)

Pin number	Pin name	Voltage level	Notice
1	Fan Power out	+12V	+12V out for fan power
2	GND	GND	-

ANT (J34)**RF Port 1 for WIFI (AP6275SR3)****GPIO&Analog (J35)**

Pin number	Pin name	Voltage level	Notice
1	GND	GND	-
2	GND	GND	-
3	PDM_CLK1_M0_ADC	3.3V	GPIO1_A4-d
4	I2S3_SDI_M0	3.3V	GPIO3_A6-d
5	PDM_SDI3_M0_ADC	3.3V	GPIO1_B0-d
6	I2S3_SDO_M0	3.3V	GPIO3_A5-d
7	PDM_SDI2_M0_ADC	3.3V	GPIO1_B1-d
8	I2S3_SCLK_M0	3.3V	GPIO3_A3-d

9	PDM_SDII_M0_ADC	3.3V	GPIO1_B2-d
10	I2S3_LRCK_M0	3.3V	GPIO3_A4-d
11	I2C3_SDA_M0	3.3V	GPIO1_A0-u
12	I2S3_MCLK_M0	3.3V	GPIO3_A2-d
13	I2C3_SCL_M0	3.3V	GPIO1_A1-u
14	GND	GND	-
15	GND	GND	-
16	Analog-In4	0~15V	SARADC_VIN4
17	SPI_Flash_D0	1.8V	GPIO1_D1-u
18	Analog-In5	0~15V	SARADC_VIN5
19	SPI_Flash_D1	1.8V	GPIO1_D2-u
20	Analog-In6	0~15V	SARADC_VIN6
21	eMMC_RSTn/FSPI_D2/FLASH_WPn	1.8V	GPIO1_C7_d
22	Analog-In7	0~15V	SARADC_VIN7
23	SPI_Flash_D3	1.8V	GPIO1_D4-u
24	GND	GND	-
25	SPI_Flash_CS0n	1.8V	GPIO1_D3-u
26	VCCA_1V8	1.8V	1.8V Output (200mA)
27	FSPI_CLK	1.8V	GPIO1_D0-d
28	VCC3V3_EXT	3.3V	3.3V Output (2A)
29	GND	GND	-
30	VCC5V0_EXT	+5V	5V Output (2A)

Power for External Key (J36)

Pin number	Pin name	Voltage level	Notice
1	PWR_KEY	-	Socket for External Power Key
2	GND	GND	-

Update for External Key (J37)

Pin number	Pin name	Voltage level	Notice
1	SARADC_VIN0	-	Socket for External Update Key
2	GND	GND	-

Reset for External Key (J38)

Pin number	Pin name	Voltage level	Notice
1	RESETn	-	Socket for External Reset Key
2	D-	GND	-

Debug UART (J39)

Pin number	Pin name	Voltage level	Notice
1	VCC3V3_PMU	3.3V	+3.3V Output
2	CPU_DBG_TX	3.3V	GPIO0_D1_u
3	CPU_DBG_RX	3.3V	GPIO0_D0_u
4	GND	GND	-

Jumper for LVDS Power select (J40)

Pin number	Pin name	Voltage level	Notice
1	1,2 shorted	+3.3V	LVDS Panel Power(J12): +3.3V
2	3,4 shorted	+5V	LVDS Panel Power(J12): +5V

Mini-PCle (J41)

Pin number	Pin name	Voltage level	Notice
2,24,39,41,52	VCC3V6_4G	+3.6V	Power Supply for 4G module
4,9,15,18,21,26,27,29,34,35,37,40,43,50	GND	GND	-
8	SIM_VCC	1.8/3.3V	Depending on the Module
10	4G_SIM_SIO	SIM_VCC	-
12	4G_SIM_CLK	SIM_VCC	-
14	4G_SIM_RST	SIM_VCC	-
22	4G_RESET	OC	GPIO2_D0_d Active High
36	4G_USB_DM	-	-
38	4G_USB_DP	-	-
42	4G_LED	Current Sink	-
17	4G_USB_SSRXN	-	-
19	4G_USB_SSRXP	-	-
31	HOST_WAKEUP_4G	OC	GPIO2_D1_d Active High
49	4G_USB_SSTXN	-	-
51	4G_USB_SSTXP	-	-
All the other pins	NC	-	Not Connected

