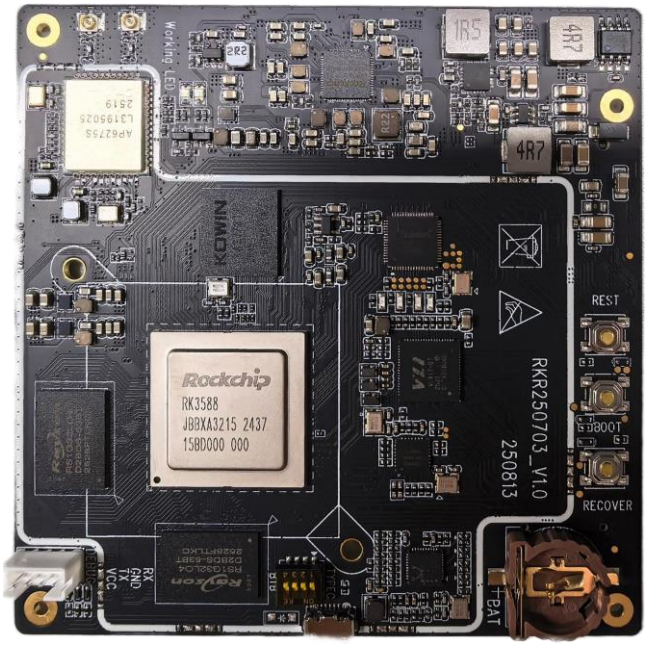
深 圳 金 亚 太 科 技 有 限 公 司

Shenzhen Geniatech Co.,Ltd.

SPECIFICATION

MODEL:COMe-3588-SOM



Confirmation

REVISION HISTORY					
VERSION	**DATE**	**BOARD ID**	**PAGE**	**DESCRIPTION**	**AUTHOR**
V1.0	2025/10/17		7	Initial Spec	

APPROVED BY GENIATECH		
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CONTENT

1. GENERAL DESCRIPTION

COMe-3588-SOM is an interface development module specifically designed for COMe type 6 based on RK3588 form the Rockchip. RK3588 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 COM Express type6 standard, the core board size is only 45mm x 45mm (Size-L), which can save more precious space, and the carrier board size is 120mm x 125mm.

(II) Rockchip RK3588J with Quad-core Cortex-A76 and Quad-core Cortex-A55 GPU

(III) Support up to 32GB RAM, 256GB eMMc flash

(IV) Supports MIPI-DSI/eDP interface, and multi-format 8K 60fps video decoding (H.265 HEVC,MVC Main10,VP9,AVS2), 1080P (MPEG-1/MPEG-2, VP8 format) video encoding.

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

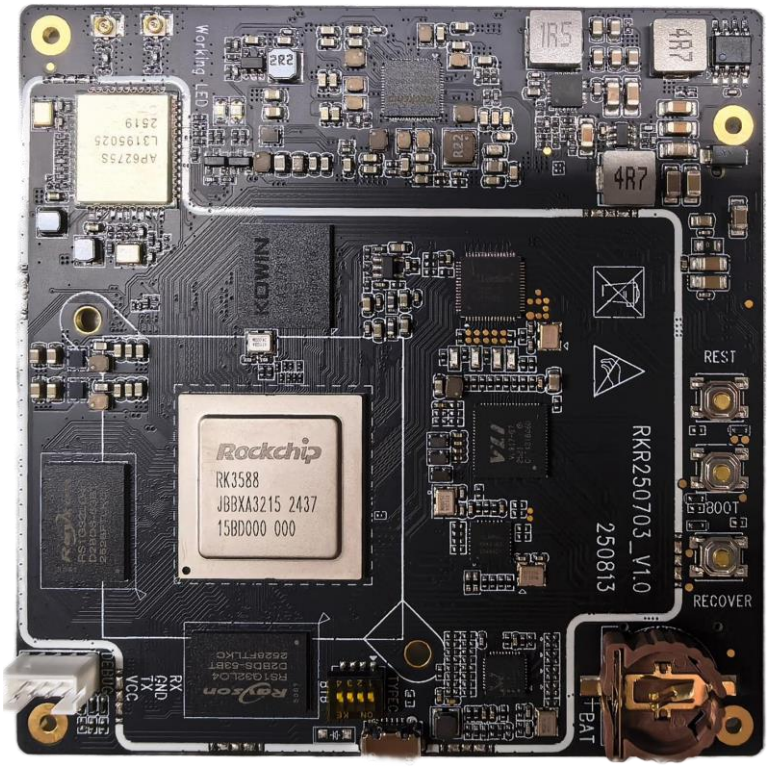
(VI) Supports Android, Linux multiple operating system, the performance is stable and reliable

