

Technical Description

Model: 78441

Description: Covert Ops Vibrasonic Walkie Talkie

Frequency: 2410 – 2473MHz

The brief circuit description is listed as follows:

The Equipment Under Test (EUT) is a 2.4GHz transceiver for a Vibrasonic Walkie Talkie. The EUT is powered by 3.0V (1.5V X 2) ‘AAA’ batteries. It is designed to operate 16 frequency hopping channels of frequency hopping systems in the 2410-2473 MHz. It has a Power On Button, a Pair Button a Mute Switch and a Microphone. When the EUT is powered on, the Walkie Units can be paired by pressing the Pair Buttons one by one. The performance can be heard by pressing Vibrasonic sound transmitter button.

16 frequency hopping channels are shown as below;

2410MHz	2415MHz	2420MHz	2425MHz	2429MHz	2430MHz
2434MHz	2435MHz	2439MHz	2445MHz	2449MHz	2454MHz
2459MHz	2464MHz	2469MHz	2473MHz		

Antenna gain: 0dbi

Nominal rated field strength: 93 dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

A7137 (U3)

A7137 is a low cost 2.4GHz ISM band wireless transceiver. This device integrates both high sensitivity receiver and programmable power amplifier.

A7137 supports fast settling time (90 us) for frequency hopping system. For packet handling, A7137 has built-in separated 64-bytes TX/RX FIFO (could be logically extended to 4K bytes) for data buffering and burst transmission, auto-ack and auto-resend, CRC for error packet filtering, FEC for 1-bit data correction per code word, RSSI for clear channel assessment, thermal sensor for monitoring relative temperature, WOR (Wake on RX) function to support periodically wake up from sleep mode to RX mode and listen for incoming packets without MCU interaction, data whitening for data encryption / decryption. In addition, A7137 has built-in AES128 co-processor (Advanced Encryption Standard) for advanced data encryption and decryption. All features are integrated in a small QFN 4X4 20 pins package.

JL218 (U1)

AVEO 218series is a single chip solution for 2.4G wireless voice applications. It can be used in many markets such as baby monitor, toy cordless phone, walkie-talkie, home voice intercom, doorbell, and voice memo or recorder.

The key building blocks of this chip are: high performance audio codec, two additional SPI interface, ADC, DAC and amplifier for analog audio, LDO to simplify power circuit, RF module interface, built-in RTC oscillator, and TX/RX buffer manager.

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IC: 7783A-78441

In addition to the highly integrated functions and superior quality, this chip has 8051 MCU with built-in ROM and OTP capability. It achieves the lowest power consumption comparing with other competitors and makes it the most attractive solution for portable applications.

LM4871 (U2)

It is a mono bridged audio power amplifier capable of delivering 3W of continuous average power into 3ohm load.