

Technical Description

The Equipment Under Test (EUT), is a BIT Bitzee Interactive Hamsterball which contains two 2.4GHz Transceivers. One transceiver locates on the rotor while the other one locates on the stator. For both portions, the sample supplied operated on 4 channels, normally at 2420MHz, 2435MHz, 2450MHz and 2465 MHz .

The EUT is powered by 3 x 1.5V AA batteries. After switching on the EUT, the rotor will keep rotating and the LED on the rotor keeps flashing. The fast moving LEDs create an image based on which buttons are pressed.

Rotor

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 80.1dB μ V/m at 3m (Peak), 62.2dB μ V/m at 3m (Average)

Maximum allowed production tolerance: +/- 3dB

Stator

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 92.4dB μ V/m at 3m (Peak), 81.5dB μ V/m at 3m (Average)

Maximum allowed production tolerance: +/- 3dB

The brief circuit description is listed as follows:

Stator:

1. U3 (GPCE500A) acts as MCU
2. Y2 acts as 16MHz Oscillator
3. C14, C15, C16 and L2 act as antenna matching circuit
4. U1 (XM25QH128D) acts as SPI Flash
5. U4(MC3419) acts as Accelerometer
6. U5(PAN1026) acts as 2.4GHz RF radio core
7. U8(ME2107) acts as voltage regulator
8. U6(ME6209) acts as voltage regulator

Rotor:

1. U1(PY32F030K28U) acts as MCU
2. Y2 acts as 16MHz Oscillator
3. C12, C13, C14 and L2 act as antenna matching circuit
4. U4(PAN1026) acts as 2.4GHz RF radio core
5. U2 (BX8120D) acts as voltage regulator
6. U3(ME6209) acts as voltage regulator