

# Product Specification

Product Name: RK3308 Core board

ProductModel: DSOM-050R

## Revision History

Specification		Sect.	Update Description	By
Rev	Date			

## Approvals

Organization	Name	Title	Date

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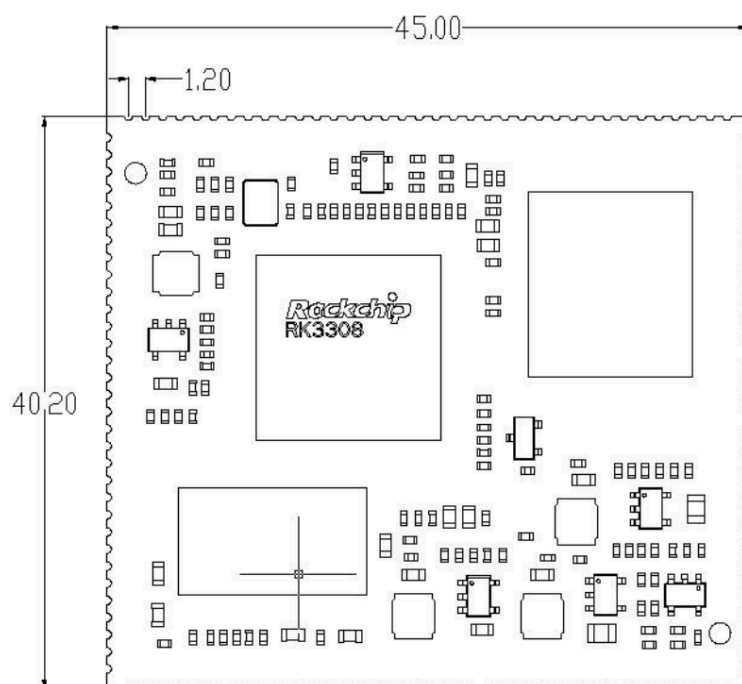
## 1 Introduction

### 1.1 Purpose& Description

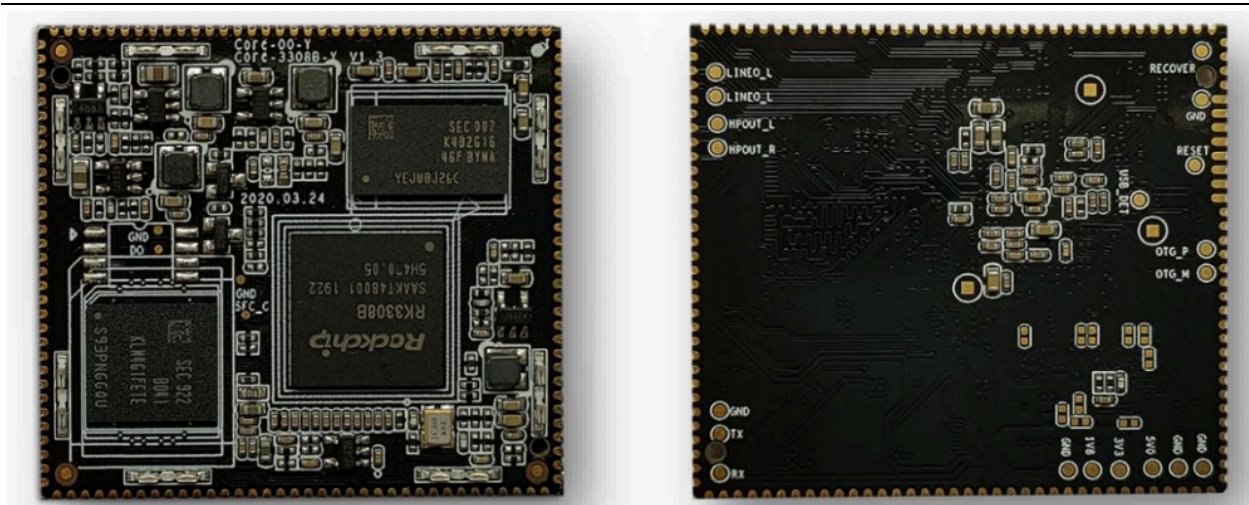
DSOM-050 RK3308 Core Board adopts the Quad-core 64-bit ARM Cortex-A35 , which is a ARM Cortex A-35, quad core. It can be paired with DDR3 and DDR3L RAM. Moreover, the Rockchip processor offers an on-board GPU and a multi-media processor expressly designed to encode and decode 1080P Video streams and high quality audio streams – perfect for commercial/industrial applications that will have customer and public facing software.

### 1.2 CPU Block Diagram

### 1.3 Layout and Dimension



### 1.4 Product Drawing



## 2 Hardware Specification

Specification	
Size	Length 45mm x Width 40.2mm x Height 1.2mm
CPU	Quad-core 64-bit ARM Cortex-A35, frequency up to 1.3GHz
GPU	ARM ® Mali - T760 MP4 quad-core GPU, support AFBC ( Frame Buffer Compress) Support OpenGL ES1.1/2.0/3.0/3.1, OpenVG1.1, OpenCL, DX11 Built-in high-performance 2D acceleration hardware
RAM	256M DDR3 (128MB ~ 512MB)
Storage	4GB eMMC : support 4G/8G/16G/32G/64G/128G NandFlash : support 128MB/256MB SPI Flash: 16MB ~ 512 MB Support MicroSD (TF) Card Slot extension
OS	Support multiple operating systems, such as Buildroot, Linux + MiniGUI/QT, ROS(Robot Operating System) Support multiple speech systems and services, such as Baidu DuerOS, AISpeech, iFLYTEK, and Amazon Alexa
Power	Input Voltage 5V, Peak Current 2.5A
Operating temperature	-20 to +80 degrees
Life span	Continuous operating life is more than 5 years
Hardware Features	
Ethernet	10M/100M bps Ethernet (RJ45 interface)

WiFi	Provide SDIO 3.0 signal, support 2.4GHz WiFi, support 802.11/b/g/n protocol Support Bluetooth 4.2
Display	Support RGB / MCU display (up to 720P)
Audio	With built-in audio CODEC, including ADC x 6 Integrated high-performance Codec and Hardware VAD, supporting up to 8-channel MIC array Support digital audio interface(8CH I2S/TDM x 2, 8CH PDM, 2CH I2S/PCM)
USB	USB 2.0 x 1、USB2.0 x 1 (OTG)
Interface	Support PWMx11 (including multiplexing), UARTx5, ADCx6, I2Cx4, SPIx1, I2Sx1, LineOut Support digital audio interface (8CH I2S/TDM x 2, 8CH PDM, 2CH I2S/PCM) support modules such as acceleration sensor, temperature humidity sensor, distance sensor, GPRS, and NB-IOT
Debugging	Debug UART x 1, be used for development and debugging

### 3. Current Parameter Table

Item		Minimum	Typical	Maximun
Power Parameters	Voltage	4.5V	5V	5.5V
	Ripple	--	--	50mV
	Current	365mA	--	--
Power Supply Current	Start-up Current		360mA	
	Desktop quiescent current			
Power Supply current (Connect to the Display)				
Environment	Relative Humidity		65%	70%
	Working Temperature	-25°C	--	75°C
	Storage Temperature	-30°C	-0°C	90°C