

Seagate Singapore Design Centre, Singapore

SKR004 (V11 4D) Regulatory Assurance Certification



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**Issue Date: 6 Nov 2017
Revision 5.0**

Safety Certification

Test Objective:

Verifies that product meets the required Safety requirements as stipulated by UL, and TUV Safety Agencies; and also European Directives:

- UL 60950-1, 2nd Edition, 2014-10-14
- TUV EN60950-1, IEC 60950-1

Test Description:

The product was submitted to and tested by the safety agencies.

The product is certified for cUL mark through UL Korea under Underwriter Laboratories (UL) file E190397. Attached is the Certificate of Compliance to apply the cUL mark.

The product is certified for TUV SUD mark through TUV SUD Korea Corporation. Attached is the TUV SUD Certificate.

Pass/Fail Criteria:



Product meets the stipulated Safety requirements.

Product:

Product Name: Hard Disk Drive

Conclusion:

The unit passed the above safety tests and standards. Due to similarities in the hard disk drives, it was only necessary to test one model in order to pass for all models.

Agency / Standards	Conclusion	Approved to Bear Agency's Marks
UL60950-1	Compliance with applicable cUL	
TUV EN60950-1, IEC 60950-1	Compliance with IEC60950, Compliance with EN60950	

CERTIFICATE OF COMPLIANCE

Certificate Number 20170428-E190397
Report Reference E190397-A35-UL
Issue Date 2017-APRIL-28

Issued to: SEAGATE SINGAPORE INTERNATIONAL
HEADQUARTERS PTE LTD
THE SHUGART
26 AYER RAJAH CRESCENT
SINGAPORE 139944 SINGAPORE

This is to certify that
representative samples of

COMPONENT - INFORMATION TECHNOLOGY
EQUIPMENT INCLUDING ELECTRICAL BUSINESS
EQUIPMENT


Hard Disk Drive: SKR004

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: See addendum for standards.

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog
number, model number or other product designation as specified under "Marking" for the particular
Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products
that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:
 may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is
required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual
recognitions.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at <http://info.ul.com/aboutul/locations>.



CERTIFICATE OF COMPLIANCE

Certificate Number 20170428-E190397
Report Reference E190397-A35-UL
Issue Date 2017-APRIL-28

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Standards for Safety:

UL 60950-1, Information Technology Equipment - Safety - Part 1: General Requirements
CAN/CSA C22.2 No. 60950-1-07, Information Technology Equipment - Safety - Part 1: General Requirements



Bruce Mahrenholtz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/goto/ullocations>.





Product Service

CERTIFICATE

No. B 17 02 87435 051

Holder of Certificate: **Seagate Technology International**

18, 59 beon-gil, Poeun-daero Suji-gu
Yongin-city, Gyeonggi-do 448-130
REPUBLIC OF KOREA

Production Facility(ies): 64076, 61810

Certification Mark:



Product: **Hard disk drive**

Model(s): **SKR004**
Trademark : **SEAGATE**

Parameters: Rated input: 5 V d.c., 0.55 A and 12 V d.c., 0.37 A
Protection Class: III

Tested according to: EN 60950-1:2006/A2:2013

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: 077-2379216-001

Valid until: 2019-06-19

Date, 2017-02-20

(Havard Lee)

Page 1 of 1





Ref. Certif. No.

SG PSB-OF-00872A1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE)METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Hard disk drive

Name and address of the applicant
Nom et adresse du demandeur

Seagate Technology International
18, 59 beon-gil, Poemun-daero Sujji-gu
Yongin-city, Gyeonggi-do 448-130, REPUBLIC OF KOREA

Name and address of the manufacturer
Nom et adresse du fabricant

Seagate Technology International
18, 59 beon-gil, Poemun-daero Sujji-gu, Yongin-city, Gyeonggi-do 448-130, REPUBLIC OF KOREA

Name and address of the factory
Nom et adresse de l'usine

Seagate Technology (Wuxi) International Co., Ltd.
106 Xing Chuang Er Lu., Wuxi-Singapore Industrial Park., 214028 Wuxi, JiangSu, PEOPLE'S REPUBLIC OF CHINA
For further information please see attachment

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

Rated input : 5 V d.c., 0.55 A and 12 V d.c., 0.37 A
Protection class : III

Trade mark (if any)
Marque de fabrique (si elle existe)

SEAGATE

Model/type Ref.
Ref. de type

SKR004

Additional information (if necessary)
Information complémentaire (si nécessaire)

Certificate SG PSB-OF-00872 issued 2016-10-31 is replaced by this version due to non-technical changes. See Test Report for National and Group Differences.

