



## Test Report

Prepared for Harman International Industries, Inc.

This report presents Maximum Permissible Exposure for

### INFO3.8 CSM

Prepared by

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Engineer II

Approved by

Jason Kanakry

General Manager

Issue date: 08/07/2023

Report No: AH22120901-HAR-054\_FCC\_MPE v2

This test result relates only to the described test object.

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The test is traceable to national standard or related international standard

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## 1. Test Request Information

**Test Request #:** 7700182070

**Test Requested By:** Mark Bowman  
Harman International Industries, Inc.  
30001 Cabot Drive, Novi, MI 48377

**Test item Description:** INFO3.8 CSM

**Part Number:** 8709305

**DUT Sample Number:** AH22120901-HAR-054#1

**Hardware Version of DUT:** PV

**Software Version of DUT:** 17.80.200.219

**Component Category of DUT:** N/A

**FCC ID:** 2AHPN-BE2867

**Type of Test:** FCC/ISED Certification

**Test Method:** CFR Title 47 FCC Part 15.247, 1.1307, 1.1310, 2.1091  
KDB 447498 D04 General RF Exposure Guidance v01

**Deviations from standard:** None

**Approved Test Plan Number:** N/A

**Test Plan Revision:** N/A

**Date test sample received:** 10-07-2022

**Date test started:** 12-08-2022

**Date test finished:** 03-13-2023

## 2. Test Laboratory Information

<b>Location of Test Lab:</b>	The radiated and conducted emissions test sites are located at Bureau Veritas 815 N. Opdyke Rd #100, Auburn Hills, MI 48326, Phone: +1-248-836-4700
<b>Key Contact:</b>	Jason Kanakry (General Manager) Jason.Kanakry@BureauVeritas.com Phone: +1-248-836-4747
<b>Laboratory Accreditations:</b>	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
<b>ISO/IEC 17025:2017:</b>	5678.01
<b>FCC Test Site Number:</b>	US1278 (242530)
<b>IC Test Site Number:</b>	US0229 (26240)

### 3. RF Exposure

#### 3.1 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.

#### 3.2 Max Conducted Power and Antenna Information

Band	Antenna Type	Max Conducted Power (dBm)	Max Conducted Power (mW)	EIRP (W)	ERP(mW)	Antenna Gain (dBi)
BLE	Integrated PCB antenna	-0.217	0.951261675	0.003769641	2.297735319	5.98
BT Classic	Integrated PCB antenna	2.755	1.885818969	0.007473086	4.555121862	5.98
WLAN 2.4G	Integrated PCB antenna	10.667	11.66003892	0.021071721	12.84399122	2.57
WLAN 5G (UNII-1)	Integrated PCB antenna	13.457	22.16664673	0.060911599	37.12786703	4.39
WLAN 5G (UNII-3)	Integrated PCB antenna	9.533	8.980489305	0.028727643	17.51055857	5.05

#### 3.3 Calculation for MPE

##### Simultaneous Transmission Configuration-1

Band	Transmit Frequency (MHz)	$\lambda/2\pi$ (m)	Separation Distance (m)	Radio Power (dBm)	Radio Power (W)	Antenna Gain (dBi)	Antenna Gain (Lin eq.)	ERP (W)	Threshold ERP (W)	Result ERP(W)/ERPth
BLE	2402	0.019864051	0.2	-0.217	0.000951262	5.98	3.9627803	0.002297735	0.768	0.002991843
2.4G WLAN	2462	0.019379956	0.2	10.667	0.011660039	2.57	1.8071741	0.012843991	0.768	0.016723947
5G WLAN (UNII-1)	5240	0.009105621	0.2	13.457	0.022166647	4.39	2.7478942	0.037127867	0.768	0.048343577

ERP(W) of Simultaneous Transmission Configuration-1 of BLE + 2.4G WLAN + 5G WLAN (UNII-1) = 0.052269593 is less than equal to ERP Threshold.

