i-SYST M3225 Bluepyro Module User Guide

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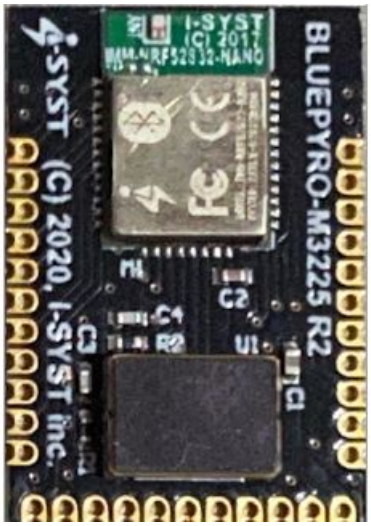
i-SYST M3225 Bluepyro Module User Guide



Revision history

Version	Date	Note	Contributor(s)	Approver
1.0	15 April 2021	Initial version	Ho Manh Tai	Nguyen Hoang Hoan

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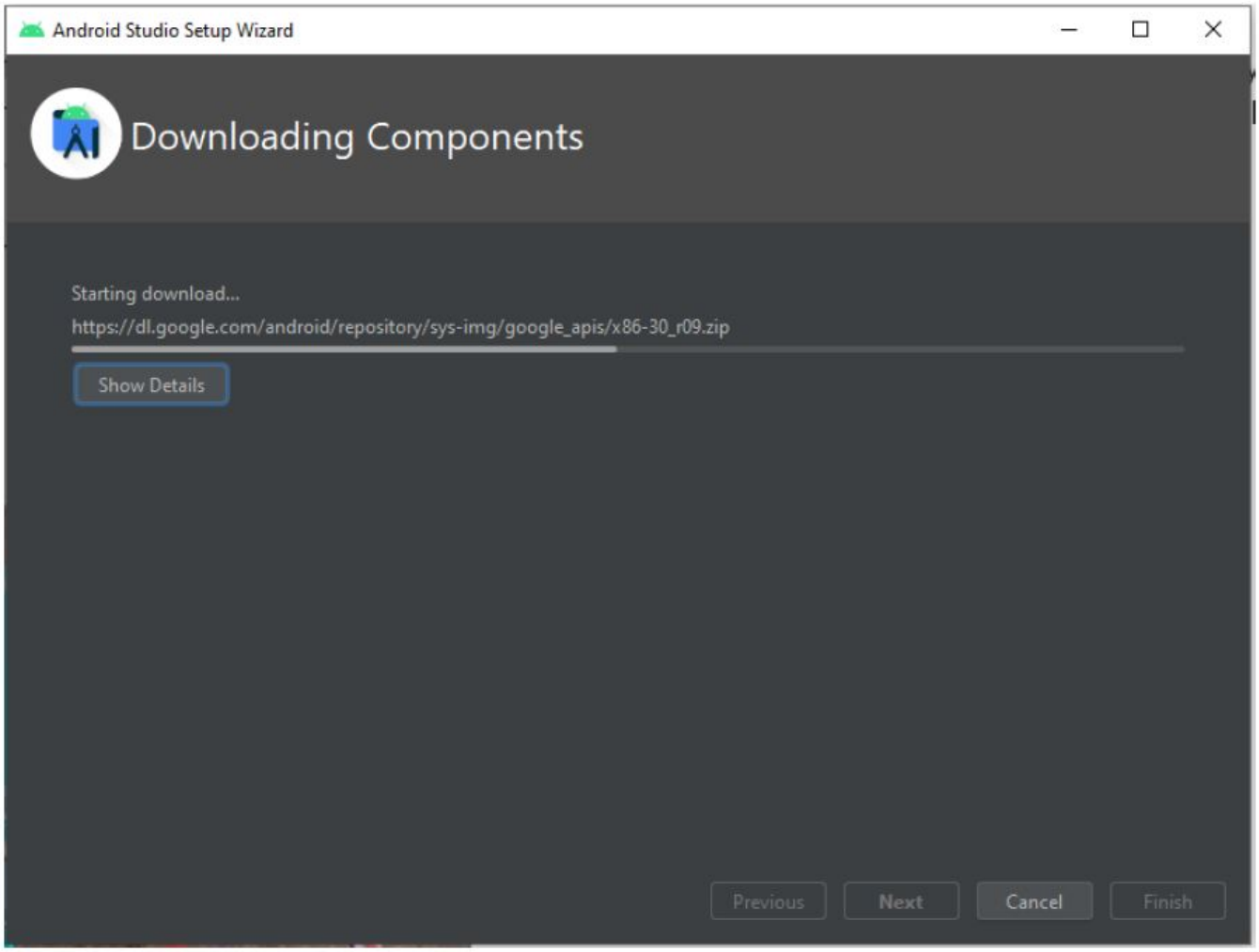
Introduction

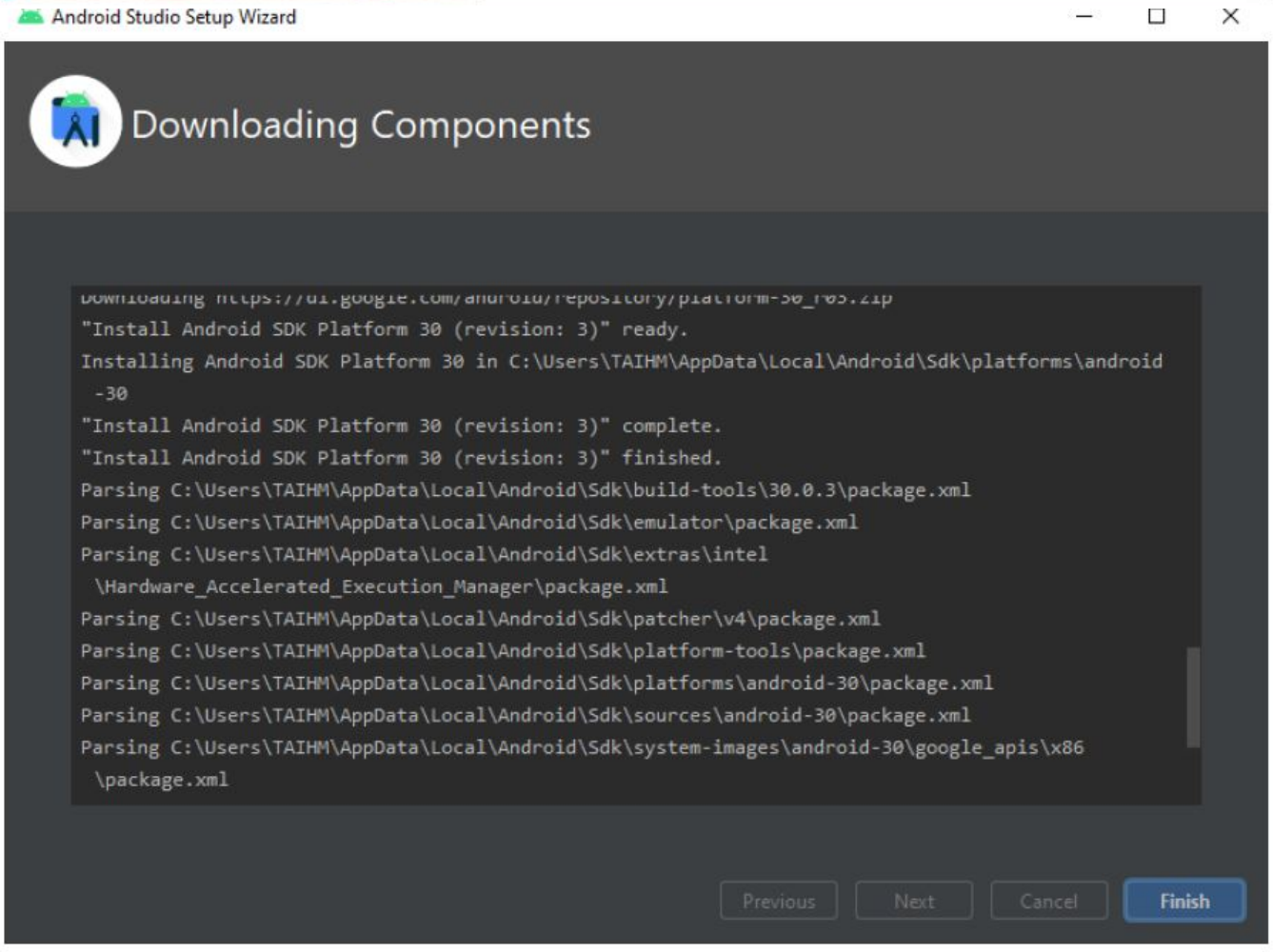
This document shows step-by-step to install Android Studio to develop Android apps with Bluepyro-M3225
Required components
The following are needed for a full development environment Bluepyro-M3225:

