

## FCC 47 CFR MPE REPORT

Beijing Xiaomi Electronics Co.,Ltd

XIAOMI Soundbar 3.1ch

Model Number: S26-S

FCC ID: 2AIMRMITVS26

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## Maximum Permissible Exposure

### 1. Applicable Standards

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.

#### 1.1. Limits for Maximum Permissible Exposure (MPE)

##### (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   <sup>2</sup> ,   H   <sup>2</sup> 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   <sup>2</sup> ,   H   <sup>2</sup> 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

## 1.2. MPE Calculation Method

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

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

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

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

## 2. Conducted Power Result

Antenna	Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)
Bluetooth	GFSK	2402	2.75	1.8836	2±1
		2441	2.64	1.8365	2±1
		2480	2.22	1.6672	2±1
	8-DPSK	2402	3.91	2.4604	3±1
		2441	3.80	2.3988	3±1
		2480	3.35	2.1627	3±1
5.8G Wireless	GFSK	5727	10.65	11.6145	10±1
		5785	10.06	10.1391	10±1
		5848	9.87	9.7051	9±1

## 3. Calculated Result and Limit

Mode	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW/cm <sup>2</sup> )	Limited of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
		(dBi)	(Linear)			
2.4G Band						
Bluetooth	3	4.00	2.512	0.0009	1	Complies
5.8G Wireless	11	1.56	1.432	0.0005	1	Complies

Bluetooth +5.8G Wireless

MAX Power Density (S) (mW/cm <sup>2</sup> ) Bluetooth	MAX Power Density (S) (mW/cm <sup>2</sup> ) 5.8G Wireless	Power Density (S) (mW/cm <sup>2</sup> ) Total	Limited of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
0.0009	0.0005	0.0014	1	Complies

**End of Test Report**