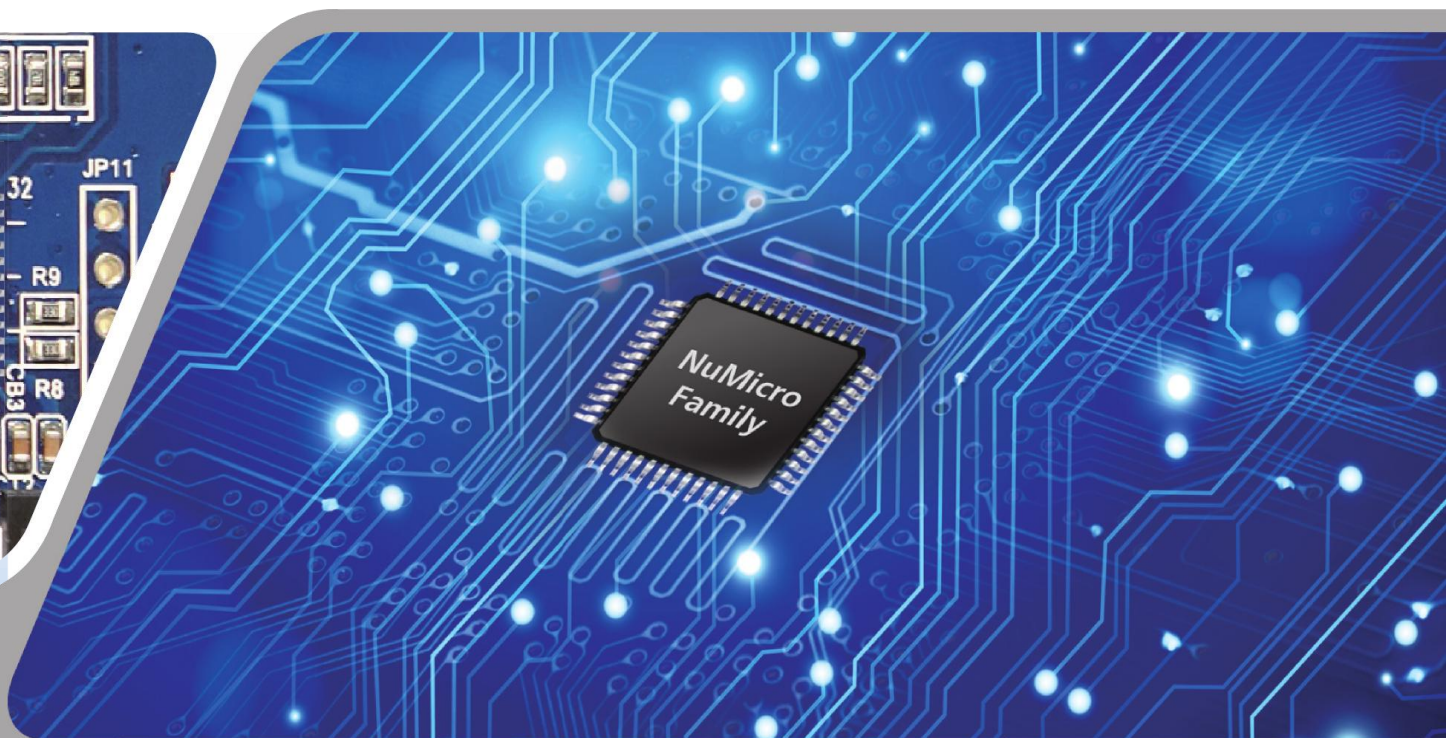
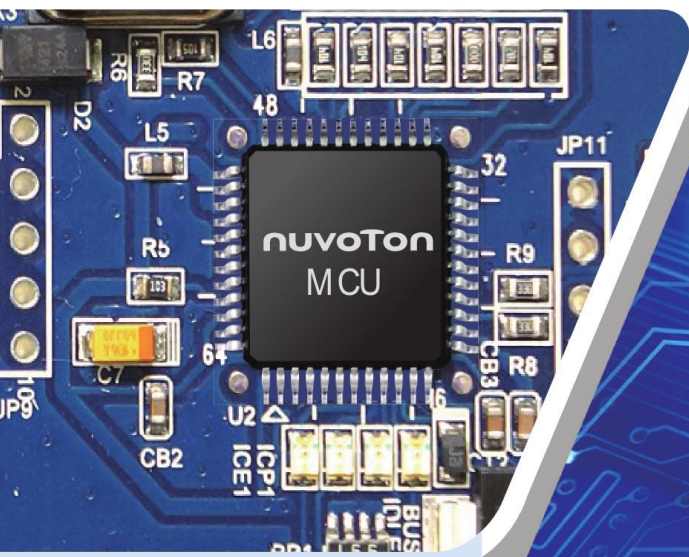
