

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

No. : 13671150H  
Applicant : Sony Interactive Entertainment Inc.  
Type of Equipment : Wireless communication module  
Model No. : J20H100  
FCC ID : AK8M19DFR1

Sony Interactive Entertainment Inc. declares that Model: J20H100 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 “J20H100” 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 band 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

$P =$  11.95 mW (Maximum average output power)

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

☒ Burst power average was used for the above value in consideration of worst condit

$G =$  4.742 Numerical Antenna gain; equal to 6.76dBi

$r =$  20 cm (Separation distance)

**Power Density Result  $S = 0.01127 \text{ mW/cm}^2$**

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**[WLAN 5 GHz band 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

$P =$  12.29 mW (Maximum average output power)

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

☒ Burst power average was used for the above value in consideration of worst condit

$G =$  6.745 Numerical Antenna gain; equal to 8.29dBi

$r =$  20 cm (Separation distance)

**Power Density Result  $S = 0.01649 \text{ mW/cm}^2$**

**[Bluetooth part (BT1)]**

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

$P =$  1.03 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.

$G =$  3.802 Numerical Antenna gain; equal to 5.8dBi

$r =$  20 cm (Separation distance)

**Power Density Result  $S = 0.00078 \text{ mW/cm}^2$**

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### **[Bluetooth part (BT2)]**

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

$P =$  1.20 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.

$G =$  3.802 Numerical Antenna gain; equal to 5.8dBi

$r =$  20 cm (Separation distance)

**Power Density Result  $S = 0.00091 \text{ mW/cm}^2$**

Therefore, if WLAN 2.4 GHz, Bluetooth (BR/EDR/LE) (BT1) and Bluetooth (BR/EDR/LE) (BT2) transmit simultaneously,

$$\begin{aligned} S &= 0.01127 \text{ W/m}^2 + 0.00078 \text{ W/m}^2 + 0.00091 \text{ W/m}^2 \\ &= 0.01296 \text{ W/m}^2 \end{aligned}$$

Therefore, if WLAN 5 GHz, Bluetooth (BR/EDR/LE) (BT1) and Bluetooth (BR/EDR/LE) (BT2) transmit simultaneously,

$$\begin{aligned} S &= 0.01649 \text{ W/m}^2 + 0.00078 \text{ W/m}^2 + 0.00091 \text{ W/m}^2 \\ &= 0.01818 \text{ W/m}^2 \end{aligned}$$

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

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