RTC Battery (J42)

Pin number	Pin name	Voltage level	Notice
1	VRTC_IN	3.0V	-
2	GND	GND	-

M.2 M-Key (J43)

Pin number	Pin name	Voltage level	Notice
1,3,9,15,21,27,33,39,45,51,57,63,65,67	GND	GND	-

2,4,12,14,16,18,62,64,66	VCC3V3	+3.3V	-
29	PCIE30_RX1N	-	-
31	PCIE30_RX1P	-	-
35	PCIE30_TX1N	-	-
37	PCIE30_TX1P	-	-
41	PCIE30_RX0N	-	-
43	PCIE30_RX0P	-	-
47	PCIE30_TX0N	-	-
49	PCIE30_TX0P	-	-
53	PCIE30_REFCLKN	-	-
55	PCIE30_REFCLKN	-	-
38	DEVSLP	3.3V	Pulled up by 10K Ohm Resistor to 3.3V
50	PCIE30X2_PERSTn_3V3_L	3.3V	-
52	PCIE30X2_CLKREQn_3V3_L	3.3V	-
54	PCIE30X2_WAKEn_3V3_L	3.3V	-
All the other pins	NC	-	Not Connected

MIPI-DSI for LCD 4-Lane (J44)

Pin number	Pin name	Voltage level	Notice
15,18,21,24,27,30	GND	GND	-
1,2,3	VCC12V_DCIN	+12V	+12V Output
4,5	VCC5V0_EXT	+5.0V	+5V Output
6,7	VCC3V3_EXT	+3.3V	+3.3V Output
8	VCCA1V8_IMAGE	+1.8V	+1.8V Output
9	I2C_SCL_MIPI	1.8V	GPIO4_B3-d
10	I2C_SDA_MIPI	1.8V	GPIO4_B2-d
11	MIPI_BL_PWM	3.3V	GPIO0_C4-d
12	MIPI_BL_EN	3.3V	GPIO0_C5-d
13	MIPI_PWR_EN	1.8V	GPIO3_D1_d
14	MIPI_LCD_RST	1.8V	GPIO3_D0-d
16	MIPI_DSI_TX0_D3N/LVDS_TX0_D3N	-	-
17	MIPI_DSI_TX0_D3P/LVDS_TX0_D3P	-	-
19	MIPI_DSI_TX0_D2N/LVDS_TX0_D2N	-	-
20	MIPI_DSI_TX0_D2P/LVDS_TX0_D2P	-	-
22	MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN	-	-

23	MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP	-	-
25	MIPI_DSI_TX0_D1N/LVDS_TX0_D1N	-	-
26	MIPI_DSI_TX0_D1P/LVDS_TX0_D1P	-	-
28	MIPI_DSI_TX0_D0N/LVDS_TX0_D0N	-	-
29	MIPI_DSI_TX0_D0P/LVDS_TX0_D0P	-	-

MIPI-CSI for Camera (J45)

