Release Notes for MPLAB® Code Configurator
MCHP-IoT WG Sensor Node v1.1.1

1 What is MCC MCHP-IoT WG Sensor Node

MCHP-IoT WG Sensor Node is a secure, Wi-Fi connected solution for an IoT node. It enables developers to acquire sensor data and send it to the Google Cloud Platform. Data can also be sent from the cloud to a sensor node.

2 What's New

- New Features:
  - *Extended* start-up button detection between LED cycle periods (~*2 Sec*)
  - *Button Debounce* period now require being held for half-start up time
  - *SW0* held will result in Soft AP Mode
  - *Blinking BLUE LED* added to aid in mode change indication
  - *SW0 + SW1* held will result in the use of *DEFAULT* WiFi credentials
    - *These are:*
      - *ssid: MCHP.IOT*
      - *pass: microchip*
      - *authType: 2 (WPA)*
  - *Blinking GREEN LED* added to aid in mode change indication
  - *YELLOW LED HOLD* indicate state of *Toggle* received from Cloud
  - *Removed CREDENTIAL* storage within Flash memory.
  - *WINC* will store *CREDENTIALS* of last successful *CONNECTION*.
  - *Command Line Interface* updated to accept authorization parameters in unique order to improve experience
  - *Updated SoftAP* name to be **MCHP.IOT.ACCESSPOINT**
  - *Inclusion paths optimized*
- Support for both AVR-IoT and PIC-IoT WG Development Boards
- AVR-IoT WG Sensor Node v1.1.1
- PIC-IoT WG Sensor Node v1.1.1
- Bug fixes

3 System Requirements

- MPLAB® X IDE v5.15 or later
- MCC Plugin v3.75 or later
- MCC Foundation Services v0.1.32 or later : https://www.microchip.com/mcc → **Current Download** → **Foundation Services**

- AVR-IoT WG Sensor Node
    - AVR GCC Compiler v5.4.0 or later
    - XC8 compiler 2.05 or later
    - MCC avr8bit_v1.1.1: https://www.microchip.com/mcc → **Current Download → AVR MCUs**
- PIC-IoT WG Sensor Node
    - XC16 compiler 1.35 or later
    - MCC PIC24/dsPIC33/PIC32MM MCUs v1.105

4   Hardware

- ATmega4808 AVR™ microcontroller for AVR-IoT WG Development Board AC164160, or
- PIC24FJ128GA705 microcontroller for PIC-IoT WG Development Board AC164164
- Common Features:
    - ATWINC1510 WiFi™ network controller
    - ATECC608A (pre-provisioned) Cryptoauthentication™ device
    - TEMT6000 light sensor
    - MCP9808 precision temperature sensor
    - MCP73871 Li-Ion battery charger
    - MIC35055 switching regulator
    - 2x push buttons
    - 4x LEDs

5   Documentation Support

1. ATmega4808 Product Page: *https://www.microchip.com/wwwproducts/en/ATMEGA4808*
2. ATWINC1510 Product Page: *https://www.microchip.com/wwwproducts/en/ATWINC1500*
3. ATECC608A Product Page: *https://www.microchip.com/wwwproducts/en/ATECC608A*
4. AVR-IoT WG Development Board Technical Summary: http://www.microchip.com/mymicrochip/filehandler.aspx?ddocname=en607550
5. AVR-IoT WG User Guide : http://www.microchip.com/mymicrochip/filehandler.aspx?ddocname=en607553
6. AVR-IoT Development Board Schematics: http://ww1.microchip.com/downloads/en/DeviceDoc/AVR-IoT_WG_Schematics.pdf
7. PIC24FJ128GA705 Product Page: https://www.microchip.com/PIC24FJ128GA705
8. PIC-IoT WG User Guide

6   Installing MPLAB® Code Configurator and the MCHP-IoT Sensor Node Application Library

To install the MPLAB® Code Configurator Plugin:
1. In the MPLAB® X IDE click on **Tools → Plugin**
2. Click on **Available Plugins** tab
3. Check the box for the **MPLAB® Code Configurator**, and click on Install

To install the MCHP-IoT Sensor Node application library:

1. Open the MPLAB Code Configurator page: https://www.microchip.com/mcc
2. Scroll to the bottom of the page and select the **Current Downloads** tabs
3. Download the MCHP-IoT WG Sensor node application library (**mchpIoT_v1.1.1.mc3lib)**
4. In the MPLAB® X IDE click on **Tools → Options**
5. Click on **Plugins** tab
6. Click on **Install** Library
7. Browse to the location where you saved the **mchpIoT_v1.1.1.mc3lib**, select and click Open

7   Installing the AVR GCC compiler in MPLAB® X IDE

1. Open the MPLAB X Compilers page: https://www.microchip.com/mplab/avr-support/avr-and-arm-toolchains-c-compilers
2. Select the Downloads Tab and choose : **AVR 8-bit Toolchain v3.6.2 or later**
3. In MPLAB® X IDE click on **Tools → Options → Embedded → Build Tools**
4. Under Toolchain **click on** Add
5. Navigate up to **../avr8-gnu-toolchain-win32_x86/bin → Open**
6. Version List should automatically point to **AVR**
7. Click **Ok**

8   Running the Example

1. Connect the AVR-IoT or PIC-IoT WG board to the computer using a standard micro-USB cable
2. Create a new project in MPLAB® X IDE
3. Select the PKOB nano Tool. Device will be already identified as ATmega4808 or PIC24FJ128GA705.
4. Open MCC by clicking **Tools→ Embedded→ MPLAB® Code Configurator** or **click on** the MCC icon
5. In the Device Resources area click on **Internet Things→ Examples→ AVR-IoT WG Sensor Node** or **PIC-IoT WG Sensor Node**
6. Click **Generate** button
7. Build and program the board
8. Refer to the user guide for simple instructions to connect with the Google Cloud.

9   Known Issues

- XC8 Compiler is not supported in Debug mode.

10 Frequently Asked Questions

For frequently asked questions, please refer to the FAQ section of the AVR-IoT or PIC-IoT WG development board User Guide

11 Supported Families

- megaAVR® 0-Series (ATMega4808, ATMega4809)
- PIC24FJ128GA705

12 Customer Support

12.1 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 (FAQs), technical support requests, online discussion groups/forums (http://forum.microchip.com), 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

12.2 Additional Support

Users of Microchip products can receive assistance through several channels:

- Distributor or Representative
- Local Sales Office
- Field Application Engineering (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 available on our web site.

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