

开源芯片定制

赛昉“垂直领域芯片技术”赋能家电产品 智能化升级

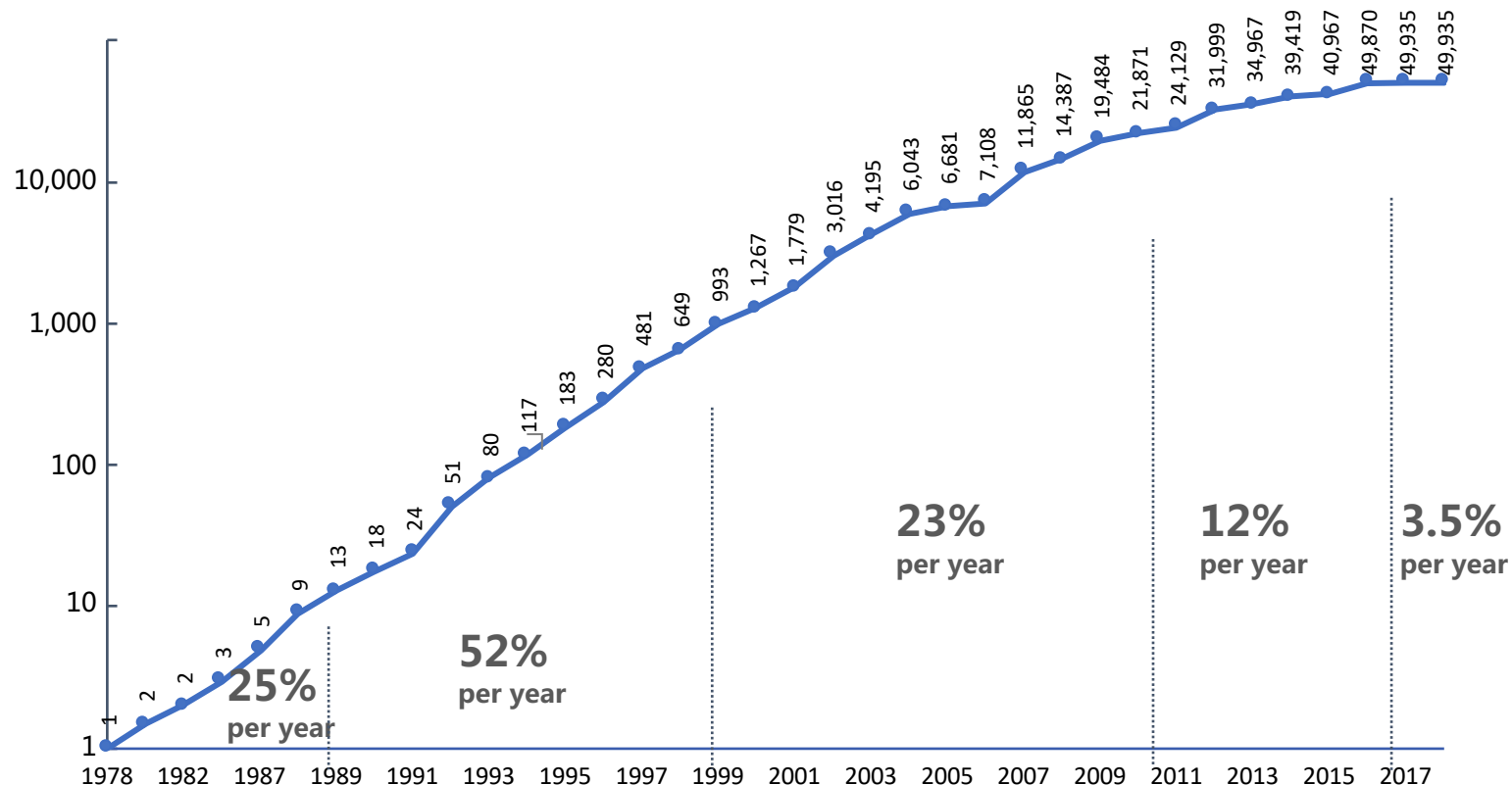
Jul, 2020



后摩尔时代的机会—芯片定制

摩尔定律不再持续有效.....

General-purpose CPU performance (vs. VAX-11/780)



后摩尔时代

硬件效率

架构创新

应用驱动



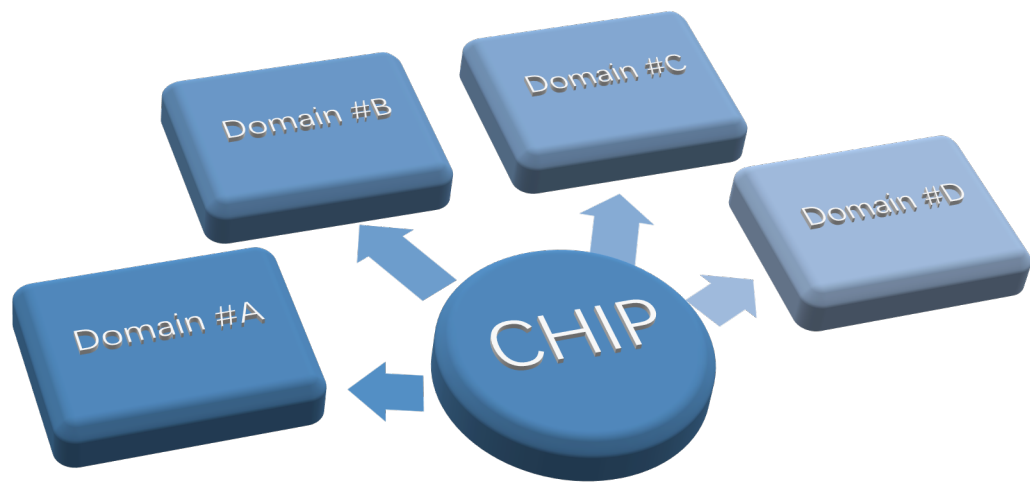
系统需要定制化的芯片



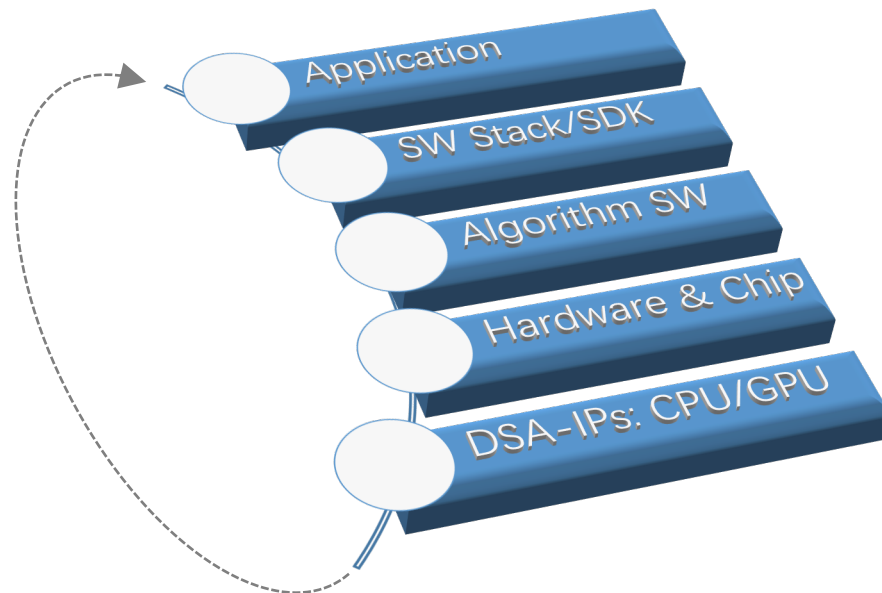
两种不同的创新模式——芯片产业变革中

QUALCOMM® 芯片原厂模式 ➔

HUAWEI 垂直定制模式



- Chip First, then System
- Software depend on hardware resource
- Chips Drive the technological innovation

