



RF Exposure Requirements

1.1 General Information

Client Information

Applicant : Guangdong Chiyang Scent Technology Co.,Ltd.
Address of applicant : Floor 1-9, Building 10, CIMC Center, Chanxing Road No. 1, Shunde District, Foshan City, Guangdong Province, China, 528313
Manufacturer : The same as above
Address of manufacturer : The same as above

General Description of E.U.T

FCC ID : 2A3DS-AE109B3
Product Name : Aroma Diffuser
Model No. : AE109-B3
Model Description : ---
Rated Voltage : DC 5V, 1.4W Max.
Battery Capacity : ---
Power Adapter : SG-0501000AU:
Input:100-240V~, 50/60Hz, 0.3A Max.; Output: DC 5.0V, 1.0A, 5.0W

Technical Characteristics of EUT

Bluetooth Version : Bluetooth LE
Frequency Range : 2402-2480MHz
Max. RF Output Power : -3.296dBm (Conducted) @2Mbps
Modulation : GFSK
Data Rate : 1Mbps, 2Mbps
Quantity of Channels : 40
Channel Separation : 2MHz
Type of Antenna : PCB Antenna
Antenna Gain : 3.08dBi



2 Applicable Standard

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

(a) Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz; * = Plane-wave equivalent power density

3 Calculation Method

$$S = (30 \cdot P \cdot G) / (377 \cdot R^2)$$

S = power density (in appropriate units, e.g., mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm), R=20cm.

4 MPE Calculation Result

Frequency (MHz)	Antenna Gain (dBi)	Numeric gain	Conducted Power (dBm)	Maximum Tune-up output power		PD (mW/cm ²)	Limit (mW/cm ²)
				(dBm)	(mW)		
2402	3.08	2.03	-3.296	-3.00	0.50	0.00020	1.0

Result: Pass

====End of Report=====