

Page: 1 of 599

# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT





Applicant: Murata Manufacturing Co., Ltd.

10-1, Higashikotari 1-chome Nagaokakyo-shi, Kyoto 617-8555 Japan

Murata Manufacturing Co., Ltd. Manufacturer:

10-1, Higashikotari 1-chome Nagaokakyo-shi, Kyoto 617-8555 Japan

**Product Name:** Communication Module

**Brand Name:** muRata

Model No.: For FCC:

LBEE5XV2EA

For ISED:

LBEE5XV2EA SANT, LBEE5XV2EA\_DANT

**Model Difference:** Refer to section 1.9

**Report Number:** TERF2211002262ER

FCC ID VPYLBEE5XV2EA

IC: 772C-LBEE5XV2EA

Date of EUT Received: November 08, 2022

Date of Test: November 29, 2022 ~ August 2, 2023

Issue Date: August 2, 2023

CHUN, CHIEH, CHEN

Approved By\_\_\_\_

CHUN-CHIEH, CHEN

## We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT comply with FCC rule part §15.407, ISED RSS-248.

The results of this report relate only to the sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 2 of 599

Revision History						
Report Number	Revision	Description	Issue Date	Revised By	Remark	
TERF2211002262ER	00	Original	May 04, 2023	Violetta Tang		
TERF2211002262ER	01	Remove HMN information from page 9	June 02, 2023	Violetta Tang		
TERF2211002262ER	02	Correct firmware information on page 4     Revise column of rated power on page 6	June 13, 2023	Violetta Tang		
TERF2211002262ER	03	Modify statements on page 54 & 67	July 27, 2023	Violetta Tang	*	
TERF2211002262ER	04	<ol> <li>Add explanation for antenna selection on page 5</li> <li>Add information of chosen antennas on page 55 &amp; 68</li> </ol>	July 28, 2023	Violetta Tang	*	
TERF2211002262ER	05	Modify the date of test on page 1     Update test equipment list on page 19     Add the test plots of inband emission for partial RUs on pages 118 to 158	August 2, 2023	Violetta Tang	*	

### Note:

- 1 . The remark "\*" indicates modification of the report upon requests from certification body.
- 2 · Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 3 of 599

# **Contents**

1	GENERAL INFORMATION	4
2	SYSTEM TEST CONFIGURATION	10
3	SUMMARY OF TEST RESULT	14
4	DESCRIPTION OF TEST MODES	15
5	MEASUREMENT UNCERTAINTY	18
6	MEASUREMENT EQUIPMENT USED	19
7	CONDUCTED EMISSION TEST	22
8	EMISSION BANDWIDTH	25
9	MAXIMUM OUTPUT POWER	52
10	MAXIMUM POWER SPECTRAL DENSITY	66
11	IN-BAND EMISSION	.116
12	UNDESIRABLE RADIATED EMISSIONS	159
13	CONTENTION BASED PROTOCOL	565
14	DEMONSTRATION OF PROPER POWER ADJUSTMENT BASED ON ASSOCIATED 596	D AP
15	TRANSMISSION IN THE ABSENCE OF DATA	598
16	ANTENNA PEOLIDEMENT	500

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 4 of 599

## **GENERAL INFORMATION**

## 1.1 Product Description

Product Name:	Communication Module	
Brand Name:	muRata	
Model No.:	For FCC: LBEE5XV2EA For ISED: LBEE5XV2EA_SANT, LBEE5XV2EA_DANT	
Model Difference:	Refer to section 1.9	
Hardware Version:	1.0	
Firmware Version:	1.1.1.1 1.1.2.1	
EUT Series No.:	SA2022019000001046	
Power Supply:	3.3Vdc, 1.8Vdc	
Test Software (Name/Version)	Tera Term / 4.71	

#### **Modulation & Data Rate** 1.2

## SISO

Modulation type:	16QAM, QPSK, BPSK for OFDM in 802.11a
	1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA in 802.11ax
Transition Rate:	802.11 a: 6 - 24 Mbps
	802.11 ax_20MHz: up to 143.4 Mbps
	802.11 ax_40MHz: up to 286.8 Mbps
	802.11 ax_80MHz: up to 600.5 Mbps

## **MIMO**

Modulation type:	1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA in 802.11ax
	802.11 ax_20MHz: up to 286.8 Mbps
Transition Rate:	802.11 ax_40MHz: up to 573.6 Mbps
	802.11 ax_80MHz: up to 1201 Mbps

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 5 of 599

## 1.3 Antenna Designation

#### SISO

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Directional Gain(dBi)
	Molex	146153	5925~7125	5.8	5.8
Dipole	Molex	219611	5925~7125	4	4
	Unictron	WT32D1-KX	5925~7125	4	4
Monopole	Murata	Type2EA_Antenna	5925~7125	2.5	2.5

## **MIMO**

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Directional Gain(dBi)
Dinala	Molex	219611	5925~7125	4	7.01
Dipole	Unictron	WT32D1-KX	5925~7125	4	7.01

## Note:

- 1. Pre-scanned was done on the above antennas, measurements were demonstrated by using the antenna with the highest gain as the worst case scenarios.
- 2. Antenna information is provided by the applicant.
- 3. When the antenna gain is the same, the antennas chosen provided the overall highest emissions.
- 4. For the dipole antenna
  - SISO mode selects part number 146153 as the final test.
  - MIMO mode selects part number WT32D1-KX as the final test.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 6 of 599

#### WI AN 6F

WLAN 6E					
Wi-Fi	Frequency Range	Channels	Rated Power(Avg) (dBm) (Worst Case)		
a n_HT ac_VHT 20MHz	5955~6415	24	8.78 dBm		
	6435~6515	5	8.77 dBm		
	6535~6875	18	8.71 dBm		
	6895~7095	11	9.81 dBm		

#### **WLAN 6E**

Wi-Fi	Frequency Range Channels		Rated Power(Avg) (dBm) (Worst Case)
	5955~6415	24	11.78 dBm
ov HE 20MHz	6435~6515	5	10.78 dBm
ax_HE 20MHz	6535~6875	18	11.77 dBm
	6895~7095	11	11.79 dBm
	5965~6405	12	13.78 dBm
ax_HE 40MHz	6445~6525	3	13.65 dBm
ax_ric 40iviriz	6565~6845	8	13.75 dBm
	6885~7085	6	13.79 dBm
	5985~6385	6	13.79 dBm
av HE OOMHz	6465	1	13.79 dBm
ax_HE 80MHz	6545~6865	5	13.68 dBm
	6945~7025	2	13.79 dBm

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 7 of 599

### **WLAN 6E**

Wi-Fi	Frequency Range Channels		Rated Power(Avg) (dBm) (Worst Case)
	5955~6415	24	9.98 dBm
av UE 20MUz	6435~6515	5	8.98 dBm
ax_HE 20MHz	6535~6875	18	8.96 dBm
	6895~7095	11	8.33 dBm
	5965~6405	12	11.99 dBm
ax_HE 40MHz	6445~6525	3	11.83 dBm
dx_ne 40ivinz	6565~6845	8	11.97 dBm
	6885~7085	6	11.95 dBm
	5985~6385	6	11.99 dBm
ov HE OOMHa	6465	1	11.99 dBm
ax_HE 80MHz	6545~6865	5	11.96 dBm
	6945~7025	2	11.99 dBm

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 险非只有给明,此想华红用魔影测验之缘具色素,同时此楼里属是2000年。太想华土硕大公司事面纯可,不可可以推测。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 8 of 599

## Test Methodology of Applied Standards

FCC Part 15, Subpart E §15.407

RSS-248, issue 2 Dec, 2022

RSS-Gen, issue 5 April, 2018

FCC KDB 987594 D02 U-NII 6GHz EMC Measurement v01r01

FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2013

## 1.6 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designa- tion number	IC CAB identifier
		SAC 1		
		SAC 2		
		SAC 3		
	No 124 Wu Kung Dood New Toingi	Conduction 1		
	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New	Conducted 1	TW0027	TW3702
	Taipei City, Taiwan.	Conducted 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Taiper City, Taiwan.	Conducted 3	cted 4	
		Conducted 4		
		Conducted 5		
SGS Taiwan Ltd.		Conducted 6		
Central RF Lab.		Conduction C		
(TAF code 3702)		SAC C		
		SAC D		
		SAC G		
	No 2 Koji 1et Pd. Cujeban Dietriet	Conducted A		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conducted B	TW0028	
	laoyuan City, Taiwan 555	Conducted C		
		Conducted D		
		Conducted E	]	
		Conducted F		
		Conducted G		

Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

## 1.7 Special Accessories

There are no special accessories used while test was conducted.

#### **Equipment Modifications** 1.8

There was no modification incorporated into the EUT.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 9 of 599

## 1.9 Model Variants

The LBEE5XV2EA\_SANT and LBEE5XV2EA\_DANT are electrically identical.

Model For ISED	Model For FCC	Chip on C101	RF functions
LBEE5XV2EA_SANT		CVANEEE 72	2x2 WLAN2.4GHz,5GHz, 6GHz
LBEE5XV2EA_DANT	LBEE5XV2EA	CYW55573	+BT/ BLE

In addition, the differences of firmware versions are

Model	Firmware versions	Antenna connector(s)	WLAN	ВТ	BLE
LBEE5XV2EA_DANT	1.1.2.1	3 (ANTO, ANT1, BT_ANT)	ANTO, ANT1	BT_ANT	BT_ANT
LBEE5XV2EA_SANT	1.1.1.1	2 (ANTO, ANT1)	ANTO, ANT1	ANT0	ANT0

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有铅明,此報生结用攝影測建立幾只有著,同時世操具攝風宛の主。大報生主概太公司書面對可,不可可以複劃。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



Page: 10 of 599

## SYSTEM TEST CONFIGURATION

## **EUT Configuration**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### **EUT Exercise** 2.2

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

#### 2.3 **Test Procedure**

#### 2.3.1 **Conducted Emissions**

The EUT is a placed on a table which is 0.8 m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz. The CISPR Quasi-Peak and Average detector mode is employed. The two LISNs provide 50uH/50 ohm of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

#### 2.3.2 Conducted Test (RF)

The active antenna port of the unlicensed wireless device is connected to the spectrum analyzer with attenuator to protect the instrumentation. If a second antenna port is available, it is tested at one operating frequency, with other port(s) appropriately terminated, to verify it has similar output characteristics as the fully tested port.

#### 2.3.3 **Radiated Emissions**

The EUT is a placed on a turn table. For emissions testing at or below 1 GHz. the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

#### 2.3.4 **CBP Test**

The active antenna port of the unlicensed wireless device is connected to the spectrum analyzer and signal generator and companion device to perform the test.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 11 of 599

## 2.4 Measurement Results Explanation Example

## 2.4.1 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m\*6m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

### 2.4.2 For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非早有铅明,此数华红用摄影测过之样具色素,同既此样具展展现的主。大数华土德太公司隶而连可,无可如公海测。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

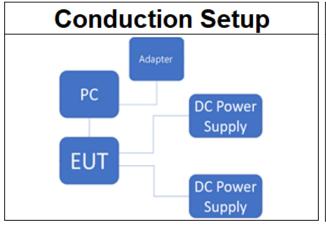
SGS Taiwan Ltd. 台灣檢驗科技股份有限公司

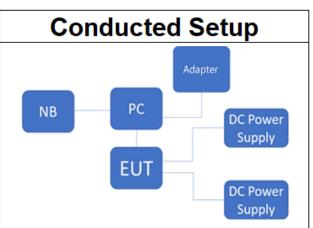


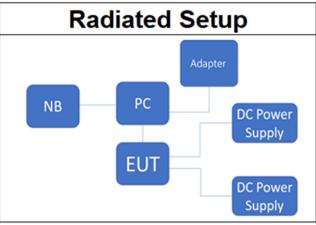
Page: 12 of 599



## **Test Configuration**







#### 2.6 Control Unit(s)

#### 2.6.1 **Conduction setup**

AC Power-Line Conducted Emission Test Site: Conduction 1									
EQUIPMENT TYPE MFR MODEL NUMBER SERIAL NUMBER LAST CAL. CAL DUE.									
PC	GIGABYTE	GB-BXI7H-4500	N/A	N/A	N/A				
Adapter	FSP GROUP INC.	FSP065-REB	N/A	N/A	N/A				

#### 2.6.2 **Conducted Setup**

Conducted Emission Test Site: Conducted 2										
EQUIPMENT TYPE MFR MODEL NUMBER SERIAL NUMBER LAST CAL. CAL DUE.										
PC	GIGABYTE	GB-BXI7H-4500	N/A	N/A	N/A					
Adapter	FSP GROUP INC.	FSP065-REB	N/A	N/A	N/A					
Notebook	Lenovo	T440P	PC-014TAK	N/A	N/A					

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 13 of 599

## 2.6.3 Radiated Setup

Radiated Emission Test Site: SAC 2										
EQUIPMENT TYPE MFR MODEL NUMBER SERIAL NUMBER LAST CAL. CAL DUE.										
PC	GIGABYTE	GB-BXI7H-4500	N/A	N/A	N/A					
Adapter	FSP GROUP INC.	FSP065-REB	N/A	N/A	N/A					
Notebook	Lenovo	T440P	PC-06L5W6	N/A	N/A					

## 2.6.4 CBP Setup

Conducted Emission Test Site: Conducted 5										
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
Notebook	Lenovo	L430	PK-126TN	N/A	N/A					
Notebook	Lenovo	T440P	PC-014TAK	N/A	N/A					
Communication Module	Shenzhen Murata Technology Co., Ltd.	LBEE5XV2EA	00000312	N/A	N/A					

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 险非只有的明,此想些结果做新测验之样具合善,同时此样里属是例如于。木型生主概未从司事高纯可,不可可以推测。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 14 of 599

