FCC RF EXPOSURE REPORT

For

24GHz Microwave Module

MODEL NUMBER: 1582245

REPORT NUMBER: 4791293876-2-2

ISSUE DATE: July 17, 2024

FCC ID: N82-KOHLER056

Prepared for

Kohler Co.
444 Highland Drive Kohler, WI 53044 United States

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	July 17, 2024	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Kohler Co.
Address:	444 Highland Drive Kohler, WI 53044 United States

Manufacturer Information

Company Name:	Kohler Co.
Address:	444 Highland Drive Kohler, WI 53044 United States

EUT Description

EUT Name:	24GHz Microwave Module
Model:	1582245
Brand Name:	KOHLER
Sample Status:	normal
Sample ID:	7365435
Sample Received Date:	July 2, 2024
Date of Tested:	July 2, 2024 ~ June 16, 2024

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47CFR§2.1093	**PASS**
KDB-447498 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 2.1093&1.1310 and KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**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)** 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. **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

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. DESCRIPTION OF EUT

EUT Name	24GHz Microwave Module
Model	1582245

Frequency Range:	24.0 ~ 24.25 GHz
Channel Number:	1
Type of Modulation:	FMCW
Antenna Type:	Linear Antenna
Antenna Gain:	9 dBi
Normal Test Voltage:	DC 5 V

5. 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 2.1093, Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1) of this chapter.

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

(Worst case)				
Operating Mode	Max. Power (dBm)	Antenna Gain (dBi)	Power density (mW/ cm^2)	Limit
FMCW	-10.63	9	0.21870	1

Note:
1. The calculated distance is 5mm.
2. The power comes from operation description.
EIRP = 103.14 dBuV/m in 1m = (103.14 -104.77) dBm= -1.63 dBm
Max. Conducted power= -1.63 – 9 = -10.63 dBm

END OF REPORT