

RF Exposure Report (FCC)

Report No.: FCC_RF_SL21022601-HAR-284_R1 EXT RW 2B_MPE Rev 1.0

FCC ID: 2AHPN-BE2859

Model: R1 EXT RW 2B MY22

Received Date: 3/15/2021

Test Date: 4/15/2021-7/21/2021

Issued Date: 8/07/2021

Applicant: HARMAN INTERNATIONAL

Address: 30001 Cabot Drive, Novi, MI 48377, USA

Manufacturer: HARMAN INTERNATIONAL

Address: 30001 Cabot Drive, Novi, MI 48377, USA

Issued By: Bureau Veritas Consumer Products Services, Inc.

Lab Address: 775 Montague Expressway, Milpitas, CA 95035

**FCC Registration /
Designation Number:** 540430 / 4842D



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any government agencies.

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Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL21022601-HAR-284_MPE	Original Release	5/26/2021
FCC_RF_SL21022601-HAR-284_R1 EXT RW 2B_MPE Rev 1.0	Update Result	8/07/2021

1 Certificate of Conformity

Product: Automotive Infotainment Unit

Brand: HARMAN

Model: R1 EXT RW 2B MY22

Sample Status: Final Product

Applicant: HARMAN INTERNATIONAL

Test Date: 4/15/2021-8/07/2021

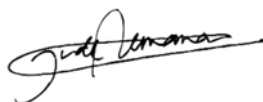
Standard: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc., Milpitas Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

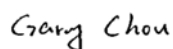
Prepared by :



Date:

8/07/2021

Jude Semana / Compliance Engineer



Approved by :

Date:

8/07/2021

Gary Chou/ Engineer Reviewer

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
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

f = Frequency in MHz; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.
So, this device is classified as Mobile Device.

2.4 Calculation Result of Maximum Conducted Power

Type	Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT-BDR	2402-2480	4.7	2.95	± 1dB	1.43	20	0.001042	1
2.4GHz WLAN	2412-2462	20.05	101.157	± 1dB	1.43	20	0.035723	1
5GHz WLAN	5180-5240	13.65	23.17	± 1dB	2.60	20	0.010567	1
5GHz WLAN	5745-5825	11.92	15.56	± 1dB	1.49	20	0.005495	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

3 Conclusion

Therefore the maximum calculations of above situations are less than the “1” limit.

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