

BT SPP Slave Application

User Guide

Version 0.2

May 2016

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About this Document

This document describes the process of bringing up the RS9113 based module as BT slave device and used for SPP chat application between two BT devices.

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1 Introduction

This project is applicable to all the WiSeConnect variants like WiSeConnect Plus, WiSeMCU and WyzBee. The term WiSeConnect refers to its appropriate variant.

1.1 Application Overview

1.1.1 Overview

This application demonstrates how to configure the device in Slave mode and establish SPP profile connection with remote Master device and data exchange between two devices using SPP profile.

In this Application, WiSeConnect device configures in Slave mode and waits to accept SPP profile level connection from remote device. After successful SPP connection, Application will wait for data to receive from connected remote device. If remote device sends data to WiSeConnect device, WiSeConnect device receives the data and send back the same data to remote device using SPP profile.

1.1.2 Sequence of Events

This Application explains user how to:

- Configure WiSeConnect module to act as Slave
- Configure device in discoverable and connectable mode
- Accept SPP level connection from the Smartphone
- Loop back the received messaged

1.2 Application Setup

The WiSeConnect in its many variants supports SPI and UART interfaces. Depending on the interface used, the required set up is as below:

1.2.1 SPI based Setup Requirements

- Windows PC with CooCox IDE
- Spansion (MB9BF568NBGL) micro controller

Note: If user does not have Spansion (MB9BF568NBGL) host platform, please go through the SPI-Porting guide [\sapis\docs\RS9113-WiSeConnect-SAPI-Porting-Guide-vx.x.pdf](#) for SAPIs porting to that particular platform.

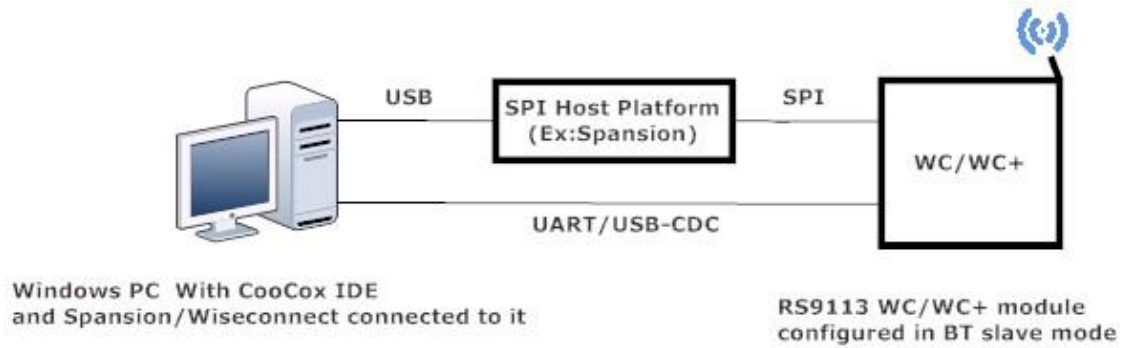
- WiSeConnect device
- BTLE supported Smart phone with GATT client

Note: Install Light blue App for tablet for ipad mini and BLE scanner app for android smart phone

1.2.2 UART/USB-CDC based Setup Requirements

- Windows PC with Dev-C++ IDE
- WiSeConnect device
- BTLE supported Smart phone with GATT client

Note: Install Light blue App for tablet for ipad mini and BLE scanner app for android smart phone.



Smart Phone with SPP Pro app

Figure 1: Setup Diagram

2 Configuration and Execution of the Application

The example application is available in the Release at {Release \$}/host/sapis/examples. These examples will have to be initialized, configured and executed to test the application. The initialization varies based on the interface but configuration and execution are the common.

2.1 Initializing the Application

2.1.1 SPI Interface

If User using SPI interface, Please refer the document *sapis/platforms/spansion_MB9BF568NBGL/RS9113-WiSeConnect_SAPIS_Spansion_Project_User_guide.pdf* for opening the *spp_slave* example in Coocox IDE.

2.1.2 UART/USB-CDC Interface

If User using UART interface, Please refer the document *sapis/platforms/windows_uart/RS9113-WiSeConnect_SAPIS_Windows_Project_UserGuide.pdf* for opening the *spp_slave* example in Dev-C++ IDE

2.2 Configuring the Application

1. Open *sapis/examples/bt/spp_slave/rsi_spp_slave.c* file and update/modify following macros,
RSI_BT_LOCAL_ANME refers name of the WiSeConnect device to appear during scanning by remote devices.

```
#define RSI_BT_LOCAL_NAME "SPP_SLAVE"
```

PIN_CODE refers four bytes string required for pairing process.

```
#define PIN_CODE "4321"
```

Following are the **non-configurable** macros in the application.

