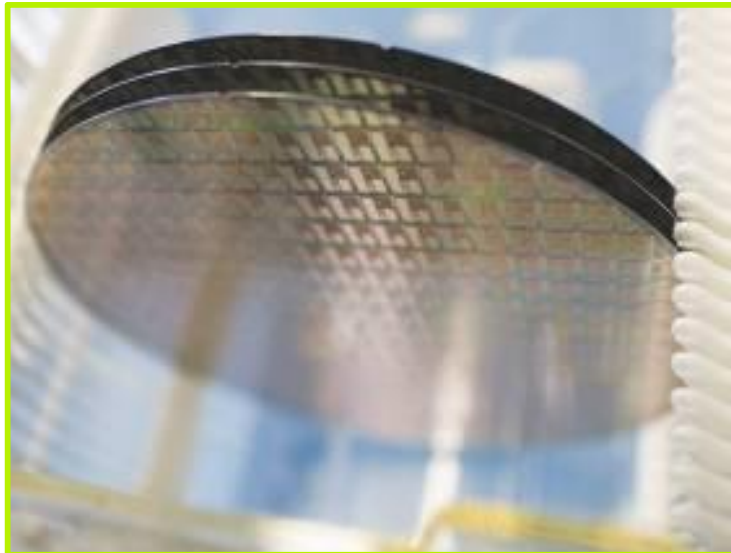




恩智浦**LPC**系列**MCU**全方位支持嵌入式
和物联网的应用开发

NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ: NXPI) provides High Performance Mixed Signal and Standard Product solutions that leverage its leading RF, Analog, Power Management, Interface, Security and Digital Processing expertise.



Our innovations are used in a wide range of automotive, identification, wireless infrastructure, lighting, industrial, mobile, consumer and computing applications.

A global semiconductor company with operations in more than 25 countries, NXP posted revenue of \$4.4 billion in 2010.



