FCC 47 CFR MPE REPORT

TCL Technoly Electronics (Huizhou) Co., Ltd.

OTT Multi-media Box

Model Number: TFD-36-CA

Additional Model: T8015K

FCC ID: ZVAOH00001

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Report Number: ESTE-R1605029
Date of Test : May 03~ 09, 2016
Date of Report : May 10, 2016

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)	Peak output power (dBm)	Peak output power (mW)	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
					(dBi)	(Linear)			
GFSK	2402	4.519	2.831	4±2	2.00	1.585	**0.00126**	1	Compiles
	2441	4.864	3.065	4±2	2.00	1.585	**0.00126**	1	Compiles
	2480	5.025	3.181	5±2	2.00	1.585	**0.00158**	1	Compiles
8-DPSK	2402	3.710	2.350	3±2	2.00	1.585	**0.00100**	1	Compiles
	2441	4.069	2.552	4±2	2.00	1.585	**0.00126**	1	Compiles
	2480	4.351	2.723	4±2	2.00	1.585	**0.00126**	1	Compiles
BLE	2402	-3.760	0.421	-4±2	2.00	1.585	**0.00020**	1	Compiles
	2440	-3.500	0.447	-4±2	2.00	1.585	**0.00020**	1	Compiles
	2480	-3.310	0.467	-4±2	2.00	1.585	**0.00020**	1	Compiles
IEEE 802.11b	2412	15.010	31.696	15±2	2.00	1.585	**0.01580**	1	Compiles
	2442	15.510	35.563	15±2	2.00	1.585	**0.01580**	1	Compiles
	2472	15.460	35.156	15±2	2.00	1.585	**0.01580**	1	Compiles
IEEE 802.11g	2412	13.080	20.324	13±2	2.00	1.585	**0.00997**	1	Compiles
	2442	13.210	20.941	13±2	2.00	1.585	**0.00997**	1	Compiles
	2472	13.490	12.336	13±2	2.00	1.585	**0.00997**	1	Compiles
IEEE 802.11n HT20	2412	13.270	21.232	13±2	2.00	1.585	**0.00997**	1	Compiles
	2442	12.810	19.099	12±2	2.00	1.585	**0.00792**	1	Compiles
	2472	13.350	21.627	13±2	2.00	1.585	**0.00997**	1	Compiles
IEEE 802.11n HT40	2422	11.370	13.709	11±2	2.00	1.585	**0.00629**	1	Compiles
	2442	11.690	14.757	11±2	2.00	1.585	**0.00629**	1	Compiles
	2462	11.760	14.997	11±2	2.00	1.585	**0.00629**	1	Compiles

Mode	Frequency (MHz)	Peak output power (dBm)	Peak 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 802.11a	5180	9.68	9.290	9±2	2.00	1.585	**0.00397**	1	Compiles
	5200	9.62	9.160	9±2	2.00	1.585	**0.00397**	1	Compiles
	5240	9.53	8.970	9±2	2.00	1.585	**0.00397**	1	Compiles
	5260	9.57	9.060	9±2	2.00	1.585	**0.00397**	1	Compiles
	5300	9.98	9.950	9±2	2.00	1.585	**0.00397**	1	Compiles
	5320	10.29	10.690	10±2	2.00	1.585	**0.00397**	1	Compiles
	5500	10.58	11.430	11±2	2.00	1.585	**0.00397**	1	Compiles
	5580	9.70	9.330	9±2	2.00	1.585	**0.00397**	1	Compiles
	5700	9.56	9.040	9±2	2.00	1.585	**0.00397**	1	Compiles
	5745	9.72	9.380	9±2	2.00	1.585	**0.00397**	1	Compiles
	5785	10.15	10.350	10±2	2.00	1.585	**0.00500**	1	Compiles
	5825	10.53	11.300	11±2	2.00	1.585	**0.00629**	1	Compiles
IEEE 802.11n HT20	5180	9.84	9.640	9±2	2.00	1.585	**0.00397**	1	Compiles
	5200	9.77	9.480	9±2	2.00	1.585	**0.00397**	1	Compiles
	5240	9.96	9.910	9±2	2.00	1.585	**0.00397**	1	Compiles
	5260	9.84	9.640	9±2	2.00	1.585	**0.00397**	1	Compiles
	5300	9.92	9.820	9±2	2.00	1.585	**0.00397**	1	Compiles
	5320	10.22	10.520	10±2	2.00	1.585	**0.00500**	1	Compiles
	5500	10.82	12.080	12±2	2.00	1.585	**0.00792**	1	Compiles
	5580	9.62	9.160	9±2	2.00	1.585	**0.00397**	1	Compiles
	5700	9.67	9.270	9±2	2.00	1.585	**0.00397**	1	Compiles
	5745	9.61	9.140	9±2	2.00	1.585	**0.00397**	1	Compiles
	5785	10.30	10.720	10±2	2.00	1.585	**0.00500**	1	Compiles
	5825	10.58	11.430	11±2	2.00	1.585	**0.00629**	1	Compiles

Mode	Frequency (MHz)	Peak output power (dBm)	Peak 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 802.11n HT40	5190	9.77	9.480	9±2	2.00	1.585	**0.00397**	1	Compiles
	5230	9.47	8.850	8±2	2.00	1.585	**0.00397**	1	Compiles
	5270	9.43	8.770	8±2	2.00	1.585	**0.00397**	1	Compiles
	5310	9.79	9.530	9±2	2.00	1.585	**0.00397**	1	Compiles
	5510	10.46	11.120	11±2	2.00	1.585	**0.00629**	1	Compiles
	5550	9.34	8.590	8±2	2.00	1.585	**0.00397**	1	Compiles
	5670	9.29	8.490	8±2	2.00	1.585	**0.00397**	1	Compiles
	5755	9.87	9.710	9±2	2.00	1.585	**0.00397**	1	Compiles
	5795	9.97	9.930	9±2	2.00	1.585	**0.00397**	1	Compiles

Note: 2.4 and 5GHz bands are share an antenna, Cann't both the 2.4 and 5 GHz bands operate simultaneously.