

WINC1500 Application examples - Getting started

Introduction

This note describes the steps involved to port Application examples for SAMD21 on H3.

.

WINC1500//Harmony 3

© 2019 Microchip Technology Inc.

Release Note

WSGA-7602B-page 1

Table of Contents

| Introdu | ction | | 1 |
|---------------------|--|--------------|------------------------------|
| 1. Co | ommon Configuration | | 4 |
| 1.1 | Interface Selection | | Error! Bookmark not defined. |
| 1.2 | Module Selection | | Error! Bookmark not defined. |
| 2. Ap | pplication Examples | | 4 |
| 2.1 | Weather Concurrent Demo | | Error! Bookmark not defined. |
| 2.2 | iPerf Demo | | Error! Bookmark not defined. |
| 2.3 | AT Command Application | | Error! Bookmark not defined. |
| 2.3.1 | STA Mode | | Error! Bookmark not defined. |
| 2.3.2 | AP Mode | | Error! Bookmark not defined. |
| 2.3.3 | RESET | | Error! Bookmark not defined. |
| 2.3.4 | CHIP INFO | | Error! Bookmark not defined. |
| 2.3.5 | STATIC IP | | Error! Bookmark not defined. |
| 2.3.6 | PING | | Error! Bookmark not defined. |
| 2.3.7 | P2P Mode | | Error! Bookmark not defined. |
| 2.3.8 | CHANNEL SCAN | | Error! Bookmark not defined. |
| 2.3.9 | RSSI | | Error! Bookmark not defined. |
| 2.3.1 | 0 CONNECTION INFO | | Error! Bookmark not defined. |
| 2.3.1 | 1 TX POWER | | Error! Bookmark not defined. |
| 2.3.1 | 2 ANTENNA SELECTION | | Error! Bookmark not defined. |
| 2.3.1 | 3 WPS | | Error! Bookmark not defined. |
| 2.3.1 | 4 POWER SAVE Mode | | Error! Bookmark not defined. |
| 2.3.1 | 5 TCP/UDP Server | | Error! Bookmark not defined. |
| 2.3.1 | 6 iPerf | | Error! Bookmark not defined. |
| 2.3.1 | 7 HTTP Connection | | Error! Bookmark not defined. |
| 2.3.1 | 8 FILE DOWNLOAD | | Error! Bookmark not defined. |
| 2.3.1 | 9 OTA UPDATE | | Error! Bookmark not defined. |
| 2.4 | BLE Applications | | Error! Bookmark not defined. |
| 2.4.1 | Co-existence | | Error! Bookmark not defined. |
| The Mi | crochip Web Site | | 9 |
| Custon | ner Change Notification Service | | 9 |
| Custon | ner Support | | 10 |
| Microck © 2019 l | nip Devices Code Protection Feature Microchip Technology Inc. | Release Note | WSGA-7602B-page 2 |

WINC1500//Harmony 3

| Legal Notice | 10 |
|--|----|
| Trademarks | 11 |
| Quality Management System Certified by DNV | 11 |

1. Common Configuration

Use a tool such as Tortoise git to Check out the Repo code from the following MH3 repositories:

https://bitbucket.microchip.com/scm/mh3/net.git

https://bitbucket.microchip.com/scm/mh3/csp.git

https://bitbucket.microchip.com/scm/mh3/core.git

https://bitbucket.microchip.com/scm/mh3/mhc.git

https://bitbucket.microchip.com/scm/mh3/dev_packs.git

https://bitbucket.microchip.com/scm/mh3/mplabx plugin.git

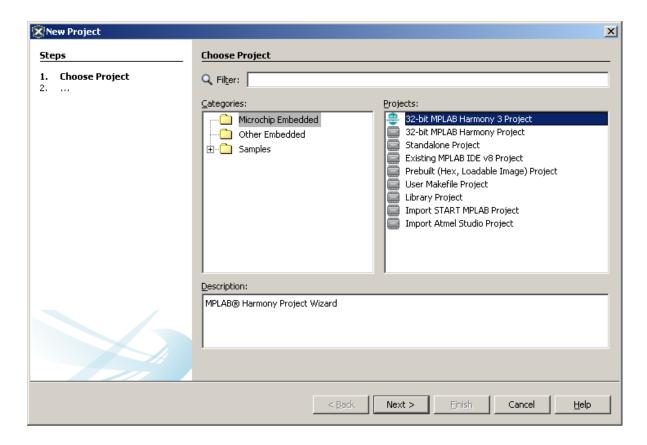
1.1 IDE Installation

Download and install MPLAB IDE from:

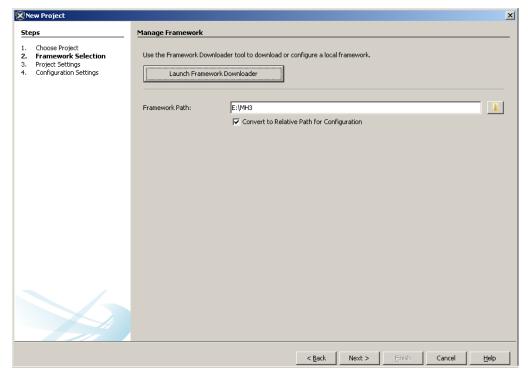
https://www.microchip.com/mplab/mplab-x-ide