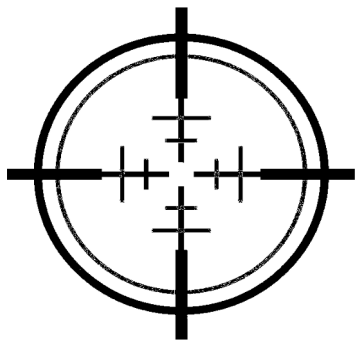


- Application scene → algorithm
- Software definition chip
- Application is the driving force of tech. innovation

垂直领域的芯片定制将成为产业主导模式

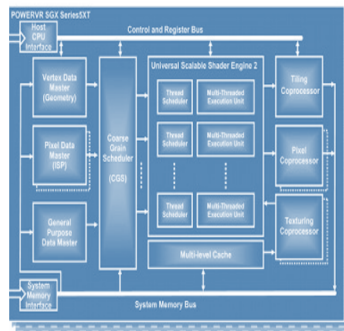


垂直定义模式的三个特点



Focus 目标专注

*One chip-spec for one
application scenarios,
Domain-related knowhow*



DSA HW 独有硬件

*Unique Chip with DS
Architecture builds
the core Competence*

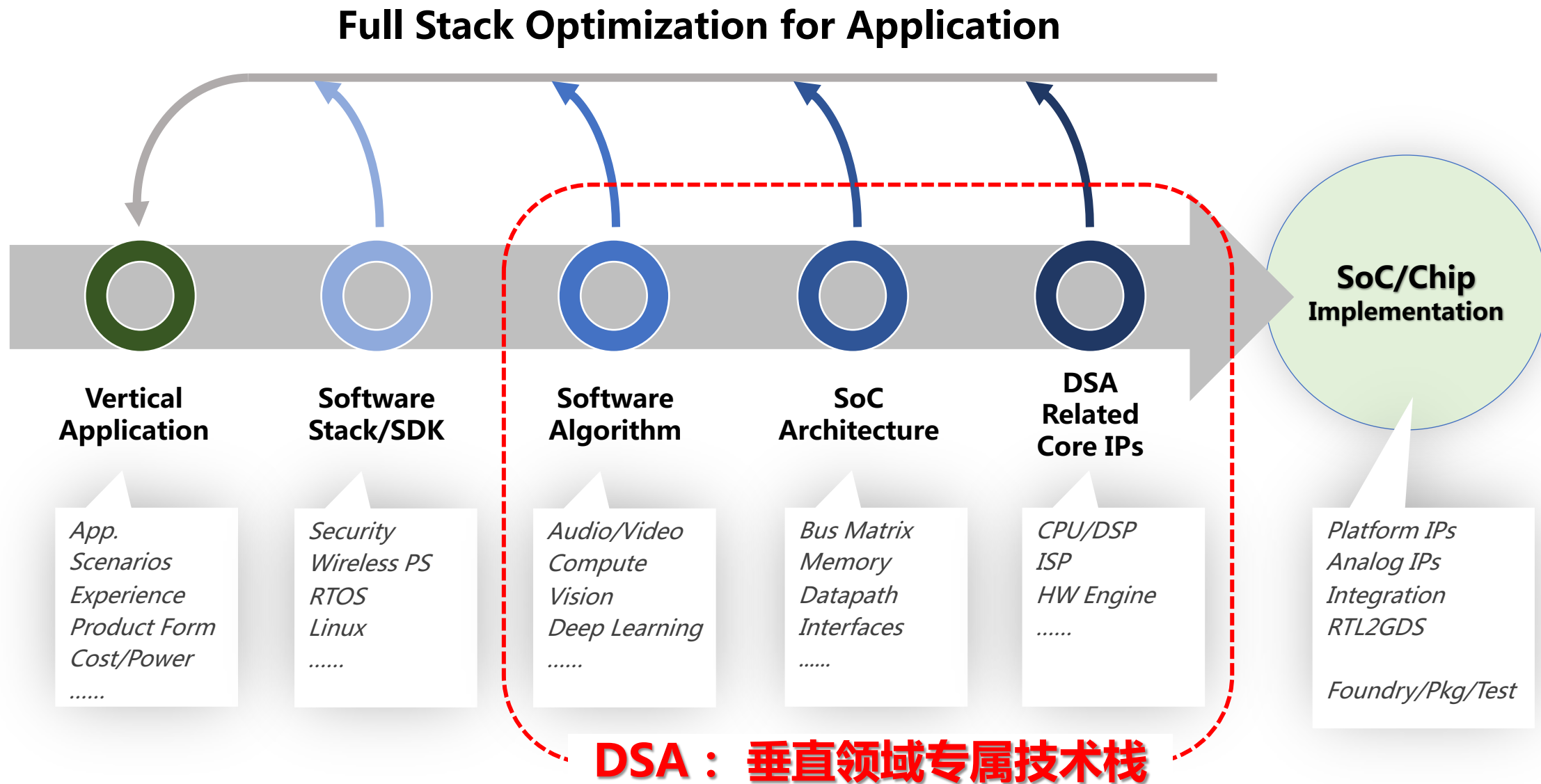


Optimization 全栈优化

*Full Stack Optimization
enhances the overall
competitiveness*



从应用到芯片的全栈优化





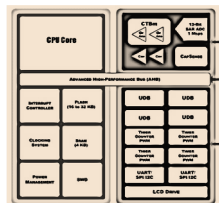
芯片定制的五大挑战

挑战.....



