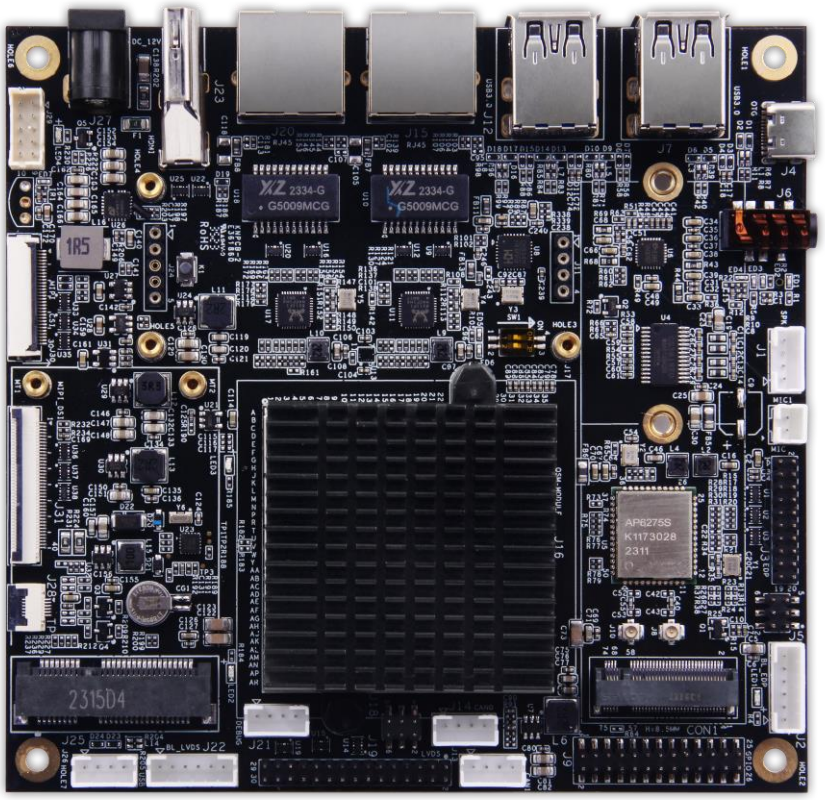
深 圳 金 亚 太 科 技 有 限 公 司

Shenzhen Geniatech Co.,Ltd.

SPECIFICATION

MODEL: DB3568V3



Confirmation

REVISION HISTORY					
VERSION	**DATE**	**BOARD ID**	**PAGE**	**DESCRIPTION**	**AUTHOR**
V1.0	2023/11/3		10	Initial Spec	

APPROVED BY GENIATECH		
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Website: www.geniatech.com
Address: Room 02-04, 10 / F, Block A, Building 8, Shenzhen International Innovation Valley, Dashi Road, Nanshan District, Shenzhen, Guangdong， China.

CONTENT

1. GENERAL DESCRIPTION

DB3568V3 is a new design board model based on RK3568J developed by Rockchip. RK3568J is a high-performance and low power quad-core application processor designed for industrial mobile internet device and AIoT equipment, with powerful hard decoding capability and rich interfaces, can quickly realize project research and production only by expanding the functional baseplate, which can be applied to AIOT Internet of Things equipment, industrial control equipment, Vending machine, commercial display equipment and other outdoor application in high or low temperature environment. Below is the detailed specification：

(I) Designed by the OSM V1.1 standard, the core board size is only 45mm x 45mm (Size-L), which can save more precious space, and the carrier board size is 125mm x 120mm.

(II) Rockchip RK3568J with Quad-core Cortex-A55 and Mali-G52-2EE GPU

(III) Support up to 8GB RAM, up to 128GB eMMc flash

(IV) Supports MIPI-DSI/eDP interface, and multi-format 4K 60fps video decoding (H.265, H.264, VC-1, MPEG-1/2/4, VP8), 1080P (H.264, VP8 format) video encoding.

