H-3568 Mainboard Specification

Document Version

Version	V2.0
Date	2023-04-24

Changelog

1.0.0	2022-05-03	Chinese and English merged version.
1.0.1	2022-06-28	Fixed the size width of the motherboard to 90mm.
1.0.2	2022-08-11	Fixed the physical size width of the specification list to 90mm.
1.1.0	2022-08-17	Modified based on V3.0 HW.
1.1.1	2022-08-18	Fixed Storage default 8GB.
2.0.0	2023-01-13	Added physical size diagram and updated interface annotation diagram.
2.0.1	2023-04-24	Added the description of CAN device nodes, updated NPU to 1Tops.

Contents

1   RK3568 Brief

RK3568 chip has the characteristics of high performance and high expansion application. At present, it is the most cost-effective chip in the Rockchip product line, and its hardware specifications are in a leading position in the industry.

- CPU: Quad-core 64-bit Cortex-A55 architecture, built on high-end 22nm technology, up to 2.0GHz.

- GPU: ARM Mali-G52 2EE, support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, embedded high performance 2D acceleration hardware.

- NPU：Support 1Tops work force.

- Multimedia: Support 4K 60fps H.265/H.264/VP9 video decoding; Support 1080P 100fps H.265/H.264 video coding; Supports 8M ISP and HDR.

- Display: Supports multiple screen display; Support EDP/HDMI2.0/MIPI/LVDS/24bit RGB/T-CON

- Interface: Support USB2.0/USB3.0/PCIE3.0/PCIE2.1/SATA3.0/QSGMII

*Related functions are internal features of the CPU. For details about whether the mainboard supports these functions, see the corresponding interface descriptions.

2   Product Overview

Н-3568 mainboard is based on Rockchip RK3568 high-performance application processor platform. RK3568 is a low power, high performance processor for computing, personal mobile internet devices and other smart device applications. It integrates quad-core Cortex-A55 clocked at up to 2.0GHz, with superior computing performance, 2D/3D graphics processing capabilities and Full HD video codec capabilities. It perfectly supports 4Kx2K@60fps decoding and 4Kx2K HDMI output.

This mainboard is specially designed for **ultra-thin** applications with strict material selection and design. The compact size and rich interface facilitate its integration into the complete machine, bringing a smooth experience and superior performance to the final product. It can be applied to digital signage, touch interactive, consumer electronics, entertainment systems and other industries.

