

Page 1 of 72

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C AND INDUSTRY CANADA RSS 247 REQUIREMENT

OF

Applicant: **GOOGLE LLC**

1600 AMPHITHEATRE PARKWAY MOUNTAIN VIEW, CALIFORNIA

94043

Product Name: Glass Enterprise Edition 2

Brand Name: GLASS Model No.: GG2 Model Difference: N/A

FCC ID: A4R-GG2 IC: 10395A-GG2 E2/2018/80048 **Report Number: FCC Rule Part:** §15.247, Cat: DTS

IC Rule Part: RSS-247 issue 2 Feb 2017

Issue Date: Nov. 05, 2018

Aug. 08, 2018 ~ Sep. 05, 2018 Date of Test:

Date of EUT Received: Aug. 08, 2018

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

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

Tested By:

Approved By:

Blue Yang / Supervisor





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

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

台灣檢驗科技股份有限公司

SGS Taiwan Ltd.

t (886-2) 2299-3279

f (886-2) 2298-0488

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

www.tw.sqs.com



Page 2 of 72

Revision History

Report Number	Revision	Description	Effected Page	Issue Date	Revised By
E2/2018/80048	Rev.00	Initial creation of docu- ment	All	Sep. 12, 2018	Yuri Tsai
E2/2018/80048	Rev.01	Updated Brand Name	1,4	Nov. 05, 2018	Yuri Tsai

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

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

t (886-2) 2299-3279

www.tw.sqs.com

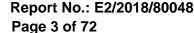




Table of Contents

1	GENERAL INFORMATION	4
2	SYSTEM TEST CONFIGURATION	6
3	SUMMARY OF TEST RESULTS	8
4	DESCRIPTION OF TEST MODES	9
5	MEASUREMENT UNCERTAINTY	11
6	CONDUCTED EMISSION TEST	12
7	PEAK OUTPUT POWER MEASUREMENT	16
8	6dB & 99% BANDWIDTH MEASUREMENT	21
9	CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT	25
10	RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT	32
11	PEAK POWER SPECTRAL DENSITY	69
12	ANTENNA REQUIREMENT	72

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留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 www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工路工程。
SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程。**Taiwan24803/新士市五股區新士及工路工程,在134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDist

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



Page 4 of 72

GENERAL INFORMATION

1.1 Product Description

General:

Product Name:	Glass Enterprise Edition 2			
Brand Name:	GLASS	GLASS		
Model No.:	GG2			
Model difference:	N/A			
Hardware Version:	N/A			
Software Version:	N/A			
USB Cable:	Model No.: ABA-USB-702-P01, Supplier: Lotes			
Davis a Consultin	3.85Vdc fr	3.85Vdc from Rechargeable Li-ion Battery		
Power Supply:	Battery:	Battery: Pack Model No.: P-752438 Supplier: Dongguan Amperex Technology Limited		

Bluetooth Low Energy:

Bluetooth Version:	Bluetooth V5.0 Dual mode
Channel number:	40 channels
Modulation type:	GFSK
Transmit Power:	7.59dBm (BT 4.0) 7.92dBm (BT 5.0)
Frequency Range:	2402 – 2480MHz
Antenna Designation:	Monopole Antenna, Gain: 1.0dBi

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

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

SGS Taiwan Ltd.



Page 5 of 72

1.2 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247

FCC KDB 558074 D01 DTS Meas. Guidance v05.

RSS-Gen. issue 5 Apr. 2018

RSS-247 issue 2 Feb. 2017

ANSI C63.10:2013

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

1.3 Test Facility

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

FCC Registration and Designation number are: 735305 / TW0002

Canada Registration Number: 4620E-1

1.4 Special Accessories

There are no special accessories used while test was conducted.

1.5 Equipment Modifications

There was no modification incorporated into the EUT.

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

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

除非另有說明,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 www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

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

f (886-2) 2298-0488



Page 6 of 72

SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

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

2.2 EUT Exercise

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

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plan. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz,. The CISPR Quasi-Peak and Average detector mode is employed according to §15.207 & RSS-Gen §8.8. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

2.3.2 Radiated Emissions

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

2.4 Measurement Results Explanation Example

For all conducted test items:

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

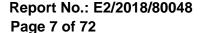
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

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

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

SGS Taiwan Ltd.





2.5 Configuration of Tested System

Fig. 2-1 Conducted (Antenna Port) Emission Configuration

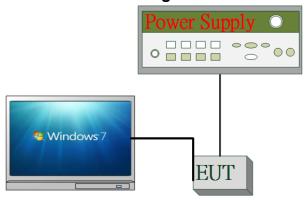




Fig 2-3 Conduction (AC Power Line) Conducted Emission



Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Ca- ble	Power Cord
1.	Bluetooth Test Software	N/A	N/A	N/A	N/A	N/A
2.	Notebook	Lenovo	L430	R9-WR6X4	Shielded	Unshielded
3.	DC Power Sup- ply	Agilent	E3640A	MY53140006	N/A	Unshielded

Unless otherwise stated 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 reter only to the sample(s) tested and such sample(s) are retained for 50 days only. 除非另有說明,此根告结果僅對測試之樣品負責,同時此樣品僅保留句天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document. pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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



Page 8 of 72

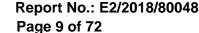
SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§15.207(a)	RSS-Gen §8.8	AC Power Line Conducted Emission	Compliant
§15.247(b) (3)	RSS-247 §5.4(4)	Peak Output Power	Compliant
§15.247(a)(2)	RSS-247 §5.2 (1) RSS-Gen §6.6	6dB & 99% Emission Bandwidth	Compliant
§15.247(d)	RSS-247 §5.5	Conducted Band Edge and Spurious Emission	Compliant
§15.247(d)	RSS-247 §5.5	Radiated Band Edge and Spurious Emission	Compliant
§15.247(e)	RSS-247 §5.2(2)	Peak Power Density	Compliant
§15.203 §15.247(b)	RSS- Gen §6.8	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 www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工路工程。
SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程。**Taiwan24803/新士市五股區新士及工路工程,在134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDist

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





DESCRIPTION OF TEST MODES

4.1 Operated in 2400 ~ 2483.5MHz Band

40 channels are provided for Bluetooth LE

ITEM	FREQUENCY	ITEM	FREQUENCY	ITEM	FREQUENCY
1	2402 MHz	15	2430 MHz	29	2458 MHz
2	2404 MHz	16	2432 MHz	30	2460 MHz
3	2406 MHz	17	2434 MHz	31	2462 MHz
4	2408 MHz	18	2436 MHz	32	2464 MHz
5	2410 MHz	19	2438 MHz	33	2466 MHz
6	2412 MHz	20	2440 MHz	34	2468 MHz
7	2414 MHz	21	2442 MHz	35	2470 MHz
8	2416MHz	22	2444 MHz	36	2472 MHz
9	2418 MHz	23	2446 MHz	37	2474 MHz
10	2420 MHz	24	2448 MHz	38	2476 MHz
11	2422 MHz	25	2450 MHz	39	2478 MHz
12	2424 MHz	26	2452 MHz	40	2480 MHz
13	2426 MHz	27	2454 MHz		
14	2428 MHz	28	2456 MHz		

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

SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工路工程。
SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程。**Taiwan24803/新士市五股區新士及工路工程,在134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDist

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

f (886-2) 2298-0488



Page 10 of 72



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.

RADIATED EMISSION TEST:

NADIALED EN				
MODE	AVAILABLE FREQUENCY (MHz)	TESTED FREQUENCY (MHz)	MODULATION	DATA RATE (Mbps)
	RADIA	TED EMISSION TEST ((BELOW 1 GHz)	
Bluetooth LE	2402 to 2480	2402, 2442, 2480	GFSK	1
Bluetooth LE	2402 to 2480	2402, 2442, 2480	GFSK	2
	RADIA	TED EMISSION TEST	(ABOVE 1 GHz)	
Bluetooth LE	2402 to 2480	2402, 2442, 2480	GFSK	1
Bluetooth LE	2402 to 2480	2402, 2442, 2480	GFSK	2

Note:

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

ANTENNA PORT CONDUCTED MEASUREMENT:

CONDUCTED TEST					
MODE	AVAILABLE FREQUENCY (MHz)	TESTED FREQUENCY (MHz)	MODULATION	DATA RATE (Mbps)	
Bluetooth LE	2402 to 2480	2402, 2442, 2480	GFSK	1	
Bluetooth LE	2402 to 2480	2402, 2442, 2480	GFSK	2	

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

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

除非另有說明,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 www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

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

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

SGS Taiwan Ltd.



Page 11 of 72



MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
Peak Output Power	+/- 0.84 dB
6dB Bandwidth	+/- 51.33 Hz
100 KHz Bandwidth Of Frequency Band Edges	+/- 0.84 dB
Peak Power Density	+/- 1.3 dB
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC= +/- 0.2%

Radiated Spurious Emission:

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

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

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

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

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



Page 12 of 72

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			

6.2 Measurement Equipment Used:

Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
LISN	TESEQ	NNB 51	36076	2018/02/14	2019/02/13				
EMI Test Receiver	R&S	ESCI	101300	2017/11/02	2018/11/01				

6.3 EUT Setup:

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The 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.

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

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279 f (886-2) 2298-0488

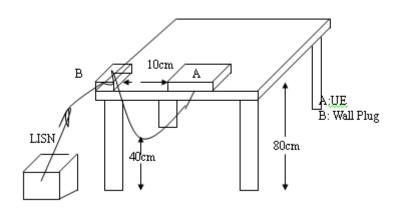
SGS Taiwan Ltd.

