

NUC501

Low Cost, High Performance ARM7-based MCU

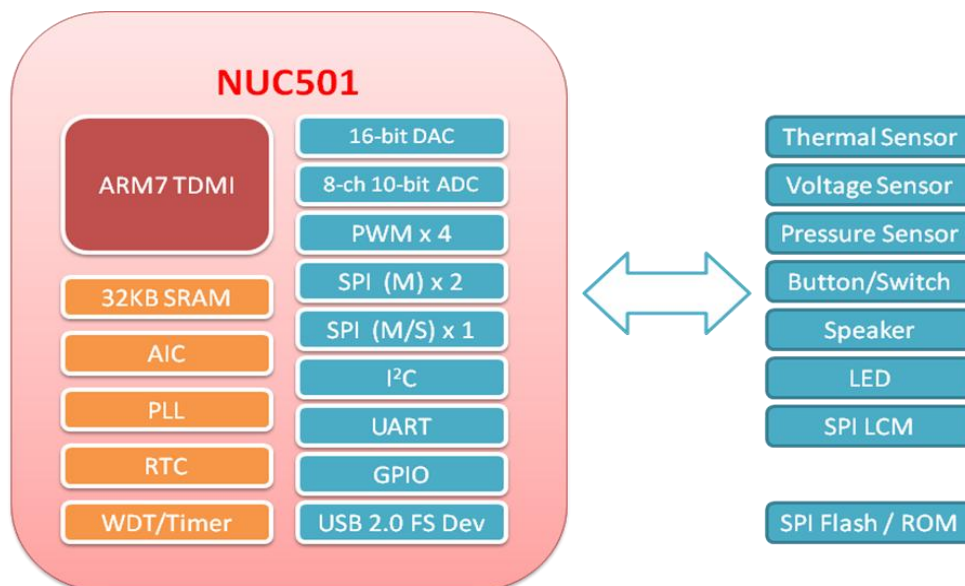
Applications

- Smart Home Appliances
 - Coffee Maker
 - Microwave
 - Cleaning Robot
- Edutainment Robots
- Interactive Toys

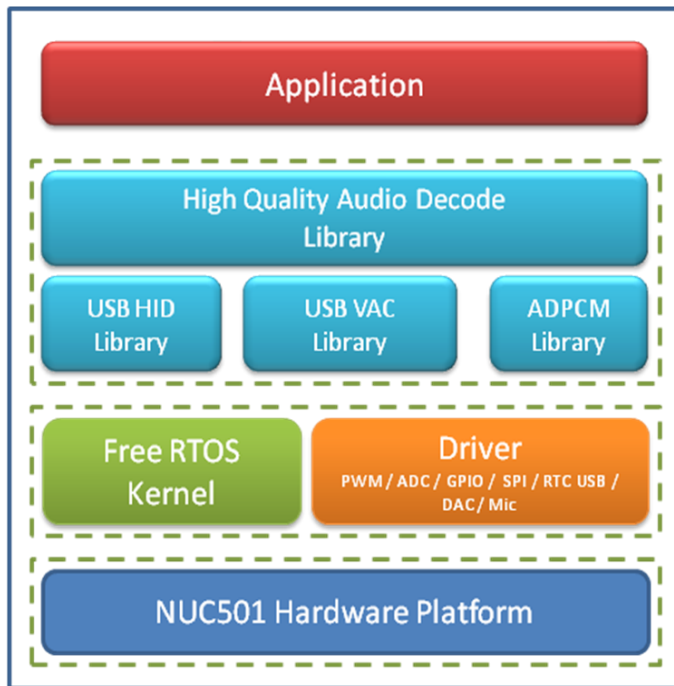
Features

- ◆ **CPU**
 - ARM7TDMI, up to 108MHz
 - Boot ROM
 - Built-in 32KB high speed SRAM
 - Extensible XIP @ external SpiROM/SpiFlash
- ◆ **S/W**
 - Boot loader
 - ISP for SpiFlash & security OTP key via USB
- ◆ **Peripheral**
 - Data write-back & USB downloading to SpiFlash
 - Secured code/data storage @ SpiROM/SpiFlash
 - Support LCD panel via SPI interface
 - 16-bit Sigma-Delta DAC for audio output
 - 10-bit x 8-ch ADC for sensors, MIC, LVD, & LVR
 - 24-bit watch dog timer
 - 4 independent PWM for driving motors
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- 4 capture & compare PWM inputs
- Power saving modes: idle, power down with RTC active, power down.
- RTC with independent power & dedicated 32KHz clock input
- 26 / 37 GPIO @ LQFP48 / LQFP64
- 8 LED pins with 16mA direct sink capability
- SPI x 3 (master x 2 & master/slave x 1)
- 2 UART ports @ 115.2Kbps / 1Mbps
- I²C @ 400 KHz
- USB2.0 FS Device
- ◆ **Technology & Package**
 - 0.18um CMOS
 - 3.3-volt single supply
 - LQFP48 / LQFP64

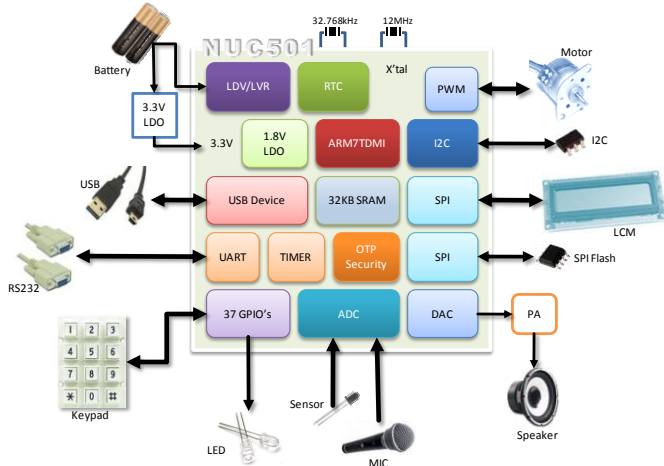
Diagram



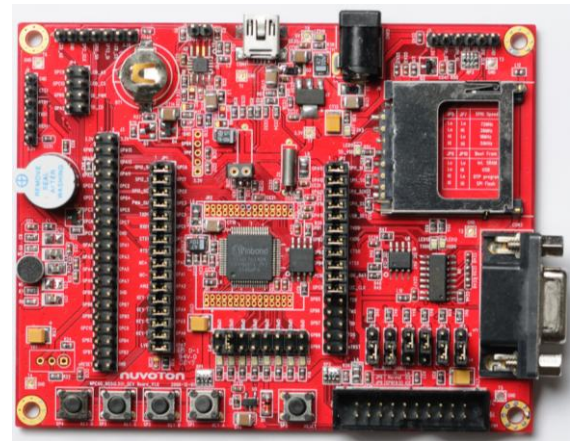
Software Architecture



Block Diagram



NUC501 EVB



- **Basic Parts**
 - NUC501B EVB
 - Power supply adapter(5V)
 - SDK (FreeRTOS, driver libs/Source code)
 - UART Cable

Tool Chain

- **Support ADS 1.2 / Keil /IAR**
- **Driver Source code & Library**
- **API documents**