A sample of the product was tested and found to be in conformity with
Un échantillon de ce produit a été essayé et a été considéré conforme à la


IEC 60950-1:2005
IEC 60950-1:2005/AMD1:2009
IEC 60950-1:2005/AMD2:2013

as shown in the Test Report Ref. No. which forms part of this certificate
comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat

TÜV SÜD PSB Pte Ltd
077-2379216-001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Date, 2017-02-20
CBS 17 02 87435 050


(Havard Lee)



PSB Singapore

TÜV SÜD PSB Pte Ltd · 1 Science Park Drive · Singapore 118221



Ref. Certif. No.

CB Certificate Ref. No. SG PSB-OF-00872A1

Additional factory information

Name and address of the factory
Nom et adresse de l'usine

Seagate Technology (Thailand) Ltd.
90 Moo 15 Tambol Sungnoen Amphur Sungnoen
Nakhon Ratchasima 30170 THAILAND

Trade Mark



Date: 2017-02-20

Signature: (Havard Lee)



PSB Singapore

ElectroMagnetic Compatibility

Test Objective:

Verify that the product, which is an internal computer peripheral with no direct connection to external I/O or power, meets applicable EMC emission and immunity standards when installed in a representative host system. This is done by verifying that the product, in the system, complies with the appropriate limits for FCC, CE Mark, C-tick(RCM), and VCCI. For FCC, applicable limits are found in CFR 47, Part 15, Subpart B, Class B, and for CE, C-tick(RCM), and VCCI are found in EN 55032 Class B. Immunity requirements for CE Marking are defined in EN 55024

Test Description:

Testing is performed with the drive installed in representative host system. The host system in this case, is a Notebook laptop or Desktop and the drive is exercised random write/read mode for all testing. The drive is monitored for correct operation throughout the testing.

Emission testing (performed at a 10m Chamber) and immunity testing are performed at an EMC facility, which has been certified by SAC-SINGLAS.

Emission testing consists of the following:

1. Conducted emissions, 150 kHz to 30 MHz, 110 Vac/60 Hz (FCC)
2. Conducted emissions, 150 kHz to 30 MHz, 230 Vac/50 Hz {CE, C-tick(RCM), VCCI}
3. Radiated emissions, 30 MHz to 1 GHz, 10-meter antenna distance
4. Radiated emissions, 1 GHz to 6 GHz, 3-meter antenna distance
5. AC power line harmonics, per EN61000-3-2 : 2014
6. AC power line flicker, per EN61000-3-3: 2013

Immunity testing includes the following:

1. Electrostatic discharge per IEC 61000-4-2 (Level B)
2. Radiated RF field immunity per IEC 61000-4-3 and EN 50204 (Level A)
3. Electrical Fast Transient/Burst per IEC 61000-4-4 (Level B)
4. Surge Immunity per IEC 61000-4-5 (Level B)
5. Conducted RF Immunity per IEC 61000-4-6 (Level A)
6. Power Frequency H-field Immunity per IEC 61000-4-8 (Level A)
7. Voltage Dips and Interrupts per IEC 61000-4-11 (Level B, C)

Pass/Fail Criteria:

For immunity testing, the drive must meet different levels of performance (A, B or C) for the various RF environments to which it is exposed. These are defined as follows:

Performance Level A - no degradation in performance, no loss of data

Performance Level B - degraded performance acceptable provided that 1) no data is lost and 2) unit self-recovers without user intervention after the RF environment has been withdrawn


Performance Level C - reset acceptable, user intervention acceptable provided that unit suffers no permanent damage.

Product:

Product Name: Hard Disk Drive

Conclusion:

No modifications were made to pass. No Specification deviations, additions to or exclusions from were performed. Due to similarities in the drives, the test conclusions are applicable to hard disk drive.

Standard	Result	Approved to Bear CE & RCM Marks
EN 55032:2010 / AC : 2011 – Class B EN 61000-3-2: 2014 EN 61000-3-3: 2013 EN 55024: 2010 IEC 61000-4-2: 2008 IEC 61000-4-3: 2010 IEC 61000-4-4: 1995 IEC 61000-4-5: 1995 IEC 61000-4-6: 1996 IEC 61000-4-8: 1993 IEC 61000-4-11: 1994	Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass	

Test Data:

EMC Immunity Test Results

Specification	Test Method	Test Conditions	Compliance
Electrostatic Discharge	IEC 61000-4-2	4 kV Contact / HCP, VCP / 8 kV Air	Compliant
RF Radiated Immunity	IEC-61000-4-3 EN 50204	80 - 1000 MHz, 3 V/m, 80% 1 kHz AM	Compliant
EFT/Burst	IEC 61000-4-4	0.5 kV I/O, 1 kV AC mains	Compliant
Surge Immunity	IEC 61000-4-5	2 kV comm. mode, 1 kV diff. mode, AC mains	Compliant
Conducted RF Immunity	IEC 61000-4-6	150 kHz to 80 MHz, 3 Vrms, 80% 1 kHz AM, power and I/O	Compliant
Power Frequency Magnetic Field Immunity	IEC 61000-4-8	1 Amp / meter, 3 axes, 50 Hz and 60Hz	Compliant
Voltage Dips and Interrupts	IEC 61000-4-11	0% open and short for 5 seconds, 40% for 0.1 second, 70% for 0.01 second	Compliant



EU DECLARATION OF CONFORMITY

TYPE OF EQUIPMENT: Hard Disk Drive

REGULATORY MODEL: SKR004

TRADE/BRAND NAME: SEAGATE

I. Product SAFETY and EMC Compliance

A. The Electromagnetic Compatibility (EMC) Directive 2014/30/EU by application of the following standards:

EN 55032:2015	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement Class B.
EN 55024:2010	Information technology equipment - Immunity characteristics - Limits and methods of measurement.
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase.

B. The product meets the requirements of The Low Voltage Directive (LVD) 2014/35/EU by application of the following standard:

EN 60950-1:2006	Information technology equipment - Safety - General requirements. (Second Edition) Part 1: +A11:2009 +A1:2010 +A12:2011 + A2:2013
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II. Product Environmental Compliance

A. The product(s) meets the requirements of the RoHS "Recast" Directive 2011/65/EU (RoHS 2) as amended by Directive(EU) 2015/863 and by application of the following standards:

EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
IEC 62321:2015	Determination of certain substances in electro technical products. Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography-mass spectrometry (GC-MS).



EU DECLARATION OF CONFORMITY

B. Seagate disc drives rely on the following RoHS 2 exemptions for compliance:


Exemption Description
(Exemptions are listed per Annex released September 24, 2010)
6a. Lead as an alloying element in steel containing up to 0.35% lead by weight
6b. Lead as an alloying element in aluminum up to 0.4% lead by weight
6c. Lead as an alloying element in copper containing up to 4% lead by weight
7a. Lead in high melting temperature type solders (i.e. lead-based solder alloys containing 85 % by weight or more lead)
7(c)-I Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (e.g. piezoelectronic devices) or in a glass or ceramic matrix compound

III. Due Diligence

- A. For parts and materials in Seagate products procured from external suppliers, we rely on the representations of our suppliers regarding the presence of RoHS 2 substances in these parts and materials. Our supplier contracts require compliance with our chemical substance restrictions, and our suppliers document their compliance with our requirements by providing material content declarations for all parts and materials for Seagate products. Current supplier declarations include disclosure of any substances regulated by RoHS 2 in such parts or materials.
- B. Seagate also has internal systems in place to ensure ongoing compliance and all laws and regulations. These systems include standard operating procedures that ensure that product safety, EMC and environmental compliance requirements are followed and an internal auditing process to ensure compliance with all standard operating procedures.

This product or products are in conformity with the relevant Union harmonization legislation. This declaration of conformity is issued under the sole responsibility of Seagate Technology International.

Date of Issue: Nov 02, 2016

Signature: 
Name: Sang Lee
Title: Vice President

Signed for and on behalf of:

Seagate Technology International
Koolhovenlaan 1
1119 NB Schiphol-Rijk
The Netherlands



Supplier's Declaration of Conformity

Declaration of Conformity as a registered and responsible supplier under the Australian Communications and Media Authority (ACMA) regulatory arrangements for Regulatory Compliance Mark (RCM) and its placement.

Responsible Supplier Name: Seagate Technology Australia Pty Ltd
Responsible Supplier Number: E806

Seagate Technology Australia Pty. Limited
Level 7, 91 Phillip St
PARRAMATTA NSW 2150
AUSTRALIA

Declare under our sole responsibility that the following product(s):

Hard Disk Data Storage Drive

Model: SKR004

to which this declaration relates is in conformity with the following standard(s):

Title	Test Regulation
Australian/New Zealand Standard	AS/NZS CISPR 32: 2015

(Name of the Authorized Person) **Sam Zavaglia**

(Title of the Authorized Person) **Senior Field Applications Engineer**

(Date of Issue) **19th October 2016**

(Signature) 

符合性聲明書
Declaration of Conformity

報驗義務人代碼 Code of the applicant	編號 Number
D33027	STX17110305

本符合性聲明書應依商品檢驗法規定備齊相關技術文件後始得簽具
Please check all the related technical documents in accordance with the Commodity Inspection Act before signing the form.

