

FCC 47 CFR MPE REPORT

Intrasonic Technology, Inc.

RETRO-MyDoor

Model Number: MyDoor-B

Additional Model: MyDoor-RB, MyDoor-SB, MyDoor-WB, R-MyDoor-B,

R-MyDoor-RB, R-MyDoor-SB, R-MyDoor-WB

FCC ID: SLV-MYDOOR

Prepared for:	Intrasonic Technology, Inc.
	9525 FOREST VIEW STREET, DALLAS, TEXAS 75243, USA
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

Report Number:	ESTE-R1905030
Date of Test:	Apr. 09~May 07, 2019
Date of Report:	May 10, 2019

Maximum Permissible Exposure

1、Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(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
1500-10000			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
1500-10000			1.0	30

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

2、MPE Calculation Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = E^2 / 377$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

3、Conducted Power Result

Mode	Frequency (MHz)	AV output power (dBm)	AV output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	19.78	95.060	19 ± 1	2.5	1.778
	2437	19.63	91.833	19 ± 1	2.5	1.778
	2462	19.37	86.497	19 ± 1	2.5	1.778
IEEE 802.11g	2412	19.10	81.283	19 ± 1	2.5	1.778
	2437	19.10	81.283	19 ± 1	2.5	1.778
	2462	19.00	79.433	19 ± 1	2.5	1.778
IEEE 802.11n HT20	2412	20.09	102.094	20 ± 1	2.5	1.778
	2437	19.82	95.940	19 ± 1	2.5	1.778
	2462	19.34	85.901	19 ± 1	2.5	1.778
IEEE 802.11n HT40	2422	19.51	89.331	19 ± 1	2.5	1.778
	2437	19.36	86.298	19 ± 1	2.5	1.778
	2452	19.28	84.723	19 ± 1	2.5	1.778

4、Calculated Result and Limit

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
2.4G Band						
IEEE 802.11b	20	2.5	1.778	0.03538	1	Compiles
IEEE 802.11g	20	2.5	1.778	0.03538	1	Compiles
IEEE 802.11n HT20	21	2.5	1.778	0.04454	1	Compiles
IEEE 802.11n HT40	20	2.5	1.778	0.03538	1	Compiles