

1 Cover Page

RF Exposure Evaluation Report

Application No.: KSCR2510002206HS
FCC ID: N82-KOHLER062
Applicant: Kohler Co.
Address of Applicant: 444 Highland Dr.Kohler WI 53044 United Stater of America
Manufacturer: Shanghai Kohler Elacetrronics.,Ltd
Address of Manufacturer: No.1955. Fengxiang Road, Baoshan District,Shanghai,PRC
Factory: Shanghai Kohler Elacetrronics.,Ltd
Address of Factory: No.1955. Fengxiang Road, Baoshan District,Shanghai,PRC
Equipment Under Test (EUT):
EUT Name: Claude™ by Studio McGee Smart Toilet
Model No.: K-38493
Trade Mark: Kohler
Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2025-10-09
Date of Test: 2025-10-10 to 2025-10-31
Date of Issue: 2025-11-07

Test Result:	Pass*
---------------------	--------------

* In the configuration tested, the EUT complied with the standards specified above.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Revision Record			
Version	Description	Date	Remark
00	Original	2025-11-07	/

Authorized for issue by:			
Tested By		Tommie Tang	
		Tommie_Tang /Project Engineer	
Approved By		Terry Hou	
		Terry Hou /Reviewer	



2 Contents

	Page
1 COVER PAGE	1
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 GENERAL DESCRIPTION OF E.U.T.	4
3.2 DETAILS OF E.U.T.	4
3.3 TEST LOCATION	5
3.4 TEST FACILITY	5
4 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS.....	6
4.1 MEASUREMENT AND CALCULATION.....	7
4.2 MAXIMUM TRANSMIT POWER	7
4.3 RF EXPOSURE CALCULATION	7

3 General Information

3.1 General Description of E.U.T.

Power supply:	AC 120V,60Hz
---------------	--------------

3.2 Details of E.U.T.

24GHz:

Modulation:	FMCW
Antenna type:	Microstrip Array Antenna
Antenna Gain:	9dBi (Provided by the manufacturer)

2.4GHz:

Channel List:	2405MHz,2450MHz,2470MHz
Number of Channels:	3
Antenna Type:	PCB Antenna
Antenna Gain:	-1.65 dBi (Provided by manufacturer)

BLE:

Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	PCB Antenna
Antenna Gain:	-1.65 dBi (Provided by manufacturer)

3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888

Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

- 1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).
- 2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).
3. Sample source: sent by customer.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4 FCC Radiofrequency radiation exposure limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

1) For BLE

according to §2.1093, Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits 1.6W/kg for 1g ,4.0W/kg for 10g Extremity SAR.

the limit of worse case is

$$P_{\text{max}} \leq 3 \cdot D_{\text{min}} / \sqrt{f} = 3 \cdot 5 / \sqrt{2.480} = 9.53 \text{ mW}$$

2) For 2.4GHz

according to §2.1093, Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits 1.6W/kg for 1g ,4.0W/kg for 10g Extremity SAR.

the limit of worse case is

$$P_{\text{max}} \leq 3 \cdot D_{\text{min}} / \sqrt{f} = 3 \cdot 5 / \sqrt{2.470} = 9.54 \text{ mW}$$

3) For 24GHz

according to §2.1093, portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in §1.1310 of this chapter.

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	$f/1500$	30
1.5GHz~100GHz	1.0	30

4.1 Measurement and Calculation

4.2 Maximum transmit power

24GHz:

The Power Data is based on the RF Test Report KSCR251000220601.

94.897 dBuV/m@3m = 0.93 mW

2.4GHz (1649103)

The power of 2.4GHz base on the certificate module of 1649103,

FCC ID is: N82-KOHLER060

92.88 dBuV/m@3m = 0.59 mW

BLE (1649103)

The power of BLE base on the certificate module of 1649103,

FCC ID is: N82-KOHLER060

The Max Output Power is -3.78dBm (0.42mW).

4.3 RF Exposure Calculation

For 24GHz:

The max power = 0.93 mW

According to the formula $S = \frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Note:

- 1) P (Watts) = Power Input to antenna = $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) = $10^{\frac{Antenna\ gain\ in\ dBi}{10}}$
- 3) R = distance to the center of radiation of antenna (in meter) = 0.5cm
- 4) MPE limit = 1mW/cm²

$$S = \frac{PG}{4R^2\pi} = 0.93 / (4 * 0.25^2 * 3.14) = 0.30 \text{ mW/cm}^2$$

For 2.4GHz:

The max power = 0.59 mW < 9.54mW

For BLE:

The max power = 0.42mW < 9.53mW

The 24GHz, 2.4GHz and BLE can transmit simultaneously, but the maximum rate of MPE is $0.3/1 + 0.59/9.54 + 0.42/9.53 = 0.41 < 1$. So the device is exclusion from SAR test

Remark: we used the maximum power between the conducted power and ERP/EIRP to perform RF exposure exemption evaluation.

--End of the Report--