MC25&M25&M56-R-OpenCPU GCC Installation Guide

GSM/GPRS/GNSS Module Series

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About the Document

History

Revision	Date	Author	Description
1.0	2019-07-22	Edwin WEN	Initial

Contents

Figure Index

1 Introduction

This document mainly introduces how to install GCC compiling environment on Windows, and how to compile App in OpenCPU SDK with GCC.

This document is applicable to the following Quectel modules:

- MC25-OpenCPU
- M25-OpenCPU
- M56-R-OpenCPU

2 Installation of GCC Compiling Environment

The GCC compiler is included in *CSDTK* toolkit. Please contact Quectel Technical Supports support@quectel.com to get the installation package of *CSDTK* toolkit (e.g. *CSDTK4.2_Setup.rar*).

In this chapter, *CSDTK4.2* toolkit is taken for example to introduce how to the install GCC compiling environment on Windows.

2.1. System Requirements

CSDTK4.2 toolkit supports the following host operating systems:

- Windows XP
- Windows 7
- Windows 10

In order to successfully install and use *CSDTK4.2* toolkit, at least 1.5GB of memory should be available.

2.2. GCC Installation

2.2.1. Steps of Installation

Users can simply finish installing GCC compiling environment by unzipping the installation package of *CSDTK4.2* toolkit (*CSDTK4.2_Setup.rar*) in specified path. The steps are shown as follows:

1. **Create a new folder.** Create a folder named ***CSDTK4*** under root ***C:***. Please note that the path here must be *C:\CSDTK4* since the default path is *C:\CSDTK4*.

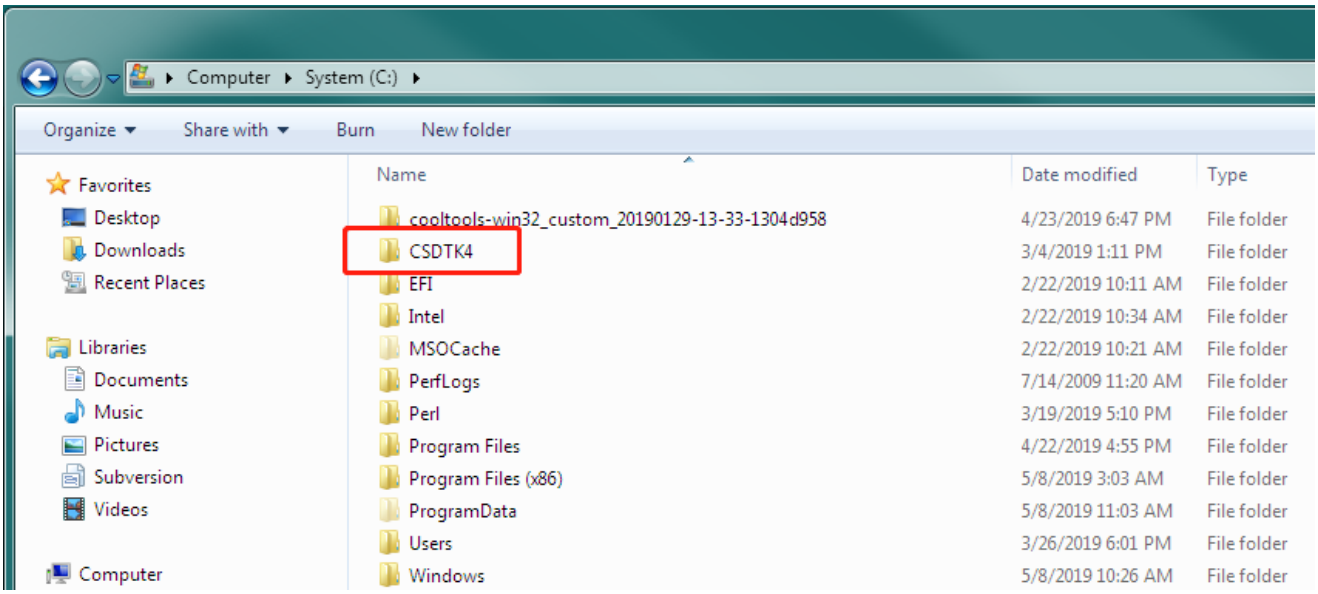


Figure 1: Create a New Folder

2. **Unzip the installation package**. Unzip *CSDTK4.2_Setup.rar* in *C:\CSDTK4*.