^{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

Page 13 of 72

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 plan.
- 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.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

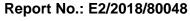
Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if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

台灣檢驗科技股份有限公司

SGS Taiwan Ltd.

t (886-2) 2299-3279

f (886-2) 2298-0488





Page 14 of 72

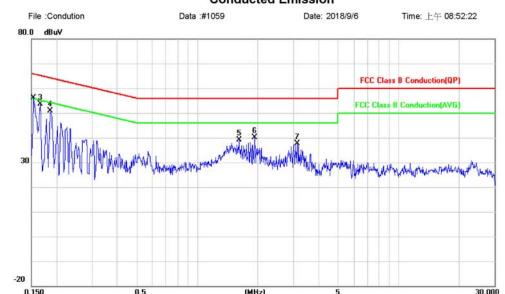
AC POWER LINE CONDUCTED EMISSION TEST DATA

Site: Conduction Room Limit: FCC Class B Conduction(QP)

Phase: L1 Power: AC 120V/60Hz Temperature: 22 ℃ Humidity: 64 %

Mode: Note:

Conducted Emission

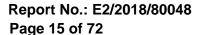


Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
*	0.1540	34.60	19.65	54.25	65.78	-11.53	QP	
	0.1540	18.00	19.65	37.65	55.78	-18.13	AVG	
	0.1660	33.87	19.67	53.54	65.16	-11.62	peak	
	0.1860	31.13	19.70	50.83	64.21	-13.38	peak	
	1.6180	18.82	20.27	39.09	56.00	-16.91	peak	
	1.9380	19.61	20.51	40.12	56.00	-15.88	peak	
	3.1500	17.20	20.33	37.53	56.00	-18.47	peak	
	720000	* 0.1540 0.1540 0.1660 0.1860 1.6180 1.9380	* 0.1540 34.60 0.1540 18.00 0.1660 33.87 0.1860 31.13 1.6180 18.82 1.9380 19.61	Mk. Freq. Level Factor MHz dBuV dB * 0.1540 34.60 19.65 0.1540 18.00 19.65 0.1660 33.87 19.67 0.1860 31.13 19.70 1.6180 18.82 20.27 1.9380 19.61 20.51	Mk. Freq. Level Factor ment MHz dBuV dB dBuV * 0.1540 34.60 19.65 54.25 0.1540 18.00 19.65 37.65 0.1660 33.87 19.67 53.54 0.1860 31.13 19.70 50.83 1.6180 18.82 20.27 39.09 1.9380 19.61 20.51 40.12	Mk. Freq. Level Factor ment Limit MHz dBuV dB dBuV dBuV * 0.1540 34.60 19.65 54.25 65.78 0.1540 18.00 19.65 37.65 55.78 0.1660 33.87 19.67 53.54 65.16 0.1860 31.13 19.70 50.83 64.21 1.6180 18.82 20.27 39.09 56.00 1.9380 19.61 20.51 40.12 56.00	Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV dBuV dB * 0.1540 34.60 19.65 54.25 65.78 -11.53 0.1540 18.00 19.65 37.65 55.78 -18.13 0.1660 33.87 19.67 53.54 65.16 -11.62 0.1860 31.13 19.70 50.83 64.21 -13.38 1.6180 18.82 20.27 39.09 56.00 -16.91 1.9380 19.61 20.51 40.12 56.00 -15.88	Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV dBuV dB Detector * 0.1540 34.60 19.65 54.25 65.78 -11.53 QP 0.1540 18.00 19.65 37.65 55.78 -18.13 AVG 0.1660 33.87 19.67 53.54 65.16 -11.62 peak 0.1860 31.13 19.70 50.83 64.21 -13.38 peak 1.6180 18.82 20.27 39.09 56.00 -16.91 peak 1.9380 19.61 20.51 40.12 56.00 -15.88 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.

Unless otherwise stated the results snown in this test report reter only to the sample(s) tested and such sample(s) are retained for 90 days only.
Phys. P pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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





Temperature: 22 ℃ Conduction Room Phase: Limit: FCC Class B Conduction(QP) AC 120V/60Hz Humidity: 64 % Power:

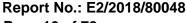
Mode: Note:

Conducted Emission File: Condution Data:#1060 Date: 2018/9/6 Time: 上午 08:54:05 FCC Class B Conduction(QP) ss B Conduction(AVG) -20 30 000 0.150 (MHz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1580	35.75	19.66	55.41	65.57	-10.16	peak	
2		0.1780	31.71	19.69	51.40	64.58	-13.18	peak	
3		0.2060	27.46	19.74	47.20	63.37	-16.17	peak	
4		0.5460	16.22	20.19	36.41	56.00	-19.59	peak	
5		1.4500	14.66	20.15	34.81	56.00	-21.19	peak	
6		22.2980	15.67	20.15	35.82	60.00	-24.18	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.

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





Page 16 of 72

PEAK OUTPUT POWER MEASUREMENT

7.1 Standard Applicable:

For systems using digital modulation in the 2400-2483.5 MHz bands, the limit for peak output power is 1Watt.

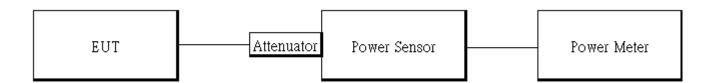
If the transmitting antenna of directional gain greater than 6dBi are used the peak output power form the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6dBi.

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.

7.2 Measurement Equipment Used:

Conducted Emission Test Site									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
Power Meter	Anritsu	ML2496A	<u> </u>	2018/08/09	2019/08/02				
Power Sensor	Anritsu	MA2411B	1315048	2018/08/09	2019/08/02				
Power Sensor	Anritsu	MA2411B	1315049	2018/08/09	2019/08/02				
DC Power Supply	Agilent	E3640A	MY53140006	2018/05/30	2019/05/29				

7.3 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.

Manage of the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms_and_conditions.htm</u> and, for elec-

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

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

www.tw.sqs.com



7.4 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 & ANSI C63.10..
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

Power Meter:

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

- 4. Record the max. Reading as observed from Power Meter.
- 5. Repeat above procedures until all test default channel measured was complete.

Formula:

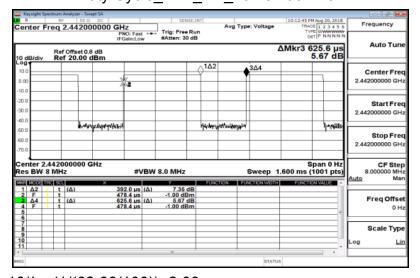
Duty Cycle = Ton / (Ton+Toff)

BLE MODE:

Duty Factor:

	Duty Cycle (%)		1/T (kHz)	VBW setting (kHz)
BLE	62.66	2.03	2.55	3.00

Duty Cycle BLE 1M LowCH00-2402



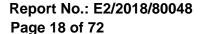
Duty Cycle Factor:10*log(1/(62.66/100))=2.03

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

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

pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

t (886-2) 2299-3279 www.tw.sqs.com



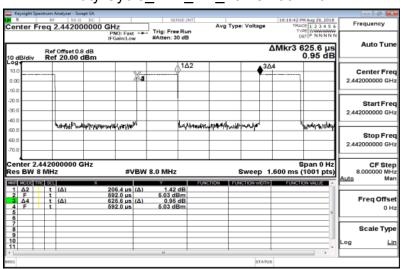


BT 5.0 MODE:

Duty Factor:

	Duty Cycle (%)	Duty Factor (dB)	1/T (kHz)	VBW setting (kHz)
BLE	32.99	4.82	4.84	5.00

Duty Cycle_BLE_1M_LowCH00-2402



Duty Cycle Factor:10*log(1/(32.99/100))=4.82

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

Unless otherwise stated the results snown in this test report reter only to the sample(s) tested and such sample(s) are retained for 90 days only.
Phys. P pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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

t (886-2) 2299-3279

f (886-2) 2298-0488



7.5 **Measurement Result:**

BLE MODE:

BI F mode:

DLE IIIC	oue.		
СН	Frequency (MHz)	Peak Power Output (dBm)	Required Limit
0	2402	6.91	1 Watt = 30 dBm
20	2442	6.44	1 Watt = 30 dBm
39	2480	7.59	1 Watt = 30 dBm
BLE mo	de:		
СН	Frequency (MHz)	Max. Avg. Output include tune up tolerance Power (dBm)	Required Limit
0	2402	6.74	1 Watt = 30 dBm
20	2442	6.34	1 Watt = 30 dBm
39	2480	7.28	1 Watt = 30 dBm

^{*}Note: Measured by power meter, cable loss as 0.8 dB that offsets on the power meter in Peak

EIRP

СН	Frequency (MHz)	Max. Avg. Output include tune up tolerance Power (dBm) Antenna Gain (dBi) EIRP (dBm)		I	Limit		
0	2402	6.74	1.00	7.74	4W=	36	dBm
20	2442	6.34	1.00	7.34	4W=	36	dBm
39	2480	7.28	1.00	8.28	4W=	36	dBm

* Note: EIRP = Average Power + Gain

Unless otherwise stated 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 reter only to the sample(s) rested and sucn sample(s) are rerained for 90 days only. 除非另有說明,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 www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or approaches of this document is unlawful and offenders may be prosecuted to the fullest extent of the law pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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

^{*}Note: Measured by power meter, as cable loss+ Duty cycle factor that offsets on the power meter

^{*}Note: Max. Output include tune up tolerance Power is average power



BT 5.0 MODE:

BI F mode

BLE MC	ide:		
СН	Frequency (MHz)	Peak Power Output (dBm)	Required Limit
0	2402	7.21	1 Watt = 30 dBm
20	2442	6.73	1 Watt = 30 dBm
39	2480	7.92	1 Watt = 30 dBm
BLE mo	de:		
СН	Frequency (MHz)	Max. Avg. Output include tune up tolerance Power (dBm)	Required Limit
0	2402	6.89	1 Watt = 30 dBm
20	2442	6.09	1 Watt = 30 dBm
39	2480	7.37	1 Watt = 30 dBm

^{*}Note: Measured by power meter, cable loss as 0.8 dB that offsets on the power meter in Peak

EIRP

СН	Frequency (MHz)	Max. Avg. Output include tune up tolerance Power (dBm)	Antenna Gain (dBi)	in EIRP Limit	
0	2402	6.89	1.00	7.89	4W= 36 dBm
20	2442	6.09	1.00	7.09	4W= 36 dBm
39	2480	7.37	1.00	8.37	4W= 36 dBm

^{*} Note: EIRP = Average Power + Gain

Unless otherwise stated 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 reter only to the sample(s) tested and such sample(s) are retained for 50 days only. 除非另有說明,此根告结果僅對測試之樣品負責,同時此樣品僅保留句天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document. pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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

^{*}Note: Measured by power meter, as cable loss+ Duty cycle factor that offsets on the power meter

^{*}Note: Max. Output include tune up tolerance Power is average power





Page 21 of 72

6DB & 99% BANDWIDTH MEASUREMENT 8

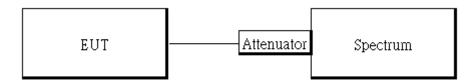
8.1 Standard Applicable

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

8.2 Measurement Equipment Used

Conducted Emission Test Site										
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
Spectrum Analyzer	Agilent	N9010A	MY5144011 3	2018/06/20	2019/06/19					
DC Power Supply	Agilent	E3640A	MY5314000 6	2018/05/30	2019/05/29					

8.3 Test Set-up:



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 & ANSI C63.10.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 4. For 6dB Bandwidth:

Set the spectrum analyzer as RBW=100 kHz, VBW= 3*RBW, Span = 5MHz, Detector=Peak, Sweep=auto.

- 5. Mark the peak frequency and -6dB (upper and lower) frequency.
- 6. For 99% Bandwidth:

Set the spectrum analyzer as RBW=1%, VBW=3*RBW, Span = 2MHz, Detector=Sample, Sweep=auto.

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

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

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

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

SGS Taiwan Ltd.





