RF Exposure / MPE Calculation

No.	15148509H
Customer	Sony Interactive Entertainment Inc.
Description of EUT	Wireless communication module
Model Number of EUT	J20H106
FCC ID	AK8M23TFU1

Sony Interactive Entertainment Inc. declares that Model: J20H106 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 "J20H106" 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:

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

[WLAN 2.4 GHz band (Antenna 1 + 2)]

P = 19.95 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 = 5.023 Numerical Antenna gain; equal to 7.01 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.01994 mW/cm^2**

[WLAN 2.4 GHz band (Antenna 1)]

P = 10.00 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 = 2.512 Numerical Antenna gain; equal to 4 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.00500 mW/cm^2**

[WLAN 5 GHz band (Antenna 1 + 3)]

P = 19.95 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 = 6.699 Numerical Antenna gain; equal to 8.26 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.02659 mW/cm^2**

[WLAN 5 GHz band (Antenna 3)]

P = 10.00 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 = 3.162 Numerical Antenna gain; equal to 5 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.00629 mW/cm^2**

[WLAN 6 GHz band (Antenna 1 + 3)]

P = 5.01 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 = 9.247 Numerical Antenna gain; equal to 9.66 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.00922 mW/cm^2**

[WLAN 6 GHz band (Antenna 3)]

P = 2.51 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 = 4.786 Numerical Antenna gain; equal to 6.8 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.00239 mW/cm^2**

[Bluetooth BR / EDR / LE (BT1) (Antenna 3)]

P = 2.51 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 = 2.512 Numerical Antenna gain; equal to 4 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.00125 mW/cm^2**

[Bluetooth BR / EDR / LE (BT2) (Antenna 4)]

P = 2.51 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 = 2.239 Numerical Antenna gain; equal to 3.5 dBi
r = 20 cm (Separation distance)

***Power Density Result S* = 0.00112 mW/cm^2**

Therefore, if WLAN 2.4 GHz (Antenna 1 + 2), Bluetooth BR/EDR/LE (BT1) (Antenna 3) and Bluetooth BR/EDR/LE (BT2) (Antenna 4) transmit simultaneously,

S= 0.01994 mW/cm^2 + 0.00125 mW/cm^2 + 0.00112 mW/cm^2

= 0.02231 mW/cm^2

Therefore, if WLAN 5 GHz (Antenna 1 + 3), Bluetooth BR/EDR/LE (BT1) (Antenna 3) and Bluetooth BR/EDR/LE (BT2) (Antenna 4) transmit simultaneously,

S= 0.02659 mW/cm^2 + 0.00125 mW/cm^2 + 0.00112 mW/cm^2

= 0.02896 mW/cm^2

Therefore, if WLAN 6 GHz (Antenna 1 + 3), Bluetooth BR/EDR/LE (BT1) (Antenna 3) and Bluetooth BR/EDR/LE (BT2) (Antenna 4) transmit simultaneously,

S= 0.00922 mW/cm^2 + 0.00125 mW/cm^2 + 0.00112 mW/cm^2

= 0.01159 mW/cm^2

Therefore, if WLAN 2.4 GHz (Antenna 1), WLAN 5 GHz (Antenna 3), Bluetooth BR/EDR/LE (BT1) (Antenna 3) and Bluetooth BR/EDR/LE (BT2) (Antenna 4) transmit simultaneously,

S= 0.00500 mW/cm^2 + 0.00629 mW/cm^2 + 0.00125 mW/cm^2 + 0.00112 mW/cm^2

= 0.01366 mW/cm^2

Therefore, if WLAN 2.4 GHz (Antenna 1), WLAN 6 GHz (Antenna 3), Bluetooth BR/EDR/LE (BT1) (Antenna 3) and Bluetooth BR/EDR/LE (BT2) (Antenna 4) transmit simultaneously,

S= 0.00500 mW/cm^2 + 0.00239 mW/cm^2 + 0.00125 mW/cm^2 + 0.00112 mW/cm^2

= 0.00976 mW/cm^2