

MPE REPORT

FCC ID: 2ANKV-FK-DTS4

Date of issue: Dec. 30, 2020

Report number:	MTi20101007-4E2
Sample description:	MUSIC BOX
Model(s):	DTS4, DTS3
Applicant:	Shenzhen lemaga Technology Co., Ltd
Address:	Guan Li Da Building 301-31, Qianjin Road 1, Xin'an Ban, Bao An, Shenzhen, China
Date of test:	Oct. 14, 2020 to Dec. 18, 2020

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

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TEST RESULT CERTIFICATION	
Applicant's name:	Shenzhen lemega Technology Co., Ltd
Address:	Guan Li Da Building 301-31, Qianjin Road 1, Xin'an Ban, Bao An, Shenzhen, China
Manufacture's name:	Huizhou LEMEGA Technology Co., Ltd.
Address:	No. 120 Shuidian Road, Yuanzhou Town, Huizhou City, Guangdong province, P.R.C 516123
Product name:	MUSIC BOX
Trademark:	LEMEGA
Model and/or type reference:	DTS4
Serial model:	DTS3
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:

Danny Xu

Dec. 18, 2020

Reviewed by:

Leo Su

Dec. 30, 2020

Approved by:

Tom Xue

Dec. 30, 2020



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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

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

BT:

Operation Frequency: BT GFSK, $\pi/4$ -DQPSK: 2402-2480MHz,

Power density limited: $1\text{mW}/\text{cm}^2$

Antenna Type: BT Antenna: PCB Mounted Embedded Antenna;

WIFI antenna gain: 2.5dBi

R=20cm

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

antenna gain Numeric= $10^{(\text{dBi}/10)}=10^{(2.5/10)}=1.78$

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	5.558	5±1	6	3.981	2.50	1.78	0.0014	1
2441		5.14	5±1	6	3.981	2.50	1.78	0.0014	1
2480		5.849	5±1	6	3.981	2.50	1.78	0.0014	1
2402	π/4-DQPSK	5.02	5±1	6	3.981	2.50	1.78	0.0014	1
2441		4.307	5±1	6	3.981	2.50	1.78	0.0014	1
2480		5.011	5±1	6	3.981	2.50	1.78	0.0014	1

Conclusion:

For the max result: $0.0014 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----