Page 22 of 72

8.5 Measurement Result:

BLE MODE:

BLE mode

Frequency (MHz)	6dB BW (MHz)	BW (MHz)	Result
2402	0.6779	> 0.5	PASS
2442	0.6816	> 0.5	PASS
2480	0.6797	> 0.5	PASS

RI F mode

DLL IIIOGE	
Frequency (MHz)	99%Bandwidth (MHz)
2402	1.0351
2442	1.0343
2480	1.0346

BT 5.0 MODE:

BLE mode

Frequency (MHz)	6dB BW (MHz)	BW (MHz)	Result
2402	1.1452	> 0.5	PASS
2442	1.1516	> 0.5	PASS
2480	1.1498	> 0.5	PASS

BLE mode

Frequency (MHz)	99%Bandwidth (MHz)
2402	2.035
2442	2.033
2480	2.0329

Note: 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.

SGS Taiwan Ltd.

台灣檢驗科技股份有限公司 t (886-2) 2299-3279

f (886-2) 2298-0488

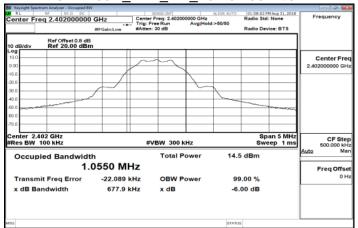
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 www.tw.sqs.com



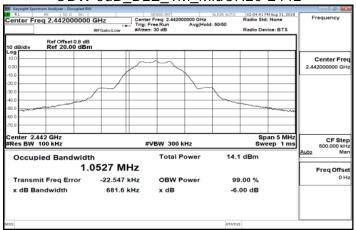
Page 23 of 72

BLE MODE:

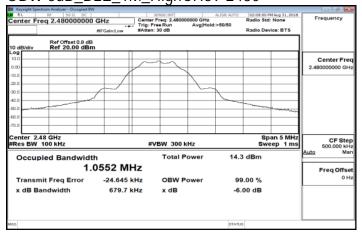
OBW 6dB BLE 1M LowCH00-2402



OBW 6dB BLE 1M MidCH20-2442

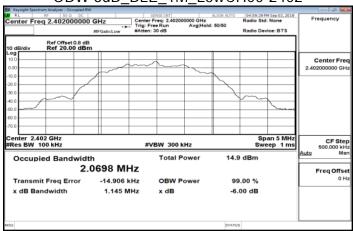


OBW 6dB_BLE_1M_HighCH39-2480

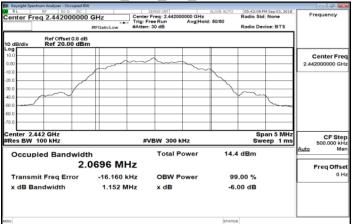


BT 5.0 MODE:

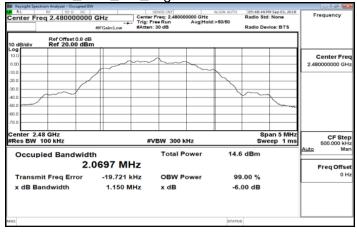
OBW 6dB_BLE_1M_LowCH00-2402



OBW 6dB BLE 1M MidCH20-2442



OBW 6dB_BLE_1M_HighCH39-2480



Unless otherwise stated 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 www.sgs.com/terms and www.sgs.com/terms and <a href="www.sgs.com/terms and <a href="www prosecuted to the fullest extent of the law.

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



Page 24 of 72

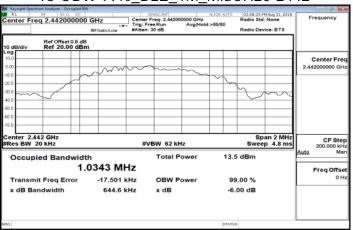
BLE MODE:

SGS

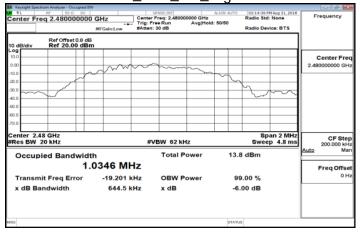
IC OBW 99% BLE 1M LowCH00-2402



IC OBW 99% BLE 1M MidCH20-2442

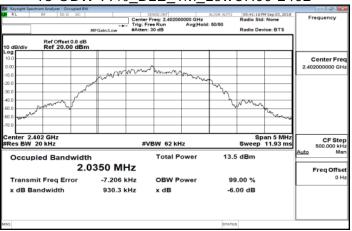


IC OBW 99%_BLE_1M_HighCH39-2480

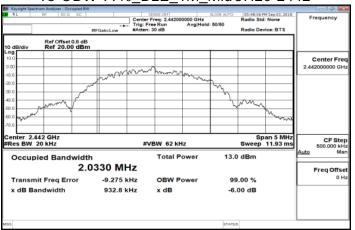


BT 5.0 MODE:

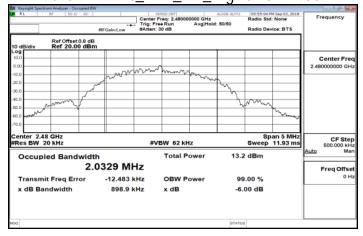
IC OBW 99% BLE 1M LowCH00-2402



IC OBW 99% BLE 1M MidCH20-2442



IC OBW 99%_BLE_1M_HighCH39-2480



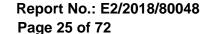
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) test and such sample(s) are retained for 30 days only.

Fix 月 有规则,此概告结果僅對測試之樣品負責,同時此樣品僅保留90天。本概告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and com/terms and https://www.sgs.com/terms and com/terms and https://www.sgs.com/terms and <a href="https://www.sgs.com/ pany's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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





CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT

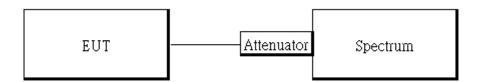
9.1 Standard Applicable

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 §8.8.

9.2 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	N9010A	MY51440113	2018/06/2	2019/06/19
DC Power Supply	Agilent	E3640A	MY53140006	2018/05/3	2019/05/29

9.3 Test SET-UP:



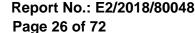
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only

Manage of the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms_and_conditions.htm</u> and, for elec-

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

SGS Taiwan Ltd.

t (886-2) 2299-3279 f (886-2) 2298-0488 www.tw.sqs.com





9.4 Measurement Procedure

Reference Level of Emission Limit:

- Set analyzer center frequency to DTS channel center frequency.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance & ANSI C63.10.
- 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.

Conducted Band Edge:

- To connect Antenna Port of EUT to Spectrum.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance & ANSI C63.10.
- 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. Marker on frequency, 2.3999GHz and 2.4836GHz, and examine shall 100 kHz immediately outside the authorized (2400~2483.5) be attenuated by 20dB at least relative to the maximum emission of power.
- 8. Repeat above procedures until all default test channel (low, middle, and high) was 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

保非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告表經本公司書面時可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms_and_conditions.htm</u> and, for elec-

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

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



Page 27 of 72



Conducted Spurious Emission:

- To connect Antenna Port of EUT to Spectrum.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance & ANSI C63.10.
- 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.

9.5 Measurement Result

BLE MODE:

Reference Level of Limit

Frequency (MHz)	RF Power Density (dBm)	Reference Level of Limit = PSD - 20dB (dBm)
2402	7.71	-12.29
2442	7.33	-12.67
2480	7.56	-12.44

NOTE: cable loss as dB that offsets in the spectrum

BT 5.0 MODE:

Reference Level of Limit

Frequency (MHz)	RF Power Density (dBm)	Reference Level of Limit = PSD - 20dB (dBm)
2402	7.69	-12.31
2442	7.19	-12.81
2480	7.44	-12.56

NOTE: cable loss as dB that offsets in the spectrum

NOTE: 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

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

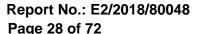
除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

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

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279

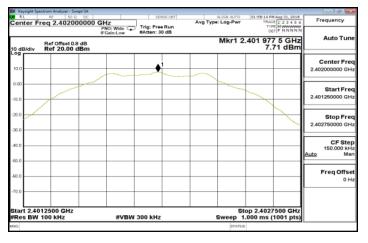
SGS Taiwan Ltd.



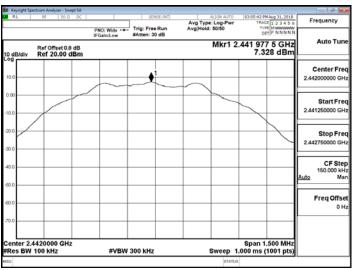


BLE MODE:

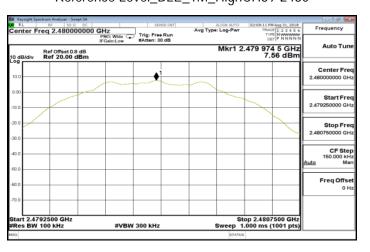
Reference Level BLE 1M LowCH00-2402



Reference Level BLE 1M MidCH20-2442

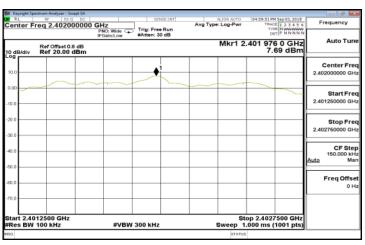


Reference Level_BLE_1M_HighCH39-2480

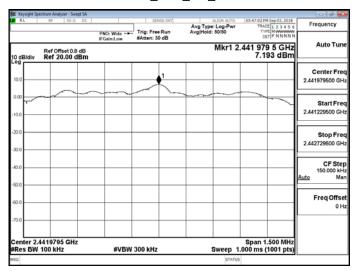


BT 5.0 MODE:

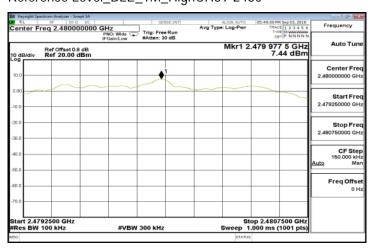
Reference Level BLE 1M LowCH00-2402



Reference Level BLE 1M MidCH20-2442



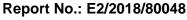
Reference Level_BLE_1M_HighCH39-2480



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

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) tested and sample(s) test pany's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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

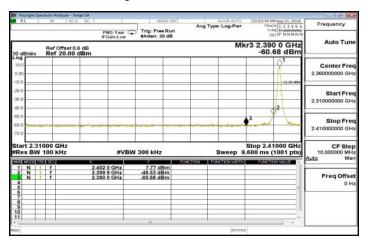


Page 29 of 72

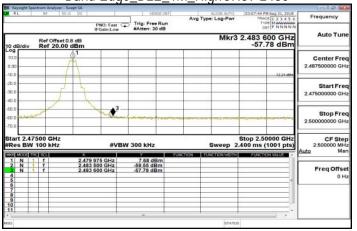


BLE MODE:

Band Edge BLE 1M LowCH00-2402

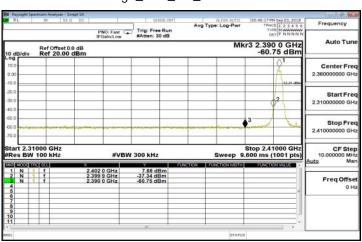


Band Edge_BLE_1M_HighCH39-2480

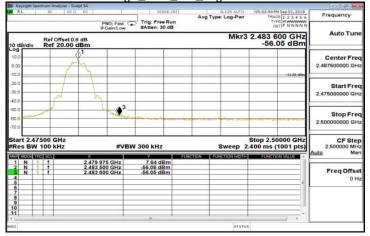


BT 5.0 MODE:

Band Edge_BLE_1M_LowCH00-2402



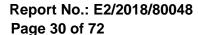
Band Edge_BLE_1M_HighCH39-2480



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

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) tested and sample(s) test pany's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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

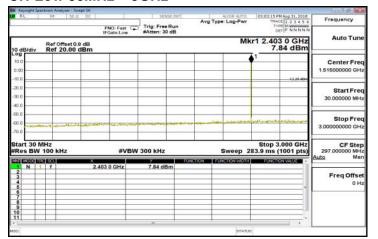




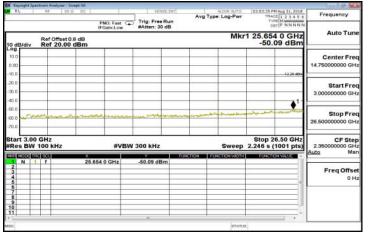
Conducted Spurious Emission Measurement Result

BLE MODE:

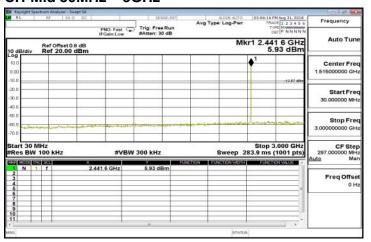
CH-Low 30MHz - 3GHz



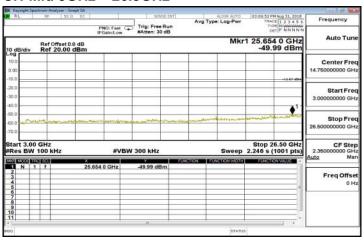
CH-Low 3GHz - 26.5GHz



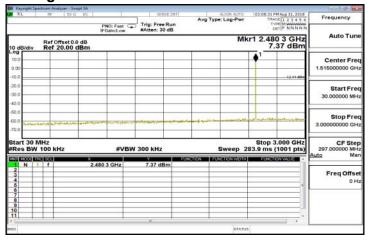
CH-Mid 30MHz - 3GHz



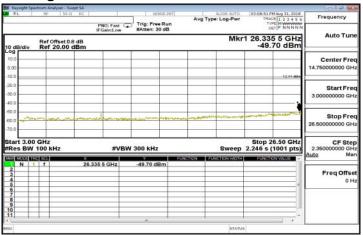
CH-Mid 3GHz - 26.5GHz



CH-High 30MHz - 3GHz



CH- High 3GHz - 26.5GHz

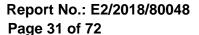


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) tested and sample(s) test pany's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

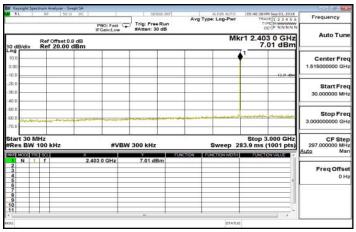
SGS Taiwan Ltd.

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

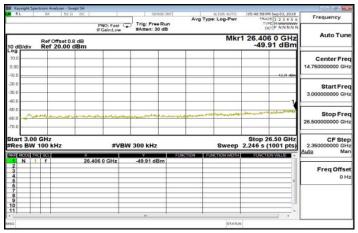




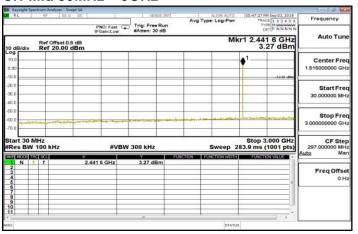
BT 5.0 MODE: CH-Low 30MHz - 3GHz



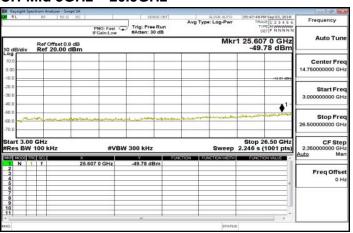
CH-Low 3GHz - 26.5GHz



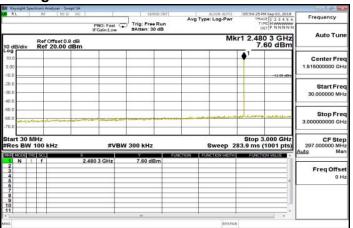
CH-Mid 30MHz - 3GHz



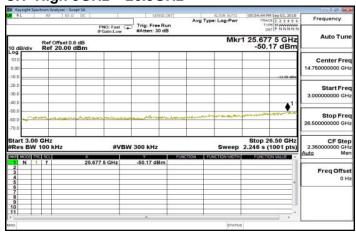
CH-Mid 3GHz - 26.5GHz



CH-High 30MHz - 3GHz



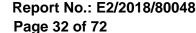
CH- High 3GHz - 26.5GHz



Unless otherwise stated 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 snown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
Phys Apt at the state of the sample prosecuted to the fullest extent of the law.

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





10 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT

Standard Applicable 10.1

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 & RSS-Gen §8.8, 8.9 limit as below.

And according to §15.33(a) (1) & RSS-Gen §6.13(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:

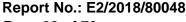
- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level $(dB\mu V/m) = 20 \log Emission level (dB\mu V/m)$

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

Manage of the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms_and_conditions.htm</u> and, for elec-

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

f (886-2) 2298-0488



Page 33 of 72



10.2 **Measurement Equipment Used**

966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Broadband Antenna	TESEQ	CBL 6112D	35243	2017/11/10	2018/11/09
Horn Antenna	Schwarzbeck	BBHA9120D	1187	2018/01/04	2019/01/03
Horn Antenna	SCHWAZBECK	BBHA9170	184	2017/12/12	2018/12/11
Loop Antenna	ETS.LINDGREN	6502	148045	2017/09/26	2018/09/25
EMI Test Receiver	R&S	ESU 40	100363	2018/04/11	2019/04/10
Pre-Amplifier	EMC Instru- ments	EMC330	980096	2017/12/26	2018/12/25
Pre-Amplifier	EMC Instru- ments	EMC0011830	980199	2017/12/26	2018/12/25
Pre-Amplifier	EMC Instru- ments	EMC184045B	980135	2017/10/27	2018/10/26
Attenuator	Marvelous	WATT-218FS-10	RF246	2017/12/26	2018/12/25
Highpass Filter	Micro Tronics	BRM50701-01	G008	2017/12/26	2018/12/25
Coaxial Cable	Huber+Suhner	RG 214/U	W21.01	2017/12/26	2018/12/25
Coaxial Cable	Huber Suhner	EMC106-SM-SM -7200	150703	2017/12/26	2018/12/25
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17388/4	2017/12/26	2018/12/25
Coaxial Cable	Huber Suhner	RG 214/U	W22.03	2017/12/26	2018/12/25

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

SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工路工程。
SGS Taiwan Ltd. INO 134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程。**Taiwan24803/新士市五股區新士及工路工程,在134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工路工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDistrict.NewTaineil@cliv.Taiwan24803/新士市五股區新士及工程,134 WitkungRoad NewTaineil@ustrialPark WukupDist

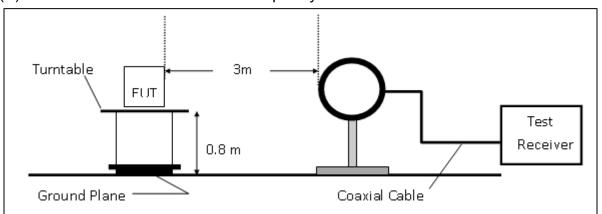
SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

f (886-2) 2298-0488

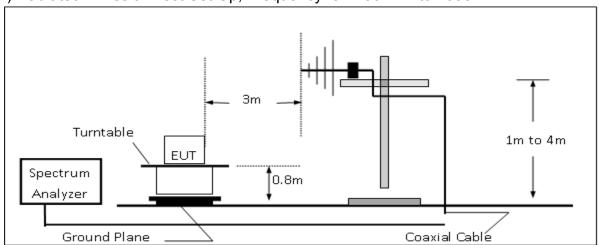


10.3 **Test SET-UP**

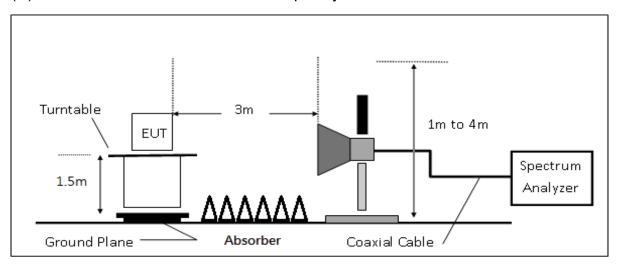
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



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



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



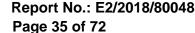
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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

t (886-2) 2299-3279

www.tw.sqs.com





10.4 **Measurement Procedure**

- 1. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance & ANSI C63.10.
- 2. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plan.
- 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. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasi-peak (QP) at frequency below 1 GHz.
- 6. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- 8. 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 an-
- 9. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 10. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. On spectrum, change spectrum mode in linear display mode, and reduce VBW = 10Hz if average reading is measured.
- 11. 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. 保非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告表經本公司書面時可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms_and_conditions.htm</u> and, for elec-



Page 36 of 72

10.5 **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	•	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

Actual FS(dB μ V/m) = SPA. Reading level(dB μ V) + Factor(dB)

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

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

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

10.7 **Measurement Result:**

Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

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

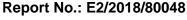
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

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

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 台灣檢驗科技股份有限公司 t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sqs.com



Page 37 of 72



Radiated Band Edge Measurement Result

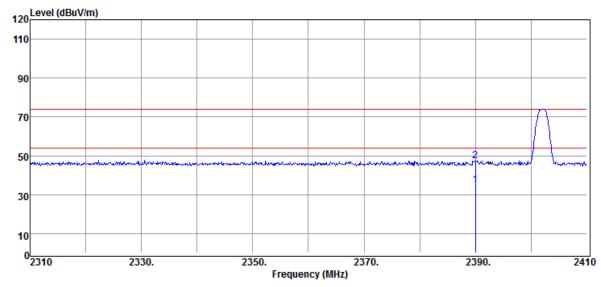
BLE MODE:

:BLE **Operation Mode Test Date** :2018-08-30

:BE CH Low :25/60 **Test Mode** Temp./Humi.