IP Resource

Flexible IPs for DSA



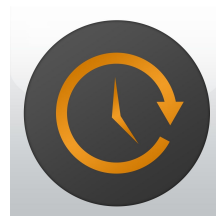
Platform

SoC infrastructure



Team

More than 14+ Disciplines



Time

Long time to get silicon for validation



Cost

3rd IPs License, MPW, package for Verify

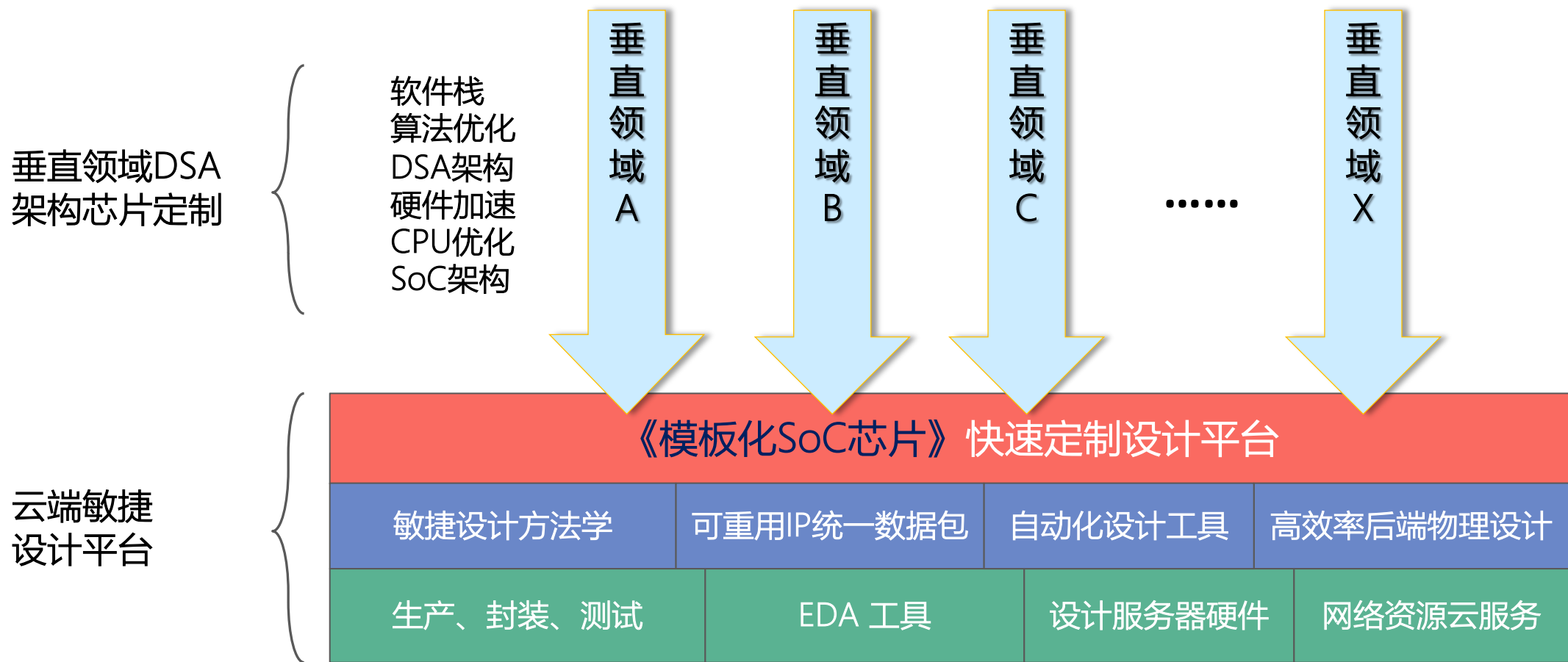


赛昉的努力与成果.....





