

2022.01

## Rockchip SoC Roadmap for Consumer Electronics

### **Application**

**RK3588** 

ARM G610 GPU 6TOPS NPU

8K video codec

USB3.1/Type-C

Tablet & ARM PC

TV Box & Donale





4x ARM A76 + 4x A55 CPU

8K and multi panels display

PCIe3.0/SATA3.0/HDMI2.1

**Smart Audio** 

### Performance

### **RK3288**



4x A 17 Mali-T760MP4 GPU 4K H.264/H.265 decoder Dual-channels DDR 4K display 13M camera with ISP HDMI2.0/LVDS/MIPI/eDP

### RK3128/PX3-SE



4x A7 Mali400MP2 GPU 1080P Video Codec HDMI/LVDS/MIPI Audio Codec/CVBS

#### **RK3399**



2x A72 + 4x A53 + MCU Mali-T860MP4 GPU DDR3/LPDDR3/LPDDR4 4K H.265/VP9/H.264 decoder HDMI 2.0 with HDCP 2.2 USB 3.0 / Type-C Display port / PCle 2.1

### **RK3368**



1.5GHz Octa-Core A53 G6110 GPU HDMI2.0 with HDCP2.2 8M ISP LVDS/ MIPI-DSI/ eDP

### RK3228/RK3229



4x A7 Mali-400MP2 GPU 4K video decoder HDMI2.0/RGMII

### RK3036/RK3032



1.0GHz Dual-Core A7 Mali400 GPU H.264/H.265 decoder HDMI/Codec/CVBS

### **RK3328**



Mali-450MP2 GPU 4K H.264/H.265 decoder HDR10/HLG USB 3.0

#### 4x A53



**RK3326** 4x A35 ARM Mali-G31MP2 1080P Video Codec 8M ISP

**RK3566** 



4x A55 + G52 GPU 4K Video Decoder 1080P Video Encoder 8M ISP **1TOPS NPU HDMI 2.0** 







4x A7 Mali400MP2 GPU 1080P Video Codec



### RK3308B/H 4x A35 CPU



16bit DDR2/DDR3 Multi Chanel Audio Codec Smart Voice processor



## Rockchip SoC Roadmap for IOT

Performance

### **RK3288**



4x A17 Mali-T760MP4 GPU 4K H.264/H.265 decoder **Dual-channel DDR** 4K display 13M camera with ISP HDMI2.0/LVDS/MIPI/eDP

### RK3188/PX3



4x A9 Mali400MP4 GPU 1080P Video Codec

### **RK3128/PX3-SE**



4x A7 Mali400MP2 GPU 1080P Video Codec HDMI/LVDS/MIPI Audio Codec/CVBS

#### **RK3399**



2x A72 + 4x A53 + MCU Mali-T860MP4 GPU DDR3/LPDDR3/LPDDR4 4K H.265/VP9/H.264 decoder HDMI 2.0 with HDCP 2.2 USB 3.0 / Type-C Display port / PCle 2.1

### RK3368/PX5



1.5GHz 8x A53 G6110 GPU 4K@60fps H.265 decoder HDMI2.0 with HDCP2.2 8M ISP LVDS/MIPI-DSI/eDP

### PX30



4x A35 ARM Mali-G31MP2 1080P Video Codec MIPI/LVDS/Dual display 8M ISP/RMII

RK3399Pro

A72 + A53 CPU

Mali-T860MP4 GPU

**3TOPS NN process** 

DDR3/LPDDR3/LPDDR4

4K H.265/VP9/H.264 decoder

### RK3308B/H



4x A35 CPU 16bit DDR2/DDR3 Multi Chanel Audio Codec Smart Voice processor

### **Operation System**



Android



Linux

#### **RK3588**



4x ARM A76 + 4x A55 CPU ARM G610 GPU 6TOPS NPU



8K video codec 8K and multi panels display PCIe3.0/SATA3.0/HDMI2.1 USB3.1/Type-C

#### **RK3568**



4x A55 ARM G52 GPU



Video 4K Decoder and 1080P Encoder **1TOPS NPU** 8M ISP with HDR PCIe3.0/USB3.0/SATA3.0/HDMI

### **RK3358J**



4x A35 ARM Mali-G31MP2 1080P Video Codec MIPI/LVDS/Dual display 8M ISP.RMII



## Rockchip SoC Roadmap for AI & Vision

Performance



### RK3399Pro

NPLI 2x A72 + 4 x A53 CPU Mali-T860MP4 GPU 3TOPS NN processor





2x A35 3TOPS NN Processor 1080P H.264 video codec MIPI/ISP/PCIe2.1/USB3.0/RGMII

### **RV1126**



4x A7 & 2.0TOPS NPU 4K H.264/H.265 Codec 14M ISP2 0 with HDR

### **RV1109**



2x A7 & 1.2TOPS NPU 5M H.264/H.265 Codec 5M ISP2.0 with HDR

### **RK3588**



4x A76 + 4x A55 CPU ARM G610 GPU **6TOPS NPU** 8K video codec PCIe3.0/SATA3.0/HDMI2.1