:E2 Plan **EUT Pol** Antenna Pol. :VERTICAL

:2402 MHz **Test Channel** Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2390.00	Average	40.53	-5.57	34.96	54.00	-19.04
2390.00	Peak	53.09	-5.57	47.52	74.00	-26.48

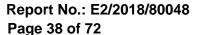
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results snown in this test report reter only to the sample(s) tested and such sample(s) are retained for 90 days only.
Phys. P pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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

台灣檢驗科技股份有限公司

www.tw.sqs.com

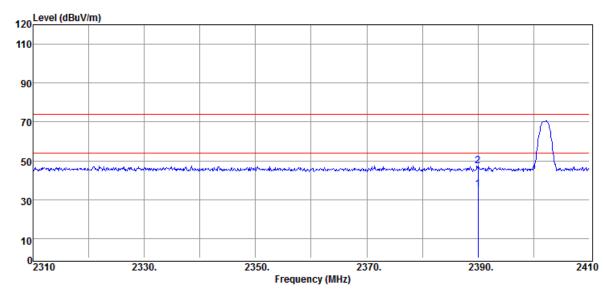




:BLE **Operation Mode Test Date** :2018-08-30 Test Mode :BE CH Low Temp./Humi. :25/60

:E2 Plan **EUT Pol** Antenna Pol. :HORIZONTAL

:2402 MHz **Test Channel** :Jerry Engineer



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2390.00	Average	40.68	-5.57	35.11	54.00	-18.89
2390.00	Peak	52.72	-5.57	47.15	74.00	-26.85

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

SCS Talwan Live

INCLUDED

**

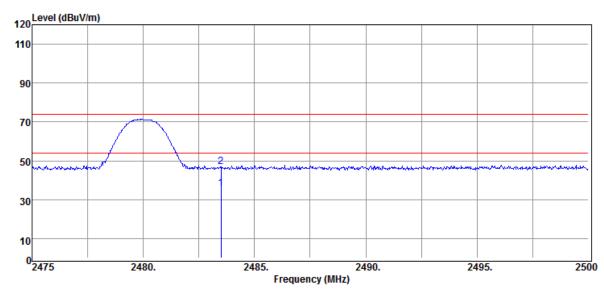


Page 39 of 72



:BLE **Operation Mode** Test Mode :BE CH High :E2 Plan **EUT Pol** :2480 MHz **Test Channel**

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL :Jerry Engineer



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	40.54	-4.90	35.64	54.00	-18.36
2483.50	Peak	51.71	-4.90	46.81	74.00	-27.19

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.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

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

台灣檢驗科技股份有限公司

f (886-2) 2298-0488



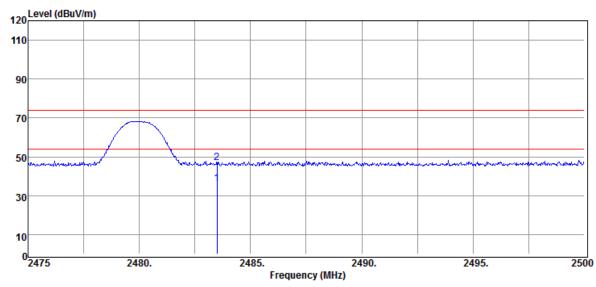
Page 40 of 72



:BLE **Operation Mode Test Date** :2018-08-30 Test Mode :BE CH High Temp./Humi. :25/60

:E2 Plan **EUT Pol** Antenna Pol. :HORIZONTAL

:2480 MHz **Test Channel** :Jerry Engineer



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB	
2483.50	Average	40.83	-4.90	35.93	54.00	-18.07	
2483.50	Peak	51.80	-4.90	46.90	74.00	-27.10	

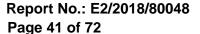
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

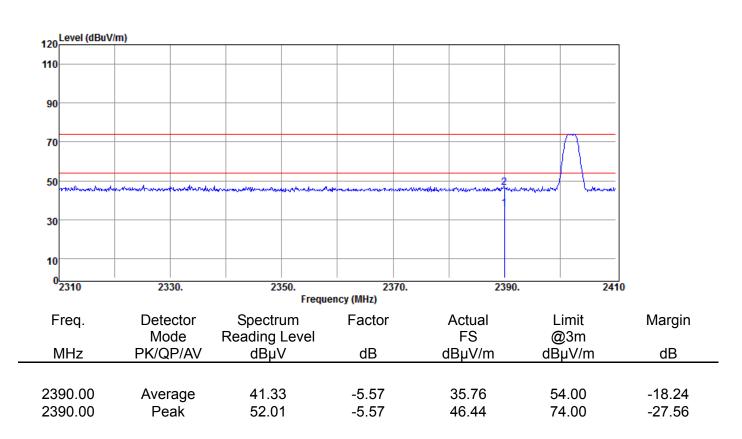


BT 5.0 MODE:

:BT5.0 **Operation Mode Test Date** :2018-08-30

Test Mode :BE CH Low Temp./Humi. :25/60 **EUT Pol** :E2 Plan Antenna Pol. :VERTICAL

:2402 MHz **Test Channel** :Jerry Engineer



Unless otherwise stated 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 reter only to the sample(s) tested and such sample(s) are retained for 50 days only. 除非另有說明,此根告结果僅對測試之樣品負責,同時此樣品僅保留句天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document. pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law



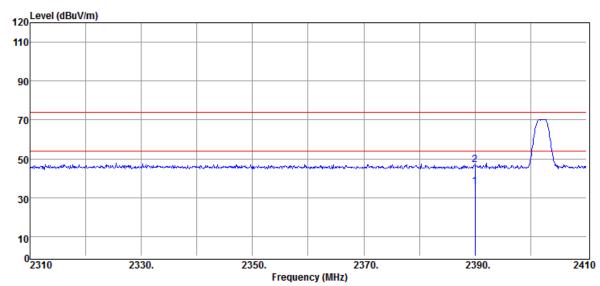
Page 42 of 72



:BT5.0 **Operation Mode Test Date** :2018-08-30 Test Mode :BE CH Low Temp./Humi. :25/60

:E2 Plan **EUT Pol** Antenna Pol. :HORIZONTAL

:2402 MHz **Test Channel** :Jerry Engineer



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2390.00	Average	41.23	-5.57	35.66	54.00	-18.34
2390.00	Peak	52.35	-5.57	46.78	74.00	-27.22

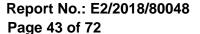
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

SCS Talwan Live

INCLUDED

**

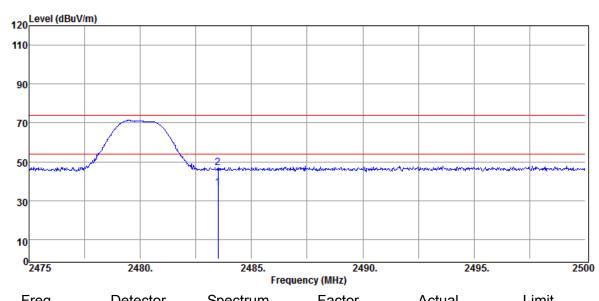




:BT5.0 **Operation Mode Test Date** :2018-08-30

Test Mode :BE CH High Temp./Humi. :25/60 :E2 Plan **EUT Pol** Antenna Pol. :VERTICAL

:2480 MHz **Test Channel** :Jerry Engineer



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	41.38	-4.90	36.48	54.00	-17.52
2483.50	Peak	52.01	-4.90	47.11	74.00	-26.89

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

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



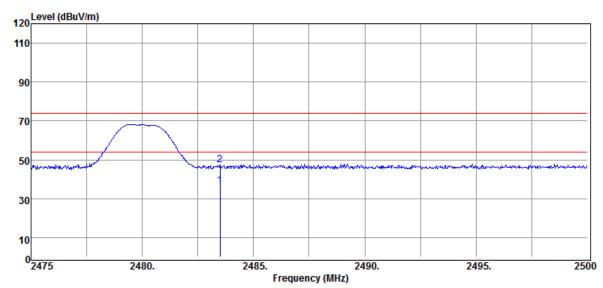
Page 44 of 72



:BT5.0 **Operation Mode Test Date** :2018-08-30 Test Mode :BE CH High Temp./Humi. :25/60

:E2 Plan **EUT Pol** Antenna Pol. :HORIZONTAL

:2480 MHz **Test Channel** :Jerry Engineer



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	41.37	-4.90	36.47	54.00	-17.53
2483.50	Peak	52.29	-4.90	47.39	74.00	-26.61

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.

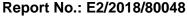
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

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



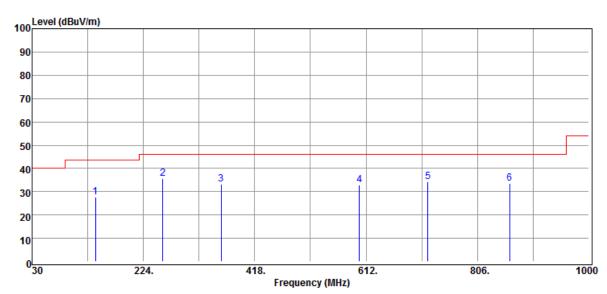


Page 45 of 72

Radiated Spurious Emission Measurement Result For Frequency form 30MHz to 1000MHz

BLE MODE:

Operation Mode :BLE **Test Date** :2018-08-30 Test Mode :Tx CH Low Temp./Humi. :25/60 Antenna Pol. :VERTICAL **EUT Pol** :E2 Plan **Test Channel** :2402 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
140.58	Peak	44.08	-16.48	27.60	43.50	-15.90
257.95	Peak	52.47	-16.70	35.77	46.00	-10.23
359.80	Peak	46.89	-13.76	33.13	46.00	-12.87
600.36	Peak	41.95	-9.14	32.81	46.00	-13.19
719.67	Peak	42.12	-7.81	34.31	46.00	-11.69
862.26	Peak	38.70	-5.29	33.41	46.00	-12.59

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

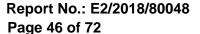
Unless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 50 days only. 除非另有說明,此根告结果僅對測試之樣品負責,同時此樣品僅保留句天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document. pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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

t (886-2) 2299-3279

SGS Taiwan Ltd.

f (886-2) 2298-0488

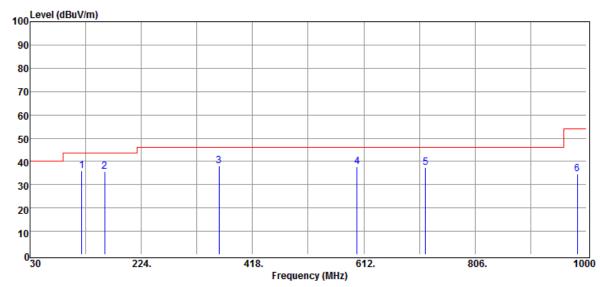




Operation Mode :BLE **Test Date** :2018-08-30 Test Mode :Tx CH Low Temp./Humi. :25/60