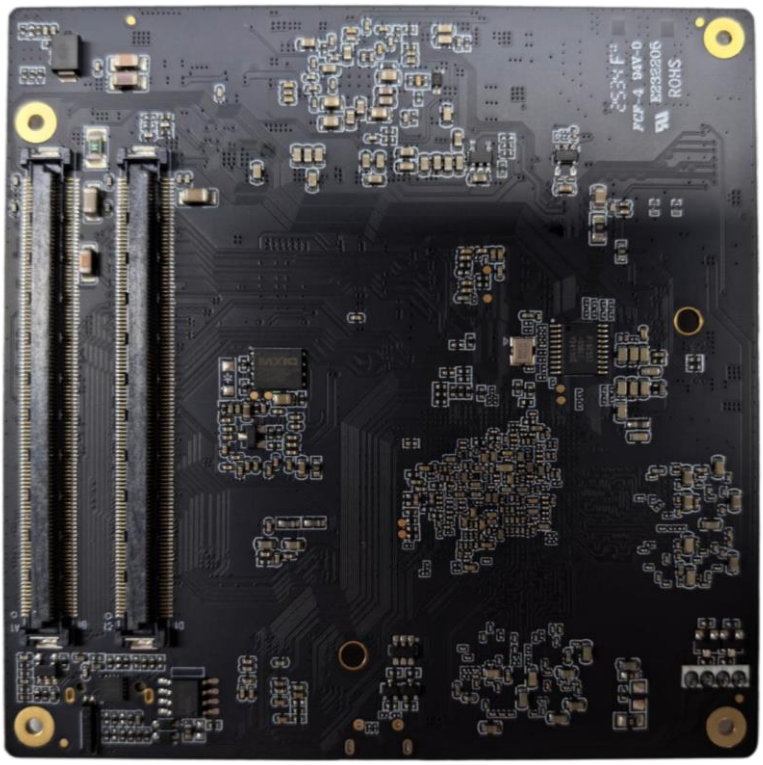
(VII) Stable operation at extended commercial (-40 °C ~ 80°C) working temperature for 7X24 hours