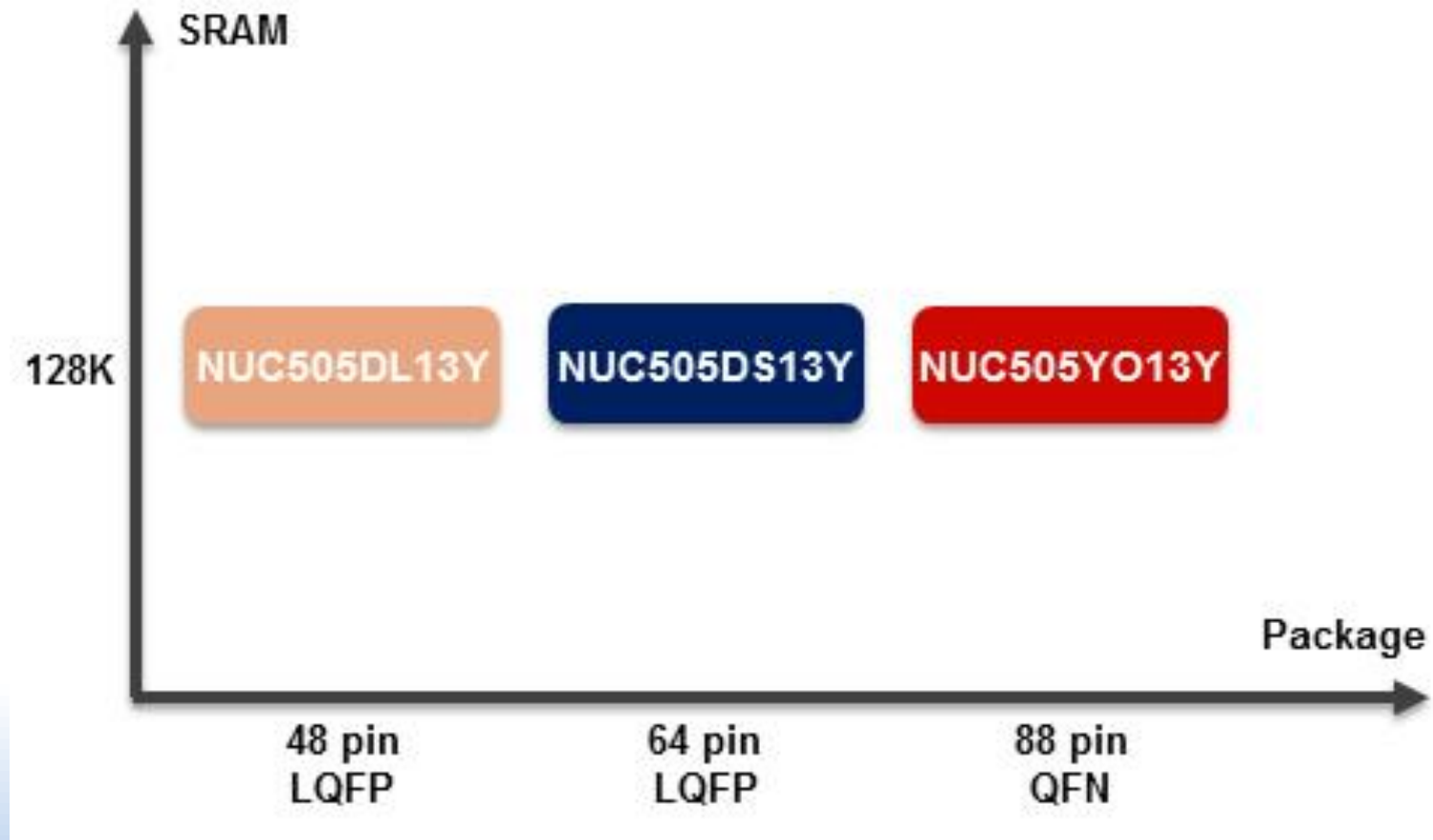


