

IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> Page of **37**

# FCC-DOC COMPLIANCE REPORT

**Test Report No.:** E1/2014/C0023

**Applicant** : Toshiba Co., Semiconductor & Storage

Address : 2-5-1, Kasama, Sakae-Ku, Yokohama 247-8585, Japan

Manufacture : Toshiba Co., Semiconductor & Storage

**Address** : 2-5-1, Kasama, Sakae-Ku, Yokohama 247-8585, Japan

**Equipment Under Test (EUT):** 

**Product Name** : TransferJet SD Memory Card J-01

**Brand Name** : Toshiba

Model No. : THNST016GBA-D

Added Model(s) : N/A

FCC ID No : ZVZP42350TJ1 IC ID : 9906A-P42350TJ1

: FCC Part 15:2014, Subpart B, Class B **Standards** 

Canada ICES-003 Issue 5(Aug. 2012)

**Date of Receipt** : Dec. 10, 2014

**Date of Test** : Dec. 10 ~ 22, 2014

**Date of Issue** : Jan. 16, 2015

**Test Result: PASS** 

In the configuration tested, the EUT complied with the standards specified above.

#### Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report shall not be reproduced except in full, without the written approval of the laboratory. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

Wisely Huang(Engineer) Tested By: Date Jan. 16, 2015

Victor Werr Approved By Date Jan. 16, 2015

Victo Wen(Assistant Manager)

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sqs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

www.tw.sas.com



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> : 2 of **37 Page**

# Version

Version No.	Description	Date
00	Original report	Jan. 16, 2015

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd.

Copyright of this Verification is owned by SGS Talwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Talwan Ltd.

Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be responsible. prosecuted to the fullest extent of the law.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd. t (886-2) 2299-3279 f (886-2) 2298-0488

www.tw.sas.com



FCC ID: ZVZP42350TJ1 IC ID: 9906A-P42350TJ1

Report No. : E1/2014/C0023

Page : 3 **37** of

# **Contents**

1. GENERAL INFORMATION	4
1.1 APPLICANT & MANUFACTURER INFORMATION	4
1.2 GENERAL DESCRIPTION OF EUT	4
1.3 DETAILS OF EUT	4
1.4 OPERATION PROCEDURE	5
1.5 DESCRIPTION OF SUPPORT UNITS	5
1.6 MODIFICATION LIST	5
1.7 Cable List	6
1.8 TEST SET-UP CONFIGURATION	6
1.9 Measurement Procedure	7
1.10 Standards Applicable for Testing	7
1.11 SUMMARY OF RESULTS	7
2. EMISSION	8
2.1 Test Results	8
2.2 Frequency Range	8
2.3 LIMITS OF CONDUCTED AND RADIATED EMISSION	8
2.3.1 LIMITS OF CONDUCTED EMISSION FOR FCC PART 15, SUBPART B/CISPR 22	8
2.3.2 LIMITS OF RADIATED EMISSIONS FOR FCC PART 15, SUBPART B/CISPR 22	9
2.4 TEST OF CONDUCTED EMISSION	10
2.4.1 Test Equipments	
2.4.2 Test Site	
2.4.3 OPERATING ENVIRONMENT	10
2.4.4 Measurement Uncertainty of Conducted Emission	10
2.4.5 MEASUREMENT LEVEL CALCULATION	10
2.4.6 Measurement Data:	
2.5 TEST OF RADIATED EMISSION	
2.5.1 Test Instruments	15
2.5.2 Test Site	
2.5.3 OPERATING ENVIRONMENT	
2.5.4 Measurement Uncertainty of Radiated Emission	
2.5.5 MEASUREMENT LEVEL CALCULATION	17
2.5.6 MEASUREMENT DATA	18
3. PHOTOGRAPHS OF TEST	26
4. PHOTOGRAPHS OF PRODUCT	32

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd.

Copyright of this Verification is owned by SGS Talwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Talwan Ltd.

Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be responsible. prosecuted to the fullest extent of the law. SGS Taiwan Ltd.

台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 4 of 37

# 1. General Information

### 1.1 Applicant & Manufacturer Information

Applicant : Toshiba Co., Semiconductor & Storage

Address of Applicant : 2-5-1, Kasama, Sakae-Ku, Yokohama 247-8585, Japan

Manufacturer : Toshiba Co., Semiconductor & Storage

Address of Manufacturer: 2-5-1, Kasama, Sakae-Ku, Yokohama 247-8585, Japan

# 1.2 General Description of EUT

Product Name : TransferJet SD Memory Card J-01

Brand Name : Toshiba

Model No. : THNST016GBA-D

Added Model(s) : N/A Model Difference : N/A

#### 1.3 Details of EUT

Power Rating : From PC System

Modes/Function : 1. SD R/W

2. WLAN Communication

Worst case : 2. WLAN Communication

Maximum Clock Frequency: 4.48GHz

Adapter : N/A

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

Inis document is issued by the Company subject to its General Conditions of Service printed overlear, available on request or accessible at <a href="https://www.sgs.com/rems">www.sgs.com/rems</a> and Conditions.ntm</a> and prisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 5 of 37

## 1.4 Operation Procedure

#### Test mode 1

- 1. The EUT inserted NB1.
- 2. The NB1 is connected to adaptor, then turn on the power.
- 3. Other peripheral (USB Dongle, Printer) placed on the table edge by per 10 centimetres.
- 4. Executed Windows 7 program by notebook1 and the screen is full of "H" pattern.
- 5. Executed WINTHRAX.
- 6. Start testing.

