



# STM - MCU & MPU



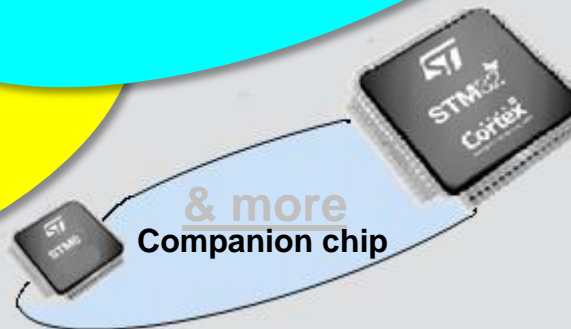
**SPC56**

**SPEAr**



**STM32**

**STM8**



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# STM8 family



The STM8 family is **general-purpose 8-bit Flash microcontrollers** offers ideal solutions for industrial and appliance market requirements.

An advanced core version combined with a **3-stage pipeline** ranks the STM8 in the top position for performance to cost ratio .

The embedded **EEPROM** and the **calibrated RC oscillator** allow a significant cost effectiveness. The hardware

implementation in the STM8 devices provides a consistent **migration across the package families**.

An **easy-to-use**, intuitive development environment and **free library** contributes improving **time to market**.

STM8A

**Automotive Grade**

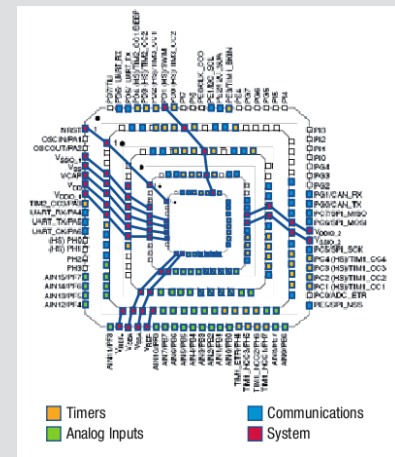
STM8S

**Standar**

STM8L

**Ultra Low Power**

100151



STM8T14x

**Proximity and Touch**

# STM8A



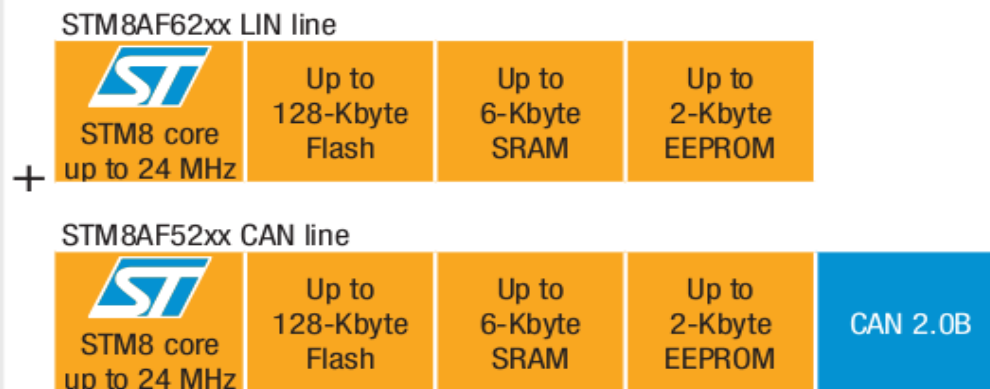
ST has developed the STM8A, a new product line of **8-bit Flash microcontrollers** dedicated to the specific needs of **automotive applications**.

These modular products offer true data **EEPROM**, and software and pin-out compatibility, for a program memory size from **8 to 128 Kb** and **up to 80-pin packages**.

All devices operate at **2.95 to 5.5 V** in the extended temperature range of **up to 150 °C**.

Common core peripherals and architecture:

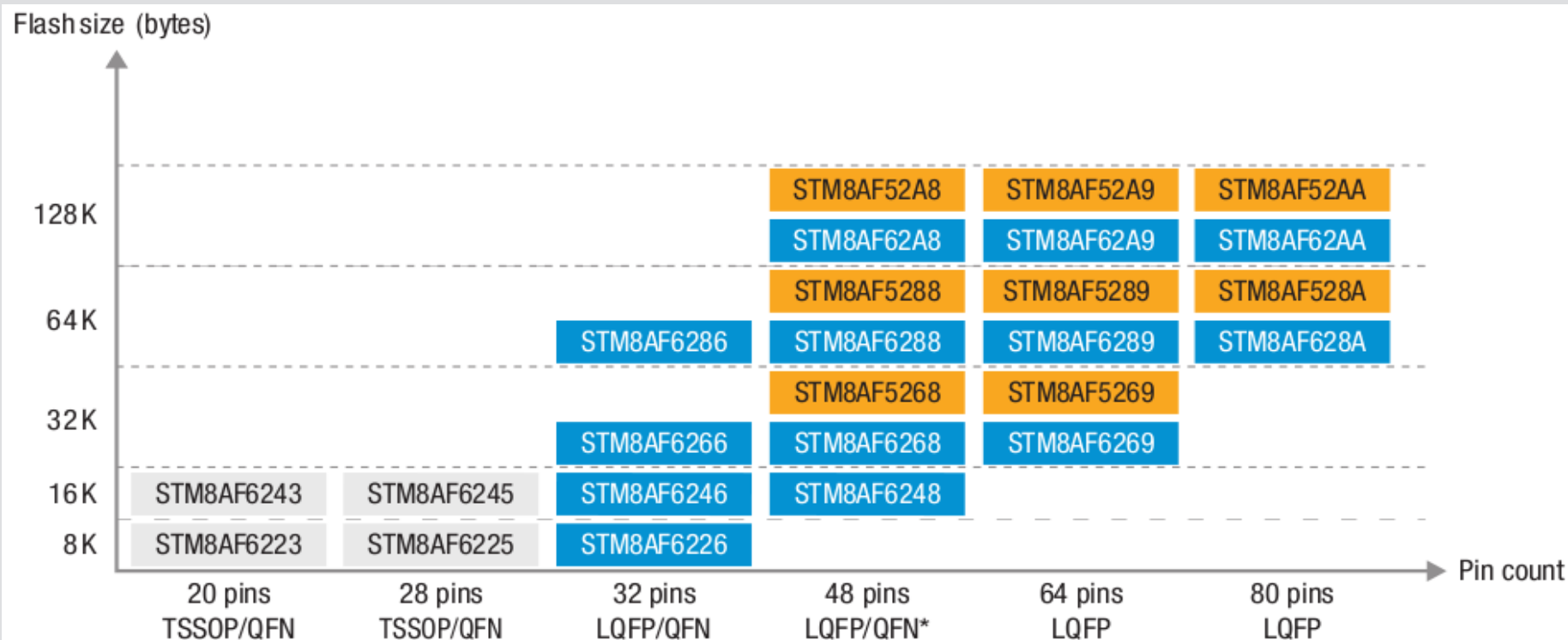
Up to 2x U(S)ART LIN support
I <sup>2</sup> C 400 kHz multimaster
SPI 10 MHz
Up to 3x 16-bit timer 8-bit timer
2x watchdogs (IWDG and WWDG)
AWU
Beeper 1/2/4 kHz
10-bit ADC
Up to 16 channel Xtal
16 MHz and 128 kHz internal RC oscillators
SWIM debug module



# STM8A

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Note:

\* QFN48 available in Q4/2011

Legend:

■ CAN line

■ Standard line

■ Available in Q4/2011

# STM8S

-40 to +85 °C, or up to 125 °C operating temperature range



The STM8S family of **general purpose 8bit Flash microcontrollers** offers an advanced core version combined with a **3-stage pipeline** ranks the STM8S in the top position for performance to cost ratio.

The **embedded EEPROM** and the calibrated **RC oscillator** allow a significant cost effectiveness.