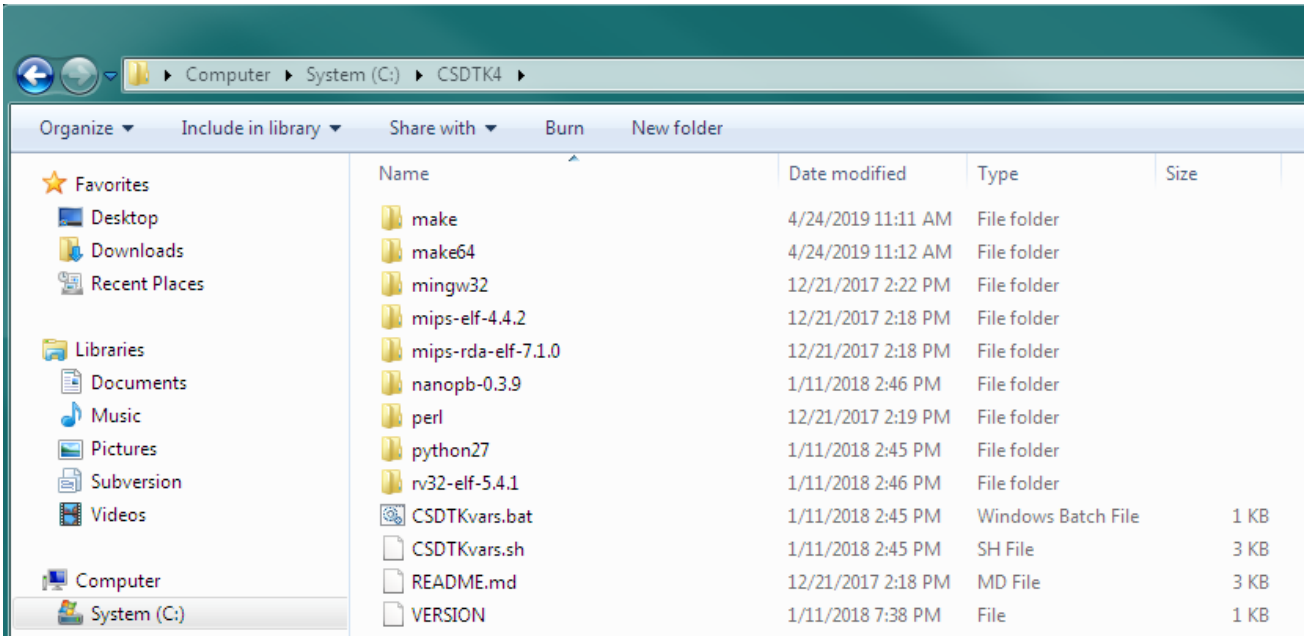


Figure 2: Unzip Installation Package

3. **GCC Folder.** The GCC folder *mips-elf-4.4.2* (already included in *CSDTK4.2* toolkit) can be found in *C:\CSDTK4*.