EUT Pol Antenna Pol. :HORIZONTAL :E2 Plan

Test Channel :2402 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
						_
120.21	Peak	55.21	-19.05	36.16	43.50	-7.34
159.98	Peak	51.99	-16.19	35.80	43.50	-7.70
359.80	Peak	51.83	-13.76	38.07	46.00	-7.93
600.36	Peak	46.94	-9.14	37.80	46.00	-8.20
719.67	Peak	45.02	-7.81	37.21	46.00	-8.79
984.48	Peak	38.08	-3.65	34.43	54.00	-19.57

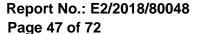
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

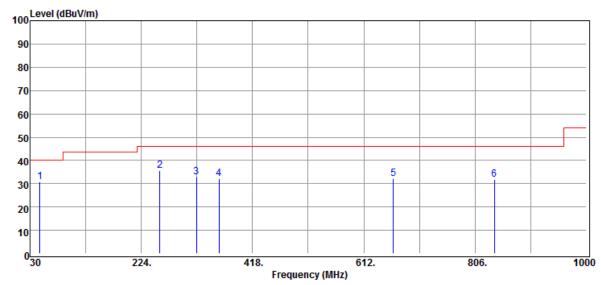
INCLUDED

**





Operation Mode :BLE **Test Date** :2018-08-30 Test Mode :Tx CH Mid Temp./Humi. :25/60 **EUT Pol** Antenna Pol. :VERTICAL :E2 Plan **Test Channel** :2442 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
47.46	Peak	47.77	-16.96	30.81	40.00	-9.19
256.01	Peak	52.38	-16.74	35.64	46.00	-10.36
320.03	Peak	47.66	-14.79	32.87	46.00	-13.13
359.80	Peak	45.93	-13.76	32.17	46.00	-13.83
663.41	Peak	40.88	-8.80	32.08	46.00	-13.92
839.95	Peak	38.07	-6.27	31.80	46.00	-14.20

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

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

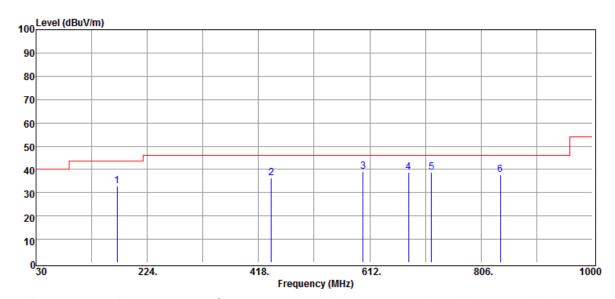




Page 48 of 72

Operation Mode :BLE Test Mode :Tx CH Mid **EUT Pol** :E2 Plan **Test Channel** :2442 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :HORIZONTAL Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
171.62	Peak	50.79	-17.86	32.93	43.50	-10.57
440.31	Peak	48.22	-11.73	36.49	46.00	-9.51
600.36	Peak	48.20	-9.14	39.06	46.00	-6.94
679.90	Peak	46.74	-7.88	38.86	46.00	-7.14
719.67	Peak	46.74	-7.81	38.93	46.00	-7.07
839.95	Peak	44.00	-6.27	37.73	46.00	-8.27

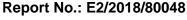
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

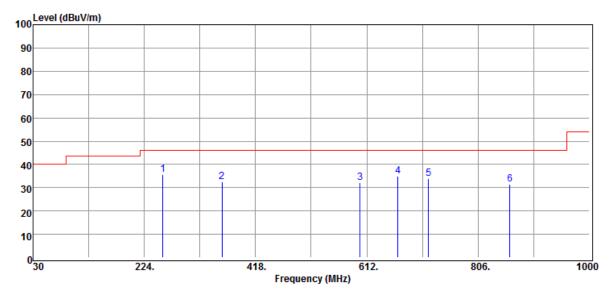


Page 49 of 72



Operation Mode :BLE Test Mode :Tx CH High **EUT Pol** :E2 Plan **Test Channel** :2480 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
256.01	Peak	52.26	-16.74	35.52	46.00	-10.48
359.80	Peak	46.31	-13.76	32.55	46.00	-13.45
600.36	Peak	41.23	-9.14	32.09	46.00	-13.91
666.32	Peak	43.79	-8.72	35.07	46.00	-10.93
719.67	Peak	41.79	-7.81	33.98	46.00	-12.02
861.29	Peak	36.73	-5.35	31.38	46.00	-14.62

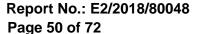
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

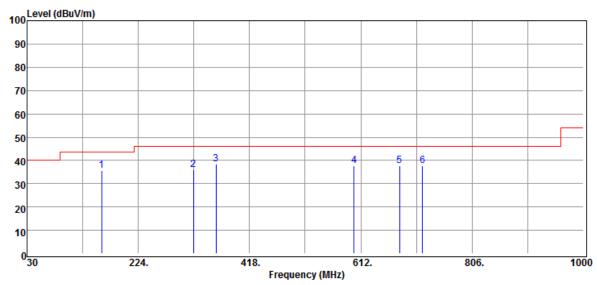




Operation Mode :BLE Test Mode :Tx CH High

EUT Pol :E2 Plan **Test Channel** :2480 MHz **Test Date** :2018-08-30 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
159.98	Peak	51.84	-16.19	35.65	43.50	-7.85
320.03	Peak	53.01	-16.87	36.14	46.00	-9.86
359.80	Peak	52.15	-13.76	38.39	46.00	-7.61
600.36	Peak	46.92	-9.14	37.78	46.00	-8.22
679.90	Peak	45.72	-7.88	37.84	46.00	-8.16
719.67	Peak	45.61	-7.81	37.80	46.00	-8.20

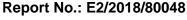
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

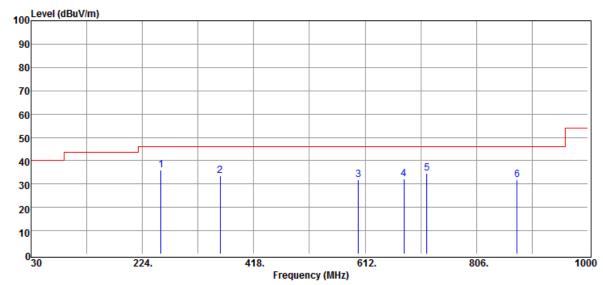


Page 51 of 72



BT 5.0 MODE:

Operation Mode :BT5.0 **Test Date** :2018-08-30 Test Mode :Tx CH Low Temp./Humi. :25/60 **EUT Pol** :E2 Plan Antenna Pol. :VERTICAL **Test Channel** :2402 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
256.01	Peak	52.75	-16.74	36.01	46.00	-9.99
359.80	Peak	47.31	-13.76	33.55	46.00	-12.45
600.36	Peak	40.88	-9.14	31.74	46.00	-14.26
679.90	Peak	40.17	-7.88	32.29	46.00	-13.71
719.67	Peak	42.52	-7.81	34.71	46.00	-11.29
876.81	Peak	37.05	-5.27	31.78	46.00	-14.22

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.

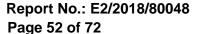
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

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

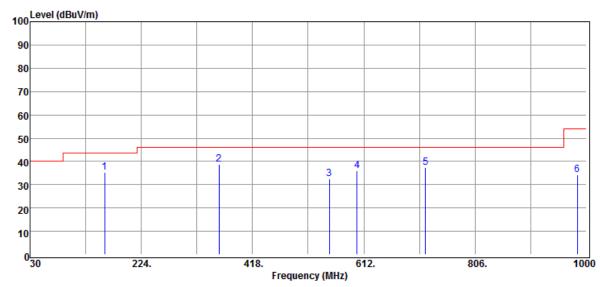




Operation Mode :BT5.0 **Test Date** :2018-08-30 Test Mode :Tx CH Low Temp./Humi. :25/60

EUT Pol :E2 Plan Antenna Pol. :HORIZONTAL

Test Channel :2402 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
159.98	Peak	51.35	-16.19	35.16	43.50	-8.34
359.80	Peak	52.42	-13.76	38.66	46.00	-7.34
551.86	Peak	43.02	-10.35	32.67	46.00	-13.33
600.36	Peak	44.99	-9.14	35.85	46.00	-10.15
719.67	Peak	45.10	-7.81	37.29	46.00	-8.71
984.48	Peak	37.94	-3.65	34.29	54.00	-19.71

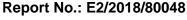
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

SCS Talwan Live

INCLUDED

**

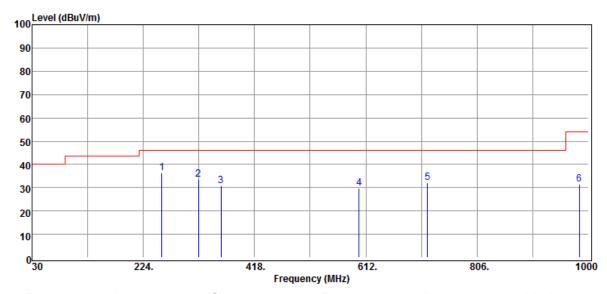


Page 53 of 72



Operation Mode :BT5.0 Test Mode :Tx CH Mid **EUT Pol** :E2 Plan **Test Channel** :2442 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
256.01	Peak	52.91	-16.74	36.17	46.00	-9.83
320.03	Peak	48.31	-14.79	33.52	46.00	-12.48
359.80	Peak	44.41	-13.76	30.65	46.00	-15.35
600.36	Peak	38.93	-9.14	29.79	46.00	-16.21
719.67	Peak	39.95	-7.81	32.14	46.00	-13.86
984.48	Peak	35.18	-3.65	31.53	54.00	-22.47

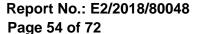
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

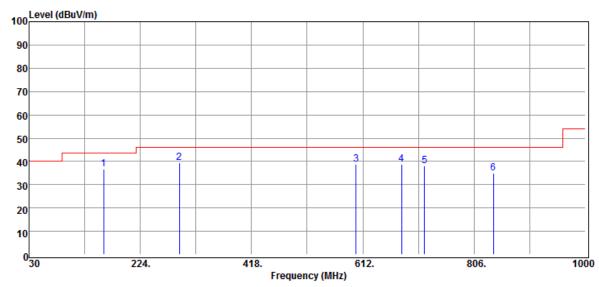




Operation Mode :BT5.0 **Test Date** :2018-08-30 Test Mode :Tx CH Mid Temp./Humi. :25/60

EUT Pol :E2 Plan Antenna Pol. :HORIZONTAL

Test Channel :2442 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
						_
159.98	Peak	52.96	-16.19	36.77	43.50	-6.73
291.90	Peak	55.81	-16.49	39.32	46.00	-6.68
600.36	Peak	47.90	-9.14	38.76	46.00	-7.24
679.90	Peak	46.79	-7.88	38.91	46.00	-7.09
719.67	Peak	45.80	-7.81	37.99	46.00	-8.01
839.95	Peak	41.13	-6.27	34.86	46.00	-11.14