H-3568 V3.0 mainboard actual interface diagram as shown below.
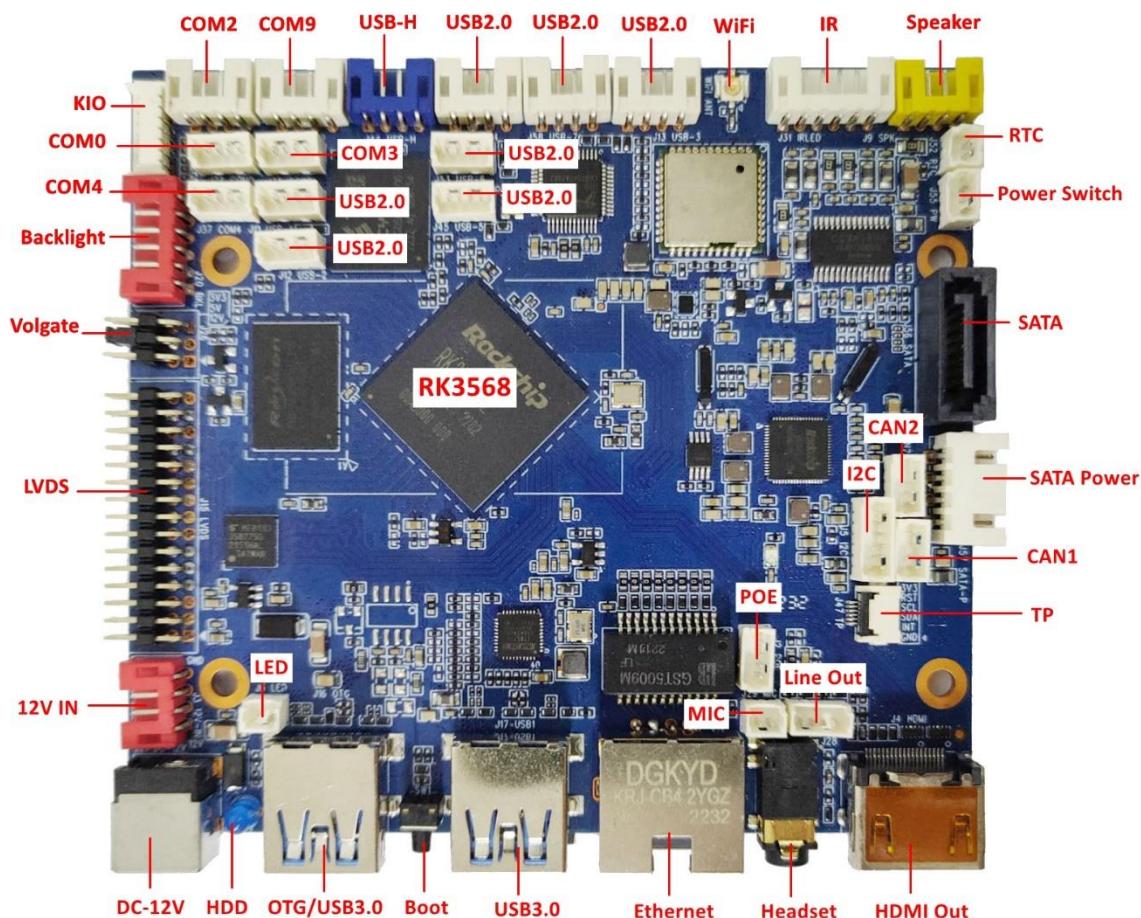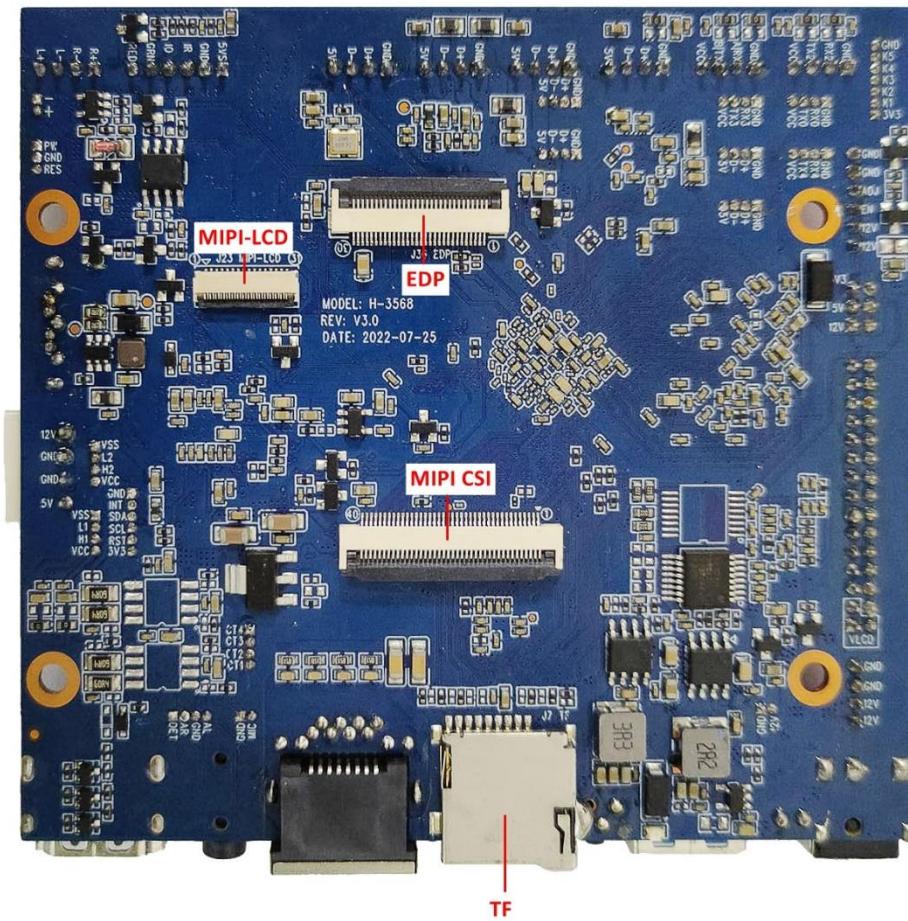
3   Specification List

H-3568's system functions and interface features are shown in the following table.

