Report No.: DDT-R21050810-2E06

Issued Date: Jul. 22, 2020

RF EXPOSURE REPORT

FOR

Applicant	:	LOUD AUDIO, LLC
Address	:	19820 North Creek Parkway, Suite #201, Bothell, WA 98011-8227, USA
Equipment under Test	:	THUMP GO
Model No.	:	THUMP GO
Trade Mark	:	
FCC ID	:	2AD4XTHUMPGO
Manufacturer	:	LOUD AUDIO, LLC
Address	:	19820 North Creek Parkway, Suite #201, Bothell, WA 98011-8227, USA

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, **E-Mail:** ddt@dgddt.com, http://www.dgddt.com

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TEST REPORT DECLARE

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Standard Used: KDB447498 D01 General RF Exposure Guidance v06

We Declare:
The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-R21050810-2E06		
Date of Receipt:	May 11, 2021	**Date of Test:**	May 11, 2021 ~ Jul. 20, 2021

Prepared By:

Ella Gong

Ella Gong/Engineer

Approved By:

DONGGUAN DONGDIAN TESTING SERVICE CO., LTD. APPROVED

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision history

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Jul. 22, 2021	

1. General information

1.1. Description of Equipment

EUT* Name	:	THUMP GO
Model Number	:	THUMP GO
EUT function description	:	Please reference user manual of this device
Power supply	:	100-240V~ 50-60Hz 75W or DC 14.8V from built-in battery
Radio Specification	:	Bluetooth V5.0
Operation frequency	:	2402MHz-2480MHz
Modulation	:	GFSK, π/4-DQPSK, 8DPSK
Data rate	:	1 Mbps, 2 Mbps, 3 Mbps
Antenna Gain	:	-0.347 dBi
Sample Type	:	Series production

1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.
Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.
Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01
FCC Designation Number: CN1182, Test Firm Registration Number: 540522
Innovation, Science and Economic Development Canada Site Registration Number: 10288A
Conformity Assessment Body identifier: CN0048
VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

2. RF Exposure evaluation

2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(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 Time $|E|^2$,$|H|^2$ 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
1500-100,000			1.0	30

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

2.2. Calculation Method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } S(mW/cm^2) = \frac{E^2}{377}$$

E = Electric field (V/m)
P = Peak RF output power (mW)
G = EUT Antenna numeric gain (numeric)=
d = Separation distance between radiator and human body (m)
The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

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.

2.3. Estimation Result

Manufacturing Tolerance

GFSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	4	4	4
Tolerance ±(dB)	1	1	1
π/4DQPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	4	4	4
Tolerance ±(dB)	1	1	1
8DPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	4	4	4
Tolerance ±(dB)	1	1	1

BLE (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	4	4	4
Tolerance ±(dB)	1	1	1

Estimation Result

Mode	F (GHz)	Distance (mm)	RF output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW /cm^2)	MPE Test Exclusion Threshold (mW/cm2)	MPE Test Exclusion
			dBm	mW					
BDR	2.450	20	5	3.16	-0.347	0.923	0.000577	1	Yes
EDR	2.450	20	5	3.16	-0.347	0.923	0.000577	1	Yes

Note: The estimation distance is 20cm

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

END OF REPORT