

RF Exposure / MPE Calculation

No.	14500810H
Customer	Hosiden Corporation
Description of EUT	Bluetooth Dual Module
Model Number of EUT	HRM1086
FCC ID	VIYHRM1086

Hosiden Corporation declares that Model: HRM1086 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 “HRM1086” 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.

[Bluetooth (Low Energy)]

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

$P =$ 9.38 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

$G =$ 1.230 Numerical Antenna gain; equal to 0.9dBi

$r =$ 20 cm (Separation distance)

Power Density Result $S = 0.00230 \text{ mW/cm}^2$

[Bluetooth (BR / EDR)]

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

$P =$ 9.48 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

$G =$ 1.230 Numerical Antenna gain; equal to 0.9dBi

$r =$ 20 cm (Separation distance)

Power Density Result $S = 0.00232 \text{ mW/cm}^2$