

# **FCC RF EXPOSURE REPORT**

**FCC ID: APIHKOMNI10P**

**Project No. : 1603C096**  
**Equipment : Streaming wireless speaker**  
**Model : HK OMNI 10+**  
**Applicant : Harman International Industries, Incorporated**  
**Address : 8500 Balboa Blvd, Northridge, CA 91329, UNITED STATES**  
**According: : FCC Guidelines for Human Exposure IEEE C95.1**

**B T L I N C .**

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## MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi^2} = \frac{EIRP}{4\pi^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Table for Filed Antenna

2.4G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	harman/Kardon	N/A	Internal	N/A	4.04

5G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	harman/Kardon	N/A	Internal	N/A	4.02

# TEST RESULTS

## Bluetooth

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX Mode _1Mbps		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.04	2.5351	1.58	1.4388	0.00072602	1	Complies
4.04	2.5351	2.40	1.7378	0.00087690	1	Complies
4.04	2.5351	1.89	1.5453	0.00077974	1	Complies

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX Mode _3Mbps		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.04	2.5351	-0.72	0.8472	0.00042751	1	Complies
4.04	2.5351	-0.16	0.9638	0.00048635	1	Complies
4.04	2.5351	-0.57	0.8770	0.00044254	1	Complies

## BLE

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	CH00, CH19 , CH39		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.04	2.5351	0.13	1.0304	0.00051994	1	Complies
4.04	2.5351	0.81	1.2050	0.00060807	1	Complies
4.04	2.5351	0.25	1.0593	0.00053450	1	Complies

## 2.4G WIFI

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX N40 Mode_CH03/06/09		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.04	2.5351	23.57	227.5097	0.11480224	1	Complies
4.04	2.5351	25.27	336.5116	0.16980496	1	Complies
4.04	2.5351	23.33	215.2782	0.10863015	1	Complies

## UNII-1

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	24 °C	Relative Humidity:	52 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX A Mode / CH36, CH40, CH48		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.02	2.5235	15.19	33.0370	0.01659397	1	Complies
4.02	2.5235	16.62	45.9198	0.02306484	1	Complies
4.02	2.5235	16.68	46.5586	0.02338570	1	Complies

## UNII-2A

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	24 °C	Relative Humidity:	52 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX A Mode / CH52, CH60, CH64		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.02	2.5235	16.69	46.6659	0.02343961	1	Complies
4.02	2.5235	16.34	43.0527	0.02162471	1	Complies
4.02	2.5235	16.18	41.4954	0.02084253	1	Complies

## UNII-2C

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	24 °C	Relative Humidity:	52 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX A Mode / CH100, CH116, CH140		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.02	2.5235	13.77	23.8232	0.01196604	1	Complies
4.02	2.5235	15.83	38.2825	0.01922872	1	Complies
4.02	2.5235	15.88	38.7258	0.01945138	1	Complies

## UNII-3

EUT:	Streaming wireless speaker	Model Name :	HK OMNI 10+
Temperature:	24 °C	Relative Humidity:	52 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX N40 Mode / CH151, CH159		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.02	2.5235	12.25	16.7880	0.00843238	1	Complies
4.02	2.5235	17.89	61.5177	0.03089942	1	Complies

Note: the calculated distance is 20 cm.