RF EXPOSURE INFORMATION

RADIO FREQUENCY EXPOSURE (HAZARD) INFORMATION

Testing was performed in accordance with the requirements of FCC Part 15.247(i) and 15.407(f).

Spread spectrum transmitters operating in the 2400 - 2483.5 MHz, 5150 – 5350 MHz and 5725 – 5850 MHz bands are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with CFR 47, Section 1.1307(b)(1).

Transmitter # 1: The Bluetooth antenna is located at the middle of top edge of LCD screen and projected distance of greater than 20cm from user.

Transmitter # 2: The WLAN antennas are located on the top edge of LCD screen (2 antennas left and right) and projected distance of greater than 20cm from user.

The separation distance between the WLAN and BT antennas is less than 20cm. Therefore, they are co-located transmitters.

SAR is not required as the WLAN transmitter is mobile device and the power for the Bluetooth transmitter is below the low threshold.

The MPE calculation shown below is for the WLAN and BT power densities.

In accordance with Section 1.1310, the Maximum Permissible Exposure (MPE) limit for the General Population/Uncontrolled Exposure of 1.0 has been applied, i.e 1mW/cm^2.

Friis transmission formula: $Pd = (P*G) / (4*\pi*r^2)$

where: Pd = power density (mW/cm^2)
P = power input to the antenna (mW)
G = antenna gain (numeric)
r = distance to the center of radiation of the antenna (cm)

The result was extracted from EMC report: M060108_Cert_WM3945ABG_NII_Class_2
Prediction frequency = **5320 MHz**
Maximum peak output power = 17.8 dBm = 60.3 mW
Antenna (Monopole) gain (max) = 3.23 dBi = 2.104 numeric
The power density calculated = 0.026 mW/cm^2

The result was extracted from EMC report: M060108_Cert_WM3945ABG_DTS (WLAN)
Prediction frequency = **5785 MHz**
Maximum peak output power = 17.9 dBm = 61.7 mW
Antenna (Inverted F) gain (max) = 3.08 dBi = 2.03 numeric
The power density calculated = 0.025 mW/cm^2

Prediction frequency = **2437 MHz**
Maximum peak output power = 17.1 dBm = 51.3 mW
Antenna (Inverted F) gain (max) = 2.47 dBi = 1.77 numeric
The power density calculated = 0.02 mW/cm^2

The result was extracted from EMC report: M060108_Cert_EYTF3CSFT (BT)
Prediction frequency = **2480 MHz**
Maximum peak output power = 3.3 dBm = 2.1 mW
Antenna (Monopole) gain (max) = 3.27 dBi = 2.12 numeric
The power density calculated = 0.001 mW/cm^2

Therefore, the power density (WLAN + BT) = 0.027 mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency = 1 mW/cm^2

Results: Calculations show that the Radio devices with described antennas complied with Maximum Permissible Exposure (MPE) limit for the General Population/Uncontrolled Exposure.