

## FCC 47 CFR MPE REPORT

TCL Entertainment Solutions Limited

3.1 Channel Sound Bar with Dolby Audio,  
DTS Virtual:X and Wireless Subwoofer

Model Number: P733W

Additional Model: Alto 7I, Alto 7I+, Alto 7\*, P733W\*\*\*  
 (\* represents any numerical number from "0-9", or any alphabetical  
 character from "a-z", or special character as "+ " and space " ")

FCC ID: 2ARUDP733W

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Report Number:	ESTE-R2204187
Date of Test:	Mar. 21~Apr. 18, 2022
Date of Report:	Apr. 20, 2022

## 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 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   <sup>2</sup> ,   H   <sup>2</sup> 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   <sup>2</sup> ,   H   <sup>2</sup> 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

## 1.2. MPE Calculation Method

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

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,  $d=0.2\text{m}$ , as well as the gain of the used antenna, the RF power density can be obtained

## 2. Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)
GFSK	2402	5.46	3.5156	5±1
	2441	5.09	3.2285	5±1
	2480	5.30	3.3884	5±1
8-DPSK	2402	6.04	4.0179	6±1
	2441	5.76	3.7670	5±1
	2480	6.10	4.0738	6±1
GFSK 1M BLE 1	2402	4.74	2.9785	4±1
	2440	4.31	2.6977	4±1
	2480	4.57	2.8642	4±1
GFSK 2M BLE 1	2402	4.81	3.0269	4±1
	2440	4.48	2.8054	4±1
	2480	4.62	2.8973	4±1
GFSK 1M BLE 2	2402	7.48	5.5976	7±1
	2440	6.67	4.6452	6±1
	2480	6.42	4.3853	6±1
GFSK 2M BLE 2	2402	7.63	5.7943	7±1
	2440	6.72	4.6989	6±1
	2480	6.40	4.3652	6±1

## 3. Calculated Result and Limit

Antenna	MODE	Channel	MAX 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)			
1	GFSK 2M	2402	8	1.1	1.288	0.0016	1	Complies

End of Test Report