#### Test mode 2

- 1. The EUT inserted NB1.
- 2. The NB1 and NB2 is connected to adaptor, then turn on the power.
- 3. The NB peripheral (USB Dongle, Printer) placed on the table edge by per 10 centimetres.
- 4. Executed Windows 7 program by notebook1 and the screen is full of "H" pattern.
- 5. Executed Windows 7 program by notebook2, open the TransferJet Rx APP wireless program and connected with support unit Notebook1 wireless SD Card.
- 6. Start testing.

# 1.5 Description of Support Units

PRODUCT	MANUFACTURER	MODEL NO.	SERIAL NO.
PRINTER	HP	Deskjet 2000	CN33K19J3R
MOUSE	Logitech	M-U0026	1310HS02PYD8
NB1 (by client)	TOSHIBA	PORTEGE R30-A Series	XE105762H
NB1 Adaptor (by client)	TOSHIBA	PA5035U-1ACA	T14370002535A03
NB2 (by client)	TOSHIBA	PORTEGE R30-A Series	XE105759H

#### 1.6 Modification List

No modification was made by SGS Taiwan Electronics & Communication Laboratory.

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sqs.com/terms">www.sqs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sqs.com/terms">www.sqs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

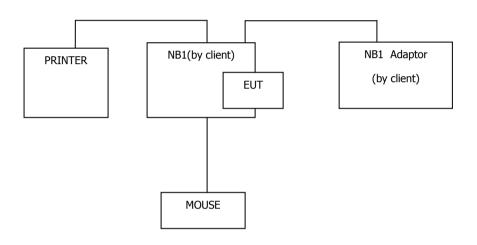
Page : 6 of 37

#### 1.7 Cable List

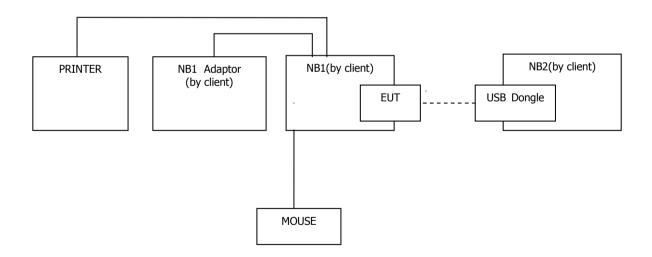
Cable Type	Length	Shielding/Non-shielding
N/A	N/A	N/A

# 1.8 Test Set-Up Configuration

Test mode 1



# Test mode 2



Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and <a href="https://www.sgs.com/terms">conditions.htm</a> and, for electronic

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> Page **37**

#### 1.9 Measurement Procedure

Conducted Emission Testing was performed according to ANSI C63.4:2009 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded room wall.

Radiated Emission Testing was performed according to ANSI C63.4:2009 at the 10m semi-anechoic chamber. The EUT was placed on a 0.8m high table along with the peripherals. The turn table was placed 10m distance from the antenna. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for production of maximum emission.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Maximum emission levels are then reported.

# 1.10 Standards Applicable for Testing

Tests to be carried out under FCC Part 15. Subpart B

Test Standards	Status
FCC Part 15, Subpart B	Applicable
Deviation from Standard	No deviation

#### 1.11 Summary of Results

Highest Emission					
Standard	Test Type	Result	Phase/Pol.	Frequency(MHz)	Margin(dB)
FCC Part 15	Conducted Emission	DACC	Line	0.6340	-12.74(peak)
Subpart B	Conducted Emission	PASS	Neutral	0.6325	-7.85(peak)
Class B / CISPR 22 Class B Canada ICES-003 Issue 5(Aug. 2012)	Radiated Emission	PASS	Ver.	40.7300	-13.30(QP)

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sqs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 8 of 37

# 2. EMISSION

#### 2.1 Test Results

	Results
Conducted Emission	Pass
Radiated Emission	Pass

## 2.2 Frequency Range

Conducted Emission : 150 kHz - 30 MHz Radiated Emission : See below table

Radiated Emission : See below table

Highest frequency generated or Upper frequency of measurement used in the device or on which the range (MHz)

device operates or tunes (MHz)

 Below 1.705
 30

 1.705 - 108
 1000

 108 - 500
 2000

 500 - 1000
 5000

Above 1000 5th harmonic of the highest frequency or

40 GHz, whichever is lower

# 2.3 Limits of Conducted and Radiated Emission

# 2.3.1 Limits of Conducted Emission for FCC Part 15, Subpart B/CISPR 22

FREQUENCY	Class A (dBuV)		Class B	(dBuV)
(MHz)	Quasi - peak	Average	Quasi - peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

- (2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected there to, shall not exceed the level of field strengths specified above.

