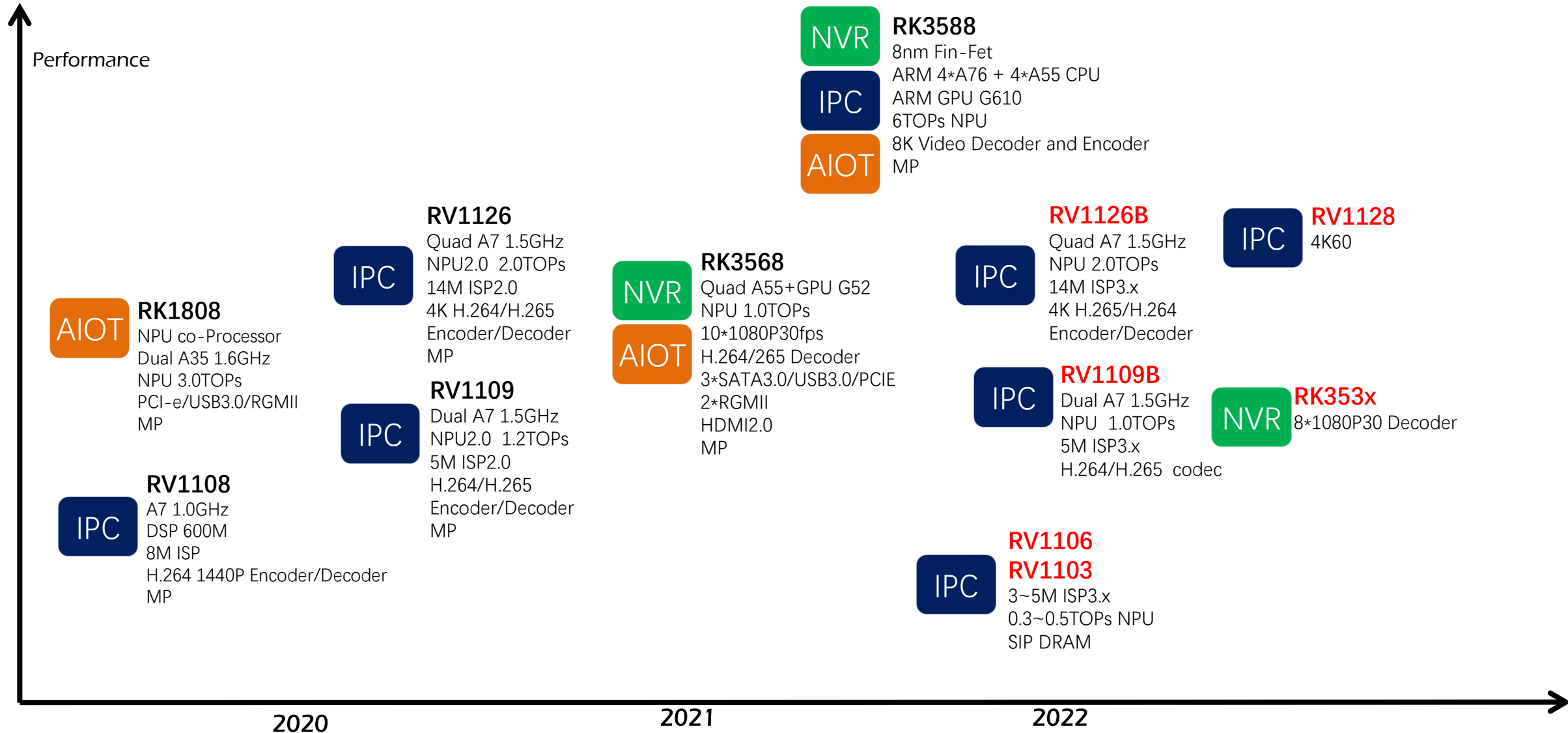


RV1103/6 AI视觉芯片介绍

12.2021

瑞芯微安防产品线处理器路线图



RV1103/6 视觉处理器规格

CPU

- ARM Cortex-A7, 1.5GHz
- RISC-V 400MHz

NPU

- 0.5Tops, support INT4、INT8

Memory

- 16-bit DDR2/DDR3/DDR4
- Embedded 512Mb/1Gb/2Gb DDR design
- Support eMMC 4.51, dual and quad SPI Flash

IVE & RGA Engine

- Support 20+ IVE algorithms
- Support rotation , x-mirror , y-mirror
- Support scale down/up

Multi-Media

- 5M ISP 3.x with 2F HDR(Line-based/Frame-based/DCG)
- Support 2*MIPI CSI /LVDS/sub LVDS
- DVP interface with BT.656/BT.1120
- H.264/H.265 encoder capability:
 - 3072*1728@25 + 1920*1080@25 + 720*576@25 + 5FPS JPEG
 - 2592*1944@25 + 1920*1080@25 + 720*576@25 + 5FPS JPEG
 - 2880*1620@25 + 1920*1080@25 + 720*576@25 + 5FPS JPEG
 - 2560*1440@30 + 1920*1080@30 + 720*576@30 + 5FPS JPEG

External interface

- RMIi interface with TSO network acceleration and Ethernet PHY
- USB 2.0 OTG
- Dual SDIO 3.0 interface for Wi-Fi and SD card
- 8ch I2S with TDM/PDM
- Embedded Audio codec 、 RTC、 POR

RV1103/6 AI IPCAM

Spec.	RV1103	RV1106
CPU	ARM Cortex A7 + RISC-V	
DDR	SIP 512Mb DDR2	SIP 1Gb or 2Gb DDR3 BGA package supports DDR4
ISP	ISP Gen3 2F HDR/WDR/3DNR Max 2~3 sensor input	
	4MP 16:9	5MP 16:9
Encoder	H.265/H.264 4MP@30	H.265/H.264 5MP@30
NPU	NPU Gen4 0.5T@int8 / 1.0T@int4	
Peripheral	10/100 MAC + PHY; Audio Codec; RTC/POR; USB2.0 OTG	
Package	QFN88、QFN128、BGA	

核心优势：

- 自研第四代NPU
 - 普惠化AI，提供Turnkey人非车检测算法
 - 精度高，支持int4、int8、int16混合量化
- 自研第三代ISP3.2
 - 效果好，2F HDR/WDR/3DNR
 - 2~3路MIPI/DVP输入，经济型双目首选
- 编码性能强
 - 高分辨率，高帧率，低码率
 - 低码率，比标准H.265/H.264降低50%码率
- 智能音频
 - 回声消除、语音降噪
 - 哭声检测、异常声音检测
- 快速启动、低功耗

Q&A

Thank You!

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