

RF Exposure / MPE Calculation

No. : 10250677H

Applicant : Sony Computer Entertainment Inc.
Type of Equipment : Computer Entertainment System *WLAN/Bluetooth(LE) part
Model No. : CUH-1115A
FCC ID : AK8CUH100F1

Sony Computer Entertainment Inc. declares that Model : CUH-1115A
complies with FCC radiation exposure requirement specified in the FCC Rule 2.1091 (for mobile).

RF Exposure Calculations:

The following information provides the minimum separation distance for the highest gain antenna provided with the “CUH-1115A” as calculated from (B) Limits for General Population / Uncontrolled Exposure of TABLE 1- LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) of §1.1310 Radiofrequency radiation exposure limits.

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1.0mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = (P * G) / (4 * \pi * r^2)$$

Where

P = 18.39 mW (Maximum peak output power)
G = 3.99 Numerical Antenna gain; equal to 6.01 dBi *1
r = 20.0 cm

For: CUH-1115A (WLAN part)

$$S = 0.01460 \text{ mW/cm}^2$$

*1: Antenna gain was calculated based on KDB662911D01,

Directional antenna gain = G_{ANT} + 10 log (N) dBi

Where: G_{ANT} is individual antenna gain, N is number of transmit antenna

[Reference]

Bluetooth antenna does not have any correlation with WLAN antenna, but transmits simultaneously with WLAN antenna. If Bluetooth antenna has correlation with and transmits simultaneously with WLAN antenna, the formula is as follows:

$$S = (P * G) / (4 * \pi * r^2)$$

Where

P = 1.46 mW (Maximum peak output power)
G = 2.82 Numerical Antenna gain; equal to 4.50 dBi
r = 20.0 cm

For: CUH-1115A (Bluetooth part)

$$S = 0.00082 \text{ mW/cm}^2$$

Therefore, if Bluetooth antenna has correlation with and transmits simultaneously with WLAN antenna;

$$\begin{aligned} S &= 0.01460 \text{ mW/cm}^2 + 0.00082 \text{ mW/cm}^2 \\ &= 0.01542 \text{ mW/cm}^2 \end{aligned}$$