IoT Manufacturer Overview

- Atmel
- BOSCH
- am\n
- Imagin Orient
- MagnaChip
- Micro Crystal Switzerland
- Microchip
- Hantronix
- Renata Batteries
- Epson
- Redpine Signals
Content
1. Atmel MPUs and MCUs.................................................................4
   1.1 SAM A5 MPUs .................................................................4
   1.2 SAM E90 MCUs ...............................................................4
   1.3 SAM S70 MCUs ...............................................................4
   1.4 SAM G MCUs .................................................................4
   1.5 SAM L MCUs .................................................................4
   1.6 SAM C MCUs .................................................................4
   1.7 SAM D MCUs .................................................................4
   1.8 Microchip MCUs ..............................................................5
2. MAC Series Serial EEPROMs.....................................................5
3. Wireless......................................................................................5
   3.1 Wi-Fi Connectivity Schemes ..............................................5
   3.2 Bluetooth SMART Product Types ....................................5
   3.3 Wi-Fi + Bluetooth SMART - Combo ...............................6
   3.4 LoRa & SIGFOX...............................................................6
   3.5 Redpine n-Link™ Family ................................................6
   3.6 Redpine Connect-io-n™ Family .......................................6
   3.7 Redpine WiSeConnect™ Family .....................................6
4. Security......................................................................................6
5. Sensors & Sensor Frontends ......................................................6
6. Display & Display Controller ....................................................7
7. Touch Control............................................................................7
9. Timing Devices .........................................................................7
10. Ineltek Support ........................................................................7
1. Atmel MPUs and MCUs

1.1 SAM A5 MPUs

ARM® Cortex®-A5 based microprocessor platforms running up to 536 MHz (850 DMIPS), Linux support, Gigabit Ethernet, dual CAN, security, FPU, NEON, hardware video decoder, TFT controller.

1.2 SAM E90 MCUs

High-performance ARM® Cortex®-M7 core-based MCUs running up to 300 MHz (1500 CoreMark) with up to 2 MB Flash and 384 KB SRAM, FPU with double precision, 10/100 Ethernet MAC, dual CAN-FD, CMOS image sensor interface, security, dual 2 Msps 12 bit ADC, HS USB Host and Device.

1.3 SAM S70 MCUs

High-performance ARM® Cortex®-M7 core-based MCUs running up to 300 MHz (1500 CoreMark) with up to 2 MB Flash and 384 KB SRAM, FPU with double precision, CMOS image sensor interface, security, dual 2 Msps 12 bit ADC, HS USB Host and Device.

1.4 SAM G MCUs

Ultra-low-power and high performance ARM® Cortex®-M4 core with FPU running up to 120 MHz. Very small package 3x3 mm 49-ball WLCSP package, 12 bit ADC, DMA, up to 512 KB Flash and 176 KB SRAM, low power consumption at <100 µA/MHz, well suited for all kind of wearable computing.

1.5 SAM L MCUs

ARM® Cortex®-M0+ based MCU running up to 48 MHz, up to 256 KB embedded Flash and 40 KB SRAM, low power consumption at <35 µA/MHz, DMA, Sleepwalking and Event system, FS USB host & device, 3 OpAmps, 2 analog comparators, programmable logic block, 12 bit ADC with 20 channels.

1.6 SAM C MCUs

ARM® Cortex®-M0+ based MCU running up to 48 MHz, up to 256 KB embedded Flash and 32 KB SRAM, 2.7 V to 5.5 V operating voltage, two 12 bit ADCs, CAN-FD, LIN (master/slave), 16 bit Sigma Delta ADC, Divide and square root accelerator.
1.7 SAM D MCUs
ARM® Cortex®-M0+ based MCU running up to 48 MHz, up to 256 KB embedded Flash and 32 KB SRAM, wide range of pin count and memory size from 8 KB Flash/14 pin to 256 KB Flash/64 pin, USB, motor control timers, automotive versions, temperature range -40°C to 125°C.

1.8 Microchip MCUs
- 8-bit PIC-MCU
- 16-bit PIC24 MCUs and dsPIC Digital Signal Controller
- 32-bit MIPS based Microcontroller

2. MAC Series Serial EEPROMs
Value added serial EEPROMs with pre-programmed 128 bit unique serial numbers and MAC addresses available from Atmel and Microchip.

