

Page: 1 of 237

# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

# INTENTIONAL RADIATOR CERTIFICATION TO **FCC PART 15 SUBPART E REQUIREMENT**

Acer Being Signage (Taiwan) Inc.

**Applicant:** 7F.-5, No.369, Fuxing N. Rd., Songshan Dist., Taipei City

105, Taiwan (R.O.C.)

**Product Name:** Smart Computer Stick

acer / BYOC **Brand Name:** Model No.: ABS-3G1

**Model Difference:** N/A

FCC ID: 2APRRABS-3G1 **Report Number:** E2/2018/50028 **FCC Rule Part:** §15.407, Cat:NII Issue Date: Jun. 08, 2018

Date of Test: Apr. 25, 2018~ Jun. 04, 2018

Date of EUT Received: Apr. 25, 2018

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory 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 tested as described in this report is in compliance with conducted and radiated emission limits.

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

Tested By:

Aken Huang / Engineer

Approved By:

Jim Chang / Manager





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

SGS Taiwan Ltd.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 t (886-2) 2299-3279 f (886-2) 2298-0488



Page: 2 of 237

# **Revision History**

Report Number	Revision	Description	Effected Page	Issue Date	Revised By
E2/2018/50028	Rev.00	Initial creation of document	All	Jun. 08, 2018	Violetta Tang

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



Page: 3 of 237

# **Contents**

1	GENERAL INFORMATION	4
2	SYSTEM TEST CONFIGURATION	7
3	SUMMARY OF TEST RESULT	9
4	DESCRIPTION OF TEST MODES	10
5	MEASUREMENT UNCERTAINTY	15
6	CONDUCTED EMISSION TEST	16
7	DUTY CYCLE TEST SIGNAL	22
8	26dB & 6dB EMISSION BANDWIDTH MEASUREMENT	26
9	MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT	48
10	PEAK POWER SPECTRAL DENSITY	52
11	UNDESIRABLE RADIATED EMISSION MEASUREMENT	64
12	TRANSMISSION IN THE ABSENCE OF DATA	215
13	FREQUENCY STABILITY	216
14	ANTENNA REQUIREMENT	237

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



Page: 4 of 237

## **GENERAL INFORMATION**

## 1.1 Product Description

#### General:

iai.				
Product Name:	Smart Com	Smart Computer Stick		
Brand Name:	acer / BYO	acer / BYOC		
Model No.:	ABS-3G1			
Model difference:	N/A	N/A		
Hardware Version:	N/A			
Software Version:	N/A			
	12V from A	12V from AC/DC Adapter		
Power Supply:	Adapter:	<ol> <li>Model No.: FSP036-RBBN2, Supplier: FSP GROUP INC.</li> <li>Model No.: DA-36A12, Supplier: Asian Power Devices Inc.</li> </ol>		

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



Page: 5 of 237

#### **WLAN 5GHz:**

GHz:					
Wi-Fi	Frequency Range	Channels	Avg. Power (dBm)	Modulation Technology	
	5180~5240	4	17.11		
44 - 00	5260~5320	4	16.82	OFDM	
11a_20	5500~5720	12	15.67	OFDM	
	5745-5825	6	18.94		
	5180~5240	4	HT: 19.58		
11n_HT /	5260~5320	4	HT: 19.98	05014	
ac_VHT 20M	5500~5720	12	HT: 17.79	OFDM	
20101	5745-5825	6	HT: 20.48		
	5190~5230	2	HT: 18.02		
11n_HT /	5270~5310	2	HT: 18.25		
ac_VHT 40M	5510~5710	6	HT: 17.33	OFDM	
40101	5755~5795	3	HT: 20.12		
	5210	1	14.81	OFDM	
11ac	5290	1	17.21		
VHT80M	5530~5690	3	17.48		
	5775	2	19.11		
Antenna Designation:		5250~5350N 5470~5725N 5725~5850N Aux Antenna 5150~5250N 5250~5350N 5470~5725N	a: 1Hz Peak Gain: 1.93 1Hz Peak Gain: 1.93 1Hz Peak Gain: 2.53 1Hz Peak Gain: 2.83	7dBi 1dBi 5dBi I3dBi 96dBi OdBi	
Modulation	type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 802.11ac only			
Transition R	Rate:s	802.11 n_20 802.11 n_40 802.11 ac_2 802.11 ac_4	0/12/18/24/36/48/54 MHz: 6.5 – 144.4MI MHz: 13.5 – 300.0N OMHz: 6.5 –173.3M OMHz: 13.5 –400.0I OMHz: 29.3 – 866.7	ops Nbps bps Wbps	

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



Page: 6 of 237

## 1.2 Test Methodology of Applied Standards

FCC Part 15, Subpart E §15.407

FCC KDB 789033 D02 General UNII Test Procedures New Rules V02r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 644545 D03 v01 Guidance for IEEE 802.11ac

ANSI C63.10:2013

Note: All test items have been performed and record as per the above standards.

## 1.3 Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333 (TAF code 0513)

FCC Registration Numbers are: 735305 / TW0002

## 1.4 Special Accessories

There are no special accessories used while test was conducted.

## 1.5 Equipment Modifications

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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and such as a feet and the sample(s) tested and such as a feet and su may be prosecuted to the fullest extent of the law.



Page: 7 of 237

## SYSTEM TEST CONFIGURATION

## 2.1 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.

#### 2.2 EUT Exercise

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 as turn 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 according to §15.207. The two LISNs provide 50 ohm/ 50uH 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 **Radiated Emissions**

The EUT is a placed on as turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plan. 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.

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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and such as a feet and the sample(s) tested and such as a feet and su may be prosecuted to the fullest extent of the law.



Page: 8 of 237

## 2.4 Measurement Results Explanation Example

#### 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.

#### Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

## 2.5 Configuration of Tested System

Fig. 2-1 Radiated & Conducted Emission Configuration

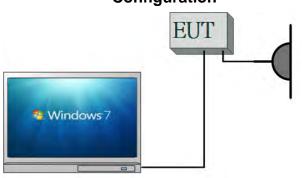
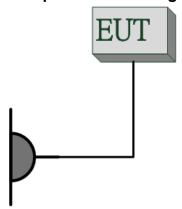


Fig.2-3 AC power line Configuration



**Table 2-1 Equipment Used in Tested System** 

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1	WLAN Test Software	N/A	N/A	N/A	N/A	N/A
2	Notebook	Lenovo	L420	S0011721	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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

f (886-2) 2298-0488



Page: 9 of 237

## SUMMARY OF TEST RESULT

FCC Rules	Description Of Test	Result
§15.207	AC Power Line Conducted Emission	Compliant
§15.403(i) §15.407(e)	26dB & 6dB Emission Bandwidth	Compliant
§15.407(a)	Maximum Conducted Output Power	Compliant
§15.407(a)	Power Spectral Density	Compliant
§15.407(b)	Undesirable Radiated Emissions	Compliant
§15.407(c)	Transmission in case of Absence of Information	Compliant
§15.407(g)	Frequency Stability	Compliant
§15.203 §15.407(a)	Antenna Requirement	Compliant

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

Trist obcurrent is issued by the Company subject to its declerate Continuous or Service printed overlead, available on request of accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is of a 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: 10 of 237

## **DESCRIPTION OF TEST MODES**

## 4.1 Operated in U-NII Bands

Operated band in 5150 MHz ~5250 MHz:

4 channels are provided for 802.11a, 802.11n\_HT20, 802.11ac\_VHT20

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac\_VHT80

CHANNEL	FREQUENCY	
42	5210 MHz	

Operated band in 5250 MHz ~5350 MHz:

4 channels are provided for 802.11a, 802.11n\_HT20, 802.11ac\_VHT20

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac\_VHT80

CHANNEL	FREQUENCY
58	5290 MHz

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 <u>www.sqs.com/terms\_and\_conditions.htm</u> and, for elec-

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

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 www.tw.sas.com



Page: 11 of 237

## Operated band in 5470 MHz ~5725 MHz:

12 channels are provided for 802.11a, 802.11n HT20, 802.11ac VHT20

<u> </u>						
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY			
100	5500 MHz	124	5620 MHz			
104	5520 MHz	128	5640 MHz			
108	5540 MHz	132	5660 MHz			
112	5560 MHz	136	5680 MHz			
116	5580 MHz	140	5700 MHz			
120	5600 MHz	144	5720 MHz			

6 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac\_VHT80

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530 MHz	138	5690 MHz
122	5610 MHz		

# Operated band in 5725 MHz ~5850 MHz:

6 channels are provided for 802.11a, 802.11n\_HT20, 802.11ac\_VHT20

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
144	5720 MHz	157	5785 MHz
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz

3 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

		<u> </u>	
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
142	5710 MHz	159	5795 MHz
151	5755 MHz		

2 channel is provided for 802.11ac\_VHT80

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
138	5690 MHz	155	5775 MHz

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 <u>www.sqs.com/terms\_and\_conditions.htm</u> and, for elec-

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



Page: 12 of 237

#### 4.2 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 case.
- 4. The given UE is pre-scanned among 802.11n and ac modes, and 802.11n yields the highest reading that generates the highest emission.
- 5. The given UE is pre-scanned among SISO Main, SISO Aux and MIMO modes, and MIMO mode yields the highest reading that generates the highest emission. Therefore, 802.11ac+MIMO as the mode of radiated test configuration is chosen to carry out the relevantly mandatory test items.

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 <u>www.sqs.com/terms\_and\_conditions.htm</u> and, for elec-

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



Page: 13 of 237

#### RADIATED EMISSION TEST

<u>RADIATED EN</u>	RADIATED EMISSION TEST:						
	RADIATED EMISSION TEST (BELOW 1 GHz)						
MODE	FREQUENCY		TESTED	MODULATION	DATA RATE		
WODL	BAND (MHz)	CHANNEL	CHANNEL	WODOLATION	(Mbps)	PORT	
802.11a	5180~5240	36 to 48	44	OFDM	6	Main	
802.11ac_VHT80	5210	42	42	OFDM	MCS8	MIMO	
802.11a	5260~5320	52 to 64	60	OFDM	6	Main	
802.11ac_VHT80	5290	58	58	OFDM	MCS8	MIMO	
802.11a	5500~5720	100 to 144	116	OFDM	6	Main	
802.11ac_VHT80	5530~5690	106 to 138	122	OFDM	MCS8	MIMO	
802.11a	5745~5825	149 to 165	157	OFDM	6	Main	
802.11ac_VHT80	5775	155	155	OFDM	MCS8	MIMO	
	RAI	DIATED EMIS	SION TEST (ABO	OVE 1 GHz)			
MODE	FREQUENCY		TESTED	MODULATION	DATA RATE		
	BAND (MHz)	CHANNEL	CHANNEL		(Mbps)	PORT	
802.11a	5180~5240	36 to 48	36,44,48	OFDM	6	Main	
802.11n_HT20			, ,	OFDM	MCS8	MIMO	
802.11n_HT40	5190~5230	38 to 46	38,46	OFDM	MCS8	MIMO	
802.11ac_VHT80	5210	42	42	OFDM	MCS8	MIMO	
802.11a	5260~5320	52 to 64	52,60,64	OFDM	6	Main	
802.11n_HT20			, ,	OFDM	MCS8	MIMO	
802.11n_HT40	5270~5310	54 to 62	54,62	OFDM	MCS8	MIMO	
802.11ac_VHT80	5290	58	58	OFDM	MCS8	MIMO	
802.11a	5500~5720	100 to 144	100,116,140,144	OFDM	6	Main	
802.11n_HT20			100,110,140,144	OFDM	MCS8	MIMO	
802.11n_HT40	5510~5710	102 to 142	102,110,134,142	OFDM	MCS8	MIMO	
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS8	MIMO	
802.11a	5745~5825	149 to 165	149,157,165	OFDM	6	Main	
802.11n_HT20	J14J~5625		143,137,100	OFDM	MCS8	MIMO	
802.11n_HT40	5755~5795	151 to 159	151,159	OFDM	MCS8	MIMO	
802.11ac_VHT80	5775	155	155	OFDM	MCS8	MIMO	

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11a/n/ac WLAN Transmitter for channel Low, Mid and High, the worst case H position was reported.

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

www.tw.sas.com



Page: 14 of 237

## ANTENNA PORT CONDUCTED MEASUREMENT

ANTENNA PORT CONDUCTED MEASUREMENT:							
	CONDUCTED TEST						
MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT	
802.11a				OFDM	6	Main	
802.11n_HT20 802.11ac_VHT20	5180~5240	36 to 48	36,44,48	OFDM	MCS8	MIMO	
802.11n_HT40 802.11ac_VHT40	5190~5230	38 to 46	38,46	OFDM	MCS8	MIMO	
802.11ac_VHT80	5210	42	42	OFDM	MCS8	MIMO	
802.11a				OFDM	6	Main	
802.11n_HT20 802.11ac_VHT20	5260~5320	52 to 64	52,60,64	OFDM	MCS8	MIMO	
802.11n_HT40 802.11ac_VHT40	5270~5310	54 to 62	54,62	OFDM	MCS8	MIMO	
802.11ac_VHT80	5290	58	58	OFDM	MCS8	MIMO	
802.11a				OFDM	6	Main	
802.11n_HT20 802.11ac_VHT20	5500~5720	100 to 144	100,116,140,144	OFDM	MCS8	MIMO	
802.11n_HT40 802.11ac_VHT40	5510~5710	102 to 142	102,110,134,142	OFDM	MCS8	MIMO	
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS8	MIMO	
802.11a				OFDM	6	Main	
802.11n_HT20 802.11ac_VHT20	5745~5825	149 to 165	149,157,165	OFDM	MCS8	MIMO	
802.11n_HT40 802.11ac_VHT40	5755~5795	151 to 159	151,159	OFDM	MCS8	MIMO	
802.11ac_VHT80	5775	155	155	OFDM	MCS8	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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

Trist obcurrent is issued by the Company subject to its declerate Continuous or Service printed overlead, available on request of accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is of a 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 237

#### **MEASUREMENT UNCERTAINTY**

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
26dB & 6dB Emission Bandwidth	+/- 123.36 Hz
The Maximum Output Power Measurement	+/- 0.96 dB
Peak Power Spectral Density Measurement	+/- 1.67 dB
Frequency Stability	+/- 123.36 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

## Radiated Spurious Emission:

	9kHz-30MHz: +/-2.87dB
	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty	180MHz -417MHz: +/- 3.19dB
(Polarization : <b>Vertical</b> )	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	9kHz-30MHz: +/-2.87dB
	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty	167MHz -500MHz: +/- 3.44dB
(Polarization : <b>Horizontal</b> )	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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

SGS Taiwan Ltd.

No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司 t (886-2) 2299-3279



Page: 16 of 237

## CONDUCTED EMISSION TEST

## 6.1 Standard Applicable

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

Frequency range	Limits dB(uV)		
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	

## 6.2 Measurement Equipment Used

	Conducted Emission Test Site									
EQUIPMENT TYPE	MFR	MFR MODEL NUMBER		LAST CAL.	CAL DUE.					
EMI Test Receiver	R&S	ESCI 7	100950	2017/12/24	2018/12/23					
Coaxial Cables	N/A	N30N30-1042-150cm	N/A	2017/08/30	2018/08/29					
LISN	Schwarzbeck	NSLK 8127	8127-648	2017/06/18	2018/06/17					
Test Software	Farad	EZ-EMC	Ver. SGS-03A2	N.C.R.	N.C.R.					

#### 6.3 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.

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 <u>www.sqs.com/terms\_and\_conditions.htm</u> and, for elec-

tronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

> f (886-2) 2298-0488 www.tw.sas.com

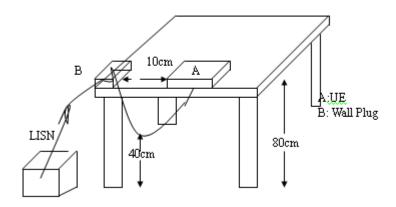
<sup>1.</sup> The lower limit shall apply at the transition frequencies

<sup>2.</sup> The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50



Page: 17 of 237

#### 6.4 Test SET-UP



## 6.5 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.

#### 6.6 Measurement Result

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

Note2: The \* reveals the worst-case results that closet 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 <u>www.sgs.com/terms\_and\_conditions.htm</u> and, for elec-

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

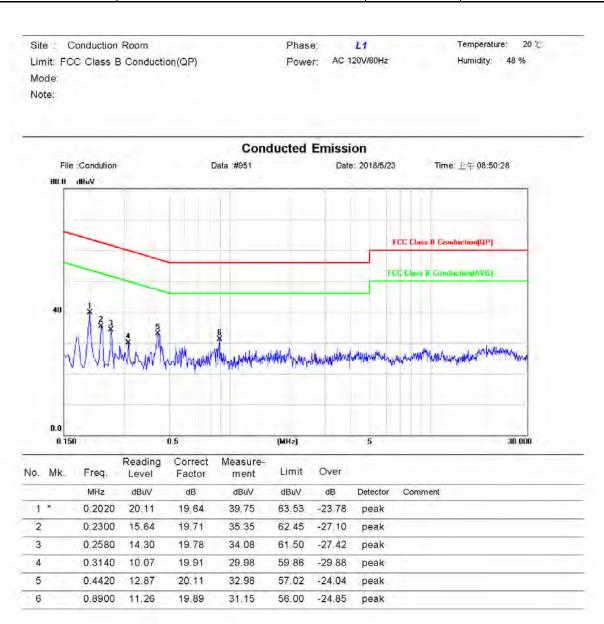
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 www.tw.sas.com



Page: 18 of 237

## AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode: Operation mode Test By: Jerry



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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

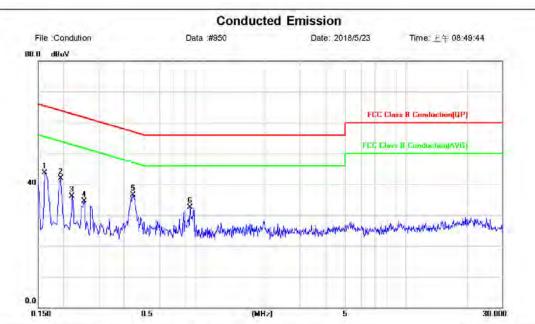
t (886-2) 2299-3279



Page: 19 of 237

Temperature: 20 °C Site : Conduction Room Phase: Limit: FCC Class B Conduction(QP) AC 120V/60Hz Humidity: Power:

Mode Note:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1620	24.16	19.64	43.80	65.36	-21.56	peak	
2		0.1940	22.28	19.62	41.90	63.86	-21.96	peak	
3		0.2220	16.41	19.67	36.08	62.74	-26.66	peak	
4		0.2540	14.77	19.75	34.52	61.63	-27.11	peak	
5	*	0.4460	16.47	20.10	36.57	56.95	-20.38	peak	
6		0.8500	12.62	19.90	32.52	56,00	-23.48	peak	

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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



Page: 20 of 237



Phase:

Power:

Site: Conduction Room

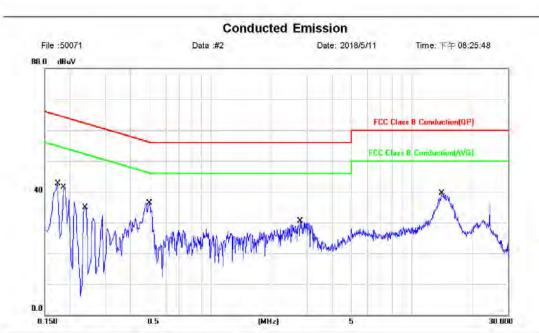
LI

AC 120V/60Hz

Temperature: 22 °C Humidity: 62 %

Limit: FCC Class B Conduction(QP) Mode: Mode 5

Note:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1740	41.00	0.04	41.04	64.77	-23.73	QP	
2	1	0.1740	23.30	0.04	23.34	54.77	-31.43	AVG	
3		0.1860	39.70	0.03	39.73	64.21	-24.48	QP	
4	1	0.1860	23.50	0.03	23.53	54.21	-30.68	AVG	
5		0.2380	32.40	0.03	32.43	62.17	-29.74	QP	
6		0.2380	14.80	0.03	14.83	52.17	-37.34	AVG	
7	-	0.4980	35.00	0.04	35.04	56.03	-20.99	QP	
8	*	0.4980	28.30	0.04	28.34	46.03	-17.69	AVG	
9		2.7900	26.00	0.30	26,30	56.00	-29.70	QP	
10		2.7900	16.10	0.30	16.40	46.00	-29.60	AVG	
11		14 0620	33.10	0.81	33.91	60.00	-26.09	QP	
12		14.0620	25.00	0.81	25.81	50.00	-24.19	AVG	
-									

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. 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.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

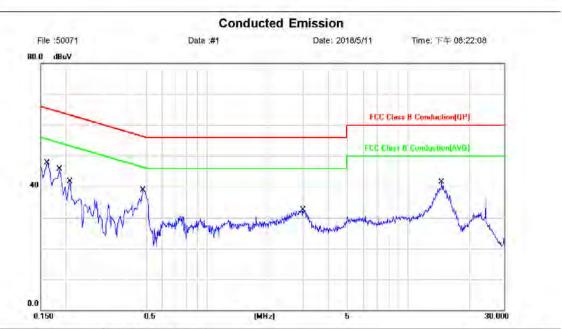


Page: 21 of 237

Conduction Room Phase: Temperature: 22 °C Limit: FCC Class B Conduction(QP) AC 120V/60Hz Humidity: 62 % Power:

Mode: Mode 5

Note:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1.	-	0.1620	43.30	0.12	43.42	65.36	-21.94	QP	
2	7 4	0.1620	27.20	0.12	27.32	55.36	-28.04	AVG	
3		0.1860	40.40	0.11	40.51	64.21	-23.70	QP	
4		0.1860	25.30	0.11	25.41	54.21	-28.80	AVG	
5		0.2100	36.60	0.11	36.71	63.21	-26.50	QP	
6		0.2100	21.20	0.11	21.31	53.21	-31.90	AVG	
7		0.4860	36.20	0.12	36.32	56.24	-19.92	QP	
8	•	0.4860	29.70	0.12	29.82	46.24	-16.42	AVG	
9		3.0100	27.70	0.26	27.96	56.00	-28.04	QP	
10		3.0100	16.80	0.26	17.06	46.00	-28.94	AVG	
11		14.7340	34.10	0.60	34.70	60.00	-25.30	QP	
12		14.7340	24.90	0.60	25.50	50.00	-24.50	AVG	

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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



Page: 22 of 237

## **DUTY CYCLE TEST SIGNAL**

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.

#### Formula:

Duty Cycle = Ton / (Ton+Toff)

#### **Measurement Procedure:**

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

#### **Duty Cycle:**

Mode	Duty Cycle (%)	Duty Factor (dB) =10*log ( 1/Duty Cycle )	1/T (kHz)	VBW setting (kHz)
802.11a	97.11	0.13	0.72	1.00
802.11n_20	94.47	0.25	1.48	2.00
802.11ac_20	96.99	0.13	0.76	1.00
802.11n_40	89.92	0.46	2.87	3.00
802.11ac_40	94.30	0.25	1.53	2.00
802.11ac_80	88.97	0.51	3.09	4.00

Duty Cycle Factor:  $10 * \log(1/0.9711) = 0.13$ 

Duty Cycle Factor:  $10 * \log(1/0.9447) = 0.25$ 

Duty Cycle Factor:  $10 * \log(1/0.9699) = 0.13$ 

Duty Cycle Factor:  $10 * \log(1/0.8992) = 0.46$ 

Duty Cycle Factor:  $10 * \log(1/0.943) = 0.25$ 

Duty Cycle Factor:  $10 * \log(1/0.8897) = 0.51$ 

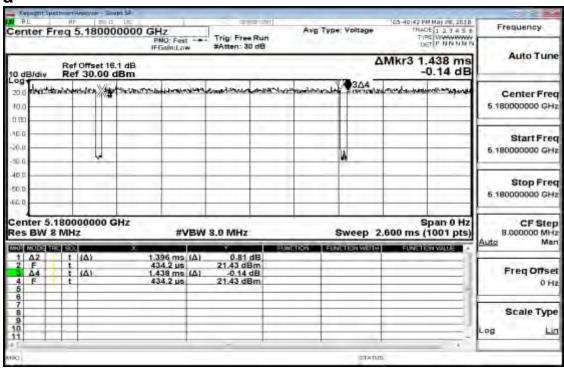
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

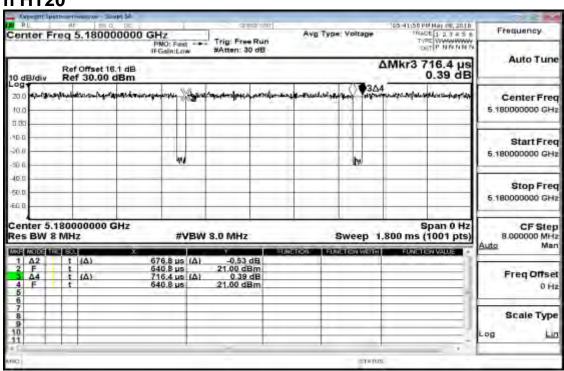


Page: 23 of 237

# **DUTY CYCLE TEST SIGNAL Measurement Result** 802.11a



# 802.11n HT20



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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. 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.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

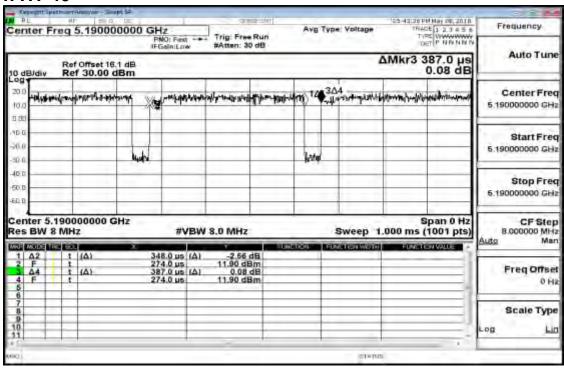
台灣檢驗科技股份有限公司

t (886-2) 2299-3279

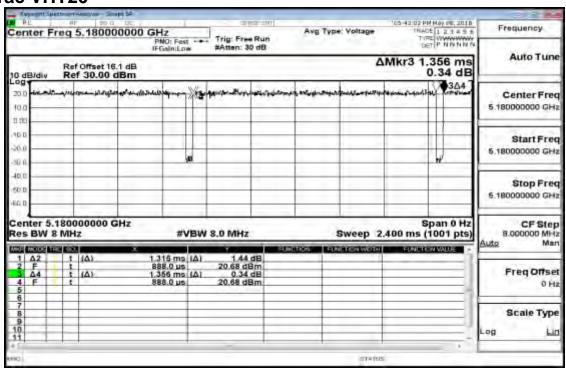


Page: 24 of 237

## 802.11n HT 40



# 802.11ac VHT20



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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. 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.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

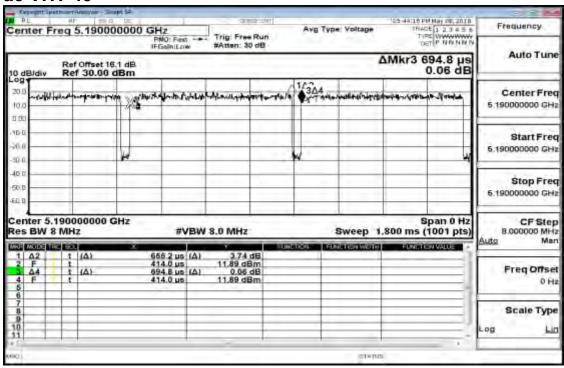
台灣檢驗科技股份有限公司

t (886-2) 2299-3279

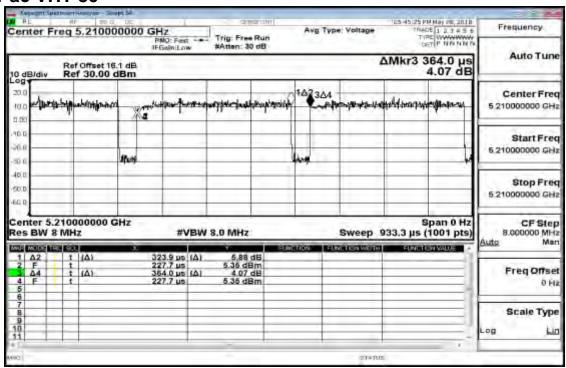


Page: 25 of 237

## 802.11ac VHT 40



## 802.11 ac VHT 80



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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. 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.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

台灣檢驗科技股份有限公司

t (886-2) 2299-3279



Page: 26 of 237

## 26dB & 6dB EMISSION BANDWIDTH MEASUREMENT

## 8.1 Standard Applicable

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

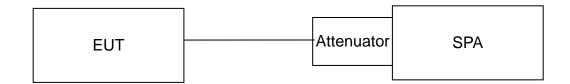
#### 8.2 Measurement Procedure

- 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.
  - 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.
  - 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. Minimum Emission Bandwidth for the band 5.725-5.850GHz.
  - a. Set the spectrum analyzer as RBW = 100 kHz, VBW = 3\*RBW, Span = 30M/50MHz, Detector=Peak,
    - Sweep=auto
  - b. Mark the peak frequency and -6dB (upper and lower) frequency.
- 6. Repeat above procedures until all test default channel measured were complete.

## 8.3 Measurement Equipment Used

	SGS Conducted Room									
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due					
Spectrum Analyzer	Agilent	N9010A	MY51440113	2017/06/21	2018/06/20					
Attenuator	Marvelous	MVE2213-10	RF30	2017/12/26	2018/12/25					
Attenuator	Marvelous	MVE2213-10	RF31	2017/12/26	2018/12/25					
Notebook	Lenovo	L420	S0011721	N/A	N/A					

#### 8.4 Test Set-up



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 <u>www.sqs.com/terms\_and\_conditions.htm</u> and, for elec-

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

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

www.tw.sas.com



Page: 27 of 237

# 8.5 Measurement Result 26dB and 6dB Bandwidth

802.11a Main

#### 802.11a Aux1

OUZ. I Ta_IVIAITI			002.11a_Aux1			
Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)	
5180	21.41	13.305	5180	20.77	13.175	
5220	21.19	13.260	5220	20.54	13.126	
5240	21.50	13.323	5240	21.08	13.239	
5260	21.62	13.348	5260	21.07	13.237	
5300	21.45	13.314	5300	21.18	13.259	
5320	21.62	13.349	5320	21.65	13.354	
5500	21.56	13.336	5500	21.21	13.265	
5580	21.69	13.362	5580	21.40	13.305	
5700	21.32	13.287	5700	21.20	13.263	
5720(U-NII 2C)	22.29	13.481	5720(U-NII 2C)	16.78	12.248	
5720 (U-NII 3)	6.98	8.440	5720 (U-NII 3)	5.26	7.209	

#### 802.11a\_Main

#### 802.11a\_Aux1

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5745	16.33	12.131	5745	16.42	12.154
5785	16.35	12.135	5785	16.36	12.138
5825	16.35	12.136	5825	16.36	12.137

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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

SGS Taiwan Ltd.

No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 28 of 237

#### 802.11n HT20 Main

#### 802.11n HT20 Aux1

002.1111_11120_1			002.1111_11120_Aux1			
Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)	
5180	21.42	13.307	5180	21.39	13.302	
5220	21.54	13.332	5220	21.43	13.310	
5240	21.42	13.308	5240	21.49	13.322	
5260	21.64	13.353	5260	21.53	13.331	
5300	21.54	13.332	5300	21.72	13.369	
5320	21.67	13.358	5320	20.67	13.154	
5500	21.67	13.358	5500	21.48	13.321	
5580	21.50	13.324	5580	21.63	13.350	
5700	21.52	13.329	5700	21.35	13.294	
5720(U-NII 2C)	16.16	12.084	5720(U-NII 2C)	16.09	12.066	
5720 (U-NII 3)	5.55	7.443	5720 (U-NII 3)	5.52	7.419	

#### 802.11n\_HT20\_Main

#### 802.11n\_HT20\_Aux1

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5745	17.62	12.461	5745	17.58	12.451
5785	17.60	12.454	5785	16.96	12.295
5825	17.59	12.451	5825	17.60	12.455

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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

SGS Taiwan Ltd.

No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 29 of 237

#### 802.11n \_HT40\_Main

#### 802.11n \_HT40\_Aux1

Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5190	39.55	15.971	5190	39.52	15.968
5230	39.75	15.994	5230	39.36	15.951
5270	39.24	15.938	5270	39.69	15.987
5310	39.47	15.963	5310	39.54	15.971
5510	39.57	15.974	5510	39.66	15.983
5550	39.25	15.939	5550	39.41	15.957
5670	39.45	15.961	5670	42.40	16.274
5710 (U-NII 2C)	38.16	15.816	5710 (U-NII 2C)	44.02	16.436
5710 (U-NII 3)	4.81	6.821	5710 (U-NII 3)	5.55	7.443

#### 802.11n\_HT40\_Main

#### 802.11n\_HT40\_Aux1

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5755	36.40	15.611	5755	36.36	15.607
5795	35.79	15.538	5795	35.78	15.536

## 802.11ac \_VHT80\_Main

## 802.11ac \_VHT80\_Aux1

Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5210	81.07	19.089	5210	81.62	19.118
5290	81.19	19.095	5290	81.14	19.093
5530	80.96	19.082	5530	80.94	19.082
5610	80.40	19.053	5610	81.10	19.090
5690 (U-NII 2C)	91.26	19.603	5690 (U-NII 2C)	76.95	18.862
5690 (U-NII 3)	5.28	7.226	5690 (U-NII 3)	4.46	6.492

#### 802.11ac \_VHT80\_Main

#### 802.11ac \_VHT80\_Aux1

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5775	75.85	18.800	5775	75.53	18.781

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,同時此樣品僅保留別天。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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. 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.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.



Page: 30 of 237

## **Band-Corssing Signals**

#### 802.11a\_Main

#### 802.11a\_Aux1

Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)	Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)
5240	5248.22	< 5250	5240	5248.19	< 5250
5745	5736.18	> 5725	5745	5736.63	> 5725

## 802.11n\_HT20\_Main

#### 802.11n\_HT20\_Aux1

Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)	Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)
5240	5248.79	< 5250	5240	5248.82	< 5250
5745	5735.91	> 5725	5745	5736.12	> 5725

#### 802.11n \_HT40\_Main

#### 802.11n \_HT40\_Aux1

Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)	Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)
5230	5248.07	< 5250	5230	5248.12	< 5250
5755	5736.70	> 5725	5755	5736.80	> 5725

## 802.11ac \_VHT80\_Main

## 802.11n \_HT80\_Aux1

Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)	Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)
5210	5247.72	< 5250	5210	5247.82	< 5250
5775	5736.90	> 5725	5775	5737.10	> 5725

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="www.sgs.com/terms\_and\_conditions.htm">www.sgs.com/terms\_and\_conditions.htm</a> and, for elec-

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

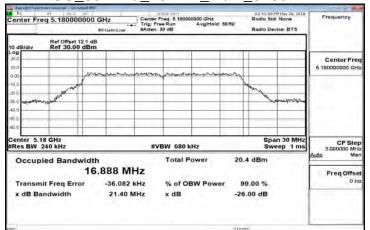
SGS Taiwan Ltd.

No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號

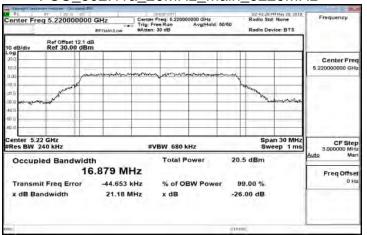


Page: 31 of 237

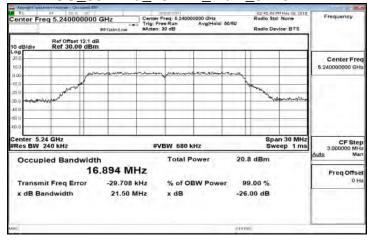
## FCC 802.11a 20MHz Main 5180MHz



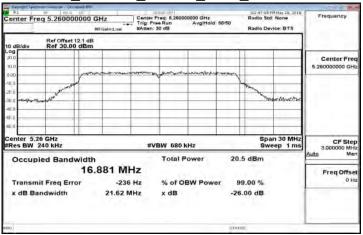
## FCC\_802.11a\_20MHz\_Main\_5220MHz



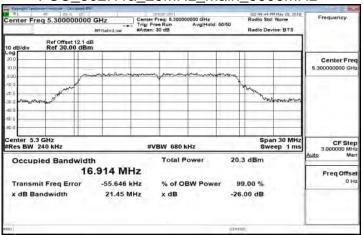
## FCC 802.11a 20MHz Main 5240MHz



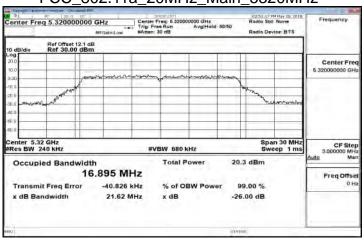
## FCC\_802.11a\_20MHz\_Main\_5260MHz



#### FCC\_802.11a\_20MHz\_Main\_ 5300MHz



## FCC 802.11a 20MHz Main 5320MHz



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.

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

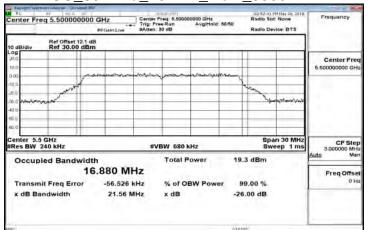
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

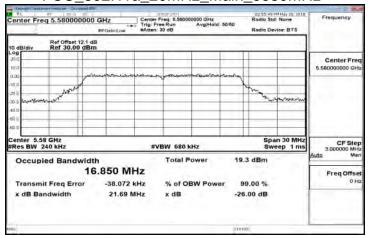


Page: 32 of 237

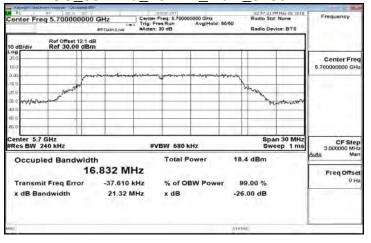
## FCC 802.11a 20MHz Main 5500MHz



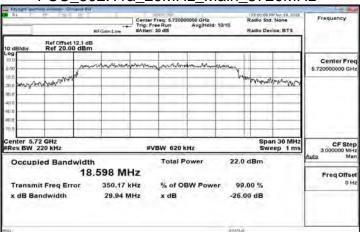
## FCC\_802.11a\_20MHz\_Main\_5580MHz



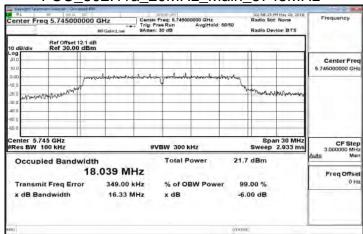
## FCC 802.11a 20MHz Main 5700MHz



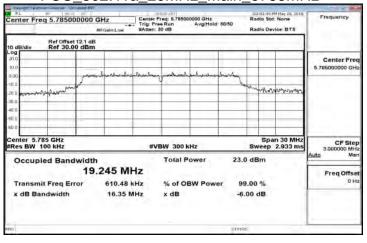
## FCC 802.11a 20MHz Main 5720MHz



## FCC\_802.11a\_20MHz\_Main\_5745MHz



## FCC\_802.11a\_20MHz\_Main\_5785MHz



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.

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

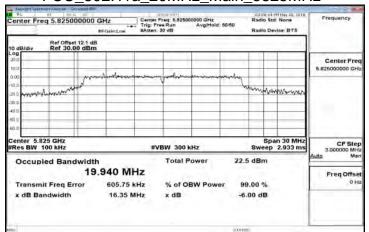
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

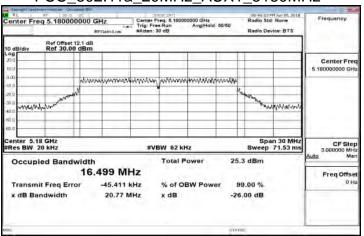


Page: 33 of 237

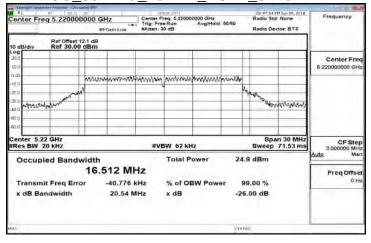
## FCC 802.11a 20MHz Main 5825MHz



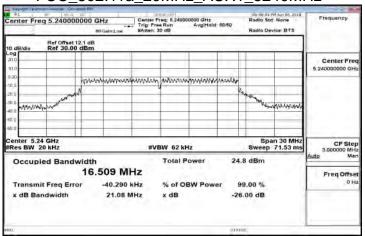
#### FCC\_802.11a\_20MHz\_AUX1\_ 5180MHz



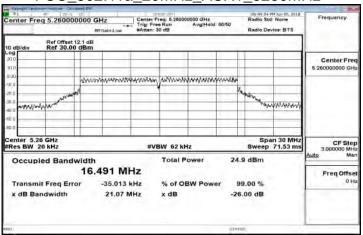
## FCC 802.11a 20MHz AUX1 5220MHz



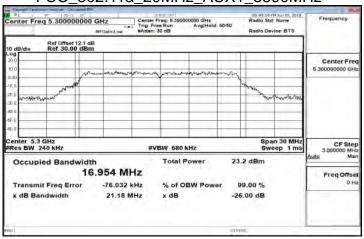
## FCC\_802.11a\_20MHz\_AUX1\_5240MHz



#### FCC\_802.11a\_20MHz\_AUX1\_ 5260MHz



## FCC 802.11a 20MHz AUX1 5300MHz



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.

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

Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

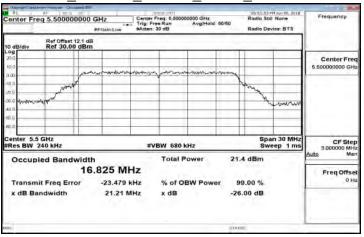


Page: 34 of 237

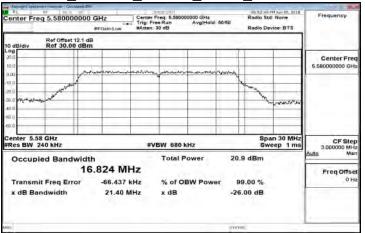
#### FCC 802.11a 20MHz AUX1 5320MHz



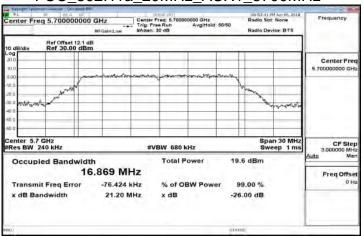
#### FCC\_802.11a\_20MHz\_AUX1\_ 5500MHz



## FCC 802.11a 20MHz AUX1 5580MHz



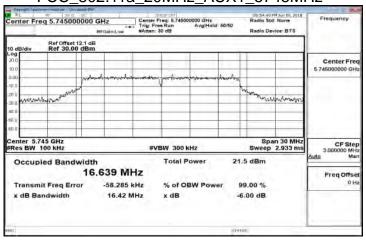
## FCC\_802.11a\_20MHz\_AUX1\_5700MHz



#### FCC\_802.11a\_20MHz\_AUX1 5720MHz



## FCC 802.11a 20MHz AUX1 5745MHz



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.

