RF Exposure Report

Product name ..... :	5.1 Channel Dolby Atmos Sound Bar with Wireless Subwoofer
Trademark ..... :	TCL, FFALCON
Model no. ..... :	Q65K
Series Model(s). ..... :	See section 2.1 for details
FCC ID ..... :	2BEHEQ65H
Report No ..... :	C241201004-RF06
Test Standards ..... :	CFR47 FCC Part 2: Section 2.1093 CFR47 FCC Part 1: Section 1.1310
Applicant ..... :	TCL OVERSEAS MARKETING LTD
Address of applicant ..... :	5/F. Building 22E, 23 Science Park East Avenue Science Park Shatin Hong Kong China
Manufacturer ..... :	TCL OVERSEAS MARKETING LTD
Manufacturer Address ..... :	5/F. Building 22E, 23 Science Park East Avenue Science Park Shatin Hong Kong China
Date of Test Date ..... :	n.a.
Date of issue. ..... :	Jan 09,2025
Test result ..... :	Compliance

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Reviewed By : Greg Zhang/Engineer

Approved By : Tom Gan/Manager

The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of preparer, reviewer and approver. Any objections must be raised to CSIC within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

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1 TEST SUMMARY

1.1 Test Facility

Shenzhen Central Standard International Center Co., Ltd. (CSIC)

Room 201, Building 1, Mogen Fashion Industrial Park, No. 10, Shilongzai Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen.

The test facility is recognized, certified or accredited by the following organizatios:

CNAS	Registration No.: L11671	
FCC	Registration No.: 0031378433	Designation Number: CN1317
IC	CAB identifier: CN0051	
A2LA	Lab Cert. No.: 6426.01	

2 GENERAL INFORMATION

2.1 General Description of EUT

EUT(Product Specifications)	
Product Name:	5.1 Channel Dolby Atmos Sound Bar with Wireless Subwoofer
Model:	Q65K
Series Model(s):	Q65K, Q60K, Q6BK, Q65K5, Q65KE, Q65K-UK, Q6*****, Q65K-S, Q60K-S, Q68K-S, Q69K-S, Q65K-J, Q60K-J, Q68K-J, Q69K-J, Q65K-CA, Q60K-CA, Q68K-CA, Q69K-CA, R40C, R45C, R48C, R40D, R45D, R48D, R4***, Q65H,Q60H,Q68H,Q69H,Q65HE,Q65HK,Q6*****, Q65H-S,Q60H-S,Q68H-S,Q69H-S,Q65H-J,Q60H-J,Q68H-J,Q69H-J,Q65H-CA,Q60H-CA,Q68H-CA,Q69H-CA(*can be any numerica number"0~9" or alphebtical number "A~Z")
Power supply:	AC 100-240V~50/60Hz
Hardware version:	V03
Software version:	V17
Technical Specification of Bluetooth	
Operating Frequency	2402 - 2480 MHz
Type of Modulation	GFSK, π/4DQPSK, 8DPSK
Channel Number	79 channels
Channel Separation	1MHz
Bluetooth Version	Bluetooth 5.3
Antenna Type	PIFA Antenna
Max. Antenna Gain	2.69 dBi.
Technical Specification of Bluetooth LE	
Frequency Range:	2402 MHz to 2480 MHz
Type of Modulation:	GFSK
Channel Number:	40 channels
Data Rate:	1 Mbps, 2 Mbps
Channel Separation:	2 MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.69 dBi.

Remark：The above information and materials are provided by the Manufacturer.

3 Maximum Permissible Exposure (MPE)

3.1 RF Exposure

3.1.1 Limit

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.
Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio frequency (RF) radiation as specified in 1.1307 (b).

For FCC:

Frequency Range	Electric Field Strength	Magnetic Field Strength	Power Density
[MHz]	[V/m]	[A/m]	[mW/cm^2]
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	f/300
1500 - 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	f/1500
1500 - 100000	--	--	1.0

NOTE: f = Frequency in MHz

3.1.2 Friss Formula

Per KDB 447498 D01 v06, simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on calculated or measured field strengths or power density, is ≤ 1.0.

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

3.1.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

3.1.4 EUT Operating Conditions

EUT was enabled to transmit and receive at lowest, middle and highest channels.

3.1.5 Evaluation Result

1) tand-alone transmission MPE

For FCC

Test Results of RF Exposure Calculations for FCC, Stand-alone mode

Test Mode	Max. conducted power incl. tune-up (dBm)	Distance (cm)	MPE (mW/cm^2)	Threshold power (mW/cm^2)	Result
Bluetooth	9.00	20	0.00292	1.0	Pass

Test Results of RF Exposure Calculations for FCC, Simultaneous mode

Co-location Mode	Sum of the MPE ratios	Limit	Result
N/A	N/A	1.0	Pass

3.1.6 Conclusion

Therefore, the maximum calculations result of above are meet the requirement of Radio Frequency Exposure (MPE) limit.

**************************THE END**************************