

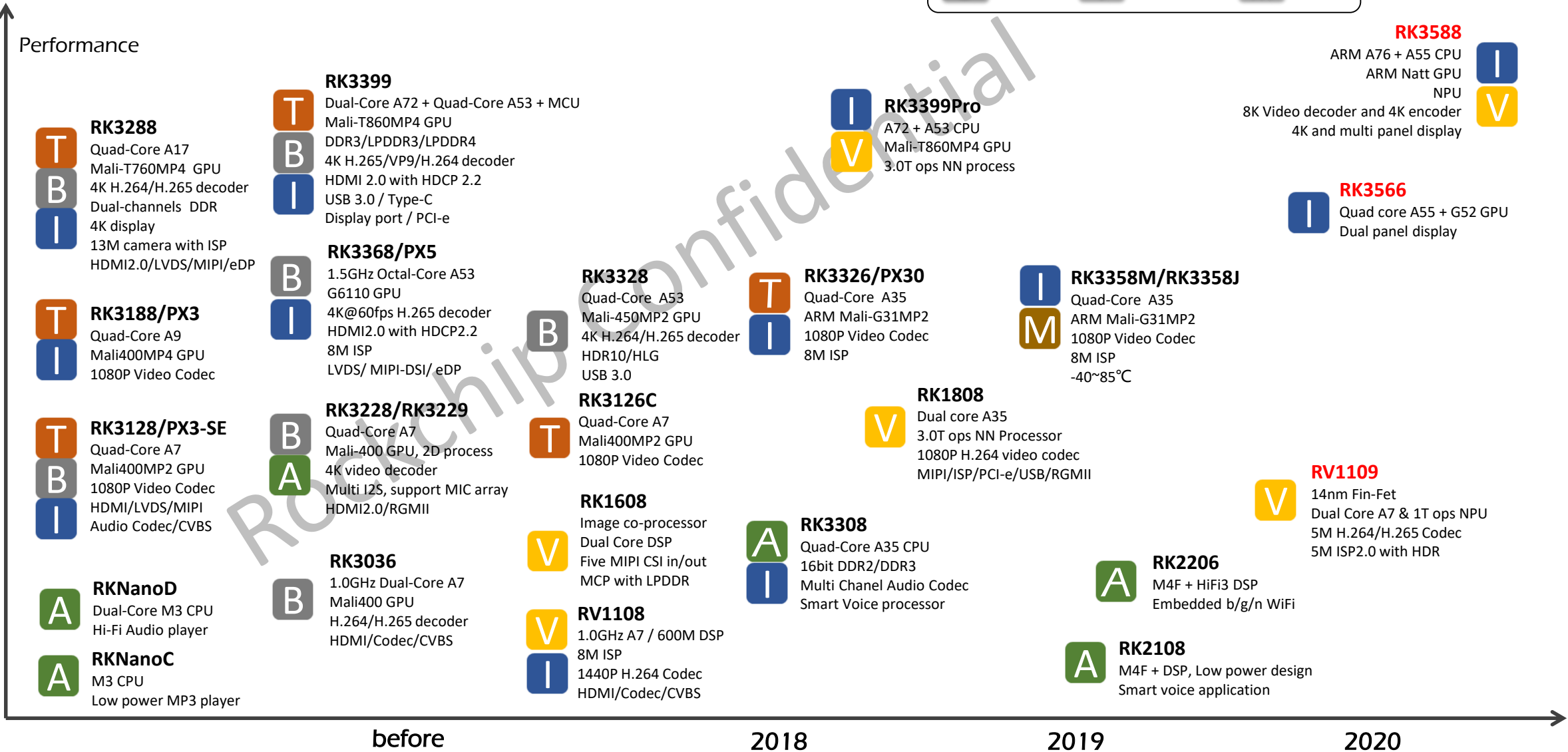


Rockchip Processor Roadmap

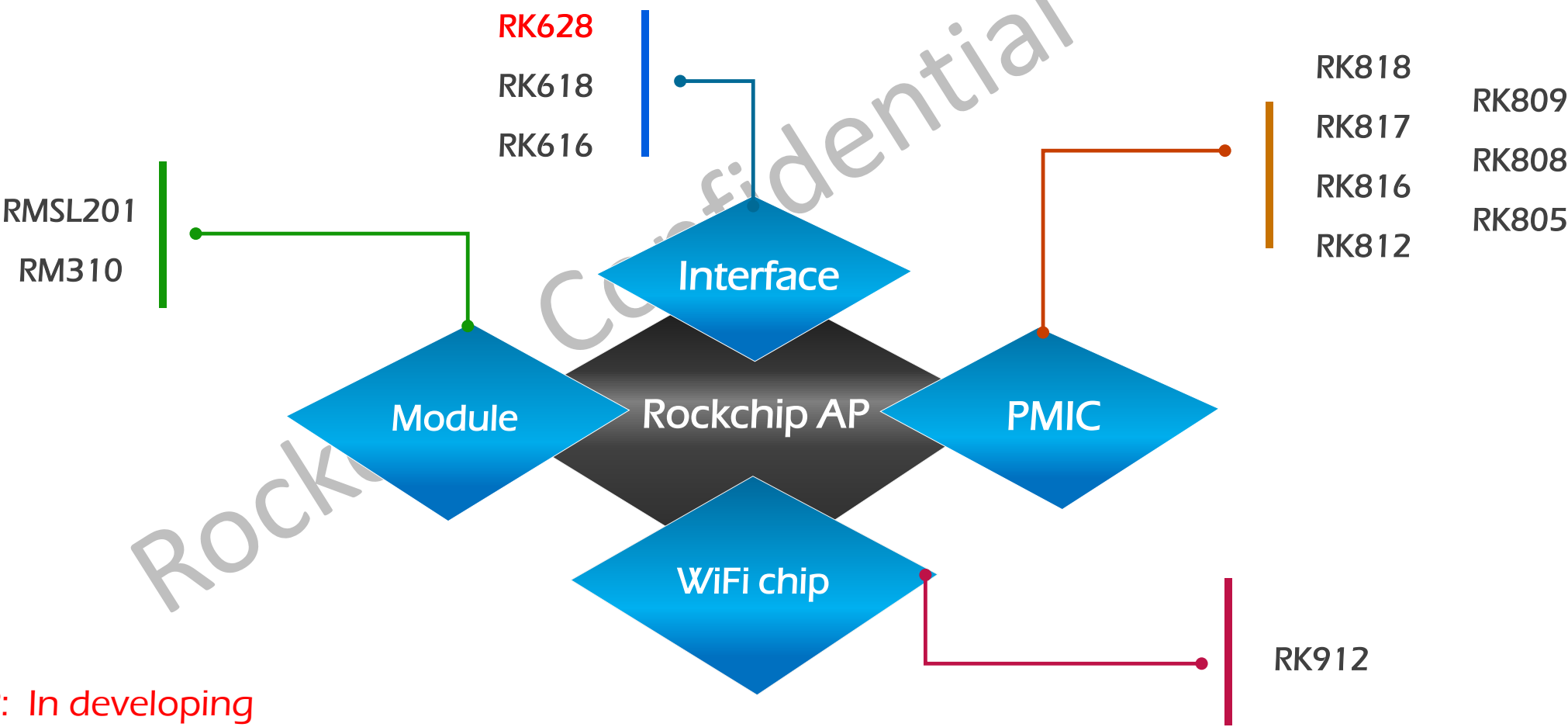
2019.11

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Rockchip Processor Roadmap



Rockchip auxiliary Products Structure



CHIP: In developing
CHIP: MP Ready

Rockchip Commercial and Industrial Grade SoC

Chips	Consumer Grade 0~80℃	Commercial Grade -20~85℃	Auto Grade -40~85℃	Industrial Grade -40~85℃
RK3399 Series	RK3399	RK3399K		
RK3288 Series	RK3288/RK3288W	RK3288K		
RK3368 Series	RK3368	PX5		
PX30 Series	PX30	PX30K	RK3358M	RK3358J
RK3308 Series	RK3308/RK3308G/RK3308B/RK3308H	RK3308GK/RK3308K		
RV1108 Series	RV1108A/ RV1108G		RV1108K1	
RK1808 Series	RK1808	RK1808K		

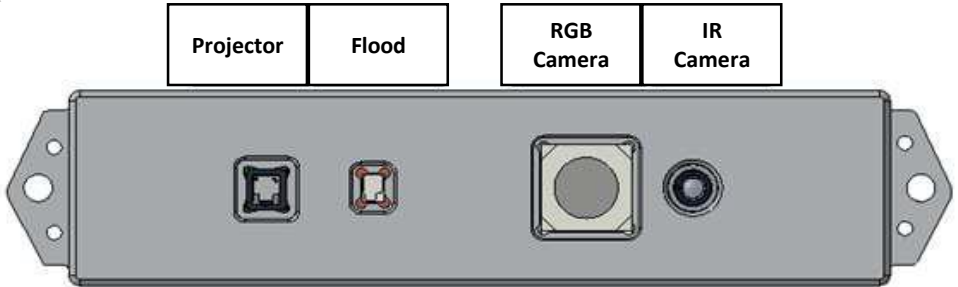
1. Commercial、Auto and Industrial Grade chipset support 10years long term supply
2. RK3358M support AEC-Q100

Rockchip Power Management IC

PMIC	DCDC	LDO & Switch	Charger	Gas Gauge	Codec	Package	Part Number	For Soc
RK817	2.5A*2 1.5A*2	400mA*8 100mA*1 OTG	3A	√	HP out Mic in*2 1.3W Class D*1	QFN68 (7*7mm)	RK817-1	RK3326 PX30
RK818	4A*2 2.5A*2 Boost*1	150mA*4 100mA*1 300mA*3 400mA*1 HDIM5V Switch *1/OTG	3A	√	–	QFN68 (7*7mm)	RK818-2	RK3288/RK3368
							RK818-3	RK3399
RK816B	2A*2 1A*2	300mA*5 100mA*1 OTG	2A	√	–	QFN (5*5mm)	RK816-1	RK3128/RK3126C
							RK816-2	RV1108
							RK816-3	RK3308/PX3-SE
RK812	1.5A*1	600mA*1 400mA*1 100mA*2	1A Linear	–	Line out Mic in*3 1.7W Class D*1	QFN (4*4mm)	RK812-1	RK2206
RK809	2.5A*3 1.5A*2	400mA*8 100mA*1 Switch *2	–	√	HP out Mic in*2 1.3W Class D*1	QFN68 (7*7mm)	RK809-1	PX30
							RK809-2	RK1808
							RK809-3	RK3399PRO
RK808	5A*2 3A*1 2.5A*1	150mA*3 100mA*1 300mA*3 Switch *2	–	–	–	QFN68 (7*7mm)	RK808-B	RK3288/RK3368
							RK808-C	RK3288 Chrome Book
							RK808-D	RK3399
RK805	2.5A*2 1.5A*2	100mA*1 300mA*3	–	–	–	QFN32 (4*4mm)	RK805-1	RK3328/RK3228
							RK805-2	RV1108
							RK805-3	RK3128/RK3036

RMSL201 3D structured light module

Device	Parameter	Description
Module	Baseline	40mm
