

## **Overview**

WQ5007 is the only edge-side and low-power AI computing platform in the AI industry that supports all mainstream 3D vision solutions and is capable of high-speed convolutional neural network computing. It supports live detection locally based on 3D structured light and image recognition based on neural networks, featuring significant advantages such as ultra-low power consumption, balanced computing power, high integration, and fast startup. WQ5007 has dominant advantages in 3D facial recognition and other lightweight IoT applications, perfectly meeting customers' demanding requirements on low-power

## computing. Functions

- Supports live detection locally based on 3D structured light and image recognition based on neural networks.
- Adopts ultra-low-power design, with the dynamic power consumption less than 400 mW and the standby power consumption less than 100 uW.
- Flexibly outputs offset, depth, and 3D point cloud.
- Supports MIPI Tx high-speed output to external AP systems.
- Outstanding computing power: INT8 200 GOPS, INT16 100 GOPS.
- Fast startup: Fast boot time < 100 ms.
- High-level integration: The 3D structured light processor and 32 MB DDR memory are supported.

# Applications





payment

Intelligent door lock





Facial-recognition

Intelligent access control

Robot

#### Security 3xSPI **CPU Subsystem** CHACHA20-RAND NUM 4xUART 3x 32bit CPU Core POLY1305ACC GEN >26 GPIOs **JTAG** 2xINTC AES 128/196/256 ACC Interface (64bit) 6xPWM 800KB 200KB **RSA/ECC** SHA-2 224/256/ RAM ROM 384/512 ACC ACC 8xTimer Neural **3D Structure** 2xWatchdog **MEM** Controller Processor Light Processor Unit 2xMIPI RX Sensor ADC Ethernet MAC DDR 10/100/1000M 1xMIPI TX (4 channel) MEM Flash

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# Block Diagram