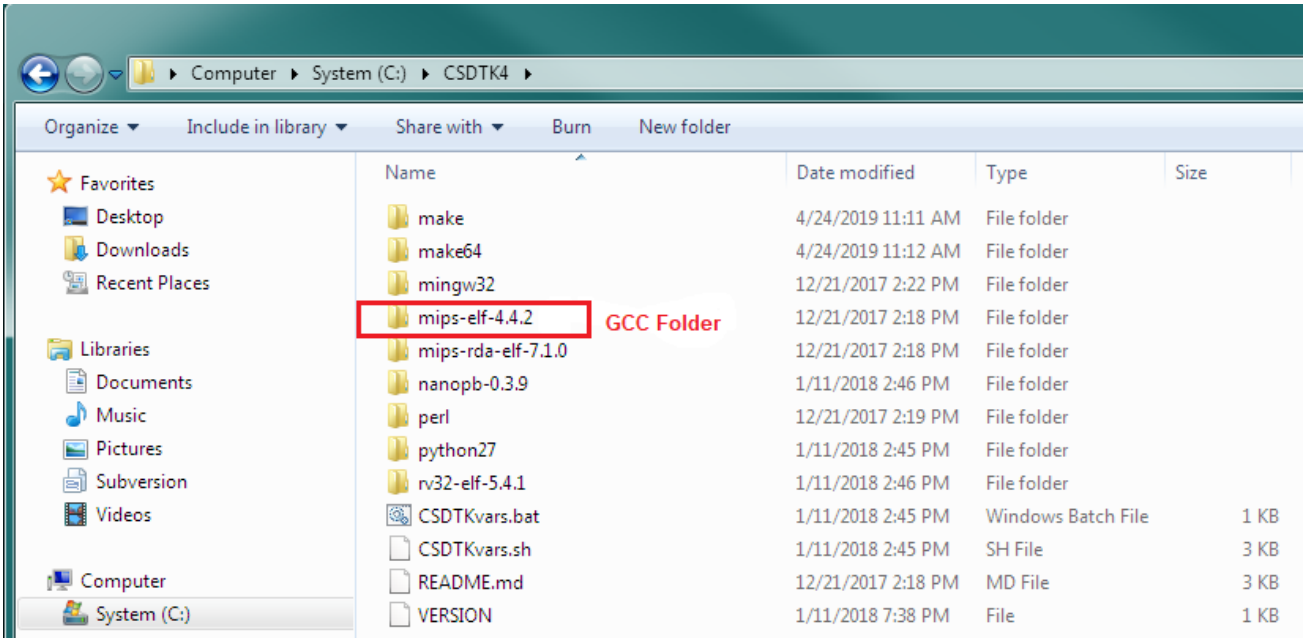


Figure 3: GCC Folder

The installation of GCC compiling environment is completed now. If users need to modify the installation path, please refer to ***Chapter 2.2.2***.

2.2.2. Installation Path Modification

This chapter introduces how to modify the installation path of *CSDTK4.2*, for instance, from "*C:\CSDTK4*" to "*F:\CSDTK4*".