	Precision(Depth)	±1mm@60mm
	Size(L*W*H, unit: mm)	88.6x19.2x17.9
	Interface	USB2.0
	Power Consumption(typical)	2.45W
	Effective Distance(Unit: m)	0.3~1.2
Speckle Projector	Laser type	VCSEL
	Wavelength	940 nm(Typ.)
	FOV	D92.1°±3°
IR Camera	Resolution	800*1280/720*1280/ 400*640/360*640
	FPS	30fps(IR@15fps+DEPTH@15fps)
	FOV	79.10°±3° (OPT) 80.50°±3° (ME)
RGB Camera	Resolution	1080*1920/ 1440*1920/480*640
	FPS	30fps
	FOV	DIAGONAL =84.0° HORIZONTAL=71.5° VERTICAL = 56.6°
	Encoding	MJPEG



Function	Application
Face Recognition	Payment、Gate、Certification-machine
Robot	Obstacles avoidance
Motion Sensing	Game、Gesture、VR

RM310 4G module

Key Benefits

- Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- Compact SMT form factor ideal for small end products with tight space
- A rich set of Internet protocols, industry-standard interfaces and abundant functionalities
- A wide range of M2M applications

Key Features

Frequency Bands	LTE-FDD: B1/B3/B5/B8 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B5/B8 GSM:900/1800
Data	LTE-FDD: Max 100Mbps (DL)/Max 50Mbps (UL) LTE-TDD: Max 100Mbps (DL)/Max 50Mbps (UL) WCDMA: Max 21Mbps (DL)/Max 5.76Mbps (UL) GPRS: Max 85.6Kbps (DL)/Max 85.6Kbps (UL)
Bandwidth	1.4/3/5/10/15/20MHz
MIMO	DL MIMO, receive diversity
Power Supply	Supply voltage:3.3V~ 4.3V, Typical supply voltage:3.8V
Temperature Range	-40℃ ~ +85℃
Dimensions	32.0mm×29.0mm×2.6mm
Package	144pin LCC

Interfaces

USB	USB 2.0 with High Speed up to 480Mbps
PCM	options
USIM	1.8V/3.3V
UART	x2
NETLIGHT	NET_STATUS and NET_MODE
RESET	Active Low
PWRKEY	Active Low
Antennas Interface	Primary Antenna, Rx-diversity Antenna
ADC	x2
GPIO	GPIO



RK912 80.11 b/g/n Wi-Fi chip

Main Features

- 40-pin QFN
- IEEE 802.11b/g/n 2.4G
- Compliant with SDIO Specification Version 3.00
- Highly integrated PA, TR switch, Balun, LNA for low BOM cost
- Power Saving Mechanism

Applications

- This product is applicable for Tablet , OTT box , IP Camera , etc. Wi-Fi application