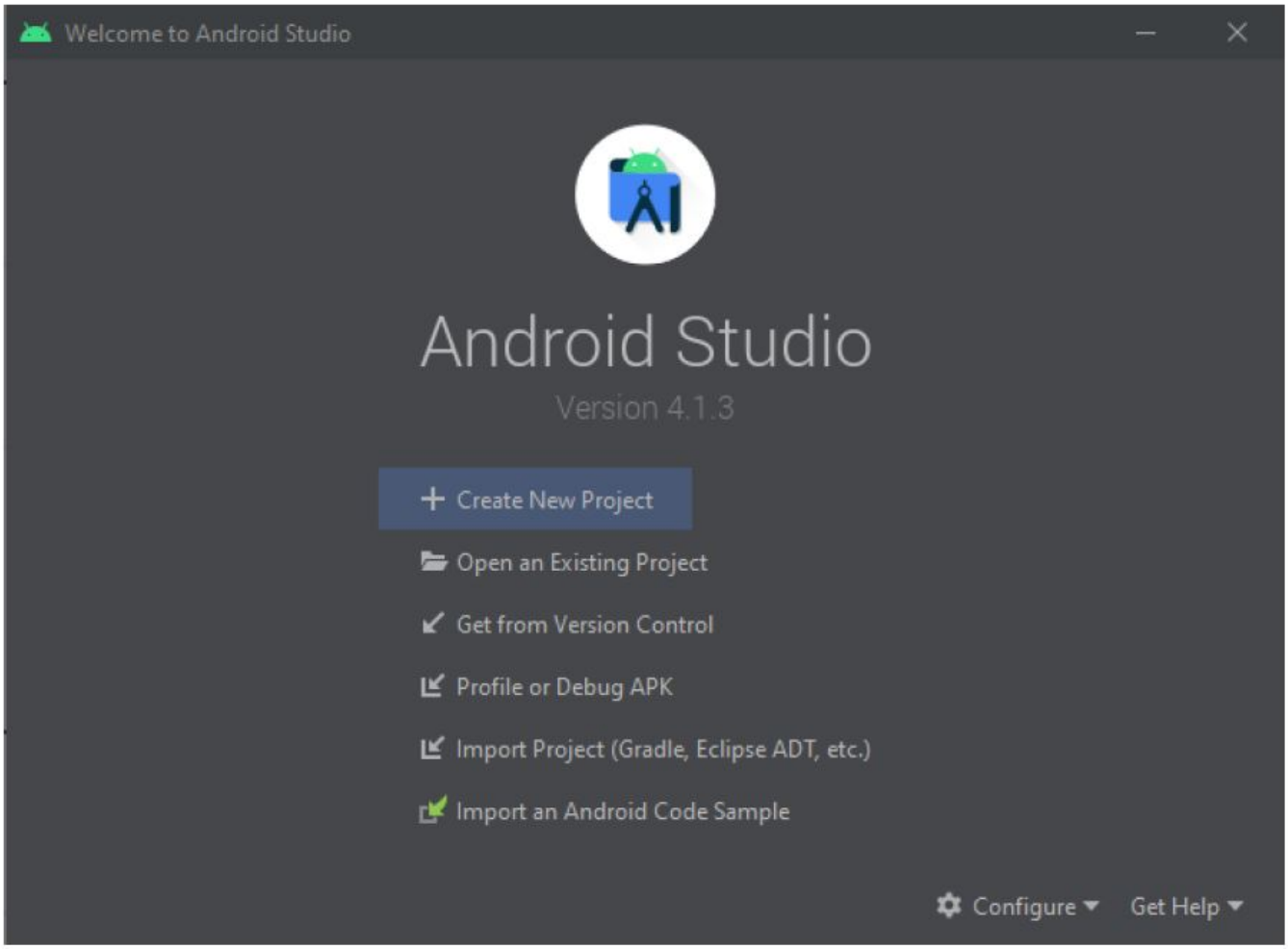
- Android Studio
- Eclipse
- Download source code Android app and firmware at I-SYST/BluePyro: BluePyro (github.com)

Installation

Install Android Studio
Download and install Android Studio to develop Android apps using Bluepyro-M3225 at the following link: **https://developer.android.com/studio/** Download Android Studio and SDK tools | Android Developers
Follow the link below to install Android Studio: https://developer.android.com/studio/install Install Android Studio | Android Developers

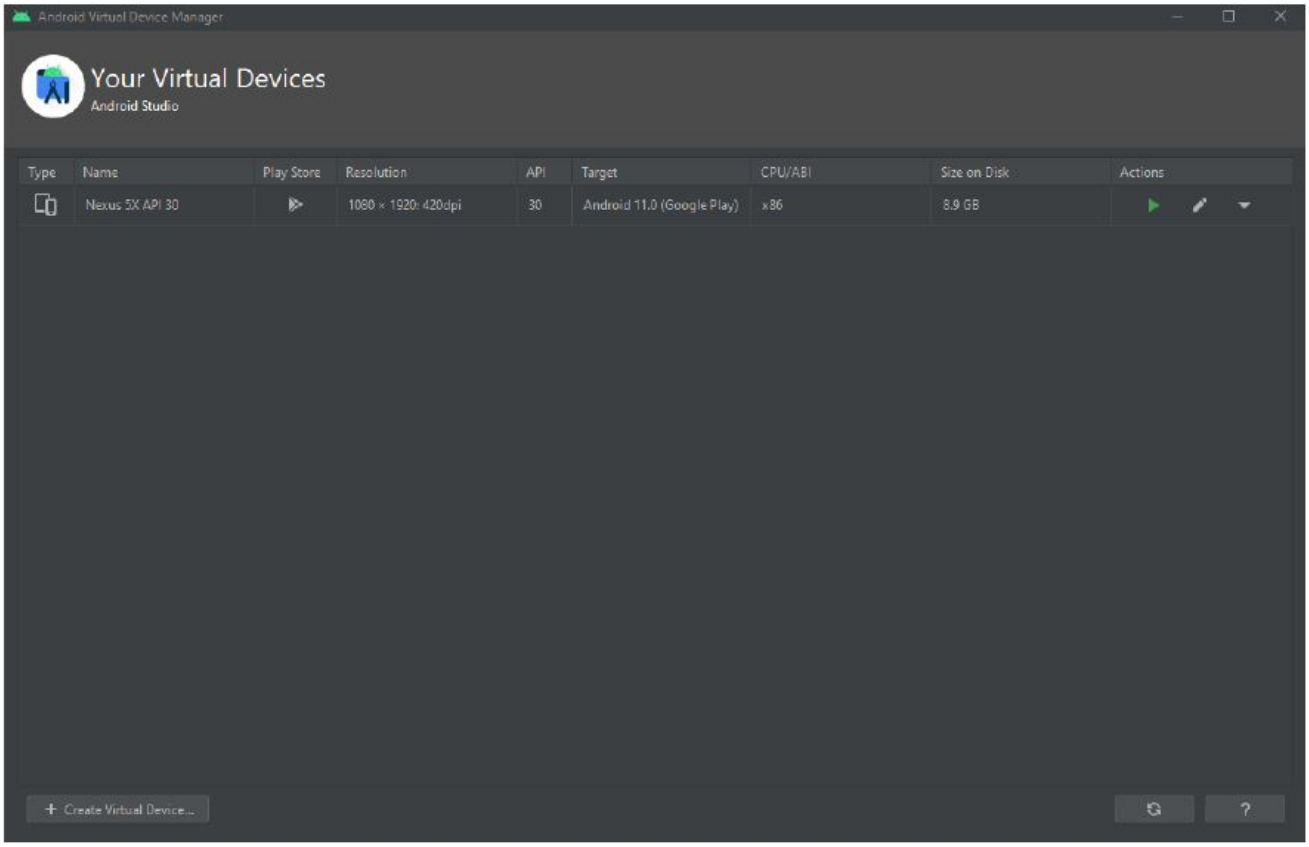

Android Studio Setup Wizard
Downloading Components
Starting download...
https://dl.google.com/android/repository/sys-img/google_apis/x86-30_r09.zip
Show Details
Previous
Next
Cancel
Finish


