



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

No. 1 Workshop, M-10, Middle section, Science & Technology Park,
Shenzhen, Guangdong, China 518057
Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

Report No.: SZEM180600516203
Page: 1 of 8

RF Exposure Evaluation Report

Application No.: SZEM1806005162CR
Applicant: VuPoint Solutions Inc
Address of Applicant: 710 Nogales Street, City of Industry, California, United States 91748
Manufacturer: VuPoint Solutions Inc
Address of Manufacturer: 710 Nogales Street, City of Industry, California, United States 91748
Factory: Sky Light Electronic (ShenZhen) Limited
Address of Factory: No.1, 5 and 6 Building, JinBi Industrial Area, HuangTian, BaoAn, Shenzhen, China

Equipment Under Test (EUT):
Product Name: Toucan Smart Sconce Light
Model No.: TLB100WU, TSSXXYZ (T=Toucan, SS=Type: Light Bar, Sconce Light or more, First X=Esition, generation, Second and Third X=hardware update or addition accessories (can be letter A-Z or number 0-9), Y=Color, Z=Region) ♣
 ♣ Please refer to section 4.1 of this report which indicates which model was actually tested and which were electrically identical.

Trade mark: TOUCAN
FCC ID: 2AK7ELOB01
Standards: 47 CFR Part 1.1307 (2016)
 47 CFR Part 1.1310 (2016)

Date of Receipt: 2018-06-14
Date of Test: 2018-06-22 to 2018-07-05
Date of Issue: 2018-07-09

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.



Keny Xu
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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Report No.: SZEM180600516203
Page: 2 of 8

2 Version

<i>Revision Record</i>				
<i>Version</i>	<i>Chapter</i>	<i>Date</i>	<i>Modifier</i>	<i>Remark</i>
01		2018-07-09		Original

Authorized for issue by:			
			
		<hr/>	
		Peter Geng /Project Engineer	
			
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		Eric Fu /Reviewer	



3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION	2
3 CONTENTS	3
4 GENERAL INFORMATION.....	4
4.1 GENERAL DESCRIPTION OF EUT	4
4.2 TEST LOCATION	5
4.3 TEST FACILITY	5
4.4 DEVIATION FROM STANDARDS.....	6
4.5 ABNORMALITIES FROM STANDARD CONDITIONS	6
4.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER	6
5 RF EXPOSURE EVALUATION	7
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT	7
5.1.1 <i>Limits</i>	7
5.1.2 <i>Test Procedure</i>	7
4.1.3 EUT RF EXPOSURE EVALUATION.....	8



4 General Information

4.1 General Description of EUT

Power Supply:	DC 9.0V by 6x1.5V "AA" batteries or, DC 5.0V from USB port
Antenna Gain	1.6dBi
Antenna Type	integral antenna
Channel Spacing	5MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz

Remark:

Model No.: TLB100WU, TSSXXXYZ (T=Toucan, SS=Type: Light Bar, Sconce Light or more, First X=Edition, generation, Second and Third X=hardware update or addition accessories (can be letter A-Z or number 0-9), Y=Color, Z=Region)

Only the model TLB100WU was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, only different on model No., the color and shape of ornament.



4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.



**SGS-CSTC Standards Technical Services Co., Ltd
Shenzhen Branch.**

Report No.: SZEM180600516203

Page: 6 of 8

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.



5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 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 Exposures				
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				
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

F= Frequency in MHz

Friis Formula

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

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

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

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.



SGS-CSTC Standards Technical Services Co., Ltd Shenzhen Branch.

Report No.: SZEM180600516203

Page: 8 of 8

4.1.3 EUT RF Exposure Evaluation

Antenna Gain: 1.6dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.45 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power (including tune-up tolerance) (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Middle	2437	21.98	157.76	0.045	1.0	PASS

Note: Refer to report No. SZEM180600516202 for EUT test Max Conducted Peak Output Power value.

The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

- End of the Report -