Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Bluetooth 2.1 + EDR transceiver speaker. The EUT is power by an AC Adapter (Model: K15S140100U; Input 100-240V, 50/60Hz, 0.5A; Output: 14.0V, 1.0A) or 8x AA size Alkaline Battery. The Bluetooth module in the EUT is operating in the frequency range from 2402MHz to 2480MHz (79 channels with 1MHz channel spacing). After pairing, the audio signal can be fed to the speaker. Also there is an Aux port for audio input only.

2.4GHz Bluetooth Module:
Modulation Type: GFSK
Antenna Type: Integral, Internal
Frequency Range for Bluetooth 2.1: 2402MHz - 2480MHz, 1MHz channel spacing, 79 channels
Nominal field strength is 92.9dBμV/m @ 3m
Production Tolerance of field strength is +/- 3dB
Antenna gain is 0dBi

Based on the Maximum allowed field strength of production tolerance was 95.9dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = [(FS*D) ^2*1000 / 30] =0.00117W= 1.17mW

According to MPE,

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 1.17mW

The power density at 20cm = 1.17 *1.00/ $\mathbf{4\pi R^2}$
= 0.0020 $mWcm^{-2}$

In the frequency range of 1,500 - 100,000MHz, the MPE limit is 1.0 $mWcm^{-2}$ for general population and uncontrolled exposure. As the measured power density at Error! Reference source not found.**cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum** Error! Reference source not found.**cm separation between the transmitter's radiating structures and body of the user or nearby persons.**

The following RF exposure statement is proposed to be included in the user manual:

“ FCC RF Radiation Exposure Statement

Caution: To maintain compliance with the FCC's RF exposure guidelines, place the base unit at least **Error! Reference source not found.**cm from nearby persons."