



Maxwell Technologies, Inc.
3888 Calle Fortunada
San Diego, CA 92123

8 November 2018

RE: 5.0 Volt Modules (2.3V-1.5F, 2.3V-2.5F) REACH Declaration - External

To Our Valued Customers:

The EU Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) Regulation (EC No. 1907/2006) entered into force on June 1, 2007, and will be fully implemented over an 11-year period. It seeks to manage the risks posed by chemicals and provide appropriate safety information to their users.

Maxwell Technologies, Inc., along with its affiliates, vendors and partners, supports the REACH objective of ensuring the protection of human health and the environment as well as the free movement of goods and works with our supply chain to meet our obligations under the regulation.

REACH treats articles (objects, such as electronic equipment) differently than chemicals and chemical mixtures. As of the date of this declaration, the products in Table 1 below, which are manufactured for sale and distribution by Maxwell, are not intended to release any of the REACH-regulated substances. Additionally, no regulated substance within these products exceeds the regulatory threshold of 0.1% by weight of the listed article. As such, Maxwell's primary obligation under REACH is communication of information about regulated substances in our products to users, in accordance with Article 33 of the regulation.

Table 1

BMOD0001 P005 B02 (EMHSR-0001C5-005R0)	BMOD0002 P005 B02 (EMHSR-0002C5-005R0)
--	--

The above statements are based upon one of the following techniques employed by Maxwell, its affiliates, vendors, or partners: certification at accredited test facilities; or through similarity in construction and materials used. REACH test report prepared for Maxwell by an accredited test facility is attached.

For additional questions or information, please contact your Maxwell Key Account Manager.



Maxwell Technologies, Inc.
Global Headquarters
3888 Calle Fortunada
San Diego, CA 92123
USA
Phone: +1 (858) 503-3300
Fax: +1 (858) 503-3301



Maxwell Technologies GmbH
Leopoldstrasse 244
80807 München
Germany
Phone: +49 (0)89 4161403 0
Fax: +49 (0)89 4161403 99



Maxwell Technologies
Korea Co., Ltd
17, Dongtangiheung-ro
681beon-gil,
Giheung-gu, Yongin-si
Gyeonggi-do
17102
Republic of Korea
Phone: +82 31 239 0721
Fax: +82 31 286 6767



Maxwell Technologies
(Shanghai) Trading Co., Ltd
Room 1005, 1006 and 1007
No. 1898, Gonghexin Road,
Jing An District, Shanghai 200072
P.R. China
Phone: +86 21 3680 4600
Fax: +86 21 3680 4699



Maxwell Technologies, Inc.
Shanghai Representative Office
Rm 1008
No. 1898, Gonghexin Road,
Jing An District, Shanghai 200072
P.R. China
Phone: +86 21 3680 4600
Fax: +86 21 3680 4699

THIS PAGE INTENTIONALLY LEFT BLANK



Test Report

No. F690101/LF-CTSAYAA18-45792

Issued Date: 2018. 08. 24 Page 1 of 17

NESSCAP CO.,LTD

17, Dongtangiheung-ro 681beon-gil, Giheung-gu
Yongin-si, Gyeonggi-do
Korea



The following sample(s) was/were submitted and identified by/on behalf of the client as:-

SGS File No. : AYAA18-45792

Product Name : 5.0V Modules

Item/Part Name : BMOD0001 P005 B02(EMHSR-0001C5-005R0)

Client reference data : BMOD0002 P005 B02(EMHSR-0002C5-005R0)

Received Date : 2018. 08. 16

Test Period : 2018. 08. 16 ~ 2018. 08. 24

Test Requested : One hundred- Ninety one (191) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on June 27, 2018 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Report Comments : By the applicant's request, item No.s/part No.s & client reference information are stated/added on report.

Test Method : Please refer to next page(s).

Test Result(s) Summary : Please refer to next page(s).
According to the specified scope and evaluation screening, the test results of SVHC are ≤ 0.1% (w/w) in the articles of the submitted sample.

