RF Exposure / MPE Calculation

No.	14409150S
Customer	PIONEER CORPORATION
Description of EUT	RDS AV RECEIVER
Model Number of EUT	DMH-WT3800NEX
FCC ID	AJDK122

PIONEER CORPORATION declares that Model: DMH-WT3800NEX 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 "DMH-WT3800NEX" 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 1 mW/cm^2 uncontrolled exposure limit. The Friis formula used was:

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

Where

P = 21.98 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 = 0.724 Numerical Antenna gain; equal to -1.4 dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.00317 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 1 mW/cm^2 uncontrolled exposure limit. The Friis formula used was:

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

Where

P = 12.91 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 = 1.205 Numerical Antenna gain; equal to 0.81 dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.00309 mW/cm^2**

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

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

Where

P = 1.02 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 = 0.793 Numerical Antenna gain; equal to -1.01 dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.00016 mW/cm^2**

[Bluetooth (BR/EDR)part]

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

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

Where

P = 0.78 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 = 0.793 Numerical Antenna gain; equal to -1.01 dBi

r = 20 cm (Separation distance)

Power Density Result ***S*** **= 0.00012 mW/cm^2**

Therefore, if WLAN (5 GHz band) and Bluetooth (BR/EDR) transmit simultaneously,

S= 0.00309 mW/cm^2 + 0.00012 mW/cm^2

= 0.00321 mW/cm^2

Therefore, if WLAN (5 GHz band) and Bluetooth Low Energy transmit simultaneously,

S= 0.00309 mW/cm^2 + 0.00016 mW/cm^2

= 0.00325 mW/cm^2