##### Simultaneous Transmission Configuration-2

Band	Transmit Frequency (MHz)	$\lambda/2\pi$ (m)	Separation Distance (m)	Radio Power (dBm)	Radio Power (W)	Antenna Gain (dBi)	Antenna Gain (Lin eq.)	ERP (W)	Threshold ERP (W)	Result ERP(W)/ERPth
BT Classic	2480	0.019239295	0.2	2.755	0.001885819	5.98	3.9627803	0.004555122	0.768	0.005931148
2.4G WLAN	2462	0.019379956	0.2	10.667	0.011660039	2.57	1.8071741	0.012843991	0.768	0.016723947
5G WLAN (UNII-1)	5240	0.009105621	0.2	13.457	0.022166647	4.39	2.7478942	0.037127867	0.768	0.048343577

ERP(W) of Simultaneous Transmission Configuration-2 of BT Classic + 2.4G WLAN + 5G WLAN (UNII-1) = 0.05452698 is less than equal to ERP Threshold.

### Simultaneous Transmission Configuration-3

Band	Transmit Frequency (MHz)	$\lambda/2\pi$ (m)	Separation Distance (m)	Radio Power (dBm)	Radio Power (W)	Antenna Gain (dBi)	Antenna Gain (Lin eq.)	ERP (W)	Threshold ERP (W)	Result ERP(W)/ERPth
BLE	2402	0.019864051	0.2	-0.217	0.000951262	5.98	3.9627803	0.002297735	0.768	0.002991843
2.4G WLAN	2462	0.019379956	0.2	10.667	0.011660039	2.57	1.8071741	0.012843991	0.768	0.016723947
5G WLAN (UNII-3)	5795	0.008233555	0.2	9.533	0.008980489	5.05	3.1988951	0.017510559	0.768	0.022800206

ERP(W) of Simultaneous Transmission Configuration-3 of BLE + 2.4G WLAN + 5G WLAN (UNII-3) = 0.032652285 is less than equal to ERP Threshold.

### Simultaneous Transmission Configuration-4

Band	Transmit Frequency (MHz)	$\lambda/2\pi$ (m)	Separation Distance (m)	Radio Power (dBm)	Radio Power (W)	Antenna Gain (dBi)	Antenna Gain (Lin eq.)	ERP (W)	Threshold ERP (W)	Result ERP(W)/ERPth
BT Classic	2480	0.019239295	0.2	2.755	0.001885819	5.98	3.9627803	0.004555122	0.768	0.005931148
2.4G WLAN	2462	0.019379956	0.2	10.667	0.011660039	2.57	1.8071741	0.012843991	0.768	0.016723947
5G WLAN (UNII-3)	5795	0.008233555	0.2	9.533	0.008980489	5.05	3.1988951	0.017510559	0.768	0.022800206

ERP(W) of Simultaneous Transmission Configuration-4 of BT Classic + 2.4G WLAN + 5G WLAN (UNII-3) = 0.034909672 is less than equal to ERP Threshold.

Notes:-

- Minimum separation distance must be  $\geq \text{wavelength}/2\pi$  meters  
Where Wavelength =  $\text{Transmit Frequency} \times 10^6$
- Threshold ERP as per Transmit frequency

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$ .
1.34-30	$3,450 R^2/f^2$ .
30-300	$3.83 R^2$ .
300-1,500	$0.0128 R^2 f$ .
1,500-100,000	$19.2 R^2$ .

### 3.4 Conclusion

The maximum calculations of above situations, the ERP (W) is less than equal to ERP Threshold.

## Document Revisions

Version	Date	Modifier	Changes
1.0	03/14/2023	Aravind Buddana	<ul style="list-style-type: none"><li>• Initial release</li></ul>
2.0	08/07/2023	Aravind Buddana	<ul style="list-style-type: none"><li>• Updated the Test Request Information with appropriate test method</li><li>• Updated the Test Report with simultaneous transmissions configurations.</li></ul>

End of Report