



FCC RF EXPOSURE REPORT CERTIFICATION TEST REPORT

For

SoundBar

MODEL NUMBER: HW-A450, HW-A460, HW-A430, HW-A440, HW-A40M, HW-A47M, HW-A470, HW-A450***, HW-A450/**, HW-A460***, HW-A460/**, HW-A430***, HW-A430/**, HW-A440***, HW-A440/**, HW-A40M***, HW-A47M***, HW-A47M/**, HW-A470***, HW-A470/**

FCC ID: A3LHWA450-2

REPORT NUMBER: 4789912435-3

ISSUE DATE: May 10, 2021

Prepared for

Samsung Electronics Co Ltd
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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	05/10/2021	Initial Issue	



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ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Samsung Electronics Co Ltd

Address: 19 Chapin Rd., Building D Pine Brook New Jersey United States

07058

Manufacturer Information

Company Name: Samsung Electronics Co Ltd

Address: 19 Chapin Rd., Building D Pine Brook New Jersey United States

07058

EUT Information

EUT Name: SoundBar Model: HW-A450 Brand: SAMSUNG

Serial Model: Please refer to clause 3 DESCRIPTION OF EUT Model Difference: Please refer to clause 3 DESCRIPTION OF EUT

Sample Received Date: April 25, 2021

Sample Status: Normal Sample ID: 3847299

Date of Tested: April 26, 2021~ April 30, 2021

APPLICABLE STANDARDS			
STANDARD	TEST RESULTS		
FCC 47CFR§2.1091	PASS		

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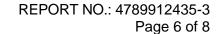
1. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091.

2. FACILITIES AND ACCREDITATION

	A2LA (Certificate No.: 4102.01)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with A2LA.
	FCC (FCC Designation No.: CN1187)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	Has been recognized to perform compliance testing on equipment subject
	to the Commission's Declaration of Conformity (DoC) and Certification rules
	ISED (Company No.: 21320)
Accreditation	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Certificate	has been registered and fully described in a report filed with
	Industry Canada. The Company Number is 21320.
	VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with VCCI, the
	Membership No. is 3793.
	Facility Name:
	Chamber D, the VCCI registration No. is G-20019 and R-20004
	Shielding Room B, the VCCI registration No. is C-20012 and T-20011

Note: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China.





3. DESCRIPTION OF EUT

EUT Name	SoundBar			
Model Name	HW-A450			
Series Model	HW-A460, HW-A430, HW-A440, HW-A40M, HW-A47M, HW-A470, HW-A450***, HW-A450/**, HW-A460***, HW-A460/**, HW-A430***, HW-A430/**, HW-A440***, HW-A440/**, HW-A40M***, HW-A47M/**, HW-A470/**, HW-A470/**			
Model difference	HW-A460, HW-A430, HW-A440, HW-A40M, HW-A47M, HW-A470, HW-A450***, HW-A450/**, HW-A460***, HW-A460/**, HW-A430***, HW-A430***, HW-A440***, HW-A440***, HW-A40M***, HW-A47M***, HW-A47M***, HW-A470***, HW-A470/** ("*" represents any alphanumeric character or blank) have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with HW-A450. The difference lies only model number and marketing purpose.			
	Operation Frequency	2402 MHz ~ 2480 MHz		
Product	Modulation Type	Data Rate		
Description	GFSK	1 Mbps		
(Bluetooth)	∏/4-DQPSK	2 Mbps		
	8DPSK	3 Mbps		
Rating	AC 110 ~ 120 V, 50/60 Hz, 25 W			



4. REQUIREMENT

LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with. Limits for General Population/Uncontrolled Exposure

RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time E ², H ² or S (Minutes)
0.3 1.34	614	1.63	(100)*	30
1.34 30	824/f	2.19/f	(180/f ²)*	30
30 300	27.5	0.073	0.2	30
300 1500			f/1500	30
1500 100,000			1.0	30

CALCULATION METHOD

 $S=PG/4\pi R^2$

Where:

S=power density

P=power input to 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



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CALCULATED RESULTS

(Worst case)						
Operating	Max. Tune up Power	Directional Gain		Power density	Limit	
Mode	(dBm)	(dBi)	(num)	(mW/ cm ²)	Liiiii	
ВТ	7	2	1.58	0.00158	1	
Wireless 5G	16	2.2	1.66	0.013144	1	

Note: 1. BT + Wireless 5G =0.00158+0.013144= 0.014724 (mW/ cm2)

Therefor the maximum calculations of above situations are less than the "1" limit.

- 2. Wireless 5G power comes from report NK-16-R-146. (FCC ID: A3LWSM520V)
- 3. The Power comes from report operation description.
- 4. The minimum separation distance of the device is greater than 20 cm.
- 5. Calculate by WORST-CASE mode.

END OF REPORT