



HY16F Series
IDE Software Instruction Manual
(AndeSightV3.x)

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1. IDE Software Introduction

HY16F IDE(Integrated Development Environment) software developmental instrument has adopted AndeSight RDS as its version, which has integrated and developed an environment for the new generation in Andes Technology. It supports the latest 32 Bit CPU core (N801&E801), which suffices the requirements for MCU clients to develop rapidly. AndeSight IDE Software adopts the interface developed by Andes Technology. The software is based on Eclipse IDE combining external member and module of GCC GNU CCompiler and GDB Debugger. Many firmware programmers are already accustomed to develop program through IDE software. For them, it becomes extremely difficult to use GCC compiler and GDB debugger by Command Line approach only. However, AndeSight IDE possesses a strong and lucid graphical operation interface, which is easy to get started and for further concentrated on product development.

2. IDE System Requirement

Minimum system disposition required by operating AndeSight RDS IDE:

(1) PC/NB Hardware Requirement

- (1.1) X86 System CPU Compatible to IBM PC
- (1.2) 4 GB DDR Memory
- (1.3) 8 GB HD Hard Disk Drive Capacity

(2) Supporting Product Model:

- (2.1) HY16F391x Series (HY16F3910/HY16F3913)

(3) Hardware Supporting Model:

- (3.1) HY16F3910 Series Developmental instrument, HY16F3910-DK0x series Development

(4) Software Supporting Version:

- (4.1) AndeSightV3.2.1RDS version
- (4.2) HYCON 32-bit MCU DeviceV0.29

(5) Operation System Requirement:

Win XP (32-Bit), Win 7 (32/64-Bit), Win 8 (32/64-Bit), Win10 (32/64-Bit).

3. IDE Software Installation

3.1. Software Installation

Include major programs of AndeSight RDS and HYCON HY16F patches. Please install **AndeSightV3.2.xRDS** in the compact disk first. Upon installation completion, please install additional **HYCON 32 bit MCU DeviceV0.xx.exe** program, so as to increase settings in HYCON HY16F developmental environment. Users are asked to execute through following the installation steps.

Regarding to access authority in Windows 7 Operating System above, administrator visit permission is required before computer software can be installed.

3.2. HY16F Series IDE Installation

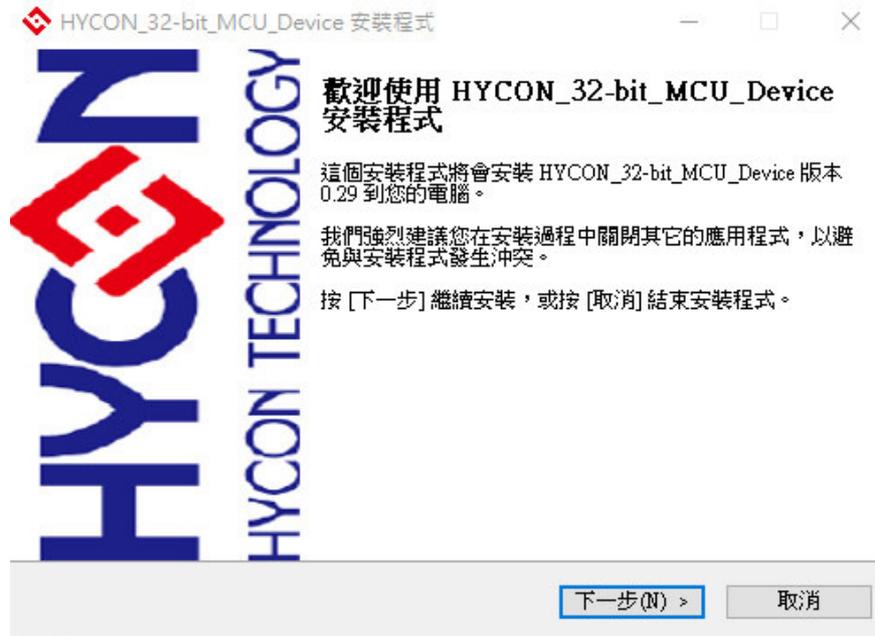
Execute Setup.exe executable file. Just click next step, click ok and choose an installation path until installation is completed.



3.3. HY16F Series Device Installation

After installing **AndeSightV3.2.xRDS** related software, install HYCON HY16F main program (HYCON 32-bit MCU DeviceV0.xx.exe).

Note: The installation paths of the two must be the same. The following figure shows the installation of HYCON 32-bit MCU DeviceV0.29.



4. IDE Software Registration

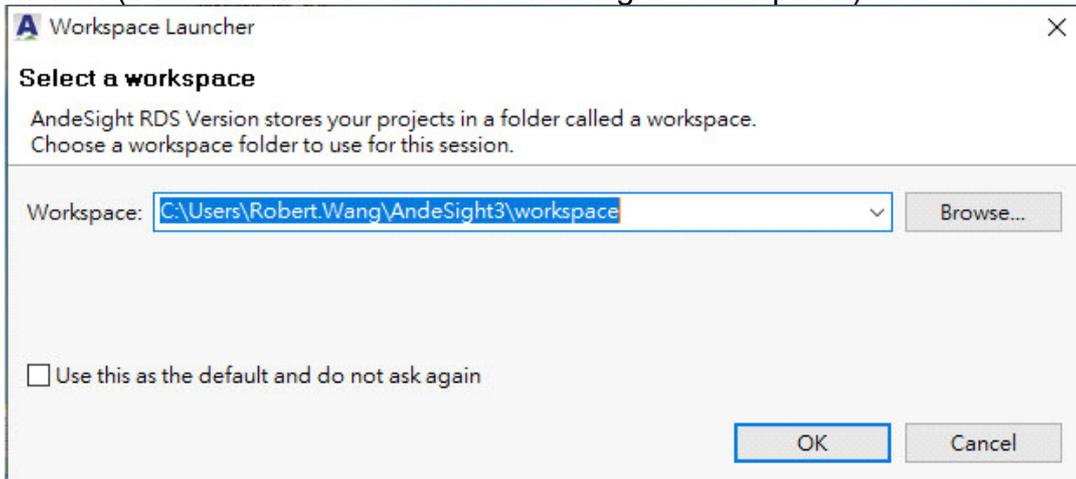
Execute AdeSight.exe under AndeSight_RDS_v32x Official on the desktop or the start program and it should be noted that some of the above operating systems Windows 7, due to a permissions problem when executed in a computer software, you need administrator access permissions to normal execution.

4.1. Software Opening

※A: This is the opening screen for IDE software.



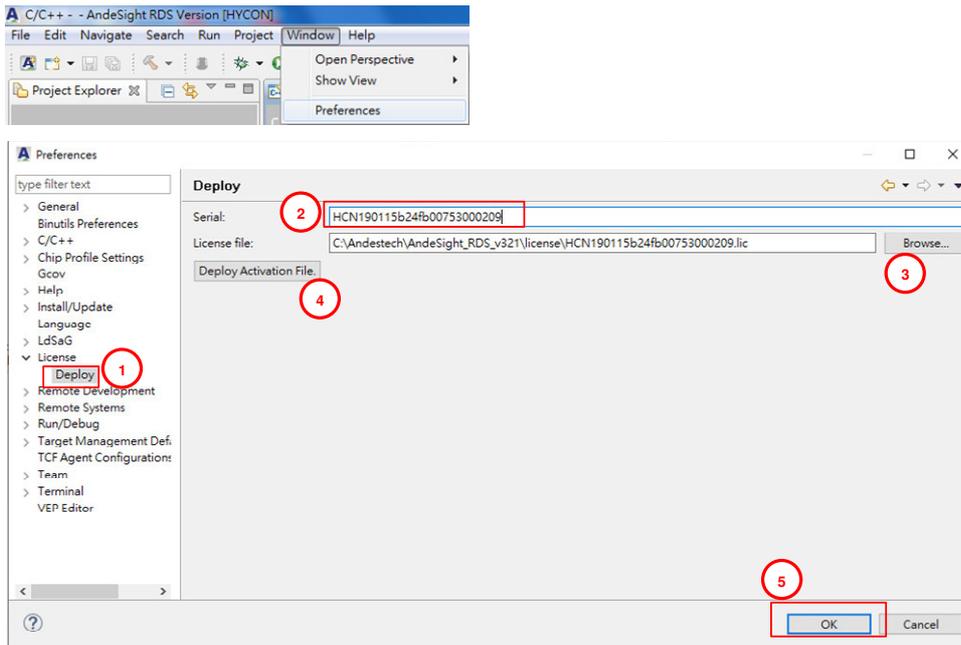
※B: This is the storage path selection for all projects. Users are free to make personal decisions. (Default Path: C:\Users\xxx\AndeSight3\workspace.)