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sqs.com/terms">www.sqs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sqs.com/terms">www.sqs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 9 of 37

# 2.3.2 Limits of Radiated Emissions for FCC Part 15, Subpart B/CISPR 22

#### **FCC Limit:**

Detector Function : Quasi – Peak

	- Pacaca Fariation Factor Factor			
FREQUENCY	Class A (at 10m)	Class B (at 3m)		
(MHz)	dBuV/m	dBuV/m		
30~88	39	40		
88~216	43.5	43.5		
216~960	46.44	46		
Above 960	49.54	54		

Detector Function : Peak , Average

FREQUENCY	Class A (dBuV) (at 3m)		REQUENCY Class A (dBuV) (at 3m) Class B (dBuV) (at 3n		BuV) (at 3m)
(MHz)	Peak Average		Peak	Average	
Above 1000	79.3	59.3	73.9	53.9	

# **CISPR Limit:**

Detector Function : Quasi – Peak

FREQUENCY	Class A (at 10m)	Class B (at 10m)
(MHz)	dBuV/m	dBuV/m
30-230	40	30
230-1000	47	37

• Detector Function: Peak, Average - Class A

	, 5	
Frequency range	Average Limit	Peak Limit
GHz	dB(μV/m)	dB(μV/m)
1 to 3	56	76
3 to 6	60	80

Detector Function : Peak , Average – Class B

	, 3	
Frequency range	Average Limit	Peak Limit
GHz	dB(μV/m)	dB(μV/m)
1 to 3	50	70
3 to 6	54	74

Note: The lower limit applies at the transition frequency.

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and <a href="https://www.sgs.com/terms">conditions.htm</a> and, for electronic

Inis document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and Conditions, httm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> end of a farawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 10 of 37

#### 2.4 Test of Conducted Emission

# 2.4.1 Test Equipments

	SC	GS Conducted Emi	ssion Test Site No	. A	
Name of Equipment	Manufacturer	Model	Serial Number	<b>Calibration Date</b>	<b>Calibration Due</b>
EMI Test Receiver	R&S	ESCI 3	101311	Jun. 20, 2014	Jun. 19, 2015
Coaxial Cables	N/A	N30N30-1042- 150cm	N/A	Feb. 07, 2014	Feb. 06, 2015
LISN	Schwarzbeck	NSLK 8127	8127-648	Jun. 10, 2014	Jun. 09, 2015
Pulse Limiter	Narda S.T.S.	PMM PL01	1110X30602	Aug. 13, 2014	Aug. 12, 2015
LISN	Rolf-Heine	NNB-2/16Z	99012	Mar. 26, 2014	Mar. 25, 2015
ISN	TESEQ	ISN T800	34384	Mar. 06, 2014	Mar. 05, 2015
ISN	TESEQ	ISN ST08	36271	Oct. 03, 2014	Oct. 02, 2015
RF Current Probe	Schwarzbeck	SW 9605	SW 9605-138	Oct. 02, 2014	Oct. 01, 2015
Capacitive Voltage Probe	Schwarzbeck	CVP 9222	9222-031	Oct. 08, 2014	Oct. 07, 2015
DC LISN	Schwarzbeck	NNBM 8124	8124-564	Nov. 10, 2014	Nov. 09, 2015
DC LISN	Schwarzbeck	NNBM 8124	8124-565	Nov. 10, 2014	Nov. 09, 2015
High Voltage Probe	Schwarzbeck	TK 9420	TK 9420-5223	Mar. 07, 2014	Mar. 06, 2015
Test Software	Farad	EZ-EMC	Ver. SGS-03A2	N.C.R.	N.C.R.

### 2.4.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan Township, Taoyuan County, Taiwan333

## 2.4.3 Operating Environment

Temperature: 19 degree C Humidity: 49 %RH

Atmospheric Pressure: 992 mBar

#### 2.4.4 Measurement Uncertainty of Conducted Emission

Expanded uncertainty (K=2) of conducted emission is 2.20 dB.

#### 2.4.5 Measurement Level Calculation

Factor = LISN insertion loss + Cable loss Measurement Level = Reading Level + Factor

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sqs.com/terms">www.sqs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sqs.com/terms">www.sqs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> **Page** : 11 of **37**

#### 2.4.6 Measurement Data:

# Test mode 1

Conduction Room

Phase: Power:

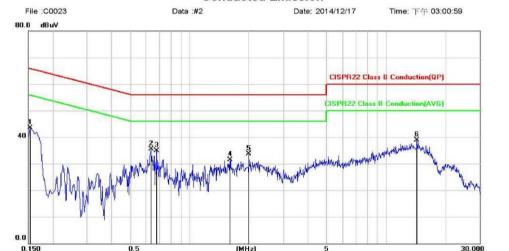
L1 From System Temperature:

19 °C Humidity: 49 %

Limit: CISPR22 Class B Conduction(QP)

Mode: R/W (NN-16G-02)

