Seagate Product Assurance Seagate Singapore Design Centre, Singapore

# Reg Model: SDC006 (Rosewood7X) Certification Report



DO NOT DUPLICATE CONTROLLED COPY

This document has been issued electronically. Only the original recipient of the document will be notified with revision information.

> Issue Date: 7 January 2020 Revision 3.0

#### 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
- TUV EN 60950-1, IEC 60950-1, EN 62368-1, IEC 62368-1

#### **Test Description:**

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

The product is certified for cUL mark through UL Singapore under Underwriter Laboratories (UL) file E190397. Attached is the Notice of Authorization to apply the cUL mark.

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

#### Pass/Fail Criteria:

Product meets the stipulated Safety requirements.

#### Product:

#### Product Name: SDC006 (Rosewood7X)

#### **Conclusion:**

The unit passed the above safety tests and standards. Due to similarities in the SDC006 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	c <b>FL</b> <sup>®</sup> us
TUV EN 60950-1, IEC 60950-1 TUV EN 62368-1, IEC 62368-1	Compliance with IEC60950, EN60950, IEC62368, EN62368	SUD

### NOTICE OF COMPLETION AND AUTHORIZATION TO APPLY THE UL MARK



MR. WEIQIANG HUI Seagate Singapore International Headquarters Pte Ltd The Shugart 26 Ayer Rajah Cresent Singapore, 139944, SG

Our Reference: File E190397, Vol X1 Order: 11665100 Project: 4787883884 Your Reference: SK-724535 Project Scope: Investigation for Internal Hard Disk drive, Model SDC006.

Dear MR. WEIQIANG HUI:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E190397, Vol X1.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: <u>http://www.ul.com/EAResponsibilities</u>

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,

Shiau Hui Chiang Project Engineer ShiauHui.Chiang@ul.com Reviewed by:

Bruce A. Mahrenholz CPO Director Bruce.A.Mahrenholz@ul.com

8d553e26-b324-4d9e-98ad-329b5027dfc5

### **UL TEST REPORT AND PROCEDURE**

Standard: Certification Type: CCN:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements) Component Recognition NWGQ2, NWGQ8 (Information Technology Equipment Including Electrical Business Equipment)
Product: Model: Rating:	Internal Hard Disk Drive SDC006 5Vdc, 1.0A (Optional)
Applicant Name and Address:	SEAGATE SINGAPORE INTERNATIONAL HEADQUARTERS PTE LTD THE SHUGART 26 AYER RAJAH CRESENT SINGAPORE 139944 SINGAPORE

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service under the indicated Test Procedure as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Chiang Shiau Hui

Reviewed by: CheeBeng Wai

EC.	
-----	--

Ref. Certif. No.

SG PSB-OF-01590

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

E

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

### CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product	Hard disk drive	
Name and address of the applicant	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944, SINGAPORE	
Name and address of the manufacturer	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent, Singapore 139944, SI	NGAPORE
Name and address of the factory	Seagate Technology (Wuxi) International Co., Ltd. 106 Xing Chuang Er Lu, Wuxi-Singapore Industrial Park, 21 JiangSu, PEOPLE'S REPUBLIC OF CHINA For further information please see attachment	4028 Wuxi,
Ratings and principal characteristics	+5V, 1.0A, Class III	
Trade mark (if any)	Seagate	
Model/type Ref.	SDC006	
Additional information (if necessary)	See test report for Group and National Differences.	
A sample of the product was tested and found to be in conformity with	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	TÜV SÜD PSB Pte Ltd 7191159089-EEC17/CKY	
This CB Test Certificate is issued by the National O Ce Certificat d'essai OC est établi par l'Organisme	Certification Body National de Certification	
Date, 2017-04-17 CBS 17 04 61811 148	(Serena Yeo)	SUD
TÜV SÜD PSB Pte Ltd · 1 Science Park Drive · Singapore 118221 PSB Singapore		

Pogo 1 of 9

TECEE	Ref. Certif. No.
	SG PSB-OF-01590
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
	04
Date, 2017-04-17 CBS 17 04 61811 148	Signature : (Serena Yeo)
	PSB Sing



Ref. Certif. No.

SG PSB-IV-01043

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

## **CB TEST CERTIFICATE**

CB TEST CERTIFICATE		
Product	Hard disk drive (Hard Disk Drive)	
Name and address of the applicant	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE	
Name and address of the manufacturer	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent, Singapore 139944, SINGAPORE	
Name and address of the factory	Seagate Technology (Thailand) Ltd. 90 Moo 15 Tambol Sungnoen Amphur, Sungnoen, Nakhon Ratchasima 30170, THAILAND	
	Seagate Technology (Wuxi) International Co., Ltd. 106 Xing Chuang Er Lu, Wuxi-Singapore Industrial Park, 214028 Wuxi, JiangSu, PEOPLE'S REPUBLIC OF CHINA	
Ratings and principal characteristics	+5V, 1.0A, Class III	
Trade mark	SEAGATE	
Madel/type Ref.	SDC006	
Additional information (if necessary)	EN 62368-1:2014+A11:2017.See test report for National and Group Difference	
A sample of the product was tested and found	IEC 62368-1:2014	
to be in conformity with as shown in the Test Report Ref. No. which forms part of this certificate	7191223980-EEC19/NCH1	
This CB Test Certificate is issued by the National Certification Body		
CBS 061811 0168 Rev. 00 Date, 2019-12-20	- Kindhod	
Page 1 of 1 (KIM HOCK TEO) TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • Singapore 118221 PSB Singapore		



# CERTIFICATE

No. B 17 04 61811 151

Holder of Certificate:

Seagate Technology International

The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE

**Certification Mark:** 



Product:

Hard disk drive

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 .:

7191159089-EEC17/CKY

Valid until:

2019-06-19



Date, 2017-04-24 Page 1 of 2

(Kim Hock Teo)



### CERTIFICATE No. B 17 04 61811 151

Model(s):

SDC006

Brand Name:

Seagate

1.0 A 5 VDC

III

Parameters: Rated Current : Rated Voltage : Protection Class:

Tested	EN 60950-1:2006/A2:2013
according to:	IEC 60950-1:2005
according to:	IEC 60950-1:2005/AMD1:2009
	IEC 60950-1:2005/AMD2:2013

Production Facility(ies):

64076, 61810

Page 2 of 2





Product Service

# CERTIFICATE

No. B 061811 0170 Rev. 00

Holder of Certificate:

Seagate Technology International

The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE

Certification Mark:



#### Product:

Hard disk drive

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.:

7191223980-TR

Valid until:

Page 1 of 2

2024-12-18

TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

Date, 2019-12-30



Seagate Product Assurance SDC006 Certification Report Revision 3.0

A4 / U1.17

τυν®

Page 10 of 19



Product Service

# CERTIFICATE

No. B 061811 0170 Rev. 00

Model(s):	SDC006
-----------	--------

Brand I	Name:	Seagate
---------	-------	---------

Parameters:

Rated Current	: 1.0 A
Rated Voltage	: 5 VDC
Protection Class	: 11)

Tested according to:	IEC 62368-1:2014 EN 62368-1:2014/A11:2017
----------------------	----------------------------------------------

Production Facility(ies): 064076, 061810

Page 2 of 2 TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

τυν®

Seagate Product Assurance SDC006 Certification Report Revision 3.0

A4 / 07.17

Page 11 of 19

### **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, RCM, and VCCI. For FCC, applicable limits are found in CFR 47, Part 15, Subpart B, Class B, and for CE, RCM, and VCCI are found in EN 55032. 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 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, 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: SDC006 (Rosewood7X)

#### **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 SDC006 (Rosewood7X).

Standard	Result	Approved to Bear CE & RCM Marks
EN 55032:2012 / AC: 2013	Pass	
EN 61000-3-2 : 2014 – Class A	Pass	
EN 61000-3-3 2013	Pass	
EN 55024: 2010	Pass	
IEC 61000-4-2: 2008	Pass	
IEC 61000-4-3: 2010	Pass	
IEC 61000-4-4: 2004	Pass	
IEC 61000-4-5: 2005	Pass	
IEC 61000-4-6: 2008	Pass	
IEC 61000-4-8: 2009	Pass	
IEC 61000-4-11: 2004	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 Disc Drive REGULATORY MODEL: SDC006 Internal Product Name: Rosewood7X 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 55032:2012/AC: 2013	Electromagnetic compatibility of multimedia equipment — Emission requirements.
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 /A11:2009	Information Technology Equipment - Safety- (Second Edition)	
/A1:2010 /A12:2011/A2:2013	Part 1: General Requirements	
EN 62368-1:2014/AC:2015	Audio/video, information and communication technology equipment - Part 1: Safety requirements (IEC 62368-1:2014, Modified)	

#### II. Product Environmental Compliance (EU/China)

A. The product(s) meets the requirements of the Directive 2011/65/EU RoHS "Recast" (RoHS 2) as amended by Directive (EU) 2015/863 and further amended by Directive 2018/739 and Directive 2018/740 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.
EN 62321-6:2015	Determination of certain substances in electrotechnical products. Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography-mass spectrometry (GC-MS).
China RoHS	Management Methods for Controlling Pollution by Electronic Information Products, Ministry of Information Industry Order No. 39 (China RoHS)

Seagate Product Assurance SDC006 Certification Report Revision 3.0 ÷

China RoHS 2	Management Methods for the Restriction of the Use of Hazardous
	Substances in electrical and Electronic Products, Ministry of
	Industry and Information Technology Order No. 32 effective July 1,
	2016 (China RoHS 2)
JS709B	Joint JEDEC/ECA Standard, Definition of "Low-Halogen" for
	Electronic Products

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

6(a)-I	Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components containing up to 0.2% lead by weight
6(b)-II	Lead as an alloying element in aluminum for machining purposes up to 0.4% lead by weight
6(c)	Copper alloy up to 4% lead by weight
7(a)	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.

Year to Begin Affixing Mark: 2017

Manufacturer's Name: Manufacturer's Address:

10200 South De Anza Blvd. Cupertino, California 95014-3029 U.S.A.

Seagate Technology, LLC

European Contact:

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

Date of Issue: Jan 7, 2020

Signature:

Azeez Talha, Engineering Director



### 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 it's 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: SDC006 (Rosewood7X)

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 Au	thorized Person)	Sam Zavaglia
(Title of the Authorized Person)		Senior Field Applications Engineer
(Date of Issue)	27 <sup>th</sup> April 2017	
(Signature)	AR.	

## 符合性聲明書

報驗義務人代碼 编號 Code of the applicant Number D33027 18010405

#### Declaration of Conformity

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(Seagate Technology Taiwan, Ltd.)

Obligatory Applicant

地址: <u>臺北市松山區復興北路 363 號 14 樓</u> Address

電話:<u>+886-2-25142201</u>

Telephone

商品中(英)文名稱:<u>硬式磁碟機</u>

Commodity Name

商品型式(或型號): <u>SDC006: ST1000LM049; ST500LM034; ST1000LM050;</u>

ST500LM035; ST500LM036

Commodity Type (Model)

符合之檢驗標準及版次: <u>CNS 13438 (2006.6)</u>, Section 5 "Marking of presence" of CNS 15663 2013.7) Standard(s) and version

試驗報告編號: <u>7191177513-EEC17/01, ATS/GENV/279/17/yao</u> Test Report Number

試驗室名稱及代號: <u>TUV SUD PSB Pte Ltd., ALS TECHNICHEM (S) PTE LTD</u> Testing laboratory name and designation number

SL2-IN-E-6001R

符合性聲明檢驗標識及識別號碼: The form of the DoC marking appears like this



1	2	1
1	ブ	
D3	3027	

RoHS

或

or

(month)

兹聲明上述了	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.

SEAGATE TECHNOLOGY 台灣希捷科技股份有限公司 Géraldine Hottier-Fayon (簽章) 報驗義務人: The Board Chairman of Seagate Technology Taiwan **Obligatory** Applicant (Signature) 中 華 107 年 1 民 3 月 4 E

(year)

Seagate Product Assurance SDC006 Certification Report Revision 3.0

DATE

(day)

상호 또는 성명 Trade Name or Registrant	SEAGATE TECHNOLOGY LLC
기자재명칭(제품명칭) Equipment Name	2.5" HDD
기본모델명 Basic Model Number	SDC006
파생모델명 Series Model Number	ST1000LM049, ST500LM036, ST500LM035, ST1000LM050, ST500LM034
등록번호 Registration No.	MSIP-REM-STX-SDC006
제조자/제조(조립)국가 Manufacturer/Country of Origin	SEAGATE TECHNOLOGY LLC / 중국, 태국
등록연월일 Date of Registration	2017-04-18
기타 Others	
It is verified that foregoing e Waves Act.	제58조의2 제3항에 따라 등록되었음을 증명합니다. quipment has been registered under the Clause 3, Article 58-2 of Radio 2017년(Year) 12월(Month) 29일(Day 국립전파연구원장 General of National Radio Research Agency



#### **Declaration of Conformity**

Standards to which conformity is declared:

FCC Part 15B ICES-003 Issue 6, Class B 47 CFR FCC Part 15B (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 Disc Data Storage Drive

Product Name :

SDC006 (Rosewood7X)

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

Location:

Seagate Singapore Design Centre, Singapore



(Signature)

Certificate Date:

27 April 2017

Hui Wei Qiang (Full Printed Name)

> Engineer (position)

Seagate Singapore Design Centre, Singapore

# M11P (SKR003) Regulatory Assurance Certification



DO NOT DUPLICATE CONTROLLED COPY

This document has been issued electronically. Only the original recipient of the document will be notified with revision information.