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

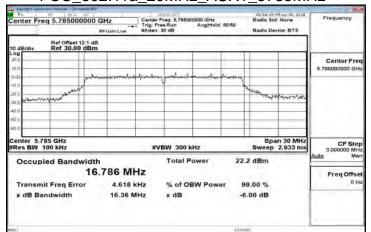
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

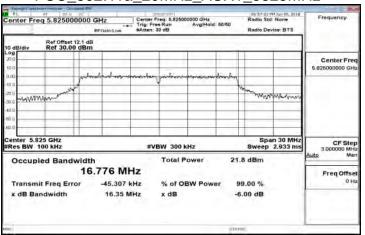


Page: 35 of 237

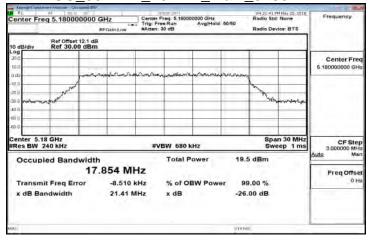
## FCC 802.11a 20MHz AUX1 5785MHz



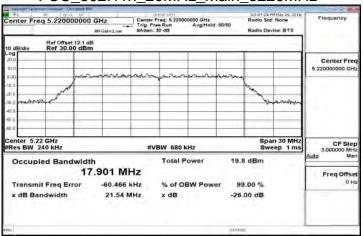
#### FCC\_802.11a\_20MHz\_AUX1\_ 5825MHz



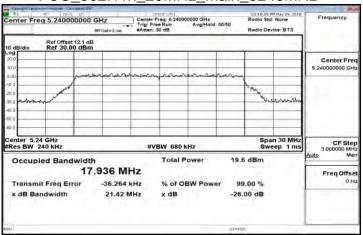
## FCC 802.11n 20MHz Main 5180MHz



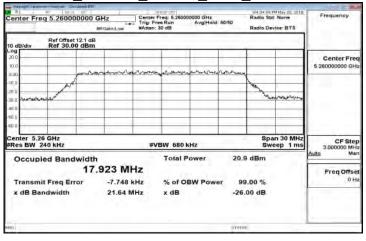
## FCC\_802.11n\_20MHz\_Main\_5220MHz



## FCC\_802.11n\_20MHz\_Main\_



## FCC 802.11n 20MHz Main 5260MHz



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.

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

Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

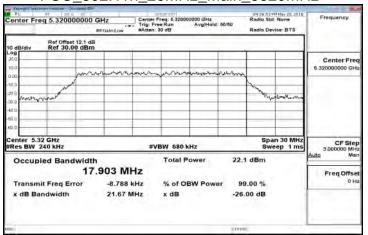


Page: 36 of 237

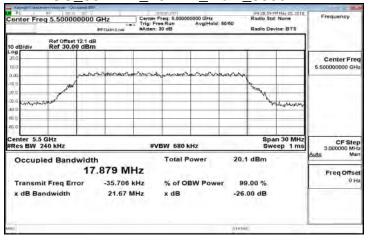
#### FCC 802.11n 20MHz Main 5300MHz



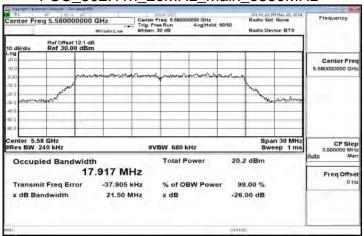
## FCC\_802.11n\_20MHz\_Main\_5320MHz



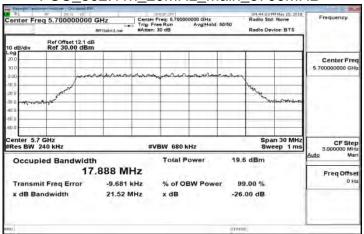
## FCC 802.11n 20MHz Main 5500MHz



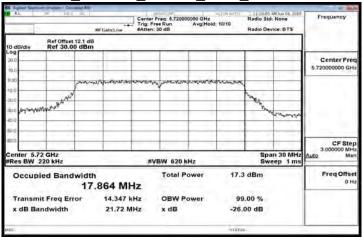
## FCC\_802.11n\_20MHz\_Main\_5580MHz



#### FCC\_802.11n\_20MHz\_Main\_ 5700MHz



## FCC 802.11n 20MHz Main 5720MHz



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.

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

Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

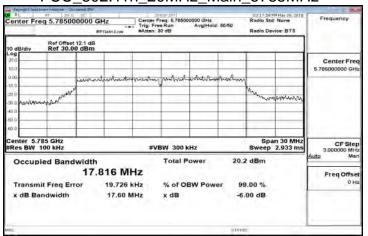


Page: 37 of 237

### FCC 802.11n 20MHz Main 5745MHz



# FCC\_802.11n\_20MHz\_Main\_5785MHz



### FCC 802.11n 20MHz Main 5825MHz



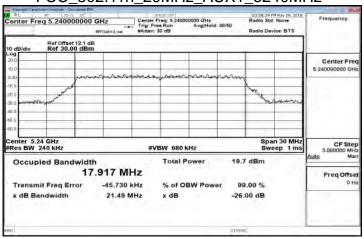
# FCC\_802.11n\_20MHz\_AUX1\_5180MHz



#### FCC\_802.11n\_20MHz\_AUX1\_ 5220MHz



# FCC 802.11n 20MHz AUX1 5240MHz



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.

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

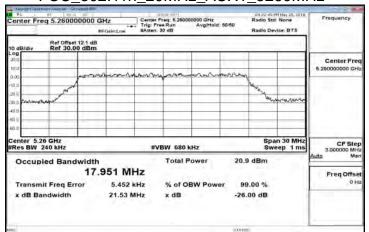
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

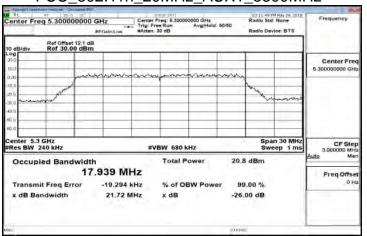


Page: 38 of 237

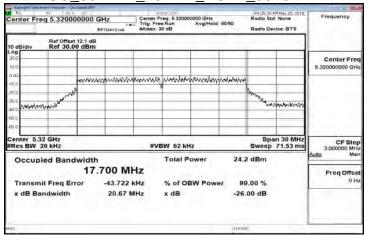
#### FCC 802.11n 20MHz AUX1 5260MHz



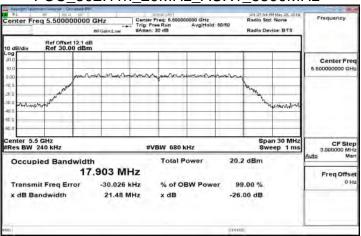
#### FCC\_802.11n\_20MHz\_AUX1\_ 5300MHz



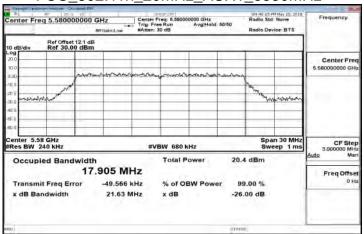
# FCC 802.11n 20MHz AUX1 5320MHz



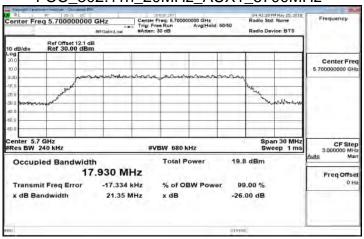
# FCC\_802.11n\_20MHz\_AUX1\_5500MHz



#### FCC\_802.11n\_20MHz\_AUX1\_ 5580MHz



# FCC 802.11n 20MHz AUX1 5700MHz



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.

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

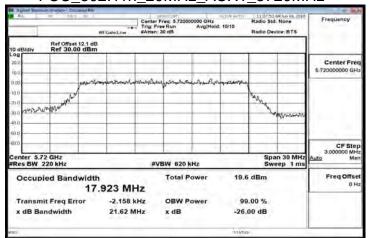
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

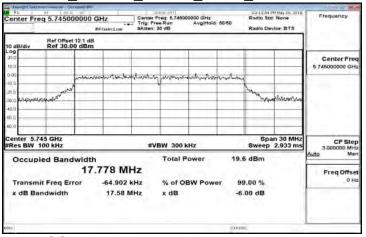


Page: 39 of 237

#### FCC 802.11n 20MHz AUX1 5720MHz



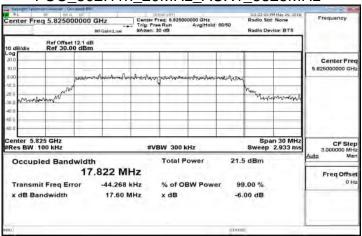
# FCC\_802.11n\_20MHz\_AUX1\_5745MHz



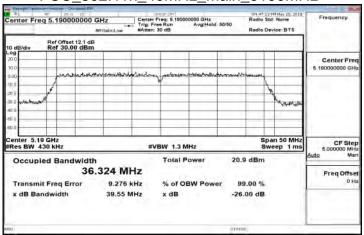
### FCC\_802.11n\_20MHz\_AUX1\_5785MHz



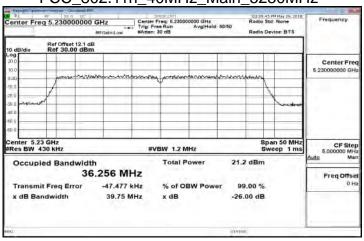
# FCC\_802.11n\_20MHz\_AUX1\_5825MHz



#### FCC 802.11n 40MHz Main 5190MHz



### FCC 802.11n 40MHz Main 5230MHz



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.

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

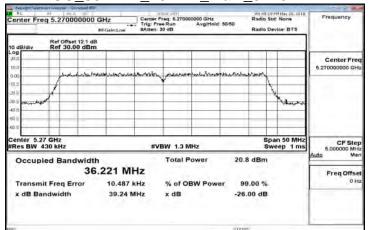
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

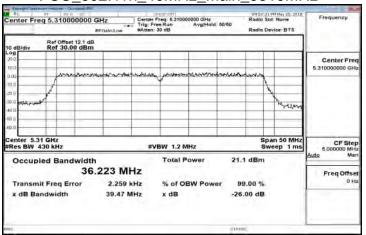


Page: 40 of 237

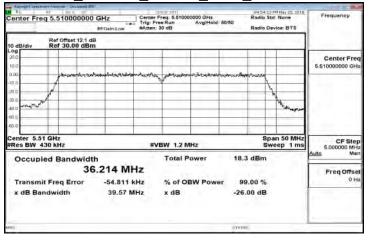
### FCC 802.11n 40MHz Main 5270MHz



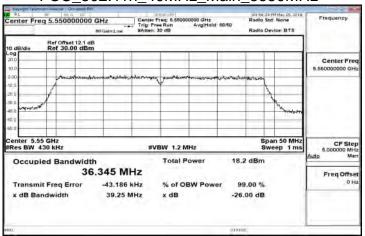
# FCC\_802.11n\_40MHz\_Main\_5310MHz



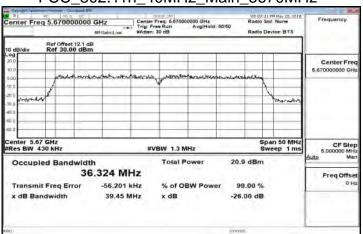
### FCC 802.11n 40MHz Main 5510MHz



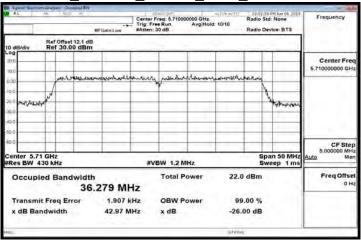
# FCC\_802.11n\_40MHz\_Main\_5550MHz



#### FCC\_802.11n\_40MHz\_Main\_ 5670MHz



### FCC 802.11n 40MHz Main 5710MHz



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.

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

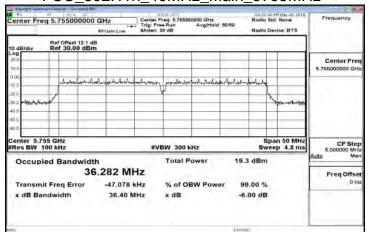
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

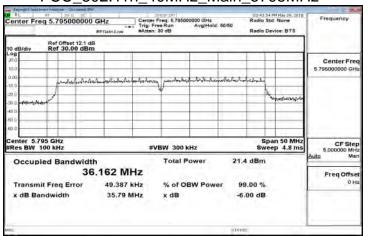


Page: 41 of 237

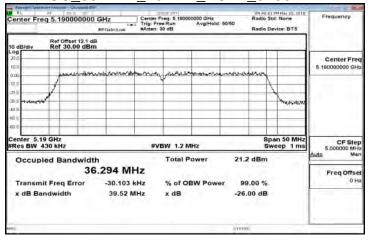
#### FCC 802.11n 40MHz Main 5755MHz



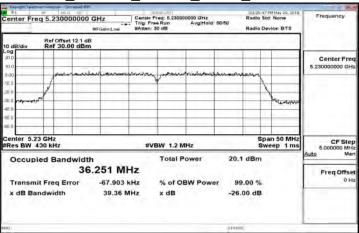
# FCC\_802.11n\_40MHz\_Main\_5795MHz



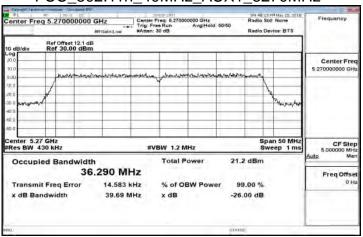
# FCC 802.11n 40MHz AUX1 5190MHz



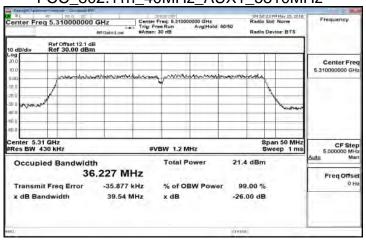
# FCC\_802.11n\_40MHz\_AUX1\_5230MHz



#### FCC 802.11n 40MHz AUX1 5270MHz



### FCC 802.11n 40MHz AUX1 5310MHz



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.

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

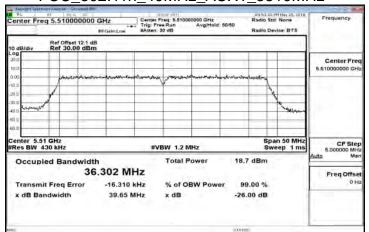
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

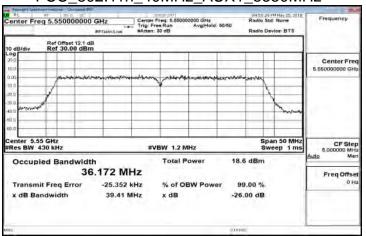


Page: 42 of 237

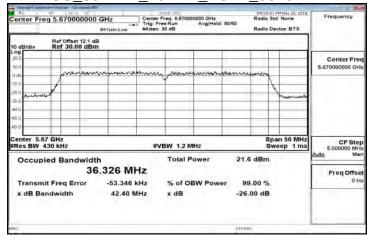
#### FCC 802.11n 40MHz AUX1 5510MHz



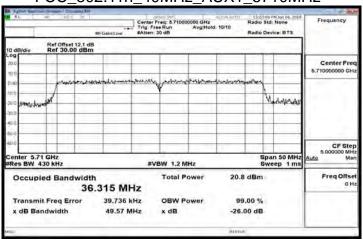
#### FCC\_802.11n\_40MHz\_AUX1\_ 5550MHz



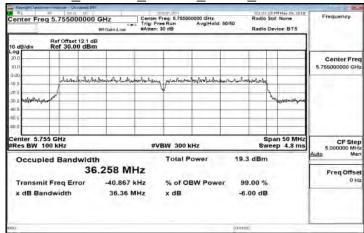
### FCC 802.11n 40MHz AUX1 5670MHz



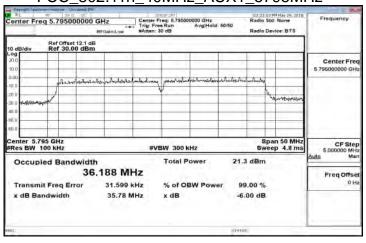
# FCC\_802.11n\_40MHz\_AUX1\_5710MHz



#### FCC\_802.11n\_40MHz\_AUX1\_ 5755MHz



### FCC 802.11n 40MHz AUX1 5795MHz



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.

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

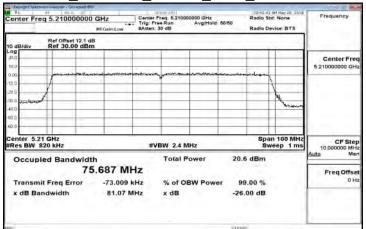
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

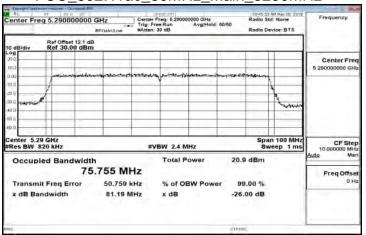


Page: 43 of 237

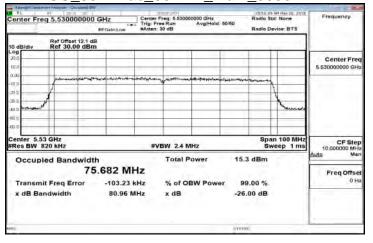
#### FCC 802.11ac 80MHz Main 5210MHz



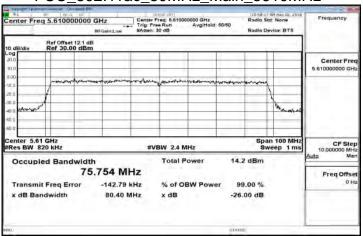
# FCC\_802.11ac\_80MHz\_Main\_5290MHz



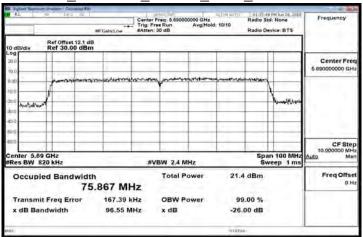
### FCC 802.11ac 80MHz Main 5530MHz



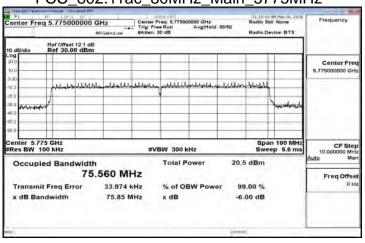
# FCC\_802.11ac\_80MHz\_Main\_5610MHz



### FCC\_802.11ac\_80MHz\_Main\_5690MHz



# FCC\_802.11ac\_80MHz\_Main\_5775MHz



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.

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

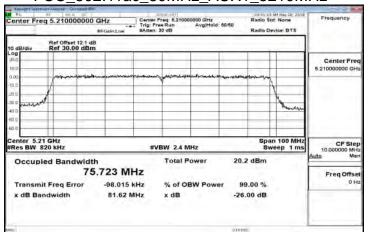
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

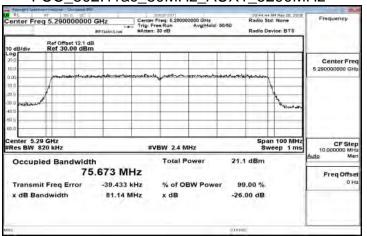


Page: 44 of 237

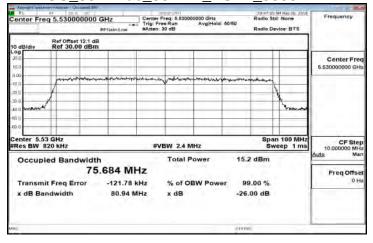
# FCC\_802.11ac\_80MHz\_AUX1\_5210MHz



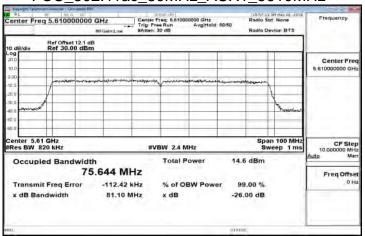
#### FCC\_802.11ac\_80MHz\_AUX1\_ 5290MHz



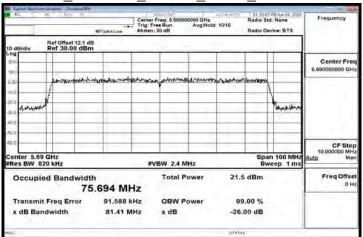
# FCC 802.11ac 80MHz AUX1 5530MHz



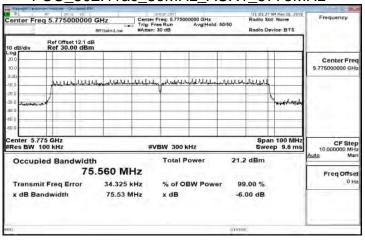
# FCC\_802.11ac\_80MHz\_AUX1\_5610MHz



#### FCC\_802.11ac\_80MHz\_AUX1 5690MHz



#### FCC\_802.11ac\_80MHz\_AUX1\_ 5775MHz



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.

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

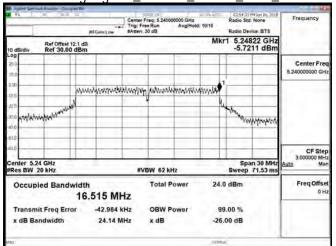
Fix a fix in the sample shows a retained for 90 days only. 

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions. htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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 reconstructed to the full content of the low. prosecuted to the fullest extent of the law.

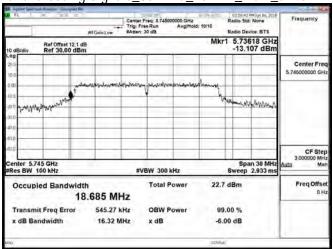


Page: 45 of 237

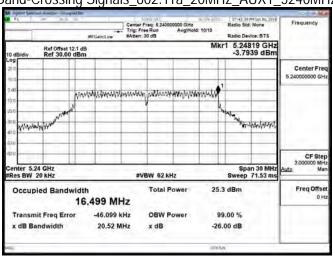
#### Band-Crossing Signals\_802.11a\_20MHz\_Main\_5240MHz



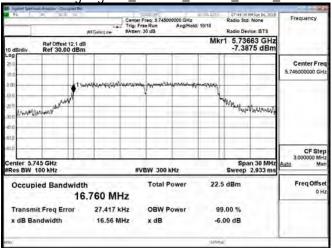
# Band-Crossing Signals\_802.11a\_20MHz Main 5745MHz



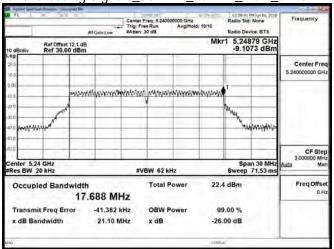
#### Band-Crossing Signals 802.11a 20MHz AUX1 5240MHz



#### Band-Crossing Signals\_802.11a\_20MHz\_AUX1\_5745MHz



# Band-Crossing Signals\_802.11n\_20MHz Main 5240MHz



### Band-Crossing Signals 802.11n 20MHz Main 5745MHz



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。

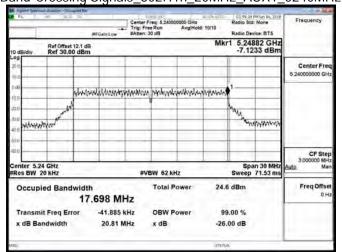
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction 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.

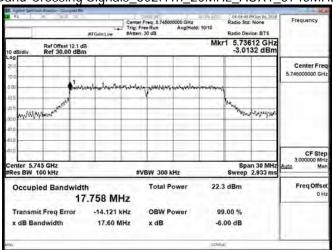


Page: 46 of 237

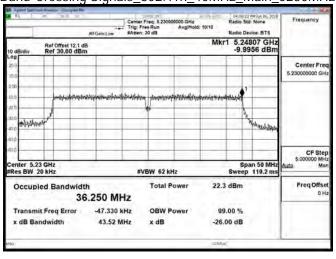
# Band-Crossing Signals\_802.11n\_20MHz\_AUX1\_5240MHz



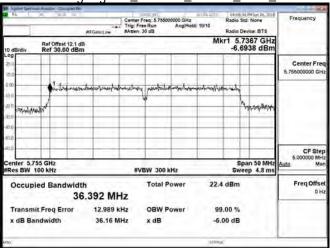
#### Band-Crossing Signals\_802.11n\_20MHz\_AUX1 5745MHz



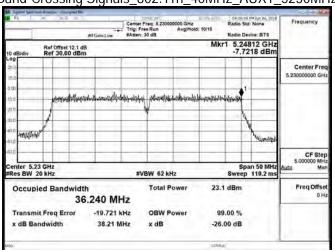
### Band-Crossing Signals\_802.11n\_40MHz\_Main\_5230MHz



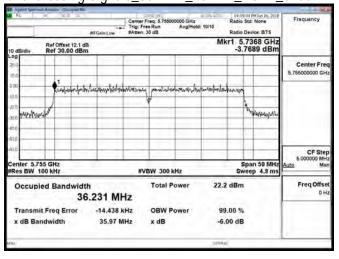
#### Band-Crossing Signals\_802.11n\_40MHz\_Main\_5755MHz



#### Band-Crossing Signals 802.11n 40MHz AUX1 5230MHz



#### Band-Crossing Signals 802.11n 40MHz AUX1 5755MHz



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。

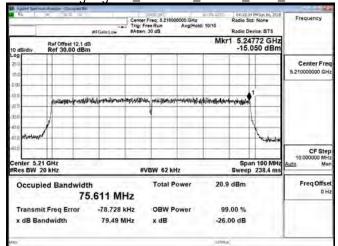
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction 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.

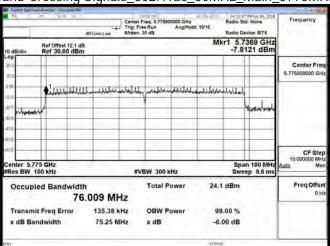


Page: 47 of 237

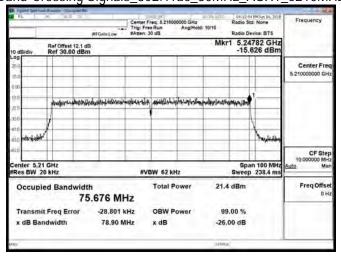
#### Band-Crossing Signals\_802.11ac\_80MHz\_Main\_5210MHz



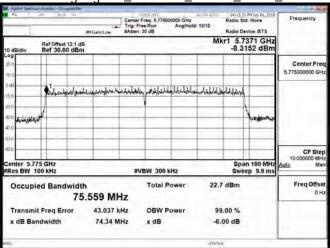
Band-Crossing Signals 802.11ac 80MHz Main 5775MHz



Band-Crossing Signals 802.11ac 80MHz AUX1 5210MHz



#### Band-Crossing Signals\_802.11ac\_80MHz\_AUX1\_5775MHz



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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction 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: 48 of 237

#### MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

### 9.1 Standard Applicable

#### **FCC**

OPERZTION Band		EUT CATEGORY	LIMIT
U-NII-1		Access Point (Master device )	1 Watt(30dBm)
		Fixed point-to-point Acess Ponit	1 Watt(30dBm)
	V	Mobile and portable clinet device	250mW(23.98dBm)
U-NII-2A	V		250mW(23.98dBm) or 11dBm+10 log B
U-NII-2C	√		250mW(23.98dBm) or 11dBm+10 log B
U-NII-3	V		1 Watt(30dBm)

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the direction-al gain of the antenna exceeds 6 dBi.

#### Note:

As per FCC KDB 662911 D01

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, ..., GN dBi.

- (i) If transmit signals are correlated, then Directional gain
- = 10 log[(10G1 /20 + 10G2 /20 + ... + 10GN /20) 2 /NANT] dBi

[Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

	Effective Legacy Gain (dBi)
UNII-1	3.28
UNII-2A	3.45
U-NII-2C	4.71
U-NII-3	4.06

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such a feet and the sample(s) tested and such as the sample (s) are tested may be prosecuted to the fullest extent of the law.



Page: 49 of 237

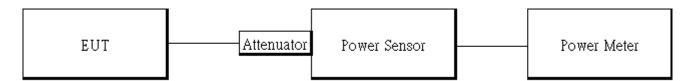
#### 9.2 Measurement Procedure

- 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 power meter
- Power Meter is used as the auxiliary test equipment to conduct the output power measurement.
- Record the max. reading and add 10 log(1/duty cycle). 5.
- Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.

# 9.3 Measurement Equipment Used

	SGS Conducted Room									
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due					
Power Meter	Anritsu	ML2496A	1326001	2017/07/26	2018/07/25					
Power Sensor	Anritsu	MA2411B	1315048	2017/07/26	2018/07/25					
Power Sensor	Anritsu	MA2411B	1315049	2017/07/26	2018/07/25					
Attenuator	Marvelous	MVE2213-10	RF30	2017/12/26	2018/12/25					
Attenuator	Marvelous	MVE2213-10	RF31	2017/12/26	2018/12/25					
Notebook	Lenovo	L420	S0011721	N/A	N/A					

### 9.4 Test Set-up



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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and such as a feet and the sample(s) tested and such as a feet and su may be prosecuted to the fullest extent of the law.



Page: 50 of 237

# 9.5 Measurement Result Conducted output power (FCC)

#### 802 11a Main

802.11a_	Walli								
	Frequency	Data	TOTAL	TOTAL		REQUIRED			
СН	(MHz)	Rate	POWER	POWER		LIMIT		RESULT	
	(1411 12)	Nate	(dBm)	(mW)		(dBm)			
36	5180	6	16.70	46.760		23.98		PASS	
44	5220	6	17.01	50.219		23.98		PASS	
48	5240	6	17.11	51.389		23.98		PASS	
52	5260	6	16.82	48.070	23.98	or 11+10log(B) =	24.35	PASS	
60	5300	6	16.60	45.695	23.98	or 11+10log(B) =	24.31	PASS	
64	5320	6	16.54	45.068	23.98	or 11+10log(B) =	24.35	PASS	
100	5500	6	13.89	24.483	23.98	or 11+10log(B) =	24.34	PASS	
116	5580	6	14.68	29.368	23.98	or 11+10log(B) =	24.36	PASS	
140	5700	6	14.22	26.416	23.98	or 11+10log(B) =	24.29	PASS	
144	5720(U-NII 2C)	6	15.668	36.881	23.98	or 11+10log(B) =	24.48	PASS	
144	5720 (U-NII 3)	6	1.28	1.343		30		PASS	
149	5745	6	17.78	59.961		30		PASS	
157	5785	6	18.50	70.773		30		PASS	
165	5825	6	18.94	78.320		30		PASS	

#### 802.11n HT20 MIMO

СН	Frequency	Data	Avg. POW	ER (dBm)	TOTAL POWER	TOTAL POWER		REQUIRED LIMIT		RESULT
ОП	(MHz)	Rate	CH 0	CH 1	(dBm)	(mW)	(dBm)			KESSEI
36	5180	MCS8	15.08	17.08	19.45	83.261		23.98		PASS
44	5220	MCS8	15.21	17.21	19.58	85.791		23.98		PASS
48	5240	MCS8	15.13	17.19	19.54	84.944		23.98		PASS
52	5260	MCS8	14.92	17.28	19.52	84.502	23.98	or 11+10log(B) =	24.33	PASS
60	5300	MCS8	14.98	17.63	19.76	89.420	23.98	or 11+10log(B) =	24.33	PASS
64	5320	MCS8	14.81	18.05	19.98	94.095	23.98	or 11+10log(B) =	24.15	PASS
100	5500	MCS8	12.78	15.26	17.45	52.541	23.98	or 11+10log(B) =	24.32	PASS
116	5580	MCS8	12.58	15.87	17.79	56.750	23.98	or 11+10log(B) =	24.32	PASS
140	5700	MCS8	12.09	14.76	16.88	46.103	23.98	or 11+10log(B) =	24.29	PASS
144	5720(U-NII 2C)	MCS8	12.222	11.85	14.47	32.004	23.98	or 11+10log(B) =	23.07	PASS
144	5720 (U-NII 3)	MCS8	4.1977	4.067	4.97	5.180		30		PASS
149	5745	MCS8	16.48	16.73	19.86	91.561		30		PASS
157	5785	MCS8	16.92	16.95	20.19	98.749		30		PASS
165	5825	MCS8	17.27	17.17	20.48	105.453		30		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,同時此樣品僅保留卯天。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="www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders was the preserved the full between the full and offenders. may be prosecuted to the fullest extent of the law.



Page: 51 of 237

#### 802.11n HT40 MIMO

CII	Frequency	Data	Avg. POW	Avg. POWER (dBm)		TOTAL		REQUIRED LIMIT		RESULT
СН	(MHz)	Rate	CH 0	CH 1	POWER (dBm)	POWER (mW)			RESOLI	
38	5190	MCS8	13.71	15.21	18.00	56.686		23.98		PASS
46	5230	MCS8	13.85	15.15	18.02	57.000		23.98		PASS
54	5270	MCS8	13.99	15.45	18.25	60.136	23.98	or 11+10log(B) =	26.94	PASS
62	5310	MCS8	13.55	15.23	17.94	55.989	23.98	or 11+10log(B) =	26.96	PASS
102	5510	MCS8	9.66	12.46	14.75	26.867	23.98	or 11+10log(B) =	26.97	PASS
110	5550	MCS8	8.96	12.32	14.43	24.931	23.98	or 11+10log(B) =	26.94	PASS
134	5670	MCS8	14.66	15.65	18.65	65.970	23.98	or 11+10log(B) =	26.96	PASS
142	5710(U-NII 2C)	MCS8	14.182	14.31	17.33	53.150	23.98	or 11+10log(B) =	26.82	PASS
142	5720 (U-NII 3)	MCS8	1.7877	1.804	2.18	3.024		30		PASS
151	5755	MCS8	16.11	16.26	19.66	83.099		30		PASS
159	5795	MCS8	16.66	16.64	20.12	92.476		30		PASS

#### 802.11ac VHT80 MIMO

СН	Frequency	Data	Avg. POW	ER (dBm)	TOTAL POWER	TOTAL POWER		REQUIRED LIMIT		RESULT
On	(MHz)	Rate	CH 0	CH 1	(dBm)	(mW)		RESULT		
42	5210	MCS0	11.01	11.55	14.81	26.907		23.98		PASS
58	5290	MCS0	12.92	14.35	17.21	46.815	23.98	or 11+10log(B) =	30.09	PASS
106	5530	MCS0	5.3	9.17	11.17	11.649	23.98	or 11+10log(B) =	30.08	PASS
122	5610	MCS0	4.81	8.72	10.71	10.474	23.98	or 11+10log(B) =	30.05	PASS
138	5690(U-NII 2C)	MCS0	14.085	14.23	17.48	52.074	23.98	or 11+10log(B) =	29.86	PASS
138	5690 (U-NII 3)	MCS0	0.8149	0.824	1.01	2.415	30		PASS	
155	5775	MCS0	15.7	15.49	19.11	72.553	30			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,同時此樣品僅保留卯天。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="www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms=e-document.htm">www.sgs.com/terms=e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders were the acceptant of the full response to the fall of the full response to may be prosecuted to the fullest extent of the law.

f (886-2) 2298-0488



Page: 52 of 237

#### 10 PEAK POWER SPECTRAL DENSITY

### Standard Applicable

#### **FCC**

OPERZTION Band		EUT CATEGORY	LIMIT
U-NII-1		Access Point (Master device )	17dBm/ MHz
		Fixed point-to-point Acess Ponit	
	V	Mobile and portable clinet device	11dBm/ MHz
U-NII-2A			11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	V		30dBm/ 500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### Note:

As per FCC KDB 662911 D01

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, ..., GN dBi.

- (i) If transmit signals are correlated, then Directional gain
- = 10 log[(10G1 /20 + 10G2 /20 + ... + 10GN /20) 2 /NANT] dBi

[Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

	Effective Legacy Gain (dBi)
UNII-1	3.28
UNII-2A	3.45
U-NII-2C	4.71
U-NII-3	4.06

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such a feet and the sample(s) tested and such as the sample (s) are tested may be prosecuted to the fullest extent of the law.



Page: 53 of 237

#### 10.2 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 Spectrum.

### 4. For U-NII1, U-NII-2A, U-NII-2C Band:

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)

#### For U-NII-3 Band:

Set RBW=500 kHz, VBW≥ 3RBW, 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)

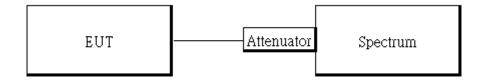
- 5. User the cursor on spectrum to peak search the highest level of trace
- 6. Record the max. reading and add 10 log(1/duty cycle).
- 7. Repeat above procedures until all default test channel (low, middle, and high) was complete.

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 on this report 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

#### 10.3 **Measurement Equipment Used**

	SGS Conducted Room									
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due					
Spectrum Analyzer	Agilent	N9010A	MY51440113	2017/06/21	2018/06/20					
Attenuator	Marvelous	MVE2213-10	RF31	2017/12/26	2018/12/25					
DC Block	PASTERNACK	PE8210	RF81	2017/12/26	2018/12/25					
Notebook	Lenovo	L430	P0000195	N/A	N/A					

#### 10.4 Test Set-up



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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and such as a feet and the sample(s) tested and such as a feet and su may be prosecuted to the fullest extent of the law.



Page: 54 of 237

#### 10.5 **Measurement Result**

	POWER	DENSIT	Y 802.11	a MODE		
Frequency (MHz)	PPSD W/O Duty Factor (dBm)	Offset	Duty Factor	PPSD With Duty Factor (dBm)	Limit (dBm)	Margin (dB)
5180	2.33	12.10	0.13	2.46	11	-8.54
5220	2.98	12.10	0.13	3.11	11	-7.89
5240	2.53	12.10	0.13	2.66	11	-8.34
5260	2.31	12.10	0.13	2.44	11	-8.56
5300	3.99	12.10	0.13	4.12	11	-6.88
5320	1.82	12.10	0.13	1.95	11	-9.05
5500	1.82	12.10	0.13	1.95	11	-9.05
5580	1.28	12.10	0.13	1.41	11	-9.59
5700	0.89	12.10	0.13	1.02	11	-9.98
5720 (U-NII 2C)	5.10	12.10	0.13	5.23	11	-5.77
5720 (U-NII 3)	2.00	12.10	0.13	2.13	30	-27.87
5745	8.17	12.10	0.13	8.17	30	-21.83
5785	8.65	12.10	0.13	8.65	30	-21.35
5825	9.15	12.10	0.13	9.15	30	-20.85

	POWER DENSITY 802.11n HT20 MODE										
Frequency (MHz)	PPSD W/O Duty Factor (dBm)	Offset	Duty Factor	PPSD With Duty Factor (dBm)	Limit (dBm)	Margin (dB)					
5180	4.07	15.10	0.25	4.32	11	-6.68					
5220	4.23	15.10	0.25	4.48	11	-6.52					
5240	3.81	15.10	0.25	4.06	11	-6.94					
5260	5.64	15.10	0.25	5.89	11	-5.11					
5300	4.56	15.10	0.25	4.81	11	-6.19					
5320	6.28	15.10	0.25	6.53	11	-4.47					
5500	4.24	15.10	0.25	4.49	11	-6.51					
5580	4.10	15.10	0.25	4.35	11	-6.65					
5700	3.72	15.10	0.25	3.97	11	-7.03					
5720 (U-NII 2C)	4.96	15.10	0.25	5.21	11	-5.79					
5720 (U-NII 3)	-1.74	15.10	0.25	-1.49	30	-31.49					
5745	10.69	15.10	0.25	10.69	30	-19.31					
5785	11.16	15.10	0.25	11.16	30	-18.84					
5825	12.30	15.10	0.25	12.30	30	-17.70					

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



Page: 55 of 237

	POWER DENSITY 802.11n HT40 MODE								
Frequency (MHz)	PPSD W/O Duty Factor (dBm)	Offset	Duty Factor	PPSD With Duty Factor (dBm)	Limit (dBm)	Margin (dB)			
5190	-1.18	15.10	0.46	-0.72	11	-11.72			
5230	-2	15.10	0.46	-1.54	11	-12.54			
5270	-0.2	15.10	0.46	0.26	11	-10.74			
5310	-1.16	15.10	0.46	-0.70	11	-11.70			
5510	-2.2	15.10	0.46	-1.74	11	-12.74			
5550	-1.44	15.10	0.46	-0.98	11	-11.98			
5670	-1.01	15.10	0.46	-0.55	11	-11.55			
5710 (U-NII 2C)	-0.17	15.10	0.46	0.29	11	-10.71			
5710 (U-NII 3)	-4.37	15.10	0.46	-3.90	30	-33.90			
5755	6.81	15.10	0.46	6.81	30	-23.19			
5795	9.25	15.10	0.46	9.25	30	-20.75			

POWER DENSITY 802.11ac VHT80 MODE								
Frequency (MHz)	PPSD W/O Duty Factor (dBm)	Offset	Duty Factor	PPSD With Duty Factor (dBm)	Limit (dBm)	Margin (dB)		
5210	-5.01	15.10	0.51	-4.50	11	-15.50		
5290	-2.34	15.10	0.51	-1.83	11	-12.83		
5530	-9.74	15.10	0.51	-9.23	11	-20.23		
5610	-10.38	15.10	0.51	-9.87	11	-20.87		
5690 (U-NII 2C)	-3.40	15.10	0.51	-2.90	11	-13.90		
5690 (U-NII 3)	-7.66	15.10	0.51	-7.15	30	-37.15		
5775	3.30	15.10	0.51	3.30	30	-26.70		

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

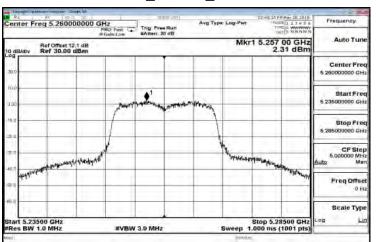


Page: 56 of 237

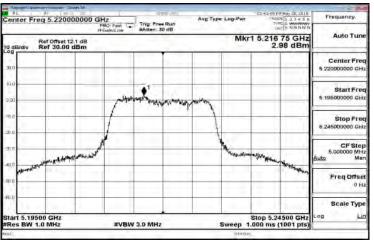
### 802.11a 20MHz 5180MHz

# ntor Freq 5.180000000 GHz PNO: Feet Trig: Free Run PNO: Feet Trig: Free Run PNO: Feet Trig: Free Run Avg Type: Log-Pwr Mkr1 5.176 65 GHz 2.33 dBm Ref Offset 12.1 dB Ref 30.00 dBm Center Fre Start Free Stop 5.20500 GHz Sweep 1.000 ms (1001 pts) #VBW 3.0 MHz Res BW 1.0 MHz

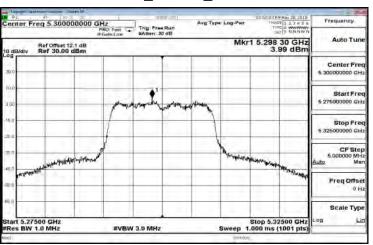
802.11a 20MHz 5260MHz



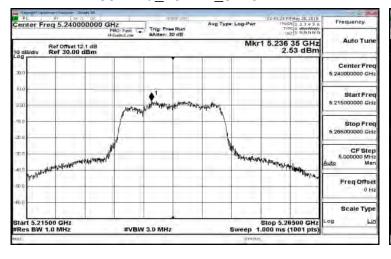
802.11a 20MHz 5220MHz



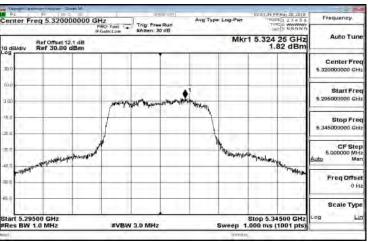
802.11a\_20MHz\_5300MHz



802.11a 20MHz 5240MHz



802.11a 20MHz 5320MHz



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.

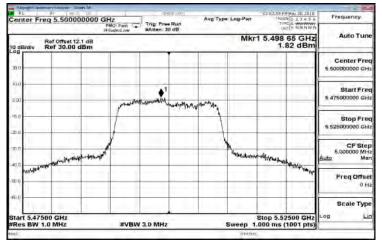
Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

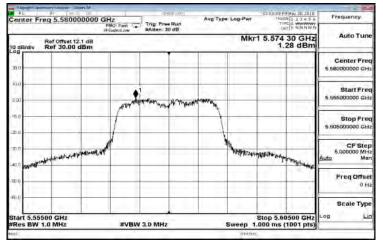


Page: 57 of 237

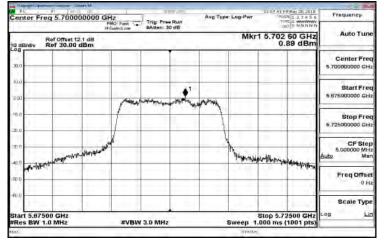
### 802.11a 20MHz 5500MHz



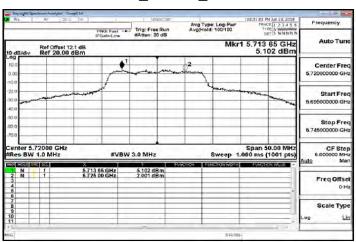
802.11a\_20MHz\_5580MHz



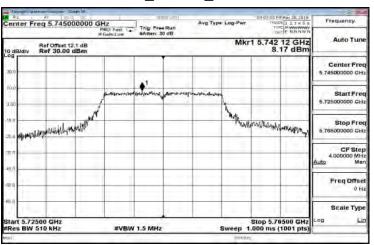
802.11a 20MHz 5700MHz



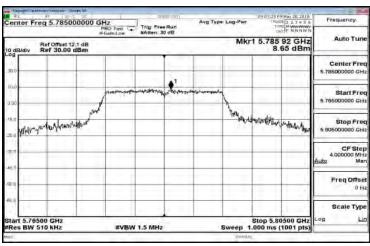
802.11a 20MHz 5720MHz



802.11a 20MHz 5745MHz



802.11a 20MHz 5785MHz



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.

Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and 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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

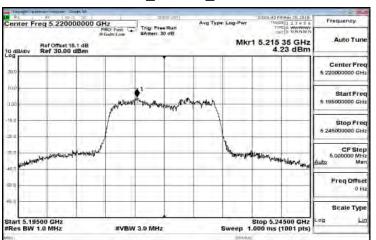


Page: 58 of 237

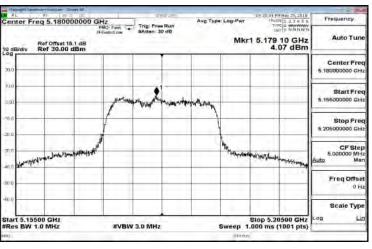
#### 802.11a 20MHz 5825MHz

# nter Freq 5.825000000 GHz PNO: Feet Trig: Free Run PNO: Feet Trig: Free Run PNO: Feet Trig: Free Run Avg Type: Log-Pwr Mkr1 5.825 88 GHz 9.15 dBm Ref Offset 12.1 dB Ref 30.00 dBm Center Fre Start Free and which a family they be Freq Offs art 5.80500 GHz Res BW 510 kHz Stop 5.84500 GHz Sweep 1.000 ms (1001 pts) #VBW 1.5 MHz

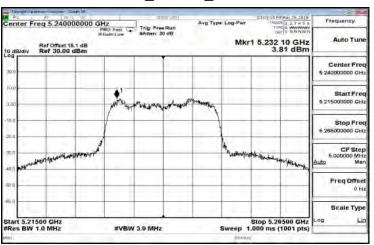
#### 802.11n 20MHz 5220MHz



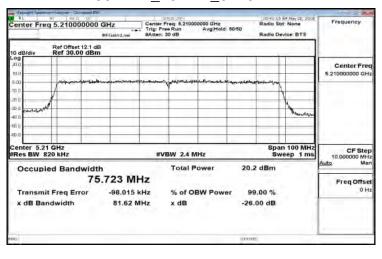
802.11n\_20MHz\_5180MHz



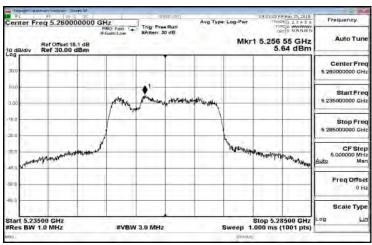
802.11n\_20MHz\_5240MHz



802.11n 20MHz 5210MHz



802.11n 20MHz 5260MHz



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.

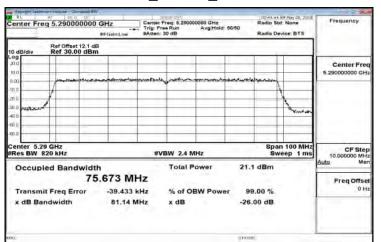
Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

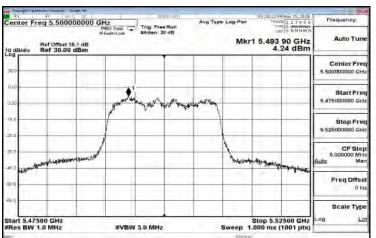


Page: 59 of 237

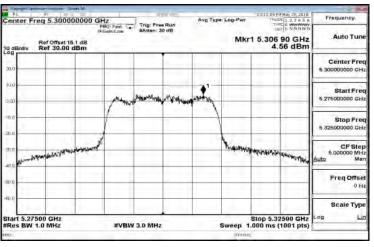
#### 802.11n 20MHz 5290MHz



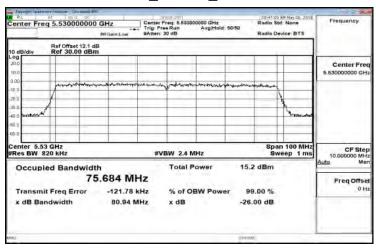
### 802.11n 20MHz 5500MHz



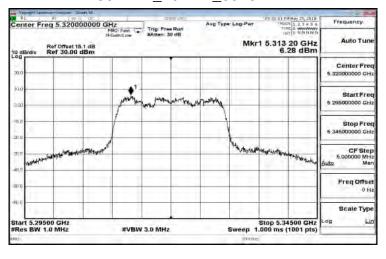
#### 802.11n\_20MHz\_5300MHz



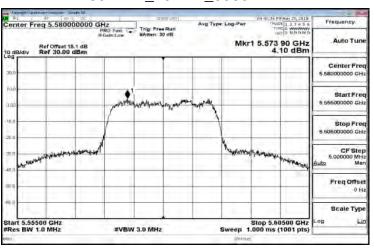
802.11n\_20MHz\_5530MHz



802.11n 20MHz 5320MHz



802.11n 20MHz 5580MHz



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.

Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and 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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

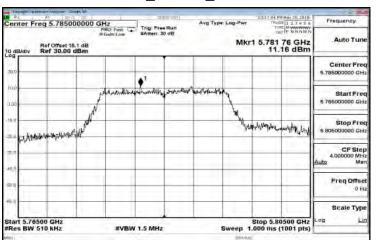


Page: 60 of 237

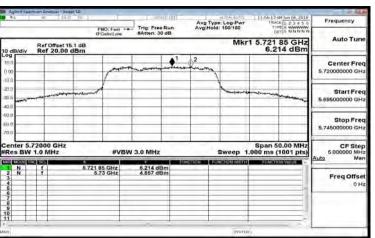
#### 802.11n 20MHz 5700MHz

# nter Freq 5.700000000 GHz PNO: Frest Arten: 30 dB Avg Type: Log-Pwr Mkr1 5,705 10 GHz 3,72 dBm Ref Offset 15.1 dB Ref 30.00 dBm Center Fre Start Free Freq Offs Stop 5.72500 GHz Sweep 1.000 ms (1001 pts) #VBW 3.0 MHz

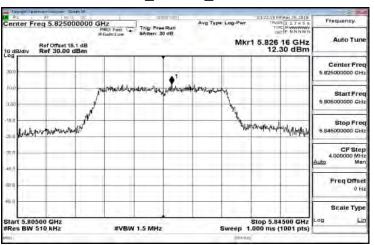
#### 802.11n 20MHz 5785MHz



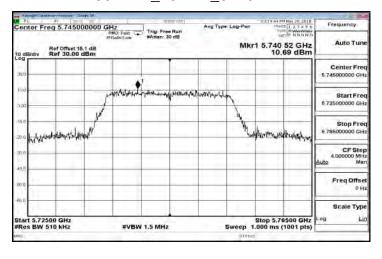
802.11n\_20MHz\_5720MHz



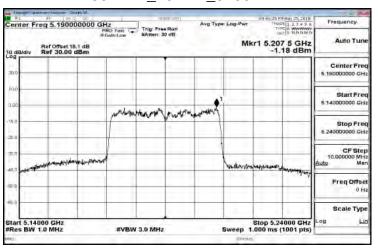
802.11n\_20MHz\_5825MHz



802.11n 20MHz 5745MHz



802.11n 40MHz 5190MHz



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.

Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and 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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

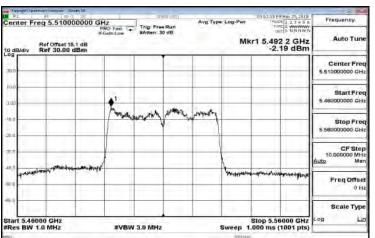


Page: 61 of 237

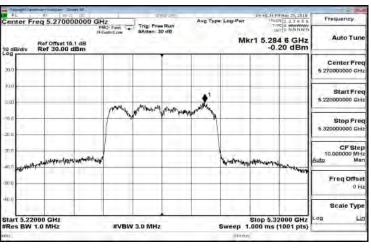
### 802.11n 40MHz 5230MHz

# enter Freq 5.230000000 GHz PNO: Fest Annual Matter: 30 dB Avg Type: Log-Pwr Mkr1 5.236 5 GHz -2.00 dBm Ref Offset 15.1 dB Ref 30.00 dBm Center Fre Start Free Freq Offs #VBW 3.0 MHz

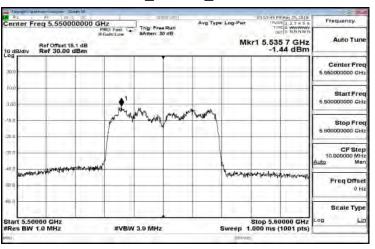
### 802.11n 40MHz 5510MHz



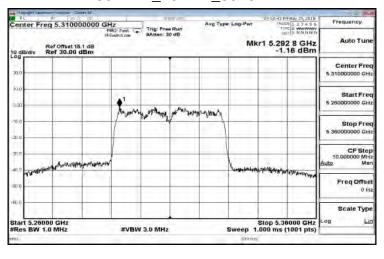
802.11n\_40MHz\_5270MHz



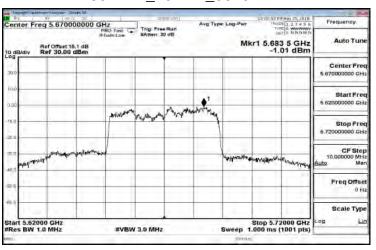
802.11n\_40MHz\_5550MHz



802.11n 40MHz 5310MHz



802.11n 40MHz 5670MHz



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.

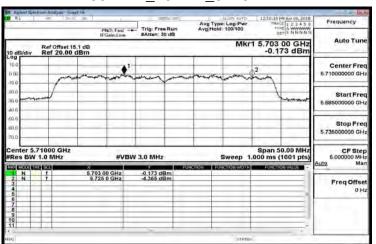
Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

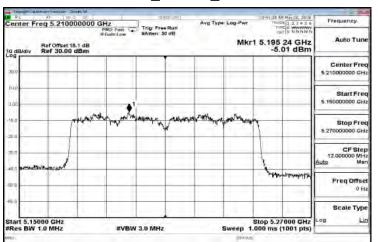


Page: 62 of 237

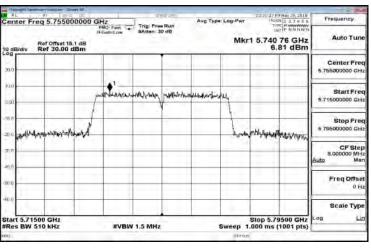
### 802.11n 40MHz 5710MHz



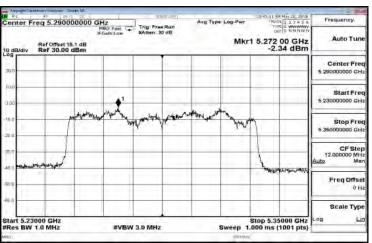
#### 802.11ac 80MHz 5210MHz



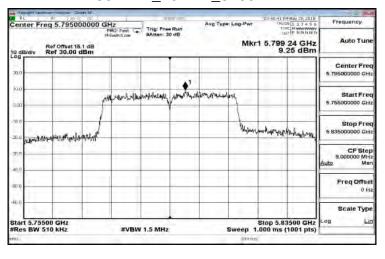
802.11n 40MHz 5755MHz



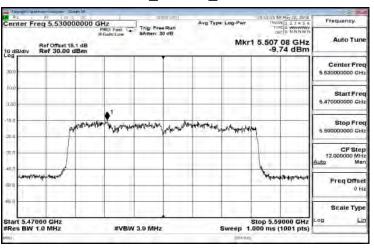
802.11ac\_80MHz\_5290MHz



802.11n 40MHz 5795MHz



802.11ac 80MHz 5530MHz



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.

Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and 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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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.

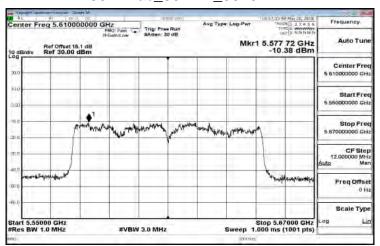
f (886-2) 2298-0488

SGS Taiwan Ltd.

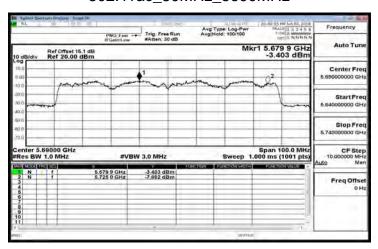


Page: 63 of 237

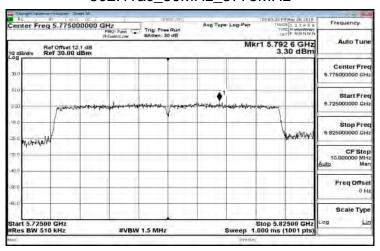
### 802.11ac 80MHz 5610MHz



# 802.11ac\_80MHz\_5690MHz



#### 802.11ac 80MHz 5775MHz



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.

Unless otherwise stated in the results shown in this stee report refer only to the sample(s) tested and such as an entering and 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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document. 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, WuKungRoad, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

www.tw.sqs.com



Page: 64 of 237

#### 11 UNDESIRABLE RADIATED EMISSION MEASUREMENT

### Standard Applicable

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- 1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- 2. For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

APPLICABLE TO	LIMIT				
FCC KDB 789033 D02 General UNII Test Procedures New Rules	FIELD STRENGTH AT 3m				
	PK: 74 (dBμV/m)	AV 54 (dBμV/m)			
APPLICABLE TO	EIRP LIMIT	FIELD STRENGTH AT 3m			
15.407(b)(1)					
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.3 (dBµV/m)  PK: 68.2(dBµV/m) *1  PK:105.2 (dBµV/m) *2  PK: 110.8(dBµV/m) *3  PK:122.2 (dBµV/m) *4			
15.407(b)(3)					
15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4				

<sup>&#</sup>x27;1 beyond 75 MHz or more above of the bandedge.

EIRP =  $((E*d)^2) / 30$ , where E is the field in V/m, d is the measurement distance (3m), EIRP is the equivalent isotropically radiated power in Watts.

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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and such as a feet and the sample(s) tested and such as a feet and su may be prosecuted to the fullest extent of the law.

<sup>\*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

<sup>\*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

<sup>\*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



Page: 65 of 237

Unwanted spurious emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

Frequency (MHz)	Field strength (microvolts/meter)	Distance (meters)
0.009-0.490	2400/F(KHz)	300
0.490-1.705	24000/F(KHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

#### Note:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level  $(dB\mu V/m) = 20 \log Emission level (dB\mu V/m)$

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample state may be prosecuted to the fullest extent of the law.

f (886-2) 2298-0488



Page: 66 of 237

#### 11.2 **Measurement Equipment Used**

SGS SAC-III									
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due				
Broadband TESEQ Antenna		CBL 6112D	35243	2017/11/10	2018/11/09				
Horn Antenna	Schwarzbeck	BBHA9120D	1187	2018/01/04	2019/01/03				
Horn Antenna	SCHWAZBECK	BBHA9170	184	2017/12/12	2018/12/11				
Loop Antenna	ETS.LINDGREN	6502	148045	2017/09/26	2018/09/25				
EMI Test Receiver	R&S	ESU 40	100363	2018/04/11	2019/04/10				
Pre-Amplifier	EMC Instru- ments	EMC330	980096	2017/12/26	2018/12/25				
Pre-Amplifier	EMC Instru- ments	EMC0011830	980199	2017/12/26	2018/12/25				
Pre-Amplifier	EMC Instru- ments	EMC184045B	980135	2017/10/27	2018/10/26				
Coaxial Cable	Huber+Suhner	RG 214/U	W21.01	2017/12/26	2018/12/25				
Coaxial Cable	Huber Suhner	EMC106-SM-SM-7200	150703	2017/12/26	2018/12/25				
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17388/4	2017/12/26	2018/12/25				

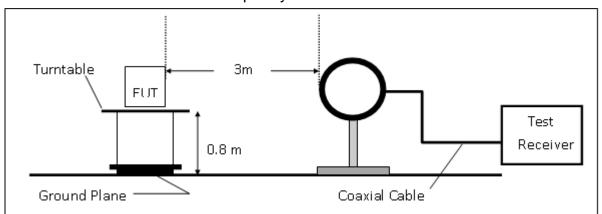
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders with the fulled extent of the falled may be prosecuted to the fullest extent of the law.



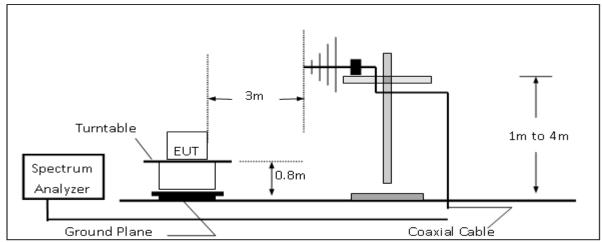
Page: 67 of 237

#### 11.3 **Test SET-UP**

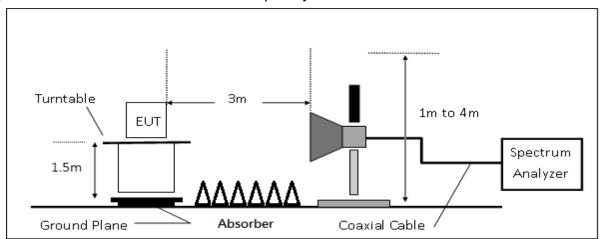
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



(B) Radiated Emission Test Set-Up, Frequency form 30MHz to 1000MHz



(C) Radiated Emission Test Set-UP Frequency Over 1 GHz



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample state may be prosecuted to the fullest extent of the law.



Page: 68 of 237

#### 11.4 **Measurement Procedure**

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 3. 1GHz above ground plane.
- The turn table shall rotate 360 degrees to determine the position of maximum emission level. 4.
- EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and 6. Quasi-peak (QP) at frequency below 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency 7. above 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 10. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 11. Repeat above procedures until all frequency measured were complete.

#### 11.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

### FS = RA + AF + CL - AG

Where	S .	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

Actual  $FS(dB\mu V/m) = SPA$ . Reading level( $dB\mu V$ ) + Factor(dB)

Factor(dB) = Antenna Factor(dBµV/m) + Cable Loss(dB) – Pre\_Amplifier Gain(dB)

### 11.6 Test Results of Radiated Spurious Emissions form 9 kHz to 30 MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit per 15.31(o) was not reported.

#### 11.7 **Measurement Result**

Refer to next page for tabular data sheets.

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.

Unless otherwise stated the results shown in this less report eiter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and such as a feet and the sample(s) tested and such as a feet and su may be prosecuted to the fullest extent of the law.

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

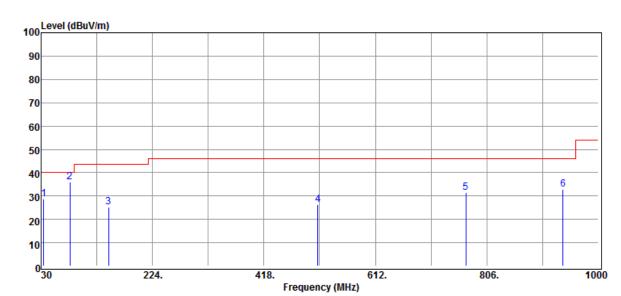


Page: 69 of 237

# **Radiated Spurious Emission Measurement Result**

#### **Below 1GHz Worst-Case Data:**

:802.11a / Band 1 **Operation Mode** Test Date :2018-05-29 Test Mode :TX CH MID Temp./Humi. :25/60 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL **Test Channel** :5220 MHz Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBμV/m	dBµV/m	dB
34.85	Peak	35.09	-6.23	28.86	40.00	-11.14
80.44	Peak	52.78	-16.84	35.94	40.00	-4.06
147.37	Peak	37.70	-12.50	25.20	43.50	-18.30
512.09	Peak	30.13	-3.94	26.19	46.00	-19.81
769.14	Peak	32.32	-0.96	31.36	46.00	-14.64
938.89	Peak	30.91	1.86	32.77	46.00	-13.23

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample state may be prosecuted to the fullest extent of the law.



Page: 70 of 237

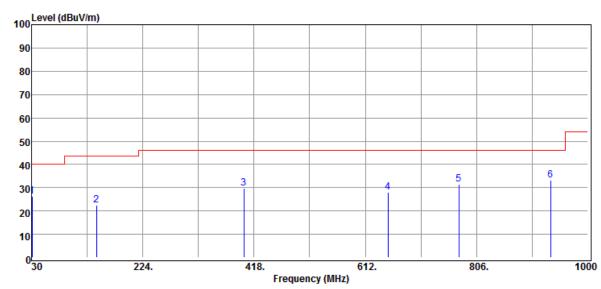
**Operation Mode** Test Mode

:802.11a / Band 1 :TX CH MID

**EUT Pol** :E1 Plan Test Channel :5220 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
30.97	Peak	30.45	-4.16	26.29	40.00	-13.71
143.49	Peak	34.70	-12.18	22.52	43.50	-20.98
400.54	Peak	35.72	-6.01	29.71	46.00	-16.29
651.77	Peak	30.28	-2.33	27.95	46.00	-18.05
774.96	Peak	32.18	-0.84	31.34	46.00	-14.66
935.01	Peak	31.53	1.79	33.32	46.00	-12.68

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

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd. t (886-2) 2299-3279

www.tw.sqs.com



Page: 71 of 237

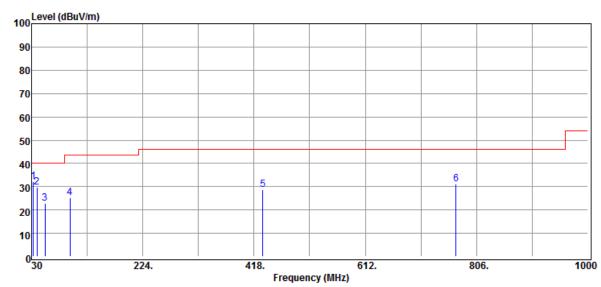
**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11a / Band 2 :TX CH MID

:E1 Plan :5300 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
32.91	Peak	37.58	-5.23	32.35	40.00	-7.65
39.70	Peak	38.15	-8.50	29.65	40.00	-10.35
53.28	Peak	40.23	-17.25	22.98	40.00	-17.02
96.93	Peak	40.64	-15.26	25.38	43.50	-18.12
433.52	Peak	34.62	-5.90	28.72	46.00	-17.28
770.11	Peak	32.14	-0.95	31.19	46.00	-14.81

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



Page: 72 of 237

**Operation Mode** Test Mode

**EUT Pol** 

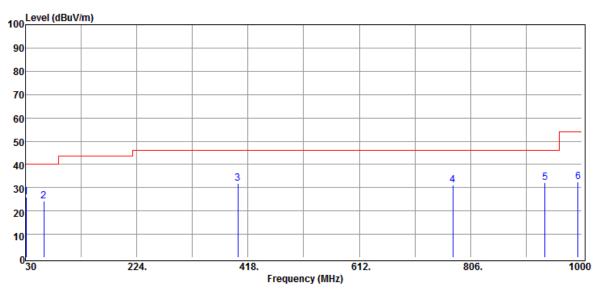
Test Channel

:802.11a / Band 2 :TX CH MID :E1 Plan :5300 MHz

**Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
30.97	Peak	30.22	-4.16	26.06	40.00	-13.94
62.01	Peak	43.67	-19.35	24.32	40.00	-15.68
400.54	Peak	38.00	-6.01	31.99	46.00	-14.01
774.96	Peak	31.98	-0.84	31.14	46.00	-14.86
935.98	Peak	30.43	1.81	32.24	46.00	-13.76
993.21	Peak	29.44	3.14	32.58	54.00	-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,同時此樣品僅保留卯天。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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



Page: 73 of 237

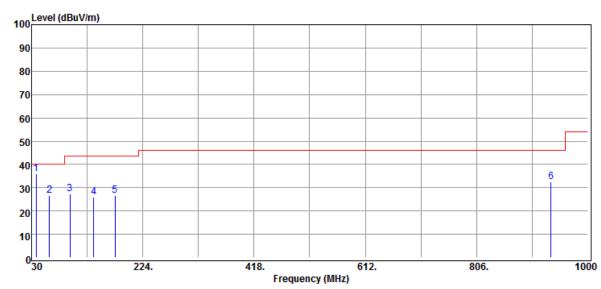
**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11a / Band 3 :TX CH MID

:E1 Plan :5580 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60 Antenna Pol. :VERTICAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
37.76	Peak	43.63	-7.62	36.01	40.00	-3.99
61.04	Peak	46.15	-19.54	26.61	40.00	-13.39
96.93	Peak	42.72	-15.26	27.46	43.50	-16.04
138.64	Peak	37.64	-11.82	25.82	43.50	-17.68
175.50	Peak	40.82	-14.10	26.72	43.50	-16.78
935.98	Peak	30.65	1.81	32.46	46.00	-13.54

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

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd. t (886-2) 2299-3279

www.tw.sqs.com



Page: 74 of 237

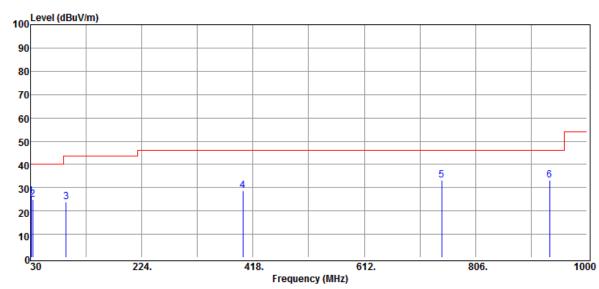
**Operation Mode** Test Mode

:802.11a / Band 3 :TX CH MID

**EUT Pol** :E1 Plan Test Channel :5580 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
30.97	Peak	30.37	-4.16	26.21	40.00	-13.79
33.88	Peak	30.77	-5.73	25.04	40.00	-14.96
92.08	Peak	40.02	-16.03	23.99	43.50	-19.51
400.54	Peak	34.64	-6.01	28.63	46.00	-17.37
746.83	Peak	34.47	-1.38	33.09	46.00	-12.91
935.01	Peak	31.53	1.79	33.32	46.00	-12.68

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



Page: 75 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

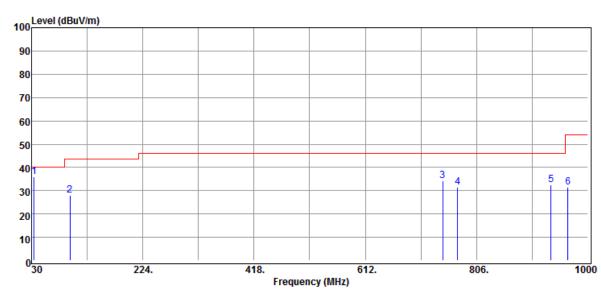
:802.11a / Band 4

:TX CH MID :E1 Plan

:5785 MHz

**Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
34.85	Peak	42.26	-6.23	36.03	40.00	-3.97
96.93	Peak	43.35	-15.26	28.09	43.50	-15.41
746.83	Peak	35.77	-1.38	34.39	46.00	-11.61
773.02	Peak	32.35	-0.88	31.47	46.00	-14.53
935.98	Peak	30.66	1.81	32.47	46.00	-13.53
965.08	Peak	29.03	2.43	31.46	54.00	-22.54

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



Page: 76 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11a / Band 4

:TX CH MID :E1 Plan :5785 MHz

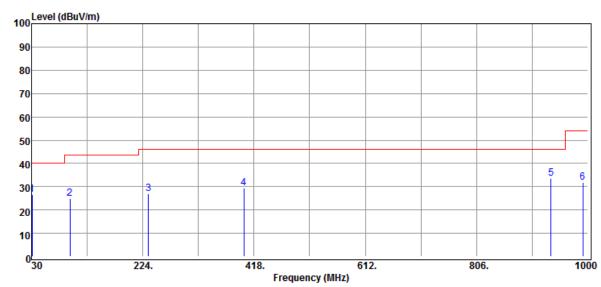
**Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

:2018-05-29

:25/60

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
30.97	Peak	30.66	-4.16	26.50	40.00	-13.50
96.93	Peak	40.12	-15.26	24.86	43.50	-18.64
233.70	Peak	39.02	-12.15	26.87	46.00	-19.13
400.54	Peak	35.56	-6.01	29.55	46.00	-16.45
935.98	Peak	31.72	1.81	33.53	46.00	-12.47
991.27	Peak	28.90	3.09	31.99	54.00	-22.01

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

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeilndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 t (886-2) 2299-3279

www.tw.sqs.com



Page: 77 of 237

**Operation Mode** Test Mode

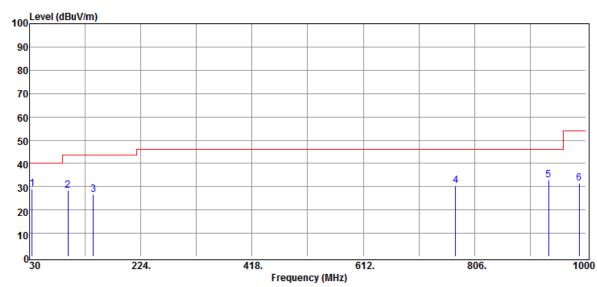
:802.11ac80 / Band 1

:TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5210 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :VERTICAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
34.85	Peak	35.44	-6.23	29.21	40.00	-10.79
96.93	Peak	43.59	-15.26	28.33	43.50	-15.17
141.55	Peak	38.70	-12.01	26.69	43.50	-16.81
773.02	Peak	31.41	-0.88	30.53	46.00	-15.47
935.01	Peak	31.10	1.79	32.89	46.00	-13.11
988.36	Peak	28.44	3.01	31.45	54.00	-22.55

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



Page: 78 of 237

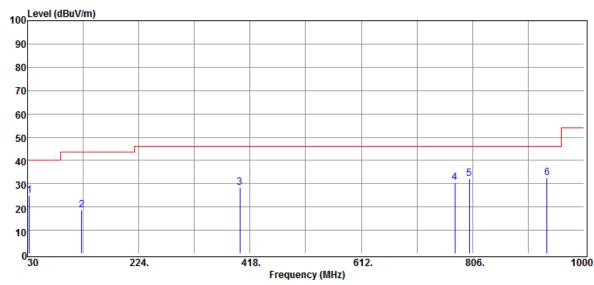
**Operation Mode** :802.11ac80 / Band 1

Test Mode :TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5210 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
32.91	Peak	30.26	-5.23	25.03	40.00	-14.97
124.09	Peak	30.66	-11.84	18.82	43.50	-24.68
400.54	Peak	34.50	-6.01	28.49	46.00	-17.51
774.96	Peak	31.24	-0.84	30.40	46.00	-15.60
800.18	Peak	32.46	-0.33	32.13	46.00	-13.87
935.98	Peak	30.57	1.81	32.38	46.00	-13.62

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

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeilndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 t (886-2) 2299-3279

www.tw.sqs.com



Page: 79 of 237

**Operation Mode** Test Mode **EUT Pol** 

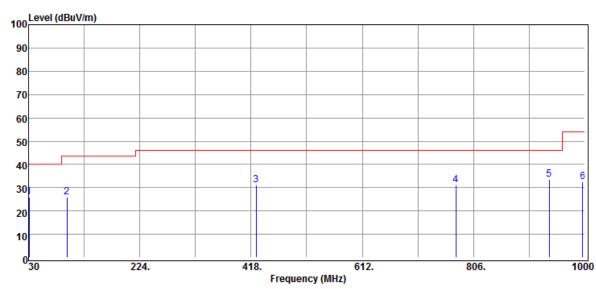
Test Channel

:802.11ac80 / Band 2

:TX CH HIGH

:E1 Plan :5290 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
30.97	Peak	30.25	-4.16	26.09	40.00	-13.91
96.93	Peak	41.24	-15.26	25.98	43.50	-17.52
426.73	Peak	36.98	-5.94	31.04	46.00	-14.96
774.96	Peak	32.13	-0.84	31.29	46.00	-14.71
937.92	Peak	31.62	1.85	33.47	46.00	-12.53
996.12	Peak	29.19	3.20	32.39	54.00	-21.61

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



Page: 80 of 237

**Operation Mode** Test Mode

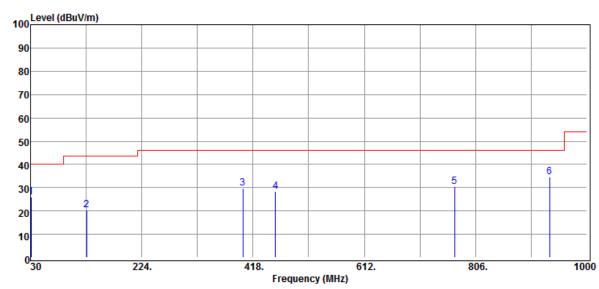
:802.11ac80 / Band 2

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5290 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
30.97	Peak	30.06	-4.16	25.90	40.00	-14.10
127.97	Peak	31.86	-11.58	20.28	43.50	-23.22
400.54	Peak	35.92	-6.01	29.91	46.00	-16.09
456.80	Peak	33.73	-5.20	28.53	46.00	-17.47
769.14	Peak	31.51	-0.96	30.55	46.00	-15.45
935.01	Peak	32.65	1.79	34.44	46.00	-11.56

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



Page: 81 of 237

**Operation Mode** Test Mode **EUT Pol** 

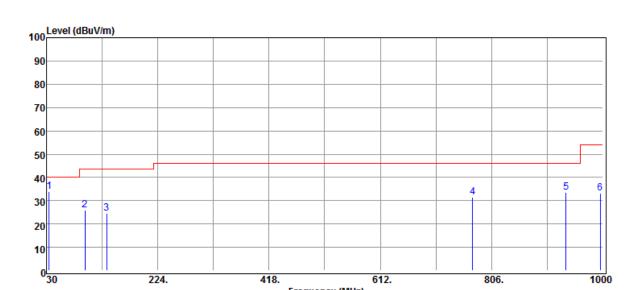
Test Channel

:802.11ac80 / Band 3

:TX CH MID :E1 Plan :5610 MHz

**Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :VERTICAL Engineer :Ashton



Frequency (MHz)

Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμ̈V	dB	dBµV/m	dBµV/m	dB
34.85	Peak	40.25	-6.23	34.02	40.00	-5.98
96.93	Peak	41.06	-15.26	25.80	43.50	-17.70
134.76	Peak	36.06	-11.65	24.41	43.50	-19.09
773.02	Peak	32.31	-0.88	31.43	46.00	-14.57
935.98	Peak	31.84	1.81	33.65	46.00	-12.35
995.15	Peak	30.03	3.17	33.20	54.00	-20.80

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



Page: 82 of 237

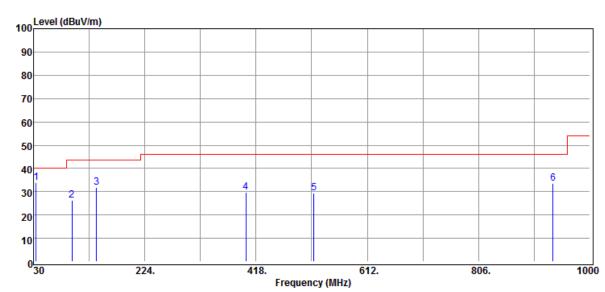
Operation Mode :802.11ac80 / Band 3

Test Mode :TX CH MID **EUT Pol** :E1 Plan

Test Channel :5610 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
34.85	Peak	40.25	-6.23	34.02	40.00	-5.98
96.93	Peak	41.45	-15.26	26.19	43.50	-17.31
139.61	Peak	43.73	-11.86	31.87	43.50	-11.63
400.54	Peak	35.68	-6.01	29.67	46.00	-16.33
518.88	Peak	33.32	-3.79	29.53	46.00	-16.47
935.98	Peak	31.84	1.81	33.65	46.00	-12.35

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

f (886-2) 2298-0488

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeilndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

www.tw.sqs.com



Page: 83 of 237

Operation Mode Test Mode **EUT Pol** 

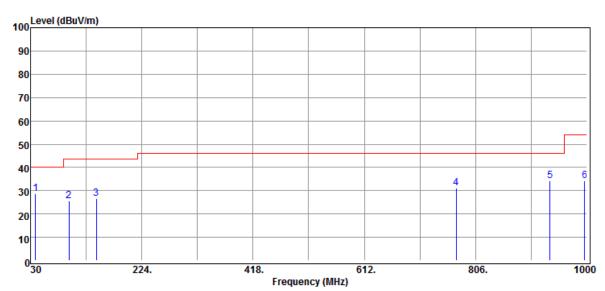
Test Channel

:802.11ac80 / Band 4

:TX CH LOW

:E1 Plan :5775 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμ̈V	dB	dBµV/m	dBµV/m	dB
38.73	Peak	36.72	-8.07	28.65	40.00	-11.35
96.93	Peak	40.78	-15.26	25.52	43.50	-17.98
144.46	Peak	38.73	-12.26	26.47	43.50	-17.03
772.05	Peak	32.09	-0.90	31.19	46.00	-14.81
935.98	Peak	32.42	1.81	34.23	46.00	-11.77
996.12	Peak	31.04	3.20	34.24	54.00	-19.76

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



Page: 84 of 237

Operation Mode Test Mode

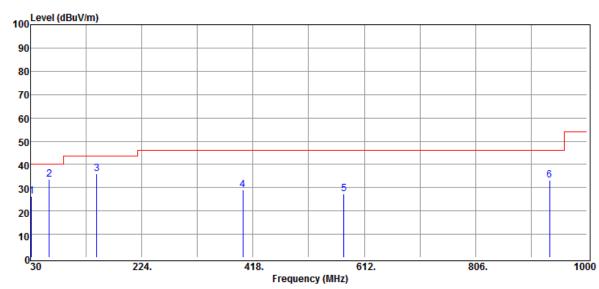
:802.11ac80 / Band 4

:TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5775 MHz **Test Date** :2018-05-29 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
31.94	Peak	31.13	-4.71	26.42	40.00	-13.58
62.98	Peak	52.73	-19.17	33.56	40.00	-6.44
145.43	Peak	48.38	-12.34	36.04	43.50	-7.46
400.54	Peak	35.16	-6.01	29.15	46.00	-16.85
576.11	Peak	30.54	-3.18	27.36	46.00	-18.64
935.01	Peak	31.31	1.79	33.10	46.00	-12.90

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



Page: 85 of 237

### Above 1GHz Worst-Case Data:

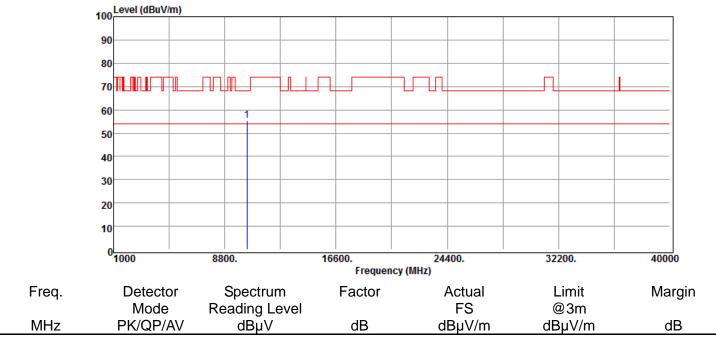
### Radiated Spurious Emission Measurement Result 802.11a, 5150~5250 MHz

**Operation Mode** :802.11a / Band 1 Test Date :2018-05-24

Test Mode :TX CH LOW Temp./Humi. :24/64

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Channel** :5180 MHz Engineer :Enzo



MHz	PK/QP/AV	dBµV	dB	dBμV/m	dBµV/m	dB
10360.00	Peak	28.72	26.61	55.33	68.20	-12.87

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

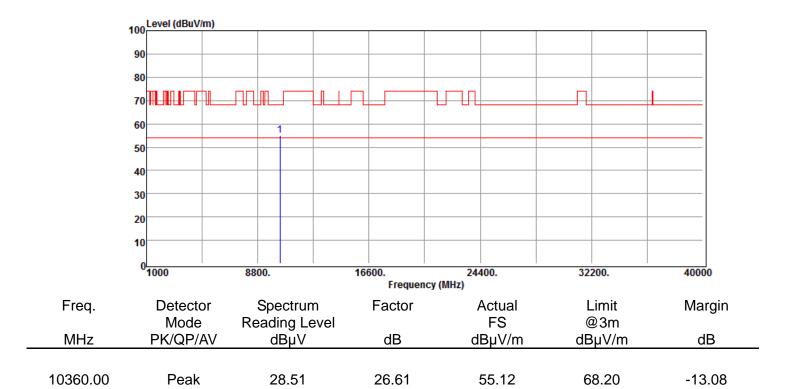


Page: 86 of 237

**Operation Mode** :802.11a / Band 1 **Test Date** :2018-05-24

Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** Antenna Pol. :E1 Plan :HORIZONTAL

Test Channel :5180 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 87 of 237

**Operation Mode** Test Mode **EUT Pol** 

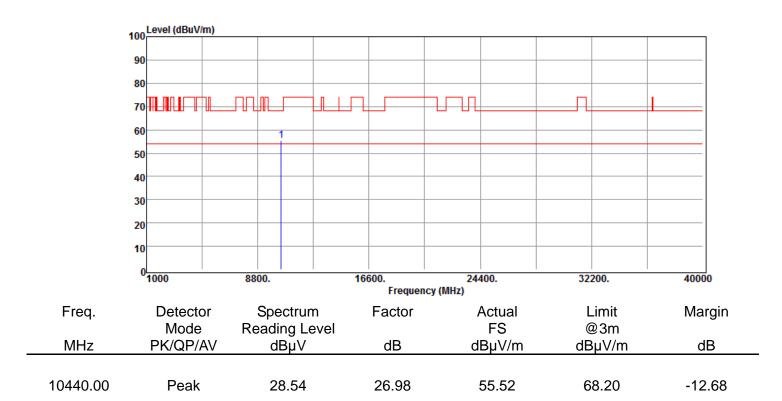
Test Channel

:802.11a / Band 1 :TX CH MID

:E1 Plan :5220 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 88 of 237

**Operation Mode** Test Mode

:TX CH MID :E1 Plan

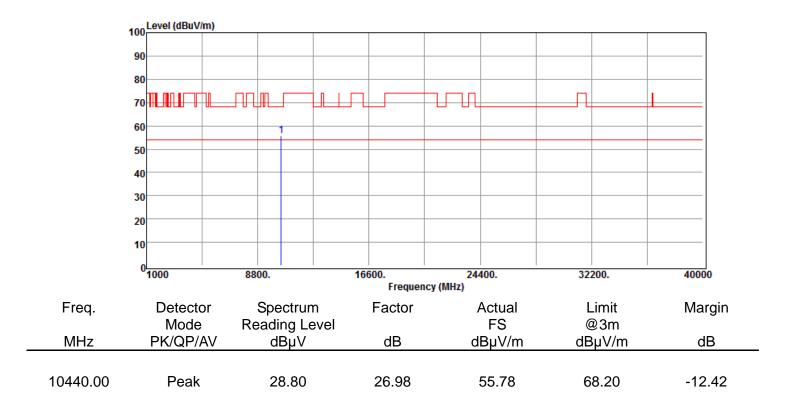
:802.11a / Band 1

**EUT Pol** Test Channel :5220 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 89 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

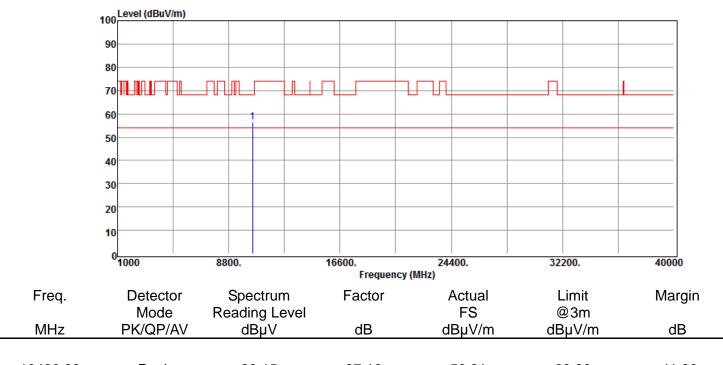
:802.11a / Band 1 :TX CH HIGH :E1 Plan

:5240 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



10480.00 Peak 29.15 27.16 56.31 68.20 -11.89

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



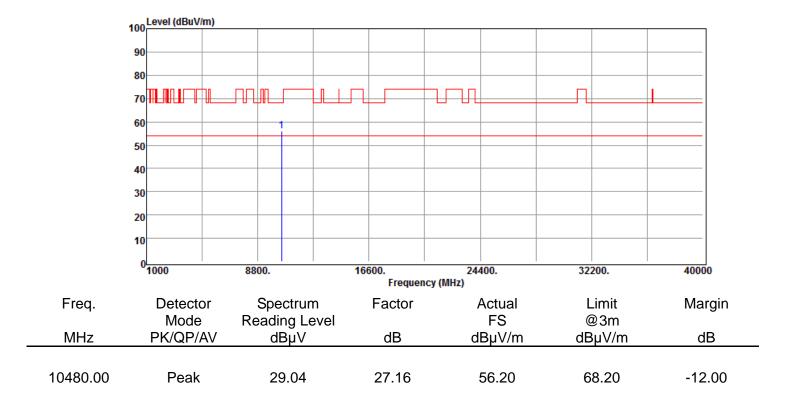
Page: 90 of 237

**Operation Mode** :802.11a / Band 1 Test Mode :TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5240 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

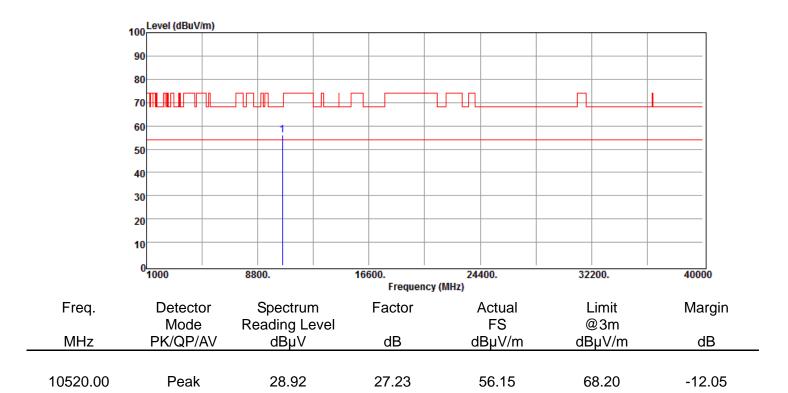
Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 91 of 237

### Radiated Spurious Emission Measurement Result 802.11a, 5250MHz-5350MHz

**Operation Mode** :802.11a / Band 2 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5260 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

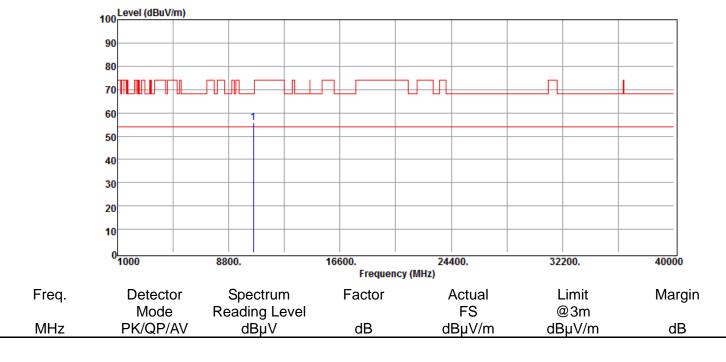


Page: 92 of 237

**Operation Mode** :802.11a / Band 2 **Test Date** :2018-05-24

Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** Antenna Pol. :E1 Plan :HORIZONTAL

Test Channel :5260 MHz Engineer :Enzo



rieq.	Mode	Reading Level	Factor	FS	@3m	iviargiri
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
10520.00	Peak	28.39	27.23	55.62	68.20	-12.58

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 93 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

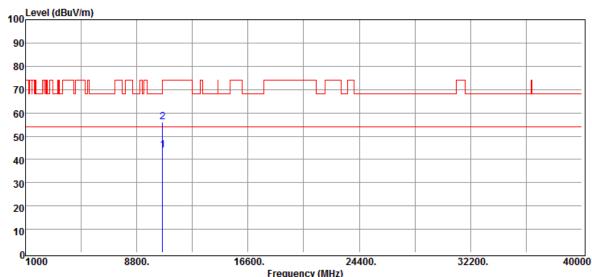
:802.11a / Band 2 :TX CH MID :E1 Plan

:5300 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



	Troquency (mile)							
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB		
10600.00	Average	16.81	27.21	44.02	54.00	-9.98		
10000.00	Average	10.01	21.21	44.02	34.00	-9.90		
10600 00	Peak	28 70	27 21	55 91	68 20	-12 29		

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



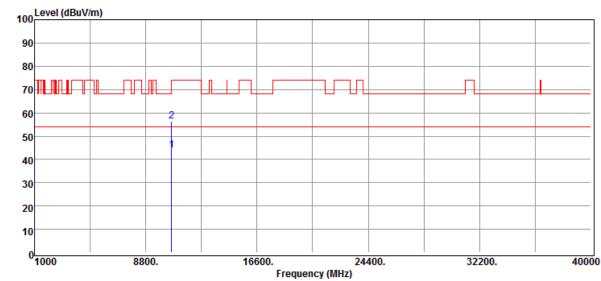
Page: 94 of 237

**Operation Mode** :802.11a / Band 2 Test Mode :TX CH MID

**EUT Pol** :E1 Plan Test Channel :5300 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
10600.00	Average	16.76	27.21	43.97	54.00	-10.03
10600.00	Peak	29.26	27.21	56.47	68.20	-11.73

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

SGS Taiwan Ltd.