Android Studio Setup Wizard
Downloading Components
"Install Android SDK Platform 30 (revision: 3)" ready.
Installing Android SDK Platform 30 in C:\Users\TAIHM\AppData\Local\Android\Sdk\platforms\android-30
"Install Android SDK Platform 30 (revision: 3)" complete.
"Install Android SDK Platform 30 (revision: 3)" finished.
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\build-tools\30.0.3\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\emulator\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\extras\intel\Hardware_Accelerated_Execution_Manager\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\patcher\v4\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\platform-tools\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\platforms\android-30\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\sources\android-30\package.xml
Parsing C:\Users\TAIHM\AppData\Local\Android\Sdk\system-images\android-30\google_apis\x86\package.xml
Previous
Next
Cancel
Finish



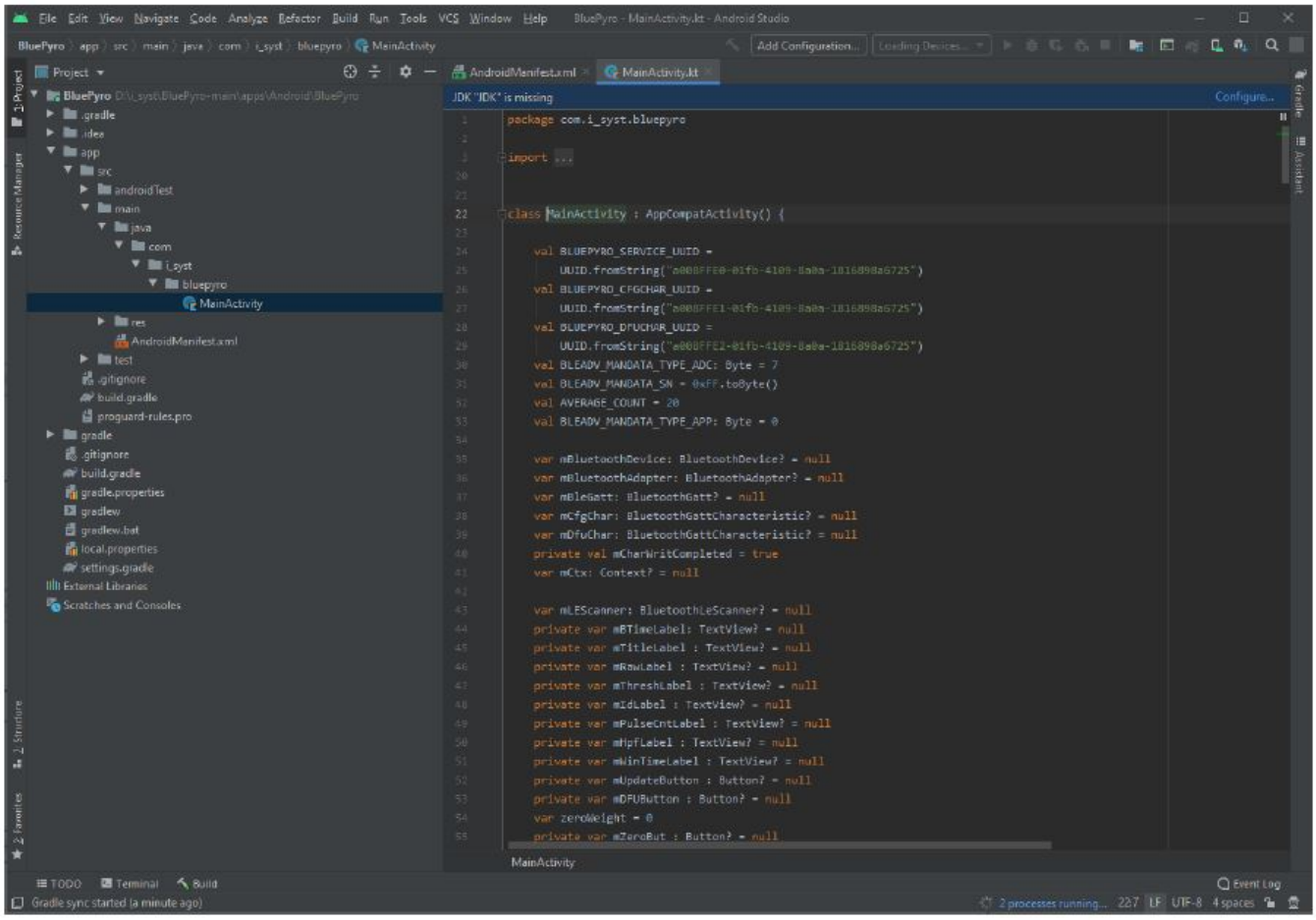
Create new virtual device

After finishing installation Android Studio, create a new Android virtual device in AVD Manager