> Issue Date: 29 Jan 2019 Revision 3.2

### **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, 2<sup>nd</sup> 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	c <b>FL</b> <sup>®</sup> us
TUV EN60950-1, IEC 60950-1	Compliance with IEC60950, Compliance with EN60950	SUD

# CERTIFICATE OF COMPLIANCE

Certificate Number	20170
Report Reference	E190
Issue Date	2017-

20170428-E190397 E190397-A33-UL 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: SKR003

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

Standard(s) for Safety: Additional Information: See addendum for standards. 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: M, 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.

If of UL LLC (UL) or

Look for the UL Certification Mark on the product.

a malle

act a local UL Customer Service Repr

ULLLC

# CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20170428-E190397 E190397-A33-UL 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

Barally

Bruce Mahrenholz, Director North American Certification Progr ULLLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorited licensee of UL. For questions, pa contact a local UL Customer Service Representative at <a href="http://ul.com/aboutu/locations/">http://ul.com/aboutu/locations/</a>



# CERTIFICATE

No. B 16 07 87435 043

## 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

**Certification Mark:** 





 Product:
 Hard disk drive

 Model(s):
 SKR003 Trademark : SEAGATE

 Parameters:
 Rated input: 5 V

Rated input: Protection Class: 5 V d.c., 0.85 A III

405276887181

Tested according to:

EN 60950-1:2006/A2:2013 IEC 60950-1(ed.2);am1;am2

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.:

077-2254816-000

Valid until:

2021-07-18

(Havard Lee)







#### 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, Poeun-daero Suji-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, Poeun-daero Suji-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
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Rated input : 5 V d.c., 0.85 A Protection class : III
Trade mark (if any) Marque de fabrique (si elle existe)	SEAGATE
Model/type Ref. Ref. de type	SKR003
Additional information (if necessary) Information complémentaire (si nécessaire)	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(ed.2);am1;am2
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 077-2254816-000
This CB Test Certificate is issued by the National Ce Certificat d'essai OC est établi par l'Organisme	
Date, 2016-07-19 CBS 16 07 87435 042	(Havard Lee)
TÜV SÜD PSB Pte Ltd · 1 Science Park Driv	e · Singapore 118221 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

M11P (SKR003) Certification Package Revision 3.1

#### **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 55022:2010 / AC : 2011 – Class B	Pass	
EN 61000-3-2: 2014	Pass	
EN 61000-3-3: 2013	Pass	
EN 55024: 2010	Pass	
IEC 61000-4-2: 2008	Pass	
IEC 61000-4-3: 2010	Pass	
IEC 61000-4-4: 1995	Pass	$\mathbf{\wedge}$
IEC 61000-4-5: 1995	Pass	
IEC 61000-4-6: 1996	Pass	
IEC 61000-4-8: 1993	Pass	Ĵ
IEC 61000-4-11: 1994	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 Model: SKR003 (M11P)

#### I. Product Safety and EMC Compliance

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

EN 55032:2015	Electromagnetic compatibility of multimedia equipment — Emission requirements.
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.		

#### II. Product Environmental Compliance, EU/China RoHS Declaration of Conformity

A. Conformity with Harmonized Standards/Technical Specifications:

- Directive 2011/65/EU RoHS "Recast" (RoHS 2) as amended by Directive (EU) 2015/863 and further amended by Directive 2018/739 and Directive 2018/740 EN 50581:2012
- Management Methods for Controlling Pollution by Electronic Information Products, Ministry of Information Industry Order No. 39 (China RoHS)
- Management Methods for the Restriction of the Use of Hazardous Substances in electrical and Electronic Products, Ministry of Industry and Information Technology Order No. 32 effective July 1, 2016 (China RoHS 2)
- 4. Joint JEDEC/ECA Standard, Definition of "Low-Halogen" for Electronic Products, JS709B

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

Exemption Description
6(a)-I. Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components containing up to 0.2% lead by weight
6(b)-II. Lead as an alloying element in aluminum for machining purposes up to 0.4% lead by weight
6c. Copper alloy up to 0.4% 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

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: Sep 24, 2018

Signature:

Azeez Talha, Engineering Director

agth,

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 it's 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: SKR003

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 Aut	thorized Person)	Sam Zavaglia		
(Title of the Auth	orized Person)	Senior Field Applications Engineer		
(Date of Issue)	e) 21 <sup>st</sup> July 2016			
(Signature)	AS .			

# 符合性聲明書

# **Declaration of Conformity**

報調調務人代碼	编 號
Code of the applicant	Number
D33027	STX17110304

PI		k all the							件後始得簽具 aspection Act before
報驗	義務人	:台	灣希捷利	社技股份有	有限公司				
	ory Applic								
地址 Address		市松	山區復興	則北路 363	3號14樓	B 室			
	: 02-2	2514-2	273						
商品			名稱:_	硬式磁碟	機				
	型式 ( dity Type			<u>SKR00</u>	3:ST5000	LM000;	ST40	00LM024	4;ST3000LM024
符合	之檢駁	標準	及版次:	CNS 134	38/ Com	olete 200	)6 Cla	ss B	
	d(s) and ve								
	報告編 port Numb		Г160623	C29					
			號:香港	商立德國	國際商品語	式驗有阻	昆公司		
			designation						
			5	SL2-IN-E-	0049				
			標識及讀 ng appears lik	哉別號碼 : ie this	0	D3302 RoHS		or	D33027
									RoHS
容,	願意擔	負相	霸法律責	任解释	· 職業 に に に に に に に に に に に に に	al a constant and			< 聲明書所聲明之內
				205	ACATE	6 ACRUID	13 6		in the Commodity Inspection Act.
				ld violations ag は古昭公本	HNULUGY	DIATTICS CI	WAR SHAW		<b>Fayon</b> (簽章)
TRIM	396 173 / 1			d Chairn	Contraction of the local diversion of the loc				
Obligate	ory Applic		le Doal	u Unanni		agate	com	ology 1	( Signature )
ф	華	民	或	106	年 1	1	月	3	
. 1	DATE				(year)	-		month )	( day )

# 방송통신기자재등의 적합등록 필증

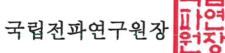
Registration of Broadcasting and Communication Equipments

상호 또는 성명 Trade Name or Registrant	SEAGATE TECHNOLOGY LLC	
기자재 명칭 Equipment Name	HARD DISK DRIVE	
기본모델명 Basic Model Number	SKR003	
파생모델명 Series Model Number	ST3000LM024,ST5000LM000,ST4000LM024	
등록번호 Registration No.	MSIP-REM-STX-SKR003	
제조자/제조(조립)국가 Manufacturer/Country of Origin	SEAGATE TECHNOLOGY LLC / 중국	
등록연월일 Date of Registration	2016-07-14	
기타 Others		

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.