## SUMMARY OF TEST RESULT

FCC Rules	ISED Rules	Description Of Test	Result	Note
§15.207	RSS-Gen §8.8	AC Power Line Conducted Emission	Compliant	
§15.407(a)(10) §2.1049	RSS-248 §4.4	Emission Bandwidth	Compliant	N
§15.407(a)(4~8)	RSS-248 §4.6	Maximum Conducted Output Power	Compliant	N
§15.407(a)(4~8)	RSS-248 §4.6	Power Spectral Density	Compliant	N
§15.407(b)(6) RSS-248 §4.7		In-band emission	Compliant	N
§15.205 §15.209 §15.407(b)(5), (b)(8), (b)(9)	RSS-248 §4.7	Undesirable Radiated Emissions	Compliant	
§15.407(d)(6)	RSS-248 §4.8	contention-based protocol	Compliant	
§15.407(a)(7)(8)	NA	Test Demonstration of Proper Power Adjustment based on As- sociated AP	NA Device only associates with indoor AP	
§15.407(c)	RSS-248 §4.11	Transmission in case of Absence of Information	Compliant	
§15.203	N/A	Antenna Requirement	Compliant	

### Note

- N/S Indicates whether item(s) being newly tested [N] or spot checked [S].
- Items other than newly tested [N] are leveraged from test report TERF2211002261ER.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 15 of 599

## **DESCRIPTION OF TEST MODES**

## 4.1 Operating Frequencies

37

41

45

6135

6155

6175

85

93

6375

6395

6415

<u> </u>	9 .	. 04	4011010	_					
		U	NII-5 5	9	25~64	425 MHz			
	201	ЛНz			4	0MHz	80MHz		
СН	Freq. (MHz)	СН	Freq. (MHz)		СН	Freq. (MHz)	СН	Freq. (MHz)	
1	5955	49	6195		3	5965	7	5985	
5	5975	53	6215		11	6005	23	6065	
9	5995	57	6235		19	6045	39	6145	
13	6015	61	6255		27	6085	55	6225	
17	6035	65	6275		35	6125	71	6305	
21	6055	69	6295		43	6165	87	6385	
25	6075	73	6315		51	6205			
29	6095	77	6335		59	6245			
33	6115	81	6355		67	6285			
I	ĺ	1			1	I			

75

83

91

6325

6365

6405

	UNII-6 6425~6525 MHz								
2	0MHz		4	40MHz			OMHz		
СН	Freq. (MHz)		СН	Freq. (MHz)		СН	Freq. (MHz)		
97	6435		99	6445		103	6465		
101	6455		107	6485					
105	6475		115	6525					
109	6495								
113	6515								

		U	NII-7 6	5	25~6	375 MHz					
	201	ЛHz			40MHz			80MHz			
СН	Freq. (MHz)	СН	Freq. (MHz)		СН	Freq. (MHz)		СН	Freq. (MHz)		
117	6535	153	6715		123	6565		119	6545		
121	6555	157	6735		131	6605		135	6625		
125	6575	161	6755		139	6645		151	6705		
129	6595	165	6775		147	6685		167	6785		
133	6615	169	6795		155	6725		183	6865		
137	6635	173	6815		163	6765				•	
141	6655	177	6835		171	6805					
145	6675	181	6855		179	6845					
149	6695	185	6875								

	UNII-8 6875~7125 MHz										
20	OMHz		40	OMHz		80MHz					
СН	Freq. (MHz)		СН	Freq. (MHz)		СН	Freq. (MHz)				
189	6895		187	6885		199	6945				
193	6915		195	6925		215	7025				
197	6935		203	6965							
201	6955		211	7005							
205	6975		219	7045							
209	6995		227	7085							
213	7015										
217	7035										
221	7055										
225	7075										
229	7095										

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 16 of 599

## The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Test program used to control the EUT for staying in continuous transmitting mode is programmed.
- 3. Investigation has been done on all the possible configurations for searching the worst

The gevin UE is pre-scanned among below modes.

Modulation	Tr	ansmiss	sion Chair	า	Single Transmission Spatial	Multiple Transmission Spatial
⊠ 802.11 a	⊠ Ch0	⊠ Ch1	☐ Ch2	□ Ch3	⊠ 1TX	□ 2TX
□ 802.11 n	□ Ch0	□ Ch1	☐ Ch2	□ Ch3	☐ 1TX	□ 2TX
☐ 802.11 ac	□ Ch0	□ Ch1	☐ Ch2	□ Ch3	☐ 1TX	☐ 2TX
⊠ 802.11 ax	⊠ Ch0	⊠ Ch1	☐ Ch2	□ Ch3	⊠ 1TX	⊠ 2TX

4. Therefore, below summary is the modes of test configuration that yield the highest reading and generate the highest emission chosen to carry out the relevantly mandatory test items.

	CONDUCTED TEST										
I MODE I	FREQUENC	AVAILABLE	TESTED	MODULATION	DATA RATE	ANTENNA					
	Y BAND	CHANNEL	CHANNEL	WIODULATION	(Mbps)	PORT					
	5955~6415	1 to 93	1,45,93								
802.11a	6435~6515	97 to 113	97,105,113	OFDM	6	Ch0					
602.11a	6535~6875	117 to 185	117,149,181,185	OI DIVI	0	CIIU					
	6895~7095	189 to 229	189,209,229								

	CONDUCTED TEST									
MODE	FREQUENC	AVAILABLE	TESTED	MODULATION	RU	DATA RATE	ANTENNA			
WIODL	Y BAND	CHANNEL	CHANNEL	WIODOLATION	CONFIGURATION	(Mbps)	PORT			
	5955~6415	1 to 93	1,45,93		FULL RU					
802.11ax_HE20	6435~6515	97 to 113	97,105,113	OFDMA	26/0,26/8	MCS0	Ch0/2TX			
002.11dX_11L20	6535~6875	117 to 185	117,149,181,185	OI DIVIA	52/37,52/40	WICOU	CHUZIA			
	6895~7095	189 to 229	189 to 229 189,209,229		106/53,106/54					
	5965~6405	3 to 91	3,43,91		FULL RU 242/61,242/62					
802.11ax_HE40	6445~6525	99 to 115	99,107,115	OFDMA		MCS0	Ch0/2TX			
002.11dX_11L40	6565~6845	123 to 179	123,147,179	OI DIVIA						
	6885~7085	187 to 227	187,195,211,227							
	5985~6385	7 to 87	7,39,87							
802.11ax_HE80	6465	103	103	OFDMA	FULL RU	MCS0	Ch0/2TX			
002.11dA_11L00	6545~6865	119 to 183	119,135,151,167,183		484/65,484/66	WIOOU	CHUZIA			
	6945~7025	199 to 215	199,215							

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 17 of 599

RADIATED EMISSION TEST (BELOW 1 GHz)											
MODE	FREQUENCY	AVAILABLE	TESTED	MODULATION	DATA RATE		ANTENNA				
WIODL	BAND (MHz)	CHANNEL	CHANNEL	MODULATION	(Mb	ops)	PORT				
	5955~6415	1 to 93	45								
802.11a	6435~6515	97 to 113	105	OEDM	OFDM 6		Ch0				
002.11a	6535~6875	117 to 185	181	OFDIVI	I DIVI	J	CIIO				
	6895~7095	189 to 229	209								
	5955~6415	1 to 93	45								
802.11ax_HE20	6435~6515	97 to 113	105	OFDMA	FULL RU	MCS0	2TX				
	6535~6875	117 to 185	181	OI DIVIA	FULL RU WICOU	WICOU	217				
	6895~7095	189 to 229	209	1							

RADIATED EMISSION TEST (ABOVE 1 GHz)										
MODE	FREQUENCY	AVAILABLE	TESTED	MODULATION	DATA RATE	ANTENNA				
MODE	BAND (MHz)	CHANNEL	CHANNEL	WODULATION	(Mbps)	PORT				
	5955~6415	1 to 93	1,45,93							
	6435~6515	97 to 113	97,105,113							
802.11a	6535~6875	117 to 185	117,149,181	OFDM	6	Ch0				
	0333-0073	117 10 103	,185							
	6895~7095	189 to 229	189,209,229							

RADIATED EMISSION TEST (ABOVE 1 GHz)									
MODE	FREQUENCY	AVAILABLE	TESTED	MODULATION	RU	DATA RATE	ANTENNA		
MODE	BAND (MHz)	CHANNEL	CHANNEL	WODOLATION	CONFIGUR	(Mbps)	PORT		
	5955~6415	1 to 93	1,45,93		FULL RU				
	6435~6515	97 to 113	97,105,113		26/0,26/8				
802.11ax_HE20	6535~6875	117 to 185	117,149,181	OFDMA	52/37,52/40	MCS0	Ch0/2TX		
	0555-0075	117 10 100	,185		106/53,106/				
	6895~7095	189 to 229	189,209,229		54				
	5965~6405	3 to 91	3,43,91						
	6445~6525	99 to 115	99,107,115		FULL RU				
802.11ax_HE40	6565~6845	123 to 179	123,147,179	OFDMA	242/61,242/	MCS0	Ch0/2TX		
	6885~7085	187 to 227	187,195,211		62				
	0005-7005	107 10 227	,227						
	5985~6385	7 to 87	7,39,87						
	6465	103	103		FULL RU				
802.11ax_HE80	6545~6865	119 to 183	119,135,151	OFDMA	484/65,484/	MCS0	Ch0/2TX		
	0343 -0003	11910 103	,167,183		66				
	6945~7025	199 to 215	199,215						

## Note:

The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 18 of 599

## **MEASUREMENT UNCERTAINTY**

Test Items	U	ncertair	nty
AC Power Line Conducted Emission	+/-	2.32	dB
Output Power measurement	+/-	1	dB
Emission Bandwidth	+/-	1.53	Hz
Undesignable radiated emission measure- ment	+/-	1.68	dB
Peak Power Density	+/-	2.16	dB
Temperature	+/-	0.7	°C
Humidity	+/-	3	%
DC / AC Power Source	+/-	1	%

Radiated Spurious Emission Measurement Uncertainty							
	+/-	2.8	dB	9kHz~30MHz			
Polarization: Vertical	+/-	4.82	dB	30MHz - 1000MHz			
Polarization: Vertical	+/-	4.37	dB	1GHz - 18GHz			
	+/-	4.21	dB	18GHz - 40GHz			
	+/-	2.8	dB	9kHz~30MHz			
   Polarization: Horizontal	+/-	4.54	dB	30MHz - 1000MHz			
Polarization: Horizontal	+/-	4.37	dB	1GHz - 18GHz			
	+/-	4.21	dB	18GHz - 40GHz			

### Note:

- 1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 19 of 599

## MEASUREMENT EQUIPMENT USED

## **Emission from AC power line**

AC Power-Line Conducted Emission Test Site: Conduction 1									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
EMI Test Receiver	R&S	ESR 7	102525	02/18/2023	02/17/2024				
Pulse Limiter	SCHWARZBECK	VTSD 9561F-N	793	06/22/2022	06/21/2023				
LISN	SCHWARZBECK	NSLK 8127	01040	08/23/2022	08/22/2023				
LISN	SCHWARZBECK	NSLK 8127	01041	10/25/2022	10/24/2023				
Coaxial Cables	EMC Instruments Corp.	EMCCFD300-BM-BM- 3000	161207	06/22/2022	06/21/2023				
DC Power Supply	Agilent	E3640A	MY40005907	10/07/2022	10/06/2023				
DC Power Supply	Agilent	E3640A	KR93300208	09/08/2022	09/07/2023				
Test Software	audix	e3	Ver. 9 210322	N.C.R	N.C.R				

### **Conducted Measurement**

	Conducted Emission Test Site: Conducted 2									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071541	07/14/2022	07/13/2023					
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071541	07/13/2023	07/12/2024					
Test Software	SGS	Radio Test Software	Ver. 21	N.C.R	N.C.R					
Power Meter	Anritsu	ML2496A	2132007	09/21/2022	09/20/2023					
Power Sensor	Anritsu	MA2411B	1911391	09/21/2022	09/20/2023					
Power Sensor	Anritsu	MA2411B	1911392	09/21/2022	09/20/2023					
DC Power Supply	Agilent	E3640A	MY40005907	10/07/2022	10/06/2023					
DC Power Supply	Gwinstek	SPS-3610	GEV856761	09/13/2022	09/12/2023					
Attenuator	KEYSIGHT	8494B	TH60073121	12/14/2021	12/13/2022					
Attenuator	KEYSIGHT	8494B	TH60073121	12/13/2022	12/12/2023					
DC Block	Mini-Circuits	BLK-18-S+	1	12/14/2021	12/13/2022					
DC Block	Mini-Circuits	BLK-18-S+	1	12/13/2022	12/12/2023					

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 20 of 599

## 6.3 Contention based protocol measurement

Conducted Emission Test Site: Conducted 5										
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
DC Power Supply	Gwinstek	GPC-3060D	GEW925544	03/24/2023	03/23/2024					
DC Power Supply	Gwinstek	GPC-3060D	GEW925533	03/24/2023	03/23/2024					
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071406	06/15/2022	06/14/2023					
Frequency Extender	KEYSIGHT	N5182BX07	MY59360217	03/07/2023	03/06/2024					
Signal Generator	KEYSIGHT	N5182B	MY59100743	03/07/2023	03/06/2024					
Attenuator	Agilent	8495B	3308A22470	12/13/2022	12/12/2023					
Attenuator	HP	8494B	2812A17605	12/13/2022	12/12/2023					
DC Block	Mini-Circuits	BLK-18-S+	4	12/13/2022	12/12/2023					
Power Divider	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-020	12/13/2022	12/12/2023					
Power Divider	RF-LAMBDA	RFLT2W1G18G	21032900018	12/13/2022	12/12/2023					
Power Divider	Titan	T0510E2W118Q	22015161	12/13/2022	12/12/2023					
Power Divider	Agilent	11636B	59351	12/13/2022	12/12/2023					

