

RF Exposure Evaluation Report

Product : Wireless Smart Audio Module
Trade mark : Linkplay
Model/Type reference : A98, A98M, A98M-12, A98M-22, A98MG, A98-12, A98-22, A98G
Serial Number : N/A
Report Number : EED32L00167703
FCC ID : 2ANOG-A98XX
Date of Issue : Aug. 09, 2019
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01v06
Test result : PASS

Prepared for:

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Aug. 09, 2019

Check No.: 3915522376



2 Version

Version No.	Date	Description
00	Aug. 09, 2019	Original

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4 General Information

4.1 Client Information

Applicant:	Linkplay Technology Inc
Address of Applicant:	8F-8036, Qianren Building, No. 7, Yingcui Road, Jiangning District, Nanjing, China
Manufacturer:	Linkplay Technology Inc
Address of Manufacturer:	8F-8036, Qianren Building, No. 7, Yingcui Road, Jiangning District, Nanjing, China
Factory:	Linkplay Technology Inc
Address of Factory:	8F-8036, Qianren Building, No. 7, Yingcui Road, Jiangning District, Nanjing, China

4.2 General Description of EUT

Product Name:	Wireless Smart Audio Module
Model No.(EUT):	A98, A98M, A98M-12, A98M-22, A98MG, A98-12, A98-22, A98G
Test Model No.:	A98
Trade Mark:	Linkplay
EUT Supports Radios application:	BT 4.0 Dual mode, 2402-2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Test Power Grade:	Default Setting
Test Software of EUT:	Linkplay Factory Tool For Custom (manufacturer declare)
Antenna Type:	PIFA antenna
Antenna Gain:	2.62dBi
Power Supply:	DC 5V
Max Conducted Peak Output Power:	BT:3.101dBm , 2.4GHz:18.53dBm, 5GHz:15.89dBm The Max Conducted Peak Output Power data refer to the report EED32L00167702, EED32L00167705, EED32L00167704
Sample Received Date:	Jun. 26, 2019
Sample tested Date:	Jun. 26, 2019 to Aug. 09, 2018
<p>The tested sample(s) and the sample information are provided by the client. Model No.: A98, A98M, A98M-12, A98M-22, A98MG, A98-12, A98-22, A98G Only the model A98 was tested, The difference is that ROM and RAM are different in size or customer.</p>	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—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 Exposures				
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
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	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
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:

Mode	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
BT	2480	3.101	2.62	5.721	3.73	20	0.001	1.0	Pass
2.4GHz WIFI	2462	18.53	2.62	21.15	130.30	20	0.026	1.0	Pass
5GHz WIFI	5320	17.98	4.64	22.62	182.81	20	0.036	1.0	Pass

Note: Refer to report No. EED32I00167702, EED32L00167705, EED32L00167704 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00167701 for EUT external and internal photos.

*** End of Report ***

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