Our innovations are used in a wide range of applications

Wireless infra



Lighting



Industrial



Mobile



Automotive



Identification



Consumer



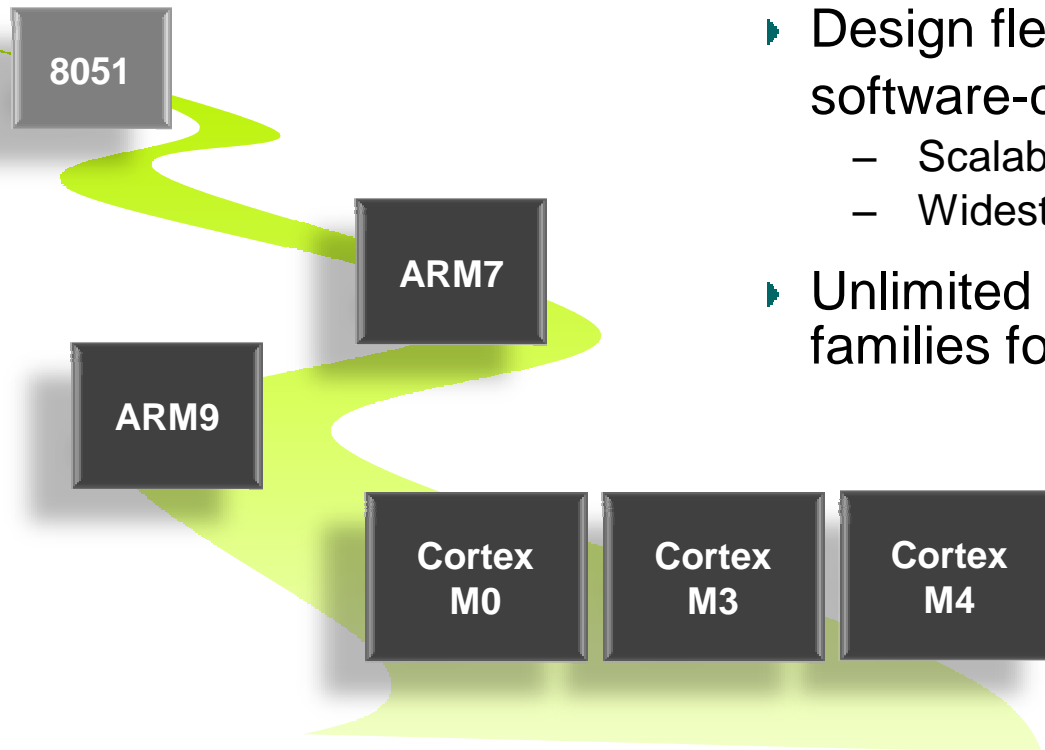
Computing



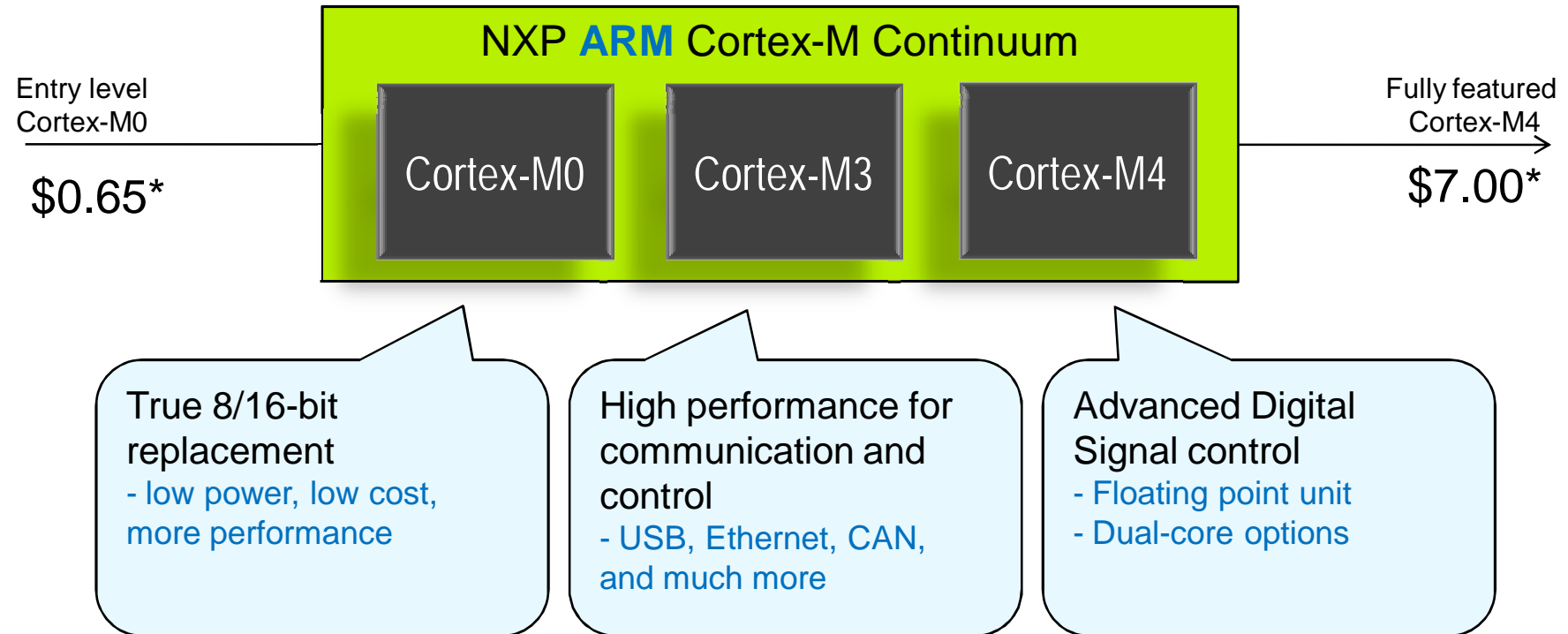
NXP is a leader in ARM Flash MCUs



- ▶ Clear strategy: 100% focus on ARM
- ▶ Top performance through leading technology & architecture
- ▶ Design flexibility through pin- and software-compatible solutions
 - Scalable memory sizes
 - Widest range of peripherals
- ▶ Unlimited choice through complete families for multiple cores



NXP MCU – the only **complete ARM range** of Cortex-M0, Cortex-M3 and Cortex-M4 processors



Over **250** different ARM based microcontrollers available!!