Page: 95 of 237

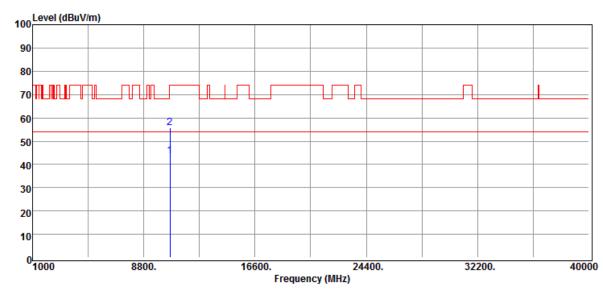
**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11a / Band 2 :TX CH HIGH :E1 Plan :5320 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64 Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
10640.00	Average	16.55	27.20	43.75	54.00	-10.25
10640.00	Peak	28.54	27.20	55.74	74.00	-18.26

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



Page: 96 of 237

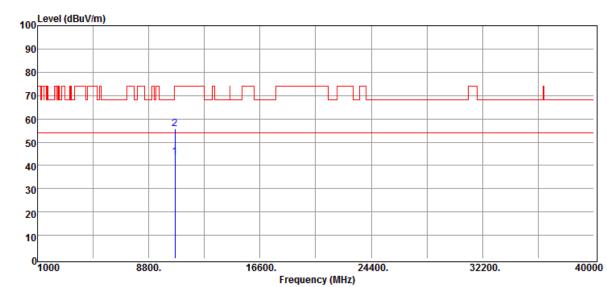
**Operation Mode** Test Mode

:802.11a / Band 2 :TX CH HIGH :E1 Plan

**EUT Pol** Test Channel :5320 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64 Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
10640.00	Average	16.42	27.20	43.62	54.00	-10.38
10640.00	Peak	28.44	27.20	55.64	74.00	-18.36

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

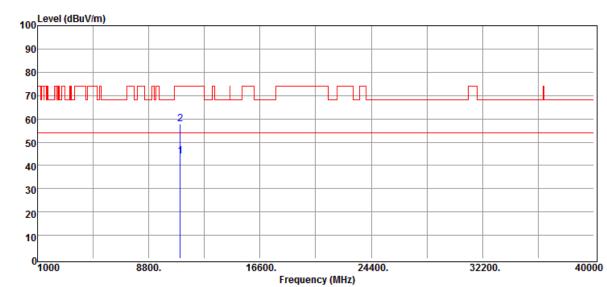
SGS Taiwan Ltd.



Page: 97 of 237

# Radiated Spurious Emission Measurement Result 802.11a, 5470~5725 MHz

**Operation Mode** :802.11a / Band 3 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5500 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11000.00	Average	16.75	27.09	43.84	54.00	-10.16
11000.00	Peak	30.64	27.09	57.73	74.00	-16.27

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



Page: 98 of 237

**Operation Mode** :802.11a / Band 3 Test Mode

**EUT Pol** 

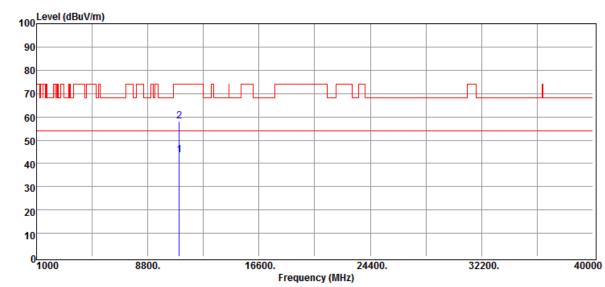
Test Channel

:TX CH LOW :E1 Plan :5500 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB	
11000.00	Average	16.58	27.09	43.67	54.00	-10.33	
11000.00	Peak	31.07	27.09	58.16	74.00	-15.84	

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

SGS Taiwan Ltd.



Page: 99 of 237

**Operation Mode** Test Mode **EUT Pol** 

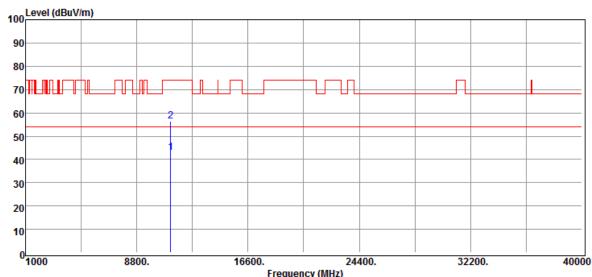
Test Channel

:802.11a / Band 3 :TX CH MID

:E1 Plan :5580 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



	rroquency (mile)							
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB		
11160.00	Average	16.39	26.67	43.06	54.00	-10.94		
11160.00	Peak	29 64	26.67	<del>-</del> 6.00 56.31	74 00	-17 69		

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

SGS Taiwan Ltd.



Page: 100 of 237

**Operation Mode** Test Mode

:802.11a / Band 3

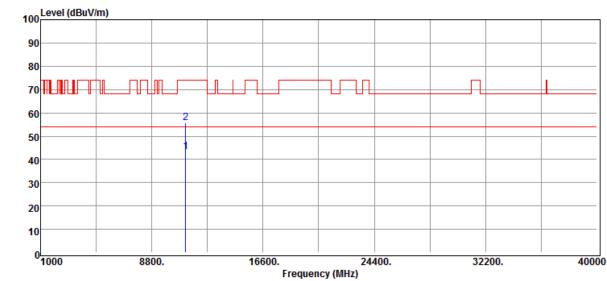
:TX CH MID **EUT Pol** :E1 Plan

Test Channel :5580 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11160.00	Average	16.65	26.67	43.32	54.00	-10.68
11160.00	Peak	28.93	26.67	55.60	74.00	-18.40

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



Page: 101 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

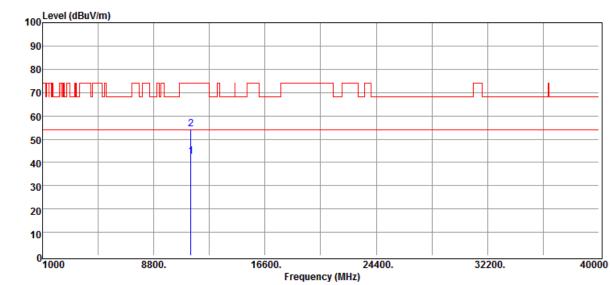
:802.11a / Band 3 :TX CH HIGH :E1 Plan

:5700 MHz

**Test Date** Temp./Humi. Antenna Pol. :2018-05-24

:24/64 :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11400.00	Average	16.53	26.07	42.60	54.00	-11.40
11400.00	Peak	28.35	26.07	54.42	74.00	-19.58

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



Page: 102 of 237

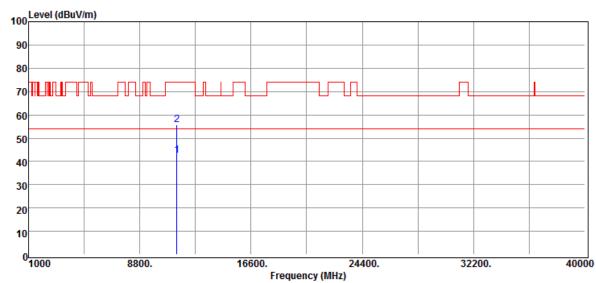
**Operation Mode** Test Mode

:802.11a / Band 3 :TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5700 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64 Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11400.00	Average	16.60	26.07	42.67	54.00	-11.33
11400.00	Peak	29.56	26.07	55.63	74.00	-18.37

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

SGS Taiwan Ltd.



:VERTICAL

Page: 103 of 237

**Operation Mode** Test Mode **EUT Pol** 

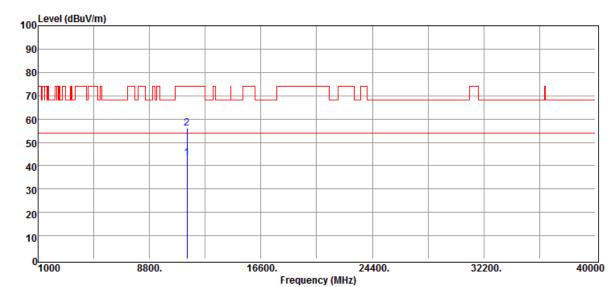
:802.11a / Band 3-4

:TX CH MID

:E1 Plan Test Channel :5720 MHz **Test Date** :2018-06-20 Temp./Humi. :24/64

Engineer :Enzo

Antenna Pol.



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11440.00	Average	17.31	25.96	43.27	54.00	-10.73
11440.00	Peak	30.12	25.96	56.08	74.00	-17.92

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

SGS Taiwan Ltd.



Page: 104 of 237

**Operation Mode** Test Mode

:802.11a / Band 3-4

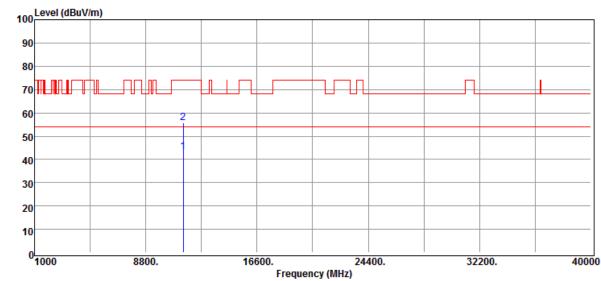
:TX CH MID

**EUT Pol** :E1 Plan Test Channel :5720 MHz

**Test Date** :2018-06-20 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11440.00	Average	17.16	25.96	43.12	54.00	-10.88
11440.00	Peak	29.87	25.96	55.83	74.00	-18.17

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

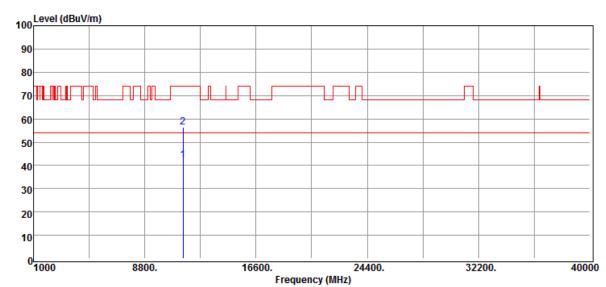
SGS Taiwan Ltd.



Page: 105 of 237

# Radiated Spurious Emission Measurement Result 802.11a, 5725~5850 MHz

**Operation Mode** :802.11a / Band 4 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5745 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11490.00	Average	16.53	25.83	42.36	54.00	-11.64
11490.00	Peak	30.53	25.83	56.36	74.00	-17.64

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



Page: 106 of 237

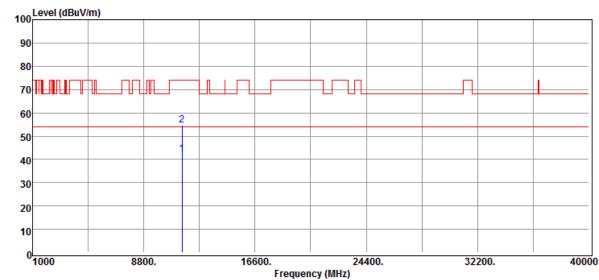
**Operation Mode** Test Mode **EUT Pol** 

:802.11a / Band 4 :TX CH LOW

:E1 Plan Test Channel :5745 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
11490.00	Average	16.44	25.83	42.27	54.00	-11.73
11490.00	Peak	28.89	25.83	54.72	74.00	-19.28

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

SGS Taiwan Ltd.



Page: 107 of 237

**Operation Mode** Test Mode **EUT Pol** 

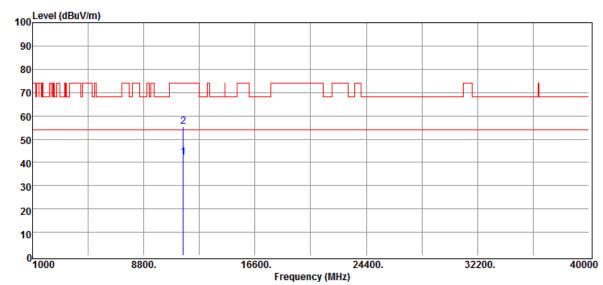
Test Channel

:802.11a / Band 4 :TX CH MID

:E1 Plan :5785 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11570.00	Average	16.38	25.87	42.25	54.00	-11.75
11570.00	Peak	29.33	25.87	55.20	74.00	-18.80

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

SGS Taiwan Ltd.



Page: 108 of 237

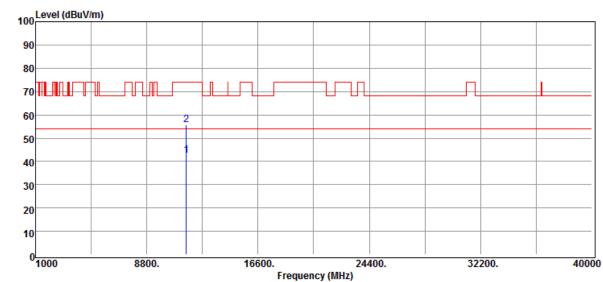
**Operation Mode** 

:802.11a / Band 4 Test Mode :TX CH MID **EUT Pol** :E1 Plan Test Channel :5785 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
11570.00	Average	16.57	25.87	42.44	54.00	-11.56
11570.00	Peak	29.70	25.87	55.57	74.00	-18.43

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

f (886-2) 2298-0488

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.

www.tw.sqs.com



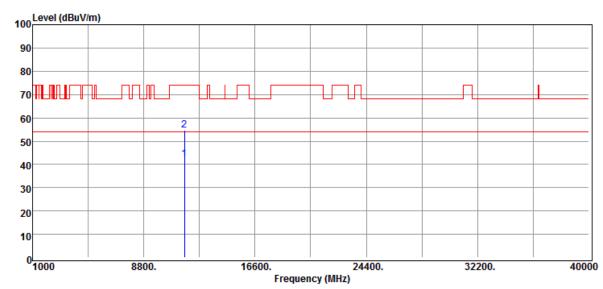
Page: 109 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11a / Band 4 :TX CH HIGH :E1 Plan :5825 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64 Antenna Pol. :VERTICAL Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB	
11650.00	Average	16.44	25.94	42.38	54.00	-11.62	
11650.00	Peak	28.68	25.94	54.62	74.00	-19.38	

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



Page: 110 of 237

**Operation Mode** :802.11a / Band 4 Test Mode **EUT Pol** 

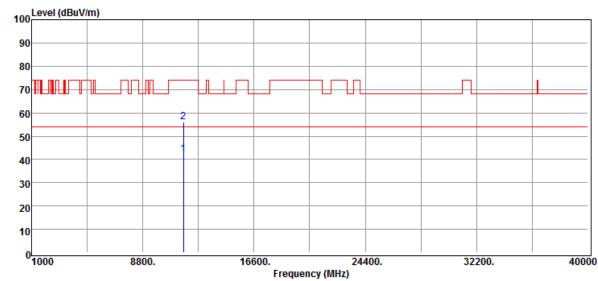
Test Channel

:TX CH HIGH :E1 Plan :5825 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
11650.00	Average	16.38	25.94	42.32	54.00	-11.68
11650.00	Peak	30.26	25.94	56.20	74.00	-17.80

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

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd. t (886-2) 2299-3279

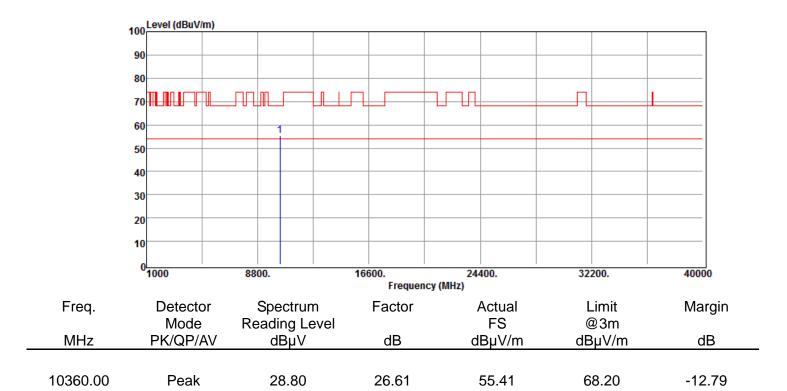
www.tw.sqs.com



Page: 111 of 237

### Radiated Spurious Emission Measurement Result 802.11n HT20, 5150~5250 MHz

**Operation Mode** :802.11n20 / Band 1 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5180 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 112 of 237

**Operation Mode** 

:802.11n20 / Band 1

Test Mode **EUT Pol** 

Test Channel

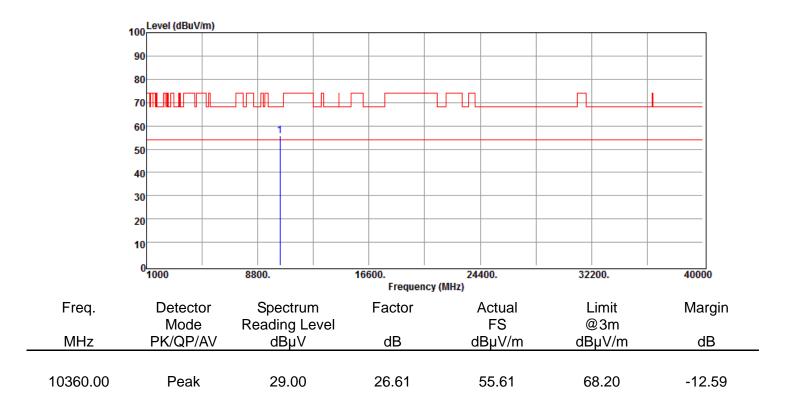
:TX CH LOW :E1 Plan :5180 MHz

**Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL





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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 113 of 237

**Operation Mode** Test Mode **EUT Pol** 

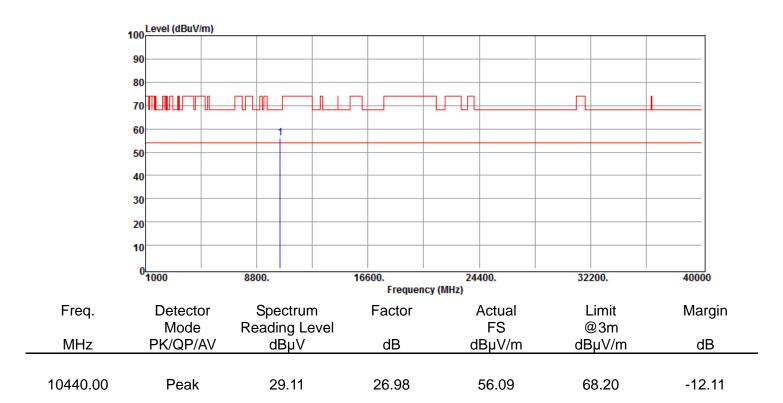
:802.11n20 / Band 1

:TX CH MID :E1 Plan

Test Channel :5220 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 114 of 237

**Operation Mode** Test Mode

:802.11n20 / Band 1

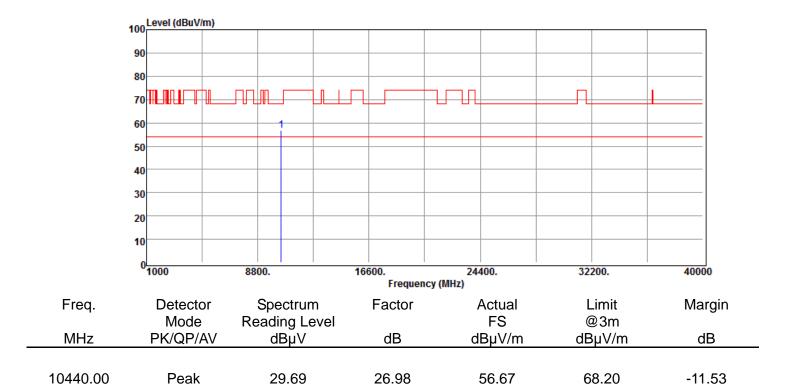
**EUT Pol** Test Channel :TX CH MID :E1 Plan :5220 MHz

**Test Date** Temp./Humi.

:24/64 Antenna Pol. :HORIZONTAL

:2018-05-24

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 115 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

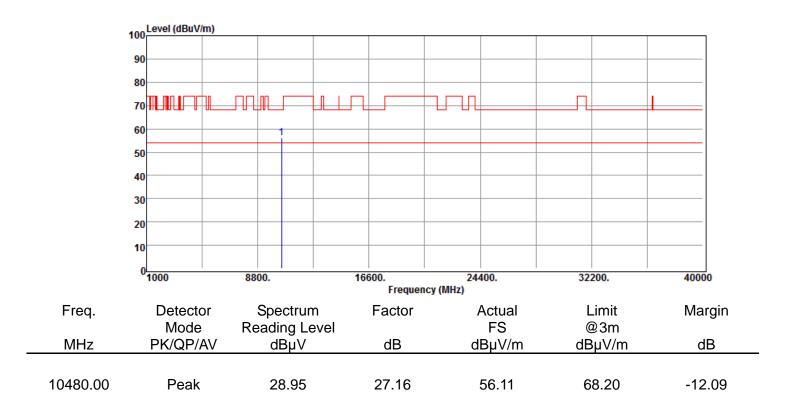
:802.11n20 / Band 1

:TX CH HIGH

:E1 Plan :5240 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 116 of 237

**Operation Mode** Test Mode

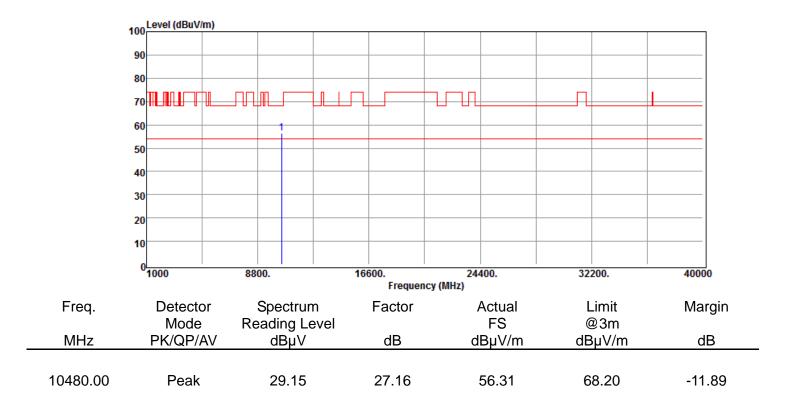
:802.11n20 / Band 1

:TX CH HIGH

**EUT Pol** Test Channel :E1 Plan :5240 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

t (886-2) 2299-3279

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

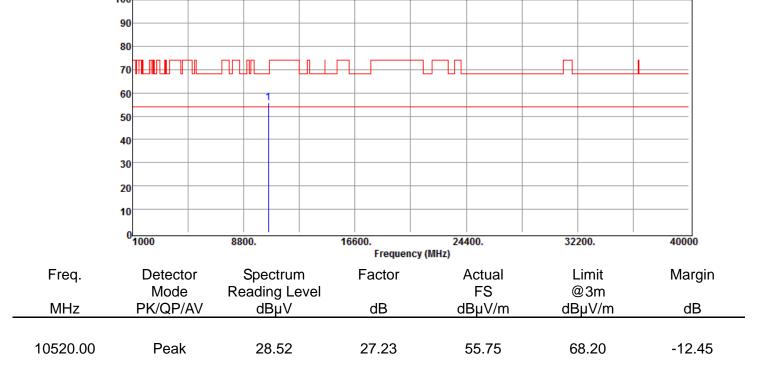


Page: 117 of 237

### Radiated Spurious Emission Measurement Result 802.11n HT20, 5250~5350 MHz

**Operation Mode** :802.11n20 / Band 2 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5260 MHz Engineer :Enzo





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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 118 of 237

**Operation Mode** Test Mode

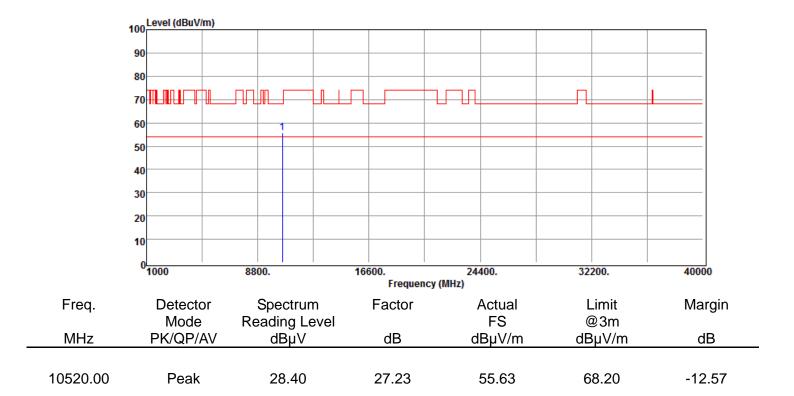
:802.11n20 / Band 2

:TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5260 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 119 of 237

**Operation Mode** Test Mode **EUT Pol** 

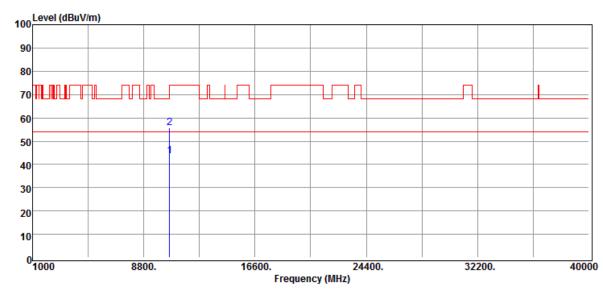
:802.11n20 / Band 2

:TX CH MID :E1 Plan

Test Channel :5300 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



	Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
_	MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
	10600.00	Average	16.28	27.21	43.49	54.00	-10.51
	10600.00	Peak	28.59	27.21	55.80	68.20	-12.40



Page: 120 of 237

**Operation Mode** Test Mode

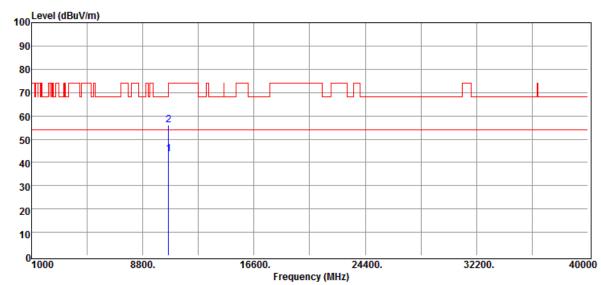
:802.11n20 / Band 2

:TX CH MID

**EUT Pol** Test Channel :E1 Plan :5300 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
10600.00	Average	16.38	27.21	43.59	54.00	-10.41
10600.00	Peak	28.91	27.21	56.12	68.20	-12.08



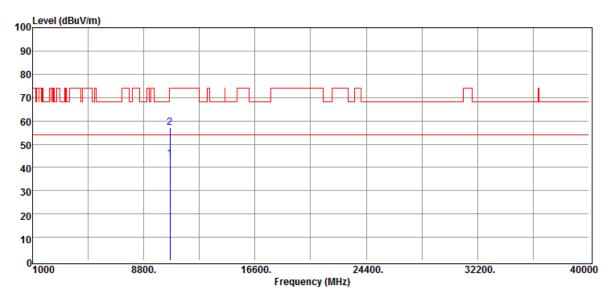
Page: 121 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 2 :TX CH HIGH

:E1 Plan :5320 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64 Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
10640.00	Average	16.56	27.20	43.76	54.00	-10.24
10640.00	Peak	29.95	27.20	57.15	74.00	-16.85



Page: 122 of 237

**Operation Mode** Test Mode

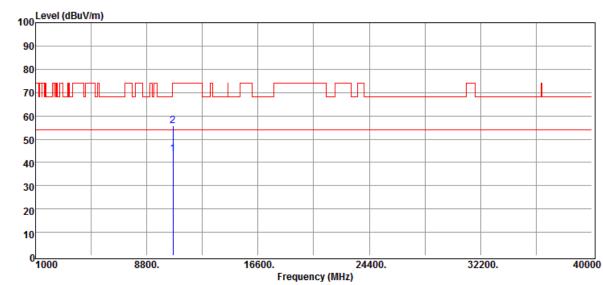
:802.11n20 / Band 2

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5320 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
10640.00	Average	16.57	27.20	43.77	54.00	-10.23
10640.00	Peak	28.64	27.20	55.84	74.00	-18.16

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

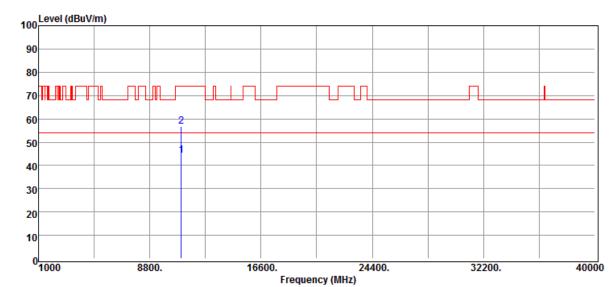
SGS Taiwan Ltd.



Page: 123 of 237

### Radiated Spurious Emission Measurement Result 802.11n HT20, 5470~5725 MHz

**Operation Mode** :802.11n20 / Band 3 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5500 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11000.00	Average	17.05	27.09	44.14	54.00	-9.86
11000.00	Peak	29.57	27.09	56.66	74.00	-17.34

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



Page: 124 of 237

**Operation Mode** Test Mode

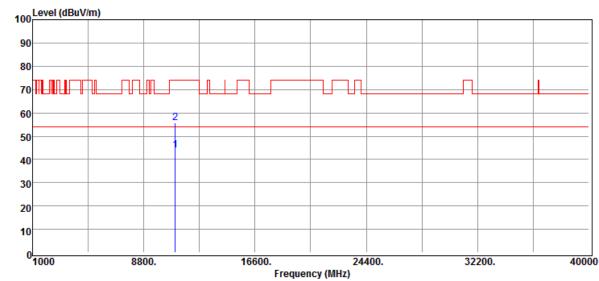
:802.11n20 / Band 3

:TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5500 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11000.00	Average	17.02	27.09	44.11	54.00	-9.89
11000.00	Peak	28.60	27.09	55.69	74.00	-18.31

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

SGS Taiwan Ltd.



Page: 125 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

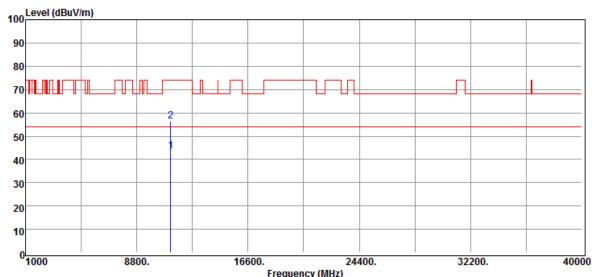
:802.11n20 / Band 3

:TX CH MID

:E1 Plan :5580 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



	rroquency (mile)							
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB		
11160.00	Average	17.04	26.67	43.71	54.00	-10.29		
11160.00	Peak	29.72	26.67	56.39	74.00	-17.61		



Page: 126 of 237

**Operation Mode** 

:802.11n20 / Band 3

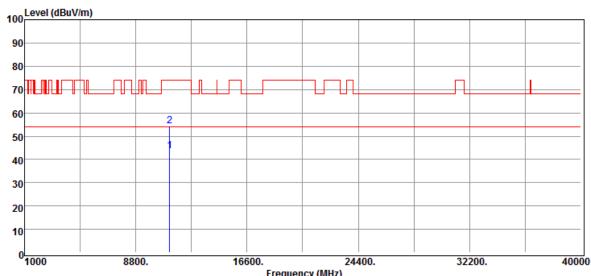
Test Mode :TX CH MID **EUT Pol** :E1 Plan

Test Channel :5580 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Trequency (minz)							
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB	
					•		
11160.00	Average	17.08	26.67	43.75	54.00	-10.25	
11160.00	Peak	27.80	26.67	54.47	74.00	-19.53	

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

SGS Taiwan Ltd.



Page: 127 of 237

**Operation Mode** Test Mode **EUT Pol** 

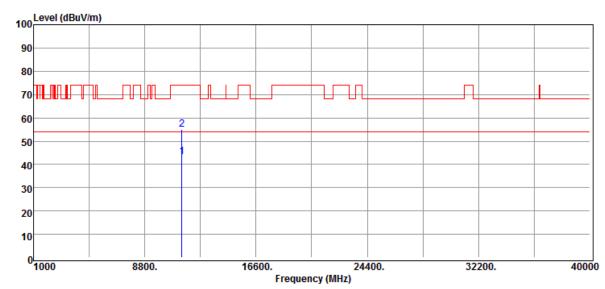
:802.11n20 / Band 3

:TX CH HIGH :E1 Plan

Test Channel :5700 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11400.00	Average	17.13	26.07	43.20	54.00	-10.80
11400.00	Peak	28.80	26.07	54.87	74.00	-19.13



Page: 128 of 237

**Operation Mode** Test Mode

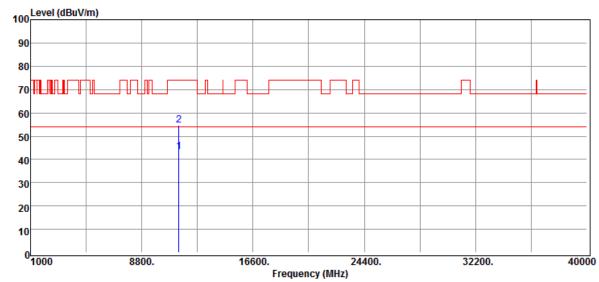
:802.11n20 / Band 3

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5700 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11400.00	Average	17.18	26.07	43.25	54.00	-10.75
11400.00	Peak	28.76	26.07	54.83	74.00	-19.17

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

SGS Taiwan Ltd.



Page: 129 of 237

**Operation Mode** Test Mode **EUT Pol** 

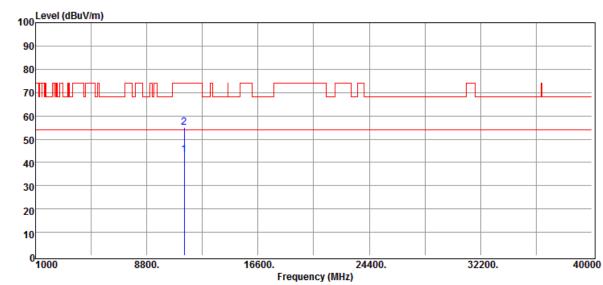
:802.11n20 / Band 3-4

:TX CH MID :E1 Plan

Test Channel :5720 MHz **Test Date** :2018-05-25 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11440.00	Average	17.24	25.96	43.20	54.00	-10.80
11440.00	Peak	29.03	25.96	54.99	74.00	-19.01

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

SGS Taiwan Ltd.



Page: 130 of 237

**Operation Mode** Test Mode

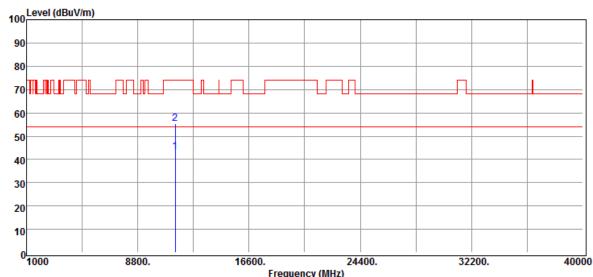
:802.11n20 / Band 3-4

:TX CH MID

**EUT Pol** :E1 Plan Test Channel :5720 MHz **Test Date** :2018-05-25 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



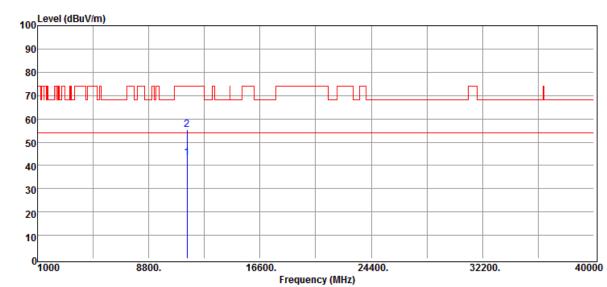
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11440.00	Averege	17.44	25.06	42.40	54.00	10.60
11440.00	Average	17.44	25.96	43.40	54.00	-10.60
11440 00	Peak	29 42	25.96	55.38	74 00	-18 62



Page: 131 of 237

# Radiated Spurious Emission Measurement Result 802.11n HT20, 5725~5850 MHz

**Operation Mode** :802.11n20 / Band 4 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5745 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11490.00	Average	17.47	25.83	43.30	54.00	-10.70
11490.00	Peak	29.48	25.83	55.31	74.00	-18.69

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.



Page: 132 of 237

**Operation Mode** 

:802.11n20 / Band 4

Test Mode **EUT Pol** 

:TX CH LOW

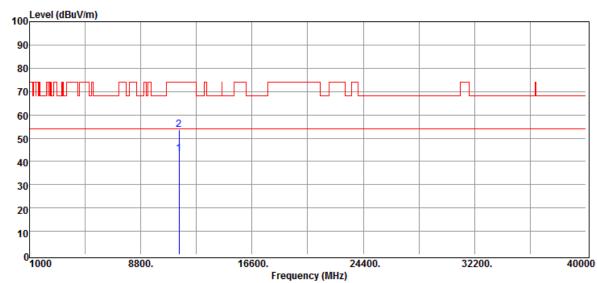
Test Channel

:E1 Plan :5745 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11490.00	Average	17.60	25.83	43.43	54.00	-10.57
11490.00	Peak	27.97	25.83	53.80	74.00	-20.20

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

SGS Taiwan Ltd.



:VERTICAL

Page: 133 of 237

**Operation Mode** Test Mode **EUT Pol** 

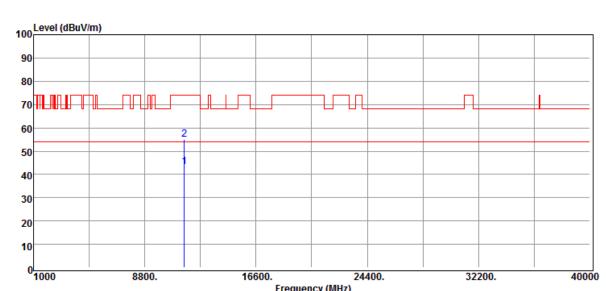
Test Channel

:802.11n20 / Band 4

:TX CH MID

:E1 Plan :5785 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64 Antenna Pol.