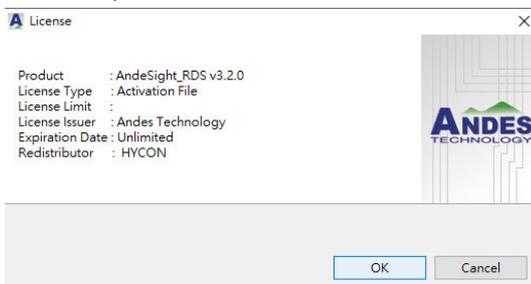
4.2. Software Registration

Find out the registration document HCN190115b24fb00753000209.lic in the installation path. Ex (install AndeSightV3.2.1RDS): Install software in the default path C:, the registration document in C:\Andestech\AndeSight_RDS_v321\license

Find out License file and copy the registration document name, only need to copy serial number HCN190115b24fb00753000209. Open up AndeSight RDS software and find out Preferences under Windows. Follow the below registration steps to finish the software registration.



- (1) Click License, select Deploy
- (2) Input Serial: HCN190115b24fb00753000209
- (3) Search for File of license through Browse
C:\Andestech\AndeSight_RDS_v321\license\ HCN190115b24fb00753000209.lic
- (4) Click Deploy Activation File to execute software certification (please make sure to enforce).



- (5) Click OK for confirmation.

Don't need to register every time open the software after finishing the registration.

5. HY16F Mini Link Driver Connection

After software installation, HY16F Mini Link can be connected, USB drive program in AICE is required to be installed in this moment.

Ex (install AndeSightV3.2.1RDS) drive program is to be installed in:

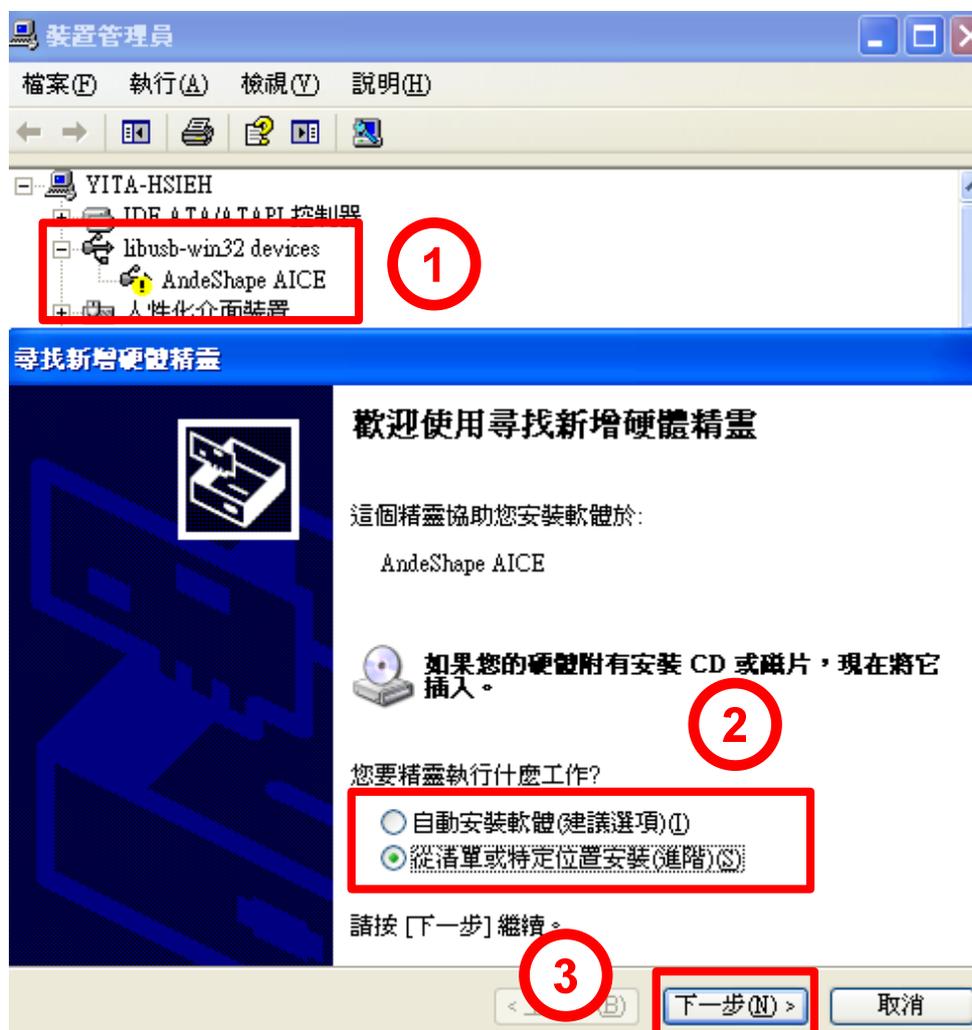
C:\Andestech\AndeSight_RDS_v321\ice\libusb-AICE-driver

5.1. HY16F Mini Link Driver Installation Instructions

※01 : As illustrated below, administrator is required to be installed in PC, so as to see the drive success in this item.

※02 : Path for installation can be selected, AICE drive program.

※03 : Click next step until installation is completed.

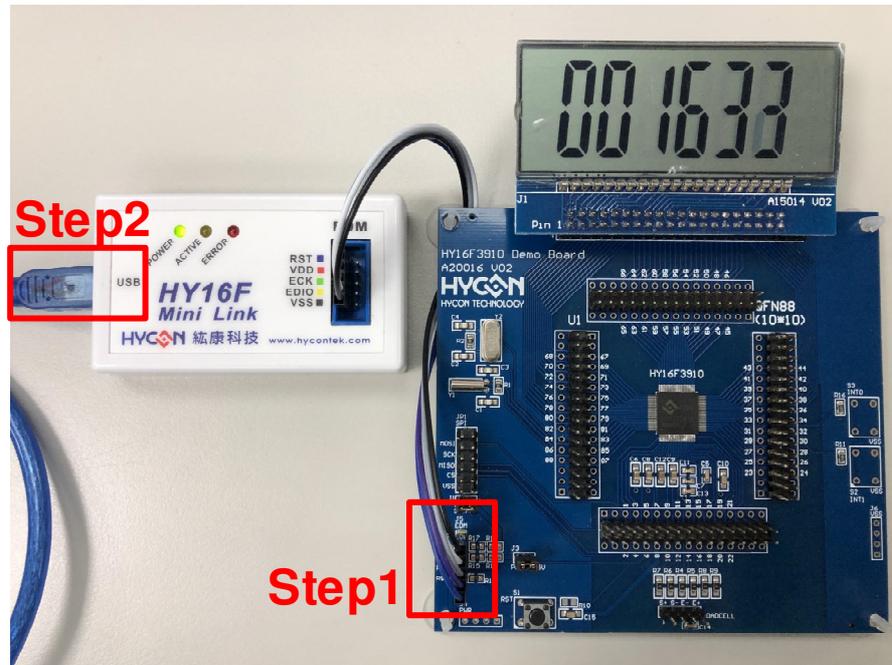


5.2. Connection HY16F Mini Link and target board Development Tools description

Step1: EDM Wire connects to HY16F Mini Link and Target Board.

Step2: PC 's USB Port connect to Mini Link USB connector.

Target in chart below is HY16F3910-DK01 product connection illustration. Different products have different connection locations.



6. IDE Project Setting

6.1. Newly Established Project (In HY16F3910 project as an example)

Step1: Click Andes Project Creator.