Common core peripherals and architecture:

UART LIN/smartcard/IrDA
I <sup>2</sup> C 400 kHz multimaster
SPI 10 MHz
Up to 3x 16-bit timer 8-bit timer
2x watchdogs (WDG and WWDG)
AWU beeper 1/2/4 kHz
10-bit ADC Up to 16 channels
Xtal 16 MHz and 128 kHz internal RC oscillators
SWIM debug module

STM8S903x Application specific line

	8-Kbyte Flash	1-Kbyte SRAM	640-bytes EEPROM	7 analog channels	Voltage reference	Timer sync
STM8 core @ 16 MHz						

STM8S20x Performance line

	Up to 128-Kbyte Flash	Up to 6-Kbyte SRAM	Up to 2-Kbyte EEPROM	CAN 2.0B	2nd UART
STM8 core @ 24 MHz					

+

STM8S10x Access line

	Up to 32-Kbyte Flash	Up to 2-Kbyte SRAM	Up to 1-Kbyte EEPROM
STM8 core @ 16 MHz			

STM8S00x Value line<sup>\*</sup>

	Up to 64-Kbyte Flash	1-Kbyte SRAM
STM8 core @ 16 MHz		

# STM8S

-40 to +85 °C, or up to 125 °C operating temperature range

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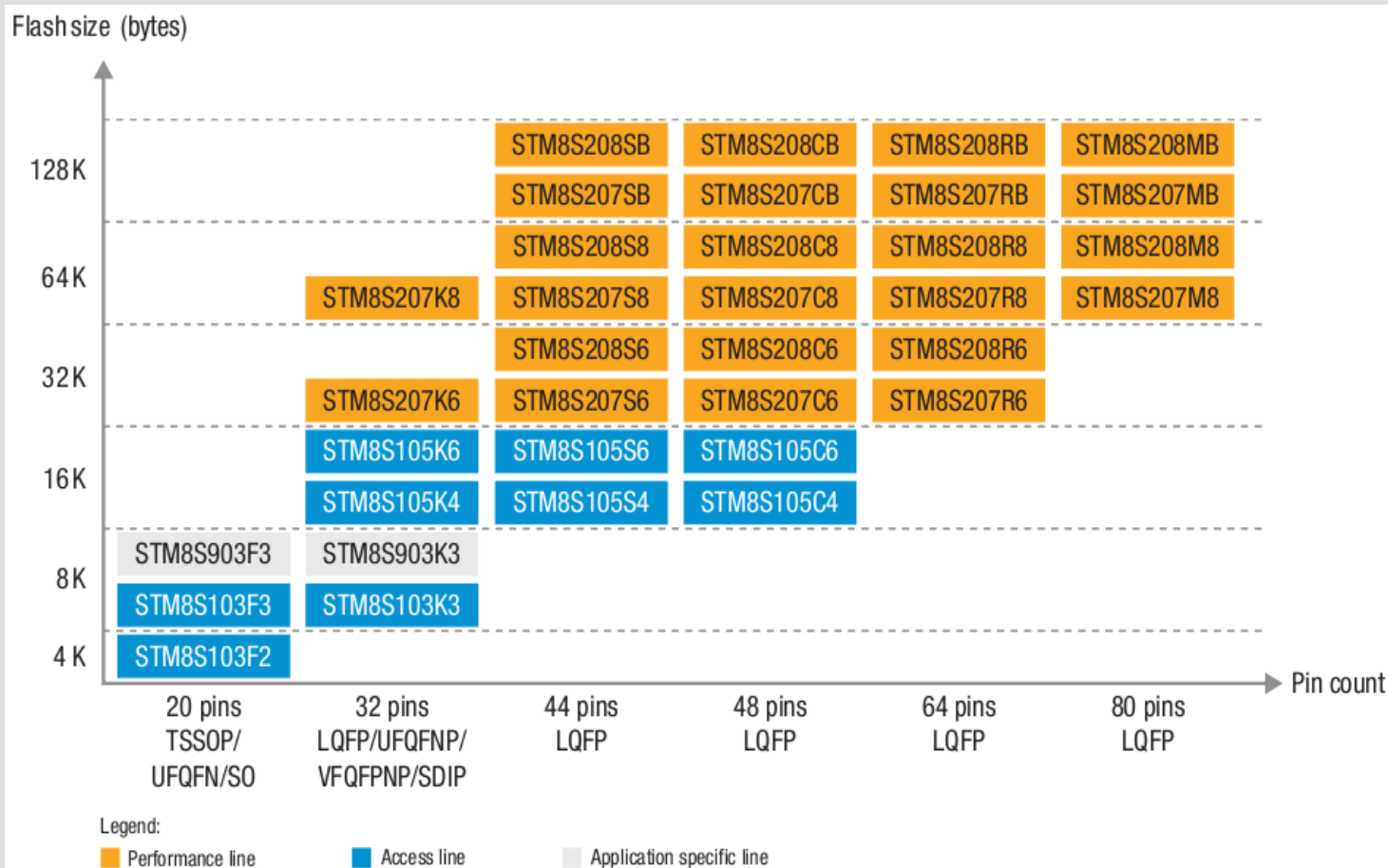
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An **easy-to-use**, intuitive **development environment** and **free library** contributes **improving time to market**.

Supply voltage:  
2.95 to 5.5 V

**Free Class B  
self-diagnostic  
library for  
IEC 60335  
IEC 60730  
compliant  
Applications.**





# STM8S

-40 to +85 °C, or up to 125 °C operating temperature range

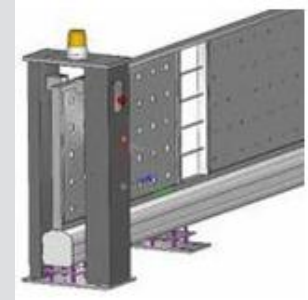
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## STM8S applications

- Appliances, power tools
- HVAC
- Power management
- Lighting
- Factory automation
- Devices with rechargeable batteries
- Motor control
- e-vehicles
- Toys and games
- Sensors
- Power supplies
- User interfaces



# STM8L

-40 to +85 °C, or up to 125 °C operating temperature range



STMicroelectronics proposes an **ultra-low-power family** of MCUs based on the 8-bit cores.


The STM8L family combines **high performance** and **ultra-low power consumption**. Supply from **1,65 to 3,6V**, from **4 to 64 KFlash**,

up to  
**4 KSRAM**  
 and up to  
**2 K of EEPROM**

Common core peripherals and architecture:

Communication peripherals USART, SPI, I <sup>2</sup> C
Multiple 16-bit timer
Internal 16 MHz and 38 kHz RC oscillators
Watchdog (dual watchdogs on STM8L15x/16x)
Reset circuitry POR/PDR
2x comparators
Touch-sensing (Up to 16 channels)


## STM8L162

 STM8 core @ 16 MHz	up to 64-Kbyte Flash	Up to 4-Kbyte SRAM	Reset + BOR PVD	Main osc. input 1-16 MHz	Up to 2-Kbyte data EEPROM	RTC with 32 kHz osc.	Up to 4 channels DMA	12-bit ADC (1 µs) Temp. sensor	12-bit DAC	LCD 8 x 40	AES 128-bit
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## STM8L152

 STM8 core @ 16 MHz	up to 64-Kbyte Flash	Up to 4-Kbyte SRAM	Reset + BOR PVD	Main osc. input 1-16 MHz	Up to 2-Kbyte data EEPROM	RTC with 32 kHz osc.	Up to 4 channels DMA	12-bit ADC (1 µs) Temp. sensor	12-bit DAC	LCD 8 x 40
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## + STM8L151

 STM8 core @ 16 MHz	up to 64-Kbyte Flash	Up to 4-Kbyte SRAM	Reset + BOR PVD	Main osc. input 1-16 MHz	Up to 2-Kbyte data EEPROM	RTC with 32 kHz osc.	Up to 4 channels DMA	12-bit ADC (1 µs) Temp. sensor	12-bit DAC
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## STM8L101

 STM8 core @ 16 MHz	Up to 8-Kbyte Flash*	Up to 1.5-Kbyte SRAM
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AES: Advanced encryption standard  
 BOR: Brown-out reset  
 Osc.: Oscillator  
 POR: Power-on reset  
 PDR: Power-down reset  
 PVD: Programmable voltage detector  
 RTC: Real-time clock

