

SUPPLEMENTAL "UP LINK CARRIER AGGREGATION" TEST REPORT

OF

Applicant:	ASUSTeK COMPUTER INC. 1F., No. 15. Lide Rd., Beitou Dist., Taipei City 112. Taiwan
Product Name:	ASUS Phone (Mobile Phone)
Brand Name:	ASUS
Model No.:	ASUS_1003D
Model Difference:	N/A
Report Number:	ER/2020/30084
FCC ID	MSQI003D
IC:	3568A-1003D
FCC Rule Part:	2, 22H & 24E & 27C
ISED Rule:	RSS-130, 132, 133, 139, 199
Issue Date:	Sep. 04, 2020
Date of Test:	Jun. 01, 2020 ~ Jul. 21, 2020
Date of EUT Received:	May 06, 2020
MATE 1 1	

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 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.

uang JAZZ Approved By:

Jazz Huang / Asst. 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

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

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

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



Revision History									
Report Number	Revision	Description	Issue Date	Remark					
ER/2020/30084	Rev.00	Original.	Sep. 04, 2020	Revised By: Violetta Tang					

Note:

1 · Disclaimer

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

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced to the following of the transaction document cannot be reproduced to the following of the transaction documents. This document cannot be reproduced to the following of the transaction document cannot be reproduced to the following of the transaction document cannot be reproduced to the following of the transaction documents. This document cannot be reproduced to the following of the transaction documents. This document cannot be reproduced to the following of the transaction documents. except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號



Contents

1	GENERAL PRODUCT INFORMATION	
2	SYSTEM TEST CONFIGURATION	10
3	SUMMARY OF TEST RESULTS	12
4	DESCRIPTION OF TEST MODES	
5	MEASUREMENT UNCERTAINTY	20
6	MAXIMUM OUTPUT POWER	21
7	OCCUPIED BANDWIDTH MEASUREMENT	29
8	OUT OF BAND EMISSION AT ANTENNA TERMINALS	40
9	FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	57
10	FREQUENCY STABILITY MEASUREMENT	
11	PEAK TO AVERAGE RATIO	102

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested 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。



GENERAL PRODUCT INFORMATION 1

Product Description 1.1

General:

Product Name:	ASUS Phone (Mobile Phone)					
Brand Name:	ASUS					
Model No.:	ASUS_100)3D				
Model Difference:	N/A					
Hardware Version:	R2.0B					
Software Version:	Android Q					
AJ Dongle:	Model No.: F370002, Supplier: MEILU					
Fan Dongle:	Model No.: 1003, Supplier: ASUS					
USB Cable:	Model No.	: LA9U2015-CS-R, Supplier: ASAP				
	3.85Vdc fr or 5V / 9V	om Rechargeable Li-polymer Battery / 12V / 15V / 20V from AC/DC Adapter				
Power Supply:	Battery: Model No.: C11P1903, Supplier: SCUD					
	Adapter: Model No.: A299-200150U-US, Supplier: AOHAI					
IMEI:	355306110093970 / 355306110093988 (Conducted) 355306110094390 (Radiated)					