BT_GLOBAL_BUFF_LEN refers to the number of bytes required by the application and the driver.

```
#define BT_GLOBAL_BUFF_LEN 10000
```

2. Open *sapis/include/rsi_wlan_config.h* file and update/modify following macros :

```
#define CONCURRENT_MODE RSI_DISABLE
#define RSI_FEATURE_BIT_MAP FEAT_SECURITY_OPEN
#define RSI_TCP_IP_BYPASS RSI_ENABLE
#define RSI_TCP_IP_FEATURE_BIT_MAP TCP_IP_FEAT_BYPASS
#define RSI_CUSTOM_FEATURE_BIT_MAP 0
#define RSI_BAND RSI_BAND_2P4GHZ
```

2.3 Executing the Application

1. SPI Interface

If User using SPI interface, Please refer the document ***sapis/platforms/spansion_MB9BF568NBGL/RS9113-WiSeConnect_SAPIS_Spansion_Project_User_guide.pdf*** for executing the ***spp_slave*** example in CooCox IDE.

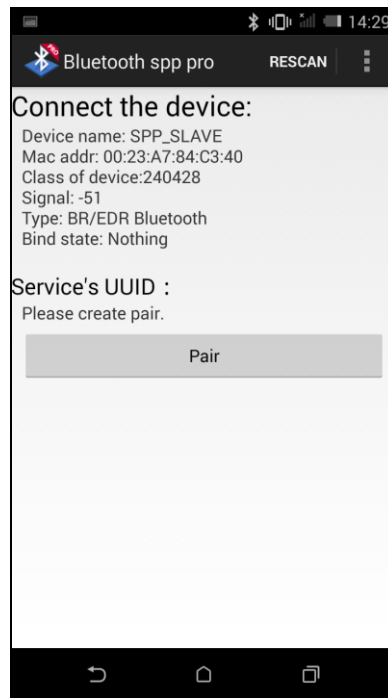
2. UART/USB-CDC Interface

If User using UART interface, Please refer the document ***sapis/platforms/windows_uart/RS9113-WiSeConnect_SAPIS_Windows_Project_UserGuide.pdf*** for executing the ***spp_slave*** example in Dev-C++ IDE

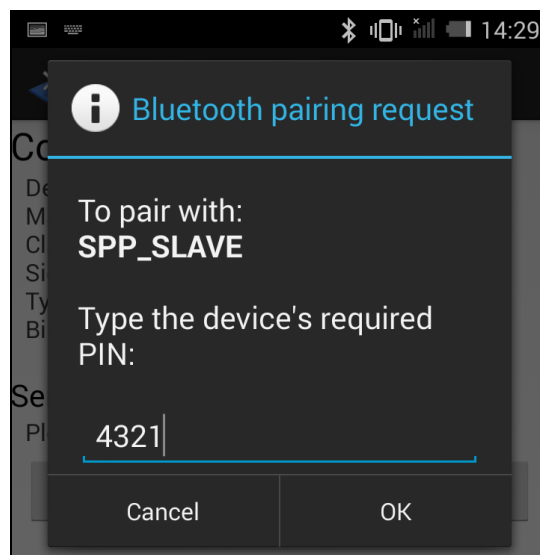
- After the program gets executed, WiSeConnect module initializes the SPP profile and waits for the incoming connection.
- Open Bluetooth SPP pro app on mobile and do the scan until WiSeConnect device (Ex: "SPP_SLAVE") gets present in scan list.



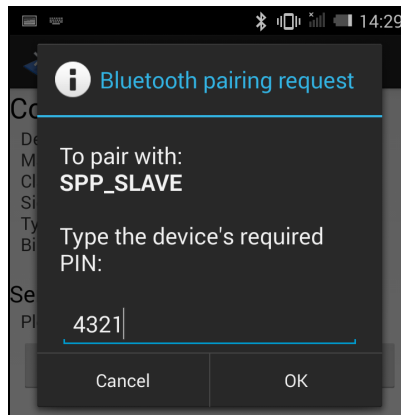
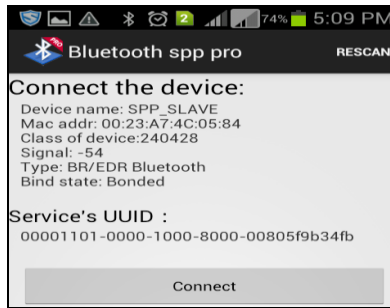
- After successful scan, select the device and initiate pairing to WiSeConnect device.



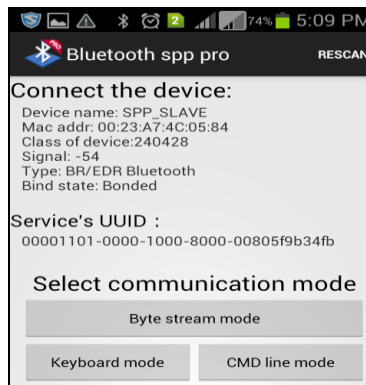
6. After initiating pairing, Pairing request will pop-up at smart phone side and issue secret key which is given at WiSeConnect device (PIN_CODE) side.



7. After successful pair, initiate SPP connection to WiSeConnect module and give secret key for receiving pairing request at remote device side.



8. After successful SPP connection, select “Byte stream mode” to send and receive the data.



9. Send some data (Ex: “redpine signals”) from remote device to WiSeConenct device and same data will send back from WiSeConnect device to remote device. Please refer the given below image for sending and receiving data from remote device.

