RF Exposure / MPE Calculation

No. : 10348320H

Applicant : Sony Corporation Entertainment Inc.
Type of Equipment : PlayStation® TV *WLAN part
Model No. : VTE-1001
FCC ID : AK8VTE1001F1

Sony Corporation Entertainment Inc. declares that Model : VTE-1001
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 "VTE-1001" 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/cm^2 uncontrolled exposure limit. The Friis formula used was:

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

Where

P = 10.30 mW (Maximum average output power)
G = 0.93 Numerical Antenna gain; equal to -0.33 dBi
r = 20.0 cm

For: VTE-1001 (WLAN part) **S = 0.00190 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 tansmit 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 = 1.11 mW (Maximum average output power)
G = 0.88 Numerical Antenna gain; equal to -0.56 dBi
r = 20.0 cm

For: VTE-1001 (Bluetooth part) **S = 0.00019 mW/cm^2**

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

S= 0.00190 mW/cm^2 + 0.00019 mW/cm^2
= 0.00209 mW/cm^2