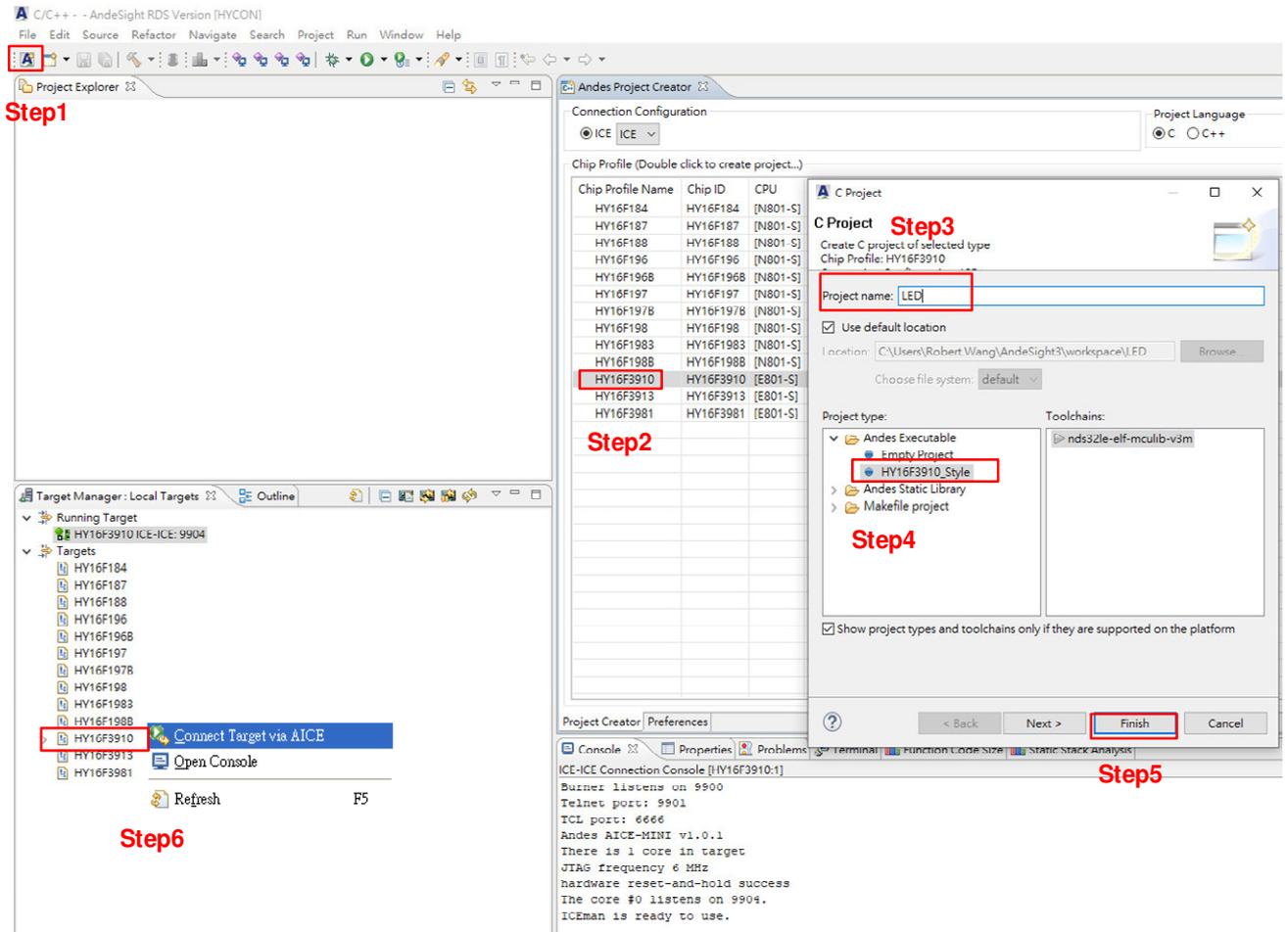
Step2: Double click HY16F3910.

Step3: Denominate the Project Name: LED.

Step4: Select HY16F3910_Style.

Step5: Click Finish after confirmation.

Step6: Select HY16F3910 in the Target and right click to connect HY16F3910.



The screenshot displays the AndeSight IDE interface with several windows and panels. The 'Andes Project Creator' dialog is open, showing a table of chip profiles. The 'C Project' configuration window is also open, showing the project name 'LED' and the selected project type 'HY16F3910_Style'. The 'Target Manager' shows a list of targets, with 'HY16F3910' selected and a context menu open showing 'Connect Target via AICE'. The 'Console' window shows the connection status for the HY16F3910 target.

Chip Profile Name	Chip ID	CPU
HY16F184	HY16F184	[N801-S]
HY16F187	HY16F187	[N801-S]
HY16F188	HY16F188	[N801-S]
HY16F196	HY16F196	[N801-S]
HY16F196B	HY16F196B	[N801-S]
HY16F197	HY16F197	[N801-S]
HY16F197B	HY16F197B	[N801-S]
HY16F198	HY16F198	[N801-S]
HY16F198B	HY16F198B	[N801-S]
HY16F1988	HY16F1988	[N801-S]
HY16F3910	HY16F3910	[E801-S]
HY16F3913	HY16F3913	[E801-S]
HY16F3981	HY16F3981	[E801-S]

```

ICE-ICE Connection Console [HY16F3910:1]
Burner listens on 9900
Telnet port: 9901
TCL port: 6666
Andes AICE-MINI v1.0.1
There is 1 core in target
JTAG frequency 6 MHz
hardware reset-and-hold success
The core #0 listens on 9904.
ICEman is ready to use.
    
```

6.2. Old File Opening

Step1: Select File.

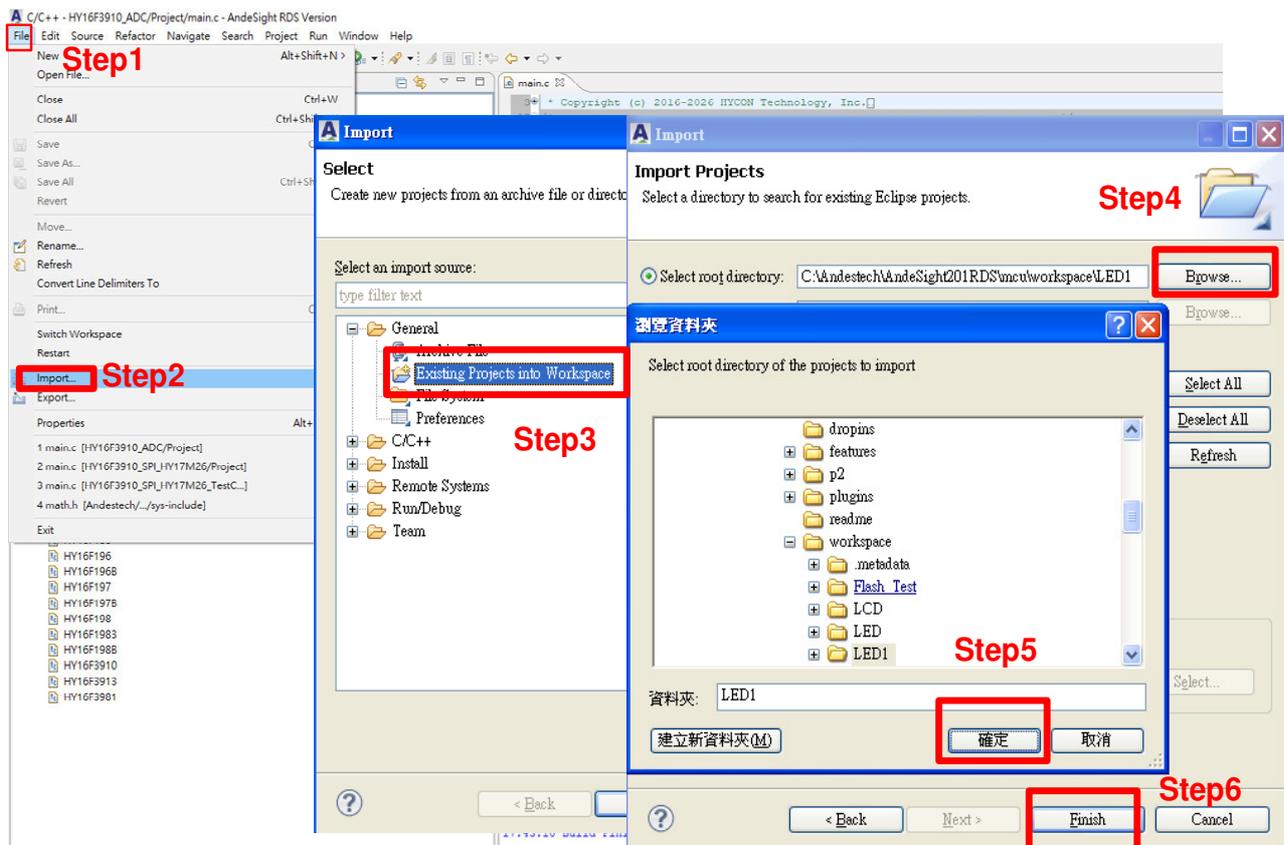
Step2: Click Import.

Step3: Select Existing Projects into Workspace.

Step4: Click Browse.

Step5: Choose the old file you want to open below Workspace Folder. Click Okay upon confirmation.

Step6: Click Finish to complete old project opening.