3. Wireless

3.1 Wi-Fi Connectivity Schemes
- Standalone IoT solution PIC32WM/WM32 or SAMW25 series
- Network controller RN17x/18x or WINC1500 series
- Link controller MRF24WG/WN or WILC1000 series

3.2 Bluetooth SMART Product Types
- Bluetooth SMART and microcontroller - SAM B11
- Bluetooth SMART link controller - BTLC1000
- RNxxxx Bluetooth companion and standalone modules
3.3 Wi-Fi + Bluetooth SMART - Combo
ATWINC3400 System on Chip with Wi-Fi & Bluetooth SMART

3.4 LoRa & SIGFOX
Low power wide area network, wireless connectivity over several kilometers. Ultra low power enables battery life time of several years

3.5 Redpine n-Link™ Family
- Single Stream Wi-Fi (2.4/5GHz) module,
- Single Stream Wi-Fi (2.4/5GHz), BT 4.0 Dual Mode and ZigBee® combo module
- Multi Protocol Wireless Mini PCI Express (PCIe) Card

3.6 Redpine Connect-io-n™ Family
- Single stream Wi-Fi (2.4/5GHz) embedded module
- Single stream Wi-Fi (2.4/5GHz), BT 4.0 dual mode and ZigBee embedded combo module

3.7 Redpine WiSeConnect™ Family
- Single stream Wi-Fi (2.4/5GHz) advanced embedded combo module,
- Single stream Wi-Fi (2.4/5GHz), BT 4.0 dual mode and ZigBee embedded combo module

4. Security
SHA / AES / ECC based authentication engines with ultra-secure hardware data & key storage.

5. Sensors & Sensor Frontends

Bosch Sensortec:
- Motion Sensors
- Environmental Sensors
- Pressure sensors and integrated enviromental units (pressure, humidity, temperature)

Epson:
- Very high precision Gyro Sensors, IMUs, 6DOF inertial sensors, Accelerometer and Inclinometer.

ams:
- Chemical sensors, optical sensors (ambient light/color/proximity/gesture), lightning sensor, rotating and linear magnetic position sensors, HF / UHF interface and sensor Tag, high precision capacitive+resistiv sensor front ends. CMOS Imaging Sensors.

MagnaChip:
- Humidity sensor, e-Compass, programmable digital hall sensor.

Microchip
- Temperature sensors, current sensors, analog front ends, thermocouple converter
6. Display & Display Controller

TFTs from 2,2”-15,0”, Electronic Paper Displays (EPD) from 1,43”-31,2”, OLED displays, custom specific LCDs. Highly integrated display controller with resolution from 2.40 x 3.20 to 800 x 480 with integrated VRAM.

7. Touch Control

Custom capacitive touch solutions for TFT- and EPD displays, Atmel Cortex M0+ products with Peripheral Touch Controller (PTC), mTouch-Metal overCap Technology allows non segmented metal surfaces.

8. Batteries

Standard Lithium coin cells, standard LiPo rechargeable batteries from 33 mAh to 2700 mAh, custom specific versions. Battery charging, supervision and management ICs.

9. Timing Devices

32 KHz Crystals, standard RTCs, RTCs with automatic temperature compensation, RTCs with ultra low current consumption, radio receivers for time code, MEMS based oscillators.

10. Ineltek Support

Time to Market has never been more important than it is today. The ability to quickly capitalise on investment is critical to all businesses. By shortening the development cycle, there are two distinct advantages for your business: your development costs are minimised and the opportunity to gain competitive advantage from technological advances in your products is maximised.

The ramification of this development proves to be a major challenge as well as a tremendous dilemma for any Design Engineer. For one thing, whilst organisations have to zero in on the complex business of component selection, they need to simultaneously worry about the success of their projects. As well as this, it is vital to select the most suitable product in terms of price and technical compatibility. In conjunction with the wide range of products and product announcements, this task becomes increasingly challenging.

This is the point where we are able to add true Value.

Through our in-depth, long-term experience of electronic components and displays, we are able to advise the appropriate solution for your applications which:

• best fits your requirements
• meets the available budget
• is available for the lifetime of your product

We are on hand to help and advise you during the training period as well. Considering the current complexity of microcontrollers and their toolsets, you can waste a lot of time on research and on trial and error in development. You can save a great deal of this time with specific product training by Ineltek.

Technical questions and issues frequently arise, especially during the development period. Ineltek helps and advises on site, by phone or via e-mail to help ensure a fluid development phase. Our team of experienced and well educated Application Engineers is the foundation of the service we provide.