

FCC 47 CFR MPE REPORT

Klipsch Group, Inc.

Soundbar

Model Number: Flexus CORE 200

FCC ID: STI-XCORE200

Applicant:	Klipsch Group, Inc.
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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 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

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=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

2. Conducted Power Result

Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)
GFSK	2402	9.65	9.226
	2441	9.59	9.099
	2480	9.64	9.204
$\pi/4$ -DQPSK	2402	9.43	8.770
	2441	9.48	8.872
	2480	9.60	9.120
8-DPSK	2402	9.65	9.226
	2441	9.56	9.036
	2480	9.59	9.099
BLE 1M	2402	9.84	9.638
	2440	9.97	9.931
	2480	9.94	9.863
BLE 2M	2402	10.20	10.471
	2440	10.22	10.520
	2480	10.14	10.328

3. Calculated Result and Limit

Mode	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
				(dBi)	(Linear)			
2.4G Band								
GFSK	9.65	9±1	10	4.04	2.535	0.00504	1	Complies
$\pi/4$ -DQPSK	9.60	9±1	10	4.04	2.535	0.00504	1	Complies
8-DPSK	9.65	9±1	10	4.04	2.535	0.00504	1	Complies
BLE 1M	9.97	9±1	10	4.04	2.535	0.00504	1	Complies
BLE 2M	10.22	10±1	11	4.04	2.535	0.00635	1	Complies

End of Test Report