Function & Interface	Detailed Description
CPU	RK3568 Cortex-A55 quad-core, up to 2.0GHz
DDR	LPDDR4 2GB (4GB│8GB optional)
Storage	The default comes with an 8GB EMMC NAND chip that can scale up to 128GB
LVDS	30-pin industry-standard dual LVDS supporting VESA/JEITA format up to 1080P output
HDMI Output	HDMI 2.0a standard display interface supports up to 4K output
MIPI-DSI Output	31-Pin common MIPI DSI interface for extended MIPI panel sub-board
EDP	30-pin common FPC EDP supporting 1~2 lanes format up to 1080P output
MIPI-CSI	40-Pin FPC Dual MIPI-CSI camera port
HP/MIC	Support CTIA 4-pole HP/MIC socket (Left-Right-GND-Mic)
Line Output	Support standard left and right channel line output (pin header)
Amplifier output	8 Ohm 6W Dual Audio Amplifier Output
MIC Input	Single-End MIC input (pin header)
USB Interface	2 horizontal USB 3.0 connectors (Single Socket，one is for OTG), 8 pin headers (one is CPU raw USB)
Serial Port	4 TTL/RS-232 compatible, 1 TTL/RS-485 compatible
Micro SD Card	Self-elastic micro SD card socket, up to 256GB capacity
USB Camera	Support USB camera within 8 million pixels
WiFi	Built-in high performance SDIO interface WiFi module, support IEEE 802.11 b/g/n/ac. The default single frequency is 2.4GHz.
Bluetooth	Built-in high performance serial interface BT module with support for V2.1+EDR/BT v3.0/BT v3.0+HS/BT v4.0/BT v5.2
Ethernet	10/100/1000M Adaptive Ethernet RJ45 connector
Backlight Control	Industry standard LCD backlight control header, support for backlight switch and brightness adjustment
Infrared RC	Standard infrared receiver pin header
GPIO Signals	5-way GPIO signals for such as GPIO buttons and/or 3.3V digital input/output
I2C Bus	I2C pin header and FPC for I2C capacitive screen and etc
CAN Bus	2 CAN pin header for CAN Bus peripherals
SATA HD	Standard SATA 3.0 hard disk port with power supply header
Real Time Clock	Ultra-low-power RTC circuit (CR1220 battery) with timer and alarm functionalities
LED Indicator	Blue LED indicator for running
Buttons	Recovery mode button and power switch button
DC Input	Supports 9~15V wide voltage DC power input
Ambient Requirement	Working temperature -20°C ~ 70°C, working humidity 0%~95% (non-condensing)
Physical Size	Length*Width*Height (100mm*90mm*9mm), **PCB top side height 7mm**

Function & Interface	Detailed Description
Operating System	Recommended Android 11 , Linux Buildroot/Debian 10/Ubuntu-18.04 and OpenHarmony 3.2 optional

4   Interface definition

➢ J2 POE PD Header

[J2] POE PD Header (SIP 1.25mm-Square pad is pin 1)

Pin#	Definition	Note
1	CT4	Transformer Center4
2	CT3	Transformer Center3
3	CT2	Transformer Center2
4	CT1	Transformer Center1

Note: The power supply for the POE receiver port comes from the J14 Ethernet port. This port is connected to the external POE receiver board for 12V power supply conversion. The current of the 12V power supply depends on the power supply capability of the POE switch and the conversion capability of the conversion board. This port supports a POE power supply device with 1/2 positive and 3/6 negative cables, or a POE power supply device with 4/5 positive and 7/8 negative cables.

➢ J3 DC-12V Input Header

[J3] DC-12V Input Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	12V	DC Power Input (9~15V)
2	12V	DC Power Input (9~15V)
3	GND	Power Ground
4	GND	Power Ground

➢ J4 HDMI Jack

[J4] HDMI 2.0 Jack (Standard Jack).

➢ J5 I2C Bus Header

[J5] I2C Bus Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	INT	Interrupt input (3.3V level)
3	SDA	I2C Bus data signal

4	SCL	I2C Bus clock signal
5	RST	Mainboard reset output (3.3V level)
6	3V3	Power output supply 3.3V

➢ J6 LED Power Switch

[J6] LED Power Switch (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Power Ground
2	12V	12V Switch Power Output (IO #133)

➢ J7 TF Card Socket

[J7] Standard TF Card Socket.

➢ J9 Speaker Header

[J9] Speaker Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	R+	Speaker right channel +
2	R-	Speaker right channel -
3	L-	Speaker left channel -
4	L+	Speaker left channel +

➢ J11 USB 2.0 Host Header

[J11] USB 2.0 Host Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This USB port is connected to the 1x7 Hub group of USB2_Host2.

