

MPE REPORT

FCC ID: 2ACO3-18126

Date of issue: May 29, 2019

Report Number:	MTi190527E159
Sample Description:	Speaker Skull Wireless
Model(s):	18126
Applicant:	Lucky Group(H.K.) Limited
Address:	Building B, Lucky Industrial Park, Hongjin Road, Hongmei Town Dongguan China
Date of Test:	May 15, 2019 to May 29, 2019

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

TEST RESULT CERTIFICATION	
Applicant's name:	Lucky Group(H.K.) Limited
Address:	Building B, Lucky Industrial Park, Hongjin Road, Hongmei Town Dongguan China
Manufacture's Name:	Dongguan Little Dolphin Technology Co., Ltd
Address:	Floor 11, Hengfu Building, Juqi Community, Humen Town, Dongguan City, Guangong Province, China
Product name:	Speaker Skull Wireless
Trademark:	Dave and Buster's
Model and/or type reference ...:	18126
Serial Model.....:	N/A
RF Exposure Procedures.....:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by:



Jone Lee

May 29, 2019

Reviewed by:



Blue Zheng

May 29, 2019

Approved by:



Smith Chen

May 29, 2019

RF EXPOSURE EVALUATION

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

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm (20cm)

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

Bluetooth:

Operation Frequency: Bluetooth 2402-2480MHz

Power density limited: 1mW/ cm²

Antenna Type: Bluetooth Antenna: PCB Mounted Embedded Antenna;

Bluetooth antenna gain: -0.58dBi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}= 10^{(-0.58/10)}=0.87$

Bluetooth DTS:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna Gain Numeric	Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
				tune-up power				
				(dBm)	(mW)			
2402	GFSK	1.834	1±1	2	1.585	0.87	0.0003	1
2440		1.775	1±1	2	1.585	0.87	0.0003	1
2480		1.402	1±1	2	1.585	0.87	0.0003	1

Bluetooth DSS:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna Gain Numeric	Evaluation result at 20cm Power density(mW/cm ²)	Power density Limits (mW/cm ²)
				tune-up power				
				(dBm)	(dBm)	(dBm)	(mW)	
2402	GFSK	-2.745	-3±1	-2	0.631	0.87	0.0001	1
2441		-3.366	-3±1	-2	0.631	0.87	0.0001	1
2480		-3.836	-3±1	-2	0.631	0.87	0.0001	1
2402	π/4- DQPSK	-1.952	-2±1	-1	0.794	0.87	0.0001	1
2441		-2.063	-2±1	-1	0.794	0.87	0.0001	1
2480		-2.411	-2±1	-1	0.794	0.87	0.0001	1

Conclusion:

For the max result: $0.0003 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----