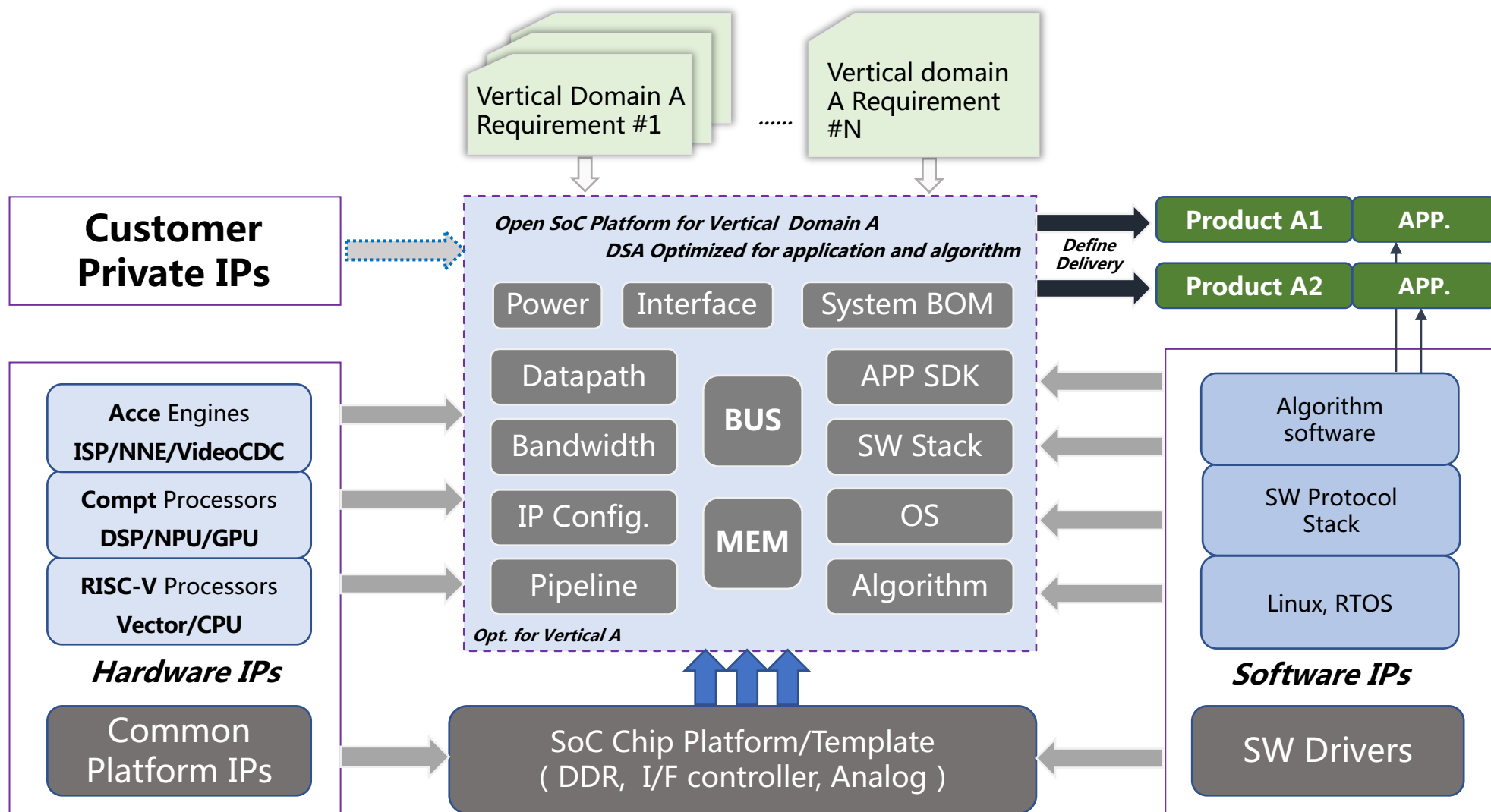
赛昉科技 努力打造的垂直领域芯片定制平台



资源共享省成本 流片验证低风险 领域专属深优化 模板设计周期短 同步开发产品快

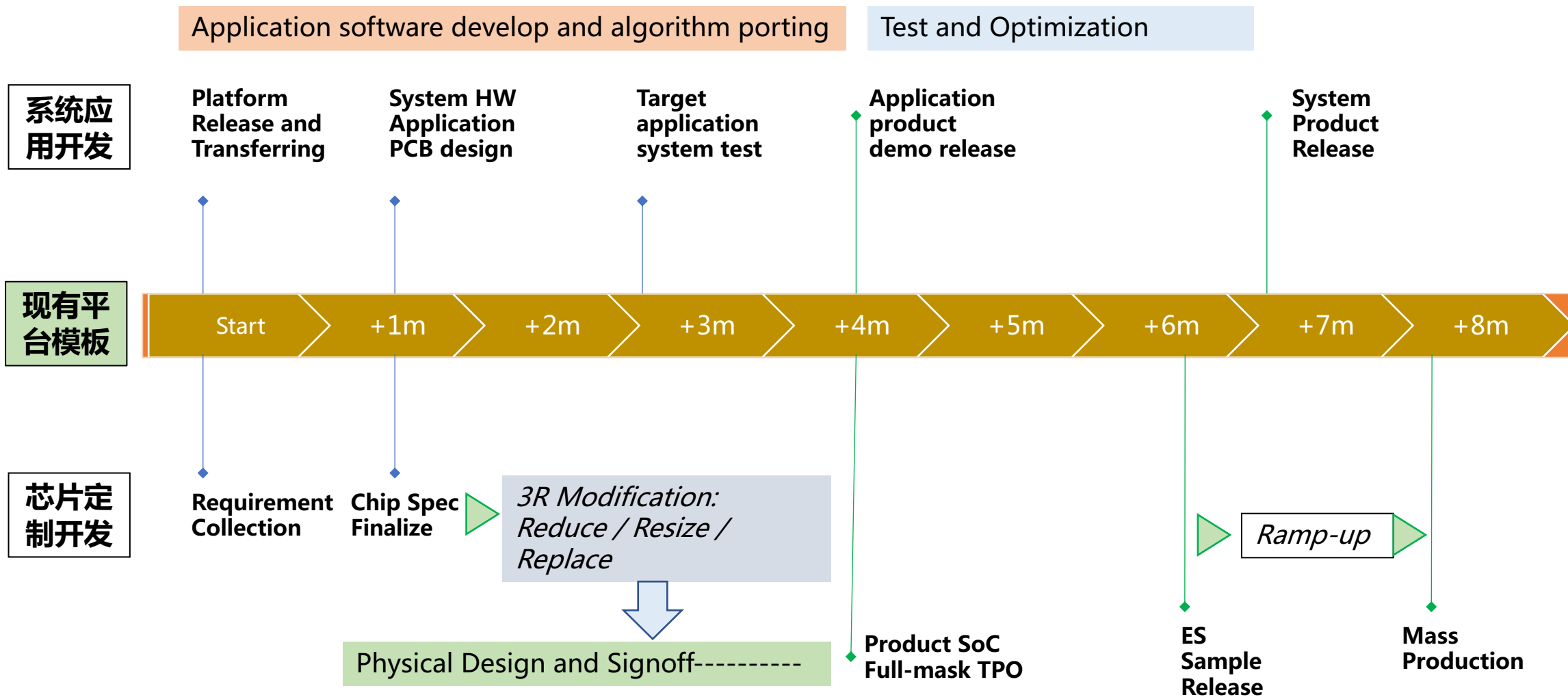


垂直领域芯片技术 产品模板技术架构





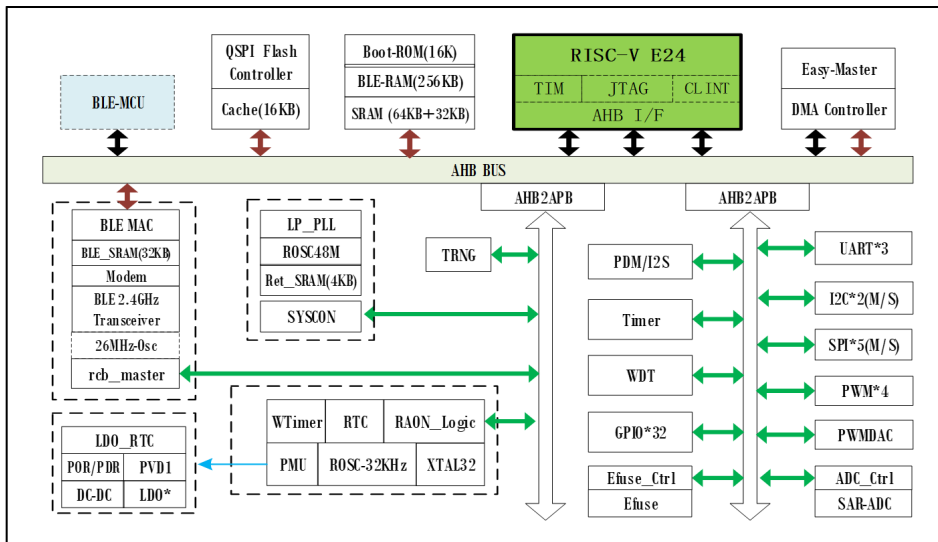
垂直领域芯片技术 支持芯片与应用同步开发



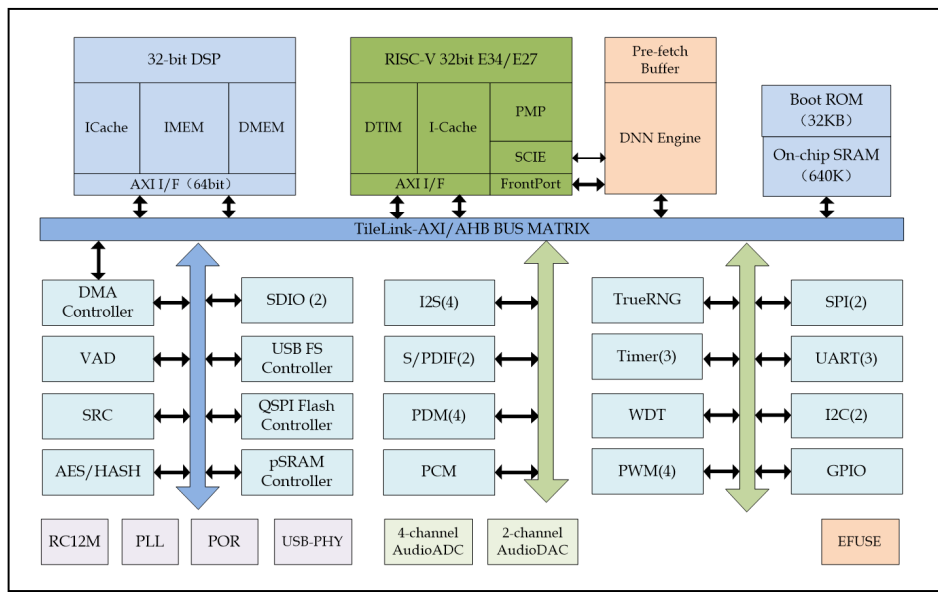


