RF Exposure Evaluation Report

APPLICANT: Chilton Fern Limited Liability Company

EQUIPMENT: Digital Media Receiver

MODEL NAME: S04WQR

FCC ID : 2ABDW-1229

STANDARD : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

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Approved by: Jones Tsai / Manager





Report No. : FA542541

SPORTON INTERNATIONAL INC.

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)

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Report Version : Rev. 01

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA542541	Rev. 01	Initial issue of report	Oct. 06, 2015
FA542541	Rev. 02	Revised section 5 Oct.	

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1. Administration Data

1.1. <u>Testing Laboratory</u>

Testing Laboratory					
Test Site SPORTON INTERNATIONAL INC.					
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978				

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	Applicant
Company Name	Chilton Fern Limited Liability Company
Address	80 S.W 8th Street Miami, FL 33130

2. <u>Description of Equipment Under Test (EUT)</u>

Product Feature & Specification					
EUT Type	Digital Media Receiver				
Model Name	S04WQR				
FCC ID	2ABDW-1229				
Wireless Technology and	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz				
Frequency Range	WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz				
	WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz				
	Bluetooth: 2402 MHz ~ 2480 MHz				
Mode	• 802.11b/g/n HT20				
	• 802.11a/n HT20/HT40				
	Bluetooth v3.0+EDR				

Remark:

- 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
- 2. This device, the WLAN and Bluetoth can not transmit simtaneous at the same time.

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3. Maximum RF average output power among production units

	IEEE 802.11 average power (dBm)					
Band / Mode	d / Mode Frequency Chann			MIMO		
	(MHz)	Chame	11b	11g	HT20	HT20
	2412	CH 1	16.00	13.50	12.00	14.00
2.4GHz WLAN	2437	CH 6	17.50	17.00	17.50	20.00
	2462	CH 11	17.50	14.50	12.50	14.50

	IEEE 802.11 average power (dBm)							
Band / Mode	Frequency	y Channel		SISO	MIMO			
	(MHz)	Chamilei	11a	HT20	HT40	HT20	HT40	
	5180	CH 36	14.00	14.00		16.00		
	5190	CH 38			10.00		13.00	
5.2GHz WLAN	5220	CH 44	14.50	14.00		15.50		
	5230	CH 46			14.50		15.50	
	5240	CH 48	14.00	14.00		15.00		
	5745	CH 149	14.00	14.00		15.00		
	5755	CH 151			11.00		13.00	
5.8GHz WLAN	5785	CH 157	14.50	14.50		17.00		
	5795	CH 159			14.50		17.00	
	5825	CH 165	14.50	14.50		17.00		

Mode / Band	Average Power (dBm)				
ivioue / Ballu	1Mbps	2Mbps	3Mbps		
Bluetooth v3.0+EDR	8.00	8.00	8.00		

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4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)	
Ric Si	(A) Limits for O	ccupational/Controlled Expos	sures	W: 122	
0.3-3.0	614	1.63	*(100)	6	
3.0-30	1842/	f 4.89/1	*(900/f2)	6	
30-300	61.4	0.163	1.0	6	
300-1500			f/300	6	
1500-100,000			5	6	
	(B) Limits for Gene	ral Population/Uncontrolled I	Exposure		
0.3-1.34	614	1.63	*(100)	30	
1.34-30	824/	f 2.19/1	*(180/f2)	30	
30-300	27.5	0.073	0.2	30	
300-1500			f/1500	30	
1500-100,000			1.0	30	

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S=\frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

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5. Radio Frequency Radiation Exposure Evaluation

5.1. Power Density Calculation

Band	Calculated Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
2.4GHz WLAN	2412.0	2.8	20.00	22.800	0.191	190.546	0.038	1.000
5.2GHz WLAN	5180.0	5.5	16.00	21.500	0.141	141.254	0.028	1.000
5.8GHz WLAN	5745.0	4.4	17.00	21.400	0.138	138.038	0.027	1.000
Bluetooth	2402.0	2.8	8.00	10.800	0.012	12.023	0.002	1.000

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

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