Знакомство с ARM микроконтроллерами NUVOTON



Микроконтроллер ARM Cortex™-M4

NUC505YO13Y



Микроконтроллер ARM Cortex™-M4

NUC505YO13Y

- **Core**
 - ARM® Cortex®-M4F with DSP and FPU
 - Max frequency of 100 MHz
 - Temperature range: -40°C ~ 105°C
- **Memory**
 - 128 KB of embedded SRAM
 - 2 MB of SPI Flash
- **Connectivity**
 - USB 2.0 HS Device
 - Up to two USB 2.0 FS Host
 - Up to three UARTs
 - Up to three SPIs
 - Up to two I²Cs (Up to 1 MHz)
 - SD Host

Микроконтроллер ARM Cortex™-M4

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- **Security for code protect**
 - 128-bit key for code protection against illegal pirating
 - Supports multi-entry for 15 times
- **RTC**
 - Supports external power pin V_{BAT}
 - 32 bytes spare registers
- **I²S**
 - Supports Master or Slave mode operation
 - Internal PLL for frequency adjustment
 - Supports PCM mode A, PCM mode B, I²S and MSB justified data format
 - Supports DMA mode
- **12-bit ADC**
 - Up to eight channels
 - Up to 1MSPS conversion with ADC_CH1, and up to 200 kSPS with others (except ADC_CH0)

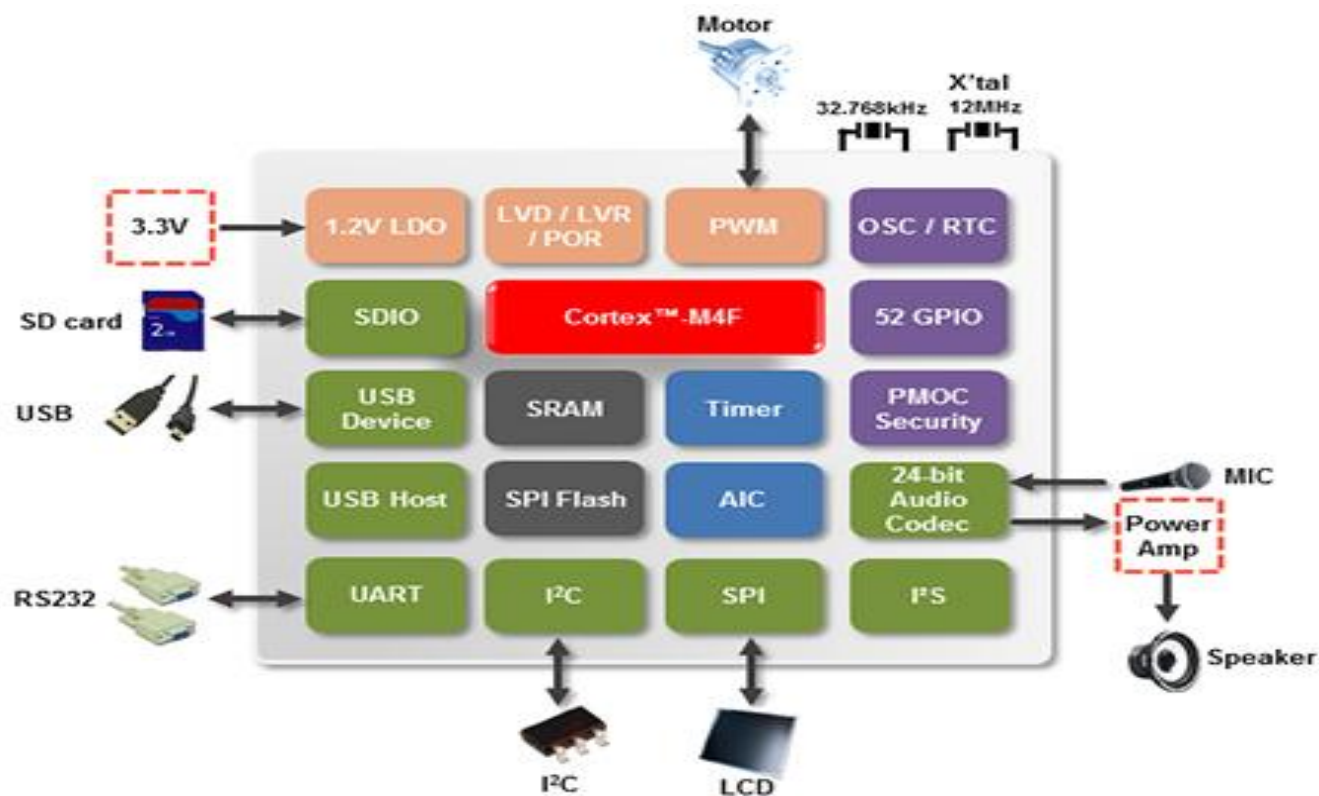
Микроконтроллер ARM Cortex™-M4

NUC505YO13Y

- **Audio CODEC**
 - Embedded Stereo 24-bit Sigma-Delta CODEC output
 - ADC-THDN: -80 dB, Dynamic Range SNR: 90 dB (A-Weighted)
 - Headphone Output-THDN:-60dB, Dynamic Range SNR: 93 dB (A-Weighted)
 - Sample Rate: 8 kHz to 96 kHz
- **Packages**
 - LQFP48, LQFP64, QFN88

