



RF EXPOSURE REPORT

Applicant	:	Harman International Industries, Inc.
Address of Applicant	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Manufacturer	:	Harman International Industries, Inc.
Address of Manufacturer	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Equipment under Test	:	Multi-Channel Soundbar with wireless subwoofer
Model No.	:	BAR 700MK2, BAR 800MK2
FCC ID	:	APIBAR800MK2
Test Standard(s)	:	KDB447498 D01 General RF Exposure Guidance v06
Report No.	:	DDT-RE24111416-1E23
Issue Date	:	2025/03/12
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Model No.	:	BAR 700MK2, BAR 800MK2
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Test Standard Used:
KDB447498 D01 General RF Exposure Guidance v06

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

Report No.:	DDT-RE24111416-1E23		
Date of Receipt:	2024/11/10	Date of Test:	2024/11/10-2025/02/28

Created: Jacky Huang	Reviewed: Ella Gong	Approved: Damon Hu
		
2025/03/02	2025/03/12	2025/03/12

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

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2025/03/12	

1. General Test Information

1.1. Description of EUT

EUT Name	: Multi-Channel Soundbar with wireless subwoofer
Model Number	: BAR 700MK2, BAR 800MK2
Difference of model number	: "BAR 800MK2" and "BAR 700MK2" are just different models. The appearance, circuit design, layout, components used and internal wiring are the same, we chose the model "BAR 800MK2" as a representative model for compliance testing.
EUT Function Description	: Please reference user manual of this device
Power Supply	: AC 100-240V, 50/60Hz, 50W
Antenna Type	: Bluetooth Antenna type: PIFA WiFi Antenna type: Monopole SRD Antenna type: PCB
Max Antenna Gain (dBi)	: Bluetooth Antenna: 2.35 dBi Ant1: 2.4 GHz WiFi: 1.95 dBi 5 GHz WiFi: 5150-5250MHz: 3.69 dBi 5250-5350MHz: 3.68 dBi 5470-5725MHz: 3.45 dBi 5745-5825MHz: 3.13 dBi Ant2: 2.4 GHz WiFi: 2.18 dBi 5 GHz WiFi: 5150-5250MHz: 3.11 dBi 5250-5350MHz: 2.77 dBi 5470-5725MHz: 3.03 dBi 5745-5825MHz: 2.93 dBi 2.4GHz SRD Antenna: 2.40 dBi

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual.

1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
AC cable	Harman	N/A	Length: 195cm
HDMI cable	Harman	N/A	Length: 115cm, with two magnetic rings
Remote control	Harman	N/A	N/A

1.3. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, 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, R-20240, G-20118

2. RF Exposure evaluation for FCC

2.1. Assessment procedure

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 0.2 m 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

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
1500-100000			1.0	30

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

Calculation method

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

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=0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

2.2. Assess result

Mode	Output power (dBm)	tune up power (dBm)	tune up power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm ²)	MPE Limit (mW/cm ²)
BT	12.04	13.00	19.95	2.35	1.72	0.007	1
BLE	10.26	11.00	12.59	2.35	1.72	0.004	1
SRD	3.68	5.00	3.16	2.40	1.74	0.001	1
2.4G WiFi	17.66	19.00	79.43	2.06	1.61	0.025	1
5G WiFi	16.82	18.00	63.10	3.87	2.44	0.031	1

Simultaneous transmit evaluation result (worst case): $0.007/1+0.001/1+0.025/1+0.031/1=0.064<1$.

Note: The estimation distance is 20 cm

Conclusion: MPE evaluation required since transmitter power is below FCC threshold

-----End Report-----