

# **ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT**

Applicant:	Murata Manufacturing Co., Ltd. 1-10-1, Higashikotari, Nagaokakyo-shi, Kyoto 617-8555 Japan
Product Name:	Communication Module
Brand Name:	muRata
Model No.:	LBEE6ZZ2AJ
Model Difference:	N/A
Report Number:	ER/2020/B0046
FCC ID	VPYLB2AJ
IC: FCC Rule Part: IC RSS:	772C-LB2AJ §15.247, Cat: DTS RSS-247 issue 2 Feb 2017
Issue Date: Date of Test: Date of EUT Received:	Feb. 08, 2021 Nov. 19, 2020 ~ Jan. 12, 2021 Nov. 19, 2020

#### We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT 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.

Approved By:

Sim Chang

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



Revision History					
Report Number Revision Description Issue Date Remark					
ER/2020/B0046	Rev.00	Original.	Feb. 08, 2021	Revised By: Yuri Tsai	

#### Note:

#### 1 · Disclaimer

Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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

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



# **Table of Contents**

1	GENERAL INFORMATION	4
2	SYSTEM TEST CONFIGURATION	7
3	SUMMARY OF TEST RESULTS	.10
4	DESCRIPTION OF TEST MODES	. 11
5	MEASUREMENT UNCERTAINTY	.14
6	CONDUCTED EMISSION TEST	. 15
7	DUTY CYCLE OF TEST SIGNAL	. 19
8	PEAK OUTPUT POWER MEASUREMENT	. 22
9	6dB & 99% BANDWIDTH MEASUREMENT	.41
10	CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT	. 55
11	RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT	. 68
12	POWER SPECTRAL DENSITY	53
13	ANTENNA REQUIREMENT	66

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

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



## **GENERAL INFORMATION**

#### 1.1 Product description

Product Name:	Communication Module
Brand Name:	muRata
Model No.:	LBEE6ZZ2AJ
Model Difference:	N/A
Hardware Version:	1.0
Software Version:	1.0
EUT Series No.:	2AJ-1
Power Supply:	3.85Vdc

Wi-Fi 802.11	Frequency Range	Channels	Rated Power (dBm)		Modulation Technology
b				21.71	DSSS,
g	2412-2462	11		25.74	
n_HT20 ax_HE20			HE:	28.92 (MIMO)	OFDM, OFDMA
n_HT40 ax HE40	2422-2452	7	HE:	28.50 (MIMO)	
Modulation	CCK, DQPSK, DBPSK for DSSS in 802.11b 64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11g 64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11n 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA in 802.11ax				or OFDMA
Transist	Transistion Rate         802.11b: 1/2/5.5/11 Mbps           802.11g: 6/9/12/18/24/36/48/54 Mbps           802.11n_20MHz: 6.5-144.4Mbps           802.11n_40MHz: 13.5-300.0Mbps           802.11ax_20MHz: 0.4-286.8Mbps           802.11ax_40MHz: 0.4-573.5Mbps				

Unless otherwise stated 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。

With アンガスがの 「山根古台市米田町別規成之体の口貫」「Diefut(株の田町町30人) 今年期首本使生べつ 目音面下り、个 可能力を設 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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 is undwind the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.	Np.134,Wu Kung Road, New Taipei Industr	ial Park, Wuku District, New Taipei City,	, Taiwan/新北市五股區新	计走業園區五工路 134 號
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2)	) 2298-0488	www.sgs.com.tv



#### 1.2 Antenna Designation

Antenna Type	Supplier	Port	Antenna Part No.	Freq. (MHz)	Peak An- tenna Gain (dBi)	Worst Antenna Gain
Datab	TE	Port-WLAN2	955-011-901	2412-2462	-1.9	V
Patch TE		Port-WLAN1	955-011-901	2412-2462	-3.3	
Note: Investigation has been done to determine the worst case scenario for the above antennas demonstrated with measurements in this report.						

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

開きたう方式就好 \* Untractiona \* Unt

 SGS Taiwan Ltd.
 Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134號

 台灣檢驗科技股份有限公司
 t (886-2) 2299-3279
 f (886-2) 2298-0488
 www.sgs.com.tw



### 1.3 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247 FCC KDB 558074 D01 15.247 Meas Guidance v05r02 FCC KDB 662911 D01 Multiple Transmitter Output v02r01 RSS-247 issue 2 Feb. 2017 RSS-Gen. issue 5, Amendment 1, March 2019 ANSI C63.10:2013

#### 1.4 Test Facility

SGS Taiwan Ltd. Central RF Lab (TAF code 3702) No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803

FCC Designation number: TW0027

ISED CAB identifier: TW3702

#### 1.5 Special Accessories

There are no special accessories used while test was conducted.

#### **1.6 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.

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

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



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

#### 2.3.2 Conducted Test (RF)

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

#### 2.3.3 Radiated Emissions

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

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



#### 2.4 Measurement Results Explanation Example

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

Radiated emission below 30MHz is measured in a 9m\*9m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

#### 2.4.2 For all conducted test items:

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

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

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



#### 2.5 Configuration of Tested System

#### Fig. 2-1 Radiated Emission configuration



## Fig. 2-2 Conducted (Antenna Port) Configuration Emission



Fig. 2-3 Conducted (AC powerline) Emission Configuration

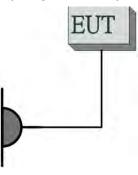


 Table 2-1 Equipment Used in Tested System

ltem	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	L430	R9-XFG0X	N/A	N/A
3	DC Power Sup- ply	Agilent	E3640A	MY52410006	N/A	N/A
4	DC Power Sup- ply	Agilent	E3640A	KR93300208	N/A	N/A

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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





#### SUMMARY OF TEST RESULTS 3

FCC Rules	IC Rules	Description Of Test	Result
§15.207(a)	RSS-Gen §8.8	§8.8 AC Power Line Conducted Conducted	
§15.247(b) (3)	RSS-247 §5.4 d	Peak Output Power	Compliant
§15.247(a)(2)	RSS-247 §5.2 a RSS-Gen §6.7	6dB & 99% Emission Bandwidth	Compliant
§15.205 §15.209 §15.247(d)	RSS-247 §5.5 RSS-Gen §8.9 RSS-Gen §8.10 RSS-Gen §6.13	Radiated & Conducted Band Edge and Spurious Emission	Compliant
§15.247(e)	RSS-247 §5.2 b	Power Spectral Density	Compliant
§15.203 §15.247(b)	N/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="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format 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.



#### **DESCRIPTION OF TEST MODES** 4

4.1 Operated in 2400 ~ 2483.5MHz Band

11 channels are provided for 802.11b/g/n/ax 20M.

CHANNEL	FREQUENCY (MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

9 channels are provided for 802.11n/ax 40M

CHANNEL	FREQUENCY (MHz)
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452

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

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



### 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 and receiving mode is programmed.
- 3. Investigation has been done on all the possible configurations for searching the worst case.

The gevin UE is pre-scanned among below modes.

Modulation	Transmission Chain	Single Transmission Spatial	Multiple Transmission Spatial
🛛 802.11 b	🖾 Ch0 🖾 Ch1 🗆 Ch2 🗆 Ch3	🗆 1TX	🗆 2TX
🛛 802.11 g	🖾 Ch0 🖾 Ch1 🗆 Ch2 🗆 Ch3	🗆 1TX	□ 2TX
🛛 802.11 n	🖾 Ch0 🖾 Ch1 🗆 Ch2 🗆 Ch3		🛛 MIMO
⊠ 802.11 ax	🖾 Ch0 🖾 Ch1 🗆 Ch2 🗆 Ch3		🛛 MIMO

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

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



#### 4.3 Radiated Emission Test:

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT		
	RADIATED EMISSION TEST (BELOW 1 GHz)						
802.11g	1 to 11	6	OFDM	6	Ch0		
802.11ax 40M	3 to 9	6	OFDM	MCS 0	MIMO		
	RADIAT	ED EMISSIC	N TEST (ABOVE	E 1 GHz)			
802.11b	1 to 11	1, 6, 11	DSSS	1	Ch0		
802.11g	1 to 11	1, 6, 11	OFDM	6	Ch0		
802.11n 20M	1 to 11	1, 6, 11	OFDM	MCS 8	MIMO		
802.11ax 20M	1 to 11	1, 6, 11	OFDMA	MCS 0	MIMO		
802.11n 40M	3 to 9	3, 6, 9	OFDM	MCS 8	MIMO		
802.11n/ax 40M	3 to 9	3, 6, 9	OFDMA	MCS 0	MIMO		

#### Note:

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

#### 4.4 Antenna Port Conducted Mesurement:

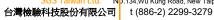
CONDUCTED TEST						
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT	
802.11b	1 to 11	1, 6, 11	DSSS	1	Ch0	
802.11g	1 to 11	1, 6, 11	OFDM	6	Ch0	
802.11n 20M	1 to 11	1, 6, 11	OFDM	MCS 8	MIMO	
802.11n 40M	3 to 9	3, 6, 9	OFDM	MCS 8	MIMO	

CONDUCTED TEST						
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODU- LATION	RU CONFIGURATION	DATA RATE (Mbps)	ANTENNA PORT
802.11ax 20M	1 to 11	1, 6, 11	OFDMA	Full, 26/0, 52/37, 106/53	MCS 0	MIMO
802.11ax 40M	3 to 9	3, 6, 9	IMA	Full, 242/61, 242/62	MCS 0	ΜΙΜΟ

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com">http://www.sgs.com</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 coannot be reproduced at the reproduced to the sole of the so 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. Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488 www.sgs.com.tw



## **5 MEASUREMENT UNCERTAINTY**

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.34 dB
Peak Output Power	+/- 1 dB
6dB Bandwidth	+/- 1.54 Hz
100 KHz Bandwidth Of Frequency Band Edges	+/- 1.69 dB
Peak Power Density	+/- 1.54 dB
Temperature	+/- 0.4 °C
Humidity	+/- 3.5 %
DC / AC Power Source	DC= +/- 1%, AC= +/- 1%

Radiated Spurious Emission Measurement Uncertainty						
	+/-	2.64	dB	9kHz~30MHz: +-2.3dB		
Polorization: Vortical	+/-	4.93	dB	30MHz - 1000MHz: +/- 3.37dB		
Polarization: Vertical	+/-	4.81	dB	1GHz - 18GHz: +/- 4.04dB		
	+/-	4.52	dB	18GHz - 40GHz: +/- 4.04dB		
	+/-	2.64	dB	9kHz~30MHz: +-2.3dB		
Polarization: Horizontal	+/-	4.45	dB	30MHz - 1000MHz: +/- 4.22dB		
Polarization: Horizontal	+/-	4.81	dB	1GHz - 18GHz: +/- 4.08dB		
	+/-	4.52	dB	18GHz - 40GHz: +/- 4.08dB		

#### Note:

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

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



## 6 CONDUCTED EMISSION TEST

#### 6.1 Standard Applicable

Frequency range within 150kHz to 30MHz 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			
Note					
1. The lower limit shall apply at the transition frequencies					
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50					
MHz.					

#### 6.2 Measurement Equipment Used

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
EMI Test Receiver	R&S	ESCI 7	100759	07/13/2020	07/12/2021		
LISN	SCHWARZ- BECK	NSLK 8127	8127-465	04/09/2020	04/08/2021		
Coaxial Cables	N/A	Coaxial Cable	161207	12/07/2020	12/06/2021		
Test Software	audix	e3	Ver. 6.11- 20180413	N.C.R	N.C.R		

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

#### 6.3 EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI 63.10:2013.
- The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
- 3. The LISN was connected with 120Vac/60Hz power source.

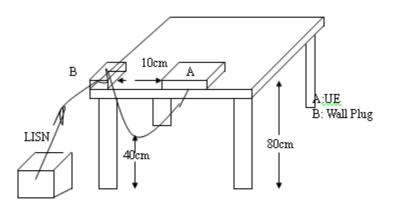
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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



## 6.4 Test SET-UP (Block Diagram of Configuration)



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

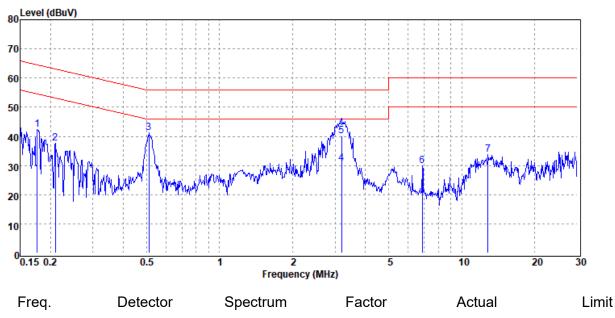


## AC POWER LINE CONDUCTED EMISSION TEST DATA

Report Number	:ER-2020-B0046
Test Mode	:WLAN 2.4G
Power	:AC 120V/60Hz
Probe	:L
Note:	:

Test Site	:Conduction 6F
Test Date	:2021-01-12
Temp./Humi.	:19.0/49
Engineer	:Ricky

Margin



		•				5
	Mode	Reading Level		FS		
 MHz	PK/QP/AV	dBµV	dB	dBµV	dBµV	dB
0.18	Peak	42.20	0.04	42.24	64.64	-22.40
0.21	Peak	37.51	0.04	37.55	63.23	-25.68
0.51	Peak	40.98	0.16	41.14	56.00	-14.86
3.19	Average	30.42	0.39	30.81	46.00	-15.19
3.19	QP	39.62	0.39	40.01	56.00	-15.99
6.88	Peak	29.21	0.67	29.88	60.00	-30.12
12.85	Peak	32.83	0.96	33.79	60.00	-26.21

Unless otherwise stated 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。

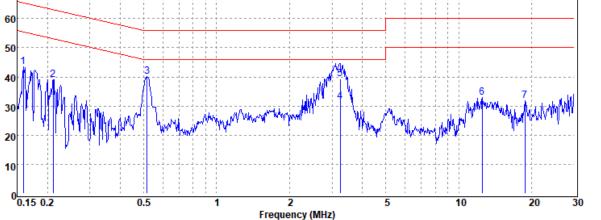
時から方方式就例 「山根古部未買到風心之後の四見見「同時山後の四葉留かび人。今年報告未認年公司者面計可」、小可助力夜襲。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com">http://www.sgs.com.tw/Terms-and-Conditions</a> are to 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 cannot be reproduced to the company of the terms and obligations under the transaction documents. This document cannot be reproduced to the terms of the terms and the terms of the terms of the ter 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.	₽.134,Wu Kung Road, New Taipei Industr	al Park, Wuku District, New Taipei City, Taiwan/೫	行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	f (886-2) 2298-0	0488 www.sgs.com.tw



#### Report No.: ER/2020/B0046 Page: 18 of 166

Report Number	:ER-2020-B0046	Test Site	:Conduction 6F
Test Mode	:WLAN 2.4G	Test Date	:2021-01-12
Power	:AC 120V/60Hz	Temp./Humi.	:19.0/49
Probe	:N	Engineer	:Ricky
Note:	:		
80 Level (dBuV)			
70			
		1 I I I I I I I I I I I I I I I I I I I	



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS		
MHz	PK/QP/AV	dBµV	dB	dBµV	dBµV	dB
0.16	Peak	43.46	0.00	43.46	65.52	-22.06
0.21	Peak	39.09	0.00	39.09	63.14	-24.05
0.52	Peak	40.13	0.10	40.23	56.00	-15.77
3.24	Average	31.43	0.10	31.53	46.00	-14.47
3.24	QP	39.21	0.10	39.31	56.00	-16.69
12.52	Peak	32.81	0.13	32.94	60.00	-27.06
18.72	Peak	31.76	0.19	31.95	60.00	-28.05

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format 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. N	p.134,Wu Kung Road, New Taipei Industria	al Park, Wuku District, New Taipei City, Taiwan/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	f (886-2) 2298-0488	www.sgs.com.tv

www.sgs.com.tw



## DUTY CYCLE OF 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.

#### 7.1 Measurement Procedure:

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

#### 7.2 Duty Cycle:

	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log ( 1/Duty Cycle )	1/T (kHz)	VBW setting (kHz)
802.11b	98.08	0.00	0.00	0.01
802.11g	99.15	0.00	0.00	0.01
802.11n_20	99.69	0.00	0.00	0.01
802.11n_40	99.71	0.00	0.00	0.01
802.11ax_20	99.69	0.00	0.00	0.01
802.11ax_40	99.71	0.00	0.00	0.01

b = 98.08%, g = 99.15%, n\_ht\_20 = 99.69% n\_ht\_40 = 99.71% Duty Cycle Factor:  $10 * \log(1/0.9808) = 0.08$ Duty Cycle Factor:  $10 * \log(1/0.9915) = 0.04$ Duty Cycle Factor: 10 \* log(1/0.9969) = 0.01 Duty Cycle Factor:  $10 * \log(1/0.9971) = 0.01$ 

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

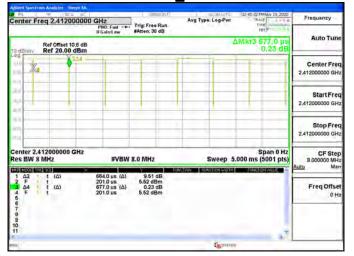
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs">http://www.sgs</a> documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs</a>. Attention is drawn to the limitation nditions and for electronic format Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject or remission contained on a contract of the subject of remission of a land of the subject of remission of a land of the subject of remission of a land of the subject of remission of the subject of 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.



#### Report No.: ER/2020/B0046 Page: 20 of 166

## 7.3 Duty Cycle test plots

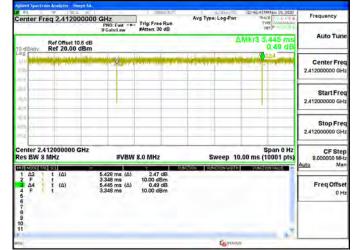
#### 802.11b 20MHz



#### 802.11g\_20MHz

AL	or Stop at		SENCED	400MM/TO	102:47:16 WNov 19, 2020	
enter F	req 2.41200000	PNO: Fast	Trig: Free Run	Avg Type: Log-Pwr	TRACE THE STATE	Frequency
		IF Gain:Low	#Atten: 30 dB		tet P	Auto Tun
vib/db	Ref Offset 10.6 dE Ref 20.00 dBm			4	Mkr3 1.993 ms 0.61 dB	Huto Tuli
00	W	344	in the second second	the state of the state of the	A DOCTOR STORE	Center Fre
100		and a strength	1	10.00	1000	2.412000000 GH
0.00	_					
0.0						StartFree
10			1			2.412000000 GH
0						2.5
- 100			_			Stop Fre 2.412000000 GH
200						
enter 2. es BW 8	412000000 GHz	-			Span 0 Hz	CF Step
es BW a		#VBW	8.0 MHz	Sweep 10	.00 ms (10001 pts)	8.000000 MH Auto Ma
1 42	t (Δ)	1.976 ms (Δ)	-1.36 dB	Include Trenction Work	+ DHOLIDH WALKE	
2 F 3 44	t (Δ)	1.414 ms 1.993 ms (Δ)	9.79 dBm 0.51 dB			Freq Offse
6		1.414 ms	9.79 dBm			OH
6						_
8 9 0						
ĭ						
G				Constantion		

#### 802.11n 20MHz



#### 802.11n 40MHz

enter Fi	reg 2.42200000		I SENSE INT	Avg Type: Log-Pwr	102:51:30 WHAV 19, 2020 THACE	Frequency
		PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB		DET P	1.00
to dB/div	Ref Offset 10.6 de Ref 20.00 dBm			Δ	Mkr3 5.444 ms -0.41 dB	Auto Tun
	n de la competencia d			10 - 10 - 10	1. State	Center Free 2.422000000 GH
1000 2010 10,0						Start Fre
A) fi 5) () 1070.						Stop Fre 2.422000000 GH
Center 2.4 Res BW 8	422000000 GHz 3 MHz		8.0 MHz	Sweep 10	Span 0 Hz .00 ms (10001 pts)	CF Ste 8.000000 MH
1 Δ2 2 F 3 Δ4	t (Δ) t (Δ)	5.428 ms (Δ) 3.577 ms 5.444 ms (Δ)	3.62 dB 1.24 dBm -0.41 dB	NETION BUNCINGN WEATH	FUNCTION WALLIE	Auto Ma
466789	i w	3.577 ms	1.24 dBm			01
10						
5G				TEATI/I		

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

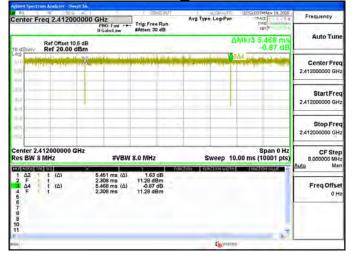
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.documents">http://www.documents</a>, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.documents</a>, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limita nditions and for electronic format //Terr Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject of remission contained of a subject of remission and contained of remission and re 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. N	p.134,Wu Kung Road, New Taipei Indust	rial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北	上產業園區五工路 134 號
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tv



#### 802.11ax 20MHz



#### 802.11ax\_40MHz

	um Analyzer - Sk					
Center F		00000 GHz	Trig: Free Run	Avg Type: Log-Pwr	12:54 10 WM ADV 19 2020 THACE	Frequency
10 dB/div	Ref Offset 10 Ref 20.00	IFGain:Low	#Atten: 30 dB	A	ref)* Mkr3 5.467 ms -0.76 dB	Auto Tune
		×			304	Center Freq 2.422000000 GHz
10.0°						Start Free 2.422000000 GH:
9) () ( (0) 0, ( //) (0) () () () () () () () () () () () () ()						Stop Free 2.422000000 GH:
enter 2. les BW 8			BW 8.0 MHz	Sweep 10.	Span 0 Hz 00 ms (10001 pts)	CF Step 8.000000 MH Auto Mar
1 2 F 3 4 F 6 7 8 9 10 11	t (Δ) t (Δ)	5.451 ms 2.685 ms 5.467 ms 2.685 ms	(Δ) 4.18 dB 3.18 dBm			Freq Offset 0 Hz
și șg				ib granns		

Unless otherwise stated 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。

時から方方式就好。「山椒古雪素催買別風心(冬油口貫見)「同時山(茶油(塩床留)20人。今本酸古赤蛇牛公司者)固計可。不可前加皮酸。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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 channels the time of the limit terms of the limit terms the time terms 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. N	p.134,Wu Kung Road, New Taipei Industrial	Park, Wuku District, New Taipei City	, Taiwan/新北市五股區	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	f (886-2)	2298-0488	www.sgs.com.tw



# 8 PEAK OUTPUT POWER MEASUREMENT

## 8.1 Standard Applicable

For systems using digital modulation in the 2400-2483.5 MHz bands, the limit for peak output power is 1Watt and the e.i.r.p. shall not exceed 4 W.

If the transmitting antenna of directional gain greater than 6dBi are used the peak output power form the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6dBi.

In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of Antenna exceeds 6dBi.

#### Note:

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

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

where

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

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

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

 $G_k$  is the gain in dBi of the kth antenna.

The antenna gain is not grater than 6 dBi. Therefore, reduction of power is not required.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

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

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

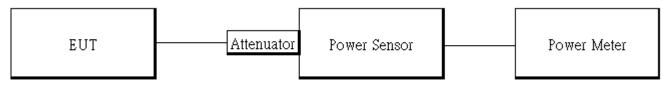


#### 8.2 Measurement Equipment Used

Conducted Emission Test Site								
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.			
Power Meter	Anritsu	ML2496A	1804001	02/20/2020	02/19/2021			
Power Sensor	Anritsu	MA2411B	1726104	02/20/2020	02/19/2021			
Power Sensor	Anritsu	MA2411B	1726107	02/20/2020	02/19/2021			
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021			
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021			
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021			

### 8.3 Test Set-up

Power Meter:



#### 8.4 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

#### **Power Meter:**

It is used as the auxiliary test equipment to conduct the output power measurement.

4. Record the max. Reading as observed from Spectrum or Power Meter.

# \* Note: The duty cycle factor is compensated to obtain the maximum value of measurement in average.

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are 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="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced atteration, 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.