報驗義務人：台灣希捷科技股份有限公司

Obligatory Applicant

地址：臺北市松山區復興北路 363 號 14 樓 B 室

Address

電話：02-2514-2273

Telephone

商品中(英)文名稱：硬式磁碟機

Commodity Name

商品型式(或型號)：

Commodity Type (Model)

SKR004;ST8000DM004;ST6000DM003;ST5000DM003;ST8000VN002;
ST6000VN001;ST8000VM004;ST6000VM000;ST8000VX002;ST6000VX001;
ST8000VN003;ST6000VN002;ST8000VX003;ST6000VX002;
ST8000AS0003

符合之檢驗標準及版次：CNS 13438/ Complete 2006 Class B

Standard(s) and version

試驗報告編號：T161003C07A

Test Report Number

試驗室名稱及代號：香港商立德國際商品試驗有限公司

Testing laboratory name and designation number

SL2-IN-E-0049

符合性聲明檢驗標識及識別號碼：

The form of the DoC marking appears like this



D33027

RoHS

or



D33027

RoHS

茲聲明上述商品符合商品檢驗法符合性聲明之規定，若因違反本聲明書所聲明之內容，願意擔負相關法律責任。

I hereby declare that the listed commodity conforms to Declaration of Conformity requirements stipulated in the Commodity Inspection Act.

I agree to take any legal obligations should violations against the Declaration of Conformity occur.

報驗義務人：台灣希捷科技股份有限公司/Géraldine Hottier-Fayon (簽章)

The Board Chairman of Seagate Technology Taiwan

Obligatory Applicant

(Signature)

中華民國 106 年 11 月 3 日

DATE

(year)

(month)

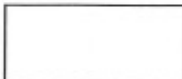
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방송통신기자재등의 적합등록 필증 <i>Registration of Broadcasting and Communication Equipments</i>	
상호 또는 성명 <i>Trade Name or Registrant</i>	SEAGATE TECHNOLOGY LLC
기자재 명칭 <i>Equipment Name</i>	HARD DISK DRIVE
기본모델명 <i>Basic Model Number</i>	SKR004
파생모델명 <i>Series Model Number</i>	ST8000DM004, ST8000AS0003, ST5000DM003, ST6000VX002, ST6000VN002, ST6000VX001, ST6000VM000, ST6000VN001, ST6000DM003, ST8000VX003, ST8000VN003, ST8000VX002, ST8000VM004, ST8000VN002
등록번호 <i>Registration No.</i>	MSIP-REM-STX-SKR004
제조사/제조(조립)국가 <i>Manufacturer/Country of Origin</i>	SEAGATE TECHNOLOGY LLC / 중국, 태국
등록연월일 <i>Date of Registration</i>	2016-10-14
기타 <i>Others</i>	
<p>위 기자재는 「전파법」 제58조의2 제3항에 따라 등록되었음을 증명합니다. It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.</p> <p style="text-align: right;">2017년(Year) 03월(Month) 08일(Date)</p> <p style="text-align: center;">국립전파연구원장 </p> <p style="text-align: center;"><i>Director General of National Radio Research Agency</i></p> <p style="text-align: center; color: red;">※ 적합등록 방송통신기자재는 반드시 "적합성평가표시" 를 부착하여 유통하여야 합니다. 위반시 과태료 처분 및 등록이 취소될 수 있습니다.</p>	





Declaration of Conformity

Standards to which conformity is declared:

FCC Part 15B

47 CFR FCC Part 15B: 2012 (Class B)

ICES-003 Issue 5, Class B

Information Technology Equipment (ITE) - Limits and methods of measurement


Manufacturer Name: Seagate Technology, Incorporated
Manufacturer Address: 10200 South DeAnza Boulevard
(And Importer) Cupertino California 95014

Type of Equipment : Hard Disk Drive

Product Model Number : SKR004

Seagate Technology, Incorporated hereby declares that the equipment specified above conforms with the protection requirements of the above named Directive(s) and Standards.

Location: Gwanggyo, South Korea



(Signature)

Certificate Date: 27 Oct, 2018

Young Hwan Han
(Full Printed Name)

Amendment Date: _____

Sr Engineering Manager
(position)