Android

Introduction

The example runs as an Android app. An example diagram is as follows:

NSP32 module   nRF52832 with BLE   Android phone
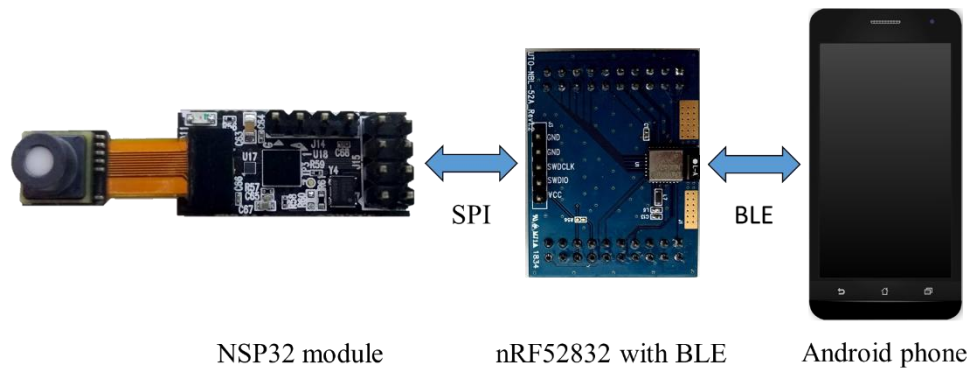
A Nordic nRF52832 SoC acts as a forwarder, to forward command packets and return packets between the NSP32 module and the Android phone, where the Android app can wirelessly (through bluetooth) control NSP32 module and get the spectrum data.

Note: this example must run in conjunction with the "nRF52 SpectrumMeter" example loaded in the nRF52832. Please check "NSP32 C/C++ API for MCU" for installing related packages.

API jar Location

The API jar is located at:
[/examples/Android/SpectrumMeter/libs/NanoLambdaNSP32.jar].

Pre-built apk

The pre-built apk file is located at:
[/examples/Android/SpectrumMeter/build/outputs/apk/debug/SpectrumMeter-debug.apk].

Note: To install this apk, you need to Allow App Installation from Unknown Sources on your Android phone.

Hardware Setup

1) Tested on
   - ASUS ZenFone Max Plus (M1) with Android 7.0
   - ASUS ZenFone 3 with Android 8.0
   - Samsung S8 with Android 8.0

2) Setup
   For the setting of nRF52832 BLE, please refer to the document

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"readme_nRF52_example" available on Resources at www.nanolambda.com.

Software Setup

1) Tested on
   - Android Studio 3.1.4
2) Setup

   If you need to rebuild the project, or want to modify the example code, you can follow these steps:

   i)   Install Android Studio.

   ii) Open Android Studio and load the example project.

   iii) Build the project.

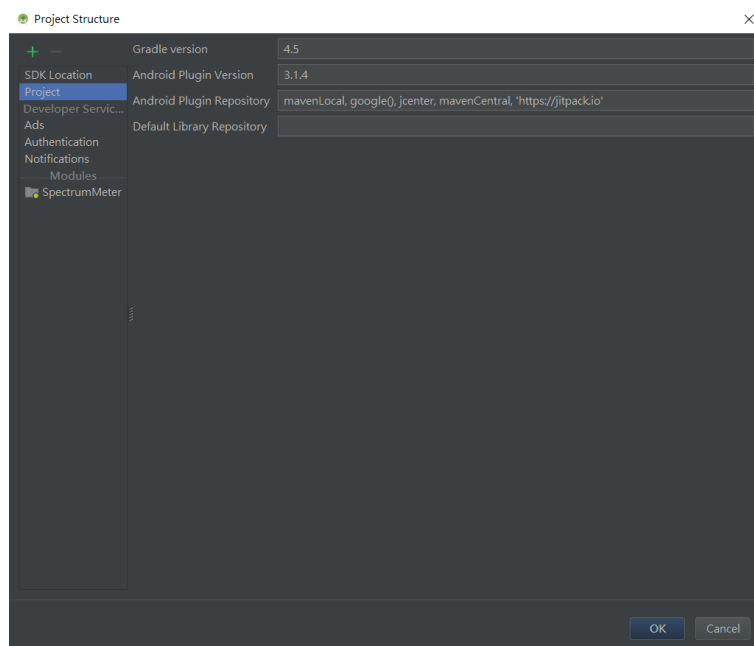   Note: If you build failed since Gradle version issue, you may follow the steps below:

   i.   Go to File → Setting → Build, Execution, Deployment → Gradle, and check 'Use default gradle wrapper (recommended)'.
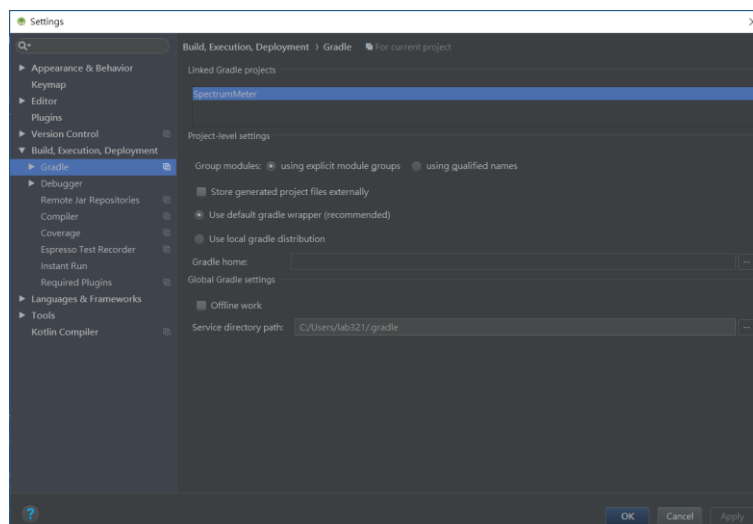
   ii. Go to File → Project Structure → Project. Change the 'Gradle version' in accordance

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with your 'Android Plugin Version' (please refer to the table below).

Plugin version	Required Gradle version
1.0.0 - 1.1.3	2.2.1 - 2.3
1.2.0 - 1.3.1	2.2.1 - 2.9
1.5.0	2.2.1 - 2.13
2.0.0 - 2.1.2	2.10 - 2.13
2.1.3 - 2.2.3	2.14.1+
2.3.0+	3.3+
3.0.0+	4.1+
3.1.0+	4.4+
3.2.0 - 3.2.1	4.6+
3.3.0	4.10.1+

Project Disclamation

This example is modified from a demo project from Nordic, which could be found at [https://github.com/NordicPlayground/Android-Image-Transfer-Demo].
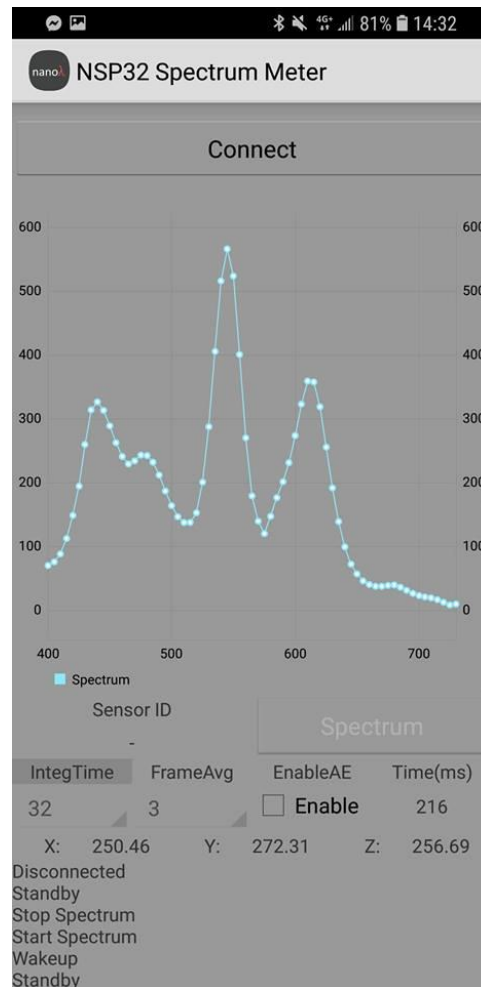
Run the Example

- Install the project APK into your phone, and run. This example also demonstrates to standby NSP32 module between commands for power saving.

Example snapshot of the APP :

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On the nRF52832 BLE sides:

- When BLE is advertising, you shall see the nRF status LED blinking.
- After Android app connects nRF, the nRF status LED will keep lighting.
- If the advertising times out (Android app does not connect within 180 seconds), nRF will go system-off. Users need to wake it up through the reset pin or the "power-off → power-on" procedure.