(V) With rich interfaces such as I2C, UART, SPI, SDIO3.0, USB, and others

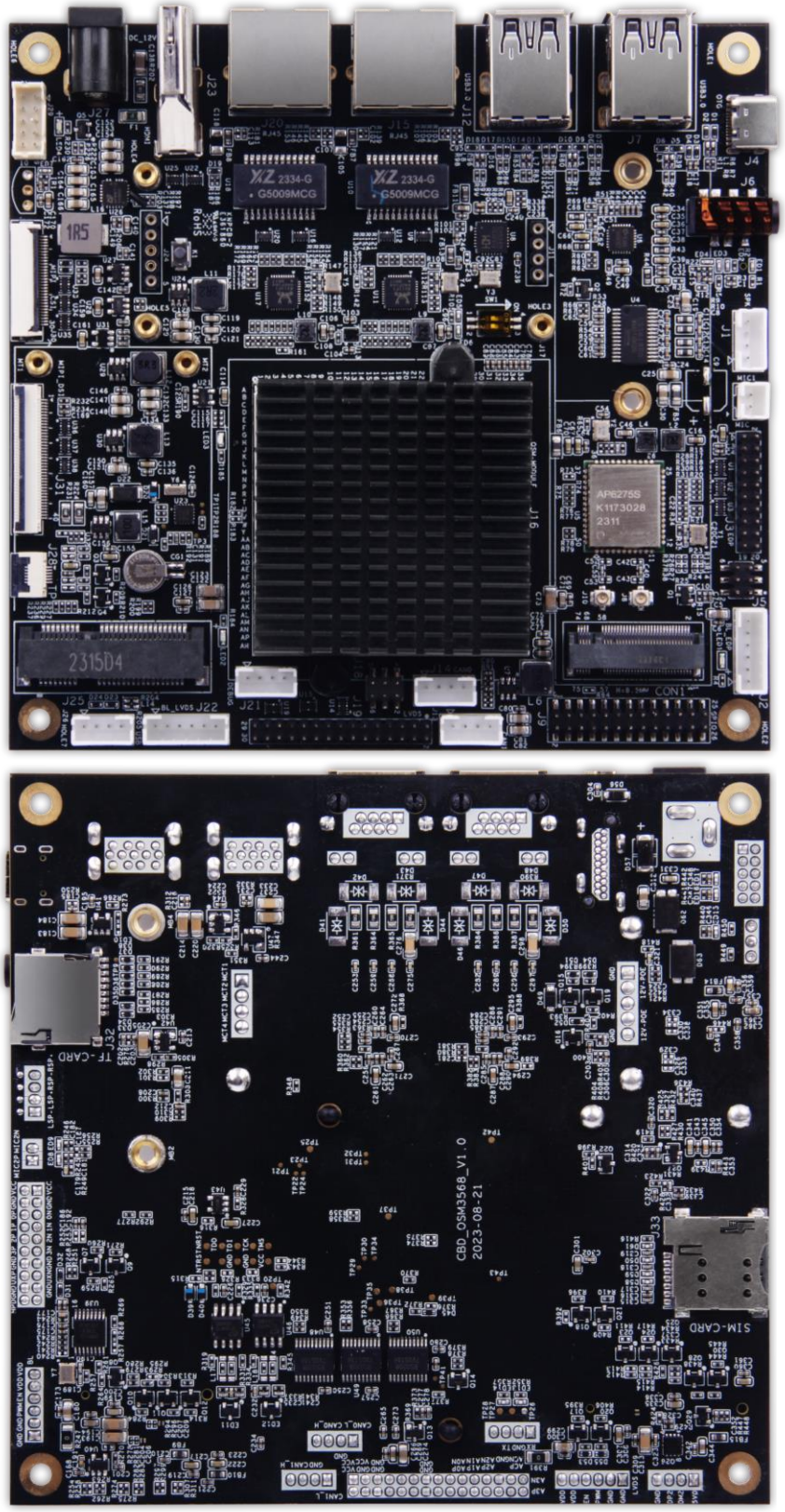
(VI) Supports Android, Linux multiple operating system, the performance is stable and reliable

(VII) Stable operation at extended commercial (-40 °C ~ 85°C) working temperature for 7X24 hours

