MPE REPORT

FCC ID: 2AB22-ESWL01

Date of issue: June 31, 2018

Report Number:	MTi180531E116
Sample Description:	Etekcity Smart Wi-Fi Light Switch
Model(s):	ESWL01
Applicant:	Etekcity Corporation
Address:	1202 N Miller St. Suite A, Anaheim, CA 92806, USA
Date of Test:	May 15, 2018 to May 31, 2018

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

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TEST RESULT CERTIFICATION	
Applicant's name:	Etekcity Corporation
Address:	1202 N Miller St. Suite A, Anaheim, CA 92806, USA
Manufacture's Name:	Dongguan Raiwee Electronic Technology Co., Ltd
Address:	Building 11, Antouling, Industry Avenue, Qinghu Village, Qishil Town, Dongguan, Guangdong, China
Product name:	Etekcity Smart Wi-Fi Light Switch
Trademark:	ETEKCITY
Model and/or type reference . :	ESWL01
Serial Model.....:	N/A
RF Exposure Procedures..... :	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by: Leo Su

Leo Su May 31, 2018

Reviewed by: Blue.Zheng

Blue Zheng June 02, 2018

Approved by: Smith Chen

Smith Chen June 02, 2018

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
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
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.14115926

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

WIFI:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

Power density limited: 1mW/ cm^2

Antenna Type: Wifi Antenna: PCB Mounted Embedded Antenna;
WIFI antenna gain: 2dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(2/10)=1.58

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	Numeric		
		Ant A	Ant A	Ant A	Ant A	Ant A	Ant A	
2412	802.11b	10.87	11±1	12	15.84893	2.14	0.00675	1
2437		10.82	11±1	12	15.84893	2.14	0.00675	1
2462		10.76	11±1	12	15.84893	2.14	0.00675	1
2412	802.11g	9.25	10±1	11	12.58925	2.14	0.00536	1
2437		9.19	10±1	11	12.58925	2.14	0.00536	1
2462		9.17	10±1	11	12.58925	2.14	0.00536	1
2412	802.11n H20	8.97	9±1	10	10	2.14	0.00426	1
2437		8.94	9±1	10	10	2.14	0.00426	1
2462		8.89	9±1	10	10	2.14	0.00426	1

Conclusion: No RF exposure evaluation is required.

----END OF REPORT----