RK3399Pro Application Processor

Core

- Big.Little architecture: Dual-core Cortex-A72+Quad-core Cortex-A53, 64-bit CPU
- ARM Mali-T860MP4 GPU, OpenGL ES1.1/2.0/3.0/3.1/3.2, Vulkan 1.0, OpenCL 1.2, DX11
- NPU: 1920 INT8 MACs/192 INT16 MACs/64 FP16 MACs , MAX to 800MHz

Memory

- Dual channel DDR3-1866/DDR3L-1866/LPDDR3-1866/LPDDR4-1866
- Support eMMC 5.1 with HS400, SDIO 3.0 with HS200

Multimedia

- 4K VP9 and 4K 10-bit H.265/H.264 video decoder, up to 60fps
- 1080P other video decoders (VC-1, MPEG-1/2/4, VP8)
- 1080P video encoders for H.264 and VP8
- Security Video Path, OP-TEE, support Widevine Level1, PlayReady
- Video post processor: de-interlace, de-noise, enhancement for edge/detail/color

Display

- Dual display engine up to 4096x2160 and 2560x1600
- Dual channel MIPI-DSI TX, 4 lanes per channel
- eDP 1.3 with PSR, 4 lanes up to 10.8Gbps
- HDMI 2.0a with HDCP 1.4/2.2, up to 4K 60Hz
- DisplayPort 1.2 with 4 lanes, up to 4K 60Hz
- HDR10/HLG display with conversion between Rec.2020 and Rec.709

Camera

- Dual 13MPixel ISP and dual MIPI CSI-2

Other

- Built-in dual Type-C with USB 3.0 and DisplayPort Alternate mode
- PCIe v2.1 (4 full-duplex lanes), up to 2.5Gbps/lane
- Embedded RGMII interface three channels I2S, SPDIF output

PMU

- RK808-D / RK818-3

Availability

- MP Now

RK3399Pro

AIOT Processor

3.0T ops
High Performance
NPU

High Performance
CPU/GPU

EDGE AI Server

RK1808 AIOT Processor

Core

- Dual core ARM Cortex-A35, 1.6GHz

NPU

- 1920 INT8 MACs/192 INT16 MACs/64 FP16 MACs
- MAX to 800MHz

Memory

- 32bit DDR3-1600/DDR3L-1600/ LPDDR2-1066 /LPDDR3-1600
- Support eMMC 4.51, Serial Nor Flash booting

Multi-Media

- 1080P H.264 video encoder/decoder
- 2M ISP with MIPI-CSI/ 5M DVP input
- BT.1120 and UVC interface

Display

- MIPI-DSI/RGB interface

External interface

- RGMII interface
- PCI-e 2.1, dual link; mux with USB 3.0
- USB 2.0 OTG and USB 2.0 host
- Dual SDIO 3.0 interface for Wi-Fi and SD card
- 8ch I2S with TDM/PCM, 2ch I2S, VAD function
- I2C/UART/SPI interface

Package

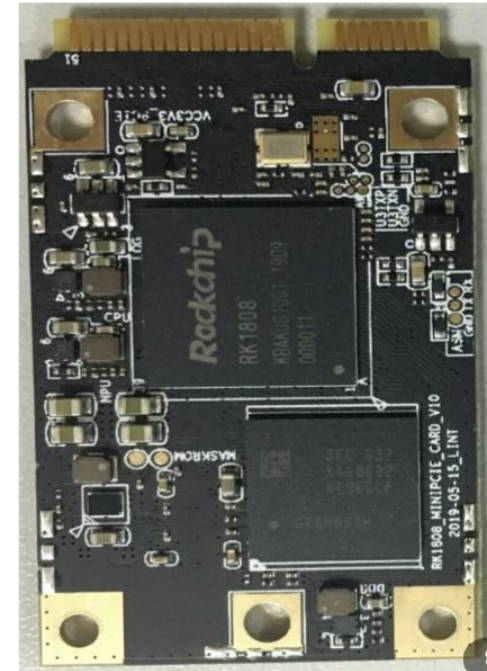
- FCCSP420LD 14X14, 0.5mm pitch

Availability

- MP Now



RK1808
USB3.0 AI



RK1808
PCI-e AI
Neural Computational Stick Accelerator Card

RK1808/RK3399Pro NPU Operational Performance

3.0 TOPs

(300 GOPs for INT16, 100 GFLOPs for FP16)

CNN Module		FPS
VGG16		51.23
ResNet50		75.39
Inception_v4		18.36
YOLO_v2		44.78
DeepSpeech2	Real-time rate	0.167
	Accuracy WER (LibriSpeech)	16.1

- **Easy Programming**

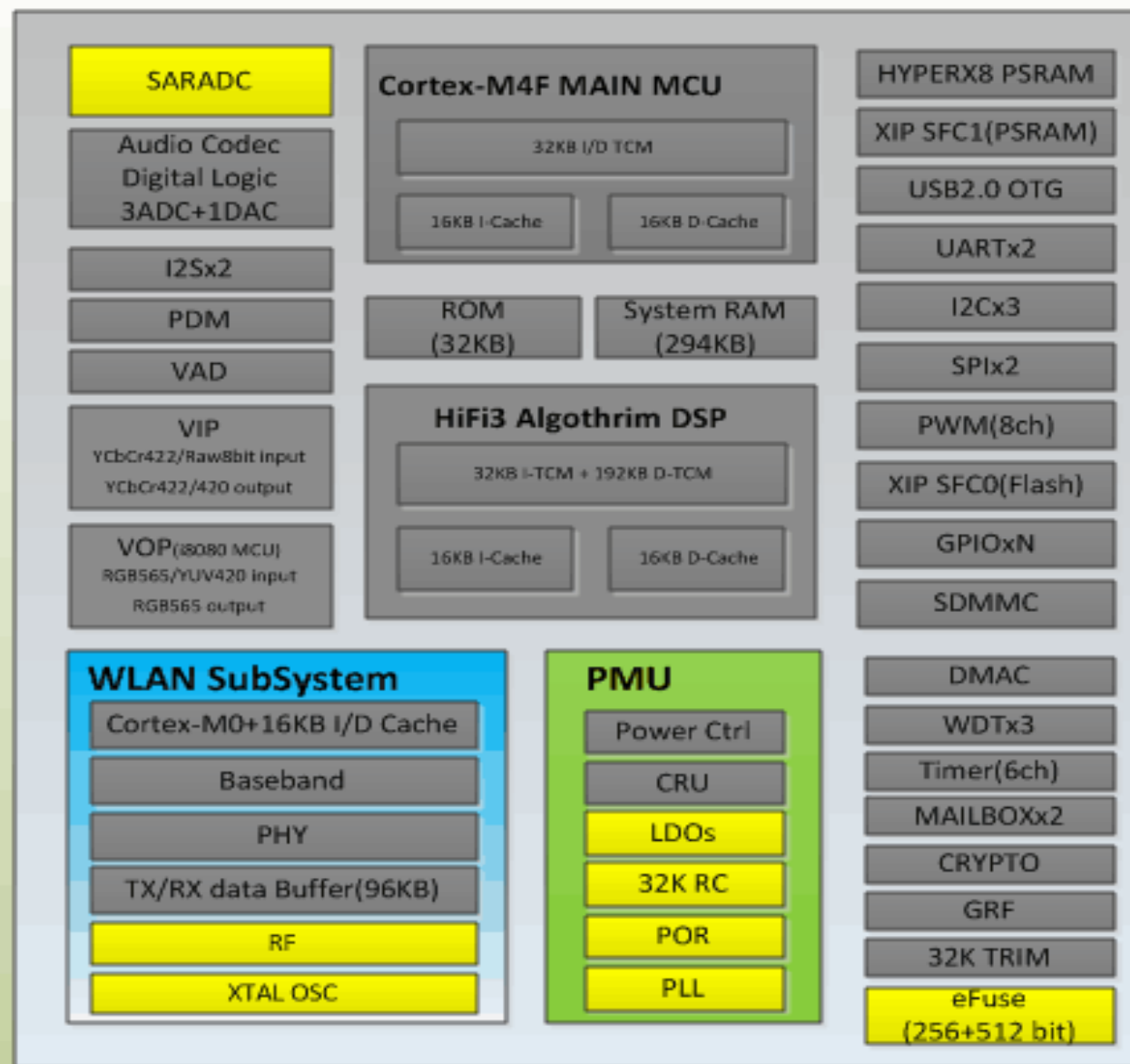
- One-Button Mapping: Caffe/TensorFlow directly converted to HW binaries
- OpenCL/OpenVX for creating custom NN layers or pre-processing CV functions