垂直领域芯片技术 已有三个芯片平台模板

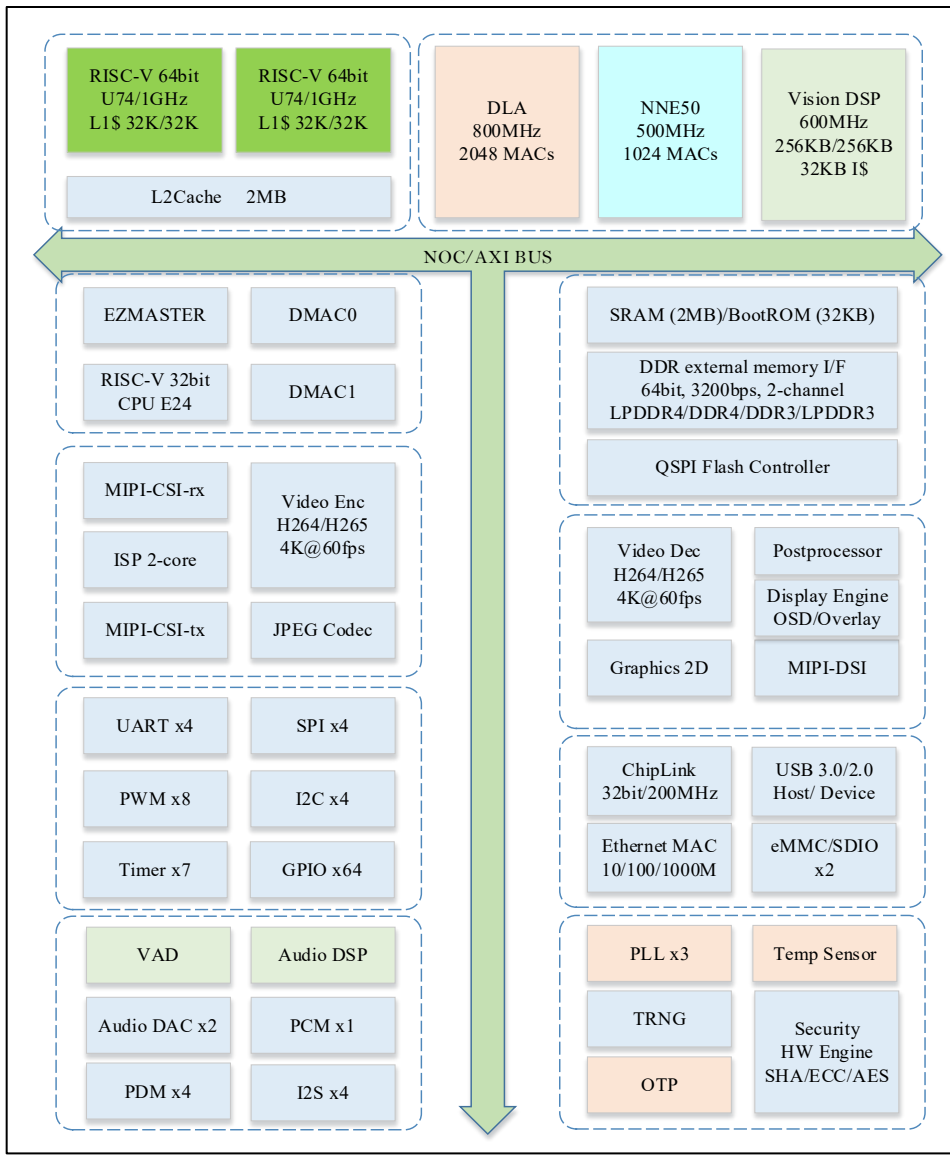
蓝牙



听觉



视觉





垂直领域芯片技术 计算能效优化专属定制IP



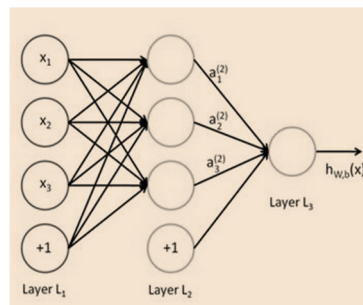
DSP

Voice/Vision



ISP

Image Processor for AI



NPU

Neural Processor



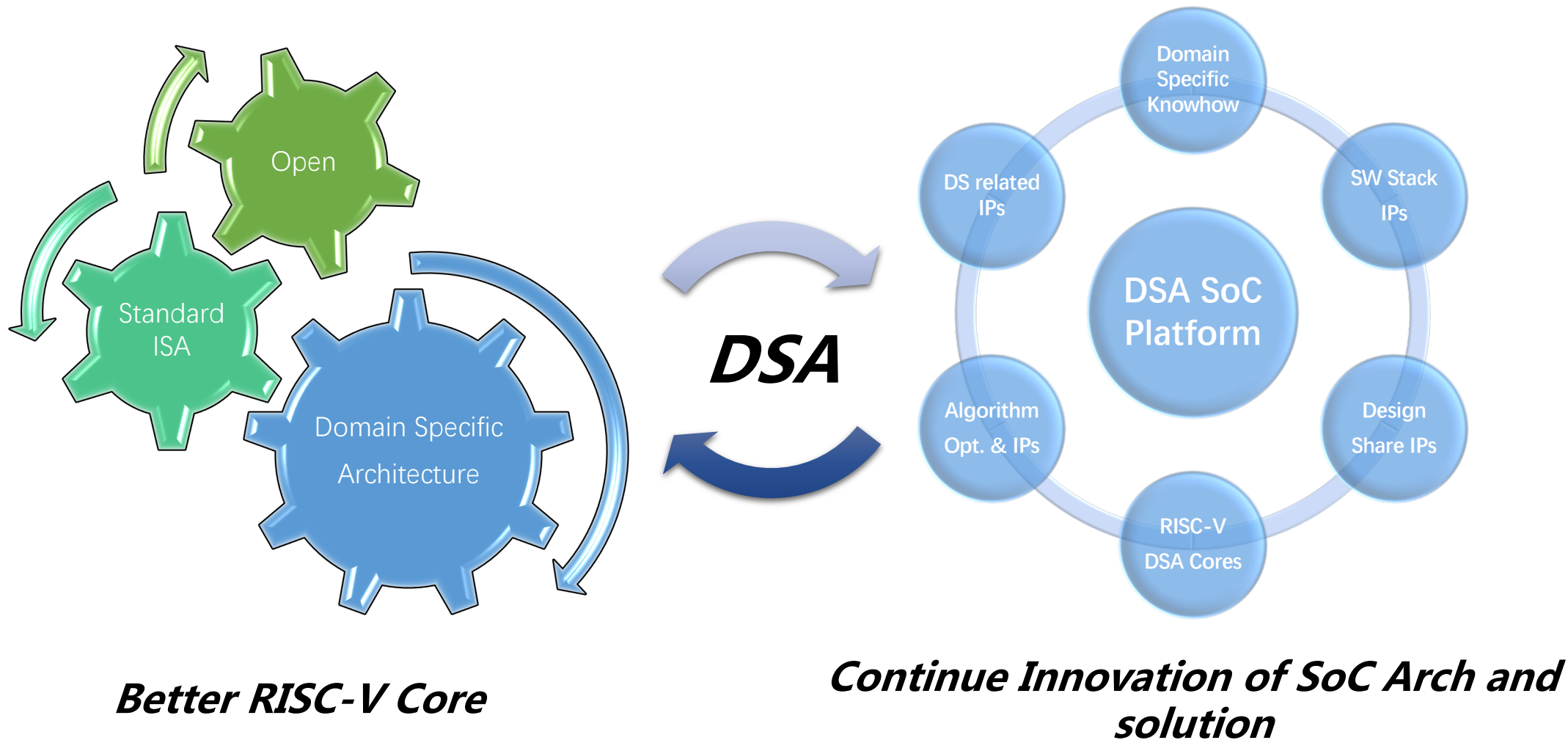
PMU

Low Power PMU