2016년(Year) 07월(Month) 14일(Date)



Director General of National Radio Research Agency

※ 적합등록 방송통신기자재는 반드시 "적합성평가표시" 를 부착하여 유통하여야 합니다. 위반시 과태료 처분 및 등록이 취소될 수 있습니다.



#### **Declaration of Conformity**

Standards to which conformity is declared:

FCC Part 15B

ICES-003 Issue 5, Class B

47 CFR FCC Part 15B: 2012 (Class B) Information Technology Equipment (ITE) - Limits and methods of measurement

Manufacturer Name:Seagate Technology, IncorporatedManufacturer Address:10200 South DeAnza Boulevard<br/>Cupertino California 95014

Type of Equipment : Hard Disk Drive

Product Model Number : SKR003

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

Certificate Date:

<u>21 July, 2016</u>

Amendment Date:

(Signature)

Young Hwan Han (Full Printed Name) Sr Engineering Manager (position) Seagate Reliability Technology Engineering Seagate Singapore Design Centre, Singapore

# Reg Model: SDC003 (Rosewood7 2D) Certification Report



DO NOT DUPLICATE CONTROLLED COPY

This document has been issued electronically. Only the original recipient of the document will be notified with revision information.

> Issue Date: 29 Jan 2019 Revision 4.2

Seagate Reliability Technology Engineering SDC003 Certification Report Revision 4.2

#### 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
- TUV EN 60950-1, IEC 60950-1, EN 62368-1, IEC 62368-1

#### **Test Description:**

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

The product is certified for cUL mark through UL Singapore under Underwriter Laboratories (UL) file E190397. Attached is the Notice of Authorization to apply the cUL mark.

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

#### Pass/Fail Criteria:

Product meets the stipulated Safety requirements.

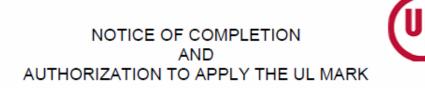
#### Product:

#### Product Name: SDC003 (Rosewood7 2D)

#### **Conclusion:**

The unit passed the above safety tests and standards. Due to similarities in the Mobile HDD 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	c <b>FN</b> <sup>®</sup> us
TUV EN 60950-1, IEC 60950-1 TUV EN 62368-1, IEC 62368-1	Compliance with IEC60950, EN60950, IEC62368, EN62368	



Seagate Singapore International Headquarters Pte Ltd Mr. WEIQIANG HUI The Shugart 26 Ayer Rajah Cresent Science Park Dr Singapore 139944, Singapore

Our Reference: File E190397, Vol. X1 4787103859 Project Number Your Reference: SK-723012 Project Scope:

Investigation for Internal Hard Disk Drive, Model SDC003 (E190397-A29).

Dear Mr. WEIQIANG HUI:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E190397, Vol. X1.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: http://www.ul.com/EAResponsibilities

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,

Steven Chua +65 6876 4605 Engineer Project Associate Steven.Chua@ul.com

Reviewed by:

Bruce A. Mahrenholz 847-664-3009 CPO Director Bruce.A.Mahrenholz@ul.com

NWT8ABB-485876

Seagate Reliability Technology Engineering **SDC003 Certification Report** Revision 4.2

10/29/2015

## NOTICE OF COMPLETION AND AUTHORIZATION TO APPLY THE UL MARK



MR. WEIQIANG HUI Seagate Singapore International Headquarters Pte Ltd The Shugart 26 Ayer Rajah Crescent Singapore, 139944, SG

Our Reference: File E190397, Vol X1

Order: 12238106 Project 4788419369

Your Reference: SK-725679

Project Scope: Investigation for Internal Hard Disk Drive, Models: SDC001 & SDC003 employing alternate IC and PWB construction (E190397-A29).

Dear MR. WEIQIANG HUI:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E190397, Vol X1.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: <u>http://www.ul.com/EAResponsibilities</u>

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,

Steven Chua Project Engineer Steven.Chua@ul.com Reviewed by:

Bruce A. Mahrenholz CPO Director Bruce.A.Mahrenholz@ul.com

14b6a76b-a95f-431e-9c5c-0628868288ea

Issue Date:	2015-09-09	Page 1 of 6	Report Reference #	E190397-A29-UL
	2018-07-02			

# UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	NWGQ2, NWGQ8 (Information Technology Equipment Including Electrical Business Equipment)
Product:	Internal Hard Disk Drive
Model:	SDC001, SDC003
Rating:	5Vdc, 1.0A (Optional)
Applicant Name and Address:	SEAGATE SINGAPORE INTERNATIONAL HEADQUARTERS PTE LTD THE SHUGART 26 AYER RAJAH CRESCENT SINGAPORE 139944 SINGAPORE

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service under the indicated Test Procedure as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Steven Chua

Reviewed by: Jim Kao

|--|

Ref. Certif. No.