Pin number	Pin name	Voltage level	Notice
1,4,7,10,13,16,19	GND	GND	-
2	MIPI_CSI_RX_D0P	-	-
3	MIPI_CSI_RX_D0N	-	-
5	MIPI_CSI_RX_D1P	-	-
6	MIPI_CSI_RX_D1N	-	-
8	MIPI_CSI_RX_CLK0N	-	-
9	MIPI_CSI_RX_CLK0P	-	-
11	MIPI_CSI_RX_D2P	-	-
12	MIPI_CSI_RX_D2N	-	-
14	MIPI_CSI_RX_D3P	-	-
15	MIPI_CSI_RX_D3N	-	-
17	MIPI_CSI_RX_CLK1P	-	-
18	MIPI_CSI_RX_CLK1N	-	-
20	CIF_CLKOUT	1.8V	GPIO4_C0-d
21	MIPI_CAM_X2_RST0	1.8V	GPIO3_D4-d
22	MIPI_CAM0_PDN_L	1.8V	GPIO3_D5-d
23	MIPI_CAM_X2_RST1	1.8V	GPIO3_D2-d
24	MIPI_CAM1_PDN_L	1.8V	GPIO3_D3-d
25	I2C_SCL_CAM	1.8V	GPIO4_B5-I2C2_1V8
26	I2C_SDA_CAM	1.8V	GPIO4_B4-I2C2_1V8
27	VCC1V8_DOVDD_DVP0	1.8V	1.8V Output (300mA)
28	VDD1V2_DVDD_DVP0	1.2V	1.2V Output (300mA)
29	VCC2V8_DVP0	2.8V	2.8V Output (300mA)
30	VCC2V8_AVDD_DVP0	2.8V	2.8V Output (300mA)

Note: This MIPI can be used as a 4-Lane or 2*2Lane input.

Micro-SIM Card (J46)

Pin number	Pin name	Voltage level	Notice
1	CD	SIM_VCC	SimCard insert detect - Low:SIM card plugged in; High: SIM card pulled out.
2	NC	-	-
3	NC	-	-
4	SIM-IO	SIM_VCC	-
5	SIM-Clock	SIM_VCC	-
6	NC	-	-

7.Application Scenarios



AI



Machine Vision



Industrial Control



Energy and Power



Smart Tablet



VR



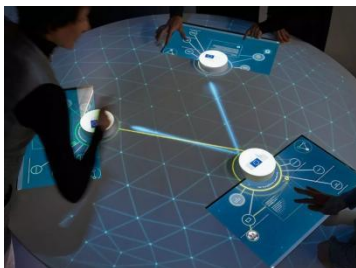
Smart Logistics



New



Smart Commercial



Object Recognition



Vehicle terminal



Security Surveillance

8.Ordering Model

Product Model	Status	CPU	DDR	eMMC	Operating Temperature
LB12021600	ACTIVE	RK3568	2GB	16GB	-10°C - 70°C
LB12043200	ACTIVE	RK3568	4GB	32GB	-10°C - 70°C
LB12083200	ACTIVE	RK3568	8GB	32GB	-10°C - 70°C

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

9.About Nearidi

Shanghai Nearidi Technology Co., Ltd., established in 2014, is a national-level high-tech enterprise, a strategic partner of Rockchip, and an authorized agent for Black Sesame Technologies. We focus on the research and development and production of enterprise-level open-source hardware platforms, offering customers core modules, industry-specific boards, development boards, touch panels, and industrial control hosts. Adhering to the core philosophy of technological innovation and professional service, leveraging Nearidi Technology's technical strengths and industry experience, we assist our partners in achieving rapid mass production of their products.

Company Advantages

Software Design / Custom OS / Product ODM / Bulk Delivery

Products

Rockchip

System On Module



LCB3588/J



LCB3568/J



LCB3566



LCB3399Pro



LCB3399

Development Board



LKD3588/J



LKD3568/J



LKD3566



LKD3399Pro



LKD3399

Embedded Computer



LPB3588



LPM3588



LPC3588



LPB3568



LPB3399Pro

Black Sesame Technologies



SOM-A-A1000



SOM-π-A1000



SOM-B-A1000



SOM-A1000 开发者套件

Vehicle Terminal



LPA3588



LPA3568



LPA3399Pro



LPS3399Pro

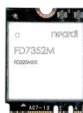
WIFI Module



FD7352S



FD7352P



FD7352M



FD7155U



FD7256S