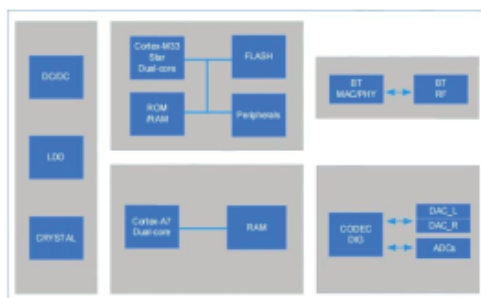


The EUT is a portable Bluetooth speaker and it supports Classical Bluetooth function used for audio entertainment in house or similar environment. It operates at 2.4GHz ISM frequency band.

Technical Specification of Classical Bluetooth	
Operating Frequency band	2402 ~ 2480 MHz
Channel Number	79 channels
Channel separation	1MHz
Modulation	GFSK, $\pi/4$ DQPSK, 8DPSK
Antenna Type	FPC antenna
Antenna Gain	2.3 dBi
Technical Specification of Bluetooth Low Energy	
Operating Frequency band	2402 ~ 2480 MHz
Channel Number	40 channels
Channel separation	2MHz
Data rate	1Mbps, 2Mbps
Modulation	GFSK
Antenna Type	FPC antenna
Antenna Gain	2.3 dBi

Features:

- Qualified to Bluetooth® v5.2 dual-mode specification
- Support BLE Mesh;BT/BLE audio dual-mode support
- Support broadcasting BLE audio speaker
- 300MHz ARM Cortex-M33 Star dual-core MCU subsystem
- 1GHz ARM Cortex-A7 dual-core AP subsystem with NEON
- Shared 2MB SRAM; 4MB on-chip NOR flash,4MB on-chip OPI PSRAM for chip BES2600WM-6x3
- Shared 2MB SRAM; 16MB on-chip NOR flash,16MB on-chip OPI PSRAM for chip BES2600WM-AX4D
- Support eMMC4.41/SD3.0/SDIO3.0
- Support hardware cryptography engine
- Support Trust Zone; Support secure boot
- Far-field voice wake up
- Hi-Fi Stereo Audio 24bit DAC:120dB SNR;107dB DNR;Sample rates from 8 kHz to 384 kHz
- Hi-Fi Stereo Audio 24bit ADC:96dB SNR;Sample rates from 8 kHz to 384 kHz
- Support up to 6 digital MICs and 3 Analog MICs
- Support DSD-64/128/256 decode
- Support up to 96k x 24bit/192k x 24bit USB Audio Playback
- USB2.0 HS
- Peripheral interfaces:6Mbps UARTx3; 50Mbps SPIx2; 1.4Mbps I2C master x2; I2S/TDM;SPDIF TX/RX;PWMx4;10-bit GPADCx3 channels
- Size: 24.5±0.5mm x 13.5±0.5mm x 2.2±0.5mm
- Weight: 1.1g



System Architecture

BM008 Bluetooth Module



(This Photos are for reference only)

Product Description:

BM008 Module is a highly integrated SOC which features a Cortex-M33 Star1 dual-core MCU subsystem, a Cortex-A7 dual-core AP subsystem, a Bluetooth 5.2 dual-mode subsystem, a voice & audio CODEC subsystem, and a Power Management Unit.

BM008 Module supports microphone arrays with up to three analog microphones or six digital microphones for far-field voice application.

Both MCU and AP subsystem are able to run RTOS and user applications. Besides, MCU subsystem runs Bluetooth upper protocol stack, and AP subsystem runs voice & audio processing and AI tasks.

Applications:

- Far-field voice control Bluetooth TWS speaker
- Smart Bluetooth speaker
- High-end BT dual-mode speaker
- BT docking station and sound bars