2. Adding an Application Example

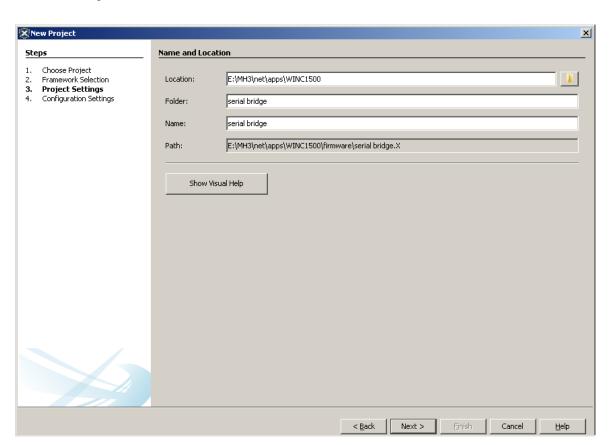
2.1 Create new project



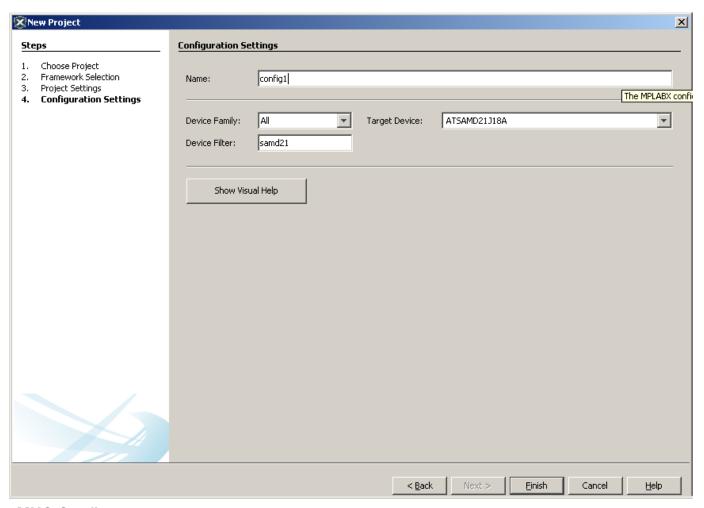
2.2 Configuring the Framework path



2.3 Project location

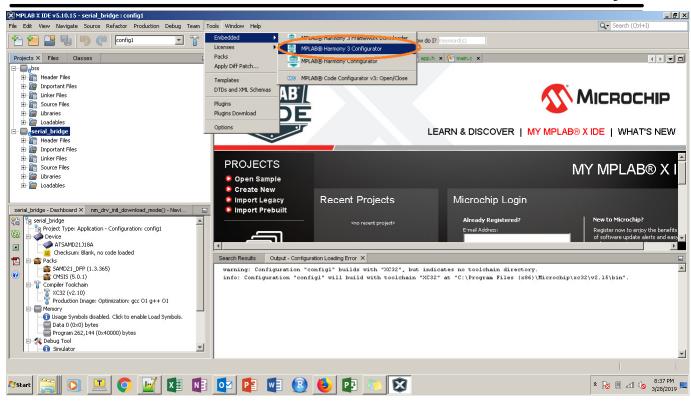


2.4 Configuration settings

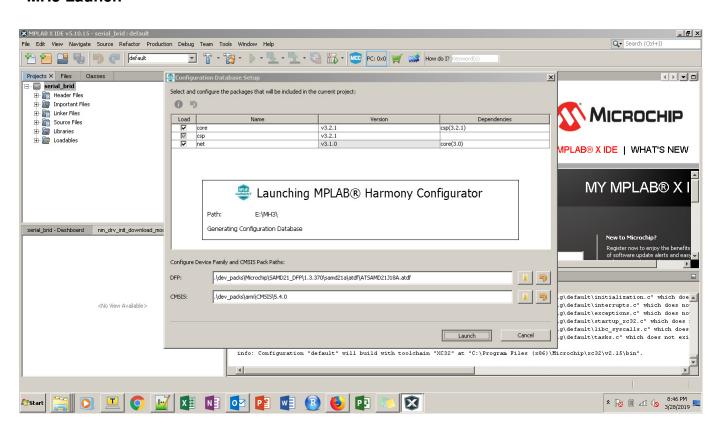


2.5 MHC Configurator

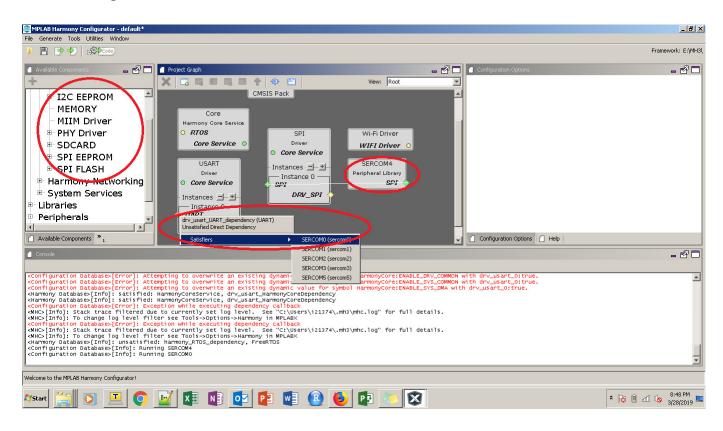
WINC1500/Harmony 3



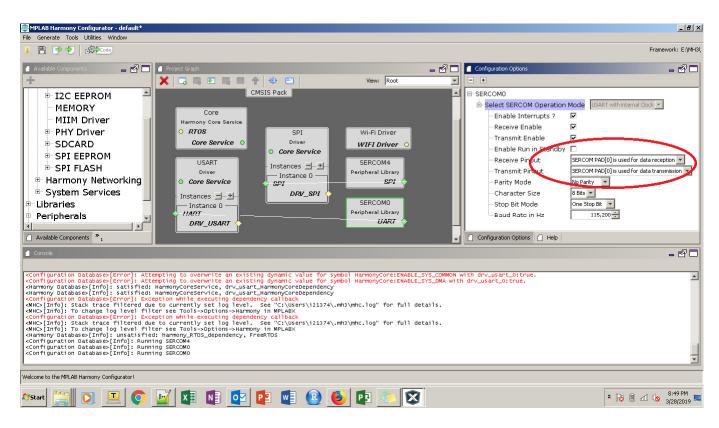
2.6 MH3 Launch



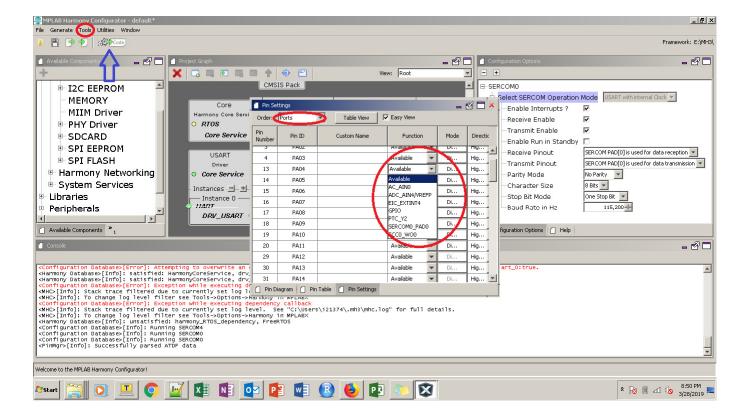
2.7 MH3 Configurator UI



2.8 **SERCOM Pin Configuration**



2.9 Code Generation



The Microchip Web Site

Microchip provides online support via our web site at http://www.microchip.com/. This web site is used as a means to make files and information easily available to customers. Accessible by using your favorite Internet browser, the web site contains the following information:

- Product Support Data sheets and errata, application notes and sample programs, design resources, user's guides and hardware support documents, latest software releases and archived software
- General Technical Support Frequently Asked Questions (FAQ), technical support requests, online discussion groups, Microchip consultant program member listing
- Business of Microchip Product selector and ordering guides, latest Microchip press releases, listing of seminars and events, listings of Microchip sales offices, distributors and factory representatives

Customer Change Notification Service

Microchip's customer notification service helps keep customers current on Microchip products. Subscribers will receive e-mail notification whenever there are changes, updates, revisions or errata related to a specified product family or development tool of interest.

To register, access the Microchip web site at http://www.microchip.com/. Under "Support", click on "Customer Change Notification" and follow the registration instructions.

Customer Support

Users of Microchip products can receive assistance through several channels:

- · Distributor or Representative
- · Local Sales Office
- Field Application Engineer (FAE)
- · Technical Support

Customers should contact their distributor, representative or Field Application Engineer (FAE) for support. Local sales offices are also available to help customers. A listing of sales offices and locations is included in the back of this document.

Technical support is available through the web site at: http://www.microchip.com/support

Microchip Devices Code Protection Feature

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.

Legal Notice

Information contained in this publication regarding device applications and the like is provided only for your convenience and may be superseded by updates. It is your responsibility to ensure that your application meets with your specifications. MICROCHIP MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL, STATUTORY

OR OTHERWISE, RELATED TO THE INFORMATION, INCLUDING BUT NOT LIMITED TO ITS CONDITION, QUALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR PURPOSE. Microchip disclaims all liability arising from this information and its use. Use of Microchip devices in life support and/or safety applications is entirely at the buyer's risk, and the buyer agrees to defend, indemnify and hold harmless Microchip from any and all damages, claims, suits, or expenses resulting from such use. No licenses are conveyed, implicitly or otherwise, under any Microchip intellectual property rights unless otherwise stated.

Trademarks

The Microchip name and logo, the Microchip logo, AnyRate, AVR, AVR logo, AVR Freaks, BitCloud, chipKIT, chipKIT logo, CryptoMemory, CryptoRF, dsPIC, FlashFlex, flexPWR, Heldo, JukeBlox, KeeLoq, Kleer, LANCheck, LINK MD, maXStylus, maXTouch, MediaLB, megaAVR, MOST, MOST logo, MPLAB, OptoLyzer, PIC, picoPower, PICSTART, PIC32 logo, Prochip Designer, QTouch, SAM-BA, SpyNIC, SST, SST Logo, SuperFlash, tinyAVR, UNI/O, and XMEGA are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries.

