OpenCPU GCC Eclipse User Guide

GPS/GPRS Module Series

Rev. OpenCPU_GCC_Eclipse_User_Guide_V1.0_Preliminary

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About the Document

History

Revision	Date	Author	Description
1.0	2014-03-21	Stanley YONG	Create.
1.0	2014-9-16	Stanley YONG	Simplify installation procedure.

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1 Introduction

This document introduces how to set up the IDE (Integrated Development Environment) for OpenCPU with GCC and Eclipse.

2 Installation

2.1. System Requirements

The following host operating systems and architectures are supported:

● Microsoft Windows XP (SP1 or later)
● Windows Vista
● Windows 7 systems using IA32, AMD64, and Intel 64 processors

In order to install and use Sourcery CodeBench Lite, you must have at least 512MB of available memory.

2.2. Installing JRE

JRE is Java Runtime Environment. Since Eclipse is developed by Java, so Java is necessary.

You are free to get the Java setup from: http://www.java.com

2.3. Installing GCC Compiler (Sourcery G++ Lite Edition for ARM)

Please refer to the 2nd section of the document [1] to install GCC compiler. (The 3rd and 4th section are for command line user)

2.4. Get Eclipse Software Package

You can get the installation-free software package of Eclipse from Quectel technical channel. The Eclipse software package is based on Eclipse Kepler Sr2, and built-ins the necessary plug-ins.

Windows 32-BIT and 64-BIT systems have the respective version of Eclipse. Please tell your system type when asking for Eclipse software package.

3 Work with Eclipse

3.1. Import OpenCPU Project

Open the import panel from menu following the steps: **[File]** → **[Import]**.
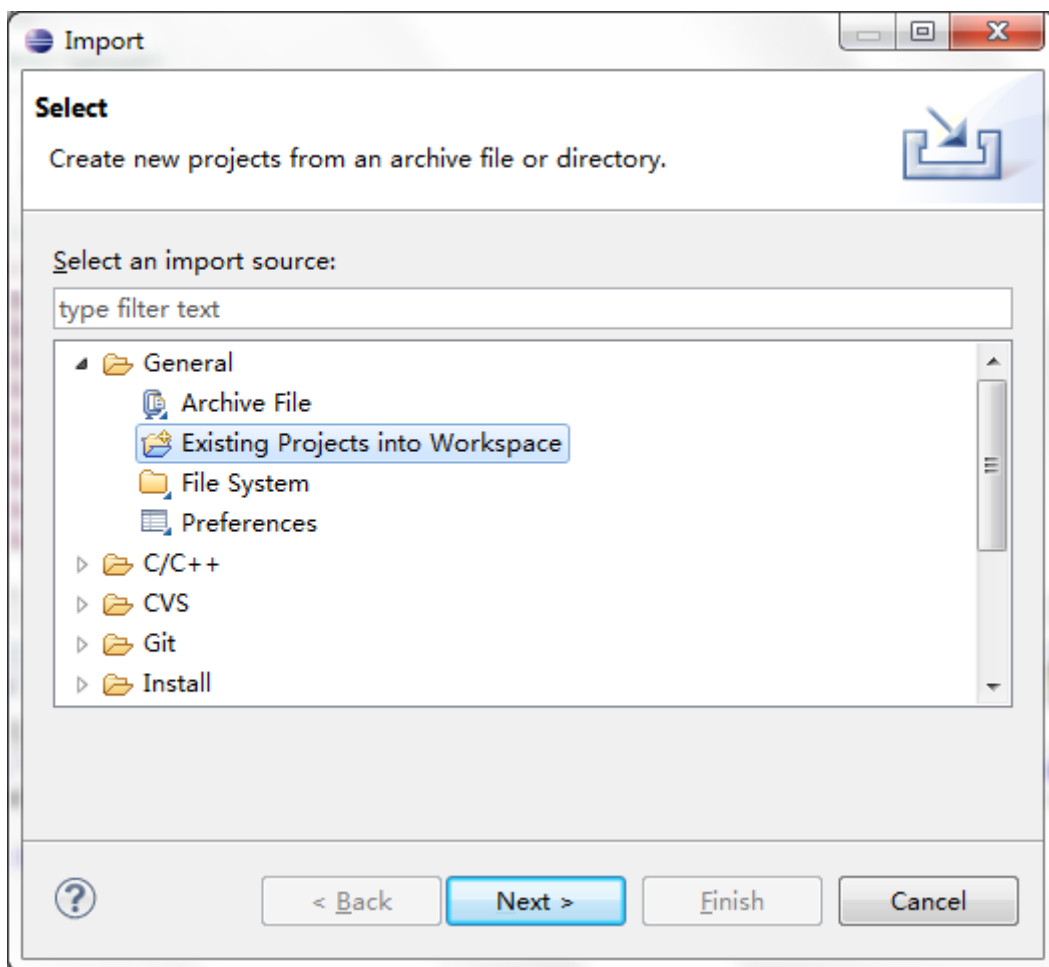