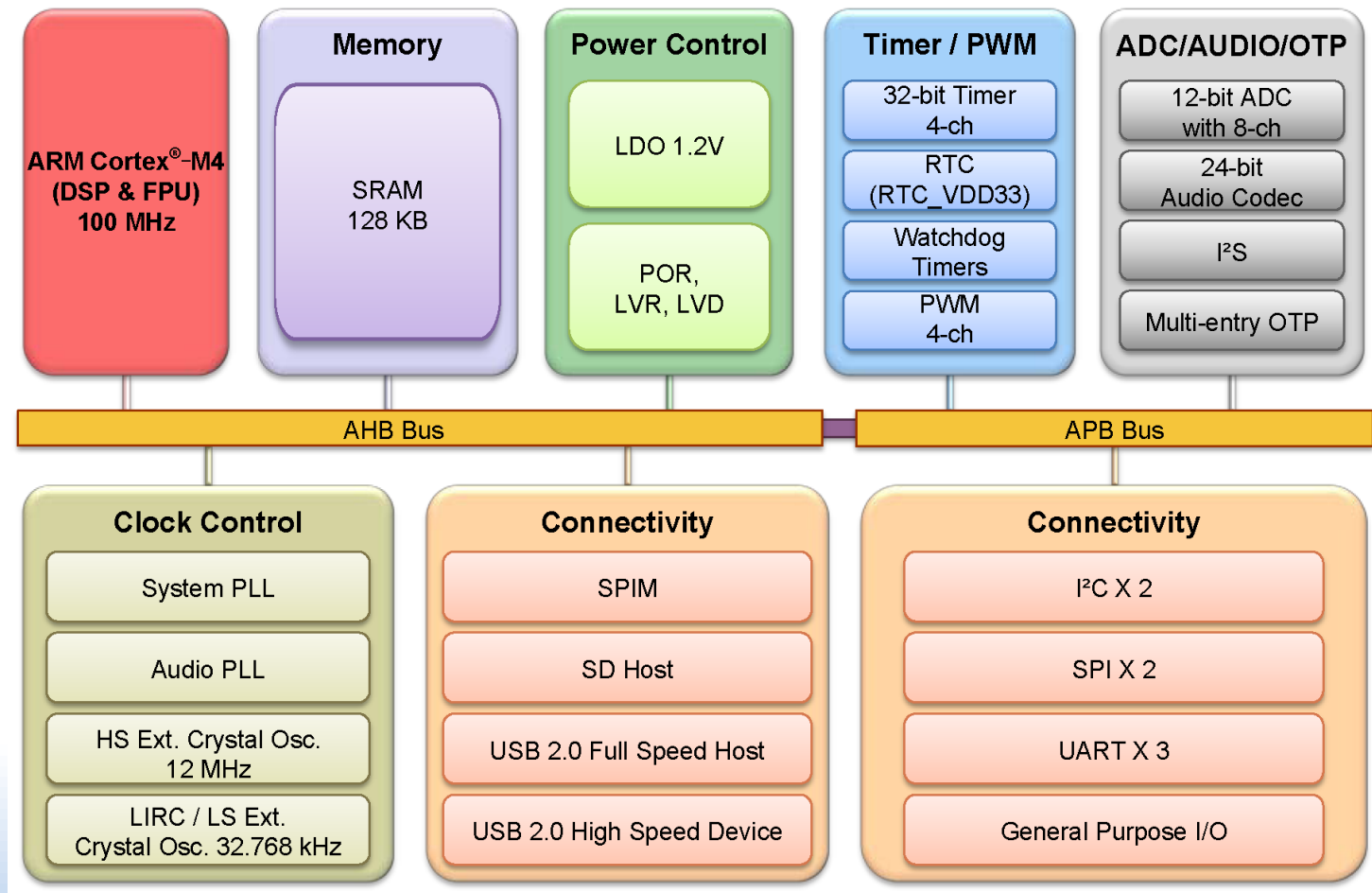
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NUC505YO13Y ★ ✉ ?

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The diagram illustrates the internal architecture and external connections of the NUC505YO13Y microcontroller. The central component is the **Cortex™ M4F** core. Surrounding it are various peripheral blocks: **1.2V LDO**, **LVD / LVR / POR**, **PWM**, **OSC / RTC**, **SDIO**, **52 GPIO**, **USB Device**, **SRAM**, **Timer**, **PMOC Security**, **USB Host**, **SPI Flash**, **AIC**, **24-bit Audio Codec**, **UART**, **I²C**, **SPI**, and **I²S**. External interfaces include a **Motor** connected to the PWM block, a **3.3V** power source connected to the LDO, an **SD card** connected to SDIO, a **USB** port connected to the USB Device block, an **RS232** port connected to the UART block, an **I²C** device connected to the I²C block, an **LCD** connected to the I²S block, a **MIC** connected to the Audio Codec, and a **Speaker** connected to the **Power Amp** block. The **OSC / RTC** block is connected to a **32.768kHz** crystal and a **12MHz** crystal.