- **Heterogeneous Computing**

- NN Cores for convolution and FC layers
- CPU/PPU for precision compute and for future network layers

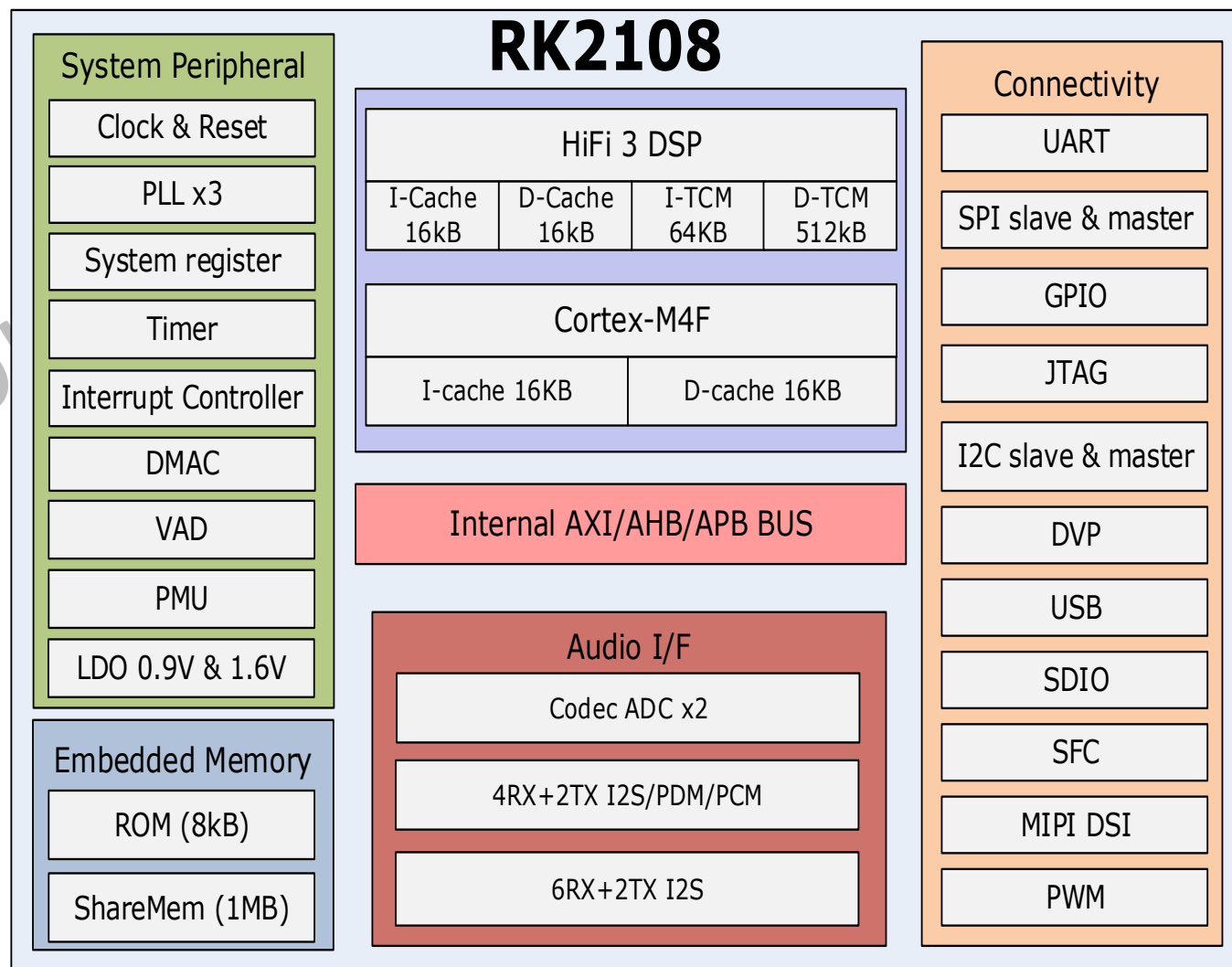
RK2206 SoC Spec and Block Diagram

- ARM Cortex-M4F
- Cadence Tensilica HiFi3 Audio DSP
- WLAN 802.11 b/g/n
- Embedded PSRAM
- Embedded SPI Nor FLASH
- SDMMC3.0
- Acodec (RK812)
 - 3x ADC 1xDAC
 - Class D Audio PA
- Digital Audio Interface
 - 4CH I2S/TDM/PCM
- Connectivity
 - USB 2.0 OTG
 - MCU LCD Interface
 - 8bit DVP Camera Interface
 - UART , SPI , I2C , PWM
- Package QFN68 7*7
- Availability: MP Now



RK2108 SoC Spec and Block Diagram

- ARM Cortex-M4F
- Cadence Tensilica HiFi3 Audio DSP
- Embedded 1.5MB SRAM+DTCM
- Embedded LDOs
- SPI Nor FLASH,
- SD/MMC 3.0 SDIO 3.0
- Digital Audio Interface
 - 4CH RX,2CH TX I2S/PDM/PCM
 - 6CH RX,2CH TX I2S
- Acodec
 - 2x ADC for MIC IN and LINE IN
- Connectivity
 - USB 2.0 Device
 - MIPI DSI / MCU LCD interface
 - 12bit DVP camera interface
 - UART , SPI , I2C , PWM
 - Total 42 GPIOs
- Package QFN68 7*7
- Availability: MP Now