——Focus on New requirement of AI IoT



垂直领域芯片技术 持续推进DSA芯片的产品化落地





“家电之都” 的芯片机遇





家电产品的智能化升级的三个层次



智能连接

智能设备、无线连接



智能听觉

语音理解、人声控制

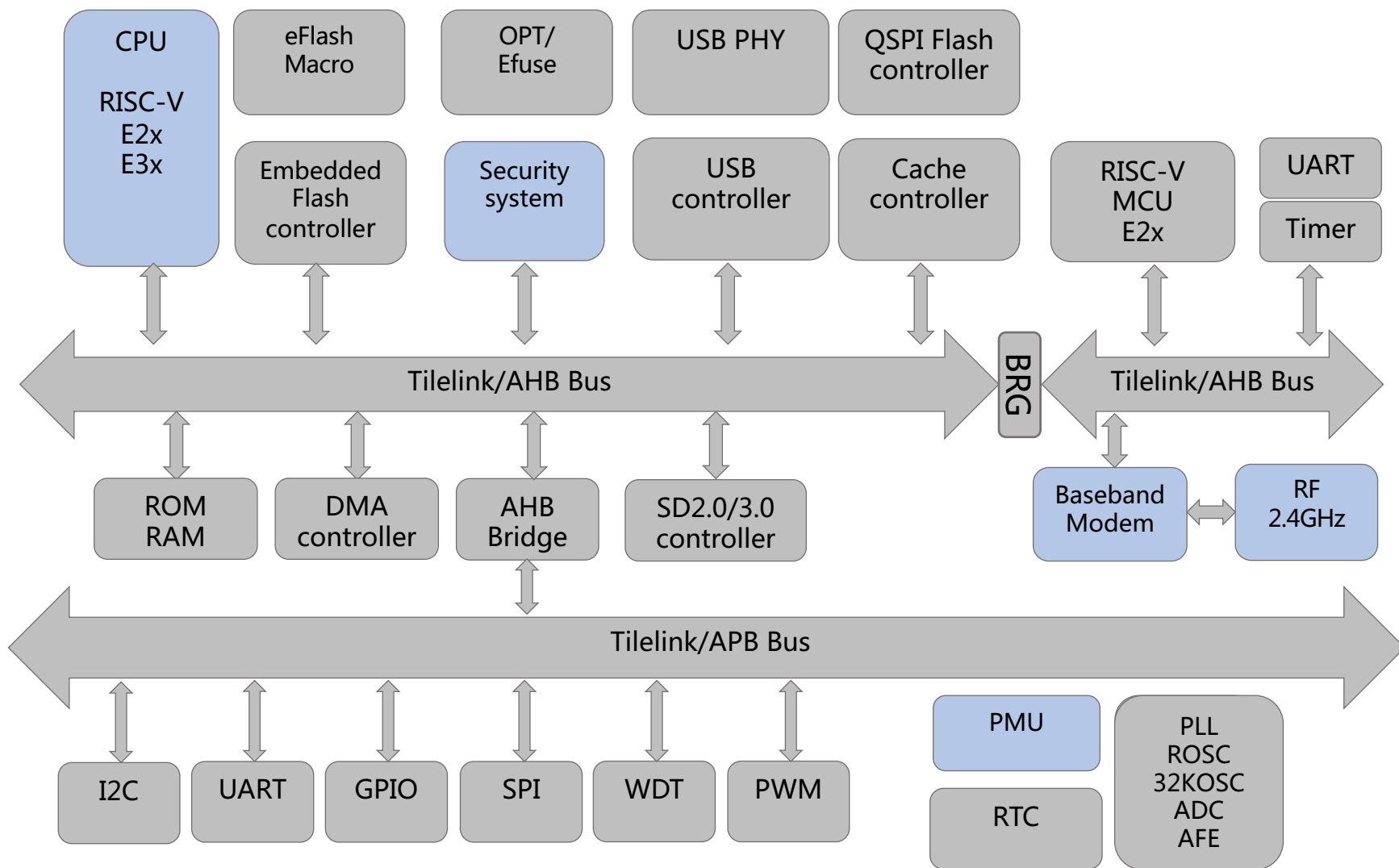


智能视觉

视觉理解、主动智能



BLE蓝牙主控MCU平台—实现家电智能连接



《平台价值》

超低功耗



安全方案



成熟SDK



更低成本