#### 8.5 Measurement Result

802.1	1b Ch0				
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	21.66	30.00	PASS
6	2437	1	21.71	30.00	PASS
11	2462	1	21.38	30.00	PASS
802.1	1b Ch0				
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	1	18.97	30.00	PASS
6	2437	1	18.83	30.00	PASS
11	2462	1	18.99	30.00	PASS
802. CH	11b Ch1 Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	21.34	30.00	PASS
6	2437	1	21.26	30.00	PASS
11	2462	1	21.13	30.00	PASS
802.	11b Ch1	·			•
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	1	18.84	30.00	PASS
6	2437	1	18.74	30.00	PASS
11	2462	1	18.94	30.00	PASS

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

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



802.1	1g Ch0				
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	25.59	30.00	PASS
6	2437	6	25.74	30.00	PASS
11	2462	6	25.67	30.00	PASS
802.1	1g Ch0				
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	6	18.96	30.00	PASS
6	2437	6	18.78	30.00	PASS
11	2462	6	18.94	30.00	PASS
802.	11g Ch1	r			
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	25.49	30.00	PASS
6	2437	6	25.56	30.00	PASS
11	2462	6	25.62	30.00	PASS
802.	11g Ch1				
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	6	18.85	30.00	PASS
6	2437	6	18.76	30.00	PASS

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com">http://www.sgs.com.tw/Terms-and-Conditions</a> at the time of its intervention only and within 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 coannot be reproduced to the reproduced to the sole of the sole of the sole of the sole of the transaction documents. This document coannot be reproduced to the sole of 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. Np. 134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488 www.sgs.com.tw



802.1 <sup>-</sup>	1n_HT20N	I Ch0			
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	25.88	30.00	PASS
6	2437	MCS0	25.88	30.00	PASS
11	2462	MCS0	25.55	30.00	PASS
802.1	1n_HT20N	l Ch0	·		-
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	18.97	30.00	PASS
6	2437	MCS0	18.83	30.00	PASS
11	2462	MCS0	18.99	30.00	PASS
802.	11n_HT20	M Ch1			
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	25.81	30.00	PASS
6	2437	MCS0	25.72	30.00	PASS
11	2462	MCS0	25.48	30.00	PASS
802.	11n_HT20	M Ch1			
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	18.82	30.00	PASS
	2437	MCS0	18.73	30.00	PASS
6	2437	11000	10.70	00100	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format 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. Np. 134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488 www.sgs.com.tw



802.1	1n_HT201	M MIMO					
СН	Freq. (MHz)	Data Rate	Po	Dutput wer	Total Peak Output Power	Limit (dBm)	RESULT
	()		CH 0	CH 1	(dBm)	()	
1	2412	MCS8	25.72	25.62	28.68	30.00	PASS
6	2437	MCS8	25.81	25.74	28.79	30.00	PASS
11	2462	MCS8	25.54	25.38	28.47	30.00	PASS
802.1	1n_HT20	M MIMO			·		
			Avg. C	Dutput	Max. Avg. Output		
СН	Freq.	Data	Po	wer	include tune up	Limit	RESULT
	(MHz)	Rate	(dE	3m)	tolerance Power	(dBm)	RESULI
			CH 0	CH 1	(dBm)		
1	2412	MCS8	18.96	18.72	21.87	30.00	PASS
6	2437	MCS8	18.71	18.56	21.66	30.00	PASS
11	2462	MCS8	18.95	18.66	21.83	30.00	PASS

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



002.1	1ax_HE20	JM Chu				
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT
			full	24.80	30.00	PASS
1	2412	MCS0	26/0	26.13	30.00	PASS
	2712	101030	52/37	25.76	30.00	PASS
			106/53	25.83	30.00	PASS
6	2437	MCS0	full	24.88	30.00	PASS
			full	24.91	30.00	PASS
11	2462		26/8	25.84	30.00	PASS
	2402		52/40	25.77	30.00	PASS
			106/54	25.54	30.00	PASS
802.1	1ax_HE20	OM Ch0				
СН	Freq.	Data	RU	Max. Avg. Output include tune up	Limit	
	(MHz)	Rate	Config	tolerance Power (dBm)	(dBm)	RESULT
	(MHz)			tolerance Power		PASS
		Rate	Config	tolerance Power (dBm)	(dBm)	
1	<b>(MHz)</b> 2412		Config full	tolerance Power (dBm) 16.93	(dBm) 30.00	PASS
1		Rate	Config full 26/0	tolerance Power (dBm) 16.93 16.89	(dBm) 30.00 30.00	PASS PASS PASS PASS
1		Rate	Config full 26/0 52/37	tolerance Power (dBm) 16.93 16.89 16.92	(dBm) 30.00 30.00 30.00	PASS PASS PASS PASS PASS
	2412	Rate MCS0	Config full 26/0 52/37 106/53	tolerance Power (dBm) 16.93 16.89 16.92 16.99	(dBm) 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS
6	2412	Rate MCS0 MCS0	Config full 26/0 52/37 106/53 full	tolerance Power (dBm) 16.93 16.89 16.92 16.99 16.62	(dBm) 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS PASS
	2412	Rate MCS0	Config full 26/0 52/37 106/53 full full	tolerance Power (dBm) 16.93 16.89 16.92 16.99 16.62 16.85	(dBm) 30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS

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



802.1	1ax_HE20	OM Ch1				
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT
			full	24.72	30.00	PASS
1	2412	MCS0	26/0	26.26	30.00	PASS
'	2712	101000	52/37	25.79	30.00	PASS
			106/53	25.81	30.00	PASS
6	2437	MCS0	full	24.63	30.00	PASS
			full	24.33	30.00	PASS
11	2462	462 MCS0	26/8	25.59	30.00	PASS
	2102		52/40	25.52	30.00	PASS
			106/54	25.56	30.00	PASS
802.1	1ax_HE20	OM Ch1				
				Max. Avg. Output		
СН	Freq.	Data	RU	include tune up	Limit	RESULT
	(MHz)	Rate	Config	tolerance Power	(dBm)	
				(dBm)		
			full	16.58	30.00	PASS
1	2412	MCS0	26/0	16.98	30.00	PASS
	2112	Wiese	52/37	16.72	30.00	PASS
			106/53	16.76	30.00	PASS
6	2437	MCS0	full	16.52	30.00	PASS
			full	16.57	30.00	PASS
11	2462	MCS0	26/8	16.90	30.00	PASS
	2102	10000	52/40	16.88	30.00	PASS
			106/54	16.98	30.00	PASS

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



002.1	1ax_HE20	OM MIMC	)						
СН	Freq. (MHz)	Data Rate	RU Config	Peak C Pov CH 0	Output wer CH 1	Total Peak Output Power (dBm)	Limit (dBm)	RESULT	
			full	25.12	25.07	28.11	30.00	PASS	
			-			-		PASS	
1	2412	MCS0	26/0	26.03	25.79	28.92	30.00	PASS	
			52/37	25.76	25.61	28.70	30.00		
	0.407		106/53	25.74	25.67	28.72	30.00	PASS	
6	2437	MCS0	full	24.88	24.46	27.69	30.00	PASS	
			full	24.69	24.48	27.60	30.00	PASS	
11	2462	MCS0	26/8	25.76	25.32	28.56	30.00	PASS	
	2402		mooo	52/40	25.88	25.41	28.66	30.00	PASS
			106/54	25.84	25.35	28.61	30.00	PASS	
802.1	1ax_HE20	OM MIMC	)						
				Avg. C	Output	Max. Avg. Output			
СН	Freq.	Data	RU	Pov	wer	include tune up	Limit	RESULT	
	(MHz)	Rate	Config	(dE	Sm)	tolerance Power	(dBm)	KL30L1	
				<b>N</b> <sup>-</sup>	,	torcrunce rower	(		
				CH 0	CH 1	(dBm)	()		
			full	•			30.00	PASS	
1	2/12	MCSO	full 26/0	CH 0	CH 1	(dBm)	• •	PASS PASS	
1	2412	MCS0		<b>CH 0</b> 16.91	CH 1 16.48	(dBm) 19.72	30.00		
1	2412	MCS0	26/0	<b>CH 0</b> 16.91 17.18	CH 1 16.48 16.51	(dBm) 19.72 19.88	30.00 30.00	PASS	
1	2412 2437	MCS0 MCS0	26/0 52/37	CH 0 16.91 17.18 17.27	CH 1 16.48 16.51 16.63	(dBm) 19.72 19.88 19.99	30.00 30.00 30.00	PASS PASS	
			26/0 52/37 106/53	CH 0 16.91 17.18 17.27 16.91	CH 1 16.48 16.51 16.63 16.28	(dBm) 19.72 19.88 <b>19.99</b> 19.63	30.00 30.00 30.00 30.00	PASS PASS PASS	
6	2437	MCSO	26/0 52/37 106/53 full	CH 0 16.91 17.18 17.27 16.91 17.28	CH 1 16.48 16.51 16.63 16.28 16.61	(dBm) 19.72 19.88 <b>19.99</b> 19.63 19.98	30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS	
			26/0 52/37 106/53 full full	CH 0 16.91 17.18 17.27 16.91 17.28 16.87	CH 1 16.48 16.51 16.63 16.28 16.61 16.52	(dBm) 19.72 19.88 19.99 19.63 19.98 19.72	30.00 30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS	

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



802.11	In_HT40N	I Ch0							
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT				
3	2422	MCS0	24.86	30.00	PASS				
6	2437	MCS0	25.11	30.00	PASS				
9	2452	MCS0	24.99	30.00	PASS				
802.11	802.11n_HT40M Ch0								
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT				
3	2422	MCS0	17.90	17.90 30.00					
6	2437	MCS0	17.74	30.00	PASS				
9	2452	MCS0	17.98	30.00	PASS				
802. <sup>-</sup> CH	11n_HT40 Freq. (MHz)	M Ch1 Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT				
3	2422	MCS0	24.83	30.00	PASS				
6	2437	MCS0	24.60	30.00	PASS				
9	2452	MCS0	24.93	30.00	PASS				
802.1	11n_HT40	M Ch1							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT				
3	2422	MCS0	17.60	30.00	PASS				
6	2437	MCS0	17.52	30.00	PASS				
9	2452	MCS0	17.92	30.00	PASS				

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



802.1	1n_HT40	M MIMO					
СН	Freq. (MHz)	Data Rate	Peak Output Power		Total Peak Output Power	Limit (dBm)	RESULT
	()		CH 0	CH 1	(dBm)	()	
3	2422	MCS8	24.94	24.78	27.87	30.00	PASS
6	2437	MCS8	25.03	24.63	27.84	30.00	PASS
9	2452	MCS8	24.91	24.89	27.91	30.00	PASS
802.1	1n_HT40	M MIMO					
			Avg. C	Dutput	Max. Avg. Output		
СН	Freq.	Data	Po	wer	include tune up	Limit	RESULT
CII	(MHz)	Rate	(dE	Bm)	tolerance Power	(dBm)	KL30L1
			CH 0	CH 1	(dBm)		
3	2422	MCS8	17.91	17.39	20.68	30.00	PASS
6	2437	MCS8	17.75	17.54	20.67	30.00	PASS
9	2452	MCS8	17.98	17.81	20.92	30.00	PASS

802.1	1ax_HE40	M Ch0				
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	24.94	30.00	PASS
J	2422	10050	242/61	25.31	30.00	PASS
6	2437	MCS0	full	24.89	30.00	PASS
9	2452	MCS0	full	24.69	30.00	PASS
	2452	10050	242/62	25.32	30.00	PASS
802.1	1ax_HE40	M Ch0				
СН	Freq. (MHz)	Data Rate	RU Config	Max. Avg. Output include tune up tolerance Power	Limit (dBm)	RESULT
				(dBm)		
3	2422	MCS0	full	16.98	30.00	PASS
5	2722	10000	242/61	15.88	30.00	PASS
6	2437	MCS0	full	16.89	30.00	PASS
9	2452	MCS0	full	16.93	30.00	PASS
Ĺ	2102	10000	242/62	15.98	30.00	PASS

時から方方式就好。「山椒古雪素催買別風心(冬油口貫見)「同時山(茶油(塩床留)20人。今本酸古赤蛇牛公司者)固計可。不可前加皮酸。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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 channels the time of the limit terms of the limit terms the time terms 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. N	p.134,Wu Kung R
台灣檢驗科技股份有限公司	t (886-2) 2

Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



802.1	802.11ax_HE40M Ch1								
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT			
3	2422	MCS0	full	24.63	30.00	PASS			
J		10000	242/61	25.42	30.00	PASS			
6	2437	MCS0	full	24.64	30.00	PASS			
9	2452	MCS0	full	24.57	30.00	PASS			
	2452	1010-30	242/62	25.14	30.00	PASS			
802.1	1ax_HE40	M Ch1							
СН	Freq. (MHz)	Data Rate	RU Config	Max. Avg. Output include tune up tolerance Power	Limit (dBm)	RESULT			
	. ,		5	(dBm)					
3	2422	MCS0	full	16.83	30.00	PASS			
5	2422	1010-30	242/61	15.99	30.00	PASS			
6	2437	MCS0	full	16.73	30.00	PASS			
9	2452	MCS0	full	16.76	30.00	PASS			
Ĺ	2752	101030	242/62	15.95	30.00	PASS			

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



802.1	1ax_HE40	OM MIMC	)					
СН	Freq. (MHz)	Data Rate	RU Config	Peak C Pov	Dutput wer	Total Peak Output Power	Limit (dBm)	RESULT
	(11112)	Nate	comig	CH 0	CH 1	(dBm)	(d bill)	
3	2422	MCS0	full	24.90	24.75	27.84	30.00	PASS
J	2722	WIC50	242/6	25.62	25.36	28.50	30.00	PASS
6	2437	MCS0	full	24.69	24.53	27.62	30.00	PASS
9	2452	MCS0	full	24.83	24.79	27.82	30.00	PASS
,	2752	WIC50	242/6	25.29	24.68	28.01	30.00	PASS
802.1	1ax_HE40	OM MIMC	)		-			
				Avg. C	Dutput	Max. Avg. Output		
СН	Freq.	Data	RU	Pov	wer	include tune up	Limit	RESULT
	(MHz)	Rate	Config	(dE	Bm)	tolerance Power	(dBm)	RESOLT
				CH 0	CH 1	(dBm)		
3	2422	MCS0	full	16.97	16.88	19.95	30.00	PASS
	2722	101030	242/6	16.28	15.64	18.99	30.00	PASS
6	2437	MCS0	full	16.85	16.75	19.82	30.00	PASS
9	2452	MCS0	full	16.95	16.71	19.85	30.00	PASS
l í	2752	101000	242/6	15.94	15.47	18.73	30.00	PASS

\* Note: The duty cycle factor is compensated to obtain the maximum value of measurement in average.

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

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



#### EIRP

СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT
1	2412	1	18.97	-1.90	17.07	36	PASS
6	2437	1	18.83	-1.90	16.93	36	PASS
11	2462	1	18.99	-1.90	17.09	36	PASS

802.11	802.11b Ch1									
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT			
1	2412	1	18.84	-3.30	15.54	36	PASS			
6	2437	1	18.74	-3.30	15.44	36	PASS			
11	2462	1	18.94	-3.30	15.64	36	PASS			

802.11	802.11g Ch0										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	6	18.96	-1.90	17.06	36	PASS				
6	2437	6	18.78	-1.90	16.88	36	PASS				
11	2462	6	18.94	-1.90	17.04	36	PASS				

802.11	802.11g Ch1											
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT					
1	2412	6	18.85	-3.30	15.55	36	PASS					
6	2437	6	18.76	-3.30	15.46	36	PASS					
11	2462	6	18.80	-3.30	15.50	36	PASS					

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

時から方方式就好。「山椒古雪素催買別風心(冬油口貫見)「同時山(茶油(塩床留)20人。今本酸古赤蛇牛公司者)固計可。不可前加皮酸。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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 channels the time of the limit terms of the limit terms the time terms 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.

i uiciaw.	
SGS Taiwan Ltd. N	p.134,W
台灣檢驗科技股份有限公司	t (8

Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 386-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



802.11	802.11n_HT20M Ch0											
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT					
1	2412	MCS0	18.97	-1.90	17.07	36	PASS					
6	2437	MCS0	18.83	-1.90	16.93	36	PASS					
11	2462	MCS0	18.99	-1.90	17.09	36	PASS					

802.11n_HT20M Ch1										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT			
1	2412	MCS0	18.82	-3.30	15.52	36	PASS			
6	2437	MCS0	18.73	-3.30	15.43	36	PASS			
11	2462	MCS0	18.87	-3.30	15.57	36	PASS			

802.11	802.11n_HT20M MIMO										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)		Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT		
			CH 0	CH 1	(ubiii)	(ubi)					
1	2412	MCS8	25.72	25.62	21.87	0.44	22.31	36	PASS		
6	2437	MCS8	25.81	25.74	21.66	0.44	22.10	36	PASS		
11	2462	MCS8	25.54	25.38	21.83	0.44	22.27	36	PASS		

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



802.11	802.11n_HT40M Ch0									
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT			
3	2422	MCS0	17.90	-1.90	16.00	36	PASS			
6	2437	MCS0	17.74	-1.90	15.84	36	PASS			
9	2452	MCS0	17.98	-1.90	16.08	36	PASS			

802.11	802.11n_HT40M Ch1									
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT			
3	2422	MCS0	17.60	-3.30	14.30	36	PASS			
6	2437	MCS0	17.52	-3.30	14.22	36	PASS			
9	2452	MCS0	17.92	-3.30	14.62	36	PASS			

802.11	In_HT40N	1 MIMO							
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)		Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT
			CH 0	CH 1					
3	2422	MCS8	17.91	17.39	20.68	0.44	21.12	36	PASS
6	2437	MCS8	17.75	17.54	20.67	0.44	21.11	36	PASS
9	2452	MCS8	17.98	17.81	20.92	0.44	21.36	36	PASS

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



802.11	lax_HE20	M Ch0						
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT
			full	16.93	-1.90	15.03	36	PASS
1	1 2412 M	MCS0	26/0	16.89	-1.90	14.99	36	PASS
1	2712	101000	52/37	16.92	-1.90	15.02	36	PASS
			106/53	16.99	-1.90	15.09	36	PASS
6	2437	MCS0	full	16.62	-1.90	14.72	36	PASS
			full	16.85	-1.90	14.95	36	PASS
11	11 2462 MCS		26/8	16.62	-1.90	14.72	36	PASS
			52/40	16.71	-1.90	14.81	36	PASS
			106/54	16.79	-1.90	14.89	36	PASS

802.11	lax_HE20	M Ch1						
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT
			full	16.58	-3.30	13.28	36	PASS
1	2412	MCS0	26/0	16.98	-3.30	13.68	36	PASS
1	2712	WCOU	52/37	16.72	-3.30	13.42	36	PASS
			106/53	16.76	-3.30	13.46	36	PASS
6	2437	MCS0	full	16.52	-3.30	13.22	36	PASS
			full	16.57	-3.30	13.27	36	PASS
11	2462	MCS0	26/8	16.90	-3.30	13.60	36	PASS
	11 2402	101030	52/40	16.88	-3.30	13.58	36	PASS
			106/54	16.98	-3.30	13.68	36	PASS

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



802.11	1ax_HE20	M MIMO								
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)		Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT
				CH 0	CH 1	(ubili)	(ubl)			
			full	16.91	16.48	19.72	0.44	20.16	36	PASS
1	2412	MCS0	26/0	17.18	16.51	19.88	0.44	20.32	36	PASS
	2412	101030	52/37	17.27	16.63	19.99	0.44	20.43	36	PASS
			106/53	16.91	16.28	19.63	0.44	20.07	36	PASS
6	2437	MCS0	full	17.28	16.61	19.98	0.44	20.42	36	PASS
			full	16.87	16.52	19.72	0.44	20.16	36	PASS
11	2462	MCS0	26/8	17.30	16.24	19.83	0.44	20.27	36	PASS
	2702	101030	52/40	17.25	16.34	19.84	0.44	20.28	36	PASS
			106/54	17.43	16.38	19.96	0.44	20.40	36	PASS

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



802.11	802.11ax_HE40M Ch0									
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT		
3	2422	MCS0	full	16.98	-1.90	15.08	36	PASS		
5	2422	101030	242/61	15.88	-1.90	13.98	36	PASS		
6	2437	MCS0	full	16.89	-1.90	14.99	36	PASS		
9	2452 MCS0		full	16.93	-1.90	15.03	36	PASS		
/	2432	MC30	242/62	15.98	-1.90	14.08	36	PASS		

802.11	802.11ax_HE40M Ch1									
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT		
3	2422	MCS0	full	16.83	-3.30	13.53	36	PASS		
5	2722	10000	242/61	15.99	-3.30	12.69	36	PASS		
6	2437	MCS0	full	16.73	-3.30	13.43	36	PASS		
9	2452	MCS0	full	16.76	-3.30	13.46	36	PASS		
7	2732	101030	242/62	15.95	-3.30	12.65	36	PASS		

802.11ax_HE	40M MIMO
-------------	----------

002.1										
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)		Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT
				CH 0	CH 1					
3	2422	MCS0	full	16.97	16.88	19.95	0.44	20.39	36	PASS
5	2722	10000	242/61	16.28	15.64	18.99	0.44	19.43	36	PASS
6	2437	MCS0	full	16.85	16.75	19.82	0.44	20.26	36	PASS
9	2452	MCS0	full	16.95	16.71	19.85	0.44	20.29	36	PASS
,	2102	10000	242/62	15.94	15.47	18.73	0.44	19.17	36	PASS

時から方方式就好。「山椒古雪素催買別風心(冬油口貫見)「同時山(茶油(塩床留)20人。今本酸古赤蛇牛公司者)固計可。不可前加皮酸。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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 channels the time of the limit terms of the limit terms the time terms 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. Np. 134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488 www.sgs.com.tw



# 9 6DB & 99% BANDWIDTH MEASUREMENT

### 9.1 Standard Applicable

The minimum 6 dB bandwidth shall be at least 500 kHz.

### 9.2 Measurement Equipment Used

	Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021					
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021					
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021					
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021					
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021					

### 9.3 Test Set-up



### 9.4 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- Set the spectrum analyzer as RBW= 100kHz , VBW = 3 X RBW, Span= 2 to 5 times of the OBW, Sweep=auto, Detector = Peak, and Max hold for -6dB Bandwidth test.
- Set the spectrum analyzer as RBW= 1 % to 5% of 99% Bandwidth , VBW ≥ 3 X RBW, Span= large enough to capture all products of the modulation process,



Sweep=auto,

Detector = Peak, and Max hold for 99% Bandwidth test.

- 6. Turn on the 99% bandwidth function, max reading.
- 7. Repeat above procedures until all test default channel is completed

### 9.5 6dB Bandwidth

802 11h Ch0

Freq.	6dB BW	Limit	Result						
(MHz)	(kHz)	(kHz)	Result						
2412	8106.00	> 500	PASS						
2437	8103.00	> 500	PASS						
2462	7120.00	> 500	PASS						

#### 802.11g Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	16280.00	> 500	PASS
2437	16270.00	> 500	PASS
2462	16310.00	> 500	PASS

#### 802.11\_n\_HT20 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	17290.00	> 500	PASS
2437	16930.00	> 500	PASS
2462	17550.00	> 500	PASS

#### 802.11\_n\_HT20 Ch1

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	17310.00	> 500	PASS
2437	17170.00	> 500	PASS
2462	17150.00	> 500	PASS

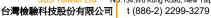
#### 802.11 ax HE20 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	18710.00	> 500	PASS
2437	18520.00	> 500	PASS
2462	18810.00	> 500	PASS

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs">http://www.sgs</a>, com.tw/Terms-and-Conditions. Attention is drawn to the limitation nditions and for electronic format v/Tern Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject or remission contained on a contract of the subject of remission of a land of the subject of remission of a land of the subject of remission of a land of the subject of remission of the subject of 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.