Figure 1: Create New Project

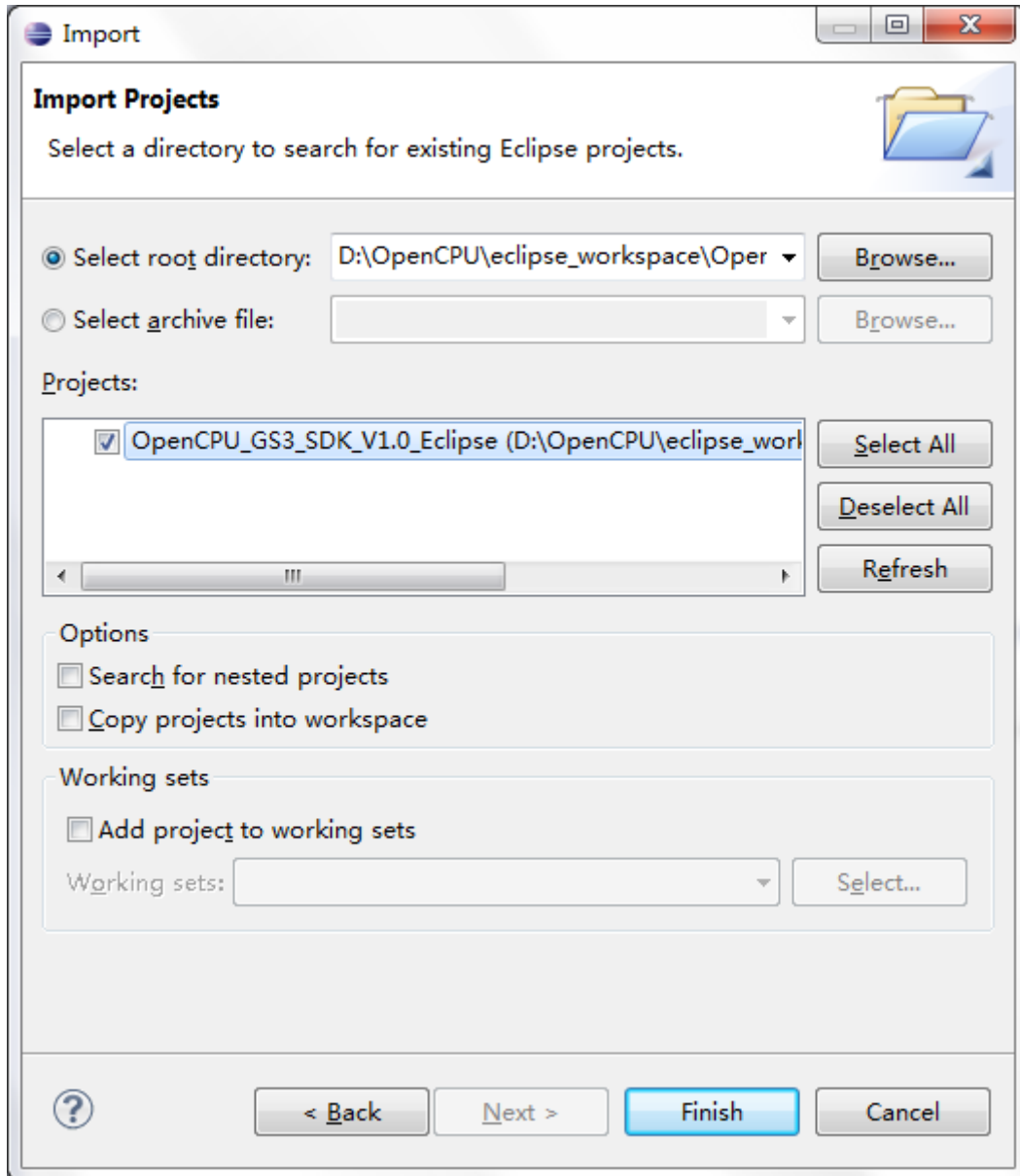Choose "Existing Projects into Workspace" and go next step.

Figure 2: Import OpenCPU SDK

Specify the released OpenCPU SDK and click **[Finish]** to finish import processing.

