RF EXPOSURE EVALUATION

1. General Product Description

1.1 Client Information

Company	Yujin Robot Co., Ltd.
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1.2 Product Information

FCC ID	2AME4-YCRM0810
Product Description	Cleaning Robot
Model name	YCR-M08-10
Operating Frequency	2402 MHz - 2480 MHz
RF Output Power	6.68 dBm
Antenna Specification	Antenna type : PCB Antenna Peak Gain : -3.11 dBi
Number of channels	40
Channel Spacing	2 MHz
Type of Modulation	GFSK (Bluetooth 4.0 - LE)

2. RF EXPOSURE EVALUATION

2.1 Requirement

This device belongs to Mobile device. The definition of the category as following:

Mobile Derives:
CFR Title 47 §2.1091(b)
(b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

2.2 FCC Limits

According to FCC Part 1.1307, systems operating under the provisions of this section shall be operated in a manner the ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidelines.

Limits for General Population/Uncontrolled Exposure			
Frequency range (MHz)	**Electric field strength (V/m)**	**Magnetic field strength (A/m)**	**Power density (mW/cm^2)**
0.3-1.34	614	1.63	*100
1.34-30	824/f	2.19/f	$*180/f^2$
30-300	27.5	0.073	0.2
300-1,500			f/1500
1,500-100,000			**1.0**

f = frequency in MHz, * = Plane-wave equivalent power density

2.3 MPE Calculation formula

$$S=PG / 4\pi R^2$$

S = Power density
P = Output Power(W)
G = Power gain of the antenna in the direction of interest relative to an isotropic radiator
R = Separation distance between radiator and human body(m)

2.4 Result

Maximum peak output power at antenna input terminal(dBm): 6.68
Maximum peak output power at antenna input terminal(mW): 4.66
Prediction distance(cm): 20
Predication frequency(MHz): 2480
Antenna Gain (typical) (dBi): -3.11
Power density at predication frequency at 20 cm(mW/cm^2): **0.00045**

FCC MPE limit for RF exposure at prediction frequency(mW/cm^2): 1

So the SAR report is not required.