

Equipment : Wi-Fi enabled Video Doorbell

Brand Name : RING

Model No. : Video Doorbell Pro
FCC ID : 2AEUPBHALP011
Standard : ANSI/IEEE C95.1

Applicant : Bot Home Automation, Inc.

Manufacturer 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

The product sample received on Dec. 09, 2015 and completely tested on Jan. 08, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI/IEEE C95.1 and shown compliance with the applicable technical standards.

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

Reviewed by:

Kevin Liang / Assistant Manager

TAF

Testing Laboratory
1190

Report No.: FA5N2432

SPORTON INTERNATIONAL INC. Page No. : 1 of 9
TEL: 886-3-327-3456 Report Version : Rev. 02



Table of Contents

Report No.: FA5N2432

1	HUMAN EXPOSURE ASSESSMENT	4
1.1	Maximum Permissible Exposure	4
1.1.1	Limit of Maximum Permissible Exposure	4
	MPE Calculation Method	
1.1.3	Result of Maximum Permissible Exposure (2.4GHz)	5
	Result of Maximum Permissible Exposure (Bluetooth)	
1.1.5	Result of Maximum Permissible Exposure (5.2GHz)	7
	Result of Maximum Permissible Exposure (5.8GHz)	
	Result of Maximum Permissible Exposure (Co-Location)	

SPORTON INTERNATIONAL INC. Page No. : 2 of 9
TEL: 886-3-327-3456 Report Version : Rev. 02



Revision History

Report No.	Version	Description	Issued Date
FA5N2432	Rev. 01	Initial issue of report	Mar. 10, 2016
FA5N2432	1.Original report to become invalid. 2.Change equipment name from (Ring Video Doorbell Wired) to (Wi-Fi enabled Video Doorbell) 3.Change model name from (Video Doorbell Wired) to (Video Doorbell Pro).		Mar. 17, 2016
	I.		

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-327-0973 Page No.

: 3 of 9

Report Version

: Rev. 02

Report No.: FA5N2432



Human Exposure Assessment 1

Maximum Permissible Exposure 1.1

1.1.1 **Limit of Maximum Permissible Exposure**

Limits for Occupational / Controlled Exposure									
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time E ², H ² or S (minutes)					
0.3-3.0	614	1.63	(100)*	6					
3.0-30	1842 / f	4.89 / f	(900 / f ²)*	6					
30-300	61.4	0.163	1.0	6					
300-1500	-	-	F/300	6					
1500-100,000	-	-	5	6					
	Limits for General Population / Uncontrolled Exposure								

Report No.: FA5N2432

Frequency Range (MHz)			Power Density (S) (mW/ cm²)	Averaging Time E ², H ² or S (minutes)	
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	

Note 1: f = frequency in MHz; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310

1.1.2 MPE Calculation Method

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

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

SPORTON INTERNATIONAL INC. Page No. : 4 of 9 TEL: 886-3-327-3456 Report Version : Rev. 02

1.1.3 Result of Maximum Permissible Exposure (2.4GHz)

RF General Information									
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N _{TX})	RF Output Power (dBm)				
2400-2483.5	b	2412-2462	1-11 [11]	1	15.50				
2400-2483.5	g	2412-2462	1-11 [11]	1	14.19				
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1	13.19				
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	1	12.96				
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.									

Report No.: FA5N2432

	Worst Maximum RF Output Power Result								
Exposure Environme	Exposure Environment General Population / Uncontrolled Exposure								
Separation Distance (c	m)	20							
Condition		RF Output Power (dBm)							
Modulation Mode	N _{TX}	Chain- Port 1	Sum Chain	DG (dBi)	EIRP Power	PD (S) (mW/cm²)			
11b	1	15.50	15.50	2.29	17.79	0.01196			
Maximum Permissible Exposure Limit (mW/cm²)									

SPORTON INTERNATIONAL INC. Page No. : 5 of 9
TEL: 886-3-327-3456 Report Version : Rev. 02