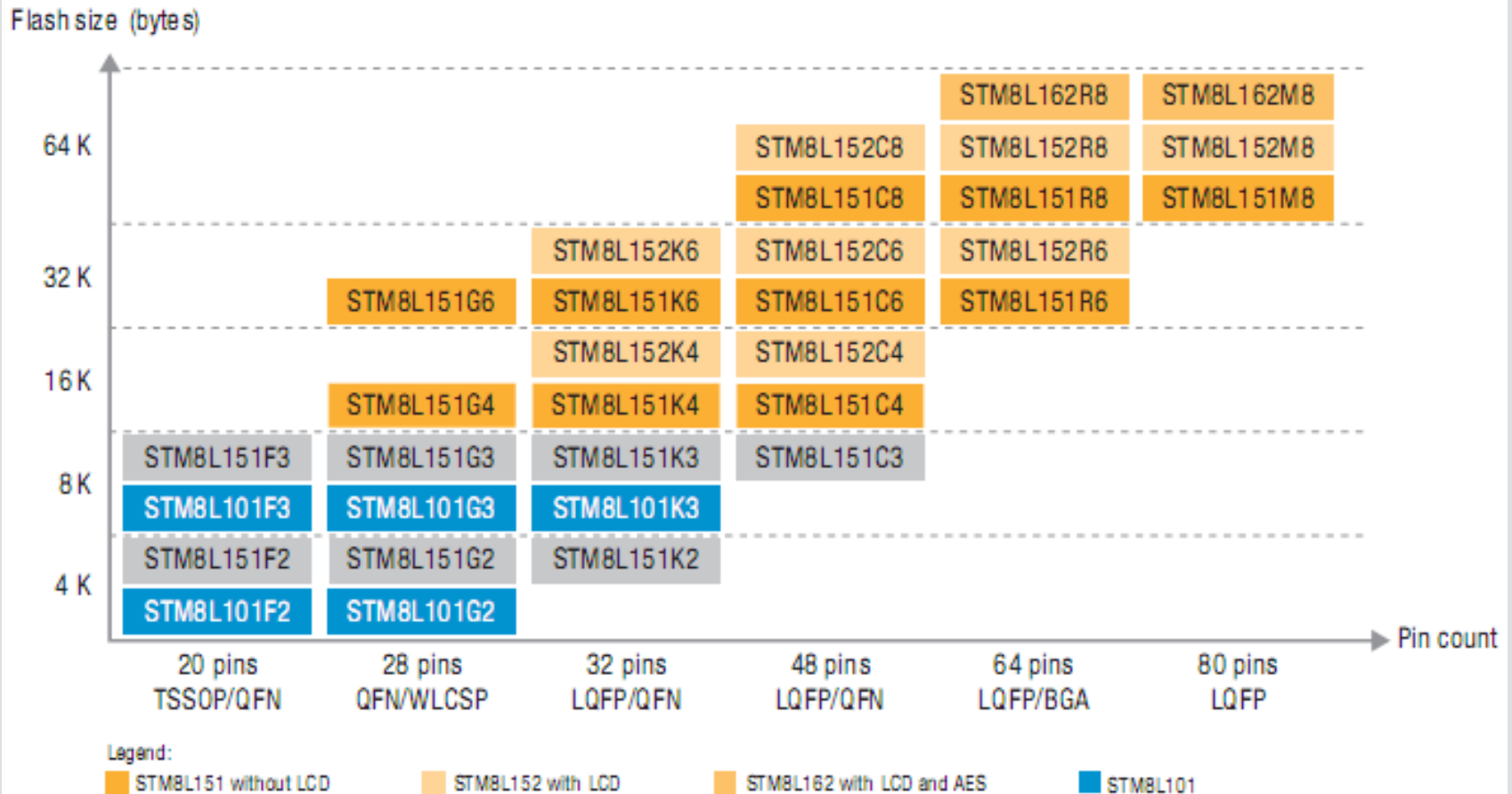


# STM8L

-40 to +85 °C, or up to 125 °C operating temperature range



An **easy-to-use**, intuitive **development environment** and **free library** contributes **improving time to market**.



# STM8L

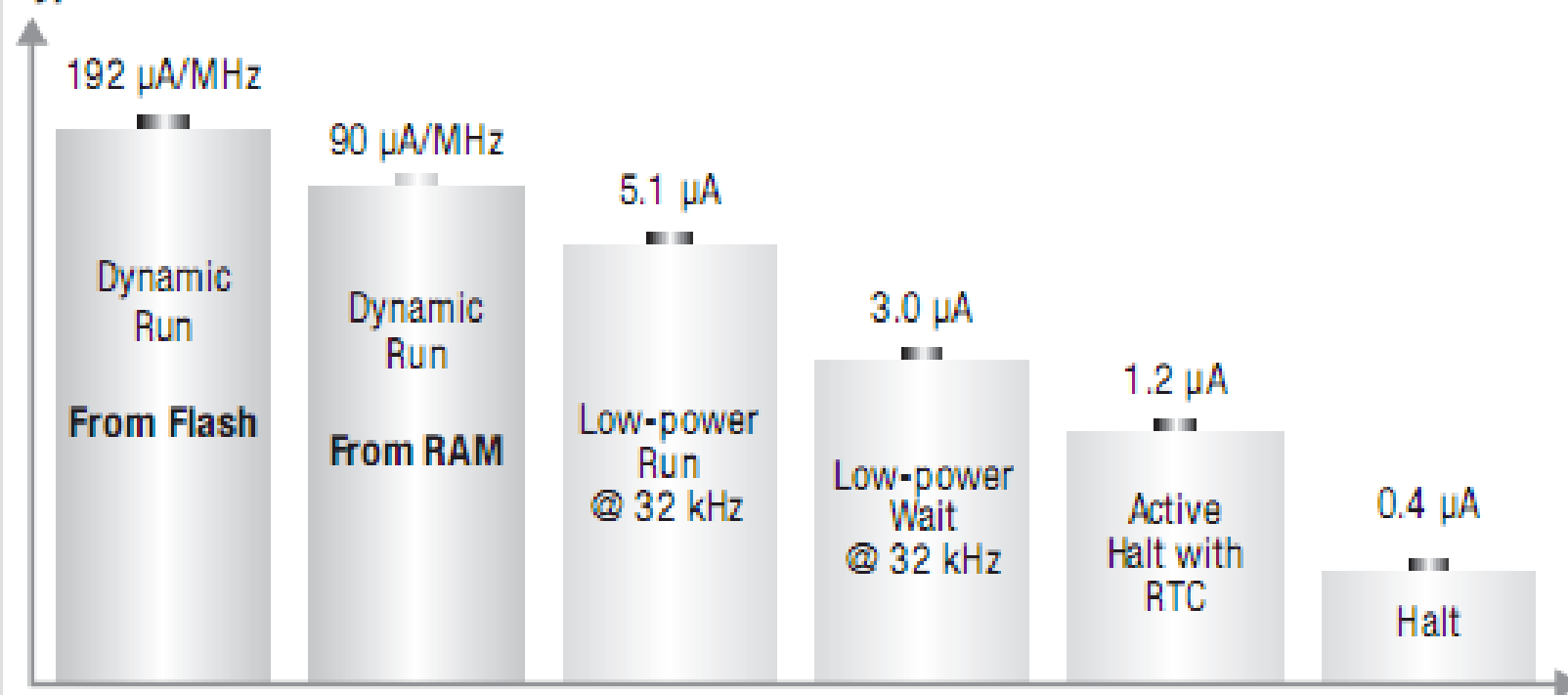
-40 to +85 °C, or up to 125 °C operating temperature range

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Typical @ 25 °C



Notes:

- POR/PDR on
- RAM content preserved
- BOR option at 2.4  $\mu\text{A}$
- Startup time from active Halt 5  $\mu\text{s}$
- Run and Wait consumption values are independent of  $V_{DD}$
- Active Halt and Halt values measured at  $V_{DD} = 1.8 \text{ V}$

# STM8L

-40 to +85 °C, or up to 125 °C operating temperature range

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## Targeted applications

### Medical

- Glucose meters
- Insulin pumps
- Diabetes care
- Blood pressure monitors
- Cholesterol electronic monitors
- Patient monitoring
- Heart monitors

### Metering

- Electricity meters
- Gas meters
- Water meters
- Scales
- Heat meters

### GP portable devices

- Mobile accessories
- 3D mouse and remote controls
- Gaming
- GPS watches
- Sports equipment
- Games and toys

### Alarm systems

- Central processor units
- Wired sensors
- Wireless sensors
- Door locks



# STM8T14x



STMicroelectronics proposes an **Proximity and TouchKey MCU** based on the 8-bit cores.

