EIR_SPP Slave_Sniff Test Procedure

User Guide

Version 1.0

February 2019

Redpine Signals, Inc.
2107 North First Street, #540
San Jose, CA 95131.
Tel: (408) 748-3385
Fax: (408) 705-2019
Email: sales@redpinesignals.com
Website: www.redpinesignals.com

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About this Document

Add a description about the contents of this document and the intended audience.

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1 Application Overview

1.1 Overview

This application demonstrates how to configure the device in Slave mode and establish SPP profile connection with remote Master device using secure simple paring (SSP) and data exchange between two devices using SPP profile along with sniff mode. In this Application, Redpine module configures in Slave mode and waits to accept SPP profile level connection using secure simple pairing (SSP) from remote device. After successful SPP connection, Application will initiate sniff mode and wait for data to receive from connected remote device. If remote device sends data to Redpine module, it will exit from sniff mode, receives the data and send back the same data to remote device using SPP profile. Redpine module will enter to sniff mode after sending the data to remote connected device.

1.2 Sequence of Events

This Application explains user how to:

- Configure Redpine module to act as Slave
- Configure device to secure simple pairing (SSP)
- Configure device in discoverable and connectable mode
- Accept SPP level connection from the Smartphone
- Sniff mode initialization
- Receive data from Smart phone
- Sniff mode exit
- Loop back the received messaged
- Sniff mode initialization

2 Application Setup

The WiSeConnect parts require that the host processor is connected to the WiSeConnect using either SPI, UART or USB host interface. The host processor firmware needs to properly initialize the selected host interface. The Redpine Wireless SAPI framework provides necessary HAL APIs to enable variety of host processors. The WiSeMCU parts offer integrated wireless connectivity and does not require host interface initialization.

2.1 WiSeMCU / WiSeConnect based Setup Requirements

- Windows PC with KEIL or IAR IDE in case of WiSeMCU
- Windows / Linux PC with Host interface (UART/ USB-CDC/ SPI/ USB) in case of WiSeConnect
- Redpine module
- BT master device

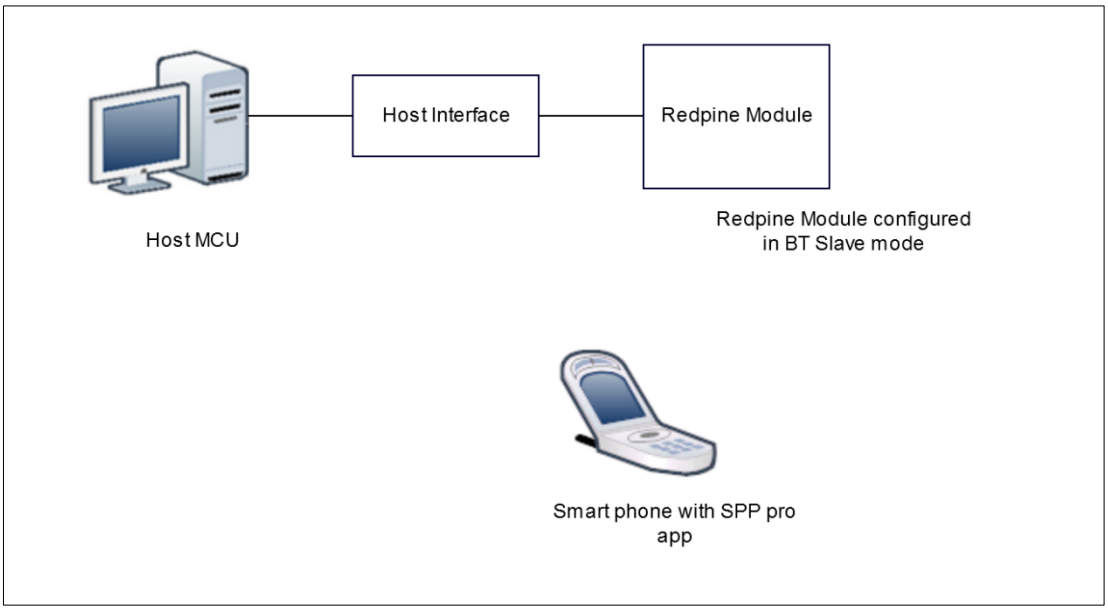


Figure 1: Setup diagram

3 Configuration and Execution of the Application

3.1 Configuring the Application

1. Open ***rsi_bt_config_DEMO_7.h*** file and update/modify following macros,
   [File path : sapis/examples/rsi_demo_apps/BT_EIR_SNIFF_SPP_SLAVE_DEMO_7]
   RSI_BT_LOCAL_NAME refers name of the Redpine module to appear during scanning by remote devices.

   #define RSI_BT_LOCAL_NAME "SPP_SLAVE"

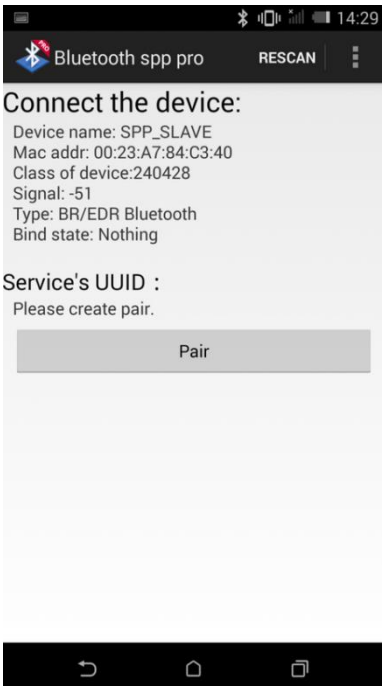
   PIN_CODE refers four bytes string required for pairing process.