Engineer :Enzo



rrequency (minz)							
	Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
	MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
_			•		•		
	11570.00	Average	17.38	25.87	43.25	54.00	-10.75
	11570.00	Peak	29.22	25.87	55.09	74.00	-18.91

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

SGS Taiwan Ltd.



Page: 134 of 237

**Operation Mode** Test Mode

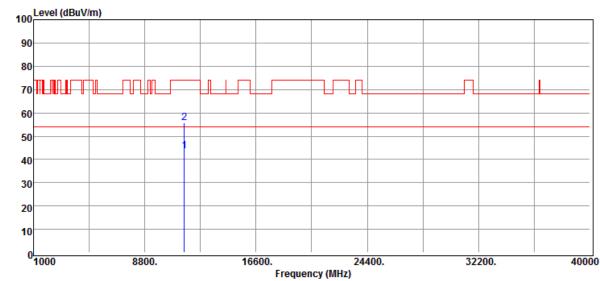
:802.11n20 / Band 4

:TX CH MID

**EUT Pol** :E1 Plan Test Channel :5785 MHz **Test Date** :2018-05-24 :24/64

Temp./Humi. Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
11570.00	Average	17.80	25.87	43.67	54.00	-10.33
11570.00	Peak	29.87	25.87	55.74	74.00	-18.26



Page: 135 of 237

**Operation Mode** Test Mode **EUT Pol** 

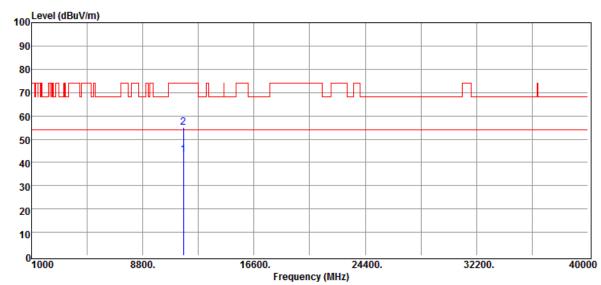
:802.11n20 / Band 4

:TX CH HIGH

:E1 Plan Test Channel :5825 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBμV/m	dBµV/m	dB
						_
11650.00	Average	17.15	25.94	43.09	54.00	-10.91
11650.00	Peak	29.11	25.94	55.05	74.00	-18.95

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

SGS Taiwan Ltd.



Page: 136 of 237

**Operation Mode** Test Mode

:802.11n20 / Band 4

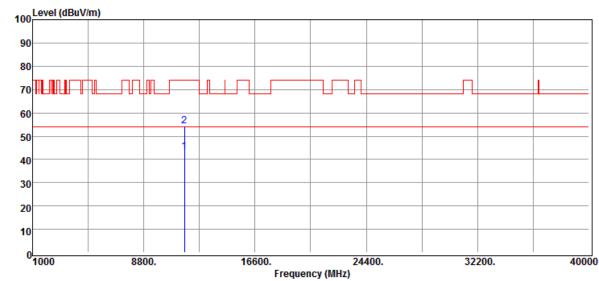
:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5825 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11650.00	Average	17.35	25.94	43.29	54.00	-10.71
11650.00	Peak	28.48	25.94	54.42	74.00	-19.58

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

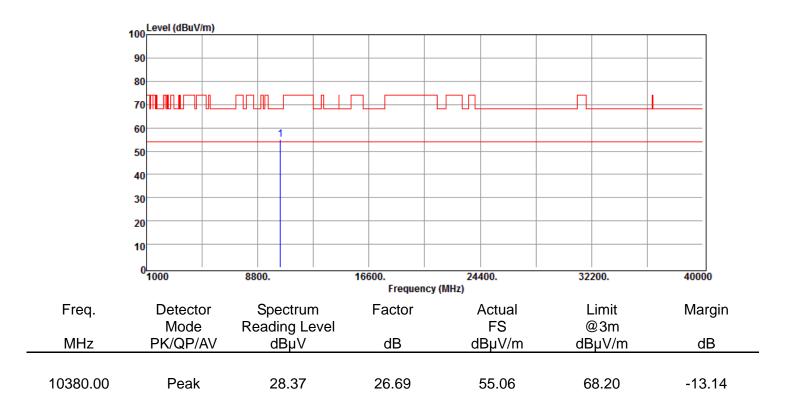
f (886-2) 2298-0488



Page: 137 of 237

## Radiated Spurious Emission Measurement Result 802.11n HT40, 5150~5250 MHz

**Operation Mode** :802.11n40 / Band 1 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5190 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 138 of 237

**Operation Mode** Test Mode

:802.11n40 / Band 1

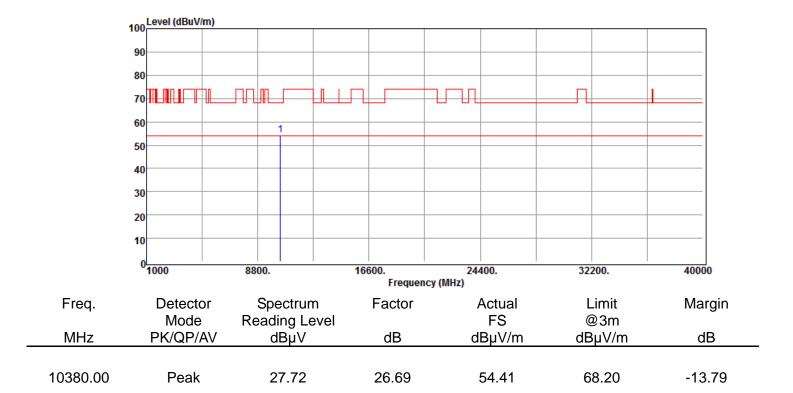
:TX CH LOW

**EUT Pol** Test Channel :E1 Plan :5190 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

t (886-2) 2299-3279

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 139 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

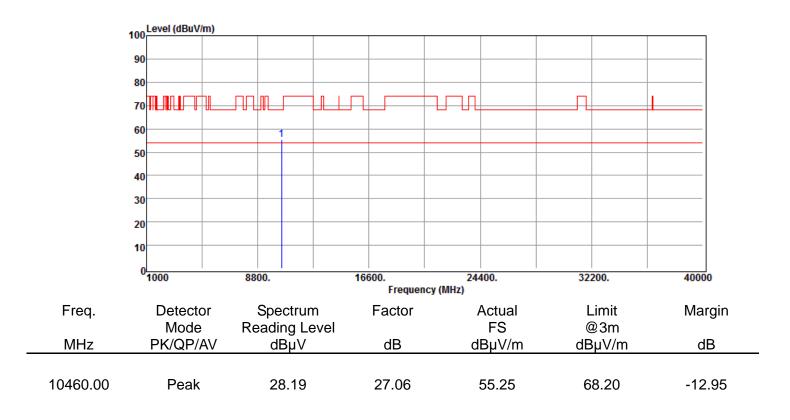
:802.11n40 / Band 1

:TX CH HIGH

:E1 Plan :5230 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 140 of 237

**Operation Mode** Test Mode

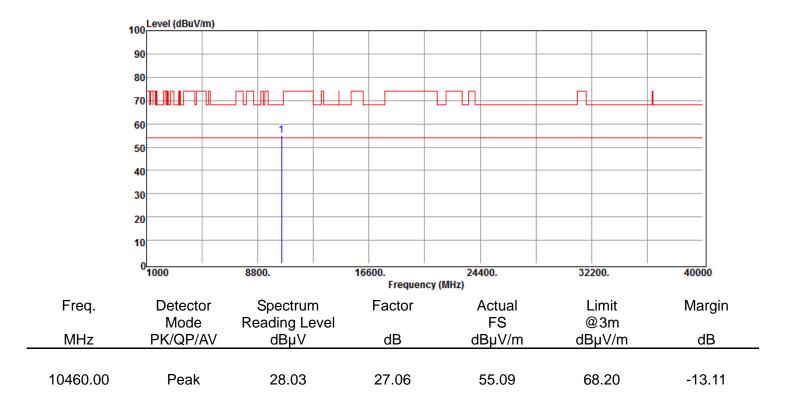
:802.11n40 / Band 1

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5230 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

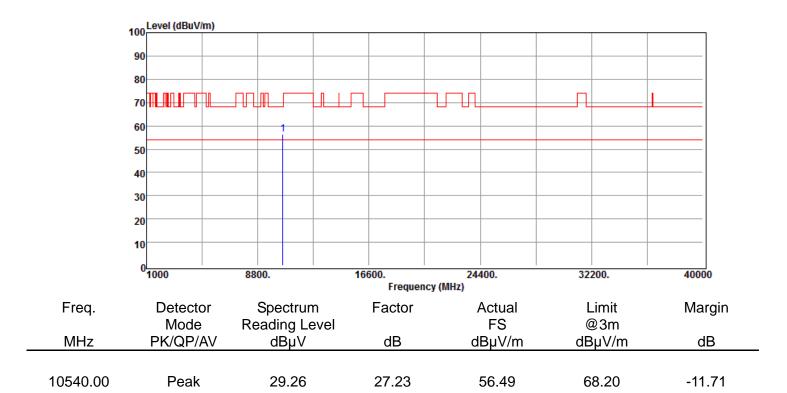
Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 141 of 237

### Radiated Spurious Emission Measurement Result 802.11n HT40, 5250~5350 MHz

**Operation Mode** :802.11n40 / Band 2 Test Date :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5270 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 142 of 237

**Operation Mode** Test Mode

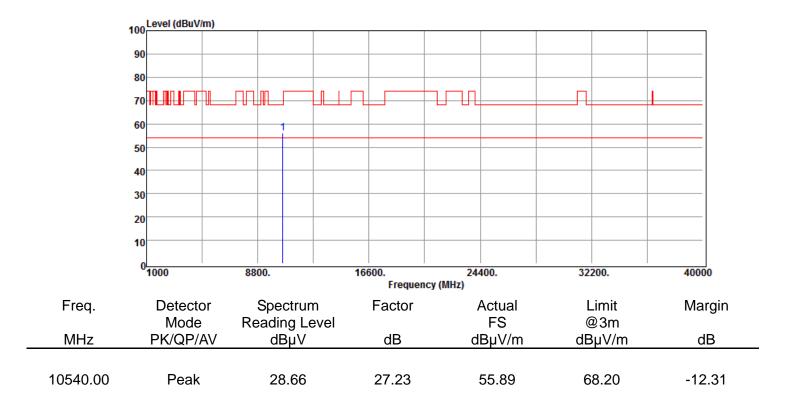
:802.11n40 / Band 2

:TX CH LOW

**EUT Pol** Test Channel :E1 Plan :5270 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and sample s may be prosecuted to the fullest extent of the law.



Page: 143 of 237

**Operation Mode** Test Mode **EUT Pol** 

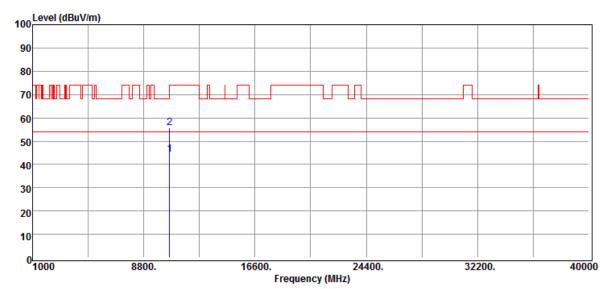
:802.11n40 / Band 2

:TX CH HIGH :E1 Plan

Test Channel :5310 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB	
10620.00	Average	16.97	27.20	44.17	54.00	-9.83	
10620.00	Peak	28.62	27.20	55.82	74.00	-18.18	



Page: 144 of 237

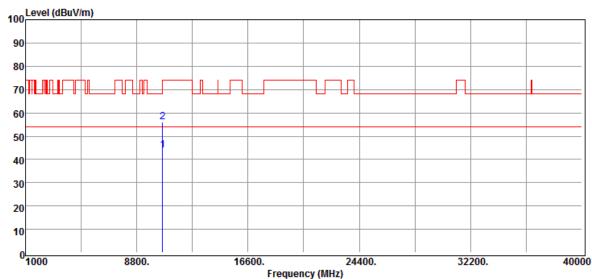
**Operation Mode** Test Mode

:802.11n40 / Band 2 :TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5310 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



		requestly (mile)							
	Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
	MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB		
•			•		•				
	10620.00	Average	16.89	27.20	44.09	54.00	-9.91		
	10620 00	Peak	28 82	27 20	56.02	74 00	-17 98		

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

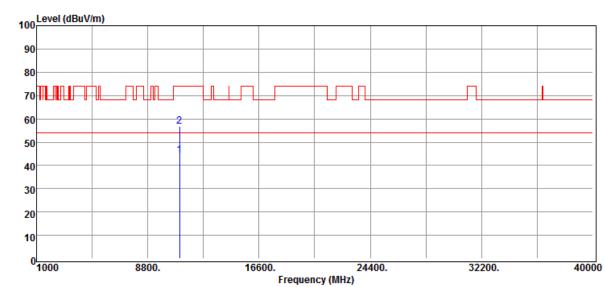
SGS Taiwan Ltd.



Page: 145 of 237

# Radiated Spurious Emission Measurement Result 802.11n HT40, 5470~5725 MHz

**Operation Mode** :802.11n40 / Band 3 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5510 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11020.00	Average	17.27	27.04	44.31	54.00	-9.69
11020.00	Peak	29.84	27.04	56.88	74.00	-17.12

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 146 of 237

**Operation Mode** Test Mode

:802.11n40 / Band 3

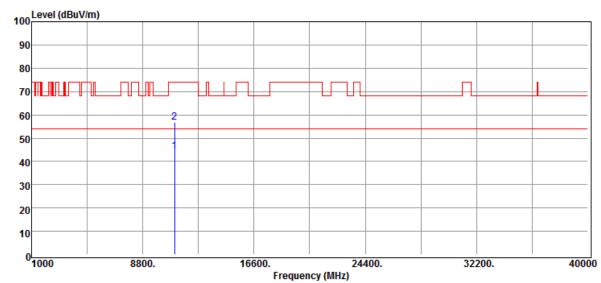
:TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5510 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
11020.0	00 Average	17.26	27.04	44.30	54.00	-9.70
11020.0	00 Peak	29.64	27.04	56.68	74.00	-17.32



Page: 147 of 237

Operation Mode Test Mode **EUT Pol** 

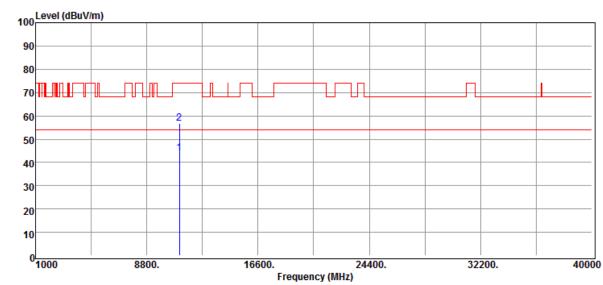
:802.11n40 / Band 3

:TX CH MID

:E1 Plan Test Channel :5550 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11100.00	Average	17.13	26.83	43.96	54.00	-10.04
11100.00	Peak	29.96	26.83	56.79	74.00	-17.21



Page: 148 of 237

**Operation Mode** Test Mode

:802.11n40 / Band 3

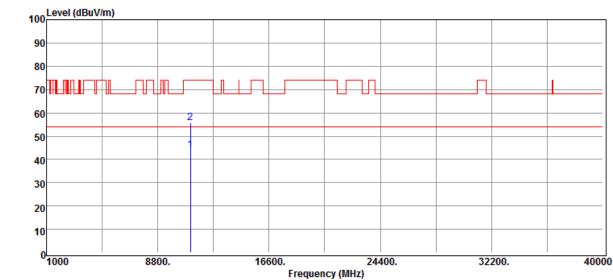
:TX CH MID

**EUT Pol** :E1 Plan Test Channel :5550 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11100.00	Average	17.16	26.83	43.99	54.00	-10.01
11100.00	Peak	28.91	26.83	55.74	74.00	-18.26

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

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 149 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

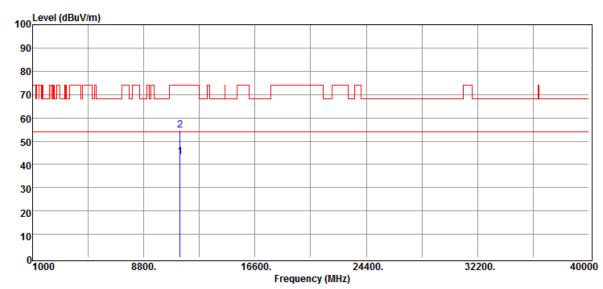
:802.11n40 / Band 3

:TX CH HIGH

:E1 Plan :5670 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11340.00	Average	17.09	26.21	43.30	54.00	-10.70
11340.00	Peak	28.50	26.21	54.71	74.00	-19.29

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

f (886-2) 2298-0488



Page: 150 of 237

**Operation Mode** Test Mode

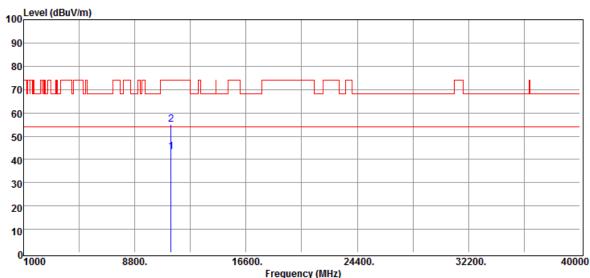
:802.11n40 / Band 3

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5670 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



	requestly (minz)							
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB		
		·		•	•			
11340.00	Average	17.05	26.21	43.26	54.00	-10.74		
11340.00	Peak	28.71	26.21	54.92	74.00	-19.08		



Page: 151 of 237

**Operation Mode** Test Mode

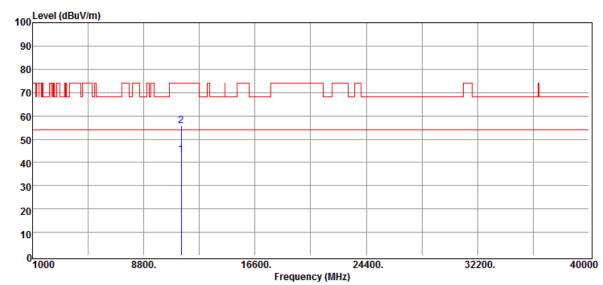
:802.11n40 / Band 3-4

:TX CH MID

**EUT Pol** :E1 Plan Test Channel :5710 MHz **Test Date** :2018-05-25 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
					_	
11420.00	Average	17.32	26.01	43.33	54.00	-10.67
11420.00	Peak	29.82	26.01	55.83	74.00	-18.17

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

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 152 of 237

**Operation Mode** 

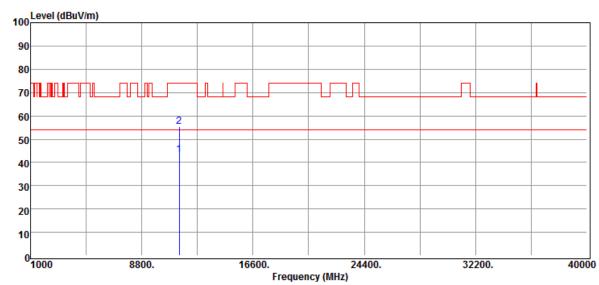
:802.11n40 / Band 3-4

Test Mode :TX CH MID **EUT Pol** :E1 Plan

Test Channel :5710 MHz **Test Date** :2018-05-25 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



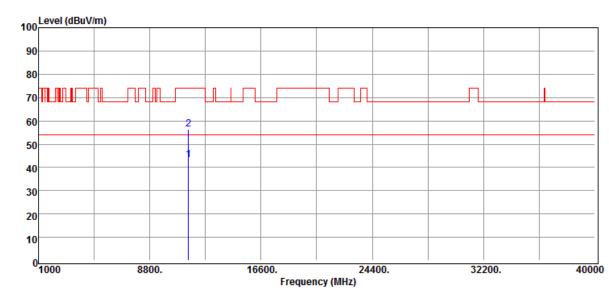
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
					_	
11420.00	Average	17.39	26.01	43.40	54.00	-10.60
11420.00	Peak	29.29	26.01	55.30	74.00	-18.70



Page: 153 of 237

# Radiated Spurious Emission Measurement Result 802.11n HT40, 5725~5850 MHz

**Operation Mode** :802.11n40 / Band 4 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5755 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11510.00	Average	17.38	25.82	43.20	54.00	-10.80
11510.00	Peak	30.61	25.82	56.43	74.00	-17.57

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 154 of 237

**Operation Mode** Test Mode

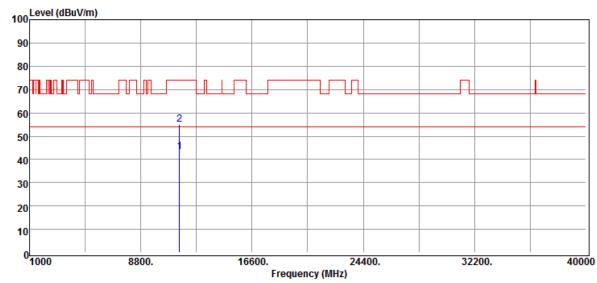
:802.11n40 / Band 4

:TX CH LOW

**EUT Pol** Test Channel :E1 Plan :5755 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11510.00	Average	17.58	25.82	43.40	54.00	-10.60
11510.00	Peak	29.08	25.82	54.90	74.00	-19.10

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,同時此樣品僅保留卯天。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="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. | No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號

SGS Taiwan Ltd. t (886-2) 2299-3279

www.tw.sqs.com



Page: 155 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

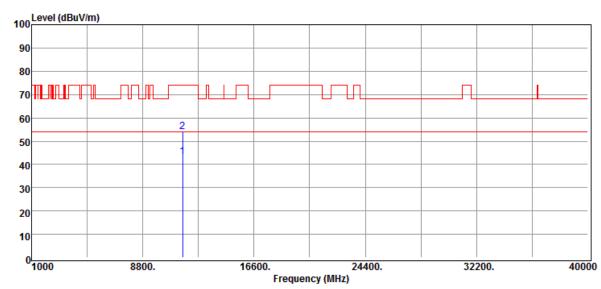
:802.11n40 / Band 4

:TX CH HIGH

:E1 Plan :5795 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11590.00	Average	17.30	25.89	43.19	54.00	-10.81
11590.00	Peak	28.13	25.89	54.02	74.00	-19.98

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

f (886-2) 2298-0488



Page: 156 of 237

**Operation Mode** Test Mode

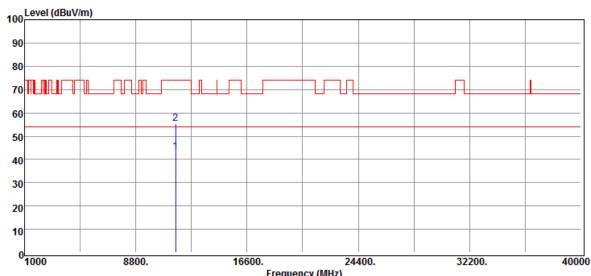
:802.11n40 / Band 4

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5795 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



	requestey (min2)						
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB	
		•		•			
11590.00	Average	17.51	25.89	43.40	54.00	-10.60	
11590.00	Peak	29.34	25.89	55.23	74.00	-18.77	

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

f (886-2) 2298-0488



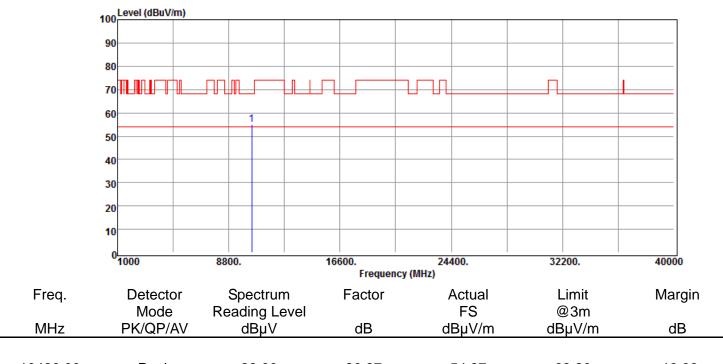
Page: 157 of 237

#### Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5150~5250 MHz

**Operation Mode** :802.11ac80 / Band 1 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

Test Channel :5210 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	iviargin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
10420.00	Peak	28.00	26.87	54.87	68.20	-13.33

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

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

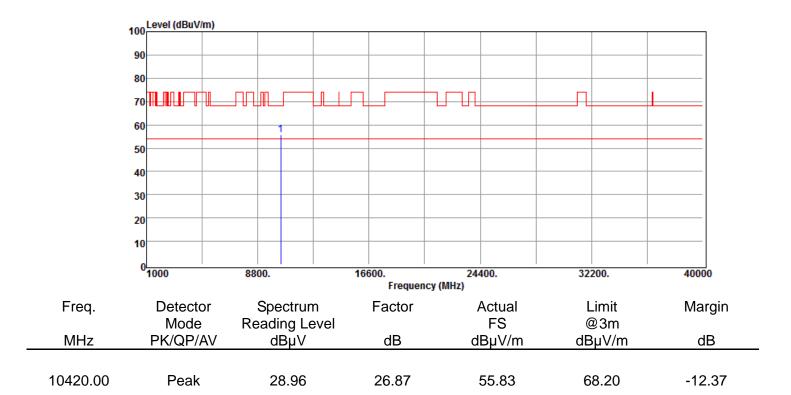


Page: 158 of 237

Operation Mode :802.11ac80 / Band 1

**Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64

**EUT Pol** Antenna Pol. :E1 Plan :HORIZONTAL Test Channel :5210 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

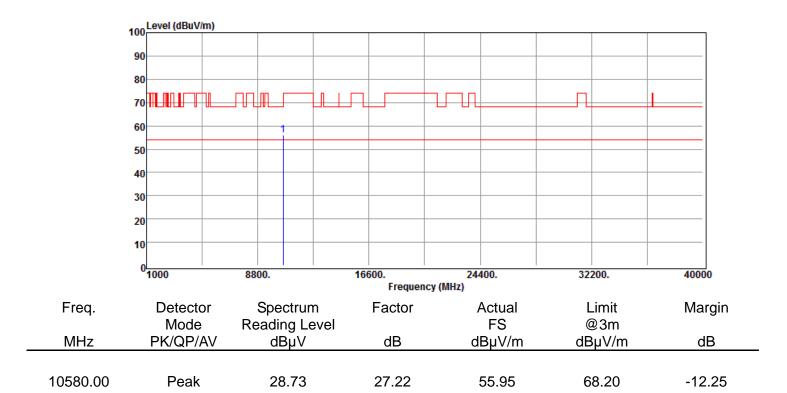
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 159 of 237

#### Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5250~5350 MHz

**Operation Mode** :802.11ac80 / Band 2 **Test Date** :2018-05-24 Test Mode :TX CH HIGH Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5290 MHz Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

No.134, WuKungRoad, New TaipeiIndustrial Park, WukuDistrict, New TaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 160 of 237

Operation Mode

:802.11ac80 / Band 2

Test Mode **EUT Pol** 

:TX CH HIGH

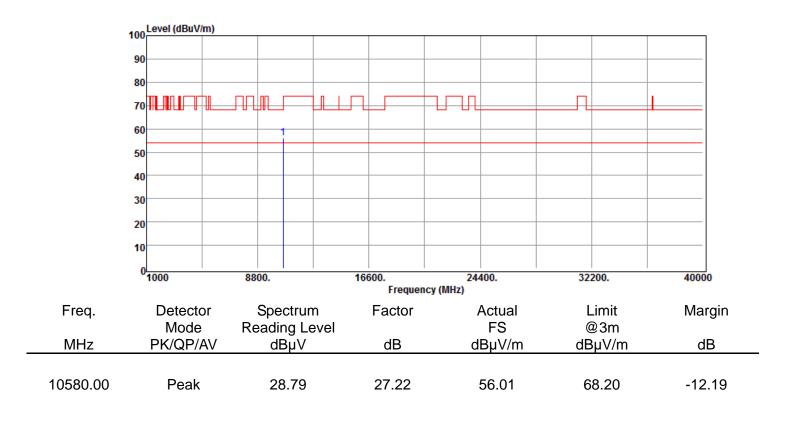
Test Channel

:E1 Plan :5290 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

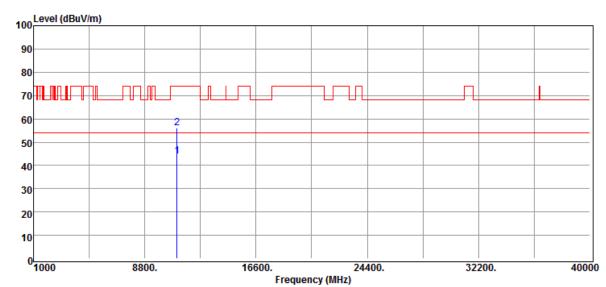
No.134, WuKungRoad, New TaipeiIndustrial Park, WukuDistrict, New TaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 161 of 237

## Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5470~5725 MHz

**Operation Mode** :802.11ac80 / Band 3 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5530 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11060.00	Average	16.97	26.94	43.91	54.00	-10.09
11060.00	Peak	29.24	26.94	56.18	74.00	-17.82

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134, WuKungRoad, NewTaipeilndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 162 of 237

Operation Mode

:802.11ac80 / Band 3

Test Mode **EUT Pol** 

:TX CH LOW

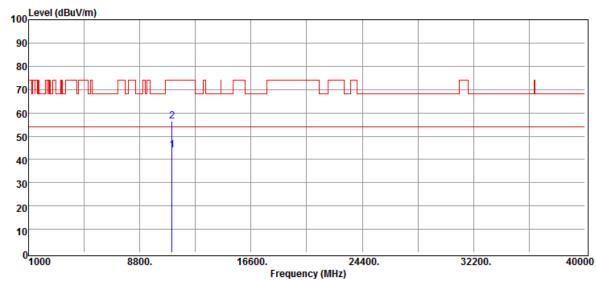
Test Channel

:E1 Plan :5530 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11060.00	Average	16.96	26.94	43.90	54.00	-10.10
11060.00	Peak	29.37	26.94	56.31	74.00	-17.69

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

www.tw.sqs.com



Page: 163 of 237

Operation Mode Test Mode

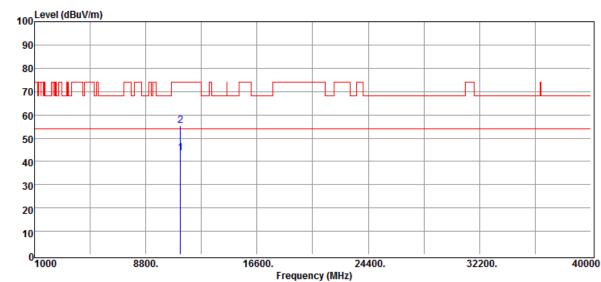
:802.11ac80 / Band 3

:TX CH MID **EUT Pol** :E1 Plan

Test Channel :5610 MHz **Test Date** :2018-05-24

Temp./Humi. :24/64 Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
11220.00	Average	16.92	26.52	43.44	54.00	-10.56
11220.00	Peak	28.91	26.52	55.43	74.00	-18.57

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

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 164 of 237

Operation Mode

:802.11ac80 / Band 3

Test Mode **EUT Pol** 

:TX CH MID :E1 Plan

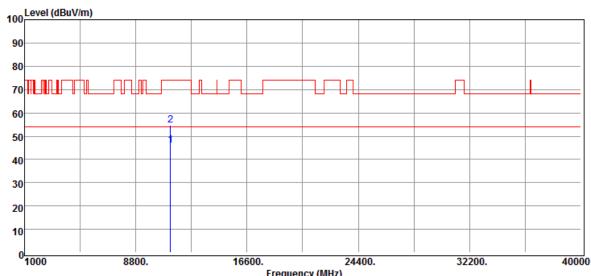
Test Channel

:5610 MHz

**Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



	requestry (mriz)							
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB		
11220.00	Average	19.61	26.52	46.13	54.00	-7.87		
11220.00	Peak	28.18	26.52	54.70	74.00	-19.30		

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

SGS Taiwan Ltd.

| No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 165 of 237

Operation Mode Test Mode **EUT Pol** 

Test Channel

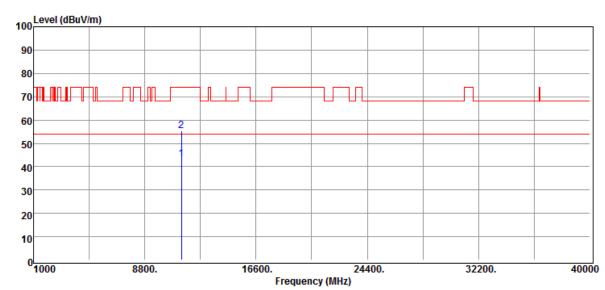
:802.11ac80 / Band 3

:TX CH HIGH

:E1 Plan :5690 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11380.00	Average	17.11	26.11	43.22	54.00	-10.78
11380.00	Peak	29.28	26.11	55.39	74.00	-18.61



Page: 166 of 237

Operation Mode Test Mode

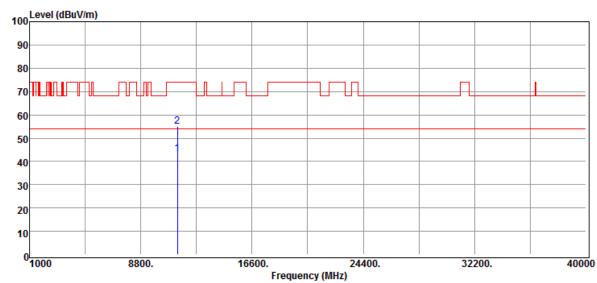
:802.11ac80 / Band 3

:TX CH HIGH

**EUT Pol** :E1 Plan Test Channel :5690 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



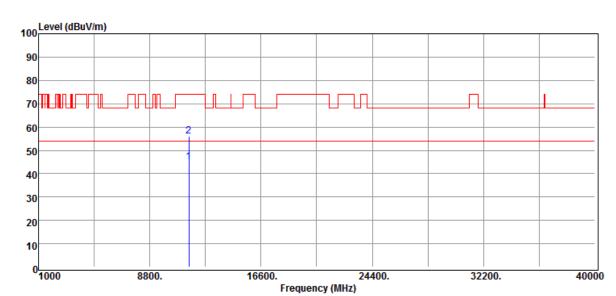
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
11380.00	Average	17.08	26.11	43.19	54.00	-10.81
11380.00	Peak	28.96	26.11	55.07	74.00	-18.93



Page: 167 of 237

## Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5725~5850 MHz

Operation Mode :802.11ac80 / Band 4 **Test Date** :2018-05-24 Test Mode :TX CH LOW Temp./Humi. :24/64 **EUT Pol** :E1 Plan Antenna Pol. :VERTICAL Test Channel :5775 MHz Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11550.00	Average	19.06	25.85	44.91	54.00	-9.09
11550.00	Peak	30.11	25.85	55.96	74.00	-18.04

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

<mark>SGS Taiwan Ltd. N</mark>0.134,WuKungRoad,NewTaipeilndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 168 of 237

Operation Mode Test Mode

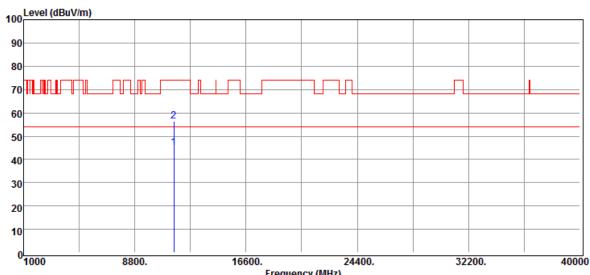
:802.11ac80 / Band 4

:TX CH LOW

**EUT Pol** :E1 Plan Test Channel :5775 MHz **Test Date** :2018-05-24 Temp./Humi. :24/64

Antenna Pol. :HORIZONTAL

Engineer :Enzo



		Frequency (Minz)							
	Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin		
	MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB		
•									
	11550.00	Average	19.10	25.85	44.95	54.00	-9.05		
	11550.00	Peak	30.43	25.85	56.28	74.00	-17.72		

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

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeilndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 169 of 237

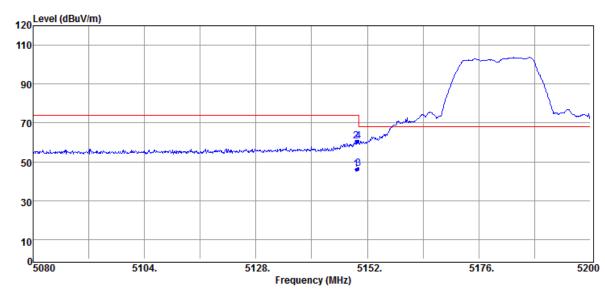
# Band edge falling to restricted band

#### 802.11a mode

**Operation Mode** :802.11a/Band 1 Test Mode :BE CH LOW **EUT Pol** :E1/Plan **Test Channel** :5180 MHz

Test Date :2018-05-28 Temp./Humi. :24/65 Antenna Pol. :VERTICAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5149.60	Average	32.61	13.64	46.25	74.00	-27.75
5149.60	Peak	46.88	13.64	60.52	74.00	-13.48
5150.00	Average	32.70	13.65	46.35	74.00	-27.65
5150.00	Peak	46.87	13.65	60.52	74.00	-13.48

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Test Channel

Report No.: E2/2018/50028

Page: 170 of 237

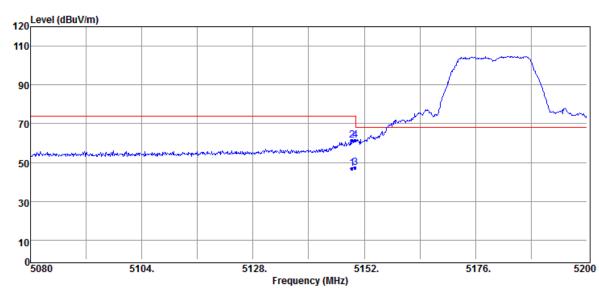
**Operation Mode** :802.11a/Band 1 Test Mode :BE CH LOW **EUT Pol** :E1/Plan

:5180 MHz

**Test Date** Temp./Humi. Antenna Pol. :2018-05-28 :24/65

:HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5149.36	Average	33.27	13.64	46.91	74.00	-27.09
5149.36	Peak	47.96	13.64	61.60	74.00	-12.40
5150.00	Average	33.48	13.65	47.13	74.00	-26.87
5150.00	Peak	47.83	13.65	61.48	74.00	-12.52

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

SGS Taiwan Ltd.

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

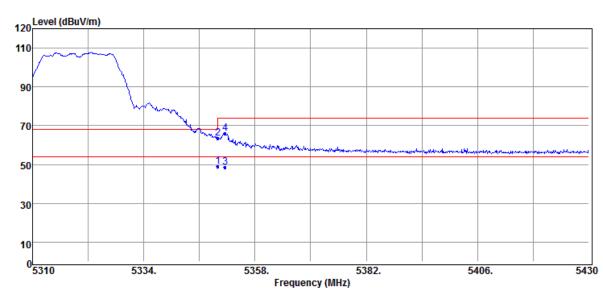


Page: 171 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11a/Band 2 :BE CH HIGH :E1/Plan :5320 MHz

**Test Date** :2018-05-28 Temp./Humi. :24/65 Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμ̈V	dB	dBµV/m	dBµV/m	dB	
5350.00	Average	34.67	14.16	48.83	54.00	-5.17	
5350.00	Peak	49.51	14.16	63.67	74.00	-10.33	
5351.52	Average	34.25	14.17	48.42	54.00	-5.58	
5351.52	Peak	52.02	14.17	66.19	74.00	-7.81	

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

SGS Taiwan Ltd.

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



Page: 172 of 237

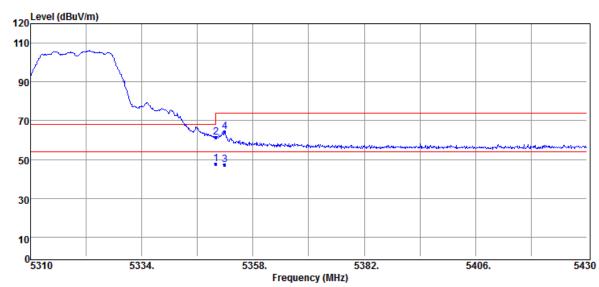
**Operation Mode** Test Mode

:802.11a/Band 2 :BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5320 MHz **Test Date** :2018-05-28 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Ashton



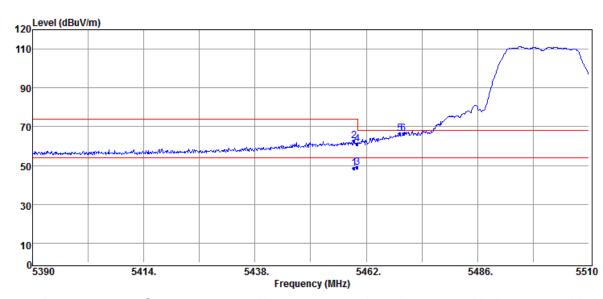
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5350.00	Average	33.62	14.16	47.78	54.00	-6.22
5350.00	Peak	47.44	14.16	61.60	74.00	-12.40
5351.88	Average	33.06	14.17	47.23	54.00	-6.77
5351.88	Peak	50.01	14.17	64.18	74.00	-9.82



Page: 173 of 237

**Operation Mode** :802.11a/Band 3 Test Mode :BE CH LOW **EUT Pol** :E1/Plan Test Channel :5500 MHz

**Test Date** :2018-05-28 Temp./Humi. :24/65 Antenna Pol. :VERTICAL Engineer :Ashton



Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
PK/QP/AV	dBµV	dB	dBµV/m	dBμV/m	dB
Average	34.35	14.31	48.66	54.00	-5.34
Peak	48.39	14.31	62.70	74.00	-11.30
Average	34.52	14.31	48.83	54.00	-5.17
Peak	46.62	14.31	60.93	74.00	-13.07
Peak	52.23	14.31	66.54	68.20	-1.66
Peak	52.11	14.31	66.42	68.20	-1.78
	Mode PK/QP/AV Average Peak Average Peak Peak	Mode PK/QP/AV Reading Level dBμV  Average 34.35 Peak 48.39 Average 34.52 Peak 46.62 Peak 52.23	Mode PK/QP/AV         Reading Level dBμV         dB           Average         34.35         14.31           Peak         48.39         14.31           Average         34.52         14.31           Peak         46.62         14.31           Peak         52.23         14.31	Mode PK/QP/AVReading Level dBμVFS dBμV/mAverage34.3514.3148.66Peak48.3914.3162.70Average34.5214.3148.83Peak46.6214.3160.93Peak52.2314.3166.54	Mode PK/QP/AVReading Level dBμVFS dBμV/m@3m dBμV/mAverage34.3514.3148.6654.00Peak48.3914.3162.7074.00Average34.5214.3148.8354.00Peak46.6214.3160.9374.00Peak52.2314.3166.5468.20

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

SGS Taiwan Ltd.

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



Page: 174 of 237

**Operation Mode** Test Mode

**EUT Pol** 

Test Channel

:802.11a/Band 3 :BE CH LOW :E1/Plan

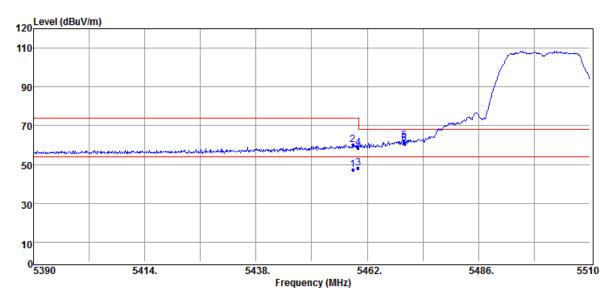
:5500 MHz

**Test Date** Temp./Humi. Antenna Pol. :2018-05-28

:24/65

:HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5458.88	Average	33.11	14.31	47.42	54.00	-6.58
5458.88	Peak	45.93	14.31	60.24	74.00	-13.76
5460.00	Average	33.70	14.31	48.01	54.00	-5.99
5460.00	Peak	44.27	14.31	58.58	74.00	-15.42
5469.92	Peak	48.08	14.31	62.39	68.20	-5.81
5470.00	Peak	46.18	14.31	60.49	68.20	-7.71

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

SGS Taiwan Ltd.