6.3. Program Writing

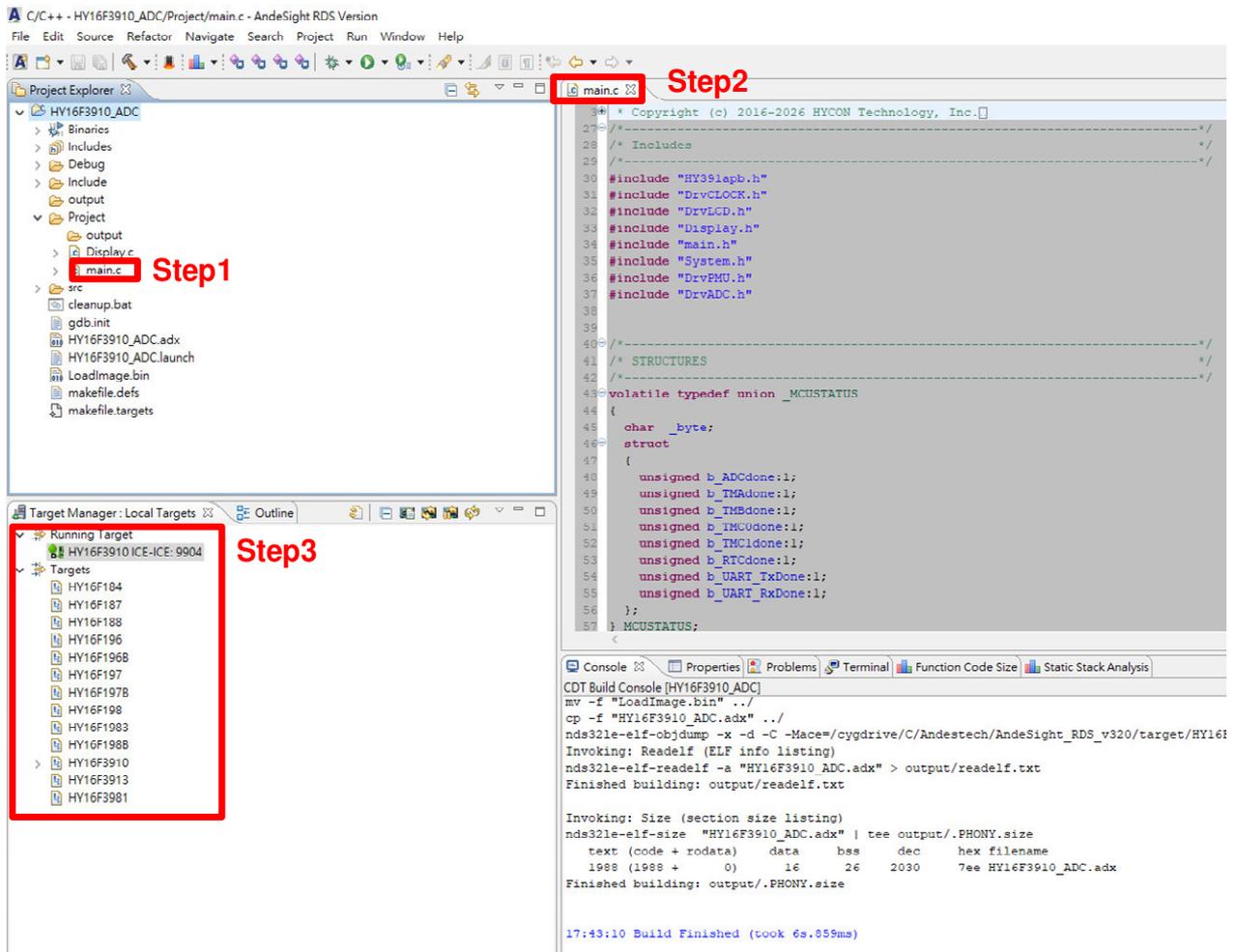
Step1: Select Project and double click main.c.

Step2: User can write the C programming language or assembly language under main.c screen.

Step3: Chip connection can be selected, right click to select Connect Target via AICE.

In addition, the following can be chosen.

- (1) From Problem next to Console, user can decide whether there are wrongful messages.
- (2) Include file is able to add file .h here.
- (3) C programs other than main.c can be put in src folder, such as Display.c.

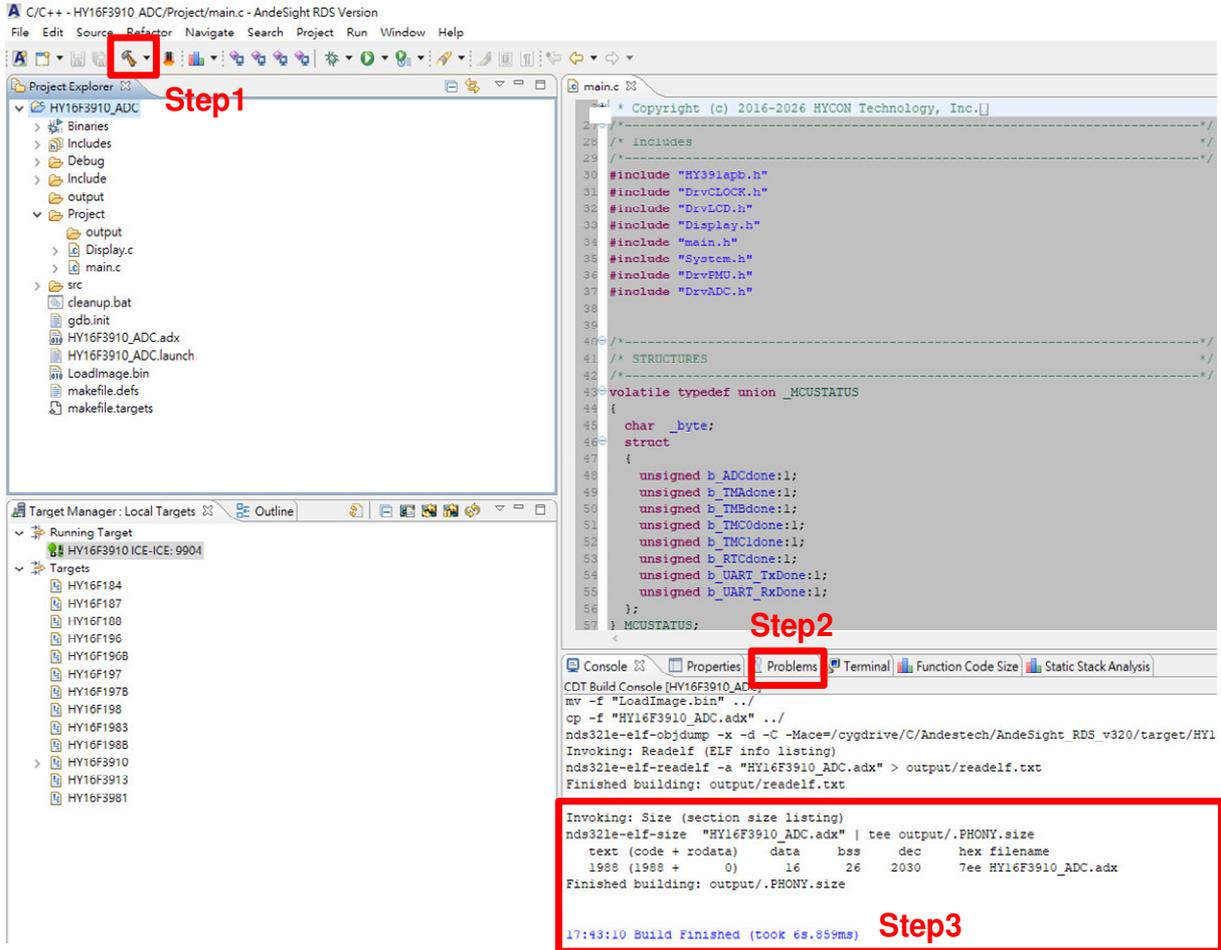


6.4. Program Compiling

Step1: Select illustration Build All. The same can be selected under Project.

Step2: Problems can be selected to see if there are wrongful messages.

Step3: By observing Console, users can confirm that Flash usage amount is text=1988 bytes and SRAM usage amount is data=16 bytes.



6.5. Chip Burning

Step1: Select output under Debug before choosing

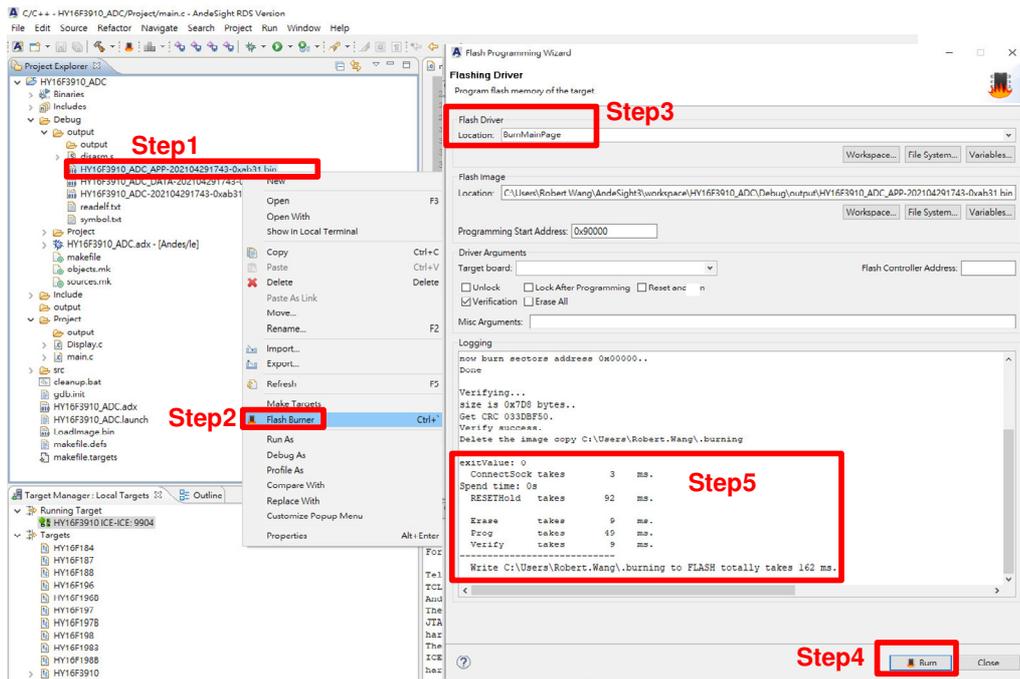
HY16F3910_ADC_APP-202104291743-0xab31.bin.