#### **RK3568**



4x A55 + G52 GPU 4K Video Decoder 1080P Video Encoder **1TOPS NPU** 8M ISP with HDR PCIe3.0/USB3.0/SATA/HDMI

### RV1106G/H



A7 + MCU & 0.5TOPS NPU 5M H.264/H.265 Codec 5M ISP3.2 with HDR SIP 1Gb/2Gb DRAM

#### **RV1103**



A7 + MCU & 0.5TOPS NPU 4M H.264/H.265 Codec 4M ISP3.2 with HDR SIP 512Mb DRAM

### **RK1608**



Image co-processor Dual-Core DSP Five MIPI CSI in/out MCP with LPDDR

### **RV1108**



1.0GHz A7 / 600MHz DSP 8M ISP 1440P H.264 Codec HDMI/Codec/CVBS



## Rockchip Roadmap for Auto







Performance

### **RK3358M**

4x A35 ARM G31 2EE 1080P video & display 8MP ISP, MIPI+DVP

AEC-Q100

### **RK3568M**

4x A55 ARM G52 2EE 1TOPS NPU

MIPI(2x2L)+DVP 8MP ISP2.0 4K video & display (3CH) AEC-Q100, 22Q1

### **RK3588M** FinFet 8nm

4x A76 + 4x A55 + MCU ARM G610 MP4

**6TOPS NPU** Dual 16MP ISP3.0 4x MIPI-CSI2 + DVP (16CH) 8K Video & display (7CH) AEC-Q100, 22Q4

### **RK809M**

PMIC AEC-Q100, 22Q1

### **RK806M**

PMIC AEC-Q100, 22Q4

2022 2023



MP Schedule

2021

## Rockchip Commercial and Industrial Grade SoC

Chips	<b>Consumer Grade</b> 0~80°C	Commercial Grade -20~85°C	<b>Auto Grade</b> -40~85°C	Industrial Grade -40~85°C
RK3588	RK3588		RK3588M	
RK3399 Series	RK3399	RK3399K		
RK3288 Series	RK3288(W Version)	RK3288K		
RK3568 Series	RK3568		RK3568M	RK3568J
RK3368 Series	RK3368	PX5		
PX30 Series	PX30	PX30K		
RK3358 Series			RK3358M	RK3358J
RK3308 Series	RK3308B/RK3308H	RK3308GK/RK3308K		
RV1108 Series	RV1108A/RV1108G			RV1108K1
RK1808 Series	RK1808			RK1808K
RV1109/RV1126	RV1109/RV1126			RV1126K

- 1. Commercial Auto and Industrial Grade chipset support long term supply
- 2. RK3358M had got the certification of AEC-Q100
- 3. RK3568M and RK3568J in CS sample now, will be MP in Q1/2022
- 4. Please contact local sales for more information about chipset life cycle



## Rockchip Roadmap for Quick Charger Protocol Controller

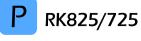


## P RK837/RK837D

- ARM Cortex-M0
- 56K Flash & 2KB RAM
- 1x Type-C & 1x USB-A
- PD 2.0 / PD 3.0 / PPS 5A: TID 5141
- QC4+ Report number is QC20210303222
- Support Protocol: QC ]/VOOC

- P RK835
  - ARM Cortex-M0
  - 56K Flash & 1KB RAM
  - 1x Type-C
  - PD 2.0 / PD 3.0 / PPS 5A: TID 4325
  - Support Protocol: QC/VOOC

- P RK8253
  - ARM Cortex-M0
  - 56K Flash & 2KB RAM
  - 1x USB-A
  - Support Protocol: UFCS / VOOC /QC
  - ES:2022Q1



- ARM Cortex-M0
- 16K Flash & 2KB RAM
- 1x USB-A
- Support Protocol: VOOC



## Rockchip Roadmap for MCU

**Application** 





Performance

### **RKNanoD**

2x M3 1MB SRAM Audio Codec USB2.0 OTG SDMMC & eMMC

#### **RKNanoC**

Cortex-M3 224KB SRAM Audio Codec USB2.0 OTG SDMMC **Built-in Power Supply** 

### **RK2206**

ARM M4F + HiFi-3 DSP 448KB SRAM Embedded Flash & PSRAM Audio ADCx3 & DACx1 USB2.0 OTG 802.11 b/g/n WiFi

