1.1 Overview

The ATS2853BTB is a highly integrated single-chip Bluetooth audio device module.

The ATS2853BTB meets Bluetooth V5.0 and compliant with V4.2/2.1+EDR, and supports dual mode (BR/EDR + Low Energy Controllers). The links in BR/EDR and LE can be active simultaneously.

ATS2853TB integrates high quality and low latency SBC decoder and CVSD codec. It also supports PLC technique and AEC in voice call providing a high audio quality.

1.2 Features

System

- 32bit RISC processor Core, up to 234MHz.
- Internal 203KB RAM for data and program storage
- Internal 2MByte Nor flash
- Support 24MHz OSC with on-chip PLL
- Internal 32KHz RC oscillator
- 8-channel ordinary DMA, support for transmission in burst 8 mode
- Fully configurable PEQ, up to 20 segments
- Support for echo cancellation and noise reduction
- Support for packet loss concealment
- Support USB/ Uart firmware upgrade
- Support FFT/FIR/IIR hardware computing units
- Support AES-128/192/256 Encrypt and Decrypt in ECB/CTR/CBC/CBC-CTS mode
- Support hardware TRNG used to produce random bits
- Support CRC-16/32

Bluetooth

- Support Bluetooth5.0, compatible with Bluetooth4.2/4.2 LE/4.0/2.1 + EDR system
- Compatible with AVRCP Profile V1.6
- Compatible with A2DP Profile V1.3
- Compatible with HFP Profile V1.7
- Support for SBC & AAC Bluetooth audio transmission format
- Support for mSBC broadband speech coding
- Supports all packet types in basic rate and enhanced data rate
- Supports SCO/eSCO link
- Supports Secure Simple Pairing
- Supports Low Power Mode (Sniff / Sniff Sub-rating / Hold / Park)
- Bluetooth Dual Mode support: Simultaneous LE and BR / EDR
- Supports multiple Low Energy states
- Fast AGC control to improve receiving dynamic range
- Supports AFH to dynamically detect channel quality to improve transmission quality
- Supports Power/Enhanced Power Control
- LE Data Packet Length Extension
- Extended Scanner Filter Policies
- LE 2M PHY
- LE Extended Advertising

- LE Periodic Advertising
- Channel Selection Algorithm #2

Power Management

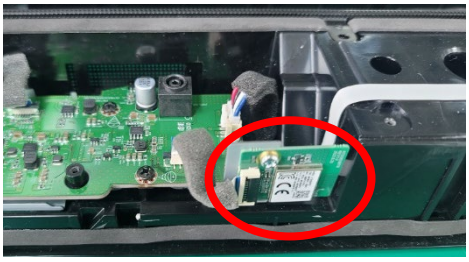
- Integrated DC-DC buck converters output VD15 from BAT.
- Linear regulators outputs VCC, SVCC, VD15, AVCC.
- Standby current 20uA (typical).
- One 10-bit A/D converter for system monitor and wire-control, 12 channels can be externally used by user. The ADC sample rate can support 2/4/8KHz per channel.
- 2*WIO which can used for ADC key or waking up IC to running mode from deep sleep mode.

Physical Interfaces

- USB2.0 FS host or device
- 1*UART support master or slave mode

1.3 Installation Guide

Install the Blue Tooth module like below in the sound bar.



Changes or modifications not expressly approved by the party responsible for -compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must acceptany interference received, including interference that may cause undesired operation.

"This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

This device may not cause interference.

This device must accept any interference, including interference that may cause undesired operation of the device."

« Cet appareil contient un ou des émetteurs/récepteurs exempts de licence conformes aux RSS exempts de licence d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

Cet appareil ne doit pas provoquer d'interférences.

Cet appareil doit accepter toute interférence, y compris les interférences pouvant entraîner un fonctionnement indésirable de l'appareil.

The host device installing the module must add a label stating this device contains radio module ISED ID: 20753-MV2853BTB / FCC ID: 2AF4S-MV2853BTB