#### 802.11\_ax\_HE20 Ch1

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	18450.00	> 500	PASS
2437	18490.00	> 500	PASS
2462	18700.00	> 500	PASS

#### 802.11\_n\_HT40 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2422	35590.00	> 500	PASS
2437	35450.00	> 500	PASS
2452	35680.00	> 500	PASS

#### 802.11\_n\_HT40 Ch1

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2422	35890.00	> 500	PASS
2437	35550.00	> 500	PASS
2452	35940.00	> 500	PASS

#### 802.11\_ax\_HE40 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2422	37600.00	> 500	PASS
2437	37580.00	> 500	PASS
2452	37670.00	> 500	PASS

#### 802.11 ax HE40 Ch1

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2422	35980.00	> 500	PASS
2437	36970.00	> 500	PASS
2452	36460.00	> 500	PASS

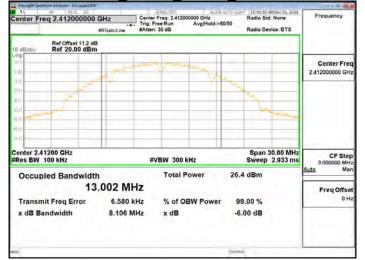
\*Refer to next page for plots

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

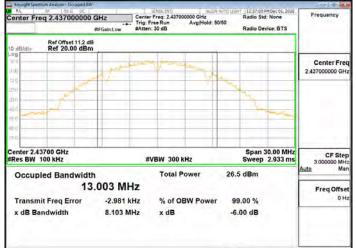
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions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



#### 802.11b 20MHz Chain0 2412MHz



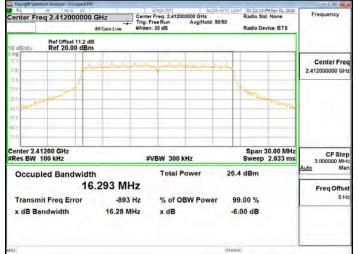
#### 802.11b\_20MHz\_Chain0\_2437MHz



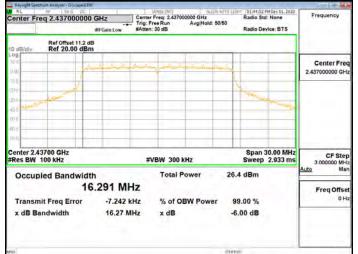


### 802.11b 20MHz Chain0 2462MHz

#### 802.11g\_20MHz\_Chain0\_2412MHz



#### 802.11g\_20MHz\_Chain0\_2437MHz



#### 802.11g\_20MHz\_Chain0\_2462MHz



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

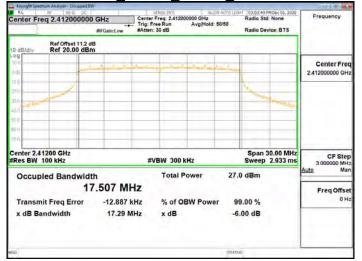
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

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

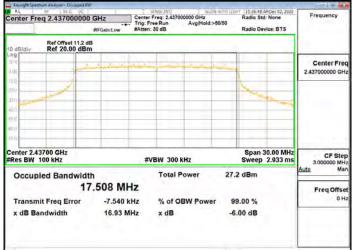
SGS Taiwan Ltd. N	Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw	
			Member of SGS Group	



#### 802.11n 20MHz Chain0 2412MHz



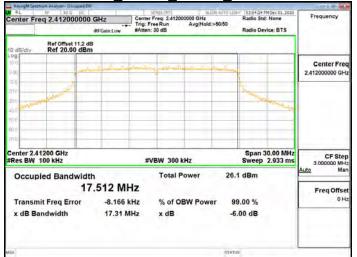
#### 802.11n 20MHz Chain0 2437MHz



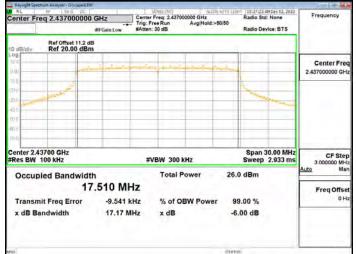
### 802.11n\_20MHz\_Chain0\_2462MHz



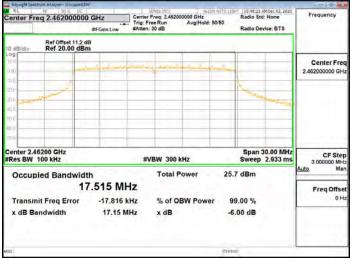
#### 802.11n 20MHz Chain1 2412MHz



#### 802.11n\_20MHz\_Chain1\_2437MHz



#### 802.11n\_20MHz\_Chain1\_2462MHz



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

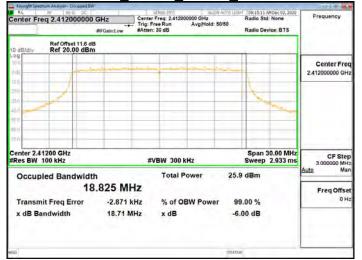
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> dor electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> does not prove 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.

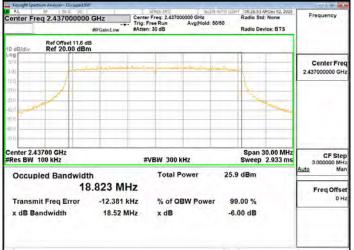
SGS Taiwan Ltd. N	Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.			
	Member of SGS Group			



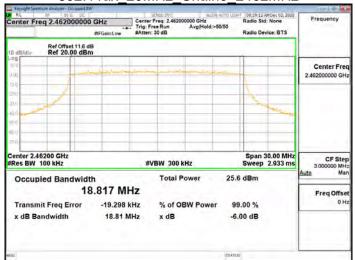
#### 802.11ax 20MHz Chain0 2412MHz



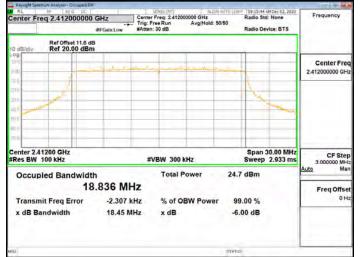
#### 802.11ax 20MHz Chain0 2437MHz



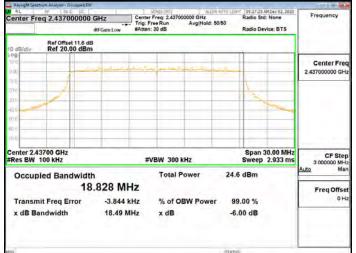
#### 802.11ax\_20MHz\_Chain0\_2462MHz



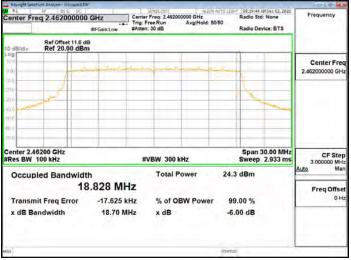
#### 802.11ax\_20MHz\_Chain1\_2412MHz



#### 802.11ax\_20MHz\_Chain1\_2437MHz



#### 802.11ax\_20MHz\_Chain1\_2462MHz



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

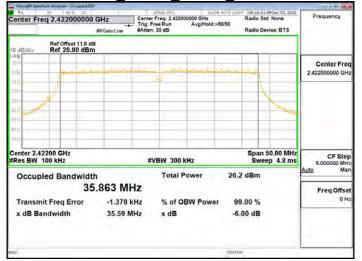
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> dor electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> does not prove 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.

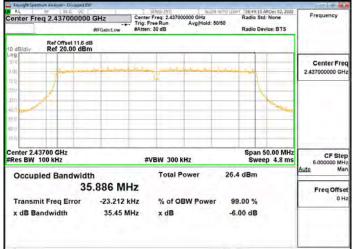
SGS Taiwan Ltd. Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw



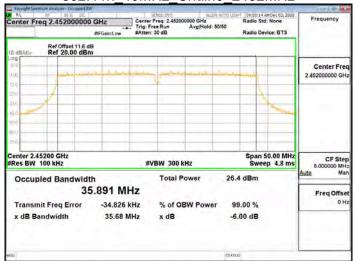
#### 802.11n 40MHz Chain0 2422MHz



#### 802.11n\_40MHz\_Chain0\_2437MHz



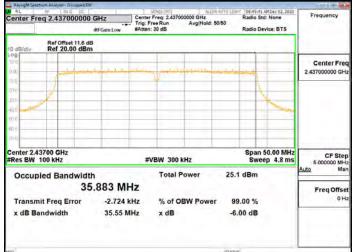
### 802.11n\_40MHz\_Chain0\_2452MHz



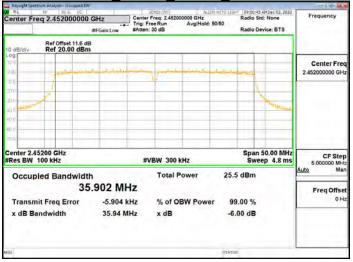
#### 802.11n 40MHz Chain1 2422MHz



#### 802.11n 40MHz Chain1 2437MHz



#### 802.11n\_40MHz\_Chain1\_2452MHz



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

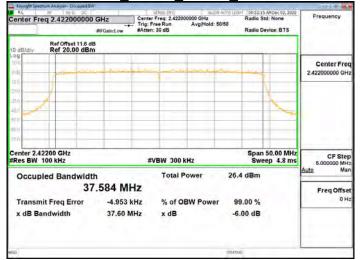
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

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

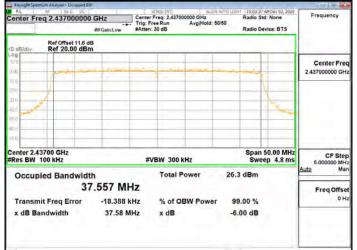
SGS Taiwan Ltd. N	lp.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw	
			Member of SGS Group	



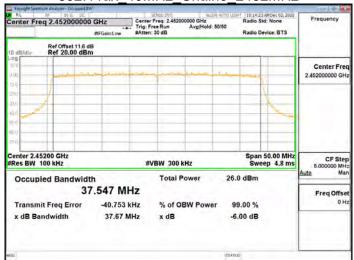
#### 802.11ax 40MHz Chain0 2422MHz



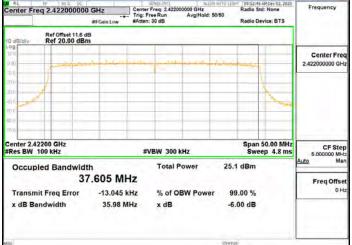
#### 802.11ax 40MHz Chain0 2437MHz



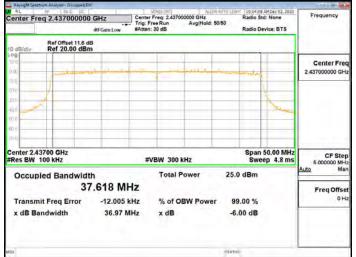
#### 802.11ax 40MHz Chain0 2452MHz



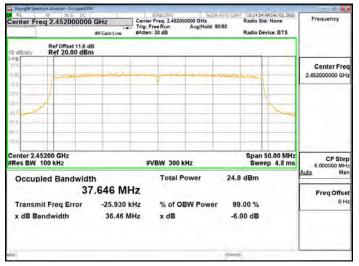
# 802.11ax\_40MHz\_Chain1\_2422MHz



#### 802.11ax\_40MHz\_Chain1\_2437MHz



#### 802.11ax\_40MHz\_Chain1\_2452MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

SGS Taiwan Ltd. N	p.134,Wu Kung Road, New Taipei Industrial Park, Wu	ku District, New Taipei City, Taiwan/新北市五股區新出	上產業園區五工路 134 號
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw
			Member of SGS Group



### 9.6 99% Bandwidth

802.11b Ch0		802.11g Ch0	
Freq. (MHz)	99% BW (MHz)	Freq. (MHz)	99% BW (MHz)
2412	13.029	2412	16.348
2437	13.029	2437	16.35
2462	13.05	2462	16.351

802.11n_HT2	20M Ch0	802.11n_HT2	802.11n_HT20M Ch1		
Freq. (MHz)	99% BW (MHz)	Freq. (MHz)	99% BW (MHz)		
2412	17.508	2412	17.529		
2437	17.511	2437	17.524		
2462	17.519	2462	17.525		

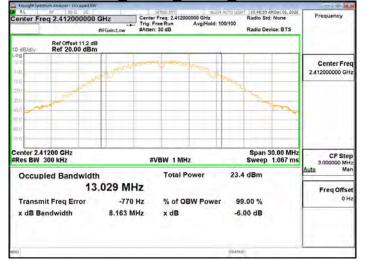
802.11ax_HE20M Ch0		802.11ax_HE20M Ch1	
Freq.	99% BW	Freq.	99% BW
(MHz)	(MHz)	(MHz)	(MHz)
2412	18.865	2412	18.885
2437	18.861	2437	18.879
2462	18.863	2462	18.879
802.11n_HT4	iom cho	802.11n_HT4	40M Ch1
Freq.	99% BW	Freq.	99% BW
(MHz)	(MHz)	(MHz)	(MHz)
2422	36.015	2422	35.963
2437	35.975	2437	35.984
2452	35.997	2452	35.982
802.11ax_HE	40M Ch0	802.11ax_HE	40M Ch1
Freq.	99% BW	Freq.	99% BW
(MHz)	(MHz)	(MHz)	(MHz)
2422	37.64	2422	37.607
2437	37.621	2437	37.593
2452	37.627	2452	37.641

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> 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 avecant in first written approval of the Company Any unauthorized alteration of the content or anegrange of this document is unlawful and offenders may be prosecuted to the 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.

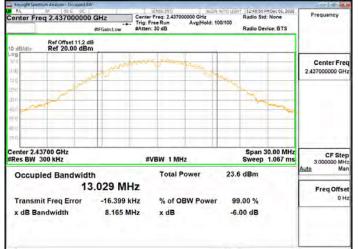
SGS Taiwan Ltd. Np. 134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488 www.sgs.com.tw



#### 802.11b 20MHz Chain0 2412MHz



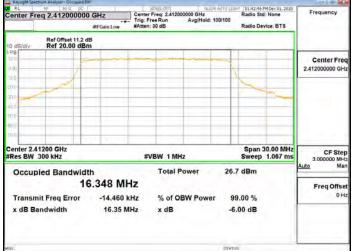
#### 802.11b\_20MHz\_Chain0\_2437MHz



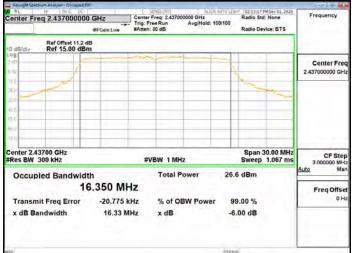
#### Radio Std: None Center Freq 2.462000000 GHz Frig: Freq 2.46200000 GHz Frig: Freq 2.46200000 GHz Frig: Freq 2.46200000 GHz Frig: Freq 2.4620000 GHz Frig: Freq 2.46200000 GHz Frig: Freq 2.4620000 GHz Frig: Freq 2.462000 GHz Frig: Freq 2 Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center Free enter 2.46200 GHz Res BW 300 kHz Span 30.00 MHz Sweep 1.067 ms CF Step **#VBW 1 MHz** 3.0000 Occupied Bandwidth **Total Power** 23.2 dBm 13.050 MHz Freq Offse -24.654 kHz 0 H Transmit Freg Error % of OBW Power 99.00 % x dB Bandwidth 8.164 MHz x dB -6.00 dB

### 802.11b 20MHz Chain0 2462MHz

### 802.11g\_20MHz\_Chain0\_2412MHz



#### 802.11g 20MHz Chain0 2437MHz



#### 802.11g\_20MHz\_Chain0\_2462MHz



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

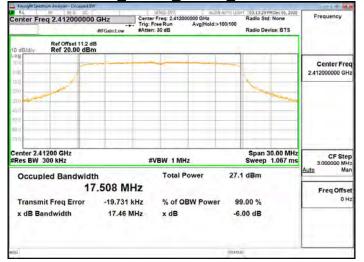
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

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

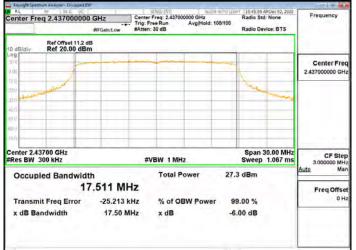
SGS Taiwan Ltd. N	p.134,Wu Kung Road, New Taipei Industrial Park	, Wuku District, New Taipei City, Taiwan/新北市五股區新北	:產業園區五工路 134 號
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw
			Member of SGS Group



#### 802.11n 20MHz Chain0 2412MHz



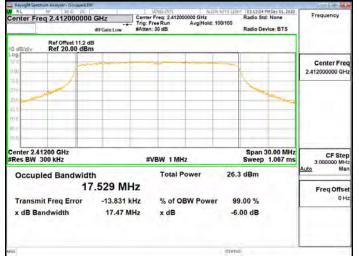
#### 802.11n\_20MHz\_Chain0\_2437MHz



### 802.11n\_20MHz\_Chain0\_2462MHz



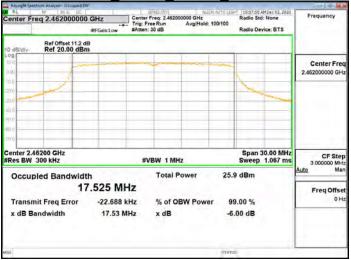
#### 802.11n\_20MHz\_Chain1\_2412MHz



#### 802.11n\_20MHz\_Chain1\_2437MHz



#### 802.11n\_20MHz\_Chain1\_2462MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> dor electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> does not prove 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.

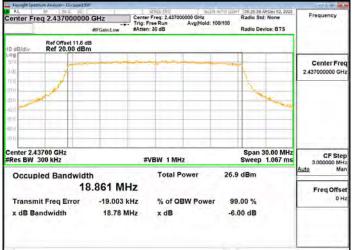
SGS Taiwan Ltd. N	▶.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw	
			Member of SGS Group	



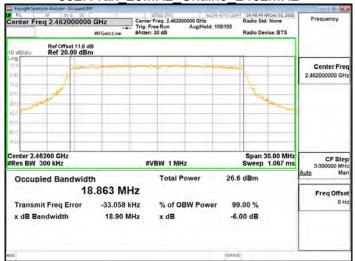
#### 802.11ax 20MHz Chain0 2412MHz



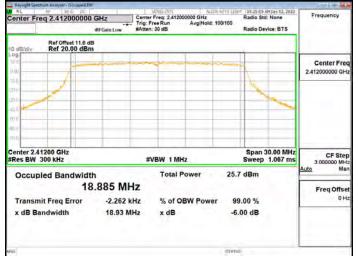
#### 802.11ax 20MHz Chain0 2437MHz



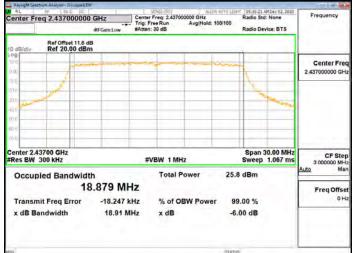
#### 802.11ax\_20MHz\_Chain0\_2462MHz



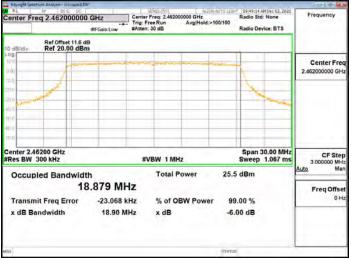
#### 802.11ax\_20MHz\_Chain1\_2412MHz



#### 802.11ax 20MHz Chain1 2437MHz



#### 802.11ax\_20MHz\_Chain1\_2462MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

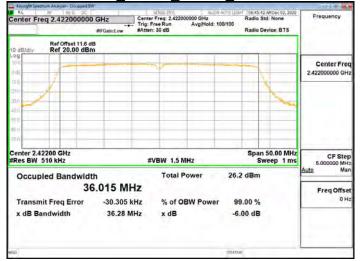
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> dor electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> does not prove 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. N	Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw	

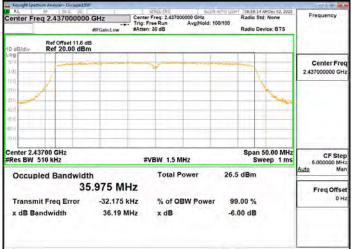
Member of SGS Group



#### 802.11n 40MHz Chain0 2422MHz



#### 802.11n\_40MHz\_Chain0\_2437MHz



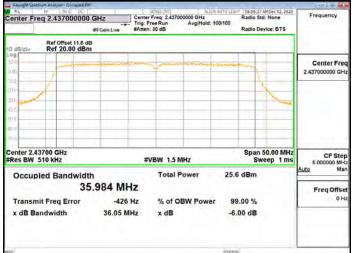
### 802.11n\_40MHz\_Chain0\_2452MHz



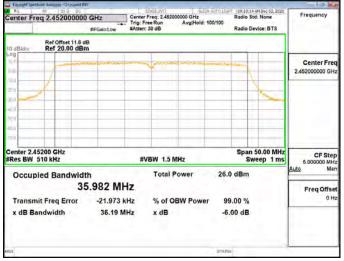
#### 802.11n 40MHz Chain1 2422MHz



#### 802.11n\_40MHz\_Chain1\_2437MHz



#### 802.11n\_40MHz\_Chain1\_2452MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> dor electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> does not prove 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. N	Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號			
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw	
			Member of SGS Group	



#### 802.11ax 40MHz Chain0 2422MHz



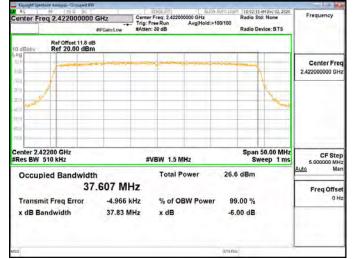
#### 802.11ax 40MHz Chain0 2437MHz



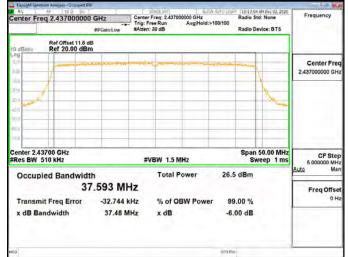
#### 802.11ax\_40MHz\_Chain0\_2452MHz



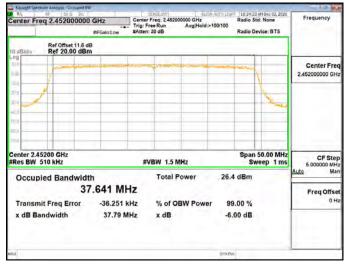
#### 802.11ax\_40MHz\_Chain1\_2422MHz



#### 802.11ax 40MHz Chain1 2437MHz



#### 802.11ax\_40MHz\_Chain1\_2452MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

SGS Taiwan Ltd. N	d. Np.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號				
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.sgs.com.tw		
			Member of SGS Group		



# **10 CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT**

### 10.1 Standard Applicable

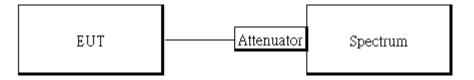
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a) & RSS-Gen §8.10, must also comply with the radiated emission limits specified in §15.209(a) & RSS-Gen §8.9.

### **10.2 Measurement Equipment Used**

Conducted Emission Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021

### 10.3 Test SET-UP



### **10.4 Measurement Procedure**

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

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



## Reference Level of Emission Limit:

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW = 100kHz & VBW = 300 kHz.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

# Conducted Band Edge:

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 4. Set start to edge frequency, and stop frequency of spectrum analyzer so as to encompass the spectrum to be examined.
- 5. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Detector = Peak, Sweep = auto
- 6. Mark the highest reading of the emission as the reference level measurement.
- 7. Set DL as the limit = reading on marker of reference level measurement 20dBm
- 8. Mark the highest readings of the emissions outside of 2400MHz~2483.5MHz.
- 9. Repeat above procedures until all default test channel (low, middle, and high) was complete.
- 10. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions of Flectronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and the limitsto on that information contained hereon reflects the Company's findings at the time of its intervention only and within the limitst 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 full.

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



### **Conducted Spurious Emission:**

- 1. To connect Antenna Port of EUT to Spectrum
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Set RBW = 100 kHz & VBW= 300 kHz, Detector =Peak, Sweep = Auto.
- 4. Allow trace to fully stabilize.
- 5. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
- 6. Repeat above procedures until all default test channel measured were complete.
- MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

### Note:

For test of 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.

