MPE Test Report

Report No.: MTi210714009-01E2

Date of issue: Aug. 24, 2021

Applicant: SWITCHMATE HOME LLC.

Product name: photo share

Model(s): FSM010BL 8, FSM010BLB 8, FSM08BLB 8, FSM08BL 8, FSM08ES 8, FSM08ESB 8, FSM010ES 8, FSM010ESB 8, FSM08GRY

FCC ID: 2AT7Q-FSM010BL

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao' an District, Shenzhen, Guangdong, China.
Tel: (86-755)88850135 Fax: (86-755) 88850136 Web:www.mtitest.com E-mail: mti@51mti.com

Instructions

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TEST RESULT CERTIFICATION	
Applicant's name.....	SWITCHMATE HOME LLC.
Address.....	6601 OWENS DR STE 250, PLEASANTON, CA94588, UNITED STATES
Manufacturer's Name	Shenzhen Along electronics Co. Ltd.
Address.....	No.35, Xinyuan Industrial Zone, Shangweiyuan, Gushu Community, Xixiang, Bao 'an District, Shenzhen
Product description	
Product name.....	photo share
Trademark	SIMPLYSMARTHOME
Model Name	FSM010BL 8
Serial Model	FSM010BLB 8, FSM08BLB 8, FSM08BL 8, FSM08ES 8, FSM08ESB 8, FSM010ES 8, FSM010ESB 8, FSM08GRY
Standards.....	N/A
Test procedure	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests… :	July 27, 2021 ~ Aug. 23, 2021
Test Result.....:	Pass
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.	

Testing Engineer :

(Danny Xu)

Technical Manager :

(Leon Chen)

Authorized Signatory :

(Tom Xue)

1 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)

1.1 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=3.1415926

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.

1.2 Measurement Result

WIFI:

Operation Frequency: 802.11b/g/n20:2412~2462 MHz, 802.11n40:2422~2452 MHz

Power density limited: 1mW/ cm^2

Antenna Type: WIFI Antenna: FPC Antenna;
WIFI antenna gain: 1.9dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(1.9/10)=1.55

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	12.14	12±1	13	19.952623	1.55	0.00615	1
2437		11.97	12±1	13	19.952623	1.55	0.00615	1
2462		11.23	12±1	13	19.952623	1.55	0.00615	1
2412	802.11g	11.78	11±1	12	15.848932	1.55	0.00489	1
2437		11.69	11±1	12	15.848932	1.55	0.00489	1
2462		10.88	11±1	12	15.848932	1.55	0.00489	1
2412	802.11n H20	11.57	11±1	12	15.848932	1.55	0.00489	1
2437		11.61	11±1	12	15.848932	1.55	0.00489	1
2462		10.77	11±1	12	15.848932	1.55	0.00489	1
2422	802.11n H40	11.63	11±1	12	15.848932	1.55	0.00489	1
2437		11.46	11±1	12	15.848932	1.55	0.00489	1
2452		11.7	11±1	12	15.848932	1.55	0.00489	1

Conclusion:

For the max result: 0.00615≤ 1.0 for 1g SAR, No SAR is required.

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