K32W1CTAGSG

K32W1480 Connectivity Test Application Getting Started User Guide

Rev. 1.0 — 27 February 2023 **User guide**

Document information

Information	Content
Keywords	K32W1CTAGSG, K32W1480 wireless microcontroller, Connectivity Test Application, binary file, IAR IDE workspace file, flashing and running the application
Abstract	This document describes briefly how to build the Connectivity Test Application for the Arm Cortex based K32W1480 wireless microcontroller platform provided by NXP.

1 Introduction

This document describes briefly how to build the Connectivity Test Application for the Arm Cortex based K32W1480 wireless microcontroller platform provided by NXP.

2 Building the binary file

This section describes the required steps for obtaining the binary file for usage with the board. The Connectivity Test Application is available in the package location below:

`<sdk_folder_path>\boards\k32w148evk\wireless_examples\ieee-802.15.4\connectivity_test\bm\iar`

3 Building and flashing the Connectivity Test application using IAR

1. **Step 1**: Navigate to the Connectivity Test Application location described above.
2. **Step 2**: Open the highlighted IAR IDE Workspace file (`*.eww` file format:)

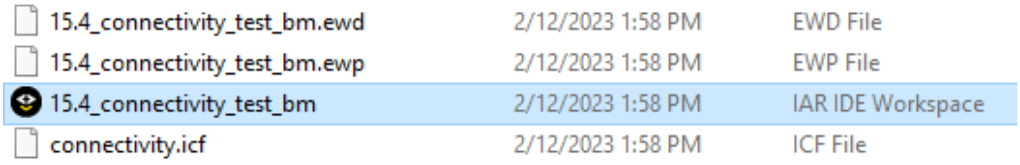

Figure 1. Connectivity Test Application Workspace file

3. **Step 3**:Select the desired configuration for the Connectivity Test Application project:

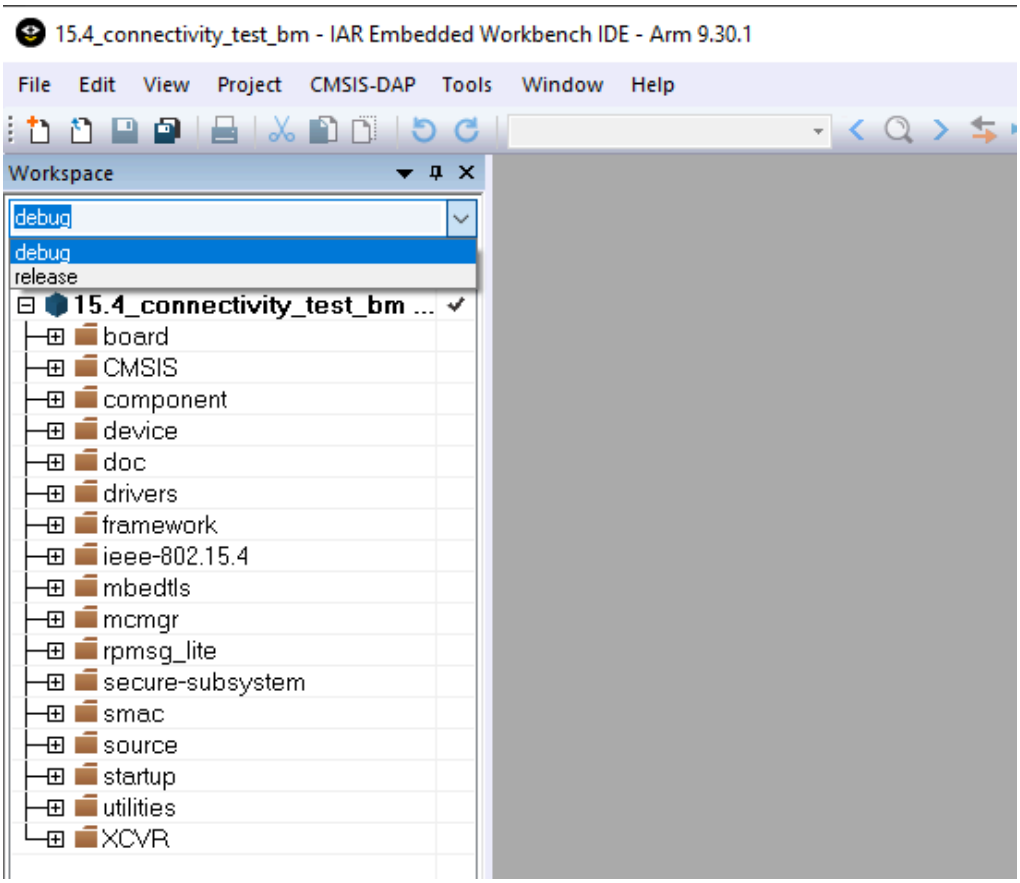

Figure 2. Connectivity Test Application Configuration Selection

4. **Step 4**: Build the project.

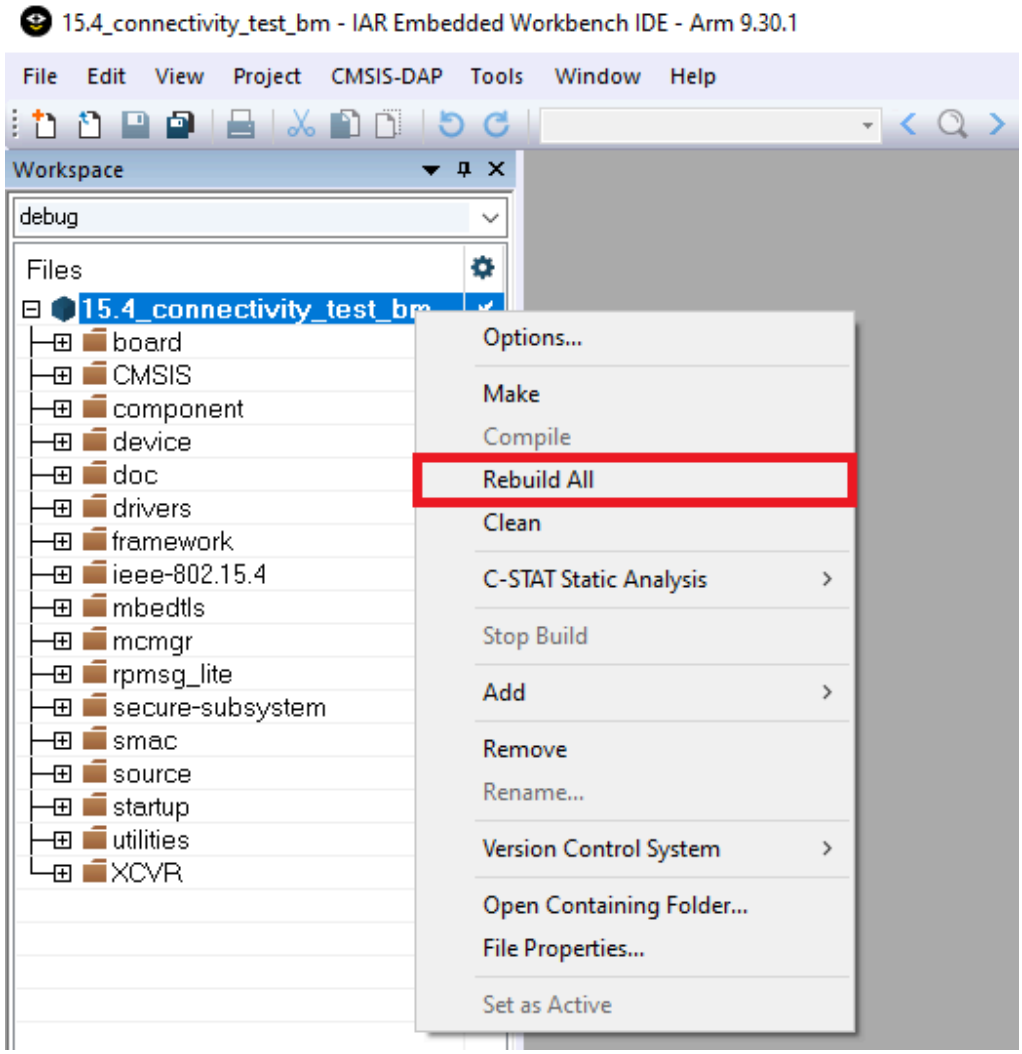

Figure 3. Connectivity Test Application project build

5. **Step 5**: Make the appropriate debugger settings in the project options window:

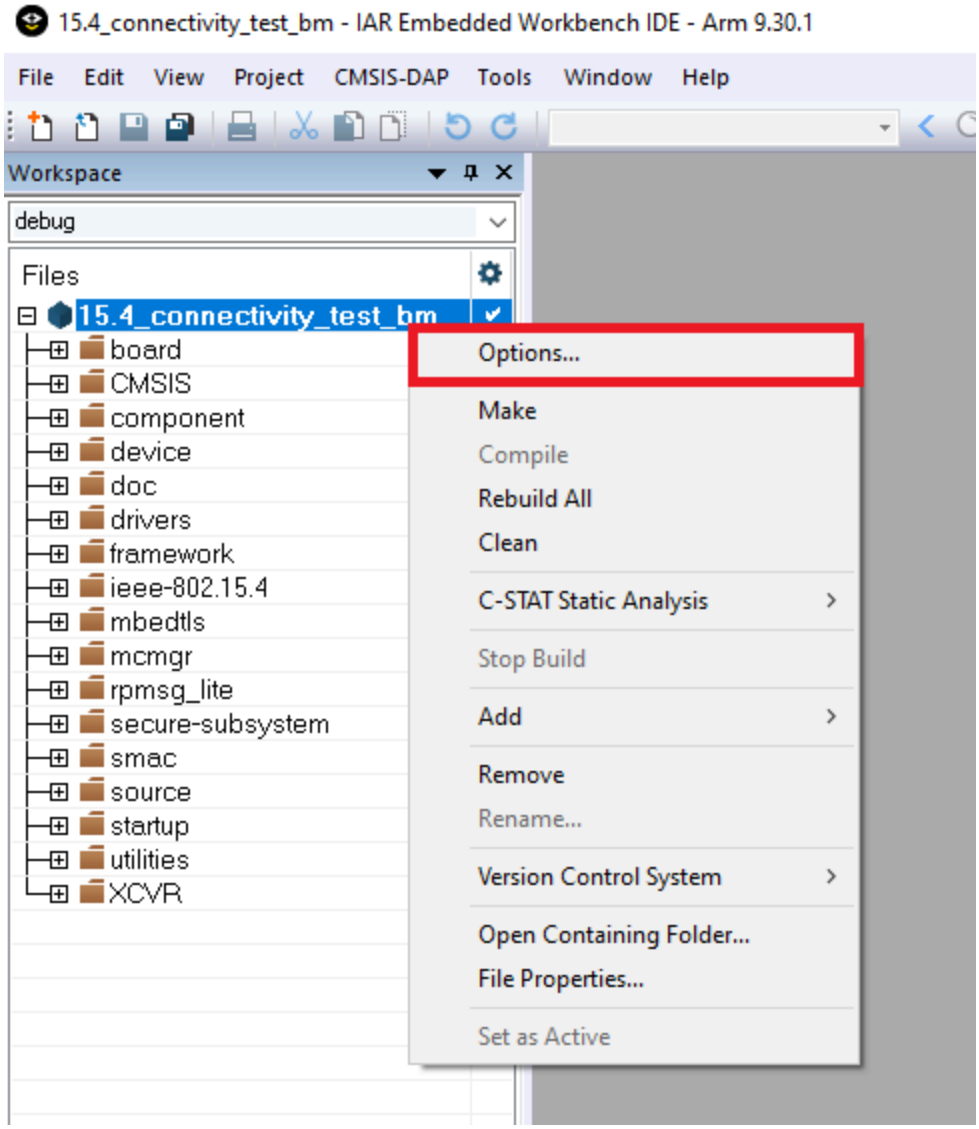

Figure 4. Connectivity Test Application navigate to project options window

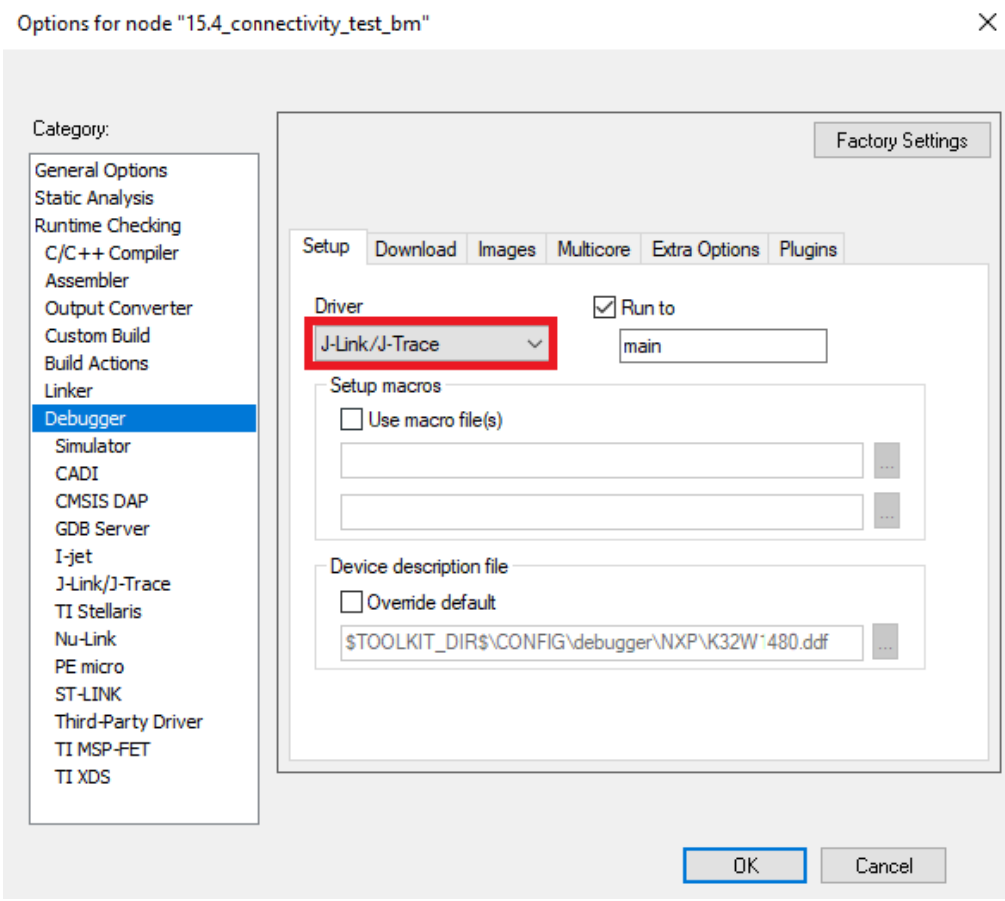

Figure 5. Connectivity Test Application Debugger Settings

6. **Step 6**: Click the "**Download and Debug**" button to flash the executable onto the board.

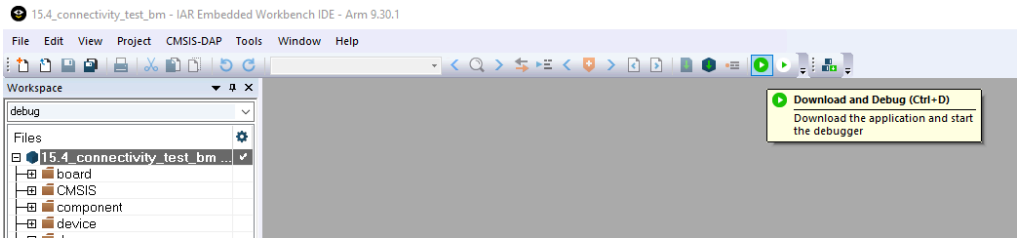

Figure 6. Connectivity Test Application Download and Debug

4 Running the Connectivity Test application

This section demonstrates the basic steps to run a demo application.

Note: *For detailed information about the Connectivity Test Application, refer to the "Connectivity Test Application Command Line Interface User Guide" included in the package (CTACLIUG_Rev0.pdf).*

In order to connect to the board, the Connectivity Test application requires a serial terminal program. This example uses Tera Term for this purpose.