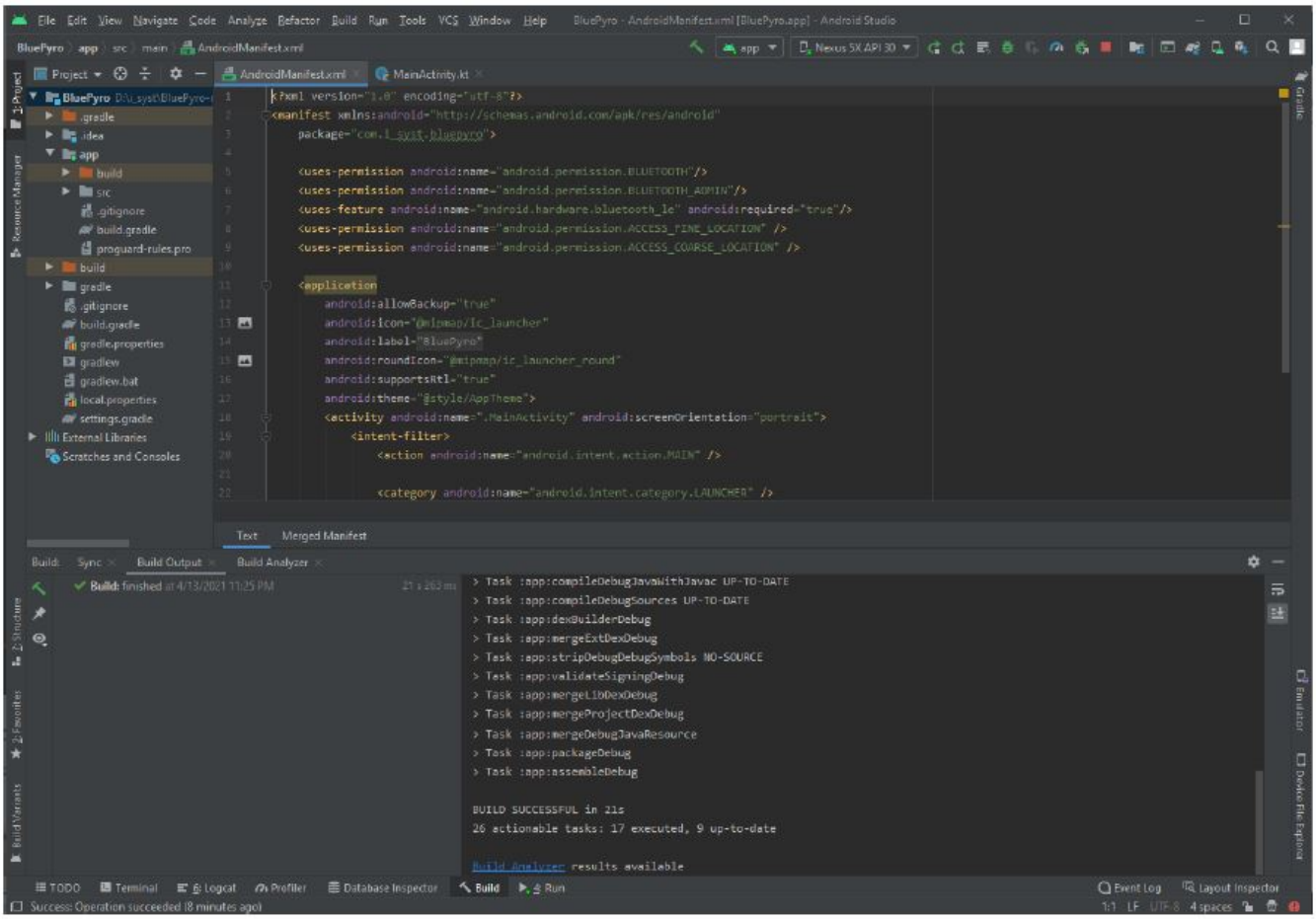


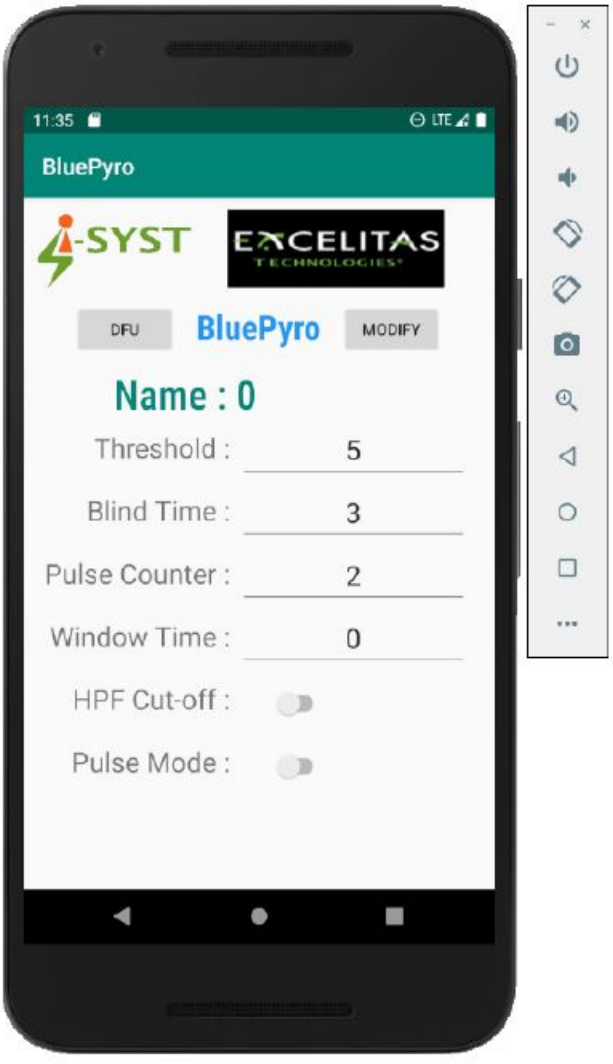
Import Android Project

Download source code Android app at https://github.com/I-SYST/BluePyro Import Android project BluePyro



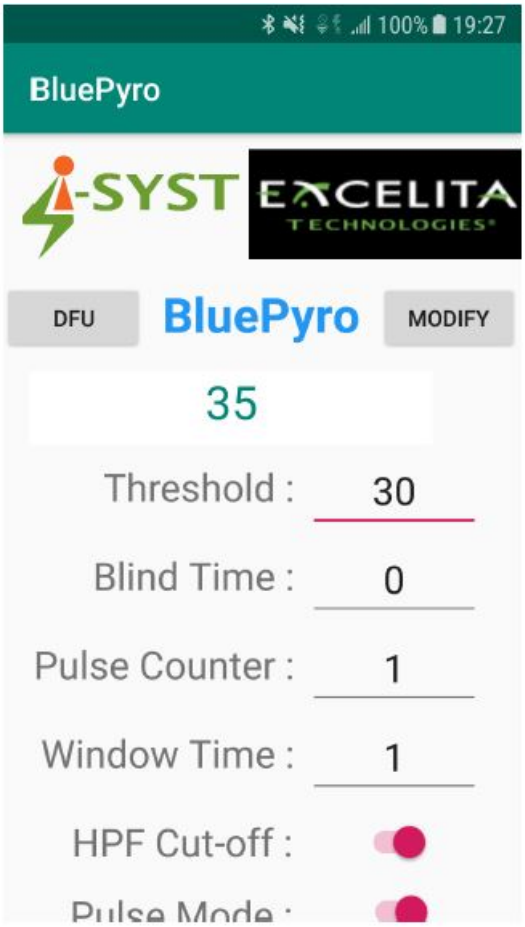
Run the Bluepyro-M3225 Android App Project with new Virtual device


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
BluePyro - AndroidManifest.xml [BluePyro.app] - Android Studio
AndroidManifest.xml
MainActivity.kt
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.i_syst.bluepyro">
<uses-permission android:name="android.permission.BLUETOOTH"/>
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN"/>
<uses-feature android:name="android.hardware.bluetooth_le" android:required="true"/>
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION" />
<application
android:allowBackup="true"
android:icon="@mipmap/ic_launcher"
android:label="BluePyro"
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/AppTheme">
<activity android:name=".MainActivity" android:screenOrientation="portrait">
<intent-filter>
<action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCHER" />
Text
Merged Manifest
Build
Sync
Build Output
Build Analyzer
Build: finished at 4/13/2021 11:25 PM
> Task :app:compileDebugJavaWithJavac UP-TO-DATE
> Task :app:compileDebugSources UP-TO-DATE
> Task :app:dexBuilderDebug
> Task :app:mergeExtDexDebug
> Task :app:stripDebugDebugSymbols NO-SOURCE
> Task :app:validateSigningDebug
> Task :app:mergeLibDexDebug
> Task :app:mergeProjectDexDebug
> Task :app:mergeDebugJavaResource
> Task :app:packageDebug
> Task :app:assembleDebug
BUILD SUCCESSFUL in 21s
26 actionable tasks: 17 executed, 9 up-to-date
Build Analyzer results available
TODO
Terminal
Logcat
Profiler
Database Inspector
Build
Run
Event Log
Layout Inspector
Success: Operation succeeded (8 minutes ago)


11:35
LTE
BluePyro
i-SYST
EXCELITAS
TECHNOLOGIES
DFU
BluePyro
MODIFY
Name : 0
Threshold :
5
Blind Time :
3
Pulse Counter :
2
Window Time :
0
HPF Cut-off :
Pulse Mode :

Run on real Android device

Now it's ready to run on your Android device to test with Bluepyro-M3225. Connect your Android device and run the project on your device.Test the Bluepyro-M3225 device with Bluepyro app on your device. Now you are freely to develop any android apps with Bluepyro-M3225.