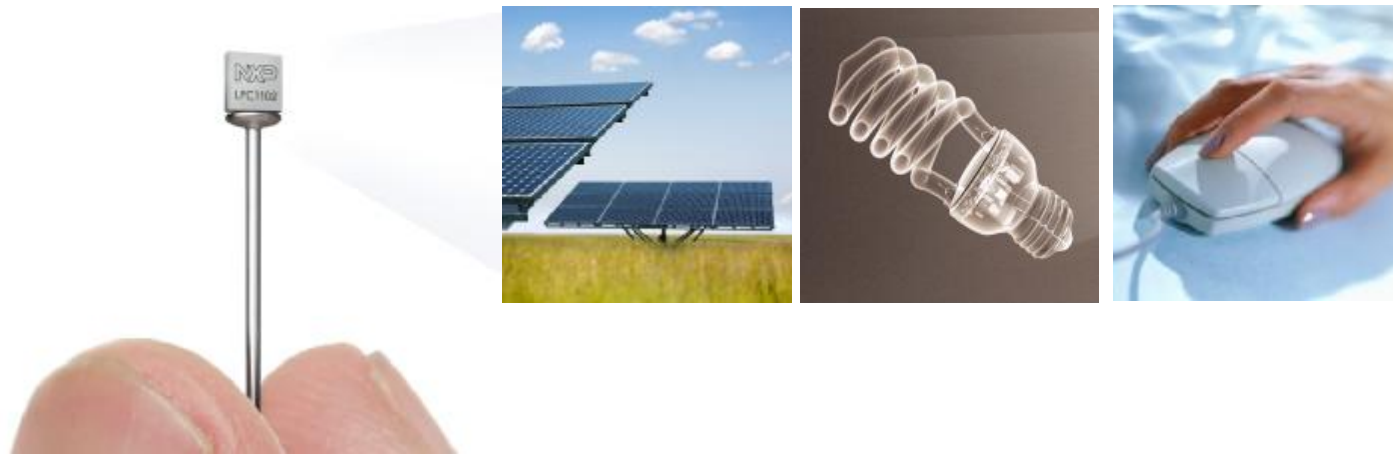
(* Recommended price at 10kpcs)

Cortex-M0 based parts

Cortex-M0

*“The Cortex-M0 has replaced the Cortex-M3 as ARM’s **smallest, lowest-power, and most energy-efficient 32-bit-processor** core to date”*

- ▶ NXP’s Cortex-M0
 - 2-10x higher performance than 8/16-bit MCUs
 - 40-50% smaller code size than 8/16-bit MCUs
 - Very low active power 130uA/MHz
 - Pin compatible options from M0 to M3

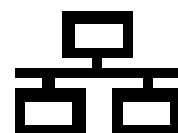


Cortex-M3 based parts

Cortex-M3

*“Industry-leading **32-bit processor** for highly deterministic real-time applications ... specifically developed for **high-performance** and **low-cost**.”*

- ▶ NXP's Cortex-M3
 - Highest performing Cortex-M3 at 150MHz
 - Rich set of peripherals including USB, Ethernet, Motor Control PWM, etc.
 - Pin compatible options from M0 to M3, and M3 to M4

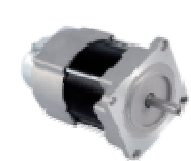
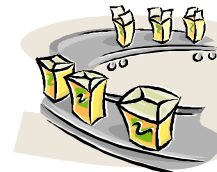


Cortex-M4 based parts

Cortex-M4

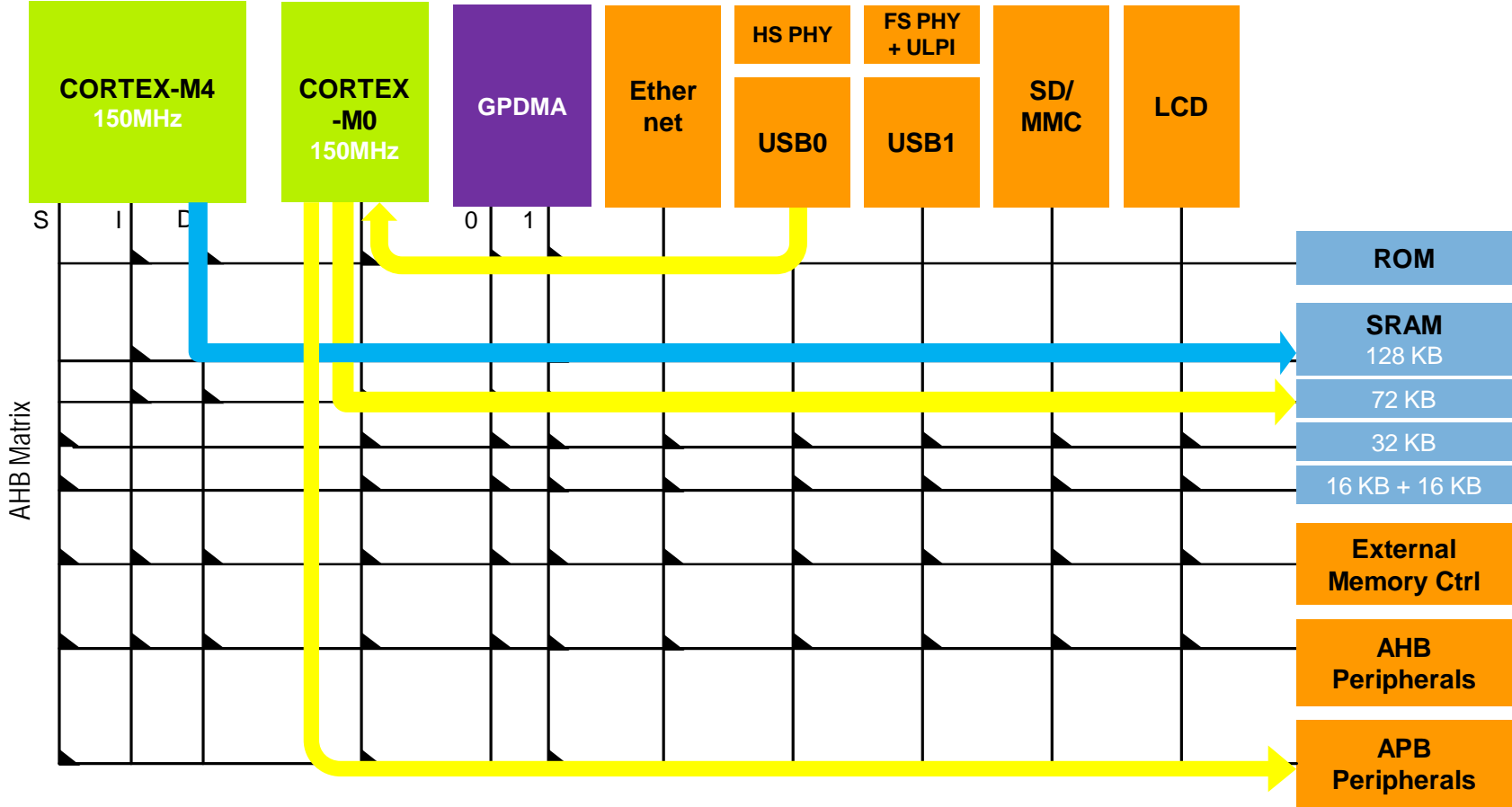
*“Specifically developed to address **digital signal control** markets ... **easy-to-use** blend of control and signal processing capabilities.”*

- ▶ NXP’s LPC4000 Digital Signal Controller family
 - Leverages NXP’s extensive ARM microcontroller knowledge
 - **Cortex-M4 main processor** - powerful DSP extensions and floating point
 - **Cortex-M0 peripheral sub-system**
with dedicated configurable ‘smart’ I/O for event handling
 - **Separates Processing and Real Time Control – in one chip**
 - Adds unique set of innovative and configurable peripherals
 - Pin compatible and interchangeable from M3 up to/down from M4+M0