If you successfully import the released OpenCPU SDK, you will watch the figure below.
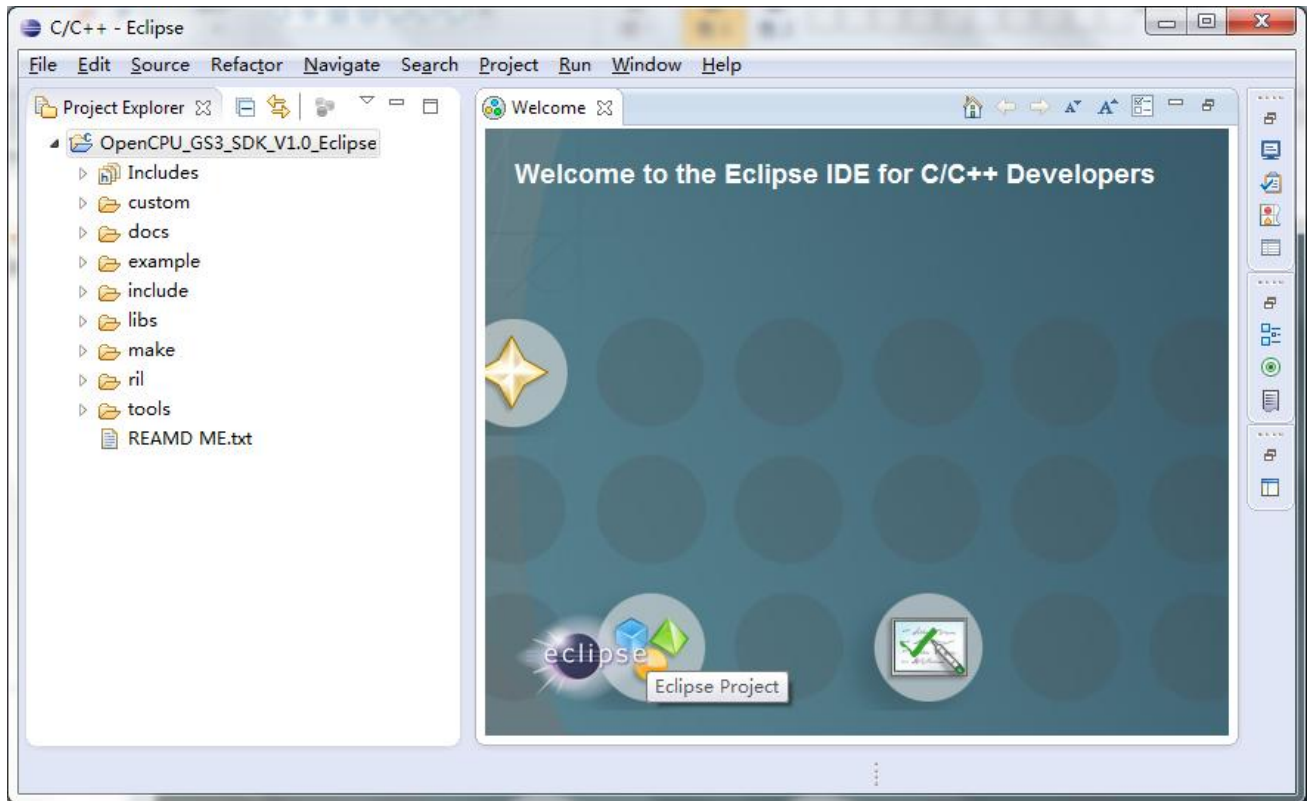
Figure 3: OpenCPU SDK Project

3.2. Configuration

3.2.1. Set Active Build Configuration

Set the active build configuration from menu following the steps: **[Project]** → **[Build Configurations]** → **[Set Active]** → **[Release]**.

3.2.2. Some Native Configurations

Click the project root and open the "project properties" by one of the ways below.
- From menu following the steps: **[Project]** → **[Properties]**
- From the right key of mouse
- By the shortcut keys: **[Alt]+[Enter]**

3.2.2.1. Specify the GCC Installation Path

Specify the GCC installation path that is done in section 2.3.
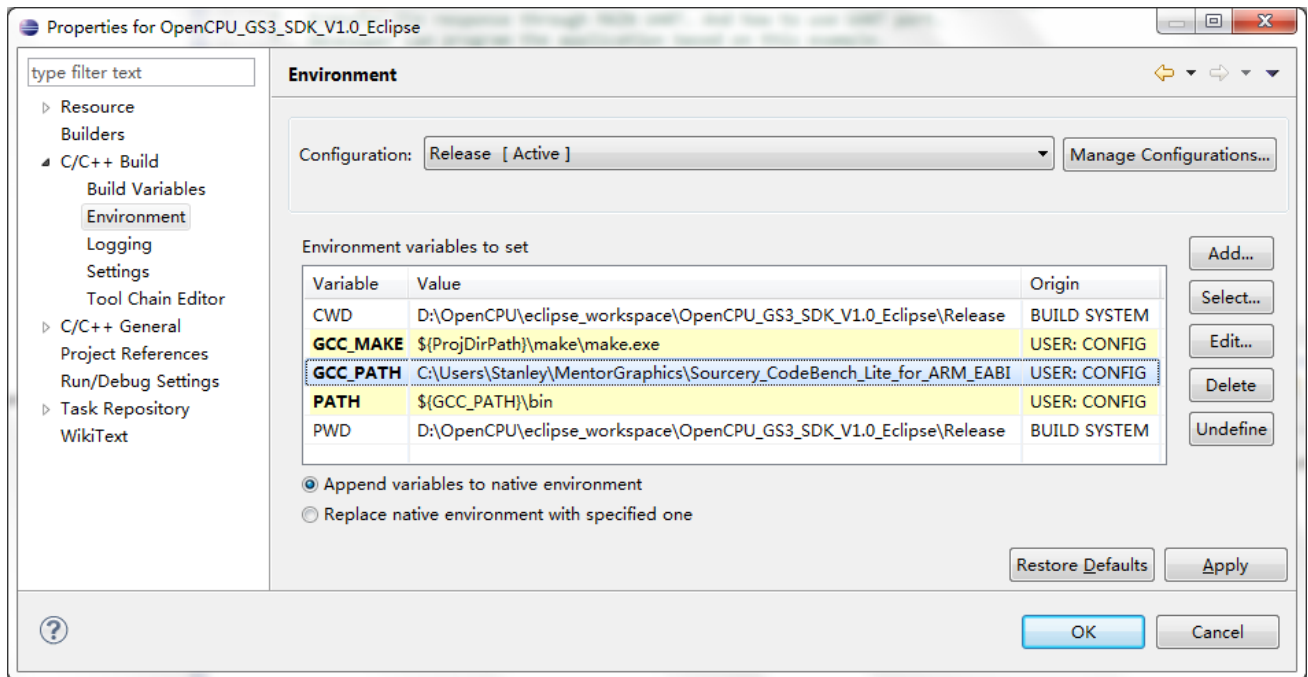
Figure 4: Set GCC Path

