Microchip PIC32MK :: MIPS

The Microchip PIC32MK family of 32-bit MCUs offers high-performance 120 MHz CPU with FPU, industry-leading analog integration, and flexible connectivity (USB, CAN FD, SPI, I2C, UART). Advanced features include 12-bit ADC/DAC, comparators, high-speed op-amps, PWM, QEI, and ECC for reliable Flash. Ideal for motor control, supporting BLDC 6-step, sensorless FOC, and sensored FOC applications

The BSP development is made with a Microchip PIC32MK MCM Curiosity development board. The BSP features a CMake build system, XC32 toolchain supports and built based on our Hardware Abstraction Layer (HAL). It requires an application configuration file, which allows the user to specify the CPU clock frequency, enable or disable RTOS, and further define project-level I/O and settings.

The software is architected with long-term maintainability and adherence to high software quality standards as core design principles.

✅ Layered architecture with clear HAL abstraction
✅ Conforms to ISO C99 standard
✅ Supports both RTOS and bare-metal environments
✅ CMake build system for scalable integration
✅ Seamless integration with GCC toolchain
✅ Statically analyzed for MISRA, CERT, and CWE compliance

Features	Remarks
FPU support	Yes
Max. clock speed	120 MHz
Flash size	1 MB
SRAM	256 kB

Peripherals	Total Channels
ADC	42
DAC	3
FDCAN	4
GPIO	78
I2C	4
PWM	12
QEI	6
RTCC	1
SPI	6
Timer	9
UART	6

☆ BSP_PIC32MK PUBLIC   ✔ Passed

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Security	Reliability	Maintainability	Hotspots Reviewed	Coverage	Duplications

Support Package:
TQFP100