M0518 Series

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[M453VG6AE](#)

[NUC442VI8AE](#)

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[Home Appliance](#)

[Card Reader](#)

The NUC505YO13Y 32-bit microcontroller is embedded with the ARM® Cortex®-M4F core running up to 100 MHz, supports DSP FPU function, and provides 2 Mbytes embedded SPI Flash memory, and 128 Kbytes embedded SRAM. The NUC505YO13Y is also equipped with plenty of peripheral devices, such as USB Host/Device, Timers, Watchdog Timers, RTC, UART, SPI, I²S, I²C, PWM Timer, GPIO, 12-

Микроконтроллер ARM Cortex™-M4

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Application Note

File name	Version	Update	Download
AN_0011_NUC505_Series_Improving_Execution_Performance_on_SPI_Flash_EN_Rev1.001.00	1.00	2016/03/30	
AN_0001_NuMicro_Cortex-M_Code_Protection_EN_Rev1.00	1.00	2015/07/31	

Product Brief

File name	Version	Update	Download
PB_NUC505_Series_EN_Rev1.04	1.04	2015/12/15	

Data Sheet

File name	Version	Update	Download
DS_NUC505_Series_EN_Rev1.04	1.04	2015/12/02	

Software

File name	Version	Update	Download
BSP_NUC505_v3.01.000	3.01.000	2016/04/15	
Nu-Link_Keil_Driver_V1.31.6535	1.31.6535	2016/02/23	
Nu-Link_IAR_Driver_V1.31.6535	1.31.6535	2016/02/23	
NuMicro_ICP_Programming_Tool_V1.31.6535	1.31.6535	2016/02/23	
NuMicro_ISP_Programming_Tool_Rev1.47	1.47	2015/08/10	
NuMicro_NuGang_Programmer_Tool_Rev7.02	7.02	2015/11/27	
NuTool-PinConfig_Rev.1.08	1.08	2016/02/23	