ClockWorks, The Embedded Control Solutions Company, EtherSynch, Hyper Speed Control, HyperLight Load, IntelliMOS, mTouch, Precision Edge, and Quiet-Wire are registered trademarks of Microchip Technology Incorporated in the U.S.A.

Adjacent Key Suppression, AKS, Analog-for-the-Digital Age, Any Capacitor, AnyIn, AnyOut, BodyCom, CodeGuard, CryptoAuthentication, CryptoAutomotive, CryptoCompanion, CryptoController, dsPICDEM, dsPICDEM.net, Dynamic Average Matching, DAM, ECAN, EtherGREEN, In-Circuit Serial Programming, ICSP, INICnet, Inter-Chip Connectivity, JitterBlocker, KleerNet, KleerNet logo, memBrain, Mindi, MiWi, motorBench, MPASM, MPF, MPLAB Certified logo, MPLIB, MPLINK, MultiTRAK, NetDetach, Omniscient Code Generation, PICDEM, PICDEM.net, PICkit, PICtail, PowerSmart, PureSilicon, QMatrix, REAL ICE, Ripple Blocker, SAM-ICE, Serial Quad I/O, SMART-I.S., SQI, SuperSwitcher, SuperSwitcher II, Total Endurance, TSHARC, USBCheck, VariSense, ViewSpan, WiperLock, Wireless DNA, and ZENA are trademarks of Microchip Technology Incorporated in the U.S.A. and other countries.

SQTP is a service mark of Microchip Technology Incorporated in the U.S.A.

Silicon Storage Technology is a registered trademark of Microchip Technology Inc. in other countries.

GestIC is a registered trademark of Microchip Technology Germany II GmbH & Co. KG, a subsidiary of Microchip Technology Inc., in other countries.

All other trademarks mentioned herein are property of their respective companies.

© 2018, Microchip Technology Incorporated, Printed in the U.S.A., All Rights Reserved. ISBN:

Quality Management System Certified by DNV

ISO/TS 16949

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.



