
TOPST VCP FreeRTOS SDK

Getting Started

**Rev. 1.00 [G]
2025-02-xx**

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TABLE OF CONTENTS

Contents

TABLE OF CONTENTS	2
1 Introduction	2
2 Setting Host Environment	3
2.1 Ubuntu Installation	3
2.2 Install WSL2 Ubuntu (Windows Environment Only)	3
2.3 Setting Linux Environment.....	3
3 Toolchain	5
3.1 Install and Set Up Toolchain	5
3.2 Verify Toolchain	7
4 Clone Source Code.....	8
5.1 Clone TOPST VCP-G Source Code	8
5.2 Source Code Structure.....	9
5 Build Guide.....	10
5.1 Makefiles and Build Systems	10
5.2 Initiate Build Process	10
6 Firmware Download	12
6.1 Prepare TOPST VCP-G	12
6.2 Connect Hardware to Host PC.....	12
6.3 Download Software on TOPST VCP-G Board	13
6.4 Verify Software on Board.....	14
6.5 Troubleshooting Common Issues.....	16
7 References	20
8 Revision History	21
Rev. 1.00: 2025-02-xx.....	21

Figures

Figure 3.1 Download Toolchain	5
Figure 3.2 Extract Toolchain.....	6
Figure 3.3 Move Toolchain	6
Figure 3.4 Navigate to Toolchain Directory	7
Figure 3.5 Check Version of Installed GCC Compiler	7
Figure 4.1 Navigate to Desired Directory	8
Figure 4.2 Clone Repository	8
Figure 4.3 Navigate to Cloned Directory.....	9
Figure 4.4 Source Code Structure.....	9
Figure 5.1 Run make Command	10
Figure 5.2 Verify Build Output	11
Figure 5.3 Build Output File	11
Figure 6.1 Verify USB Connection	12
Figure 6.2 Set the Board th Download Mode	13
Figure 6.3 Execute the Download Command	13
Figure 6.4 Reset the Board	13
Figure 6.5 Install Minicom	14
Figure 6.6 Open Serial Connection	14
Figure 6.7 Open Serial Connection	15
Figure 6.8 Modify User Group Permissions.....	16
Figure 6.9 Launch Minicom.....	17
Figure 6.10 Access Set up Screen.....	18
Figure 6.11 Modify Flow Control.....	18
Figure 6.12 Save and Exit.....	19

1 INTRODUCTION

This document provides guidelines for setting up a software development environment for the TOPST VCP-G board on a Linux system. It outlines the required tools, configurations, and toolchain.

2 SETTING HOST ENVIRONMENT

2.1 Ubuntu Installation

It is recommended to set up your development environment on Ubuntu 22.04. This Ubuntu version offers a stable platform with wide community support, ensuring compatibility and ease of use with the TOPST VCP-G board and associated toolchain.

Linux distribution version:

- Ubuntu 22.04 (LTS)

2.2 Install WSL2 Ubuntu (Windows Environment Only)

Note: If you are using Ubuntu host, you can skip installing WSL2.

1. Set Windows Features by clicking **Control Panel** → **Programs** → **Windows Features On/Off** → **Enable Virtual Machine Platform & Hyper-V**
2. Execute Windows Powershell with **"Run with administrator privileges"**.
3. Enable WSL.

```
dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /norestart
```

4. Enable the Virtual Machine feature.

```
dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart
```

5. Set WSL to the default version of 2 (WSL2).

```
wsl --set-default-version 2
```

6. Search for Ubuntu 22.04 LTS in Microsoft Store and download it.
7. Check Ubuntu 22.04 in the WSL list.

```
wsl --list -online
```

8. Install Ubuntu 22.04

```
wsl --install Ubuntu-22.04
```

9. Search for WSL2 in the Windows search box and execute it.

2.3 Setting Linux Environment

To set up a Linux environment on your host PC, follow these steps:

1. Execute WSL2 (Windows Environment Only)
If you are using Windows, start WSL2 by executing one of the following commands in Windows PowerShell.

```
wsl
```

```
ubuntu
```

2. Update Package List
Before installing any new software, update the list of available packages to ensure you get the latest versions and dependencies. The following command fetches the latest list of available packages from the repositories.

```
sudo apt update && /  
sudo apt upgrade
```

3. Install Common Development Tools
Install common development tools by entering the following command:

```
sudo apt install build-essential git
```

Note: This command installs both the build-essential package and git.

3 TOOLCHAIN

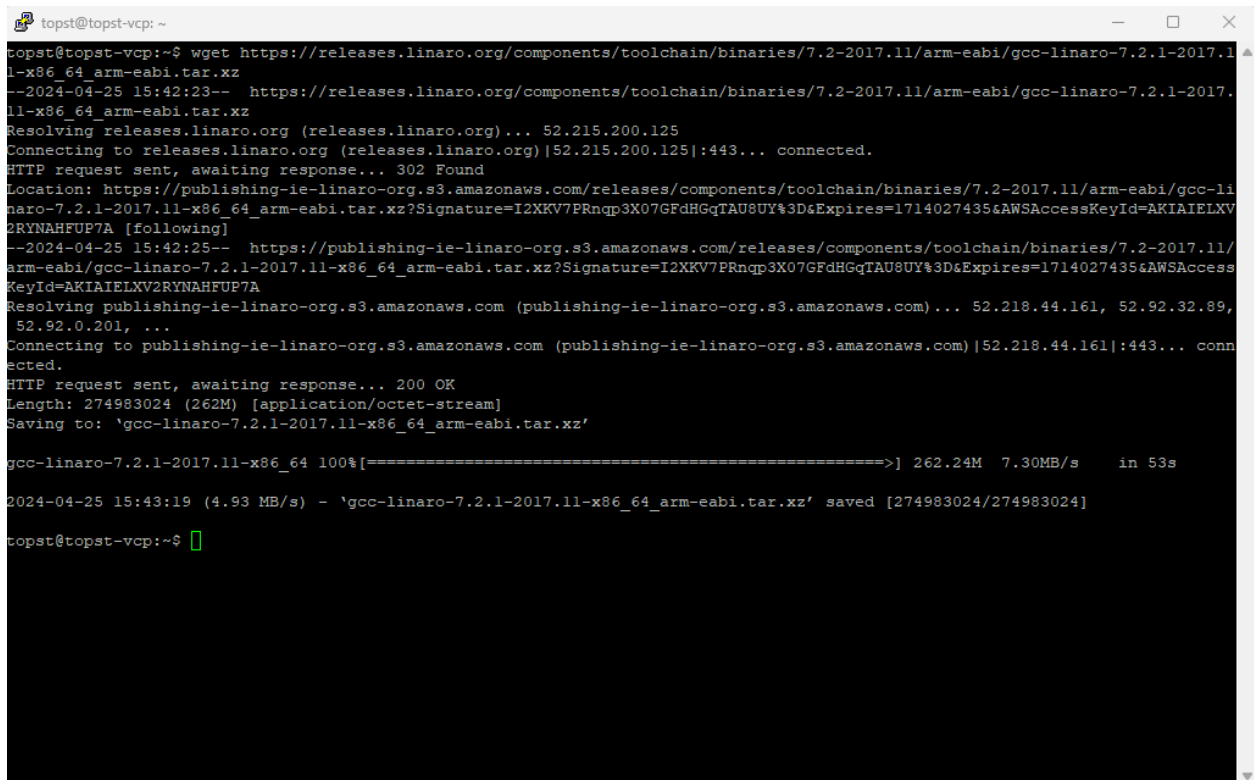
The TOPST VCP-G board uses the `gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi` toolchain. This toolchain is optimized for the ARM architecture and ensures compatibility with the TCT7045 chip on the TOPST VCP-G board.