RK3399 Application Processor

Core

- Big.Little architecture: Dual-core Cortex-A72+Quad-core Cortex-A53, 64-bit CPU
- ARM Mali-T860MP4 GPU, OpenGL ES1.1/2.0/3.0/3.1/3.2, Vulkan 1.0, OpenCL 1.2, DX11

Memory

- Dual channel DDR3-1866/DDR3L-1866/LPDDR3-1866/LPDDR4-1866
- Support eMMC 5.1 with HS400, SDIO 3.0 with HS200

Multimedia

- 4K VP9 and 4K 10-bit H.265/H.264 video decoder, up to 60fps
- 1080P other video decoders (VC-1, MPEG-1/2/4, VP8)
- 1080P video encoders for H.264 and VP8
- Security Video Path, OP-TEE, support Widevine Level1, PlayReady
- Video post processor: de-interlace, de-noise, enhancement for edge/detail/color

Display

- Dual display engine up to 4096x2160 and 2560x1600
- Dual channel MIPI-DSI TX, 4 lanes per channel
- eDP 1.3 with PSR, 4 lanes up to 10.8Gbps
- HDMI 2.0a with HDCP 1.4/2.2, up to 4K 60Hz
- DisplayPort 1.2 with 4 lanes, up to 4K 60Hz
- HDR10/HLG display with conversion between Rec.2020 and Rec.709

Camera

- Dual 13MPixel ISP and dual MIPI CSI-2

Other

- Built-in dual Type-C with USB 3.0 and DisplayPort Alternate mode
- PCIe v2.1 (4 full-duplex lanes), up to 2.5Gbps/lane
- Embedded RGMII interface three channels I2S, SPDIF output

PMU

- RK808-D / RK818-3

Availability

- MP Now

RK3399

High End Tablet

High End TV BOX

AI Processor Robot
IOT

Chromebook
Chrome Tablet

VR HMD
VR Station

RK3288 Application Processor

Core

- Quad-Core A17 CPU, up to 1.8GHz
- ARM Mali-T760MP4, support OpenGL ES1.1/2.0/3.0, OpenVG1.1, OpenCL, Directx11

Memory

- DDR3-1333/LPDDR3-1066/LPDDR2-1066
- Support MLC NAND, eMMC 4.51

Multi-Media

- 4K 10-bits 60fps H.265 video decoder, 4K H.264 video decoder
- 1080P 60fps video decoders (VC-1, MPEG-1/2/4, VP8)
- 1080P video encoder for H.264 and VP8
- Video post processor: de-interlace
- embedded 13MPixel ISP and MIPI-CSI2 interface
- Security video path, support Widevine Level1, PlayReady

Display

- Display resolution up to 3840X2160
- Support dual display, embedded dual MIPI-DSI, dual LVDS, eDP1.1
- HDMI 2.0 for 4K display, support HDCP 1.4/2.2

External interface

- SDIO 3.0 interface
- I2S supports 8 channels TX
- Embedded RGMII interface
- Triple USB2.0 embedded

Package

- BGA636 19mmX19mm, 0.65mm pitch

PMU

- RK808-B / RK818-1 / RK808-C

Availability

- MP Now

RK3288

High End Tablet

4K TV Box Solution

IOT Application

Chromebook

VR HMD

RK3368 Application Processor

Core

- Octal 64bit ARM Cortex-A53 Big/Little core, up to 1.5GHz
- Imagination GC6110 GPU, support OpenGL ES1.1/2.0/3.0, OpenVG1.1, OpenCL

Memory

- 32bit DDR3-1600/DDR3L-1600/LPDDR3-1333
- Support MLC NAND, eMMC 4.51, Serial Nor Flash booting

Multi-Media

- 4K@60fps H.265 decoder, 4K@30fps H.264 Video decoder (RK3368)
- 1080P H.264/H.265 video decoder (RK3368H)
- 1080P other video decoders (VC-1, MPEG-1/2/4, VP8)
- 1080P video encoder for H.264 and VP8
- Security video path, support Widevine Level1, PlayReady
- DTV functions, include TS IF/Demux/PID filter/Descrambler (RK3368 Only)

Display

- eDP1.1/LVDS/MIPI-DSI/RGB interface, up to 2048x1536 resolution
- HDMI 2.0 for 4K YUV420@60Hz with HDCP 1.4/2.2

Camera

- Embedded 8MPixel ISP
- 4-lane MIPI-CSI2 and DVP interface

External interface

- Dual SDIO 3.0 interface for Wi-Fi and SD card
- I2C/I2S/UART/SPI/SPDIF interface
- embedded 1000M RGMII interface (RK3368 Only)
- Dual USB2.0 port, OTG and HOST

Package

- BGA453 19mmX19mm, 0.8mm pitch

PMU

- RK808-B / RK818-1

Availability

- MP Now

RK3368

64bit Octa-Core
CPU

OPENGL ES3.0
GPU

Mainstream Tablet

4K OTT BOX

PX30 Application Processor

Core

- Quad Core ARM Cortex-A35 CPU
- Mali-G31 MP2 GPU, support OpenGL ES 3.2, Vulkan 1.0, OpenCL 2.0

Memory

- 32bit DDR4-1600/DDR3-1600/DDR3L-1600/LPDDR3-1600/LPDDR2-1066
- Support MLC NAND, eMMC 4.51, Serial Nor Flash booting

Multi-Media

- 1080P H.265/H.264/VC-1/MPEG/VP8 video decoder
- 1080P video encoder for H.264/VP8
- 4-lane MIPI-CSI2 and DVP interface, embedded 8M ISP

Display

- Dual VOP
- LVDS/MIPI-DSI + RGB interface

External interface

- Dual SDIO 3.0 interface for Wi-Fi and SD card
- Support one 8ch I2S/TDM, one 8ch PDM, two 2ch I2S
- RMII/I2C/UART/SPI/PWM interface

Package

- BGA418 14X14, 0.65mm pitch

PMU

- RK817 / RK809

Availability

- MP Now

PX30

64bit Octa-Core
CPU

OPENGL ES3.2
Vulkan V1.0
OpenCL V2.0 GPU

1080P 60fps
H.264/H.265
Video Decoder

RK3326 Application Processor

Core

- Quad Core ARM Cortex-A35 CPU, up to 1.5GHz
- Mali-G31 MP2 GPU, support OpenGL ES 3.2, Vulkan 1.0, OpenCL 2.0

Memory

- 32bit DDR4-1600/DDR3-1600/DDR3L-1600/LPDDR3-1600/LPDDR2-1066
- Support MLC NAND, eMMC 4.51, Serial Nor Flash booting

Multi-Media

- 1080P H.265/H.264/VC-1/MPEG/VP8 video decoder
- 1080P video encoder for H.264/VP8
- 4-lane MIPI-CSI2 and DVP interface, embedded 8M ISP

Display

- LVDS/MIPI-DSI/RGB interface

External interface

- Dual SDIO 3.0 interface for Wi-Fi and SD card
- Support one 8ch I2S/TDM, one 8ch PDM, two 2ch I2S
- I2C/UART/SPI interface