SG.PSB-OF-00221A1/M1

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	Hard disk drive
Name and address of the applicant	(Hard Disk Drive) Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944, SINGAPORE
Name and address of the manufacturer	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent, Singapore 139944, SINGAPORE
Name and address of the factory	Seagate Technology (Wuxi) International Co., Ltd. 106 Xing Chuang Er Lu, Wuxi-Singapore Industrial Park, 214028Wuxi, JiangSu, PEOPLE'S REPUBLIC OF CHINA For further information please see attachment
Ratings and principal characteristics	+5V, 1.0A, Class III
Trade mark (if any)	Seagate
Model/type Ref.	SDC001, SDC003
Additional information (if necessary)	Certificate SG PSB-OF-00221A1 issued 2017-02-20 is replaced by this version due to technical changes.EN 60950-1;2006+A11;2009+A1:2010+A12:2011+A2:2013.See test report for National and Group Difference
A sample of the product was tested and found to be in conformity with	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	TÜV SUD PSB Pte Ltd 7191187979-EEC18/02-NCH1
This CB Test Certificate is issued by the National C Ce Certificat d'essai OC est établi par l'Organisme	Certification Body National de Certification
Date, 2018-07-13 CBS 18 07 61811 152	(Teo Kim Hock)
TÜV SÜD PSB Pte Ltd · 1 Science Park Drive	Singapore 118221 PSB Singapore

Page 1 of 2

Ref. Certif. No. **IECE** SG PSB-OF-00221A1/M1 Additional Information: Seagate Technology (Thailand) Ltd. 90 Moo 15, Tamboi Sungnoen, Amphur Sungnoen, Nakhon Ratchasima 30170, THAILAND Name and address of the factory Date, 2018-07-13 Signature : (Teo Kim Hock ) CBS 18 07 61811 152 TUΛ SUD PSB Singapore TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • Singapore 118221



Ref. Certif. No.

SG PSB-IV-00024

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

	CERTIFICAT D'ESSAI OC
Product	Hard disk drive (Hard Disk Drive)
Name and address of the applicant	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE
Name and address of the manufacturer	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent, Singapore 139944, SINGAPORE
Name and address of the factory	Seagate Technology (Thailand) Ltd. 90 Moo 15 Tambol Sungnoen Amphur, Sungnoen, Nakhon Ratchasima 30170, THAILAND
	Seagate Technology (Wuxi) International Co., Ltd. 106 Xing Chuang Er Lu, Wuxi-Singapore Industrial Park, 214028 Wuxi, JiangSu, PEOPLE'S REPUBLIC OF CHINA
Ratings and principal characteristics	+5V, 1.0A, Class III
Trade mark	Seagate
Model/type Ref.	SDC001; SDC003
Additional information (if necessary)	EN 62368-1:2014+A11:2017.See test report for National and Group Difference
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2014
as shown in the Test Report Ref. No. which forms part of this certificate	7191187979-EEC18/01-NCH1
This CB Test Certificate is issued by the National Ce Certificat d'essai OC est établi par l'Organism	Certification Body e National de Certification
CBS 061811 0153 Rev. 00	
	k-th-t
Date, 2018-07-27	TORONA TEON
Page 1 of 1 TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • Sir	(KIM HOCK TEO) PSB Singapore

IFC TECEE	Ref. Certif. No.
	PSB SG-OF-00221A1
Additional Information:	
Name and address of the factory Nom et adresse de l'usine	Seagate Technology (Thailand) Ltd. 90 Moo 15, Tamboi Sungnoen, Amphur Sungnoen, Nakhon Ratchasima 30170, THAILAND
Additional information (if necessary) Information complémentaire (si nécessaire)	EN 60950-1:2006+A11:2009+A1:2010+A12:2011 +A2:2013. See test report for National and Group Differences
Date, 2016-02-20 Signatu CBS 17 02 61811 139	(Serena Yeo)
TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • S	PSB Singapore Singapore 118221





Product Service

# CERTIFICATE

No. B 061811 0154 Rev. 00

Holder of Certificate: Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE Production 061810, 064076 Facility(ies): Certification Mark: Product: Hard disk drive Model(s): SDC001; SDC003 Parameters: Rated Current : 1.0 A Rated Voltage : 5 VDC Protection Class : III Brand Name: Seagate Tested according to: EN 60950-1:2006/A2:2013 IEC 60950-1:2005 IEC 60950-1:2005/AMD1:2009 IEC 60950-1:2005//AMD2:2013 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.: 7191187979/02-TR Valid until: 2020-12-19 Date. 2018-08-08 ( KIM HOCK TEO ) Page 1 of 1 TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

TUV<sup>®</sup>

Page 10 of 19

Seagate Reliability Technology Engineering SDC003 Certification Report Revision 4.2

sud tuysud tuy sud tüy sud tüy süd tüy süd tuy süd tuy süd tursüd tuysüd tüysüd tüy sud tüy süd tüy süd tüy sü

CERTIFICAT

٠

**CERTIFICADO** 

٠

ЕРТИФИКАТ

c

٠

₩□

認證證

٠

ш

CERTIFICAT

٠

ZERTIFIKAT





# CERTIFICATE

No. B 061811 0155 Rev. 00

Production Facility(ies): Certification Mark:	061810, 064076
Certification Mark:	3 3
Product:	Hard disk drive
lodel(s):	SDC001; SDC003
arameters:	Rated Current : 1.0A Rated Voltage : 5 VDC Protection Class : III
rand Name:	Seagate
ested according to:	EN 62368-1:2014/A11:2017 IEC 62368-1:2014
information mark shown above ca	ntary basis and complies with the essential requirements. The n be affixed on the product. It is not permitted to alter the ddition the certification holder must not transfer the certificate to eaf.
st report no.: Illd until:	7191187979/01-TR 2023-08-05
	tot
te, 2018-08-07	( KIM HOCK TEO )

Page 1 of 1 TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

TUV®

Page 11 of 19

Seagate Reliability Technology Engineering SDC003 Certification Report Revision 4.2

SUD THE SUD TUNSUD TUNSUD TUNSUD TUNSUD TUN SUD TUN SUD TUN SUD TUN SUD TUNSUD TUNSUD TUNSUD TUNSUD TUN SUD TUN

CERTIFICAT

٠

**CERTIFICADO** 

٠

СЕРТИФИКАТ

٠

調整協書

٠

ZERTIFIKAT CERTIFICATE

## **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, RCM, and VCCI. For FCC, applicable limits are found in CFR 47, Part 15, Subpart B, Class B, and for CE, RCM, and VCCI are found in EN 55032. 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 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, 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 : 2006 + A1 : 2009 + A2 : 2009
- 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: SDC003 (Rosewood7 2D)

#### **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 SDC003 (Rosewood7 2D).

Standard	Result	Approved to Bear CE & RCM Marks
EN 55032:2012 / AC: 2013	Pass	
EN 61000-3-2 : 2006 +A1 : 2009 + A2 : 2009 – Class A	Pass	
EN 61000-3-3 2013	Pass	
EN 55024: 2010	Pass	
IEC 61000-4-2: 2008	Pass	
IEC 61000-4-3: 2010	Pass	
IEC 61000-4-4: 2004	Pass	
IEC 61000-4-5: 2005	Pass	
IEC 61000-4-6: 2008	Pass	
IEC 61000-4-8: 2009	Pass	
IEC 61000-4-11: 2004	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 Model: SDC003 (Rosewood7 2D)