3.1 Install and Set Up Toolchain

Follow the steps below to download, extract, and set up the toolchain:

1. **Download the Toolchain:** Enter `wget` command to download the toolchain from the Linaro website:

```
wget https://releases.linaro.org/components/toolchain/binaries/7.2-2017.11/arm-eabi/gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz
```



```
topst@topst-vcp: ~
topst@topst-vcp:~$ wget https://releases.linaro.org/components/toolchain/binaries/7.2-2017.11/arm-eabi/gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz
--2024-04-25 15:42:23-- https://releases.linaro.org/components/toolchain/binaries/7.2-2017.11/arm-eabi/gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz
Resolving releases.linaro.org (releases.linaro.org)... 52.215.200.125
Connecting to releases.linaro.org (releases.linaro.org)|52.215.200.125|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://publishing-ie-linaro-org.s3.amazonaws.com/releases/components/toolchain/binaries/7.2-2017.11/arm-eabi/gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz?Signature=I2XKV7PRnqp3X07GfHGqTAU8UY%3D&Expires=1714027435&AWSAccessKeyId=AKIAIELXV2RYNAHFUP7A [following]
--2024-04-25 15:42:25-- https://publishing-ie-linaro-org.s3.amazonaws.com/releases/components/toolchain/binaries/7.2-2017.11/arm-eabi/gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz?Signature=I2XKV7PRnqp3X07GfHGqTAU8UY%3D&Expires=1714027435&AWSAccessKeyId=AKIAIELXV2RYNAHFUP7A
Resolving publishing-ie-linaro-org.s3.amazonaws.com (publishing-ie-linaro-org.s3.amazonaws.com)... 52.218.44.161, 52.92.32.89, 52.92.0.201, ...
Connecting to publishing-ie-linaro-org.s3.amazonaws.com (publishing-ie-linaro-org.s3.amazonaws.com)|52.218.44.161|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 274983024 (262M) [application/octet-stream]
Saving to: 'gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz'

gcc-linaro-7.2.1-2017.11-x86_64 100%[=====>] 262.24M  7.30MB/s   in 53s

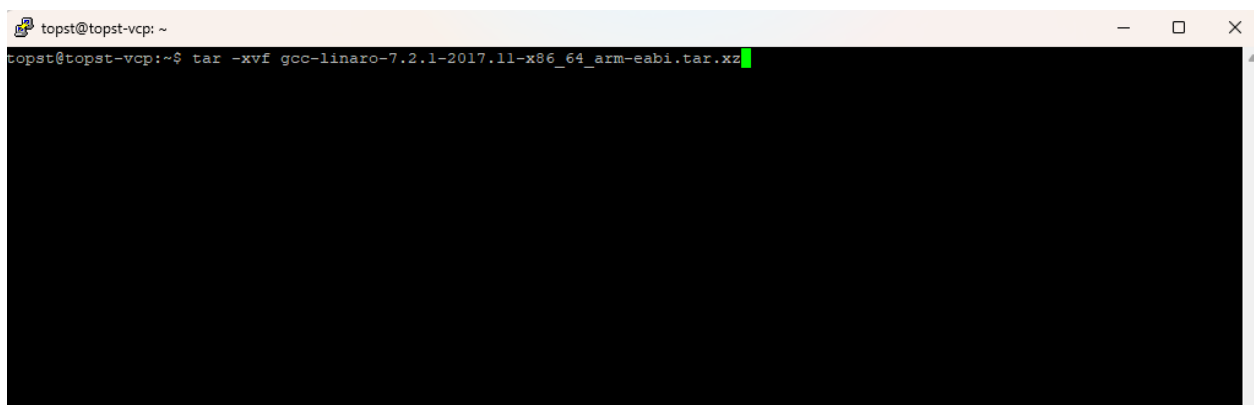
2024-04-25 15:43:19 (4.93 MB/s) - 'gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz' saved [274983024/274983024]

topst@topst-vcp:~$
```

Figure 3.1 Download Toolchain

2. **Extract the Toolchain:** After the download is complete, extract the contents of the `".tar.xz"` file.

```
tar -xvf gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz
```



```
topst@topst-vcp: ~
topst@topst-vcp:~$ tar -xvf gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi.tar.xz
```

Figure 3.2 Extract Toolchain

3. **Move the Toolchain to /opt:** The /opt directory is a standard location for optional software on Linux. Move the extracted toolchain to this directory.

```
sudo mv gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi /opt/
```

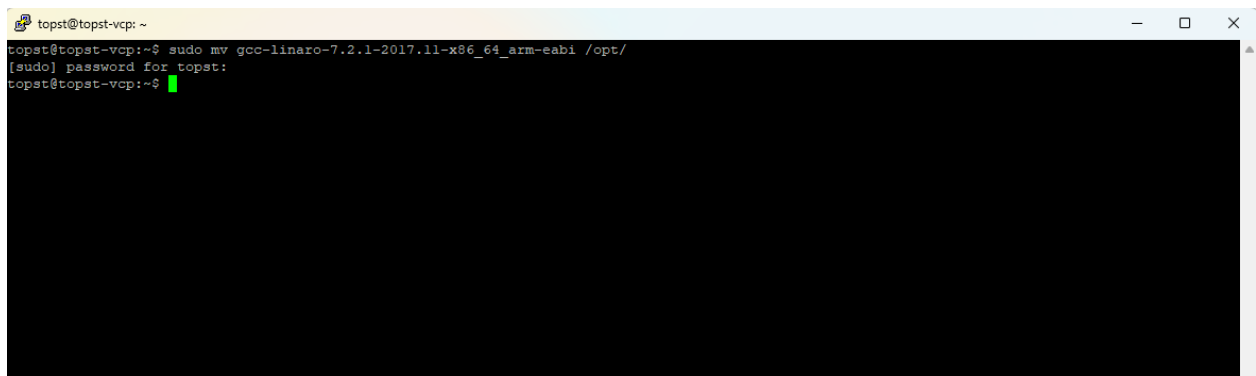


Figure 3.3 Move Toolchain

3.2 Verify Toolchain

To ensure that the toolchain is installed correctly:

1. **Navigate to the Toolchain Directory**

```
cd /opt/gcc-linaro-7.2.1-2017.11-x86_64_arm-eabi
```

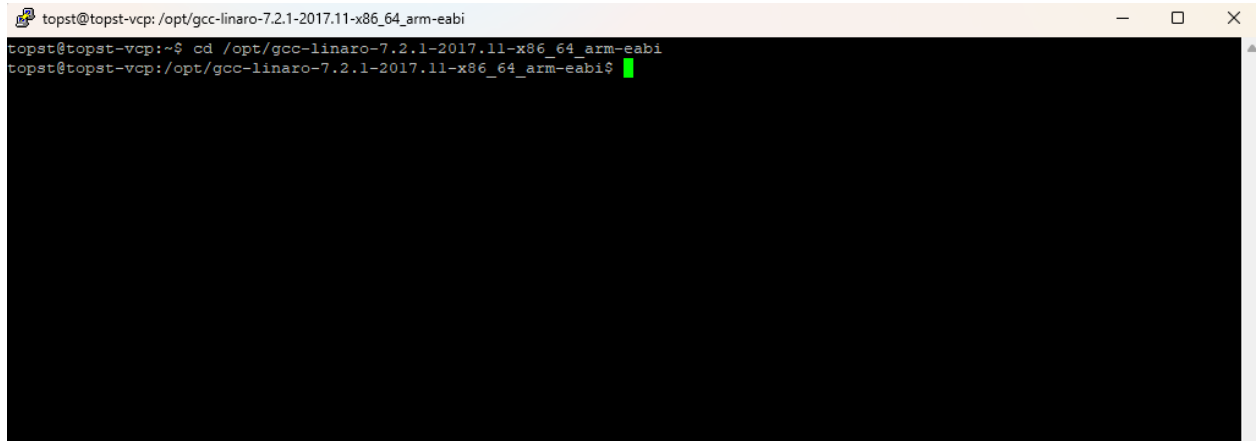


Figure 3.4 Navigate to Toolchain Directory

2. **Check the Version of the Installed GCC Compiler**

```
./bin/arm-eabi-gcc --version
```

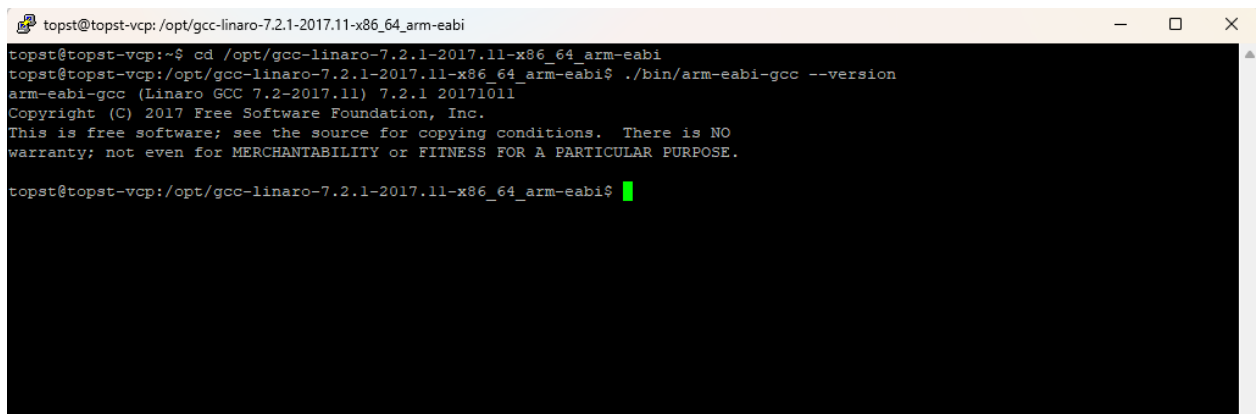


Figure 3.5 Check Version of Installed GCC Compiler

After the successful installation, verify the installed GCC compiler version to ensure it matches **gcc-linaro-7.2.1-2017.11**.

4 CLONE SOURCE CODE

This chapter describes how to clone the source code using Git.

5.1 Clone TOPST VCP-G Source Code

To obtain the source code for the TOPST VCP-G board, enter the `git clone` command. This command creates a copy of the remote repository on your local machine, allowing you to work with the code directly.