### **10.5 Measurement Result**

Reference Level of Limit 802.11b mode			
Freq.	PSD	Reference Level of Limit	
(MHz)	(dBm)	(dBm)	
2412	10.70	-9.30	
2437	10.79	-9.21	
2462	11.30	-8.70	

Reference Level of Limit 802.11g mode			
Freq.	PSD	Reference Level of Limit	
(MHz)	(dBm)	(dBm)	
2412	8.68	-11.32	
2437	8.70	-11.30	
2462	8.86	-11.14	

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



### Reference Level of Limit 802.11n20 mode

Freq.	PSD	Reference Level of Limit		
(MHz)	Hz) (dBm) (dBm)			
2412	12.10	-7.90		
2437	11.94	-8.06		
2462	11.85	-8.15		

#### Reference Level of Limit 802.11ax20 mode

Freq.	PSD	Reference Level of Limit		
(MHz)	MHz) (dBm) (dBm)			
2412	10.30	-9.70		
2437	10.03	-9.97		
2462	9.83	-10.17		

#### Reference Level of Limit 802.11n40 MODE

Freq.	PSD	Reference Level of Limit	
(MHz)	(MHz) (dBm) (dBm)		
2422	7.93	-12.07	
2437	8.29	-11.71	
2452	8.25	-11.75	

#### Reference Level of Limit 802.11ax40 MODE

Freq.	PSD	Reference Level of Limit		
(MHz)	(dBm)	(dBm)		
2422	7.71	-12.29		
2437	7.43	-12.57		
2452	7.35	-12.65		

### Note

Cable Loss: 11.20 dB

Unless otherwise stated 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 refer only to the sample(s) tested and such sample(s) are retained for 9U days only. 防非另有说明,比我各者就是對測试之樣品負責,同時比樣品僅保留的人家。本報告未變本公司書面中可,不可称劤複製。 This documents issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> 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. fullest extent of the law.



#### 802.11b 20MHz Chain0 2412MHz



#### 802.11b\_20MHz\_Chain0\_2437MHz



#### 802.11b\_20MHz\_Chain0\_2462MHz



#### 802.11g\_20MHz\_Chain0\_2412MHz



#### 802.11g\_20MHz\_Chain0\_2437MHz



#### 802.11g\_20MHz\_Chain0\_2462MHz



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

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

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



### 802.11n\_20MHz\_Chain0\_2412MHz



#### 802.11n\_20MHz\_Chain0\_2437MHz



#### 802.11n\_20MHz\_Chain0\_2462MHz





802.11ax\_20MHz\_Chain0\_2412MHz



#### 802.11ax 20MHz Chain0 2437MHz



#### 802.11ax 20MHz Chain0 2462MHz



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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format In socument is issued by the Company subject to its General Conditions of service printed overlear, available on request or accessible at <u>http://www.sgs.com.tv/terms-and-conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tv/Terms-and-Conditions</u>. 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 eliter to the to the full. fullest extent of the law.

SGS Taiwan Ltd. Nq.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488

www.sgs.com.tw Member of SGS Group



### Report No.: ER/2020/B0046 Page: 61 of 166

#### 802.11n\_40MHz\_Chain0\_2422MHz



#### 802.11n 40MHz Chain0 2437MHz



#### 802.11n\_40MHz\_Chain0\_2452MHz





#### CF Step 6.000000 MH Mar Freq Offse 0 H Scale Typ Span 60.00 MHz Sweep 1.000 ms (1001 pts) enter 2.42200 GHz Res BW 100 kHz Li #VBW 300 kHz

#### 802.11ax 40MHz Chain0 2437MHz



#### 802.11ax\_40MHz\_Chain0\_2452MHz



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

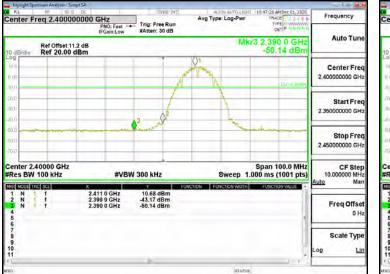
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format

In socument is issued by the Company subject to its General Conditions of service printed overlear, available on request or accessible at <u>http://www.sgs.com.tv/terms-and-conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tv/Terms-and-Conditions</u>. 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 eliter to the to the full. fullest extent of the law.



### Report No.: ER/2020/B0046 Page: 62 of 166

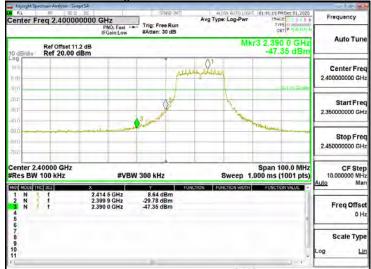
#### 802.11b 20MHz Chain0 2412MHz



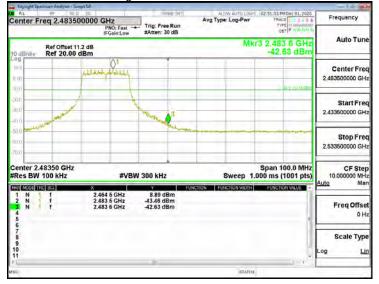
#### 802.11b\_20MHz\_Chain0\_2462MHz



#### 802.11g 20MHz Chain0 2412MHz



#### 802.11g\_20MHz\_Chain0\_2462MHz



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

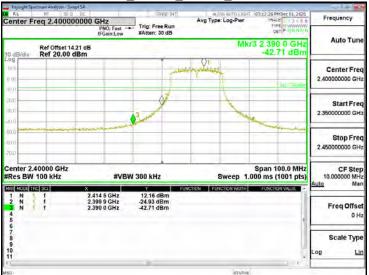
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

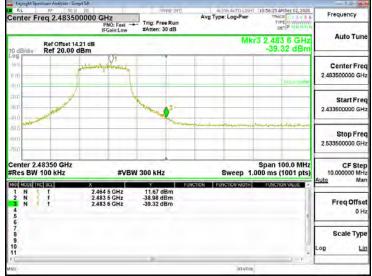


### Report No.: ER/2020/B0046 Page: 63 of 166

802.11n\_20MHz\_Chain0\_2412MHz



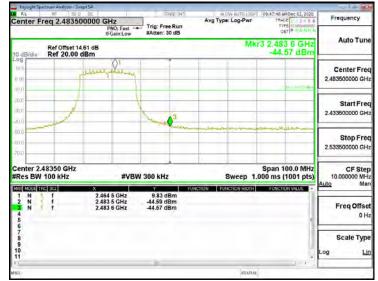
802.11n\_20MHz\_Chain0\_2462MHz



802.11ax\_20MHz\_Chain0\_2412MHz



802.11ax\_20MHz\_Chain0\_2462MHz



802.11n\_40MHz\_Chain0\_2422MHz

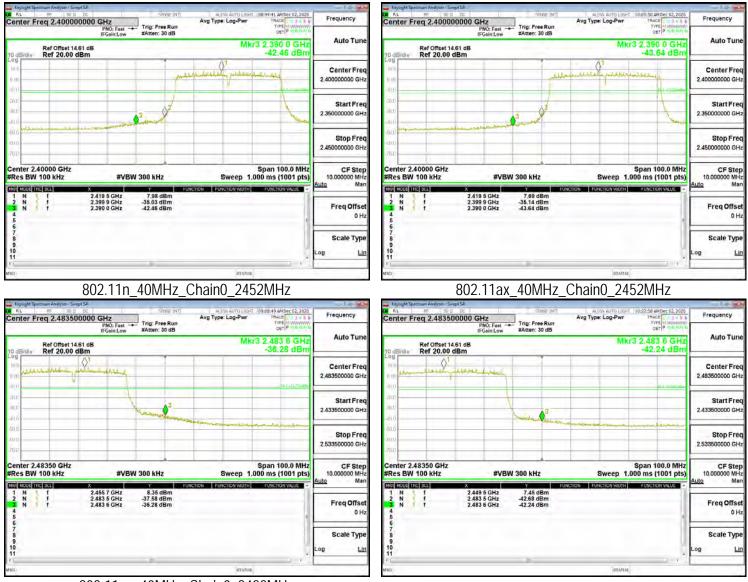
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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。

(ポチカオ) 初切 \* 近祝 学路 不僅 利利(以(株) 使見 \* ) 何ず 近(株) でほか (思力) べ う 水塩 う 水塩 う 水塩 う 水道 う 水塩 や ご り き (加す ご ・ へ う り (加 検 & \*)) This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



### Report No.: ER/2020/B0046 Page: 64 of 166



802.11ax\_40MHz\_Chain0\_2422MHz

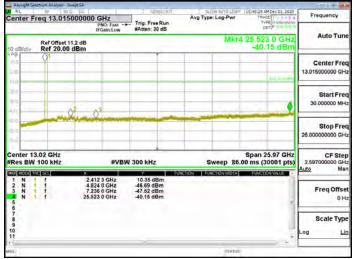
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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。

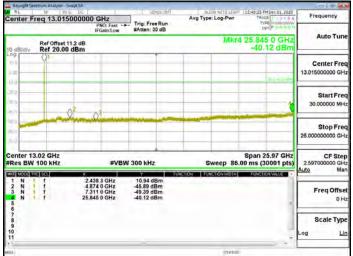


### Report No.: ER/2020/B0046 Page: 65 of 166

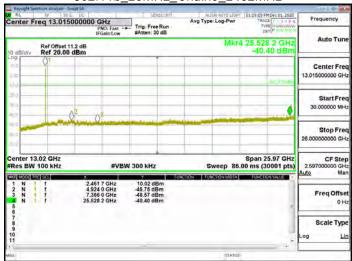
### 802.11b\_20MHz\_Chain0\_2412MHz



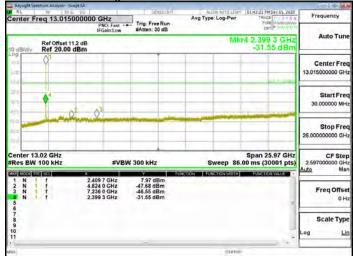
802.11b\_20MHz\_Chain0\_2437MHz



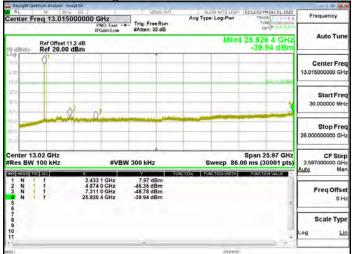
802.11b\_20MHz\_Chain0\_2462MHz



### 802.11g\_20MHz\_Chain0\_2412MHz



802.11g\_20MHz\_Chain0\_2437MHz



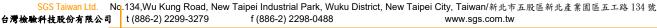
### 802.11g\_20MHz\_Chain0\_2462MHz



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

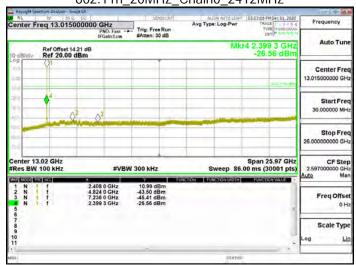
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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





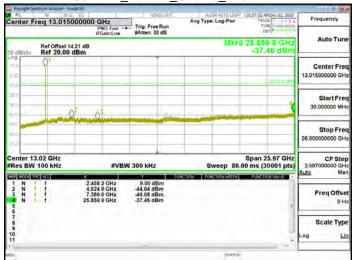
# 802.11n\_20MHz\_Chain0\_2412MHz



802.11n\_20MHz\_Chain0\_2437MHz

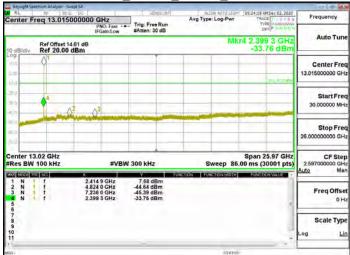


802.11n 20MHz Chain0 2462MHz



## Report No.: ER/2020/B0046 Page: 66 of 166

802.11ax 20MHz Chain0 2412MHz



802.11ax\_20MHz\_Chain0\_2437MHz



### 802.11ax 20MHz Chain0 2462MHz



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

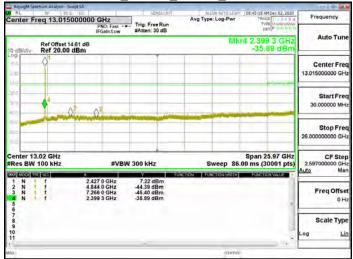
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic formal

In socument is issued by the Company subject to its General Conditions of service printed overlear, available on request or accessible at <u>http://www.sgs.com.tv/terms-and-conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tv/Terms-and-Conditions</u>. 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 fullent extent of the low. fullest extent of the law

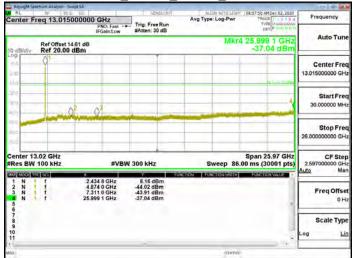
SGS Taiwan Ltd. Nq.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



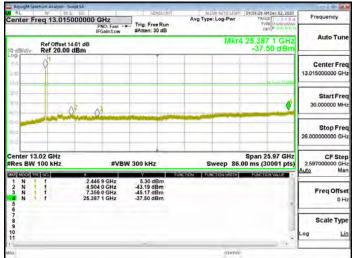
### 802.11n\_40MHz\_Chain0\_2422MHz



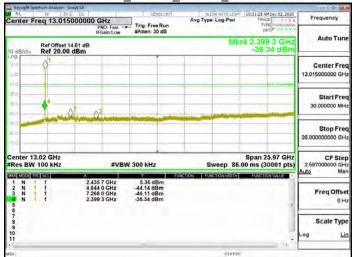
802.11n\_40MHz\_Chain0\_2437MHz



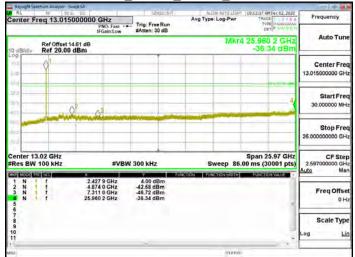
802.11n\_40MHz\_Chain0\_2452MHz



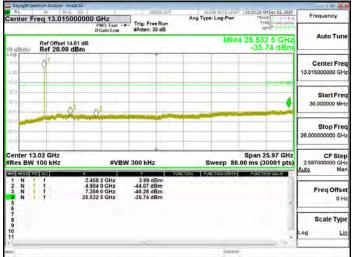
802.11ax 40MHz Chain0 2422MHz



802.11ax\_40MHz\_Chain0\_2437MHz



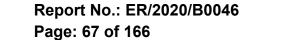
### 802.11ax\_40MHz\_Chain0\_2452MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> at the time of its intervention on 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.
 Ng.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

 台灣檢驗科技股份有限公司
 t (886-2) 2299-3279
 f (886-2) 2298-0488
 www.sgs.com.tw



# 11 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT

### 11.1 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands must also comply with the §15.209 and RSS-Gen §8.9 Table 5 and 6 limit as below. And according to §15.33(a) (1) & RSS-Gen §6.13.2.a, for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

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 ( $\mu$ 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.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



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

966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Horn Antenna	Schwarzbeck	BBHA9170	184	12/11/2020	12/10/2021
Horn Antenna	Schwarzbeck	BBHA9120D	1441	10/16/2020	10/15/2021
Bi-log Antenna	SCHWAZBECK	VULB9168	378	08/06/2020	08/05/2021
Loop Antenna	ETS.LINDGREN	6502	148045	10/19/2020	10/18/2021
PXA Spectrum An- alyzer	Agilent	N9030A	MY53120760	04/21/2020	04/20/2021
EMI Test Receiver	R&S	ESCI 7	100759	07/13/2020	07/12/2021
Pre-Amplifier	HP	8449B	3008A00578	12/16/2020	12/15/2021
Pre-Amplifier	EMC Instruments	EMC184045B	980135	12/16/2020	12/15/2021
Pre-Amplifier	HP	8447D	2944A07676	12/16/2020	12/15/2021
Attenuator	Mini-Circuit	BW-S10W2+	4	12/16/2020	12/15/2021
Filter 2400-2483.5 MHz	EWT	EWT-14-0166	M1	12/16/2020	12/15/2021
High Pass Filter	WI	WHKX4.0/18G- 10SS	22	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2636/2	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 104	340057/4	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 104PEA	800052/2	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2621/2	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2617/2	12/16/2020	12/15/2021
Test Software	audix	e3	Ver. 6.11- 20180413	N.C.R	N.C.R
Site Cal	SGS	SAC III chamber	N/A	01/01/2021	12/31/2021
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021
DC Power Supply	Agilent	E3640A	MY40005907	10/29/2020	10/28/2021

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

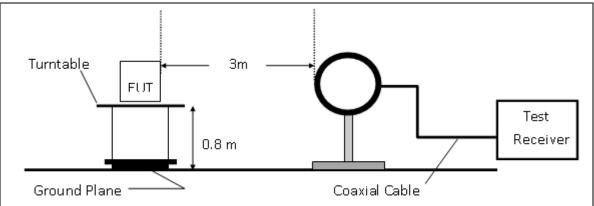
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated 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>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

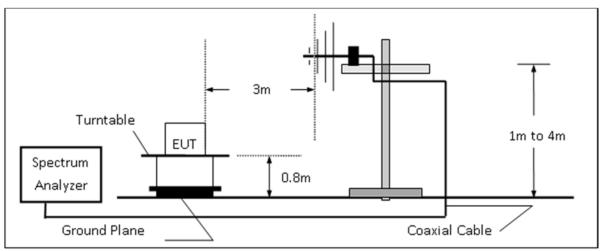


### 11.3 Test SET-UP

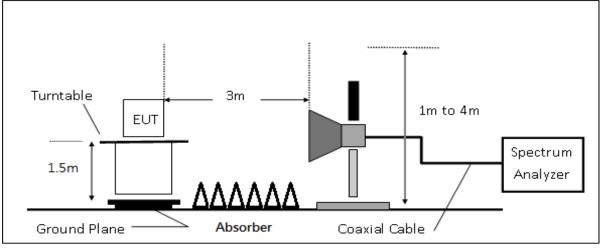




### (B) Radiated Emission Test Set-Up, Frequency form 30MHz to 1000MHz



### (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. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



### **11.4 Measurement Procedure**

- 1. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 2. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plane.
- 3. 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.
- 5. When 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.
- 6. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasipeak (QP) at frequency below 1 GHz.
- 7. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- 8. 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.
- 9. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- 10. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 11. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. On spectrum, change spectrum mode in linear display mode, and reduce VBW = 10Hz if average reading is measured.
- 12. Repeat above procedures until all default test channel measured were complete.

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

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



### 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 FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss) AG = Amplifier Gain

AF = Antenna Factor

RA = Reading Amplitude

The limit of the emission level is expressed in dBuV/m, which converts 20\*log(uV/m)

Actual FS( $dB\mu V/m$ ) = SPA. Reading level( $dB\mu V$ ) + Factor(dB) Factor(dB) = Antenna Factor( $dB\mu V/m$ ) + 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) & RSS-GEN §6.13.2 was not reported.

### **11.7 Measurement Result**

### Note:

- 1. Refer to next page spectrum analyzer data chart and tabular data sheets.
- 2. Measurements are completed at peak and average level, the mark of average is the highest emission in restricted bands

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

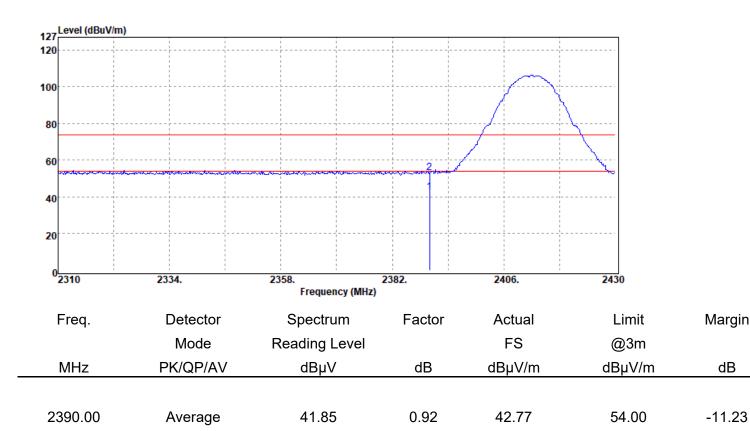


2390.00

# Report No.: ER/2020/B0046 Page: 73 of 166

#### 11.7.1 Radiated Band Edge Measurement Result

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11b	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



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

52.33

Peak

Gineso data the balact and balact strong to report only of the provide the data the balance of the balact and balact a documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the

0.92

53.25

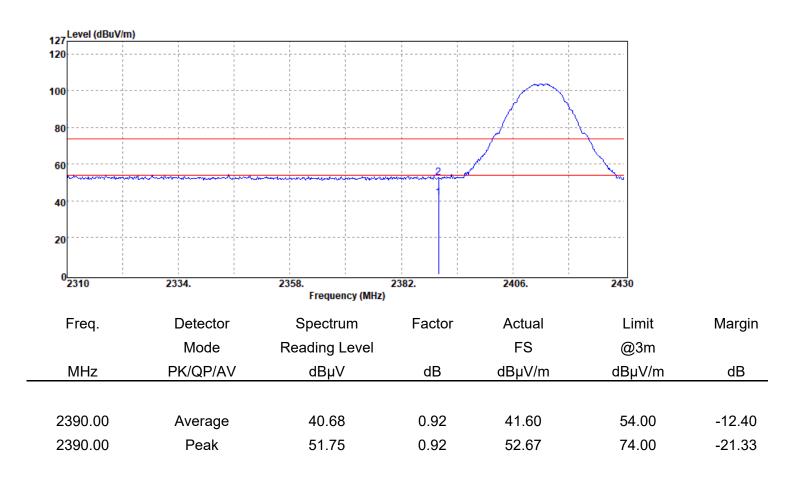
74.00

-20.75



# Report No.: ER/2020/B0046 Page: 74 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11b	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick

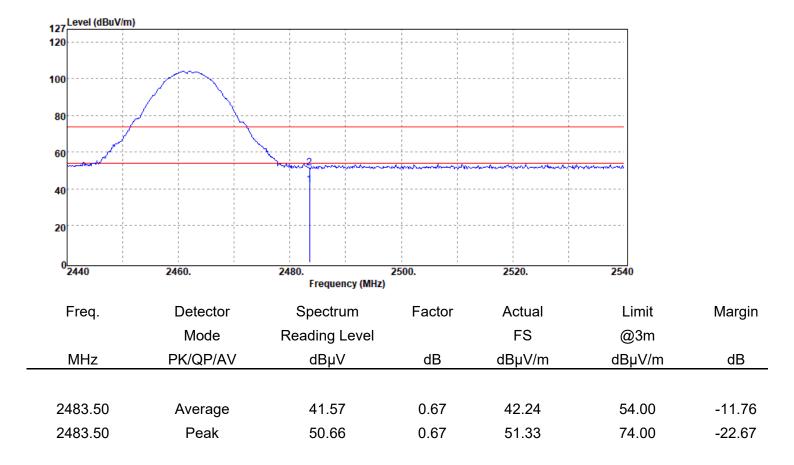


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 75 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11b	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick

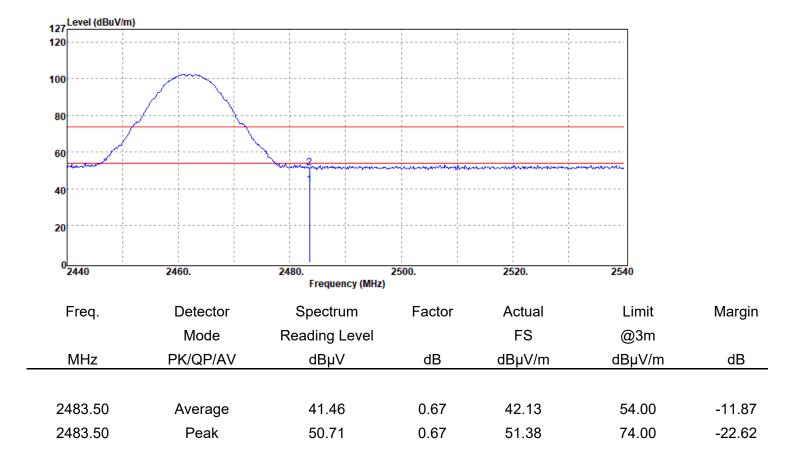


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 76 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11b	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick

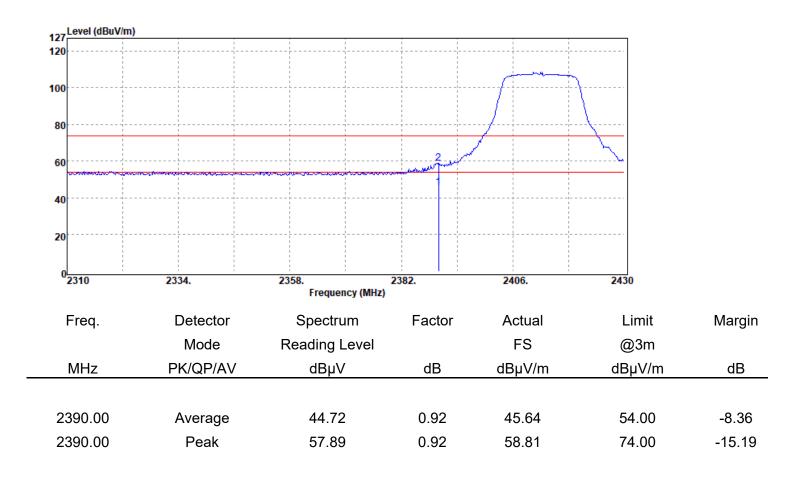


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 77 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11g	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick

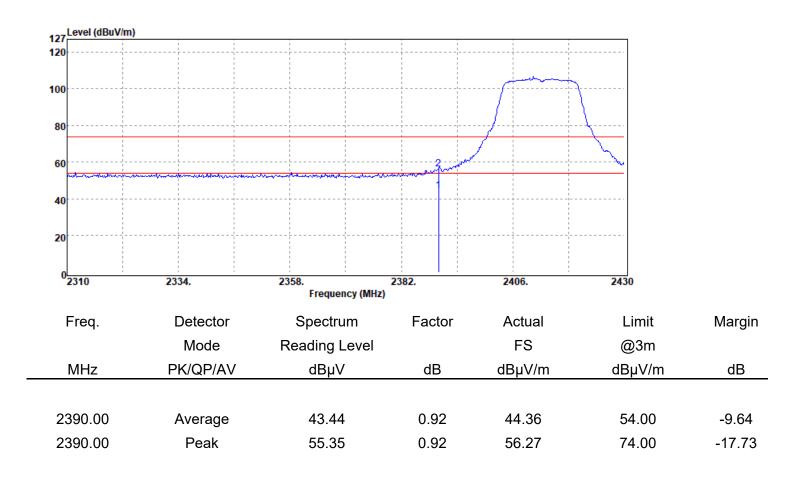


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 78 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11g	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick

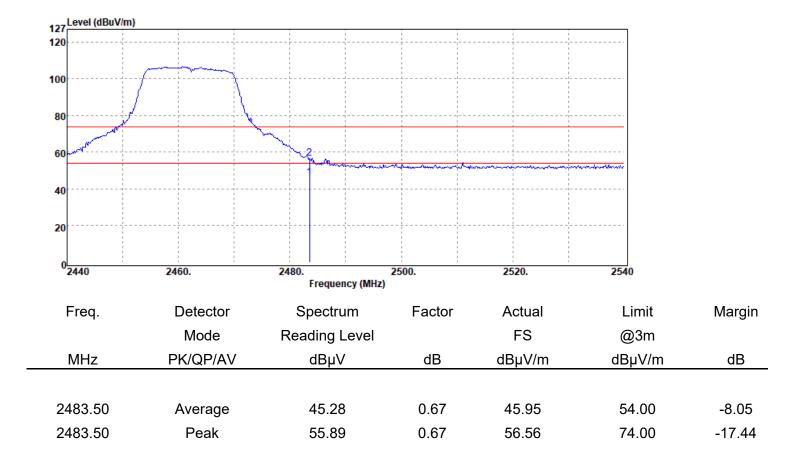


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 79 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11g	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick

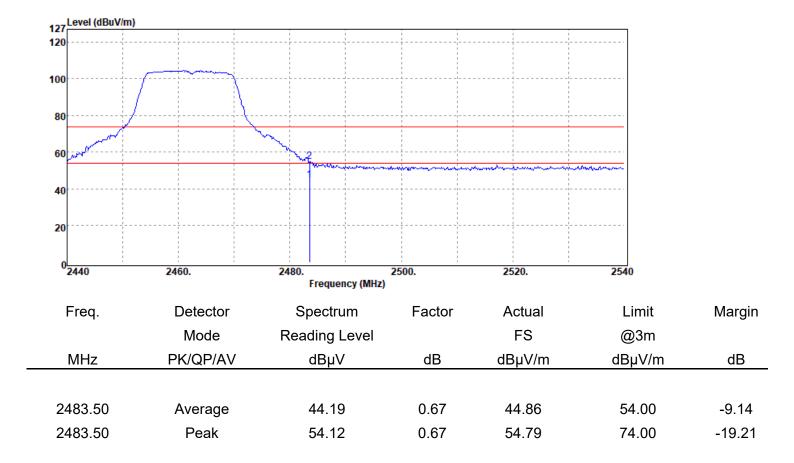


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 80 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11g	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick

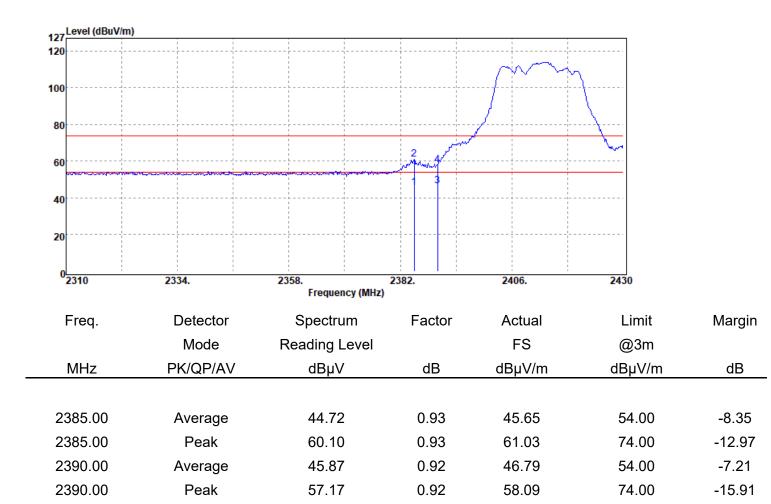


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 81 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n20	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



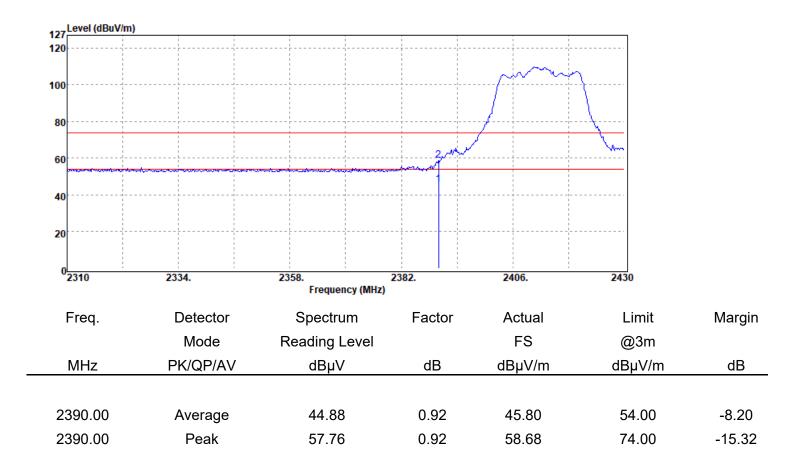
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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



### Report No.: ER/2020/B0046 Page: 82 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n20	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick

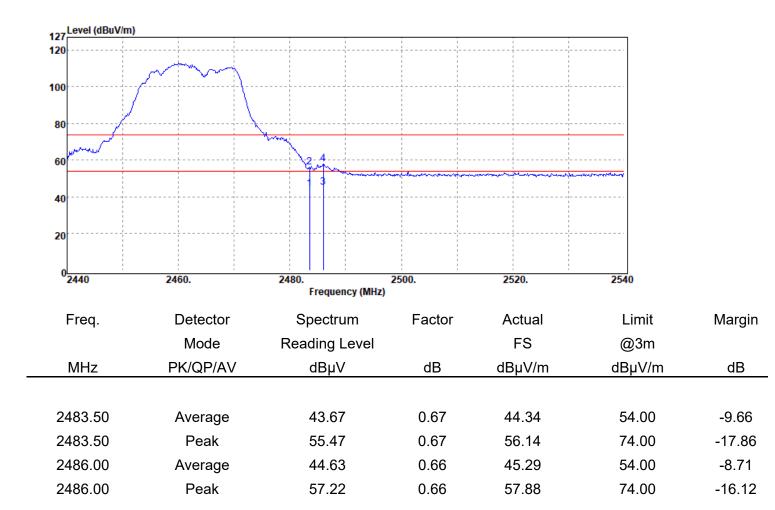


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 83 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n20	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



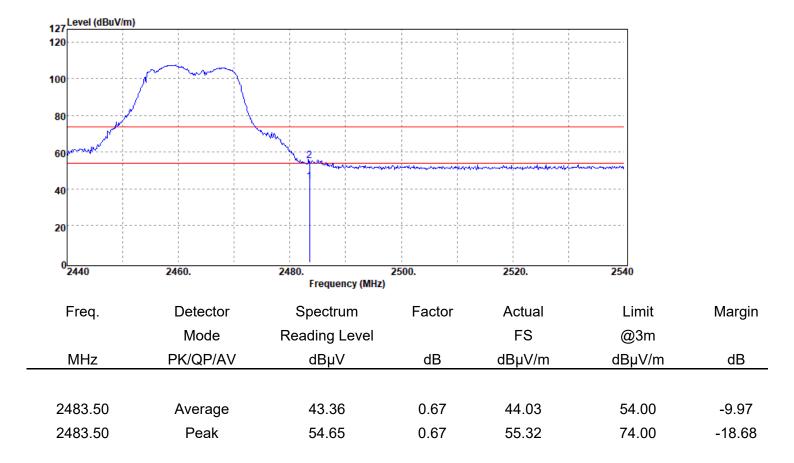
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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



# Report No.: ER/2020/B0046 Page: 84 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n20	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick



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

Gineso data the balact and balact strong to report only of the provide the data the balance of the balact and balact a documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



2390.00

# Report No.: ER/2020/B0046 Page: 85 of 166

Margin

dB

-5.07

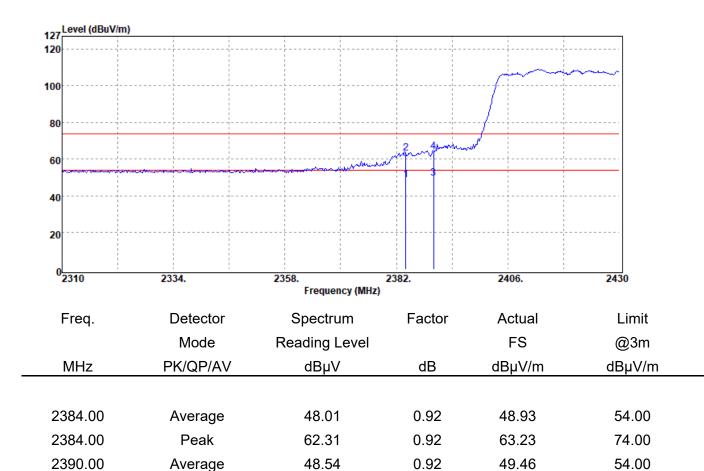
-10.77

-4.54

-10.00

74.00

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n40	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



63.08

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.

Peak

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

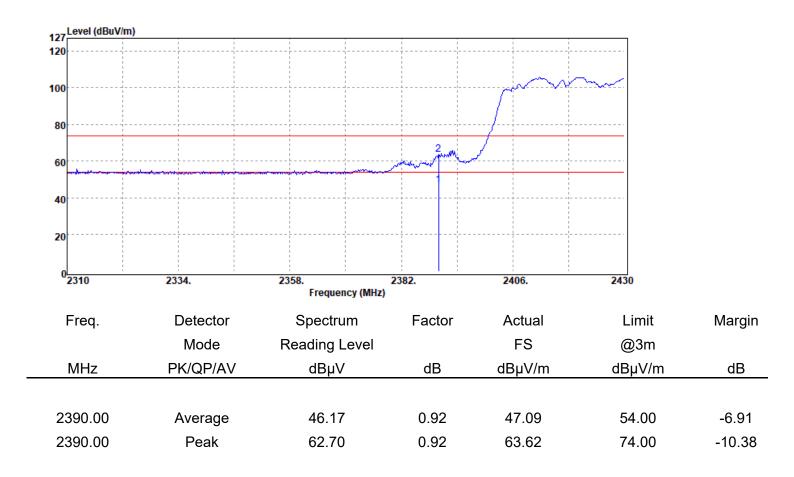
0.92

64.00



# Report No.: ER/2020/B0046 Page: 86 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n40	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick



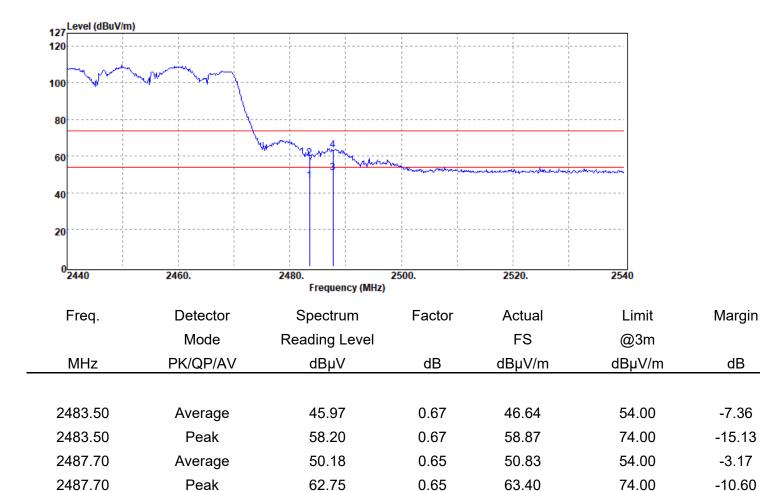
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Gineso data the balact and balact strong to report only of the provide the data the balance of the balact and balact a documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



# Report No.: ER/2020/B0046 Page: 87 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n40	Test Date	:2020-12-03
Test Frequency	:2452 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



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

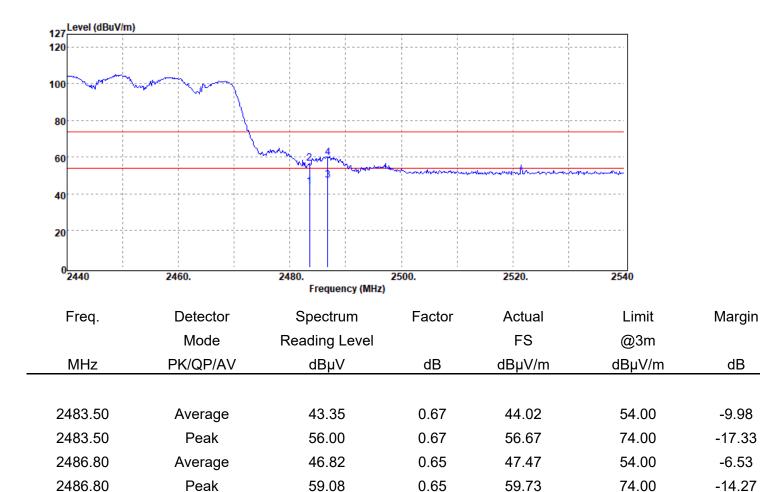
Gineso data that is a state at the state of the state documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic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

dB



# Report No.: ER/2020/B0046 Page: 88 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11n40	Test Date	:2020-12-03
Test Frequency	:2452 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick



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

Peak

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

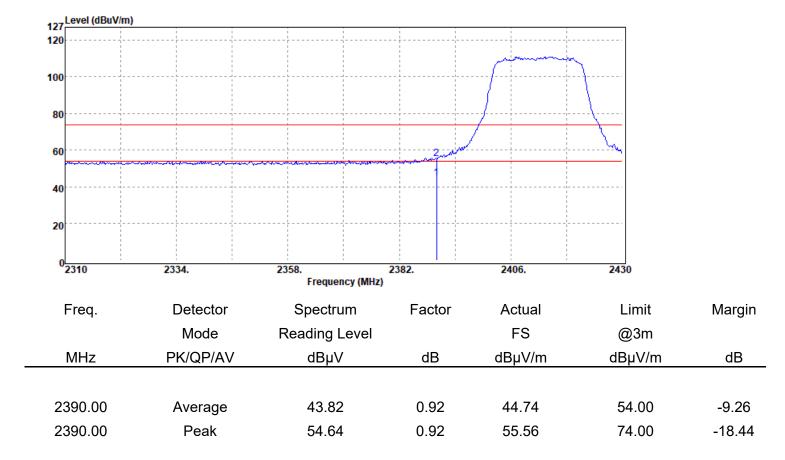
59.73

dB



# Report No.: ER/2020/B0046 Page: 89 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU full	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick

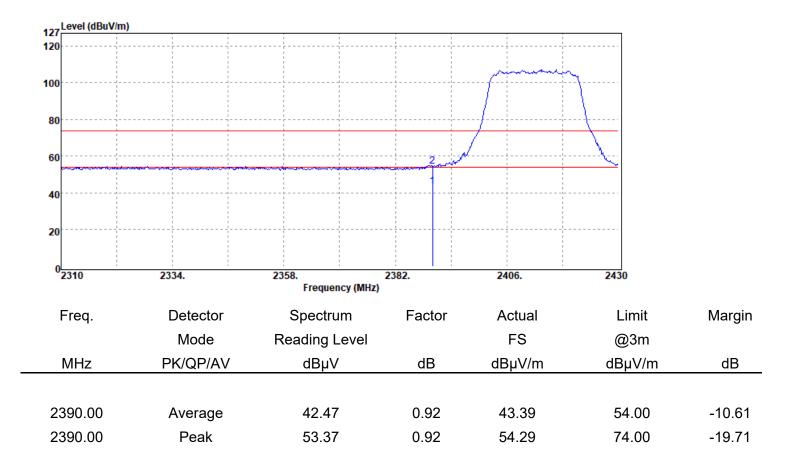


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 90 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU full	Test Date	:2020-12-03
Test Frequency	:2412 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick



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



2390.00

2390.00

# Report No.: ER/2020/B0046 Page: 91 of 166

Margin

dB

-5.82

-4.44

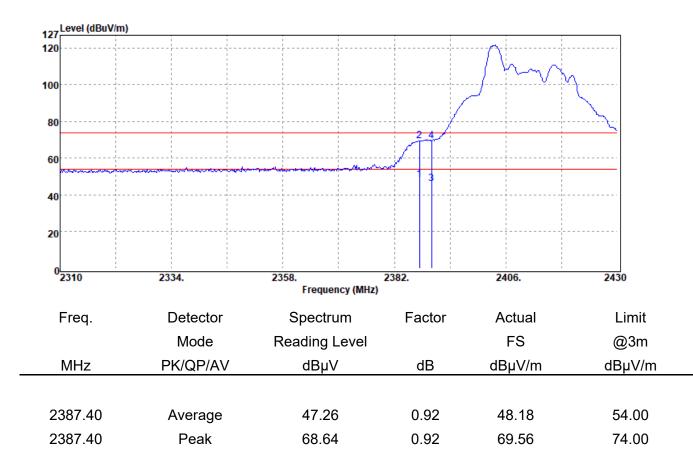
-7.66

-4.61

54.00

74.00

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 26/0	Test Date	:2021-01-07
Test Frequency	:2412 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



45.42

68.47

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

Average

Peak

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

0.92

0.92

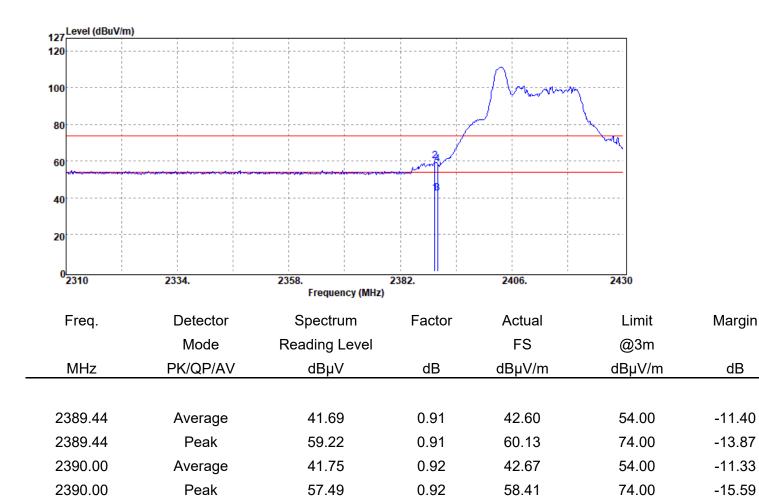
46.34

69.39



### Report No.: ER/2020/B0046 Page: 92 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 26/0	Test Date	:2021-01-07
Test Frequency	:2412 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



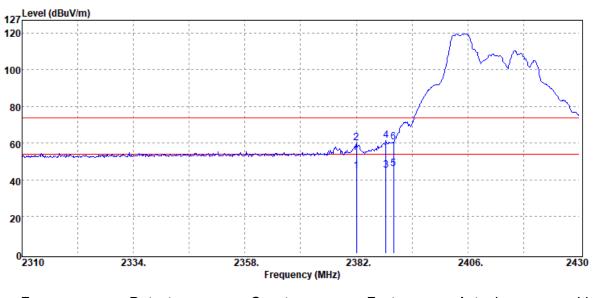
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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



### Report No.: ER/2020/B0046 Page: 93 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 52/37	Test Date	:2021-01-07
Test Frequency	:2412 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2382.00	Average	43.93	0.93	44.86	54.00	-9.14
2382.00	Peak	59.14	0.93	60.07	74.00	-13.93
2388.36	Average	44.52	0.92	45.44	54.00	-8.56
2388.36	Peak	60.40	0.92	61.32	74.00	-12.68
2390.00	Average	45.27	0.92	46.19	54.00	-7.81
2390.00	Peak	59.92	0.92	60.84	74.00	-13.16

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.

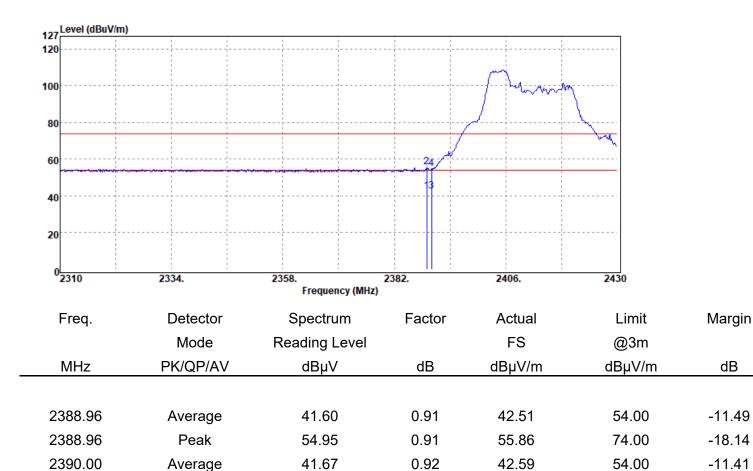
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.



2390.00

### Report No.: ER/2020/B0046 Page: 94 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 52/37	Test Date	:2021-01-07
Test Frequency	:2412 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



53.98

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.