Up to now, the GCC Eclipse IDE environment and project are set up. Other configurations for IDE environment and project have been done before released. Now you can directly start to build the project. By default, the custom\main.c is compiled and linked.

3.2.2.2. Other Customization Configurations (Optional)
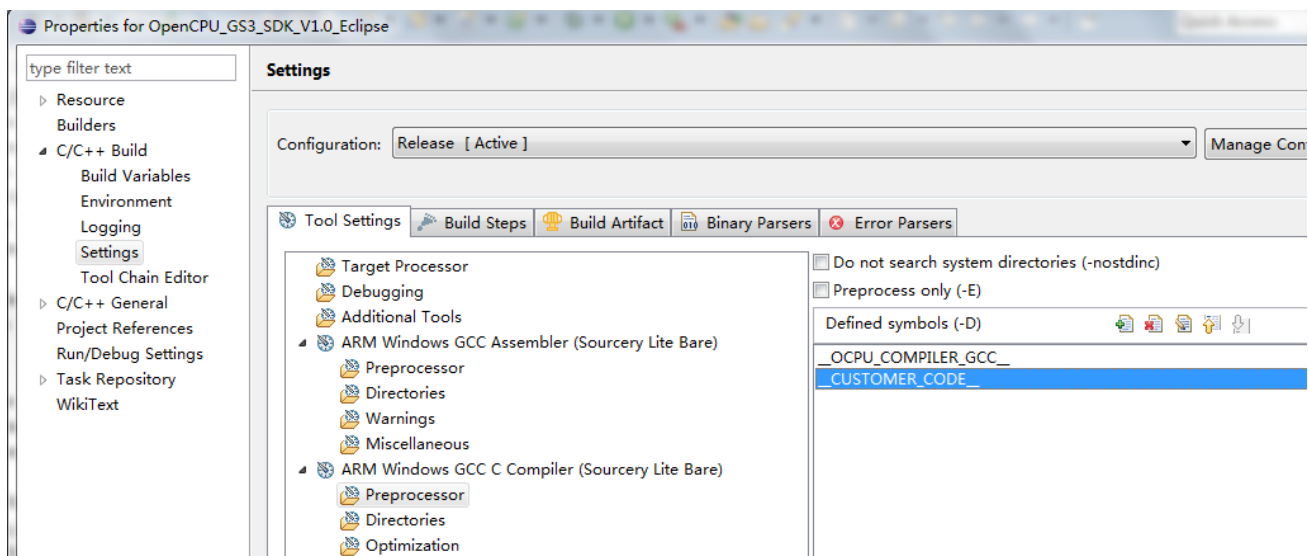
Add or modify "Preprocessor Macro"

