RF Exposure / MPE Calculation

No.	:	11240438H
Applicant	:	Sony Interactive Entertainment Inc.
Type of Equipment	:	Wireless communication module
Model No.	:	AW-CB262 *Bluetooth part
FCC ID	:	AK8M16DAM2

Sony Interactive Entertainment Inc. declares that Model: AW-CB262 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 "AW-CB262" 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.

[Bluetooth part]

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm^2 uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

P = 1.42 mW (Maximum average output power)

☑ Time average was used for the above value in consideration of 6-minutes time-averaging

☐ Burst power average was used for the above value in consideration of worst condition.

G = 4.365 Numerical Antenna gain; equal to 6.4 dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.00123 mW/cm^2**

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Reference:

[WLAN (2.4 GHz) part]

The following information provides the minimum separation distance for the highest gain antenna provided with the "AW-CB262" 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 1mW/cm^2 uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

P = 19.35 mW (Maximum average output power)

☑ Time average was used for the above value in consideration of 6-minutes time-averaging

☐ Burst power average was used for the above value in consideration of worst condition.

G = 7.261 Numerical Antenna gain; equal to 8.61dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.02795 mW/cm^2**

Reference:

[WLAN (5 GHz) part]

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm^2 uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

P = 16.50 mW (Maximum average output power)

☑ Time average was used for the above value in consideration of 6-minutes time-averaging

☐ Burst power average was used for the above value in consideration of worst condition.

G = 5.358 Numerical Antenna gain; equal to 7.29dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.01759 mW/cm^2**

Therefore, if Bluetooth and WLAN 2.4GHz transmit simultaneously,

S=0.00123 mW/cm^2+0.02795 mW/cm^2

=0.02918 mW/cm^2

Therefore, if Bluetooth and WLAN 5GHz transmit simultaneously,

S=0.00123 mW/cm^2 + 0.01759 mW/cm^2

=0.01882 mW/cm^2

Even taking into account the tolerance, this device can be satisfied with the limits.

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