Step2: Select .bin and click on the right button before clicking Flash Burner.

Step3: Default burner has been set. Don't move unless necessary.

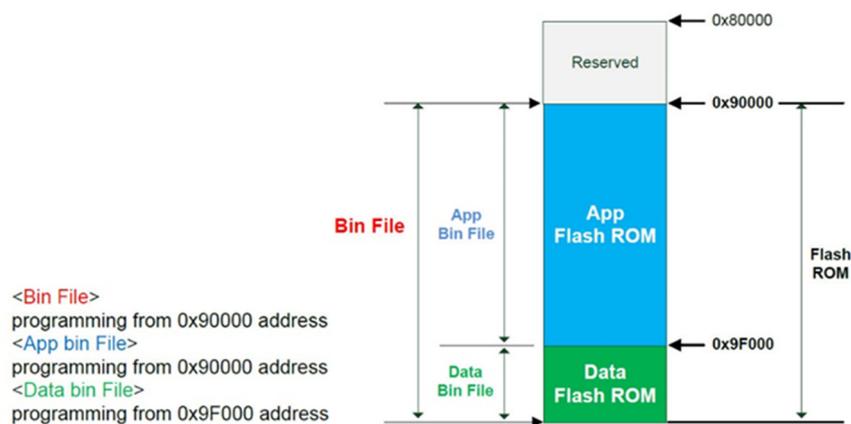
Step4: Click Burn to conduct immediate burning.

Step5: By observing Logging screen, users can see if the burning were successful and grasp the total burning time.



HY16F Series Programming Area Description:

1. App Bin File: This programmed code is generated by the user application program, programmed in the chip's App Flash ROM area, this code is necessary during the programming.
2. Data Bin File: This programmed code is generated by the user own fixed parameters or calibration parameters, programmed in the chip's Data Flash ROM area, this code is no necessary, depending on the actual needs of customers.
3. App Bin and Data Bin is separated by the BIN File, the purpose is to do the application of partition programming, if you do not need to do partition programming, you can directly use the BIN file to replace the App Bin file.



6.6. Debug Mode

Set default stopping point under Debug mode.

Step1: Click the droplist before choosing Debug Configuration.

Step2: Select MCU Program(YELLOW BUG).

Note: Please don't select Application Program(RED BUG), select RED BUG to make debug error.



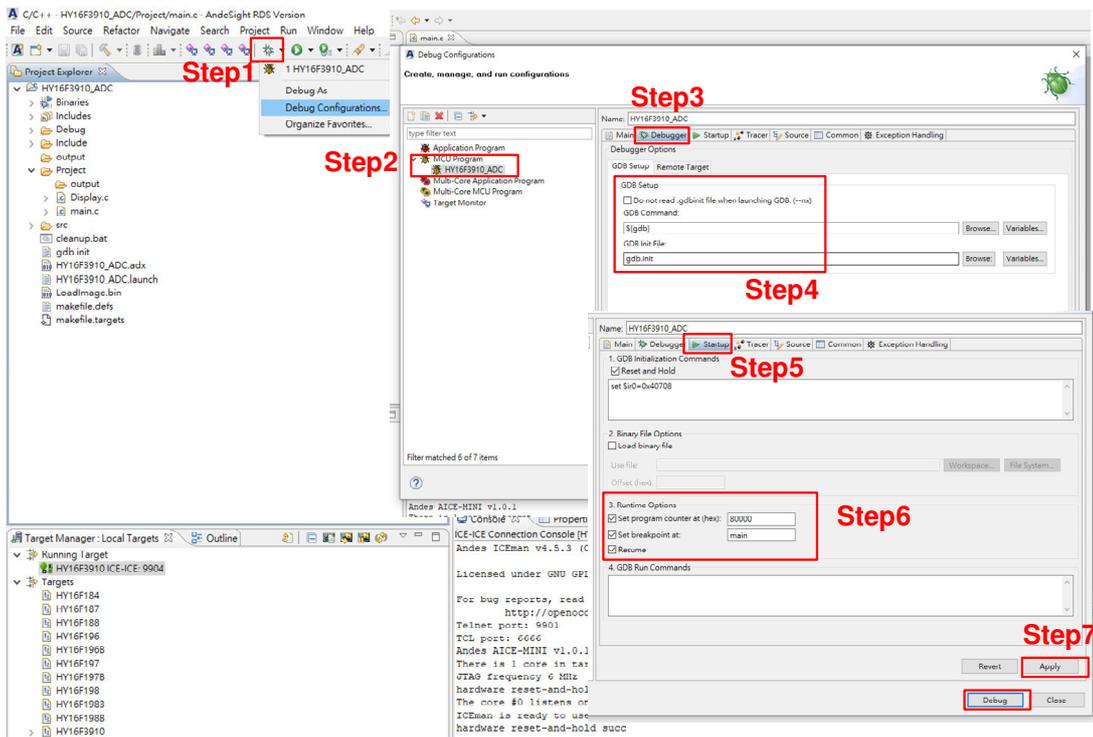
Step3: Select Debugger.

Step4: Select GDB Setup, input GDB Lnit File: gdb.init

Step5: Select Startup

Step6: Put a tick by Reset and Hold, Put a tick by Resume. Set 80000 and main in "3.Runtime Options".

Step7: Click Apply and Debug to enter the debug mode.



Note: If user had selected RED BUG to make debug error. Suggest to delete Debug file. And then, re-build project and re-create Debug Configuration, please follow above Step1~7 in detail.

6.7. Function List

Step1: Double click the Main program. For example, by double clicking the 24th row, a blue breakpoint can be developed.

Step2: Regarding to selection ABCDEFGH in the Debug mode: A (Software Resetting) / B (Free Run) / C (Pause) / D (Exit) / E (Step Into) / F (Step Over) / G (Jump Out) / H (Assembly Language can be single executed.) (Only the C Programming Language can be single executed after cancellation.)



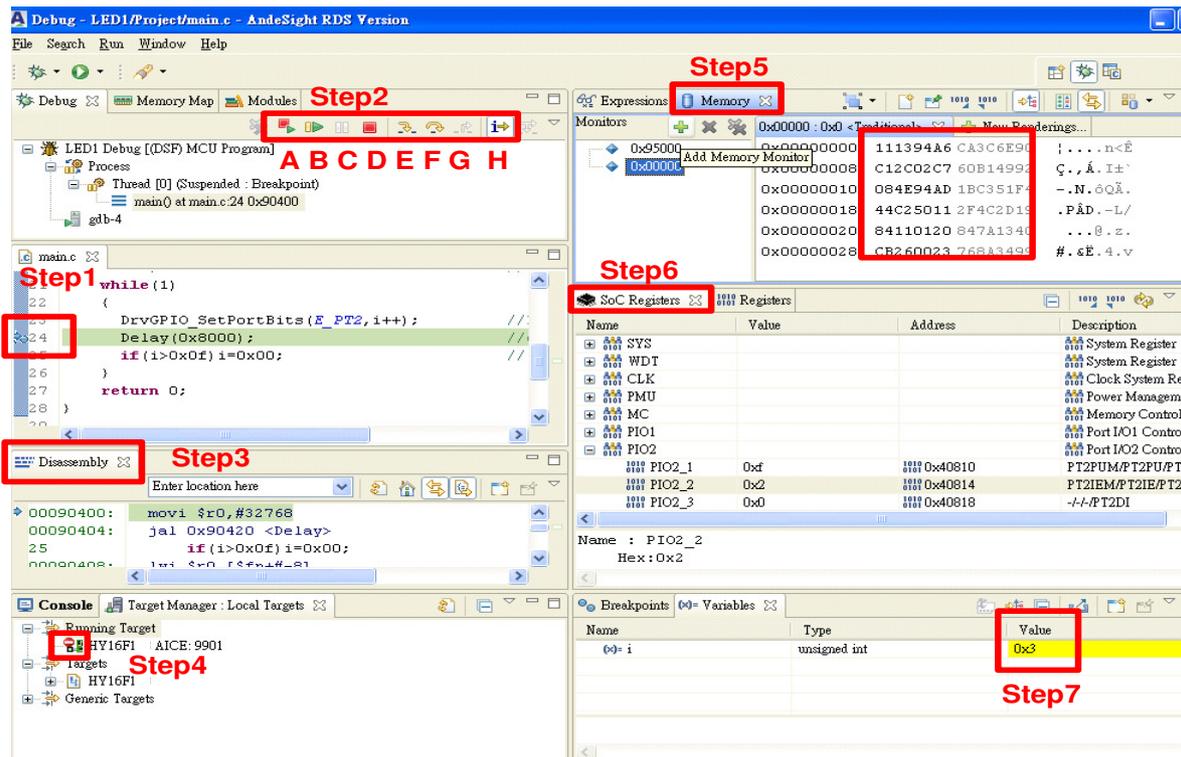
Step3: Observe assembly language instruction.