Peak

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

0.92

54.90

74.00

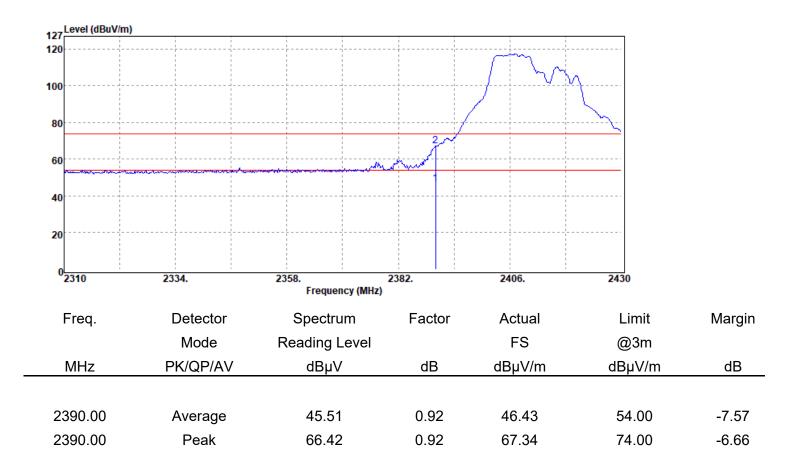
dB

-19.10



Report No.: ER/2020/B0046 Page: 95 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 106/53	Test Date	:2021-01-07
Test Frequency	:2412 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



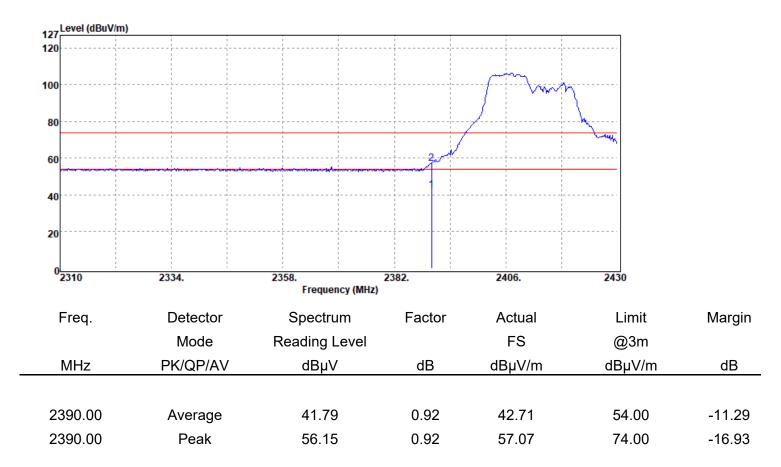
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Chieds data the Joans of Control to Boards of the Comparison of the Control of Contro documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



Report No.: ER/2020/B0046 Page: 96 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 106/53	Test Date	:2021-01-07
Test Frequency	:2412 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky

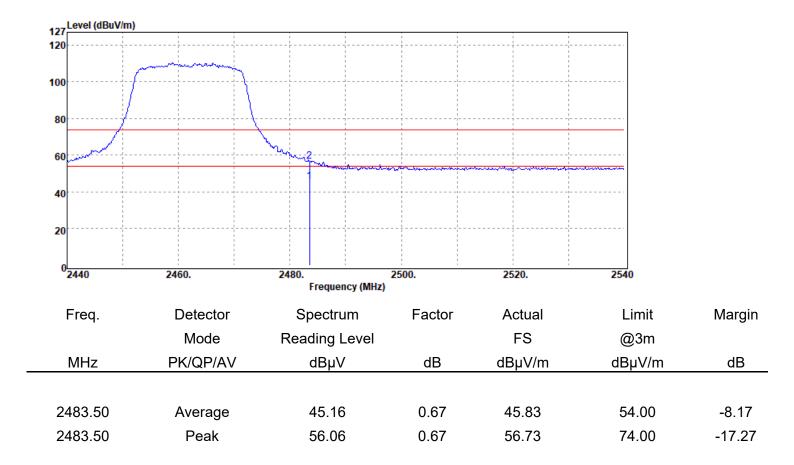


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 97 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU full	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick

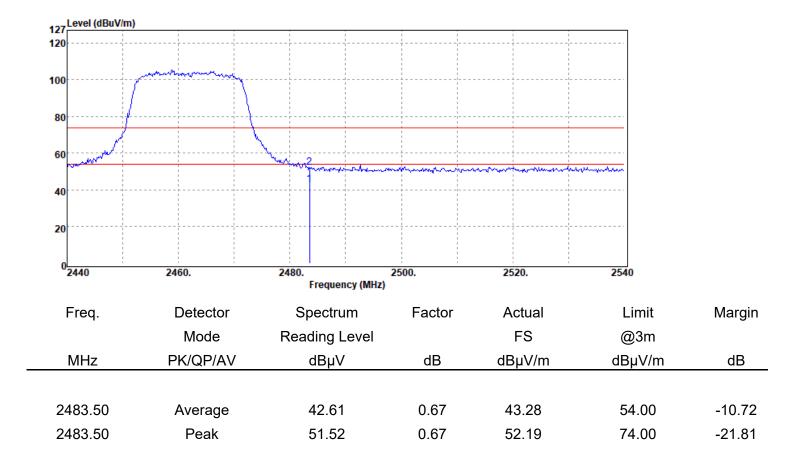


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 98 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU full	Test Date	:2020-12-03
Test Frequency	:2462 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick

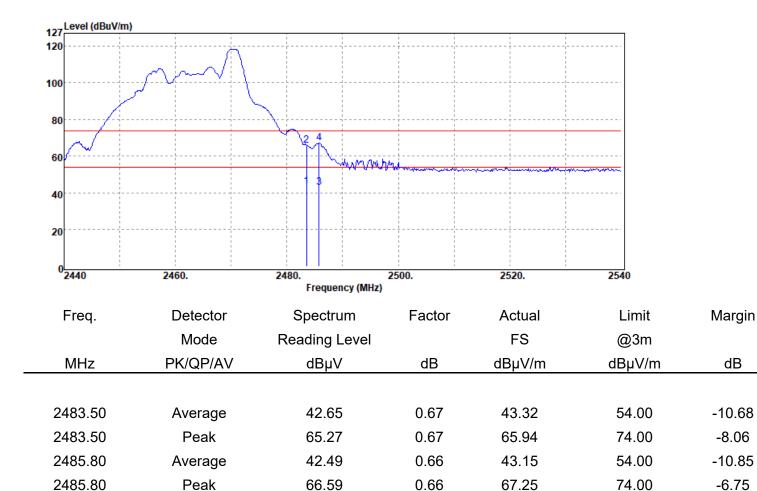


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 99 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 26/8	Test Date	:2021-01-07
Test Frequency	:2462 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



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

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

dB

-10.68

-8.06

-10.85

-6.75



# Report No.: ER/2020/B0046 Page: 100 of 166

Margin

dB

-11.58

-11.85

-11.75

-12.80

-11.88

-12.98

-11.89

-11.45

-12.00

-11.23

54.00

74.00

54.00

74.00

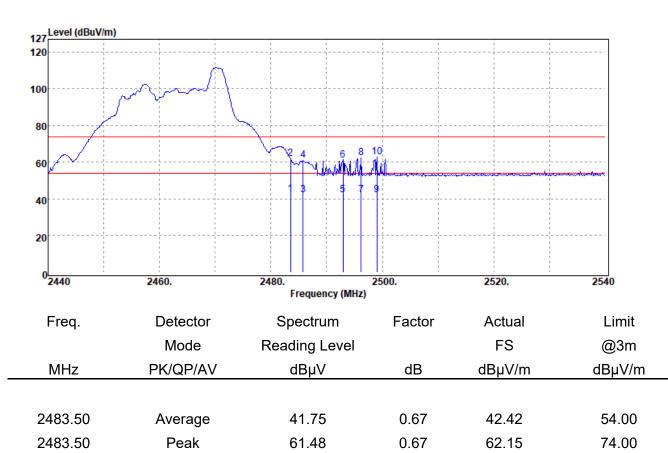
54.00

74.00

54.00

74.00

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 26/8	Test Date	:2021-01-07
Test Frequency	:2462 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



41.59

60.54

41.49

60.39

41.49

61.93

41.40

62.17

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

Average

Peak

Average

Peak

Average

Peak

Average

Peak

2485.80

2485.80

2492.90

2492.90

2496.20

2496.20

2499.00

2499.00

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

42.25

61.20

42.12

61.02

42.11

62.55

42.00

62.77

0.66

0.66

0.63

0.63

0.62

0.62

0.60

0.60



2484.50

# Report No.: ER/2020/B0046 Page: 101 of 166

Margin

dB

-10.37

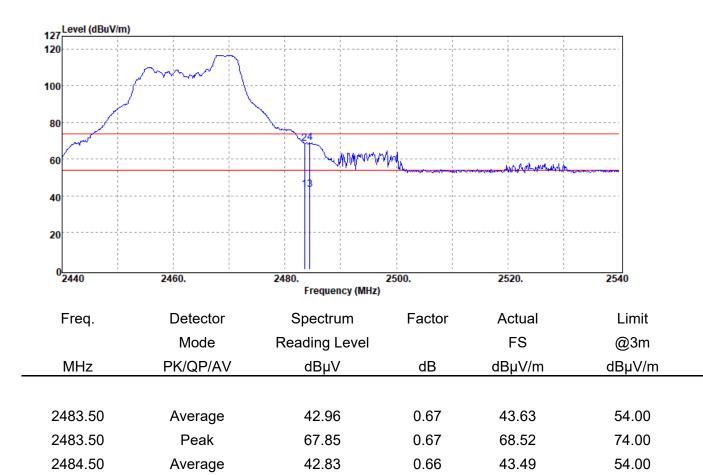
-5.48

-10.51

-5.04

74.00

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 52/40	Test Date	:2021-01-07
Test Frequency	:2462 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



68.30

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.

Peak

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

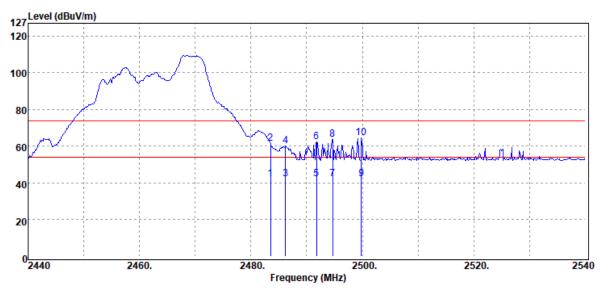
0.66

68.96



# Report No.: ER/2020/B0046 Page: 102 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 52/40	Test Date	:2021-01-07
Test Frequency	:2462 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Average	41.67	0.67	42.34	54.00	-11.66
2483.50	Peak	60.94	0.67	61.61	74.00	-12.39
2486.20	Average	41.57	0.65	42.22	54.00	-11.78
2486.20	Peak	59.54	0.65	60.19	74.00	-13.81
2491.80	Average	41.54	0.63	42.17	54.00	-11.83
2491.80	Peak	61.96	0.63	62.59	74.00	-11.41
2494.70	Average	41.47	0.62	42.09	54.00	-11.91
2494.70	Peak	63.02	0.62	63.64	74.00	-10.36
2499.80	Average	41.43	0.60	42.03	54.00	-11.97
2499.80	Peak	63.79	0.60	64.39	74.00	-9.61

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.

Unless otherwise stated 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>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.



2485.20

2485.20

# Report No.: ER/2020/B0046 Page: 103 of 166

Margin

dB

-10.45

-5.99

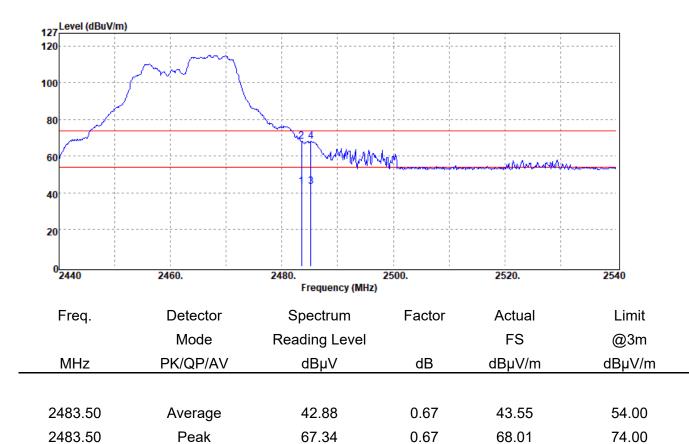
-10.65

-5.97

54.00

74.00

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 106/54	Test Date	:2021-01-07
Test Frequency	:2462 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



42.69

67.37

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.

Average

Peak

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

0.66

0.66

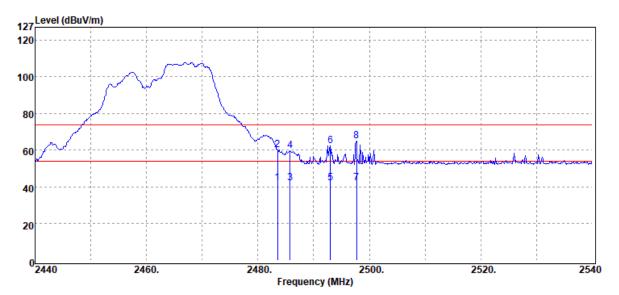
43.35

68.03



# Report No.: ER/2020/B0046 Page: 104 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax20 RU 106/54	Test Date	:2021-01-07
Test Frequency	:2462 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Average	41.69	0.67	42.36	54.00	-11.64
2483.50	Peak	59.72	0.67	60.39	74.00	-13.61
2485.80	Average	41.55	0.66	42.21	54.00	-11.79
2485.80	Peak	58.91	0.66	59.57	74.00	-14.43
2493.00	Average	41.43	0.63	42.06	54.00	-11.94
2493.00	Peak	61.94	0.63	62.57	74.00	-11.43
2497.70	Average	41.39	0.61	42.00	54.00	-12.00
2497.70	Peak	64.43	0.61	65.04	74.00	-8.96

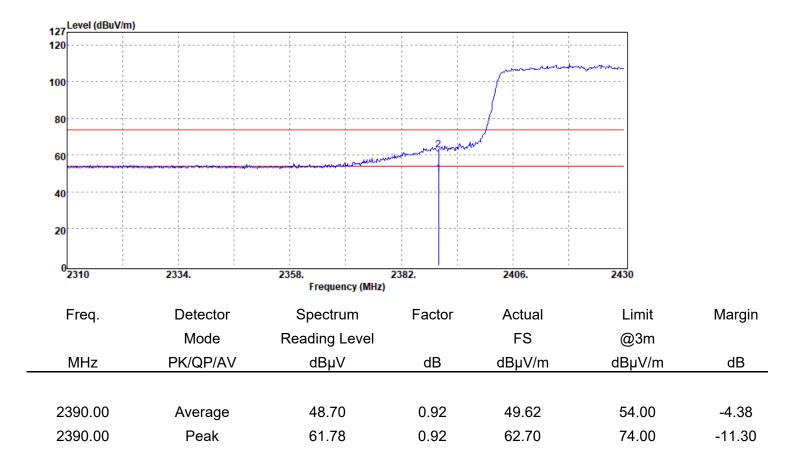
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results shown in this test report 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>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.



# Report No.: ER/2020/B0046 Page: 105 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU full	Test Date	:2020-12-03
Test Frequency	:2422 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



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



100

80

60

40

20

0<mark>\_\_\_\_\_2310</mark>

Freq.

MHz

2390.00

2390.00

2334.

Detector

Mode

PK/QP/AV

Average

Peak

# Report No.: ER/2020/B0046 Page: 106 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber			
Operation Mode	:802.11ax40 RU full	Test Date	:2020-12-03			
Test Frequency	:2422 MHz	Temp./Humi.	:23.0/58			
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL			
EUT Pol	:H Plane	Engineer	:Nick			
127 Level (dBuV/m)						
120						

2382.

Factor

dB

0.92

0.92

Frequency (MHz)

Spectrum

Reading Level

dBµV

44.61

60.29

2406.

Actual

FS

dBµV/m

45.53

61.21

2430

Limit

@3m

dBµV/m

54.00

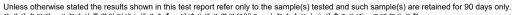
74.00

Margin

dB

-8.47

-12.79



2358.



2387.16

2390.00

2390.00

# Report No.: ER/2020/B0046 Page: 107 of 166

Margin

dB

-6.35

-3.07

-3.53

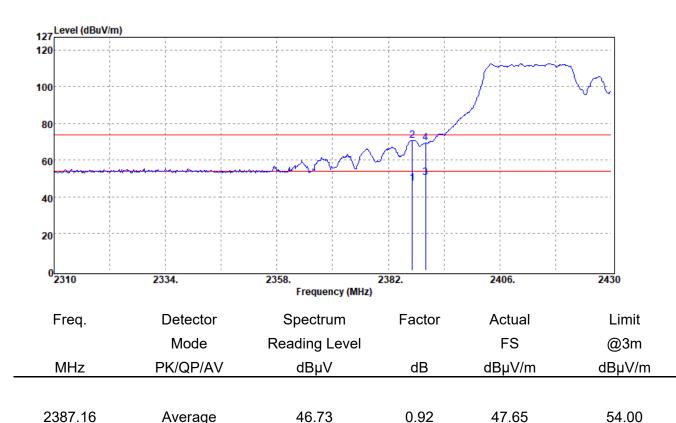
-4.58

74.00

54.00

74.00

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU 242/61	Test Date	:2021-01-07
Test Frequency	:2422 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



70.01

49.55

68.50

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

Peak

Average

Peak

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

0.92

0.92

0.92

70.93

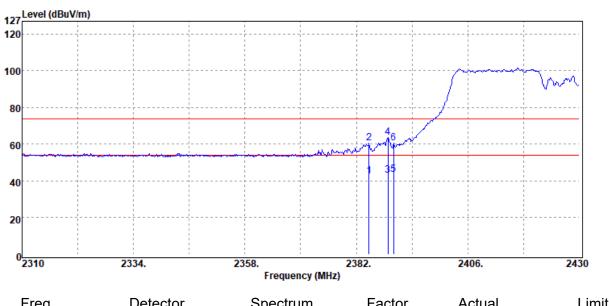
50.47

69.42



# Report No.: ER/2020/B0046 Page: 108 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU 242/61	Test Date	:2021-01-07
Test Frequency	:2422 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH Low	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2384.76	Average	41.56	0.93	42.49	54.00	-11.51
2384.76	Peak	59.79	0.93	60.72	74.00	-13.28
2388.84	Average	42.12	0.91	43.03	54.00	-10.97
2388.84	Peak	62.64	0.91	63.55	74.00	-10.45
2390.00	Average	42.39	0.92	43.31	54.00	-10.69
2390.00	Peak	59.86	0.92	60.78	74.00	-13.22

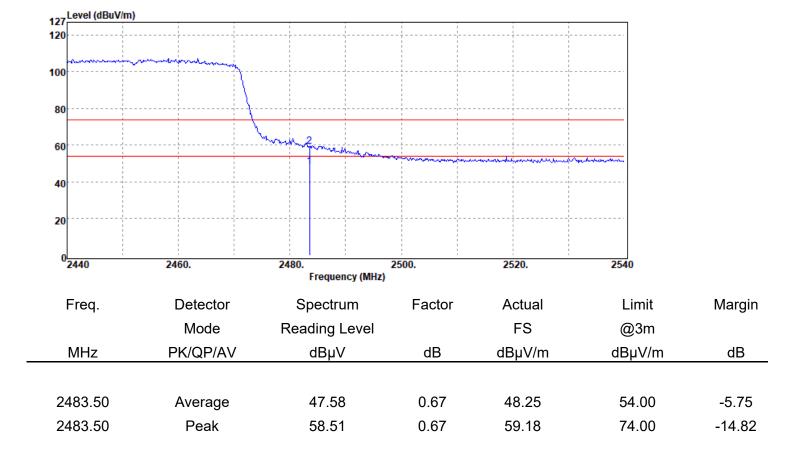
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results shown in this test report 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>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.



# Report No.: ER/2020/B0046 Page: 109 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU full	Test Date	:2020-12-03
Test Frequency	:2452 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



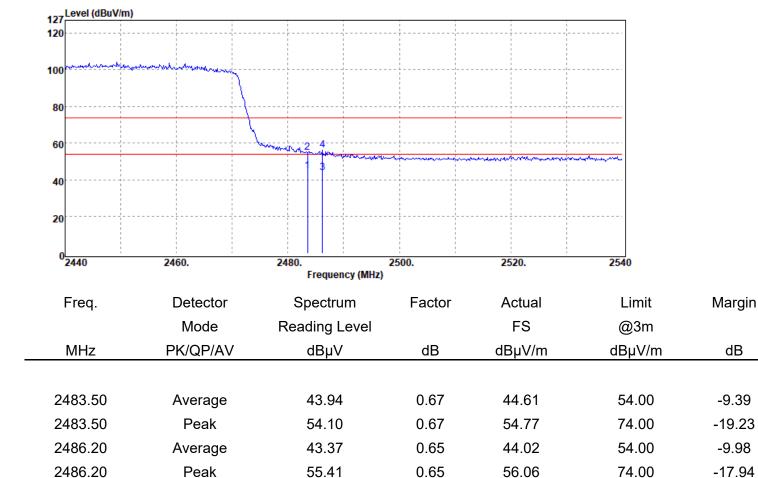
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



# Report No.: ER/2020/B0046 Page: 110 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU full	Test Date	:2020-12-03
Test Frequency	:2452 MHz	Temp./Humi.	:23.0/58
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick



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

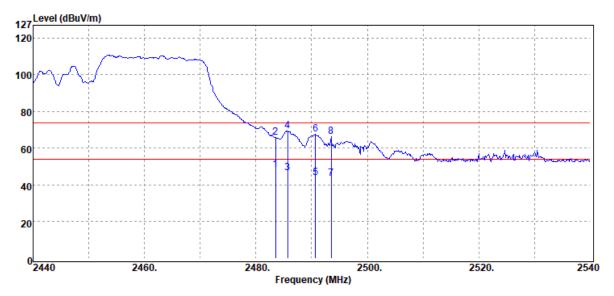
Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document 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.

dB



# Report No.: ER/2020/B0046 Page: 111 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU 242/62	Test Date	:2021-01-07
Test Frequency	:2452 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



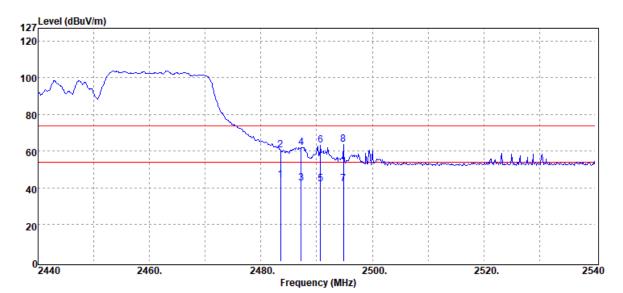
Detector	Spectrum	Factor	Actual	Limit	Margin
Mode	Reading Level		FS	@3m	
PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
Average	47.72	0.67	48.39	54.00	-5.61
Peak	65.22	0.67	65.89	74.00	-8.11
Average	45.76	0.66	46.42	54.00	-7.58
Peak	68.79	0.66	69.45	74.00	-4.55
Average	43.15	0.64	43.79	54.00	-10.21
Peak	66.91	0.64	67.55	74.00	-6.45
Average	42.69	0.63	43.32	54.00	-10.68
Peak	65.88	0.63	66.51	74.00	-7.49
	Mode PK/QP/AV Average Peak Average Peak Average Peak Average	ModeReading LevelPK/QP/AVdBµVAverage47.72Peak65.22Average45.76Peak68.79Average43.15Peak66.91Average42.69	Mode         Reading Level           PK/QP/AV         dBμV         dB           Average         47.72         0.67           Peak         65.22         0.67           Average         45.76         0.66           Peak         68.79         0.66           Average         43.15         0.64           Peak         66.91         0.64           Average         42.69         0.63	ModeReading LevelFSPK/QP/AVdBμVdBdBμV/mAverage47.720.6748.39Peak65.220.6765.89Average45.760.6646.42Peak68.790.6669.45Average43.150.6443.79Peak66.910.6467.55Average42.690.6343.32	ModeReading LevelFS@3mPK/QP/AVdBµVdBdBµV/mdBµV/mAverage47.720.6748.3954.00Peak65.220.6765.8974.00Average45.760.6646.4254.00Peak68.790.6669.4574.00Average43.150.6443.7954.00Peak66.910.6467.5574.00Average42.690.6343.3254.00

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



# Report No.: ER/2020/B0046 Page: 112 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU 242/62	Test Date	:2021-01-07
Test Frequency	:2452 MHz	Temp./Humi.	:21.1/56
Test Mode	:Bandedge CH High	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Ricky



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Average	43.66	0.67	44.33	54.00	-9.67
2483.50	Peak	59.89	0.67	60.56	74.00	-13.44
2487.20	Average	42.06	0.65	42.71	54.00	-11.29
2487.20	Peak	61.51	0.65	62.16	74.00	-11.84
2490.70	Average	41.61	0.64	42.25	54.00	-11.75
2490.70	Peak	62.73	0.64	63.37	74.00	-10.63
2494.80	Average	41.57	0.62	42.19	54.00	-11.81
2494.80	Peak	63.17	0.62	63.79	74.00	-10.21

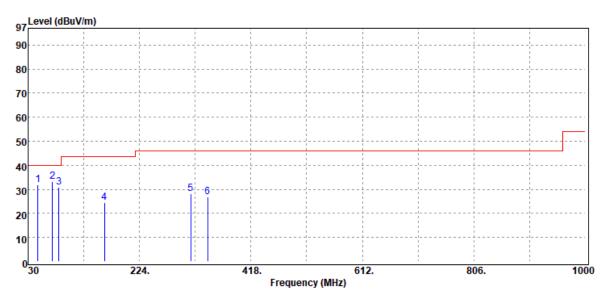
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# Report No.: ER/2020/B0046 Page: 113 of 166

## 11.7.2 Below 1GHz Worst-Case Emission:

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11g	Test Date	:2021-01-12
Test Frequency	:2437 MHz	Temp./Humi.	:21.0/39
Test Mode	:Tx CH Mid	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
47.46	Peak	40.12	-8.12	32.00	40.00	-8.00
72.68	Peak	43.91	-10.79	33.12	40.00	-6.88
83.35	Peak	43.97	-12.95	31.02	40.00	-8.98
162.89	Peak	31.91	-7.29	24.62	43.50	-18.88
313.24	Peak	34.04	-5.89	28.15	46.00	-17.85
342.34	Peak	31.64	-4.95	26.69	46.00	-19.31

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.