FAX: 886-3-327-0973

Note 1: N_{TX} = Number of Transmit Chains

1.1.4 Result of Maximum Permissible Exposure (Bluetooth)

RF General Information								
Frequency Range (MHz) IEEE Std. 802.11 Ch. Frequency (MHz) Ch. Frequency (MHz) Channel Number Transmit Chains (N _{TX})								
BR / EDR	2402-2480	0-78 [79]	1	8.47				
v4.0 LE	2402-2480	0-39 [40]	1	7.20				
	802.11 Protocol BR / EDR v4.0 LE	802.11 Protocol Ch. Frequency (MHz) BR / EDR 2402-2480 v4.0 LE 2402-2480	802.11 Protocol Ch. Frequency (MHz) Channel Number BR / EDR 2402-2480 0-78 [79] v4.0 LE 2402-2480 0-39 [40]	802.11 Protocol Ch. Frequency (MHz) Channel Number Transmit Chains (N _{TX}) BR / EDR 2402-2480 0-78 [79] 1				

Report No.: FA5N2432

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Worst Maximum RF Output Power Result								
Exposure Environment	General Population	General Population / Uncontrolled Exposure						
Separation Distance (cm)	20	20						
Condition	RF Output Power (dBm)							
Modulation Mode	RF Output Power	Antenna Gain (dBi)	EIRP Power	PD (S) (mW/cm²)				
BR / EDR	8.47	2.29	10.76	0.00233				
v4.0 LE	7.20	2.29	9.49	0.01770				
Maximum P	1							

SPORTON INTERNATIONAL INC. Page No. : 6 of 9
TEL: 886-3-327-3456 Report Version : Rev. 02

1.1.5 Result of Maximum Permissible Exposure (5.2GHz)

RF General Information									
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N _{TX})	RF Output Power (dBm)				
5150-5250	а	5180-5240	36-48 [4]	1	15.96				
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	15.02				
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	14.89				
Note 1: RF output	Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.								

Report No.: FA5N2432

Worst Maximum RF Output Power Result								
Exposure Environme	nt	General Popula	General Population / Uncontrolled Exposure					
Separation Distance (m)	20						
Condition		RF Output Power (dBm)						
Modulation Mode	N _{TX}	Chain- Port 1	Sum Chain	DG (dBi)	EIRP Power	PD (S) (mW/cm²)		
11a	1	15.96	15.96	3.39	19.35	0.01713		
Maximum Permissible Exposure Limit (mW/cm²)						1		
Note 1: N _{TX} = Number of	Note 1: N _{TX} = Number of Transmit Chains							

SPORTON INTERNATIONAL INC. Page No. : 7 of 9
TEL: 886-3-327-3456 Report Version : Rev. 02

1.1.6 Result of Maximum Permissible Exposure (5.8GHz)

RF General Information									
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N _{TX})	RF Output Power (dBm) Co-location				
5725-5850	а	5745-5825	149-165 [5]	1	15.09				
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	14.17				
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	14.52				
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.									

Report No.: FA5N2432

Worst Maximum RF Output Power Result							
Exposure Environme	nt	General Popula	tion / Uncontroll	ed Exposure			
Separation Distance (cm)	20	20				
Condition		RF Output Power (dBm)					
Modulation Mode	N _{TX}	Chain- Port 1	Sum Chain	DG (dBi)	EIRP Power	PD (S) (mW/cm²)	
11a	1	15.09	15.09	3.39	18.48	0.01402	
Maximum Permissible Exposure Limit (mW/cm²)							
Note 1: N _{TX} = Number of	Note 1: N _{TX} = Number of Transmit Chains						

SPORTON INTERNATIONAL INC. : 8 of 9
TEL: 886-3-327-3456 : Report Version : Rev. 02



1.1.7 Result of Maximum Permissible Exposure (Co-Location)

		Worst Maximum R	F Output Power	Result	
Exposure Environment		General Population / Uncontrolled Exposure			
Separation Distance (cm)		20			
Condition		RF Output Power (dBm)			
Modulation Mode	N _{TX}	RF Output Power (dBm)	DG (dBi)	EIRP Power	PD (S) (mW/cm²)
11b	1	15.50	2.29	17.79	0.01196
11a (5150-5250)	1	15.96	3.39	19.35	0.01713
Co-location Total					0.02909
Maximum Permissible Exposure Limit (mW/cm²)					1
Note 1: N _{TX} = Number of	Trans	mit Chains			

Report No.: FA5N2432

SPORTON INTERNATIONAL INC. : 9 of 9
TEL: 886-3-327-3456 : Report Version : Rev. 02