Step4: Ensure that the chip is presented in Debug mode, with a stop sign being displayed.

Step5: SRAM can be observed in the memory screen.

Step6: All IP Register Screens.

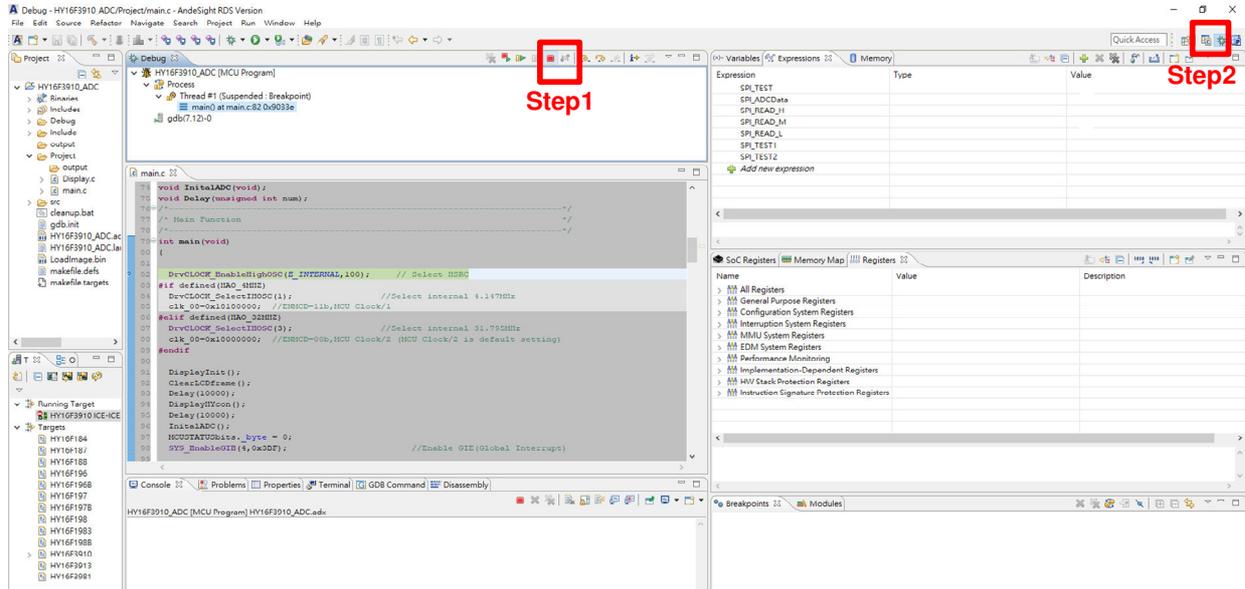
Step7: From variable screen, variables in C language can be observed.



6.8. Offline Function

Step1: After confirming the correctness in Debug mode, click exit button to leave. Under this moment, chip will exit debug mode.

Step2: Debug mode and compiling mode can be switched.



7. IDE Software Uninstalling

Enter “Add/Remove Windows Component” in the control console to remove the programs below.

To remove HYCON 32-bit MCU DeviceV0.xx, please select HYCON_32-bit_MCU_DeviceV0.xx.

To remove AndeSight installation program, please select AndeSight_RDS_v32x before choosing program removal.

8. Q&A

8.1. How to close Win10 digital signature

Error Message Record

Building and debugging is OK in Windows 8 64-bit, but there is an issue in the installation, that is, we use lib usb (an open source USB driver) for ICE man, but it is not signed for Windows 8. Before users install AndeSight, they need to disable this check by the following steps:

PS: The above message means that when installing AndeShape AICE driver might be failed, you need to manually close the digital signature and then perform driver installation again.

Solution Approach (In Win10 as an example):

Step1: Press the lower left corner of the desktop Start menu , Select "Settings" option.
(refer to the figure)



Step2: Click "Update & security" option.



Step3:

1. First click on the left of the "Recovery" option.
2. Then click to the right of the "Restart now" button.



Step4: Select "Troubleshoot" option.



Step5: Select "Advanced options" option.



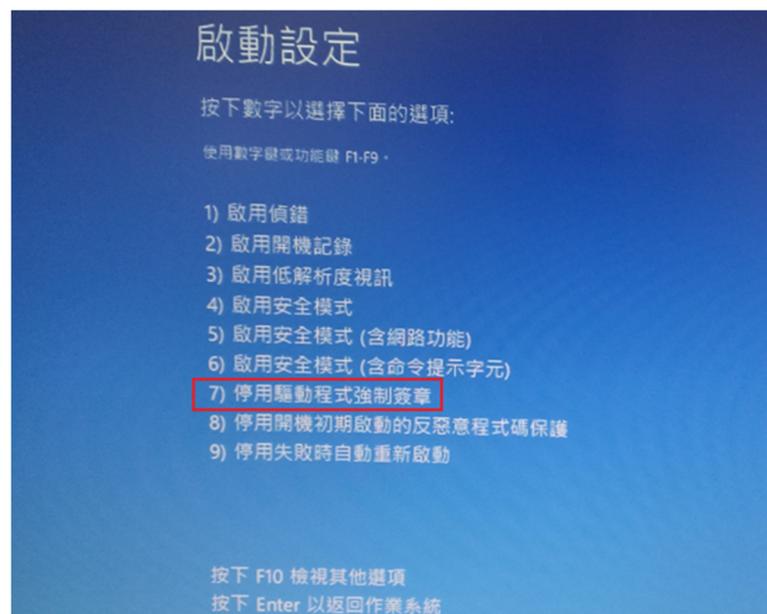
Step6: Select the "Startup Settings" option.



Step 7: Press the "Restart" button.



Step 8: After the restart, then press the "F7", it means to disable drivers forced signature, then it will enter the desktop, users can refer to the past approaches to update or install Driver.



Solution Approach (In Win8 as an example):

Step1: Press [Win]+[I] to display the setting interface.

Step2: Select Change PC settings in the lower right corner.

Step3: For Win8.0 → Select General → Advanced startup → Restart now

For Win8.1 → Select Update & recovery → Recovery → Advanced startup → Restart now

Step4: Select Troubleshoot → Advanced options → Startup Settings → Restart.

Step5: After the restart, then press the "F7", it means to disable drivers forced signature.

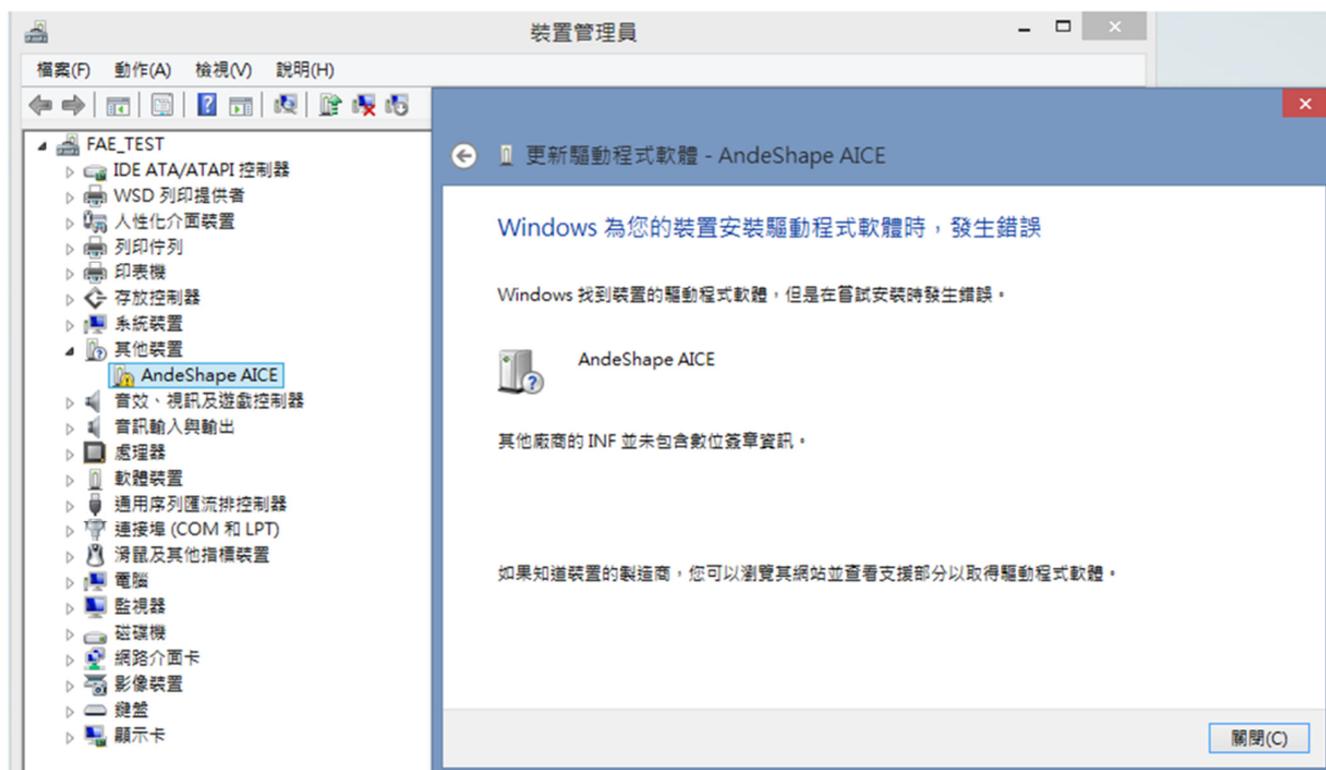
Step6: Enter the desktop, users can refer to the past approaches to update or install Driver.

