Operational Description

Product Description

The EUT is one of music speaker system. This product integrated a Bluetooth and 2.4G FSK wireless module to support the Bluetooth function. The 2.4G FSK wireless module use for communicate between the centre part and subwoofer part.

The brief introduction of the circuit

1. The Bluetooth and 2.4G FSK wireless signal is transmitted and received through the cable antenna.
2. Power of the whole body is provided by 100-240V.
3. HDMI IC (SIL9573), it is use process the HDMI data.
4 The DSP IC(C S 497014), It is use to process all the audio signal.
5. The MCU IC (STM32F105RCT6), It is use to control the whole system to work.
6: Two amplifiers(TPA3116D2) use to amplified the audio signal to speaker.

Technical Description of Bluetooth

The Bluetooth standard describes a frequency hopping spread spectrum system (FHSS). The frequency hopping sequence is governed by one unit known as the master in any group of units communicating together. The group is known as a piconet, and all units other than the master are known as slaves. The master determines the pseudo random hopping sequence internally and without reference to any external information, there is no co-ordination with any other Bluetooth or other FHSS systems to avoid simultaneous occupancy of hopping channels. Bluetooth uses re-transmission, interleaving and coding techniques to mitigate against lost transmissions when simultaneous occupancy of a channel cause loss of data. The pseudo random hopping sequence is initialized at the start of a new connection between master and slave to a random frequency (hopping channel), and the hopping sequence is generated such that an equal time is spent in each of 79 channels throughout the duration of the connection.

The antenna supplied with the unit is a short monopole of 1/4 wavelength with a nominal gain of 0 dBi. The antenna is an integral part of the device.
The peak power of the BC01 transceiver is approximately 0 dBm, and the maximum EIRP is approximately 0 dBm.

Technical Description of 2.4G

The module is a hopping spread spectrum system (FHSS), It use FSK modulation, It have 49 channels, but it only random select 20 channels for hopping. The date rate is 2.048Mbps. The maximum EIRP is approximately 20dBm.