Follow these steps to clone the TOPST VCP-G source code:

1. **Open Terminal:** Launch the terminal application on your Ubuntu 22.04 system.
2. **Navigate to the desired directory:** Choose a suitable location to save the source code. For example, if you want to save the repository in the home directory, use the following command.

```
cd ~
```

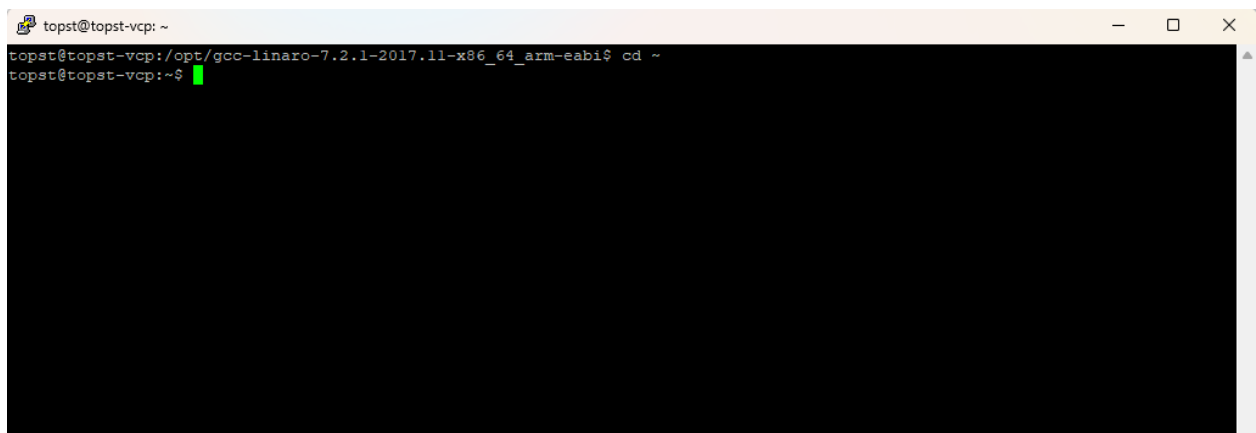


Figure 4.1 Navigate to Desired Directory

3. **Clone the Repository:** Use the following command to clone the TOPST VCP-G source code from the provided git address.

```
git clone git@gitlab.com:topst-private-release/vcp.git topst-vcp
```

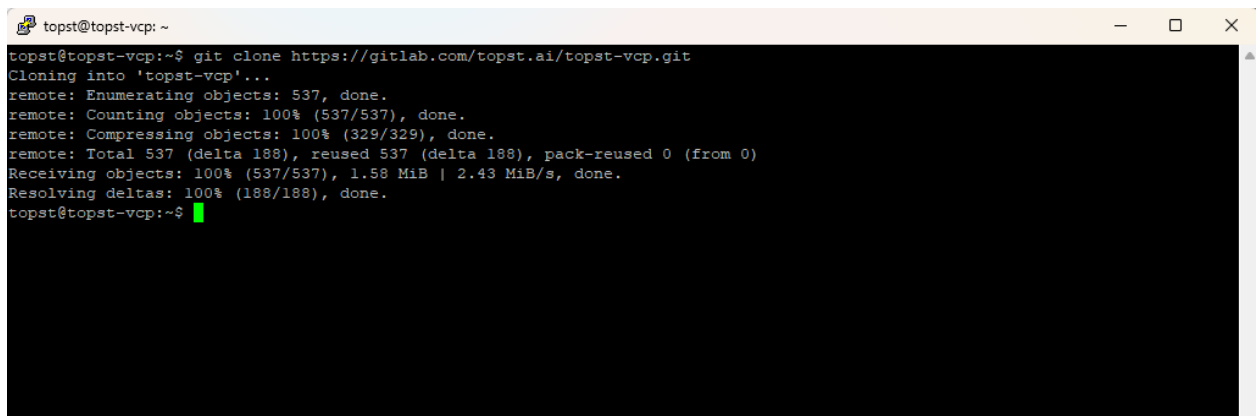


Figure 4.2 Clone Repository

4. **Navigate to the Cloned Directory:** After the cloning process is complete, use the following command to navigate to the directory containing the source code.

```
cd topst-vcp
```

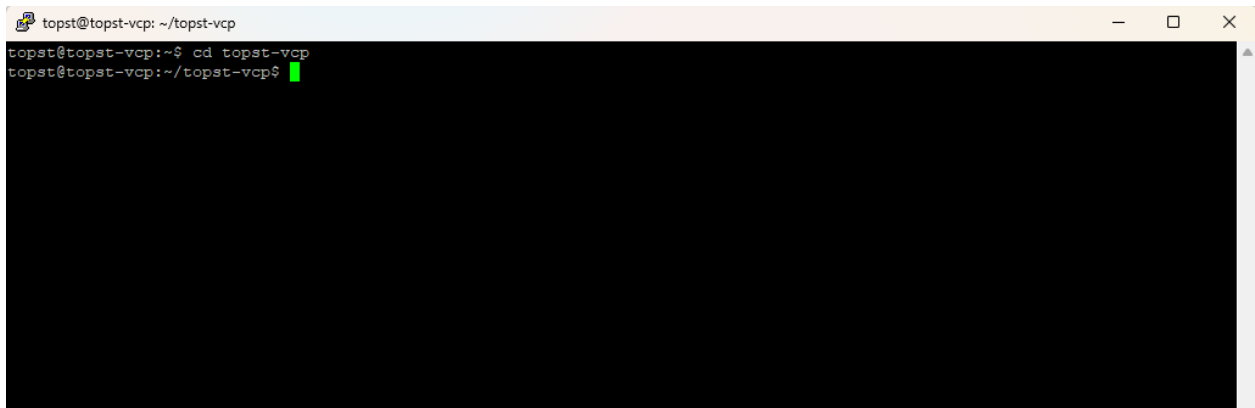


Figure 4.3 Navigate to Cloned Directory

The TOPST VCP-G source code is now available locally for building and development.

5.2 Source Code Structure

After cloning, enter the `ls` command to list the directory contents and review key files to understand the source code structure.

```
ls -al
```

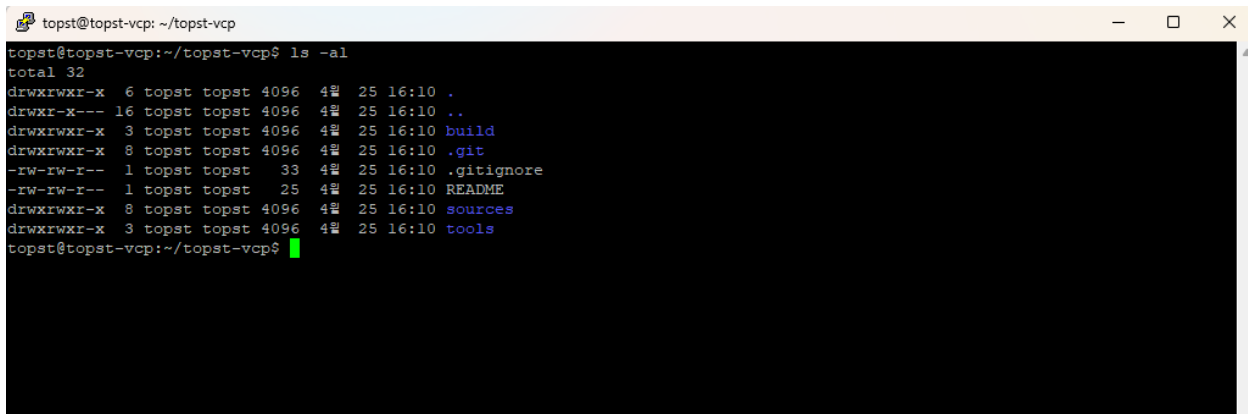


Figure 4.4 Source Code Structure

5 BUILD GUIDE

5.1 Makefiles and Build Systems

A Makefile is a key component of many build systems. It contains rules and directives for the **make** utility to compile and link programs. By utilizing a Makefile, you can automate the build process, ensuring consistency and efficiency.

