FCC 47 CFR MPE REPORT

Shenyang Tongfang Multimedia Co., Limited

LED TV

Model Number: WE85NC4210

FCC ID: 2ACWIWE85NC421

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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/cm2)	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/cm2)	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.o	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

2、MPE Calculation Method

E (V/m) = $(30*P*G)^{0.5}/d$　　　　Power Density: Pd (W/m2) = $E^2/377$

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

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

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**

Mode	Frequency (MHz)	output power (dBm)	output power (mW)	Target power（dBm）	Antenna gain (dBi)	Antenna gain (Linear)	Power Density (S) (mW/cm2)	Limited of Power Density (S) (mW/cm2)	Test Result
IEEE 802.11b (ANT a)	2412	13.64	23.12	13±1	2	1.59	0.00792	1	Compiles
	2442	13.06	20.23	13±1	2	1.59	0.00792	1	Compiles
	2472	12.71	18.66	13±1	2	1.59	0.00792	1	Compiles
IEEE 802.11g (ANT a)	2412	11.91	15.52	11±1	2	1.59	0.00500	1	Compiles
	2442	11.78	15.07	11±1	2	1.59	0.00500	1	Compiles
	2472	11.87	15.38	11±1	2	1.59	0.00500	1	Compiles
IEEE 802.11b (ANT b)	2412	11.73	14.89	11±1	2	1.59	0.00500	1	Compiles
	2442	11.66	14.66	11±1	2	1.59	0.00500	1	Compiles
	2472	10.71	11.78	11±1	2	1.59	0.00500	1	Compiles
IEEE 802.11g (ANT b)	2412	10.07	10.16	10±1	2	1.59	0.00397	1	Compiles
	2442	9.89	9.75	10±1	2	1.59	0.00397	1	Compiles
	2472	9.64	9.20	10±1	2	1.59	0.00397	1	Compiles
IEEE 802.11n HT20 (ANT a)	2412	10.26	10.62	10±1	2	1.59	0.00397	1	Compiles
	2442	8.80	7.59	9±1	2	1.59	0.00315	1	Compiles
	2472	8.76	7.52	9±1	2	1.59	0.00315	1	Compiles
IEEE 802.11n HT20 (ANT b)	2412	9.17	8.26	9±1	2	1.59	0.00315	1	Compiles
	2442	9.42	8.75	9±1	2	1.59	0.00315	1	Compiles
	2472	8.66	7.35	9±1	2	1.59	0.00315	1	Compiles
IEEE 802.11n HT40 (ANT a)	2422	9.52	8.95	9±1	2	1.59	0.00315	1	Compiles
	2442	7.58	5.73	8±1	2	1.59	0.00251	1	Compiles
	2462	7.44	5.55	8±1	2	1.59	0.00251	1	Compiles
IEEE 802.11n HT40 (ANT a)	2422	6.99	5.00	7±1	2	1.59	0.00199	1	Compiles
	2442	7.73	5.93	7±1	2	1.59	0.00199	1	Compiles
	2462	6.57	4.54	7±1	2	1.59	0.00199	1	Compiles

Mode	Frequency (MHz)	Power Density (S) (mW /cm2)			Limited of Power Density (S) (mW /cm2)	Test Result
		ANT a	ANT b	Sum		
IEEE 802.11n HT20 (ANT ab)	2412	0.00397	0.00315	0.00712	1	Compiles
	2442	0.00315	0.00315	0.00630	1	Compiles
	2472	0.00315	0.00315	0.00630	1	Compiles
IEEE 802.11n HT40 (ANT ab)	2422	0.00315	0.00199	0.00514	1	Compiles
	2442	0.00251	0.00199	0.00450	1	Compiles
	2462	0.00251	0.00199	0.00450	1	Compiles