FCC 47 CFR MPE REPORT

TCL OVERSEAS MARKETING LTD

2.0 Channel Dolby Atmos All in One Soundbar

Model Number: S45H

Additional Model:

S40H,S48H,S49H,S45HE,S45HK,S4*****,S45H-S,S40H-S,S48H-S,S49H-S,S45H-J,S40H-J,S48H-J,S49H-J,S45H-CA,S40H-CA,S48H-CA,S49H-CA,F20C,F25C,F28C,F20D,F25D,F28D,F2***(*can be any numerica number"0~9" or alphebtical number "A~Z")

FCC ID: 2BEHES45H

Applicant:	TCL OVERSEAS MARKETING LTD
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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 Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\mid E \mid^2$, $\mid H \mid^2$ 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^2)	Averaging Times $\mid E \mid^2$, $\mid H \mid^2$ 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

1.2. MPE Calculation Method

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

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

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

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	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)
GFSK	2402	5.84	3.837
	2441	5.41	3.475
	2480	5.38	3.451
π/4-DQPSK	2402	6.51	4.477
	2441	6.03	4.009
	2480	6.07	4.046
8-DPSK	2402	6.84	4.831
	2441	6.43	4.395
	2480	6.43	4.395
BLE 1M	2402	5.62	3.648
	2440	5.25	3.350
	2480	5.22	3.327
BLE 2M	2402	5.64	3.664
	2440	5.28	3.373
	2480	5.18	3.296

3. Calculated Result and Limit

Mode	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW/cm^2)	Limited of Power Density (S) (mW/cm^2)	Test Result
				(dBi)	(Linear)			
2.4G Band								
GFSK	5.84	5±1	6	2.91	1.954	0.00155	1	Complies
π/4-DQPSK	6.51	6±1	7	2.91	1.954	0.00195	1	Complies
8-DPSK	6.84	6±1	7	2.91	1.954	0.00195	1	Complies
BLE 1M	5.62	5±1	6	2.91	1.954	0.00155	1	Complies
BLE 2M	5.64	5±1	6	2.91	1.954	0.00155	1	Complies

End of Test Report