FCC 47 CFR MPE REPORT

TCL Entertainment Solutions Limited

2.0 CH Sound Bar

Model Number: TS6100

Additional Model: TDS6100, Alto 6, ***6100

FCC ID: 2ARUDTS6100

Prepared for:	TCL Entertainment Solutions Limited					
	7/F, building 22E, 22 science park east avenue, Hong Kong science park,					
	SHATIN, N.T.Hong kong 999077 China					
Prepared By:	EST Technology Co., Ltd.					
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China					
Tel: 86-769-83081888-808						

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Maximum Permissible Exposure

1. Applicable Standards

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.

1.1. Limits for Maximum Permissible Exposure (MPE)

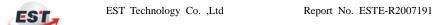
(a) Limits for Occupational/Controlled Exposure

Frequency	Electric Field	Magnetic Field	Power Density (S)	Averaging Times
Range	Strength (E)	Strength (H)	(mW/cm^2)	$ E ^2, H ^2 \text{ or } S$
(MHz)	(V/m)	(A/m)		(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	Electric Field	Magnetic Field	Power Density (S)	Averaging Times
Range (MHz)	Strength (E)	Strength (H)	(mW/cm^2)	$ E ^2, H ^2 \text{ or } S$
	(V/m)	(A/m)		(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



1.2. MPE Calculation Method

$$E (V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$
 Power Density: Pd $(W/m^2) = \frac{E^2}{377}$

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

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

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



2. Conducted Power Result

Mode				Target	Antenna gain	
	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	power (dBm)	(dBi)	(Linear)
GFSK	2402	-2.40	0.5754	-2±1	0	1
	2441	-0.81	0.8299	0 ± 1	0	1
	2480	0.68	1.1695	0 ± 1	0	1
8-DPSK	2402	0.52	1.1272	0 ± 1	0	1
	2441	2.22	1.667	2±1	0	1
	2480	3.71	2.3496	3±1	0	1
BLE	2402	-3.39	0.4581	-3±1	0	1
	2440	-1.34	0.7345	-1±1	0	1
	2480	0.20	1.0471	0±1	0	1

3. Calculated Result and Limit

Mode	Target power	Antenna gain		Power Density (S)	Limited of Power Density	Test Result
	(dBm)	(dBi)	(Linear)	(mW/cm^2)	(S) (mW/cm^2)	
GFSK	1	0	1	0.00025	1	Compiles
8-DPSK	4	0	1	0.00050	1	Compiles
BLE	1	0	1	0.00025	1	Compiles

End of Test Report



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