5.2 Initiate Build Process

To build the source code, follow these steps:

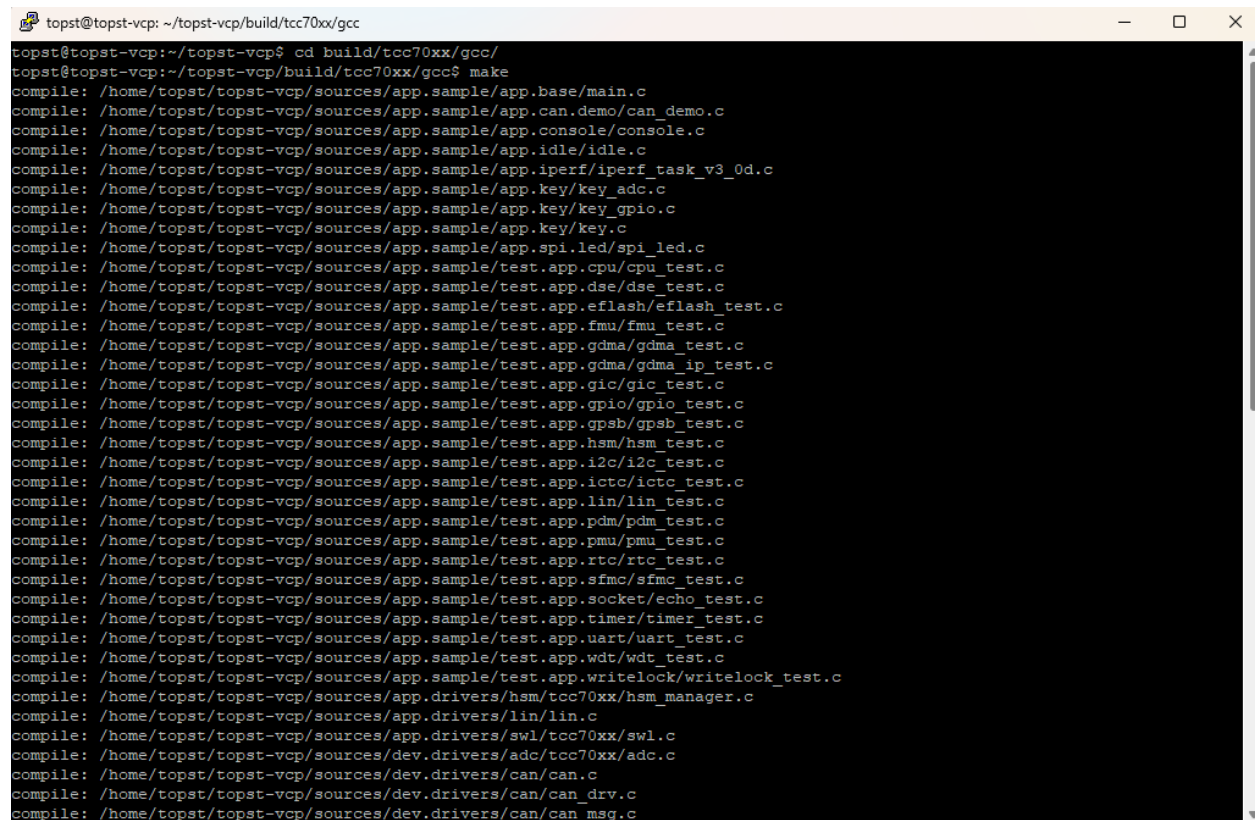
1. **Navigate to the Build Directory:**

```
cd build/tcc70xx/gcc/
```

2. **Run the make command:**

```
make
```

The **make** command reads the Makefile in the current directory and executes the build process.



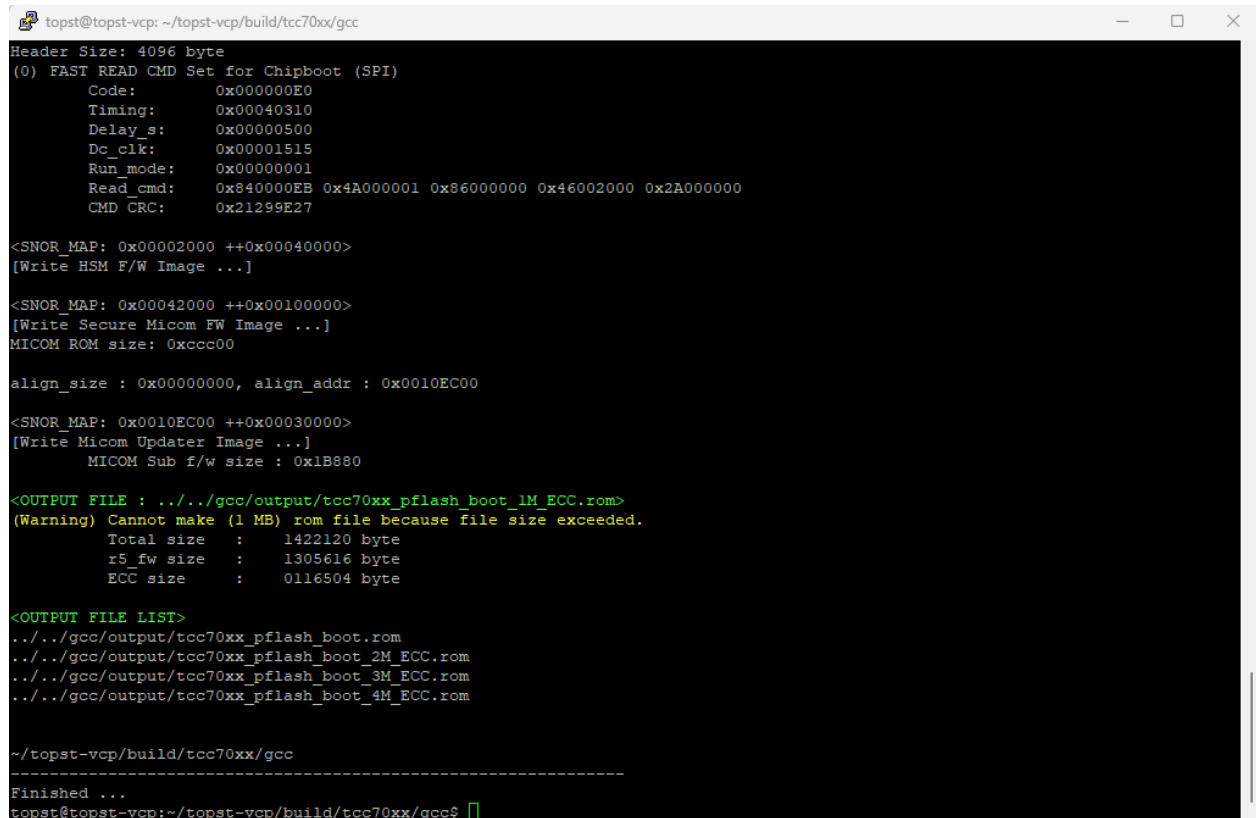
```

topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$ cd build/tcc70xx/gcc/
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$ make
compile: /home/topst/topst-vcp/sources/app.sample/app.base/main.c
compile: /home/topst/topst-vcp/sources/app.sample/app.can/demo/can_demo.c
compile: /home/topst/topst-vcp/sources/app.sample/app.console/console.c
compile: /home/topst/topst-vcp/sources/app.sample/app.idle/idle.c
compile: /home/topst/topst-vcp/sources/app.sample/app.iperf/iperf_task_v3_0d.c
compile: /home/topst/topst-vcp/sources/app.sample/app.key/key_adc.c
compile: /home/topst/topst-vcp/sources/app.sample/app.key/key_gpio.c
compile: /home/topst/topst-vcp/sources/app.sample/app.key/key.c
compile: /home/topst/topst-vcp/sources/app.sample/app.spi_led/spi_led.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.cpu/cpu_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.dse/dse_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.eflash/eflash_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.fmu/fmu_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.gdma/gdma_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.gdma/gdma_ip_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.gic/gic_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.gpio/gpio_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.gpsb/gpsb_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.hsm/hsm_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.i2c/i2c_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.ictc/ictc_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.lin/lin_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.pdm/pdm_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.pmu/pmu_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.rtc/rtc_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.sfmc/sfmc_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.socket/echo_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.timer/timer_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.uart/uart_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.wdt/wdt_test.c
compile: /home/topst/topst-vcp/sources/app.sample/test/app.writelock/writelock_test.c
compile: /home/topst/topst-vcp/sources/app.drivers/hsm/tcc70xx/hsm_manager.c
compile: /home/topst/topst-vcp/sources/app.drivers/lin/lin.c
compile: /home/topst/topst-vcp/sources/app.drivers/swl/tcc70xx/swl.c
compile: /home/topst/topst-vcp/sources/dev.drivers/adc/tcc70xx/adc.c
compile: /home/topst/topst-vcp/sources/dev.drivers/can/can.c
compile: /home/topst/topst-vcp/sources/dev.drivers/can/can_drv.c
compile: /home/topst/topst-vcp/sources/dev.drivers/can/can_msg.c