Figure 5: Add or modify "Preprocessor Macro"
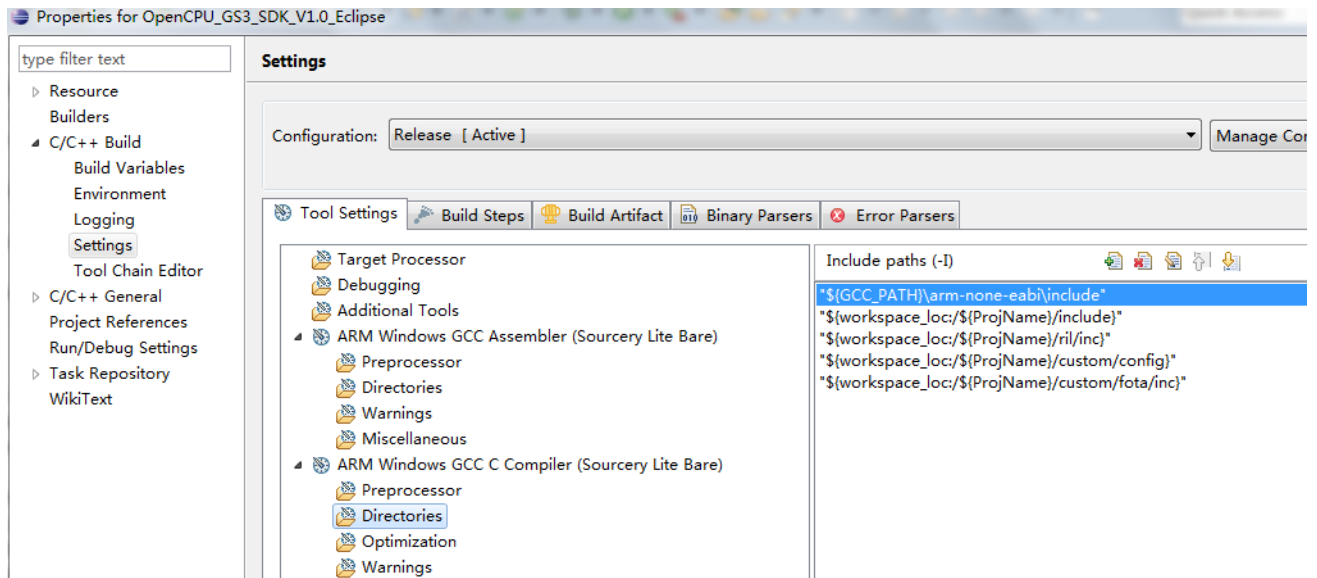
Add "Include Path"

Figure 6: Add "Include Path"

3.3. Compilation

3.3.1. Compiling Commands

The main compiling commands are "**Clean**" and "**Build Project**", and the incremental build is supported. Besides, before downloading the application to module, you need to do "**Make Target**". Please see below.

3.3.1.1. Clean and Build

The most-frequently executed commands are "Clean" and "Build Project". You can launch the operation from project menu or the right key of mouse.
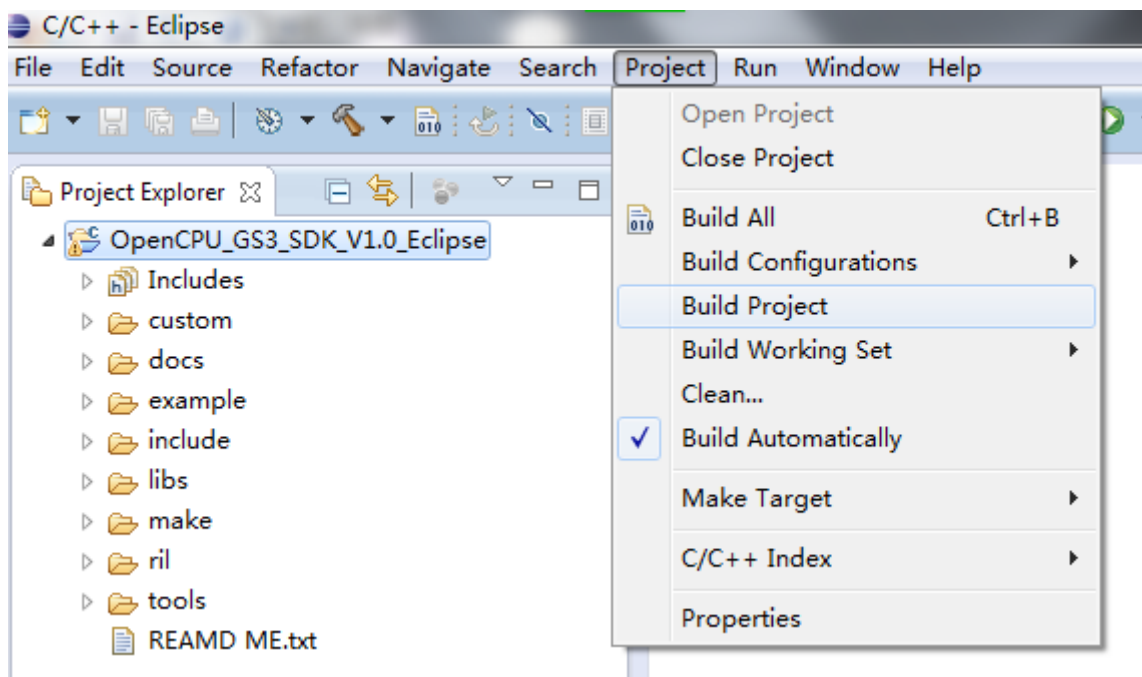
Figure 7: Start "Build Project"