P.S: 1. Reset again, it will restore digital signature.

2. Win8.0 and Win8.1 have slightly different ways of closing the digital signature, the main difference is in Step3.

8.2. How to update AndeShape AICE method

Solve AndeShape AICE driver was not installed successfully:



1. Disable digital signature to install the driver.

2. In AndeShape AICE icon (right click selected content, as shown below).

- Update AndeShape AICE steps as follows:



- Driver paths are as follows:
C:\Andestech\AndeSight_RDS_v321\ice\libusb-AICE-driver

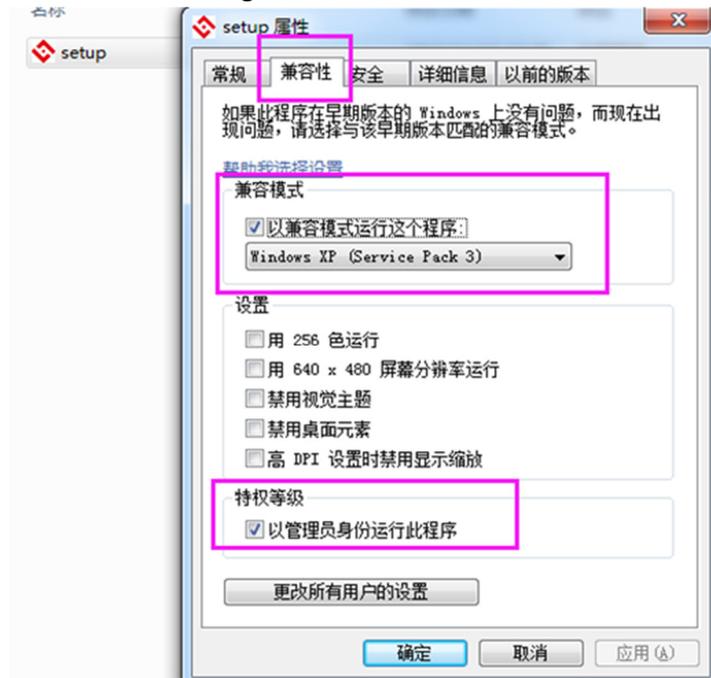
8.3. Target can't connect

If Reset and Hold instruction is not set normally, chip cannot be connected. In this case, please refer to the “debug mode” in chapter 6.6 for setting. Additional remarks: User can check HW pin connection (RST/VDD3V/ECK/EDIO/VSS) or click “Connect Target Via AICE” to check RST pin status. In normal case, RST pin have high/low status change. If RST pin keep low always, maybe the HY16F Mini Link was broken. Please contact with HYCON staff.

8.4. AndeSightRDSV3.2.x installation notes

Please be noted when install AndesightRDSV3.2.x in the win7(64 bit), win8(64 bit), win10(64 bit) system. Installing AndesightRDSV3.2.x might be failed, provide some information for user reference below.

1. Closed the Anti-virus software.
2. Modify the setup property, select windows compatibility mode as"XP SP3 + administrator". Please refer to the picture below.
3. Remove the old version Andesight.



8.5. License registration issue (first time installation)

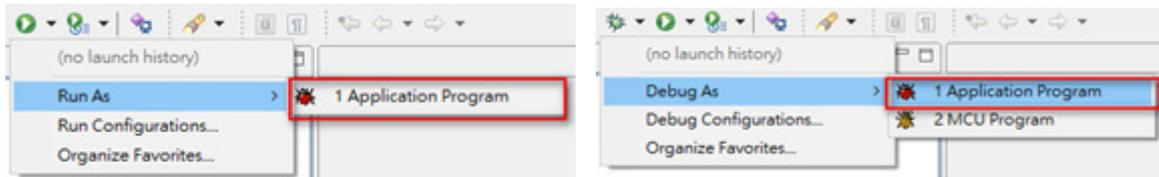
Please refer to chapter 4.2 in detail. It only occurs on the first time to open Andes environment.

8.6. WARNING : Couldn't compute FAST_CWD pointer message(Compiler warning)

As title, it occurs the warning message "Couldn't compute FAST_CWD pointer" in Win10 with AndesightRDSV3.2.x. User can ignore the message. It is warning message only, it don't effect the product development and chip performance.

8.7. Enter Debug Mode abnormal and select RED BUG issue

Enter Debug mode, the correct selection is YELLOW BUG. Because HYCON HY16F don't support release mode (Application Program), If select RED BUG and enter release mode (refer to the below pictures). User have to delete Debug file and re-build project and re-create Debug Configurations, the Debug Configurations setting in detail. Please refer to the chapter 6.6.



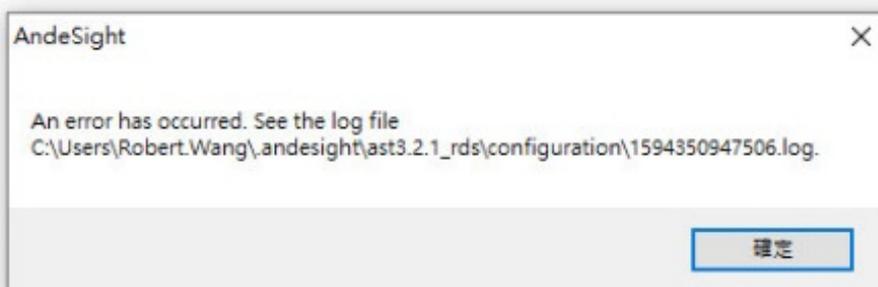
RED BUG, selection ERROR

8.8. Antivirus software to effect the build code speed

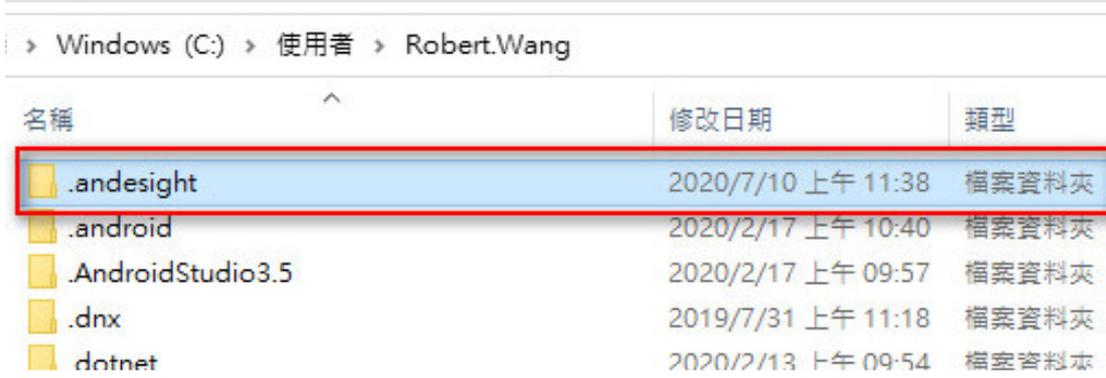
The antivirus software "360 safeguard" may lead to compiler speed lower (over 1 minutes). To finish the build project only takes 3~10 seconds in normal condition. Close or modify the antivirus software setting, that is the reference solution. To solve the compiler speed lower issue.

8.9. AndeSight IDE software cannot be opened and executed normally

When the AndeSight IDE software cannot be opened and executed normally, pop-up an error message. Refer to the picture below.