#### I. Product Safety and EMC Compliance

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

EN 55032:2012/AC: 2013	Electromagnetic compatibility of multimedia equipment — Emission requirements.
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 (s) meets the requirements of The Low Voltage Directive (LVD) 2014/35/EU by application of the following standard(s):

EN 60950-1:2006	Information technology equipment - Safety - General requirements. (Second Edition) Part 1: +A11:2009 +A1:2010 +A12:2011+ A2:2013.
EN 62368-1:2014	Audio/video, information and communication technology equipment – Part 1: Safety requirements (IEC 62368-1:2014, modified)

#### II. Product Environmental Compliance, EU/China RoHS Declaration of Conformity

- A. Conformity with Harmonized Standards/Technical Specifications:
- Directive 2011/65/EU RoHS "Recast" (RoHS 2) as amended by Directive (EU) 2015/863 and further amended by Directive 2018/739 and Directive 2018/740 EN 50581:2012
- Management Methods for Controlling Pollution by Electronic Information Products, Ministry of Information Industry Order No. 39 (China RoHS)
- Management Methods for the Restriction of the Use of Hazardous Substances in electrical and Electronic Products, Ministry of Industry and Information Technology Order No. 32 effective July 1, 2016 (China RoHS 2)
- 4. Joint JEDEC/ECA Standard, Definition of "Low-Halogen" for Electronic Products, JS709B

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

Exemption Description
6(a)-I. Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components containing up to 0.2% lead by weight
$6(b)\mbox{-II}.$ Lead as an alloying element in a luminum for machining purposes up to $0.4\%$ lead by weight
6c. Copper alloy up to 0.4% 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

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: Sep 24, 2018

Signature:

Azeez Talha Engineering Director Reliability Technology Engineering

agth

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 it's 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: SDC003 (Rosewood7 2D)

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 Au	thorized Person)	Sam Zavaglia	
(Title of the Authorized Person) Se		enior Field Applications Engineer	
(Date of Issue)	8 <sup>th</sup> August 2018		
(Signature)	A.		

# 符合性聲明書

報驗義務人代碼	编號	
Code of the applicant	Number	
D33027	STX18081703	

**Declaration of Conformity** 

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(Seagate Technology Taiwan, Ltd.)

**Obligatory** Applicant 地址:臺北市松山區復興北路 363號 14樓 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): <u>SDC003</u> Commodity Type (Model) ST2000LM007, ST2000LM015, ST1500LM012, ST2000LM008, ST2000LM009, ST2000LM010, ST2000VT000, ST2000LX008, ST2000LV000 符合之檢驗標準及版次: CNS 13438/ Complete 2006 Class B. Section 5 "Marking of presence" of CNS 15663 (2013.7) Standard(s) and version 試驗報告編號: 7191188632-EEC18/12、 ATS/GENV/616/18/vao Test Report Number 試驗室名稱及代號: TUV SUD PSB Pte Ltd., ALS TECHNICHEM (S) PTE LTD Testing laboratory name and designation number SL2-IN-E-6001R 符合性聲明檢驗標識及識別號碼 或 D33027 The form of the DoC marking appears like this or RoHS 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. 台灣希捷科拔股份有限公司/Geraldine Hottier-Fayon (簽章) 報驗義務人: The Board Chairman of Seagate Technology Taiwan Obligatory Applicant (Signature) + 華 民 8 或 107 年 月 17 日 DATE (year) (month) (day)

79E4-177C-54C7-36EC

방송통	-신기자재등의 적합등록 필증			
Registration	of Broadcasting and Communication Equipments			
상호 또는 성명 Trade Name or Registrant SEAGATE TECHNOLOGY LLC				
기자재명칭(제품명칭) Equipment Name	2.5" HDD			
기본모델명 Basic Model Number	SDC003			
파생모델명 Series Model Number	Rosewood7 2D, ST2000LV000, ST1000LV000, ST2000LM008, ST2000LX008, ST1500LM012, ST2000VT000, ST2000LM015, ST2000LM010, ST2000LM007, ST2000LM009			
등록번호 Registration No.	MSIP-REM-STX-SDC003			
제조자/제조(조립)국가 Manufacturer/Country of Origin	SEAGATE TECHNOLOGY LLC / 중국, 태국			
등록연월일 Date of Registration	2015-10-30			
기타 Others				
이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이				

Seagate Reliability Technology Engineering SDC003 Certification Report Revision 4.2

Page 18 of 19



#### **Declaration of Conformity**

Standards to which conformity is declared:

FCC Part 15B ICES-003 Issue 6, Class B 47 CFR FCC Part 15B (Class B) Information Technology Equipment (ITE) - Limits and methods of measurement

Manufacturer Name: (And Importer)

Seagate Technology, Incorporated Manufacturer Address: 10200 South DeAnza Boulevard Cupertino California 95014

Type of Equipment :

Hard Disc Data Storage Drive

Product Name :

SDC003 (Rosewood7 2D)

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

Location:

Seagate Singapore Design Centre, Singapore

(Signature)

Certificate Date:

2 Aug 2018

Hui Wei Qiang (Full Printed Name) Engineer (position)

Seagate Reliability Technology Engineering Seagate Singapore Design Centre, Singapore

# Reg Model: SDC001 (Rosewood7 1D) Certification Report



DO NOT DUPLICATE CONTROLLED COPY

This document has been issued electronically. Only the original recipient of the document will be notified with revision information.

> Issue Date: 29 Jan 2019 Revision 4.2

#### 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
- TUV EN 60950-1, IEC 60950-1, EN 62368-1, IEC 62368-1

#### **Test Description:**

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

The product is certified for cUL mark through UL Singapore under Underwriter Laboratories (UL) file E190397. Attached is the Notice of Authorization to apply the cUL mark.

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

#### Pass/Fail Criteria:

Product meets the stipulated Safety requirements.

#### Product:

#### Product Name: SDC001 (Rosewood7 1D)

#### **Conclusion:**

The unit passed the above safety tests and standards. Due to similarities in the Mobile HDD 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	c <b>FN</b> <sup>®</sup> us	
TUV EN 60950-1, IEC 60950-1 TUV EN 62368-1, IEC 62368-1	Compliance with IEC60950, EN60950, IEC62368, EN62368		

# NOTICE OF COMPLETION AND AUTHORIZATION TO APPLY THE UL MARK

Seagate Singapore International Headquarters Pte Ltd Mr. WEIQIANG HUI The Shugart 26 Ayer Rajah Cresent Science Park Dr Singapore 139944, Singapore

Our Reference:	File E190397, Vol. X1	Project Number	4787051446
Your Reference:	SK-722857		
Project Scope:	Investigation for Internal Hard Disk Driv	ve, Model SDC001.	