(VII) delivery period for long product life cycle

2. PRODUCT PICTURES

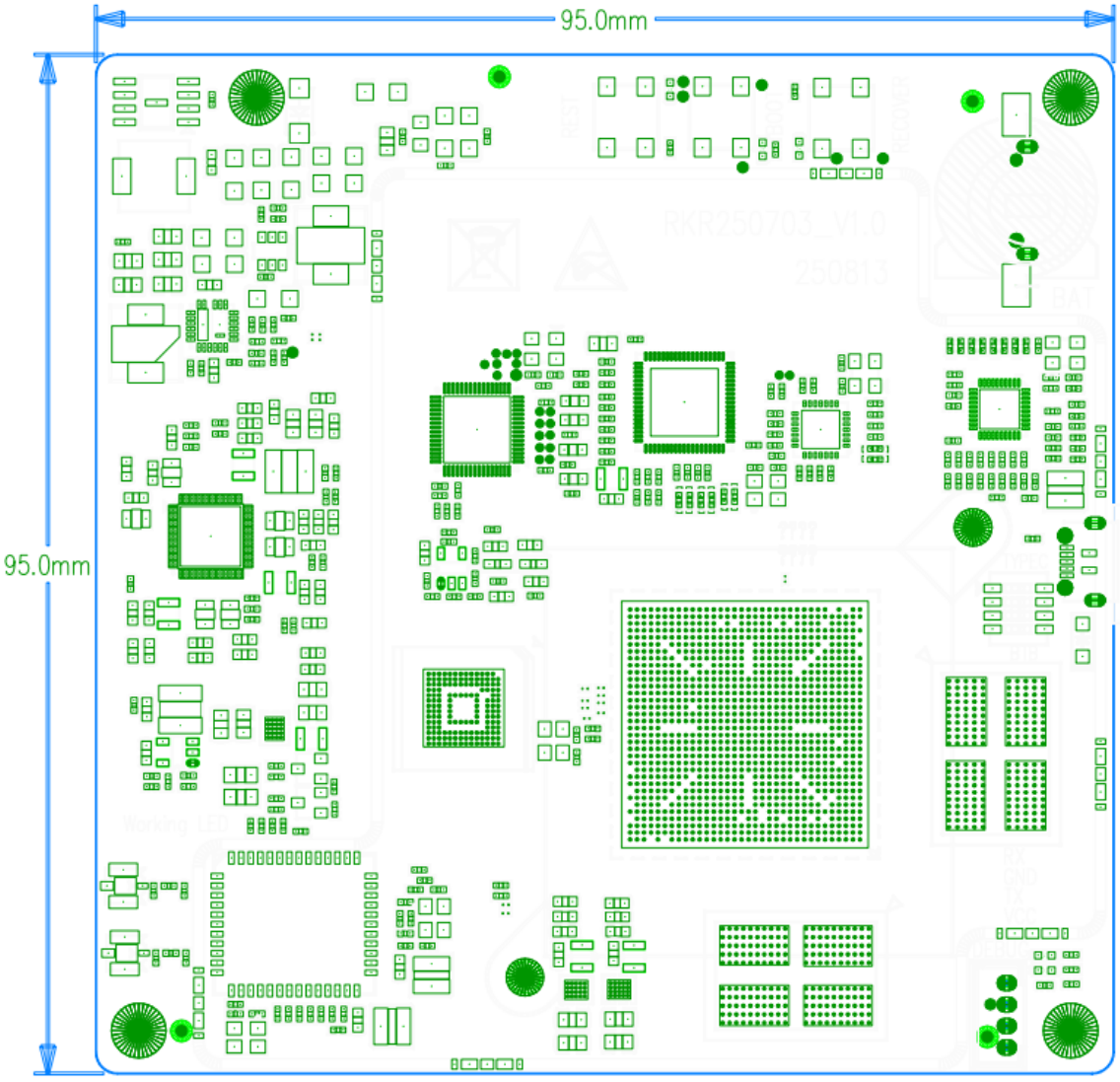
Below pictures are for reference only:

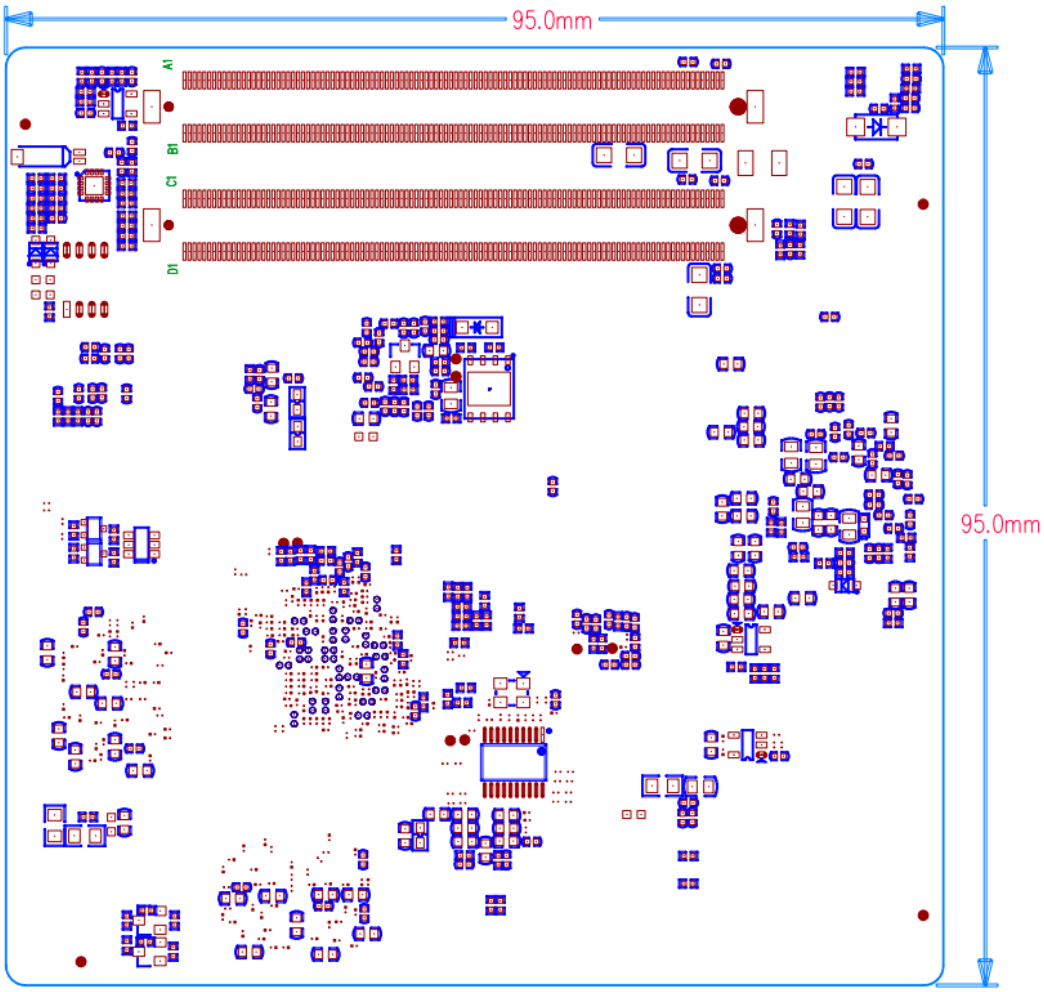




3. BOARD VIEW

3.1 DIMENSION





4. FEATURES

Chip	Rockchip RK3588	
Market	Global	
System Language	English/Chinese(Support multiple languages)	
Configure	Operating System	Android12 / Debian11/buildroot
	CPU	Quad-core Cortex-A76 and Quad-core Cortex-A55
	GPU	Mali-G610 MP4 (4x256KB L2 Cache)
	DDR	4GB(8/16/32G optional)
	Storage	32GB(64G/128G/256G optional)
Network	Ethernet LAN	100M/1000M Ethernet
	WiFi	2.4G/5.8G WiFi6
	Bluetooth	BT5.0
Display	HDMI Out	*2(multiplex eDP)
	LVDS	*2
	MIPI DSI	*1

Video Input	HDMI In	*1
	MIPI CSI	*2
I/O extension interface	I2C	*3
	I2S	*2
	gpio	*8
	SPI	*2
	CAN	*1
	UART	*4
Audio I/O	I2S	Left and right stereo sound
SATA	*2	
USB	4x USB Host2.0 , 3 x USB Host3.0 , 1 x Type C ，	
PCIE	PCIE3.0*1 4lane,PCIE2.0*1 1lane	
Other interface	Debug、RTC、Infrared remote control reception, ,Upgrade button, Light	
Size	95*95mm	
Power Pack	DC 12V/2A	

5. SUPPORT FORMATS

Video Decoder

- Real-time video decoder of MPEG-1, MPEG-2, MPEG-4, H.263, H.264, H.265, VC-1, VP9, VP8, MVC, AV1
- MMU Embedded
- Multi-channel decoder in parallel for less resolution
- H.264 AVC/MVC Main10 L6.0 :8K@30fps (7680x4320)
- VP9 Profile0/2 L6.1 :8K@60fps (7680x4320)
- H.265 HEVC/MVC Main10 L6.1 :8K@60fps (7680x4320)
- AVS2 Profile0/2 L10.2.6 :8K@60fps (7680x4320)
- AV1 Main Profile 8/10bit L5.3 :4K@60fps (3840x2160)
- MPEG-2 up to MP :1080p@60fps (1920x1088)
- MPEG-1 up to MP :1080p@60fps (1920x1088)
- VC-1 up to AP level 3 :1080p@60fps (1920x1088)
- VP8 version2 :1080p@60fps (1920x1088)

Video Encoder

- Real-time H.265/H.264 video encoding

- Support up to 8K@30fps
- Multi-channel encoder in parallel for less resolution

6. PRECAUTIONS FOR USE

1. Relative humidity: 10% ~ 90% .
2. Storage temperature: -40 ~ 80℃
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.