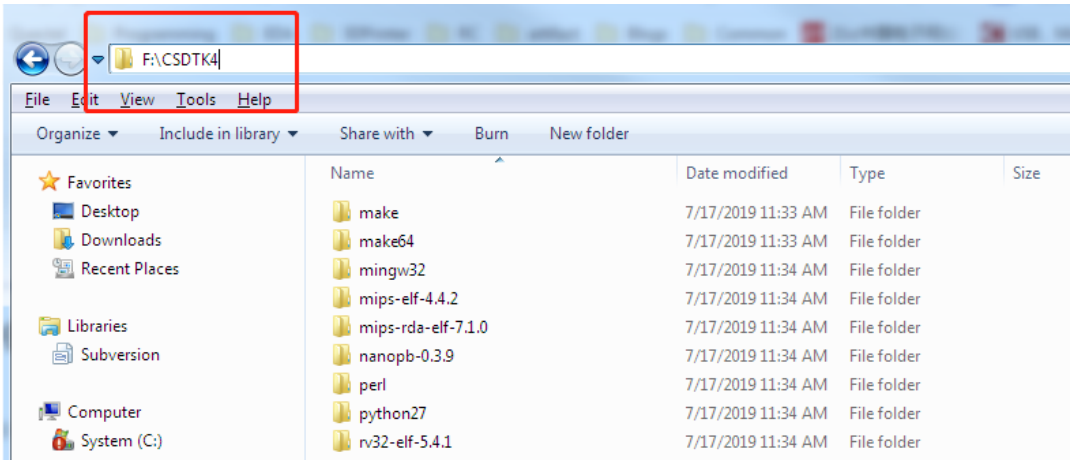


Figure 4: Modify CSDTK4.2 Installation Path

1. Right click on the shortcut of command line *MS-DOS* in SDK, bringing out the "MS-DOS Properties" panel.

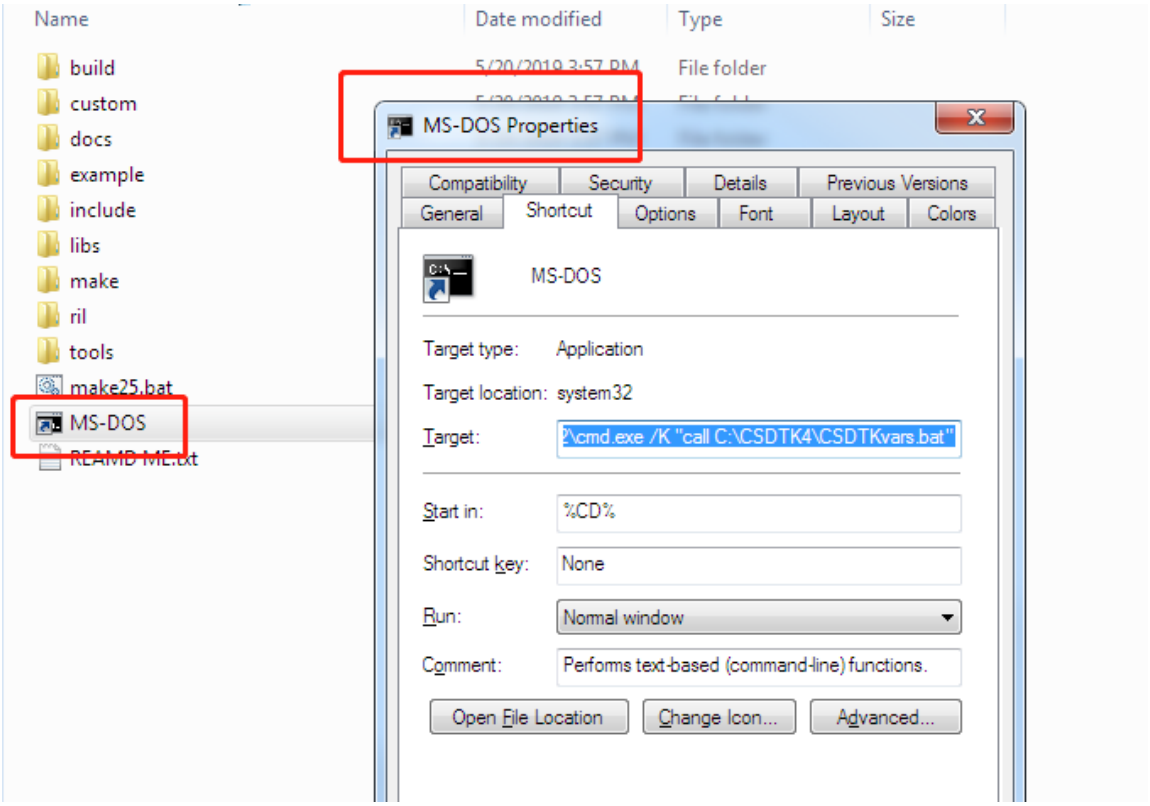


Figure 5: "MS-DOS Properties" Panel

2. As shown in the following figure, change the default path "*C:*\" to "*F:*\" in "Target" column.

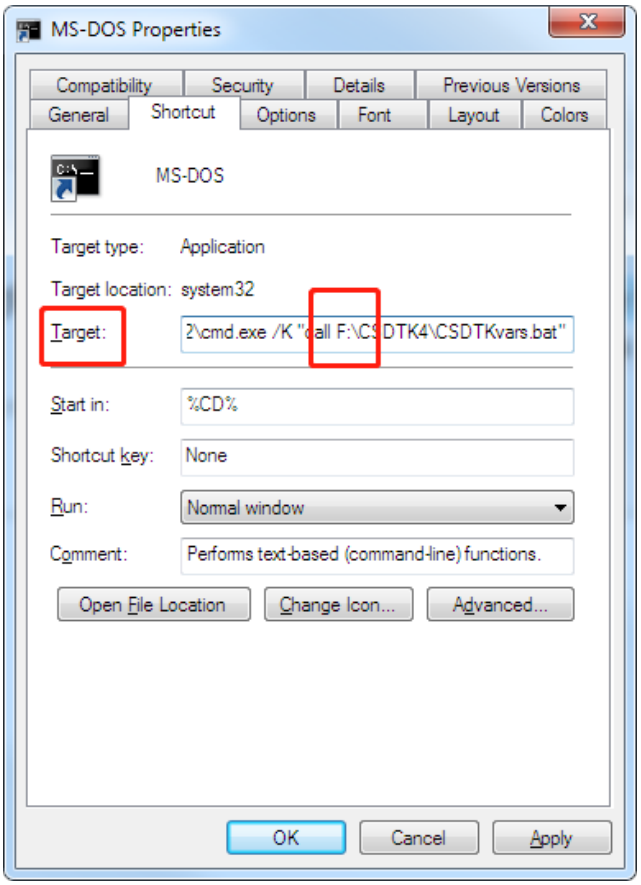


Figure 6: Modify CSDTK4.2 Installation Path in "Target" Column

3. Click "OK" to save the above setting. The installation path of *CSDTK4.2* will be modified as "*F:\CSDTK4*".

2.3. Installation Verification

If the operation mentioned above in this chapter is completed without any other problem, users can conduct compiling to verify if the installation is successful. If the compiling passes, it indicates the compiling environment is installed successfully.

For more details about compiling, please refer to ***Chapter 3***.

3 Compiling

In OpenCPU, compiling commands are executed in command line. The clean and compiling commands are respectively defined as below.

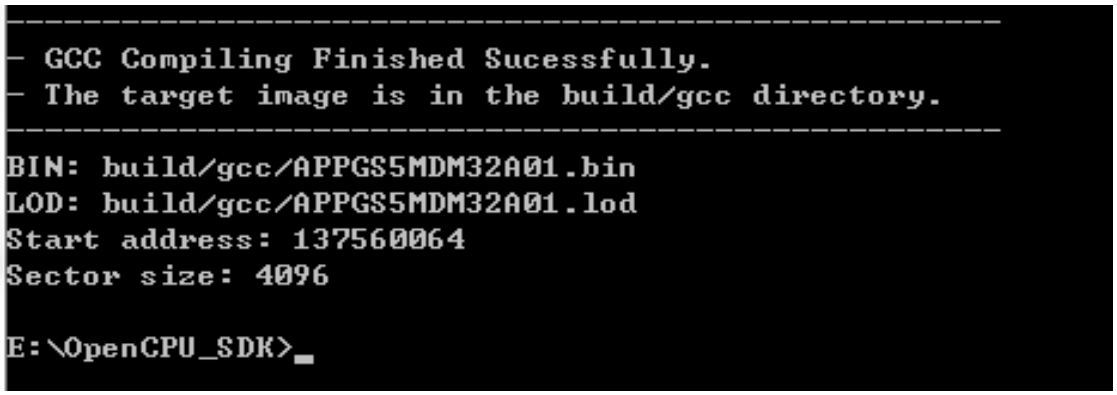
```
make clean
make new
```

The clean and compiling commands need to be executed in the root directory of SDK.

```
E:\OpenCPU_SDK>make clean