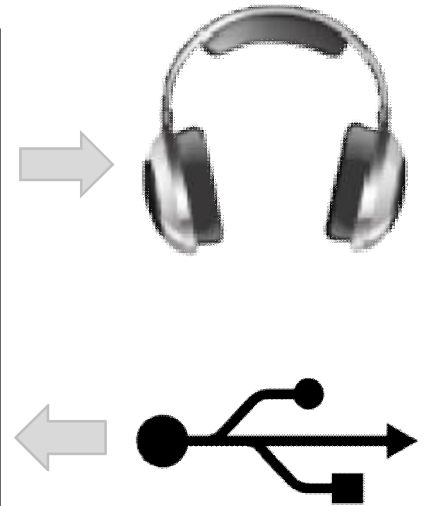
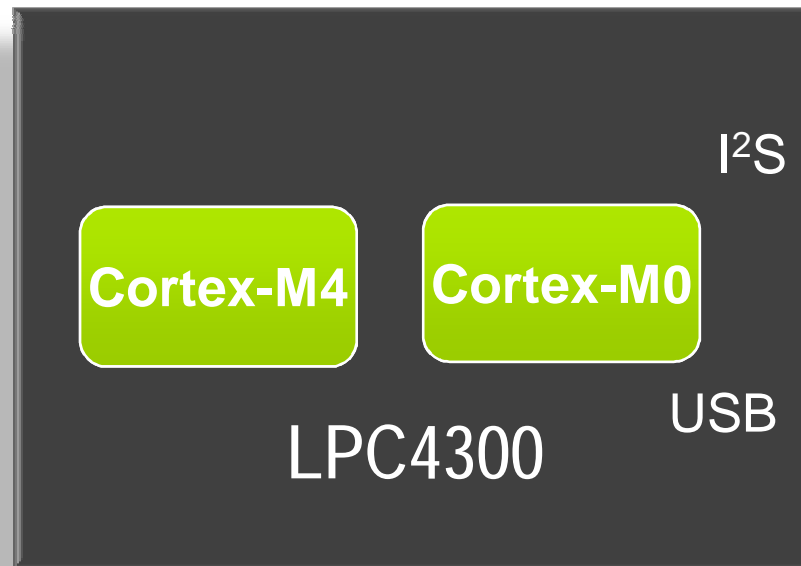
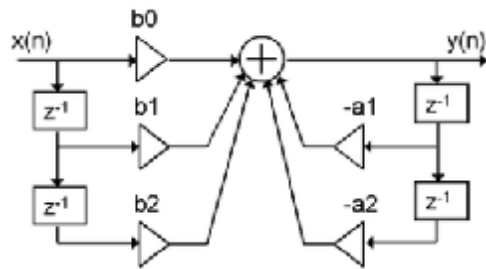
Dual-Core Cortex™-M4/M0 System

- 1. Fees the Cortex-M4 core to focus on what it does best: high performance algorithm execution
- 2. Separates Processing and Real Time Control – in one chip

