



FCC TEST REPORT

FCC ID: 2AREWKLSM2

Product	:	ROBOT VACUUM CLEANER
Model Name	:	K198,KRV310,K195,KRV209,KRV208,K197,K197B,K196,K185,K186,K187
Brand	:	Klinsmann
Report No.	:	PTC23033003801E-FC02
Prepared for		
Ningbo Klinsmann Intelligent Technology Co.,Ltd		
NO.377 Yayuan South Road Shiqi Street Haishu 315153 Ningbo Zhejiang China		
Prepared by		
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TEST RESULT CERTIFICATION

Applicant' s name : Ningbo Klinsmann Intelligent Technology Co.,Ltd

Address : NO.377 Yayuan South Road Shiqi Street Haishu 315153 Ningbo
Zhejiang China

Manufacture's name : Ningbo Klinsmann Intelligent Technology Co.,Ltd

Address : NO.377 Yayuan South Road Shiqi Street Haishu 315153 Ningbo
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Product name : ROBOT VACUUM CLEANER

Model name : K198,KRV310,K195,KRV209,KRV208,K197,K197B,K196,K185,K186,K187

Test procedure : FCC CFR47 Part 1.1307(b)(1)

Test Date : Apr. 24, 2023 to May. 04, 2023

Date of Issue : May. 09, 2023

Test Result : PASS

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink that reads "Simon Pu".

Simon Pu / Engineer

Technical Manager:

A handwritten signature in black ink that reads "Ronnie Liu".

Ronnie Liu / Manager



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2 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	15.247 (i)	PASS
Remark:		
N/A: Not Applicable		



3 General Information

3.1 General Description of E.U.T.

Product Name	:	ROBOT VACUUM CLEANER
Model Name	:	K198,KRV310,K195,KRV209,KRV208,K197,K197B,K196,K185,K186,K187
Specification	:	802.11b/g/n HT20/HT40
Operation Frequency	:	2412-2462MHz for 802.11b/g/ n(HT20) 2422-2452MHz for 802.11 n(HT40)
Number of Channel	:	11 channels for 802.11b/g/ n(HT20) 7 channels for 802.11 n(HT40)
Type of Modulation	:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Antenna installation	:	Integral antenna
Antenna Gain	:	3.23 dBi
Power supply	:	Adapter: Model: JYH4Z-2000325-BF Input: 100-240V~50/60Hz 1.7A Output: DC20V,3.25A 65W Li-ion Battery :18650 Voltage: 14.8V Capacity: 5200mAh
Hardware Version	:	N/A
Software Version	:	N/A

Model difference:

K198,KRV310,K195,KRV209,KRV208,K197,K197B,K196,K185,K186,K187 the only difference is the model name, the appearance design of the product is different, the color is different. The test Model is K198.



4 RF Exposure

Test Requirement : 15.247 (i)

Evaluation Method : FCC Part 2.1091

4.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density



4.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

4.4 Test Result

Item	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
2412	2.10	17.58	17.58±1	72.110748	0.030181	1	Pass

*****THE END REPORT*****