

Features

- Supports Bluetooth 5.0 dual-mode (BDR/EDR/ BLE) specifications
- Support Profile:
HSP1.2, SPP1.2, A2DP1.3, AVRCP1.6, HFP1.7, DID1.3
- ARM® Cortex®-M4 with Floating Point Unit (FPU) application processor
Maximum speed: 156MHz
- Cadence® HiFi Mini® Audio Engine DSP coprocessor
Maximum speed: 312MHz
- Andes® N903 processor : Maximum speed: 104MHz
- System in Package (SiP) 32Mb low-power flash memory with 0.2μA deep-down current (typical condition)
- 256kB system RAM (SYSRAM) with low latency
- USB 2.0 device
- Support maximum three I2C Master mode 400kbps Up to 3.4Mbps
- Support maximum three UART interface Up to 3Mbps
- Support maximum three SPI master interface, Clock up to 52MHz
- EMMC/SDIO v2.0, up to 48MHz, 1-bit/4-bit mode eMMC4.41 ,
- Stand-alone module with on-board PWB antenna and Bluetooth stack
- Supports high resolution up to 24-bit, 192 kHz audio data format
- Supports maximum four I2S interface
- Supports to connect max three hosts with HFP/A2DP profiles simultaneously
- Supports smart phone applications by Bluetooth SPP or BLE link
- Supports firmware field upgrade by USB/OTA
- Supports two microphones
- Compact surface mount module: 29.5 * 18.0 * 4.0 mm
- LGA package 152pin, Flatness is less than 0.05mm
- RoHS compliant
- Ideal for portable battery operated devices
- Internal battery regulator circuitry DSP Audio Processing
- Support for single SCO or Esco link with CVSD/mSBC coding.

Peripherals

- Built-in lithium-ion and lithium-polymer battery charger (up to 1A)
- Integrated 1.8V and 3V configurable switching regulator and low-dropout (LDO) regulator
- Built-in ADC for battery monitoring and voltage sense
- Built-in ADC for charger thermal protection
- Built-in under voltage protection (UVP)
- An AUX-In port for external audio input
- Multiple I/O pins for control and status

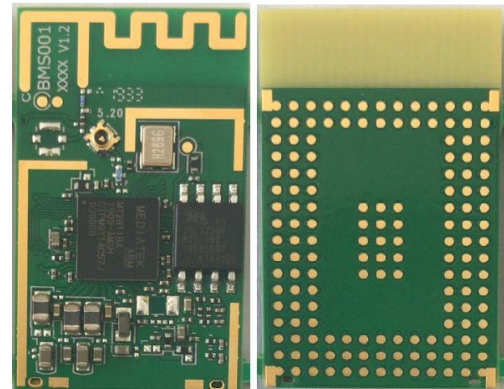
HCI Interface

- High-speed HCI-UART interface (supports up to 3M bps)

BMS001 BT5.0 Stereo Audio Module



MT2811B/A



(This Photos are for reference only)

RF/Analog

- Frequency spectrum: 2.402 GHz to 2.480 GHz
- Receive sensitivity: -93 dBm (2 Mbps EDR)
- Crystal : 26MHZ ±10PPM@25°C±0.3°C
- Max avg power: 5dBm ± 2db (EDR) ,
2dBm ± 2db (LE)
1dBm ± 2db (2LE)

Audio Codec

- SBC, AAC, LDAC
- 24-bit digital-to-analog converter (DAC) with 105dB SNR
- 12-bit analog-to-digital converter (ADC) with 95dB SNR
- Supports up to 24-bit, 192 kHz I2S digital audio

MAC/Baseband Processor

- Supports Bluetooth 5.0 dual-mode (FW dependent)
- BDR/EDR transport for audio, voice, and SPP data exchange
- BLE transport for proprietary transparent service and Apple Notification Center Service (ANCS) data exchange

Operating Condition

- Operating voltage: 3.2V to 4.6V
- Operating temperature: -20°C to +70°C

Description

The BMS001 Stereo Audio module is made in China, a fully qualified Bluetooth 5.0 dual-mode (BDR/EDR/BLE) module for designers to add wireless audio and voice applications to their products. The BMS001 products is a Bluetooth module that provides a complete wireless solution with Bluetooth stack, integrated PWB antenna, and worldwide radio certifications in a compact surface-mount package.

Applications

- Soundbar and Subwoofer (FW dependent)
- Bluetooth portable speaker phone
- Multi-speaker (FW dependent)
- Bluetooth headset



FCC Statement

List of applicable FCC rules

This device complies with FCC part 15C : 15.247.

Specific operational use conditions

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter. And the module should be installed at a minimum distance of 5 mm away from person nearby. The host product manufacturer should state this information to the host instruction manual.

Limited module procedures: Applicable. (See the "Features", "Applications" of the catalog)

Manufacturer reviews detailed test data or host designs prior to giving the host manufacturer approval.

The module is installed in the host, and the host needs to be tested according to relevant regulations.

For additional hosts other than the specific host originally granted with a limited module, a C2PC application is required on the module grant to register the additional host as a specific host also approved with the module.

Trace antenna designs: Not applicable.

FCC Radiation Exposure Statement

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 5 mm between the radiator and user body.

Antenna Information

Antenna Type: PCB Antenna

Antenna Gain: 2.84 dBi

The antenna is permanently attached and not consideration of replacement.

Label and compliance information

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 accept any interference received, including interference that may cause undesired operation.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off

and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2AMX3BMS001 Or Contains FCC ID: 2AMX3BMS001" .

Information on test modes and additional testing requirements

Any final host product with the modular transmitter installed should be under test according to guidance given in KDB 996369 D04. To enter test mode for module, WCN_combo_tool software and command is necessary. When something wrong happens in configuring test modes for host product with module, host product manufacturer should coordinate with module manufacturer for technical support. It is recommended that some investigative measurements should be taken to confirm that host product with module installed does not exceed the spurious emissions limits or band edge limits.

Part 15 Subpart B disclaimer

The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 15.247) list on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed when contains digital circuitry.

Canada Statement

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:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Please notice that if the ISSED certification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains IC: 23011-BMS001" any similar wording that expresses the same meaning may be used.

L'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie Canada, précédé des mots « Contient un module d'émission », du mot « IC: 23011-BMS001 » ou d'une formulation similaire exprimant le même sens, comme suit The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

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Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 10 mm between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 10 mm entre le radiateur et votre corps.

CE Statement

Body-worn SAR testing has been carried out at a separation distance of 5 mm. To meet RF exposure guidelines during body-worn operation, the device should be positioned at least this distance away from the body.

Manufacturer: Sunitec Enterprise Co., Ltd

Address of Manufacturer: No. 192, Runtang Ind, Danhu community, Fucheng, Longhua District, Shenzhen, China (ZIP: 518100)

Country of origin Made in China.



All products bearing this symbol are waste electrical and electronic equipment which should not be mixed with unsorted household waste. Instead, you should protect human health and the environment by handing over your waste equipment to a designated collection point for the recycling of waste electrical and electronic equipment, appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. Please contact the installer or local authorities for more information about the location as well as terms and conditions of such collection points.