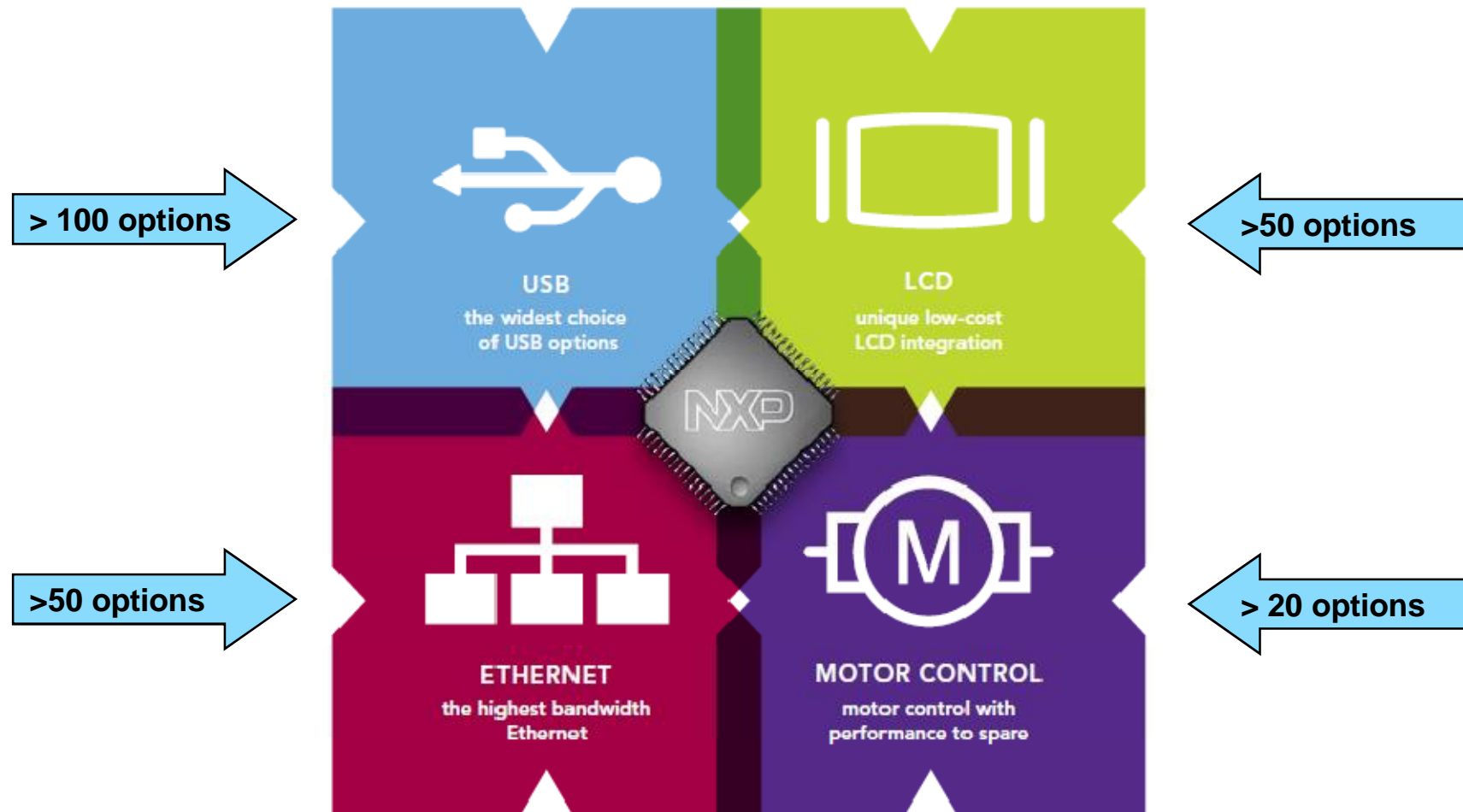


Dual-core Application: Audio Processing

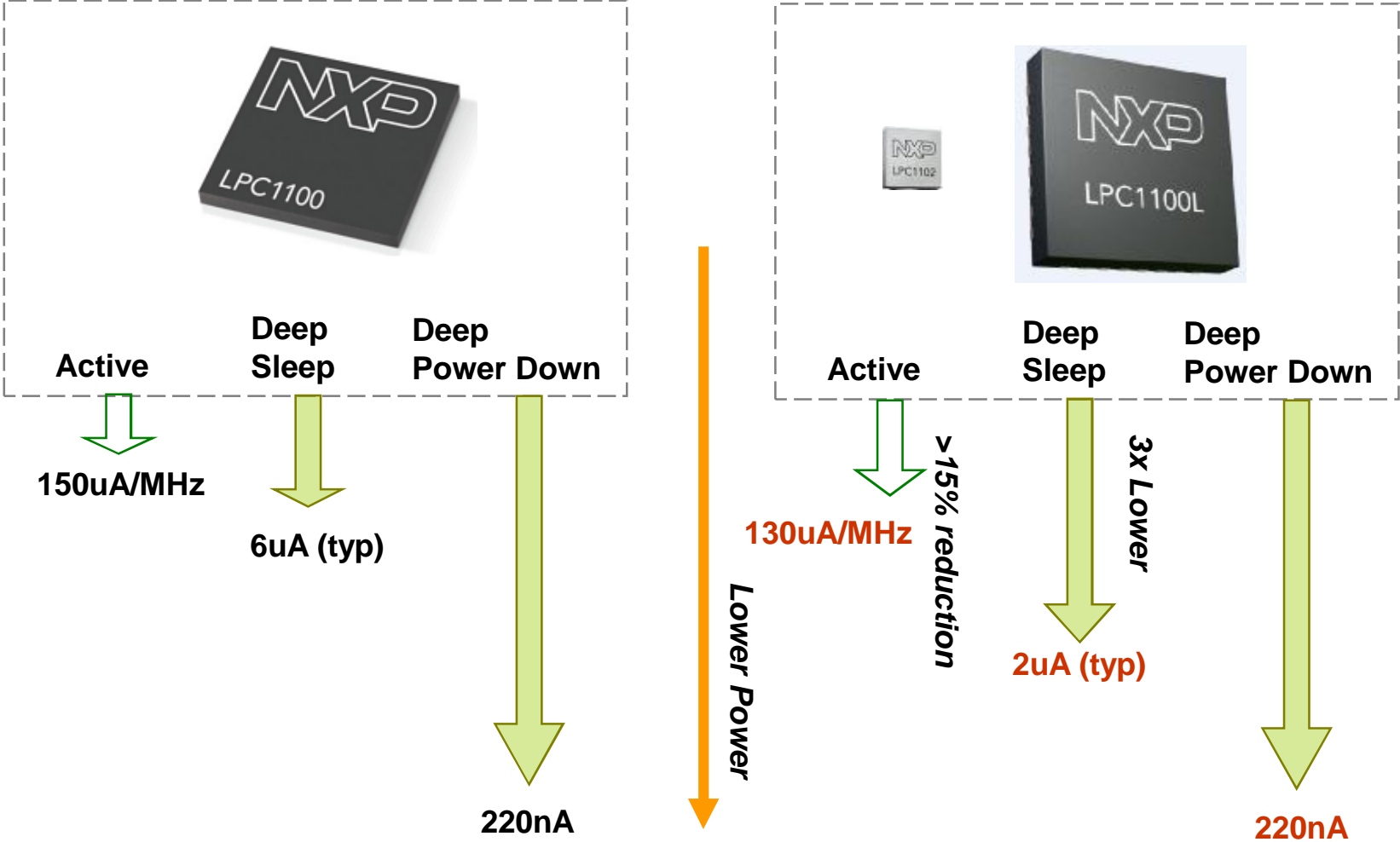
- ▶ **Cortex-M4:** Full power devoted to Audio processing
- ▶ **Cortex-M0:** Handles the hardware control – I²S & USB



Advanced Peripherals

