



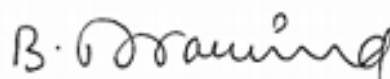
Test Report

Prepared for Harman International Industries, Inc.

This report presents Maximum Permissible Exposure for

R1 EXT NA 3B HW4

Prepared by



Aravind Buddana

Engineer II

Approved by



Jason Kanakry

General Manager

Issue date: 01/13/2025

Report No: J23133-R1 EXT NA 3B HW4-FCC-RF-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 #:	7700206789
Test Requested By:	Pranav Patel Harman International Industries, Inc. 30001 Cabot Drive, Novi, MI 48377
Test item Description:	R1 EXT NA 3B HW4
Part Number:	P68581660ZZ
DUT Sample Number:	J23133#4 NA 3B
FVIN:	FCA-MY24.MNL-OD.3426
Hardware Version of DUT:	N/A
Software Version of DUT:	N/A
Component Category of DUT:	N/A
FCC ID:	2AHPN-BE2877
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:	06-26-2024
Date test started:	07-11-2024
Date test finished:	10-18-2024

2. Test Laboratory Information

Location of Test Lab:	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
Key Contact:	Jason Kanakry (General Manager) Jason.Kanakry@BureauVeritas.com Phone: +1-248-836-4747
Laboratory Accreditations:	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.
ISO/IEC 17025:2017:	5678.01
FCC Test Site Number:	US1278 (242530)
IC Test Site Number:	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 a 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)
BT Classic	Integrated PCB antenna	-1.672	0.680455925	0.000945802	0.576500914	1.43
WLAN 2.4G	Integrated PCB antenna	6.830	4.819477976	0.006698846	4.083193863	1.43
WLAN 5G (UNII-1)	Integrated PCB antenna	5.692	3.708514659	0.006748387	4.113391062	2.60
WLAN 5G (UNII-3)	Integrated PCB antenna	7.677	5.857334144	0.008273704	5.043128103	1.5

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
BT Classic	2402	0.019864051	0.2	-1.672	0.000680456	1.43	1.3899526	0.000576501	0.768	0.000750652
2.4G WLAN	2437	0.019578766	0.2	6.83	0.004819478	1.43	1.3899526	0.004083194	0.768	0.005316659
5G WLAN (UNII-1)	5180	0.009211091	0.2	5.692	0.003708515	2.6	1.8197009	0.004113391	0.768	0.005355978

ERP(W) of Simultaneous Transmission Configuration-1 of BT Classic + 2.4G WLAN + 5G WLAN (UNII-1) = **0.011423289** 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	2402	0.019864051	0.2	-1.672	0.000680456	1.43	1.3899526	0.000576501	0.768	0.000750652
2.4G WLAN	2437	0.019578766	0.2	6.83	0.004819478	1.43	1.3899526	0.004083194	0.768	0.005316659
5G WLAN (UNII-3)	5825	0.00819115	0.2	7.677	0.005857334	1.5	1.4125375	0.005043128	0.768	0.006566573

ERP(W) of Simultaneous Transmission Configuration-2 of BT Classic + 2.4G WLAN + 5G WLAN (UNII-3) = **0.012633884** 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	10/23/2024	Aravind Buddana	Initial release
2.0	01/13/2025	Aravind Buddana	- Updated Section 3.2 and 3.3 with UNII-3 Gain value inline to operational description. - Updated Section 1 Test Request Information with EUT VFIN.

End of Report