(VII) delivery period for long product life cycle

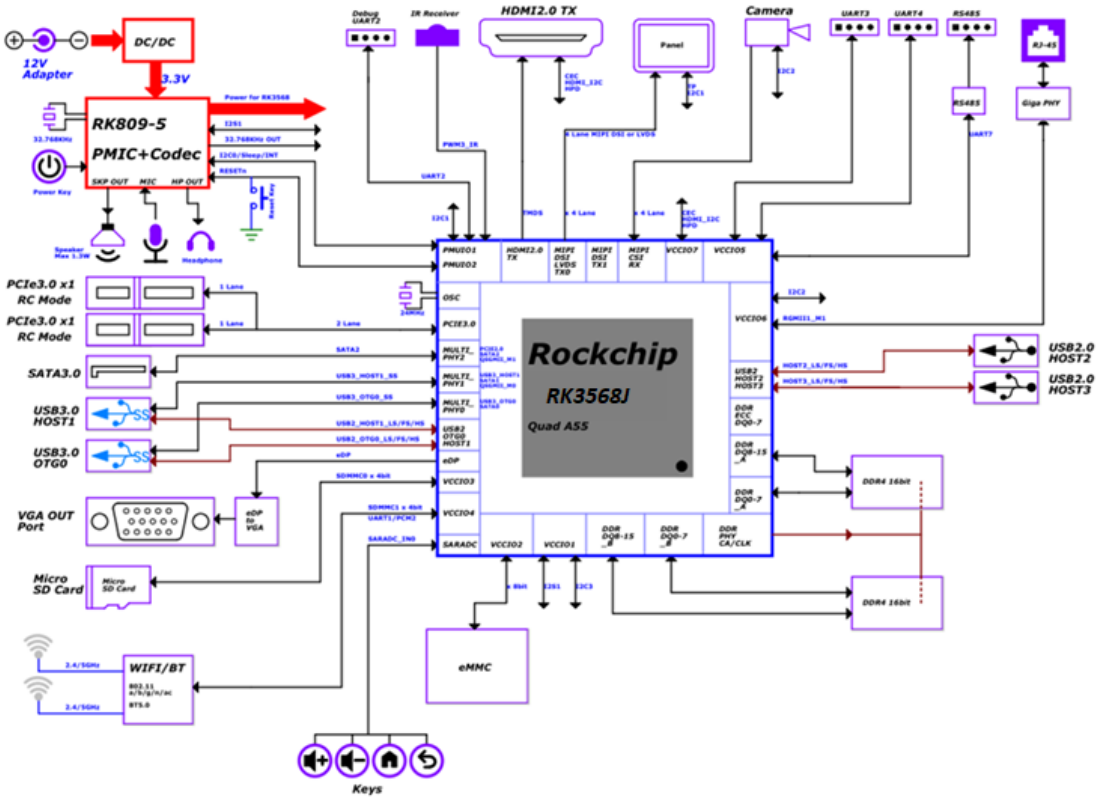
2. PRODUCT PICTURES

Below pictures are for reference only:



3. BOARD VIEW

3.1 DIMENSION



3.2 BLOCK DIAGROM

4. FEATURES

Chipset	Rockchip RK3568J	
Market area	Global	
OSD Language	English/Chinese(multi language OSD)	
Processor	CPU	Quad-core Cortex-A55， frequency up to 2.0GHz

	GPU	Mali-G52-2EE GPU
	NPU	1Tops@INT8, integrated AI accelerator RKNN NPU
	VPU	Supports 4K 60fps H.265/H.264/VP9 video decoding Supports 1080P 60fps H.265/H.264 video encoding
	RAM	2GB (4GB/8GB Optional)
	ROM	16GB（8G/32G/64G/128G Optional）
Network	Ethernet	2 x RJ45, 1000M
	WiFi	Dual Band Wifi 6
Display	Support HDMI/eDP/MIPI-DSI interface	
USB	1 x USB 3.0 Host , 1 x USB 3.0 Host1, 2 x USB2.0 Host, 1 x Type-C	
Audio	1 x Earphone, Speaker, Mic In	
Interface	I2C, UART, USB2.0, 2 x CAN, GPIO	
Dimensions	125 mm *120 mm	
Adapter	DC input voltage 12V	