Package

- BGA418 14X14, 0.65mm pitch

PMU

- RK817 / RK809

Availability

- MP now

RK3326

Middle Level
Tablet Solution

Smart Audio
With Panel Support

64bits CPU
OpenGL ES3.2 GPU

RK3128 Application Processor

Core

- Quad-Core ARM Cortex-A7 CPU, up to 1.2GHz
- ARM Mali-400MP2 GPU

Memory

- 32bits DDR3-1066/DDR3L-1066
- Support MLC NAND, eMMC 4.51, Serial Nor FLASH Booting

Multi-Media

- 1080P 60fps H.265/H.264/VC-1/MPEG/VP8 video decoder,
- 1080P video encoder for H.264
- Video post processor: de-interlace
- DTV functions, include TS IF/Demux/PID filter/Descrambler

Display

- LVDS/MIPI-DSI/RGB interface
- HDMI1.4 transmitter with HDCP 1.2
- CVBS encoder and output

External interface

- I2C/I2S/UART/SPI/SPDIF interface
- Dual SDIO interface for SD card and Wi-Fi
- Embedded audio Codec
- 1000M RGMII interface
- Dual USB2.0 port, OTG and HOST

Package

- BGA316 14mmX14mm, 0.65mm pitch

PMU

- RK816-1 / RK818-1

Availability

- MP Now

RK3128

Entry Level Tablet

1080P OTT BOX

IOT Application

High integration
HDMI, LVDS, CVBS
Audio Codec, RGMII

RK3126C Application Processor

Core

- Quad Core ARM Cortex-A7 CPU, up to 1.2GHz
- ARM Mali-400MP2 GPU

Memory

- 16bits DDR3-1066/DDR3L-1066
- Support MLC NAND, eMMC 4.51, Serial Nor FLASH Booting

Multi-Media

- 1080P H.264/VC-1/MPEG/VP8 video decoder
- 1080P video encoder for H.264/VP8
- Video post processor: de-interlace

Display

- LVDS/MIPI-DSI/RGB interface

External interface

- I2C/I2S/UART/SPI interface
- SDIO interface for SD card
- Embedded audio Codec
- Dual USB2.0 port, OTG and HOST

Package

- LQFP176 20mm x 20mm

PMU

- RK816-1 / RK818-1

Availability

- MP Now

RK3126C

Entry Level
Quad Core AP

Security System
For Android N

1080P Video
Decoder

High integration
LVDS, MIPI
Audio Codec

RK3328 OTT BOX Application Processor

CPU and GPU

- Quad Cortex-A53, 64bit CPU, up to 1.5GHz
- ARM Mali-450MP4 GPU, OpenGL ES1.1/2.0

Memory

- 32 bits DDR3-1800/DDR3L-1800/LPDDR3-1800/DDR4-2133
- eMMC 4.51, SDIO 3.0, SDcard 3.0

Multi-Media

- 4K 10bits 30fps H.264 video decoder, 4K 10bits 60fps H.265 video decoder
- 1080P video decoders (WMV, MPEG-1/2/4, VC-1, AVS, AVS+, ...)
- HDR10, HLG HDR
- 1080P@30fps video encoders for H.264/H.265
- Video post processor: de-interlace, de-noise, enhancement for edge/detail/color

Display

- HDMI 2.0a for 4K 60Hz with HDCP 1.4/2.2
- Support BT2020/BT709 display

External interface

- USB 2.0 x2 and USB 3.0 x1
- 100M Ethernet with built-in PHY and 1000M MAC interface
- Built-in CVBS and audio DAC
- 8 channels I2S IO and 8 channel digital PDM input (for MIC array)

Security

- TrustZone based security, Secure content path
- SecureOS, OPTEE, Widevine L1/ PlayReady / ChinaDRM

Package

- BGA395, 14mmx14mm, 0.65 pitch

Availability

- MP Now

RK3328

High Performance
OTT BOX

4KP60
H.264/H.265

4K HDR10/HLG

Dual Ethernet

USB 3.0

RK3228/RK3229 Application Processor

Core

- Quad-Core ARM Cortex-A7 CPU, up to 1.5GHz
- Mali-400 triple core and dual core 2D processor

Memory

- 32bit DDR3-1600/DDR3L-1600/LPDDR3-1333/LPDDR2-1066
- Support MLC NAND, eMMC 4.51, Serial Nor Flash booting

Multi-Media

- 4K 10-bits 60fps H.265/H.264/VP9 video decoder (30fps for RK3228)
- 1080P other video decoders (VC-1, MPEG-1/2/4, VP8)
- 1080P video encoder for H.264 and VP8
- Video post processor: de-interlace
- Security video path, support Widevine Level1, PlayReady (RK3229)

Display

- HDMI 2.0 for 4K YUV420@60Hz with HDCP 1.4/2.2

External interface

- Dual SDIO 3.0 interface for Wi-Fi and SD card
- I2S interface, supports 8 channels RX or 8 channels TX
- I2C/UART/SPI/SPDIF interface
- Embedded audio DAC
- Embedded TV encoder and CVBS output
- Embedded 1000M RGMII interface and 100M MAC PHY

Package

- BGA316 14mmX14mm, 0.65mm pitch

Availability

- MP Now

RK3228/RK3229

4K OTT BOX

Smart Audio
Processor
RK3229

4K 60fps
H.264/H.265
Video Decoder

High integration
HDMI, CVBS
Audio Codec
RGMII, MAC PHY

RK3128H Application Processor

Core

- Quad-Core ARM Cortex-A7 CPU, up to 1.2GHz
- Mali-400 triple core and dual core 2D processor

Memory

- 32bit DDR3-1333/DDR3L-1333/LPDDR3-1333/LPDDR2-1066
- Support MLC NAND, eMMC 4.51, Serial Nor Flash booting

Multi-Media

- 1080P60 H.265/H.264 video decoder,
- 1080P other video decoders (VC-1, MPEG-1/2/4, VP8)
- 1080P video encoder for H.264 and VP8
- Video post processor: de-interlace
- Support security and non-security mode

Display

- HDMI 1.4 for 1080P @60Hz with HDCP 1.4

External interface

- Dual SDIO 3.0 interface for Wi-Fi and SD card
- I2C/UART/SPI/SPDIF interface
- Embedded audio DAC
- Embedded TV encoder and CVBS output
- Embedded 1000M RGMII interface and 100M MAC PHY

Package

- BGA316 14mmX14mm, 0.65mm pitch

Availability

- MP Now

RK3128H

Entry Level Solution

1080P OTT BOX

1080P60
H.264/H.265
Video Decoder

High integration
HDMI, CVBS
Audio Codec
RGMII, MAC PHY

RK3036 Application Processor

Core

- Dual-Core A7 CPU, up to 1.0GHz
- ARM Mali-400 GPU

Memory

- 16bits DDR3-1066/DDR3L-1066
- Support MLC NAND, eMMC 4.51, Serial Nor FLASH Booting

Multi-Media

- 1080P H.265/H.264/VC-1/MPEG/VP8 video decoder

Display

- HDMI 1.4 transmitter with HDCP 1.2
- CVBS output

External interface

- I2C/I2S/UART/SPI/SPDIF interface
- SDIO interface for SD card
- 100M MAC (RMII) interface
- Dual USB2.0 port, OTG and HOST
- Embedded audio DAC

