

Test Report

No. SDFS1909006342FF-01

Date: Jan.23, 2020

Page 1 of 4

VECOW CO.,LTD.

3F., NO.10, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 23586, TAIWAN

Sample Description: PCB OF HIGH PERFORMANCE FANLESS EMBEDDED SYSTEM

Specification: IVH-9204MX-ICY

The above data and information was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion. results apply to the sample as received.

SGS Ref No.: XMIN190902365CCM

Sample Receiving Date: Jul.22, 2019

Test Performing Date: Jul.22, 2019 to Oct.08, 2019

Test Requested:

EN 45545-2:2013+A1:2015 Railway applications—Fire protection on railway vehicles Part 2: Requirements for fire behaviour of materials and components, and testing according to Table 5 — Material requirement sets (R25)

Test Results: -- See attached sheet --

Signed for and on behalf of
Shunde Branch
SGS-CSTC Co., Ltd.

scan to see the report



SDFS1909006342FF-01

Daniel Guan
Approved signatory



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-Documents.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

11F, 1 Building, European Industrial Park, No.1 Shunhe South Road, Wushe Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com

I. Description of Test specimens

Description	PCB
Color	Green

II. Summary of test results

Requirement set (used for)	Test method reference	Parameter Unit	Test results *
R25 (EL9)	T16 EN 60695-2-11	Glow Wire Temperature, °C	850

* For the test details, please see the appendix of this test report.

III. Conclusion

According to the test results, the submitted sample **meets** the requirements of **R25** (detailed in Table 5 of EN 45545-2:2013+A1:2015) for a **HL1, HL2, HL3** Hazard Level Classification.

Test Criteria, EN 45545-2:2013+A1:2015, Table 5, Material requirement sets, R25

Short name of requirement set (used for)	Test method reference	Parameter Unit	Requirement Definition	HL1	HL2	HL3
R25 (EL9)	T16 EN 60695-2-11	Glow Wire Temperature °C	Minimum	850	850	850

Statements:

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

The test results relate only to the specimens of the product in the form in which were tested.



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-Documents.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

11F, 1 Building, European Industrial Park, No.1 Shunhe South Road, Wusha Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn
 中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com

**APPENDIX 1: T16 EN 60695-2-11 Fire hazard testing—Part 2-11:Glowing/hot-wire based test methods
Glow-wire flammability test method for end-products**

1. Conditioning

Prior to testing, the sample was conditioned 24 hours at temperatures of 15~35°C and at a relative humidity of 45~75%.

At time to testing, Temperature between 15°C ~ 35°C and Relative humidity less than or equal to 75 %.

2. Test results

Temperature of the glow-wire (°C)	850
Duration (t _i) from the beginning of tip application up to the time at which the test specimen or the specified layer placed below it ignites (s)	NI
Duration (t _e) from the beginning of tip application up to the time when flames extinguish during or after the period of application (s)	NI
Whether the test specimen extinguishes by virtue of most of the flaming material being withdrawn with the glow-wire	NA
Whether ignite the specified layer placed underneath the test specimen or not	No
Whether the test specimen is totally burned	No
Observations: None	

Remark: NI--- Not ignition; NA---Not applicable

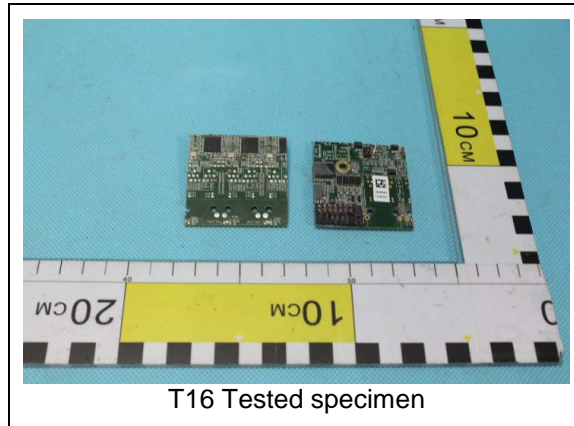
In accordance with test results, the submitted sample: **GWEPT: 850**



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-Documents.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

11F, 1 Building, European Industrial Park, No.1 Shunhe South Road, Wusha Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com

Photo Appendix:



SGS authenticate the photo on original report only

Remark:

This test report is issued based on the modification of the original No. SDFS1909006342FF test report issued on Oct.08, 2019. And the original test reports (paper and electronic) are invalid. According to applicant's requirements, following changes are included:

- a. Add the logo of CNAS.

End of 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-Documents.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

11F, 1 Building, European Industrial Park, No.1 Shunhe South Road, Wushe Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn
 中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com