Dear Mr. WEIQIANG HUI:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E190397, Vol. X1.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: <u>http://www.ul.com/EAResponsibilities</u>

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,

Shiau Hui Chiang +65 6854 7969 Project Engineer ShiauHui.Chiang@ul.com Reviewed by:

Bruce A. Mahrenholz 847-664-3009 CPO Director Bruce.A.Mahrenholz@ul.com

NWTD48A-71DD12

Seagate Reliability Technology Engineering SDC001 Certification Report Revision 4.2 Page 3 of 18

09/09/2015

## NOTICE OF COMPLETION AND AUTHORIZATION TO APPLY THE UL MARK



MR. WEIQIANG HUI Seagate Singapore International Headquarters Pte Ltd The Shugart 26 Ayer Rajah Crescent Singapore, 139944, SG

Our Reference: File E190397, Vol X1

Order: 12238106 Project 4788419369

Your Reference: SK-725679

Project Scope: Investigation for Internal Hard Disk Drive, Models: SDC001 & SDC003 employing alternate IC and PWB construction (E190397-A29).

Dear MR. WEIQIANG HUI:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E190397, Vol X1.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: <u>http://www.ul.com/EAResponsibilities</u>

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,

Steven Chua Project Engineer Steven.Chua@ul.com Reviewed by:

Bruce A. Mahrenholz CPO Director Bruce.A.Mahrenholz@ul.com

14b6a76b-a95f-431e-9c5c-0628868288ea

Issue Date:	2015-09-09	Page 1 of 6	Report Reference #	E190397-A29-UL
	2018-07-02			

# UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	NWGQ2, NWGQ8 (Information Technology Equipment Including Electrical Business Equipment)
Product:	Internal Hard Disk Drive
Model:	SDC001, SDC003
Rating:	5Vdc, 1.0A (Optional)
Applicant Name and Address:	SEAGATE SINGAPORE INTERNATIONAL HEADQUARTERS PTE LTD THE SHUGART 26 AYER RAJAH CRESCENT SINGAPORE 139944 SINGAPORE

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service under the indicated Test Procedure as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Steven Chua

Reviewed by: Jim Kao

|--|

Ref. Certif. No.

SG.PSB-OF-00221A1/M1

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	Hard disk drive (Hard Disk Drive)		
Name and address of the applicant	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944, SINGAPORE		
Name and address of the manufacturer	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent, Singapore 139944, SINGAPORE		
Name and address of the factory	Seagate Technology (Wuxi) International Co., Ltd. 106 Xing Chuang Er Lu, Wuxi-Singapore Industrial Park, 214028Wuxi, JiangSu, PEOPLE'S REPUBLIC OF CHINA For further information please see attachment		
Ratings and principal characteristics	+5V, 1.0A, Class III		
Trade mark (if any)	Seagate		
Model/type Ref.	SDC001, SDC003		
Additional information (if necessary)	Certificate SG PSB-OF-00221A1 issued 2017-02-20 is replaced by this version due to technical changes.EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013.See test report for National and Group Difference		
A sample of the product was tested and found to be in conformity with	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	TÜV SUD PSB Pte Ltd 7191187979-EEC18/02-NCH1		
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, 2018-07-13 CBS 18 07 61811 152	KinokAct. (Teo Kim Hock)		
TÜV SÜD PSB Pte Ltd · 1 Science Park Drive	Singapore 118221 PSB Singapore		

Page 1 of 2

Ref. Certif. No. **IECE** SG PSB-OF-00221A1/M1 Additional Information: Seagate Technology (Thailand) Ltd. 90 Moo 15, Tamboi Sungnoen, Amphur Sungnoen, Nakhon Ratchasima 30170, THAILAND Name and address of the factory Date, 2018-07-13 Signature : (Teo Kim Hock ) CBS 18 07 61811 152 TUΛ SUD PSB Singapore TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • Singapore 118221



Ref. Certif. No.

SG PSB-IV-00024

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

	CERTIFICAT D'ESSAI OC		
Product	Hard disk drive (Hard Disk Drive)		
Name and address of the applicant	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE		
Name and address of the manufacturer	Seagate Technology International The Shugart, 26 Ayer Rajah Cresent, Singapore 139944, SINGAPORE		
Name and address of the factory	Seagate Technology (Thailand) Ltd. 90 Moo 15 Tambol Sungnoen Amphur, Sungnoen, Nakhon Ratchasima 30170, THAILAND		
	Seagate Technology (Wuxi) International Co., Ltd. 106 Xing Chuang Er Lu, Wuxi-Singapore Industrial Park, 214028 Wuxi, JiangSu, PEOPLE'S REPUBLIC OF CHINA		
Ratings and principal characteristics	+5V, 1.0A, Class III		
Trade mark	Seagate		
Model/type Ref.	SDC001; SDC003		
Additional information (if necessary)	EN 62368-1:2014+A11:2017.See test report for National and Group Difference		
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2014		
as shown in the Test Report Ref. No. which forms part of this certificate	7191187979-EEC18/01-NCH1		
This CB Test Certificate is issued by the National Certification Body Ce Certificat d'essai OC est établi par l'Organisme National de Certification			
CBS 061811 0153 Rev. 00			
	k-th-t		
Date, 2018-07-27	TORONA TEON		
Page 1 of 1 TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • Sir	(KIM HOCK TEO) PSB Singapore		

Seagate Reliability Technology Engineering SDC001 Certification Report Revision 4.2

Page 8 of 18





# CERTIFICATE

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.

