

## **RF Exposure / MPE Calculation**

No. : 11204390H  
Applicant : Hosiden Corporation  
Type of Equipment : Bluetooth Low Energy beacon  
Model No. : HRM5072  
FCC ID : VIYHRM5072

Hosiden Corporation declares that Model: HRM5072 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 “HRM5072” 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<sup>2</sup> uncontrolled exposure limit. The Friis formula used was:

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

Where

$P$  = 1.63 mW (Maximum average output power)

Frame power was used for the above value in consideration of 6-minutes time-averaging  
 Burst power was used for the above value in consideration of worst condition.

$G$  = 4.266 Numerical Antenna gain; equal to 6.3dBi

$r$  = 20 cm (Separation distance)

**Power Density Result**  $S = 0.00138 \text{ mW/cm}^2$

Even taking into account the tolerance, this device can be satisfied with the limits.

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