

FCC RF EXPOSURE REPORT

For

Wi-Fi/BT Transceiver

MODEL NUMBER: WCF941M

REPORT NUMBER: 4791508375-RF-5

ISSUE DATE: January 25, 2025

FCC ID:A3LWCF941M

Prepared for

FCC: Samsung Electronics Co Ltd
FCC:19 Chapin Rd., Building D, Pine Brook New Jersey, 07058 United States

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	January 25, 2025	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: FCC: Samsung Electronics Co Ltd
Address: FCC:19 Chapin Rd., Building D, Pine Brook New Jersey, 07058
United States

Manufacturer Information

Company Name 1: CHEMTRONICS CO., LTD.
Address 1: 35, Buk-ri, Namsa-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea

Company Name 2: CHEMTROVINA COMPANYLIMITED
Address 2: Nhon Trach 2 - Loc Khang IZ, Hiep Phuoc Town, Nhon Trach District,, Dong Nai Province, Vietnam

Company Name 3: SJIT CO., LTD.
Address 3: #54-11, Dongtanhana 1gil, Hwaseong-si, Gyeonggi-Do, Korea

Company Name 4: SJIT VINA Co., Ltd
Address 4: Lot X2, Ho Nai Industrial Zone, Ho Nai 3 Commune, Trang Bom District, Dong Nai Province, Vietnam

Company Name 5: Chengdu Xuguang Technology Co.,Ltd.
Address 5: No 86 2nd Sction, Park Road,Longquanyi District, Chengdu City, Sichuan Pravince,P.R.China

Company Name 6: XUGUANG TECHNOLOGY (VIETNAM) COMPANY LIMITED
Address 6: Factory No.4, Lot CN1, An Duong Industrial Park.Hong Phong Commune, An Duong District, Hai Phong City, Vietnam

EUT Information

EUT Name: Wi-Fi/BT Transceiver
Model: WCF941M
Brand: Samsung
Sample Received Date: October 18, 2024
Sample Status: Normal
Sample ID: 7689992
Date of Tested: November 6, 2024 to January 25, 2025

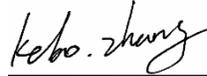
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS
KDB447498 D01 V06	PASS

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>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.</p> <p>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</p> <p>ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p>VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202) 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-20192 and R-20202 Shielding Room B, the VCCI registration No. is C-20153 and T-20155</p>
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Note 1: 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

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.

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/cm ²)	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

CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

For single RF source:

Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
BLE	9	1.97	0.00249	1
BT	13	1.97	0.00625	1
WIFI5G	22	1.39	0.04342	1
WIFI6G	19.8	1.52	0.02696	1

For transmit simultaneously worst case:

Operating Mode	Power density	Total Power density	Limit
	(mW/ cm ²)	(mW/ cm ²)	
WIFI5G	0.04342	0.07038	1
WIFI6G	0.02696		

Note:

1. The Power comes from operation description.
2. All the modes had been tested, but only the worst data was recorded in the report.
3. The assess distance is 20 cm.
4. Only WIFI 5G & WIFI 6G can transmit simultaneously. BT & WIFI, BT(Realtek) & BT(MediaTek) cannot transmit simultaneously. (declare by manufacturer)

END OF REPORT