➢ J12 USB 2.0 Host Header

[J12] USB 2.0 Host Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This USB port is connected to the 1x7 Hub group of USB2_Host2.

➢ J13 USB 2.0 Host Header

[J13] USB 2.0 Host Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This USB port is connected to the 1x7 Hub group of USB2_Host2.

➢ J14 Ethernet RJ45 Jack

[J14] G-bit Ethernet RJ45 Jack (Standard jack).

➢ J15 LVDS Header

[J15] Dual LVDS header [DIP 2.0mm-Square pad is pin 1].

Pin#	Definition	Pin#	Definition
1	VLCD	2	VLCD
3	VLCD	4	GND
5	GND	6	GND
7	RXO0-	8	RXO0+
9	RXO1-	10	RXO1+
11	RXO2-	12	RXO2+
13	GND	14	GND
15	RXOC-	16	RXOC+
17	RXO3-	18	RXO3+
19	RXE0-	20	RXE0+
21	RXE1-	22	RXE1+
23	RXE2-	24	RXE2+
25	GND	26	GND
27	RXEC-	28	RXEC+

| 29 | RXE3- | 30 | RXE3+ |

➤ J16 USB 3.0 OTG Type A

[J16] USB 3.0 OTG Horizontal Type A Jack (Standard jack).

Note: This interface is connected to the internal USB3_OTG0 signal, the default firmware burning port at the moment of power-on, can be connected to the PC for software burning; After entering Android, you can set it to USB ADB debugging port or common USB Host port through the software.

➤ J17 USB 3.0 Host Type A

[J17] USB 3.0 Host Horizontal Type A Jack (Standard jack).

Note: This interface is connected to the internal USB3_Host1 USB signal and is a high-speed passthrough USB 3.0 Host interface.

➤ J20 Backlight Control Header

[J20] Backlight Control Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	12V	If the current exceeds 2A, external 12V is recommended
2	12V	If the current exceeds 2A, external 12V is recommended
3	EN	The default output is 5V
4	ADJ	3.3V square wave (1KHz Freq.)
5	GND	Power Ground
6	GND	Power Ground

➤ J21 DC-12V Socket

[J21] DC-12V power socket, positive outer and negative inner, inner pin diameter 2.0mm, outer ring diameter 5.5mm.

➤ J23 MIPI Output Header

[J23] MIPI Panel FPC Connector (FPC-0.3mm 31-Pin **Top/Bottom** Contact).

Pin#	Definition	Note
1	LED+	LED Anode

2	LED+	LED Anode
3	LED+	LED Anode
4	NC	Not Connected
5	LED-	LED Cathode
6	LED-	LED Cathode
7	LED-	LED Cathode
8	LED-	LED Cathode
9	GND	Digital Ground
10	GND	Digital Ground
11	MIPI_D2P	+MIPI differential lane2
12	MIPI_D2N	-MIPI differential lane2
13	GND	Digital Ground
14	MIPI_D1P	+MIPI differential lane1
15	MIPI_D1N	-MIPI differential lane1
16	GND	Digital Ground
17	MIPI_CKP	+MIPI differential clock output
18	MIPI_CKN	-MIPI differential clock output
19	GND	Digital Ground
20	MIPI_D0P	+MIPI differential lane0
21	MIPI_D0N	-MIPI differential lane0
22	GND	Digital Ground
23	MIPI_D3P	+MIPI differential lane3
24	MIPI_D3N	-MIPI differential lane3
25	GND	Digital Ground
26	VDD-1V8	Power Supply 1.8V (Default is not connected, need to weld R9232 0R)
27	RESET	Reset Signal in 1.8V
28	GND	Digital Ground
29	VDD-1V8	Power Supply 1.8V
30	VDD-3V3	Power Supply 3.3V
31	VDD-3V3	Power Supply 3.3V

➢ J24 Data Serial Port 0

[J24] Built-in Serial Port 0 (SIP 1.25mm-Square pad is pin 1). The output level is TTL 3.3V by default and it could be setup to RS-232 if required (RS-232 if U62 mounted). **The related software device node name is ttyS0**.

