**PROJECTNAME**

**Build and Installation Instructions**

**Revision X1**

Change Record

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| **Rev.** | **Date** | **Description of Change** |
| X1 | XX/XX/XXXX | Initial Draft |

1. Purpose

This document describes the method for building the PROJECTNAME software, Document # XXXXX, from source code, and the method for installing that compiled source code into the final media, XXXXX.

1. Scope

This document is intended as reference for any software engineer working on the PROJECTNAME project software development, or for future maintenance of the firmware.

1. Related Documentation
   1. Traceability Matrix
   2. PROJECTNAME Design Documents
2. Overview

The PROJECTNAME firmware is compiled using the DiCon standard Keil IDE, which is described in detail in this document. The method for installation onto the hardware is via the KEIL IDE and st-link debugger, also described in the document.

1. Body
   1. Source Code Compilation

The Source code is stored as document number # XXXXX, and shall be obtainable from document control. It shall also be available on the DiCon Internal server from the git repository located in the NPD folder. The source code folder shall contain a README file, which contains the directory structure and files necessary to compile the source code. The README should also include the contents of the KEIL uVision about screen, using the “Copy Info” button, to ensure that future compilations are performed with the same components. The folder shall contain a .uvprojx file, to load the project into the KEIL IDE. From the KEIL IDE, the ReBuild All Target Files will create the necessary compiled code. The KEIL settings are saved with the .uvprojx file, so this file is very important to ensure the correct compile settings. The final compiled code shall be of the form .HEX file, with the name and location indicated in the README file. The README shall contain the result of the CRC32 checksum on the compiled code, for verification of future builds from the source code. The description for performing the checksum is described in the crc32 folder in the Embedded Programming resources. The README shall contain the Software Baseline revision number, as well as the most recent Configuration Status Report, so that the requirements informing the source code design can be determined.

* 1. Compiled Code Loading

The compiled code .HEX file shall be loaded via the KEIL tool, using the “Download” button, while the ST-link is connected to the debug pins, with pins 1,4,7,9,15 on the ST-Link connected to pins 3,5,7,9,1 on the EXAMPLE board debug connect J3, respectively, and the device is powered. After the download occurs, and device is reset, the program shall enter its idle state, described in SRD DOC#XXXXX.

* 1. Installation verification

The device shall have an error state, defined by SRD. Upon powering on the device if the device does not enter the idle state after startup, and enters the error state, this indicates that the verification procedure has failed. The installation shall be tried again, and upon a second failure, a problem report shall be filed.