--------------------
clean finished.
--------------------

E:\OpenCPU_SDK>make new
        1 file(s) copied.
mkdir -p build/gcc/obj
- Building build/gcc/obj/custom/config/custom_sys_cfg.o
- Building build/gcc/obj/custom/config/sys_config.o
- Building build/gcc/obj/ril/src/ril_audio.o
ril/src/ril_audio.c: In function 'ATResponse_AUD_handler':
ril/src/ril_audio.c:398: warning: suggest parentheses around assignment used as
truth value
- Building build/gcc/obj/ril/src/ril_custom.o
- Building build/gcc/obj/ril/src/ril_http.o
- Building build/gcc/obj/ril/src/ril_urc.o
- Building build/gcc/obj/ril/src/ril_atResponse.o
ril/src/ril_atResponse.c: In function 'Ql_RIL_AT_SetErrCode':
ril/src/ril_atResponse.c:50: warning: control reaches end of non-void function
- Building build/gcc/obj/ril/src/ril_network.o
ril/src/ril_network.c: In function 'ATResponse_CREG_Handler':
```

If compiling is finished successfully, the output result is shown as below:



During compiling, some compiler processing information will be output. If compiling fails, users can check *\SDK\build\gcc\build.log* for all the warnings and errors.

4 Appendix A Reference

Table 1: Terms and Abbreviations

Abbreviation	Description
App	OpenCPU Application
GCC	GNU Compiler Collection
SDK	Software Development Kit