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NUC442V18AE

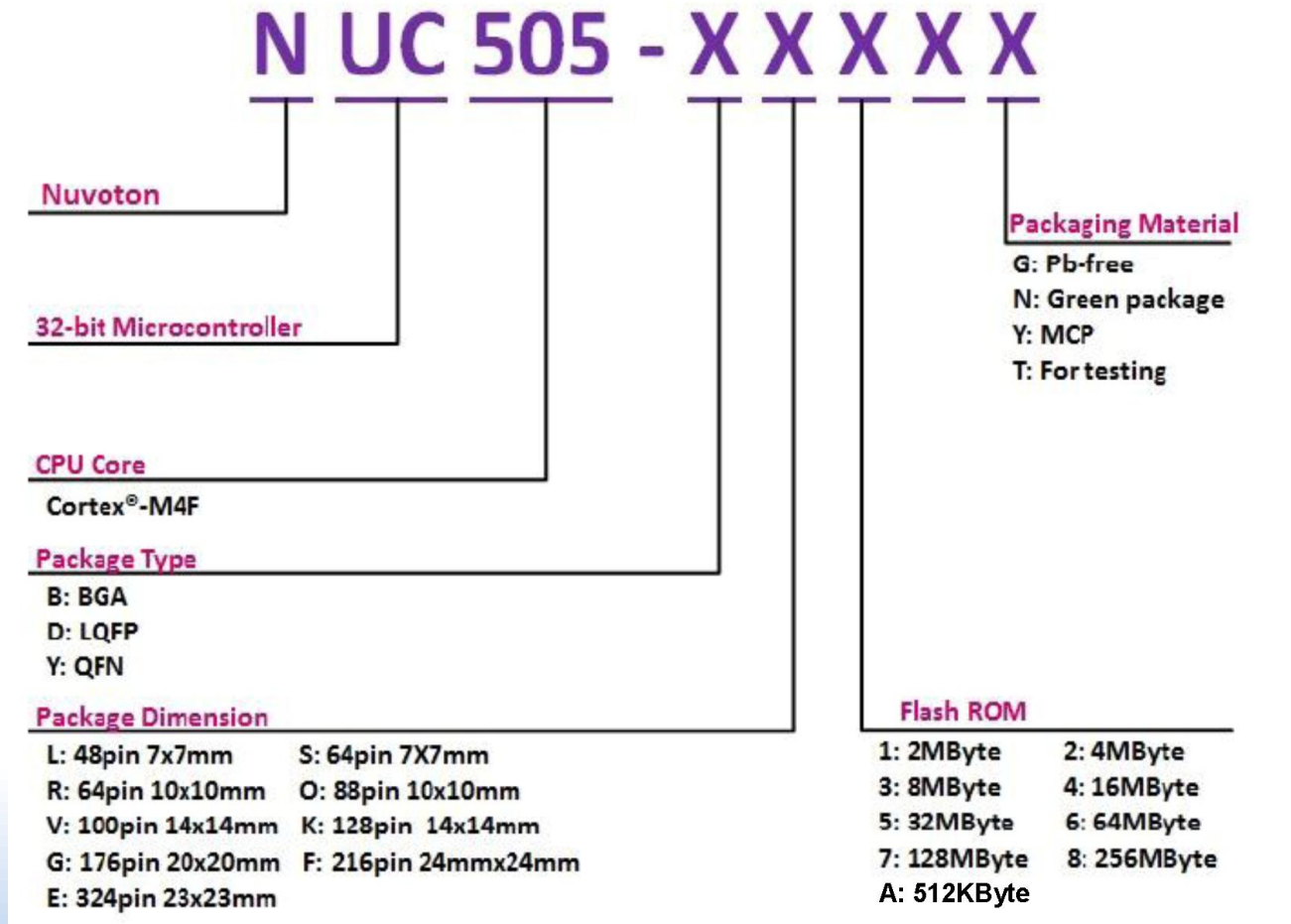
Featured Applications

Home Appliance

Card Reader

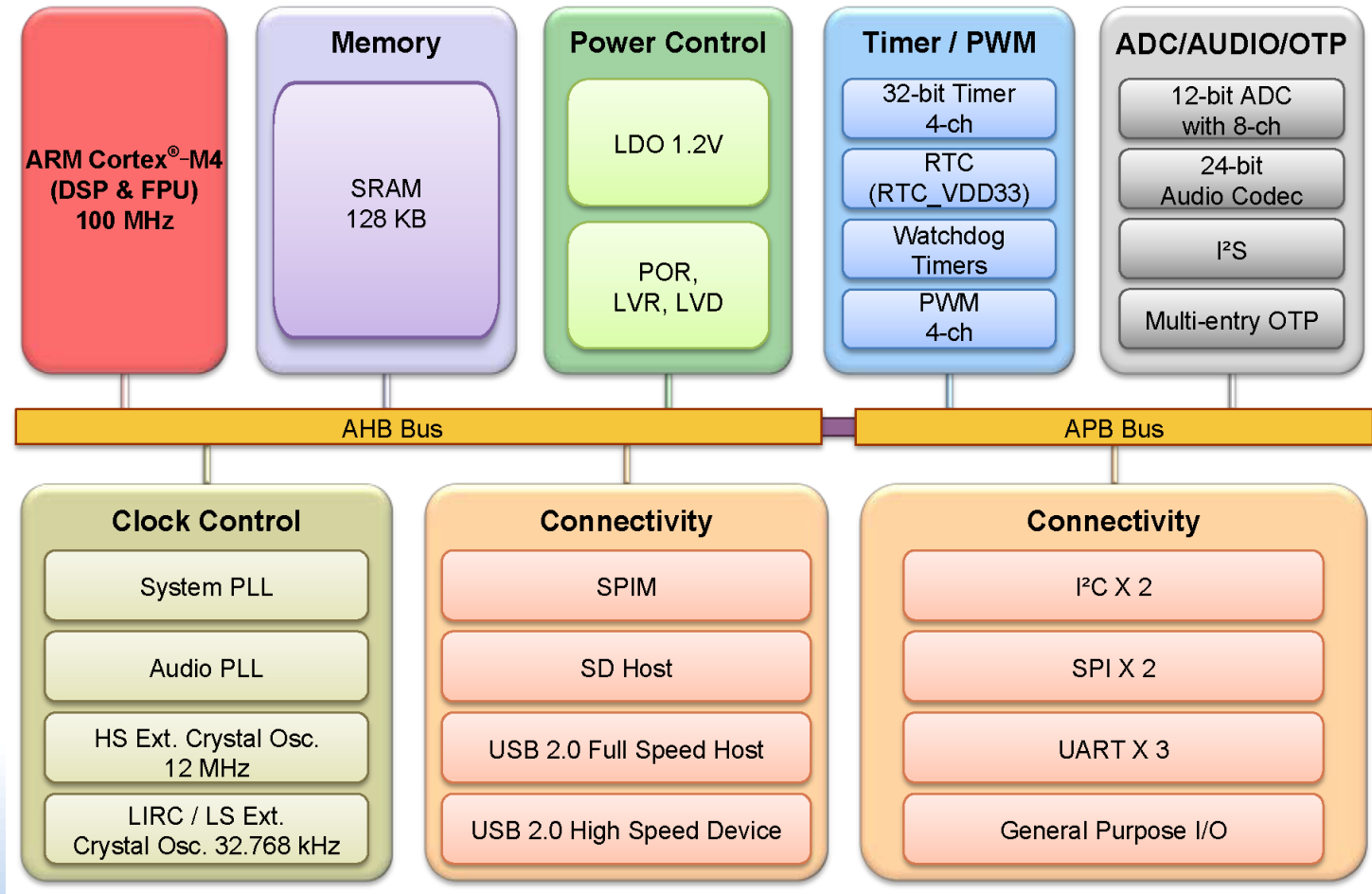
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NUC505Y013Y



