RF Exposure Report

Report No.:	SA191122C10
FCC ID:	A5UWICHI201
Test Model:	WICHI201
Received Date:	Nov. 22, 2019
Test Date:	Dec. 06 ~ Dec. 17, 2019
Issued Date:	Dec. 31, 2019
Applicant:	Whirlpool Corporation
Address:	2000 N M-63 Mail Drop 3005, Benton Harbor, MI, United States, 49022
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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Release Control Record

Issue No.	Description	Date Issued
SA191122C10	Original release	Dec. 31, 2019

1 Certificate of Conformity

Product:	Indigo-2 WiFi Module
Brand:	Whirlpool Corporation
Test Model:	WICHI201
Sample Status:	Engineering sample
Applicant:	Whirlpool Corporation
Test Date:	Dec. 06 ~ Dec. 17, 2019
Standards:	FCC Part 2 (Section 2.1091)
References Test Guidance:	KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3 -2002

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Dec. 31, 2019

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Dec. 31, 2019

Bruce Chen / Senior Project Engineer

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
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

f = Frequency in MHz; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$
where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
pi = 3.1416
r = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as Mobile Device.

3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2412~2462	18.16	2.8	20	0.025	1
BT LE 2402~2480	5.42	2.8	20	0.001	1
BT EDR 2402~2480	5.28	2.8	20	0.001	1

Noe: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN + Bluetooth = 0.025 / 1 + 0.001 / 1 = 0.026

Therefore the maximum calculations of above situations are less than the “1” limit.

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