```

Figure 5.1 Run make Command

3. **Verify the Build Output:** After the build process is complete, the following output files should be listed in the terminal.
- output/tcc70xx_pflash_boot.rom
 - output/tcc70xx_pflash_boot_2M_ECC.rom
 - output/tcc70xx_pflash_boot_3M_ECC.rom
 - output/tcc70xx_pflash_boot_4M_ECC.rom



```

topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc
Header Size: 4096 byte
(0) FAST READ CMD Set for Chipboot (SPI)
    Code:      0x000000E0
    Timing:    0x00040310
    Delay_s:   0x00000500
    Dc_clk:    0x00001515
    Run_mode:  0x00000001
    Read_cmd:  0x840000EB 0x4A000001 0x86000000 0x46002000 0x2A000000
    CMD_CRC:   0x21299E27

<SNOR_MAP: 0x00002000 ++0x00040000>
[Write HSM F/W Image ...]

<SNOR_MAP: 0x00042000 ++0x00100000>
[Write Secure Micom FW Image ...]
MICOM ROM size: 0xccc00

align_size : 0x00000000, align_addr : 0x0010EC00

<SNOR_MAP: 0x0010EC00 ++0x00030000>
[Write Micom Updater Image ...]
    MICOM Sub f/w size : 0x1B880

<OUTPUT FILE : ../../gcc/output/tcc70xx_pflash_boot_1M_ECC.rom>
(Warning) Cannot make (1 MB) rom file because file size exceeded.
    Total size : 1422120 byte
    r5_fw size : 1305616 byte
    ECC size   : 0116504 byte

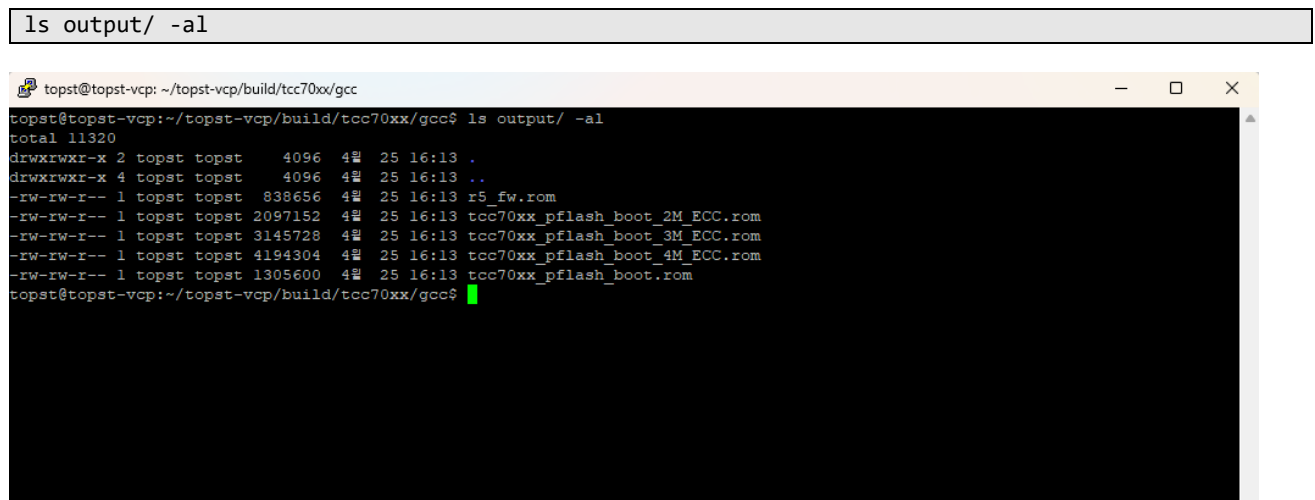
<OUTPUT FILE LIST>
../../gcc/output/tcc70xx_pflash_boot.rom
../../gcc/output/tcc70xx_pflash_boot_2M_ECC.rom
../../gcc/output/tcc70xx_pflash_boot_3M_ECC.rom
../../gcc/output/tcc70xx_pflash_boot_4M_ECC.rom

~/topst-vcp/build/tcc70xx/gcc
-----
Finished ...
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$

```

Figure 5.2 Verify Build Output

To check the list of output files, use the following command:



```

topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$ ls output/ -al
total 11320
drwxrwxr-x 2 topst topst  4096 4월 25 16:13 .
drwxrwxr-x 4 topst topst  4096 4월 25 16:13 ..
-rw-rw-r-- 1 topst topst 838656 4월 25 16:13 r5_fw.rom
-rw-rw-r-- 1 topst topst 2097152 4월 25 16:13 tcc70xx_pflash_boot_2M_ECC.rom
-rw-rw-r-- 1 topst topst 3145728 4월 25 16:13 tcc70xx_pflash_boot_3M_ECC.rom
-rw-rw-r-- 1 topst topst 4194304 4월 25 16:13 tcc70xx_pflash_boot_4M_ECC.rom
-rw-rw-r-- 1 topst topst 1305600 4월 25 16:13 tcc70xx_pflash_boot.rom
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$

```

Figure 5.3 Build Output File

6 FIRMWARE DOWNLOAD

This chapter describes how to download **FWDN** to the TOPST VCP-G board in a Linux-based development environment.

6.1 Prepare TOPST VCP-G

Before beginning the download process, ensure that the TOPST VCP-G board is in a stable position and free from any potential disturbances. Ensure that all switches and connectors are easily accessible and 3.3V power cable should be connect correctly.

6.2 Connect Hardware to Host PC

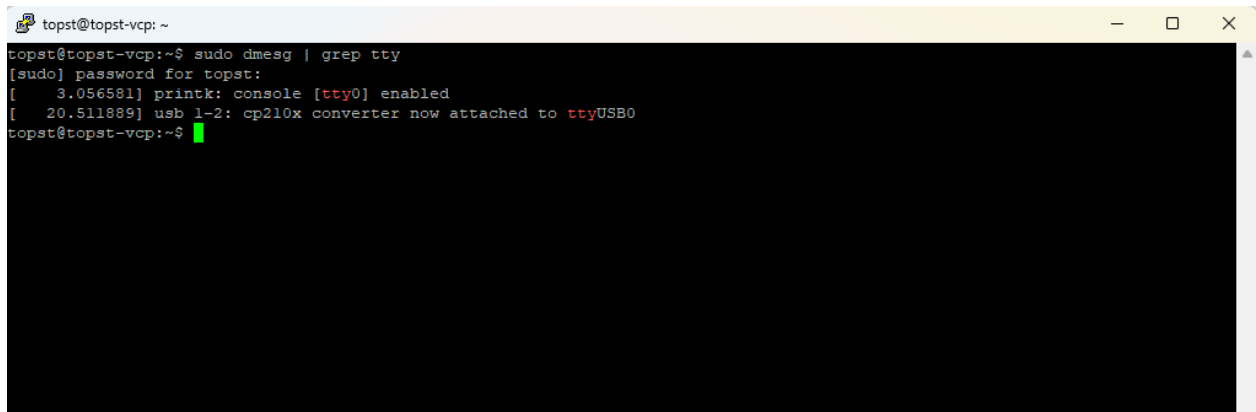
If you use Ubuntu host, proceed directly to step 3.

1. **Download usbipd-win:** usbipd-win project is required to use USB in WSL2.
Download usbipd-win from <https://learn.microsoft.com/ko-kr/windows/wsl/connect-usb#attach-a-usb-device>.
2. **Run PowerShell and attach the VCP-G (recognized as a COM port in Windows) to WSL2:**
Execute the following commands in Windows PowerShell (not Linux).

usbipd list
usbipd bind --busid 4-X
usbipd attach --wsl --busid <busid>

3. **Connect USB Type-C Cable:** Use a USB Type-C cable to connect the TOPST VCP-G board to the development host PC.
4. **Verify USB Connection:** In WSL2, execute the following commands.

sudo apt-get install usbutils && lsusb
sudo dmesg grep tty



```
topst@topst-vcp: ~  
topst@topst-vcp:~$ sudo dmesg | grep tty  
[sudo] password for topst:  
[ 3.056581] printk: console [tty0] enabled  
[ 20.511889] usb 1-2: cp210x converter now attached to ttyUSB0  
topst@topst-vcp:~$
```

Figure 6.1 Verify USB Connection

If the output displayed in Figure 6.1 appears, the connection is successfully established.

6.3 Download Software on TOPST VCP-G Board

1. **Set the Board to Download Mode:** Connect the power cable to the TOPST VCP-G board while pressing the FWDN switch.