SGS Korea Co., Ltd

Jeff Jang / Chemical Lab Mgr

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-sgs> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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).

F416 version 3

SGS Korea Co., Ltd

322, The O valley, 76, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea 14117
t +82 (0)31 4608 000 f +82 (0)31 4608 059 <http://www.sgsgroup.kr>

Member of the SGS Group (Société Générale de Surveillance)



Test Report

No. F690101/LF-CTSAYAA18-45792

Issued Date: 2018. 08. 24 Page 2 of 17

Test Method:

SGS In-House method - Analyzed by ICP-OES, PLM, UV/VIS, LC/MS ,GC/MS and colorimetric method

Remarks:

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
<http://echa.europa.eu/web/guest/candidate-list-table> (Candidate list)
http://echa.europa.eu/proposals-to-identify-substances-of-very-high-concern-previous-consultations?p_p=id=substancetypelist&p_p=lifecycle=0&p_p=state=normal&p_p=mode=view&p_p=column=1&p_p=col_pos=2&p_p=col_count=4&substancetypelis
(Proposals to identify SVHC consultations)
This list is under evaluation by ECHA and may subject to change in the future.
2. In accordance with Regulation (EC) No 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 2 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance is present in those articles above a concentration of **0.1 %** weight by weight (w/w).
3. Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above **0.1 %** weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.
4. If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

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 www.sgs.com/terms_e-document.htm. 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).

Note:

1. RL = Reporting Limit, 0.1% (w/w) = 1,000 ppm = 1,000 mg/kg
2. N.D. = Not detected (lower than RL)

N.A. = Not applicable for respective material type.

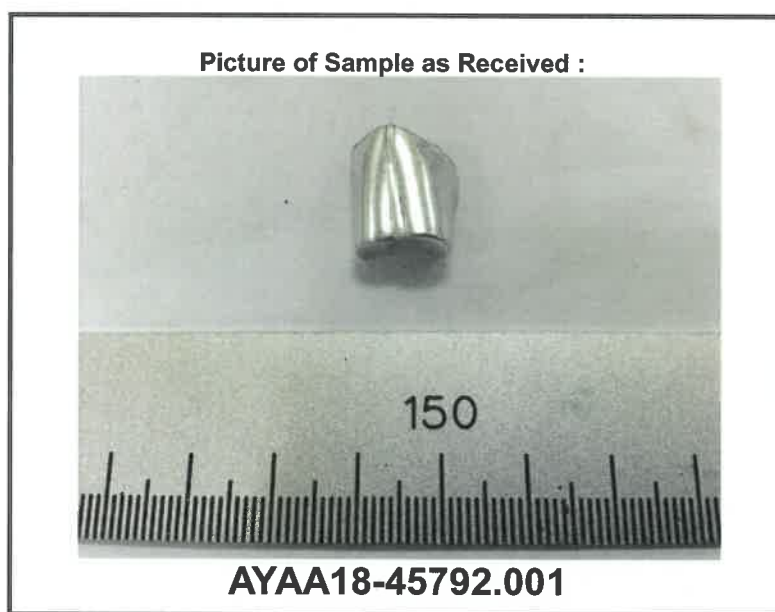
The submitted sample was found to contain significant amount of specific element(s) of SVHC. Upon further test verification and also information provided from client, the possibility that the element(s) content originate from SVHC is very unlikely, even though their presence cannot be exclude entirely. It may be assumed that the detected element(s) have a non-SVHC source.

3. *.The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website: www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm

The client is advised to review the chemical formulation to ascertain above metal substances present in the article.

RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, sodium, chromium, chromium(VI), silicon, aluminum, zirconium, boron, and potassium respectively), except molybdenum RL=0.0005%

4. **. -TGIC is one of the isomers for TGIC compounds and hence, tested together. The reported test result is based the proposed ratio as according to ECHA dossier.
5. ***.The sample was diluted with solvent because of matrix effect, so there could be slight increase in MDL and it may have an effect on RL.



*** End of Report ***

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 www.sgs.com/terms_e-document.htm. 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).