3.3.1.2. Make Target

Before downloading the application to module, you need to do "Make Target Build" to add some basic information about the application into the app bin file. You can launch the operation from project menu or the right key of mouse, or by the shortcut "Shift+F9".
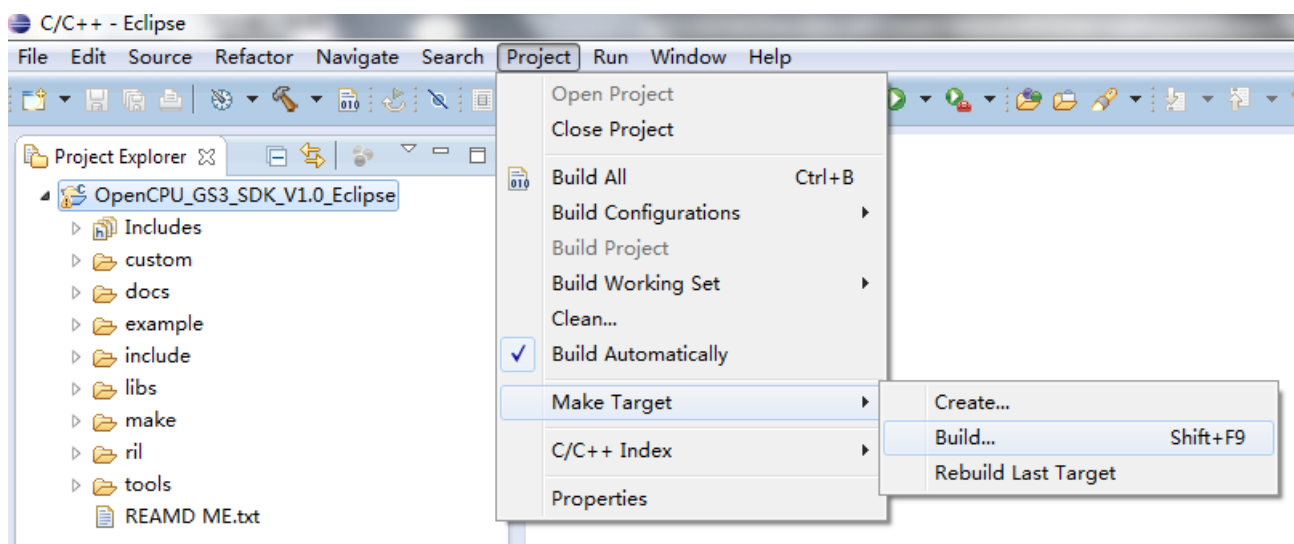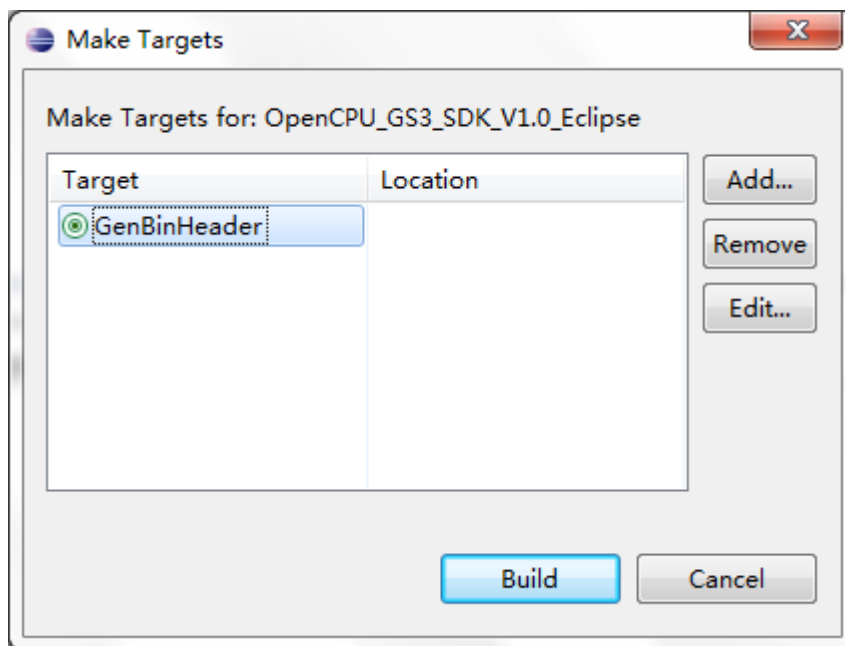

Figure 8: Enter "Make Target Build"

Figure 9: Start "Make Target Build"

3.3.2. Makefile

in Eclipse, makefile is generated automatically, and all source codes files in Eclipse project are compiled.