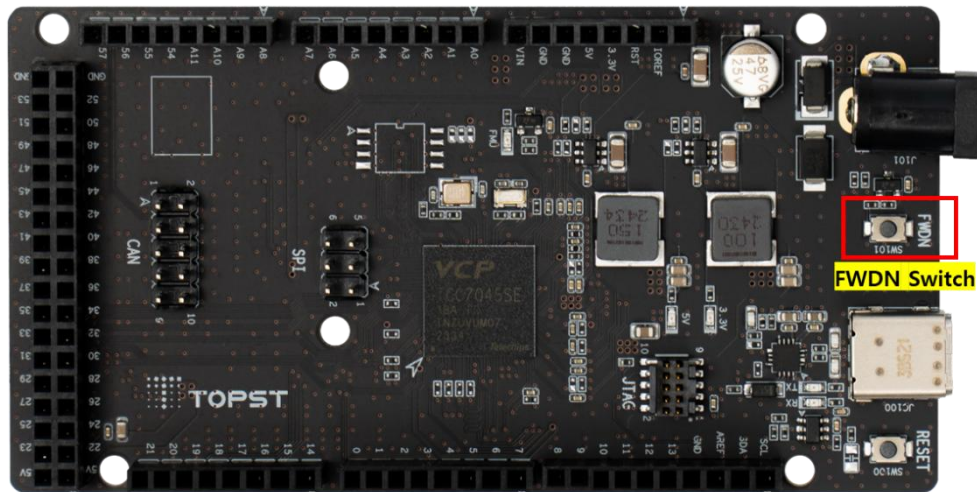


Figure 6.2 Set Board to Download Mode

2. **Execute the Download Command:** Use **FWDN** to download the built software to the 4 MB flash on the VCP-G board.

```
sudo ../../tools/fwdn_vcp/fwdn --fwdn ../../tools/fwdn_vcp/vcp_fwdn.rom -w
output/tcc70xx_pflash_boot_4M_ECC.rom
```

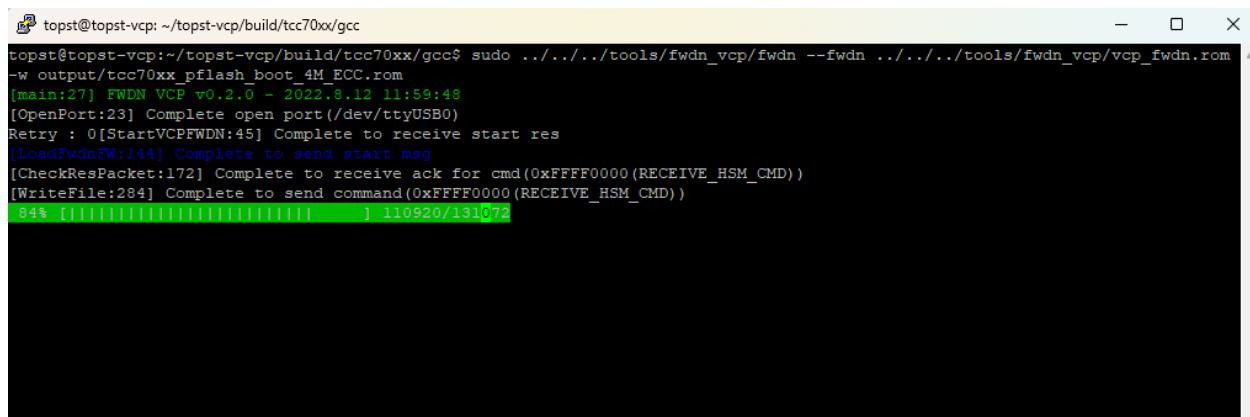


Figure 6.3 Execute Download Command

3. **Reset the Board:** After the download process is complete, disconnect and reconnect the power cable.

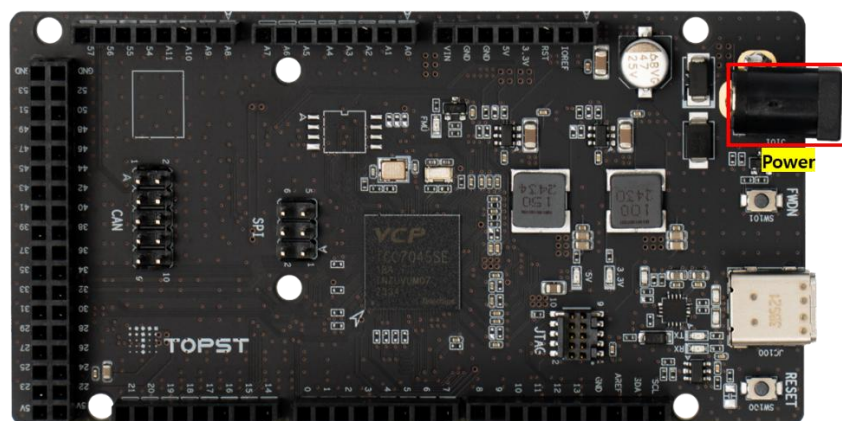


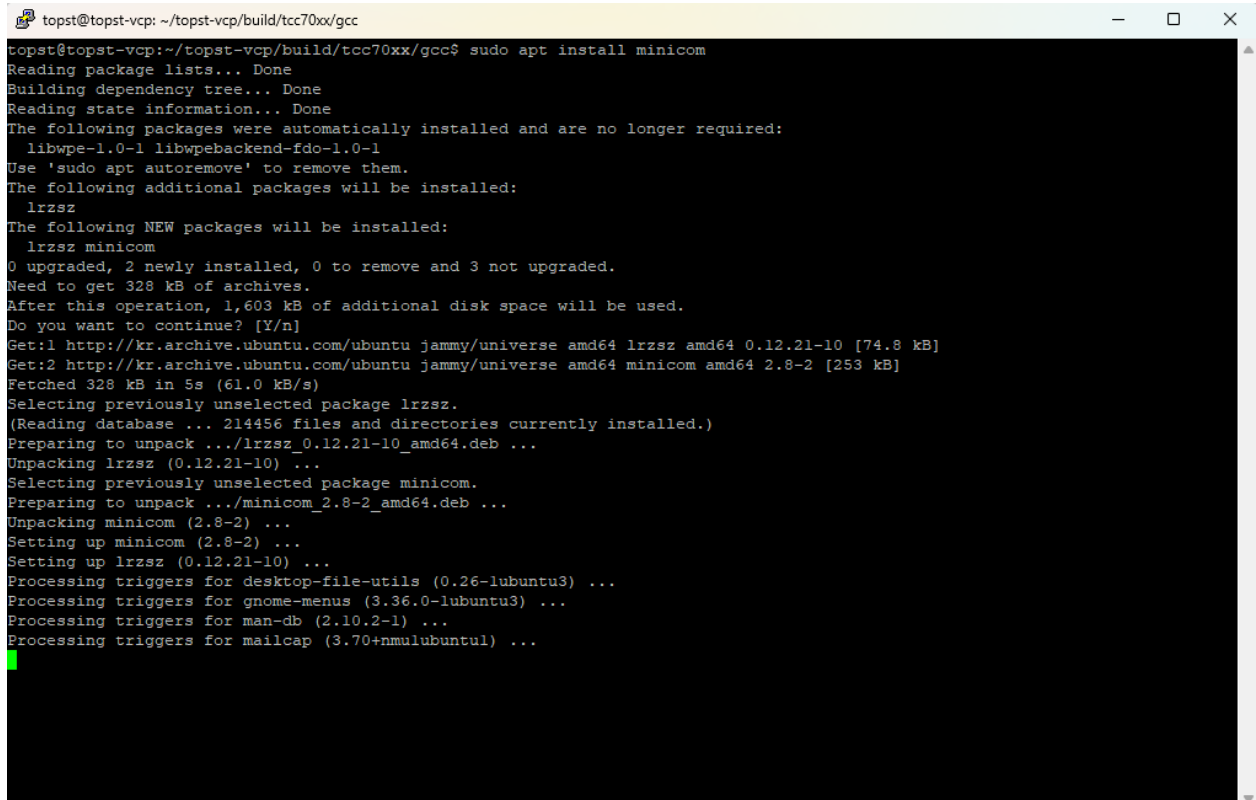
Figure 6.4 Reset the Board

6.4 Verify Software on Board

After downloading the software to the board, follow these steps to verify that it is operating correctly.

1. Install Minicom

```
sudo apt install minicom
```

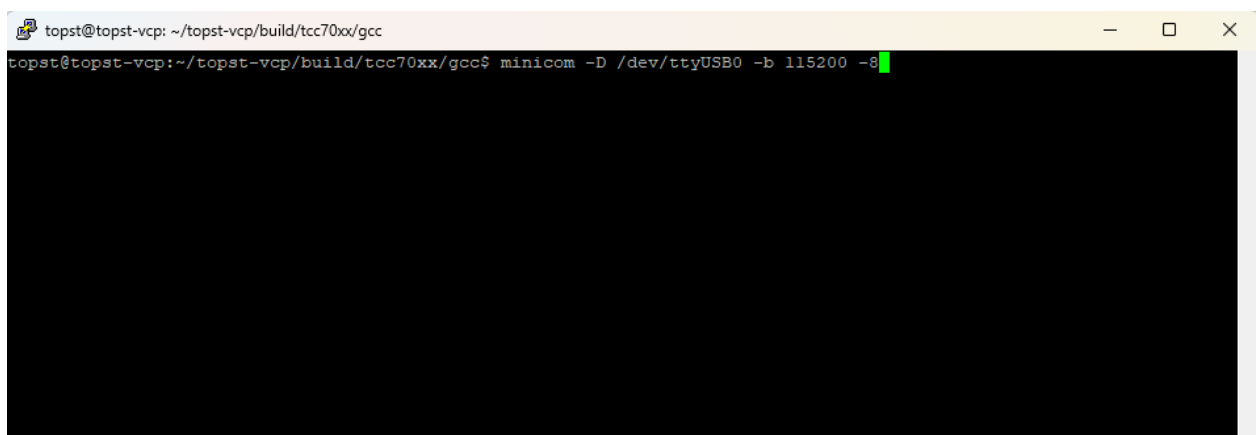


```
topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$ sudo apt install minicom
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  lrzsz
The following NEW packages will be installed:
  lrzsz minicom
0 upgraded, 2 newly installed, 0 to remove and 3 not upgraded.
Need to get 328 kB of archives.
After this operation, 1,603 kB of additional disk space will be used.
Do you want to continue? [Y/n]
Get:1 http://kr.archive.ubuntu.com/ubuntu jammy/universe amd64 lrzsz amd64 0.12.21-10 [74.8 kB]
Get:2 http://kr.archive.ubuntu.com/ubuntu jammy/universe amd64 minicom amd64 2.8-2 [253 kB]
Fetched 328 kB in 5s (61.0 kB/s)
Selecting previously unselected package lrzsz.
(Reading database ... 214456 files and directories currently installed.)
Preparing to unpack .../lrzsz_0.12.21-10_amd64.deb ...
Unpacking lrzsz (0.12.21-10) ...
Selecting previously unselected package minicom.
Preparing to unpack .../minicom_2.8-2_amd64.deb ...
Unpacking minicom (2.8-2) ...
Setting up minicom (2.8-2) ...
Setting up lrzsz (0.12.21-10) ...
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for mailcap (3.70+nmulubuntul) ...
```