Bluepyro-M3225 Firmware development with Eclipse IDE

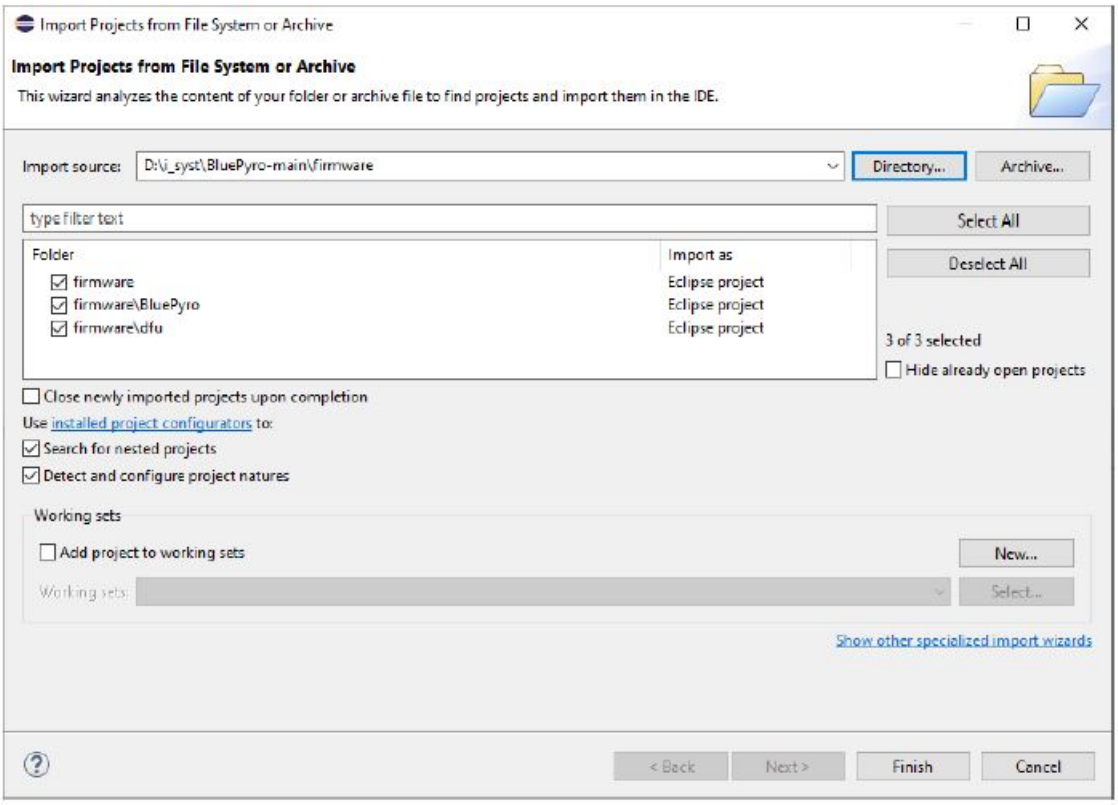
Please read the installation guide "Eclipse IDE in firmware development with Iosonata" for Eclipse installation at Eclipse IDE in firmware development with IOsonata | I-SYST's Site.
In this section, we will show how to manually develop Bluepyro-M3225 Firmware by Eclipse.

Download Bluepyro-M3225 Firmware

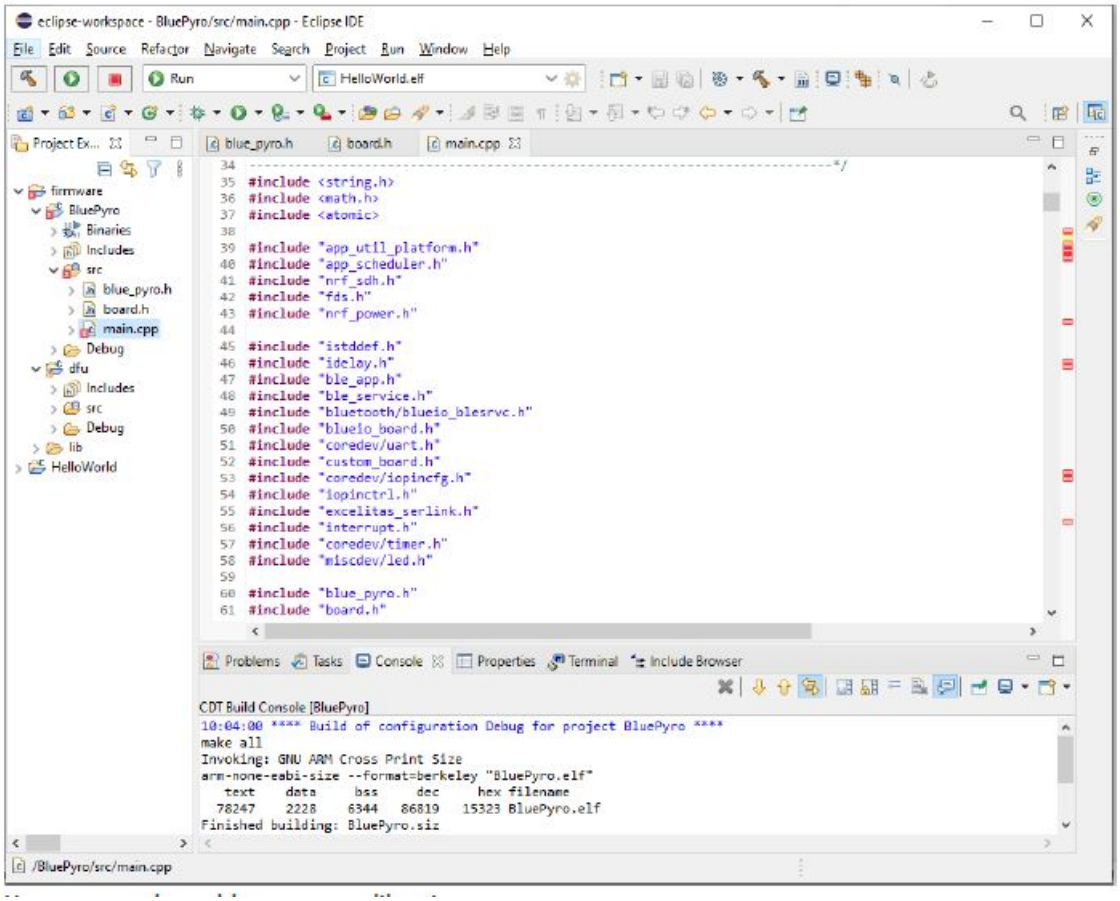
Download source code Bluepyro-M3225 firmware at: **https://github.com/I-SYST/BluePyro**

Import firmware projects to Eclipse

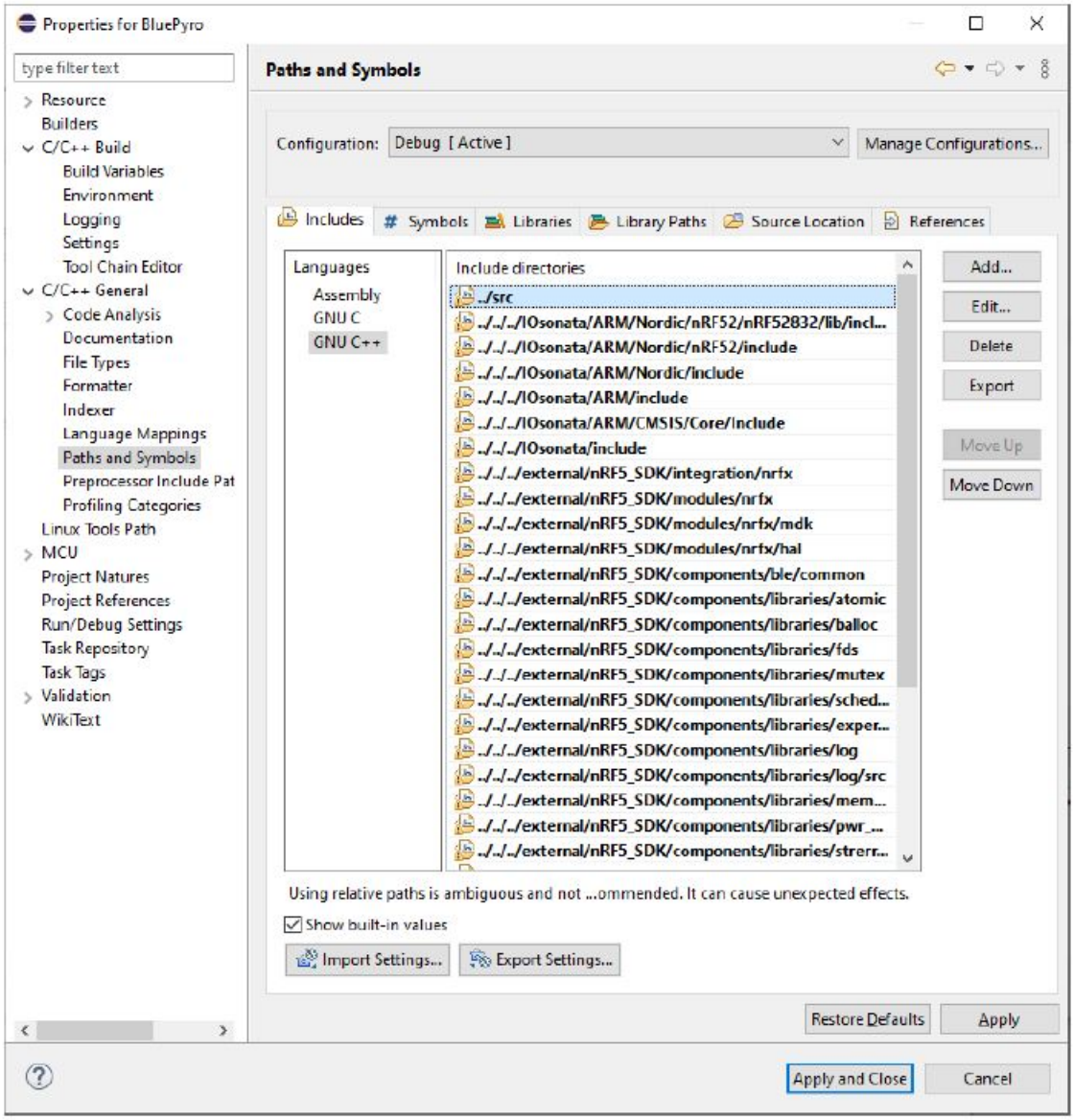
Select Open Projects from File System in File menu Located the Bluepyro-M3225 Firmware directory.