3.3.3. Compiling Output

3.3.3.1. Processing Output

In Eclipse, the build log is output to the "Console" panel including the build warnings and errors. Double clicking the error log can locate the error code line.
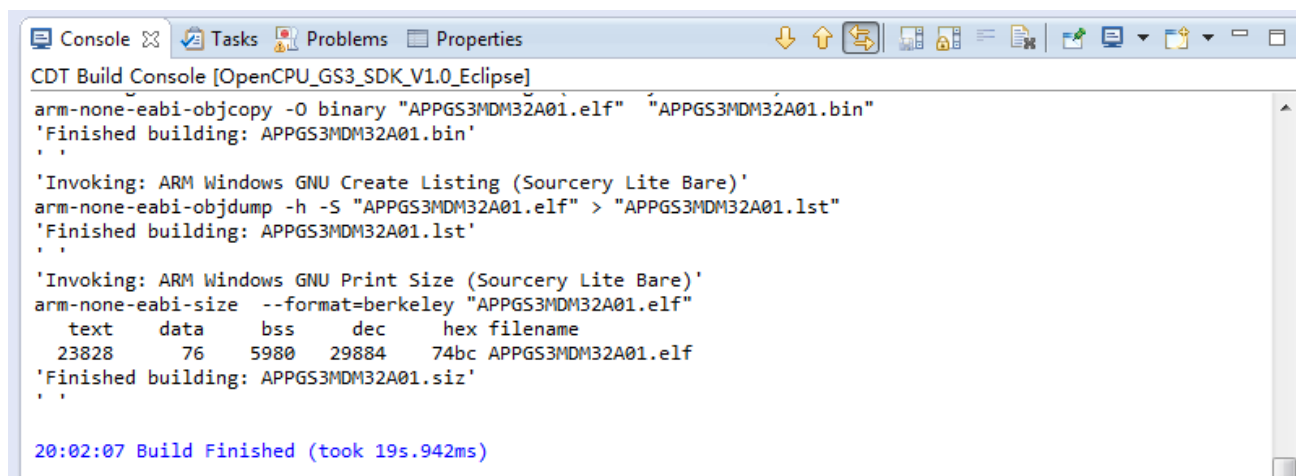

Figure 10: Console Panel

3.3.3.2. Problem Output

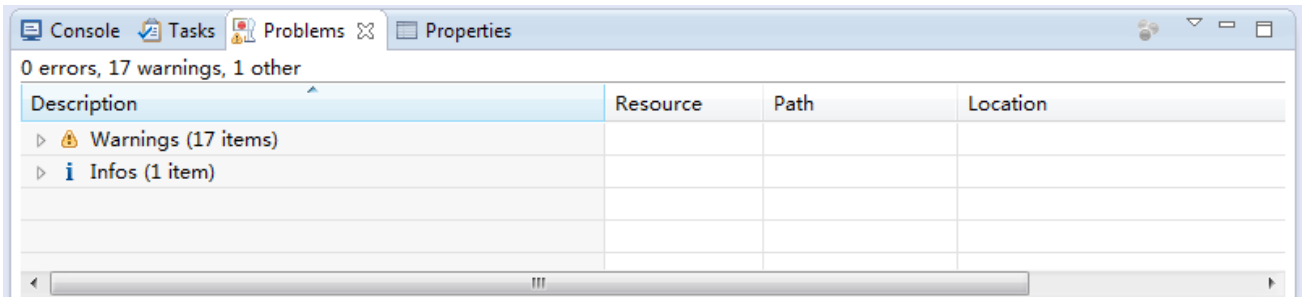All build errors and warnings are listed in the "Problems" panel.