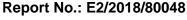
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

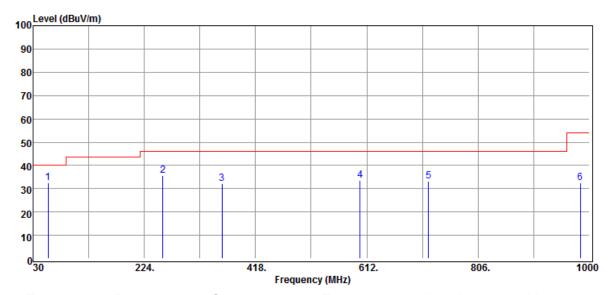


Page 55 of 72



Operation Mode :BT5.0 Test Mode :Tx CH High **EUT Pol** :E2 Plan **Test Channel** :2480 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
Peak	49.77	-17.33	32.44	40.00	-7.56
Peak	52.47	-16.74	35.73	46.00	-10.27
Peak	46.05	-13.76	32.29	46.00	-13.71
Peak	42.78	-9.14	33.64	46.00	-12.36
Peak	41.16	-7.81	33.35	46.00	-12.65
Peak	36.23	-3.65	32.58	54.00	-21.42
	Mode PK/QP/AV Peak Peak Peak Peak Peak	Mode PK/QP/AV Reading Level dBμV Peak 49.77 Peak 52.47 Peak 46.05 Peak 42.78 Peak 41.16	Mode PK/QP/AV Reading Level dBμV dB Peak 49.77 -17.33 Peak 52.47 -16.74 Peak 46.05 -13.76 Peak 42.78 -9.14 Peak 41.16 -7.81	Mode PK/QP/AV Reading Level dBμV FS dBμV/m Peak 49.77 -17.33 32.44 Peak 52.47 -16.74 35.73 Peak 46.05 -13.76 32.29 Peak 42.78 -9.14 33.64 Peak 41.16 -7.81 33.35	Mode PK/QP/AV Reading Level dBμV FS dBμV/m @3m dBμV/m Peak 49.77 -17.33 32.44 40.00 Peak 52.47 -16.74 35.73 46.00 Peak 46.05 -13.76 32.29 46.00 Peak 42.78 -9.14 33.64 46.00 Peak 41.16 -7.81 33.35 46.00

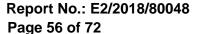
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**



:2018-08-30

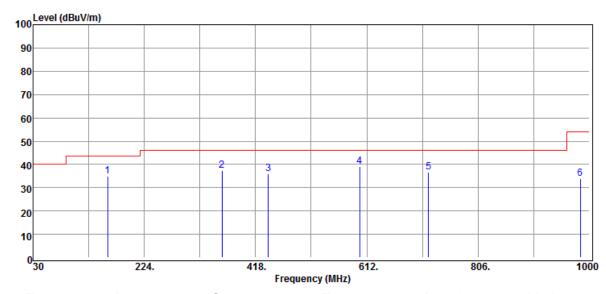
:25/60



Operation Mode :BT5.0 **Test Date** Test Mode :Tx CH High Temp./Humi.

EUT Pol Antenna Pol. :E2 Plan :HORIZONTAL

Test Channel :2480 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
159.98	Peak	50.98	-16.19	34.79	43.50	-8.71
359.80	Peak	51.12	-13.76	37.36	46.00	-8.64
440.31	Peak	47.84	-11.73	36.11	46.00	-9.89
599.39	Peak	48.36	-9.09	39.27	46.00	-6.73
719.67	Peak	44.49	-7.81	36.68	46.00	-9.32
984.48	Peak	37.55	-3.65	33.90	54.00	-20.10

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

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

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



Report No.: E2/2018/80048

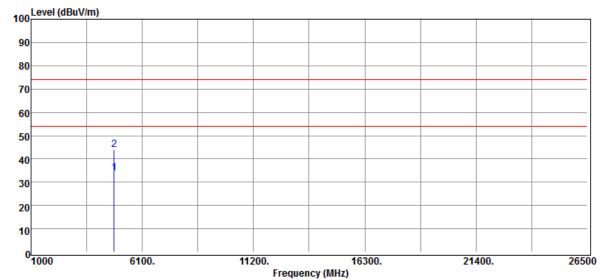
Page 57 of 72

Radiated Spurious Emission Measurement Result For Frequency above 1GHz

BLE MODE:

Operation Mode Test Date :2018-08-30

:Tx CH Low Test Mode Temp./Humi. :25/60 **EUT Pol** :E2 Plan Antenna Pol. :VERTICAL Test Channel :2402 MHz Engineer :Jerry



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBuV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
	110 01 77 10	4564		αΒμν/ιιι	аБрулп	
4804.00	Average	33.58	0.27	33.85	54.00	-20.15
4804.00	Peak	43.76	0.27	44.03	74.00	-29.97

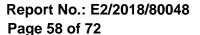
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

SCS Talwan Live

INCLUDED

**



:2018-08-30

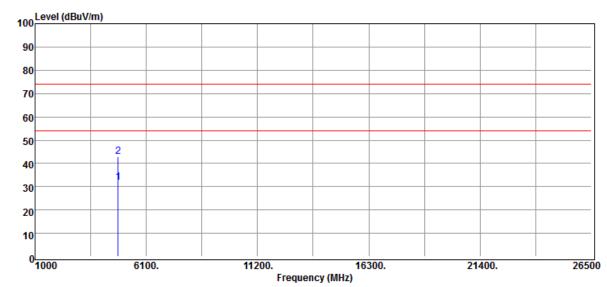
:25/60



Operation Mode :BLE **Test Date** Test Mode :Tx CH Low Temp./Humi.

EUT Pol Antenna Pol. :E2 Plan :HORIZONTAL

Test Channel :2402 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4804.00	Average	31.39	0.27	31.66	54.00	-22.34
4804.00	Peak	42.57	0.27	42.84	74.00	-31.16

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

SCS Talwan Live

INCLUDED

**

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

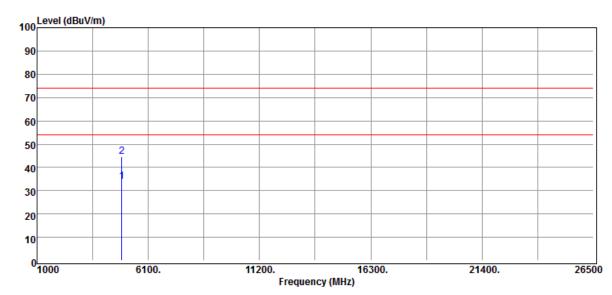


Page 59 of 72



Operation Mode :BLE Test Mode :Tx CH Mid **EUT Pol** :E2 Plan **Test Channel** :2442 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode PK/QP/AV	Reading Level dBuV	dB	FS dBµV/m	@3m dBµV/m	dB
IVII IZ	FIVQF/AV	υБμν	uБ	ασμν/ιιι	ασμν/π	ub
4884.00	Average	33.14	0.71	33.85	54.00	-20.15
4884.00	Peak	43.99	0.71	44.70	74.00	-29.30

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.

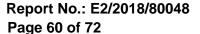
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

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

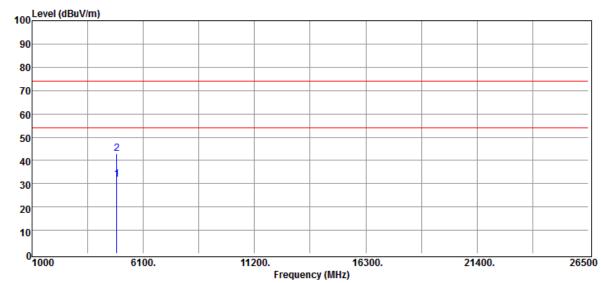




Operation Mode :BLE **Test Date** :2018-08-30 Test Mode :Tx CH Mid Temp./Humi. :25/60

EUT Pol Antenna Pol. :E2 Plan :HORIZONTAL

Test Channel :2442 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4884.00	Average	31.11	0.71	31.82	54.00	-22.18
4884.00	Peak	42.11	0.71	42.82	74.00	-31.18

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

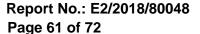
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

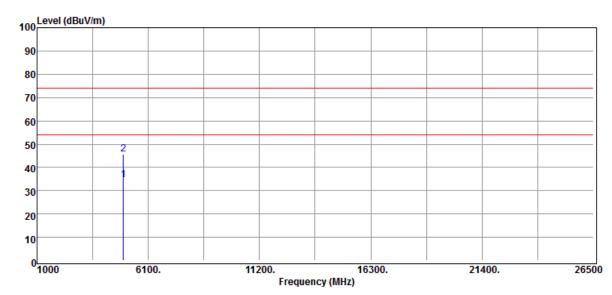
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 www.tw.sqs.com





Operation Mode :BLE Test Mode :Tx CH High **EUT Pol** :E2 Plan **Test Channel** :2480 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
B 41 1	Mode	Reading Level	ID.	FS ID	@3m	ID.
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4960.00	Average	33.36	1.24	34.60	54.00	-19.40
4960.00	Peak	44.29	1.24	45.53	74.00	-28.47

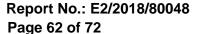
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

** SGS Taiwan Ltd.

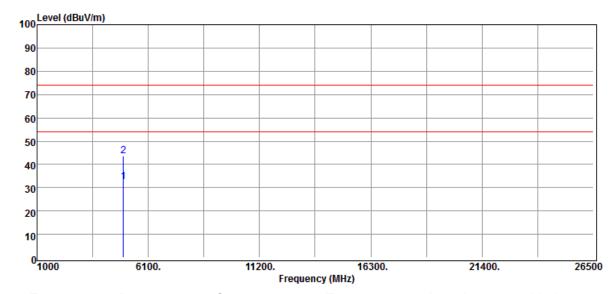




Operation Mode :BLE **Test Date** :2018-08-30 Test Mode :Tx CH High Temp./Humi. :25/60

EUT Pol Antenna Pol. :E2 Plan :HORIZONTAL

Test Channel :2480 MHz Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin	
	Mode	Reading Level		FS	@3m		
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB	
4960.00	Average	31.35	1.24	32.59	54.00	-21.41	
4960.00	Peak	42.34	1.24	43.58	74.00	-30.42	

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

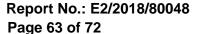
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