5. SUPPORT FORMATS

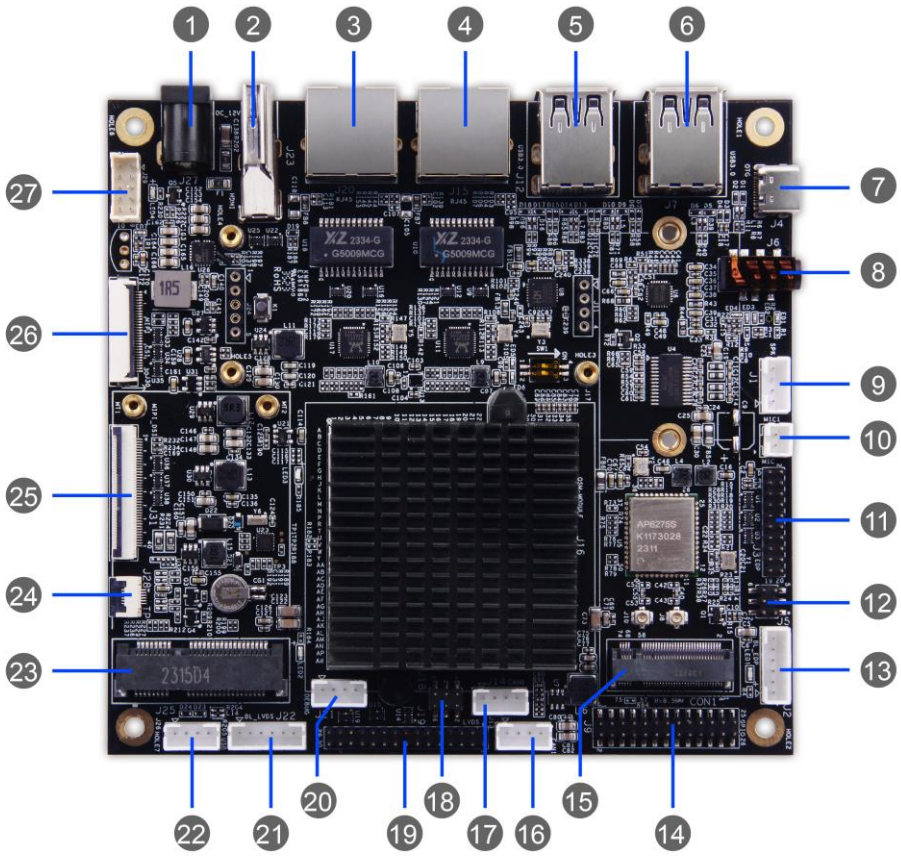
Video Decoder

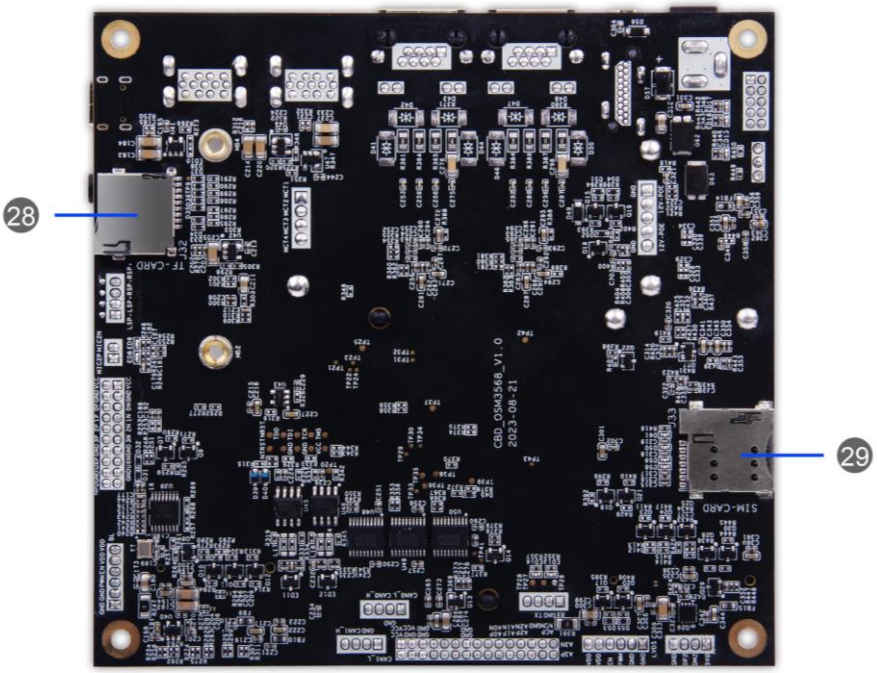
- H.265 HEVC/MVC Main10 Profile yuv420@L5.1 up to 4096x2304@60fps
- H.264 AVC/MVC Main10 Profile yuv400/yuv420/yuv422/@L5.1 up to 4096x2304@60fps
- VP9 Profile0/2 yuv420@L5.1 up to 4096x2304@60fps
- VP8 verision2,up to 1920x1088@60fps
- VC1 Simple Profile@low, medium, high levels, Main Profile@low, medium, high levels, Advanced Profile@level0~3,up to 1920x1088@60fps
- MPEG-4 Simple Profile@L0~6,Advanced Simple Profile@L0~5,up to 1920x1088@60fps
- MPEG-2 Main Profile, low, medium and high levels, up to 1920x1088@60fps
- MPEG-1 Main Profile, low, medium and high levels, up to 1920x1088@60fps
- H.263 Profile0,levels 10-70,up to 720x576@60fps

Video Encoder

- H.264/AVC BP/MP/HP@level4.2，up to 1920x1080@60fps
- H.265/HEVC MP@level4.1, up to 1920x1080@60fps
- Support YUV/RGB video source with rotation and mirror

6. PRODUCT INTERFACE DEFINITION





No.	Name	Description
1	DC IN	12V/2A DC Power input
2	HDMI OUT	*1, up to 4KP60
3	RJ45_1	1000M Ethernet Port
4	RJ45_2	1000M Ethernet Port