Valid until:

TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

TUV<sup>®</sup>

Seagate Reliability Technology Engineering **SDC001 Certification Report Revision 4.2** 

Page 9 of 18



S





# CERTIFICATE

No. B 061811 0155 Rev. 00

Holder of Certificate: Seagate

Seagate Technology International The Shugart, 26 Ayer Rajah Cresent Singapore 139944 SINGAPORE

Production Facility(ies): 061810, 064076



Product:

Hard disk drive

Model(s): SDC001; SDC003
Parameters: Rated Current : 1.0A

Rated Voltage : 5 VDC Protection Class : III

Seagate

Brand Name:

Tested according to:

EN 62368-1:2014/A11:2017 IEC 62368-1:2014

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.: Valid until:

7191187979/01-TR 2023-08-05

Date, 2018-08-07



( KIM HOCK TEO )

Page 1 of 1 TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

TUV®

Seagate Reliability Technology Engineering SDC001 Certification Report Revision 4.2 Page 10 of 18

## **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, RCM, and VCCI. For FCC, applicable limits are found in CFR 47, Part 15, Subpart B, Class B, and for CE, RCM, and VCCI are found in EN 55032. 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 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, 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 : 2006 + A1 : 2009 + A2 : 2009
- 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: SDC001 (Rosewood7 1D)

#### **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 SDC001 (Rosewood7 1D).

Standard	Result	Approved to Bear CE & RCM Marks
EN 55032: 2012 / AC: 2013	Pass	
EN 61000-3-2 : 2006 +A1 : 2009 + A2 : 2009 – Class A	Pass	
EN 61000-3-3 2013	Pass	
EN 55024: 2010	Pass	
IEC 61000-4-2: 2008	Pass	
IEC 61000-4-3: 2010	Pass	
IEC 61000-4-4: 2004	Pass	
IEC 61000-4-5: 2005	Pass	
IEC 61000-4-6: 2008	Pass	
IEC 61000-4-8: 2009	Pass	
IEC 61000-4-11: 2004	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 Model: SDC001 (Rosewood7 1D)

#### I. Product Safety and EMC Compliance

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

EN 55032:2012/AC: 2013	Electromagnetic compatibility of multimedia equipment — Emission requirements.
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 (s) meets the requirements of The Low Voltage Directive (LVD) 2014/35/EU by application of the following standard(s):

EN 60950-1:2006	Information technology equipment - Safety - General requirements. (Second Edition) Part 1: +A11:2009 +A1:2010 +A12:2011+ A2:2013.
EN 62368-1:2014	Audio/video, information and communication technology equipment – Part 1: Safety requirements (IEC 62368-1:2014, modified)

#### II. Product Environmental Compliance, EU/China RoHS Declaration of Conformity

A. Conformity with Harmonized Standards/Technical Specifications:

- Directive 2011/65/EU RoHS "Recast" (RoHS 2) as amended by Directive (EU) 2015/863 and further amended by Directive 2018/739 and Directive 2018/740 EN 50581:2012
- Management Methods for Controlling Pollution by Electronic Information Products, Ministry of Information Industry Order No. 39 (China RoHS)
- Management Methods for the Restriction of the Use of Hazardous Substances in electrical and Electronic Products, Ministry of Industry and Information Technology Order No. 32 effective July 1, 2016 (China RoHS 2)
- 4. Joint JEDEC/ECA Standard, Definition of "Low-Halogen" for Electronic Products, JS709B

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

Exemption Description
6(a)-I. Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components containing up to 0.2% lead by weight
$6(b)\mbox{-II}.$ Lead as an alloying element in a luminum for machining purposes up to $0.4\%$ lead by weight
6c. Copper alloy up to 0.4% 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

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: Sep 24, 2018

Signature:

Azeez Talha Engineering Director Reliability Technology Engineering

agth,

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 it's 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: SDC001 (Rosewood7 1D)

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 Aut	horized Person)	Sam Zavaglia
(Title of the Auth	orized Person)	Senior Field Applications Engineer
(Date of Issue)	8 <sup>th</sup> August 2018	
(Signature)	AS .	

# 符合性聲明書

報給義務人代碼	編號		
Code of the applicant	Number		
D33027	STX18081702		

**Declaration of Conformity** 

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(Seagate Technology Taiwan, Ltd.)

Obligatory Applicant

地址:臺北市松山區復興北路 363 號 14 樓

電話: <u>02-2514-2273</u>

Telephone

商品中(英)文名稱:硬式磁碟機

Commodity Name

商品型式 (或型號): SDC001

Commodity Type (Model)

ST1000LM035, ST1000LM048, ST500LM030, ST1000LM037, ST1000LM038, ST1000LX022, ST1000VT001, ST500VT003, ST1000LV000, ST750LM035, ST500LM032, ST500LM033

符合之檢驗標準及版次: CNS 13438/ Complete 2006 Class B, Section 5 "Marking of presence" of CNS 15663 (2013.7) Standard(s) and version

試驗報告編號: <u>7191188632-EEC18/06, ATS/GENV/615/18/yao</u> Test Report Number

試驗室名稱及代號: <u>TUV SUD PSB Pte Ltd., ALS TECHNICHEM (S) PTE LTD</u> Testing laboratory name and designation number

SL2-IN-E-6001R

符合性聲明檢驗標識及識別號碼 The form of the DoC marking appears like this

X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: <u>台灣希捷科技股份有限公司</u>Géraldine Hottier-Fayon (簽章)

			The I	Board Chairm	an of Sea	gate Tec	hnology	Taiwan		
Oblig	atory App	licant								(Signature)
+	華	民	或	107	年	8	月	17	日.	
	DATE				( y	ear)		(month)		(day)

Seagate Reliability Technology Engineering SDC001 Certification Report Revision 4.2 戜

or

D33027

D33027

RoHS

4251-8A59-9023-A995

4251-8A59-9023-A995			
방송통신기자재등의 적합등록 필증			
Registration of Broadcasting and Communication Equipments			
상호 또는 성명 Trade Name or Registrant	SEAGATE LECHNOLOGY LLC		
기자재명칭(제품명칭) Equipment Name	2.5" HDD		
기본모델명 Basic Model Number	SDC001		
파생모델명 Series Model Number	Rosewood7 1D, ST1000LV000, ST500LM032, ST750LM035, ST500LM033, ST1000LM037, ST500VT003, ST1000LM048, ST1000LX022, ST1000LM035, ST1000LM038, ST500LM030, ST1000VT001		
등록번호 Registration No.	MSIP-REM-STX-SDC001		
제조자/제조(조립)국가 Manufacturer/Country of Origin	SEAGATE TECHNOLOGY LLC / 중국, 태국		
등록연월일 Date of Registration	2015-09-09		
기타 Others			
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. 2018년(Year) 07월(Month) 23일(Day) 국립전파연구원장 Director General of National Radio Research Agency			
※ 적합등록 방송통신기자재는 반드시 "적합성평가표시"를 부착하여 유통하여야 합니다. 위반시 과태료 처분 및 등록이 취소될 수 있습니다.			



#### **Declaration of Conformity**

Standards to which conformity is declared:

FCC Part 15B ICES-003 Issue 6, Class B

47 CFR FCC Part 15B (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 Disc Data Storage Drive

Product Name : <u>SDC001 (Rosewood7 1D)</u>

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

Location:

Seagate Singapore Design Centre, Singapore

Certificate Date:

2 Aug 2018

(Signature)

Hui Wei Qiang (Full Printed Name)

> Engineer (position)