Figure 6.5 Install Minicom

2. Open a Serial Connection: Use the following command to initiate a serial connection.

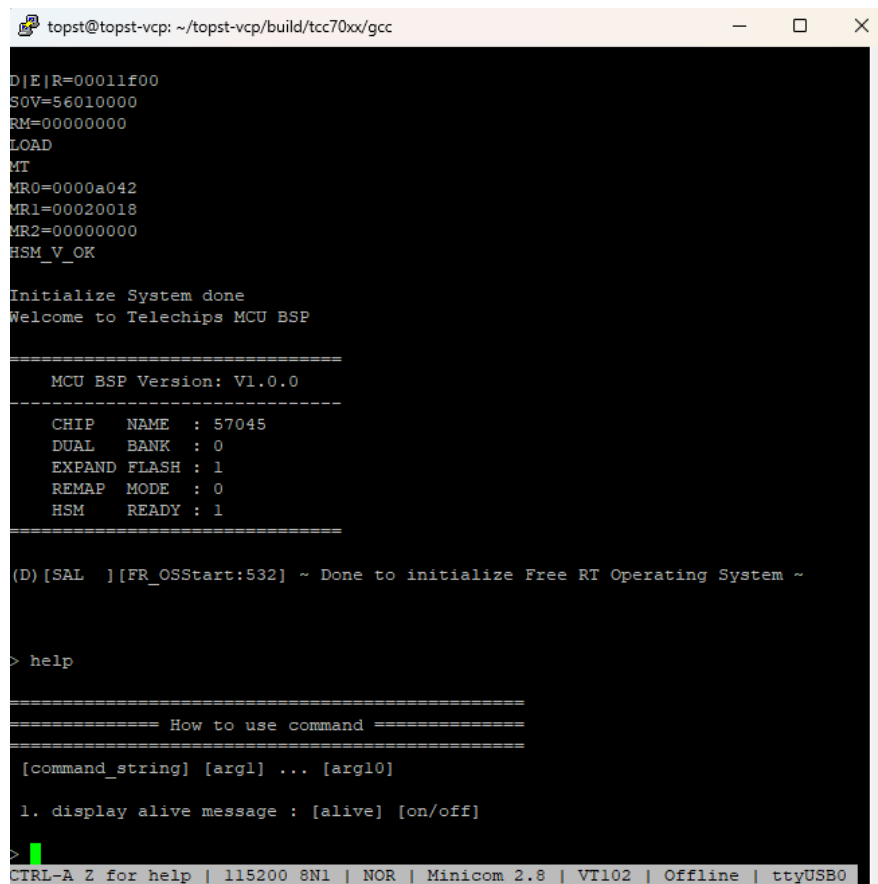
```
minicom -D /dev/ttyUSB0 -b 115200 -8
```



```
topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc
topst@topst-vcp:~/topst-vcp/build/tcc70xx/gcc$ minicom -D /dev/ttyUSB0 -b 115200 -8
```

Figure 6.6 Open Serial Connection

After completing steps 1 and 2, the following output appears on the terminal. If the connection is successful, the board should respond to interactions, confirming that the software is downloaded and is operating correctly on the TOPST VCP-G board.



```
topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc
D|E|R=00011f00
SOV=56010000
RM=00000000
LOAD
MT
MR0=0000a042
MR1=00020018
MR2=00000000
HSM_V_OK

Initialize System done
Welcome to Telechips MCU BSP

=====
MCU BSP Version: V1.0.0
=====

CHIP  NAME  : 57045
DUAL  BANK  : 0
EXPAND FLASH : 1
REMAP  MODE  : 0
HSM    READY : 1
=====

(D)[SAL ][FR_OSStart:532] ~ Done to initialize Free RT Operating System ~

> help

===== How to use command =====
[command_string] [arg1] ... [arg10]

1. display alive message : [alive] [on/off]

>
```

CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.8 | VT102 | Offline | ttyUSB0

Figure 6.7 Open Serial Connection

6.5 Troubleshooting Common Issues

This chapter provides solutions to common issues encountered while working with the TOPST VCP-G board.

Issue : The *FWDN* reports a lack of permission to access the ttyUSB0 device.

Solution : This issue occurs when your user account (**\$USER**) does not have the necessary permissions to access serial devices. To resolve this, add the user account to the dialout group.

1. **Modify User Group Permissions:** Execute the following command.

```
sudo usermod -aG dialout $USER
```

2. **Log Out and Log Back In:** Log out of the current session and log back in to apply the changes. After this, try accessing the ttyUSB0 device again.

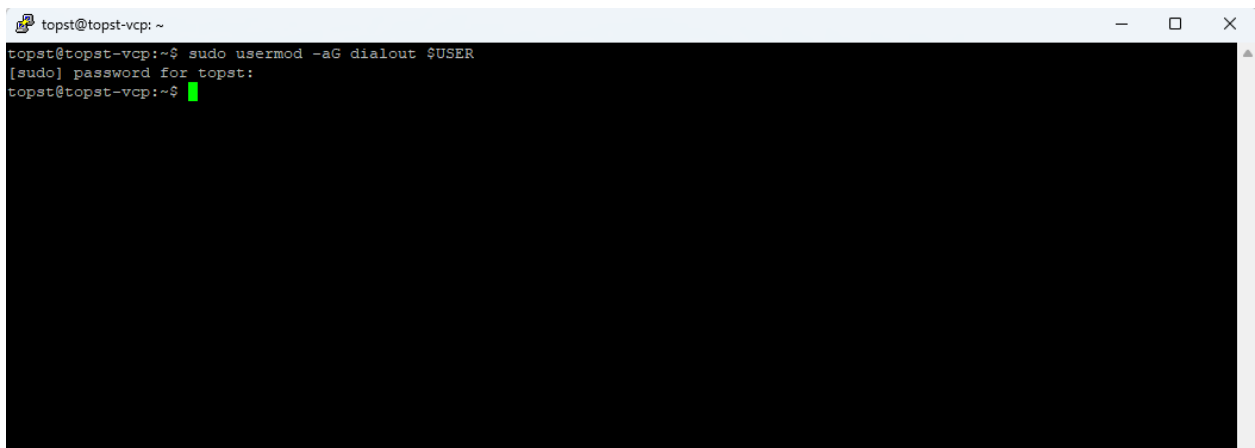


Figure 6.8 Modify User Group Permissions

Issue : When using minicom, there is no proper communication or irregular behavior with the TOPST VCP-G board.

Solution : This issue may occur if minicom’s default flow control setting is set to **hardware**. The hardware flow control must be set to **No** for proper operation

1. **Start Minicom:** Use the following command.

```
minicom -D /dev/ttyUSB0 -b 115200 -8
```

