

RF Exposure Report

Report No.: SA171006C01

FCC ID: CFS8DLRCHS5200W

Test Model: RCHS5200W

Received Date: Oct. 06, 2017

Test Date: Oct. 20 ~ Nov. 02, 2017

Issued Date: Nov. 09, 2017

Applicant: Honeywell International Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Release Control Record

Issue No.	Description	Date Issued
SA171006C01	Original release.	Nov. 09, 2017

1 Certificate of Conformity

Product: Smart Home Security Base Station

Brand: Honeywell

Test Model: RCHS5200W


Sample Status: Engineering sample


Applicant: Honeywell International Inc.

Test Date: Oct. 20 ~ Nov. 02, 2017

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D03 (January 17, 2014)
IEEE C95.1

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 EMC characteristics under the conditions specified in this report.

Prepared by :  , **Date:** Nov. 09, 2017
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Approved by :  , **Date:** Nov. 09, 2017
Ken Liu / Senior Manager

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				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm²

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	19.64	2.1	20	0.030	1
5180-5240	20.08	2.4	20	0.035	1
5260-5320	20.34	2.4	20	0.037	1
5500-5700	20.71	2.4	20	0.041	1
5745-5825	20.46	2.4	20	0.038	1
BT LE					
2402-2480	3.53	1.3	20	0.001	1
Wise Link					
904.5~926.1	19.99	1.7	20	0.029	1

Mode	Electric field (dBuV/m) @3m	Electric field (dBuV/m) @0.2m	Max Power (dBm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Z wave	92.3	115.82	-2.93	0.0001	0.601

$$902\text{MHz} = 92.3 + 20\log(3/0.2) = 115.82\text{dBuV/m}$$

Frequency Band	Max. Power (dBm)		Total Power (dBm)	Power Limit (dBm)
	WLAN	BT LE		
2.4GHz	19.64	3.53	19.75	30

CONCLUSION:

The WLAN & Wise Link can transmit simultaneously, the formula of calculated the MPE is:

$$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{WLAN} + \text{Wise Link} = 0.041 + 0.029 = 0.07$$

* WLAN & BT cannot transmit simultaneously.

Therefore, the maximum calculation of this situation is 0.07, which is less than the "1" limit.

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