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RF Exposure Evaluation Report

Report No.: CQASZ20211001820E-03
Applicant: eMoMo Technology Co., Ltd
Address of Applicant: Fourth Floor, Yonghe Building, Taiwan Industrial P Shiyuan, Baoan, Shenzhen, Guangdong, China
Equipment Under Test (EUT):
EUT Name: Audio Leg-Boost
Test Model No.: E108V, E108
Model No.: E108V
Brand Name: eMoMo
FCC ID: A4E-E108
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-10-25
Date of Test: 2021-10-25 to 2021-12-30
Date of Issue: 2022-03-25
Test Result: PASS*

*In the configuration tested, the EUT complied with the standards specified above

Tested By:

Lewis Zhou

(Lewis Zhou)

Reviewed By:

Rock Huang

(Rock Huang)

Approved By:

Jack Ai

(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20211001820E-03	Rev.01	Initial report	2022-03-25

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3 General Information

3.1 Client Information

Applicant:	eMoMo Technology Co., Ltd
Address of Applicant:	Fourth Floor, Yonghe Building, Taiwan Industrial P Shiyan, Baoan, Shenzhen, Guangdong, China
Manufacturer:	eMoMo Technology Co., Ltd
Address of Manufacturer:	Fourth Floor, Yonghe Building, Taiwan Industrial P Shiyan, Baoan, Shenzhen, Guangdong, China
Factory:	eMoMo Technology Co., Ltd
Address of Factory:	Fourth Floor, Yonghe Building, Taiwan Industrial P Shiyan, Baoan, Shenzhen, Guangdong, China

3.2 General Description of EUT

Product Name:	Audio Leg-Boost
Model No.:	E108V, E108
Test Model No	E108V
Trade Mark:	eMoMo
EUT Supports Radios application:	Bluetooth mode 2402-2480MHz
Software Version:	V01
Hardware Version:	V01
Sample Type:	☒ Mobile ☐ Portable ☐ Fix Location
EUT Power Supply:	DC 15V 2.4A

3.3 General Description of BT

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Test Software of EUT:	FCC Assist 1.0.2.2
Antenna Type:	PCB antenna
Antenna Gain:	0dBi

3.4 General Description of BLE

Operation Frequency:	2402MHz~2480MHz
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Test Software of EUT:	FCC Assist 1.0.2.2
Number of Channel:	40

Antenna Type:	PCB antenna
Antenna Gain:	0dBi

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm}) \cdot \sqrt{f(\text{GHz})}} \right] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4.1.3 EUT RF Exposure

1) For BT

Measurement Data

Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-0.65	-0.5±1	0.5	1.122	0.348	3.0
Middle (2440MHz)	1.03	1±1	2	1.585	0.495	
Highest (2480MHz)	1.50	2±1	3	1.995	0.628	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20211001820E-01.

2) For BLE(1Mbps)

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.91	2.0±1	3.0	1.995
Middle(2440MHz)	2.07	2.0±1	3.0	1.995
Highest(2480MHz)	0.98	1.0±1	2.0	1.585

Worst case: GFSK mode

Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	1.91	2.0±1	3.0	1.995	0.618	3.0
Middle (2440MHz)	2.07	2.0±1	3.0	1.995	0.623	
Highest (2480MHz)	0.98	1.0±1	2.0	1.585	0.499	

Conclusion: the calculated value ≤ 3.0 , SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20211001820E-02
BLE can not simultaneous transmitting at same time.

*** END OF REPORT ***