1. **Step 1**: Load the application on the board using IAR Embedded Workbench for Arm by clicking "**Download and Debug**".
2. **Step 2**: After loading the application, check "**Device Manager**" to get the serial port number. This should appear with the prefix "**JLink**".

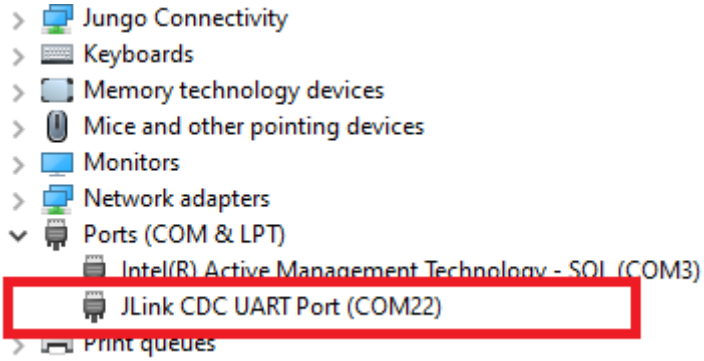

Figure 7. Device Manager serial port lookup

3. **Step 3**: Using the port numbers specified in Device Manager, open a Tera Term instance and connect to the device using the 115200 baud rate. To change the baud rate of the terminal go to the "**Setup** -> **Serial Port**" menu.