Pin#	Definition	Note
1	GND	Digital Ground
2	RX	Data receive (TTL or RS-232 level)
3	TX	Data transmit (TTL or RS-232 level)
4	VCC	Power output (Default 3.3V, 5V option)

➤ J26 LVDS Voltage Header

[J26] LVDS Voltage Header (DIP 2.0mm-Square pad is pin 1). If pin 1 and 2 are jumper shorted, the VLCD of J15 is 12V. If pin 3 and 4 are jumper shorted, the VLCD of J15 is 5V. If pin 5 and 6 are jumper shorted, the VLCD of J15 is 3.3V. Please adjust the jumper position according to the actual logic voltage of the LCD screen. Be careful not to jumper to the wrong position or it may damage the LCD screen and the motherboard circuit.

➤ J28 4-Pole HP/Mic Jack

[J28] 4-Pole 3.5mm Headphone & Microphone Jack (CTIA Standard jack). It is the same signals with J20/J30. It supports insert detection for speaker mute.
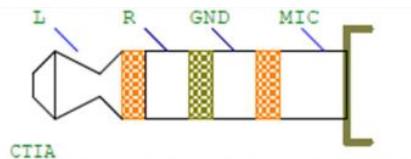
➤ J29 Mic Input Header

[J29] Audio input header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Audio Ground
2	MIC	Mono microphone input

➤ J30 Audio Line Output

[J30] Audio Line Output (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	DET	HP detection IO (3.3V Level IO #121)
2	AR	Stereo output right channel
3	GND	Audio Ground
4	AL	Stereo output left channel

➤ J31 Remote Control & LED Header

[J31] Remote Control & LED Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	5VS	Power output supply 5V standby
2	GND	Digital Ground
3	IR	5V level Irda remote control input signal
4	IO	3.3V level GPIO input signal
5	GRN	Running indicator for external green LED
6	RED	Standby indicator for external red LED

➢ J34 Data Serial Port 2

[J34] Built-in Serial Port 2 (SIP 2.0mm-Square pad is pin 1). The output level is TTL 3.3V by default and it could be setup to RS-232 if required (RS-232 if U62 mounted). **The related software device node name is ttyS2**.

Pin#	Definition	Note
1	GND	Digital Ground
2	RX	Data receive (TTL or RS-232 level)
3	TX	Data transmit (TTL or RS-232 level)
4	VCC	Power output (Default 3.3V, 5V option)

Note: If you need to use the built-in serial port 2 as a data serial port, please contact the supplier to obtain the customized software; this serial port will output the startup information in the first 5 seconds of power on (the upper or lower machine should handle this kind of data fault tolerance).

➢ J35 Data Serial Port 3

[J35] Built-in Serial Port 3 (SIP 1.25mm-Square pad is pin 1). The output level is RS-232 by default and it could be setup to TTL 3.3V if required (RS-232 if U9824 mounted). **The related software device node name is ttyS3**.

Pin#	Definition	Note
1	GND	Digital Ground
2	RX	Data receive (TTL or RS-232 level)
3	TX	Data transmit (TTL or RS-232 level)
4	VCC	Power output (Default 3.3V, 5V option)

➢ J36 eDP Output FPC Header

[J36] eDP Panel FPC Connector (FPC-0.5mm 30-Pin Bottom Contact).

Pin#	Definition	Note
1	NC	Not Connected

2	GND	Digital Ground
3	EDP_TX1N	TX1- differential output
4	EDP_TX1P	TX1+ differential output
5	GND	Digital Ground
6	EDP_TX0N	TX0- differential output
7	EDP_TX0P	TX0+ differential output
8	GND	Digital Ground
9	EDP_AUXP	AUX+ differential channel
10	EDP_AUXN	AUX- differential channel
11	GND	Digital Ground
12	LCD_VCC	Logic Power (3.3V or 5V)
13	LCD_VCC	Logic Power (3.3V or 5V)
14	NC	Not Connected
15	GND	Digital Ground
16	GND	Digital Ground
17	NC	Not Connected
18	BL_GND	Backlight LED Ground
19	BL_GND	Backlight LED Ground
20	BL_GND	Backlight LED Ground
21	BL_GND	Backlight LED Ground
22	BL_EN	Backlight Enable
23	BL_PWM	PWM Backlight Brightness PWM
24	NC	Not Connected
25	NC	Not Connected
26	BL_POWER	Backlight Power (12V)
27	BL_POWER	Backlight Power (12V)
28	BL_POWER	Backlight Power (12V)
29	BL_POWER	Backlight Power (12V)
30	NC	Not Connected

➢ J37 Data Serial Port 4

[J37] Built-in Serial Port 4 (SIP 1.25mm-Square pad is pin 1). The output level is RS-232 by default and it could be setup to TTL 3.3V if required (RS-232 if U9824 mounted). **The related software device node name is ttyS4**.

