

深圳金亚太科技有限公司

Shenzhen Geniatech Co.,Ltd.

SPECIFICATION**MODEL:DB-3576/DB-3576J**

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Revision History

VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2024/11/15	DB-3576-	6	Specification	Tina
V 1.1	2025/02/26	RKU241216V 1.0	7	Add picture & Description	Tina
V 1.2	2025/05/29	RKU241216V 1.0	8	Add BOARD VIEW	Tina
V 1.3	2025/09/05	RKU241216V 1.1	8	Specification	Tina

1. GENERAL DESCRIPTION

DB3576 is an intelligent development board based on RK3576/RK3576J, which is a low power, high performance processor for ARM-based PC and Edge Computing device with below new features:

(I) Quad-core Cortex-A72 and Quad-core Cortex-A53

(II) ARM Mali-G52 MC4 GPU, Support OpenGL ES1.1/2.0/3.2, OpenCL2.0 and Vulkan 1.1

(III) NPU: Neural network acceleration engine with processing performance up to 6 TOPS

(IV) Support Android 14.0 / Linux Debian12

(V) Support 4GB/8GB/16GB LPDDR4, 16~256GB eMMC, External expansion M.2/USB storage

(VI) Dual Ethernet 10/100/1000M

(VII) 2T2R 802.11 ax/ac/a/b/g/n Wi-Fi + BT 5.0 Module, LTE 4G Module (options)

(VIII) 1 * HDMI Out, 1 * LVDS, 1 * MIPI DSI support multi-screen simultaneous display, multi-screen different display, multi-screen rotation splicing, multi-channel video source simultaneous decoding, etc. Display method

(IX) Support 2 * RS232 + 2 * RS485 + 1 * Can + 1 * GPIO industrial control bus

(X) 1 * USB3.0 + 1 * type-c (full-featured) + 5 * USB2.0

(XI) Support hardware WDT & RTC + 1 * M.2 (Scalable 2230 PCIe NVMe SSD) + 1 * Speaker + 1 * SPDIF

