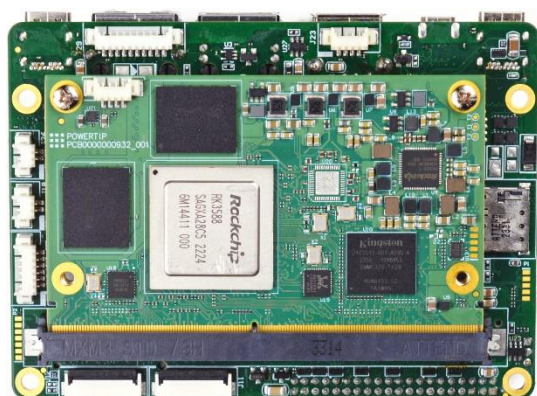


# P05D00109-01

Rockchip RK3588

## Front View



## Features

- High-performance, low-power octa-core 64-bit SoC chip, adopts 4-core Cortex-A76 and 4-core Cortex-A55 architecture, integrates high-performance GPU and NPU
- Rich high-speed interfaces (PCIe, Type-c, Gigabit Ethernet and SATA high-speed interface)
- Supports 8K Video Encoding/Decoding and Multi-Display Output

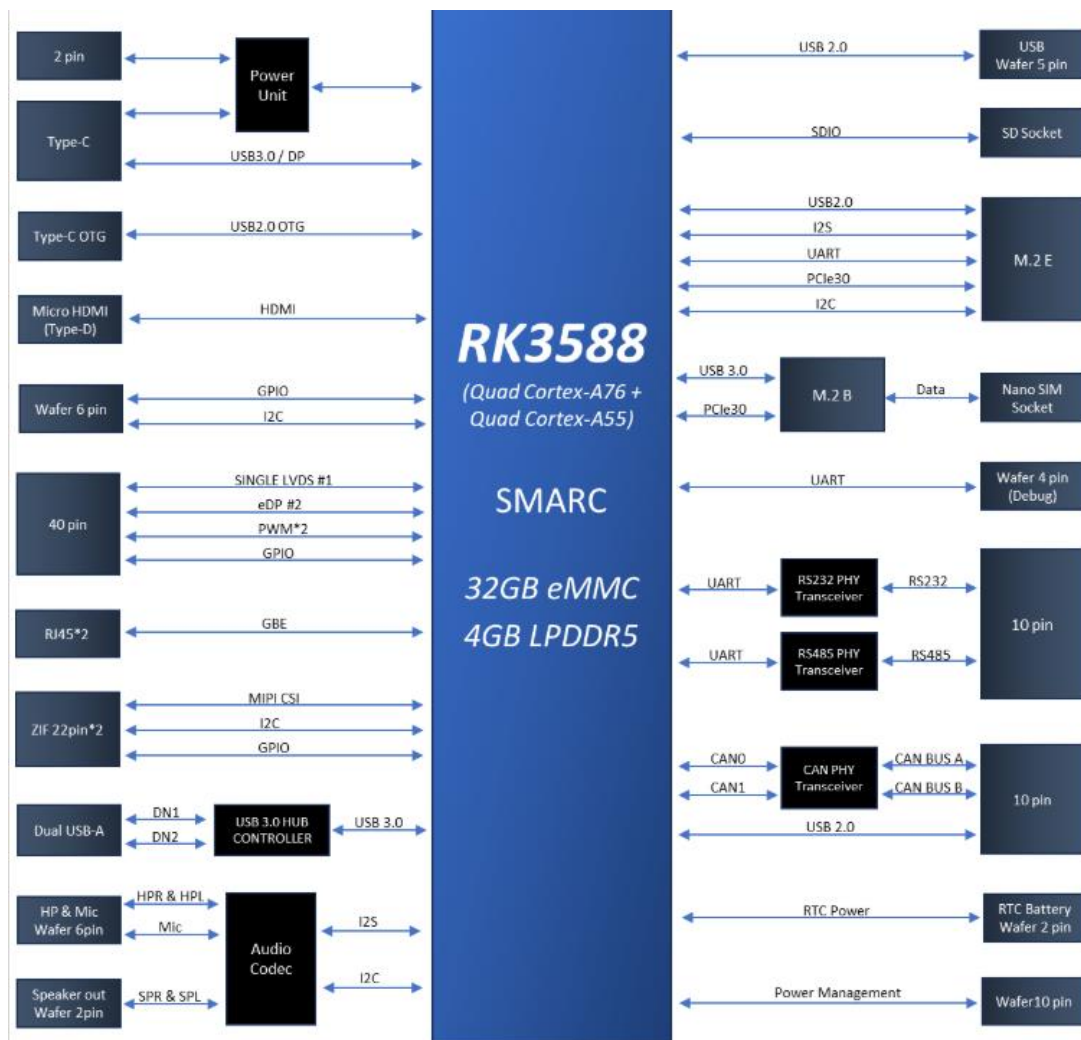
## Specifications

| Hardware |                                         |                                                                                                                                                                                                                                             |
|----------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU      | RK3588                                  | Quad Cortex-A76 + Quad Cortex-A55                                                                                                                                                                                                           |
| GPU      | ARM Mali-G610                           | OpenGL ES 1.1/2.0/3.2, OpenCL 2.2, Vulkan 1.2                                                                                                                                                                                               |
| NPU      | RKNN                                    | INT4/INT8/INT16/FP16 hybrid computing with up to 6TOPS                                                                                                                                                                                      |
| Memory   | On Board RAM                            | 4GB LPDDR5(Option : 8/16/32GB)                                                                                                                                                                                                              |
|          | On Board Flash<br>(Default Boot Device) | 32GB eMMC(Option : 64/128GB)                                                                                                                                                                                                                |
| I/O      | Display<br>(Up to three)                | 1 × Micro HDMI 2.1 output, up to 8K@60FPS<br>1 × Type-C (DP 1.4A) output, up to 4K@60FPS<br>1 × eDP output, up to 4K@60FPS<br>1 × MIPI DSI 4 Lane output, up to 4K@60Hz (Option)<br>1 × LVDS Dual channel output, up to 1080P@60Hz (Option) |
|          | USB                                     | 1 × Type-C OTG (USB2.0)<br>1 × Type-C (Full function)<br>4 × USB Host (2 for USB2.0 interface, 2 for USB 3.0 Type-A)                                                                                                                        |
|          | Ethernet0                               | 10/100/1000 Mbps                                                                                                                                                                                                                            |

|  |                                 |                                                                                                                                                                                                                                                                                |
|--|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Ethernet1                       | 10/100/1000/2500 Mbps                                                                                                                                                                                                                                                          |
|  | Default Peripheral<br>(maximum) | 2 × UART (J23 for Debug Used)<br>2 × PCIe 2.0 (M.2 B Key & E Key)<br>2 × MIPI-CSI (1 for 4Lane, 1 for 2Lane)<br>2 × CAN<br>1 × RS232<br>1 × RS485<br>1 × I2C<br>1 × Micro SD Card Slot<br>1 × Nano SIM Card Slot<br>1 × Headphone Output<br>1 × Speaker Output<br>GPIOs<br>PWM |

| <u>Software</u> |         |                                  |
|-----------------|---------|----------------------------------|
| OS              | Default | Yocto 4.0                        |
|                 | Other   | Android 12, Debian 11, Buildroot |

## Block Diagram



## Dimensions

