



## BM83 Audio Transceiver v1.0 Release Note

### VERSION 1.0

The following are attributes of the Audio Transceiver (AT) firmware, which supports A2DP source. The BM83SM1-00TA module is programmed with this firmware and defaulted to Host Mode. Navigate at the directory structure below for software.

IS2083\_Turnkey\_1.1.0\Software\IS2083 Image\AT v1.0

- Documents and Utility tools**

Items	Version	Note
[Document] Audio UART commandSet	2.07	
[PC Tool] Config Tool Software	1.2.25	
[PC Tool] isUpdate Software	297	
[PC Tool] SPKCommandSet Software	202.253	
[PIC32 MCU] Host MCU FW	1.0.8	

### 1. New Features and Enhancements:

- Support both Tx and Rx Mode. See below major supported features for both modes.

Features	Tx mode	Rx mode
A2DP v1.3 Source Role	Y	N
HFP v1.7 Audio Gateway role	N	N
A2DP v1.3 Sink Role, HFP v1.7 Handsfree role	N	Y
AVRCP v1.6 Target and Controller roles	N	Y
Embedded and Host Mode supported	Y	Y
Input Audio Source	I2S, Aux-In	I2S, Aux-In
BLE Transparent Service	Host Mode only	Y
BM83 FW update scheme	UART, USB	UART, USB, OTA
Mobile App MBA supported	N	Y
Other MSPK2 v1.2 supported features: WCT, GFP, PBAP, SPP, AVRCP Browsing, iAP2	N	N

- Dual Link supported:
  - Tx Mode: Two A2DP connections.
  - Rx Mode: Two A2DP + 1 HF connections.
- Support TX Mode and RX Mode mode switch via GPIO level switch or UART Commands
- Tx mode features:

- Nearby Bluetooth audio devices discovery and connections:
  - Embedded Mode: Auto connection operation based on RSSI value.
  - Host Mode: Filter discovered devices based on UART command asserted conditions.
- Support both I2S IN or AUX IN audio input source. input source is controlled through GPIO or UART Commands.
- Auto re-connect with existing paired devices after power on.
- Audio streaming toggle operation under dual link:
  - Embedded mode: One key operation.
  - Host Mode: UART command initiated by Host MCU.
- Support SBC Encoder with 48 KHz or 44.1 KHz sampling rate. This initialization setting can be configured via Configuration Tool or UART command.
- Dual streaming supported: Streaming to two A2DP Sinks simultaneously. It can be enabled through Configuration tool.
- Specific tab in Configuration Tool for Tx mode configuration. See Configuration tool in detail.
- Rx mode features are inherited from BM83 MSPK2 v1.2:
  - A2DP, AVRCP and HF device role.
  - Charging, LED and button control behavior.
- Bluetooth 5.0 compliant and end product [listing](#).

## 2. Issues Fixed:

- N/A. First release.

## 3. Errata:

- Dual Streaming issues and limitation
  - While one Bluetooth audio device is connected and playback streaming, audio streaming may be stuttering if the another Bluetooth audio device link back to BM83 AT device.
  - While one Bluetooth TWS headset is connected and playback streaming, audio break may be observed if BM83 AT is trying to connect to another speaker
  - Under dual streaming condition, no audio or audio breaks may be observed while 1 connected Bluetooth audio device goes out of range.
- BLE + TX Mode Streaming Co-Existence Limitation
  - When LE is connected using Android MBA app, a short period of audio break is observed in connected Bluetooth audio device due to RF Bandwidth limitation.
- IOP issues with HUAWEI FreeBuds3 TWS Headset
  - No audio out while earbuds are taken out from box. Earbud link back to BM83 AT but link is lost suddenly.
- Repeated plug in and out, Aux-in cable would cause noise at the receiver
- Audio switching between receivers using toggle play back command causes noise at the receiver

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## Document Revision History

Revision	Date	Section	Description
1.0	6/23/2020		Initial Version

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