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號



1.2 **Operation Frequency Range**

LTE Band	BW	Operatio	Operation Frequency		LTE Band	BW	Operatio	n Fre	equency
	(MHZ)	1)	viHz)			(MHZ)	(VIHZ))
	1.4	1850.7	-	1909.3	1	5	2572.5	-	2617.5
2	3	1851.5	-	1908.5	38	10	2575.0	-	2615.0
	5	1852.5	-	1907.5	50	15	2577.5	-	2612.5
	10	1855.0	-	1905.0		20	2580.0	-	2610.0
	15	1857.5	-	1902.5		5	2498.5	-	2687.5
	20	1860.0	-	1900.0	44	10	2501.0	-	2685.0
	1.4	1710.7	-	1754.3	41	15	2503.5	-	2682.5
	3	1711.5	-	1753.5		20	2506.0	-	2680.0
4	5	1712.5	-	1752.5	66	1.4	1710.7	-	1779.3
4	10	1715.0	-	1750.0		3	1711.5	-	1778.5
	15	1717.5	-	1747.5		5	1712.5	-	1777.5
	20	1720.0	-	1745.0		10	1715.0	-	1775.0
	1.4	824.7	-	848.3		15	1717.5	-	1772.5
F	3	825.5	-	847.5		20	1720.0	-	1770.0
5	5	826.5	-	846.5					
	10	829.0	-	844.0					
	5	2502.5	-	2567.5					
7	10	2505.0	-	2565.0	1				
	15	2507.5	-	2562.5					
	20	2510.0	-	2560.0	1				
	1.4	699.7	-	715.3					
10	3	700.5	-	714.5					
12	5	701.5	-	713.5					
	10	704.0	-	711.0					

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested 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。



1.3 Antenna Designation

Antenna Type	Antenna Model No.				
	Ant0				
PIFA	Ant1				
	Ant2				
Note: The EUT equip	oped with 7 WWAN antennas, however, transmission of 4G LTE bands				
are available by Ant0, Ant1, Ant2 and Ant3.					

Operating	J Frequency	′ (Mŀ	łz)	Ant 0 Peak Gain (dBi)	Ant 1 Peak Gain (dBi)	Ant 2 Peak Gain (dBi)
LTE-Band 2	1850.7	2	1909.3	N/A	-1.0	N/A
LTE-Band 4	1710.7	~	1754.3	N/A	0.7	N/A
LTE-Band 5	824.7	~	848.3	-1.8	N/A	-2.2
LTE-Band 7	2502.5	~	2567.5	N/A	-0.5	N/A
LTE-Band 12	699.7	~	715.3	-3.8	N/A	-5.3
LTE-Band 38	2572.5	~	2617.5	N/A	-2.3	N/A
LTE-Band 41	2498.5	~	2687.5	N/A	-3.0	N/A
LTE-Band 66	1710.7	~	1779.3	N/A	-1.1	N/A

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

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



Type of Emission & Max ERP/EIRP Power Measurement Result: 1.4 Intra-Band

1.4.1

intia-									
LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	99%	Type of Emission		
		QPSK	19.54	ERP	0.090	13.895	13M9G7D		
۶D	15	16QAM	18.52	ERP	0.071	13.841	13M8D7W		
50	15	64QAM	17.54	ERP	0.057	13.836	13M8D7W		
		256QAM	14.53	ERP	0.028	13.835	13M8D7W		
		QPSK	19.54	ERP	0.090	18.929	18M9G7D		
5B 20	20	16QAM	18.50	ERP	0.071	18.936	18M9D7W		
	20	64QAM	17.21	ERP	0.053	18.813	18M8D7W		
		256QAM	14.35	ERP	0.027	18.804	18M8D7W		

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	99%	Type of Emission
		QPSK	22.99	EIRP	0.199	27.802	27M8G7D
70	20	16QAM	21.92	EIRP	0.156	27.802	27M8D7W
70 30	30	64QAM	20.99	EIRP	0.126	27.771	27M8D7W
		256QAM	19.76	EIRP	0.095	27.812	27M8D7W
		QPSK	22.95	EIRP	0.197	37.549	37M5G7D
7C 40	40	16QAM	21.99	EIRP	0.158	37.606	37M6D7W
	40	64QAM	20.56	EIRP	0.114	37.512	37M5D7W
		256QAM	17.97	EIRP	0.063	37.541	37M5D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	99%	Type of Emission
		QPSK	22.11	EIRP	0.163	28.295	28M3G7D
38C 30	20	16QAM	21.03	EIRP	0.127	28.331	28M3D7W
	30	64QAM	20.04	EIRP	0.101	28.266	28M3D7W
		256QAM	17.18	EIRP	0.052	28.301	28M3D7W
		QPSK	22.15	EIRP	0.164	37.574	37M6G7D
38C 4	10	16QAM	21.18	EIRP	0.131	37.475	37M5D7W
	40	64QAM	20.12	EIRP	0.103	37.498	37M5D7W
		256QAM	17.07	EIRP	0.051	37.474	37M5D7W

