



BM6x Multi-Speaker V1.3.11 Release Note

VERSION 1.3.11:

The following are the resolved attributes of this firmware version for specific system requirements and device settings:

1. Bluetooth Spec security vulnerability resolution
 - SWEYNTTOOTH BLE vulnerabilities issues
 - BIAS (Bluetooth Impersonation Attacks) vulnerability issue (CERT/CC VU#647177)
 - Key Negotiation of Bluetooth (KNOB) BR/EDR Vulnerability (CERT VU#918987)
2. Resolved Window version-1903, not showing 16Khz sampling rate when wide band speech is enabled.

VERSION 1.39:

The following are the attributes of this firmware version for specific system requirements and device settings:

1. Enable stereo sound for HFP voice and prompt sound
2. Disable iAP1
3. Modify "disable link back when remote no link key" to work as expected
4. Fixed some of the phone are difficult to find concert master under pairing mode
5. Fixed IOP issue that MFi data will shut down during music playback
6. Fixed IOP issue that no sound in remote end talk after data transfer
7. Fixed for in Line-in mode sound break when playing single tone over 40mins.

VERSION 1.35:

The following are the attributes of this firmware version for specific system requirements and device settings:

1. Selectable Audio/Video Remote Control Profile (AVRCP) version (v1.6 / v1.3).
2. Advanced Audio Coding (AAC) codec is supported.
3. Programmable Aux-In latency (20 ms to 80 ms).
4. Command to read EEPROM content in Application mode.
5. Zone information (0x87 to 0x88) can be programmed in real time.
6. Command prompt has been added in `Microchip Bluetooth Audio (MBA) app`.
7. iAP2 has been enabled.
8. Improvement in USB DFU (Device Firmware Update).

VERSION 1.2:

The following are the resolved attributes of this firmware version for specific system requirements and device settings:

1. BM64 I2S must be in Master mode for all Concert/Stereo master and slave speakers.
2. Most of the known audio synchronization issues in v1.1 has been addressed.
3. Voice Prompts and Hands-free Profile (HFP) can be enabled to play on Left and Right channels.
4. The "Ring Tone Event (# 0x24)" to indicate start and end of Voice Prompt play has been added.
5. BLE data transmission occurs every 200 ms.
6. A new Android/iOS Microchip Bluetooth Audio (MBA) app is developed to replace the Audio Widget App.
7. Once master and slave speakers are provisioned (Concert/Stereo mode), the BLE link to slave speaker/speakers are disabled. The BLE link to master is only active after provisioning.
8. When HFP is in progress, Aux-In and Bluetooth toggle results in no audio output.
9. Some times Aux-In audio volume increases abruptly.
10. After the HFP call ends in simultaneous Aux-In case/Bluetooth case on speaker, the Bluetooth audio keeps playing on the phone while speaker is playing Aux-In. This occurs only on the Android device. The iOS device pauses audio.
11. AAC decoder is not supported in Multi-Speaker.

VERSION 1.1:

The following are the resolved attributes of this firmware version for specific system requirements and device settings:

1. The Voice SRC (8/16 kHz to 48 kHz) is enabled.
2. The DSP tool is fixed.
3. Most of the audio synchronization issues in v1.0 are addressed.
4. The Audio Widget App for Android/iOS is developed for provisioning.
5. A Sync button is added in the app to re-sync the connected devices.
6. The Android Audio Widget App is supported on Android version 6.0 and higher. The iOS Audio Widget App is supported on iOS 10.0 and higher. The following devices have been used for testing the app:
 - Android devices
 - Moto G5 Plus (7.0)
 - Nexus 6 (7.0)
 - HTC 10 (6.0.1)
 - Samsung Galaxy S7 (6.0.1)
 - Nexus 6 (6.0.1)
 - HTC One M8 (6.0)
 - Sony Xperia (6.0.1)
 - iOS devices
 - iPhone 5S (10.2.1)
 - iPhone 6S (10.2.1)
 - iPhone 6 (10.0.2)

VERSION 1.0:

The following are the known attributes of this firmware version for specific system requirements and device settings:

1. The Multi-Speaker solution supports an audio source through an auxiliary input. When the input is connected to the master speaker, it will transmit to the slave speakers. However, when the input is connected to a slave speaker, the music will be heard on that device but will not be transmitted to the master speaker or the other slave speakers.
2. Controlling the music or audio effects of the speakers through the `Multi-Speaker Android App` will result in a delay response (latency) of up to 1.1 seconds.
3. The mechanism by which a command is transmitted through transparent mode is as follows:
4. The command received over BLE is retransmitted to the MCU through UART. The MCU then sends back the same command to the BM64 module for execution. This results in a two times of UART transport delay.
5. Master and slave roles are not dynamically interchangeable in Stereo or Concert modes. Re-provisioning is required to assign a speaker to the new role.
6. During speaker provisioning, the smartphone is configured as a slave device to the master speaker in a BLE connection. The master and slave roles of the smartphone and the speaker can typically be interchanged by the user through the App. However, iOS10 devices do not allow for this role switch.
7. The `Multi-Speaker App` is currently limited to Android devices. A comparable app that supports iOS app is in development.
8. The Multi-Speaker solution only functions with Microchip's BM62 and BM64 modules. This firmware release requires an external MCU host. All documentation and sample code references the BM64 EVB platform.
9. This version of firmware executes a sample rate conversion (SRC) from 44.1 kHz (A2DP) to 48 kHz. In this configuration, HFP and voice prompt will sound distorted. Subsequent firmware will implement SRC for 8/16 kHz to 48 kHz.
10. When using the DSP tool to customize the settings, there is an option to save the file with those settings. This allows for iterative changes to your customization process. However, this version of the DSP tool does not allow for a user-saved file to be re-uploaded into the tool. To avoid potential file corruption, always customize DSP settings with the default file that is automatically loaded when opening the tool. Do not load a new file. For additional guidance, contact your factory support application engineer. This will be addressed in the next firmware release.

1. Document Revision History

Revision	Date	Section	Description
1	02/01/2017	Document	Initial Revision
1.1	02/10/2017	V1.0	Added v1.0 Release details
1.2	04/15/2017	V1.1	Added v1.1 release details
1.3	07/20/2017	V1.2	Added v1.0 release details
1.4	01/13/2018	V1.3	Added v1.0 release details
1.5	08/08/2018	V1.35	Added v1.35 release details
1.6	03/28/2020	V1.39	Added v1.39 release details
1.7	10/19/2020	V1.3.11	Added v1.3.11 release details

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