

深圳金亚太科技有限公司

Shenzhen Geniatech Co.,Ltd.

**SPECIFICATION****MODEL:DB-3576**

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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   | 2024/02/26 | RKU241216V 1.0 | 7    | Add picture&<br>Description | Tina   |
|         |            |                |      |                             |        |
|         |            |                |      |                             |        |

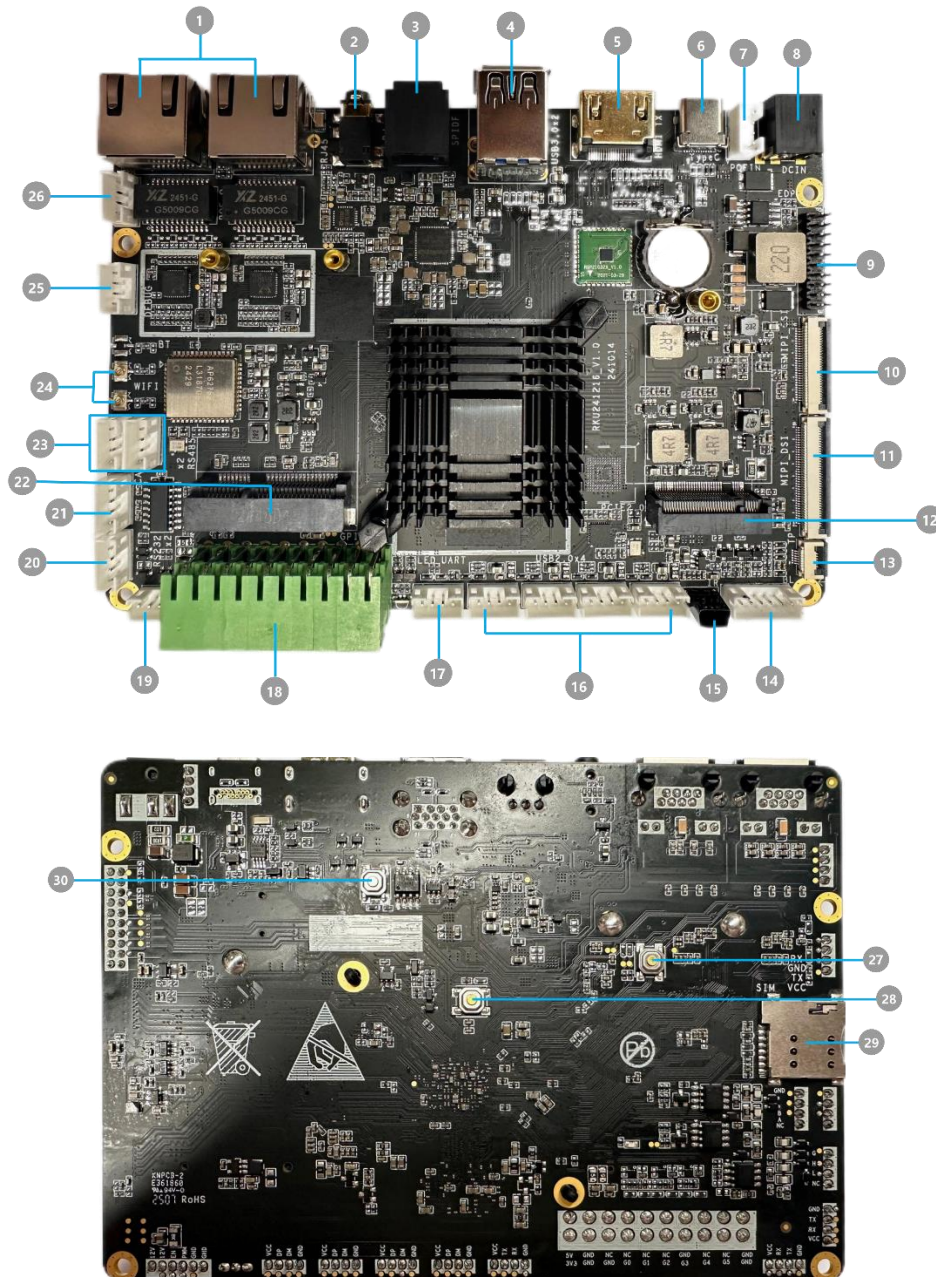
# 1. GENERAL DESCRIPTION

DB3576 is an intelligent development board based on RK3576, 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/16G LPDDR4, 16~256GB eMMC, External expansion M.2/USB storage
- (VI) Dual Ethernet 10/100/1000M
- (VII) IEEE 802.11b/g/n/ac (2.4G&5G ) +BT4.2 (BT5.0 optional)
- (VIII) 1 \* HDMI Out, 1 \* eDP, 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 2242 PCIe NVMe/SATA SSD ) + 1\*Speaker+1\*SPDIF
- (XII) Support USB and I2C TP
- (XIII) Support wide voltage 9~24V power and POE 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

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



| No... | Name     | Description                |
|-------|----------|----------------------------|
| 1     | LAN      | 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  | eDP                         | 1 * (2x10Pin 2.0mm)             |
| 10 | MIPI-CSI                    | 1 * 30P FPC, pitch 0.5mm        |
| 11 | MIPI-DSI                    | 1 * 40P FPC, pitch 0.5mm        |
| 12 | M.2 Key-B                   | NGFF 75Pin                      |
| 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 interface 1 | 1*IPEX                          |
| 25 | Debug                       | 1 * 4Pin 2.0mm                  |
| 26 | POE-OUT                     | 1 * 4P , pitch 2.0mm            |
| 27 | recovery key                | 1 * Switch                      |
| 28 | reset key                   | 1 * Switch                      |
| 29 | Micro SIM                   | 1* Micro SIM                    |
| 30 | power key                   | 1 * Switch                      |

### 3.FEATURES

|              |                                      |                                                                                    |
|--------------|--------------------------------------|------------------------------------------------------------------------------------|
| CHIPSET      | Rockchip RK3576                      |                                                                                    |
| 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                               | 4GB (8G/16G Optional)                                                              |
|              | EMMC FLASH                           | 32GB ( 16~256G Optional )                                                          |
|              | Ethernet                             | 2 * RJ45 (10/100/1000M)                                                            |

|                  |                                                                                                                         |                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| NETWORK          | WiFi                                                                                                                    | IEEE 802.11b/g/n/ac                 |
|                  | Bluetooth                                                                                                               | BT4.2 (Optional 5.0)                |
|                  | 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 * 4Pin3.81mm                      |
|                  | GPIO                                                                                                                    | 1 * 2x5Pin2.0mm                     |
|                  | eDP                                                                                                                     | 1 * 2x10Pin2.0mm                    |
|                  | Back light                                                                                                              | 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-B Interface               |
|                  | Speaker                                                                                                                 | 1 * 3.5mmJacker                     |
|                  | SIM                                                                                                                     | 1 * Micro Sim + 1 * Mini PCIE (LTE) |
|                  | WIFI+BT ANT                                                                                                             | 1 * SMA                             |
|                  | IR                                                                                                                      | 1 * IR                              |
|                  | Switch*3                                                                                                                | 1 * Power 1*reset 1*recpvery        |
|                  | DC IN                                                                                                                   | 1 * DC IN                           |
| Adapter          | DC 9~24V (Φ5.5mm / φ2.1mm)                                                                                              |                                     |
| 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% .
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.