Package

- BGA236 12mm x 12mm

Availability

- MP Now

RK3036

TV Dongle Solution

1080P H.265
Video Decoder

High integration
HDMI, CVBS
Audio DAC, RMII

RK3308/RK3308B Application Processor

Core

- Quad Core ARM Cortex A35 CPU, up to 1.3GHz

Memory

- 16bits DDR2/DDR3/LPDDR2
- Support SLC NAND, eMMC 4.51, Serial Nor FLASH Booting
- embedded 64MB DDR2 (RK3308G/RK3308H)

Acodec

- 8x ADC for analog MIC In and Line in
- Stereo HP Out and Line Out

Digital Audio Interface

- 8TX+8RX, 8CH, 2CH I2S/TDM/PCM
- 8CH PDM IN
- SPDIF IN/OUT, HDMI ARC support
- Embedded VAD(Voice Activation Detection)

External interface

- I2C/UART/SPI interface
- SDIO 3.0
- SD/MMC 3.0
- 100M MAC (RMII) interface
- RGB/8080 display interface
- Dual USB2.0 port, OTG and HOST

Package

- TFBGA355 13mm x 13mm

Availability

- MP now

RK3308

Smart Audio
Solution

Quad Core A35

Digital & Analog
MIC

High Performance
Audio Codec

Voice Activation
Detection

RV1108 Application Processor

Core

- ARM Cortex A7, single core 1GHz
- 600M CEVA XM4 high performance DSP

Memory

- 16-bit DDR3-1866/DDR3L-1600
- Support Serial NOR Flash, SLC, eMMC

Video process

- H264 Video Codec, up to 1440P@30fps, 1080P@60fps
- Low bitrate/high quality encoding, CBR and VBR rate control mode

ISP and Video input

- 8MPixel ISP with WDR, AE/AWB/AF
- MIPI CSI and DVP Sensor interface
- CVBS IN function, support multi CVBS-in through external chipset

Display

- HDMI 1.4, 1080P@60fps output; CVBS output
- Parallel RGB888/Serial RGB888/MIPI interface to panel

External interface

- Embedded audio codec and three I2S, support 8ch Tx or Rx audio
- RMII for Ethernet
- Dual SDIO for Card and WIFI
- Uart, SPI for BT/GPS

Package

- BGA, 14mmx14mm
- Embedded 128MB DDR3 (RK1108G)

PMU

- RK805-2 / RK816-2

Availability

- MP Now

RV1108

Car Video Recorder

Sport DV

Vision Processor

Surveillance
Application

Drone Recorder

RKNanoD Audio/IOT Processor

Core

- Dual ARM Cortex-M3 CPU
- 250MHz system core and 500MHz calculate core

Memory

- 320K IRAM and 256K DRAM for system core
- 128K IRAM and 256K DRAM for calculate core
- 16K byte boot ROM and 64K always on SRAM
- SPI NAND, SPI NOR, eMMC/ SD Card memory interface

Audio

- H/W accelerator for lossless audio decoding
- H/W accelerator for low power MP3 playback
- 192K/24bit audio codec with earphone driver

Display

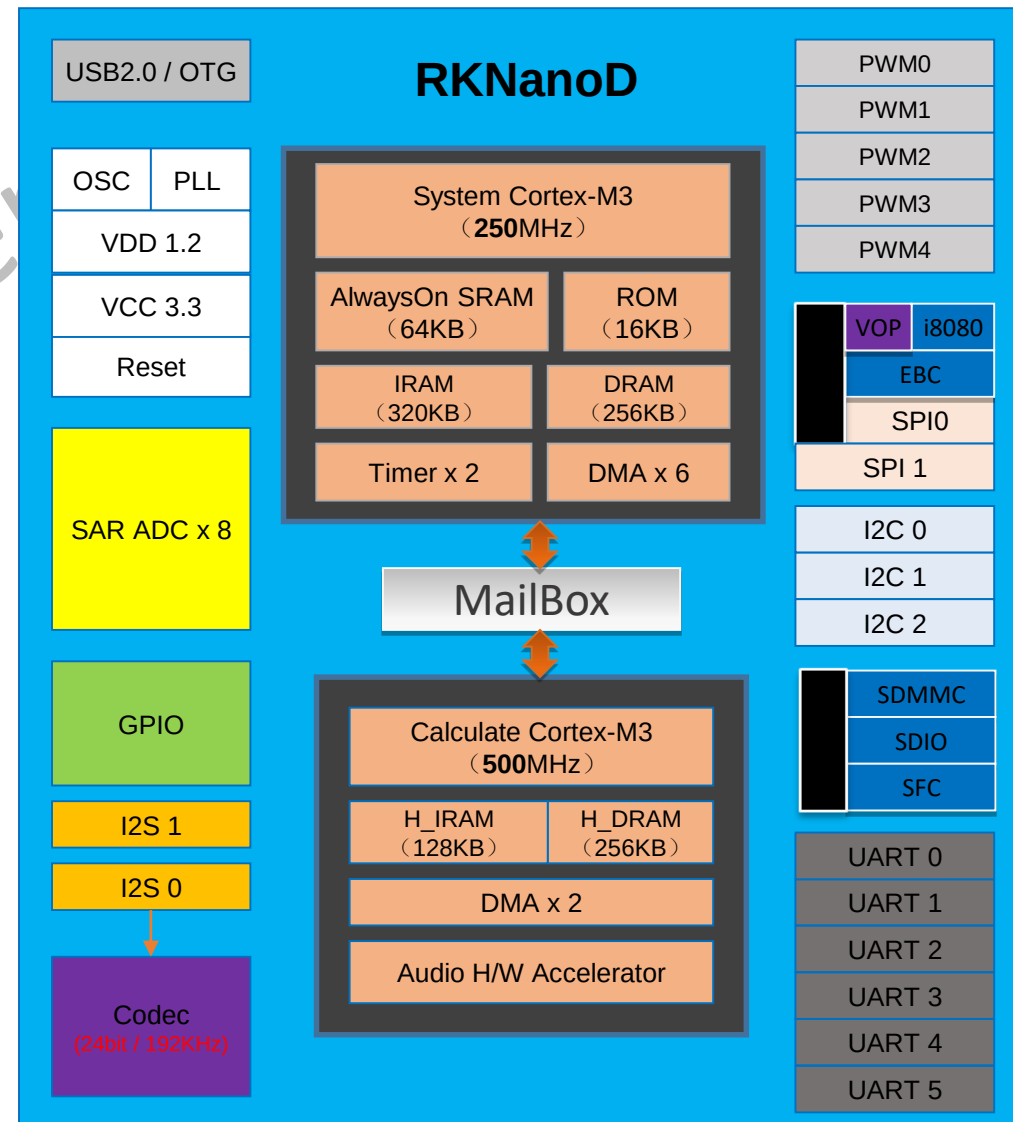
- i8080/SPI/E-INK LCD interface
- SDIO, UART, I2S interface
- USB2.0 OTG