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 21 of 599

## 6.4 Radiated Measurement

Radiated Emission Test Site: SAC 2									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
Horn Antenna	RF SPIN	DRH18-E	DRH18-E 210303A18-ES		02/23/2023				
Bi-log Antenna	SCHWARZBECK	VULB9168	9168-1278	02/25/2022	02/24/2023				
Loop Antenna	ETS.LINDGREN	6502	148045	10/05/2022	10/04/2023				
Horn Antenna	SCHWARZBECK	BBHA9170	184	12/30/2022	12/29/2023				
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071541	07/14/2022	07/13/2023				
Test Software	Audix	e3	Ver. 9.210322	N.C.R	N.C.R				
DC Power Supply	Agilent	E3640A	MY40005907	10/07/2022	10/06/2023				
DC Power Supply	Agilent	E3640A	KR93300208	09/08/2022	09/07/2023				
EMI Test Receiver	R&S	ESCI 7	100759	08/22/2022	08/21/2023				
Pre-Amplifier	EMCI	EMC330N	980826	08/31/2022	08/30/2023				
Pre-Amplifier	EMCI	EMC118A45SEE	980867	08/31/2022	08/30/2023				
Pre-Amplifier	EMCI	EMC184045B	980135	10/27/2022	10/26/2023				
Attenuator	Mini-Circuit	BW-S10W2+	2	12/13/2022	12/12/2023				
Bandreject Filter 5925-6425	Woken	WFIL-N5925-6425F	WRGBAFWC2F9	12/13/2022	12/12/2023				
Bandreject Filter 6425-6525	Woken	WFIL-N6425-6525F	WRGBAFWC2J1	12/13/2022	12/12/2023				
Bandreject Filter 6525-6875	Woken	WFIL-N6525-6875F	WRGBAFWC2J4	12/13/2022	12/12/2023				
Bandreject Filter 6875-7125	Woken	WFIL-N6875-7125F	WRGBAFWC2J9	12/13/2022	12/12/2023				
8.6GHz High Pass Filter	Titan	T04H86002600060S01	210619-2-7	12/13/2022	12/12/2023				
Coaxial Cables	EMCI	EMCCFD400-NM-NM-	RX Cable below 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC104-SM-SM-600	RX Cable below 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC105-SM-SM-2000	RX Cable below 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC104-SM-SM-10000	RX Cable above 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC105-SM-SM-1000	RX Cable above 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC105-SM-SM-1500	RX Cable above 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC105-SM-SM-2000	RX Cable above 1G	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMCCFD400-NM-NM-	RX Cable below 30M	08/31/2022	08/30/2023				
Coaxial Cables	EMCI	EMC105-SM-SM-2000	RX Cable below 30M	08/31/2022	08/30/2023				
Site Cal	SGS	SAC 2	N/A	08/31/2022	08/30/2023				

NOTE: N.C.R refers to Not Calibrated Required.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 险非只有的明,此想些结果做新测验之样具合善,同时此样里属是例如于。木型生主概未从司事高纯可,不可可以推测。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 22 of 599

## **CONDUCTED EMISSION TEST**

## 7.1 Standard Applicable

Frequency range within 150 kHz to 30 MHz shall not exceed the Limit table as below.

Frequency range		mits BuV)
MHz	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

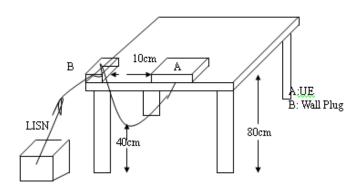
#### Note

- 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 MHz to 0.50 MHz.

## 7.2 EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The LISN was connected with 120Vac/60Hz power source.

## 7.3 Test Setup



#### 7.4 Measurement Procedure

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all phases of power being supplied by given UE are completed.

#### 7.5 Measurement Result

Note: Refer to next page for measurement data and plots.

Note2: The \* reveals the worst-case results that closest to the limit.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 23 of 599

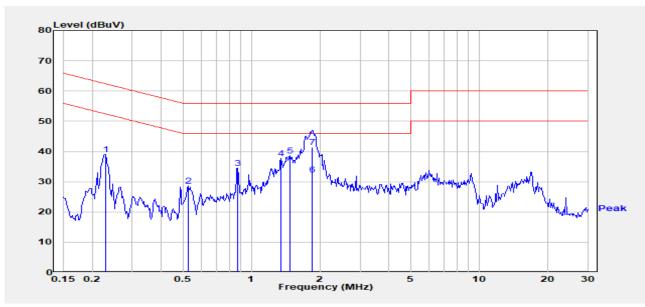
## AC POWER LINE CONDUCTED EMISSION TEST DATA

Report Number :TERF2211002261ER Test Site :Conduction 1

Test Mode :Operation (6E) Test Date :2023-03-02

Power :120V/60Hz Temp./Humi. :23.8/52

Probe :L Engineer :Ricky Chen



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS		
MHz	PK/QP/AV	dΒμV	dB	dΒμV	dΒμV	dB
0.229	Peak	28.85	10.25	39.10	62.49	-23.39
0.528	Peak	18.39	10.26	28.65	56.00	-27.35
0.870	Peak	24.05	10.34	34.39	56.00	-21.61
1.349	Peak	27.05	10.67	37.72	56.00	-18.28
1.479	Peak	27.84	10.77	38.61	56.00	-17.39
1.847	Average	21.39	11.00	32.39	46.00	-13.61
1.847	QP	30.41	11.00	41.41	56.00	-14.59

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



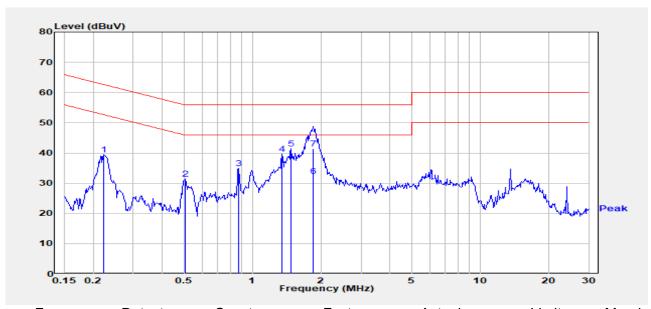
Page: 24 of 599

Report Number :TERF2211002261ER **Test Site** :Conduction 1

Test Mode :Operation (6E) Test Date :2023-03-02

Power :120V/60Hz Temp./Humi. :23.8/52

Probe :N Engineer :Ricky Chen



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit	Margin
MHz	PK/QP/AV	dΒμV	dB	dΒμV	dΒμV	dB
0.222	Peak	29.11	10.25	39.36	62.75	-23.38
0.509	Peak	21.23	10.26	31.48	56.00	-24.52
0.870	Peak	24.58	10.34	34.92	56.00	-21.08
1.349	Peak	28.93	10.67	39.60	56.00	-16.40
1.479	Peak	30.56	10.77	41.32	56.00	-14.68
1.847	Average	21.38	11.00	32.38	46.00	-13.62
1.847	QP	30.46	11.00	41.46	56.00	-14.54

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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. t (886-2) 2299-3279 台灣檢驗科技股份有限公司

www.sqs.com.tw



Page: 25 of 599

### **EMISSION BANDWIDTH**

## **Standard Applicable**

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

#### 8.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the Antenna port to the spectrum analyzer.
  - 3.a. 26dB Band width Measurement: Set the spectrum analyzer as 1% of emission BW Sweep=auto,

Detector = Peak.

Trace Mode = Max Hold,

Manually readjust RBW until the RBW/EBW ratio is 1% based on EBW as observed on the result of pre-sequence measurement.

- 3.b. Mark the peak frequency and -26dB (upper and lower) frequency.
- 4. Repeat the procedures as list above until all test default channels (low, middle, and high) are completed.
- 5. For 99% Bandwidth: Set the spectrum analyzer as

RBW=1%,

VBW = 3\*RBW,

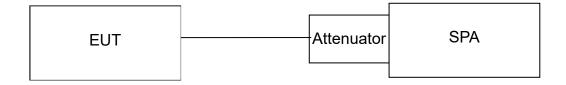
Span = 30M/50MHz,

Detector=Sample,

Sweep=auto.

- 6. Turn on the 99% bandwidth function, max reading.
- 7. Repeat above procedures until all frequency of interest measured was complete.

#### Test Setup 8.3



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 26 of 599



#### **Measurement Result**

#### 8.4.1 **Bandwidth** SISO

802.11a\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
1	5955	16.450	19.95
45	6175	16.490	20.42
93	6415	16.435	20.72
97	6435	16.456	20.61
105	6475	16.465	20.37
113	6515	16.478	20.63
117	6535	16.514	20.19
149	6695	16.452	20.08
181	6855	16.454	20.11
185	6875(U-NII 7)	8.241	10.08
185	6875(U-NII 8)	8.241	10.08
189	6895	16.434	20.65
209	6995	16.427	20.17
229	7095	16.492	20.49

## 802.11ax\_HE20\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
1	5955	19.045	21.31
45	6175	19.022	21.41
93	6415	18.991	21.60
97	6435	19.019	21.33
105	6475	19.002	21.18
113	6515	18.996	21.43
117	6535	18.988	21.16
149	6695	19.033	21.32
181	6855	18.974	21.48
185	6875(U-NII 7)	9.499	10.63
185	6875(U-NII 8)	9.499	10.63
189	6895	18.995	21.38
209	6995	19.000	21.30
229	7095	18.998	21.48

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 27 of 599

## 802.11ax\_HE40\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
3	5965	37.504	39.72
43	6165	37.502	40.16
91	6405	37.385	39.82
99	6445	37.461	40.30
107	6485	37.454	39.85
115	6525(U-NII 6)	18.728	19.89
115	6525(U-NII 7)	18.728	19.89
123	6565	37.527	39.69
147	6685	37.436	39.76
179	6845	37.519	39.70
187	6885(U-NII 7)	8.753	9.94
187	6885(U-NII 8)	28.753	29.94
195	6925	37.493	39.57
211	7005	37.410	39.76
227	7085	37.500	40.00

## 802.11ax\_HE80\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
7	5985	76.995	80.69
39	6145	77.045	81.05
87	6385	76.866	80.76
103	6465	77.019	80.97
119	6545(U-NII 6)	18.560	20.62
119	6545(U-NII 7)	58.560	60.62
135	6625	77.109	81.05
151	6705	76.927	80.65
167	6785	76.886	80.55
183	6865(U-NII 7)	48.587	50.36
183	6865(U-NII 8)	28.587	30.36
199	6945	77.007	80.88
215	7025	76.910	81.18

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



**MIMO** 

Report No.: TERF2211002262ER

Page: 28 of 599

### 802.11ax\_HE20\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
1	5955	18.985	21.50
45	6175	18.993	21.30
93	6415	18.998	21.63
97	6435	19.012	21.40
105	6475	18.982	21.13
113	6515	19.017	21.28
117	6535	19.069	21.14
149	6695	19.026	21.48
181	6855	18.988	21.22
185	6875(U-NII 7)	9.509	10.67
185	6875(U-NII 8)	9.509	10.67
189	6895	18.995	21.25
209	6995	19.024	21.19
229	7095	19.039	21.38

## 802.11ax\_HE20\_Ch1

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
1	5955	18.997	21.28
45	6175	19.007	21.31
93	6415	19.037	21.16
97	6435	19.011	20.96
105	6475	19.059	21.32
113	6515	19.033	21.07
117	6535	19.001	21.28
149	6695	19.041	21.27
181	6855	19.023	21.47
185	6875(U-NII 7)	9.499	10.47
185	6875(U-NII 8)	9.499	10.47
189	6895	19.050	21.42
209	6995	19.052	21.03
229	7095	19.098	21.42

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 29 of 599

## 802.11ax\_HE40\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
3	5965	37.548	40.19
43	6165	37.493	39.81
91	6405	37.591	40.08
99	6445	37.478	39.66
107	6485	37.468	39.97
115	6525(U-NII 6)	18.722	19.83
115	6525(U-NII 7)	18.722	19.83
123	6565	37.470	39.62
147	6685	37.633	39.69
179	6845	37.473	40.32
187	6885(U-NII 7)	8.713	9.77
187	6885(U-NII 8)	28.713	29.77
195	6925	37.495	39.65
211	7005	37.524	39.52
227	7085	37.514	39.93

#### 802.11ax\_HE40\_Ch1

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
3	5965	37.536	39.44
43	6165	37.485	39.59
91	6405	37.565	39.35
99	6445	37.600	39.57
107	6485	37.488	39.71
115	6525(U-NII 6)	18.775	20.00
115	6525(U-NII 7)	18.775	20.00
123	6565	37.525	39.75
147	6685	37.474	39.39
179	6845	37.570	39.66
187	6885(U-NII 7)	8.759	9.87
187	6885(U-NII 8)	28.759	29.87
195	6925	37.527	39.37
211	7005	37.558	39.43
227	7085	37.565	39.58

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 30 of 599

## 802.11ax\_HE80\_Ch0

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
7	5985	76.982	80.83
39	6145	77.130	81.12
87	6385	77.029	80.50
103	6465	76.986	80.62
119	6545(U-NII 6)	18.511	20.53
119	6545(U-NII 7)	58.511	60.53
135	6625	76.944	80.56
151	6705	76.693	81.18
167	6785	76.984	80.99
183	6865(U-NII 7)	48.495	50.54
183	6865(U-NII 8)	28.495	30.54
199	6945	76.895	80.28
215	7025	76.794	80.55

