

Report No.: SZEM190901890703 Page: 1 of 7

SAR Evaluation Report

Application No.:	SZEM1909018907CR
Applicant:	Ocean Star Electronics Ltd.
Address of Applicant:	Unit 15, 8/F., Wah Wai Center, 38-40 Au Pui Wan Street Fo Tan Hong Kong
Manufacturer:	Ocean Star Electronics Limited
Address of Manufacturer:	Flat 15, 8/F., Wah Wai Center, 38-40 Au Pui Wan Street, Fo Tan, N.T., Hong Kong
Factory:	Ocean Star Electronics Limited
Address of Factory:	Flat 15, 8/F., Wah Wai Center, 38-40 Au Pui Wan Street, Fo Tan, N.T., Hong Kong
Equipment Under Test (EUT):
EUT Name:	24" Sound Bar with Lights
Model No.:	SBC24L, iBar25L 🔺
*	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade mark:	Altec, Ocean
FCC ID:	LMZ-SBC24L
Standards:	47 CFR Part 1.1307
	47 CFR Part 2.1093
	KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2019-09-26
Date of Test:	2019-10-23 to 2019-10-25
Date of Issue:	2019-10-29
Test Result :	PASS*

In the configuration tested, the EUT complied with the standards specified above.

Keny. Ku

Keny Xu EMC Laboratory Manager



Unless otherwise agreed in writing, this document is issued by the Cor	
overleaf, available on request or accessible at http://www.sgs.com/en/Terr	
subject to Terms and Conditions for Electronic Documents at http://www	
Attention is drawn to the limitation of liability, indemnification and jurisdi	
advised that information contained hereon reflects the Company's finding	
Client's instructions, if any. The Company's sole responsibility is to its	
transaction from exercising all their rights and obligations under the tra	
except in full, without prior written approval of the Company. Any unaut	
appearance of this document is unlawful and offenders may be prosecute	
results shown in this test report refer only to the sample(s) tested and such	sample(s) are retained for 30 days only.
Attention: To check the authenticity of testing /inspection report & cer	tificate, please contact us at telephone: (86-755) 8307 1443,
or email: <u>CN.Doccheck@sgs.com</u>	
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057	t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国・深圳・科技园中区M-10栋一号厂房 邮编: 518057	t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM190901890703 Page: 2 of 7

2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-10-29		Original

Authorized for issue by:		
	Bive chen	
	Bill Chen /Project Engineer	
	Evic Fu	
	Eric Fu /Reviewer	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at lelephone: (86-755) 8307 1443, or email: CN.Doccheck@gs.com

中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

sgs.china@sgs.com



Report No.: SZEM190901890703 Page: 3 of 7

3 Contents

Page

1	cov	ER PAGE	1
2	VER	SION	2
3	CON	TENTS	3
4	GEN	ERAL INFORMATION	4
	4.1	GENERAL DESCRIPTION OF EUT	4
	4.2	TEST LOCATION	
	4.3	TEST FACILITY	
	4.4	DEVIATION FROM STANDARDS	6
	4.5	ABNORMALITIES FROM STANDARD CONDITIONS	
	4.6	OTHER INFORMATION REQUESTED BY THE CUSTOMER	6
5	SAR	EVALUATION	
	5.1	RF EXPOSURE COMPLIANCE REQUIREMENT	
	5.1.1		7
	5.1.2		
	5.1.3	B EUT RF Exposure	7



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refor only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: **CN_Doccheck@egs.com**

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国 ·深圳 ·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM190901890703 Page: 4 of 7

4 General Information

4.1 General Description of EUT

Power Supply:	AC Adapter: Model:THX-180230KU Input:AC 100-240V 50/60Hz 1.0A Max Output:DC 18V 2.3A Remote control:DC 3.0V by 1.5V x 2"AAA" batteries
Cable:	DC cable:160cm unshielded Audio in cable: 75cm ubshielded
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 Classic
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	Board antenna
Antenna Gain:	1.2dBi

Declaration of EUT Family Grouping:

Model No.: SBC24L, iBar25L

Only the model SBC24L was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model name and brand name.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days on). Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@ags.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国 •深圳 • 科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM190901890703 Page: 5 of 7

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:

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.

Innovation, Science and Economic Development Canada

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

CAB identifier: CN0006.

IC#: 4620C.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document to entor the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) test can submission at telephone: (86-755) 8307 1443, or email: CN.Doccheck@asps.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国 • 深圳 • 科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM190901890703 Page: 6 of 7

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days on). Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@gss.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国 •深圳 • 科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.com



Report No.: SZEM190901890703 Page: 7 of 7

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

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

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

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is \leq 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

5.1.3 EUT RF Exposure

The Max. power (including tune-up tolerance) is 3.27 dBm on the lowest channel 2.402 GHz (*) 3.27 dBm logarithmic terms convert to numeric result is nearly 2.12 mW According to the formula. calculate the test exclusion thresholds:

[(max.power of channel, including tune-up tolerance, mW)/(min.test separation distance, mm)] · [vf(GHz)]

General RF Exposure = (2.12 mW / 5 mm) x $\sqrt{2.402}$ GHz = 0.66	(1)
SAR requirement:	
<i>S</i> = 3.0	(2)
(1) < (2)	
So the SAR report is not required	

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM190901890702

- End of the Report -



	Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u> . Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of	
	Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced excert in full without price written constructed the Company. Any under the transaction form exercises for full and the content of the Company.	
	except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.	
	Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com	
Ltd.	No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn	
	中国・深圳・科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com	