

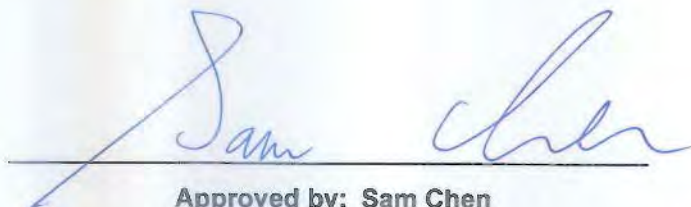


RADIO EXPOSURE TEST REPORT

FCC ID : 2AEUPBHAFL021
Equipment : Floodlight Cam Wired Plus
Brand Name : Ring
Model Name : 5AT3T2
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 Dec. 23, 2020, and testing was started from Dec. 23, 2020 and completed on Mar. 25, 2021. We, Sporton International Inc. Hsinchu 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. Hsinchu Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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Photographs of EUT v01



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A1_1 Ver1.1

Page Number : 3 of 8
Issued Date : Mar. 30, 2021
Report Version : 01



Summary of Test Result

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: Viola Huang

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)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK
LoRa	902-928	902.5-926.5	Chirp Spread Spectrum (CSS) modulation

1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	INPAQ	WA-P-LALA-02-003	PCB Antenna	I-PEX	Note1
2	1	INPAQ	WA-P-LALA-02-003	PCB Antenna	I-PEX	
3	1	INPAQ	WA-P-LORA-03-001	PCB Antenna	I-PEX	

Note1:

Ant.	Gain (dBi)						
	WLAN 2.4GHz	Bluetooth	LoRa				
			863MHz	870MHz	902MHz	915MHz	928MHz
1	1.69	-	-	-	-	-	-
2	-	3.64	-	-	-	-	-
3	-	-	0.58	1.07	1.74	1.34	0.90

Note2: The above information was declared by manufacturer.

For 2.4GHz function:

For IEEE 802.11b/g/n (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

For Bluetooth function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

For LoRa function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

1.3 Accessories

N/A



1.4 Testing Location

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	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.



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 ²)	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

(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 ²)	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: 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:

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

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 ²)	S Limit (mW/cm ²)
2.4G;G1D	1.69	21.76	23.45	0.50	23.95	0.24831	20	0.04940	1.00000
2.4G;BT-LE	3.64	4.92	8.56	0.50	9.06	0.00805	20	0.00160	1.00000
LoRa	1.74	25.49	27.23	0.50	27.73	0.59293	20	0.11796	0.60167

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz + Bluetooth + LoRa

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	1.69	21.76	23.45	0.50	23.95	0.24831	20	0.04940	1.00000	0.04940
2.4G;BT-LE	3.64	4.92	8.56	0.50	9.06	0.00805	20	0.00160	1.00000	0.00160
LoRa	1.74	25.49	27.23	0.50	27.73	0.59293	20	0.11796	0.60167	0.19606
									Sum Ratio	0.24706
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

————THE END————