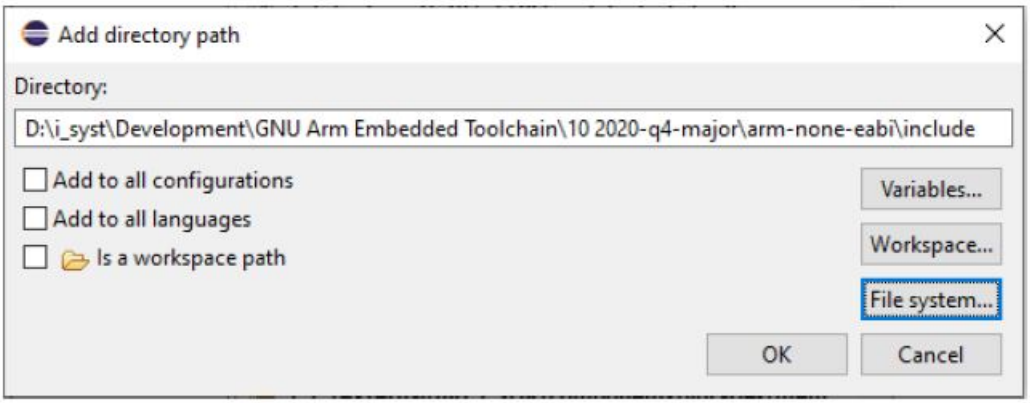


Build Bluepyro-M3225 Firmware Projects



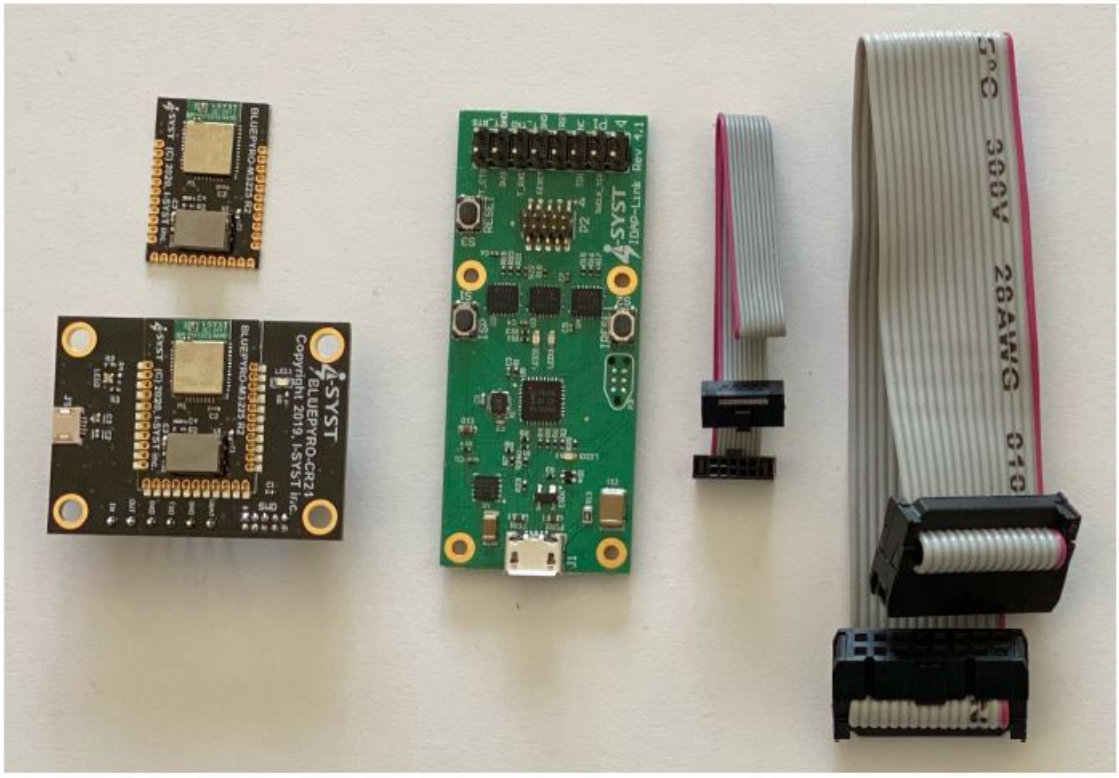
You may need to add some more libraries Right click on Bluepyro Project, select Project Properties→ C/C++ General→ Paths and Symbols→ Includes tab. Click Add button: Add directory path, select File system





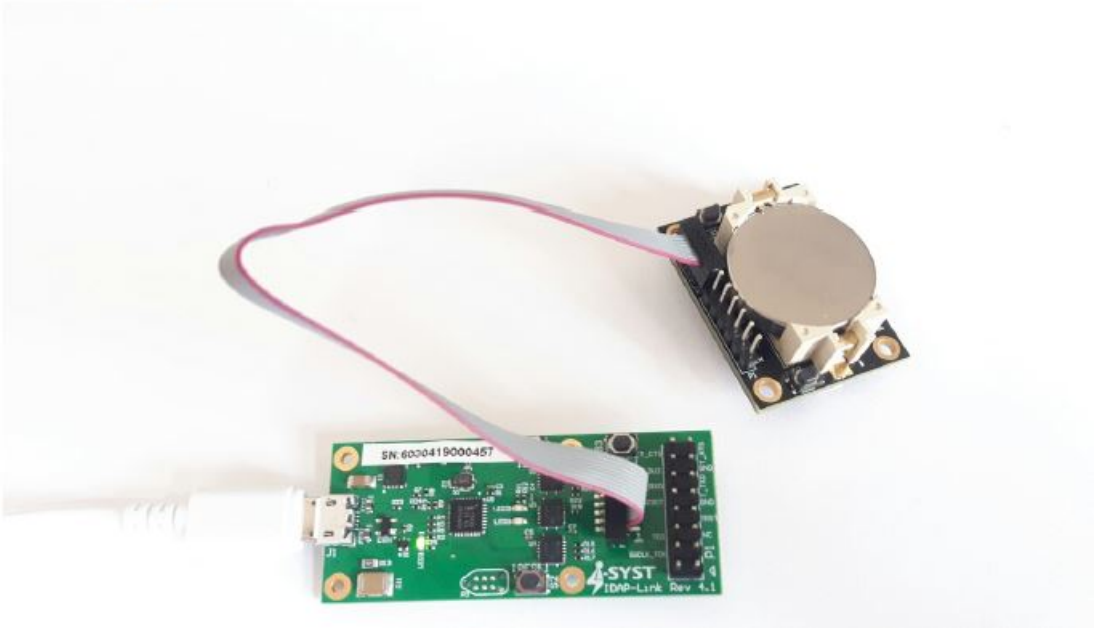
Right click on Bluepyro-M3225 Firmware project, select Build Project . Now you can build and manually develop Bluepyro-M3225 Firmware by yourself.