5	USB	Up：USB2.0，Down：USB3.0
6	USB	Up：USB2.0，Down：USB3.0
7	Type-C	For ADB debug
8	3.5mm Audio Slot	1* HeadPhone
9	Speaker	4 Pin 2.0mm PH2.0
10	Mic_In	2 Pin 2.0mm PH2.0
11	eDP Slot	20 Pin Slot
12	Jumper1	For eDP Panel Power Input（3.3V/5V/12V）
13	eDP Backlight	*1
14	Expand Slot	12 * GPIO
15	M.2	*1(Key-M)
16	CAN1	4 Pin 2.0mm PH2.0
17	CAN0	4 Pin 2.0mm PH2.0
18	Jumper2	For LVDS Panel Power Input（3.3V/5V/12V）
19	LVDS Slot	30 Pin Slot
20	Debug	Uart for Debug
21	LVDS Backlight	*1
22	USB	4 Pin 2.0mm PH2.0
23	MINI-PCIE	*1

24	FPC Slot	6Pin 0.5mm for Touch Panel
25	FPC Slot	40 Pin 0.5mm for MIPI DSI
26	FPC Slot	40 Pin 0.5mm for MIPI CSI
27	Expand Connector	For Keypad/LED
28	TF-CARD	1 * TF-CARD
29	SIM-CARD	1*SIM-CARD

7. PRECAUTIONS FOR USE

1. Relative humidity: 10% ~ 90% .
2. Storage temperature: -40 ~ 90℃
3. Do not squeeze、distort or disassemble the board.
4. Keep the board away from static electricity .
5. Keep the board away from water and other liquid.
6. Clean the board with soft and clean dry cloth when it’s dirty.
7. Don’t use long connect wires which may affect performance and image quality.