#### **RK2108**

ARM M4F + HiFi-3 DSP 1.5MB SRAM Audio ADCx2 **USB 2.0** MIPI display Built-in LDOs



## Rockchip Roadmap for Interface & WiFi Chip

### **Application**



Interface chip



WiFI/BT Chip



### **RK630**

- Audio Codec
- Low power RTC
- 100M MAC PHY
- RGB To CVBS Out
- ES 2022Q1



## RK628D/E

- 4K @60fps HDMI input
- 4K@60fps GVI output
- 2K@60fps dual MIPI DSI Output
- 4k@30fps MIPI CSI Output
- 1080P@60fps dual LVDS Output
- Embedded MCU (RK628E)
- Audio interface
- I2C configured interface



### **RK618**

- RGB input interface
- LVDS output with dual channels
- MIPI display output
- HDMI1.4 display output
- Audio interface
- I2C configured interface



### **RK616**

- RGB input interface
- LVDS output
- HDMI1.4 display output
- Audio interface
- I2C configured interface



### **RK915**

- Low power WLAN connectivity
- Supports IEEE 802.11b/q/n
- Integrated design with internal PA, TR switch, Balun, LNA



## Rockchip Power Management IC

РМІС	DCDC	LDO & Switch	Charge	Gas Gauge	Codec	Package	Part Number	For Soc
RK818	4A*2 2.5A*2 Boost*1	150mA*4 100mA*1 300mA*3 400mA*1 HDMI-5V Switch *1/OTG	3A		_	QFN68 (7*7mm)	RK818-1 RK818-2 RK818-3	RK3288/RK3368 Sofia 3GR RK3399
RK817	2.5A*2 1.5A*2	400mA*8 100mA*1 OTG	3A	$\sqrt{}$	HP out*1 Mic in*2 1.3W Class D*1	QFN68 (7*7mm)	RK817-1 RK817-5 RK817-6	RK3326 PX30 RK3566/RK3568 RK3326-S
RK816B	2A*2 1A*2	300mA*5 100mA*1 OTG	2A	$\sqrt{}$	_	QFN40 (5*5mm)	RK816B-1 RK816B-2 RK816B-3 RK816B-6	RK3128/RK3126C RV1108 RK3308/PX3-SE RK3308B/H-S
RK812	1.5A*1	600mA*1 400mA*1 100mA*2	1A	-	HP out*1 Mic in*3 1.7W Class D*1	QFN36 (4*4mm)	RK812-1	RK2206



## Rockchip Power Management IC

РМІС	DCDC	LDO & Switch	Charge	Gas Gauge	Codec	Package	Part Number	For Soc
RK809	2.5A*3 1.5A*2	400mA*8 100mA*1 Switch *2	-	$\sqrt{}$	HP out*1 Mic in*2 1.3W Class D*1	QFN68 (7*7mm)	RK809-1 RK809-2 RK809-3 RK809-5 RK809-6	PX30 RK1808 RK3399PRO RK3566/3568 RK3326-S
RK808	5A*2 3A*1 2.5A*1	150mA*3 100mA*1 300mA*3 Switch *2	-	-	-	QFN68 (7*7mm)	RK808-B RK808-C RK808-D	RK3288/RK3368 RK3288 Chrome Book RK3399
RK806	6.5A*1 5A*3 2.5A*6	300mA PLDO*4 500mA PLDO*2 300mA NLDO*3 500mA NLDO*2	-	-	-	QFN68 (7*7mm)	RK806-1 RK806-2	RK3588
RK805	2.5A*2 1.5A*2	100mA*1 300mA*3	-	-	-	QFN32 (4*4mm)	RK805-1 RK805-2 RK805-3	RK3328/RK3228 RV1108 RK3128/RK3036
RK860	6A*1	-	-	-	-	WLCSP20 (1.65*2.0 5mm)	RK860-0 RK860-1 RK860-2 RK860-3	RK3588 RK3568/RK3566 RK3399 RK3288

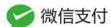


## 3D Structured Light Module Series

### **Wechat Pay/Union Pay**

### RMSL201







- 3x UVC with 1 USB2.0 interface
- BCTC certification
- Wechat certification
- MP

### RMSL205







- 3x UVC with 1 USB2.0 interface
- Support outdoor application, 50-100000lux
- Applicable to be independent peripheral
- BCTC certification
- Wechat certification
- MP

### Union Pay

### RMSL202





- In-module liveness algorithm
- UVC with USB 2.0
- Customized
- BCTC certification
- MP

### RMSL204





- In-module liveness algorithm
- UVC with USB 2.0
- Ultrathin design for hand-held terminal
- BCTC certification
- DVT

### intelligent door lock





- In-module liveness algorithm
- Very Simple UART interface
- Support outdoor application
- Very small and exquisite design for Smart Lock



# Thank You!

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