Test Report

No. F690101/LF-CTSAYAA18-45793

Issued Date: 2018. 08. 24 Page 1 of 17

NESSCAP CO.,LTD

17, Dongtangiheung-ro 681beon-gil, Giheung-gu
Yongin-si, Gyeonggi-do
Korea



The following sample(s) was/were submitted and identified by/on behalf of the client as:-

SGS File No. : AYAA18-45793

Product Name : 5.0V Modules

Item/Part Name : BMOD0001 P005 B02(EMHSR-0001C5-005R0)

Client reference data : BMOD0002 P005 B02(EMHSR-0002C5-005R0)

Received Date : 2018. 08. 16

Test Period : 2018. 08. 16 ~ 2018. 08. 24

Test Requested : One hundred- Ninety one (191) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on June 27, 2018 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Report Comments : By the applicant's request, item No.s/part No.s & client reference information are stated/added on report.

Test Method : Please refer to next page(s).

Test Result(s) Summary : Please refer to next page(s).
According to the specified scope and evaluation screening, the test results of SVHC are $\leq 0.1\%$ (w/w) in the articles of the submitted sample.

SGS Korea Co., Ltd

Jeff Jang / Chemical Lab Mgr

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.pdf> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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).

F416 version 3

SGS Korea Co. Ltd

322, The O valley, 76, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea 14117
t +82 (0)31 4608 000 f +82 (0)31 4608 059 <http://www.sgsgroup.kr>

Member of the SGS Group (Société Générale de Surveillance)



Test Report

No. F690101/LF-CTSAYAA18-45793

Issued Date: 2018. 08. 24 Page 2 of 17

Test Method:

SGS In-House method - Analyzed by ICP-OES, PLM, UV/VIS, LC/MS ,GC/MS and colorimetric method

Remarks:

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
<http://echa.europa.eu/web/guest/candidate-list-table> (Candidate list)
http://echa.europa.eu/proposals-to-identify-substances-of-very-high-concern-previous-consultations?p_p id=substancetypelist WAR substanceportlet&p_p lifecycle=0&p_p state=normal&p_p mode=view&p_p col id=column-1&p_p col pos=2&p_p col count=4& substancetypelis
(Proposals to identify SVHC consultations)
This list is under evaluation by ECHA and may subject to change in the future.
2. In accordance with Regulation (EC) No 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 2 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance is present in those articles above a concentration of **0.1 %** weight by weight (w/w).
3. Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above **0.1 %** weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.
4. If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

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 www.sgs.com/terms_e-document.htm. 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).

Note:

1. RL = Reporting Limit, 0.1% (w/w) = 1,000 ppm = 1,000 mg/kg
2. N.D. = Not detected (lower than RL)

N.A. = Not applicable for respective material type.

The submitted sample was found to contain significant amount of specific element(s) of SVHC. Upon further test verification and also information provided from client, the possibility that the element(s) content originate from SVHC is very unlikely, even though their presence cannot be exclude entirely. It may be assumed that the detected element(s) have a non-SVHC source.

3. *.The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website: www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm

The client is advised to review the chemical formulation to ascertain above metal substances present in the article.
RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, sodium, chromium, chromium(VI), silicon, aluminum, zirconium, boron, and potassium respectively), except molybdenum RL=0.0005%

4. **. -TGIC is one of the isomers for TGIC compounds and hence, tested together. The reported test result is based the proposed ratio as according to ECHA dossier.
5. ***.The sample was diluted with solvent because of matrix effect, so there could be slight increase in MDL and it may have an effect on RL.



*** End of Report ***

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 www.sgs.com/terms_e-document.htm. 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).



