

# Radio Exposure Evaluation Report

**FCC ID** : 2AEUPBHALP021  
**Equipment** : Wi-Fi enabled Video Doorbell  
**Brand Name** : RING  
**Model Name** : Video Doorbell Pro  
**Applicant** : Ring, Inc  
1523 26th St, Santa Monica, CA 90404, USA  
**Manufacturer** : Chicony Electronics (Dong Guan ) Co.,Ltd.  
San Zhong Guan Li Qu, Qingxi Town, Dongguan City  
Guangdong 523651 China  
**Standard** : 47 CFR Part 2.1091

The product was received on Apr. 24, 2018, and testing was started from May 02, 2018 and completed on May 08, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

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

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



## **Table of Contents**

<b>HISTORY OF THIS TEST REPORT .....</b>	<b>3</b>
<b>1 GENERAL DESCRIPTION .....</b>	<b>4</b>
1.1 EUT General Information .....	4
1.2 Testing Location .....	4
<b>2 MAXIMUM PERMISSIBLE EXPOSURE .....</b>	<b>5</b>
2.1 Limit of Maximum Permissible Exposure .....	5
2.2 MPE Calculation Method .....	5
2.3 Calculated Result and Limit .....	6
<b>Photographs of EUT v01</b>	

## History of this test report

[illegible]

**Reviewed by: Sam Tsai**

**Report Producer: Jackson Tsai**

# 1 General Description

## 1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Bluetooth	2400-2483.5	2402-2480	BR / EDR: FHSS (GFSK / $\pi/4$ -DQPSK / 8DPSK) LE: DSSS (GFSK)

## 1.2 Table for Multiple Listing

Difference	Description
SKU #1	The sample is the same one, only the color is different.
SKU #2	
SKU #3	
SKU #4	
Note. For more detailed features description, please refer to the specifications or user's manual.	

## 1.3 Testing Location

Testing Location			
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

## 2 Maximum Permissible Exposure

### 2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f <sup>2</sup> )*	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 (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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

### 2.2 MPE Calculation Method

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:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = 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

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



## 2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;G1D	1.37	18.97	20.34	0.50	20.84	0.12134	20	0.02414	1.00000
2.4G;D1D	1.08	18.16	19.24	0.50	19.74	0.09419	20	0.01874	1.00000
5.2G;D1D	2.50	17.06	19.56	0.50	20.06	0.10139	20	0.02017	1.00000
5.8G;D1D	3.12	19.05	22.17	0.50	22.67	0.18493	20	0.03679	1.00000
2.4G;BT-LE	1.37	7.56	8.93	0.50	9.43	0.00877	20	0.00174	1.00000
2.4G;BT-BR	1.09	8.49	9.58	0.50	10.08	0.01019	20	0.00203	1.00000
2.4G;BT-EDR	1.37	4.36	5.73	0.50	6.23	0.00420	20	0.00084	1.00000

————THE END————