- Dual outputs for touch and proximity detection
- Internal sampling capacitors
- On-chip integrated voltage regulator
- Electrode automatic tuning
- Electrode parasitic capacitance compensation
- Environment control system
- 8 touch and 4 proximity sensitivity levels
- 4 low-power modes
- Data streaming mode for easy application fine tuning
- Current consumption down to 9  $\mu$ A
- Supply voltage: 2 to 5.5 V
- 8-pin packages:
  - UFDFPN8 (3 x 2 x 0.6 mm)
  - SO8 narrow packages



# STM8T14x

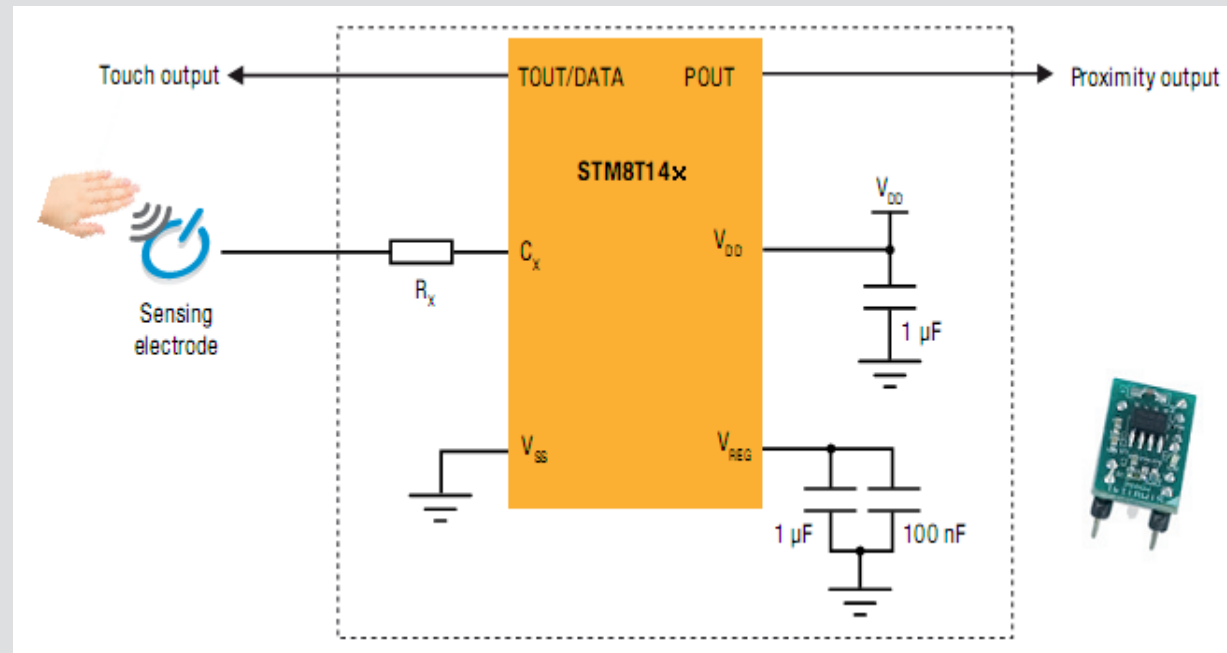
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## STM8T142 applications

- Consumer electronics
- Ear/face proximity detection for smartphone devices
- Companion device for navigation joysticks/optical track pads
- Hand detection for nomad equipment (tablet PCs)
- Ear/head detection for MP3/walkman ear buds and Bluetooth headsets
- On/off touch-sensing button such as GPS system home button
- Hand detection for mice/keyboards
- Wall switch backlight activation on user approach and light controls on user touch





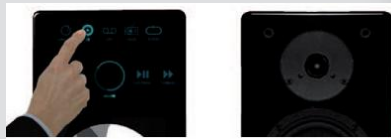
# STM8 Tools



**Free library** with sample code (C sources) implementing the full range of microcontroller peripherals are available.

**Free Touch Sensing Library.**

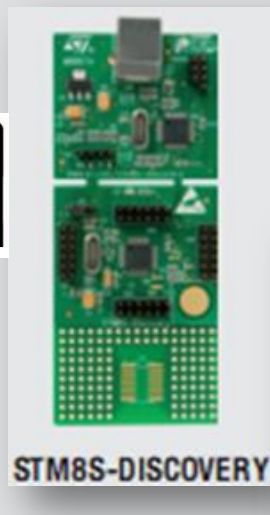
**Free Motor Control library.**



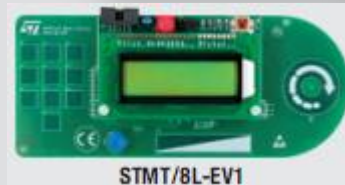
**STM8S-DISCOVERY** and **STM8L-DISCOVERY** are the quickest and cheapest way to discover the STM8 families. They include a USB-based in-circuit debugger and programmer.

Users can run the examples, edit the code and program as often as necessary.

**In-circuit debugger/programmers** provide low-cost solutions for programming the target device on an application board, and debugging the application while it runs on the target microcontroller.



STM8S-DISCOVERY



STMT/8L-EV1



STM8L-DISCOVERY



STICE-SYSxxx



ST-LINK



STX-RLINK



# STM8 Tools

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**Free library** with sample code (C sources) implementing the full range of microcontroller peripherals are available.

**ANSI C**

**MISRA C**

**Class B IEC-60335-1**

**VDE certified**

**Free Touch Sensing Library.**

**Free Motor Control library**

**ST Visual Develop (STVD), free IDE**

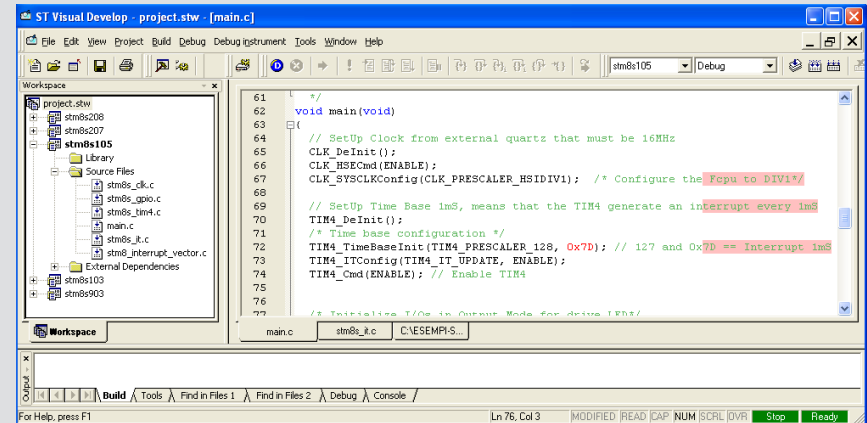
**ST Visual Programmer (STVP), free MCU programming software**  
and more...

