

Report No.: SZEM200600483504

Page: 1 of 7

SAR Evaluation Report

Application No.: SZEM2006004835CR

Applicant: Binatone Electronics International Ltd.

Address of Applicant: Floor 23A, 9 Des Voeux Road West, Sheung Wan, Hong Kong, China

Manufacturer: Binatone Telecom Plc

Address of Manufacturer: 86 Frampton Street, London, NW8 8NQ, UK Factory: Binatone Electronics International Limited

Address of Factory: 25/F Guangdong Investment tower, 148 Connaught Road Central, sheung

Wan, Hong Kong

Equipment Under Test (EUT):

EUT Name: Motobuds Charge

Model No.: SH067

Trade mark: Motorola

FCC ID: VLJ-SH067

Standards: 47 CFR Part 1.1307

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

Date of Receipt: 2020-06-09

Date of Test: 2020-06-17 to 2020-07-07

Date of Issue: 2020-07-16

Test Result : PASS*

Keny Xu EMC Laboratory Manager

Ceny. xu



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 telephone: (86-755) 8307 1443, or email: CN.Doccheck@gs.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.upul. 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

^{*} In the configuration tested, the EUT complied with the standards specified above.



Report No.: SZEM200600483504

Page: 2 of 7

2 Version

	Revision Record				
Version	Chapter	Date	Modifier	Remark	
01		2020-07-16		Original	

Authorized for issue by:		
	Bin chen	
	Bill Chen /Project Engineer	_
	EvicFu	
	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 telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.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.: SZEM200600483504

Page: 3 of 7

3 Contents

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



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-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 telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com"

or email: CN_Doccheck@sgs_com No.1 Workshop, M-10, Middle Sedion, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国・深圳・科技園中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Report No.: SZEM200600483504

Page: 4 of 7

4 General Information

4.1 General Description of EUT

Power supply:	Charging BOX:Rechargeable battery DC 3.7V 155mAh(Charge by Type-C) Left earphone:Rechargeable battery DC 3.7V 50mAh(Charge by Charging BOX) Right earphone:Rechargeable battery DC 3.7V 50mAh(Charge by Charging BOX)
Cable:	Type-C cable:2cm unshielded
For BT:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 Dual mode
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	Monopole
Antenna Gain:	-2dBi
For BLE:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 Dual mode
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Data rate:	1Mbit/s
Antenna Type:	Monopole
Antenna Gain:	-2dBi



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 telephone: (86-755) 8307 1443, or email: CN.Doccheck@gs.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株一号厂房 | 邮编: 518057 | t (86-755) 26012053 | f (86-755) 26710594 | sgs.china@sgs.com



Report No.: SZEM200600483504

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.

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 issue 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) sear entained 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-Ress comp.

of email: CN. Doccheck@sgs.com Mo. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.ci 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.: SZEM200600483504

Page: 6 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 ≤ 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 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 \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

For BT:

Left

The Max. power (including tune-up tolerance) is -0.01 dBm on the highest channel 2.48 GHz (*) -0.01 dBm logarithmic terms convert to numeric result is nearly 1.00 mW

According to the formula. calculate the test exclusion thresholds:

General RF Exposure =
$$\frac{(\text{Max.Power of channel, including tune-up tolerance, } mW)*\sqrt{f(GHz)}}{(\text{min.test separation distance,} mm)}$$

General RF Exposure =
$$(1.00 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.31$$
 (1)

SAR requirement:

$$S = 3.0 \tag{2}$$

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM200600483502



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 issue 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) sear entained 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-Ress comp.

or email: CN. Doccheck@sgs.com Mo. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.c 中国・深圳・科技園中区M-10株一号厂房 邮编: 518057 t (86–755) 26012053 f (86–755) 26710594 sgs.china@sgs.com



Report No.: SZEM200600483504

Page: 7 of 7

Right

The Max. power (including tune-up tolerance) is -0.07 dBm on the highest channel 2.48 GHz (*) -0.07 dBm logarithmic terms convert to numeric result is nearly 0.98 mW According to the formula. calculate the test exclusion thresholds:

General RF Exposure =
$$\frac{(\text{Max. Power of channel, including tune -up tolerance, } mW) * \sqrt{f (GHz)}}{(\text{min. test separation distance,} mm)}$$
General RF Exposure = $(0.98 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.31$

General Kr Exposure – (0.96 mW/3 min) x $\sqrt{2.46}$ GHz – 0.51

(1)

SAR requirement:

$$S = 3.0 \tag{2}$$

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM200600483502

For BLE

Left

The Max. power (including tune-up tolerance) is -2.84 dBm on the highest channel 2.48 GHz (*) -2.84 dBm logarithmic terms convert to numeric result is nearly 0.52 mW According to the formula. calculate the test exclusion thresholds:

General RF Exposure =
$$\frac{(\text{Max.Power of channel,including tune-up tolerance,mW}) * \sqrt{f(GHz)}}{(\text{min.test separation distance,mm})}$$
General RF Exposure = $(0.52 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.16$ (1)
SAR requirement:
$$S = 3.0$$
 (2)
$$(1) < (2)$$
So the SAR report is not required.

(*) Max. power refer to Report No.: SZEM200600483503

Right

The Max. power (including tune-up tolerance) is -2.83 dBm on the highest channel 2.48 GHz (*) -2.83 dBm logarithmic terms convert to numeric result is nearly 0.52 mW According to the formula. calculate the test exclusion thresholds:

$$General\ RF\ Exposure = \frac{(\textit{Max.Power of channel,including tune-up tolerance,mw})*\sqrt{f\ (\textit{GHz})}}{(\textit{min.test separation distance,mm})}$$

General RF Exposure =
$$(0.52 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.16$$
 (1)

SAR requirement:

$$S = 3.0 \tag{2}$$

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM200600483503

- 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 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 issue 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 telephone: (86-755) 8307 1443, or email: CN Doccheck-Ress cents.

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.
中国・深圳・科技図中区M-10株一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com