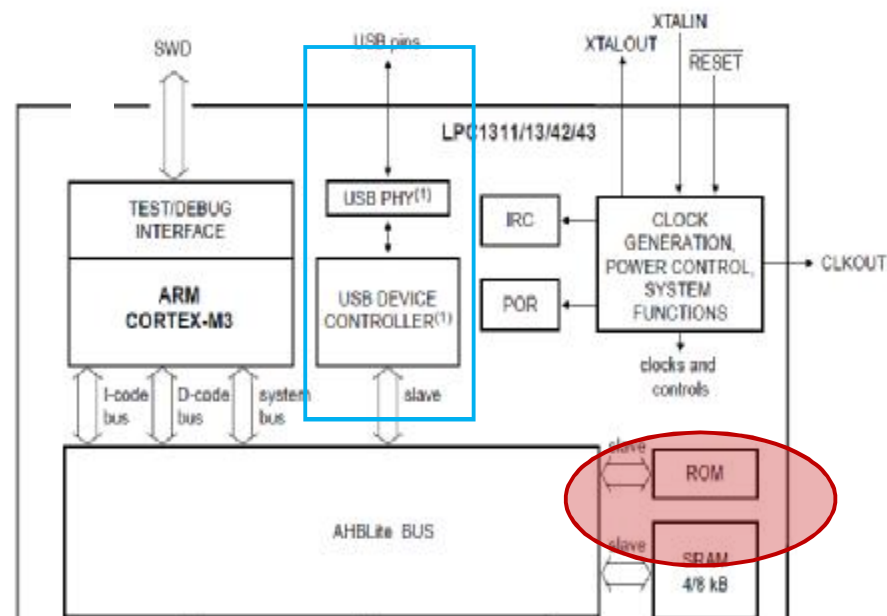


Low power position



On-Chip ROM Drivers

- ▶ Drivers incorporated in ROM
 - USB driver
 - CAN driver
 - Power Profile
 - Divide library
- ▶ Easy-to-use APIs
- ▶ Shorten development cycle
- ▶ Extra Flash memory saved user firmware
- ▶ Tested and validated code