#### Conducted Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.1540	43.50	0.09	43.59	65.78	-22.19	peak		
2	*	0.6340	35.26	0.27	35.53	56.00	-20.47	peak		
3		0.6820	34.53	0.30	34.83	56.00	-21.17	peak		
4		1.6020	31.08	0.52	31.60	56.00	-24.40	peak		
5		2.0060	33.15	0.58	33.73	56.00	-22.27	peak		
6		14.3780	38.29	0.61	38.90	60.00	-21.10	peak		

File :C0023\Data :#2 Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號 t (886-2) 2299-3279 f (886-2) 2298-0488 www.tw.sas.com

<sup>\*:</sup> Maximum data x:Over limit !:over margin



IC ID: 9906A-P42350TJ1

Report No. : E1/2014/C0023

**Page** : 12 of **37** 

Conduction Room

Limit: CISPR22 Class B Conduction(QP)

Phase

Temperature:

Power:

From System

19 ℃

Humidity: 49 %

Mode: R/W (NN-16G-02)

Note:

# **Conducted Emission** File :C0023 Date: 2014/12/17 Time: 下午 02:58:12 80.0 dBuV CISPR22 Class B Conduction(QP) 0.150 (MHz) 30.000

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.2260	44.39	0.10	44.49	62.60	-18.11	peak		
2		0.3380	40.33	0.15	40.48	59.25	-18.77	peak		
3	*	0.4740	39.48	0.22	39.70	56.44	-16.74	peak		
4		0.5140	36.73	0.25	36.98	56.00	-19.02	peak		
5		0.5580	36.53	0.25	36.78	56.00	-19.22	peak		
6		0.6300	35.75	0.27	36.02	56.00	-19.98	peak		

\*: Maximum data x:Over limit !:over margin

File :C0023\Data :#1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

Page: 1

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



IC ID: 9906A-P42350TJ1

**Report No.** : E1/2014/C0023

Page : 13 of 37

# Test mode 2

Site: Conduction Room

Phase: L1

Temperature: 19 ℃

Limit: CISPR22 Class B Conduction(QP)

Power: From System Humidity: 49 %

Mode: WLAN Communication(RS-16G-01)

Note:

# 

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.1580	44.67	0.09	44.76	65.57	-20.81	peak		
2		0.1820	39.76	0.09	39.85	64.39	-24.54	peak		
3		0.5900	40.42	0.25	40.67	56.00	-15.33	peak		
4	*	0.6340	42.99	0.27	43.26	56.00	-12.74	peak		
5		0.6820	40.79	0.30	41.09	56.00	-14.91	peak		
6		0.7300	37.14	0.32	37.46	56.00	-18.54	peak		

File :C0023\Data :#4

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

Page: 1

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

<sup>\*:</sup> Maximum data x: Over limit !: over margin



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 14 of 37

N

Site: Conduction Room

Phase: N

Temperature: 19 ℃

Limit: CISPR22 Class B Conduction(QP)
Mode: WLAN Communication(RS-16G-01)

Power: From System

Humidity: 49 %

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.1500	43.81	0.09	43.90	66.00	-22.10	peak		
2	0.1660	41.81	0.09	41.90	65.16	-23.26	peak		
3	0.5940	41.52	0.26	41.78	56.00	-14.22	peak		
4 *	0.6325	37.88	0.27	38.15	46.00	-7.85	AVG		
5	0.6380	43.63	0.27	43.90	56.00	-12.10	peak		
6	0.6780	41.58	0.30	41.88	56.00	-14.12	peak		
7	0.7220	38.04	0.32	38.36	56.00	-17.64	peak		

\*: Maximum data x: Over limit !: over margin

File: C0023\Data:#3

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sgs.com/terms">www.sgs.com/terms</a> and Conditions.httm</a> and, for electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 15 of 37

#### 2.5 Test of Radiated Emission

#### 2.5.1 Test Instruments

#### **Below 1GHz**

		SGS 10m Chamb	er (30M~1000M)		
Name of Equipment	Manufacturer	Model	Serial Number	<b>Calibration Date</b>	Calibration Due
EMI Test Receiver	R&S	ESCI 3	101342	Jan. 18, 2014	Jan. 17, 2015
EMI Test Receiver	R&S	ESCI 3	101343	Jan. 16, 2014	Jan. 15, 2015
Broadband Antenna	TESEQ	CBL 6112D	35241	Jan. 20, 2014	Jan. 19, 2015
Broadband Antenna	TESEQ	CBL 6112D	35242	Jan. 20, 2014	Jan. 19, 2015
Pre Amplifier	EMC Instruments	EMC330	980178	Apr. 03, 2014	Apr. 02, 2015
Pre Amplifier	EMC Instruments	EMC330	980179	Apr. 03, 2014	Apr. 02, 2015
Coaxial Cable	Huber+Suhner	RG 214/U	W30.02	Apr. 01, 2014	Mar. 31, 2015
Coaxial Cable	Huber+Suhner	RG 214/U	W31.02	Apr. 01, 2014	Mar. 31, 2015
Coaxial Cable	Huber+Suhner	RG 214/U	W30.03	Apr. 01, 2014	Mar. 31, 2015
Coaxial Cable	Huber+Suhner	RG 214/U	W31.03	Apr. 01, 2014	Mar. 31, 2015
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Turn Table	MF	N/A	N/A	N.C.R.	N.C.R.
Site NSA	SGS	10m Chamber	10M SAC	Jan. 12, 2014	Jan. 11, 2015
Test S/W	Farad	EZ-EMC	Ver. SGS-03A2	N.C.R.	N.C.R.

