BT A2DP Sink Example

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1 Application Overview

1.1 Overview

A2DP sink. is used to receive the audio(SBC) data from remote A2DP source device and play through the headset.

1.2 Sequence of Events

Applications explains user how to:

- Configure Redpine device in discoverable and connectable mode
- Initialize A2DP profile
- Initialize SBC
- Register a2dp event call backs

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 Setup Requirements

- Redpine module
- BT Remote device(A2DP source device)
- Host platform
- I2S setup
- Wired Headset(connected to I2S board)

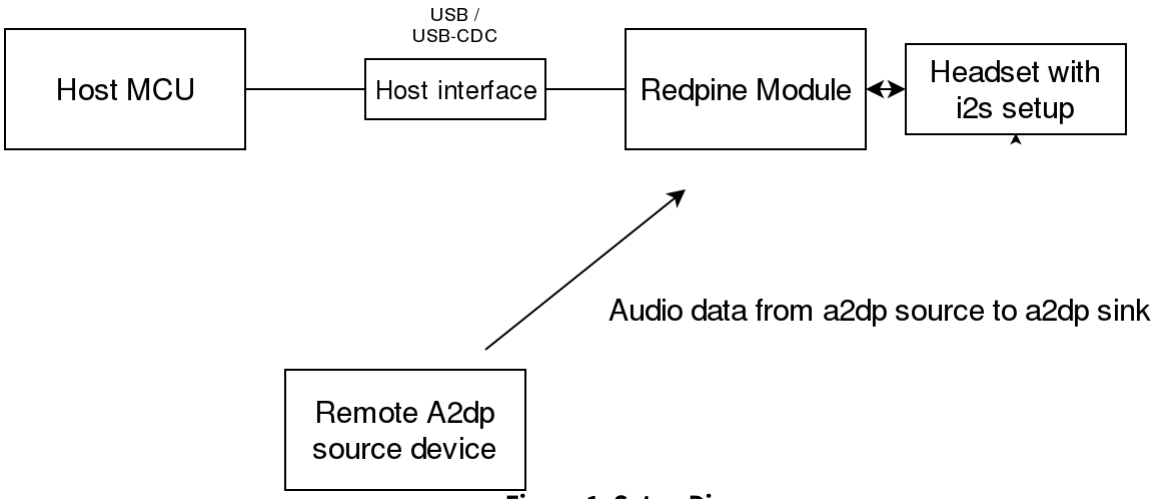

Figure 1: Setup Diagram

3 Configuration and Execution of the Application

3.1 Configuring the Application

1. Open ***rsi_a2dp_sink.c*** file and update/modify following macros,
   RSI_BT_LOCAL_NAME refers name of the Redpine module to appear during scanning by remote devices.

```
#define RSI_BT_LOCAL_NAME                                   "A2DP_sink"
```

   PIN_CODE refers four bytes string required for pairing process.

```
#define PIN_CODE                                            "0000"
```

   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 ***rsi_bt_config.h*** file and update/modify following macros:

```
#define A2DP_PROFILE_ROLE                                A2DP_SINK_ROLE
```

   Open ***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                       1
#define RSI_EXT_CUSTOM_FEATURE_BIT_MAP                   EXT_FEAT_256K_MODE
#define RSI_BAND                                         RSI_BAND_2P4GHZ
```

3.2 Executing the Application

1. Configure I2S board .
2. Run the A2DP sink application
3. Now Redpine module is in discoverable and connectable mode.
4. Now Give connection from remote a2dp source device.
5. After Successful connection, Redpine device is ready to receive audio data.
6. Whenever a2dp source send audio data (playing music), Redpine module will receive audio data and route to I2S.
7. User can listen audio data(music) through headset which is connected to I2S setup.

Note:
I2S pins we are using for a2dp are:

- SCLK: - GPIO-7
- LRCLK: - GPIO-11
- DIN: - GPIO-10
- DOUT: - GPIO-6

Note:
Host interfaces supported for A2DP sink are USB and USB-CDC