**Compiler:**

**Cosmic C Compiler, 32KB free**

**Raisonance C Compiler, 32KB free**

**IAR C Compiler, 8KB free**

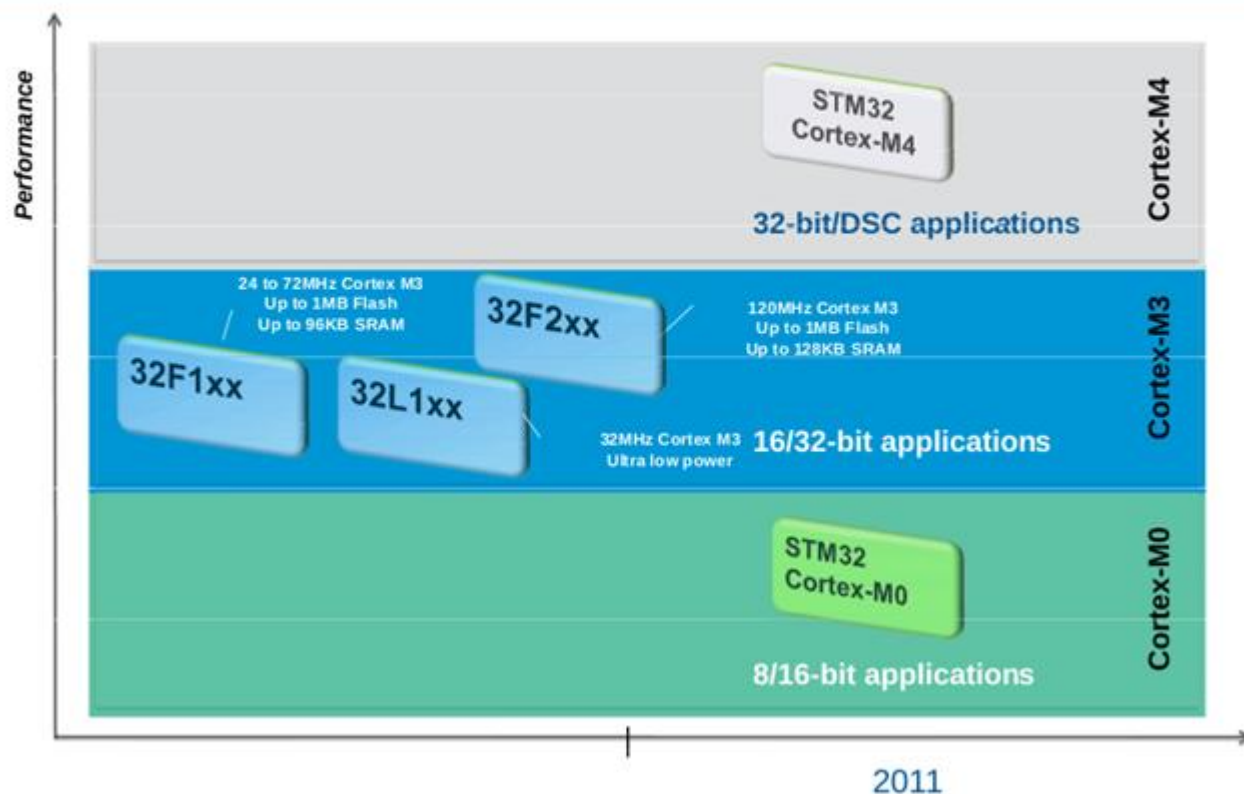


# STM32 Cortex Mx family



The **STM32 family of 32-bit Flash microcontrollers** is based on the breakthrough ARM **Cortex<sup>TM</sup>-M3** core (1,25 DMIPS/MHz) featuring architectural enhancements with the Thumb-2 instruction set to deliver improved performance with better code density, significantly faster response to interrupts, all combined with industry-leading power savings. It offers a complete 32-bit product range while maintaining full integration and ease of development.

## Global STM32 Roadmap



# STM32 Cortex M3 family



## STM32F1xx

(M3) General purpose series. **high performance with first-class peripherals, Ethernet, USB DEV/OTG, up to 1-Mb Flash, up to 144 pins.**

## STM32F2xx

(M3) get the **highest performance** with the F-2 series for computing-intensive applications and advanced connectivity. The F-2 series maintains compatibility (except for two pin) with the F-1 series.

## STM32L1xx

(M3) design **ultra-low-power** applications with the L-1 series for those who are power conscious and seek the absolute lowest energy consumption. The L-1 series maintains compatibility with the F-1 series.

## STM32Wxx

(M3) is expanding to the **wireless network domain**. Compliant with the **IEEE 802.15.4** radio standard (2,4GHz), this open and flexible platform supports the most popular protocol stacks.



# STM32F1xx *Cortex M3*

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STM32F1xx general purpose series, **high performance with first-class peripherals, Ethernet, USB DEV/OTG**, From **16Kb up to 1Mb Flash, 36 pins to 144 pins**.

This series addresses a wide range of applications, from the **lowest price-sensitive** designs to computing intensive, high memory footprint ones.

[Product Portfolio](#)

[Applications](#)

# STM32F2xx *Cortex M3*

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STM32F2xx series complements our STM32F1xx product portfolio by offering devices with close pin-to-pin compatibility (except for two pin), with more performance, more Flash and SRAM memories, and **advanced peripherals** such as a **camera interface**, **crypto/hash processor**, **full/high speed USB-OTG**, **Ethernet**, **CAN**, and external memory interface. Based on Cortex M3 running at **120 MHz**, the STM32F2xx series allows a performance equivalent to **zero-wait execution from Flash** using the adaptive real-time ART Accelerator<sup>™</sup> technology.

The STM32F2xx series includes devices with **128 Kb to 1 Mb of on-chip Flash** memory, **64 Kb to 128 Kb of SRAM**, and 15 communication interfaces.

LQFP64, LQFP100, LQFP144, WLCSP64 (< 4 x 4 mm) and UFBGA176 packages are available.

[Product Portfolio](#)

[Applications](#)

# STM32FL1xx *Cortex M3*

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STM32L1xx is based on the Cortex-M3 core, extends ST's ultra-low-power portfolio in performance, features, memory size and package pin count. It combines very **high performance and ultra-low power consumption**, through the use of an optimized architecture and our proprietary ultra-low leakage process, shared with the STM8L family.

**32 to 384 Kb of Flash**, up to **48 Kb of SRAM** and up to **12 Kb of EEPROM**  
**Pin-to-pin compatibility with STM32F series** (except VBAT not present on the STM32L)

Ultra-low energy consumption: down to **180  $\mu$ A/DMIPS** from Flash

Supply voltage: **1.65 to 3.6 V**

Six ultra-low-power modes: **down to 300 nA**

Rich set of high-end analog and digital peripherals (AD, DAC, LCD, etc)

**40 to +85 °C** operating temperature range

**Fast wake up**

[Product Portfolio](#)

[Applications](#)



# STM32F/Lxx Cortex M3



Common core peripherals and architecture:

Communication peripherals: USART, SPI, I2C
Multiple general-purpose timers
Integrated reset and brown-out warning
Multiple DMA
2x watchdogs Real-time clock
Integrated regulator PLL and clock circuit
External memory interface (FSMC)
Dual 12-bit DAC
Up to 3x 12-bit ADC (1 $\mu$ s or 0.5 $\mu$ s for F-2 series)
Main oscillator and 32 kHz oscillator
Low-speed and high-speed internal RC oscillators
-40 to +85 °C and up to 105 °C operating temperature range
Low voltage 2.0 to 3.6 V or 1.65 to 3.6 V (L-1 and F-2 series) 5.0 V tolerant I/Os
Temperature sensor

F-2 series - STM32F207/217 and STM32F205/215

120 MHz Cortex-M3 CPU	Up to 128-Kbyte SRAM	Up to 1-Mbyte Flash	2x USB 2.0 OTG FS/HS	3-phase MC timer	2x CAN 2.0B	SDIO 2x PS audio Camera IF	Ethernet IEEE 1588	Crypto/hash processor and RNG
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F-1 series - Connectivity line STM32F105/STM32F107

72 MHz Cortex-M3 CPU	Up to 64-Kbyte SRAM	Up to 256-Kbyte Flash	USB 2.0 OTG FS	3-phase MC timer	2x CAN 2.0B	2x PS audio	Ethernet IEEE 1588
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F-1 series - Performance line STM32F103

72 MHz Cortex-M3 CPU	Up to 96-Kbyte SRAM	Up to 1-Mbyte Flash	USB FS device	3-phase MC timer	CAN 2.0B	SDIO 2x PS
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F-1 series - USB Access line STM32F102

+	48 MHz Cortex-M3 CPU	Up to 16-Kbyte SRAM	Up to 128-Kbyte Flash	USB FS device
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PS: Full speed  
 HS: High speed  
 MC: Motor control  
 MSI: Multi-speed internal oscillator  
 RNG: Random number generator  
 SDIO: Secure digital input/output  
 Vscal: Voltage scaling

F-1 series - Access line STM32F101

36 MHz Cortex-M3 CPU	Up to 80-Kbyte SRAM	Up to 1-Mbyte Flash
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F-1 series - Value line STM32F100