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and <a href="https://www.sgs.com/terms">conditions.htm</a> and, for electronic

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> : 16 **Page** of **37**

#### **Above 1GHz**

		SGS 966 Cha	amber No. A		
Name of Equipment	Manufacturer	Model	Serial Number	<b>Calibration Date</b>	<b>Calibration Due</b>
Spectrum Analyzer	R&S	FSV 40	101058	Jan. 13, 2014	Jan. 12, 2015
EMI Test Receiver	R&S	ESCI 7	100950	Jan. 11, 2014	Jan. 10, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	BBHA9120D803	Jan. 24, 2014	Jan. 23, 2015
Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170-184	Jan. 23, 2014	Jan. 22, 2015
Horn Antenna	ETS-Lindgren	3160-09	00117911	Jan. 22, 2014	Jan. 21, 2015
Horn Antenna	ETS-Lindgren	3160-10	00117783	Jan. 22, 2014	Jan. 21, 2015
Pre Amplifier	EMC Instruments	EMC012645B	980216	Sep. 30, 2014	Sep. 29, 2015
Pre Amplifier	R&S	SCU-18	10203	Mar. 26, 2014	Mar. 25, 2015
Pre Amplifier	R&S	SCU-26	100780	Mar. 26, 2014	Mar. 25, 2015
Pre Amplifier	R&S	SCU-40	100356	Mar. 26, 2014	Mar. 25, 2015
Pre Amplifier	EMC Instruments	EMC184045B	980135	Oct. 27, 2014	Oct. 26, 2015
Coaxial Cable	JUNFLOW	MWX221-NMSNMS	J0778929	Apr. 23, 2014	Apr. 22, 2015
Coaxial Cable	Huber+Suhner	SUCOFLEX 104PEA	30255/4PEA	Apr. 23, 2014	Apr. 22, 2015
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	MY 2152/2	Jun. 06, 2014	Jun. 05, 2015
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	MY 2153/2	Jun. 06, 2014	Jun. 05, 2015
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Turn Table	MF	N/A	N/A	N.C.R.	N.C.R.
Site VSWR	SGS	966 Chamber A	SAC-A	Jan. 18, 2014	Jan. 17, 2015
Test Software	Farad	EZ-EMC	Ver. SGS-03A2	N.C.R.	N.C.R.

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd.

Copyright of this Verification is owned by SGS Talwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Talwan Ltd.

Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be responsible. prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 17 of 37

#### 2.5.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan Township, Taoyuan County, Taiwan333

# 2.5.3 Operating Environment

Temperature: 16 degree C Humidity: 51 %RH

Atmospheric Pressure: 996 mBar

# 2.5.4 Measurement Uncertainty of Radiated Emission

Expanded uncertainty (k=2) of radiated emission measurement is 4.16 dB. (30-1000MHz) Expanded uncertainty (k=2) of radiated emission measurement is 5.02 dB. (1-6GHz)

#### 2.5.5 Measurement Level Calculation

Correction Factor = Antenna Factor + Cable loss- Amplifier Gain Measurement Level = Reading Level + Correction Factor

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sqs.com/terms">www.sqs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sqs.com/terms">www.sqs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 18 of 37

#### 2.5.6 Measurement Data

Below 1GHz Test mode 1 Horizontal Polarization

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: R/W (NN-16G-02)

Note:

Polarization: Horizontal

Power: From System

Distance:

Temperature: 16 °C

Humidity: 51 %



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	33.3700	26.83	-13.63	13.20	30.00	-16.80	QP	
2		40.9700	27.60	-17.90	9.70	30.00	-20.30	QP	
3		81.2500	32.86	-22.96	9.90	30.00	-20.10	QP	
4		117.6500	25.85	-18.25	7.60	30.00	-22.40	QP	
5		233.0600	32.74	-18.94	13.80	37.00	-23.20	QP	
6		391.1400	30.45	-13.25	17.20	37.00	-19.80	QP	

File :C0023\Data :#6

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

<sup>\*:</sup>Maximum data x:Over limit !:over margin



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> : 19 **Page** of **37**

## **Vertical Polarization**

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: R/W (NN-16G-02)

Note:

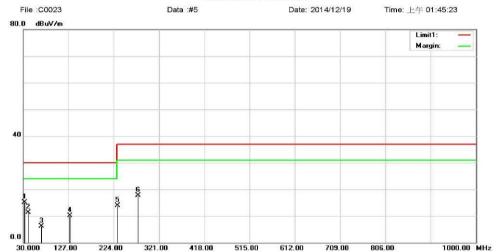
Polarization: Vertical Power: From System

