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## FCC 47 CFR MPE REPORT

Dong guan Synst Electonics.Co.,Ltd

Bluetooth speaker

Model Number: NYNE Bass

FCC ID: SV9-NYNEBASS

Prepared for : Dong guan Synst Electronics.Co.,Ltd

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## 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 <sup>2</sup> )	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 <sup>2</sup> )	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

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

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

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

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、Calculated Result and Limit

Adapter 1

Model	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Antenna gain		Power Density (S) (mW/cm <sup>2</sup> )	Limited of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
				(dBi)	(Linear)			
GFSK	2402	2.444	1.755	0	1	<b>0.00035</b>	1	Compiles
	2440	3.925	2.469	0	1	<b>0.00049</b>	1	Compiles
	2480	4.848	3.054	0	1	<b>0.00061</b>	1	Compiles

Adapter 2

Model	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Antenna gain		Power Density (S) (mW/cm <sup>2</sup> )	Limited of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
				(dBi)	(Linear)			
GFSK	2402	3.081	2.033	0	1	<b>0.00040</b>	1	Compiles
	2440	4.258	2.666	0	1	<b>0.00053</b>	1	Compiles
	2480	4.775	3.003	0	1	<b>0.00060</b>	1	Compiles

Note: dBm = 10log(mW)