24 MHz Cortex-M3 CPU	Up to 32-Kbyte SRAM	Up to 512-Kbyte Flash	3-phase MC timer	CEC
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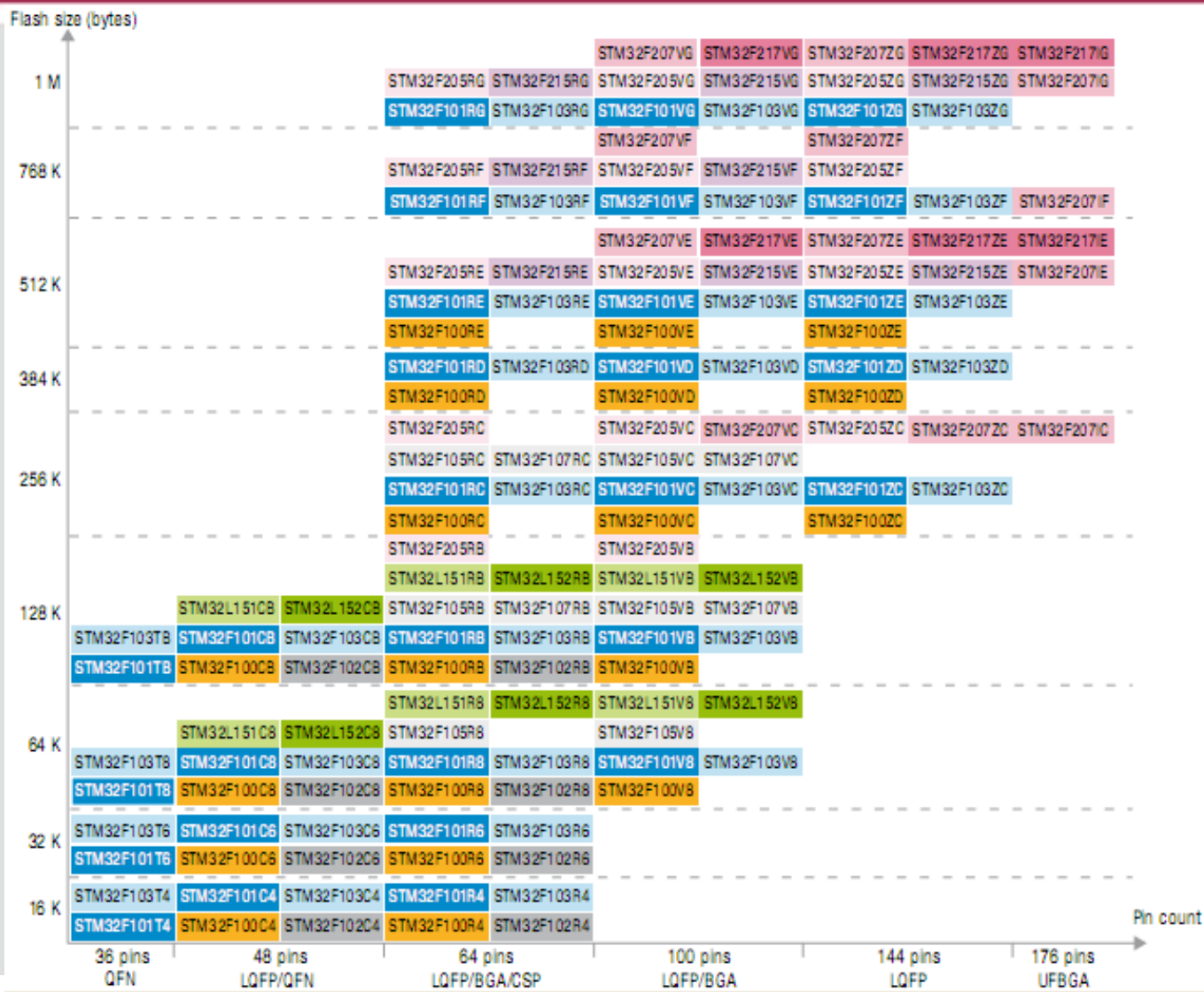
L-1 series - STM32L151/2

32 MHz Cortex-M3 CPU	Up to 48-Kbyte SRAM	Up to 384-Kbyte Flash	USB FS device	Data EEPROM Up to 12 Kbytes	LCD 8x40	Comparator	BOR MSI Vscal
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# STM32F/Lxx Cortex M3

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## STM32 F-1 series legend:

- Connectivity line
- USB Access line
- Value line
- Performance line
- Access line

## STM32 F-2 series legend:

- STM32F217
- STM32F215
- STM32F207
- STM32F205

## STM32 L-1 series legend:

- STM32L152
- STM32L151

# STM32F1xx Cortex M3

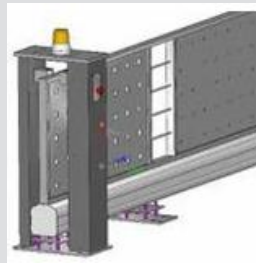
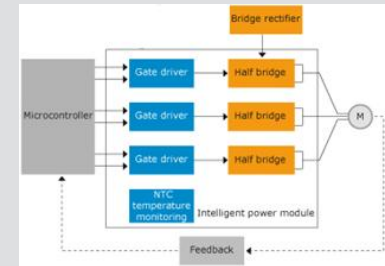
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## Applications

- Industrial
  - PLC
  - Inverters
  - Printers, scanners
  - Industrial networking
  - Solar inverters
- Building and security
  - Alarm systems
  - Access control
  - HVAC
  - Power meters
- Medical
  - Glucose meters
  - Portable medical care
  - VPAP, CPAP
  - Patient monitoring
- Appliances
  - 3-phase motor drives
  - Application control
  - User interfaces
  - Induction cooking
- Consumer
  - Home audio
  - Gaming
  - PC peripherals
  - Digital cameras, GPS



# STM32F2xx Cortex M3

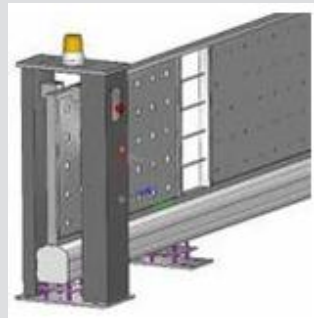
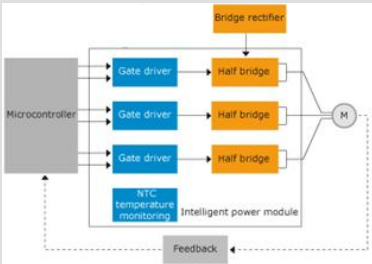
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## Applications

- Industrial
  - PLC
  - Inverters
  - Power meters
  - Printers, scanners
  - Industrial networking
- Building and security
  - Alarm systems
  - Access control
  - HVAC
- Medical
  - High-end glucose meters
  - Power meters
  - Battery-operated applications
- Appliances
  - Motor drive
  - Application control
- Consumer
  - PC peripherals, gaming
  - Digital cameras, GPS platforms
  - Home audio





# STM32L1xx Cortex M3

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## Targeted applications

### ■ Medical

- Glucose meters
- Insulin pumps
- Diabetes care
- Blood pressure monitors
- Cholesterol electronic monitors
- Patient monitoring
- Heart monitors

### ■ Metering

- Electricity meters
- Gas meters
- Water meters
- Scales
- Heat meters

### ■ GP portable devices

- Mobile accessories
- 3D mouse and remote controls
- Gaming
- GPS watches
- Sports equipment
- Games and toys

### ■ Alarm systems

- Central processor units
- Wired sensors
- Wireless sensors
- Door locks



# STM32Wxx *Cortex M3*



STM32Wxx family is expanding to the **wireless network (2,4 GHz)** domain bringing outstanding radio and low-power microcontroller performances. With a configurable total link budget up to 109 dB and the efficiency of the ARM Cortex-M3 core, the STM32Wxx is a perfect fit for the wireless sensor network market. Compliant with the **IEEE 802.15.4** radio standard, this open and flexible platform supports the most popular protocol stacks such as **RF4CE**, **ZigBee-PRO**, **6LoWPAN** and **more**.

## Key features

- Outstanding 2.4 GHz radio performances to IEEE 802.15.4
- Best-in-class code density, thanks to its ARM Cortex-M3 core
- Low-power architecture
- Open platform with extra resources for application integration:
  - Configurable I/Os, ADC, timers, SPI, UART
- Main software libraries: EmberZnet PRO, RF4CE, IEEE 802.15.4 MAC
- Available in both SoC (QFN48) and coprocessor (QFN40) versions



# STM32Wxx Cortex M3



## System

Power supply  
1.25/1.8 V regulator  
POR

Xtal oscillators  
32 kHz + 24 MHz

Internal RC oscillators  
10 kHz + 12 MHz

Clock control

Sleep timer

Up to 24 I/Os

Watchdogs  
(independent and window)

4 external interrupts

AES 128 encryption  
accelerator

Event manager

## Control

2x 16-bit timers

## ARM Cortex-M3 CPU 24 MHz

Nested vector  
interrupt  
controller (NVIC)

JTAG S/W debug

Embedded trace  
macrocell (ETM)

Memory protection  
unit

1x SysTick timer

## Wireless connectivity

Lower MAC and baseband

IEEE 802.15.4

128-Kbyte  
Flash memory

8-Kbyte SRAM

## Wired connectivity

UART

Up to 2x SPI

Up to 2x I<sup>2</sup>C

## Analog

12-bit ADC  
6 channels/188 kHz

# STM32Wxx Cortex M3



## Development tools

As for all STM32 products, a complete development tool offer is available, including the following dedicated starter kits.

- STM32W-RFCKIT: low-cost RF control kit with 2 boards (control/receive)



- STM32W108B-SK: complete kit to evaluate and develop on the STM32W108, including 2 application boards, one STM32-Primer2 with an STM32W108 extension board, RF network analyzer and IAR C compiler
- STM32W108B-KEXT: set of 4 additional application boards to build a mesh network (2 standard boards + 2 with power amplifiers)



# STM32Wxx Cortex M3

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## Targeted applications

- Smart energy networks, metering
- Home automation
- Consumer electronics, remote controls
- Healthcare and medical equipment



# STM32 Tools



STM32 family are supported by a complete range of high-end and low-cost evaluation, software, debugging and programming tools.

