FCC 47 CFR MPE REPORT

Shenyang Tongfang Multimedia Technology Co., Limited

LED TV

Model Number: WD32FBE1001

Additional Model: WD32HBB101, WD32FE2120, ELEFW328,

ELST3216H, ELEFW328B, ELEFT328, 8502809, 1129265,

WD32*********,EL*********, maybe followed by character

FCC ID: 2ACWIELST3216

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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) = 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、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	9.66	9.25	10±2	1.21	1.32
	2437	9.63	9.18	10±2	1.21	1.32
	2462	9.68	9.29	10±2	1.21	1.32
IEEE 802.11g	2412	5.90	3.89	6±2	1.21	1.32
	2437	5.63	3.66	6±2	1.21	1.32
	2462	5.43	3.49	5±2	1.21	1.32
IEEE 802.11n HT20	2412	5.18	3.30	5±2	1.21	1.32
	2437	5.52	3.57	6±2	1.21	1.32
	2462	5.46	3.52	5±2	1.21	1.32
IEEE 802.11n HT40	2422	3.36	2.17	3±2	1.21	1.32
	2437	3.22	2.10	3±2	1.21	1.32
	2452	3.14	2.06	3±2	1.21	1.32

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	9.78	9.51	10±2	1.21	1.32
	2437	9.86	9.68	10±2	1.21	1.32
	2462	8.71	7.43	9±2	1.21	1.32
IEEE 802.11g	2412	5.55	3.59	6±2	1.21	1.32
	2437	5.91	3.90	6±2	1.21	1.32
	2462	5.63	3.66	6±2	1.21	1.32
IEEE 802.11n HT20	2412	4.93	3.11	5±2	1.21	1.32
	2437	5.62	3.65	6±2	1.21	1.32
	2462	5.37	3.44	5±2	1.21	1.32
IEEE 802.11n HT40	2422	2.80	1.91	3±2	1.21	1.32
	2437	2.39	1.73	2±2	1.21	1.32
	2452	3.69	2.34	4±2	1.21	1.32

4、Calculated Result and Limit

4.1 Antenna 0

Mode	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
IEEE 802.11b	12	1.21	1.32	0.00417	1	Compiles
IEEE 802.11g	8	1.21	1.32	0.00166	1	Compiles
IEEE 802.11n HT20	8	1.21	1.32	0.00166	1	Compiles
IEEE 802.11n HT40	5	1.21	1.32	0.00083	1	Compiles

4.2 Antenna 1

Mode	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
IEEE 802.11b	12	1.21	1.32	0.00417	1	Compiles
IEEE 802.11g	8	1.21	1.32	0.00166	1	Compiles
IEEE 802.11n HT20	8	1.21	1.32	0.00166	1	Compiles
IEEE 802.11n HT40	6	1.21	1.32	0.00105	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
IEEE 802.11n HT20	0.00166	0.00166	0.00332	1	Compiles
IEEE 802.11n HT40	0.00083	0.00105	0.00188	1	Compiles