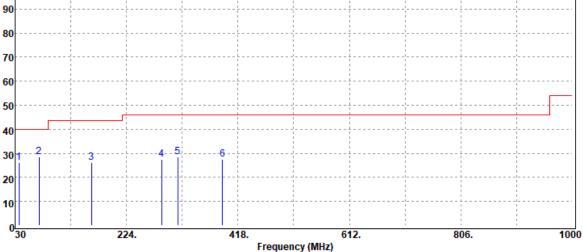
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Nq.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



# Report No.: ER/2020/B0046 Page: 114 of 166

Report Number	:ER-2020-B0046		Test Site	:SAC III Chamber
Operation Mode	:802.11g		Test Date	:2021-01-12
Test Frequency	:2437 MHz		Temp./Humi.	:21.0/39
Test Mode	:Tx CH Mid		Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane		Engineer	:Nick
97 Level (dBuV/m)				
51				



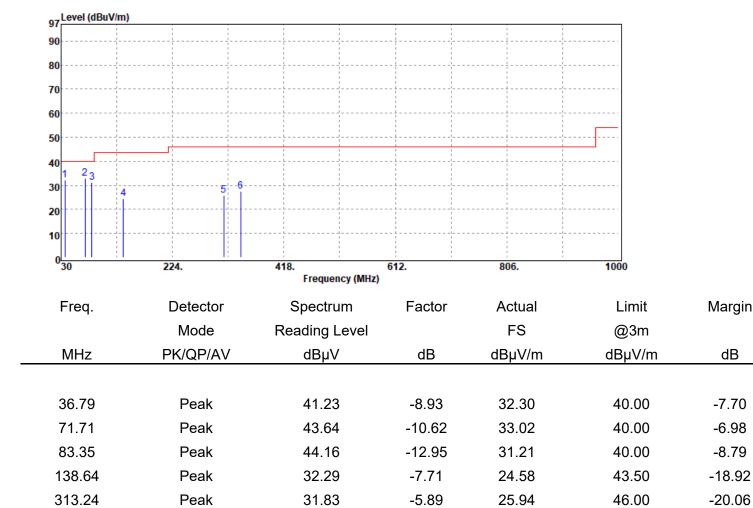
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
36.79	Peak	35.18	-8.93	26.25	40.00	-13.75
71.71	Peak	39.18	-10.62	28.56	40.00	-11.44
162.89	Peak	33.47	-7.29	26.18	43.50	-17.32
285.11	Peak	34.05	-6.41	27.64	46.00	-18.36
313.24	Peak	34.31	-5.89	28.42	46.00	-17.58
390.84	Peak	31.92	-4.43	27.49	46.00	-18.51

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.



# Report No.: ER/2020/B0046 Page: 115 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40	Test Date	:2021-01-12
Test Frequency	:2437 MHz	Temp./Humi.	:21.0/39
Test Mode	:Tx CH Mid	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Nick



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

32.53

Peak

Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document 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.

-4.95

27.58

46.00

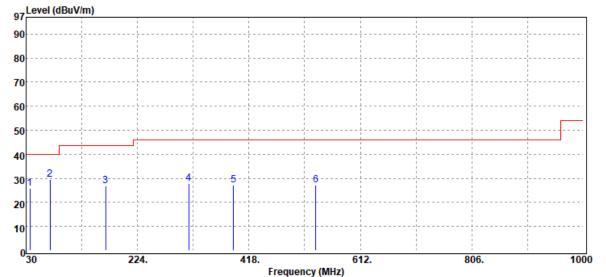
-18.42

SGS Taiwan Ltd. Nq.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



# Report No.: ER/2020/B0046 Page: 116 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11ax40	Test Date	:2021-01-12
Test Frequency	:2437 MHz	Temp./Humi.	:21.0/39
Test Mode	:Tx CH Mid	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane	Engineer	:Nick



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
36.79	Peak	34.66	-8.93	25.73	40.00	-14.27
71.71	Peak	40.02	-10.62	29.40	40.00	-10.60
168.71	Peak	34.39	-7.64	26.75	43.50	-16.75
313.24	Peak	33.83	-5.89	27.94	46.00	-18.06
390.84	Peak	31.65	-4.43	27.22	46.00	-18.78
534.40	Peak	29.69	-2.40	27.29	46.00	-18.71

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.

Unless otherwise stated 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>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

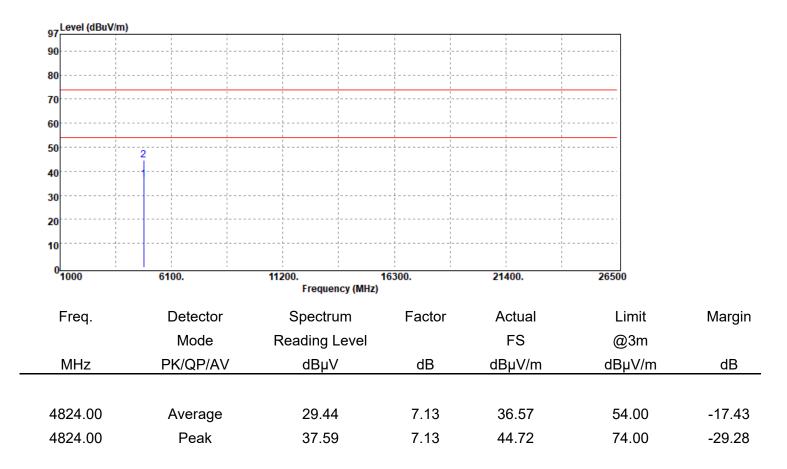
SGS Taiwan Ltd. Nq.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



# Report No.: ER/2020/B0046 Page: 117 of 166

#### 11.7.3 Above 1GHz Emission:

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber
Operation Mode	:802.11b	Test Date	:2021-01-12
Test Frequency	:2412 MHz	Temp./Humi.	:22.5/60
Test Mode	:Tx CH Low	Antenna Pol.	:VERTICAL
EUT Pol	:H Plane	Engineer	:Ricky



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

Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



4824.00

# Report No.: ER/2020/B0046 Page: 118 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	ration Mode :802.11b Frequency :2412 MHz Mode :Tx CH Low		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chamber :2020-12-04 :22.5/60 :HORIZONTAL :Ricky	
97 Level (dBuV/m)					
90					
80					
70					
60					
50					
2					
40					
30					
20					
10	L				
0 <mark></mark>	00. 11200. F	16300. requency (MHz)	21400.	26500	
Freq.	Detector Sp	ectrum Factor	Actual	Limit Marg	jin
	Mode Read	ing Level	FS	@3m	
MHz P	rK/QP/AV c	lBµV dB	dBµV/m	dBµV/m dB	

7.13

7.13

34.85

43.91

54.00

74.00

-19.15

-30.09

27.72

36.78

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

Average

Peak



# Report No.: ER/2020/B0046 Page: 119 of 166

Opera		de	:ER-202 :802.11 :2437 M :Tx CH :H Plan	1Hz Mid	)				Date o./Humi. nna Pol.	:20 :22 :VI	AC III Chan 20-12-04 2.5/60 ERTICAL cky	nber
	Level (dBuV	/m)										
97 90												
80												
70									· · ·	     		
60												
50		2				/			+		- ·	
40						, ,					- ·	
30						 /	 		 		- ·	
20			- - - -			J	- 					
10						   			, , , ,	   	- ·	
0	1000	6	100.	112		16: ncy (MHz)	300.	21	400.	26	500	
	Freq.		Detector		Spectru	ım	Factor	А	ctual		Limit	Margin
	-			_	-				50		~ ~	-

	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Average	27.95	7.51	35.46	54.00	-18.54
4874.00	Peak	36.59	7.51	44.10	74.00	-29.90

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.



# Report No.: ER/2020/B0046 Page: 120 of 166

Opera		:ER-202 :802.111 :2437 M :Tx CH :H Plane	lHz Mid		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chamber :2020-12-04 :22.5/60 :HORIZONTAL :Ricky
97	Level (dBuV/m)					
90						
80						
70						
60						
50		2				
40						
30						
20	       					
10						
0	1000	6100.	11200.	16300.	21400.	26500

		riequency (milz)				
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Average	27.12	7.51	34.63	54.00	-19.37
4874.00	Peak	36.30	7.51	43.81	74.00	-30.19

Frequency (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.



# Report No.: ER/2020/B0046 Page: 121 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B0046 :802.11b :2462 MHz :Tx CH High :H Plane		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chamber :2020-12-04 :22.5/60 :VERTICAL :Ricky
			-	
97 Level (dBuV/m)				
90				
80				
70				
60				
50				
40				
30				
20				
10				
0 <mark>1000 61</mark>	100. 11200. Freque	16300. ency (MHz)	21400.	26500
Гиса			Actual	Lingit Ma

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Average	26.86	7.84	34.70	54.00	-19.30
4924.00	Peak	35.80	7.84	43.64	74.00	-30.36

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.



## Report No.: ER/2020/B0046 Page: 122 of 166

Opera		Э	:ER-202 :802.111 :2462 M :Tx CH :H Plan	1Hz High				-	Date o./Humi. nna Pol.	:202 :22.8	RIZONTAL	
	Level (dBuV/n	1)										
97 90		., 										
80												
70												
60				       					· · · · · · · · · · · · · · · · · · ·			
50												
40		2					         					
		1										
30					     		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
20												
10												
0	1000	61	00.	112		16: cy (MHz)	300.	21	400.	2650	0	
	Eroa	г	Detector		Spectru	m	Factor	^	ctual		imit	Mar

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Average	26.29	7.84	34.13	54.00	-19.87
4924.00	Peak	35.97	7.84	43.81	74.00	-30.19

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



## Report No.: ER/2020/B0046 Page: 123 of 166

Opera		:ER-2020-B :802.11g :2412 MHz :Tx CH Low :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chamb :2020-12-04 :22.5/60 :VERTICAL :Ricky	ber
07	Level (dBuV/m)						
97 90							
80							
70							
60							
50	2						
40		·					
30							
20							
10							
0	1000	6100.	11200. Frequency (MHz)	16300.	21400.	26500	
	Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	-	Mode	Reading Level		FS	@3m	-
			-				

MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Average	26.94	7.13	34.07	54.00	-19.93
4824.00	Peak	37.08	7.13	44.21	74.00	-29.79

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



# Report No.: ER/2020/B0046 Page: 124 of 166

Opera		:ER-2020-E :802.11g :2412 MHz :Tx CH Low :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chan :2020-12-04 :22.5/60 :HORIZONTA :Ricky	
97	Level (dBuV/m)						
90							
80							
70							
60		L					
50			· · · · · · · · · · · · · · · · · · ·				
40		2					
30		1					
20							
10							
0	1000	6100.	11200. Frequency (MHz)	16300.	21400.	26500	
	Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
	MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
48	824.00	Average	26.93	7.13	34.06	54.00	-19.94

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.

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

7.13

37.07

44.20

74.00

-29.80



4874.00

# Report No.: ER/2020/B0046 Page: 125 of 166

Opera		de	:ER-202 :802.11 :2437 M :Tx CH :H Plan	1Hz Mid				-	Date o./Humi. nna Pol.	:202 :22.	C III Chan 20-12-04 5/60 RTICAL ky	nber
97	Level (dBuV	/m)									_	
90-												
80			- - - - - -									
70				· · · · · · · · · · · · · · · · · · ·		     						
60		i i J					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
50		2	   	· · · · · · · · · · · · · · · · · · ·		   						
40		Ī				       						
30						, , , , ,	4					
20			, , , , ,	· · · · · · · · · · · · · · · · · · ·		       				 		
10			       			       				   		
0	1000	6	100.	1120		16 ncy (MHz)	300.	21	400.	265	_ DO	
F	Freq.		Detector		Spectru	ım	Factor	A	ctual	I	Limit	Margin
			Mode	Re	eading L	evel			FS	(	@3m	
	MHz	F	PK/QP/A	/	dBµV	,	dB	dE	βµV/m	dE	3µV/m	dB

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

Average

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

7.51

7.51

26.93

36.79

34.44

44.30

54.00

74.00

-19.56

-29.70



# Report No.: ER/2020/B0046 Page: 126 of 166

Report Numb Operation Mo Test Frequen Test Mode EUT Pol	ode : icy :	ER-2020-B0046 802.11g 2437 MHz Tx CH Mid H Plane	5		-	Date o./Humi. nna Pol.	:2020 :22.5/	ZONTAL
97	ıV/m)							
90								
80						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
70						· · · · · · · · · · · · · · · · · · ·		
60								
50								
	2							
40								
30								
20				1				
10					·			
0 <sup>L</sup> 1000	6100	. 112	200. Frequency	16300. (MHz)	21	400.	26500	

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Average	26.89	7.51	34.40	54.00	-19.60
4874.00	Peak	37.85	7.51	45.36	74.00	-28.64

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.



### Report No.: ER/2020/B0046 Page: 127 of 166

nber \L
Margin
dB

7.84

44.77

74.00

-29.23

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.

36.93

Peak



## Report No.: ER/2020/B0046 Page: 128 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-E :802.11g :2462 MHz :Tx CH Hig :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chan :2020-12-04 :22.5/60 :HORIZONTA :Ricky	
97 Level (dBuV/m)						
90			· · · · · · · · · · · · · · · · · · ·			
80						
70	               					
60	               					
50				· · · · · · · · · · · · · · · · · · ·		
40						
30	                     					
20						
10						
01000	6100.	11200. Frequency (MH	16300.  z)	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	-
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Average	26.27	7.84	34.11	54.00	-19.89

36.45

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.

Peak

4924.00

Unless otherwise stated 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>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

44.29

74.00

-29.71

7.84



4824.00

# Report No.: ER/2020/B0046 Page: 129 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B :802.11n20 :2412 MHz :Tx CH Low :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :VERTICAL :Ricky	ber
97 Level (dBuV/m)						
97						
80						
70						
60						
50						
2						
40						
30						
20						
10						
0 <mark></mark> 1000	6100.	11200. 1 Frequency (MHz)	6300.	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB

27.05

37.21

7.13

7.13

34.18

44.34

54.00

74.00

-19.82

-29.66

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

Average

Peak



# Report No.: ER/2020/B0046 Page: 130 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B :802.11n20 :2412 MHz :Tx CH Low :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :HORIZONTAI :Ricky	
97						
90						
80						
70			· · · · · · · · · · · · · · · · · · ·			
60						
50	·			· · · · · · · · · · · · · · · · · · ·		
40						
30						
20						
10						
01000	6100.	11200. Frequency (MHz)	16300.	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
·	Mode	Reading Level		FS	@3m	•
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Average	26.99	7.13	34.12	54.00	-19.88

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

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 excoverate 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.

7.13

44.00

36.87

74.00

-30.00



4874.00

# Report No.: ER/2020/B0046 Page: 131 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B00 :802.11n20 :2437 MHz :Tx CH Mid :H Plane	046		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :VERTICAL :Ricky	ber
97 Level (dBuV/m)						
90						
80						
70						
60						
50 2						
40	- L	L J		<sup>1</sup> <sup>1</sup> 1 1 1		
30						
20						
10						
0 <mark></mark> 1000 61	100.	11200. 16 Frequency (MHz)	300.	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz F	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB

27.04

36.71

7.51

7.51

34.55

44.22

54.00

74.00

-19.45

-29.78

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

Average

Peak



# Report No.: ER/2020/B0046 Page: 132 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-E :802.11n20 :2437 MHz :Tx CH Mid :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chambe :2020-12-04 :22.5/60 :HORIZONTAL :Ricky	۶r
97 						
97	· · · · · · · · · · · · · · · · · · ·					
80						
70						
60						
50			·			
40		· · · · · · · · · · · · · · · · · · ·	· 1			
30						
20						
10						
0 1000	6100.	11200. Frequency (MHz	16300. )	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Mar

Freq.	Detector	etector Spectrum		Actual	Limit	Margin	
	Mode	Reading Level		FS	@3m		
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB	
4874.00	Average	27.03	7.51	34.54	54.00	-19.46	
4874.00	Peak	37.56	7.51	45.07	74.00	-28.93	

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.



### Report No.: ER/2020/B0046 Page: 133 of 166

Operation Mode	:802.11n20			Test Date	:2020-12-04
Test Frequency	:2462 MHz			Temp./Humi.	:22.5/60
Test Mode	:Tx CH Higl	ו		Antenna Pol.	:VERTICAL
EUT Pol	:H Plane			Engineer	:Ricky
97 Level (dBuV/m)					
90					
80					
70					
60					
50					
40					
30					
20					
10					
<sup>0</sup> 1000	6100.	11200. Frequency (MHz	16300. )	21400.	26500
Freq.	Detector	Spectrum	Factor	Actual	Limit Ma

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Average	26.41	7.84	34.25	54.00	-19.75
4924.00	Peak	36.85	7.84	44.69	74.00	-29.31

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.



4924.00

# Report No.: ER/2020/B0046 Page: 134 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B0046 :802.11n20 :2462 MHz :Tx CH High :H Plane		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chambe :2020-12-04 :22.5/60 :HORIZONTAL :Ricky	r
97					
97					
80					
70					
60					
50 2					
40					
30					
20					
10					
0 <mark>6</mark>	100. 11200. Frequ	16300. ency (MHz)	21400.	26500	
Freq.	Detector Spectr	rum Factor	Actual	Limit	Margin
	Mode Reading	Level	FS	@3m	
MHz F	PK/QP/AV dBµ	V dB	dBµV/m	dBµV/m	dB

7.84

7.84

34.17

44.06

54.00

74.00

-19.83

-29.94

26.33

36.22

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

Average

Peak



4844.00

## Report No.: ER/2020/B0046 Page: 135 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B0046 :802.11n40 :2422 MHz :Tx CH Low :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :VERTICAL :Ricky	ber
97 Level (dBuV/m)						
97 90				·		
80						
70				· · · · · · · · · · · · · · · · · · ·		
60						
50 2						
40						
30				·		
20				·		
10						
0 <mark>1000 6</mark>	100. 1	1200. Frequency (M	16300. Hz)	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Leve	I	FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB

27.51

37.14

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

Average

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

7.12

7.12

34.63

44.26

54.00

74.00

-19.37

-29.74



### Report No.: ER/2020/B0046 Page: 136 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B0046 :802.11n40 :2422 MHz :Tx CH Low :H Plane		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :HORIZONTA :Ricky		
97 Level (dBuV/m)						
90						
80				· · · · · · · · · · · · · · · · · · ·		
70						
60						
50 2						
40						
30						
20				· · · · · · · · · · · · · · · · · · ·		
10						
0 <mark></mark> 1000	6100.	11200. Frequency (MH	16300.  z)	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4844.00	Average	27.38	7.12	34.50	54.00	-19.50

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

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

7.12

44.32

-29.68

74.00

37.20



4874.00

# Report No.: ER/2020/B0046 Page: 137 of 166

Report Numbe Operation Mod Test Frequency Test Mode EUT Pol	le :802.11n40 y :2437 MHz	:ER-2020-B0046 :802.11n40 :2437 MHz :Tx CH Mid :H Plane		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :VERTICAL :Ricky	ber
97	m)					
97						
80						
70						
60						
50						
	2					
40						
30						
20						
10						
0 <mark>1000</mark>	6100.	11200. Frequency (MHz)	16300.	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB

27.03

36.99

7.51

7.51

34.54

44.50

54.00

74.00

-19.46

-29.50

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

Average

Peak



# Report No.: ER/2020/B0046 Page: 138 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	eration Mode :802.11n40 et Frequency :2437 MHz et Mode :Tx CH Mid			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chambe :2020-12-04 :22.5/60 :HORIZONTAL :Ricky	ər
Level (dBuV/m)						
97 Level (dBuV/m)						
90						
80						
70						
60						
1						
50	2					
40						
30						
20		     	· · · · · · · · · · · · · · · · · · ·			
10						
10						
0 <sup>L</sup> 1000	6100.	11200. Frequency (MH	16300. z)	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Mar

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Average	26.91	7.51	34.42	54.00	-19.58
4874.00	Peak	36.96	7.51	44.47	74.00	-29.53

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.



4904.00

### Report No.: ER/2020/B0046 Page: 139 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	Mode :802.11n40		Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Chambe :2020-12-04 :22.5/60 :VERTICAL :Ricky	er
97					
90					
80					
70					
60					
50 2					
40					
30					
20					
10					
0		10000			
0 1000 61	100. 11200. Free	16300. juency (MHz)	21400.	26500	
Freq.	Detector Spec	trum Factor	Actual	Limit	Margin
	Mode Readin	g Level	FS	@3m	
MHz F	PK/QP/AV dB	μV dB	dBµV/m	dBµV/m	dB

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

Average

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

7.93

7.93

26.56

36.31

34.49

44.24

54.00

74.00

-19.51

-29.76



# Report No.: ER/2020/B0046 Page: 140 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol	:ER-2020-B0046 :802.11n40 :2452 MHz :Tx CH High :H Plane			Test Site Test Date Temp./Humi. Antenna Pol. Engineer	:SAC III Cham :2020-12-04 :22.5/60 :HORIZONTA :Ricky	
97 Level (dBuV/m)			: : :			
90						
80						
70		· · · · · · · · · · · · · · · · · · ·				
60						
50	2					
40						
30						
20						
10						
0 <sup>L</sup> 1000	6100.	11200. Frequency (MHz)	16300.	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4904.00	Average	26.46	7.93	34.39	54.00	-19.61

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.

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 <u>http://www.sqs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. 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 is unawful and offenders may be prosecuted to the fullest extent of the law.

7.93

44.64

36.71

-29.36

74.00



# Report No.: ER/2020/B0046 Page: 141 of 166

Opera		е	:ER-2020-B0046 :802.11ax20 RU full :2412 MHz :Tx CH Low :H Plane		Test Temp Anter	Test Site Test Date Temp./Humi. Antenna Pol. Engineer		:SAC III Chamber :2020-12-04 :24.2/68 :VERTICAL :Ricky				
	l ovol (dBuV/	m)										
97 90	Level (dBuV/	,										
80											_	
70			L	/     	L							
60			L	/   	L				4		_	
50		2			, L				- 			
40			 	 	 	 /   	L		 	 		
30				 						- 		
20	 		, , , , ,	, , ,	, , , , , ,	: : : :			, , , , ,	: : :		
10			   	   	   	   	· · · · · · · · · · · · · · · · · · ·		   	  - 		
0	1000	61	00.	11:	200. Frequer	16: ncy (MHz)	300.	21	400.	265	500	
I	Freq.	I	Detector		Spectru	ım	Factor	А	ctual		Limit	Margin

	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Average	27.31	7.13	34.44	54.00	-19.56
4824.00	Peak	37.37	7.13	44.50	74.00	-29.50

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



30 20

# Report No.: ER/2020/B0046 Page: 142 of 166

Report Number	:ER-2020-B0046	Test	Site :S	AC III Chamber
Operation Mode	:802.11ax20 RU full	Test	Date :20	020-12-04
Test Frequency	:2412 MHz	Tem	p./Humi. :24	4.2/68
Test Mode	:Tx CH Low	Ante	enna Pol. :H	ORIZONTAL
EUT Pol	:H Plane	Eng	ineer :R	icky
97 Level (dBuV/m)				
90				
80				
70				
60				
50				
40				

10						
0 <mark></mark>	6100.	11200. Frequency (MHz)	16300.	21400.	26500	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Average	27.04	7.13	34.17	54.00	-19.83
4824.00	Peak	37.09	7.13	44.22	74.00	-29.78

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



10

0<mark>1000</mark>

Freq.

