

Monitor Audio Ltd.

MPE ASSESSMENT REPORT

Report Type:

FCC Part §2.1091, §2.1093 and §1.1307(b) assessment report

Model:
IA40-3

REPORT NUMBER:
190402511SHA-002

ISSUE DATE:
July 3, 2019

DOCUMENT CONTROL NUMBER:
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Applicant: Monitor Audio Ltd.
24 Brook Road, Rayleigh, Essex, SS6 7XJ, UK

Manufacturer: Monitor Audio Ltd.
24 Brook Road, Rayleigh, Essex, SS6 7XJ, UK

Manufacturing site: Hansong (Nanjing) Technology Ltd.
8th Kangping Road, Jiangning Economy and Technology
Development Zone, Nanjing, 211106, China.

Product Name: Audio Amplifier

Type/Model: IA40-3

FCC ID: O7VMA439113

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:
Project Engineer
Wade Zhang**REVIEWED BY:**
Reviewer
Daniel Zhao

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TEST REPORT**Revision History**

Report No.	Version	Description	Issued Date
190402511SHA-002	Rev. 01	Initial issue of report	July 3, 2019

TEST REPORT**1 GENERAL INFORMATION****1.1 Description of Equipment Under Test (EUT)**

Product name:	Audio Amplifier
Type/Model:	IA40-3
Description of EUT:	The EUT is a wireless amplifier which contains a Bluetooth 4.0 technology module, the Bluetooth module support BR+EDR only and there have only one mode.
Rating:	DC 33V 3.8A
Software Version:	/
Hardware Version:	/
Sample received date:	April 22, 2019
Date of test:	April 22, 2019 ~ May 22, 2019

1.2 Technical Specification

Frequency Range:	2400MHz ~ 2483.5MHz
Support Standards:	Bluetooth BR+EDR
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Type of Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Channel Number:	79 (0 - 78)
Data Rate:	1Mbps
Channel Separation:	1MHz

Antenna information:			
No.	Antenna Type	Gain (dBi)	Note
1	External Omni antenna	2.0	/

TEST REPORT**1.3 Description of Test Facility**

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN1175
	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

TEST REPORT**2 MPE Assessment****Test result:** Pass**2.1 MPE Assessment Limit**

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	$4 000/f$	$5 000/f$	-
0,025-0,8 kHz	250/f	4/f	5/f	-
0,8-3 kHz	250/f	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	0,73/f	0,92/f	-
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

TEST REPORT**2.2 Assessment Results**

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 190402511SHA-001:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Frequency band (MHz)	Power		Antenna Gain (Numeric)		R (cm)	S (mW/cm ²)	Limits (mW/cm ²)
2402 - 2480	dBm	mW	dBi	(Numeric)	(cm)	(mW/cm ²)	(mW/cm ²)
2402 - 2480	8.28	6.73	2	1.58	20	0.002	1

Note: 1 mW/cm² from 1.310 Table 1

TEST REPORT**Appendix I**

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

***** END *****