

Circuit Description

Model no.: SH-280 BT Bluetooth speaker

Bluetooth module:

BM81SPK01 is a highly integrated Bluetooth 3.0+EDR stereo module, designed for high data rate, short-range wireless communication in the 2.4 GHz ISM band.

Receiver Sensitivity: GFSK typical -91dBm, $\pi/4$ PSK typical -92dBm, 8DPSK typical -84dBm

Use 35pins SMT module. PIN 17 for Battery INPUT, PIN 19 for System power OUTPUT.

Amplifier

3W, class-D audio amplifier (PAM-8403) , with 16PIN SMT package , 3W Output at 10%

THD with a 4 Ω Load and 5V Power Supply

Antenna, Ground and Power Source

The antenna consists of a PCB antenna

There is no external ground connection. The ground is only that of the printed circuit board. Electric current is supplied by a 3.7 Volt ("6.5mm*25.5mm*35mm" size battery 500mAH) primary battery

Operation Descriptions

The transceiver is a Bluetooth 3.0+EDR module, operating at 2.4G ISM band.

The transceiver is powered by a 3.7V battery ("6.5mm*25.5mm*35mm" size battery 500mAH) and the transceiver use the antenna consists of a PCB antenna

For the Power on-off switch SW, PIN2 PIN3 for ON,

The LED will turn on LED1 (blue) blinking for Pairing status,

ON U1 (PAM 8403) will send alarm sound to start the Bluetooth pairing process.

On FP1 (BM81SPK01) will start searching and pairing.

IF pairing success, FP1 (BM81SPK01) Pin35 antenna will get data from paired device.

And U1 (PAM 8403) PIN1 (Left Channel Negative Output) and PIN3 (Left Channel Positive Output), and PIN 14 (Right Channel Positive Output) ,PIN16 (Right Channel Negative Output) will send sound to speaker OUT.

If not pairing success, after 10 seconds, The LED will Turn LED1 (blue) and LED2 (Red) flash alternately and into searching and pairing

The operation is achieved by different combinations form Bluetooth module/ amplifier / power charging unit / speaker.., operating at 2.4G ISM band.