

Report No.: FA091650



FCC RADIO EXPOSURE TEST REPORT

FCC ID : 2AEUPBHAGC001

Equipment : Video Doorbell Wired

Brand Name : Ring

Model Name : 5AT3T5

Applicant : Ring LLC

1523 26th St Santa Monica, CA 90404 USA

Manufacturer : Ring LLC

1523 26th St Santa Monica, CA 90404 USA

Standard: 47 CFR Part 2.1091

The product was received on Sep. 09, 2020, and testing was started from Sep. 16, 2020 and completed on Oct. 15, 2020. 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 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: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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Report Template No.: CB-A1_1 Ver1.0

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Issued Date

: Dec. 24, 2020

Report Version : 02

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History of this test report

Report No. : FA091650

Report No.	Version	Description	Issued Date
FA091650	01	Initial issue of report	Dec. 15, 2020
FA091650	02	Revising the brand name to "Ring" from "ring".	Dec. 24, 2020

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Cindy Peng

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1 General Description

1.1 EUT General Information

RF General Information						
Evaluation Frequency Operating Range Frequency (MHz) (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)			

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Note: The 2.4GHz WLAN supports 20MHz only.

1.2 Table for Multiple Listing

There are two EUTs and the difference as below.

EUT	Description
1	With the rating 10-24Vac.
2	With the rating 8-24Vac.

Note 1: From the above EUTs, EUT 1 was selected as representative model for the test and its data was recorded in this report.

Note2: The above information was declared by manufacturer.

1.3 Testing Location

	Testing Location								
	HWA YA ADD: No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.								
		TEL: 886-3-327-3456 FAX: 886-3-327-0973							
\boxtimes	JHUBEI	ADD :	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.						
		TEL :	886-3-656-9065 FAX : 886-3-656-9085						

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

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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)			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)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

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(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/ 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)*	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 (V/m) =
$$\frac{\sqrt{30 \times P \times G}}{d}$$
 Power Density: Pd (W/m²) = $\frac{E^2}{377}$

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

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

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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/cm²)	S Limit (mW/cm²)
2.4G;G1D	0.70	15.57	16.27	0.50	16.77	0.04753	20	0.00946	1.00000

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Note: The above antenna gain was declared by manufacturer.

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