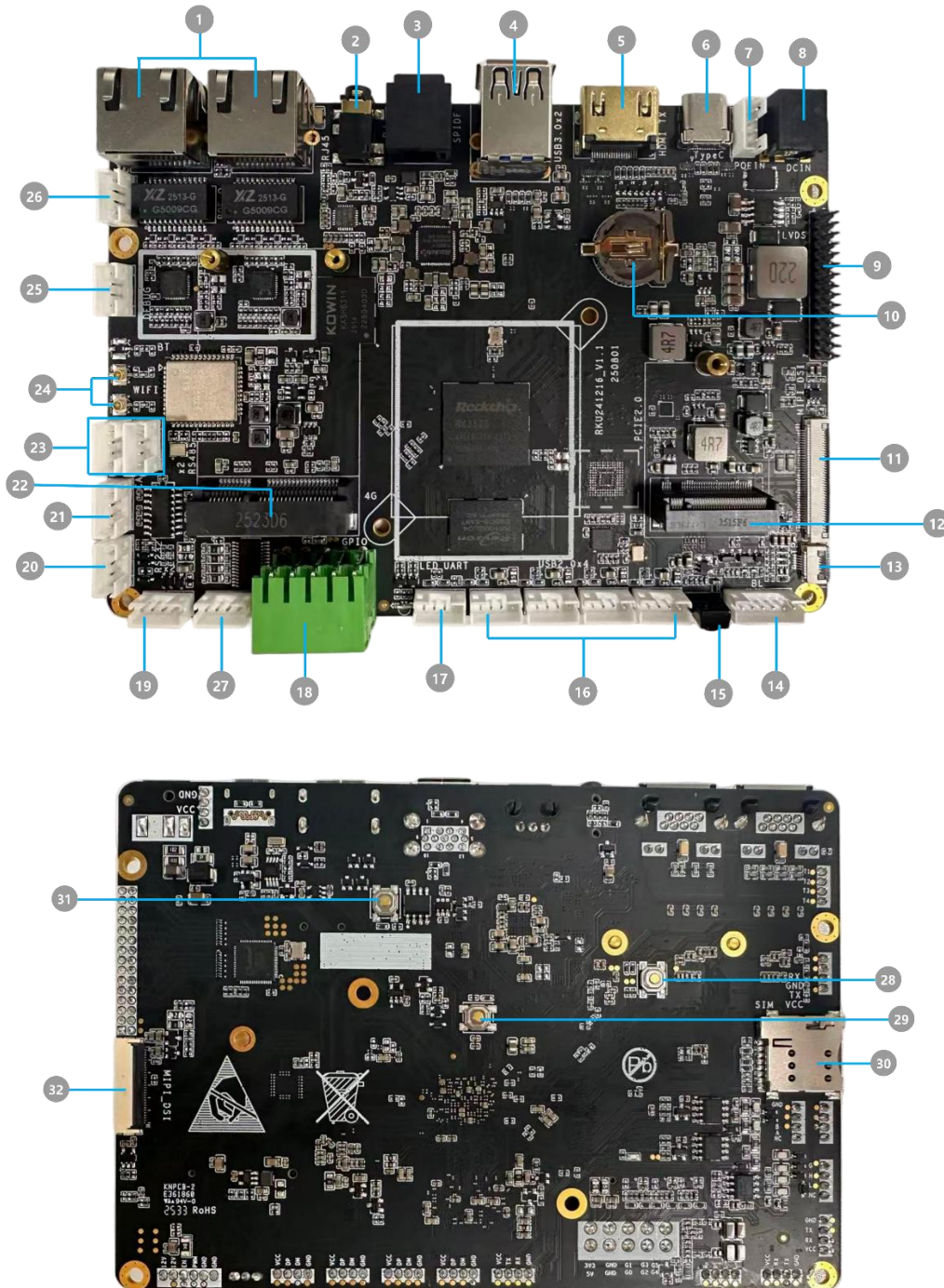
(XII) Support USB and I2C TP

(XIII) Support wide voltage 12~24V power and POE module (options) power supply input, standard EMC and ESD protection design