Package

- LQFP128 and QFN68

Availability

- MP now



RKNanoC Audio/IOT Processor

Core

- ARM Cortex-M3, 100MHz

Memory

- 80K Byte IRAM and 64KByte DRAM
- Boot from SPI Nor flash or MLC NAND

Power

- High efficiency DCDC and LDO
- Max 200mA charger
- Power path management

Audio

- Lower power cap-less Audio-DAC
- Low power class-G HP driver
- Only 20mW @MP3 playback

Display

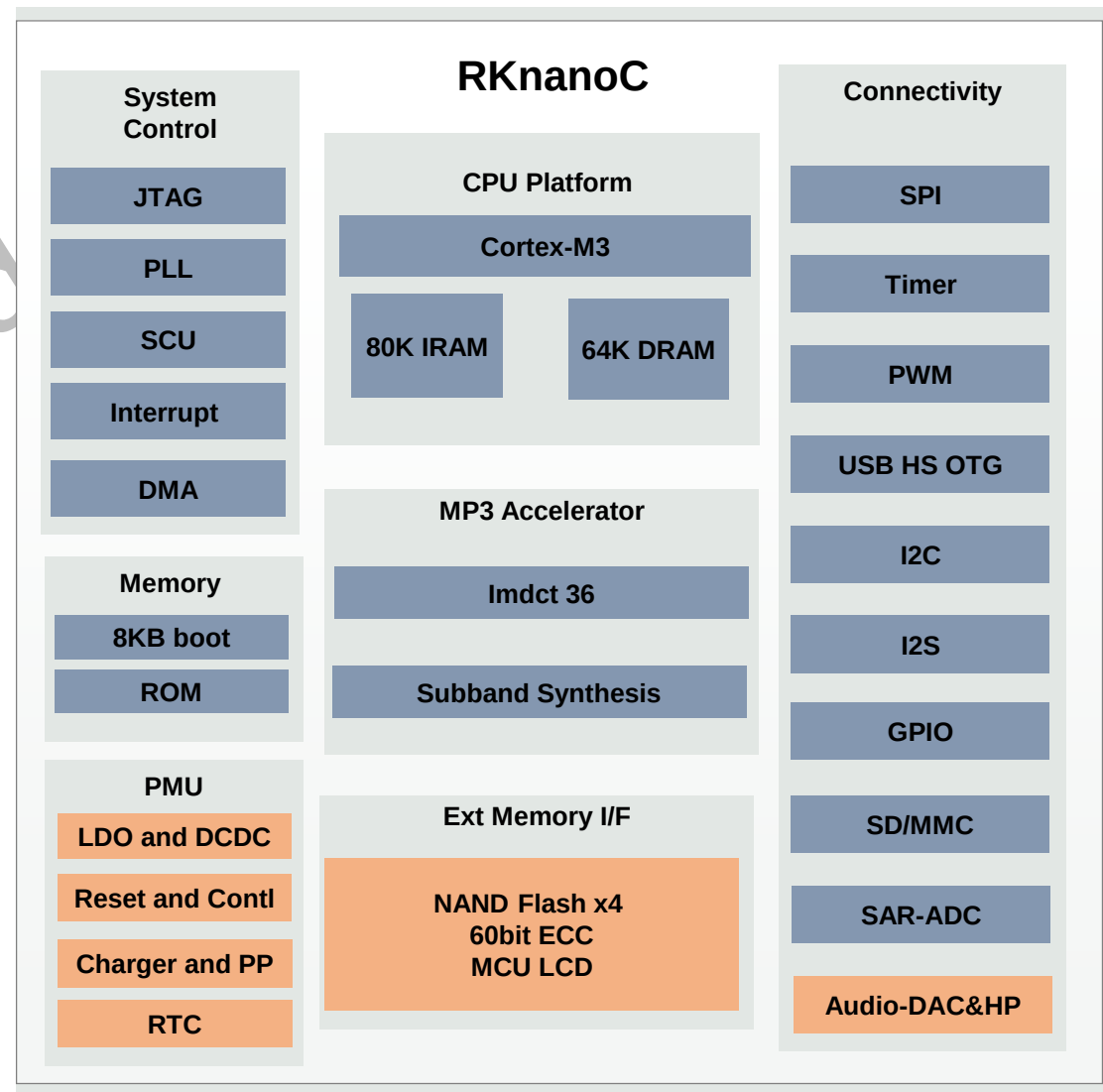
- i8080/SPI LCD interface

Package

- LQFP64

Availability

- MP Now



RV1109 Application Processor

CPU

- Dual core ARM Cortex-A7, 1.0GHz

NPU

- 1.0Tops, support INT8/ INT16

Memory

- 32bit
DDR3/DDR3L/LPDDR2/LPDDR3/DDR4/LPDDR4
- Support eMMC 4.51, Serial Nor Flash
- Support fast booting

Display

- MIPI-DSI/RGB interface
- 1080P @ 60 FPS

Multi-Media

- 13M ISP 2.0 with 3F HDR(Line-based/Frame-based/DCG)
- Support 2*MIPI CSI /LVDS/sub LVDS
- 4K H.264/H.265 30fps video encoder
 - 3840 x 2160@30 fps+720p@30 fps encoding
- 4K H.264/H.265 30fps video decoder
 - 3840 x 2160@30 encoding + 3840 x 2160@30 decoding
- DVP interface with BT.656/BT.1120

External interface

- RGMII interface with TSO network acceleration
- USB 2.0 OTG and USB 2.0 host
- Dual SDIO 3.0 interface for Wi-Fi and SD card
- 8ch I2S with TDM/PCM, 2ch I2S
- I2C/UART/SPI interface

Availability

- 2019 Q4
- 14nm, FCCSP 0.65

RK3566 Application Processor

CPU

- Quad core ARM Cortex-A55, 1.8GHz

GPU

- G52 2EE

NPU

- 0.5 Tops, support INT8/ INT16

Memory

- 32bit
DDR3L/LPDDR3/DDR4/LPDDR4/LPDDR4X
- Support eMMC 4.51, Nand Flash, SFC Nor

Display

- Support Dual Display
- MIPI-DSI/RGB interface
- LVDS/eDP/DP
- HDMI 2.0

Multi-Media

- 8M ISP 2.0 with 3F HDR(Line-based/Frame-based/DCG)
- Support MIPI-CSI2,4-lane
- 1080P60 H.265, H.264
- 4K H.264/H.265/VP9 60fps video decoder
- DVP interface with BT.656/BT.1120

External interface

- 2*RGMII interface with TSO network acceleration
- USB 2.0 OTG and USB 2.0 host
- USB3.0 HOST, SATA3.0, PCIE
- 3*SDIO 3.0 interface for Wi-Fi and SD card
- 2*8ch I2S, 2*2ch I2S, PDM, TDM, SPDIF
- 6*I2C/10*UART/4*SPI/8*PWM/2*CAN interface

Availability

- 2020 Q2

Thank You!

Contact Us

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