

## RF EXPOSURE REPORT

### FOR

<b>Applicant</b>	:	Harman International Industries, Inc.
<b>Address</b>	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
<b>Equipment under Test</b>	:	SOUNDBAR
<b>Model No.</b>	:	Bar 2.1 Deep Bass CNTR
<b>Trade Mark</b>	:	JBL
<b>FCC ID</b>	:	APIBAR300CNTR
<b>IC</b>	:	6132A-BAR300CNTR
<b>Manufacturer</b>	:	Harman International Industries, Inc.
<b>Address</b>	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES

**Issued By: Dongguan Dongdian Testing Service Co., Ltd.**

**Add:** No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan  
City, Guangdong Province, China, 523808

**Tel:** +86-0769-38826678, **E-mail:** ddt@dgddt.com, <http://www.dgddt.com>

# REPORT

### TABLE OF CONTENTS

Test report declares.....	3
1. General information.....	5
1.1. Description of Equipment.....	5
1.2. Assess laboratory.....	5
2. RF Exposure evaluation.....	5
2.1. Requirement.....	5
2.2. Calculation Method.....	6
2.3. Estimation Result.....	6

## TEST REPORT DECLARE

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**Standard Used:** KDB447498 D01 General RF Exposure Guidance v06

**We Declare:**

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

**After evaluation, our opinion is that the equipment In Accordance with above standard.**

<b>Report No:</b>	DDT-R18112313-1E16		
<b>Date of Receipt:</b>	Feb. 19, 2019	<b>Date of Test:</b>	Feb. 19, 2019 ~ Apr. 04, 2019

**Prepared By:**

*Ella Gong*

**Ella Gong/Engineer**

**Approved By:**



**Damon Hu/EMC Manager**

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

### Revision history

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Apr. 04, 2019	

## 1. General information

### 1.1. Description of Equipment

EUT* Name	: SOUNDBAR
Model Number	: Bar 2.1 Deep Bass CNTR
EUT function description	: Please reference user manual of this device
Power supply	: AC 100-240V, 50/60Hz
Radio Specification	: Bluetooth V4.2, IEEE802.11b/g/n, IEEE802.11n/a/ac
Operation frequency	: Bluetooth: 2402MHz-2480MHz, SRD: 5736.35 MHz-5820.35 MHz
Modulation	: GFSK, $\pi/4$ -DQPSK, 8DPSK
Antenna Type	: Bluetooth: FPC antenna, maximum PK gain: 2.7 dBi SRD Antenna 1: Printed antenna, maximum PK gain 3.39 dBi SRD Antenna 2: Printed antenna, maximum PK gain 3.50 dBi
Sample Type	: Series production

### 1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com)

## 2. RF Exposure evaluation

### 2.1. 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 0.2m 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

## (B) 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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
1500-100,000			1.0	30

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

## 2.2. 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=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

## 2.3. Estimation Result

Mode	PK Output power (dBm)	Output power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
Bluetooth Max power	9.28	8.47	2.7	1.86	0.0031	1
5G Max power	4.93	3.11	3.5	2.24	0.0014	1

### Maximum Simultaneous transmission MPE Ratio for Bluetooth and 5G

Maximum MPE ratio Bluetooth	Maximum MPE ratio 5G	ΣMPE ratios	Limit	Results
0.0031	0.0014	0.0045	1.000	Pass

6

Note: The estimation distance is 20cm

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold

**END OF REPORT**