Pin#	Definition	Note
1	GND	Digital Ground
2	RX	Data receive (TTL or RS-232 level)
3	TX	Data transmit (TTL or RS-232 level)
4	VCC	Power output (Default 3.3V, 5V option)

➢ J39 Data Serial Port 9

[J39] Built-in Serial Port 9 (SIP 2.0mm-Square pad is pin 1). The output level is TTL 3.3V by default and it could be setup to RS-485 if required (RS-485 if U9823 mounted). **The related software device node name is ttyS9**.

Pin#	Definition	Note
1	GND	Digital Ground
2	RX|A	Data receive (TTL or RS-485 level)
3	TX|B	Data transmit (TTL or RS-485 level)
4	VCC	Power output (Default 3.3V, 5V option)

➢ J41 CAN Header 1

[J41] CAN Header 1 (SIP 1.25mm-Square pad is pin 1)

Pin#	Definition	Note
1	VSS	Digital Ground
2	L1	L Data
3	H1	L Data
4	VCC	Power output (Default 3.3V, 5V option)

Note: To use this interface, solder the U9500 chip. If two CAN channels are required, solder the chip of this channel. The software corresponds to port can1.

➢ J42 CAN Header 2

[J42] CAN Header 2 (SIP 1.25mm-Square pad is pin 1)

Pin#	Definition	Note
1	VSS	Digital Ground
2	L2	L Data
3	H2	L Data
4	VCC	Power output (Default 3.3V, 5V option)

Note: To use this interface, solder the U9827 chip. If only one CAN is required, weld the chip of this chip. The software corresponds to port can0.

➢ J43 USB 2.0 Host Header

[J43] USB 2.0 Host Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This USB port is connected to the 1x7 Hub group of USB2_Host2.

➢ J44 USB 2.0 Host Header

[J44] USB 2.0 Host Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This port is a direct USB2_Host3 port inside the CPU. High-speed devices such as USB 2.0 cameras are recommended to use this independent port.

➢ J45 USB 2.0 Host Header

[J45] USB 2.0 Host Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This USB port is connected to the 1x7 Hub group of USB2_Host2.

➢ J47 TP FPC Header

[J47] TP FPC Header (FPC-0.5mm **Top/Bottom** Contact Triangle Pin-1).

Pin#	Definition	Note
1	GND	Digital Ground
2	INT	Interrupt input (3.3V level)
3	SDA	I2C Bus data signal

4	SCL	I2C Bus clock signal
5	RST	Mainboard reset output (3.3V level)
6	3V3	Power output supply 3.3V

➢ J52 RTC Battery Header

[J52] RTC Battery Header (SIP-1.25mm Square pad is pin 1).

Pin#	Definition	Note
1	BAT-	3V Coin Battery Negative
2	BAT+	3V Coin Battery Positive

➢ J53 USB 2.0 Host Header

[J53] USB 2.0 Host Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

Note: This USB port is connected to the 1x7 Hub group of USB2_Host2.

➢ J54 Keypad Header

[J54] KIO Keypad Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	3V3	Power output supply 3.3V
2	K1	K1 (Regular GPIO #88)
3	K2	K2 (Regular GPIO #89)
4	K3	K3 (Regular GPIO #90)
5	K4	K4 (Regular GPIO #91)
6	K5	K5 (Regular GPIO #107)
7	GND	Digital Ground

Note: All KIO signals can be adjusted to keypad via a separated software version, such as K1 Volume+/K2 Volume-/K3 Standby/K4 Exit/K5 Home.

➢ J55 Power Switch & Reset Header

[J55] Power switch & reset Header (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	PW	Power on/off and screen on/off signal
2	GND	Digital Ground
3	RES	Hardware reset signal

➤ J56 SATA Hard Disk Socket

[J56] SATA Hard Disk Standard 7-Pin Data Cable Socket.

➤ J57 SATA Power Supply Header

[J57] SATA Power Supply Header (SIP 2.54mm-Square pad is pin 1)

Pin#	Definition	Note
1	12V	Power output 12V
2	GND	Power Ground
3	GND	Power Ground
4	5V	Power output 5V

Note: The maximum output current of 12V and 5V is not more than 1A. If the power supply is insufficient for a 3.5-inch hard disk, it is recommended to connect to an external power supply.