Test Report

No. F690101/LF-CTSAYAA18-45794R1

Issued Date: 2018. 08. 27

Page 1 of 18

NESSCAP CO.,LTD

17, Dongtangiheung-ro 681beon-gil, Giheung-gu
Yongin-si, Gyeonggi-do
Korea



The following sample(s) was/were submitted and identified by/on behalf of the client as:-

SGS File No.	: AYAA18-45794R1		
Product Name	: 5.0V Modules		
Item/Part Name	: BMOD0001 P005 B02(EMHSR-0001C5-005R0)		
Client reference data	: BMOD0002 P005 B02(EMHSR-0002C5-005R0)		
Received Date	: 2018. 08. 16		
Test Period	: 2018. 08. 16 ~ 2018. 08. 27		
Test Requested	: One hundred- Ninety one (191) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on June 27, 2018 regarding Regulation (EC) No 1907/2006 concerning the REACH.		
Supersede/Referral	: The test report supersedes previous report number, "F690101/LF-CTSAYAA18-45794" issued by SGS Korea Co., Ltd.		
Report Comments	: By the applicant's request, item No.s/part No.s & client reference information are stated/added on report.		
Test Method	: Please refer to next page(s).		
Test Result(s)	: Please refer to next page(s).		
Summary	<table><tr><td>According to the ruling of the Court of Justice of the European Union on the definition of an article under REACH, and the specified scope and evaluation screening, the test results of SVHC are \leq 0.1% (w/w) in the articles of the submitted sample.</td><td>PASS</td></tr></table>	According to the ruling of the Court of Justice of the European Union on the definition of an article under REACH, and the specified scope and evaluation screening, the test results of SVHC are \leq 0.1% (w/w) in the articles of the submitted sample.	PASS
According to the ruling of the Court of Justice of the European Union on the definition of an article under REACH, and the specified scope and evaluation screening, the test results of SVHC are \leq 0.1% (w/w) in the articles of the submitted sample.	PASS		

SGS Korea Co., Ltd

Jeff Jang / Chemical Lab Mgr

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>, and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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).

F416 version 3

SGS Korea Co., Ltd

322, The O valley, 76, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea 14117
t +82 (0)31 4608 000 f +82 (0)31 4608 059 <http://www.sgsgroup.kr>

Member of the SGS Group (Société Générale de Surveillance)

Remarks:

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:

<http://echa.europa.eu/web/guest/candidate-list-table> (Candidate list)

These lists are under evaluation by ECHA and may subject to change in the future.

http://echa.europa.eu/proposals-to-identify-substances-of-very-high-concern-previous-consultations?p_p id=substancetypelist WAR substanceportlet&p_p lifecycle=0&p_p state=normal&p_p mode=view&p_p col id=column-1&p_p col pos=2&p_p col count=4& substancetypelis

(Proposals to identify SVHC consultations)

2. Concerning article(s):

In accordance with Regulation (EC) No 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 2 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance is present in those articles above a concentration of **0.1 %** weight by weight (w/w).

Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above **0.1 %** weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

3. Concerning material(s):

Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

4. If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

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 www.sgs.com/terms_e-document.htm. 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).

Picture of Sample as Received :



AYAA18-45794R1.001

*** End of Report ***

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 www.sgs.com/terms_e-document.htm. 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).



Test Report

No. F690101/LF-CTSAYAA18-45795

Issued Date: 2018. 08. 27 Page 1 of 17

NESSCAP CO.,LTD

17, Dongtangiheung-ro 681beon-gil, Giheung-gu
Yongin-si, Gyeonggi-do
Korea



The following sample(s) was/were submitted and identified by/on behalf of the client as:-

SGS File No. : AYAA18-45795

Product Name : 5.0V Modules

Item/Part Name : BMOD0001 P005 B02(EMHSR-0001C5-005R0)

Client reference data : BMOD0002 P005 B02(EMHSR-0002C5-005R0)

Received Date : 2018. 08. 16

Test Period : 2018. 08. 16 ~ 2018. 08. 27

Test Requested : One hundred- Ninety one (191) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on June 27, 2018 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Report Comments : By the applicant's request, item No.s/part No.s & client reference information are stated/added on report.

Test Method : Please refer to next page(s).

Test Result(s) Summary : Please refer to next page(s).
According to the specified scope and evaluation screening, the test results of SVHC are $\leq 0.1\%$ (w/w) in the articles of the submitted sample.