#### 802.11ax\_HE80\_Ch1

СН	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
7	5985	76.896	80.66
39	6145	76.874	80.69
87	6385	77.152	80.88
103	6465	76.933	80.56
119	6545(U-NII 6)	18.510	20.52
119	6545(U-NII 7)	58.510	60.52
135	6625	77.062	80.45
151	6705	77.052	80.74
167	6785	77.081	80.51
183	6865(U-NII 7)	48.533	50.57
183	6865(U-NII 8)	28.533	30.57
199	6945	76.945	80.83
215	7025	76.796	80.60

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 31 of 599

#### SISO 802.11a 20MHz Chain0 6435MHz 802.11a\_20MHz\_Chain0\_5955MHz Frequency • Frequency • ٥ KEYSIGHT Input RF KEYSIGHT Input RF Settings Settings Freq Ref: Int (S) Span 30.000 MHz Ref Lvi Offset 12.78 dB 1 Graph Ref Lvl Offset 12.78 dB Ref Value 20.00 dBm Scale/Div 10.0 dB CF Step 3.000000 MHz Auto Man Auto Man Freq Offse Freq Offset 0 Hz Center 5.95500 GHz #Res BW 220.00 kHz leasure Trace Occupied Bandwidth 16.456 MHz Occupied Bandwidth 16.450 MHz 12.0 dBm Total Power 11.7 dBm % of OBW Power x dB Transmit Freq Error Transmit Freq Error x dB Bandwidth % of OBW Power x dB 99.00 % -26.00 dB Local Local ■ 17 C ■ ? Jan 03, 2023 ● .: 🖫 🖁 💢 4 9 C 1 ? Jan 03, 2023 802.11a\_20MHz\_Chain0\_6175MHz 802.11a\_20MHz\_Chain0\_6475MHz Frequency + ٥ Frequency • Ö KEYSIGHT Input RF KEYSIGHT Input RE 6.475000000 GHz Settings Ref Lvl Offset 12.78 dB Ref Lvi Offset 12.78 dB 30,000 MHz Scalathir 10.0 dB Scale/Div 10.0 dB CF Ster Auto Man Auto Man Freq Offset 0 Hz Jeasure Trace leasure Trace Occupied Bandwidth 16.465 MHz Occupied Bandwidth 16.490 MHz 12.0 dBm 11,2 dBm % of OBW Power x dB Transmit Freq Error x dB Baryluses % of OBW Power x dB Local Local ■ 9 Am (3), 2023 ● 1 5 C 1 2 Jan 03, 2023 9 .: ¥ = X .:: 🗑 🗆 💢 802.11a\_20MHz\_Chain0\_6515MHz 802.11a 20MHz Chain0 6415MHz ectrum Analyzer 1 cupied BW ٥ Frequency • Spectrum Analyzer 1 . 215 KEYSIGHT Input RE Trig: Free Run Gate: Off #IF Gain: Low KEYSIGHT Input RF Settings Freq Ref. Int (S) Span 30.000 MHz Ref Lvi Offset 12.78 dB Ref Value 20.00 dBm 30,000 MHz Ref LvI Offset 12.78 dB Scale/Div 10.0 dB CF Step 3.000000 MHz CF Step 3.000000 MHz Auto Man Auto Man Freq Offset 0 Hz Freq Offset Occupied Bandwidth 16.478 MHz Occupied Bandwidth 16.435 MHz Total Power 10.9 dBm Total Power 11.4 dBm % of OBW Pow x dB Transmit Freq Error x dB Bandwidth % of OBW Power x dB 99.00 % -26.00 dB Local

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

.:: 🔻 🖹 💥

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488

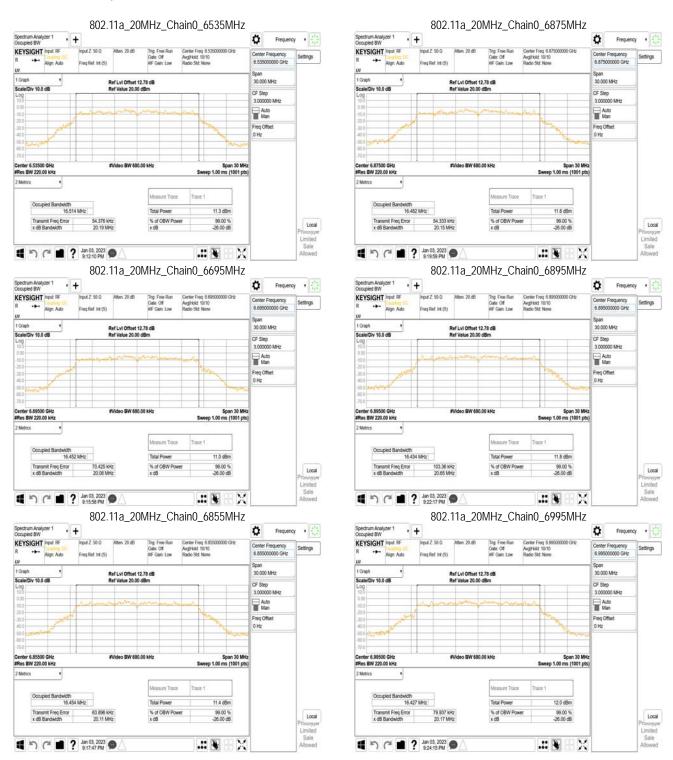
■ 1 C ■ ? Jan 03, 2023 ●

4 9 C 1 ? Jan 03, 2023

.: 🕦 🖁 🗙



Page: 32 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大司如公海侧。

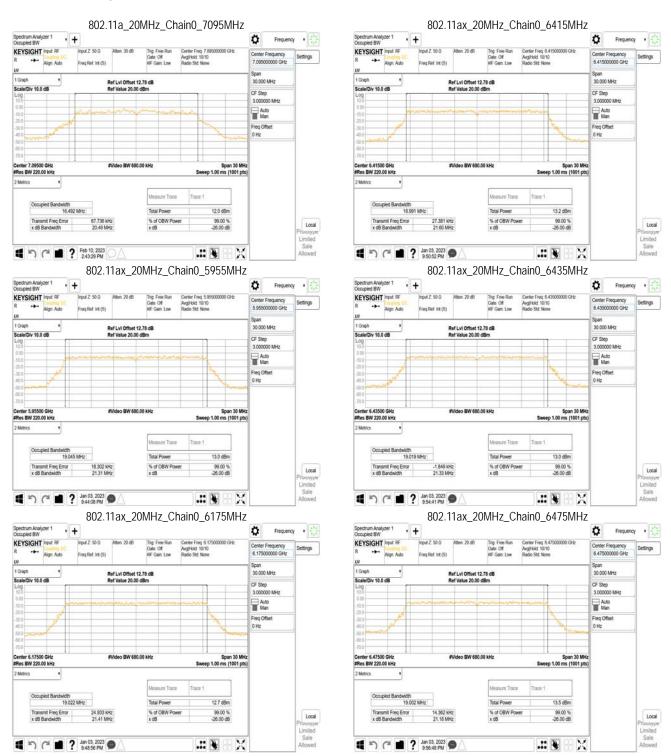
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 33 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大司如公海侧。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 34 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大司如公海侧。

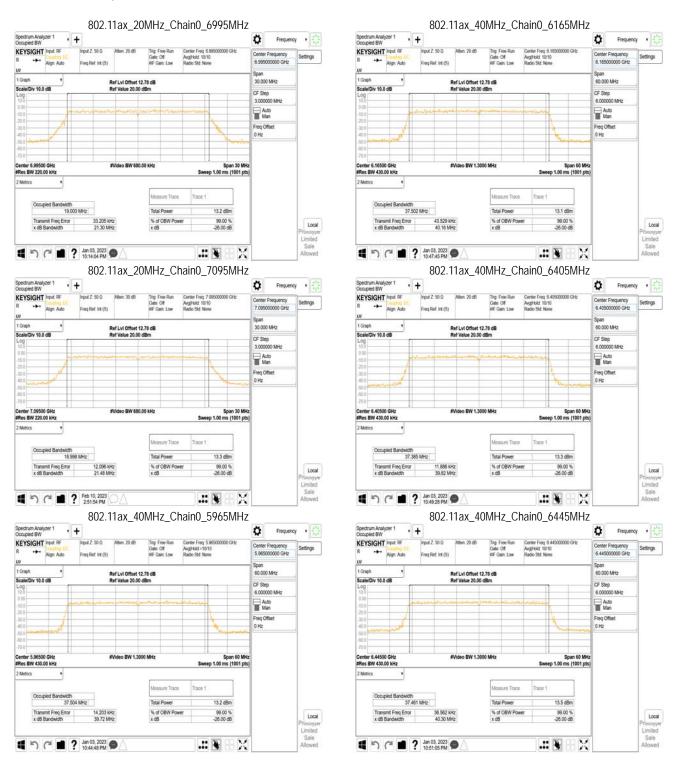
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 35 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有的用,他都是好用属對個對分類具有害,同時他與只屬是例的子。未都些主權大利司事而雖可,不可與以資制。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 36 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除北京方的时,他就是在国际影响是少锋只会表,同时他接口底尺向的手,太阳如此连侧。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 37 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除北京方的时,他就是在国际影响是少锋只会表,同时他接口底尺向的手,太阳如此连侧。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 38 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

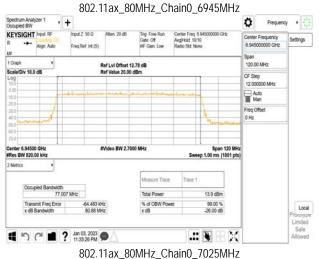
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

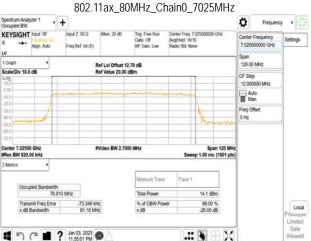
SGS Taiwan Ltd.

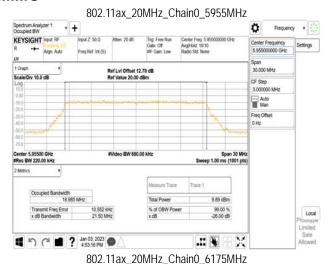


Page: 39 of 599

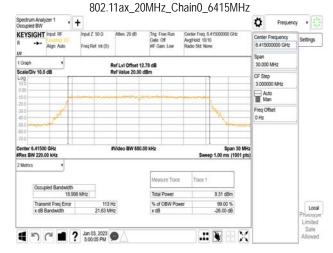
### **MIMO**











Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有的用,他都是好用属對個對分換具有害,同時他幾乎區程內的子。木都些主權大公司事而強可,不可與以資剩。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 40 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 41 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 42 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除北京方的时,他就是在国际影响是少锋只会表,同时他接口底尺向的手,太阳如此连侧。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 43 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 44 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 45 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 46 of 599



除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 47 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大型企业等等。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 48 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大司如公海侧。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 49 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除北京方的时,他就是在国际影响是少锋只会表,同时他接口底尺向的手,太阳如此连侧。

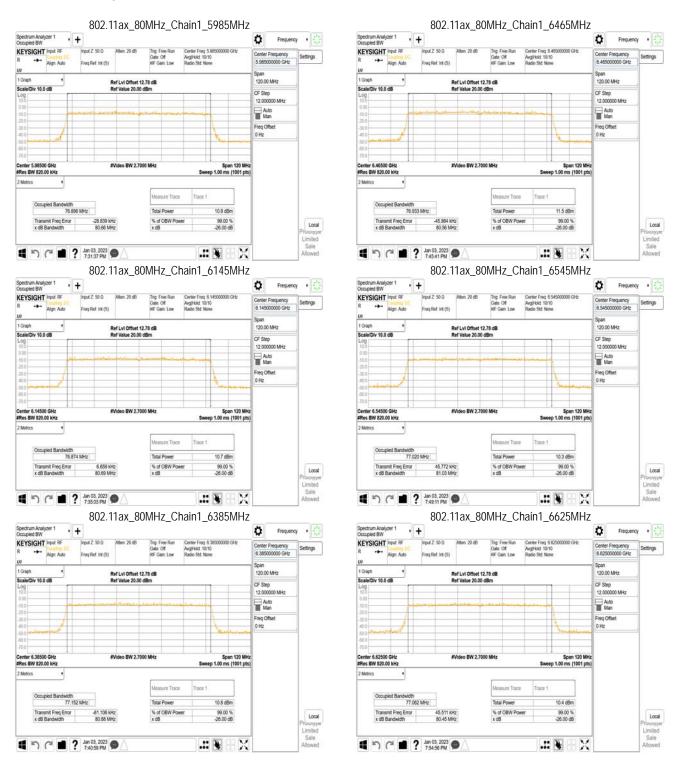
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 50 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除北京方的时,他就是在国际影响是少锋只会表,同时他接口底尺向的手,太阳如此连侧。

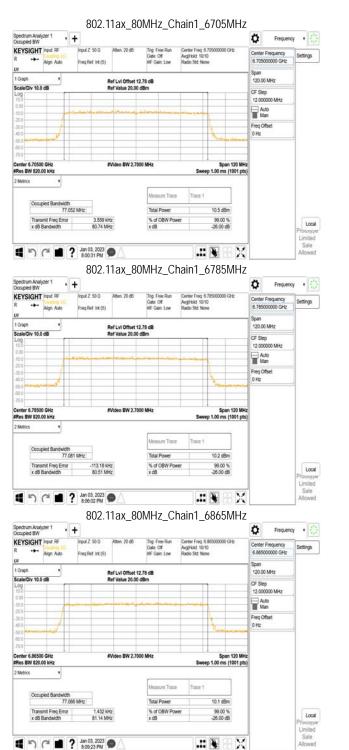
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