➤ J58 USB 2.0 Host Header

[J58] USB 2.0 Host Header (SIP 2.0mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	Power output 5V

注意：该 USB 接口连接到 USB2_Host2 的 1x7 Hub 组。

➤ J59 Dual MIPI Camera FPC Connector

[J59] Dual MIPI Camera FPC Connector (FPC-0.5mm 40-Pin **Top/Bottom** Contact).

J59 MIPI CSI
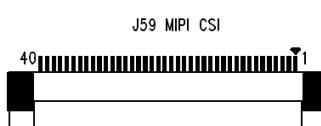
Pin#	Definition	Note

| 1	IR_AVDD_2V8	2.8V IR Camera Power Supply
2	RGB_AVDD_3V3	3.3V RGB Camera Power Supply
3	IR_PWDN	IR Camera Power Down
4	IR_RST	IR Camera Reset
5	I2C_SCL	I2C Clock
6	I2C_SDA	I2C Data
7	GND	Digital Ground
8	IR_MCLK	IR Camera Main Clock
9	GND	Digital Ground
10	IR_MCP	IR Camera MIPI Clock Positive
11	IR_MCN	IR Camera MIPI Clock Negative
12	GND	Digital Ground
13	IR_MDP0	IR Camera MIPI Data0 Positive
14	IR_MDN0	IR Camera MIPI Data0 Negative
15	GND	Digital Ground
16	IR_MDP1	IR Camera MIPI Data1 Positive
17	IR_MDN1	IR Camera MIPI Data1 Negative
18	GND	Digital Ground
19	DOVDD_1V8	1.8V Power Supply
20	NC	Not Connected
21	NC	Not Connected
22	IR_DVDD_1V2	1.2V Power Supply
23	RGB_DVDD_1V2	1.2V Power Supply
24	RGB_PWDN	RGB Camera Power Down
25	RGB_RST	RGB Camera Reset
26	GND	Digital Ground
27	RGB_MCLK	RGB Camera Main Clock
28	GND	Digital Ground
29	RGB_MCP	RGB Camera MIPI Clock Positive
30	RGB_MCN	RGB Camera MIPI Clock Negative
31	GND	Digital Ground
32	RGB_MDP0	RGB Camera MIPI Data0 Positive
33	RGB_MDN0	RGB Camera MIPI Data0 Negative
34	GND	Digital Ground
35	RGB_MDP1	RGB Camera MIPI Data1 Positive
36	RGB_MDN1	RGB Camera MIPI Data1 Negative
37	GND	Digital Ground
38	VCC_5V	5V Power Supply
39	VCC_5V	5V Power Supply
40	VCC_5V	5V Power Supply

➢ ANT WiFi Antenna IPEX

[ANT] Standard IPEX antenna connector (Φ2.0mm).

➢ SW1 Recovery Mode Button

[SW1] On-board recovery mode button. First press and then hold for about 3-second while power on will enter the recovery mode.

