



RF TEST REPORT

Product Name: Speaker

Model Name: MNLUNA, MNLUNA2, MNLUNA-PLUS, MNLUNA X, MNLUNA+

FCC ID: 2BAA5-MNLUNA

Issued For : AcoustMax International Corporation

Room 501, Lingyun Building , HongLang North 2 Road,
ShenZhen, China

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park,
No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan
District, Shenzhen, Guangdong, China

Report Number: LGT24A045HA01

Sample Received Date: Jan. 08, 2024

Date of Test: Jan. 08, 2024 – Jan. 30, 2024

Date of Issue: Jan. 30, 2024

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TEST REPORT CERTIFICATION

Applicant: AcoustMax International Corporation
Address: Room 501,Lingyun Building ,HongLang North 2 Road, ShenZhen, China
Manufacture: NINGBO TONWEL AUDIO EQUIPMENTS CO.,LTD
Address: NO.28 XIYI ROAD JIANGSHAN TOWN YINZHOU NINGBO,CHINA
Factory : NINGBO TONWEL AUDIO EQUIPMENTS CO.,LTD
Address: NO.28 XIYI ROAD JIANGSHAN TOWN YINZHOU NINGBO,CHINA
Product Name: Speaker
Trademark: Monster
Model Name: MNLUNA, CMC1112, CMMNLUNA, MMNLUNA, HIFI100
Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR §2.1093 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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Revision History

Rev.	Issue Date	Revisions
00	Jan. 30, 2024	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Speaker	
Trademark:	Monster	
Model Name:	MNLUNA	
Series Model:	MNLUNA2, MNLUNA-PLUS, MNLUNA X, MNLUNA+	
Model Difference:	Model name difference.	
Frequency Bands:	Bluetooth	2402 – 2480 MHz
Adapter:	INPUT: 100-240V~ 50/60Hz 0.5A OUTPUT: 5V 3A	
Hardware Version:	V02	
Software Version:	V21	

1.2 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.	
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China	
Accreditation Certificate	A2LA Certificate No.: 6727.01	
	FCC Registration No.: 746540	
	CAB ID: CN0136	



2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

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.

2.2 LIMIT

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)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (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

F= Frequency in MHz

Friss Formula

Friss 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 = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

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.

2.3 EUT OPERATION CONDITION

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

2.4 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.



2.5 TEST RESULT

Turn up Result

Mode	Turn up Power
BT-GFSK	5±1dBm
BT-π/4-DQPSK	5±1dBm
BT-8DPSK	5±1dBm

Mode	frequency (GHz)	Maximum Peak Conducted Output Power (dBm)	Tune up Power (dBm)	Tune up Power (mW)	Result	Limit
GFSK(1Mbps)	2.402	4.18	6	3.981071706	1.2340	3
π/4-DQPSK(2Mbps)	2.402	4.91	6	3.981071706	1.2340	3
8DPSK(3Mbps)	2.402	5.36	6	3.981071706	1.2340	3

Remark: Threshold at which no SAR required is $1.234 \leq 3.0$ for 1-g SAR, Separation distance is 5mm.

*****END OF THE REPORT*****