

# FCC RF EXPOSURE REPORT

Chunghsin Technology Group CO., LTD

38.5inch HD SMART TV

Model Number: ELSW3917BF

FCC ID: 2AE2W-3917BF1

Prepared for : Chunghsin Technology Group CO., LTD  
No. 618 GONGREN WEST ROAD, JIAOJIANG AREA,  
TAIZHOU CITY, ZHEJIANG, CHINA

Prepared By :EST Technology Co., Ltd.  
Santun(guantai Road), Houjie Town, DongGuan City,GuangDong,  
China.

Tel: 86-769-83081888-808

Report Number: ESTE-R1707032  
Date of Test : June 23~July 04, 2017  
Date of Report : July 06, 2017

## 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 <sup>2</sup> )	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 <sup>2</sup> )	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

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = E^2 / 377$$

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

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

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、Calculated Result and Limit

Mode	Frequency (MHz)	output power (dBm)	output power (mW)	Target power (dBm)	Antenna gain		Power Density (S) (mW/cm <sup>2</sup> )	Limited of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
					(dBi)	(Linear)			
Antenna 0									
IEEE 802.11b	2412	15.32	34.04	15 ± 1	1.21	1.32	0.01046	1	Compiles
	2437	14.77	29.99	14 ± 1	1.21	1.32	0.00831	1	Compiles
	2462	14.12	25.82	14 ± 1	1.21	1.32	0.00831	1	Compiles
IEEE 802.11g	2412	11.12	12.94	11 ± 1	1.21	1.32	0.00417	1	Compiles
	2437	10.94	12.42	10 ± 1	1.21	1.32	0.00331	1	Compiles
	2462	10.64	11.59	10 ± 1	1.21	1.32	0.00331	1	Compiles
IEEE 802.11n HT20	2412	10.76	11.91	10 ± 1	1.21	1.32	0.00331	1	Compiles
	2437	10.97	12.50	10 ± 1	1.21	1.32	0.00331	1	Compiles
	2462	10.26	10.62	10 ± 1	1.21	1.32	0.00331	1	Compiles
IEEE 802.11n HT40	2422	8.14	6.52	8 ± 1	1.21	1.32	0.00209	1	Compiles
	2437	8.10	6.46	8 ± 1	1.21	1.32	0.00209	1	Compiles
	2452	8.78	7.55	8 ± 1	1.21	1.32	0.00209	1	Compiles
Antenna 1									
IEEE 802.11b	2412	13.28	21.28	13 ± 1	1.21	1.32	0.00660	1	Compiles
	2437	13.33	21.53	13 ± 1	1.21	1.32	0.00660	1	Compiles
	2462	13.74	23.66	13 ± 1	1.21	1.32	0.00660	1	Compiles
IEEE 802.11g	2412	9.68	9.29	9 ± 1	1.21	1.32	0.00263	1	Compiles
	2437	9.51	8.93	9 ± 1	1.21	1.32	0.00263	1	Compiles
	2462	9.94	9.86	9 ± 1	1.21	1.32	0.00263	1	Compiles
IEEE 802.11n HT20	2412	8.81	7.60	8 ± 1	1.21	1.32	0.00209	1	Compiles
	2437	9.91	9.79	9 ± 1	1.21	1.32	0.00263	1	Compiles
	2462	9.48	8.87	9 ± 1	1.21	1.32	0.00263	1	Compiles
IEEE 802.11n HT40	2422	7.07	5.09	7 ± 1	1.21	1.32	0.00166	1	Compiles
	2437	6.99	5.00	6 ± 1	1.21	1.32	0.00132	1	Compiles
	2452	4.34	2.72	4 ± 1	1.21	1.32	0.00083	1	Compiles

Mode	Frequency (MHz)	Power (W)			Limited (W)	Test Result
		Ant		Total		
		0	1			
IEEE 802.11n HT20	2412	0.00331	0.00209	0.00540	1	Compiles
	2437	0.00331	0.00263	0.00594	1	Compiles
	2462	0.00331	0.00263	0.00594	1	Compiles
IEEE 802.11n HT40	2412	0.00209	0.00166	0.00375	1	Compiles
	2437	0.00209	0.00132	0.00341	1	Compiles
	2462	0.00209	0.00083	0.00292	1	Compiles