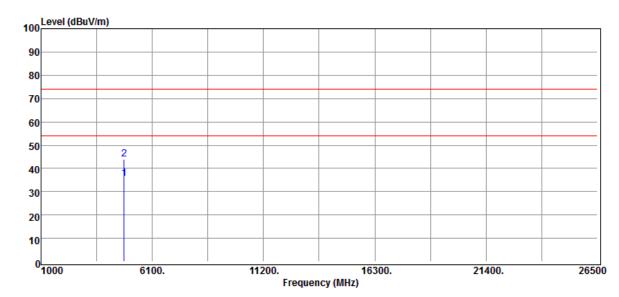
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號





BT 5.0 MODE:

Operation Mode :BT5.0 **Test Date** :2018-08-30 Test Mode :Tx CH Low Temp./Humi. :25/60 **EUT Pol** Antenna Pol. :E2 Plan :VERTICAL **Test Channel** :2402 MHz Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
MHz	Mode	Reading Level	٩D	FS dBµV/m	@3m	٩D
IVITZ	PK/QP/AV	dΒμV	dB	ασμν/ιιι	dBµV/m	dB
4804.00	Average	35.28	0.27	35.55	54.00	-18.45
4804.00	Peak	43.55	0.27	43.82	74.00	-30.18

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

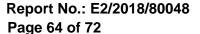
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

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



:2018-08-30

:25/60



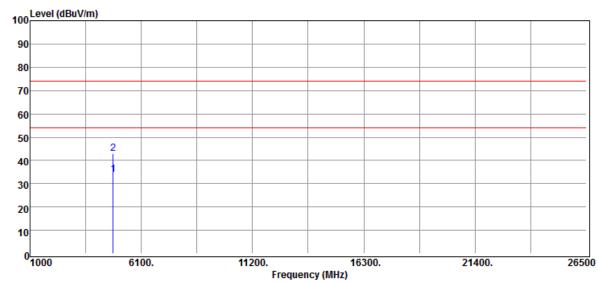
Operation Mode :BT5.0 Test Mode :Tx CH Low

EUT Pol Antenna Pol. :E2 Plan :HORIZONTAL

Test Date

Temp./Humi.

Test Channel :2402 MHz Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4804.00	Average	33.62	0.27	33.89	54.00	-20.11
4804.00	Peak	42.53	0.27	42.80	74.00	-31.20

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

Unless otherwise stated the results 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,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

**

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

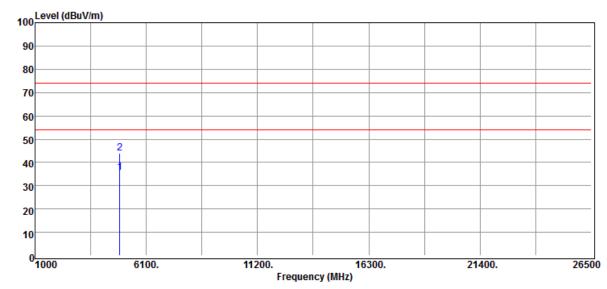


Page 65 of 72



Operation Mode :BT5.0 Test Mode :Tx CH Mid **EUT Pol** :E2 Plan **Test Channel** :2442 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBμV/m	dBμV/m	dB
4884.00	Average	35.02	0.71	35.73	54.00	-18.27
4884.00	Peak	43.26	0.71	43.97	74.00	-30.03

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

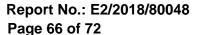
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

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



:2018-08-30

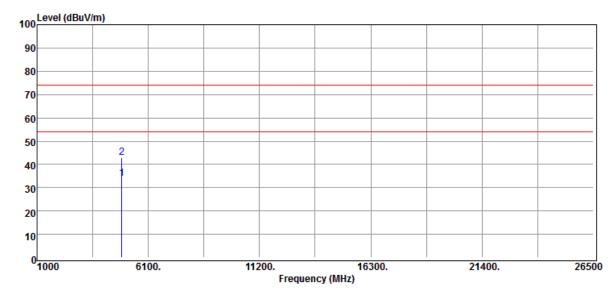
:25/60



Operation Mode :BT5.0 **Test Date** Test Mode :Tx CH Mid Temp./Humi.

EUT Pol :E2 Plan Antenna Pol. :HORIZONTAL

Test Channel :2442 MHz Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@ 3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
4884.00	Average	33.08	0.71	33.79	54.00	-20.21
4884.00	Peak	42.17	0.71	42.88	74.00	-31.12

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,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 www.sgs.com/terms and conditions for electronic Documents at www.sgs.com/terms e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SCS Talwan Live

INCLUDED

** SGS Taiwan Ltd.

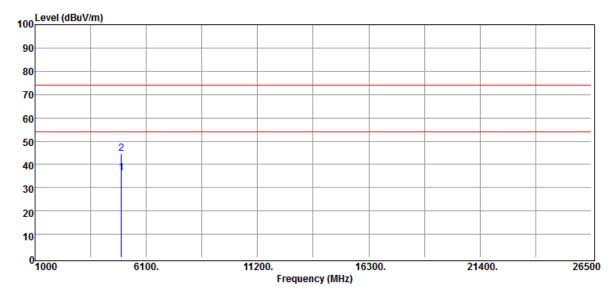


Page 67 of 72



Operation Mode :BT5.0 Test Mode :Tx CH High **EUT Pol** :E2 Plan **Test Channel** :2480 MHz

Test Date :2018-08-30 Temp./Humi. :25/60 Antenna Pol. :VERTICAL Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@ 3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4960.00	Average	35.13	1.24	36.37	54.00	-17.63
4960.00	Peak	43.22	1.24	44.46	74.00	-29.54

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.

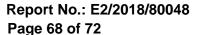
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測述之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf,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

SCS Talwan Live

INCLUDED

**

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



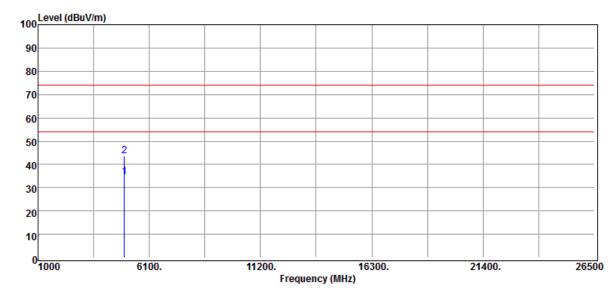


Operation Mode :BT5.0 Test Mode :Tx CH High **EUT Pol** :E2 Plan

Test Channel :2480 MHz **Test Date** :2018-08-30 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

Engineer :Jerry



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin	
	Mode	Reading Level		FS	@ 3m		
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB	
4960.00	Average	33.21	1.24	34.45	54.00	-19.55	
4960.00	Peak	42.35	1.24	43.59	74.00	-30.41	

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

SCS Talwan Live

INCLUDED

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





Page 69 of 72

11 PEAK POWER SPECTRAL DENSITY

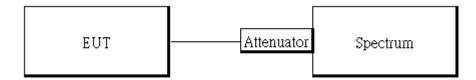
Standard Applicable: 11.1

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.

11.2 **Measurement Equipment Used:**

	Conducted Emission Test Site							
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.			
Spectrum Analyzer	Agilent	N9010A	MY5144011 3	2018/06/20	2019/06/19			
DC Power Supply	Agilent	E3640A	MY5314000 6	2018/05/30	2019/05/29			

11.3 Test Set-up:



11.4 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 & ANSI C63.10.
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW = 3 kHz. & the VBW = 10 kHz
- 5. For defining Restricted Band Edge Limit: Set the RBW = 100kHz & VBW = 300 kHz.
- 6. Detector = peak.
- 7. Sweep time = auto couple.
- 8. Trace mode = max hold.
- 9. Allow trace to fully stabilize.
- 10. Use the peak marker function to determine the maximum amplitude 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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.

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

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



Page 70 of 72



11.5 **Measurement Result:**

BLE MODE:

RI F mode

DEL IIIOGE			
Frequency (MHz)	RF Power Density (dBm)	Maximum Limit (dBm)	Result
2402	-6.86	8	PASS
2442	-7.34	8	PASS
2480	-7.06	8	PASS

NOTE: cable loss as 0.8dB that offsets in the spectrum

BT 5.0 MODE:

BLE mode

Frequency (MHz)	RF Power Density (dBm)	Maximum Limit (dBm)	Result
2402	-10.32	8	PASS
2442	-10.81	8	PASS
2480	-10.67	8	PASS

NOTE: cable loss as 0.8dB that offsets in the spectrum

Unless otherwise stated the results 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。

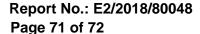
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms e-document.htm.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

SGS Taiwan Ltd.

IN 134 WitkungRoad NewTaineiindustrialPark WukuDistrict NewTaineiCity. Taiwan24803/新北市五股區新北產業園區五工路 134 with the content of the content or appearance of the content of the content of the law.

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

f (886-2) 2298-0488





BLE MODE:

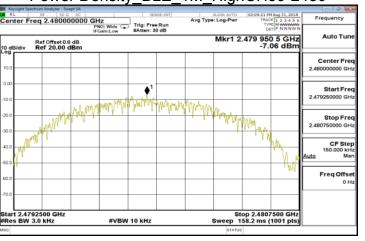
Power Density_BLE_1M_LowCH00-2402



Power Density BLE 1M MidCH20-2442

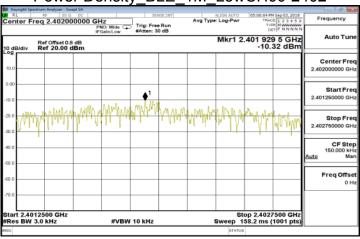


Power Density BLE 1M HighCH39-2480

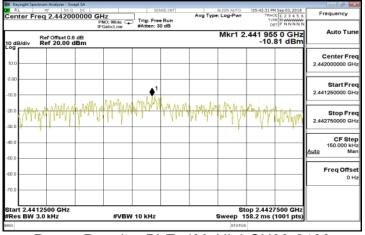


BT 5.0 MODE:

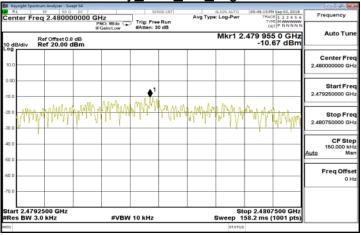
Power Density_BLE_1M_LowCH00-2402



1M MidCH20-2442 Power Density BLE



Power Density BLE 1M HighCH39-2480



Unless otherwise stated 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 so days only.

除非另有說明,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 www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions htm and, for electronic format document, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions htm and, for electronic format document, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions htm and, for electronic format document, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms and conditions for electronic format document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and the wide of the subject to Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery 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.: E2/2018/80048

Page 72 of 72

12 ANTENNA REQUIREMENT

12.1 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.

In case of point-to-point operation, the power shall be reduced by the one dB for every 3 dB that the directional gain of antenna exceeds 6dBi.

12.2 **Antenna Connected Construction:**

The antenna is designed as permanently attached and no consideration of replacement. Please see EUT photo for details.

~ End of Report ~

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

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

SGS Taiwan Ltd.