Worldwide Sales and Service

| AMERICAS | ASIA/PACIFIC | ASIA/PACIFIC | EUROPE |
|--|-----------------------|-------------------------|--|
| Corporate Office | Australia - Sydney | India - Bangalore | Austria - Wels |
| 2355 West Chandler Blvd. | Tel: 61-2-9868-6733 | Tel: 91-80-3090-4444 | Tel: 43-7242-2244-39 |
| Chandler, AZ 85224-6199 | China - Beijing | India - New Delhi | Fax: 43-7242-2244-393 |
| Tel: 480-792-7200 | Tel: 86-10-8569-7000 | Tel: 91-11-4160-8631 | Denmark - Copenhagen |
| Fax: 480-792-7277 | China - Chengdu | India - Pune | Tel: 45-4450-2828 |
| Technical Support: | Tel: 86-28-8665-5511 | Tel: 91-20-4121-0141 | Fax: 45-4485-2829 |
| http://www.microchip.com/ | China - Chongqing | Japan - Osaka | Finland - Espoo |
| support Web Address: | Tel: 86-23-8980-9588 | Tel: 81-6-6152-7160 | Tel: 358-9-4520-820 |
| www.microchip.com | China - Dongguan | Japan - Tokyo | France - Paris |
| Atlanta | Tel: 86-769-8702-9880 | Tel: 81-3-6880- 3770 | Tel: 33-1-69-53-63-20 |
| Duluth, GA | China - Guangzhou | Korea - Daegu | Fax: 33-1-69-30-90-79 |
| Tel: 678-957-9614 | Tel: 86-20-8755-8029 | Tel: 82-53-744-4301 | Germany - Garching |
| Fax: 678-957-1455 | China - Hangzhou | Korea - Seoul | Tel: 49-8931-9700 |
| Austin, TX | Tel: 86-571-8792-8115 | Tel: 82-2-554-7200 | Germany - Haan |
| Tel: 512-257-3370 | China - Hong Kong SAR | Malaysia - Kuala Lumpur | Tel: 49-2129-3766400 |
| Boston | Tel: 852-2943-5100 | Tel: 60-3-7651-7906 | Germany - Heilbronn |
| Westborough, MA | China - Nanjing | Malaysia - Penang | Tel: 49-7131-67-3636 |
| Tel: 774-760-0087 | Tel: 86-25-8473-2460 | Tel: 60-4-227-8870 | Germany - Karlsruhe |
| Fax: 774-760-0088 | China - Qingdao | Philippines - Manila | Tel: 49-721-625370 |
| Chicago | Tel: 86-532-8502-7355 | Tel: 63-2-634-9065 | Germany - Munich |
| Itasca, IL | China - Shanghai | Singapore | Tel: 49-89-627-144-0 |
| Tel: 630-285-0071 | Tel: 86-21-3326-8000 | Tel: 65-6334-8870 | Fax: 49-89-627-144-44 |
| Fax: 630-285-0075 | China - Shenyang | Taiwan - Hsin Chu | Germany - Rosenheim |
| Dallas | Tel: 86-24-2334-2829 | Tel: 886-3-577-8366 | Tel: 49-8031-354-560 |
| Addison, TX | China - Shenzhen | Taiwan - Kaohsiung | Israel - Ra'anana |
| Tel: 972-818-7423 | Tel: 86-755-8864-2200 | Tel: 886-7-213-7830 | Tel: 972-9-744-7705 |
| Fax: 972-818-2924 | China - Suzhou | Taiwan - Taipei | Italy - Milan |
| Detroit | Tel: 86-186-6233-1526 | Tel: 886-2-2508-8600 | Tel: 39-0331-742611 |
| Novi, MI | China - Wuhan | Thailand - Bangkok | Fax: 39-0331-466781 |
| Tel: 248-848-4000 | Tel: 86-27-5980-5300 | Tel: 66-2-694-1351 | Italy - Padova |
| Houston, TX | China - Xian | Vietnam - Ho Chi Minh | Tel: 39-049-7625286 |
| Tel: 281-894-5983 | Tel: 86-29-8833-7252 | Tel: 84-28-5448-2100 | Netherlands - Drunen |
| Indianapolis | China - Xiamen | | Tel: 31-416-690399 |
| Noblesville, IN | Tel: 86-592-2388138 | | Fax: 31-416-690340 |
| Tel: 317-773-8323 | China - Zhuhai | | Norway - Trondheim |
| Fax: 317-773-5453 | Tel: 86-756-3210040 | | Tel: 47-7289-7561 |
| Tel: 317-536-2380 | | | Poland - Warsaw |
| Los Angeles | | | Tel: 48-22-3325737 Romania - Bucharest |
| Mission Viejo, CA | | | |
| Tel: 949-462-9523 Fax: 949-462-9608 | | | Tel: 40-21-407-87-50 |
| Tel: 951-273-7800 | | | Spain - Madrid Tel: 34-91-708-08-90 |
| Raleigh, NC | | | Fax: 34-91-708-08-91 |
| Tel: 919-844-7510 | | | Sweden - Gothenberg |
| New York, NY | | | Tel: 46-31-704-60-40 |
| Tel: 631-435-6000 | | | Sweden - Stockholm |
| San Jose, CA | | | Tel: 46-8-5090-4654 |
| Tel: 408-735-9110 | | | UK - Wokingham |
| Tel: 408-436-4270 | | | Tel: 44-118-921-5800 |
| Canada - Toronto | | | Fax: 44-118-921-5820 |
| Tel: 905-695-1980 | | | 1 43. 77 110 021 0020 |
| Fax: 905-695-2078 | | | |
| 1 43. 000 000 2010 | | | |
| | | | WECA 7600D nogo |