Integrated Software Framework v1.07

STANDARD FEATURES

- MPLAB Harmony is a flexible, abstracted, fully integrated firmware development platform for PIC32 microcontrollers
- Broad range of Middleware Stack/Libraries, including: USB, TCP/IP, Wi-Fi™, File System, Graphics, Bootloaders, Bluetooth™, Audio, DSP, Math, Cryptography, Drivers, System Services, and more
- Over 160 Application Demonstrations with up to 600 application configurations to accelerate application development
- Seamlessly integrates third-party solutions (RTOS, Middleware, Drivers, etc.) into the software framework
- RTOS support, which includes: FreeRTOS™, OPENRTOS, Express Logic Thread X, SEGGER embOS®, Micriμm® μC/OS-II™, Micriμm μC/OS-III™
- Middleware support, which includes: SEGGER emWin®, InterNiche Technologies, Inc., wolfSSL, and PubNub®
- Free and enabling license terms

For a detailed list of features, please visit the MPLAB Harmony Web page at:

www.microchip.com/harmony

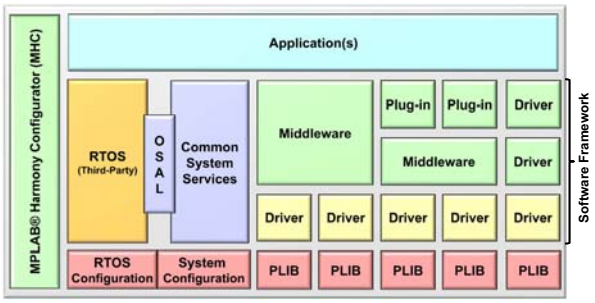
From the landing page, scroll down and select the **Features** tab.

DESCRIPTION

MPLAB Harmony is a flexible, abstracted, fully integrated firmware development platform for PIC32 microcontrollers. MPLAB Harmony's modular architecture allows drivers and libraries to work together with minimal effort. It is scalable across PIC32 Microchip devices to custom fit customers' requirements.

MPLAB Harmony takes key elements of modular and object oriented design, adding an Operating System Abstraction Layer (OSAL) that provides the flexibility to use a Real-Time Operating System (RTOS) or work without one, and provides a framework of software modules that are easy to use, configurable for your specific needs, and that work together in complete harmony.

In addition, the MPLAB Harmony Configurator (MHC) and code development format allows for maximum reuse and reduces time to market.



COMPLIANCE

Compliant with MISRA-C:2012 Mandatory Standards:

- MPLAB Harmony Drivers and System Services (under development)

DEVELOPMENT TOOLS

- MPLAB X IDE v3.25 or later is required
- MPLAB XC32 C/C++ Compiler v1.40 (ISO 26262)
- MPLAB X IDE plug-ins:
  - MPLAB Harmony Configurator (MHC) v1.07.xx

THIRD-PARTY DEVELOPERS

Microchip offers a range of documentation to assist you with the design of your own software offerings for MPLAB® Harmony. These documents, which are provided with the installation Help, are also available for download from the MPLAB Harmony website (see **"Download Information"** for details).

- MPLAB Harmony Overview
- MPLAB Harmony Compatibility Guide
- MPLAB Harmony Tutorial
- MPLAB Harmony Driver Development Guide
- MPLAB Harmony Configurator User's Guide
- MPLAB Harmony Configurator Developer's Guide
- MPLAB Harmony Graphics Composer User's Guide
- MPLAB Harmony Test Harness User's Guide
- MPLAB Harmony Compatibility Checklist Worksheet

v1.07 FEATURE UPDATES AND ADDITIONS

MPLAB Harmony v1.07 includes the following updates and additions:

- PIC32MZ DA device family beta support
- chipKIT™ WF32™ support:
  - One Board Support Package (BSP)
  - One TCP/IP demonstration
  - Two USB demonstrations
- chipKIT™ Wi-FIRE support:
  - One BSP
  - Two USB demonstrations
- TCP/IP SSL/TLS updates
- wolfSSL updates
- Static Driver updates
- RTOS support for PIC32MZ EF with FPU family devices
- Support for Bluetooth™ SPP demonstration display
- SEGGER emWin® Pro Library archive
- Graphics Library and MPLAB Harmony Graphics Composer updates:
  - Graphics demonstrations
  - WVGA LCCG support
  - External memory support
  - Thumbnail view for demonstration screens

Utilities:

- MPLAB Harmony Configurator (MHC) and MPLAB Harmony Graphics Composer
  - Configuration Import/Export/Move/Copy

Please refer to the v1.07 Release Notes for additional information (see **"Download Information"**).

DOWNLOAD INFORMATION

MPLAB Harmony, including the current release notes and Software License Agreement, is available for download by visiting:

http://www.microchip.com/mplabharmony

ADDITIONAL RESOURCES

MPLAB Harmony TV offers a wide range of getting started and training videos. The video content is available by scrolling to the bottom of the MPLAB Harmony webpage at:

http://www.microchip.com/mplabharmony

The **Microchip Developer Site** provides short introductory videos, self-paced training modules, and answers to frequently asked questions.

http://microchip.wikidot.com/harmony:start

Note the following details of the code protection feature on Microchip devices:

- Microchip products meet the specification contained in their particular Microchip Data Sheet.
- Microchip believes that its family of products is one of the most secure families of its kind on the market today, when used in the intended manner and under normal conditions.
- There are dishonest and possibly illegal methods used to breach the code protection feature. All of these methods, to our knowledge, require using the Microchip products in a manner outside the operating specifications contained in Microchip's Data Sheets. Most likely, the person doing so is engaged in theft of intellectual property.
- Microchip is willing to work with the customer who is concerned about the integrity of their code.
- Neither Microchip nor any other semiconductor manufacturer can guarantee the security of their code. Code protection does not mean that we are guaranteeing the product as "unbreakable."

Code protection is constantly evolving. We at Microchip are committed to continuously improving the code protection features of our products. Attempts to break Microchip's code protection feature may be a violation of the Digital Millennium Copyright Act. If such acts allow unauthorized access to your software or other copyrighted work, you may have a right to sue for relief under that Act.

Microchip received ISO/TS-16949:2009 certification for its worldwide headquarters, design and wafer fabrication facilities in Chandler and Tempe, Arizona; Gresham, Oregon and design centers in California and India. The Company's quality system processes and procedures are for its PIC® MCUs and dsPIC® DSCs, KEELOQ® code hopping devices, Serial EEPROMs, microperipherals, nonvolatile memory and analog products. In addition, Microchip's quality system for the design and manufacture of development systems is ISO 9001:2000 certified.

QUALITY MANAGEMENT SYSTEM
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