

FCC 47 CFR MPE REPORT

CHOICE FORTUNE HOLDINGS LIMITED

LED TV

Model Number: SC-49UK700N

FCC ID: 2AMYC-SC-49UK700N

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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 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

3.1 Antenna 0

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	13.32	21.478	13±1	2.94	1.968
	2437	13.22	20.989	13±1	2.94	1.968
	2462	11.87	15.382	11±1	2.94	1.968
IEEE 802.11g	2412	9.97	9.931	9±1	2.94	1.968
	2437	10.05	10.116	10±1	2.94	1.968
	2462	8.19	6.592	8±1	2.94	1.968
IEEE 802.11n HT20	2412	9.73	9.397	9±1	2.94	1.968
	2437	9.75	9.441	9±1	2.94	1.968
	2462	8.00	6.310	8±1	2.94	1.968
IEEE 802.11n HT40	2422	7.38	5.470	7±1	2.94	1.968
	2437	7.27	5.333	7±1	2.94	1.968
	2452	7.16	5.200	7±1	2.94	1.968

3.2 Antenna 1

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	12.93	19.634	12±1	2.94	1.968
	2437	13.32	21.478	13±1	2.94	1.968
	2462	11.28	13.428	11±1	2.94	1.968
IEEE 802.11g	2412	9.22	8.356	9±1	2.94	1.968
	2437	9.57	9.057	9±1	2.94	1.968
	2462	7.55	5.689	7±1	2.94	1.968
IEEE 802.11n HT20	2412	8.95	7.852	8±1	2.94	1.968
	2437	9.29	8.492	9±1	2.94	1.968
	2462	7.41	5.508	7±1	2.94	1.968
IEEE 802.11n HT40	2422	6.88	4.875	6±1	2.94	1.968
	2437	7.05	5.070	7±1	2.94	1.968
	2452	6.45	4.416	6±1	2.94	1.968

4、 Calculated Result and Limit

4.1 Antenna 0

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW/cm ²)	Limited of Power Density (S) (mW/cm ²)	Test Result
		(dBi)	(Linear)			
Wi-Fi						
IEEE 802.11b	14	2.94	1.968	0.00983	1	Compiles
IEEE 802.11g	11	2.94	1.968	0.00493	1	Compiles
IEEE 802.11n HT20	10	2.94	1.968	0.00391	1	Compiles
IEEE 802.11n HT40	8	2.94	1.968	0.00247	1	Compiles

4.2 Antenna 1

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW/cm ²)	Limited of Power Density (S) (mW/cm ²)	Test Result
		(dBi)	(Linear)			
Wi-Fi						
IEEE 802.11b	14	2.94	1.968	0.00983	1	Compiles
IEEE 802.11g	10	2.94	1.968	0.00391	1	Compiles
IEEE 802.11n HT20	10	2.94	1.968	0.00391	1	Compiles
IEEE 802.11n HT40	8	2.94	1.968	0.00247	1	Compiles

4.3 Antenna 0+1

Mode	Power Density (S) (mW/cm2) Antenna 0	Power Density (S) (mW/cm2) Antenna 1	Power Density (S) (mW/cm2) Total	Limited of Power Density (S) (mW/cm2)	Test Result
Wi-Fi					
IEEE 802.11n HT20	0.00391	0.00391	0.00782	1	Compiles
IEEE 802.11n HT40	0.00247	0.00247	0.00494	1	Compiles