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NUC505Y013Y



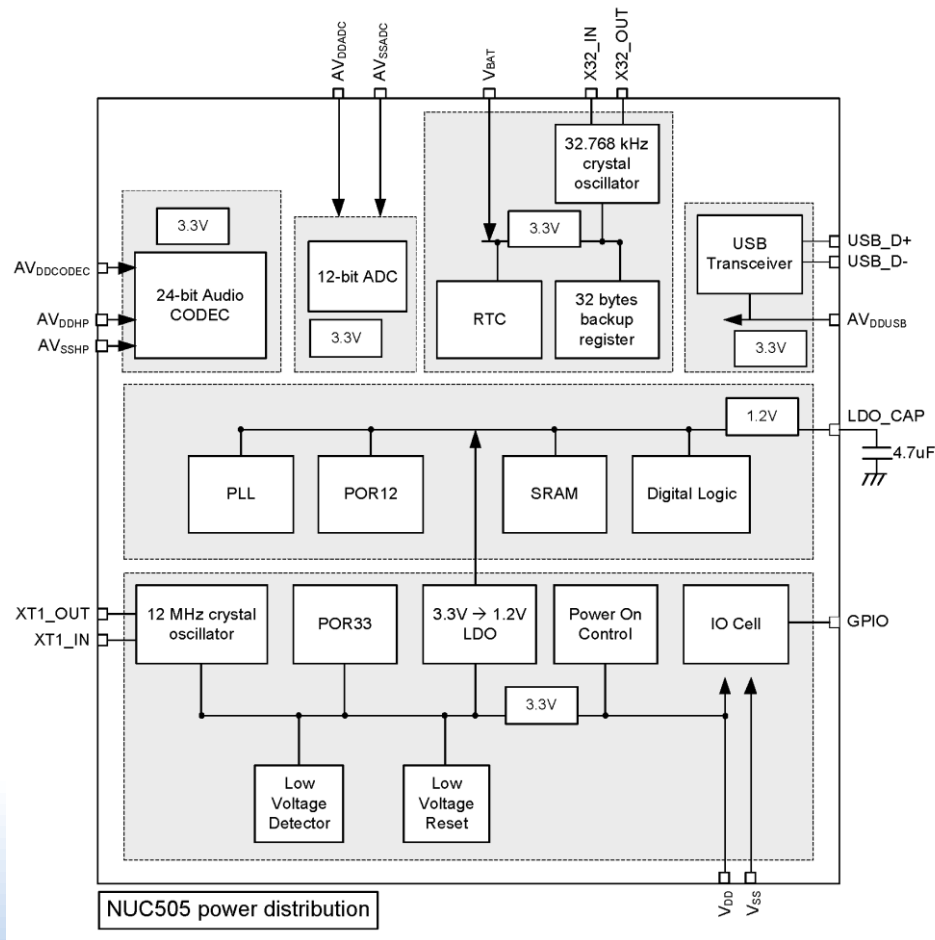
Микроконтроллер ARM Cortex™-M4

NUC505YO13Y

Part Number	Serial Flash (KB)	SRAM (KB)	ISP ROM (KB)	I/O	Timer (32-Bit)	Connectivity				I ² S	USB 2.0 HS Device	USB 2.0 FS Host	PWM (16-Bit)	24-Bit Audio CODEC ^[1]	DIGITAL MIC	ADC (12-Bit)	RTC	ISP/ICP	Package ^[2]
						I ² C	SD HOST	SPI	UART										
NUC505DLA	512	128	8	18	4	2	-	3	2	1	1	-	-	√	1	5CH	-	√	LQFP48