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號



LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	99%	Type of Emission
		QPSK	21.47	EIRP	0.140	22.887	22M9G7D
110	25	16QAM	20.39	EIRP	0.109	22.907	22M9D7W
410 2	25	64QAM	19.43	EIRP	0.088	22.883	22M9D7W
		256QAM	16.46	EIRP	0.044	22.900	22M9D7W
		QPSK	21.47	EIRP	0.140	37.487	37M5G7D
41C 4	40	16QAM	20.44	EIRP	0.111	37.616	37M6D7W
	40	64QAM	19.31	EIRP	0.085	37.517	37M5D7W
		256QAM	16.36	EIRP	0.043	37.529	37M5D7W

1.4.2 Inter-Band

Please refer to section 6.6.2 of this report.

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

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



1.5 **Test Methodology of Applied Standards**

FCC 47 CFR Part 2, 22H, 24E, 27C. ISED RSS-130 Issue 2 Feb. 2019. ISED RSS-132 Issue 3 Jan. 2013 ISED RSS-139 Issue 3 July 16, ISED RSS-133 Issue 6, Amendment 1 Jan. 18, 2018 2015 ISED RSS-199 Issue 3 Dec. 2016 ANSI C63.26-2015 KDB971168 D01 Power Meas license Digital System v03r01

Test Facility 1.6

SGS Taiwan Ltd. Central RF Lab (TAF code 3702) No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 FCC Designation number: TW0027 ISED CAB identifier: TW3702

Special Accessories 1.7

No special accessories were used during testing.

Equipment Modifications 1.8

There was no modifications incorporated into the EUT.

Radiated Emission Test Sites for Measurements from 9 kHz to 30 MHz 1.9

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

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

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

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



2 SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

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

2.2 EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Measurement at Antenna Port

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held 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. **Note:**

The spectrum analyzer offset is derived from RF cable loss and attenuator factor. Following shows an offset computation in physical test.

	RF cable loss (dB)	Attenuation factor(dB)	offset(dB)
Low Band (Below 1GHz)	3.8	10	13.8
High Band (Above 1 GHz)	4.4	10	14.4

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

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

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

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



2.5 Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)				
LTE Band 5B		571				
LTE Band 7C	2.95	592				
LTE Band 38C	3.00	588				
LTE Band 41C		596				

2.6 **Configuration of Tested System**

Fig. 2-1 Configuration of Tested System (Fixed Channel-Conducted)



Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)



Remote Side



Table 2-1 Equipment Used in

ltem	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Radio Communication Analyzer	Anritsu	MT8821C	6261786084	shielded	Un-shielded

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

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

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

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



3 SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§2.1046(a)	RSS-GEN §6.12	RF Power Output	Compliant
§22.913(a)(5) §24.232(c) §27.50(c)(10) §27.50(h)(2) §27.50(d)(4)	RSS-130 §4.6 RSS-132 §5.4 RSS-133 §6.4 RSS-139 §6.5 RSS-199 §4.4	ERP/ EIRP measurement	Compliant
§2.1049(h)	RSS-GEN §6.7	99% & 26dB Occuupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h) §27.53(m)(4)(6)	RSS-GEN §6.13 RSS-130 §4.7 RSS-132 §5.5 RSS-133 §6.5 RSS-139 §6.6 RSS-199 §4.5	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h) §27.53(m)(4)	RSS-GEN §6.13 RSS-130 §4.7 RSS-132 §5.5 RSS-133 §6.5 RSS-139 §6.6 RSS-199 §4.5	Field Strength of Spurious Radiation	Compliant
§24.232(d) §27.50((B)	RSS-130 §4.6.1 RSS-132 §5.4 RSS-133 §6.4 RSS-139 §6.4 RSS-199 §4.4	Peak to Average Ratio	Compliant
§2.1055(a)(1) §22.355 §24.235 §27.54	RSS-130 §4.5 RSS-132 §5.3 RSS-133 §6.3 RSS-139 §6.5 RSS-199 §4.3	Frequency Stability	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。