SGS Korea Co., Ltd

Jeff Jang / Chemical Lab Mgr

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.pdf> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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).

F415 version 3

SGS Korea Co Ltd

322, The O valley, 76, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea 14117
t +82 (0)31 4608 000 f +82 (0)31 4608 059 <http://www.sgsgroup.kr>

Member of the SGS Group (Société Générale de Surveillance)



Test Report

No. F690101/LF-CTSAYAA18-45795

Issued Date: 2018. 08. 27 Page 2 of 17

Test Method:

SGS In-House method - Analyzed by ICP-OES, PLM, UV/VIS, LC/MS, GC/MS and colorimetric method

Remarks:

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
<http://echa.europa.eu/web/quest/candidate-list-table> (Candidate list)
http://echa.europa.eu/proposals-to-identify-substances-of-very-high-concern-previous-consultations?p_p_id=substancetypelist_WAR_substanceportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_pos=2&p_p_col_count=4&substancetypelis
(Proposals to identify SVHC consultations)
This list is under evaluation by ECHA and may subject to change in the future.
2. In accordance with Regulation (EC) No 1907/2006, any producer or importer of articles shall notify ECHA, in accordance with paragraph 2 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance is present in those articles above a concentration of **0.1 %** weight by weight (w/w).
3. Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above **0.1 %** weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.
4. If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

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 www.sgs.com/terms_e-document.htm. 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).

Note:

1. RL = Reporting Limit, 0.1% (w/w) = 1,000 ppm = 1,000 mg/kg
2. N.D. = Not detected (lower than RL)
- N.A. = Not applicable for respective material type.

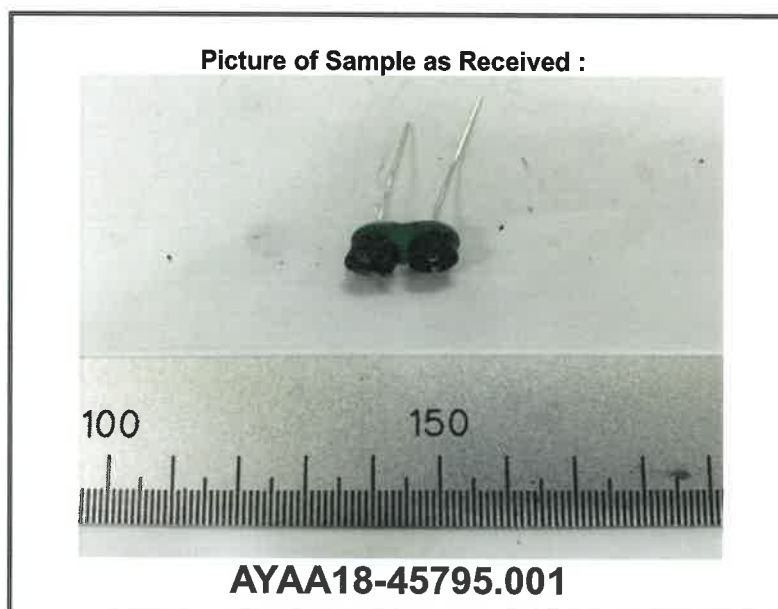
The submitted sample was found to contain significant amount of specific element(s) of SVHC. Upon further test verification and also information provided from client, the possibility that the element(s) content originate from SVHC is very unlikely, even though their presence cannot be exclude entirely. It may be assumed that the detected element(s) have a non-SVHC source.

3. *.The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website: www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm

The client is advised to review the chemical formulation to ascertain above metal substances present in the article.

RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, sodium, chromium, chromium(VI), silicon, aluminum, zirconium, boron, and potassium respectively), except molybdenum RL=0.0005%

4. **. -TGIC is one of the isomers for TGIC compounds and hence, tested together. The reported test result is based the proposed ratio as according to ECHA dossier.
5. ***.The sample was diluted with solvent because of matrix effect, so there could be slight increase in MDL and it may have an effect on RL.



*** End of Report ***

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 www.sgs.com/terms_e-document.htm. 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).