Distance:

Temperature: 16 ℃

Humidity: 51 %

**Radiated Emission** 



Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
*	32.2500	27.65	-12.55	15.10	30.00	-14.90	QP		
	40.2400	28.47	-17.07	11.40	30.00	-18.60	QP		
	69.3200	29.80	-23.60	6.20	30.00	-23.80	QP		
	129.3600	27.49	-17.39	10.10	30.00	-19.90	QP		
	232.3600	32.16	-18.26	13.90	37.00	-23.10	QP		
	276.0200	33.36	-15.56	17.80	37.00	-19.20	QP		
	Mk. *	MHz * 32.2500 40.2400 69.3200 129.3600 232.3600	Mk. Freq. Level  MHz dBuV  * 32.2500 27.65  40.2400 28.47  69.3200 29.80  129.3600 27.49  232.3600 32.16	Mk.         Freq.         Level         Factor           MHz         dBuV         dB           *         32.2500         27.65         -12.55           40.2400         28.47         -17.07           69.3200         29.80         -23.60           129.3600         27.49         -17.39           232.3600         32.16         -18.26	Mk.         Freq.         Level         Factor         ment           MHz         dBuV         dB         dBuV/m           *         32.2500         27.65         -12.55         15.10           40.2400         28.47         -17.07         11.40           69.3200         29.80         -23.60         6.20           129.3600         27.49         -17.39         10.10           232.3600         32.16         -18.26         13.90	Mk.         Freq.         Level         Factor         ment         Limit           MHz         dBuV         dB         dBuV/m         dBuV/m           *         32.2500         27.65         -12.55         15.10         30.00           40.2400         28.47         -17.07         11.40         30.00           69.3200         29.80         -23.60         6.20         30.00           129.3600         27.49         -17.39         10.10         30.00           232.3600         32.16         -18.26         13.90         37.00	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB           *         32.2500         27.65         -12.55         15.10         30.00         -14.90           40.2400         28.47         -17.07         11.40         30.00         -18.60           69.3200         29.80         -23.60         6.20         30.00         -23.80           129.3600         27.49         -17.39         10.10         30.00         -19.90           232.3600         32.16         -18.26         13.90         37.00         -23.10	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB         Detector           *         32.2500         27.65         -12.55         15.10         30.00         -14.90         QP           40.2400         28.47         -17.07         11.40         30.00         -18.60         QP           69.3200         29.80         -23.60         6.20         30.00         -23.80         QP           129.3600         27.49         -17.39         10.10         30.00         -19.90         QP           232.3600         32.16         -18.26         13.90         37.00         -23.10         QP	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB         Detector         Comment           *         32.2500         27.65         -12.55         15.10         30.00         -14.90         QP           40.2400         28.47         -17.07         11.40         30.00         -18.60         QP           69.3200         29.80         -23.60         6.20         30.00         -23.80         QP           129.3600         27.49         -17.39         10.10         30.00         -19.90         QP           232.3600         32.16         -18.26         13.90         37.00         -23.10         QP

\*: Maximum data x:Over limit !:over margin

File :C0023\Data :#5

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



IC ID: 9906A-P42350TJ1

: E1/2014/C0023 Report No.

: 20 Page of **37** 

# Test mode 2 **Horizontal Polarization**

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: WLAN Communication (RS-16G-01)

Note:

Polarization: Horizontal

Power:

From System

Distance:

Temperature: Humidity: 51 %

16 ℃

#### **Radiated Emission**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		33.5800	27.14	-13.74	13.40	30.00	-16.60	QP		
2		101.7900	28.34	-19.44	8.90	30.00	-21.10	QP		
3		233.1900	37.72	-18.92	18.80	37.00	-18.20	QP		
4		276.1800	33.39	-16.49	16.90	37.00	-20.10	QP		
5	*	385.1200	34.53	-13.43	21.10	37.00	-15.90	QP		
6		689.9200	24.52	-8.62	15.90	37.00	-21.10	QP		

\*: Maximum data x:Over limit !:over margin

File :C0023\Data :#8

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

Page: 1

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

www.tw.sas.com



IC ID: 9906A-P42350TJ1

Report No. : E1/2014/C0023

Page : 21 of **37** 

## **Vertical Polarization**

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: WLAN Communication (RS-16G-01)

Note:

Polarization: Vertical

Power: From System Distance:

Temperature: 16 ℃

Humidity: 51 %

**Radiated Emission** 



Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	32.2000	27.62	-12.52	15.10	30.00	-14.90	QP	
*	40.7300	34.04	-17.34	16.70	30.00	-13.30	QP	
	138.0300	30.05	-17.75	12.30	30.00	-17.70	QP	
	232.6600	37.12	-18.22	18.90	37.00	-18.10	QP	
	275.7900	29.96	-15.56	14.40	37.00	-22.60	QP	
	385.0000	35.42	-12.52	22.90	37.00	-14.10	QP	
	Mk. *	MHz 32.2000 * 40.7300 138.0300 232.6600 275.7900	MHz dBuV 32.2000 27.62 * 40.7300 34.04 138.0300 30.05 232.6600 37.12 275.7900 29.96	Mk.         Freq.         Level         Factor           MHz         dBuV         dB           32.2000         27.62         -12.52           *         40.7300         34.04         -17.34           138.0300         30.05         -17.75           232.6600         37.12         -18.22           275.7900         29.96         -15.56	Mk.         Freq.         Level         Factor         ment           MHz         dBuV         dB         dBuV/m           32.2000         27.62         -12.52         15.10           *         40.7300         34.04         -17.34         16.70           138.0300         30.05         -17.75         12.30           232.6600         37.12         -18.22         18.90           275.7900         29.96         -15.56         14.40	Mk.         Freq.         Level         Factor         ment         Limit           MHz         dBuV         dB         dBuV/m         dBuV/m           32.2000         27.62         -12.52         15.10         30.00           *         40.7300         34.04         -17.34         16.70         30.00           138.0300         30.05         -17.75         12.30         30.00           232.6600         37.12         -18.22         18.90         37.00           275.7900         29.96         -15.56         14.40         37.00	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB           32.2000         27.62         -12.52         15.10         30.00         -14.90           *         40.7300         34.04         -17.34         16.70         30.00         -13.30           138.0300         30.05         -17.75         12.30         30.00         -17.70           232.6600         37.12         -18.22         18.90         37.00         -18.10           275.7900         29.96         -15.56         14.40         37.00         -22.60	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB         Detector           32.2000         27.62         -12.52         15.10         30.00         -14.90         QP           *         40.7300         34.04         -17.34         16.70         30.00         -13.30         QP           138.0300         30.05         -17.75         12.30         30.00         -17.70         QP           232.6600         37.12         -18.22         18.90         37.00         -18.10         QP           275.7900         29.96         -15.56         14.40         37.00         -22.60         QP

\*: Maximum data x:Over limit !:over margin

File :C0023\Data :#7

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

Page : 22 of 37

# Above 1GHz Test mode 1 Horizontal Polarization

Site SGS 966 Chamber A

Limit: CISPR22 Class B Radiation 1G-18G(Peak)

Polarization: Horizontal

Temperature: 23 ℃

Mode: RW (NN-16G-02)

Power: From System Distance:

Humidity: 56 %

Note:

# **Radiated Emission** File :E1-2014-C0023 Date: 2014/12/19 Time: 上午 09:06:24 100.0 dBuV/m CISPR22 Class B Radiation 1G-18G(Peak) CISPR22 Class B Radiation 16-186(AV6) 18000.00 MHz 6100.00 11200.00 14600.00 1000.000 2700.00 4400.00 7800.00 9500.00 12900.00

Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1595.000	60.74	-21.59	39.15	70.00	-30.85	peak	
	1799.000	62.27	-20.80	41.47	70.00	-28.53	peak	
*	1986.000	64.35	-20.07	44.28	70.00	-25.72	peak	
	3142.000	58.89	-16.51	42.38	74.00	-31.62	peak	
	4009.000	58.66	-14.73	43.93	74.00	-30.07	peak	
	4315.000	59.03	-13.88	45.15	74.00	-28.85	peak	
	Mk. *	MHz 1595.000 1799.000 * 1986.000 3142.000 4009.000	Mk.         Freq.         Level           MHz         dBuV           1595,000         60.74           1799,000         62.27           *         1986,000         64.35           3142,000         58.89           4009,000         58.66	Mk.         Freq.         Level         Factor           MHz         dBuV         dB           1595.000         60.74         -21.59           1799.000         62.27         -20.80           *         1986.000         64.35         -20.07           3142.000         58.89         -16.51           4009.000         58.66         -14.73	Mk.         Freq.         Level         Factor         ment           MHz         dBuV         dB         dBuV/m           1595.000         60.74         -21.59         39.15           1799.000         62.27         -20.80         41.47           *         1986.000         64.35         -20.07         44.28           3142.000         58.89         -16.51         42.38           4009.000         58.66         -14.73         43.93	Mk.         Freq.         Level         Factor         ment         Limit           MHz         dBuV         dB         dBuV/m         dBuV/m           1595.000         60.74         -21.59         39.15         70.00           1799.000         62.27         -20.80         41.47         70.00           *         1986.000         64.35         -20.07         44.28         70.00           3142.000         58.89         -16.51         42.38         74.00           4009.000         58.66         -14.73         43.93         74.00	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB         dB           1595.000         60.74         -21.59         39.15         70.00         -30.85           1799.000         62.27         -20.80         41.47         70.00         -28.53           *         1986.000         64.35         -20.07         44.28         70.00         -25.72           3142.000         58.89         -16.51         42.38         74.00         -31.62           4009.000         58.66         -14.73         43.93         74.00         -30.07	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV/m         dBuV/m         dB         Detector           1595.000         60.74         -21.59         39.15         70.00         -30.85         peak           1799.000         62.27         -20.80         41.47         70.00         -28.53         peak           *         1986.000         64.35         -20.07         44.28         70.00         -25.72         peak           3142.000         58.89         -16.51         42.38         74.00         -31.62         peak           4009.000         58.66         -14.73         43.93         74.00         -30.07         peak

