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 Bluetooth (BDR & EDR)	
Operating Frequency band	2400 – 2483.5 MHz
Operating Frequency Channel	2402 – 2480 MHz
Channel Number	79 channels
Channel separation	1MHz
Extreme Temperature Range	0ºC to +45ºC
Modulation	GFSK, 8DPSK, π/4DQPSK
Antenna Type	PCB Layout Antenna
Antenna Gain	0 dBi

For Bluetooth module HD1909:

1) WS9641B is the main MCU of HD1909. It consists of a high performance CPU processor, SRAM, via ROM Bluetooth baseband controller, MODEM, RF, Audio CODEC, PMU, etc. The protocol stack is stored in the on-chip ROM. It is fully compliant with all the mandatory features of Bluetooth version 5.1 + EDR specification.

WS9641B is a stereo single chip headset solution based on Bluetooth protocol. It consists of a high performance CPU processor, SRAM, via ROM Bluetooth baseband controller, MODEM, RF, Audio CODEC, PMU, etc. The protocol stack is stored in the on-chip ROM. It is fully compliant with all the mandatory features of Bluetooth version 5.1 + EDR specification.

2) FEATURES

- High performance CPU processor.
- Internal 4M bit SPI flash.
- Logic for forward error correction, header error control, access code correlation, CRC, demodulation, encryption bit stream generation, and whitening and transmit pulse shaping.
- Fully qualified Bluetooth v5.1+ EDR feature including eSCO and AFH.
- Internal SRAM. Allows full-speed data transfer with full piconet support, mixed voice and data, including all EDR packet types.
- Audio transcoders for A-law, μ-law and linear voice from host and A-law, μ-law and CVSD voice over air.
- UART interface with programmable baud rate up to 3Mbps for HCI communication.
- Multiple I2C interface for external Codec.
- Boot loader with external memory interface for software debugging.
- Internal 32 KHz oscillator for low power operation.
- I2S Digital audio interface.
- Battery power display support. Allows user to use buttons to trigger a tone/speech tone or
- Single-microphone echo Cancellation. Used to cancel acoustic echo.
- Single-microphone noise suppression. Used to reduce stationary
- Packet Loss Concealment. Used to restore audio quality in difficult RF environment on Rx.
- Equalizer. Supports six arbitrarily frequency bands and the bandwidth can be adjusted.
- Automatic Gain Control. Performs automatic volume adjustment of the signal on Tx and Rx.
- Speech Tone. Encoded with SBC (Sub-Band Codec) format and stored in FLASH, to indicate general event from headset by specified tone directly.
- Mono or stereosupport.
- internal NTC for temperature detect
- Watch dog for link loss alarm.

- A2DP supporting SBC&AAC decoding.
- HID profile support.
- Multilingual support. Up to four languages by request.
- Battery monitor designed for smart phones.