# RF Exposure / MPE Calculation

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| No. | 14173126H |
| Customer | Sony Interactive Entertainment Inc. |
| Description of EUT | Wireless communication module |
| Model Number of EUT | J20H104 |
| FCC ID | AK8M21DFD1 |

Sony Interactive Entertainment Inc. declares that Model: J20H104 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 "J20H104" 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^2 uncontrolled exposure limit. The Friis formula used was:

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

Where

$P$ = 15.06 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.

$G$ = 6.324 Numerical Antenna gain; equal to 8.01dBi

$r$ = 20 cm (Separation distance)

***Power Density Result S =*** **0.01895 mW/cm$^2$**

## [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^2 uncontrolled
exposure limit. The Friis formula used was:

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

Where

$P$ = 16.43 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.

$G$ = 7.482 Numerical Antenna gain; equal to 8.74dBi

$r$ = 20 cm (Separation distance)

***Power Density Result S =*** **0.02446 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^2 uncontrolled
exposure limit. The Friis formula used was:

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

Where

$P$ = 1.69 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 =*** **0.00128 mW/cm$^2$**

## [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^2 uncontrolled
exposure limit. The Friis formula used was:

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

Where

$P$ = 1.26 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 =*** **0.00095 mW/cm$^2$**

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

**S= 0.01895 mW/cm$^2$ + 0.00128 mW/cm$^2$ + 0.00095 mW/cm$^2$**

**= 0.02118 mW/cm$^2$**

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

**S= 0.02446 mW/cm$^2$ + 0.00128 mW/cm$^2$ + 0.00095 mW/cm$^2$**

**= 0.02669 mW/cm$^2$**