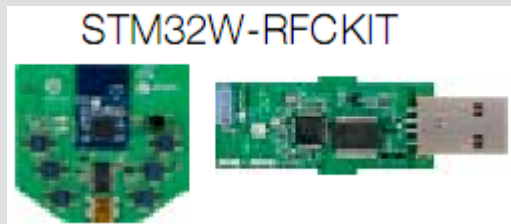
This complete line includes third-party solutions that come complete with C/C++ compiler, integrated development environment and in-circuit debugger/programmer featuring a JTAG application interface.



Developers can also explore and start applications easily with any of a range of affordable, easy-to-use starter kits **DISCOVERY**.



**Efficient library** and **extensive support for all major tool** providers offers a fast route to best-it and an optimized development process.



## Evaluation board for STM32

Part number	Featured product
STM3210B-EVAL	STM32F103VBT6
STM3210C-EVAL	STM32F107VCT6
STM3210E-EVAL	STM32F103ZGT6
STM32100B-EVAL	STM32F100VBT6
STM32100E-EVAL	STM32F100ZET6
STM32L152-EVAL	STM32L152VBT6
STM3220G-EVAL	STM32F207IGH6



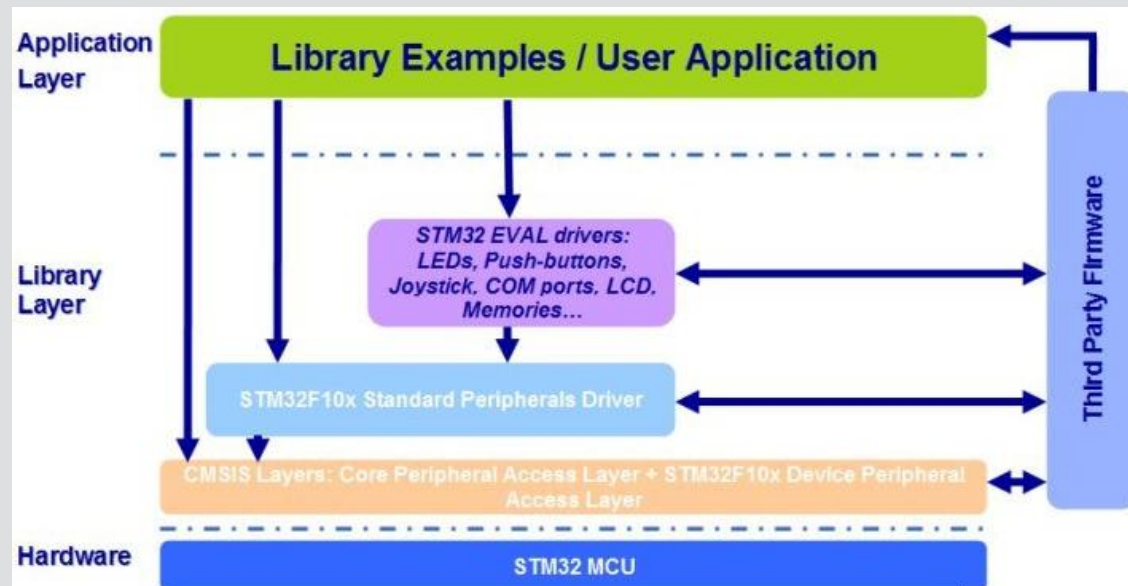
# STM32 Tools



**ST Firmware Libraries with sample code (C sources) implementing the full range of microcontroller peripherals are available for free download from STM.**

All STM libraries are compliant with **CMSIS**.

- **Embedded graphic objects/touchscreen** is [here](#).
- **USB Device Developer Kit** is a complete firmware package for implementation of **USB device** interfaces in any STM32 application is [here](#).
- **USB Host Developer Kit** is a complete firmware package for implementation of **USB host** is [here](#)
- **DSP Software Library**
- **Speech Codec Software Library**
- **Self-test routines Class B** that facilitate home appliance certification under EN/IEC60335-1 Class B .
- **Motor control library**
- **TCP/IP/UDP software**
- **Touch Library**
- **Free Rtos**
- **ZigBee**
- STM32 and STM8 **Flash loader** contains the GUI, Command line and header source files.
- And more





# STM32 Tools



C/C++ compiler	3rd-party development environment	RTOS and stack software	Programmer
ARM GNU GreenHills IAR Keil Altium/Tasking	Aiji System Altium/Tasking ARM Ashling Atollic Embest Green Hills Software Hitex IAR iSYSTEM Keil Lauterbach Nohau PLS Raisonance Rowley Signum	CMX eCosCentric Express Logic freeRTOS GreenHills HCC-Embedded IAR InterNiche Keil Micrium Micro Digital Port Quadros Segger uClinux Wittenstein High Integrity Systems	<b>From ST:</b> <b>ST-LINK</b> <b>ST-LINK/V2</b> (Available in Q2/2011) <b>ST-RLINK</b>  <b>Third-parties:</b> Algocraft BP Microsystems Dataman Data I/O Eltec Hitex Leap PLS Raisonance RK-System Segger SMH Technologies Systems General Xeltec



# STM32 Tools



Free development tools because it has no optimizations.  
Optimizations are charged.

<http://www.atollic.com/>



The GNU world, now available for STM32 with examples.

<http://developers.stf12.net/home>



# STM32 Tools

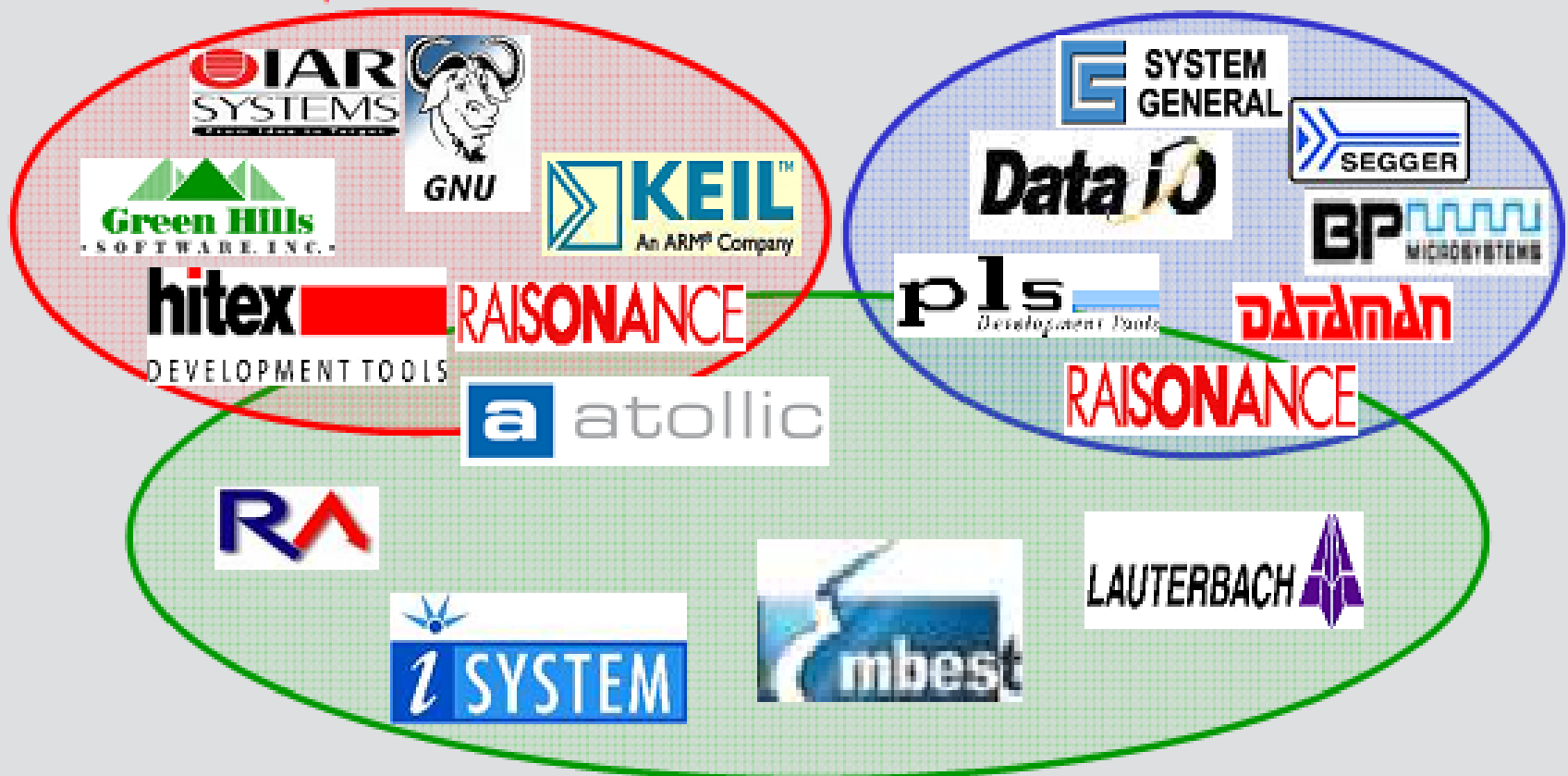
Home Page

STM32 home page



## Compilers and IDE

## Device Programming



IDE and debuggers, GNU compilers

# SPEAr



Highly integrated, the SPEAr<sup>®</sup> eMPU family are 32-bit ARM<sup>®</sup> **ARM926EJ-S** or **Cortex-A9** based devices for cost-sensitive applications requiring significant processing and connectivity capabilities at lower power consumptions.

## Advantages

- Based on an industry-standard ARM<sup>®</sup> core
- Architecture includes proven IPs for connectivity, memory interfaces and high-performance internal bus system
- Full range ASSP portfolio
- Development kits are available to allow a full custom project approach
- Clear path to architecture and technology evolution
- Optional configurable embedded logic block allows selected customers to develop a customized SPEAr solution for a specific business

# SPEAr



## **SPEAr 600**

Dual ARM926 at 333MHz  
XVGA display controller  
**733 DMIPS**

## **SPEAr 1310 & 1340**

Dual Cortex A9 at 600MHz  
HD display controller  
3 x PCI/SATA  
**3000 DMIPS** @

ARM926 at 333MHz  
XVGA display  
controller  
**366 DMIPS**

## **SPEAr 300**

Voip

## **SPEAr 310**

Communication

## **SPEAr 320**

Automation

## **SPEAr 320S**

more... @

end 2011 @

# SPEAr



**LINUX OS**  
**supported by STM**  
**and third party**



**Other OS**  
**supported third party**  
Integrity  
WinCE  
VxWorks



# SPEAr



# SPC56

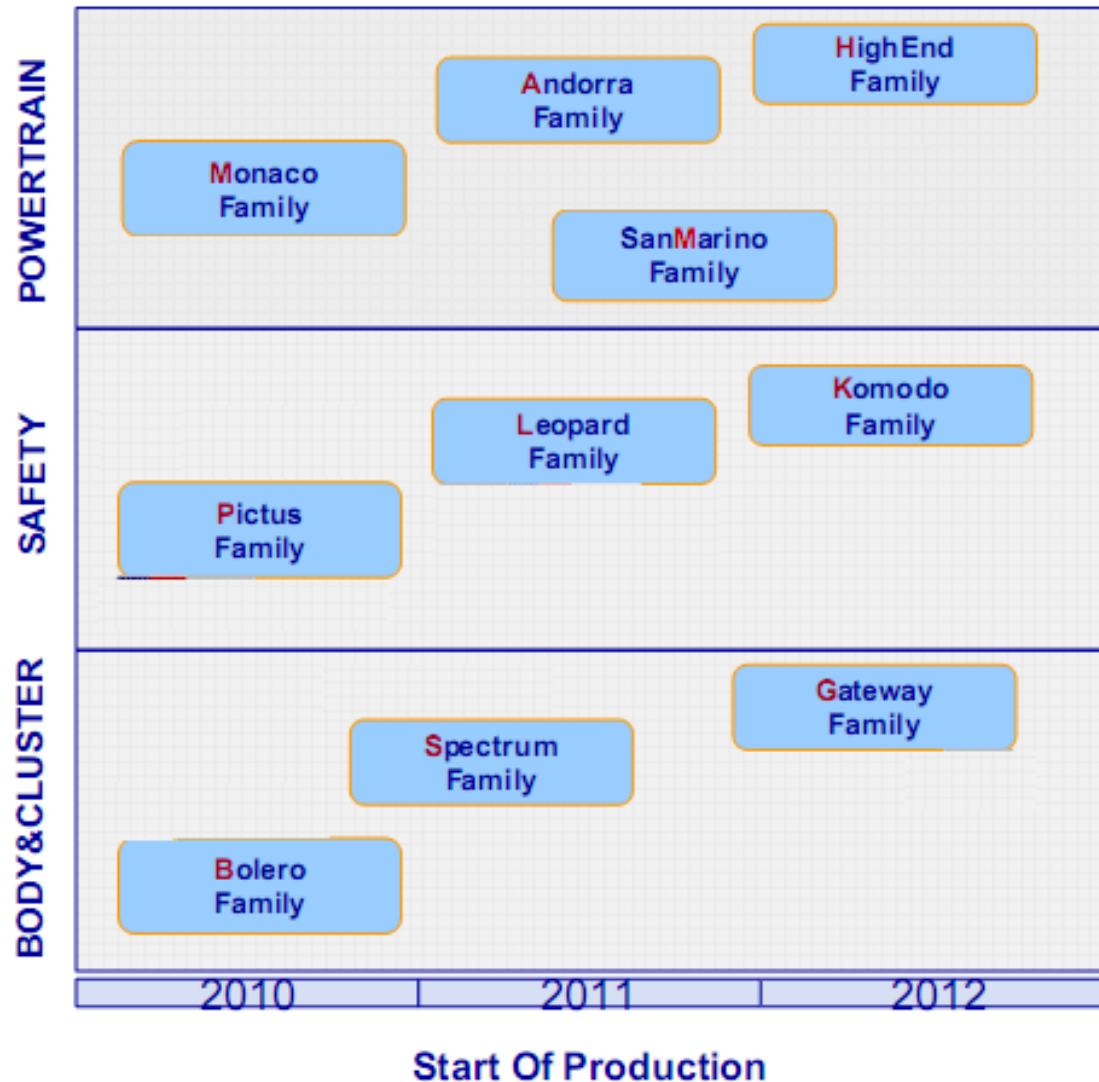


The SPC56 family of 32-bit automotive microcontrollers is designed using **Power Architecture**<sup>™</sup> and ST's 90 nm embedded Flash technology. Developed within the framework of the STMicroelectronics/Freescale Joint Development Program (JDP), it combines a scalable range of e200 cores with innovative peripheral sets that are optimized for building efficient applications in engine management, chassis, safety, body control and instrument clusters.

The modular design concept and the ultimate performance of the technology together with the rigorous implementation of a zero-defect strategy will make it a reference platform for the next generation of automotive applications.



# SPC56



# SPC56



## Development

Green Hills: MULTI

Wind River: WRS Compiler

JDP: eTPU Compiler

Byte Craft: eTPU Compiler

ASHware: eTPU Simulator

## Low cost

Code Sourcery GNU

Cosmic Compiler

## Configuration and Code Generation

RAppID Init

RAppID Blockset

dSPACE: TargetLink

Matlab: RTW

## Debugging and Emulation

Lauterbach: PowerTrace

PLS: UAD2/UDE

iSystem: iC3000

## Boards

SPC56xx Evaluation Boards

SPC56xx Emulation Boards

SPC56xx Starter Kits

## Low cost

Raisonance: RLink

P&E: Wiggler

## Flash programming

PLS

Data I/O

ProMik

## Runtime Software

### Drivers

JDP: AUTOSAR MCAL

AUTOSAR BSW

Others: Vector CAN

### Operating Systems

JDP AUTOSAR OS

ETAS RTA-OSEK

Vector: osCAN

Vector: MICROSAR

Green Hills: pVeLOsity

JDP: AUTOSAR OS

### Libraries

JDP: Motor Control

JDP: DSP Library

JDP: eTPU Library

## Calibration & Testing

ATI: Vision

ETAS: INCA

Vector: CANape

dSPACE: CalibrationDesk

ETAS: ETK...

Vector: CANcard...

ATI: A7...

dSPACE: DCI...

ST10 Adapter

Low cost Calibration

Vertical Adapter

CPU Commander

SMET

ComBox



# SPC56





# Contact Us



For more info in *Italy* contact:

*Enrico Marinoni* – for STM8, STM32, SPC56 and SPEAr

*Stefano Tabanelli* – for SPEAr , Stefano is SPEAr specialist

For other country contact *SILICA*