

FCC 47 CFR MPE REPORT

Guangdong Joy Intelligent Technology Co., Ltd

Model Number: L2250

Additional Model: L2251-J, L2252-J, V10, L2550-J,L2551-J,L2552-J,N2,

S8 Pro ,V980 Pro,CMSDJ707A, A9, A9+

FCC ID: 2AV2K-L2250

Prepared for:	Guangdong Joy Intelligent Technology Co., Ltd
	Room 1201, No. 58, Second Street, Mawu New Village, Changping Town,
	Dongguan, 523586 Guangdong, P.R. China
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

Report Number:	ESTE-R2104042
Date of Test:	Mar. 19~Apr. 09, 2021
Date of Report:	Apr. 12, 2021

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

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	17.91	61.802	17±2	4	2.512
	2437	16.82	48.084	16±2	4	2.512
	2462	16.82	48.084	16±2	4	2.512
IEEE 802.11g	2412	16.42	43.853	16±2	4	2.512
	2437	16.37	43.351	16±2	4	2.512
	2462	16.26	42.267	16±2	4	2.512
IEEE 802.11n HT20	2412	16.59	45.604	16±2	4	2.512
	2437	16.43	43.954	16±2	4	2.512
	2462	16.35	43.152	16±2	4	2.512
IEEE 802.11n HT40	2422	17.26	43.211	17±2	4	2.512
	2437	17.40	54.954	17±2	4	2.512
	2452	16.33	42.954	16±2	4	2.512

3. Calculated Result and Limit

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW/cm ²)	Limited of Power Density (S) (mW/cm ²)	Test Result
		(dBi)	(Linear)			
2.4G Band						
IEEE 802.11b	21	4	2.512	0.06291	1	Complies
IEEE 802.11g	18	4	2.512	0.03153	1	Complies
IEEE 802.11n HT20	18	4	2.512	0.03153	1	Complies
IEEE 802.11n HT40	19	4	2.512	0.03969	1	Complies

End of Test Report