5   Physical Size

The PCB size is 100mm*90mm, PCBA height is 7mm, fixed hole diameter is 3.4mm. The corresponding physical size parameters are shown in the figure below. For detailed size information, please consult the manufacturer for DXF file.
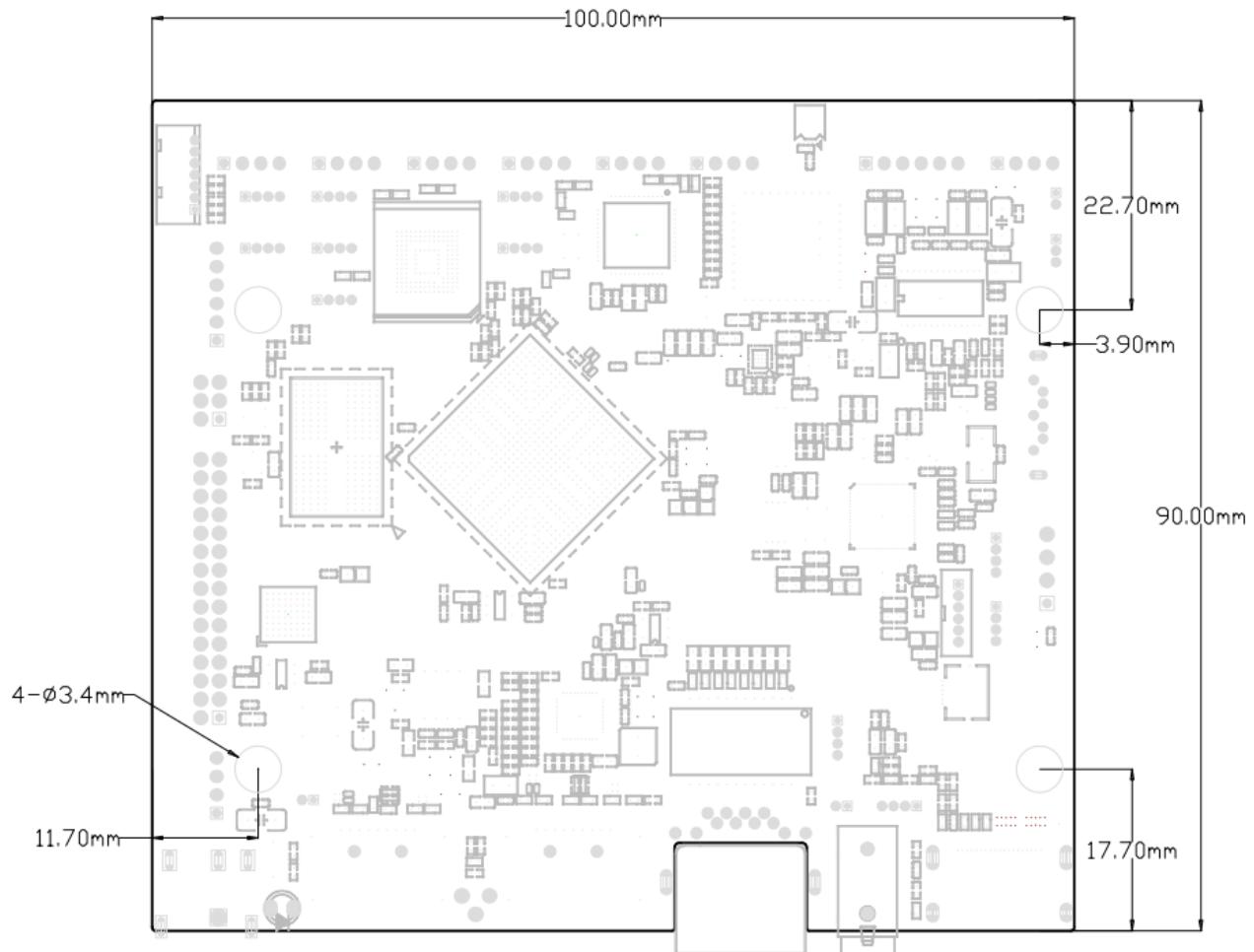
6   Assemble Precautions

Please note the following key points when using the H-3568 mainboard:

1.   Relative humidity of this product: 10% to 90%, no condensation.

2.   The working temperature of this product: -20°C ~ 70°C.

3.   This storage temperature of this product: -40°C ~ 70°C.

4.   Anti-static treatment is required during assembly and transportation of this product.

5.   The board interface connection cable must not be too long. Otherwise, the signal quality may be affected.

6.   Never allow the board to be distorted or heavily stressed during assembly.

7.   Do not short circuit between mainboard and other peripherals.

8.   When connecting to external LVDS or EDP LCD screen, pay attention to whether the screen voltage and current meet the requirements, and pay attention to the screen connector pin-1 direction.

9.   When connecting to external LVDS or EDP LCD screen, pay attention to whether the backlight voltage and current meet the requirements.

10. When connecting to peripherals using USB, GPIO, Serial, I2C, SPI, HDMI, etc., pay attention to whether the IO voltage level and current of the peripheral meet the requirements. When using the power pin on these connectors to supply power to the external circuit, the regular power pin must not exceed 100mA, and the USB power pin must not exceed 500mA.

11. Please connect the power to the power input socket or connector, and evaluate whether the current of the whole board meets the requirements according to the total peripherals. It is strictly forbidden to directly supply power from the backlight connector.

12. The communication module should be mounted at least 5mm away from the metal housing to avoid signal interference.

7   Software Guide

H-3568 motherboard supports LVDS/eDP/MIPI/HDMI dual display combination of any two outputs! For related output combinations, consult the manufacturer to provide corresponding abnormal patches.

The software port numbers of the serial ports and expansion serial ports on the H-3568 mainboard are as follows:

Port	Software Device Node
J24	/dev/ttyS0
J34	/dev/ttyS2
J35	/dev/ttyS3
J37	/dev/ttyS4
J39	/dev/ttyS9