いいていいないないのでしいな日常来催到が高以上で、「いうないない」では、「いうない」では、「いうない」」では、「いうない」では、「いうない」」では、「いうない」では、「いうない」」では、「いうない」」では、「いうない」」では、「いうない」」では、「いうない」」では、「いうない」」では、「いっない」」では、「いっない」」では、「いっない」」では、「いっない」」」では、「いっない」」では、「いっない」」では、「いっない」」では、「いっない」」」では、「いっない」」」では、「いっない」」」では、「いっない」」」では、「いっない」」」では、「いっない」」」」では、「いっない」」」」」
「いっない」」

「いっない」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」
「いっない」」
「いっない」
「いっない」」
「いっない」」
「いっない」
「いっな

DESCRIPTION OF TEST MODES

4.1 The Test Channel Details

This device is ASUS Phone (Mobile Phone) that supports with carrier aggregation (two carrier) uplink. Intra-Band contiguous and Inter-Band non-contiguous specification as below:

E-U	TRA Intra-Band CA o	configuration / Bandw	idth combinatio	on set
	Component carriers carrier f	in order of increasing requency	Maximum	Bandwidth
configuration	Channel bandwidth for carrier [MHz]	bandwidth [MHz]	combination set	
CA 5B	5,10	10	20	0
_	10	5		
	15	15	40	0
	20	20		
- ·	10	20		
CA_7C	15	15,20	40	1
	20	10,15,20		
	15	10,15	40	2
	20	15,20	40	2
CA 38C	5,10,15,20	20		
CA_30C	20	5,10,15		
	10	20		
	15	15,20	40	0
	20	10,15,20		
	5,10	20		
	15	15,20	40	1
CA_41C	20	5,10,15,20		
_	10	15,20		
-	15	10,15,20	40	2
	20	10,15,20		
	10	20	40	2
	20	20	40	3

Intra-Band Test Mode	Band	Description
1	5B	CA_PCC Ant0 Band 5_ SCC Ant 0 Band 5
2	7C	CA_PCC Ant0 Band 7_ SCC Ant 0 Band 7
3	38C	CA_PCC Ant0 Band 38_ SCC Ant 0 Band 38
4	41C	CA_PCC Ant0 Band 41_ SCC Ant 0 Band 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.