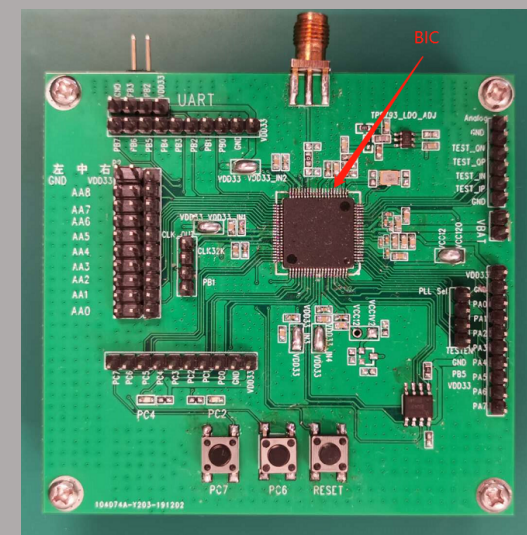
无线连接



应用场景

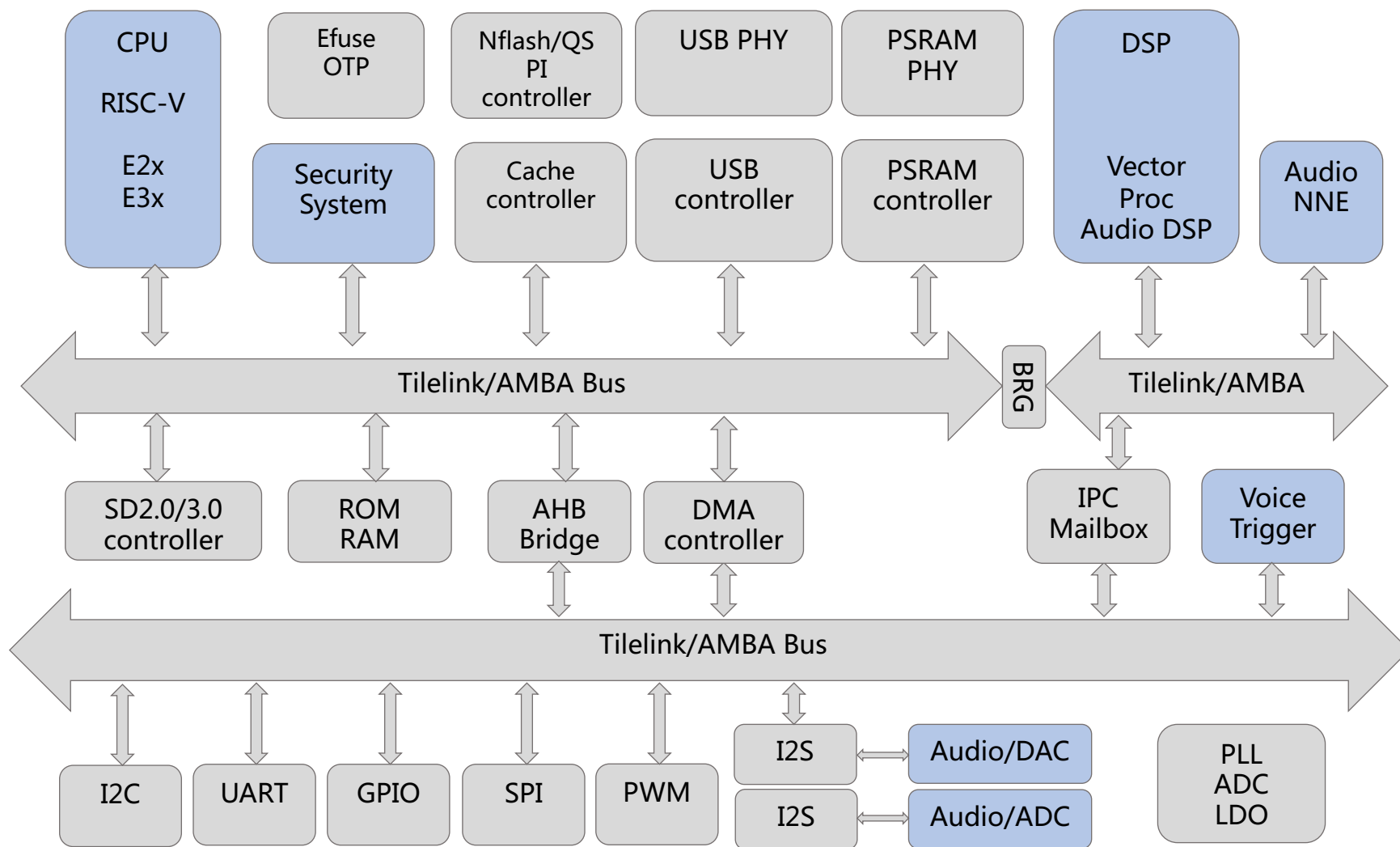


测试芯片开发板





智能语音处理器平台 – 赋能家电的智能听觉



《平台价值》

低功耗



音频算法



智能算法



低成本



安全方案





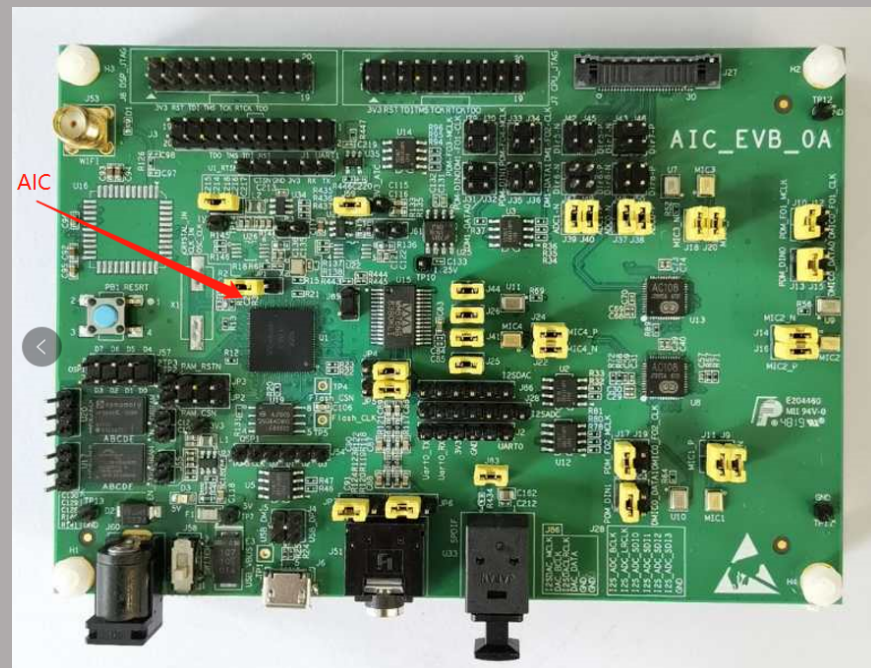
智能语音处理器芯片与开发板



应用场景

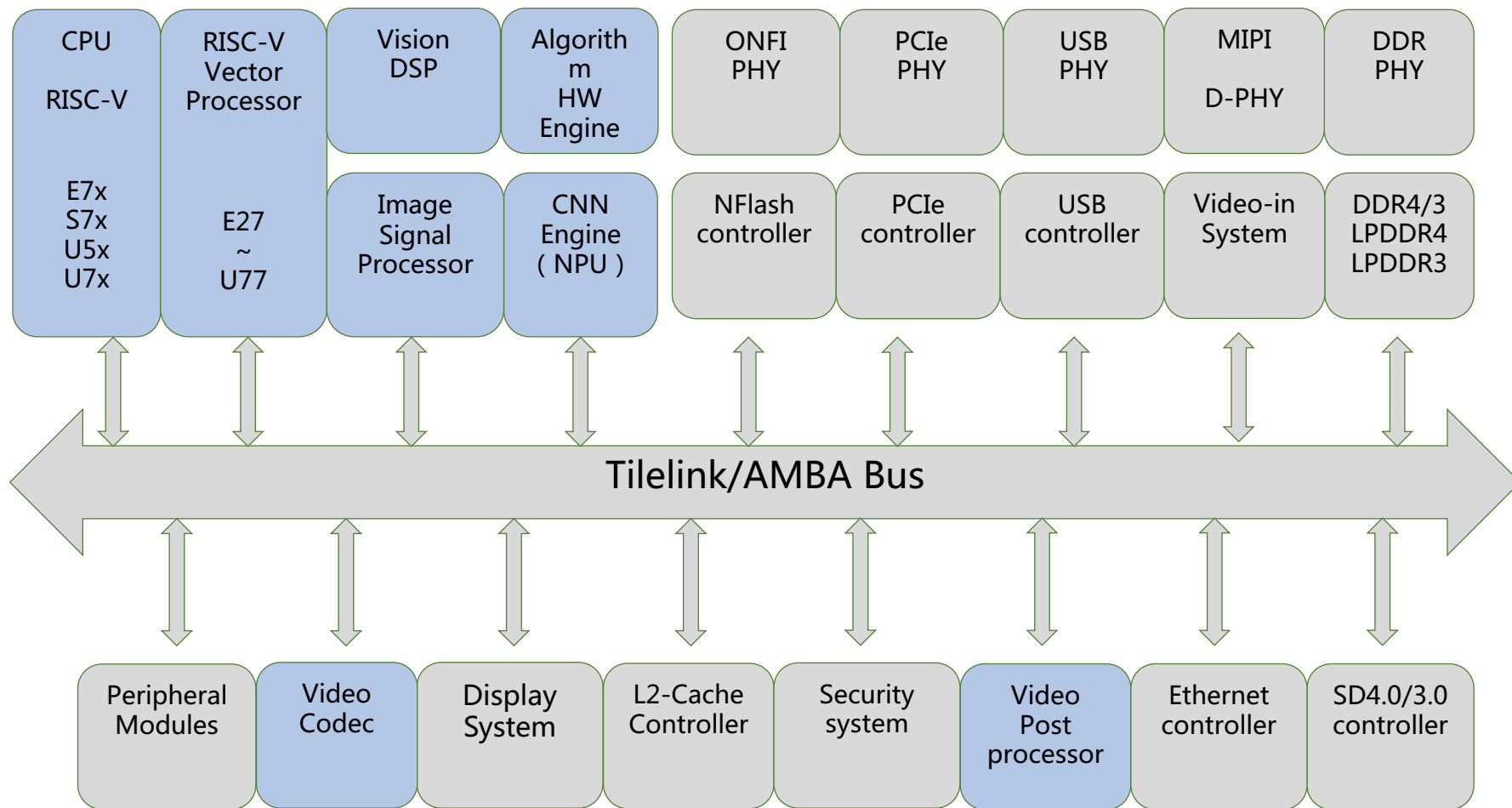


测试芯片开发板