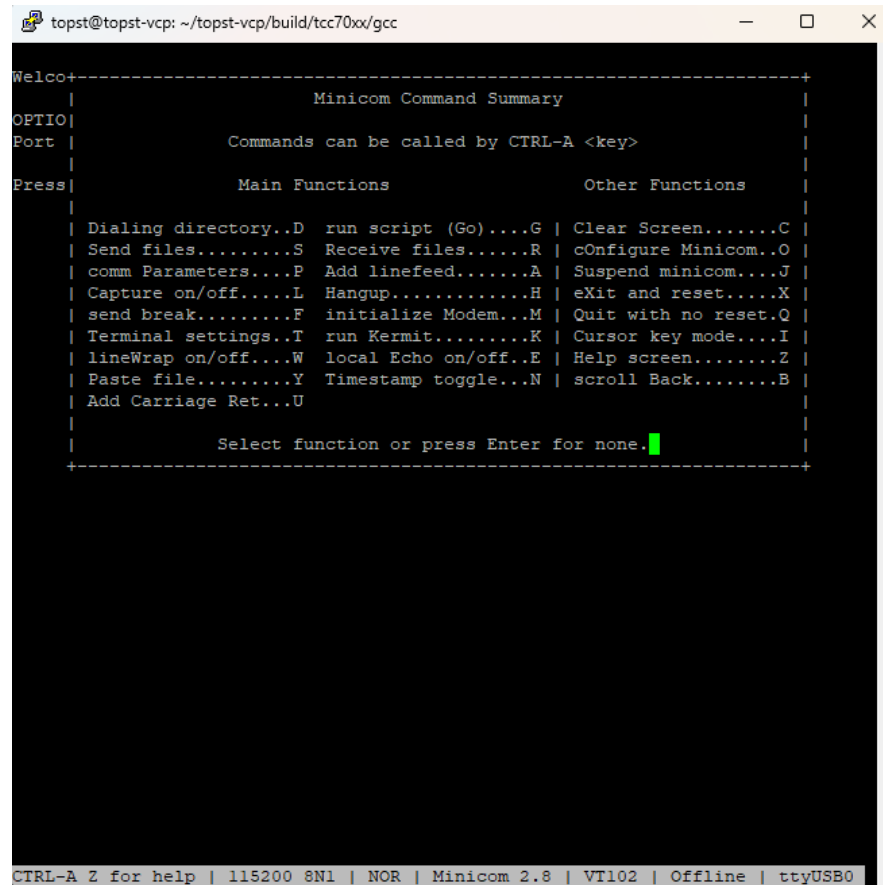
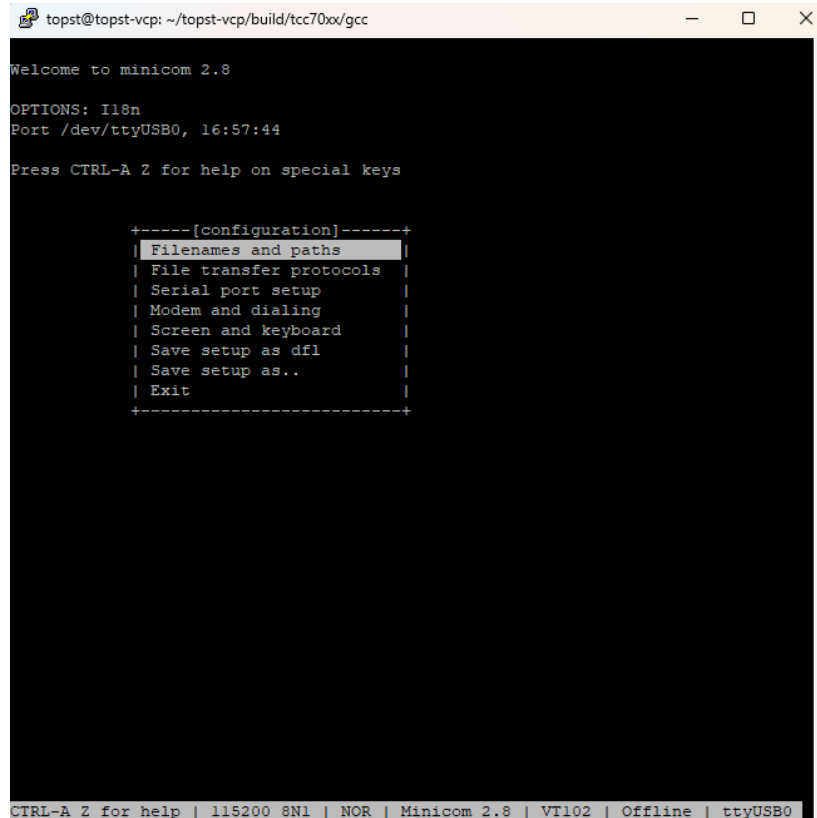


Figure 6.9 Launch Minicom

2. **Access the Setup Screen:** While in minicom, press **Ctrl-A** then press **o** to open the setup menu.



```

topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc

Welcome to minicom 2.8

OPTIONS: I18n
Port /dev/ttyUSB0, 16:57:44

Press CTRL-A Z for help on special keys

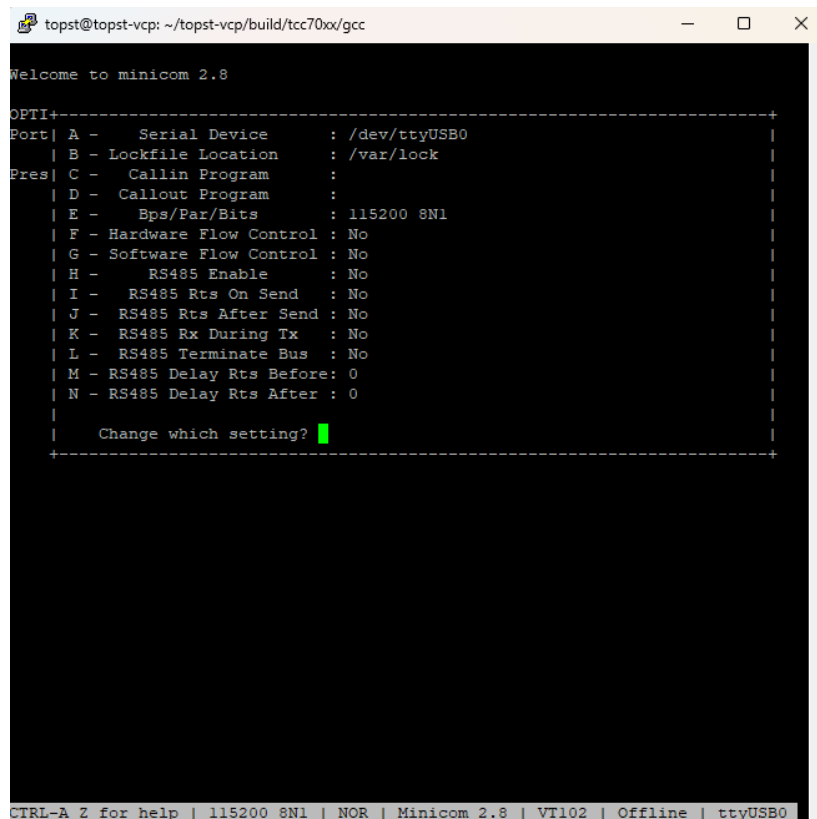
+-----[configuration]-----+
| Filenames and paths          |
| File transfer protocols      |
| Serial port setup           |
| Modem and dialing           |
| Screen and keyboard          |
| Save setup as dfl           |
| Save setup as..             |
| Exit                         |
+-----+

CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.8 | VT102 | Offline | ttyUSB0

```

Figure 6.10 Access Set up Screen

3. **Navigate to Serial Port Setup:** Select **Serial port setup** from the options.
4. **Modify Flow Control:** Inside the serial port setup, press **F** to set the hardware flow control to **No**.



```

topst@topst-vcp: ~/topst-vcp/build/tcc70xx/gcc

Welcome to minicom 2.8

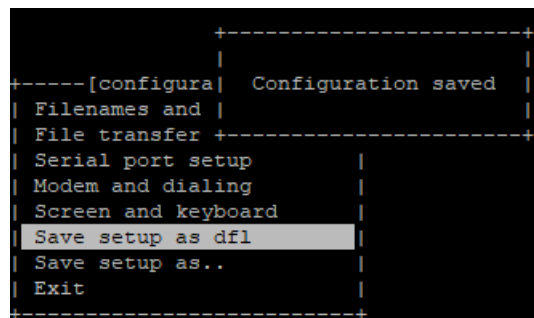
-----+-----
Port| A - Serial Device      : /dev/ttyUSB0
| B - Lockfile Location  : /var/lock
Pres| C - Callin Program     :
| D - Callout Program    :
| E - Bps/Par/Bits       : 115200 8N1
| F - Hardware Flow Control : No
| G - Software Flow Control : No
| H - RS485 Enable       : No
| I - RS485 Rts On Send  : No
| J - RS485 Rts After Send : No
| K - RS485 Rx During Tx : No
| L - RS485 Terminate Bus : No
| M - RS485 Delay Rts Before: 0
| N - RS485 Delay Rts After : 0
|
| Change which setting?
+-----+

CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.8 | VT102 | Offline | ttyUSB0

```

Figure 6.11 Modify Flow Control

5. **Exit and Save:** Exit the setup and save the configuration. Minicom should now communicate properly with the TOPST VCP-G board.



```
+-----+
|               |
+-----[configura| Configuration saved |
| Filenames and |               |
| File transfer +-----+
| Serial port setup      |
| Modem and dialing      |
| Screen and keyboard    |
| Save setup as dfl      |
| Save setup as..       |
| Exit                   |
+-----+
```

Figure 6.12 Save and Exit

Note: If you are using a different serial communication tool instead of minicom, ensure its flow control setting is also set to **no** for proper operation.

7 REFERENCES

[1] Contact TOPST for more details: topst@topst.ai

Note: Reference documents can be provided whenever available, depending on the terms of a contract. If the reference documents are unavailable, the contents directly related to your development can be guided.

8 REVISION HISTORY

Rev. 1.00: 2025-02-xx

- Official version release

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