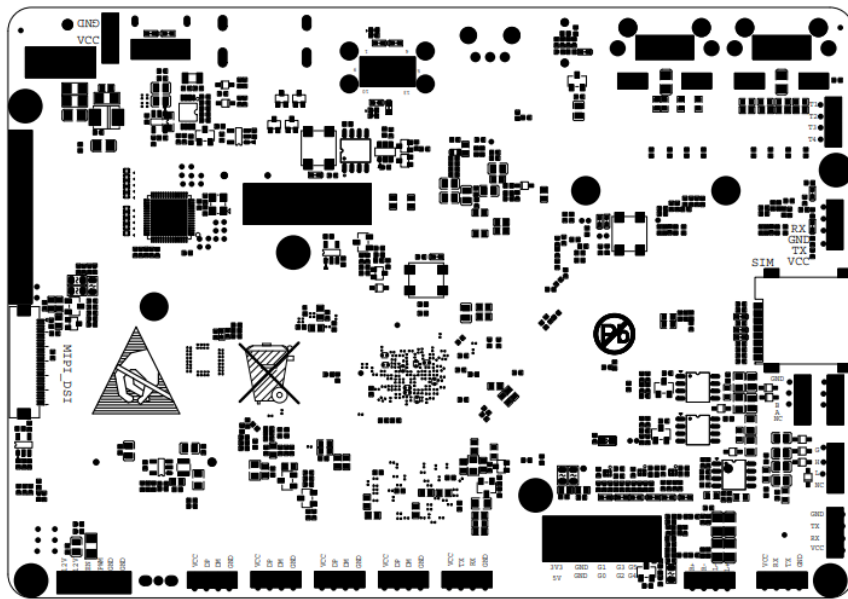
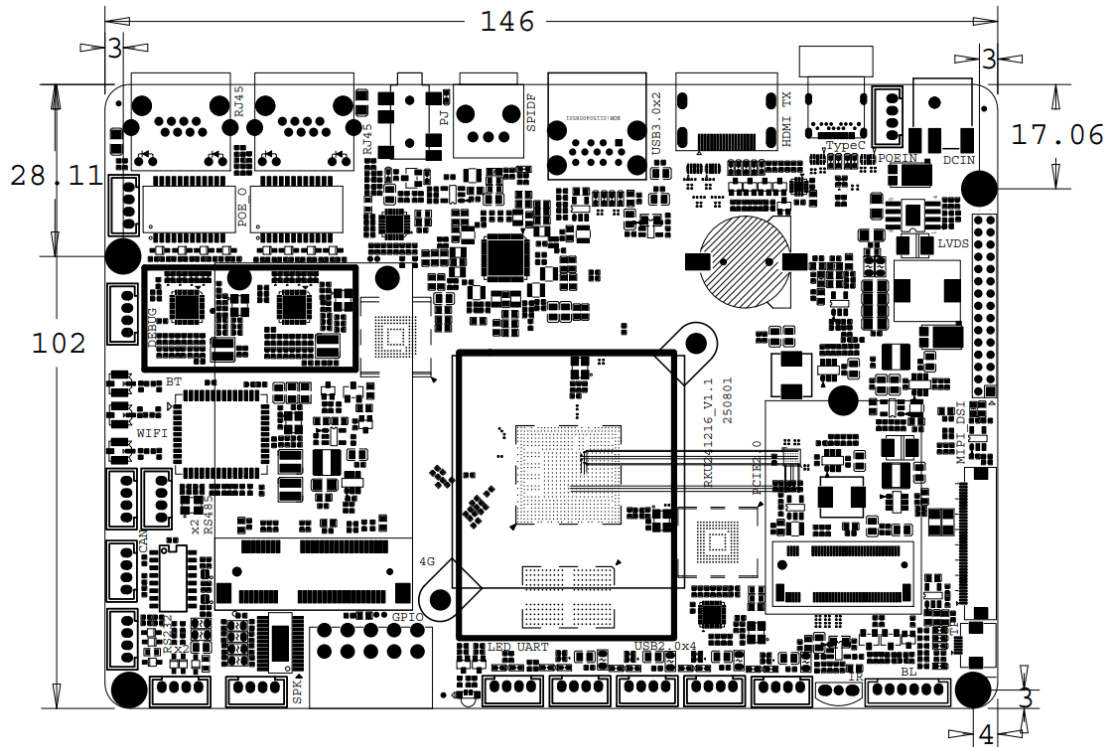
(XIV) Specially designed for smart express cabinet, smart commercial display, smart vending machine, digital signage, smart home, etc.

2. PRODUCT OVERVIEW

1、Below picture is for reference only, please prevail in kind.



2、BOARD VIEW



unit: mm

No...	Name	Description
1	LAN	2*10M/100M/1000M Ethernet
2	speaker	3.5mm phone Jack
3	SPDIF	SPDIF
4	USB3.0	1*USB3.0&1*USB-C2.0-Type A
5	HDMI OUT	1*HDMI
6	TYPE-C	1*TYPE-C

