Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Bluetooth 3.0 transceiver speaker. The EUT is power by an AC Adapter (Model: K15S140100U; Input 100-240V, 50/60Hz, 0.5A; Output: 14.0V, 1.0A) and also contains an 11.1V rechargeable 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 in for audio input.

Antenna Type: Internal antenna
Antenna Gain: 0dBi
Nominal rated field strength: 96.7 dBμV/m at 3m
Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 99.7dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = [(FS*D) ^2*1000 / 30] = 2.80mW

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

Conducted Power =2.80mW.

The power density at 20cm = 2.80 *1.00/ $\mathbf{4\pi R^2}$
= 0.00056 $mWcm^{-2}$

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 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm 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:

RF Exposure Warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance."