MPE Analysis Report

The Equipment Under Test (EUT) Model: Z-206USWKL is a USB wifi socket, which equipped with a WLAN module. After connecting the EUT to the WLAN network, user can control the home appliance via smartphone Apps. The EUT has two USB ports for charging external devices purpose only.

The Equipment Under Test (EUT) operates at frequency range of 2412MHz to 2462MHz with 11 channels.

Operating mode	**Range of Peak Conducted Power**	**Modulation Type**
WLAN portion		
802.11b	**12dBm to 22dBm**	**DSSS**
802.11g	**12dBm to 22dBm**	**OFDM**
802.11n (HT20)	**12dBm to 22dBm**	**MCSn (n=0 to 7)**
802.11n (HT40)	**not use in this product**	

Antenna gain is 2dBi

For Maximum Permissible Exposure (MPE) evaluation of the USB wifi socket, the maximum power density at 20 cm from this mobile transmitter shall be less than the General Population / Uncontrolled MPE limit in OET Bulletin 65.

For WiFi portion, maximum conducted power is 22 dBm (158.5 mW). The antenna gain is 2 dBi = 1.58 (num gain) and the maximum source-based time-averaging duty factor is 100%. From these data, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna can be calculated according to OET Bulletin 65 as follow:

The radiated (EIRP) source-based time-averaging output power
= conducted power (dBm) + antenna gain (dBi)
= 22 dBm + 2dBi
= 24dBm
(= 251.2 mW)

The power density at 20 cm from the antenna
= EIRP / 4πR^2
= 0.05 mW cm-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:

“ FCC RF Radiation Exposure Statement
Caution: To maintain compliance with the FCC’s RF exposure guidelines, place the product at least 20cm from nearby persons.”

FCC ID: 2ARU4GC272156