



RF Exposure Report

FCC ID: 2AR2STAB5309

Applicant: MMD Hong Kong Holding Limited

Address: Units 1208-11, 12th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Manufacturer: MMD Hong Kong Holding Limited

Address: Units 1208-11, 12th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Product: Soundbar speaker

Brand(s): PHILIPS or 

Test Model(s): TAB5309/37

Series Model(s): See Section 2.1

Test Date: Jan. 16, 2023 ~ Mar. 08, 2024

Issued Date: Mar. 25, 2024

Issued By: Hwa-Hsing (Dongguan) Testing Co., Ltd.

Address: No.101, Building N1, Yuyuan 2 Road, Yuyuan Industrial Park, HuangJiang Town, Dongguan City, People's Republic of China

Test Firm Registration No.: 915896

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01
IEEE C95.1

The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, 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.

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Release
Ver. 1.5

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Test Report No.: 24012105-SE-US-01

Release control record

Issue No.	Reason for change	Date issued
24012105-SE-US-01	Original Release	Mar. 25, 2024

Test Report No.: 24012105-SE-US-01

1 General Information**1.1 General Description of EUT**

Product	Soundbar speaker
Sample No.	HS2401090012
Test Model(s)	TAB5309/37
Series Model(s)	TAB5309, TAB5309/61, TAB5309/98, TAB5309/10, TAB5309/yy (yy=00-99 or blank, for country code)
Status of EUT	Engineering Prototype
Power Supply Rating	AC 100-240V 50/60Hz 25W
Modulation Type	BDR/EDR: GFSK, $\pi/4$ DQPSK, 8DPSK for FHSS BLE: GFSK for DTS
Transfer Rate	BDR/EDR: 1/2/3Mbps BLE: 1/2Mbps
Operating Frequency	2402 ~ 2480MHz
Number of Channel	BDR/EDR: 79 BLE: 40
Maximum Output Power	JL7012: BDR/EDR: -0.94dBm (Average) JL7012: BLE: -1.19dBm (Average) JL7016: BDR/EDR: 1.51dBm (Average)
Antenna Type	FPC Antenna
Antenna Gain	JL7012: 4.02 dBi Gain JL7016: 2.84 dBi Gain
Antenna Connector	N/A
Accessory Device	Remote Control
Data Cable Supplied	AC Line: 150cm Non-shielded, Detachable

Note:

1. Please refer to the EUT photo document (Reference No.: 24012105-01-01&02) for detailed product photo.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.
3. Model difference: These models are only different for model name and trademark for trade purpose.

2 RF exposure limit

Limits for maximum permissible exposure (MPE)

Limits for general population / uncontrolled exposure				
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Average time (minutes)
300-1500	F/1500	30
1500-100,000	1.0	30

Note: F = Frequency in MHz

2.1 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

Classification:

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

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3 Calculation result of maximum conducted power

The antennas provided to the EUT, please refer to the following table:

Function	Frequency (MHz)	Antenna Gain (dBi)	Antenna Type	Transmit and Receive Chain	Maximum AVG Power
BDR/EDR (JL7016)	2402-2480	2.84	FPC	1TX,1RX	1.51dBm
BDR/EDR (JL7012)	2402-2480	4.02	FPC	1TX,1RX	-0.94dBm

Frequency (MHz)	Max power (mW)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
2402-2480 (JL7016)	1.416	2.84	20	0.000542	1.0
2402-2480 (JL7012)	0.805	4.02	20	0.000404	1.0

Conclusion:

Therefore, the worst-case situation is 0.000542 mW/cm², which is less than "1". This confirmed that the device compliance with FCC 1.1310 MPE limit.

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Appendix – Information on the Testing Laboratories

We, [Hwa-Hsing \(Dongguan\) Testing Co., Ltd.](#), A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values “HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT”, commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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