NuMicro® M433
CAN/USB FS Microcontroller

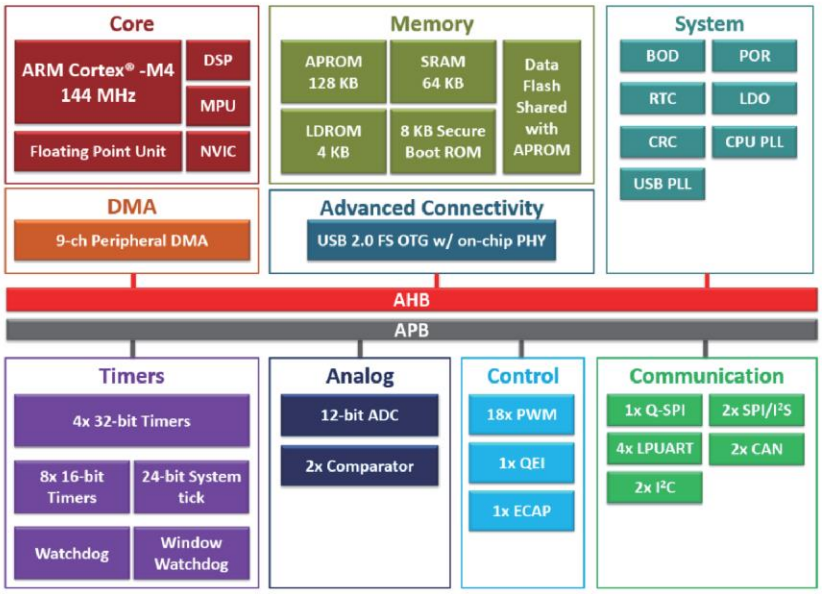
▸ NuMicro® M433 Series 144 MHz Arm® Cortex®-M4F MCU

The NuMicro® M433 CAN/USB 2.0 FS series is a high performance, low power microcontroller powered by the Arm® Cortex®-M4F core with DSP instruction and single-precision floating-point unit (FPU) extension. It runs up to 144 MHz, power consumption in the deep power-down mode drops to 350 µA, offering excellent energy efficiency tailored for IoT, industrial, and local dimming applications.

▸ Key Features

- Arm® Cortex®-M4F core with built-in DSP; runs up to 144 MHz
- Up to 128 KB flash memory and up to 64 KB SRAM
- USB 2.0 Full Speed OTG controller with on-chip PHY
- Up to 2 sets of CAN 2.0B interfaces
- 1 set of 9-channel PDMA
- Up to 18-channel PWM with two 16-bit counters
- 1 set of enhanced quadrature encoder interface (EQEI)
- 1 set of Quad SPI interface
- Operating voltage: 1.8V ~ 3.6V
- Operating temperature: -40˚C ~ +105˚C

▸ Block Diagram



▸ Package

Package type	I/O pin	Package size	Pin pitch
LQFP48	41	7x7mm	0.5 mm
LQFP64	52	7x7mm	0.5 mm

Flash Memory/SRAM (Kbytes)

128/64		
Package	LQFP48 (7X7mm)	LQFP64 (7X7mm)

▸ Applications

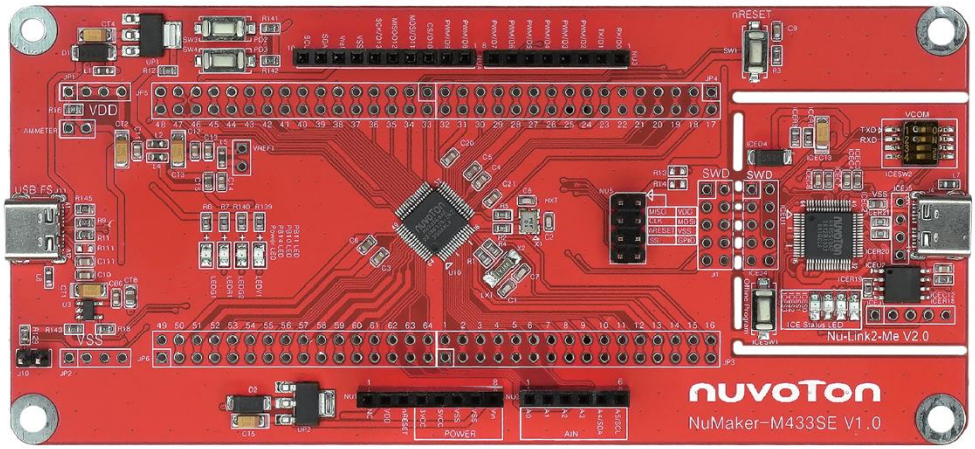
• BMS • MiniLED • Industrial • IoT• Motor control • Power control • LED control

▸Support for Development

Item	Name	Features
IDE & compiler	Keil NDK IAR EMARM NuEclipse	NuMicro® M433 series is supported by Keil and IAR's. NuEclipse is Nuvoton's proprietary IDE which integrates SDCC with free license.
Debugger & Programmer	Nu-Link2-Me Nu-Link-Pro Nu-Link2-Pro	Debugging, online programming, offline programming (optional), VCOM port, ISP Firmware upgrade
Board Software Package	NuMicro BSP	The BSP mainly includes the device drivers, library, sample codes and documents.

▸Evaluation board

- Ordering No. NuMaker-M433SE
- Quick Start



▸Product Selection Guide

Part No.	System							Memory				Timer			Analog		Connectivity						Package		Status	Tool	
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (℃)	Operating Temperature (max) (℃)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (CH)	Timer (32-bit)	BPWM (16-bit)	EPWM (16-bit)	EADC (12-bit)	ACMP	LPUART	QSPI	I²C	SPI / I²S	CAN	USB FS OTG	Package Type	Package Size	Mass Production	EVB	MP Programmer
M433LE8AE	Cortex-M4	144	1.8	3.6	-40	105	41	4	128	64	9	4	12	6	12	2	4	1	2	2	2	1	LQFP48	7x7	√	NK-M433LE	NLG-48L
M433SE8AE	Cortex-M4	144	1.8	3.6	-40	105	52	4	128	64	9	4	12	6	16	2	4	1	2	2	2	1	LQFP64	7x7	√	NK-M433SE	NLG-64S