智能视觉处理器平台 – 赋能家电的智能视觉



《平台价值》

计算能效



视频处理



视觉算法



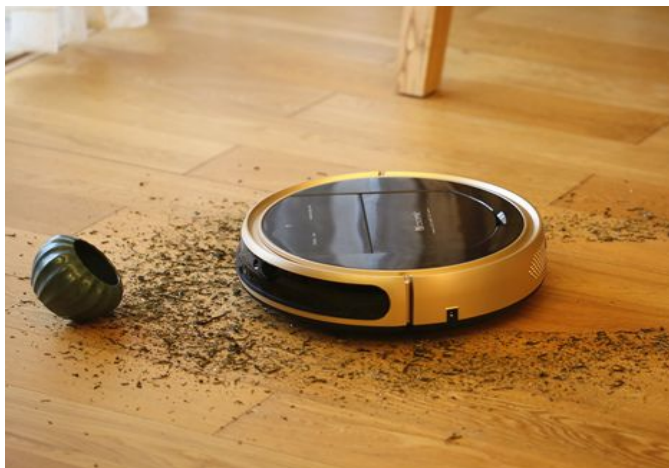
深度学习



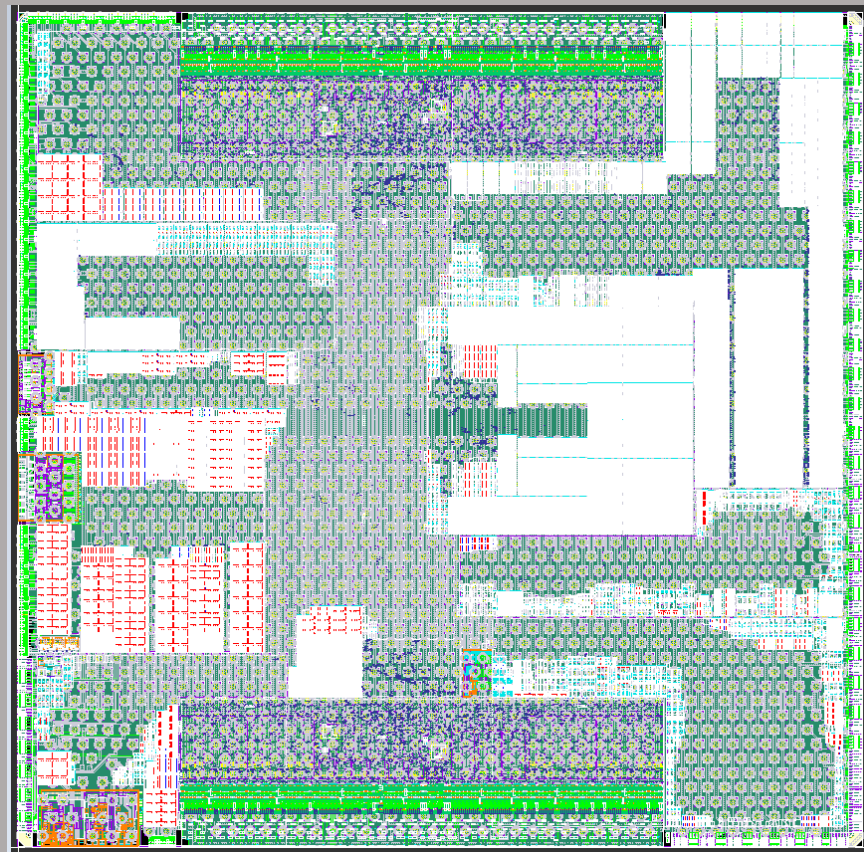
可靠计算



应用场景

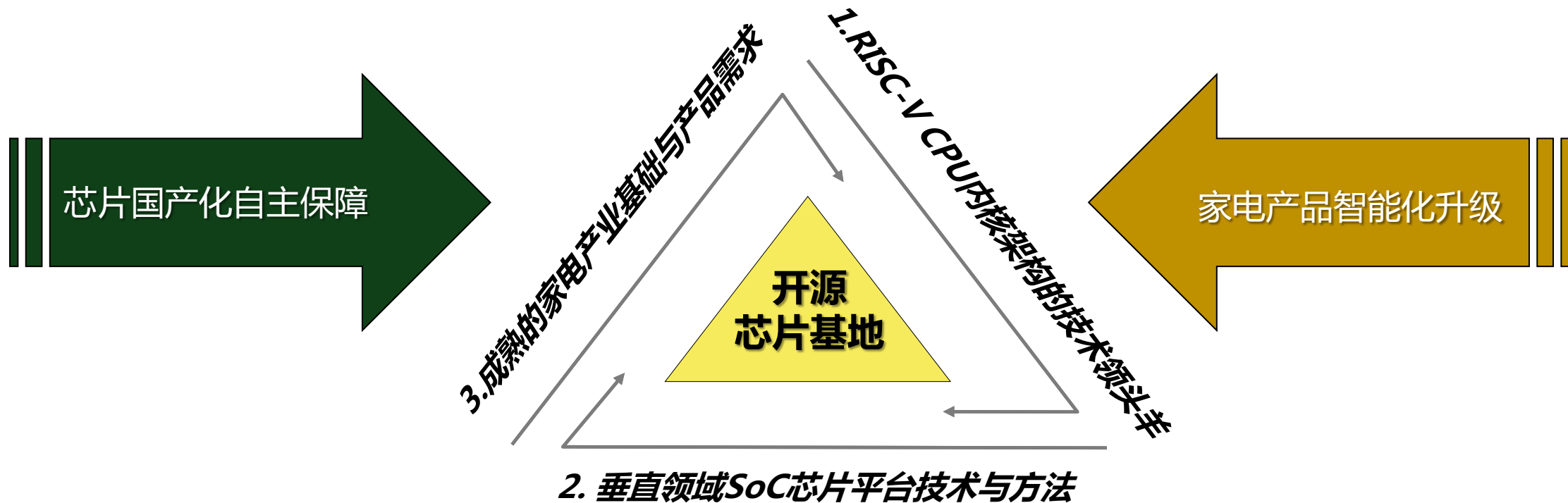


测试芯片版图





RISC-V开源芯片在家电产业中的机遇



打造顺德-家电之都的“芯片-整机”闭环，创建业态新模式



Thank you!