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

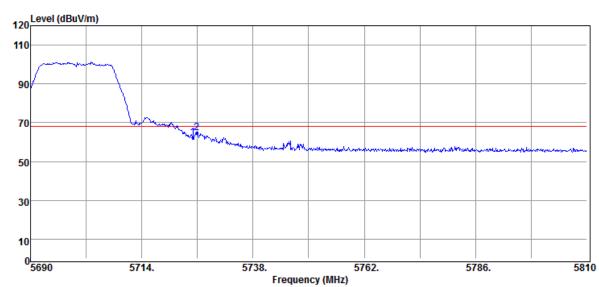


Page: 175 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11a/Band 3 :BE CH HIGH :E1/Plan :5700 MHz

**Test Date** :2018-05-28 Temp./Humi. :24/65 Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	47.99	14.50	62.49	68.20	-5.71
5725.88	Peak	50.28	14.50	64.78	68.20	-3.42



Page: 176 of 237

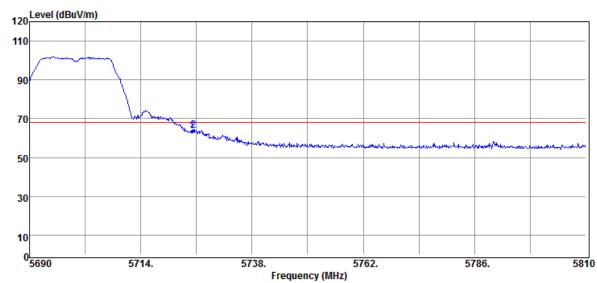
**Operation Mode** Test Mode

:802.11a/Band 3 :BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5700 MHz **Test Date** :2018-05-28 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
5725.00	Peak	49.00	14.50	63.50	68.20	-4.70
5725.40	Peak	49.64	14.50	64.14	68.20	-4.06

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

SGS Taiwan Ltd.

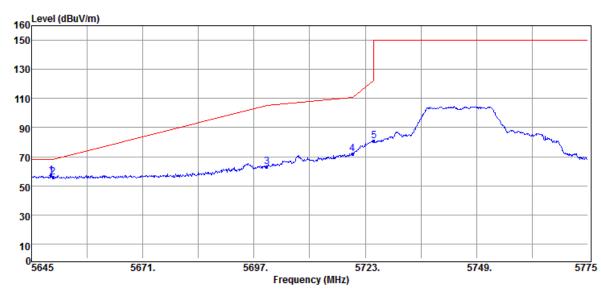
| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 177 of 237

**Operation Mode** :802.11a/Band 4 Test Mode :BE CH LOW **EUT Pol** :E1/Plan Test Channel :5745 MHz

**Test Date** :2018-05-28 Temp./Humi. :24/65 Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
 MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB	
5649.55	Peak	42.69	14.41	57.10	68.20	-11.10	
5650.00	Peak	41.59	14.42	56.01	68.20	-12.19	
5700.00	Peak	48.91	14.47	63.38	105.20	-41.82	
5720.00	Peak	57.38	14.49	71.87	110.80	-38.93	
5725.00	Peak	66.07	14.50	80.57	122.20	-41.63	

t (886-2) 2299-3279



Page: 178 of 237

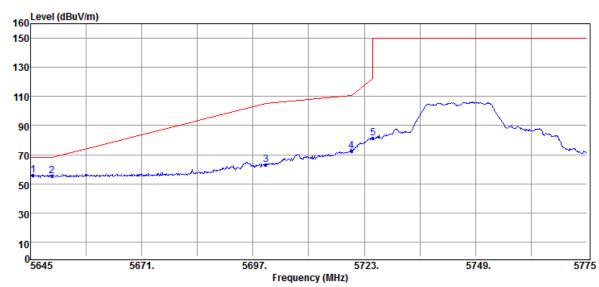
**Operation Mode** Test Mode

:802.11a/Band 4 :BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5745 MHz **Test Date** :2018-05-28 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5645.65	Peak	41.71	14.41	56.12	68.20	-12.08
5650.00	Peak	40.96	14.42	55.38	68.20	-12.82
5700.00	Peak	48.49	14.47	62.96	105.20	-42.24
5720.00	Peak	58.04	14.49	72.53	110.80	-38.27
5725.00	Peak	66.76	14.50	81.26	122.20	-40.94

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

SGS Taiwan Ltd.

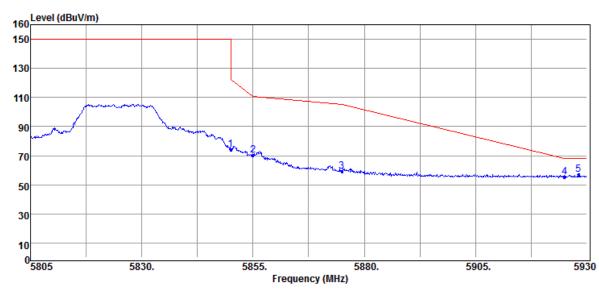
No.134, WuKungRoad, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 179 of 237

**Operation Mode** :802.11a/Band 4 Test Mode :BE CH HIGH **EUT Pol** :E1/Plan Test Channel :5825 MHz

**Test Date** :2018-05-28 Temp./Humi. :24/65 Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	59.42	14.72	74.14	122.20	-48.06
5855.00	Peak	55.36	14.73	70.09	110.80	-40.71
5875.00	Peak	44.46	14.78	59.24	105.20	-45.96
5925.00	Peak	40.51	14.91	55.42	68.20	-12.78
5928.13	Peak	41.82	14.93	56.75	68.20	-11.45

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



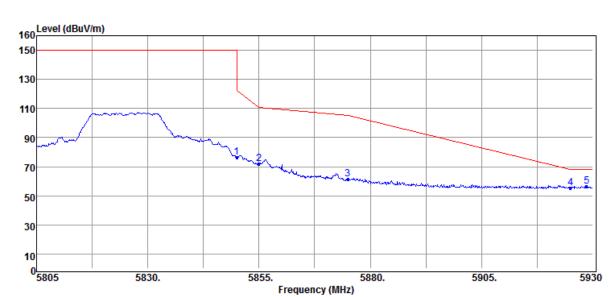
Page: 180 of 237

**Operation Mode** Test Mode

:802.11a/Band 4 :BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5825 MHz **Test Date** :2018-05-28 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5850.00	Peak	61.41	14.72	76.13	122.20	-46.07
5855.00	Peak	57.20	14.73	71.93	110.80	-38.87
5875.00	Peak	46.40	14.78	61.18	105.20	-44.02
5925.00	Peak	40.42	14.91	55.33	68.20	-12.87
5928.63	Peak	41.58	14.93	56.51	68.20	-11.69

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 181 of 237

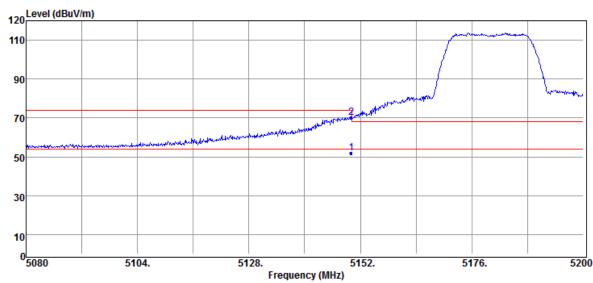
### 802.11n20 HT mode

**Operation Mode** :802.11n20/Band 1 Test Mode :BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5180 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5150.00	Average	38.06	13.65	51.71	54.00	-2.29
5150.00	Peak	56.60	13.65	70.25	74.00	-3.75

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

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



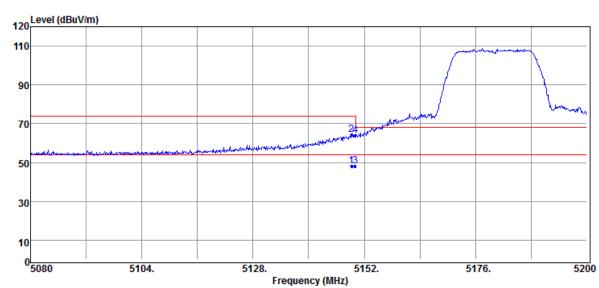
Page: 182 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n20/Band 1 :BE CH LOW

:E1/Plan :5180 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65 Antenna Pol. :VERTICAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5149.24	Average	34.39	13.63	48.02	54.00	-5.98
5149.24	Peak	50.60	13.63	64.23	74.00	-9.77
5150.00	Average	34.66	13.65	48.31	54.00	-5.69
5150.00	Peak	50.17	13.65	63.82	74.00	-10.18

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 183 of 237

**Operation Mode** Test Mode **EUT Pol** 

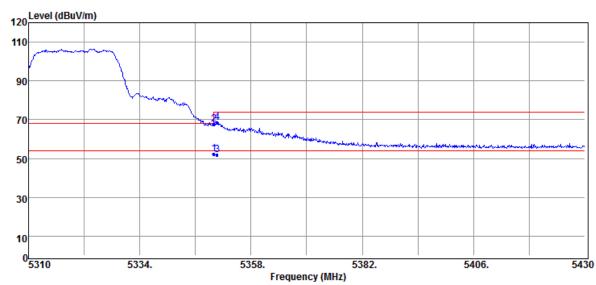
:802.11n20/Band 2

:BE CH HIGH :E1/Plan

Test Channel :5320 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
5350.00	Average	38.20	14.16	52.36	54.00	-1.64
5350.00	Peak	53.71	14.16	67.87	74.00	-6.13
5350.68	Average	37.75	14.17	51.92	54.00	-2.08
5350.68	Peak	54.50	14.17	68.67	74.00	-5.33



Page: 184 of 237

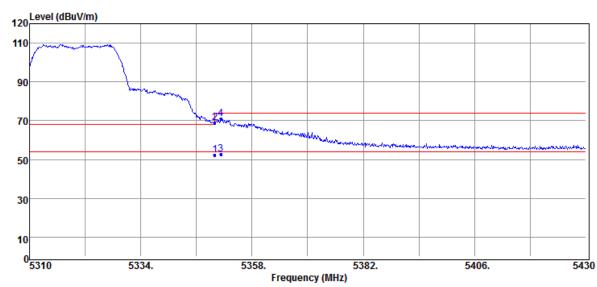
**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n20/Band 2 :BE CH HIGH

:E1/Plan :5320 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :VERTICAL





Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5350.00	Average	38.12	14.16	52.28	54.00	-1.72
5350.00	Peak	54.68	14.16	68.84	74.00	-5.16
5351.28	Average	38.75	14.17	52.92	54.00	-1.08
5351.28	Peak	56.89	14.17	71.06	74.00	-2.94



Page: 185 of 237

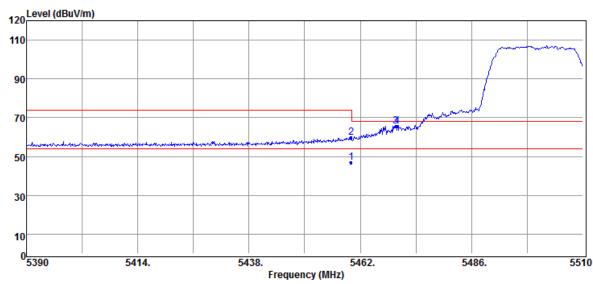
**Operation Mode** Test Mode

:802.11n20/Band 3 :BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5500 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5460.00	Average	32.42	14.31	46.73	54.00	-7.27
5460.00	Peak	45.58	14.31	59.89	74.00	-14.11
5469.68	Peak	51.48	14.31	65.79	68.20	-2.41
5470.00	Peak	51.43	14.31	65.74	68.20	-2.46

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

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



Page: 186 of 237

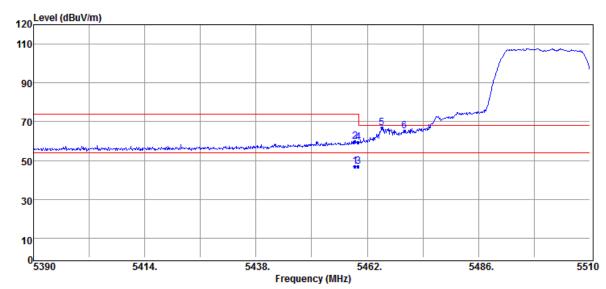
**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n20/Band 3 :BE CH LOW

:E1/Plan :5500 MHz **Test Date** Temp./Humi. Antenna Pol. :2018-05-23 :24/65

:VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5459.36	Average	32.63	14.31	46.94	54.00	-7.06
5459.36	Peak	45.49	14.31	59.80	74.00	-14.20
5460.00	Average	32.66	14.31	46.97	54.00	-7.03
5460.00	Peak	45.06	14.31	59.37	74.00	-14.63
5465.12	Peak	52.53	14.32	66.85	68.20	-1.35
5470.00	Peak	50.69	14.31	65.00	68.20	-3.20

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

SGS Taiwan Ltd.

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



Page: 187 of 237

**Operation Mode** Test Mode **EUT Pol** 

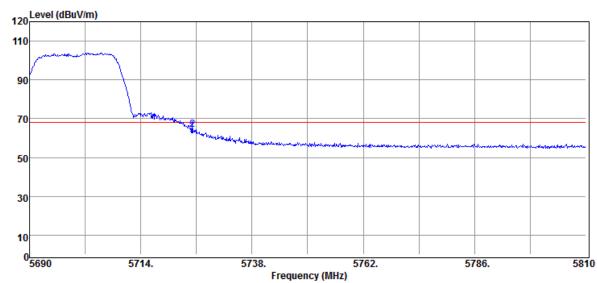
:802.11n20/Band 3

:BE CH HIGH

:E1/Plan Test Channel :5700 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
5725.00	Peak	49.03	14.50	63.53	68.20	-4.67
5725.16	Peak	49.75	14.50	64.25	68.20	-3.95



Page: 188 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

5725.00

:802.11n20/Band 3

:BE CH HIGH

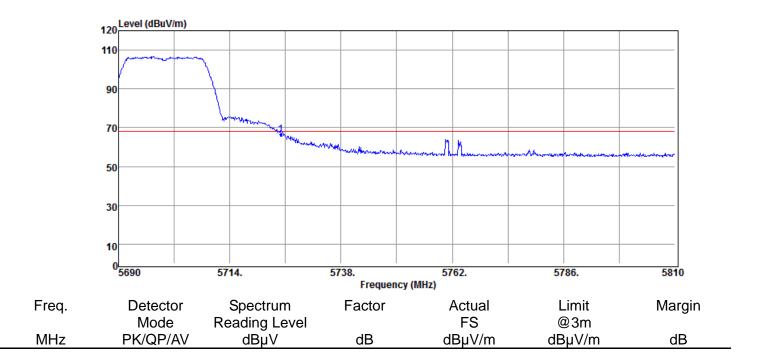
:E1/Plan :5700 MHz **Test Date** :2018-05-23

68.20

-1.60

Temp./Humi. :24/65 Antenna Pol. :VERTICAL

Engineer :Enzo



14.50

66.60

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.

52.10

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

Peak



Page: 189 of 237

**Operation Mode** Test Mode

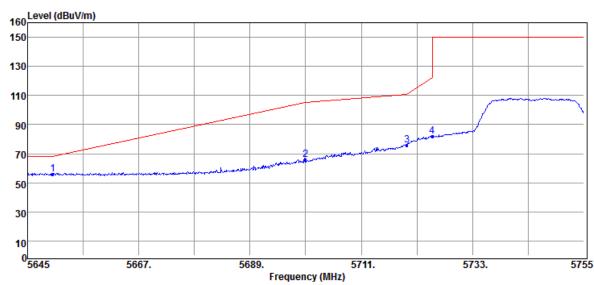
:802.11n20/Band 4

:BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5745 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
						_
5650.00	Peak	41.56	14.42	55.98	68.20	-12.22
5700.00	Peak	51.36	14.47	65.83	105.20	-39.37
5720.00	Peak	61.57	14.49	76.06	110.80	-34.74
5725.00	Peak	67.47	14.50	81.97	122.20	-40.23

t (886-2) 2299-3279



Page: 190 of 237

**Operation Mode** Test Mode **EUT Pol** 

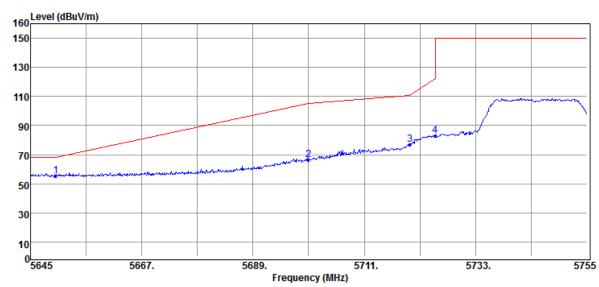
:802.11n20/Band 4

:BE CH LOW :E1/Plan

Test Channel :5745 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμ̈V	dB	dBµV/m	dBµV/m	dB
5650.00	Peak	41.17	14.42	55.59	68.20	-12.61
5700.00	Peak	51.82	14.47	66.29	105.20	-38.91
5720.00	Peak	62.41	14.49	76.90	110.80	-33.90
5725.00	Peak	68.43	14.50	82.93	122.20	-39.27

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

f (886-2) 2298-0488



Page: 191 of 237

**Operation Mode** Test Mode

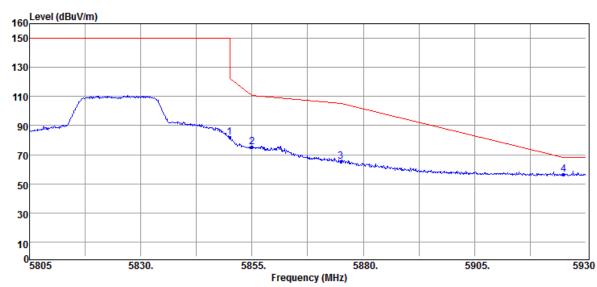
:802.11n20/Band 4

:BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5825 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	67.35	14.72	82.07	122.20	-40.13
5855.00	Peak	60.40	14.73	75.13	110.80	-35.67
5875.00	Peak	50.41	14.78	65.19	105.20	-40.01
5925.00	Peak	41.35	14.91	56.26	68.20	-11.94



Page: 192 of 237

**Operation Mode** Test Mode **EUT Pol** 

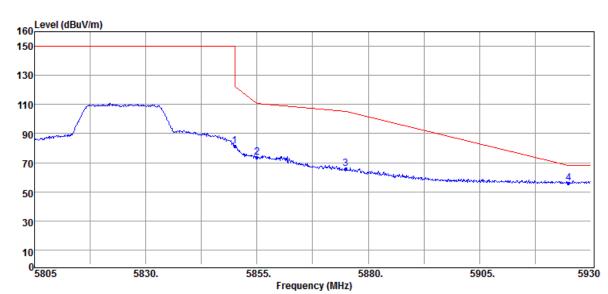
Test Channel

:802.11n20/Band 4 :BE CH HIGH

:E1/Plan :5825 MHz **Test Date** Temp./Humi. Antenna Pol. :2018-05-23

:24/65 :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5850.00	Peak	66.78	14.72	81.50	122.20	-40.70
5855.00	Peak	58.88	14.73	73.61	110.80	-37.19
5875.00	Peak	51.12	14.78	65.90	105.20	-39.30
5925.00	Peak	40.89	14.91	55.80	68.20	-12.40



Page: 193 of 237

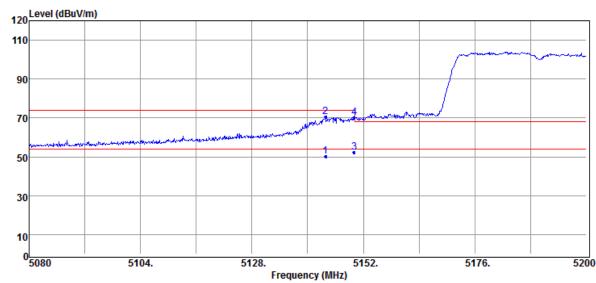
### 802.11n40 HT mode

**Operation Mode** :802.11n40/Band 1 Test Mode :BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5190 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5143.84	Average	36.69	13.62	50.31	54.00	-3.69
5143.84	Peak	56.80	13.62	70.42	74.00	-3.58
5150.00	Average	38.60	13.65	52.25	54.00	-1.75
5150.00	Peak	56.32	13.65	69.97	74.00	-4.03

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

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



Page: 194 of 237

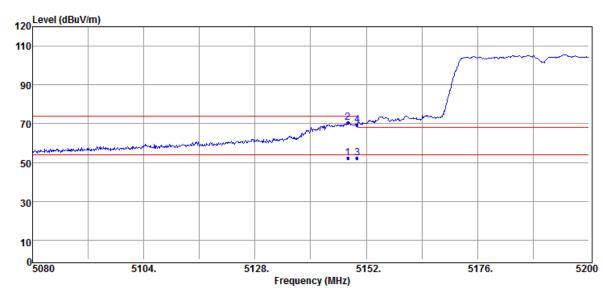
**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n40/Band 1 :BE CH LOW

:E1/Plan :5190 MHz **Test Date** Temp./Humi. Antenna Pol. :2018-05-22

:24/65 :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5148.04	Average	38.83	13.63	52.46	54.00	-1.54
5148.04	Peak	57.12	13.63	70.75	74.00	-3.25
5150.00	Average	38.72	13.65	52.37	54.00	-1.63
5150.00	Peak	55.82	13.65	69.47	74.00	-4.53



Page: 195 of 237

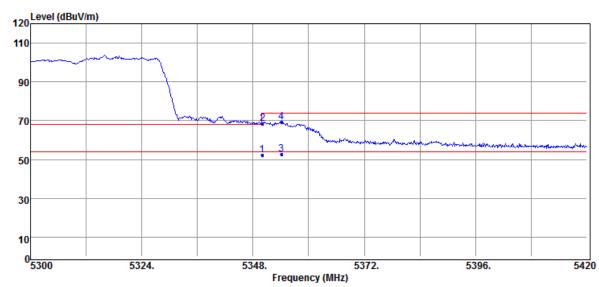
**Operation Mode** Test Mode

:802.11n40/Band 2 :BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5310 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5350.00	Average	38.07	14.16	52.23	54.00	-1.77
5350.04	Peak	54.17	14.16	68.33	74.00	-5.67
5354.12	Average	38.56	14.18	52.74	54.00	-1.26
5354.12	Peak	55.18	14.18	69.36	74.00	-4.64

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

f (886-2) 2298-0488



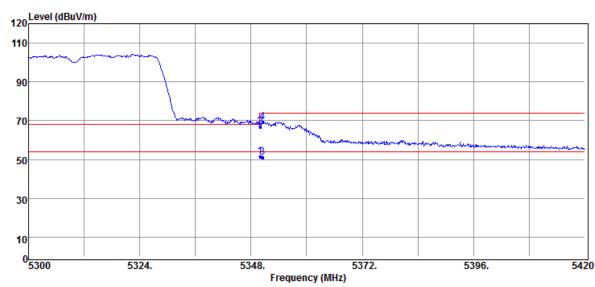
Page: 196 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n40/Band 2 :BE CH HIGH

:E1/Plan :5310 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65 Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5350.00	Average	37.28	14.16	51.44	54.00	-2.56
5350.00	Peak	52.74	14.16	66.90	68.20	-1.30
5350.52	Average	37.10	14.17	51.27	54.00	-2.73
5350.52	Peak	55.30	14.17	69.47	74.00	-4.53

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

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 197 of 237

**Operation Mode** Test Mode

:802.11n40/Band 3

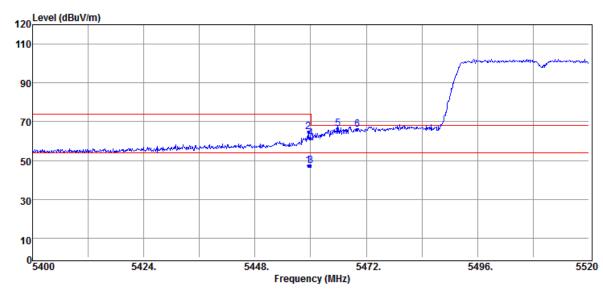
:BE CH LOW **EUT Pol** :E1/Plan Test Channel :5510 MHz

**Test Date** Temp./Humi. Antenna Pol.

:24/65 :HORIZONTAL

:2018-05-22

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5459.52	Average	32.99	14.31	47.30	54.00	-6.70
5459.52	Peak	50.66	14.31	64.97	74.00	-9.03
5460.00	Average	33.13	14.31	47.44	54.00	-6.56
5460.00	Peak	47.21	14.31	61.52	74.00	-12.48
5465.88	Peak	52.22	14.32	66.54	68.20	-1.66
5470.00	Peak	51.81	14.31	66.12	68.20	-2.08

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

SGS Taiwan Ltd.

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



Page: 198 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11n40/Band 3

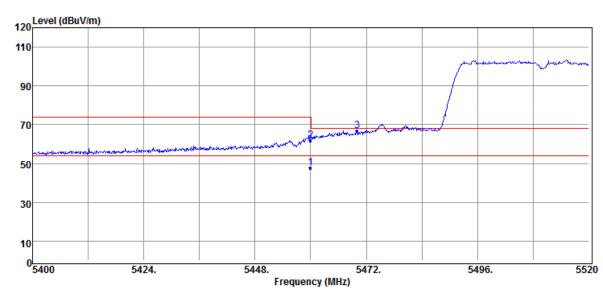
:BE CH LOW :E1/Plan

:5510 MHz

**Test Date** Temp./Humi. Antenna Pol. :2018-05-22

:24/65 :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5460.00	Average	33.26	14.31	47.57	54.00	-6.43
5460.00	Peak	47.72	14.31	62.03	74.00	-11.97
5470.00	Peak	52.40	14.31	66.71	68.20	-1.49



Page: 199 of 237

**Operation Mode** Test Mode **EUT Pol** 

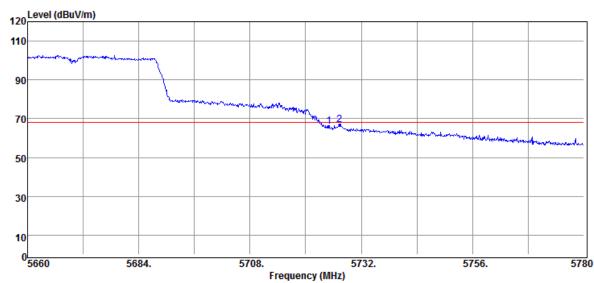
:802.11n40/Band 3

:BE CH HIGH

:E1/Plan Test Channel :5670 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
						_
5725.00	Peak	51.40	14.50	65.90	68.20	-2.30
5727.32	Peak	52.28	14.50	66.78	68.20	-1.42



Page: 200 of 237

**Operation Mode** Test Mode **EUT Pol** Test Channel

:802.11n40/Band 3

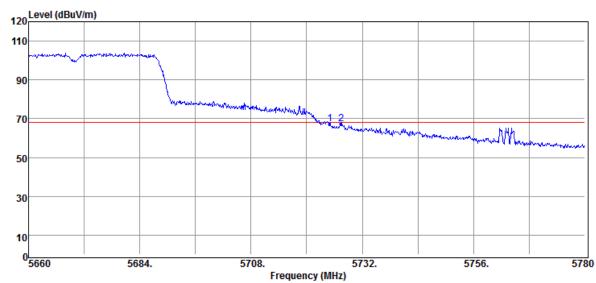
:BE CH HIGH :E1/Plan

:5670 MHz

**Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
5725.00	Peak	52.59	14.50	67.09	68.20	-1.11
5727.44	Peak	52.69	14.50	67.19	68.20	-1.01

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 201 of 237

**Operation Mode** Test Mode

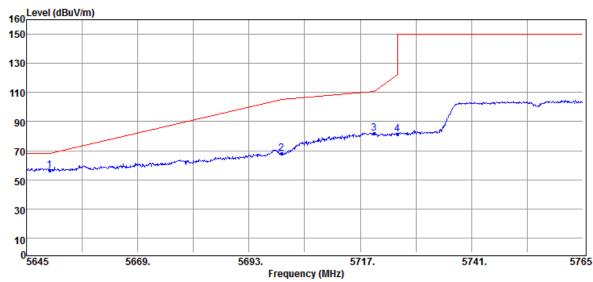
:802.11n40/Band 4

:BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5755 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5650.00	Peak	42.10	14.42	56.52	68.20	-11.68
5700.00	Peak	53.44	14.47	67.91	105.20	-37.29
5720.00	Peak	67.40	14.49	81.89	110.80	-28.91
5725.00	Peak	66.83	14.50	81.33	122.20	-40.87

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 202 of 237

**Operation Mode** Test Mode **EUT Pol** 

Test Channel

:802.11n40/Band 4

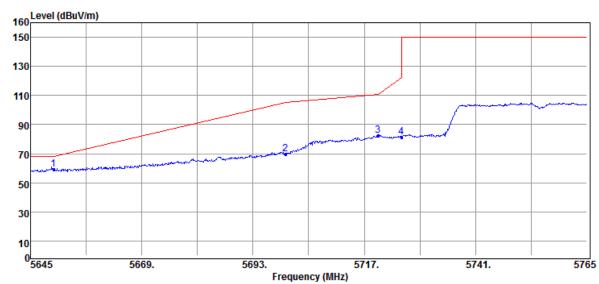
:BE CH LOW :E1/Plan

:5755 MHz

**Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
5650.00	Peak	44.58	14.42	59.00	68.20	-9.20
5700.00	Peak	55.16	14.47	69.63	105.20	-35.57
5720.00	Peak	68.11	14.49	82.60	110.80	-28.20
5725.00	Peak	66.71	14.50	81.21	122.20	-40.99



Page: 203 of 237

**Operation Mode** Test Mode

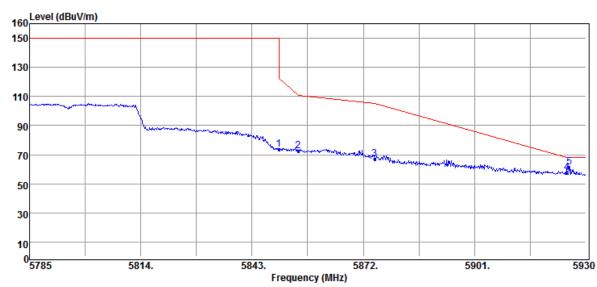
:802.11n40/Band 4

:BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5795 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5850.00	Peak	58.97	14.72	73.69	122.20	-48.51
5855.00	Peak	57.69	14.73	72.42	110.80	-38.38
5875.00	Peak	52.31	14.78	67.09	105.20	-38.11
5925.00	Peak	42.89	14.91	57.80	68.20	-10.40
5925.65	Peak	46.53	14.91	61.44	68.20	-6.76

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

SGS Taiwan Ltd.

| No.134, WuKungRoad, NewTaipeiIndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 204 of 237

**Operation Mode** Test Mode **EUT Pol** 

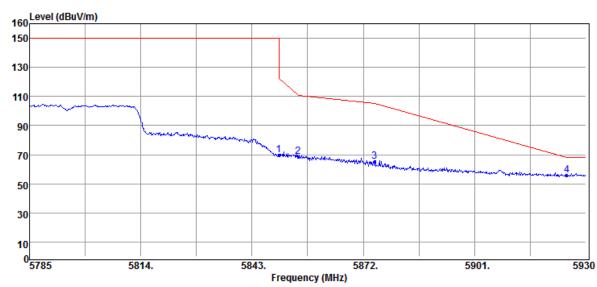
:802.11n40/Band 4

:BE CH HIGH :E1/Plan

Test Channel :5795 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
5850.00	Peak	55.09	14.72	69.81	122.20	-52.39
5855.00	Peak	54.02	14.73	68.75	110.80	-42.05
5875.00	Peak	50.77	14.78	65.55	105.20	-39.65
5925.00	Peak	40.76	14.91	55.67	68.20	-12.53

t (886-2) 2299-3279



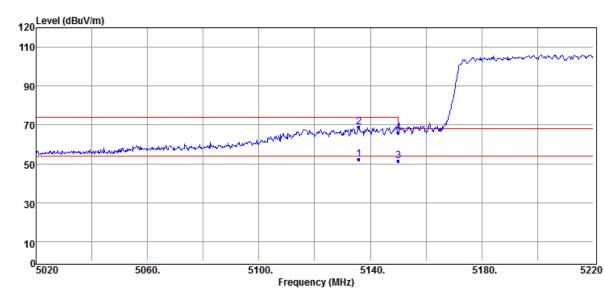
Page: 205 of 237

### 802.11ac80 VHT mode

:802.11ac80 / Band 1 **Operation Mode** 

:2018-05-22 Test Mode :BE CH LOW Temp./Humi. :24/64

**EUT Pol** Antenna Pol. :E1 Plan :HORIZONTAL Test Channel :5210 MHz Engineer :Ashton



**Test Date** 

Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5135.80	Average	38.89	13.59	52.48	54.00	-1.52
5135.80	Peak	55.49	13.59	69.08	74.00	-4.92
5150.00	Average	37.73	13.65	51.38	54.00	-2.62
5150.00	Peak	52.42	13.65	66.07	74.00	-7.93

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.

Unless otherwise stated the results shown in this test report teer only to the sample(s) tested and such as a feet and the sample states are stated and such as the sample state and the sample states are stated and such as the sample state and samples teach may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

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



:2018-05-22

:24/64

Page: 206 of 237

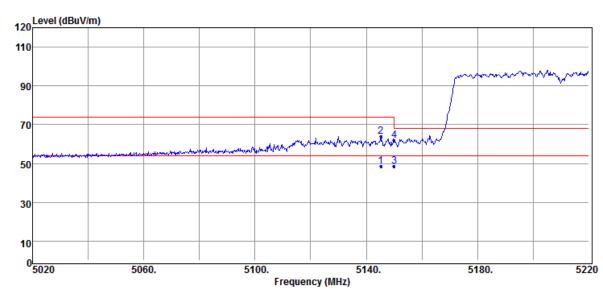
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80 / Band 1

:BE CH LOW

:E1 Plan :5210 MHz **Test Date** Temp./Humi. Antenna Pol.

:VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
5145.20	Average	34.90	13.63	48.53	54.00	-5.47
5145.20	Peak	50.46	13.63	64.09	74.00	-9.91
5150.00	Average	34.75	13.65	48.40	54.00	-5.60
5150.00	Peak	48.22	13.65	61.87	74.00	-12.13



Page: 207 of 237

Operation Mode Test Mode **EUT Pol** 

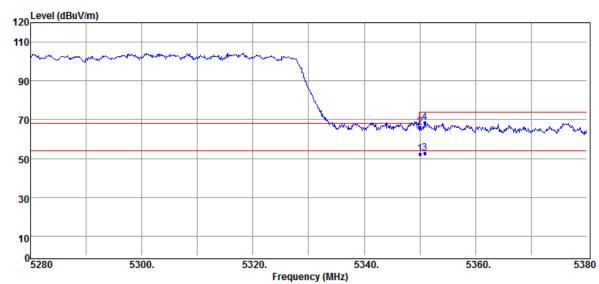
:802.11ac80/Band2

:BE CH HIGH

:E1/Plan Test Channel :5290 MHz **Test Date** Temp./Humi. Antenna Pol. :2018-05-22 :24/65

:HORIZONTAL

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5350.00	Average	38.36	14.16	52.52	54.00	-1.48
5350.00	Peak	52.02	14.16	66.18	74.00	-7.82
5350.90	Average	38.39	14.17	52.56	54.00	-1.44
5350.90	Peak	54.33	14.17	68.50	74.00	-5.50

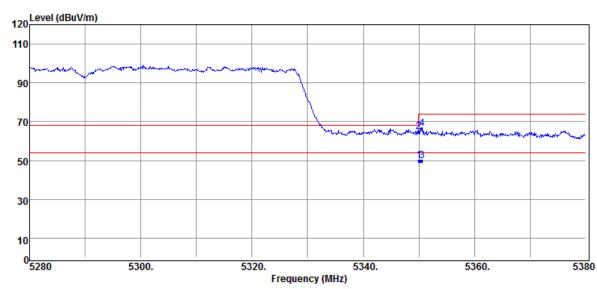


Page: 208 of 237

Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80/Band2 :BE CH HIGH

:E1/Plan :5290 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65 Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
						_
5350.00	Average	35.84	14.16	50.00	54.00	-4.00
5350.00	Peak	50.65	14.16	64.81	74.00	-9.19
5350.50	Average	35.70	14.17	49.87	54.00	-4.13
5350.50	Peak	52.09	14.17	66.26	74.00	-7.74

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 209 of 237

Operation Mode Test Mode

:802.11ac80/Band 3

:BE CH LOW

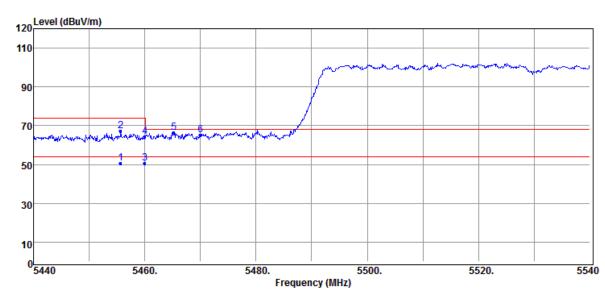
**EUT Pol** :E1/Plan Test Channel :5530 MHz **Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

:2018-05-22

:24/65

Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
5455.70	Average	36.16	14.32	50.48	54.00	-3.52
5455.70	Peak	52.77	14.32	67.09	74.00	-6.91
5460.00	Average	36.33	14.31	50.64	54.00	-3.36
5460.00	Peak	50.18	14.31	64.49	74.00	-9.51
5465.20	Peak	52.19	14.32	66.51	68.20	-1.69
5470.00	Peak	51.08	14.31	65.39	68.20	-2.81

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

SGS Taiwan Ltd.

No.134, WuKungRoad, New Taipei Industrial Park, WukuDistrict, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 210 of 237

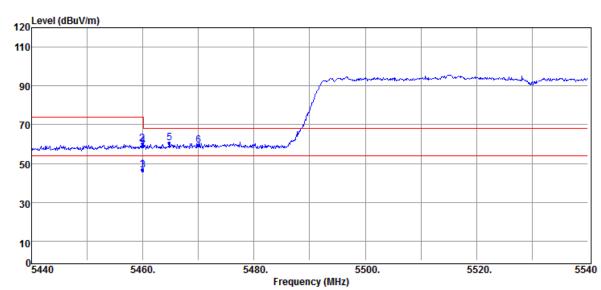
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80/Band 3

:BE CH LOW

:E1/Plan :5530 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :VERTICAL Engineer :Ashton



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμ̈V	dB	dBµV/m	dBµV/m	dB
5459.90	Average	32.47	14.31	46.78	54.00	-7.22
5459.90	Peak	45.82	14.31	60.13	74.00	-13.87
5460.00	Average	32.34	14.31	46.65	54.00	-7.35
5460.00	Peak	44.74	14.31	59.05	74.00	-14.95
5464.80	Peak	46.11	14.32	60.43	68.20	-7.77
5470.00	Peak	45.12	14.31	59.43	68.20	-8.77



Page: 211 of 237

Operation Mode Test Mode **EUT Pol** 

Test Channel

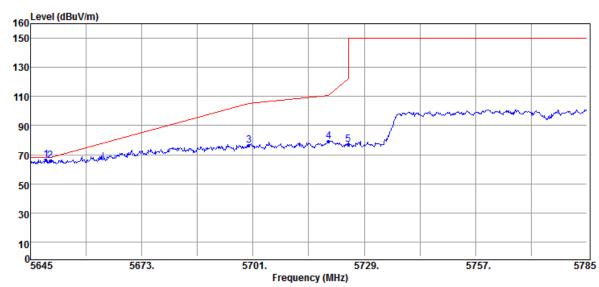
:802.11ac80/Band 4

:BE CH LOW

:E1/Plan :5775 MHz **Test Date** :2018-05-23 Temp./Humi. :24/65

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5648.92	Peak	52.04	14.41	66.45	68.20	-1.75
5650.00	Peak	51.28	14.42	65.70	68.20	-2.50
5700.00	Peak	61.82	14.47	76.29	105.20	-28.91
5720.00	Peak	64.85	14.49	79.34	110.80	-31.46
5725.00	Peak	62.70	14.50	77.20	122.20	-45.00



Page: 212 of 237

Operation Mode Test Mode

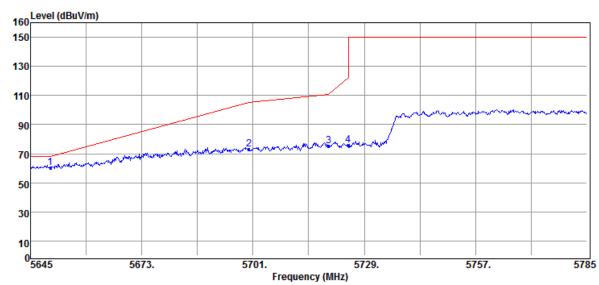
:802.11ac80/Band 4

:BE CH LOW

**EUT Pol** :E1/Plan Test Channel :5775 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5650.00	Peak	45.84	14.42	60.26	68.20	-7.94
5700.00	Peak	58.83	14.47	73.30	105.20	-31.90
5720.00	Peak	61.01	14.49	75.50	110.80	-35.30
5725.00	Peak	61.48	14.50	75.98	122.20	-46.22



Page: 213 of 237

Operation Mode Test Mode **EUT Pol** 

Test Channel

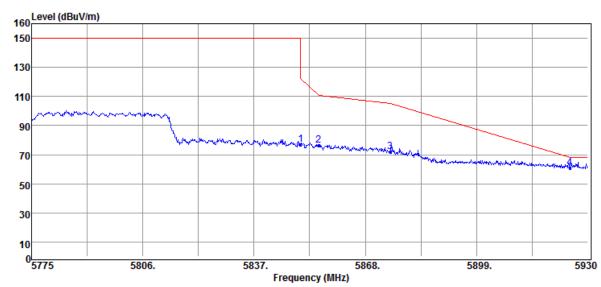
:802.11ac80/Band 4

:BE CH HIGH

:E1/Plan :5775 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :VERTICAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	62.45	14.72	77.17	122.20	-45.03
5855.00	Peak	61.84	14.73	76.57	110.80	-34.23
5875.00	Peak	57.42	14.78	72.20	105.20	-33.00
5925.00	Peak	46.18	14.91	61.09	68.20	-7.11



Page: 214 of 237

Operation Mode Test Mode

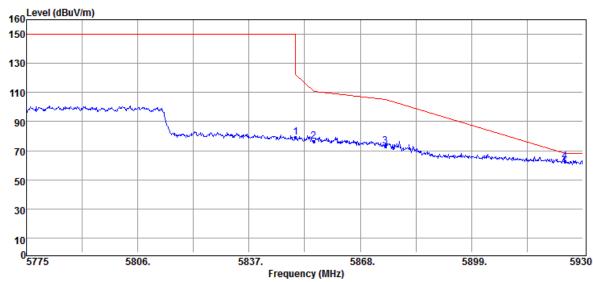
:802.11ac80/Band 4

:BE CH HIGH

**EUT Pol** :E1/Plan Test Channel :5775 MHz **Test Date** :2018-05-22 Temp./Humi. :24/65

Antenna Pol. :HORIZONTAL

Engineer :Enzo



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	64.38	14.72	79.10	122.20	-43.10
5855.00	Peak	61.64	14.73	76.37	110.80	-34.43
5875.00	Peak	58.05	14.78	72.83	105.20	-32.37
5925.00	Peak	47.89	14.91	62.80	68.20	-5.40

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

f (886-2) 2298-0488



Page: 215 of 237

## 12 TRANSMISSION IN THE ABSENCE OF DATA

#### Standard Applicable 12.1

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

#### 12.2 Result

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ASK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134, WuKungRoad, NewTaipeilndustrialPark, WukuDistrict, NewTaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號



Page: 216 of 237

### 13 FREQUENCY STABILITY

# Standard Applicable

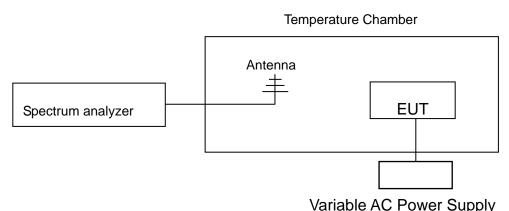
Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

#### 13.2 **Measurement Procedure**

- 1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
- 2. Set EUT as normal operation.
- 3. Turn the EUT on and couple its output to spectrum.
- 4. Turn the EUT off and set the chamber to the highest temperature specified.
- 5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
- 6. Repeat step with the temperature chamber set to the lowest temperature.