   #define PIN_CODE "4321"

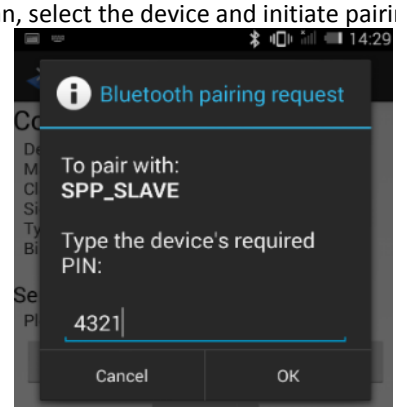
3.2 Executing the Application

1. After the program gets executed, Redpine module initializes the SPP profile and waits for the incoming connection.

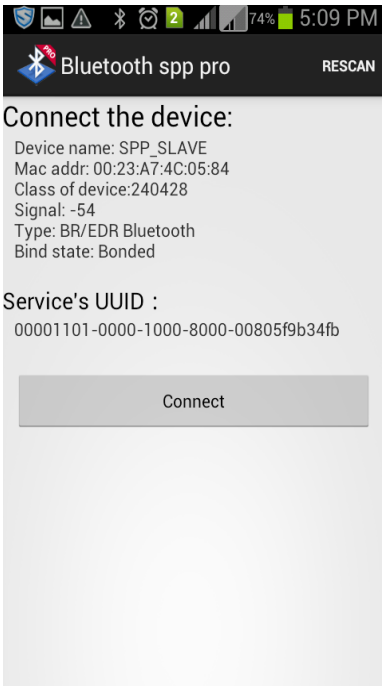
2. Open Bluetooth SPP pro app on mobile and do the scan until Redpine module (Ex: "SPP_SLAVE") gets present in the scan list.

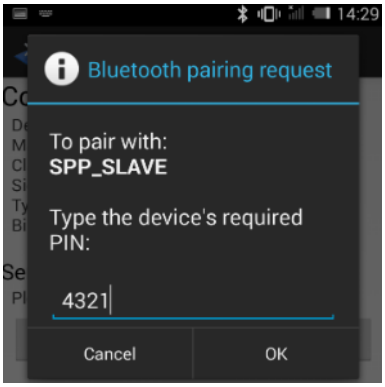


3. After the successful scan, select the device and initiate pairing to Redpine module.

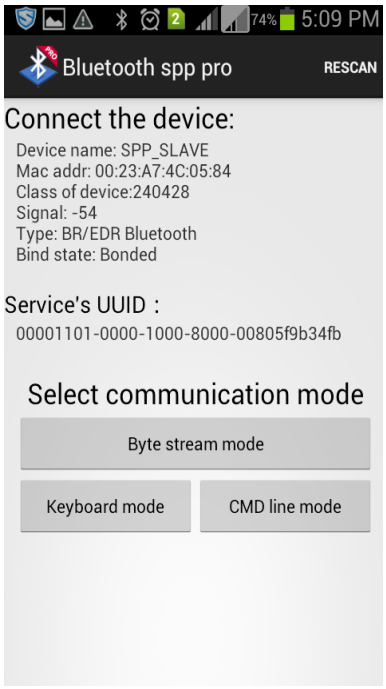


4. After initiating paring, Pairing request will pop-up at smartphone side and issue secret key which is given at Redpine module (PIN_CODE) side.

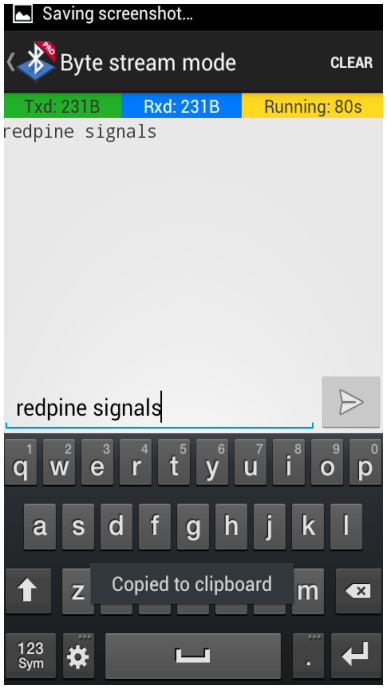




5. After successful pair, initiate SPP connection to Redpine module and give the secret key for receiving pairing request at remote device side.



6. After successful SPP connection, select "Byte stream mode" to send and receive the data.
7. Redpine device will enter into sniff mode



8. Send some data (Ex: "redpine signals") from the remote device to Redpine device and same data will send back from Redpine device to remote device. Please refer the given image for sending and receiving data from the remote device.
9. After receiving data, Redpine device will exit sniff mode and received data will send back from Redpine device to remote device.