MHz

4874.00

4874.00

6100.

Detector

Mode

PK/QP/AV

Average

Peak

# Report No.: ER/2020/B0046 Page: 143 of 166

Repor	t Numbe	er		:ER-202	20-B0046	3			Test	Site	:SAC	C III Chamber
Opera	ition Mod	de		:802.11	ax20 RU	full			Test	Date	:202	0-12-04
Test F	requenc	у		:2437 N	1Hz				Temp	./Humi.	:24.2	2/68
Test M	lode			:Tx CH	Mid				Anter	nna Pol.	:VEF	RTICAL
EUT F	EUT Pol		:H Plane			Engir	Engineer		ку			
97	Level (dBuV	/m)										
90								1 1 1 1 1		     		
80					· · ·	     	· · · ·	1 1 1 1 	       	       	       	
70					       	   	       	       	   	       	   	
60		, , , ,			; /	, , , , ,	 	         	: : : :	       	: : : : :	
50		2			   	   	   	! ! ! !	! ! ! !	       	       	
40						, , ,	· · ·	; ;	: : :	· · ·	: : :	
30					 	I L L I	, , , ,	1 1 1 1 1	 		1 1 1 1 1	
20						   	       	       	   	-           	   	

16300.

Factor

dB

7.51

7.51

Frequency (MHz)

Spectrum

Reading Level

dBµV

27.14

36.19

21400.

Actual

FS

dBµV/m

34.65

43.70

26500

Limit

@3m

dBµV/m

54.00

74.00

Margin

dB

-19.35

-30.30

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.

11200.

Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



0<sup>L</sup> 1000

6100.

# Report No.: ER/2020/B0046 Page: 144 of 166

Report Number	:ER-2020-B0046		Test S	Site	:SAC III Chamber
Operation Mode	peration Mode :802.11ax20 RU full			Date	:2020-12-04
Test Frequency	:2437 MHz		Temp	./Humi.	:24.2/68
Test Mode	:Tx CH Mid		Anten	ina Pol.	:HORIZONTAL
EUT Pol	:H Plane		Engin	eer	:Ricky
97					
90			   		
80					
70					

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Average	26.93	7.51	34.44	54.00	-19.56
4874.00	Peak	36.73	7.51	44.24	74.00	-29.76

16300.

Frequency (MHz)

21400.

26500

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

11200.



# Report No.: ER/2020/B0046 Page: 145 of 166

Opera		de		High				-	Date ./Humi. nna Pol.	:2020 :24.2	TICAL
احم	Level (dBuV	/m)									
97 90					! !						
				1		1					
80											
70											
60			L	; /	L	, , , , ,			         		
50			   		   		I I I I I I I I I I I I I I I I I I I		       		
<b>40</b>		2		         	         	         					
30				; /	 	; /					
20				i i d							
10 <sup>-</sup>			       	1 1 1 1 1 1	   	         					
0	1000	: I 61	00.	112	200.	16	300.	21	400.	26500	

Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Average	26.42	7.84	34.26	54.00	-19.74
4924.00	Peak	36.14	7.84	43.98	74.00	-30.02

Frequency (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.



20 10

0<sup>L</sup> 1000

Freq.

MHz

4924.00

4924.00

6100.

Detector

Mode

PK/QP/AV

Average

Peak

# Report No.: ER/2020/B0046 Page: 146 of 166

Report Number	:ER-2020-B0046	Test Site	:SAC III Chamber	
Operation Mode	:802.11ax20 RU full	Test Date	:2020-12-04	
Test Frequency	:2462 MHz	Temp./Humi.	:24.2/68	
Test Mode	:Tx CH High	Antenna Pol.	:HORIZONTAL	
EUT Pol	:H Plane	Engineer	:Ricky	
97 Level (dBuV/m)				
90				
80				
70				
60				
502				
40				
30				

16300.

Factor

dB

7.84

7.84

Frequency (MHz)

Spectrum

Reading Level

dBµV

26.28

36.81

21400.

Actual

FS

dBµV/m

34.12

44.65

26500

Limit

@3m

dBµV/m

54.00

74.00

Margin

dB

-19.88

-29.35

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.

11200.

Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



30

# Report No.: ER/2020/B0046 Page: 147 of 166

Report Number	r	:ER-202	20-B0046	6			Test	Site	:SAC	CIII Chamber
Operation Mod	е	:802.11	ax40 RU	full			Test I	Date	:202	0-12-04
Test Frequency	/	:2422 N	/Hz				Temp	./Humi.	:24.2	2/68
Test Mode		:Tx CH	Low				Anter	nna Pol.	:VEF	RTICAL
EUT Pol		:H Plan	е				Engir	neer	:Ricl	ку
97 Level (dBuV/	m)									
90		: : : :			· · ·	1 1 1 1 1				
80										
70		   	   /	   	   	   				
60		   					 			
50	2	   	   /	   	   					
40		   			, , , ,					
								1		

6100.	11200. Frequency (MHz)	6300.	21400.	26500	
Detector	Spectrum	Factor	Actual	Limit	Margin
Mode	Reading Level		FS	@3m	
PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
Average	27.47	7.12	34.59	54.00	-19.41
Peak	37.19	7.12	44.31	74.00	-29.69
	Detector Mode PK/QP/AV Average	Frequency (MHz)DetectorSpectrumModeReading LevelPK/QP/AVdBµVAverage27.47	Frequency (MHz)DetectorSpectrumFactorModeReading LevelPK/QP/AVdBµVdBAverage27.477.12	Frequency (MHz)DetectorSpectrumFactorActualModeReading LevelFSPK/QP/AVdBµVdBdBµV/mAverage27.477.1234.59	Frequency (MHz)DetectorSpectrumFactorActualLimitModeReading LevelFS@3mPK/QP/AVdBµVdBdBµV/mdBµV/mAverage27.477.1234.5954.00

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



# Report No.: ER/2020/B0046 Page: 148 of 166

port Number	:ER-202	0-B0046		Test Site	:SAC III Chambo	
eration Mode	:802.11a	x40 RU full		Test Date	:2020-12-04	
st Frequency	:2422 M	Hz		Temp./Humi.	:24.2/68	
st Mode	:Tx CH l	_OW		Antenna Pol.	:HORIZONTAL	
IT Pol	:H Plane	•		Engineer	:Ricky	
97 Level (dBuV/m)						
90						
80						
70						
60			· · · · · · · · · · · · · · · · · · ·	· ·		
50	2					
40						
30						
20						
10						
0						
0 <u>1000</u>	6100.	11200. Froquer	16300. Icy (MHz)	21400.	26500	

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4844.00	Average	27.46	7.12	34.58	54.00	-19.42
4844.00	Peak	37.60	7.12	44.72	74.00	-29.28

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.



0<mark>\_\_\_\_\_</mark>

6100.

# Report No.: ER/2020/B0046 Page: 149 of 166

Report Number Operation Mode Test Frequency Test Mode EUT Pol 97		:ER-2020-B0046 :802.11ax40 RU full :2437 MHz :Tx CH Mid :H Plane					Test I Temp Anter	Test Site Test Date Temp./Humi. Antenna Pol. Engineer		C III Chamber 0-12-04 2/68 RTICAL ky		
97	Level (dBuV	//m)				i	i	i			1	
90					: 	 		1 1 1 1		1 1 1 1	 	
80					! ! !	       	1 1 1 	1 1 1 1 1	       	         	     	
70												
60					, , , ,	: : : 		: : :	: : : :	· · ·		
50												
			2		1 1 1	1	1	1	1	1	1	
40					/     	L		L		1		
30					/ ! !		/ ! !	     		- - - - - -		
20					 	 	 	1 +	 	1 4	 	
10					 	 	 	! ! ! !	 	       	 	

		Frequency (MHz)				
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Average	27.23	7.51	34.74	54.00	-19.26
4874.00	Peak	36.78	7.51	44.29	74.00	-29.71

16300.

21400.

26500

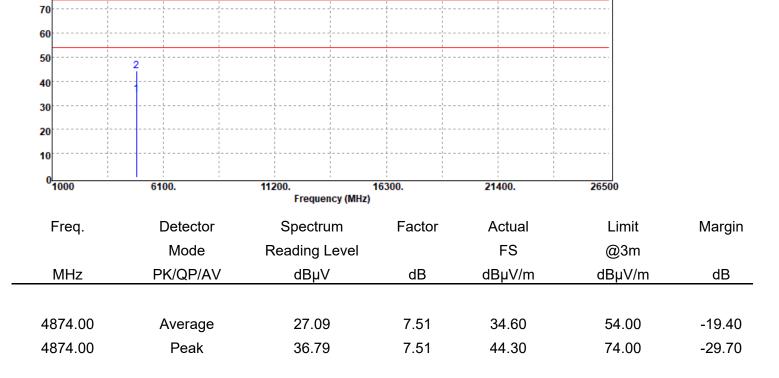
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

11200.



# Report No.: ER/2020/B0046 Page: 150 of 166

Report Number	:ER-2020-B0046		Test Site	:SAC III Chamber
Operation Mode	:802.11ax40 RU full	Test Date	:2020-12-04	
Test Frequency	:2437 MHz	Temp./Humi.	:24.2/68	
Test Mode	:Tx CH Mid		Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plane		Engineer	:Ricky
97				
90				
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.

Check 方式明明、此報告結果僅對測試之様品負責、同時此様品僅保留的方式。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format determine the set of the



# Report No.: ER/2020/B0046 Page: 151 of 166

0 <sup>1</sup> 1000	6100.	11200.	16300.	21400.	26500
10		·····			
20					
0					
0					
50	2				
60					
70					
80					
90					
97 Level (dBuV	//m)				
T Pol :H Plane Engineer		Engineer	:Ricky		
Mode	:Tx C	H High		Antenna Pol.	:VERTICAL
Frequenc	cy :2452	2 MHz	Temp./Humi.	:24.2/68	
ration Mo	de :802.	11ax40 RU full		Test Date	:2020-1
Report Number :ER-2020-B0046 Test Site :		:SAC I			

Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4904.00	Average	26.81	7.93	34.74	54.00	-19.26
4904.00	Peak	36.44	7.93	44.37	74.00	-29.63

Frequency (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.



0<sup>L</sup> 1000

6100.

# Report No.: ER/2020/B0046 Page: 152 of 166

Repor	t Numbe	er		:ER-202	20-B0040	5			Test S	Site	:SA0	C III Chamber
Operation Mode		:802.11ax40 RU full				Test I	Date	:202	0-12-04			
Test F	Test Frequency			:2452 MHz				Temp	./Humi.	:24.2	2/68	
Test N	lode			:Tx CH High				Anter	nna Pol.	:HO	RIZONTAL	
EUT F	EUT Pol			:H Plan	е				Engir	Engineer		κy
07	Level (dBuV	//m)										
97 90								! ! !				
80								1 1 1 	; ; ; 			
70					, , , , , ,			, , , , , , ,	, , , ,			
60					· · ·			· · ·	: : : :			
					1		   	1	1			
50		2	L		/			1				
40		1						1 1 1 1				
30			·  -		· /		- 	, , , ,	, , , ,			
20					1 	 	 	1 +	1 			
10					! !		 		!			

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4904.00	Average	26.65	7.93	34.58	54.00	-19.42
4904.00	Peak	36.87	7.93	44.80	74.00	-29.20

16300.

Frequency (MHz)

21400.

26500

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

11200.



# **12 POWER SPECTRAL DENSITY**

# 12.1 Standard Applicable

## Per Part 15.247 (e)

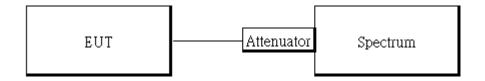
The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

## 12.2 Measurement Equipment Used

Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021				
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021				
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021				
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021				
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021				

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



# **12.4 Measurement Procedure**

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW = 3 kHz & VBW = 10 kHz.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure the PSD for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

## Note:

For the test of 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.

# 12.5 As per FCC KDB 662911 D01

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

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

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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



### where

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

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

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

 $G_k$  is the gain in dBi of the kth antenna.

The antenna gain is not grater than 6 dBi. Therefore, reduction of power is not required.

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

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夭。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>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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.



## 12.6 Power spectral density

	POWER DENSITY 802.11b								
Freq.	Ch0	PSD	Limit	Result					
(MHz)	PSD	(dBm/3kHz)	(dBm/3kHz)	Result					
2412	-3.13	-3.13	8.00	PASS					
2437	-3.05	-3.05	8.00	PASS					
2462	-3.89	-3.89	8.00	PASS					

	POWER DENSITY 802.11g								
Freq.	Ch0	PSD	Limit	Result					
(MHz)	PSD	(dBm/3kHz)	(dBm/3kHz)	Nesul					
2412	-5.65	-5.65	8.00	PASS					
2437	-5.8	-5.80	8.00	PASS					
2462	-4.63	-4.63	8.00	PASS					

POWER DENSITY 802.11n HT20								
Freq.	Ch0	Ch1	PSD	Limit	Result			
(MHz)	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)	Result			
2412	-4.65	-4.75	-1.69	8.00	PASS			
2437	-3.62	-4.67	-1.10	8.00	PASS			
2462	-4.1	-5.54	-1.75	8.00	PASS			

	POWER DENSITY 802.11ax HE20									
Freq.	RU	Ch0	Ch1	PSD	Limit	Result				
(MHz)	Config	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)	Nesuit				
	full	-7.05	-8.35	-4.64	8.00	PASS				
2412	26/0	-0.09	-0.94	2.52	8.00	PASS				
2412	52/37	-2.08	-3.14	0.43	8.00	PASS				
	106/53	-4.54	-5.37	-1.92	8.00	PASS				
2437	full	-6.76	-7.69	-4.19	8.00	PASS				
	full	-6.58	-8.64	-4.48	8.00	PASS				
2462	26/8	-0.3	-1.17	2.30	8.00	PASS				
2402	52/40	-1.81	-3.53	0.42	8.00	PASS				
	106/54	-4.27	-5.55	-1.85	8.00	PASS				

POWER DENSITY 802.11n HT40								
Freq.	Ch0	Ch1	PSD	Limit	Docult			
(MHz)	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)	Result			
2422	-7.36	-8.52	-4.89	8.00	PASS			
2437	-6.86	-8.4	-4.55	8.00	PASS			
2452	-7.42	-8.36	-4.85	8.00	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.



POWER DENSITY 802.11ax HE40									
Freq.	RU	Ch0	Ch1	PSD	Limit	Result			
(MHz)	Config	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)	Result			
2422	full	-8.23	-10.15	-6.07	8.00	PASS			
2422	242/61	-10.66	-11.89	-8.22	8.00	PASS			
2437	full	-9.06	-10.29	-6.62	8.00	PASS			
2452	full	-8.5	-10.37	-6.32	8.00	PASS			
ZHJZ	242/62	-9.93	-10.51	-7.20	8.00	PASS			

# Note

Cable Loss: 11.20 dB

\*Refer to next page for plots

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



### 802.11b\_20MHz\_Chain0\_2412MHz



### 802.11b\_20MHz\_Chain0\_2437MHz



# 802.11b\_20MHz\_Chain0\_2462MHz



# 802.11g\_20MHz\_Chain0\_2412MHz

Report No.: ER/2020/B0046

Page: 158 of 166



802.11g\_20MHz\_Chain0\_2437MHz



# 802.11g\_20MHz\_Chain0\_2462MHz



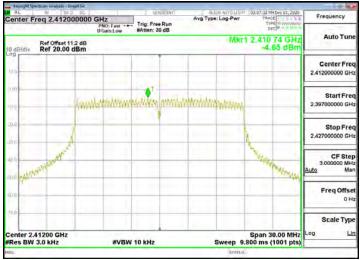
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

fullest extent of the law. SGS Taiwan Ltd. Nq.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



## 802.11n\_20MHz\_Chain0\_2412MHz



## 802.11n\_20MHz\_Chain0\_2437MHz



## 802.11n\_20MHz\_Chain0\_2462MHz



# Report No.: ER/2020/B0046 Page: 159 of 166

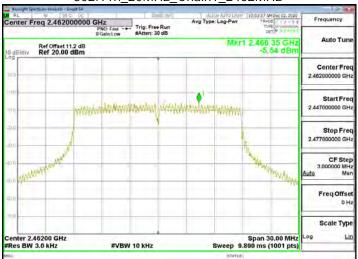
### 802.11n\_20MHz\_Chain1\_2412MHz



### 802.11n\_20MHz\_Chain1\_2437MHz



### 802.11n\_20MHz\_Chain1\_2462MHz



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

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

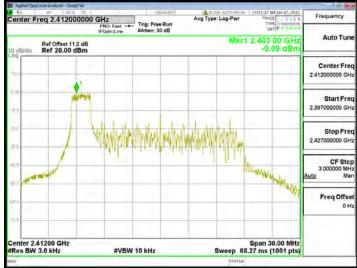
SGS Taiwan Ltd. Nq.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



### 802.11ax\_20MHz\_Chain0\_2412MHz



### 802.11ax\_20MHz\_Chain0\_2412MHz\_RU26\_0



## 802.11ax\_20MHz\_Chain0\_2412MHz\_RU52\_37



# Report No.: ER/2020/B0046 Page: 160 of 166

### 802.11ax\_20MHz\_Chain0\_2412MHz\_RU106\_53



802.11ax\_20MHz\_Chain0\_2437MHz



### 802.11ax\_20MHz\_Chain0\_2462MHz



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

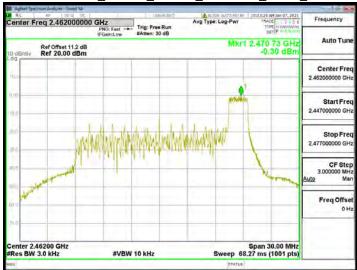
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw

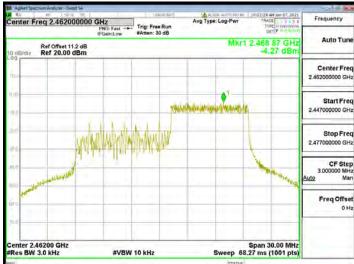


## 802.11ax\_20MHz\_Chain0\_2462MHz\_RU26\_8



#### 802.11ax 20MHz Chain0 2462MHz RU52 40 Avg Type: Log-Pwr Frequency Mkr1 2.467 76 GHz -1.81 dBn Auto Tu Ref Offset 11.2 dB Ref 20.00 dBm Center Free 2 452000000 G Start Fre MAN MALAN 2.447000000 GH www. Stop Fre 2.477000000 GH CF Step 3.000000 MH THE REAL M Freq Offse OH er 2.46200 GHz BW 3.0 kHz Span 30.00 MHz Sweep 68.27 ms (1001 pts) #VBW 10 kHz

### 802.11ax 20MHz Chain0 2462MHz RU106 54



# Report No.: ER/2020/B0046 Page: 161 of 166

# 802.11ax\_20MHz\_Chain1\_2412MHz



802.11ax 20MHz Chain1 2412MHz RU26 0



# 802.11ax\_20MHz\_Chain1\_2412MHz RU52 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90天。本報告未經本公司書面許可,不可部份複製

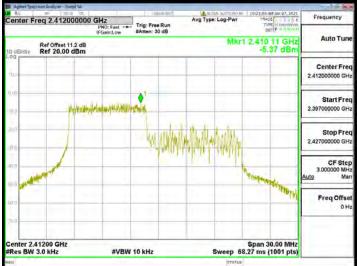
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com. tw/Terms -and-Conditions and for electronic format This document is issued by the Company subject to its General Conditions on Service printed overlear, available on request or accessible at <u>http://www.sgs.com.uv/terms-and-conditions</u> and for electronic formation documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.uv/terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indeminication 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

www.sgs.com.tw



# 802.11ax\_20MHz\_Chain1\_2412MHz\_RU106\_53



### 802.11ax\_20MHz\_Chain1\_2437MHz

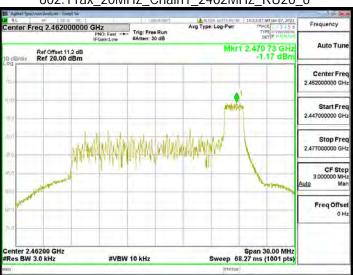


# 802.11ax\_20MHz\_Chain1\_2462MHz

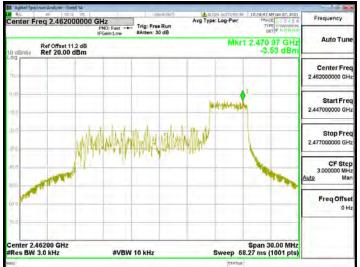


# Report No.: ER/2020/B0046 Page: 162 of 166

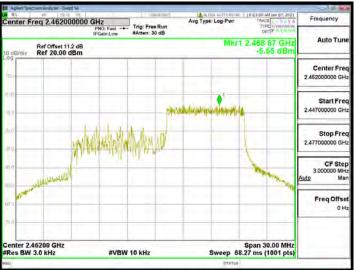
## 802.11ax\_20MHz\_Chain1\_2462MHz\_RU26\_8



802.11ax\_20MHz\_Chain1\_2462MHz\_RU52\_40



### 802.11ax\_20MHz\_Chain1\_2462MHz\_RU106\_54



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

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

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

 台灣檢驗科技股份有限公司
 t (886-2) 2299-3279
 f (886-2) 2298-0488
 www.sgs.com.tw



# Report No.: ER/2020/B0046 Page: 163 of 166

## 802.11n\_40MHz\_Chain0\_2422MHz



### 802.11n\_40MHz\_Chain0\_2437MHz



# 802.11n\_40MHz\_Chain0\_2452MHz



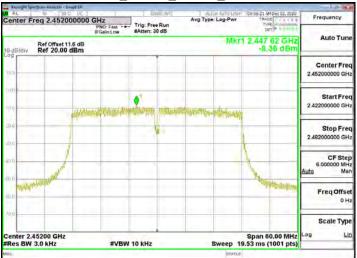
# 802.11n\_40MHz\_Chain1\_2422MHz



### 802.11n\_40MHz\_Chain1\_2437MHz



### 802.11n\_40MHz\_Chain1\_2452MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

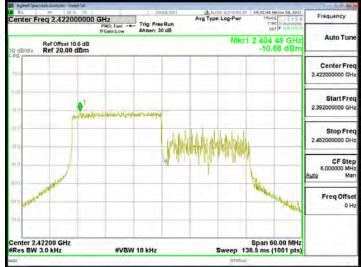




### 802.11ax\_40MHz\_Chain0\_2422MHz



### 802.11ax\_40MHz\_Chain0\_2422MHz\_RU242\_61



# 802.11ax\_40MHz\_Chain0\_2437MHz

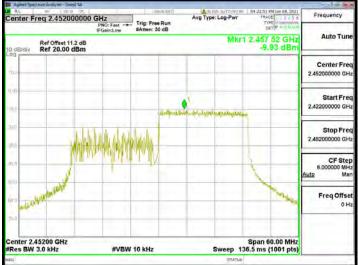


# Report No.: ER/2020/B0046 Page: 164 of 166

### 802.11ax\_40MHz\_Chain0\_2452MHz



### 802.11ax\_40MHz\_Chain0\_2452MHz\_RU242\_62



### 802.11ax\_40MHz\_Chain1\_2422MHz



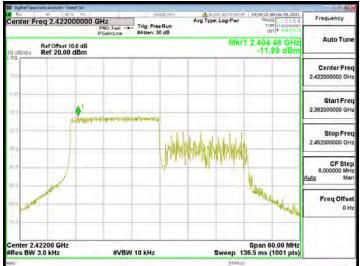
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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



# 802.11ax\_40MHz\_Chain1\_2422MHz\_RU242\_61



### 802.11ax\_40MHz\_Chain1\_2437MHz



### 802.11ax\_40MHz\_Chain1\_2452MHz



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

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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

# Report No.: ER/2020/B0046 Page: 165 of 166

## 802.11ax\_40MHz\_Chain1\_2452MHz\_RU242\_62



SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



# **13 ANTENNA REQUIREMENT**

# 13.1 Standard Applicable

For intentional device, 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.

If the transmitting antenna is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi.

# 13.2 Antenna Connected Construction

The antenna is designed with unique RF connector 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.

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 <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. 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 event of the law