

## RF Exposure Report (FCC)

**Report No.:** FCC\_RF\_SL20121701-HAR-284\_R1 EXT RW 3B\_MPE

**FCC ID:** 2AHPN-BE2856

**Model:** R1 EXT RW 3B MY22

**Received Date:** 3/15/2021

**Test Date:** 4/15/2021-7/8/2021

**Issued Date:** 8/26/2021

**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



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### Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL21022601-HAR-283_MPE	Original Release	7/9/2021
FCC_RF_SL20121701-HAR-284_R1 EXT RW 3B_MPE	Update Result	8/26/2021

## 1 Certificate of Conformity

**Product:** Automotive Infotainment Unit

**Brand:** HARMAN

**Model:** R1 EXT RW 3B

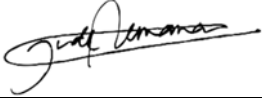
**Sample Status:** Final Product

**Applicant:** HARMAN INTERNATIONAL

**Test Date:** 4/15/2021-7/8/2021

**Standard:** 47 CFR FCC Part 2.1093

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:** 8/26/2021  
Jude Semana / Compliance Engineer

**Approved by :** Gary Chou, **Date:** 8/26/2021  
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 <sup>2</sup> )	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 <sup>2</sup> )*	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/cm<sup>2</sup>

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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
BT-BDR	2402-2480	5.29	3.38	± 1dB	1.43	20	0.001177	1
2.4GHz WLAN	2412-2462	20.05	101.157	± 1dB	1.43	20	0.031042	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	1.39	20	0.005370	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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