

RF Exposure / MPE Calculation

No.	14423514S-A
Customer	Panasonic Automotive Systems Co., Ltd.
Description of EUT	AV Control Unit for In-Vehicle Infotainment
Model Number of EUT	AM2202
FCC ID	ACJ932AM2202

Panasonic Automotive Systems Co., Ltd. declares that Model: AM2202 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 “AM2202” 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/cm² uncontrolled exposure limit. The Friis formula used was:

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

Where

$P =$ 3.97 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.

$G =$ 1.585 Numerical Antenna gain; equal to 2 dBi

$r =$ 20 cm (Separation distance)

Power Density Result $S = 0.00125 \text{ mW/cm}^2$

Therefore, if WLAN (2.4 GHz band) and Bluetooth (BR/EDR) transmit simultaneously,

$$\begin{aligned} S &= 0.00514 \text{ mW/cm}^2 + 0.00125 \text{ mW/cm}^2 \\ &= 0.00639 \text{ mW/cm}^2 \end{aligned}$$