

### **RF Exposure / MPE Calculation**

No. : 12079942H  
Applicant : Sony Interactive Entertainment Inc.  
Type of Equipment : Wireless communication module  
Model No. : J20H096  
                  \*WLAN (2.4 GHz) and Bluetooth Low Energy parts  
FCC ID : AK8M18DFT1

Sony Interactive Entertainment Inc. declares that Model: J20H096 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 “J20H096” 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.

#### **[WLAN (2.4 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<sup>2</sup> uncontrolled exposure limit. The Friis formula used was:

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

Where

$P$  = 13.19 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.

$G$  = 5.140 Numerical Antenna gain; equal to 7.11dBi

$r$  = 20 cm (Separation distance)

**Power Density Result  $S = 0.01349 \text{ mW/cm}^2$**

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**[Bluetooth Low Energy part]**

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

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

Where

$P =$  1.06 mW (Maximum average output power)

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

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

$G =$  4.365 Numerical Antenna gain; equal to 6.4dBi

$r =$  20 cm (Separation distance)

**Power Density Result  $S = 0.00092 \text{ mW/cm}^2$**

**Reference:****[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<sup>2</sup> uncontrolled exposure limit. The Friis formula used was:

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

Where

$P =$  1.40 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  $S = 0.00122 \text{ mW/cm}^2$**

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**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<sup>2</sup> uncontrolled exposure limit. The Friis formula used was:

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

Where

$P =$  15.28 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 7.29 dBi

$r =$  20 cm (Separation distance)

$$\text{Power Density Result } S = 0.01629 \text{ mW/cm}^2$$

Therefore, if WLAN 2.4GHz and Bluetooth Low Energy transmit simultaneously,  
 $S = 0.01349 \text{ mW/cm}^2 + 0.00092 \text{ mW/cm}^2$   
 $= 0.01441 \text{ mW/cm}^2$

Therefore, if WLAN 2.4GHz and Bluetooth transmit simultaneously,  
 $S = 0.01349 \text{ mW/cm}^2 + 0.00122 \text{ mW/cm}^2$   
 $= 0.01471 \text{ mW/cm}^2$

Therefore, if Bluetooth Low Energy and WLAN 5GHz transmit simultaneously,  
 $S = 0.00092 \text{ mW/cm}^2 + 0.01629 \text{ mW/cm}^2$   
 $= 0.01721 \text{ mW/cm}^2$

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

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