7	POE-IN	1 * 4Pin 2.0mm
8	DC In	1*(DCΦ5.5mm / φ2.1mm)
9	LVDS	1 * (2x15Pin 2.0mm)
10	RTC battery	Battery connecter
11	MIPI-DSI	1 * 40P FPC, pitch 0.5mm
12	M.2 Key-M	NGFF 2230
13	I2C(TP)	1 * 6P FPC, pitch 0.5mm
14	Backlight	1 * 6Pin 2.0mm
15	IR	1* IR
16	USB2.0(4)	4 * 4P , pitch 2.0mm
17	UART	1 * 4Pin 2.0mm
18	GPIO/3.3V/5V	2 * 10P 3.81mm phoenix terminal
19	RS 232-1	1 * 4P , pitch 2.0mm
20	RS 232-2	1 * 4P , pitch 2.0mm
21	CAN	1 * 4P , pitch 2.0mm
22	LTE	1 * Mini PCIE
23	RS485(2)	2 * 4P , pitch 2.0mm
24	WiFi/BT Antenna connecter 1	1*IPEX
25	Debug	1 * 4Pin 2.0mm
26	POE-OUT	1 * 4P , pitch 2.0mm
27	Speaker connecter	1 * 4Pin 2.0mm
28	recovery key	1 * Switch
29	reset key	1 * Switch
30	Micro SIM	1* Micro SIM
31	power key	1 * Switch
32	MIPI-CSI	1 * 40P FPC, pitch 0.5mm

3.FEATURES

CHIPSET	Rockchip RK3576/RK3576J	
MARKET AREA	Global	
OSD LANGUAGE	English/Chinese (multi language OSD)	
Processor	OS	Android 14.0 / Linux Debian12
	CPU	Quad-core Cortex-A72 and Quad-core Cortex-A53
	GPU	ARM Mali-G52 MC4 GPU, support OpenGL ES1.1/2.0/3.2, OpenCL2.0 and Vulkan 1.1. etc.
	NPU	Neural network acceleration engine with processing performance up to 6 TOPS
	LPDDR4	4/8/16GB

	EMMC FLASH	32GB (16~256G Optional)
NETWORK	Ethernet	2 * RJ45 (10/100/1000M)
	WiFi	IEEE 2T2R 802.11 ax/ac/a/b/g/n
	Bluetooth	BT5.0
	3G/4G	1 * Mini PCIE (Optional)
Interface	HDMI OUT	1 * HDMI
	RJ45	2 * RJ45(LED)
	RS232	2 * 4Pin2.0mm
	RS485	2 * 4Pin2.0mm
	Can bus	1 * 4Pin2.0mm
	GPIO	1 * 2x5Pin3.81mm
	LVDS	1 * 2x15Pin2.0mm
	Backlight	1 * 6Pin2.0mm
	USB3.0	1 * USB3.0 Type A
	USB2.0	1 * USB2.0 Type A +2 * 4PIN2.0mm
	TP(I2C)	1 * FPC 0.5mm
	M.2	1*M.2 key-M connector
	Speaker	1 * 3.5mmJacker/SPK connector
	SIM	1 * Micro Sim + 1 * Mini PCIE (LTE)
	WIFI+BT ANT	2 * IPX
	IR	1 * IR
	Switch*3	1 * Power /1*reset /1*recpvery
DC IN	1 * DC IN	
Adapter	DC 12~24V (Φ5.5mm / φ2.1mm)	
Size	146*102mm	
Customizable GUI	We provided GUI customization and we have a vast collection of Launcher created by our R&D team for you to choose from.	

4.Support Formats

Media Remark	Codec	Remark
Video Decoder	H.264/AVC	up to 4K@60fps
	H.265/HEVC	up to 8K@30fps or 4K@120fps
	AV1	up to 8K@30fps or 4K@120fps
	VP9	up to 8K@30fps or 4K@120fps
	AVS2	up to 8K@30fps or 4K@120fps
Video Encoder	H.264/AVC	up to 4K@60fps
	H.265/HEVC	Up to 4K@60fps
Picture	Jpg, png	

5. Precautions for use

1. Relative humidity: 10% ~ 95% , non-condensing.
2. Storage temperature: -20 ~ 85°C (if Extended commercial -40~100°C)
3. Operation temperature: commercial (0 °C ~55 °C)/Extended commercial (-40 °C ~ 85°C)
4. Do not squeeze, distort or disassemble the board.
5. Keep the board away from static electricity .
6. Keep the board away from water and other liquid.
7. Clean the board with soft and clean dry cloth when it's dirty.
8. Don't use long connect wires which may affect performance and image quality.