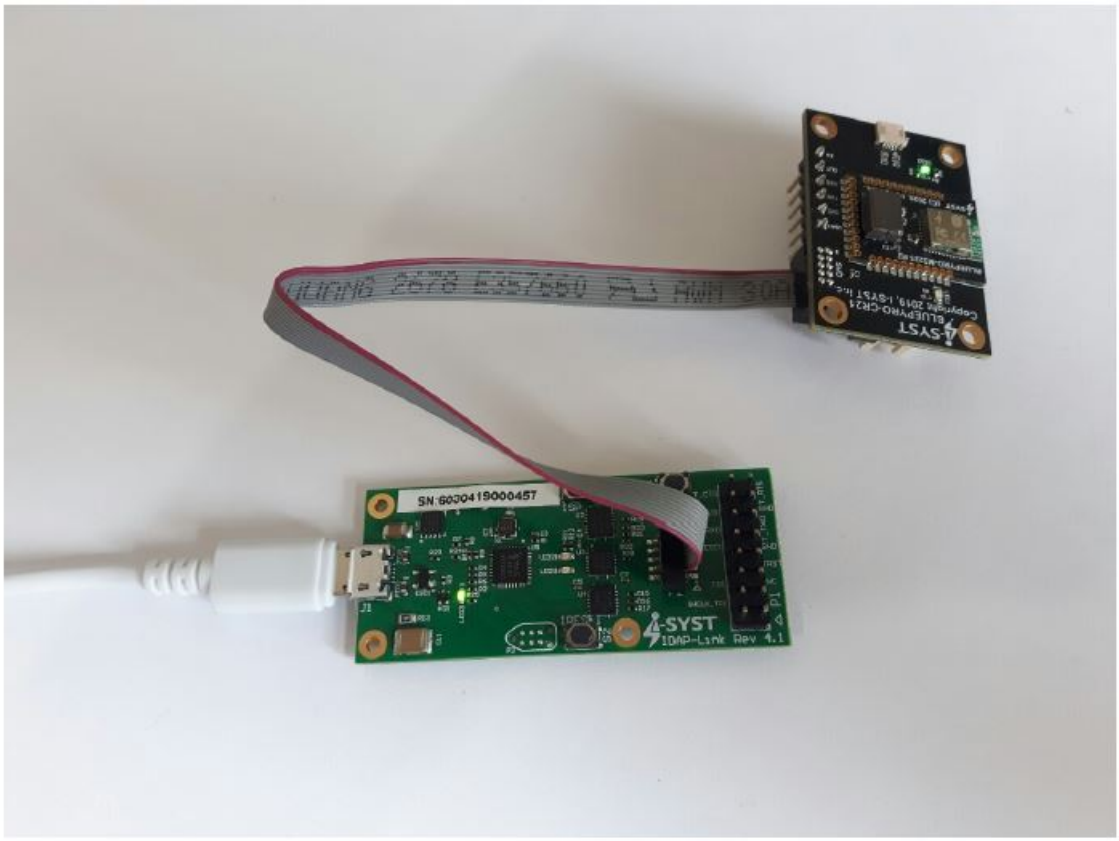
Connect Bluepyro-M3225 device



Prepare Bluepyro-M3225 development kit as the figure above include Bluepyro-M3225 board, IDAP-Link.

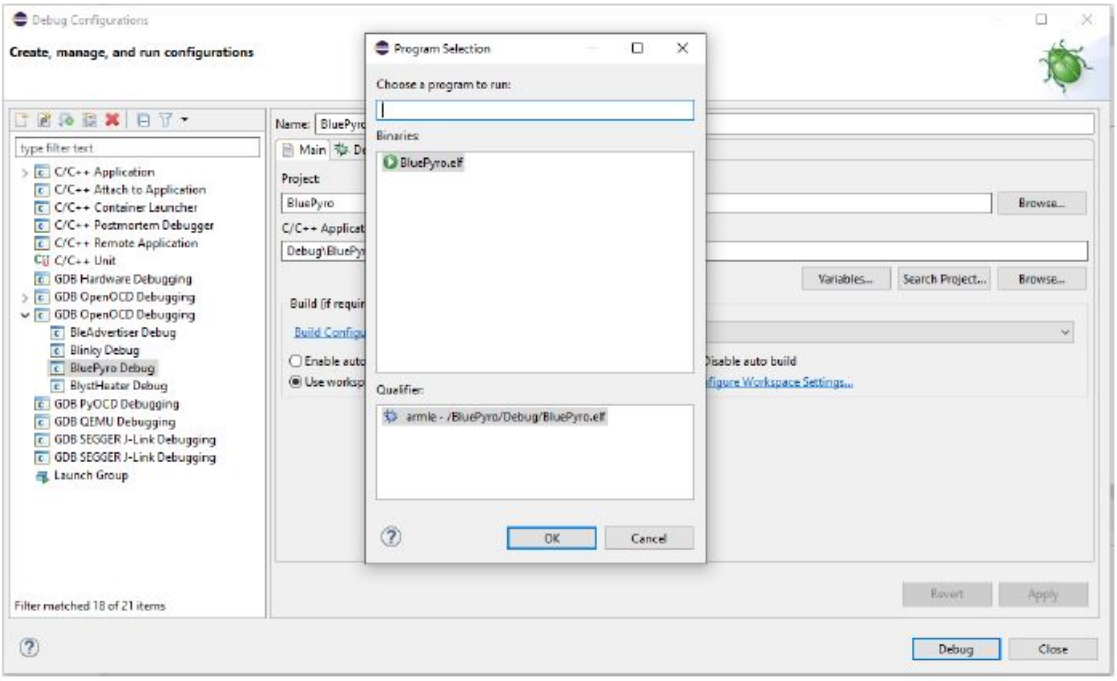
Connect Bluepyro-M3225 to computer.

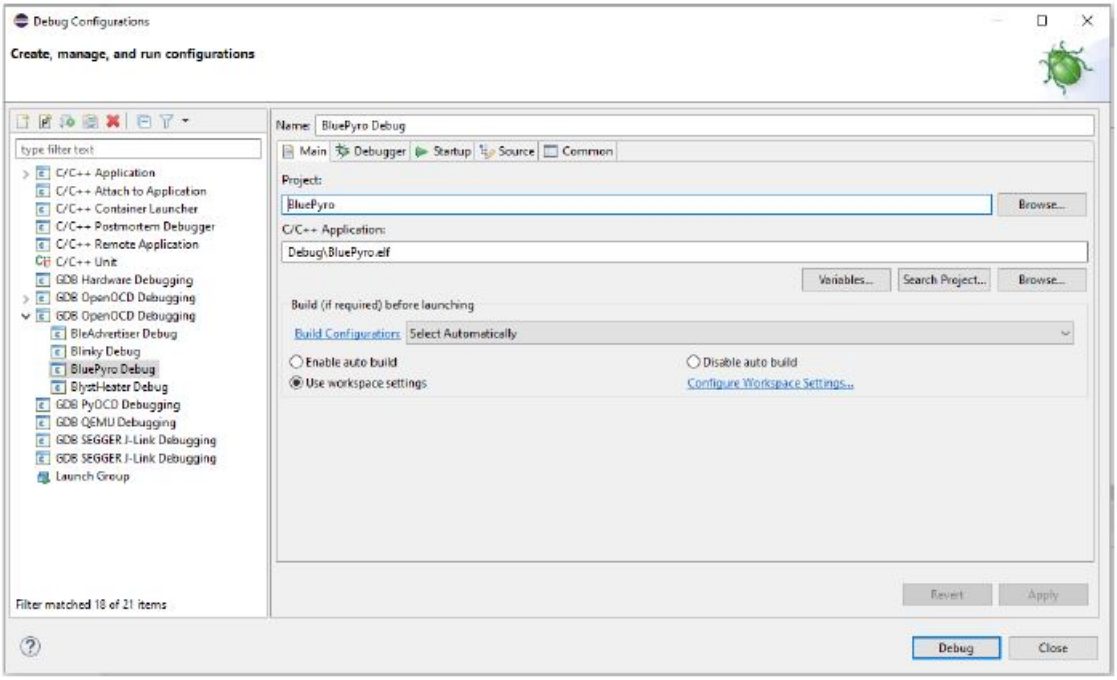




Debug Configurations

In order to debug the Bluepyro-M3225 firmware, we have to set the Debug Configurations as following: In the Main tab, select C/C++ Application by clicking Search Project. Select BluePyro.elf file.





