

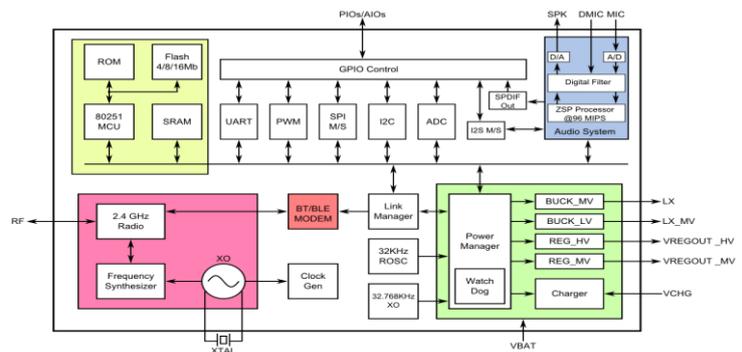
# AB1520H Product Brief

*Stereo Speaker/Headphone/Sound bar with wireless subwoofer Solution  
For DSP Intensive Audio Applications*

## Product Overview

AB1520H is an advanced single-chip solution which integrates baseband and radio for Stereo headset and speaker applications. It is Bluetooth 4.2 certified and supports wide band speech which is defined at HFP1.6, AAC decoder, and 2-Mic for better noise reduction and echo cancellation performance. AB1520H embeds serial flash which is more flexible for customer SW upgrading and 3<sup>rd</sup> party SW porting is supported. With optimized MCU structure, interface arrangement and better DSP algorithm, AB1520H provides higher performance and crystal voice and music quality in most of the Bluetooth audio application such as Headphone, Speaker and Sound bar systems. AB1520H supports “AiroStereo” which two speakers can connect to each other, play left channel in one speaker and play right channel in another speaker as a wireless stereo system. “AiroStereo” can let end users have great stereo experience without wire connection. AB1520H also supports “AiroShare” which can relay the music from one audio device to another device wirelessly that users can easily share the music with their friends or family from the same audio source. AB1520H supports “AiroWoofer” which can play stereo in the sound bar and send the bass signal to subwoofer with very low latency. It means customers can quickly and easily develop high-quality sound bar with wireless subwoofer as 2.1 channel products.

## Block Diagram



## Key Features

- BT 4.2 including low energy profiles
- Embedded 96MIPS dual-MAC DSP coprocessor
- 2-Mic Noise reduction and Echo cancellation
- Programmable EQ
- Support Packet loss concealment
- Multipoint for HFP and A2DP
- Support wide band speech, wide band voice prompt and customized voice prompt
- Support Voice command
- Support AAC\_LC decoder
- Support AiroStereo. AiroShare. AiroWoofer
- Build in Battery service, proximity profiles.
- Support adaptive volume control
- Support for battery status shown at iPhone and Android phones
- FCC ID: UOW-AB152x

## Applications

- Stereo Headset, Headphone and Speaker
- AiroWoofer for 2.1 Channel product and Sound bar system with wireless subwoofer
- AiroStereo headset and headphone
- AiroShare headphone

## Specifications

Standard	Bluetooth v4.1 Dual mode
Frequency Band	2.4GHz ISM
Bluetooth Profile	HFP v1.6 with WBS HSP v1.2 A2DP v1.3 AVRCP v1.5 SPP v1.2
Output Power	Maximum 8 dBm
Sensitivity	-92 dBm at 1Mbps
IC Package	QFN 6x6 48 pin
Physical Interface	UART, I2C, SPI
Audio Interface	I2S, SPDIF, PCM

## FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body

## This device is intended only for OEM integrators under the following conditions

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) This device and its antenna(s) must not be co-located with any other transmitters except in accordance with FCC multi-transmitter product procedures. Referring to the



Airoha Technology Corp.

## AiroStereo

- **Single Stereo mode**



- **Dual Stereo mode**



## AiroWoofer

- **2.1 Channel Speaker**



- **Soundbar**



multi-transmitter policy, multiple-transmitter(s) and module(s) can be operated simultaneously without C2P.

## Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.