RF EXPOSURE REPORT

Report No.: 15070468-FCC-H2

Applicant	Swagtek
Product Name	Logic M1
Model No.	LO-M1222
Serial No.	LO-M1122
Test Standard	FCC 2.1093
Test Date	June 23 to June 27, 2015
Issue Date	June 27, 2015
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Winnie Zhang	David Huang	
Winnie Zhang **Test Engineer**	**David Huang** **Checked By**	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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Laboratories Introduction

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Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070468-FCC-H2	NONE	Original	June 27, 2015

2. Customer information

Applicant Name	Swagtek
Applicant Add	10205 NW 19th Street, STE101, Miami, FL 33172 USA
Manufacturer	Swagtek
Manufacturer Add	10205 NW 19th Street, STE101, Miami, FL 33172 USA

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Logic M1
Main Model:	LO-M1222
Serial Model:	LO-M1122
Date EUT received:	June 23, 2015
Test Date(s):	June 23 to June 27, 2015
Antenna Gain:	GSM850: -3 dBi PCS1900: -2dBi Bluetooth: -2 dBi
Type of Modulation:	GSM / GPRS: GMSK Bluetooth: GFSK, π /4DQPSK, 8DPSK
RF Operating Frequency (ies):	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz Bluetooth: 2402-2480 MHz

Number of Channels:	GSM 850: 124CH PCS1900: 299CH Bluetooth: 79CH
Port:	Power Port, Earphone Port, USB Port
Input Power:	Battery: Model: LOGIC M1 Spec: 3.7V 800mAh 2.96Wh Adapter: Model: LOGIC M1 Input: AC 100-240V; 50/60Hz 150mA Output: DC 5.0V; 500mA
Trade Name :	LOGIC makes sense
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	055M112X2

5. FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

5.1 RF Exposure

Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission' s guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

result = $P\sqrt{F}/D$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

5.2 Test Result

Bluetooth Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	-1.622	-2.0±1	-1	0.794	0.25	3
	Mid	2441	-1.966	-2.0±1	-1	0.794	0.25	3
	High	2480	-3.531	-3.0±1	-2	0.631	0.20	3
π /4 DQPSK	Low	2402	0.178	0.0±1	1	1.259	0.39	3
	Mid	2441	-0.169	0.0±1	1	1.259	0.39	3
	High	2480	-1.633	-2.0±1	-1	0.794	0.25	3
8-DPSK	Low	2402	**0.543**	0.0±1	1	1.259	0.39	3
	Mid	2441	0.254	0.0±1	1	1.259	0.39	3
	High	2480	-1.404	-1.0±1	0	1.000	0.31	3

Result: Compliance

No SAR measurement is required.