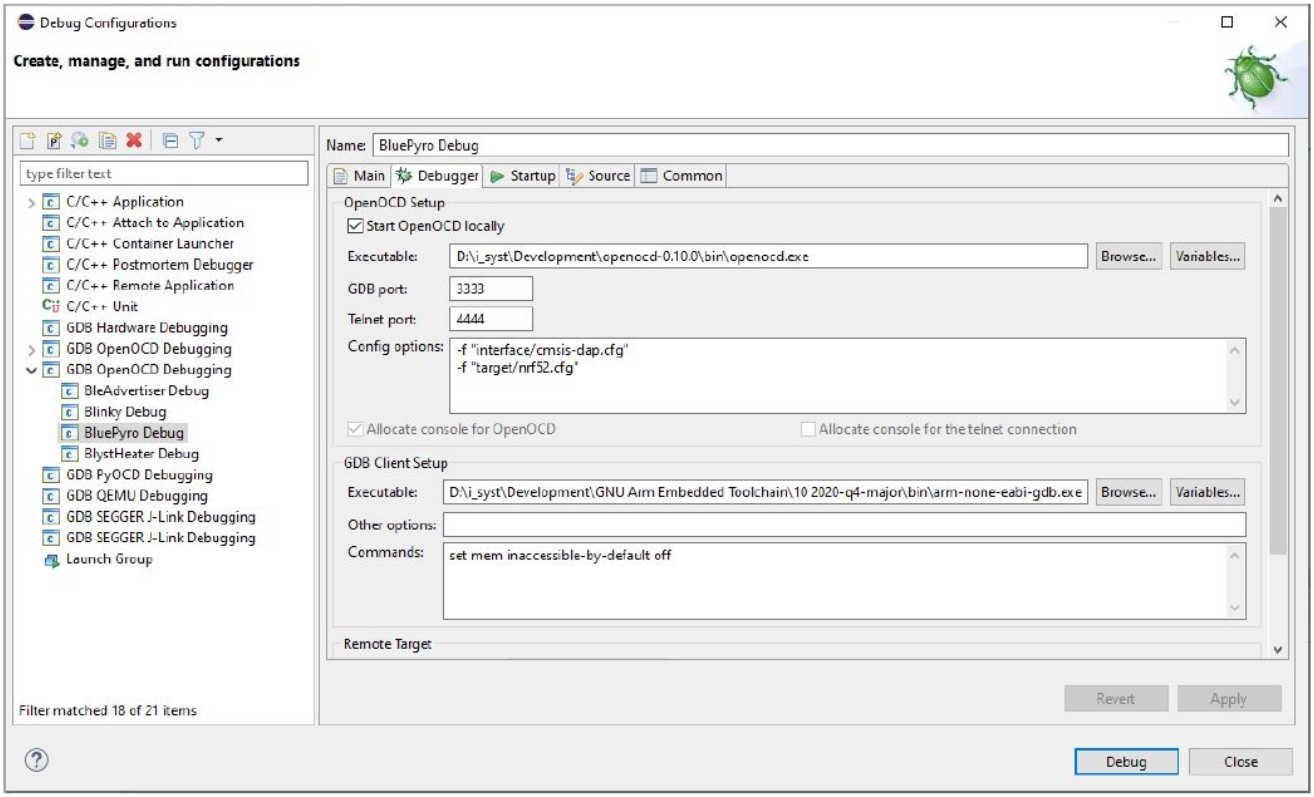
In the Debugger tab, set the Executable by browsing to the OpenOCD executable file.

Set the Config Option: – f “interface/cmsis-dap.cfg”- f “target/nrf52.cfg”

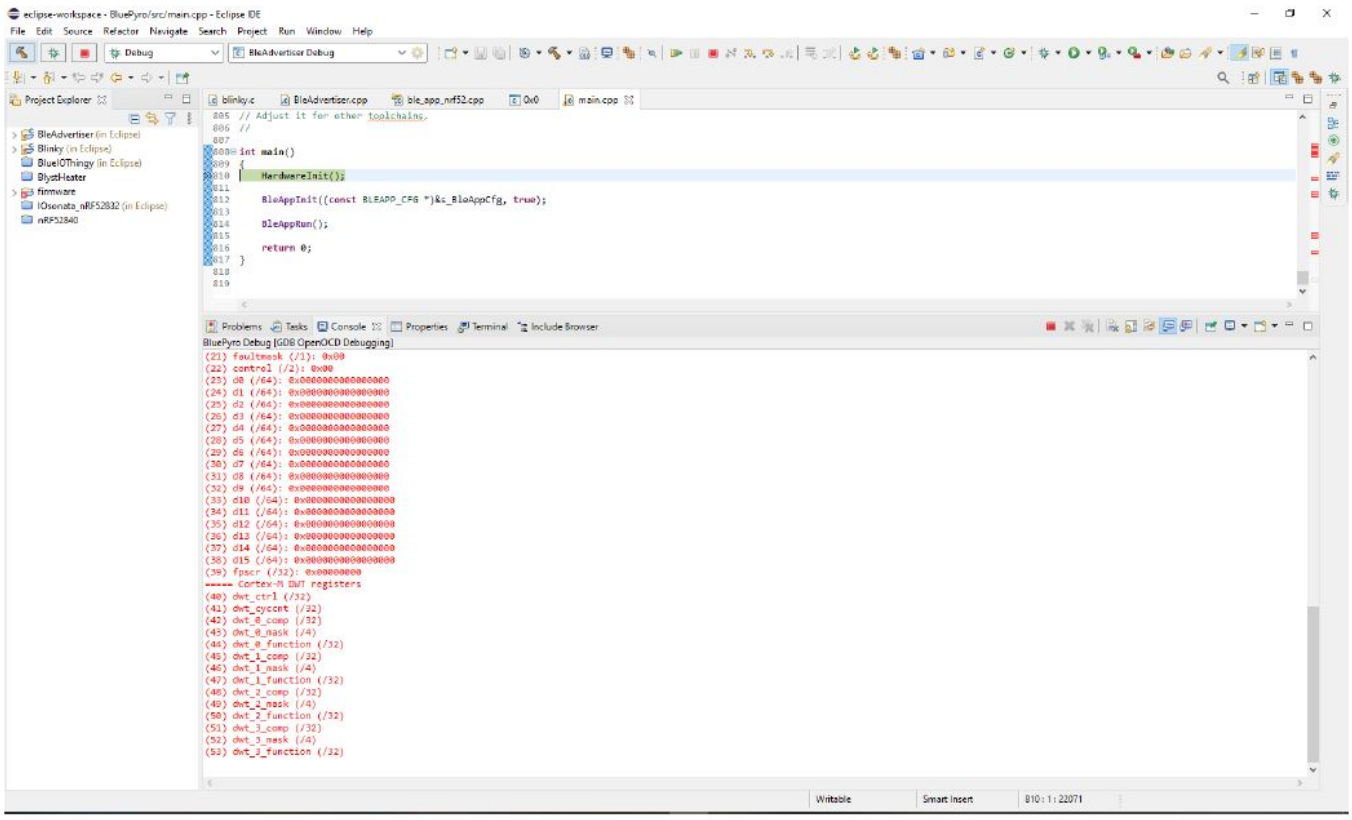
Set the Config Option:

-f "interface/cmsis-dap.cfg"

-f "target/nrf52.cfg"



Then click Debug button.



After you start the debugger, it will stop at main(). Now you can debug the firmware by clicking the step button (F5, F6) to trace your source code line by line.

Flashing Firmware

Click Run button to run the firmware on your device.
Note:Make sure that the softdevice is flashed first. Using Use IDAPnRFProg to flash NRF softdevice using IDAP-Link. Download here IDAP-Link/M – Browse /Windows at SourceForge.net
Run IDAPnRFProg by following command line:

Documents / Resources

	i-SYST M3225 Bluepyro Module [pdf] User Guide M3225, Bluepyro Module

References

- GitHub: Let’s build from here · GitHub
- Compare, Download & Develop Open Source & Business Software - SourceForge
- Download Android Studio & App Tools - Android Developers
- Install Android Studio | Android Developers
- Install Android Studio | Android Developers
- GitHub - I-SYST/BluePyro: BluePyro
- IDAP-Link/M - Browse /Windows at SourceForge.net
- Home | I-SYST's Site
- Eclipse IDE in firmware development with IOsonata | I-SYST's Site

Manuals+,