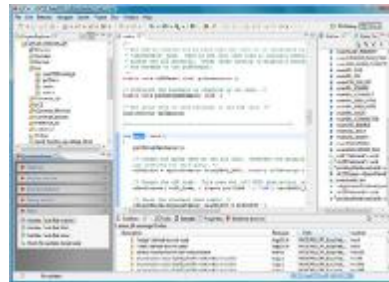
On-Chip USB Drivers

- ▶ Support USB Mass Storage class
- ▶ Support USB HID class
- ▶ Support USB boot
- ▶ Support USB programming

NXP's Low Cost Development Tool Platform



Eclipse-based IDE



Evaluation






Development Board

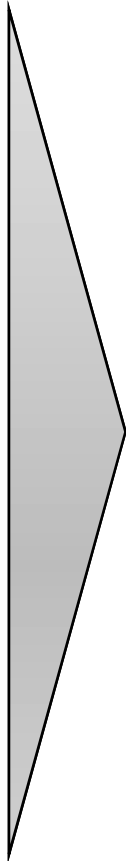


Product Development

- Provide end-to-end solution from evaluation all the way to product development
- Attractive upgrade options to full blown suites and development boards

MCU focus applications and key trends

FOCUS MARKETS	APPLICATIONS
Industrial Control	 Sensors Motor control Human machine interface
Power Applications	 UPS Power units
Consumer Lifestyle	 PC peripherals Cell phone Accessories
White Goods	 Washing Machines Refrigeration
Smart Metering	 Electronic Meters Gas/Water Meters
Solar	 Solar Inverters Charge controllers
Automotive	 Infotainment Car sensors
Lighting	 Lighting Ballasts
Portable Medical	 Glucose Meters Thermometers



- Application convergence for **SMART home**, with increased wired / wireless communication and control
- Enhanced **human machine interfaces** where all application interfaces have look & feel of 'iPhone'
- More advanced approach to '**power control**' to improve performance, while saving energy and cost
- Increased number of **battery operated** applications and peripherals that require low power for longest battery life

Where to get started?

▶ www.nxp.com/microcontrollers

– MCU homepage



▶ www.nxp.com/lpczone

– Product updates and training



▶ www.nxp.com/lpcxpresso



▶ www.mbed.org



mbed

LPC1100 Cortex-M0 普及学习风暴

<http://www.farsight.com.cn/courses/TS-Cortex-M0.aspx>

ARM Cortex-M0培训--恩智浦/ARM/华清远见联手推出Cortex M0处理器学习风暴 - Windows Internet Explorer

http://www.farsight.com.cn/courses/TS-Cortex-M0.aspx

ARM Cortex-M0培训--恩智浦/ARM/华清远见联手推出Cortex M0处理器学习风暴

恩智浦携手ARM公司及专业嵌入式培训合作伙伴 华清远见

共同掀起最新ARM Cortex-M0 处理器学习风暴

举办城市: 北京、上海、深圳、成都、南京等 活动时间: 2011年4月—2011年12月

Cortex-M0处理器学习普及风暴活动主题介绍

国际知名的半导体公司恩智浦半导体NXP Semiconductors为了能够让更多单片机开发工程师更快速地了解最新ARM Cortex-M0微控制器的最新技术及其特点, 恩智浦携手全球领先的半导体知识产权(IP)提供商ARM公司及中国领先的专业嵌入式培训合作伙伴华清远见, 分别在北京、上海、深圳、成都、南京等地, 共同推出最新ARM Cortex-M0处理器学习风暴。广大的单片机开发工程师可以借助华清远见提供的优质学习平台, 快速掌握Cortex-M0处理器, 开发能力实现从8/16位处理器向32位处理器类型提升。

培训时间: 2天, 共12课时

培训费用: 900元

培训证书: ARM、恩智浦、华清远见联合颁发《ARM Cortex-M0工程师培训证书》(证书费300元)

主办单位: NXP 恩智浦半导体

承办单位: 华清远见 FAR LIGHT 嵌入式培训专家