#### **Test SET-UP** 13.3

13.4



#### **SGS Conducted Room** Name of Calibration Calibration Serial **Manufacturer** Model **Equipment** Number Date Due Spectrum N9010A MY51440113 2017/06/21 2018/06/20 Agilent Analyzer Marvelous MVE2213-10 2017/12/26 2018/12/25 Attenuator RF30 Marvelous MVE2213-10 2017/12/26 2018/12/25 Attenuator RF31 Notebook Lenovo L420 S0011721 N/A N/A Temperature **TERCHY** MHK-120LK 1020582 2018/01/13 2019/01/02 Chamber

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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet may be prosecuted to the fullest extent of the law.

f (886-2) 2298-0488

**Measurement Equipment Used:** 

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號



Page: 217 of 237

#### 13.5 **Measurement Result**

# Startup:

Operation Mode	802.11 a	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %	-	-

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		36	5180	5,179.94775	0.00001009
		44	5220	5,219.92448	0.00001447
		48	5240	5,239.99394	0.00000116
		52	5260	5,259.97386	0.00000497
		60	5300	5,299.95599	0.00000830
	13.2V	64	5320	5,319.95249	0.00000893
		100	5500	5,499.96384	0.00000657
		116	5580	5,579.92071	0.00001421
		140	5700	5,699.96955	0.00000534
		144	5720	5,719.94179	0.00001018
		149	5745	5,744.92651	0.00001279
		157	5785	5,784.95694	0.00000744
		165	5825	5,824.92562	0.00001277
-10 °C		36	5180	5,179.94868	0.00000991
		44	5220	5,219.96669	0.00000638
		48	5240	5,239.91526	0.00001617
		52	5260	5,259.96660	0.00000635
		60	5300	5,299.98714	0.00000243
	10.8V	64	5320	5,319.92615	0.00001388
		100	5500	5,499.92308	0.00001399
		116	5580	5,579.97919	0.00000373
		140	5700	5,699.91191	0.00001545
		144	5720	5,719.94215	0.00001011
		149	5745	5,744.97065	0.00000511
		157	5785	5,784.96210	0.00000655
		165	5825	5,824.93446	0.00001125

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

SGS Taiwan Ltd. No.134, WuKung Road, New Taipeilndustrial Park, Wuku District, New TaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

www.tw.sqs.com



Page: 218 of 237

	<u> </u>	1 2/	F100	F 170 07000	0.00000407
		36	5180	5,179.97892	0.00000407
		44	5220	5,219.96721	0.00000628
		48	5240	5,239.91188	0.00001682
		52	5260	5,259.96621	0.00000642
		60	5300	5,299.93862	0.00001158
25 °C	12V	64	5320	5,319.95228	0.00000897
		100	5500	5,499.97817	0.00000397
		116	5580	5,579.92623	0.00001322
		140	5700	5,699.90636	0.00001643
		144	5720	5,719.94147	0.00001023
		149	5745	5,744.94108	0.00001026
		157	5785	5,784.95607	0.00000759
		165	5825	5,824.97656	0.00000402
		36	5180	5,179.95430	0.00000882
		44	5220	5,219.96154	0.00000737
		48	5240	5,239.99012	0.00000189
		52	5260	5,259.99237	0.00000145
		60	5300	5,299.93006	0.00001320
		64	5320	5,319.90766	0.00001736
	13.2V	100	5500	5,499.93260	0.00001225
		116	5580	5,579.92305	0.00001379
		140	5700	5,699.98785	0.00000213
		144	5720	5,719.94166	0.00001020
		149	5745	5,744.97681	0.00000404
		157	5785	5,784.96460	0.00000612
		165	5825	5,824.94923	0.00000872
50 °C		36	5180	5,179.95715	0.00000827
		44	5220	5,219.95992	0.00000768
		48	5240	5,239.91539	0.00001615
		52	5260	5,259.91631	0.00001591
	10.8V	60	5300	5,299.90306	0.00001829
		64	5320	5,319.93567	0.00001209
		100	5500	5,499.98381	0.00000294
		116	5580	5,579.94397	0.00001004
		140	5700	5,699.95321	0.00000821
		144	5720	5,719.94155	0.00001022
		149	5745	5,744.91212	0.00001530
		157	5785	5,784.94044	0.00001030
		165	5825	5,824.95501	0.00000772

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



Page: 219 of 237

Operation Mode	802.11 n_HT40	Test Date	2018.05.28
Temperature	:24.8 ℃	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		38	5190	5,189.91506	0.00001637
		46	5230	5,229.95695	0.00000823
		54	5270	5,269.93934	0.00001151
		62	5310	5,309.99395	0.00000114
	13.2V	102	5510	5,509.94275	0.00001039
		110	5550	5,549.98262	0.00000313
		134	5670	5,669.93687	0.00001113
		142	5710	5,709.94492	0.00000965
		151	5755	5,754.92435	0.00001315
-10 °C		159	5795	5,794.95616	0.00000757
		38	5190	5,189.94072	0.00001142
		46	5230	5,229.91254	0.00001672
		54	5270	5,269.91248	0.00001661
		62	5310	5,309.96728	0.00000616
	10.8V	102	5510	5,509.98852	0.00000208
		110	5550	5,549.91922	0.00001455
		134	5670	5,669.91094	0.00001571
		142	5710	5,709.94484	0.00000966
		151	5755	5,754.96176	0.00000664
		159	5795	5,794.90061	0.00001715

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



Page: 220 of 237

	1			T	
		38	5190	5,189.96996	0.00000579
		46	5230	5,229.99667	0.00000064
		54	5270	5,269.91162	0.00001677
		62	5310	5,309.94138	0.00001104
25 <b>℃</b>	12V	102	5510	5,509.92995	0.00001271
		110	5550	5,549.91980	0.00001445
		134	5670	5,669.92845	0.00001262
		142	5710	5,709.94466	0.00000969
		151	5755	5,754.94517	0.00000953
		159	5795	5,794.99020	0.00000169
		38	5190	5,189.99629	0.00000071
		46	5230	5,229.97174	0.00000540
		54	5270	5,269.92579	0.00001408
		62	5310	5,309.93897	0.00001149
	13.2V	102	5510	5,509.94965	0.00000914
		110	5550	5,549.93779	0.00001121
		134	5670	5,669.98763	0.00000218
		142	5710	5,709.94456	0.00000971
		151	5755	5,754.91783	0.00001428
		159	5795	5,794.96210	0.00000654
50 ℃		38	5190	5,189.95117	0.00000941
		46	5230	5,229.98381	0.00000310
		54	5270	5,269.90414	0.00001819
		62	5310	5,309.95845	0.00000782
	10.8V	102	5510	5,509.91082	0.00001619
		110	5550	5,549.97049	0.00000532
		134	5670	5,669.93420	0.00001160
		142	5710	5,709.94500	0.00000963
		151	5755	5,754.98380	0.00000281
		159	5795	5,794.95460	0.00000783

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



Page: 221 of 237

Operation Mode	802.11 ac_VHT80	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		42	5210	5,209.95974	0.00000773
		58	5290	5,289.99199	0.00000151
	13.2V	106	5530	5,529.93368	0.00001199
		122	5610	5,609.95227	0.00000851
		138	5690	5,689.93449	0.00001151
-10 °C		155	5775	5,774.97511	0.00000431
		42	5210	5,209.99961	0.00000007
		58	5290	5,289.95243	0.00000899
	10.8V	106	5530	5,529.94611	0.00000975
		122	5610	5,609.94992	0.00000893
		138	5690	5,689.93399	0.00001160
		155	5775	5,774.97285	0.00000470
		42	5210	5,209.95422	0.00000879
		58	5290	5,289.97393	0.00000493
25 <b>℃</b>	12V	106	5530	5,529.98213	0.00000323
		122	5610	5,609.91362	0.00001540
		138	5690	5,689.93417	0.00001157
		155	5775	5,774.92549	0.00001290
		42	5210	5,209.96654	0.00000642
		58	5290	5,289.94311	0.00001075
	13.2V	106	5530	5,529.97704	0.00000415
		122	5610	5,609.95893	0.00000732
		138	5690	5,689.93366	0.00001166
50 ℃		155	5775	5,774.93389	0.00001145
		42	5210	5,209.95320	0.00000898
		58	5290	5,289.91409	0.00001624
	10.8V	106	5530	5,529.97721	0.00000412
	10.00	122	5610	5,609.97925	0.00000370
		138	5690	5,689.93372	0.00001165
		155	5775	5,774.96818	0.00000551

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



Page: 222 of 237

## 2 Minutes:

Operation Mode	802.11 a	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

			Measured	Spectrum	A Fraguenov
Test Temp.	Test Voltage	Channel	Frequency	Frequency	<b>∆</b> Frequency (MHz)
			(MHz)	(MHz)	(IVITZ)
		36	5180	5,179.94149	0.00001130
		44	5220	5,219.91750	0.00001580
		48	5240	5,239.95185	0.00000919
		52	5260	5,259.99579	0.00000080
		60	5300	5,299.90618	0.00001770
	13.2V	64	5320	5,319.96114	0.00000730
		100	5500	5,499.91955	0.00001463
		116	5580	5,579.96441	0.00000638
		140	5700	5,699.95698	0.00000755
		144	5720	5,719.94229	0.00001009
		149	5745	5,744.94522	0.00000954
		157	5785	5,784.95223	0.00000826
		165	5825	5,824.93614	0.00001096
-10 °C		36	5180	5,179.99538	0.00000089
		44	5220	5,219.92067	0.00001520
		48	5240	5,239.92656	0.00001402
		52	5260	5,259.99966	0.00000006
		60	5300	5,299.97216	0.00000525
	10.8V	64	5320	5,319.91026	0.00001687
		100	5500	5,499.90093	0.00001801
		116	5580	5,579.93357	0.00001191
		140	5700	5,699.94750	0.00000921
		144	5720	5,719.94145	0.00001024
		149	5745	5,744.98575	0.00000248
		157	5785	5,784.95619	0.00000757
		165	5825	5,824.94486	0.00000947

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

SGS Taiwan Ltd. No.134, WuKung Road, New Taipeilndustrial Park, Wuku District, New TaipeiCity, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

f (886-2) 2298-0488



Page: 223 of 237

				1	1
		36	5180	5,179.90595	0.00001816
		44	5220	5,219.94950	0.00000967
		48	5240	5,239.92781	0.00001378
		52	5260	5,259.96252	0.00000713
		60	5300	5,299.95936	0.00000767
25 °C	12V	64	5320	5,319.96863	0.00000590
		100	5500	5,499.94900	0.00000927
		116	5580	5,579.99193	0.00000145
		140	5700	5,699.94000	0.00001053
		144	5720	5,719.94166	0.00001020
		149	5745	5,744.97468	0.00000441
		157	5785	5,784.98803	0.00000207
		165	5825	5,824.94919	0.00000872
		36	5180	5,179.99186	0.00000157
		44	5220	5,219.90477	0.00001824
		48	5240	5,239.92261	0.00001477
		52	5260	5,259.96846	0.00000600
		60	5300	5,299.96728	0.00000617
		64	5320	5,319.92290	0.00001449
	13.2V	100	5500	5,499.95591	0.00000802
		116	5580	5,579.90680	0.00001670
		140	5700	5,699.93464	0.00001147
		144	5720	5,719.94177	0.00001018
		149	5745	5,744.93729	0.00001092
		157	5785	5,784.99473	0.00000091
		165	5825	5,824.93993	0.00001031
50 °C		36	5180	5,179.93123	0.00001328
		44	5220	5,219.91609	0.00001607
		48	5240	5,239.92369	0.00001456
		52	5260	5,259.98732	0.00000241
		60	5300	5,299.94921	0.00000958
	10.8V	64	5320	5,319.91205	0.00001653
		100	5500	5,499.94812	0.00000943
		116	5580	5,579.91205	0.00001576
		140	5700	5,699.92870	0.00001251
		144	5720	5,719.94215	0.00001011
		149	5745	5,744.94644	0.00000932
		157	5785	5,784.96419	0.00000619

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



Page: 224 of 237

Operation Mode	802.11 n_HT40	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		38	5190	5,189.94826	0.00000997
		46	5230	5,229.90393	0.00001837
		54	5270	5,269.93370	0.00001258
		62	5310	5,309.92653	0.00001384
	13.2V	102	5510	5,509.94314	0.00001032
		110	5550	5,549.97557	0.00000440
		134	5670	5,669.91135	0.00001563
		142	5710	5,709.94457	0.00000971
		151	5755	5,754.90440	0.00001661
-10 °C		159	5795	5,794.91595	0.00001450
		38	5190	5,189.91094	0.00001716
		46	5230	5,229.91222	0.00001678
		54	5270	5,269.92480	0.00001427
	10.8V	62	5310	5,309.92477	0.00001417
		102	5510	5,509.91151	0.00001606
		110	5550	5,549.90382	0.00001733
		134	5670	5,669.94099	0.00001041
		142	5710	5,709.94450	0.00000972
		151	5755	5,754.94802	0.00000903
		159	5795	5,794.97540	0.00000425

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

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

www.tw.sqs.com



Page: 225 of 237

38			1			
54 5270 5,269,92764 0.00001373 62 5310 5,309,93096 0.00001300 110 5550 5,549,98324 0.00000302 134 5670 5,669,90630 0.00001653 142 5710 5,709,94508 0.00000962 151 5755 5,754,94196 0.00001099 159 5795 5,794,93081 0.00001194 38 5190 5,189,93808 0.00001193 46 5230 5,229,93501 0.00001243 54 5270 5,269,92998 0.00001329 62 5310 5,309,97750 0.00000424 13.2V 102 5510 5,509,91311 0.00001577 110 5550 5,549,93745 0.00001577 110 5550 5,549,93745 0.000001577 134 5670 5,669,96801 0.00000564 142 5710 5,709,94480 0.00000564 142 5710 5,709,94480 0.000006564 142 5710 5,709,94480 0.000001653 50 °C 38 5190 5,189,95553 0.00001421 151 5755 5,754,95040 0.000001653 50 °C 38 5190 5,189,95553 0.000001653 50 °C 50 °C 510 5,509,94659 0.000001720 54 5270 5,269,92563 0.00001411 62 5310 5,309,99370 0.00000119 10.8V 102 5510 5,509,94659 0.000001617 134 5670 5,669,99479 0.000001617 134 5670 5,669,99479 0.00000092 142 5710 5,709,94440 0.00000092 142 5710 5,709,94440 0.000000974 151 5755 5,754,97024 0.00000092			38	5190	5,189.94484	0.00001063
25 °C  12V  102  5510  5,309,93096  0,00001300  110  5550  5,549,98324  0,00000302  134  5670  5,669,90630  0,00001653  142  5710  5,709,94508  0,00001009  159  5795  5,749,4196  0,00001194  38  5190  5,189,93808  0,00001193  46  5230  5,229,93501  0,00001243  54  5270  5,269,92998  0,00001329  62  5310  5,309,97750  0,00001243  54  5270  5,269,92998  0,00001329  62  5310  5,309,97750  0,00000424  13.2V  102  5510  5,509,91311  0,00001577  110  5550  5,549,93745  0,00001127  134  5670  5,669,96801  0,00000564  142  5710  5,709,94480  0,00000967  151  5755  5,754,95040  0,00000862  159  5795  5,794,90420  0,000001653  50 °C  38  5190  5,189,95553  0,000001720  54  5229,91005  0,00001720  54  5270  5,269,92563  0,00001141  62  5310  5,309,99370  0,000001421  10.8V  102  5510  5,509,94659  0,00000167  134  5670  5,669,99479  0,000000969  110  5550  5,549,91024  0,000001617  134  5670  5,669,99479  0,00000092  142  5710  5,709,94440  0,00000974  1551  5755  5,754,97224  0,000000482			46	5230	5,229.90826	0.00001754
25 °C  12V  102  5510  5,509,97222  0,00000504  110  5550  5,549,98324  0,00000302  134  5670  5,669,90630  0,00001653  142  5710  5,709,94508  0,00001009  159  5795  5,749,4196  0,00001194  38  5190  5,189,93808  0,00001193  46  5230  5,229,93501  0,00001243  54  5270  5,269,92998  0,00001329  62  5310  5,309,97750  0,00000424  13.2V  102  5510  5,509,91311  0,00001577  110  5550  5,549,93745  0,00001127  134  5670  5,669,96801  0,00000564  142  5710  5,709,94480  0,00000564  142  5710  5,709,94480  0,00000967  151  5755  5,754,95040  0,000001653  50 °C  38  5190  5,189,95553  0,00000857  46  5230  5,229,91005  0,00001720  54  5270  5,269,92563  0,00001121  10.8V  102  5510  5,509,94659  0,00000167  110  5550  5,549,91024  0,000001617  134  5670  5,669,99479  0,00000092  142  5710  5,709,94440  0,00000974  151  5755  5,754,97024  0,00000092			54	5270	5,269.92764	0.00001373
110 5550 5,549,98324 0.00000302 134 5670 5,669,90630 0.00001653 142 5710 5,709,94508 0.00000962 151 5755 5,754,94196 0.00001009 159 5795 5,794,93081 0.00001194 38 5190 5,189,93808 0.00001193 46 5230 5,229,93501 0.00001243 54 5270 5,269,92998 0.00001329 62 5310 5,309,97750 0.00000424 110 5550 5,549,93745 0.00001127 110 5550 5,549,93745 0.00001127 134 5670 5,669,96801 0.00000564 142 5710 5,709,94480 0.00000967 151 5755 5,754,95040 0.00000862 159 5795 5,794,90420 0.00000857 46 5230 5,229,91005 0.00001720 54 5270 5,269,92563 0.00001121 10.8V 102 5510 5,509,9459 0.00000141 62 5310 5,309,99370 0.00000141 62 5310 5,309,99370 0.00000119 10.8V 102 5510 5,509,94659 0.00000969 110 5550 5,549,91024 0.00001617 134 5670 5,669,99479 0.00000092 142 5710 5,709,94440 0.00000974 151 5755 5,754,97224 0.00000482			62	5310	5,309.93096	0.00001300
134 5670 5,669,90630 0.00001653 142 5710 5,709,94508 0.00000962 151 5755 5,754,94196 0.00001009 159 5795 5,794,93081 0.00001194 38 5190 5,189,93808 0.00001193 46 5230 5,229,93501 0.00001243 54 5270 5,269,92998 0.00001329 62 5310 5,309,97750 0.00000424 102 5510 5,509,91311 0.00001577 110 5550 5,549,93745 0.00001127 134 5670 5,669,96801 0.00000564 142 5710 5,709,94480 0.00000967 151 5755 5,754,95040 0.00000862 159 5795 5,794,90420 0.00001653 50 °C 38 5190 5,189,95553 0.00000857 46 5230 5,229,91005 0.00001720 54 5270 5,269,92563 0.00001411 62 5310 5,309,9370 0.00000141 62 5310 5,309,9370 0.00000141 62 5510 5,509,94659 0.00000167 134 5670 5,669,9479 0.00000969 110 5550 5,549,91024 0.000001617 134 5670 5,669,9479 0.00000092 142 5710 5,709,94440 0.00000974 151 5755 5,754,97224 0.00000482	25 <b>℃</b>	12V	102	5510	5,509.97222	0.00000504
142 5710 5,709,94508 0.00000962 151 5755 5,754,94196 0.00001009 159 5795 5,794,93081 0.00001194 38 5190 5,189,93808 0.00001193 46 5230 5,229,93501 0.00001243 54 5270 5,269,92998 0.00001329 62 5310 5,309,97750 0.00000424 110 5550 5,549,93745 0.00001127 110 5550 5,549,93745 0.00001127 134 5670 5,669,96801 0.00000564 142 5710 5,709,94480 0.00000967 151 5755 5,754,95040 0.00000862 159 5795 5,794,90420 0.00000862 159 5795 5,794,90420 0.00000857 46 5230 5,229,91005 0.00001720 54 5270 5,269,92563 0.00000119 10.8V 102 5510 5,509,94659 0.00000119 10.8V 5550 5,549,91024 0.00001617 134 5670 5,669,99479 0.00000092 142 5710 5,709,94440 0.00000974 151 5755 5,754,97224 0.00000482			110	5550	5,549.98324	0.00000302
151 5755 5,754.94196 0.00001009 159 5795 5,794.93081 0.00001194 38 5190 5,189.93808 0.00001193 46 5230 5,229.93501 0.00001243 54 5270 5,269.92998 0.00001329 62 5310 5,309.97750 0.00000424 13.2V 102 5510 5,509.91311 0.00001577 110 5550 5,549.93745 0.00001127 134 5670 5,669.96801 0.00000564 142 5710 5,709.94480 0.00000967 151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.00001653 50 ℃ 38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001411 62 5310 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000119 10.8V 5550 5,549.91024 0.000001617 134 5670 5,669.99479 0.00000092 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.00000482			134	5670	5,669.90630	0.00001653
159 5795 5,794.93081 0.00001194  38 5190 5,189.93808 0.00001193  46 5230 5,229.93501 0.00001243  54 5270 5,269.92998 0.00001329  62 5310 5,309.97750 0.00000424  13.2V 102 5510 5,509.91311 0.00001577  110 5550 5,549.93745 0.00001127  134 5670 5,669.96801 0.00000964  142 5710 5,709.94480 0.00000967  151 5755 5,754.95040 0.00000862  159 5795 5,794.90420 0.00001653  50 °C 38 5190 5,189.95553 0.00000857  46 5230 5,229.91005 0.00001720  54 5270 5,269.92563 0.00001720  54 5270 5,269.92563 0.00001411  62 5310 5,309.99370 0.00000119  10.8V 102 5510 5,509.94659 0.00000167  134 5670 5,669.99479 0.00000092  142 5710 5,709.94440 0.00000974  151 5755 5,754.97224 0.00000482			142	5710	5,709.94508	0.00000962
38 5190 5,189,93808 0.00001193 46 5230 5,229,93501 0.00001243 54 5270 5,269,92998 0.00001329 62 5310 5,309,97750 0.00000424 13.2V 102 5510 5,509,91311 0.00001577 110 5550 5,549,93745 0.00001127 134 5670 5,669,96801 0.00000564 142 5710 5,709,94480 0.00000967 151 5755 5,754,95040 0.00001653 159 5795 5,794,90420 0.00001653 159 5795 5,794,90420 0.00001857 46 5230 5,229,91005 0.00001720 54 5270 5,269,92563 0.00001411 62 5310 5,309,99370 0.00000119 10.8V 102 5510 5,509,94659 0.00000969 110 5550 5,549,91024 0.00001617 134 5670 5,669,99479 0.00000092 142 5710 5,709,94440 0.00000974 151 5755 5,754,97224 0.00000482			151	5755	5,754.94196	0.00001009
46       5230       5,229.93501       0.00001243         54       5270       5,269.92998       0.00001329         62       5310       5,309.97750       0.00000424         13.2V       102       5510       5,509.91311       0.00001577         110       5550       5,549.93745       0.00001127         134       5670       5,669.96801       0.00000564         142       5710       5,709.94480       0.00000967         151       5755       5,754.95040       0.00000862         159       5795       5,794.90420       0.00001653         50 °C       38       5190       5,189.95553       0.00000857         46       5230       5,229.91005       0.00001720         54       5270       5,269.92563       0.0000111         62       5310       5,309.99370       0.00000119         10.8V       102       5510       5,509.94659       0.00000969         110       5550       5,549.91024       0.00001617         134       5670       5,669.99479       0.00000092         142       5710       5,709.94440       0.00000974         151       5755       5,754.97224       0.0000			159	5795	5,794.93081	0.00001194
54 5270 5,269.92998 0.00001329 62 5310 5,309.97750 0.00000424 13.2V 102 5510 5,509.91311 0.00001577 110 5550 5,549.93745 0.00001127 134 5670 5,669.96801 0.00000564 142 5710 5,709.94480 0.00000967 151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.000001653 50 ℃ 38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001119 10.8V 102 5510 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000969 110 5550 5,549.91024 0.00001617 134 5670 5,669.99479 0.00000092 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.000000482			38	5190	5,189.93808	0.00001193
13.2V  102  5510  5,309.97750  0.00000424  102  5510  5,509.91311  0.00001577  110  5550  5,549.93745  0.00001127  134  5670  5,669.96801  0.00000564  142  5710  5,709.94480  0.00000967  151  5755  5,754.95040  0.00000862  159  5795  5,794.90420  0.00001653  50 °C  38  5190  5,189.95553  0.00000857  46  5230  5,229.91005  0.00001720  54  5270  5,269.92563  0.00001411  62  5310  5,309.99370  0.00000119  10.8V  102  5510  5,509.94659  0.000001969  110  5550  5,549.91024  0.000001617  134  5670  5,669.99479  0.00000092  142  5710  5,709.94440  0.00000974  151  5755  5,754.97224  0.00000482			46	5230	5,229.93501	0.00001243
13.2V 102 5510 5,509.91311 0.00001577 110 5550 5,549.93745 0.00001127 134 5670 5,669.96801 0.00000564 142 5710 5,709.94480 0.00000967 151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.00001653 50 ℃ 38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001411 62 5310 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000969 110 5550 5,549.91024 0.00001617 134 5670 5,669.99479 0.00000092 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.00000482			54	5270	5,269.92998	0.00001329
110 5550 5,549.93745 0.00001127 134 5670 5,669.96801 0.00000564 142 5710 5,709.94480 0.00000967 151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.00001653 50 °C 38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001411 62 5310 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000969 110 5550 5,549.91024 0.00001617 134 5670 5,669.99479 0.00000092 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.000000482		13.2V	62	5310	5,309.97750	0.00000424
134 5670 5,669.96801 0.00000564 142 5710 5,709.94480 0.00000967 151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.00001653 50 ℃  38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001411 62 5310 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000969 110 5550 5,549.91024 0.00001617 134 5670 5,669.99479 0.00000092 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.00000482			102	5510	5,509.91311	0.00001577
142 5710 5,709.94480 0.00000967 151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.00001653  50 °C 38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001411 62 5310 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000969 110 5550 5,549.91024 0.00001617 134 5670 5,669.99479 0.00000092 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.00000482			110	5550	5,549.93745	0.00001127
151 5755 5,754.95040 0.00000862 159 5795 5,794.90420 0.00001653 50 °C 38 5190 5,189.95553 0.00000857 46 5230 5,229.91005 0.00001720 54 5270 5,269.92563 0.00001411 62 5310 5,309.99370 0.00000119 10.8V 102 5510 5,509.94659 0.00000969 110 5550 5,549.91024 0.00001617 134 5670 5,669.99479 0.00000992 142 5710 5,709.94440 0.00000974 151 5755 5,754.97224 0.00000482			134	5670	5,669.96801	0.00000564
159 5795 5,794.90420 0.00001653  38 5190 5,189.95553 0.00000857  46 5230 5,229.91005 0.00001720  54 5270 5,269.92563 0.00001411  62 5310 5,309.99370 0.00000119  10.8V 102 5510 5,509.94659 0.00000969  110 5550 5,549.91024 0.00001617  134 5670 5,669.99479 0.00000092  142 5710 5,709.94440 0.00000974  151 5755 5,754.97224 0.00000482			142	5710	5,709.94480	0.00000967
50 °C       38       5190       5,189.95553       0.00000857         46       5230       5,229.91005       0.00001720         54       5270       5,269.92563       0.00001411         62       5310       5,309.99370       0.000000119         10.8V       102       5510       5,509.94659       0.00000969         110       5550       5,549.91024       0.00001617         134       5670       5,669.99479       0.00000092         142       5710       5,709.94440       0.00000974         151       5755       5,754.97224       0.000000482			151	5755	5,754.95040	0.00000862
46     5230     5,229.91005     0.00001720       54     5270     5,269.92563     0.00001411       62     5310     5,309.99370     0.00000119       10.8V     102     5510     5,509.94659     0.00000969       110     5550     5,549.91024     0.00001617       134     5670     5,669.99479     0.00000092       142     5710     5,709.94440     0.00000974       151     5755     5,754.97224     0.000000482			159	5795	5,794.90420	0.00001653
54         5270         5,269.92563         0.00001411           62         5310         5,309.99370         0.00000119           10.8V         102         5510         5,509.94659         0.00000969           110         5550         5,549.91024         0.00001617           134         5670         5,669.99479         0.00000092           142         5710         5,709.94440         0.00000974           151         5755         5,754.97224         0.00000482	50 ℃		38	5190	5,189.95553	0.00000857
10.8V     5310     5,309.99370     0.00000119       10.8V     5510     5,509.94659     0.00000969       110     5550     5,549.91024     0.00001617       134     5670     5,669.99479     0.00000092       142     5710     5,709.94440     0.00000974       151     5755     5,754.97224     0.00000482			46	5230	5,229.91005	0.00001720
10.8V     102     5510     5,509.94659     0.00000969       110     5550     5,549.91024     0.00001617       134     5670     5,669.99479     0.00000092       142     5710     5,709.94440     0.00000974       151     5755     5,754.97224     0.00000482			54	5270	5,269.92563	0.00001411
110     5550     5,549.91024     0.00001617       134     5670     5,669.99479     0.00000092       142     5710     5,709.94440     0.00000974       151     5755     5,754.97224     0.00000482			62	5310	5,309.99370	0.00000119
134     5670     5,669.99479     0.00000092       142     5710     5,709.94440     0.00000974       151     5755     5,754.97224     0.00000482		10.8V	102	5510	5,509.94659	0.00000969
142     5710     5,709.94440     0.00000974       151     5755     5,754.97224     0.00000482			110	5550	5,549.91024	0.00001617
151         5755         5,754.97224         0.00000482			134	5670	5,669.99479	0.00000092
			142	5710	5,709.94440	0.00000974
159 5795 5,794.98583 0.00000245			151	5755	5,754.97224	0.00000482
			159	5795	5,794.98583	0.00000245

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



Page: 226 of 237

Operation Mode	802.11 ac_VHT80	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		42	5210	5,209.91924	0.00001550
		58	5290	5,289.93638	0.00001203
	13.2V	106	5530	5,529.98468	0.00000277
		122	5610	5,609.90851	0.00001631
		138	5690	5,689.93382	0.00001163
-10 °C		155	5775	5,774.93221	0.00001174
		42	5210	5,209.95826	0.00000801
		58	5290	5,289.91124	0.00001678
	10.8V	106	5530	5,529.99932	0.00000012
		122	5610	5,609.93556	0.00001149
		138	5690	5,689.93370	0.00001165
		155	5775	5,774.97066	0.00000508
		42	5210	5,209.97671	0.00000447
		58	5290	5,289.96916	0.00000583
25 <b>℃</b>	12V	106	5530	5,529.93117	0.00001245
		122	5610	5,609.99620	0.00000068
		138	5690	5,689.93372	0.00001165
		155	5775	5,774.94665	0.00000924
		42	5210	5,209.95613	0.00000842
		58	5290	5,289.92032	0.00001506
	13.2V	106	5530	5,529.99984	0.00000003
		122	5610	5,609.90430	0.00001706
		138	5690	5,689.93410	0.00001158
50 ℃		155	5775	5,774.98255	0.00000302
		42	5210	5,209.96762	0.00000621
		58	5290	5,289.96445	0.00000672
	10.8V	106	5530	5,529.97416	0.00000467
		122	5610	5,609.98515	0.00000265
		138	5690	5,689.93400	0.00001160
		155	5775	5,774.95902	0.00000710

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



Page: 227 of 237

## 5 Minutes:

Operation Mode	802.11 a	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

			Measured	Spectrum	A Fraguanay
Test Temp.	Test Voltage	Channel	Frequency	Frequency	<b>Δ</b> Frequency
			(MHz)	(MHz)	(MHz)
		36	5180	5,179.98137	0.00000360
		44	5220	5,219.95838	0.00000797
		48	5240	5,239.93583	0.00001225
		52	5260	5,259.90841	0.00001741
		60	5300	5,299.91801	0.00001547
	13.2V	64	5320	5,319.95141	0.00000913
		100	5500	5,499.93011	0.00001271
		116	5580	5,579.93832	0.00001105
		140	5700	5,699.95696	0.00000755
		144	5720	5,719.94209	0.00001012
		149	5745	5,744.92804	0.00001253
		157	5785	5,784.94425	0.00000964
		165	5825	5,824.91838	0.00001401
-10 °C		36	5180	5,179.92735	0.00001403
		44	5220	5,219.94051	0.00001140
		48	5240	5,239.93171	0.00001303
	10.8V	52	5260	5,259.93775	0.00001183
		60	5300	5,299.99551	0.00000085
		64	5320	5,319.96055	0.00000742
		100	5500	5,499.94320	0.00001033
		116	5580	5,579.98966	0.00000185
		140	5700	5,699.93177	0.00001197
		144	5720	5,719.94202	0.00001014
		149	5745	5,744.95103	0.00000852
		157	5785	5,784.93527	0.00001119
		165	5825	5,824.96879	0.00000536

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



Page: 228 of 237

44 5220 5,219.94070 0.00	001741
, and the second	
48   5240   5 239 99933   0 00	001136
	000013
52 5260 5,259.95295 0.00	000894
60 5300 5,299.96309 0.00	000696
25 °C 12V 64 5320 5,319.94636 0.00	001008
100 5500 5,499.99061 0.00	000171
116 5580 5,579.97503 0.00	000447
140 5700 5,699.92357 0.00	001341
144 5720 5,719.94220 0.00	001010
149 5745 5,744.93655 0.00	001104
157 5785 5,784.91764 0.00	001424
165 5825 5,824.96881 0.00	000535
36 5180 5,179.99319 0.00	000131
44 5220 5,219.90358 0.00	001847
48 5240 5,239.96933 0.00	000585
52 5260 5,259.93200 0.00	001293
60 5300 5,299.91519 0.00	001600
64 5320 5,319.96689 0.00	000622
13.2V 100 5500 5,499.98044 0.00	000356
116 5580 5,579.98791 0.00	000217
140 5700 5,699.92345 0.00	001343
144 5720 5,719.94152 0.00	001022
149 5745 5,744.96524 0.00	000605
157 5785 5,784.93956 0.00	001045
165 5825 5,824.97948 0.00	000352
50 °C 36 5180 5,179.98969 0.00	000199
44 5220 5,219.95546 0.00	000853
48 5240 5,239.93954 0.00	001154
52 5260 5,259.94164 0.00	001110
60 5300 5,299.99320 0.00	000128
10.8V 64 5320 5,319.99919 0.00	000015
100 5500 5,499.92242 0.00	001411
116 5580 5,579.91911 0.00	001450
140 5700 5,699.95505 0.00	000789
144 5720 5,719.94149 0.00	001023
149 5745 5,744.91372 0.00	001502
157 5785 5,784.92685 0.00	001264
165 5825 5,824.98728 0.00	000218

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



Page: 229 of 237

Operation Mode	802.11 n_HT40	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		38	5190	5,189.93716	0.00001211
		46	5230	5,229.96203	0.00000726
		54	5270	5,269.95108	0.00000928
		62	5310	5,309.93078	0.00001304
	13.2V	102	5510	5,509.93474	0.00001184
		110	5550	5,549.98067	0.00000348
		134	5670	5,669.91474	0.00001504
		142	5710	5,709.94437	0.00000974
		151	5755	5,754.93371	0.00001152
-10 °C		159	5795	5,794.92105	0.00001362
	10.8V	38	5190	5,189.94360	0.00001087
		46	5230	5,229.95441	0.00000872
		54	5270	5,269.99545	0.00000086
		62	5310	5,309.99451	0.00000103
		102	5510	5,509.96229	0.00000684
		110	5550	5,549.90076	0.00001788
		134	5670	5,669.98201	0.00000317
		142	5710	5,709.94464	0.00000970
		151	5755	5,754.97750	0.00000391
		159	5795	5,794.90201	0.00001691