File :E1-2014-C0023\Data :#10

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic ormat documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

www.tw.sas.com

<sup>\*:</sup>Maximum data x:Over limit !:over margin



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> : 23 Page of **37**

## **Vertical Polarization**

Site SGS 966 Chamber A

Limit: CISPR22 Class B Radiation 1G-18G(Peak)

Mode: RW (NN-16G-02)

Note:

Polarization: Vertical

Power: From System

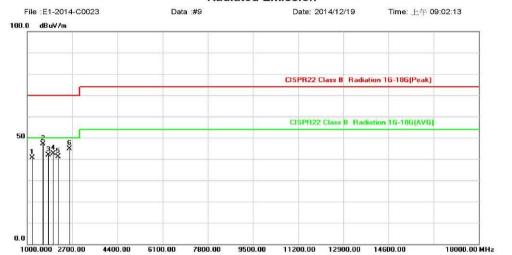
Temperature:

Humidity: 56 %

23 °C

Distance:

**Radiated Emission** 



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1187.000	64.22	-23.62	40.60	70.00	-29.40	peak	
2	*	1595.000	68.80	-21.59	47.21	70.00	-22.79	peak	
3		1799.000	62.60	-20.80	41.80	70.00	-28.20	peak	
4		1986.000	62.61	-20.07	42.54	70.00	-27.46	peak	
5		2156.000	60.50	-19.27	41.23	70.00	-28.77	peak	
6		2598.000	62.26	-17.48	44.78	70.00	-25.22	peak	

\*: Maximum data x:Over limit !:over margin

File :E1-2014-C0023\Data :#9

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



IC ID: 9906A-P42350TJ1 Report No. : E1/2014/C0023

> : 24 Page of **37**

> > Temperature:

23 ℃

# Test mode 2 **Horizontal Polarization**

Site SGS 966 Chamber A

Limit: CISPR22 Class B Radiation 1G-18G(Peak)

Mode: WLAN Communication (RS-16G-01)

Note:

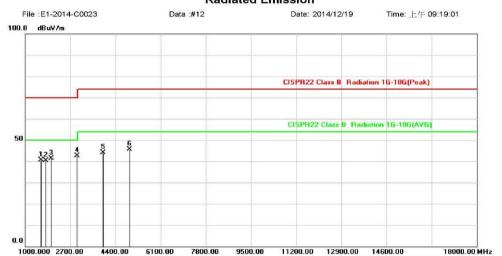
Polarization: Horizontal

Power: From System

Humidity: 56 %

Distance:

**Radiated Emission** 



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		1595.000	62.18	-21.59	40.59	70.00	-29.41	peak		
2		1782.000	61.36	-20.86	40.50	70.00	-29.50	peak		
3		1986.000	61.55	-20.07	41.48	70.00	-28.52	peak		
4	*	2955.000	59.34	-16.83	42.51	70.00	-27.49	peak		
5		3924.000	59.01	-14.93	44.08	74.00	-29.92	peak		
6		4944.000	57.80	-12.10	45.70	74.00	-28.30	peak		

File :E1-2014-C0023\Data :#12

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

Page: 1

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

<sup>\*:</sup> Maximum data x:Over limit !:over margin



IC ID: 9906A-P42350TJ1 : E1/2014/C0023 Report No.

> : 25 Page of **37**

## **Vertical Polarization**

Site SGS 966 Chamber A

Limit: CISPR22 Class B Radiation 1G-18G(Peak)

Mode: WLAN Communication (RS-16G-01)

Note:

Polarization: Vertical

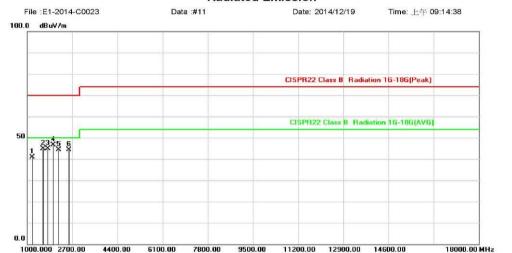
Power: From System

Temperature: 23 °C

Humidity: 56 %

Distance:

**Radiated Emission** 



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		1187.000	64.54	-23.62	40.92	70.00	-29.08	peak		
2		1595,000	66.49	-21.59	44.90	70.00	-25.10	peak		
3		1782.000	65.85	-20.86	44.99	70.00	-25.01	peak		
4	*	1986.987	66.72	-20.05	46.67	70.00	-23.33	peak		
5		2190.000	63.38	-19.10	44.28	70.00	-25.72	peak		
6		2581.000	61.97	-17.52	44.45	70.00	-25.55	peak		

\*: Maximum data x:Over limit !:over margin

File :E1-2014-C0023\Data :#11

Page: 1

Copyright of this verification is owned by SGS Taiwan LTD. Electronics & Communication Laboratory and may not be reproduced except in full and with the prior approval of the Manager of SGS Taiwan Ltd. Electronics & Communication Laboratory.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic

format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.