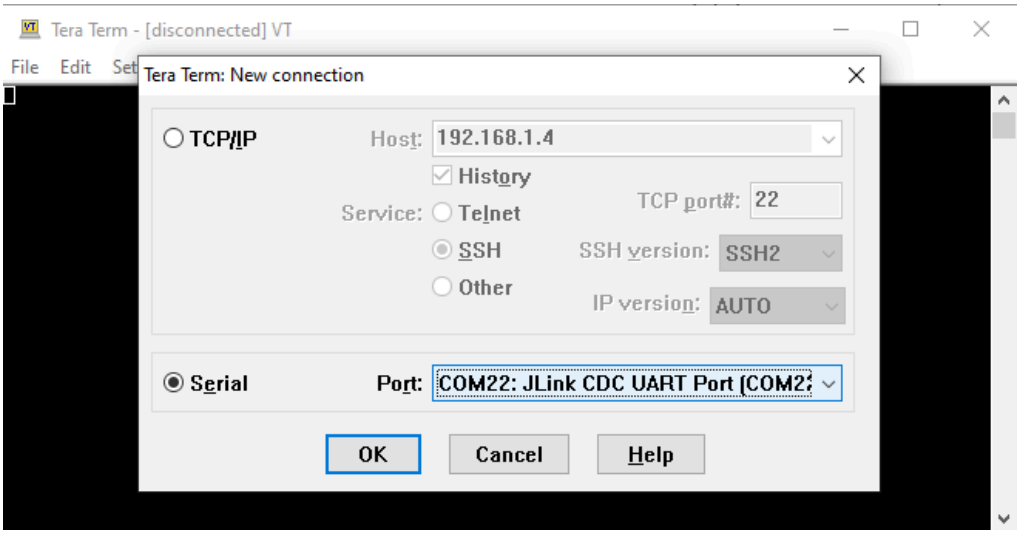

Figure 8. Select JLink serial connection COM port

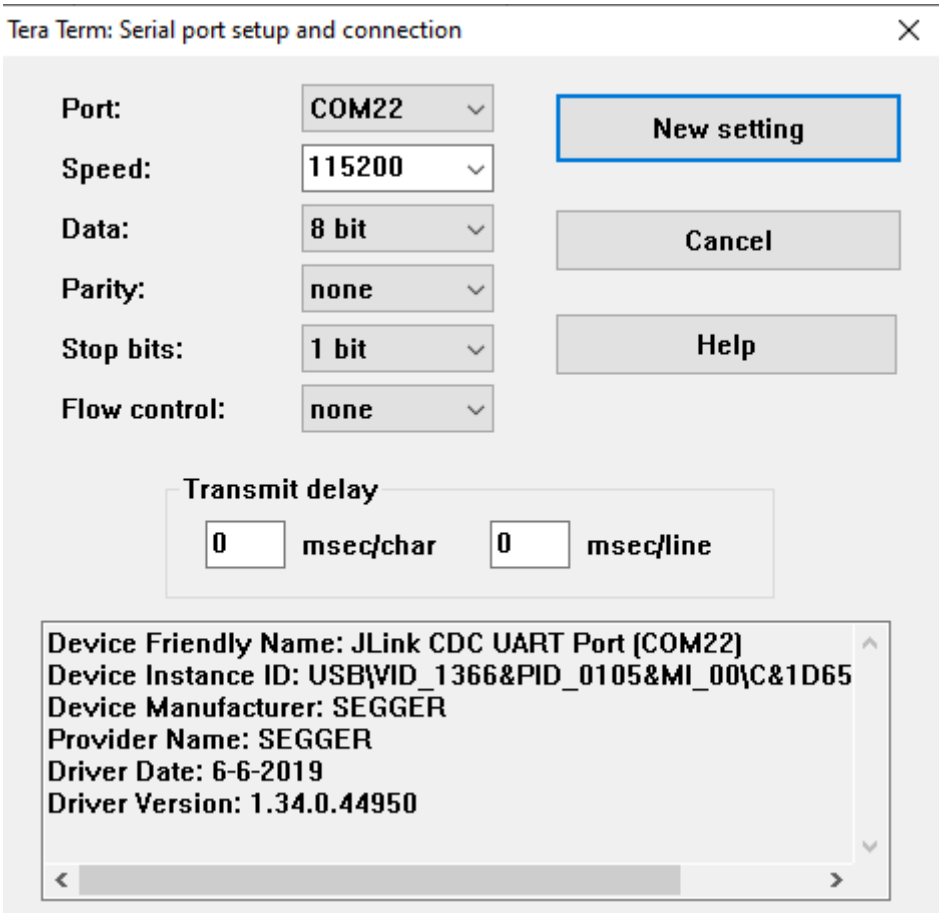

Figure 9. Setting the correct baud rate

4. **Step 4**: Start the application by pressing the "**Enter**" key. Any other key displays the logo screen again.

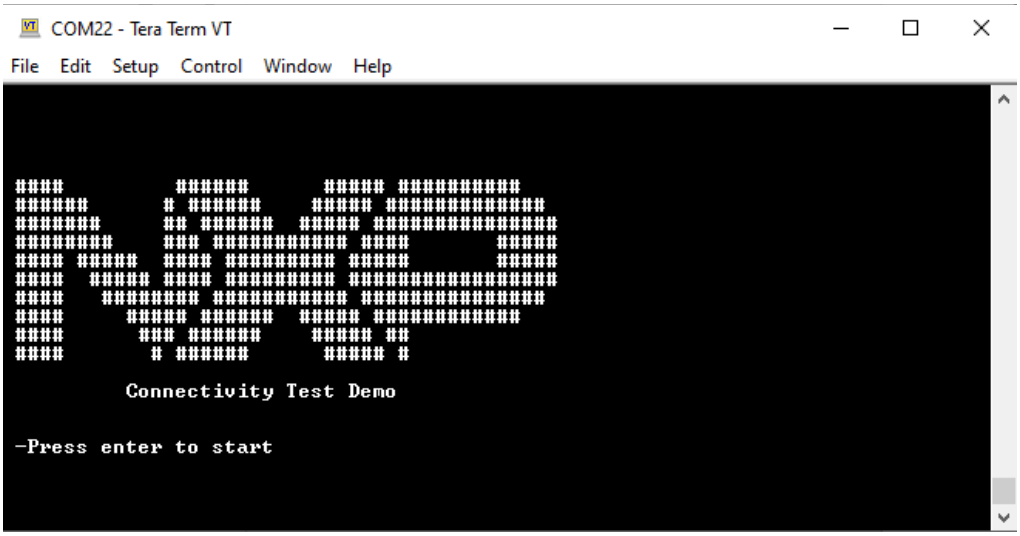

Figure 10. Connectivity Test Application CLI after reset

5. Follow the on-screen instructions to run each test. If a test needs a second platform, follow the steps above to set it up.

5 Revision history

This table summarizes revisions to this document.

Table 1. Revision history

Revision number	Date	Substantive changes
0	27 February 2023	Initial release

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Contents

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