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



Page: 230 of 237

38 5190 5,189,97523 0.00000477  46 5230 5,229,90744 0.00001770  54 5270 5,269,95267 0.00000898  62 5310 5,309,90123 0.00001860  102 5510 5,509,95708 0.00000779  110 5550 5,549,94255 0.000001035  134 5670 5,669,99466 0.00000977  151 5755 5,754,91233 0.00001523  159 5795 5,794,93963 0.00001042  46 5230 5,229,95317 0.00000182  46 5230 5,229,95317 0.00000380  62 5310 5,309,99507 0.000000380  62 5310 5,309,99507 0.00000093  13.2V 102 5510 5,509,94146 0.00001062  110 5550 5,549,97599 0.000000433  134 5670 5,669,93885 0.00001062  110 5550 5,549,97599 0.000000638  151 5755 5,754,96502 0.00000688  159 5795 5,794,93247 0.00001165  50 °C  10.8V 102 5510 5,309,98113 0.00000285  54 5270 5,269,9689 0.00000285  54 5270 5,269,9689 0.00000285  554 5270 5,269,9689 0.00000059  62 5310 5,309,98113 0.00000285  54 5270 5,269,9689 0.00000059  62 5310 5,309,98113 0.00000355  10.8V 102 5510 5,509,97797 0.000000400  110 5550 5,549,97576 0.00000437  134 5670 5,669,91561 0.00001488  142 5710 5,709,94453 0.000000437  134 5670 5,669,91561 0.000001488  142 5710 5,709,94453 0.00000047  110 5550 5,549,97576 0.000000437  134 5670 5,669,91561 0.000001481  142 5710 5,709,94453 0.00000071						
54 5270 5,269,95267 0.00000898 62 5310 5,309,90123 0.00001860 1102 5510 5,509,95708 0.00000779 110 5550 5,549,94255 0.00001035 134 5670 5,669,99466 0.0000094 142 5710 5,709,94424 0.00000977 151 5755 5,754,91233 0.00001523 159 5795 5,794,93963 0.00001042 46 5230 5,229,95317 0.00000895 54 5270 5,269,97998 0.00000380 62 5310 5,309,99507 0.00000093 13.2V 102 5510 5,509,94146 0.00001062 110 5550 5,549,97599 0.000000433 134 5670 5,669,93885 0.00001078 142 5710 5,709,94502 0.00000963 159 5795 5,754,96502 0.00000068 159 5795 5,794,93247 0.00001165 5755 5,754,96502 0.00000068 159 5795 5,794,93247 0.00001165 150 5755 5,754,96502 0.00000285 54 5270 5,269,99689 0.00000285 54 5270 5,269,99689 0.00000285 54 5270 5,269,99689 0.00000285 54 5270 5,269,99689 0.00000059 62 5310 5,309,98113 0.00000285 10.8V 102 5510 5,509,97777 0.00000400 110 5550 5,549,97576 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000400 110 5550 5,549,97576 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000488 142 5710 5,709,94453 0.00000971 151 5755 5,754,99821 0.00000031			38	5190	5,189.97523	0.00000477
25 °C  12V  102  5510  5,309,90123  0,00001860  110  5550  5,549,94255  0,00001035  134  5670  5,669,99466  0,00000094  142  5710  5,709,94424  0,00000977  151  5755  5,754,91233  0,00001523  159  5795  5,794,93963  0,00001042  46  5230  5,229,95317  0,00000380  62  5310  5,309,99507  0,000000895  54  5270  5,269,9798  0,000000895  62  5310  5,309,99507  0,00000093  13.2V  102  5510  5,509,94146  0,00001062  110  5550  5,549,97599  0,000000433  134  5670  5,669,93885  0,00001078  142  5710  5,709,94502  0,00000688  159  5795  5,794,93247  0,00001068  151  5755  5,754,96502  0,00000688  159  5795  5,794,93247  0,00001165  50 °C  38  5190  5,189,98619  0,000000266  46  5230  5,229,98508  0,00000285  54  5270  5,269,99689  0,00000059  62  5310  5,309,98113  0,00000059  62  5310  5,309,98113  0,00000059  62  5310  5,509,97797  0,000000400  110  5550  5,549,97576  0,000000437  134  5670  5,669,91561  0,00000437  134  5670  5,669,91561  0,00000041  110  5550  5,754,99821  0,000000971  1551  5755  5,754,99821  0,00000031			46	5230	5,229.90744	0.00001770
25 °C  12V  102  5510  5,509,95708  0,00000779  110  5550  5,549,94255  0,00001035  134  5670  5,669,99466  0,00000094  142  5710  5,709,94424  0,00000977  151  5755  5,754,91233  0,00001523  159  5795  5,794,93963  0,00001042  46  5230  5,229,95317  0,00000380  62  5310  5,309,99507  0,00000093  13.2V  102  5510  5,509,94146  0,00001062  110  5550  5,549,97599  0,000000433  134  5670  5,669,93885  0,00001078  142  5710  5,709,94502  0,0000068  159  5795  5,794,93247  0,00001062  110  5550  5,549,97599  0,00000068  159  5795  5,794,93247  0,00001065  50 °C  38  5190  5,189,98619  0,00000266  46  5230  5,229,98508  0,00000285  54  5270  5,269,99689  0,00000059  62  5310  5,309,98113  0,0000059  62  5310  5,309,98113  0,00000059  62  5310  5,309,98113  0,00000059  62  5310  5,509,97797  0,000000400  110  5550  5,549,97576  0,00000437  134  5670  5,669,91561  0,00000437  134  5670  5,669,91561  0,00000437  134  5670  5,669,91561  0,00000041  142  5710  5,709,94453  0,00000971  1551  5755  5,754,99821  0,00000031			54	5270	5,269.95267	0.00000898
110 5550 5,549,94255 0.00001035 134 5670 5,669,99466 0.00000974 142 5710 5,709,94424 0.00000977 151 5755 5,754,91233 0.00001523 159 5795 5,794,93963 0.00001042  38 5190 5,189,92414 0.00001462 46 5230 5,229,95317 0.00000895 54 5270 5,269,97998 0.00000380 62 5310 5,309,99507 0.00000093 13.2V 102 5510 5,509,94146 0.00001062 110 5550 5,549,97599 0.00000433 134 5670 5,669,93885 0.00001078 142 5710 5,709,94502 0.00000688 159 5795 5,754,96502 0.00000688 159 5795 5,754,96502 0.00000688 159 5795 5,794,93247 0.0001165 50 ℃  10.8V 102 5510 5,509,97179 0.00000040 110 5550 5,549,9759 0.000000355 10.8V 102 5510 5,509,97797 0.000000400 110 5550 5,549,97576 0.00000400 110 5550 5,549,97576 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000047			62	5310	5,309.90123	0.00001860
134 5670 5,669,99466 0.00000094 142 5710 5,709,94424 0.00000977 151 5755 5,754,91233 0.00001523 159 5795 5,794,93963 0.00001042 46 5230 5,229,95317 0.00000895 54 5270 5,269,97998 0.00000380 62 5310 5,309,99507 0.00000093 102 5510 5,509,94146 0.00001062 110 5550 5,549,97599 0.000000433 134 5670 5,669,93885 0.00001078 142 5710 5,709,94502 0.00000688 159 5795 5,754,96502 0.00000688 159 5795 5,794,93247 0.00001165 38 5190 5,189,98619 0.00000266 46 5230 5,229,98508 0.00000266 46 5230 5,229,98508 0.00000285 54 5270 5,269,99689 0.00000059 62 5310 5,309,98113 0.00000285 54 5270 5,269,99689 0.00000059 62 5310 5,309,98113 0.00000059 62 5310 5,309,98113 0.00000059 62 5310 5,309,98113 0.00000059 62 5310 5,509,97797 0.00000400 110 5550 5,549,97576 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.000001488 142 5710 5,709,94453 0.00000971 151 5755 5,754,99821 0.00000031	25 <b>℃</b>	12V	102	5510	5,509.95708	0.00000779
142 5710 5,709,94424 0.00000977 151 5755 5,754,91233 0.00001523 159 5795 5,794,93963 0.00001042 38 5190 5,189,92414 0.00001462 46 5230 5,229,95317 0.00000895 54 5270 5,269,97998 0.00000380 62 5310 5,309,99507 0.00000093 13.2V 102 5510 5,509,94146 0.00001062 110 5550 5,549,97599 0.00000433 134 5670 5,669,93885 0.00001078 142 5710 5,709,94502 0.00000608 159 5795 5,754,96502 0.00000608 159 5795 5,754,96502 0.00000608 159 5795 5,794,93247 0.00001165 50 ℃ 38 5190 5,189,98619 0.00000286 46 5230 5,229,98508 0.00000286 54 5270 5,269,99689 0.00000059 62 5310 5,309,98113 0.00000059 62 5310 5,309,98113 0.00000059 10.8V 102 5510 5,509,97797 0.00000400 110 5550 5,549,97576 0.00000437 134 5670 5,669,91561 0.00000488 142 5710 5,709,94453 0.00000971 151 5755 5,754,99821 0.00000031			110	5550	5,549.94255	0.00001035
151 5755 5,754.91233 0.00001523 159 5795 5,794.93963 0.00001042 38 5190 5,189.92414 0.00001462 46 5230 5,229.95317 0.00000895 54 5270 5,269.97998 0.00000380 62 5310 5,309.99507 0.00000093 13.2V 102 5510 5,509.94146 0.00001062 110 5550 5,549.97599 0.00000433 134 5670 5,669.93885 0.00001078 142 5710 5,709.94502 0.00000608 159 5795 5,794.93247 0.00001165 50 ℃ 38 5190 5,189.98619 0.00000266 46 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000259 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.00000488 142 5710 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031			134	5670	5,669.99466	0.00000094
159 5795 5,794.93963 0.00001042  38 5190 5,189.92414 0.00001462  46 5230 5,229.95317 0.00000895  54 5270 5,269.97998 0.00000380  62 5310 5,309.99507 0.00000093  13.2V 102 5510 5,509.94146 0.00001062  110 5550 5,549.97599 0.00000433  134 5670 5,669.93885 0.00001078  142 5710 5,709.94502 0.00000963  151 5755 5,754.96502 0.00000608  159 5795 5,794.93247 0.00001165  50 °C 38 5190 5,189.98619 0.00000286  46 5230 5,229.98508 0.00000285  54 5270 5,269.99689 0.00000059  62 5310 5,309.98113 0.00000059  62 5310 5,309.98113 0.00000059  62 5310 5,509.97797 0.00000400  110 5550 5,549.97576 0.00000437  134 5670 5,669.91561 0.00000488  142 5710 5,709.94453 0.00000971  151 5755 5,754.99821 0.00000031			142	5710	5,709.94424	0.00000977
38 5190 5,189,92414 0.00001462 46 5230 5,229,95317 0.00000895 54 5270 5,269,97998 0.00000380 62 5310 5,309,99507 0.00000093 13.2V 102 5510 5,509,94146 0.00001062 110 5550 5,549,97599 0.00000433 134 5670 5,669,93885 0.00001078 142 5710 5,709,94502 0.00000963 159 5795 5,754,96502 0.00000608 159 5795 5,794,93247 0.00001165 50 °C 38 5190 5,189,98619 0.00000266 46 5230 5,229,98508 0.00000285 54 5270 5,269,99689 0.00000059 62 5310 5,309,98113 0.00000355 10.8V 102 5510 5,509,97797 0.00000400 110 5550 5,549,97576 0.00000437 134 5670 5,669,91561 0.00000437 134 5670 5,669,91561 0.00000488 142 5710 5,709,94453 0.00000971 151 5755 5,754,99821 0.00000031			151	5755	5,754.91233	0.00001523
13.2V			159	5795	5,794.93963	0.00001042
54 5270 5,269.97998 0.00000380 62 5310 5,309.99507 0.00000093 13.2V 102 5510 5,509.94146 0.00001062 110 5550 5,549.97599 0.00000433 134 5670 5,669.93885 0.00001078 142 5710 5,709.94502 0.00000963 151 5755 5,754.96502 0.00000608 159 5795 5,794.93247 0.00001165 38 5190 5,189.98619 0.00000285 54 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.00001488 142 5710 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031			38	5190	5,189.92414	0.00001462
13.2V  102  5510  5,309.99507  0.00000093  110  5550  5,509.94146  0.00001062  110  5550  5,549.97599  0.00000433  134  5670  5,669.93885  0.00001078  142  5710  5,709.94502  0.00000608  159  5795  5,754.96502  0.00000165  38  5190  5,189.98619  0.00000266  46  5230  5,229.98508  0.00000285  54  5270  5,269.99689  0.00000059  62  5310  5,309.98113  0.00000355  10.8V  102  5510  5,509.97797  0.00000400  110  5550  5,549.97576  0.00000437  134  5670  5,669.91561  0.00000437  134  5670  5,709.94453  0.00000971  151  5755  5,754.99821  0.00000031			46	5230	5,229.95317	0.00000895
13.2V 102 5510 5,509.94146 0.00001062 110 5550 5,549.97599 0.00000433 134 5670 5,669.93885 0.00001078 142 5710 5,709.94502 0.00000963 151 5755 5,754.96502 0.00000608 159 5795 5,794.93247 0.00001165 38 5190 5,189.98619 0.00000286 46 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.00000437 142 5710 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031			54	5270	5,269.97998	0.00000380
110 5550 5,549.97599 0.00000433 134 5670 5,669.93885 0.00001078 142 5710 5,709.94502 0.00000963 151 5755 5,754.96502 0.00000608 159 5795 5,794.93247 0.00001165 38 5190 5,189.98619 0.00000266 46 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.00000437 134 5670 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031		13.2V	62	5310	5,309.99507	0.00000093
134 5670 5,669.93885 0.00001078  142 5710 5,709.94502 0.00000963  151 5755 5,754.96502 0.00000608  159 5795 5,794.93247 0.00001165  38 5190 5,189.98619 0.00000266  46 5230 5,229.98508 0.00000285  54 5270 5,269.99689 0.00000059  62 5310 5,309.98113 0.00000355  10.8V 102 5510 5,509.97797 0.00000400  110 5550 5,549.97576 0.00000437  134 5670 5,669.91561 0.00001488  142 5710 5,709.94453 0.00000971  151 5755 5,754.99821 0.00000031			102	5510	5,509.94146	0.00001062
142 5710 5,709.94502 0.00000963 151 5755 5,754.96502 0.00000608 159 5795 5,794.93247 0.00001165 50 °C 38 5190 5,189.98619 0.00000266 46 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.000001488 142 5710 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031			110	5550	5,549.97599	0.00000433
151 5755 5,754.96502 0.00000608 159 5795 5,794.93247 0.00001165 50 °C 38 5190 5,189.98619 0.00000266 46 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.00001488 142 5710 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031			134	5670	5,669.93885	0.00001078
159 5795 5,794.93247 0.00001165 38 5190 5,189.98619 0.00000266 46 5230 5,229.98508 0.00000285 54 5270 5,269.99689 0.00000059 62 5310 5,309.98113 0.00000355 10.8V 102 5510 5,509.97797 0.00000400 110 5550 5,549.97576 0.00000437 134 5670 5,669.91561 0.00001488 142 5710 5,709.94453 0.00000971 151 5755 5,754.99821 0.00000031			142	5710	5,709.94502	0.00000963
50 °C       38       5190       5,189.98619       0.00000266         46       5230       5,229.98508       0.00000285         54       5270       5,269.99689       0.00000059         62       5310       5,309.98113       0.00000355         10.8V       102       5510       5,509.97797       0.00000400         110       5550       5,549.97576       0.00000437         134       5670       5,669.91561       0.000001488         142       5710       5,709.94453       0.00000971         151       5755       5,754.99821       0.00000031			151	5755	5,754.96502	0.00000608
46     5230     5,229.98508     0.00000285       54     5270     5,269.99689     0.00000059       62     5310     5,309.98113     0.00000355       10.8V     102     5510     5,509.97797     0.00000400       110     5550     5,549.97576     0.00000437       134     5670     5,669.91561     0.00001488       142     5710     5,709.94453     0.00000971       151     5755     5,754.99821     0.00000031			159	5795	5,794.93247	0.00001165
54         5270         5,269.99689         0.00000059           62         5310         5,309.98113         0.00000355           10.8V         102         5510         5,509.97797         0.00000400           110         5550         5,549.97576         0.00000437           134         5670         5,669.91561         0.00001488           142         5710         5,709.94453         0.00000971           151         5755         5,754.99821         0.00000031	50 ℃		38	5190	5,189.98619	0.00000266
10.8V     62     5310     5,309.98113     0.00000355       102     5510     5,509.97797     0.00000400       110     5550     5,549.97576     0.00000437       134     5670     5,669.91561     0.00001488       142     5710     5,709.94453     0.00000971       151     5755     5,754.99821     0.00000031			46	5230	5,229.98508	0.00000285
10.8V     102     5510     5,509.97797     0.00000400       110     5550     5,549.97576     0.00000437       134     5670     5,669.91561     0.00001488       142     5710     5,709.94453     0.00000971       151     5755     5,754.99821     0.00000031			54	5270	5,269.99689	0.00000059
110     5550     5,549.97576     0.00000437       134     5670     5,669.91561     0.00001488       142     5710     5,709.94453     0.00000971       151     5755     5,754.99821     0.00000031			62	5310	5,309.98113	0.00000355
134     5670     5,669.91561     0.00001488       142     5710     5,709.94453     0.00000971       151     5755     5,754.99821     0.00000031		10.8V	102	5510	5,509.97797	0.00000400
142     5710     5,709.94453     0.00000971       151     5755     5,754.99821     0.00000031			110	5550	5,549.97576	0.00000437
151         5755         5,754.99821         0.00000031			134	5670	5,669.91561	0.00001488
			142	5710	5,709.94453	0.00000971
159 5795 5,794.90166 0.00001697			151	5755	5,754.99821	0.00000031
			159	5795	5,794.90166	0.00001697

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

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

www.tw.sqs.com



Page: 231 of 237

Operation Mode	802.11 ac_VHT80	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		42	5210	5,209.96835	0.00000607
		58	5290	5,289.97683	0.00000438
	13.2V	106	5530	5,529.98771	0.00000222
		122	5610	5,609.97559	0.00000435
		138	5690	5,689.93434	0.00001154
-10 °C		155	5775	5,774.91739	0.00001430
		42	5210	5,209.99193	0.00000155
		58	5290	5,289.98446	0.00000294
	10.8V	106	5530	5,529.93490	0.00001177
		122	5610	5,609.90191	0.00001748
		138	5690	5,689.93413	0.00001158
		155	5775	5,774.96142	0.00000668
		42	5210	5,209.99833	0.00000032
		58	5290	5,289.96387	0.00000683
25 <b>℃</b>	12V	106	5530	5,529.98713	0.00000233
		122	5610	5,609.90871	0.00001627
		138	5690	5,689.93432	0.00001154
		155	5775	5,774.98957	0.00000181
		42	5210	5,209.94627	0.00001031
		58	5290	5,289.91266	0.00001651
	13.2V	106	5530	5,529.90215	0.00001769
		122	5610	5,609.91573	0.00001502
		138	5690	5,689.93386	0.00001162
50 ℃		155	5775	5,774.96104	0.00000675
		42	5210	5,209.90942	0.00001739
		58	5290	5,289.93996	0.00001135
	10.8V	106	5530	5,529.92371	0.00001380
		122	5610	5,609.90611	0.00001674
		138	5690	5,689.93414	0.00001157
		155	5775	5,774.97534	0.00000427

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



Page: 232 of 237

# 10 Minutes:

Operation Mode	802.11 a	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

			Measured	Spectrum	A Fraguanay
Test Temp.	Test Voltage	Channel	Frequency	Frequency	<b>Δ</b> Frequency
			(MHz)	(MHz)	(MHz)
		36	5180	5,179.99987	0.00000003
		44	5220	5,219.99269	0.00000140
		48	5240	5,239.99186	0.00000155
		52	5260	5,259.96004	0.00000760
		60	5300	5,299.94841	0.00000973
	13.2V	64	5320	5,319.99844	0.00000029
		100	5500	5,499.93558	0.00001171
		116	5580	5,579.95096	0.00000879
		140	5700	5,699.95010	0.00000875
		144	5720	5,719.94167	0.00001020
		149	5745	5,744.91852	0.00001418
		157	5785	5,784.93968	0.00001043
		165	5825	5,824.94578	0.00000931
-10 °C		36	5180	5,179.94757	0.00001012
	10.8V	44	5220	5,219.92418	0.00001452
		48	5240	5,239.95448	0.00000869
		52	5260	5,259.95089	0.00000934
		60	5300	5,299.92253	0.00001462
		64	5320	5,319.94903	0.00000958
		100	5500	5,499.90467	0.00001733
		116	5580	5,579.95689	0.00000773
		140	5700	5,699.93552	0.00001131
		144	5720	5,719.94222	0.00001010
		149	5745	5,744.94814	0.00000903
		157	5785	5,784.90489	0.00001644
		165	5825	5,824.93540	0.00001109

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



Page: 233 of 237

## S220					T = .=	
25 °C 12V 64 5320 5,239,9262 0.00001477 52 52 5260 5,259,93736 0.00001191 60 5300 5,299,94440 0.00001049 100 5500 5,499,96912 0.00000561 116 5580 5,579,90959 0.00000561 116 5580 5,779,90959 0.00001620 140 5700 5,699,94130 0.00001030 144 5720 5,719,94141 0.00001024 149 5745 5,784,94845 0.00000891 165 5825 5,824,97412 0.00000891 165 5825 5,824,97412 0.00000844 64 5320 5,219,90419 0.00001835 48 5240 5,239,91447 0.00001632 52 5260 5,259,92405 0.00001444 60 5300 5,299,95355 0.00000842 64 5320 5,319,986,77 0.00000249 116 5580 5,579,91296 0.00001448 116 5580 5,579,91296 0.00001488 116 5580 5,579,91296 0.00001488 116 5580 5,579,91296 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,784,98177 0.00000135 165 5825 5,824,921253 0.00000842 64 5320 5,319,99177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,784,98177 0.00000135 165 5825 5,824,921253 0.00000845 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.00000185 165 5825 5,824,921253 0.000000000 168 160 5300 5,299,97536 0.00000000 168 160 5300 5,299,97536 0.00000000 168 160 5300 5,299,97536 0.00000000 168 160 5300 5,299,97536 0.00000000 168 160 5300 5,299,97536 0.00000000 168 160 5300 5,299,97536 0.00000000 168 160 5300 5,299,97536 0.00000000000000000000000000000000000			36	5180	5,179.91325	0.00001675
25 ℃ 12V 64 5320 5,259,93736 0.00001191 60 5300 5,299,94440 0.00001049 60 5300 5,299,94440 0.00001049 60 5300 5,299,94440 0.00001049 61 60 5300 5,499,96912 0.00000561 61 6 5580 5,579,90959 0.00001620 61 60 5580 5,579,90959 0.00001620 61 61 6 5580 5,579,9959 0.00001030 61 61 6 5580 5,579,9959 0.00001030 61 61 6 5580 5,719,94141 0.00001024 61 61 61 61 61 61 61 61 61 61 61 61 61					· ·	
25 °C 12V 64 5320 5,319,91374 0.00001049 100 5500 5,499,96912 0.00000561 116 5580 5,579,90959 0.00001620 140 5700 5,699,94130 0.00001020 144 5720 5,719,94141 0.00001024 149 5745 5,744,95575 0.00000770 157 5785 5,824,97412 0.00000444 149 5745 5,219,94141 0.00001024 149 5745 5,219,94141 0.00001024 149 5745 5,249,94130 0.00001030 144 5720 5,719,94141 0.00001024 149 5745 5,744,95575 0.00000770 157 5785 5,784,94845 0.00000891 165 5825 5,824,97412 0.00000444 149 5745 5,249,94147 0.00001632 144 5220 5,219,90419 0.00001835 148 5240 5,239,91447 0.00001632 152 52 5260 5,259,92405 0.00001444 152 152 52 5260 5,259,92405 0.00001444 152 152 52 5260 5,259,92535 0.00000842 156 5300 5,299,95535 0.00000842 156 5300 5,299,95353 0.00001468 156 5825 5,799,1296 0.00001468 156 5825 5,799,1296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.000003135 165 5825 5,824,92253 0.0000035 164 164 5320 5,339,99599 0.00000008 164 164 5320 5,339,99599 0.00000000 165 164 5320 5,339,99599 0.000000000 165 164 5320 5,339,99599 0.00000000 165 164 5320 5,339,99599				5240	5,239.92262	0.00001477
25 °C  12V  64  5320  5,319,91374  0,00001621  100  5500  5,499,96912  0,00000561  116  5580  5,579,90959  0,00001620  140  5700  5,699,94130  0,00001030  144  5720  5,719,94141  0,00000770  157  5785  5,784,94845  0,00000891  165  5825  5,824,97412  0,00000444  236  5180  5,179,95152  0,00000936  44  5220  5,219,90419  0,00001444  60  5300  5,299,95535  0,00000842  64  5320  5,319,98677  0,00001444  60  5300  5,499,91926  0,00001446  60  5300  5,499,91926  0,00001468  116  5580  5,579,91296  0,00001560  140  5700  5,699,92863  0,00001252  144  5720  5,719,94177  0,00000135  149  5745  5,744,98426  0,000001350  149  5745  5,744,98426  0,000001350  149  5745  5,744,98426  0,000001350  149  5745  5,744,98426  0,000001350  149  5520  5,219,91206  0,00001350  44  5220  5,219,91206  0,00001356  60  5300  5,299,97536  0,00000084  48  5240  5,239,9959  0,00000088  52  52  5260  5,259,92869  0,00001356  60  5300  5,299,97536  0,00000188  10.8V  64  5320  5,319,99108  0,00000188  100  5500  5,499,96385  0,000000657  116  5580  5,579,96566  0,000000797  144  5720  5,719,94227  0,00001009  149  5745  5,744,93797  0,00001009  149  5745  5,744,93797  0,00001009  149  5745  5,744,93797  0,00001000			52	5260	5,259.93736	0.00001191
100 5500 5,499,96912 0.00000561 116 5580 5,579,90959 0.00001620 140 5700 5,699,94130 0.00001030 144 5720 5,719,94141 0.00001024 149 5745 5,744,95575 0.00000770 157 5785 5,784,94845 0.00000941 165 5825 5,824,97412 0.00000444  36 5180 5,779,95152 0.00000744 44 5220 5,219,90419 0.00001835 48 5240 5,239,91447 0.00001632 52 5260 5,259,92405 0.00001444 60 5300 5,299,95535 0.00000842 64 5320 5,319,98677 0.00000249 13.2V 100 5500 5,499,91926 0.00001468 116 5580 5,579,91296 0.00001468 116 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.0000131 149 5745 5,744,98426 0.0000274 157 5785 5,784,98177 0.00000315 165 5825 5,824,92253 0.00000315 165 5825 5,824,92253 0.00000315 165 5825 5,824,92253 0.00000315 165 5825 5,824,92253 0.000001356 60 5300 5,299,97536 0.00000084 44 5220 5,219,91206 0.00001356 60 5300 5,299,97536 0.00000084 10.8V 64 5320 5,319,99108 0.00000085 10.8V 64 5320 5,319,99108 0.00000186 100 5500 5,499,96385 0.000001356 10.8V 64 5320 5,319,99108 0.00000186 100 5500 5,499,96385 0.00000186 100 5500 5,499,96385 0.00000180 100 5500 5,499,96385 0.00000180 100 5500 5,499,96385 0.000000180 149 5745 5,744,93797 0.00001009 149 5745 5,744,93797 0.00001009 149 5745 5,744,93797 0.00001009			60	5300	5,299.94440	0.00001049
116	25 ℃	12V	64	5320	5,319.91374	0.00001621
140 5700 5,699.94130 0.00001030 144 5720 5,719.94141 0.00001024 149 5745 5,744.95575 0.00000770 157 5785 5,784.94845 0.00000891 165 5825 5,824.97412 0.00000444  36 5180 5,179.95152 0.00000936 44 5220 5,219.90419 0.00001835 48 5240 5,239.91447 0.00001632 52 5260 5,259.92405 0.00001444 60 5300 5,299.95535 0.00000842 64 5320 5,319.98677 0.00000249 133.2V 100 5500 5,499.91926 0.00001468 116 5580 5,779.91296 0.00001560 140 5700 5,699.92863 0.000001560 140 5700 5,699.92863 0.00000183 144 5720 5,719.94177 0.0000118 149 5745 5,744.98426 0.0000274 157 5785 5,784.98177 0.00000130 165 5825 5,824.92253 0.00000315 165 5825 5,824.92253 0.00000315 165 5825 5,824.92253 0.000001330 50 ℃			100	5500	5,499.96912	0.00000561
144 5720 5,719.94141 0.00001024 149 5745 5,744.95575 0.00000770 157 5785 5,784.94845 0.00000891 165 5825 5,824.97412 0.00000444  36 5180 5,179.95152 0.00000936 44 5220 5,219.90419 0.00001835 48 5240 5,239.91447 0.00001632 52 5260 5,259.92405 0.00001444 60 5300 5,299.95535 0.00000842 64 5320 5,319.98677 0.00000249 116 5550 5,579.91296 0.00001468 116 5550 5,579.91296 0.00001560 140 5700 5,699.92863 0.00001252 144 5720 5,719.94177 0.00000118 149 5745 5,744.98426 0.00000274 157 5785 5,784.98177 0.00000274 1557 5785 5,784.98177 0.00000135 165 5825 5,824.92253 0.00001330 50 ℃  10.8V 64 5320 5,219.91206 0.00001685 48 5240 5,239.9959 0.00000185 48 5240 5,239.9959 0.00000185 48 5240 5,239.9959 0.00000185 48 5240 5,239.9959 0.00000088 52 5260 5,259.92869 0.00001356 60 5300 5,299.97536 0.00000465 10.8V 64 5320 5,319.99108 0.00000185 116 5580 5,79.96566 0.00000677 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001009 149 5745 5,744.93797 0.00001000			116	5580	5,579.90959	0.00001620
149 5745 5,744.95575 0.00000770 157 5785 5,784.94845 0.00000891 165 5825 5,824.97412 0.00000444  36 5180 5,179.95152 0.00000936 44 5220 5,219.90419 0.00001835 48 5240 5,239.91447 0.00001632 52 5260 5,259.92405 0.00001444 60 5300 5,299.95535 0.00000842 64 5320 5,319.98677 0.00000249 13.2V 100 5500 5,499.91926 0.00001468 116 5580 5,579.91296 0.00001468 140 5700 5,699.92863 0.00001252 144 5720 5,719.94177 0.00001018 149 5745 5,744.98426 0.0000274 157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330  50 ℃ 36 5180 5,179.95092 0.00000947 44 5220 5,219.91206 0.0000188 48 5240 5,239.9959 0.00000088 52 5260 5,259.92869 0.00001356 60 5300 5,299.97536 0.00000185 10.8V 64 5320 5,319.99108 0.00000186 100 5500 5,499.96385 0.000001685 116 5580 5,579.96566 0.00000657 116 5580 5,579.96566 0.00000657 116 5580 5,579.96566 0.00000168 140 5700 5,699.95456 0.00000168 140 5700 5,699.95456 0.000000797 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001009			140	5700	5,699.94130	0.00001030
157 5785 5,784,94845 0.00000891 165 5825 5,824,97412 0.00000444  36 5180 5,179,95152 0.00000936 44 5220 5,219,90419 0.00001835 48 5240 5,239,91447 0.00001632 52 5260 5,259,92405 0.00001444 60 5300 5,299,95535 0.00000842 64 5320 5,319,98677 0.00000249 13.2V 100 5500 5,499,91926 0.00001468 116 5580 5,579,91296 0.00001468 116 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.0000274 157 5785 5,784,98177 0.00000315 165 5825 5,824,92253 0.00001330  50 ℃ 36 5180 5,179,95092 0.00000947 44 5220 5,219,91206 0.00000188 48 5240 5,239,9959 0.00000088 48 5240 5,239,9959 0.00000008 52 5260 5,259,92869 0.00000088 5300 5,299,97536 0.00000185 10.8V 64 5320 5,319,99108 0.00000168 100 5500 5,499,96385 0.00000657 116 5580 5,579,96566 0.00000657 140 5700 5,699,95456 0.00000797 144 5720 5,719,94227 0.00001009 149 5745 5,744,93797 0.00001080 157 5785 5,784,91843 0.000001410			144	5720	5,719.94141	0.00001024
165 5825 5,824.97412 0.00000444  36 5180 5,179.95152 0.00000936  44 5220 5,219.90419 0.00001835  48 5240 5,239.91447 0.00001632  52 5260 5,259.92405 0.00001444  60 5300 5,299.95535 0.00000842  64 5320 5,319.98677 0.00000249  13.2V 100 5500 5,499.91926 0.00001468  116 5580 5,579.91296 0.00001468  116 5580 5,579.91296 0.00001560  140 5700 5,699.92863 0.00001252  144 5720 5,719.94177 0.00001018  149 5745 5,744.98426 0.0000274  157 5785 5,824.92253 0.00001330  50 ℃  36 5180 5,179.95092 0.00000947  44 5220 5,219.91206 0.00001685  48 5240 5,239.99959 0.00000008  52 5260 5,259.92869 0.00001356  60 5300 5,299.97536 0.000001685  48 5240 5,339.99108 0.00000168  100 5500 5,499.96385 0.00000168  100 5500 5,499.96385 0.00000168  100 5500 5,499.96385 0.00000657  116 5580 5,579.96566 0.00000797  144 5720 5,719.94227 0.00001009  149 5745 5,744.93797 0.00001009  149 5745 5,744.93797 0.00001080			149	5745	5,744.95575	0.00000770
36 5180 5,179,95152 0.00000936 44 5220 5,219,90419 0.00001835 48 5240 5,239,91447 0.00001632 52 5260 5,259,92405 0.00001444 600 5300 5,299,95535 0.00000842 64 5320 5,319,98677 0.00000249 13.2V 100 5500 5,499,91926 0.00001468 116 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.0000274 157 5785 5,784,98177 0.00000315 165 5825 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 44 5220 5,219,91206 0.00001685 48 5240 5,239,9959 0.000000947 44 5220 5,219,91206 0.00001685 60 5300 5,299,97536 0.00000088 10.8V 64 5320 5,319,99108 0.00000168 100 5500 5,499,96385 0.00000657 116 5580 5,579,96566 0.00000615 140 5700 5,699,95456 0.000000797 144 5720 5,719,94227 0.00001009 149 5745 5,744,93797 0.00001080 157 5785 5,784,91843 0.00001410			157	5785	5,784.94845	0.00000891
44 5220 5,219,90419 0.00001835 48 5240 5,239,91447 0.00001632 52 5260 5,259,92405 0.00001444 60 5300 5,299,95535 0.00000249 64 5320 5,319,98677 0.00000249 116 5580 5,579,91296 0.00001468 116 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 165 5825 5,29,92869 0.00000947 44 5220 5,219,91206 0.00000947 44 5220 5,219,91206 0.00001685 48 5240 5,239,9959 0.00000008 52 5260 5,259,92869 0.00000088 52 5260 5,259,92869 0.00000008 52 5260 5,259,92869 0.00000088 10.8V 64 5320 5,319,99108 0.00000168 100 5500 5,499,96385 0.00000657 116 5580 5,579,96566 0.00000615 140 5700 5,699,95456 0.00000797 144 5720 5,719,94227 0.00001009 149 5745 5,744,93797 0.00001080 157 5785 5,784,91843 0.00001410			165	5825	5,824.97412	0.00000444
44 5220 5,219,90419 0.00001835 48 5240 5,239,91447 0.00001632 52 5260 5,259,92405 0.00001444 60 5300 5,299,95535 0.00000249 64 5320 5,319,98677 0.00000249 116 5580 5,579,91296 0.00001468 116 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 165 5825 5,219,91206 0.00000947 44 5220 5,219,91206 0.00000947 44 5220 5,219,91206 0.00000088 48 5240 5,239,9959 0.00000008 52 5260 5,259,92869 0.00000088 10.8V 64 5320 5,319,99108 0.00000168 100 5500 5,499,96385 0.00000657 116 5580 5,579,96566 0.00000657 116 5580 5,579,96566 0.00000657 116 5580 5,579,96566 0.00000615 140 5700 5,699,95456 0.00000797 144 5720 5,719,94227 0.00001009 149 5745 5,744,93797 0.00001080 157 5785 5,784,91843 0.00001410			36	5180	5,179.95152	0.00000936
52 5260 5,259,92405 0.00001444 60 5300 5,299,95535 0.00000842 64 5320 5,319,98677 0.00000249 100 5500 5,499,91926 0.00001468 116 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,784,98177 0.00000315 165 5825 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 50 C 36 5180 5,179,95092 0.00000947 44 5220 5,219,91206 0.00001685 48 5240 5,239,9959 0.00000008 52 5260 5,259,92869 0.000000865 60 5300 5,299,97536 0.00000168 100 5500 5,499,96385 0.00000657 116 5580 5,579,96566 0.00000615 140 5700 5,699,95456 0.00000797 144 5720 5,719,94227 0.00001009 149 5745 5,744,93797 0.00001080 157 5785 5,784,91843 0.00001410			44	5220	5,219.90419	0.00001835
13.2V 100 5500 5,299,95535 0.00000842 64 5320 5,319,98677 0.00000249 110 5500 5,499,91926 0.00001468 111 5580 5,579,91296 0.00001560 140 5700 5,699,92863 0.00001252 144 5720 5,719,94177 0.00001018 149 5745 5,744,98426 0.00000274 157 5785 5,784,98177 0.00000315 165 5825 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 165 5825 5,824,92253 0.00001330 44 5220 5,219,91206 0.00000947 44 5220 5,219,91206 0.00000088 48 5240 5,239,99959 0.00000008 52 5260 5,259,92869 0.00000088 52 5260 5,259,92869 0.000001356 60 5300 5,299,97536 0.000001685 100 5500 5,499,96385 0.00000168 100 5500 5,499,96385 0.00000657 116 5580 5,579,96566 0.00000615 140 5700 5,699,95456 0.00000797 144 5720 5,719,94227 0.00001009 149 5745 5,744,93797 0.00001080 157 5785 5,784,91843 0.00001410			48	5240	5,239.91447	0.00001632
13.2V 100 5500 5,499.91926 0.00001468 116 5580 5,579.91296 0.00001560 140 5700 5,699.92863 0.00001252 144 5720 5,719.94177 0.00001018 149 5745 5,744.98426 0.00000274 157 5785 5,824.92253 0.00001330 165 5825 5,824.92253 0.00001330 165 5825 5,824.92253 0.00001330 165 5825 5,219.91206 0.00000947 165 52 5260 5,259.92869 0.00000088 52 52 5260 5,259.92869 0.000001356 10.8V 64 5320 5,319.99108 0.00000168 100 5500 5,499.96385 0.00000657 116 5580 5,579.96566 0.00000615 140 5700 5,699.95456 0.000001090 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001080 157 5785 5,784.91843 0.00001410			52	5260	5,259.92405	0.00001444
13.2V 100 5500 5,499.91926 0.00001468 116 5580 5,579.91296 0.00001560 140 5700 5,699.92863 0.00001252 144 5720 5,719.94177 0.00001018 149 5745 5,744.98426 0.00000274 157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330 165 5825 5,824.92253 0.00001330 165 5820 5,219.91206 0.00000947 165 165 5820 5,219.91206 0.00001685 160 52 52 5260 5,259.92869 0.00000088 160 5300 5,299.97536 0.00000465 160 5300 5,299.97536 0.00000168 165 160 5580 5,319.99108 0.00000168 165 160 5580 5,579.96566 0.00000657 166 5580 5,579.96566 0.00000615 160 5700 5,699.95456 0.00000109 144 5720 5,719.94227 0.00001080 157 5785 5,784.91843 0.00001410			60	5300	5,299.95535	0.00000842
116 5580 5,579.91296 0.00001560 140 5700 5,699.92863 0.00001252 144 5720 5,719.94177 0.00001018 149 5745 5,744.98426 0.00000274 157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330 165 5825 5,824.92253 0.00001330 165 5825 5,824.92253 0.00000947 167 5785 5,219.91206 0.00000947 168 520 5,219.91206 0.00001685 170 52 5260 5,259.92869 0.00000008 170 5500 5,299.97536 0.00000168 170 5500 5,499.96385 0.00000615 170 5700 5,699.95456 0.00000797 170 5745 5,744.93797 0.00001009 170 5745 5,744.93797 0.00001080 170 5785 5,784.91843 0.00001410			64	5320	5,319.98677	0.00000249
140 5700 5,699.92863 0.00001252 144 5720 5,719.94177 0.00001018 149 5745 5,744.98426 0.00000274 157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330 36 5180 5,179.95092 0.00000947 44 5220 5,219.91206 0.00001685 48 5240 5,239.99959 0.00000008 52 5260 5,259.92869 0.00001356 60 5300 5,299.97536 0.00000168 100 5500 5,499.96385 0.00000657 116 5580 5,579.96566 0.00000615 140 5700 5,699.95456 0.00000797 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001080 157 5785 5,784.91843 0.00001410		13.2V	100	5500	5,499.91926	0.00001468
144 5720 5,719.94177 0.00001018 149 5745 5,744.98426 0.00000274 157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330  50 ℃ 36 5180 5,179.95092 0.00000947 44 5220 5,219.91206 0.00001685 48 5240 5,239.99959 0.00000008 52 5260 5,259.92869 0.00001356 60 5300 5,299.97536 0.00000168 10.8V 64 5320 5,319.99108 0.00000168 100 5500 5,499.96385 0.00000657 116 5580 5,579.96566 0.00000615 140 5700 5,699.95456 0.00000797 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001080 157 5785 5,784.91843 0.00001410			116	5580	5,579.91296	0.00001560
149 5745 5,744.98426 0.00000274 157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330 50 °C  36 5180 5,179.95092 0.00000947 44 5220 5,219.91206 0.00001685 48 5240 5,239.99959 0.00000008 52 5260 5,259.92869 0.000001356 60 5300 5,299.97536 0.00000465 10.8V  64 5320 5,319.99108 0.00000168 100 5500 5,499.96385 0.00000657 116 5580 5,579.96566 0.00000615 140 5700 5,699.95456 0.00000797 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001080 157 5785 5,784.91843 0.00001410			140	5700	5,699.92863	0.00001252
157 5785 5,784.98177 0.00000315 165 5825 5,824.92253 0.00001330 36 5180 5,179.95092 0.00000947 44 5220 5,219.91206 0.00001685 48 5240 5,239.9959 0.00000008 52 5260 5,259.92869 0.00001356 60 5300 5,299.97536 0.00000465 10.8V 64 5320 5,319.99108 0.00000168 100 5500 5,499.96385 0.00000657 116 5580 5,579.96566 0.00000615 140 5700 5,699.95456 0.00000797 144 5720 5,719.94227 0.00001009 149 5745 5,744.93797 0.00001080 157 5785 5,784.91843 0.00001410			144	5720	5,719.94177	0.00001018
165 5825 5,824.92253 0.00001330  36 5180 5,179.95092 0.00000947  44 5220 5,219.91206 0.00001685  48 5240 5,239.9959 0.00000008  52 5260 5,259.92869 0.00001356  60 5300 5,299.97536 0.00000465  10.8V 64 5320 5,319.99108 0.00000168  100 5500 5,499.96385 0.00000657  116 5580 5,579.96566 0.00000615  140 5700 5,699.95456 0.00000797  144 5720 5,719.94227 0.00001009  149 5745 5,744.93797 0.00001080  157 5785 5,784.91843 0.00001410			149	5745	5,744.98426	0.00000274
50 ℃  36 5180 5,179.95092 0.00000947  44 5220 5,219.91206 0.00001685  48 5240 5,239.99959 0.00000008  52 5260 5,259.92869 0.000001356  60 5300 5,299.97536 0.00000465  10.8V 64 5320 5,319.99108 0.00000168  100 5500 5,499.96385 0.00000657  116 5580 5,579.96566 0.00000615  140 5700 5,699.95456 0.00000797  144 5720 5,719.94227 0.00001009  149 5745 5,744.93797 0.00001080  157 5785 5,784.91843 0.00001410			157	5785	5,784.98177	0.00000315
44       5220       5,219.91206       0.00001685         48       5240       5,239.99959       0.00000008         52       5260       5,259.92869       0.00001356         60       5300       5,299.97536       0.00000465         100       5500       5,319.99108       0.00000168         100       5500       5,499.96385       0.00000657         116       5580       5,579.96566       0.00000797         140       5700       5,699.95456       0.00000797         144       5720       5,719.94227       0.00001009         149       5745       5,744.93797       0.00001080         157       5785       5,784.91843       0.00001410			165	5825	5,824.92253	0.00001330
48     5240     5,239.99959     0.00000008       52     5260     5,259.92869     0.00001356       60     5300     5,299.97536     0.00000465       100     5320     5,319.99108     0.00000168       100     5500     5,499.96385     0.00000657       116     5580     5,579.96566     0.00000615       140     5700     5,699.95456     0.00000797       144     5720     5,719.94227     0.00001009       149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410	50 °C		36	5180	5,179.95092	0.00000947
52         5260         5,259.92869         0.00001356           60         5300         5,299.97536         0.00000465           10.8V         64         5320         5,319.99108         0.00000168           100         5500         5,499.96385         0.00000657           116         5580         5,579.96566         0.00000615           140         5700         5,699.95456         0.00000797           144         5720         5,719.94227         0.00001009           149         5745         5,744.93797         0.00001080           157         5785         5,784.91843         0.00001410			44	5220	5,219.91206	0.00001685
10.8V     5300     5,299.97536     0.00000465       10.8V     64     5320     5,319.99108     0.00000168       100     5500     5,499.96385     0.00000657       116     5580     5,579.96566     0.00000615       140     5700     5,699.95456     0.00000797       144     5720     5,719.94227     0.00001009       149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410			48	5240	5,239.99959	0.00000008
10.8V     64     5320     5,319.99108     0.00000168       100     5500     5,499.96385     0.00000657       116     5580     5,579.96566     0.00000615       140     5700     5,699.95456     0.00000797       144     5720     5,719.94227     0.00001009       149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410			52	5260	5,259.92869	0.00001356
100         5500         5,499.96385         0.00000657           116         5580         5,579.96566         0.00000615           140         5700         5,699.95456         0.00000797           144         5720         5,719.94227         0.00001009           149         5745         5,744.93797         0.00001080           157         5785         5,784.91843         0.00001410			60	5300	5,299.97536	0.00000465
116     5580     5,579.96566     0.00000615       140     5700     5,699.95456     0.00000797       144     5720     5,719.94227     0.00001009       149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410		10.8V	64			0.00000168
140     5700     5,699.95456     0.00000797       144     5720     5,719.94227     0.00001009       149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410			100	5500	5,499.96385	0.00000657
144     5720     5,719.94227     0.00001009       149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410			116	5580	5,579.96566	0.00000615
149     5745     5,744.93797     0.00001080       157     5785     5,784.91843     0.00001410			140	5700	5,699.95456	0.00000797
157 5785 5,784.91843 0.00001410			144	5720	5,719.94227	0.00001009
			149	5745	5,744.93797	0.00001080
1/5 5005 50010010 00000000			157	5785	5,784.91843	0.00001410
165   5825   5,824.98148   0.00000318			165	5825	5,824.98148	0.00000318

t (886-2) 2299-3279

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



Page: 234 of 237

Operation Mode	802.11 n_HT40	Test Date	2018.05.28
Temperature	:24.8 ℃	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		38	5190	5,189.94070	0.00001143
		46	5230	5,229.93618	0.00001220
		54	5270	5,269.92425	0.00001437
		62	5310	5,309.91030	0.00001689
	13.2V	102	5510	5,509.94188	0.00001055
		110	5550	5,549.92133	0.00001417
		134	5670	5,669.91720	0.00001460
		142	5710	5,709.94451	0.00000972
		151	5755	5,754.97326	0.00000465
-10 °C		159	5795	5,794.92848	0.00001234
	10.8V	38	5190	5,189.91212	0.00001693
		46	5230	5,229.93197	0.00001301
		54	5270	5,269.96827	0.00000602
		62	5310	5,309.93653	0.00001195
		102	5510	5,509.97303	0.00000489
		110	5550	5,549.96812	0.00000574
		134	5670	5,669.90595	0.00001659
		142	5710	5,709.94571	0.00000951
		151	5755	5,754.92018	0.00001387
		159	5795	5,794.97967	0.00000351

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



Page: 235 of 237

		•			
		38	5190	5,189.91528	0.00001632
		46	5230	5,229.96872	0.00000598
		54	5270	5,269.93437	0.00001245
		62	5310	5,309.90226	0.00001841
25 <b>℃</b>	12V	102	5510	5,509.91276	0.00001583
		110	5550	5,549.98996	0.00000181
		134	5670	5,669.97206	0.00000493
		142	5710	5,709.94625	0.00000941
		151	5755	5,754.98711	0.00000224
		159	5795	5,794.95375	0.00000798
		38	5190	5,189.96566	0.00000662
		46	5230	5,229.95226	0.00000913
		54	5270	5,269.92757	0.00001374
	13.2V	62	5310	5,309.94193	0.00001094
		102	5510	5,509.99600	0.00000073
		110	5550	5,549.98239	0.00000317
		134	5670	5,669.96987	0.00000531
		142	5710	5,709.94618	0.00000943
		151	5755	5,754.96555	0.00000599
		159	5795	5,794.94072	0.00001023
50 ℃		38	5190	5,189.90267	0.00001875
		46	5230	5,229.94474	0.00001057
		54	5270	5,269.96874	0.00000593
		62	5310	5,309.98004	0.00000376
	10.8V	102	5510	5,509.93406	0.00001197
		110	5550	5,549.98686	0.00000237
		134	5670	5,669.93547	0.00001138
		142	5710	5,709.94378	0.00000985
		151	5755	5,754.95571	0.00000770
		159	5795	5,794.96992	0.00000519

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



Page: 236 of 237

Operation Mode	802.11 ac_VHT80	Test Date	2018.05.28
Temperature	:24.8 °C	Test By	Hone
Humidity	:63 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	<b>Δ</b> Frequency (MHz)
		42	5210	5,209.93321	0.00001282
		58	5290	5,289.93407	0.00001246
	13.2V	106	5530	5,529.99817	0.00000033
		122	5610	5,609.92640	0.00001312
		138	5690	5,689.93408	0.00001159
-10 °C		155	5775	5,774.94331	0.00000982
		42	5210	5,209.92583	0.00001424
		58	5290	5,289.94904	0.00000963
	10.8V	106	5530	5,529.95149	0.00000877
		122	5610	5,609.91202	0.00001568
		138	5690	5,689.93444	0.00001152
		155	5775	5,774.94011	0.00001037
		42	5210	5,209.93308	0.00001284
	12V	58	5290	5,289.93390	0.00001250
25 <b>℃</b>		106	5530	5,529.94936	0.00000916
		122	5610	5,609.94581	0.00000966
		138	5690	5,689.93376	0.00001164
		155	5775	5,774.94664	0.00000924
		42	5210	5,209.97605	0.00000460
		58	5290	5,289.92778	0.00001365
	13.2V	106	5530	5,529.91949	0.00001456
		122	5610	5,609.91562	0.00001504
		138	5690	5,689.93427	0.00001155
50 °C		155	5775	5,774.98830	0.00000203
		42	5210	5,209.97316	0.00000515
		58	5290	5,289.90566	0.00001783
	10.8V	106	5530	5,529.98156	0.00000333
		122	5610	5,609.99142	0.00000153
		138	5690	5,689.93383	0.00001163
		155	5775	5,774.99656	0.00000060

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



Page: 237 of 237

## 14 ANTENNA REQUIREMENT

# Standard Applicable

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

According to §15.407, If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 14.2 Antenna Connected Construction

The antenna is designed as permanently attached and no consideration of replacement. Please see EUT photo for details.

~ End of 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.

Unless otherwise stated the results shown in this less report efter only to the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet and the sample(s) tested and such as a feet may be prosecuted to the fullest extent of the law.