NUC505DL13Y	2048	128	8	25	4	2	1	3	3	1	1	1	4	-	1	5CH	√	√	LQFP48
NUC505YLA	512	128	8	18	4	2	-	3	2	1	1	-	-	√	1	5CH	-	√	QFN48
NUC505YLA2Y	512	128	8	25	4	2	1	3	3	1	1	1	4	-	1	5CH	√	√	QFN48
NUC505DSA	512	128	8	34	4	2	1	3	3	1	1	1	4	√	1	5CH	-	√	LQFP64*
NUC505DS13Y	2048	128	8	35	4	2	1	3	3	1	1	1	4	√*	1	8CH	√	√	LQFP64*
NUC505YO13Y	2048	128	8	52	4	2	1	3	3	1	1	2	4	√	1	8CH	√	√	QFN88

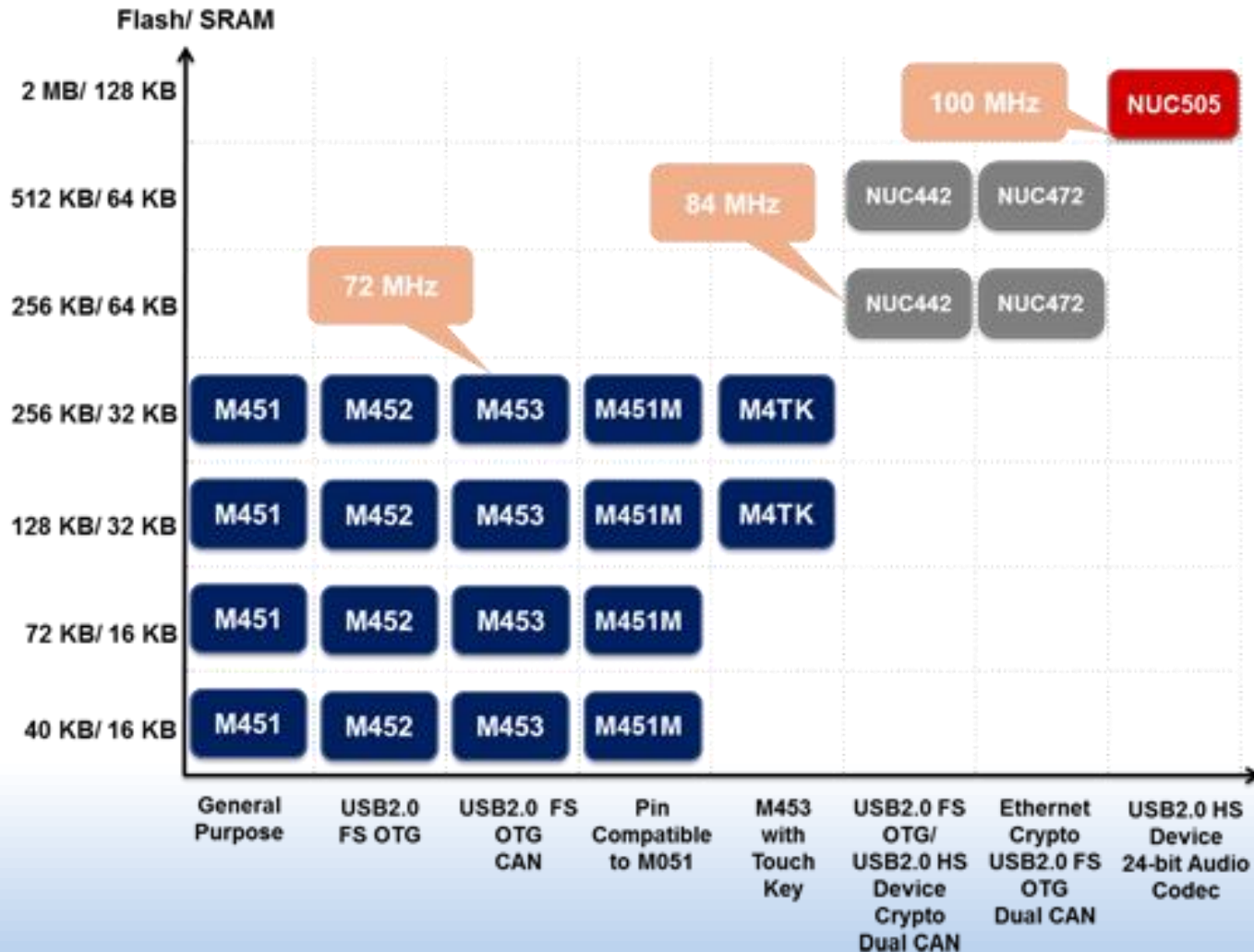
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