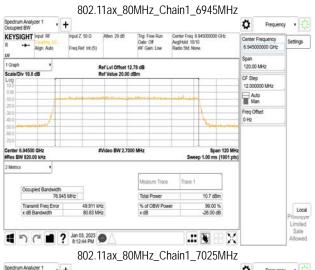
f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 51 of 599







Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有的用,他都是好用属對個對分換具有害,同時他幾乎區程內的子。木都些主權大公司事而強可,不可與以資剩。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 52 of 599

## MAXIMUM OUTPUT POWER

# Standard Applicable

#### 9.1.1 **Duty Cycle**

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

#### 9.1.2 **Output Power**

§15.407(a)

- (4) For a standard power access point and fixed client device operating in the 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm.
  - For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
- (5) For an indoor access point operating in the 5.925-7.125 GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.
- (6) For a subordinate device operating under the control of an indoor access point in the 5.925-7.125 GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.
- (7) For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm and the device must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.
- (8) For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 53 of 599

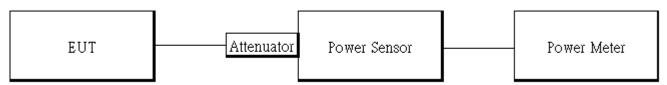
	EUT CATEGORY	Equipment Class	§15.407(a)	§RSS 248 4.6	
	Standard Access Point	6SD	EIRP < 36dBm and antenna angle above 30 degrees < 21dBm EIRP for outdoor use	EIDD 4 204D	
	indoor Access Point	6ID	EIRP < 30dBm	EIRP < 30dBm	
	Subordinate Device	6PP	EIRP < 30dBm	1	
	Fixed Client	6FC	EIRP < 36dBm and antenna angle above 30 degrees < 21dBm EIRP for outdoor use		
٧	Indoor Client	6XD	EIRP < 24dBm		
	Standard Client	6FX	EIRP < 30dBm no more than 6 dB below its associated standard power access point's authorized trans-mit power	EIRP < 24dBm	
	Dual Client	6CD	Compliance both indoor clinet and standard client limit		

### 9.2 Test Setup

### 9.2.1 **Duty Cycle**



#### 9.2.2 **Output Power**



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 54 of 599

### Note

As per section F. 2). e). (ii) and F. 2). f). of FCC KDB 662911 D01 If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

• DirectionalGain = 
$$10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^{2}}{N_{ANT}} \right]$$

### where

Each antenna is driven by no more than one spatial stream; NSS = the number of independent spatial streams of data; NANT = the total number of antennas  $g_{j,k} = 10^{Gk/20}$  if the kth antenna is being fed by spatial stream j, or zero if it is not;  $G_k$  is the gain in dBi of the kth antenna.

- (i) If all antennas have the same gain, *GANT*, Directional gain = GANT + Array Gain, where Array Gain is as follows.
- For power measurements on IEEE 802.11 devices,  $Array\ Gain = 0\ dB$  (i.e., no array gain) for  $N_{ANT} \le 4$

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 55 of 599

## 9.3 Measurement Procedure

#### 9.3.1 **Duty Cycle**

- 1. Set span = Zero
- 2. RBW = 8MHz
- VBW = 8MHz,
- Detector = Peak

#### 9.3.2 **Output Power**

- Place the EUT on the table and set it in transmitting mode. 1.
- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
- Power Meter is used as the auxiliary test equipment to conduct the output power meas-4. urement.
- Record the max. reading and add 10 log(1/duty cycle).
- Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.
- MIMO mode: offset is set with "measure and add 10 Log (N)" to measurement for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

The maximum antenna gain is selected just like below.

SISO/ MIMO	Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)
SISO	Dipole	Molex	146153	5925~7125	5.8
OMIM	Dipole	Unictron	WT32D1-KX	5925~7125	4

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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/新北市五股區新北產業園區五工路 134 號

www.sqs.com.tw

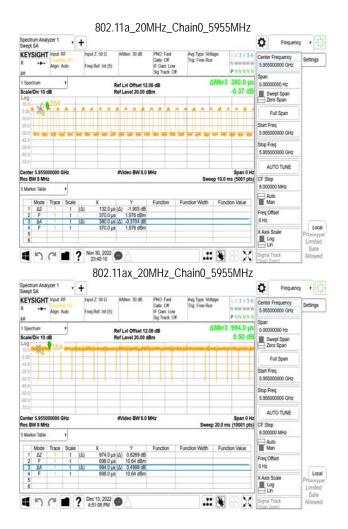


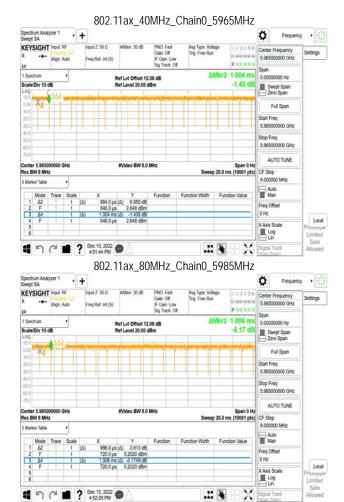
Page: 56 of 599

## **Measurement Result**

#### 9.4.1 **Duty Cycle**

Mode	Duty Cycle (%) =Ton / (Ton+Toff)	Duty Factor (dB) =10*log ( 1/Duty Cycle )	1/T (kHz)	VBW setting (kHz)
802.11a	34.74	4.59	7.58	8.00
802.11ax_20	97.99	0.09	1.03	2.00
802.11ax_40	98.01	0.09	1.02	0.01
802.11ax_80	98.01	0.09	1.01	0.01





Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 57 of 599

#### **Conducted output power** 9.4.2

SISO

802 11a Ch0

CH	Frequency (MHz)	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
1	5955	2.98	5.8	8.78	24	PASS
45	6175	2.94	5.8	8.74	24	PASS
93	6415	2.83	5.8	8.63	24	PASS
97	6435	2.97	5.8	8.77	24	PASS
105	6475	2.92	5.8	8.72	24	PASS
113	6515	2.87	5.8	8.67	24	PASS
117	6535	2.91	5.8	8.71	24	PASS
149	6695	2.80	5.8	8.60	24	PASS
181	6855	2.82	5.8	8.62	24	PASS
185	6875(U-NII 7)	0.89	5.8	6.69	24	PASS
185	6875(U-NII 8)	0.89	5.8	6.69	24	PASS
189	6895	3.87	5.8	9.67	24	PASS
209	6995	3.95	5.8	9.75	24	PASS
229	7095	3.65	5.8	9.45	24	PASS

## 802.11a Ch1

СН	Frequency (MHz)	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
1	5955	2.81	5.8	8.61	24	PASS
45	6175	2.93	5.8	8.73	24	PASS
93	6415	2.75	5.8	8.55	24	PASS
97	6435	2.96	5.8	8.76	24	PASS
105	6475	2.71	5.8	8.51	24	PASS
113	6515	2.67	5.8	8.47	24	PASS
117	6535	2.76	5.8	8.56	24	PASS
149	6695	2.78	5.8	8.58	24	PASS
181	6855	2.70	5.8	8.50	24	PASS
185	6875(U-NII 7)	0.50	5.8	6.30	24	PASS
185	6875(U-NII 8)	0.50	5.8	6.30	24	PASS
189	6895	3.70	5.8	9.50	24	PASS
209	6995	3.77	5.8	9.57	24	PASS
233	7115	3.51	5.8	9.31	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 58 of 599

# 802.11ax HE20 Ch0

СН	Frequency (MHz)	RU config.	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
		full	5.96	5.8	11.76	24	PASS
1	5955	26/0	-3.18	5.8	2.62	24	PASS
1	5955	52/37	-1.14	5.8	4.66	24	PASS
		106/53	1.97	5.8	7.77	24	PASS
45	6175	full	5.98	5.8	11.78	24	PASS
		full	5.55	5.8	11.35	24	PASS
02	6445	26/8	-3.11	5.8	2.69	24	PASS
93	6415	52/40	-1.02	5.8	4.78	24	PASS
		106/54	1.95	5.8	7.75	24	PASS
		full	4.83	5.8	10.63	24	PASS
07	6405	26/0	-3.12	5.8	2.68	24	PASS
97	6435	52/37	-1.07	5.8	4.73	24	PASS
		106/53	1.94	5.8	7.74	24	PASS
105	6475	full	4.98	5.8	10.78	24	PASS
	6515	full	4.89	5.8	10.69	24	PASS
440		26/8	-3.20	5.8	2.60	24	PASS
113		52/40	-1.02	5.8	4.78	24	PASS
		106/54	1.93	5.8	7.73	24	PASS
	6535	full	5.97	5.8	11.77	24	PASS
447		26/0	-3.31	5.8	2.49	24	PASS
117		52/37	-1.01	5.8	4.79	24	PASS
		106/53	1.97	5.8	7.77	24	PASS
149	6695	full	5.88	5.8	11.68	24	PASS
		full	5.89	5.8	11.69	24	PASS
404	0055	26/8	-3.03	5.8	2.77	24	PASS
181	6855	52/40	-1.09	5.8	4.71	24	PASS
		106/54	1.65	5.8	7.45	24	PASS
185	6875(U-NII 7)	full	2.97	5.8	8.77	24	PASS
185	6875(U-NII 8)	full	2.97	5.8	8.77	24	PASS
		full	5.91	5.8	11.71	24	PASS
100	GOOF	26/0	-3.06	5.8	2.74	24	PASS
189	6895	52/37	-1.07	5.8	4.73	24	PASS
		106/53	1.96	5.8	7.76	24	PASS
209	6995	full	5.98	5.8	11.78	24	PASS
		full	5.96	5.8	11.76	24	PASS
200	7005	26/8	-3.12	5.8	2.68	24	PASS
229	7095	52/40	-1.16	5.8	4.64	24	PASS
		106/54	1.97	5.8	7.77	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 59 of 599

# 802.11ax HE20 Ch1

СН	Frequency (MHz)	RU config.	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
		full	5.61	5.8	11.41	24	PASS
	5055	26/0	-3.19	5.8	2.61	24	PASS
1	5955	52/37	-1.17	5.8	4.63	24	PASS
		106/53	1.77	5.8	7.57	24	PASS
45	6175	full	5.58	5.8	11.38	24	PASS
		full	5.53	5.8	11.33	24	PASS
02	6445	26/8	-3.21	5.8	2.59	24	PASS
93	6415	52/40	-1.18	5.8	4.62	24	PASS
		106/54	1.93	5.8	7.73	24	PASS
		full	4.82	5.8	10.62	24	PASS
07	0405	26/0	-3.25	5.8	2.55	24	PASS
97	6435	52/37	-1.11	5.8	4.69	24	PASS
		106/53	1.92	5.8	7.72	24	PASS
105	6475	full	4.97	5.8	10.77	24	PASS
		full	4.88	5.8	10.68	24	PASS
113	6515	26/8	-3.39	5.8	2.41	24	PASS
113	0515	52/40	-1.11	5.8	4.69	24	PASS
		106/54	1.73	5.8	7.53	24	PASS
	6535	full	5.52	5.8	11.32	24	PASS
117		26/0	-3.47	5.8	2.33	24	PASS
117		52/37	-1.16	5.8	4.64	24	PASS
		106/53	1.94	5.8	7.74	24	PASS
149	6695	full	5.77	5.8	11.57	24	PASS
		full	5.83	5.8	11.63	24	PASS
181	6855	26/8	-3.07	5.8	2.73	24	PASS
101	0000	52/40	-1.14	5.8	4.66	24	PASS
		106/54	1.63	5.8	7.43	24	PASS
185	6875(U-NII 7)	full	2.91	5.8	8.71	24	PASS
185	6875(U-NII 8)	full	2.91	5.8	8.71	24	PASS
		full	5.86	5.8	11.66	24	PASS
100	6905	26/0	-3.20	5.8	2.60	24	PASS
189	6895	52/37	-1.08	5.8	4.72	24	PASS
		106/53	1.94	5.8	7.74	24	PASS
209	6995	full	5.96	5.8	11.76	24	PASS
		full	5.93	5.8	11.73	24	PASS
220	7005	26/8	-3.16	5.8	2.64	24	PASS
229	7095	52/40	-1.17	5.8	4.63	24	PASS
		106/54	1.95	5.8	7.75	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 60 of 599

# 802.11ax HE40 Ch0

СН	Frequency (MHz)	RU config.	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
3	5965	full	7.92	5.8	13.72	24	PASS
3	3903	242/61	4.87	5.8	10.67	24	PASS
43	6165	full	<b>7.98</b>	5.8	13.78	24	PASS
91	6405	full	7.90	5.8	13.70	24	PASS
31	0403	242/62	4.99	5.8	10.79	24	PASS
99	6445	full	7.85	5.8	13.65	24	PASS
99	0445	242/61	4.98	5.8	10.78	24	PASS
107	6485	full	7.78	5.8	13.58	24	PASS
107	0403	242/62	4.95	5.8	10.75	24	PASS
115	6525(U-NII 6)	full	4.98	5.8	10.78	24	PASS
115	6525(U-NII 7)	full	4.98	5.8	10.78	24	PASS
123	GEGE	full	7.81	5.8	13.61	24	PASS
123	6565	242/61	4.98	5.8	10.78	24	PASS
147	6685	full	7.95	5.8	13.75	24	PASS
179	6845	full	7.92	5.8	13.72	24	PASS
179	0043	242/62	4.85	5.8	10.65	24	PASS
187	6885(U-NII 7)	full	1.59	5.8	7.39	24	PASS
187	6885(U-NII 8)	full	6.75	5.8	12.55	24	PASS
195	6925	full	7.92	5.8	13.72	24	PASS
190	0920	242/61	4.76	5.8	10.56	24	PASS
211	7005	full	7.77	5.8	13.57	24	PASS
227	7095	full	7.99	5.8	13.79	24	PASS
221	7085	242/62	4.95	5.8	10.75	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有的用,他都是好用属對個對分換具有害,同時他幾乎區程內的子。木都些主權大公司事而強可,不可與以資剩。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 61 of 599

# 802.11ax HE40 Ch1

CH	Frequency (MHz)	RU config.	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
3	5965	full	7.80	5.8	13.60	24	PASS
	3903	242/61	4.86	5.8	10.66	24	PASS
43	6165	full	7.86	5.8	13.66	24	PASS
91 6405	6405	full	7.86	5.8	13.66	24	PASS
	0403	242/62	4.66	5.8	10.46	24	PASS
99	6445	full	7.62	5.8	13.42	24	PASS
99	0445	242/61	4.74	5.8	10.54	24	PASS
107 6485	full	7.59	5.8	13.39	24	PASS	
107	0400	242/62	4.84	5.8	10.64	24	PASS
115	6525(U-NII 6)	full	4.81	5.8	10.61	24	PASS
115	6525(U-NII 7)	full	4.81	5.8	10.61	24	PASS
123	6565	full	7.64	5.8	13.44	24	PASS
123	0000	242/61	4.96	5.8	10.76	24	PASS
147	6685	full	7.94	5.8	13.74	24	PASS
179	6845	full	7.66	5.8	13.46	24	PASS
179	0045	242/62	4.77	5.8	10.57	24	PASS
187	6885(U-NII 7)	full	1.44	5.8	7.24	24	PASS
187	6885(U-NII 8)	full	6.60	5.8	12.40	24	PASS
195	6925	full	7.65	5.8	13.45	24	PASS
190	0923	242/61	4.74	5.8	10.54	24	PASS
211	7005	full	7.57	5.8	13.37	24	PASS
227	7095	full	7.91	5.8	13.71	24	PASS
221	7085	242/62	4.88	5.8	10.68	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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. t (886-2) 2299-3279



Page: 62 of 599

# 802.11ax HE80 Ch0

СН	Frequency (MHz)	RU config.	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
7	5985	full	7.96	5.8	13.76	24	PASS
,	3903	484/65	7.99	5.8	13.79	24	PASS
39	6145	full	7.98	5.8	13.78	24	PASS
87	6385	full	7.92	5.8	13.72	24	PASS
07	6385	484/66	7.94	5.8	13.74	24	PASS
		full	7.99	5.8	13.79	24	PASS
103	6465	484/65	7.94	5.8	13.74	24	PASS
		484/66	7.83	5.8	13.63	24	PASS
119	6545(U-NII 6)	full	1.76	5.8	7.56	24	PASS
119	6545(U-NII 7)	full	6.75	5.8	12.55	24	PASS
125	6605	full	7.79	5.8	13.59	24	PASS
135	6625	484/65	7.72	5.8	13.52	24	PASS
151	6705	full	7.88	5.8	13.68	24	PASS
167	6785	full	7.86	5.8	13.66	24	PASS
107	0705	484/66	7.87	5.8	13.67	24	PASS
183	6865(U-NII 7)	full	5.82	5.8	11.62	24	PASS
183	6865(U-NII 8)	full	3.51	5.8	9.31	24	PASS
100	6045	full	7.97	5.8	13.77	24	PASS
199	6945	484/65	7.99	5.8	13.79	24	PASS
215	7025	full	7.96	5.8	13.76	24	PASS
215	7025	484/66	7.96	5.8	13.76	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 险非只有的明,此想些结果做新测验之缘具负责,同时此模具做是例如于。木型生主领水公司事面纯可,不可可以推测。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 63 of 599

## 802.11ax HE80 Ch1

СН	Frequency (MHz)	RU config.	Average POWER +Factor (dBm)	Antenna Gain (dBi)	EIRP (dBm)	REQUIRED EIRP LIMIT (dBm)	RESULT
7	5985	full	7.80	5.8	13.60	24	PASS
1	3963	484/65	7.86	5.8	13.66	24	PASS
39	6145	full	7.88	5.8	13.68	24	PASS
87	6385	full	7.84	5.8	13.64	24	PASS
01	0303	484/66	7.72	5.8	13.52	24	PASS
		full	7.84	5.8	13.64	24	PASS
103	6465	484/65	7.86	5.8	13.66	24	PASS
		484/66	7.71	5.8	13.51	24	PASS
119	6545(U-NII 6)	full	1.59	5.8	7.39	24	PASS
119	6545(U-NII 7)	full	6.58	5.8	12.38	24	PASS
135	6625	full	7.61	5.8	13.41	24	PASS
133	0025	484/65	7.60	5.8	13.40	24	PASS
151	6705	full	7.85	5.8	13.65	24	PASS
167	6785	full	7.74	5.8	13.54	24	PASS
107	0700	484/66	7.77	5.8	13.57	24	PASS
183	6865(U-NII 7)	full	5.70	5.8	11.50	24	PASS
183	6865(U-NII 8)	full	3.39	5.8	9.19	24	PASS
199	6945	full	7.78	5.8	13.58	24	PASS
199	0945	484/65	7.88	5.8	13.68	24	PASS
215	7025	full	7.84	5.8	13.64	24	PASS
215	7025	484/66	7.87	5.8	13.67	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有铅明,此就是结果做新加速之緣具有書,同時此樣具備是例如于。大規集主權大公司書面對可,不可可以猶剩。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 64 of 599

### **MIMO**

	x_20_2TX Frequency			POWER +	TOTAL	Antenna	EIRP	REQUIRED	
СН	(MHz)	RU config.		r(dBm)	POWER	Gain	(dBm)	EIRP LIMIT	RESULT
	(		CH 0	CH 1	(dBm)	(dBi)	(====)	(dBm)	
		full	3.26	2.60	5.95	4	9.951	24	PASS
1	5955	26/0	-5.89	-6.29	-3.08	4	0.923	24	PASS
'	0300	52/37	-4.22	-3.93	-1.06	4	2.936	24	PASS
		106/53	-1.09	-0.95	1.99	4	5.989	24	PASS
45	6175	full	3.51	2.36	5.98	4	9.981	24	PASS
		full	2.65	3.28	5.98	4	9.985	24	PASS
93	6415	26/8	-6.54	-6.31	-3.41	4	0.585	24	PASS
93	0415	52/40	-3.69	-4.42	-1.03	4	2.969	24	PASS
		106/54	-1.01	-1.34	1.84	4	5.837	24	PASS
		full	1.63	2.06	4.86	4	8.859	24	PASS
07	6425	26/0	-6.25	-6.56	-3.39	4	0.606	24	PASS
97 6435	0435	52/37	-3.98	-4.07	-1.02	4	2.984	24	PASS
		106/53	-0.85	-1.24	1.97	4	5.968	24	PASS
105	6475	full	1.51	2.36	4.96	4	8.964	24	PASS
		full	2.46	1.42	4.98	4	8.980	24	PASS
440	6515	26/8	-6.12	-5.98	-3.04	4	0.959	24	PASS
113		52/40	-3.66	-4.57	-1.08	4	2.917	24	PASS
		106/54	-0.40	-1.77	1.98	4	5.977	24	PASS
	0505	full	2.44	1.41	4.96	4	8.964	24	PASS
447		26/0	-5.90	-6.14	-3.01	4	0.990	24	PASS
117	6535	52/37	-3.77	-5.06	-1.36	4	2.641	24	PASS
		106/53	-1.05	-1.99	1.51	4	5.514	24	PASS
149	6695	full	1.80	2.04	4.93	4	8.930	24	PASS
		full	1.65	1.91	4.79	4	8.790	24	PASS
404	0055	26/8	-7.12	-5.93	-3.48	4	0.524	24	PASS
181	6855	52/40	-4.46	-4.17	-1.30	4	2.696	24	PASS
		106/54	-1.46	-1.06	1.75	4	5.753	24	PASS
185	6875(U-NII 7)	full	-2.86	-1.59	0.83	4	4.829	24	PASS
185	6875(U-NII 8)	full	-2.86	-1.59	0.83	4	4.829	24	PASS
	, , ,	full	0.55	1.33	3.97	4	7.966	24	PASS
400		26/0	-7.34	-7.14	-4.23	4	-0.230	24	PASS
189	6895	52/37	-4.64	-5.44	-2.01	4	1.987	24	PASS
		106/53	-1.95	-2.15	0.96	4	4.960	24	PASS
209	6995	full	0.00	1.37	3.75	4	7.747	24	PASS
		full	0.81	1.12	3.98	4	7.976	24	PASS
		26/8	-6.58	-7.94	-4.20	4	-0.198	24	PASS
229	7095	52/40	-4.64	-5.93	-2.23	4	1.771	24	PASS
		106/54	-2.22	-1.85	0.98	4	4.977	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 65 of 599

802.11ax 40 2TX

СН	Frequency	RU config.	_	POWER + (dBm)	TOTAL	Antenna Gain	EIRP	REQUIRED EIRP LIMIT	RESULT
OI I	(MHz)	no comig.	CH 0	CH 1	(dBm)	(dBi)	(dBm)	(dBm)	REGOET
3	5965	full	5.15	4.81	7.99	4	11.991	24	PASS
3	3903	242/61	1.72	2.21	4.98	4	8.980	24	PASS
43	6165	full	5.47	4.14	7.86	4	11.863	24	PASS
91	6405	full	5.59	4.08	7.91	4	11.908	24	PASS
91	0405	242/62	2.46	1.24	4.90	4	8.900	24	PASS
99	6445	full	4.45	5.17	7.83	4	11.832	24	PASS
99	0445	242/61	2.21	1.74	4.99	4	8.989	24	PASS
107	6485	full	4.53	4.97	7.76	4	11.763	24	PASS
107	0400	242/62	1.82	1.48	4.66	4	8.661	24	PASS
115	6525(U-NII 6)	full	1.73	2.19	4.97	4	8.973	24	PASS
115	6525(U-NII 7)	full	1.73	2.19	4.97	4	8.973	24	PASS
123	6565	full	4.44	4.69	7.57	4	11.574	24	PASS
123	0303	242/61	1.25	1.75	4.51	4	8.515	24	PASS
147	6685	full	5.44	4.42	7.97	4	11.967	24	PASS
179	6845	full	5.27	4.32	7.83	4	11.829	24	PASS
179	0043	242/62	1.44	2.28	4.89	4	8.888	24	PASS
187	6885(U-NII 7)	full	-1.62	-1.44	1.48	4	5.479	24	PASS
187	6885(U-NII 8)	full	3.56	3.72	6.65	4	10.651	24	PASS
195	6925	full	4.51	5.17	7.86	4	11.860	24	PASS
195	0925	242/61	1.72	1.75	4.74	4	8.743	24	PASS
211	7005	full	4.93	4.96	7.95	4	11.953	24	PASS
227	7085	full	4.76	4.34	7.56	4	11.563	24	PASS
221	7000	242/62	1.92	1.15	4.56	4	8.560	24	PASS

802.11ax 80 2TX

СН	Frequency	RU config.		POWER + r(dBm)	TOTAL POWER	Antenna Gain	EIRP	REQUIRED EIRP LIMIT	RESULT
011	(MHz)	ito comig.	CH 0	CH 1	(dBm)	(dBi)	(dBm)	(dBm)	REGOET
7	5985	full	4.88	5.06	7.98	4	11.979	24	PASS
'	3963	484/65	4.00	3.96	6.99	4	10.988	24	PASS
39	6145	full	4.99	4.97	7.99	4	11.988	24	PASS
07	6205	full	5.08	4.84	7.97	4	11.969	24	PASS
87	6385	484/66	4.55	3.12	6.90	4	10.901	24	PASS
		full	4.47	5.35	7.94	4	11.940	24	PASS
103	6465	484/65	4.62	5.31	7.99	4	11.986	24	PASS
		484/66	4.33	5.33	7.87	4	11.866	24	PASS
119	6545(U-NII 6)	full	-0.95	-1.71	1.69	4	5.692	24	PASS
119	6545(U-NII 7)	full	4.04	3.28	6.69	4	10.690	24	PASS
135	6625	full	5.24	4.55	7.92	4	11.916	24	PASS
133	0025	484/65	4.18	3.10	6.68	4	10.681	24	PASS
151	6705	full	4.97	4.76	7.87	4	11.874	24	PASS
167	6705	full	5.18	4.72	7.96	4	11.964	24	PASS
167	6785	484/66	3.84	3.60	6.73	4	10.729	24	PASS
183	6865(U-NII 7)	full	2.64	2.81	5.74	4	9.736	24	PASS
183	6865(U-NII 8)	full	0.33	0.50	3.43	4	7.428	24	PASS
199	6945	full	4.78	5.13	7.97	4	11.966	24	PASS
199	0940	484/65	4.81	5.15	7.99	4	11.991	24	PASS
215	7025	full	4.82	5.05	7.94	4	11.944	24	PASS
213	7025	484/66	4.94	4.85	7.90	4	11.903	24	PASS

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 66 of 599

## 10 MAXIMUM POWER SPECTRAL DENSITY

# 10.1 Standard Applicable

§15.407(a)

- (4) For a standard power access point and fixed client device operating in the 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum power spectral density must not exceed 23 dBm e.i.r.p in any 1-megahertz band.
- (5) For an indoor access point operating in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p. in any 1-megahertz band.
- (6) For a subordinate device operating under the control of an indoor access point in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p in any 1-megahertz band.
- (7) For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum power spectral density must not exceed 17 dBm e.i.r.p. in any 1- megahertz band.
- (8) For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum power spectral density must not exceed -1 dBm e.i.r.p. in any 1megahertz band.

	EUT CATEGORY	Equipment Class	§15.407(a)	§RSS 248 4.6	
	Standard Access Point	6SD	EIRP < 23dBm/MHz		
	indoor Access Point	6ID	EIRP < 5dBm/MHz	EIRP < 5dBm	
	Subordinate Device	6PP	EIRP < 5dBm/MHz		
	Fixed Client	6FC	EIRP < 23dBm/MHz		
٧	Indoor Client	6XD	EIRP < -1dBm/MHz		
	Standard Client	6FX	EIRP < 17dBm/MHz	EIRP < -1dBm/MHz	
	Dual Client	6CD	Compliance both indoor clinet and standard client limits		

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 67 of 599

### Note

As per section F. 2). e). (ii) and F. 2). f). of FCC KDB 662911 D01 If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

• Directional Gain = 
$$10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^{2}}{N_{ANT}} \right]$$

### where

Each antenna is driven by no more than one spatial stream;

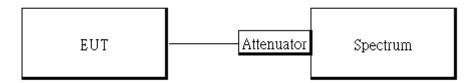
NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

 $g_{j,k}$  = / 20 10Gk if the kth antenna is being fed by spatial stream j, or zero if it is not;  $G_k$  is the gain in dBi of the kth antenna.

- (i) If all antennas have the same gain, *GANT*, Directional gain = GANT + Array Gain, where Array Gain is as follows.
- For power spectral density (PSD) measurements on all devices Array Gain =  $10 \log(N_{ANT}/N_{SS}) dB$ .

# 10.2 Test Setup



### 10.3 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
- 4. Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
- 5. User the cursor on spectrum to peak search the highest level of trace
- 6. Record the max. reading and add 10 log(1/duty cycle).
- 7. Repeat above procedures until all default test channel (low, middle, and high) was complete.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 68 of 599

8. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure the PSD for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

Note: For the test of PSD at MIMO mode, the highest emission of worst case employing Measure and add 10 log (N) technical is reported after the comparison between Main Antenna at single transmitting mode and Aux that yields the higher value. The MIMO transmitting mode produces higher value of outcome.

9. The maximum directional gain is selected just like below.

SISO/ MIMO	Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Directional Gain(dBi)
SISO	Dipole	Molex	146153	5925~7125	5.8	5.8
MIMO	Dipole	Unictron	WT32D1-KX	5925~7125	4	7.01

## 10.4 Measurement Result

#### Power spectral density 10.4.1

# 9190

		POWER	R DENSITY 802.11a M	ODE			
Frequency (MHz)	PSD (dBm/MHz) Ch0 meas	Duty Factor (dB)	Maxmum Corr'd PSD(dBm/MHz)	Maxmum Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
5955	-11.83	4.59	-7.24	5.80	-1.44	-1	-0.44
6175	-12.18	4.59	-7.59	5.80	-1.79	-1	-0.79
6415	-11.64	4.59	-7.05	5.80	-1.25	-1	-0.25
6435	-11.78	4.59	-7.19	5.80	-1.39	-1	-0.39
6475	-12.05	4.59	-7.46	5.80	-1.66	-1	-0.66
6515	-11.90	4.59	-7.31	5.80	-1.51	-1	-0.51
6535	-11.61	4.59	-7.02	5.80	-1.22	-1	-0.22
6695	-11.53	4.59	-6.94	5.80	-1.14	-1	-0.14
6855	-12.02	4.59	-7.43	5.80	-1.63	-1	-0.63
6875(U-NII 7)	-10.72	4.59	-10.72	5.80	-4.92	-1	-3.92
6875(U-NII 8)	-10.72	4.59	-10.72	5.80	-4.92	-1	-3.92
6895	-11.99	4.59	-7.40	5.80	-1.60	-1	-0.60
6995	-11.66	4.59	-7.07	5.80	-1.27	-1	-0.27
7095	-11.41	4.59	-6.82	5.80	-1.02	-1	-0.02

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 69 of 599

			POWER DI	ENSITY 802.11ax HE2	0 MODE			
Frequency (MHz)	RU config.	PSD (dBm/MHz) Ch0 meas	Duty Factor (dB)	Maxmum Corr'd PSD(dBm/MHz)	Maxmum Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
	full	-7.104	0.09	-7.01	5.8	-1.21	-1	-0.21
	26/0	-6.982	0.09	-6.89	5.8	-1.09	-1	-0.09
5955	52/37	-7.291	0.09	-7.20	5.8	-1.40	-1	-0.40
	106/53	-7.226	0.09	-7.14	5.8	-1.34	-1	-0.34
6175	full	-7.132	0.09	-7.04	5.8	-1.24	-1	-0.24
	full	-6.961	0.09	-6.87	5.8	-1.07	-1	-0.07
	26/8	-6.978	0.09	-6.89	5.8	-1.09	-1	-0.09
6415	52/40	-6.998	0.09	-6.91	5.8	-1.11	-1	-0.11
	106/54	-7.084	0.09	-6.99	5.8	-1.19	-1	-0.19
	full	-7.276	0.09	-7.19	5.8	-1.39	-1	-0.39
0.405	26/0	-6.969	0.09	-6.88	5.8	-1.08	-1	-0.08
6435	52/37	-6.990	0.09	-6.90	5.8	-1.10	-1	-0.10
	106/53	-7.220	0.09	-7.13	5.8	-1.33	-1	-0.33
6475	full	-7.066	0.09	-6.98	5.8	-1.18	-1	-0.18
2545	full	-6.964	0.09	-6.87	5.8	-1.07	-1	-0.07
	26/8	-6.916	0.09	-6.83	5.8	-1.03	-1	-0.03
6515	52/40	-7.240	0.09	-7.15	5.8	-1.35	-1	-0.35
	106/54	-7.393	0.09	-7.30	5.8	-1.50	-1	-0.50
	full	-7.336	0.09	-7.25	5.8	-1.45	-1	-0.45
	26/0	-7.204	0.09	-7.11	5.8	-1.31	-1	-0.31
6535	52/37	-7.269	0.09	-7.18	5.8	-1.38	-1	-0.38
	106/53	-7.390	0.09	-7.30	5.8	-1.50	-1	-0.50
6695	full	-7.120	0.09	-7.03	5.8	-1.23	-1	-0.23
	full	-7.309	0.09	-7.22	5.8	-1.42	-1	-0.42
	26/8	-7.246	0.09	-7.16	5.8	-1.36	-1	-0.36
6855	52/40	-7.225	0.09	-7.14	5.8	-1.34	-1	-0.34
	106/54	-7.163	0.09	-7.07	5.8	-1.27	-1	-0.27
6875(U-NII 7)	full	-9.149	0.09	-9.15	5.8	-3.35	-1	-2.35
6875(U-NII 8)	full	-9.149	0.09	-9.15	5.8	-3.35	-1	-2.35
(	full	-7.116	0.09	-7.03	5.8	-1.23	-1	-0.23
	26/0	-6.964	0.09	-6.87	5.8	-1.07	-1	-0.07
6895	52/37	-7.019	0.09	-6.93	5.8	-1.13	-1	-0.13
	106/53	-7.165	0.09	-7.08	5.8	-1.28	-1	-0.28
6995	full	-7.255	0.09	-7.17	5.8	-1.37	-1	-0.37
0000	full	-7.323	0.09	-7.23	5.8	-1.43	-1	-0.43
	26/8	-7.047	0.09	-6.96	5.8	-1.16	-1	-0.16
7095	52/40	-7.047	0.09	-6.99	5.8	-1.19	-1	-0.19
	106/54	-7.004	0.09	-7.29	5.8	-1.19	-1	-0.19

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 70 of 599

			DOWER D	ENGITY 902 44ex UE4	0 MODE									
	POWER DENSITY 802.11ax HE40 MODE													
Frequency (MHz)	RU config.	PSD (dBm/MHz) Ch0 meas	Duty Factor (dB)	Maxmum Corr'd PSD(dBm/MHz)	Maxmum Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)						
5005	full	-7.755	0.00	-7.76	5.8	-1.96	-1	-0.96						
5965	242/61	-7.049	0.00	-7.05	5.8	-1.25	-1	-0.25						
6165	full	-8.237	0.00	-8.24	5.8	-2.44	-1	-1.44						
6405	full	-7.372	0.00	-7.37	5.8	-1.57	-1	-0.57						
0405	242/62	-7.184	0.00	-7.18	5.8	-1.38	-1	-0.38						
6445	full	-7.760	0.00	-7.76	5.8	-1.96	-1	-0.96						
0445	242/61	-7.220	0.00	-7.22	5.8	-1.42	-1	-0.42						
6485	full	-7.274	0.00	-7.27	5.8	-1.47	-1	-0.47						
0400	242/62	-7.256	0.00	-7.26	5.8	-1.46	-1	-0.46						
6525(U-NII 6)	full	-10.862	0.00	-10.86	5.8	-5.06	-1	-4.06						
6525(U-NII 7)	full	-10.862	0.00	-10.86	5.8	-5.06	-1	-4.06						
6565	full	-8.015	0.00	-8.02	5.8	-2.22	-1	-1.22						
	242/61	-7.342	0.00	-7.34	5.8	-1.54	-1	-0.54						
6685	full	-7.962	0.00	-7.96	5.8	-2.16	-1	-1.16						
6845	full	-7.813	0.00	-7.81	5.8	-2.01	-1	-1.01						
	242/62	-7.188	0.00	-7.19	5.8	-1.39	-1	-0.39						
6885(U-NII 7)	full	-14.557	0.00	-14.56	5.8	-8.76	-1	-7.76						
6885(U-NII 8)	full	-9.392	0.00	-9.39	5.8	-3.59	-1	-2.59						
6925	full	-8.655	0.00	-8.66	5.8	-2.86	-1	-1.86						
0920	242/61	-7.021	0.00	-7.02	5.8	-1.22	-1	-0.22						
7005	full	-8.865	0.00	-8.87	5.8	-3.07	-1	-2.07						
7085	full	-8.192	0.00	-8.19	5.8	-2.39	-1	-1.39						
7005	242/62	-8.138	0.00	-8.14	5.8	-2.34	-1	-1.34						

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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



Page: 71 of 599

			DOWED D	ENSITY 802.11ax HE8	0 MODE			
			POWER DE	ENSITY 802.118X HE8	O MODE			
Frequency (MHz)	RU config.	PSD (dBm/MHz) Ch0 meas	Duty Factor (dB)	Maxmum Corr'd PSD(dBm/MHz)	Maxmum Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
5005	full	-10.676	0.00	-10.68	5.8	-4.88	-1	-3.88
5985	484/65	-7.643	0.00	-7.64	5.8	-1.84	-1	-0.84
6145	full	-10.903	0.00	-10.90	5.8	-5.10	-1	-4.10
6005	full	-11.660	0.00	-11.66	5.8	-5.86	-1	-4.86
6385	484/66	-7.410	0.00	-7.41	5.8	-1.61	-1	-0.61
	full	-10.040	0.00	-10.04	5.8	-4.24	-1	-3.24
6465	484/65	-7.682	0.00	-7.68	5.8	-1.88	-1	-0.88
	484/66	-7.260	0.00	-7.26	5.8	-1.46	-1	-0.46
6545(U-NII 6)	full	-16.938	0.00	-16.94	5.8	-11.14	-1	-10.14
6545(U-NII 7)	full	-11.948	0.00	-11.95	5.8	-6.15	-1	-5.15
CCOF	full	-11.070	0.00	-11.07	5.8	-5.27	-1	-4.27
6625	484/65	-7.957	0.00	-7.96	5.8	-2.16	-1	-1.16
6705	full	-11.118	0.00	-11.12	5.8	-5.32	-1	-4.32
6785	full	-11.569	0.00	-11.57	5.8	-5.77	-1	-4.77
0700	484/66	-8.123	0.00	-8.12	5.8	-2.32	-1	-1.32
6865(U-NII 7)	full	-13.356	0.00	-13.36	5.8	-7.56	-1	-6.56
6865(U-NII 8)	full	-15.659	0.00	-15.66	5.8	-9.86	-1	-8.86
6045	full	-11.306	0.00	-11.31	5.8	-5.51	-1	-4.51
6945	484/65	-8.241	0.00	-8.24	5.8	-2.44	-1	-1.44
7025	full	-11.186	0.00	-11.19	5.8	-5.39	-1	-4.39
7025	484/66	-7.680	0.00	-7.68	5.8	-1.88	-1	-0.88

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 72 of 599

### MIMO

POWER DENSITY 802.11ax HE20 MODE												
_		PSD (dB	m/MHz)	Duty								
Frequency (MHz)	RU config.	Ch0 meas	Ch1 meas	Factor (dB)	Total Corr'd PSD(dBm/MHz)	Directional Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)			
	full	-12.268	-10.432	0.09	-8.15	7.01	-1.14	-1	-0.14			
5055	26/0	-12.731	-10.158	0.09	-8.16	7.01	-1.15	-1	-0.15			
5955	52/37	-12.923	-10.243	0.09	-8.28	7.01	-1.27	-1	-0.27			
	106/53	-12.798	-10.323	0.09	-8.29	7.01	-1.28	-1	-0.28			
6175	full	-12.069	-10.840	0.09	-8.31	7.01	-1.30	-1	-0.30			
	full	-11.462	-11.070	0.09	-8.16	7.01	-1.15	-1	-0.15			
	26/8	-11.961	-10.884	0.09	-8.29	7.01	-1.28	-1	-0.28			
6415	52/40	-11.724	-11.171	0.09	-8.34	7.01	-1.33	-1	-0.33			
	106/54	-11.924	-11.233	0.09	-8.46	7.01	-1.45	-1	-0.45			
	full	-12.117	-10.648	0.09	-8.22	7.01	-1.21	-1	-0.21			
0.405	26/0	-12.346	-10.913	0.09	-8.47	7.01	-1.46	-1	-0.46			
6435	52/37	-12.391	-10.547	0.09	-8.27	7.01	-1.26	-1	-0.26			
	106/53	-12.599	-10.811	0.09	-8.51	7.01	-1.50	-1	-0.50			
6475	full	-12.760	-10.689	0.09	-8.50	7.01	-1.49	-1	-0.49			
	full	-10.950	-11.336	0.09	-8.04	7.01	-1.03	-1	-0.03			
0545	26/8	-11.744	-11.302	0.09	-8.42	7.01	-1.41	-1	-0.41			
6515	52/40	-11.519	-11.160	0.09	-8.24	7.01	-1.23	-1	-0.23			
	106/54	-11.227	-11.206	0.09	-8.12	7.01	-1.11	-1	-0.11			
	full	-10.957	-11.536	0.09	-8.14	7.01	-1.13	-1	-0.13			
	26/0	-10.469	-12.048	0.09	-8.09	7.01	-1.08	-1	-0.08			
6535	52/37	-10.558	-11.832	0.09	-8.05	7.01	-1.04	-1	-0.04			
	106/53	-10.626	-12.159	0.09	-8.22	7.01	-1.21	-1	-0.21			
6695	full	-12.171	-10.723	0.09	-8.29	7.01	-1.28	-1	-0.28			
	full	-11.259	-11.713	0.09	-8.38	7.01	-1.37	-1	-0.37			
	26/8	-11.480	-11.019	0.09	-8.14	7.01	-1.13	-1	-0.13			
6855	52/40	-11.219	-11.920	0.09	-8.46	7.01	-1.45	-1	-0.45			
	106/54	-11.209	-12.012	0.09	-8.49	7.01	-1.48	-1	-0.48			
6875(U-NII 7)	full	-14.057	-12.578	0.09	-10.24	7.01	-3.23	-1	-2.23			
6875(U-NII 8)	full	-14.057	-12.578	0.09	-10.24	7.01	-3.23	-1	-2.23			
3370(0-14110)	full	-11.013	-12.102	0.09	-8.42	7.01	-1.41	-1	-0.41			
	26/0	-10.859	-12.081	0.09	-8.33	7.01	-1.32	-1	-0.32			
6895	52/37	-11.083	-11.841	0.09	-8.35	7.01	-1.34	-1	-0.34			
	106/53	-11.049	-11.979	0.09	-8.39	7.01	-1.38	-1	-0.38			
6995	full	-12.031	-10.847	0.09	-8.30	7.01	-1.29	-1	-0.29			
0330		-10.893	-12.260	0.09	-8.42	7.01	-1.41	-1	-0.23			
	full	-11.068	-11.990	0.09	-8.40	7.01	-1.39	-1	-0.41			
7095	26/8	-10.697	-11.886	0.09	-8.15	7.01	-1.14	-1	-0.39			
	52/40											
	106/54	-10.933	-11.842	0.09	-8.26	7.01	-1.25	-1	-0.25			

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除业只有约明,此程生处用度影响经少锋中乌害,同时此类早度原列的主,大司如公海侧。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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 No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

Member of SGS Group



Page: 73 of 599

	POWER DENSITY 802.11ax HE40 MODE												
		PSD (dB	m/MHz)	Duty									
Frequency (MHz)	RU config.	Ch0 meas	Ch1 meas	Factor (dB)	Total Corr'd PSD(dBm/MHz)	Directional Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)				
FOCE	full	-13.678	-11.551	0.00	-9.48	7.01	-2.47	-1	-1.47				
5965	242/61	-12.803	-10.592	0.00	-8.55	7.01	-1.54	-1	-0.54				
6165	full	-12.319	-12.304	0.00	-9.30	7.01	-2.29	-1	-1.29				
0.405	full	-10.720	-12.033	0.00	-8.32	7.01	-1.31	-1	-0.31				
6405	242/62	-11.380	-11.419	0.00	-8.39	7.01	-1.38	-1	-0.38				
2115	full	-13.476	-10.286	0.00	-8.58	7.01	-1.57	-1	-0.57				
6445	242/61	-12.660	-10.457	0.00	-8.41	7.01	-1.40	-1	-0.40				
0.40=	full	-13.671	-10.878	0.00	-9.04	7.01	-2.03	-1	-1.03				
6485	242/62	-12.242	-10.584	0.00	-8.32	7.01	-1.31	-1	-0.31				
6525(U-NII 6)	full	-14.702	-13.602	0.00	-11.11	7.01	-4.10	-1	-3.10				
6525(U-NII 7)	full	-14.702	-13.602	0.00	-11.11	7.01	-4.10	-1	-3.10				
0505	full	-10.622	-11.777	0.00	-8.15	7.01	-1.14	-1	-0.14				
6565	242/61	-11.125	-11.536	0.00	-8.32	7.01	-1.31	-1	-0.31				
6685	full	-11.366	-11.721	0.00	-8.53	7.01	-1.52	-1	-0.52				
6845	full	-11.529	-11.403	0.00	-8.46	7.01	-1.45	-1	-0.45				
0043	242/62	-11.330	-11.840	0.00	-8.57	7.01	-1.56	-1	-0.56				
6885(U-NII 7)	full	-17.529	-18.342	0.00	-14.91	7.01	-7.90	-1	-6.90				
6885(U-NII 8)	full	-12.350	-13.179	0.00	-9.73	7.01	-2.72	-1	-1.72				
0005	full	-11.218	-11.370	0.00	-8.28	7.01	-1.27	-1	-0.27				
6925	242/61	-11.171	-11.983	0.00	-8.55	7.01	-1.54	-1	-0.54				
7005	full	-13.088	-11.400	0.00	-9.15	7.01	-2.14	-1	-1.14				
7005	full	-11.003	-11.524	0.00	-8.25	7.01	-1.24	-1	-0.24				
7085	242/62	-11.208	-11.776	0.00	-8.47	7.01	-1.46	-1	-0.46				

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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

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

www.sgs.com.tw



Page: 74 of 599

	POWER DENSITY 802.11ax HE80 MODE												
		PSD (dB	m/MHz)	Dutv									
Frequency (MHz)	RU config.	Ch0 meas	Ch1 meas	Factor (dB)	Total Corr'd PSD(dBm/MHz)	Directional Gain(dBi)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)				
5985	full	-15.553	-14.346	0.00	-11.90	7.01	-4.89	-1	-3.89				
5965	484/65	-13.491	-11.497	0.00	-9.37	7.01	-2.36	-1	-1.36				
6145	full	-14.447	-13.831	0.00	-11.12	7.01	-4.11	-1	-3.11				
6385	full	-12.743	-13.933	0.00	-10.29	7.01	-3.28	-1	-2.28				
0300	484/66	-11.133	-12.079	0.00	-8.57	7.01	-1.56	-1	-0.56				
	full	-15.264	-13.248	0.00	-11.13	7.01	-4.12	-1	-3.12				
6465	484/65	-13.066	-10.393	0.00	-8.52	7.01	-1.51	-1	-0.51				
	484/66	-12.843	-9.941	0.00	-8.14	7.01	-1.13	-1	-0.13				
6545(U-NII 6)	full	-19.482	-21.019	0.00	-17.17	7.01	-10.16	-1	-9.16				
6545(U-NII 7)	full	-14.484	-16.021	0.00	-12.17	7.01	-5.16	-1	-4.16				
0005	full	-11.982	-14.427	0.00	-10.02	7.01	-3.01	-1	-2.01				
6625	484/65	-10.462	-12.607	0.00	-8.39	7.01	-1.38	-1	-0.38				
6705	full	-15.497	-14.284	0.00	-11.84	7.01	-4.83	-1	-3.83				
6785	full	-14.916	-14.679	0.00	-11.79	7.01	-4.78	-1	-3.78				
0700	484/66	-10.770	-11.858	0.00	-8.27	7.01	-1.26	-1	-0.26				
6865(U-NII 7)	full	-16.504	-16.932	0.00	-13.70	7.01	-6.69	-1	-5.69				
6865(U-NII 8)	full	-18.814	-19.239	0.00	-16.01	7.01	-9.00	-1	-8.00				
6045	full	-14.469	-14.314	0.00	-11.38	7.01	-4.37	-1	-3.37				
6945	484/65	-11.626	-11.686	0.00	-8.65	7.01	-1.64	-1	-0.64				
7005	full	-15.651	-14.184	0.00	-11.85	7.01	-4.84	-1	-3.84				
7025	484/66	-11.821	-10.948	0.00	-8.35	7.01	-1.34	-1	-0.34				

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

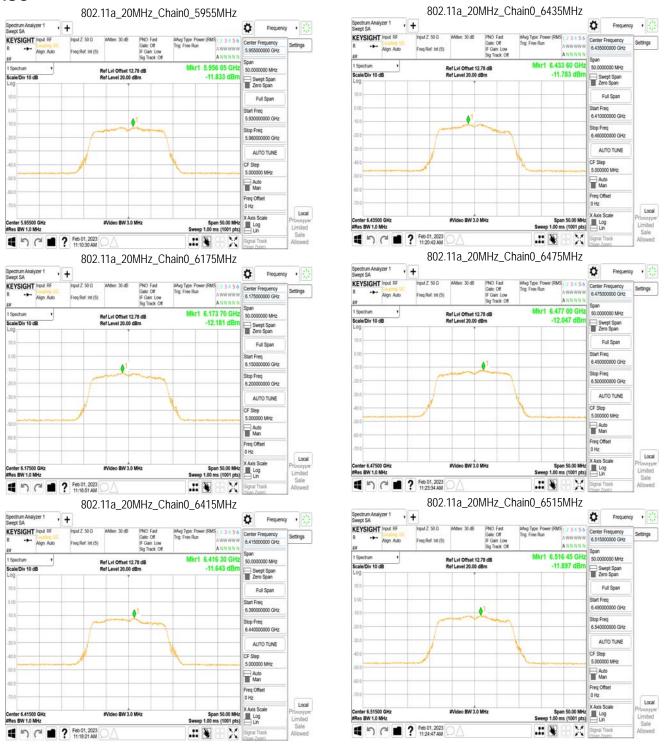
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 75 of 599





Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非兄右铃阳,此都先结单属秦州阳岭之梯是台青,同时此样是薛星望的子。木都先来领太公司事而碎可,不可驾岭海剿。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 76 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

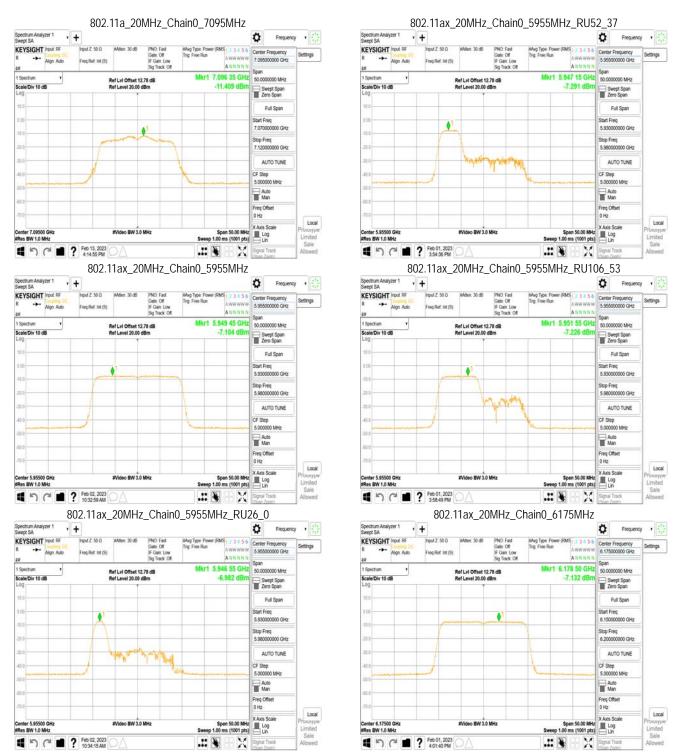
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 77 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.



Page: 78 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有說明,此報生來用屬對個對文學具有書,同時此業具屬是例的子。未報生主權未公司書面對可,不可可以推測。

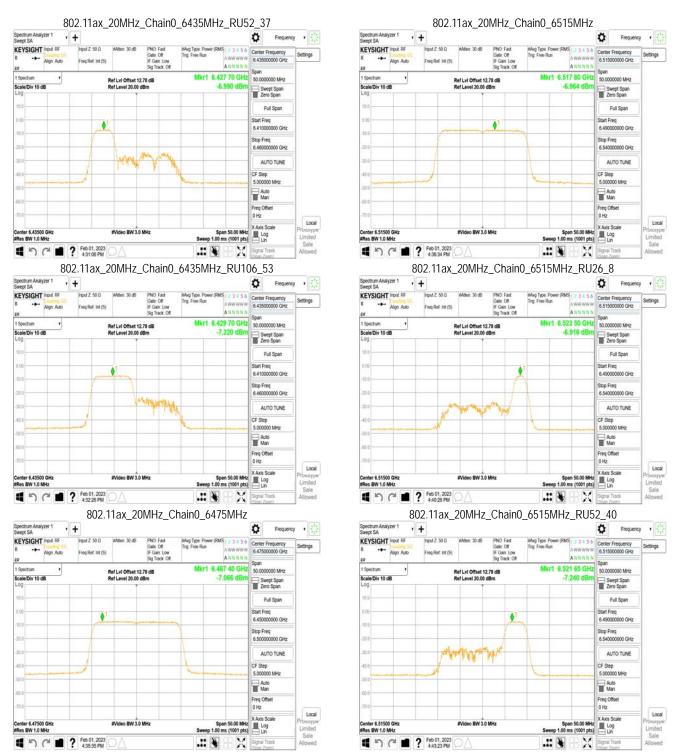
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.



Page: 79 of 599



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非只有的用,他都是结果做新测验之样具色素,同时他接具做是例如于。木型生产概率从同事而连可,不可如必指制。

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</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.

f (886-2) 2298-0488

SGS Taiwan Ltd.