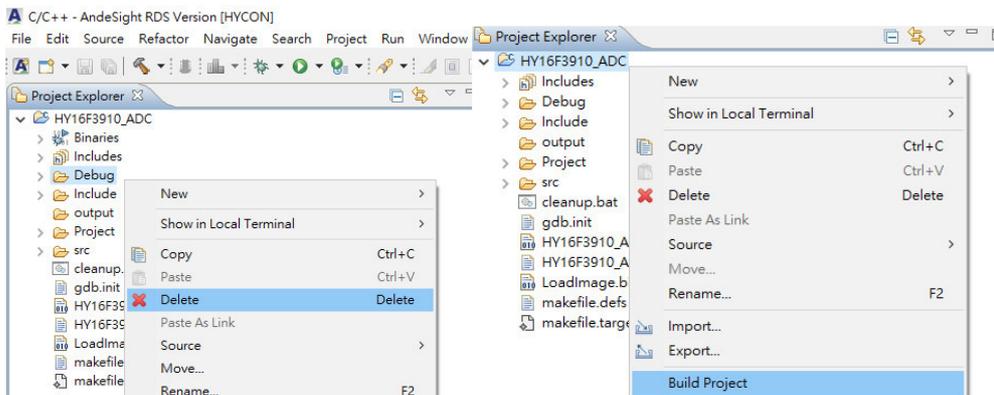


In this case, please go to the Andes installation path of the computer and delete the .andesight folder. Refer to the picture below.

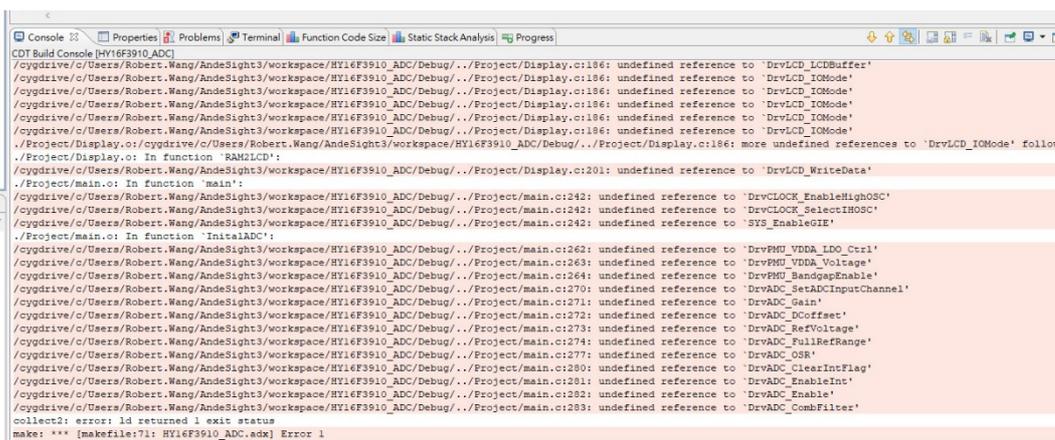


8.10. Deleting the Debug folder in the AndeSight IDE software, and Build project will generate an error message Error 1

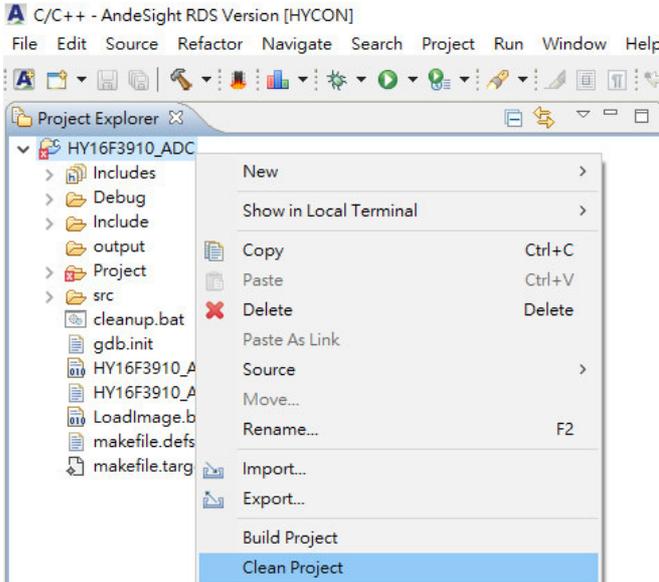
Some users have a habit of deleting the Debug folder in the project directory before re-Build Project. Refer to the picture below.



When re-Build Project will generate an error message Error 1 to compile failed. Refer to the picture below.



To solve this question, please select Clean Project before Build Project. Refer to the picture below.

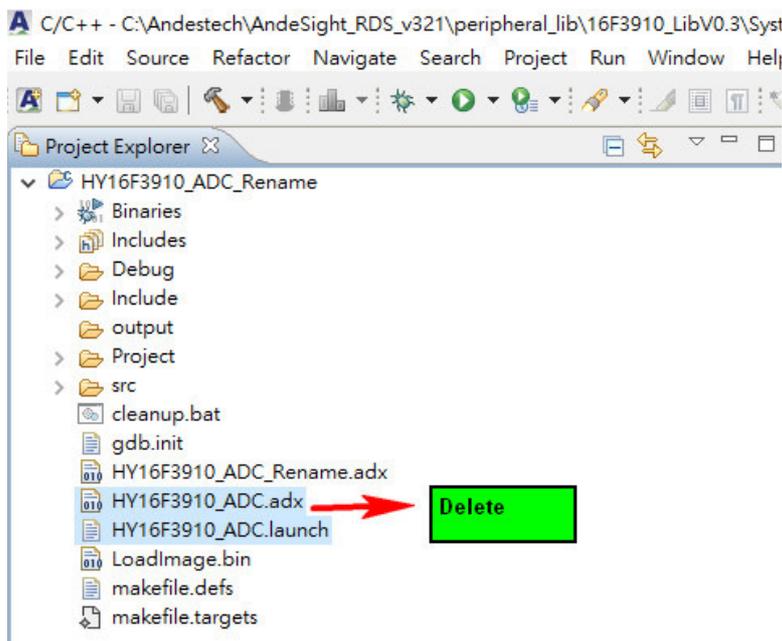


8.11. Rename the project name in the AndeSight IDE software and cannot Debug normally

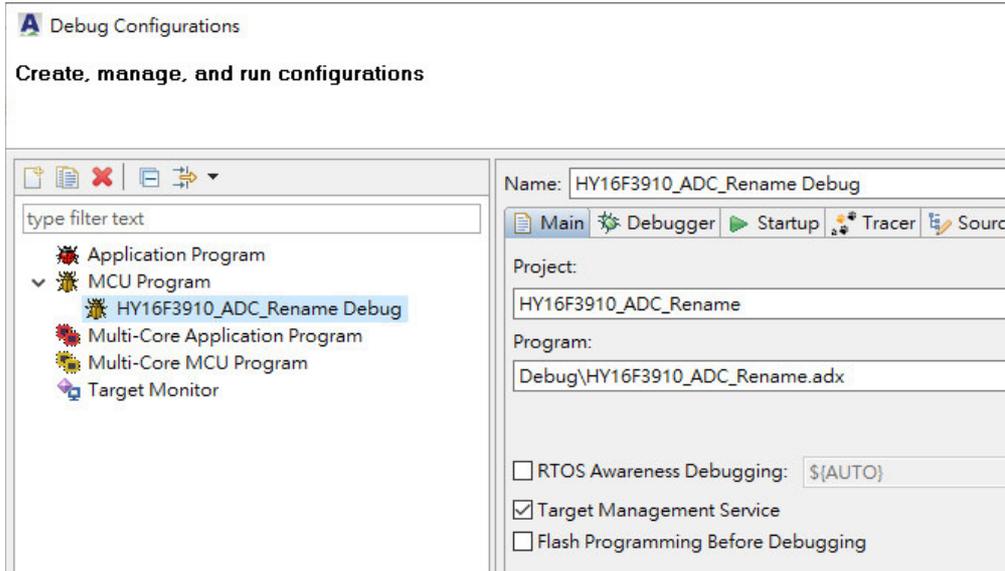
Users rename the project name in the AndeSight IDE software.

Ex: HY16F3910_ADC changed its name to HY16F3910_ADC_Rename.

After Rename the project name, the Build project will generate a new HY16F3910_ADC_Rename.adx. At this time, the old project setting files HY16F3910_ADC.adx and HY16F3910_ADC.launch should be removed. Refer to the picture below.



To remove the old project settings first, and then re-set new Debug Configurations for the project HY16F3910_ADC_Rename. Refer to the picture below.



For the setting method of Debug Configurations, please refer to the “debug mode” in chapter 6.6 for setting.

9. Revisions

Greater differences in the document are presented below, with variation in punctuation and font excluded.

Version	Page	Revision Summary	Date
V01	ALL	First edition	2022/05/12
V02	ALL	<ol style="list-style-type: none">1. "AndeSightV3.2.1RDS" was renamed "AndeSightV3.2.xRDS".2. Modify the pictures in Chapter 6.6.3. Added the Chapter 8.9~8.11.	2022/06/08