Figure 11: Problems Panel

3.3.3.3. Image Bin Output

The image bin is ultimately generated in "Release" directory.
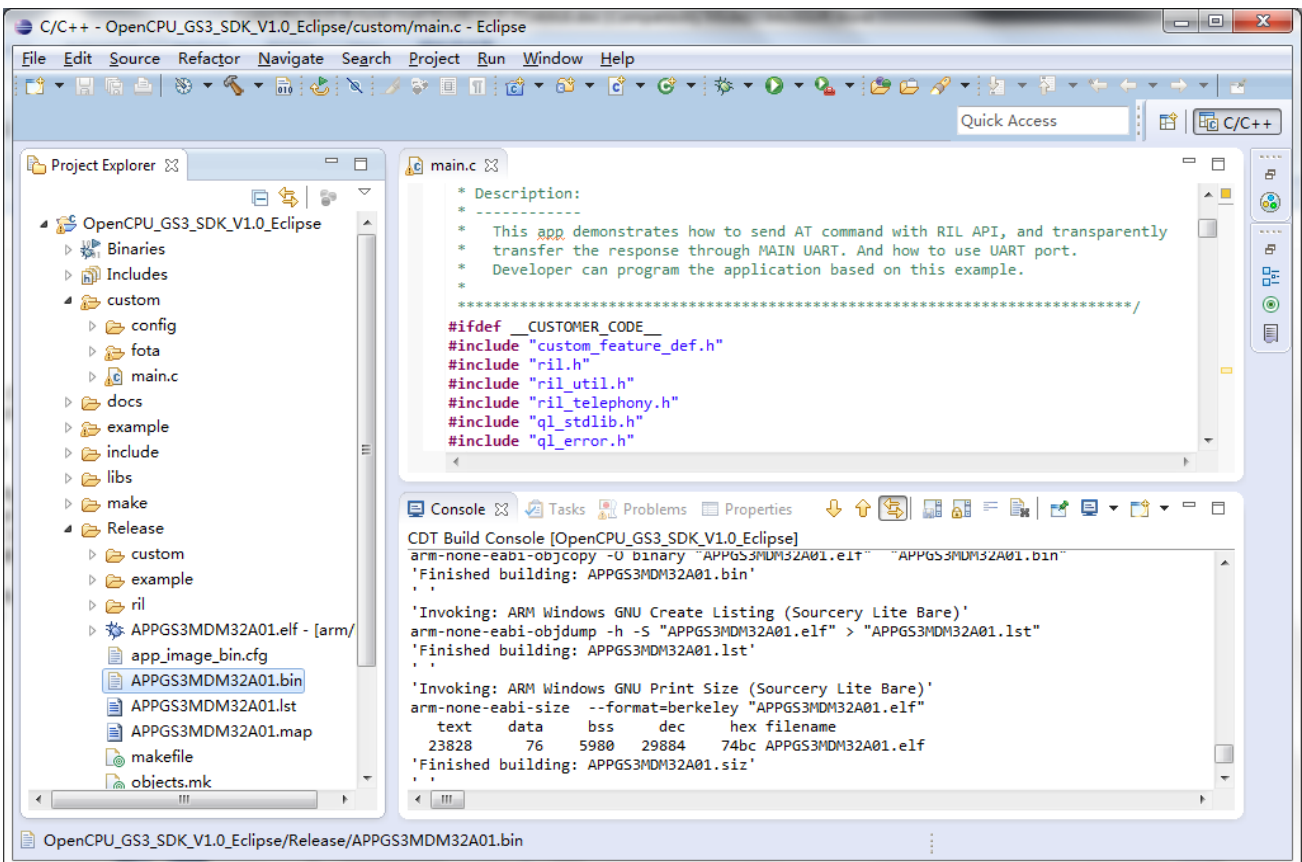

Figure 12: Build Result Image

3.3.3.4.   Final Bin Output

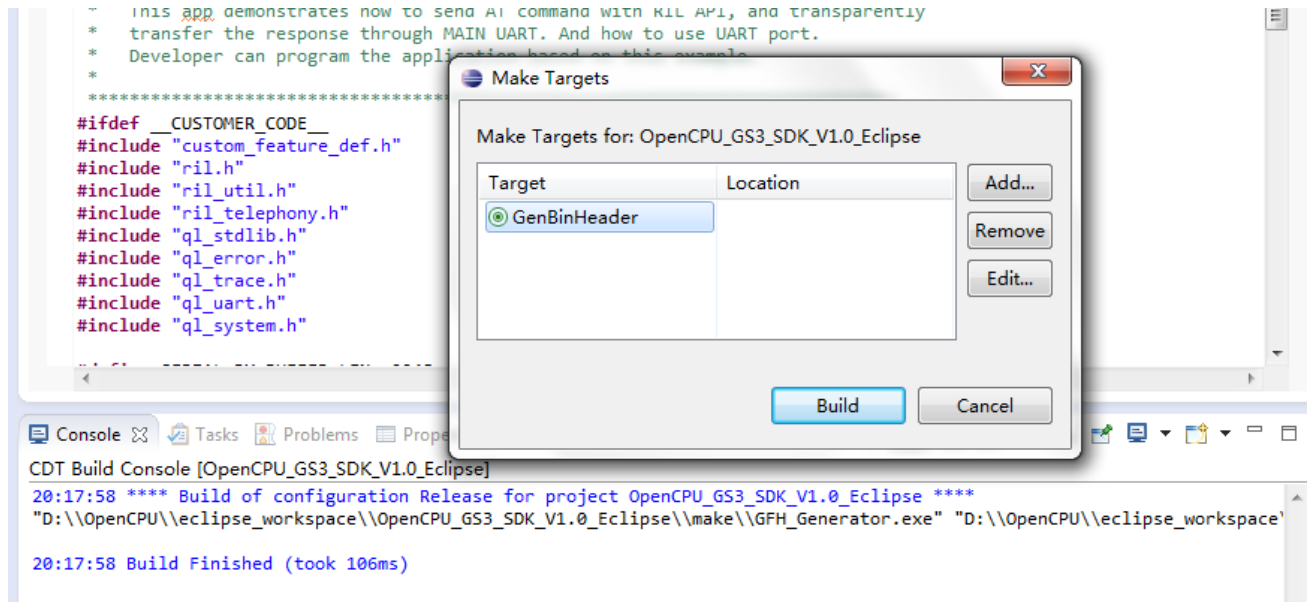The image bin will be updated after executing "Make Target".

Figure 13: Final Bin Output

4 Appendix

Table 1: Reference Document

SN	Document Name
[1]	Quectel_OpenCPU_GCC_Installation_Guide
[2]	Quectel_OpenCPU_Quick_Start_Application_Note