FCC 47 CFR MPE REPORT

Shenyang Tongfang Multimedia Technology Co., Limited

LED TV

Model Number: WE75NC4210

Additional Model: WE75UC4210

FCC ID: 2ACWIWE75NC421

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Report Number: ESTE-R1507024
Date of Test : July 22~August 08, 2015
Date of Report : August 10, 2015

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) = E2/377

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*d2)

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		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
					(dBi)	(Linear)			
IEEE 802.11b (ANT a)	2412	13.19	20.85	13±1	2	1.59	0.00792	1	Compiles
	2442	13.18	20.80	13±1	2	1.59	0.00792	1	Compiles
	2472	13.08	20.32	13±1	2	1.59	0.00792	1	Compiles
IEEE 802.11g (ANT a)	2412	11.39	13.77	11±1	2	1.59	0.00500	1	Compiles
	2442	11.24	13.31	11±1	2	1.59	0.00500	1	Compiles
	2472	11.00	12.59	11±1	2	1.59	0.00500	1	Compiles
IEEE 802.11b (ANT b)	2412	16.10	40.74	16±1	2	1.59	0.01580	1	Compiles
	2442	12.76	18.88	12±1	2	1.59	0.00629	1	Compiles
	2472	16.27	42.36	16±1	2	1.59	0.01580	1	Compiles
IEEE 802.11g (ANT b)	2412	10.62	11.54	11±1	2	1.59	0.00500	1	Compiles
	2442	11.30	13.49	11±1	2	1.59	0.00500	1	Compiles
	2472	11.98	15.78	11±1	2	1.59	0.00500	1	Compiles
IEEE 802.11n HT20 (ANT a)	2412	10.11	10.26	10±1	2	1.59	0.00397	1	Compiles
	2442	9.70	9.33	9±1	2	1.59	0.00315	1	Compiles
	2472	8.33	6.81	9±1	2	1.59	0.00315	1	Compiles
IEEE 802.11n HT20 (ANT b)	2412	11.49	14.09	10±1	2	1.59	0.00397	1	Compiles
	2442	9.23	9.38	10±1	2	1.59	0.00397	1	Compiles
	2472	10.91	12.33	10±1	2	1.59	0.00397	1	Compiles
IEEE 802.11n HT40 (ANT a)	2422	8.38	6.87	8±1	2	1.59	0.00251	1	Compiles
	2442	7.35	5.43	8±1	2	1.59	0.00251	1	Compiles
	2462	8.12	6.49	8±1	2	1.59	0.00251	1	Compiles
IEEE 802.11n HT40 (ANT b)	2422	9.89	9.75	9±1	2	1.59	0.00315	1	Compiles
	2442	6.56	4.53	6±1	2	1.59	0.00158	1	Compiles
	2462	6.99	5.00	6±1	2	1.59	0.00158	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	0.00397	0.00794	1	Compiles
	2442	0.00315	0.00397	0.00712	1	Compiles
	2472	0.00315	0.00397	0.00712	1	Compiles
IEEE 802.11n HT40 (ANT ab)	2422	0.00251	0.00315	0.00566	1	Compiles
	2442	0.00251	0.00158	0.00409	1	Compiles
	2462	0.00251	0.00158	0.00409	1	Compiles