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

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

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



E-UTRA Inter-Band CA configuration / Bandwidth combination set											
Uplink CA		1 /	3	5	10	15	20	Maximum	Bandwidth		
configurations	Bands	MH7	MH7	MH7	MH7	MH ₇	ZU MH7	aggregated band-	combination		
(NOTE 4)	Danus		1011 12		101112			width [MHz]	set		
	2			Yes	Yes	Yes	Yes	30	0		
CA 2A-5A	5			Yes	Yes			50	0		
07_27-37	2			Yes	Yes			20	1		
	5			Yes	Yes			20	I		
	2			Yes	Yes	Yes	Yes	30	0		
	12			Yes	Yes			50	0		
CA 2A 12A	2			Yes	Yes	Yes	Yes	30	1		
	12		Yes	Yes	Yes			50	1		
	2			Yes	Yes			20	2		
	12			Yes	Yes			20	2		
	4			Yes	Yes			20	0		
	5			Yes	Yes			20	0		
	4			Yes	Yes	Yes	Yes	20	4		
	5			Yes	Yes			30	1		
	4	Yes	Yes	Yes	Yes			00	0		
	12			Yes	Yes			20	0		
	4	Yes	Yes	Yes	Yes	Yes	Yes	20	4		
	12			Yes	Yes			30	1		
	4			Yes	Yes	Yes	Yes	00	0		
0.0. 4.0.4.0.0	12		Yes	Yes	Yes			30	2		
CA_4A-12A	4			Yes	Yes			00	0		
	12			Yes	Yes			20	3		
	4			Yes	Yes	Yes	Yes	00	4		
	12			Yes	Yes			30	4		
	4			Yes	Yes	Yes		00	-		
	12			Yes				20	5		
	12			Yes	Yes			00	0		
	66	Yes	Yes	Yes	Yes			20	0		
	12			Yes	Yes			20	4		
	66	Yes	Yes	Yes	Yes	Yes	Yes	30	1		
	12		Yes	Yes	Yes			20	2		
CA 124 664	66			Yes	Yes	Yes	Yes	30	2		
UA_12A-00A	12			Yes	Yes			20	2		
	66			Yes	Yes			20	3		
	12			Yes	Yes			30	1		
	66			Yes	Yes	Yes	Yes	50	4		
	12			Yes				20	5		
	66			Yes	Yes	Yes		20	5		

Inter-Band Test Mode	PCC & SCC Bands						
1	CA_PCC Ant1 Band 2_ SCC Ant 0 Band 5						
2	CA_PCC Ant1 Band 2_ SCC Ant 0 Band 12						
3	CA_PCC Ant1 Band 4_ SCC Ant 0 Band 5						
4	CA_PCC Ant1 Band 4_ SCC Ant 0 Band 12						
5	CA_PCC Ant0 Band 12_ SCC Ant 1 Band 66						

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

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

t (886-2) 2299-3279

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

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



4.2 The Worst-CaseTest Modes and Details

- Transmissions of each frequency bands are available by 4 antennas below, only one antenna can be enabled at any given time by each band, the EUT dose not support MIMO mode.
- 2. Evaluation has been done on Upper and Lower antennas and the Lower antenna results higher EIRP and Emissions, therefore, only measurement results of the Lower antenna are demonstrated in this test report.

Mode	Bands	Upper Antenna	Lower Antenna		
	Band 2	3	1		
	Band 4	3	1		
	Band 5	2	0		
	Band 7	3	1		
LIC	Band 12	2	0		
	Band 38	3	1		
	Band 41	3	1		
	Band 66	3	1		

- 3. This EUT is UE LTE 4G 1Tx/2Rx device for single carrier that can support uplink Band 2/4/5/7/12/38/41/66. For operation of uplink carrier aggregation (CA) mode, the transmitter enabled by 2Tx/2Rx mode.
- 4. The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM, 64QAM and 256QAM modulations. It was found that QPSK results the highest, hence all testing was performed using QPSK modulations to represent the worst case.
- 5. For occupied bandwidth, frequency stability and conducted unwanted emission measurements, due to each single LTE Band standalone transmission gernerates higher power than the Interband transmissions, the test results are only demonstrated for each single LTE band standalone transmission in test report ER/2020/30083 as the worst case scenarios. In addition, the radiated unwanted emissions of *inter-band* has been evaluated as no noticeable emissions, therefore, the conducted unwanted emissions was not tested.
- 6. For Band Edge and Emission Mask: The widest and narrowest BW combinations were tested. Combinations of same BW is considered equivalent. The RB combinations were selected as the signal activated closest to the band limit for determining the worst case scenario.
- 7. For Out of Band Emissions: The widest and narrowest combinations was tested. The RB combination generates the highest power was determined as the worst case senario.
- 8. For peak to average ratio measurements, due to each single LTE Band standalone transmission generates higher power than the *Inter-band* transmissions, the test results are only demonstrated for each single LTE band standalone transmission in test report ER/2020/30083 as the worst case scenarios.

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

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

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



9. Pre-Scan has been conducted to determine the worst-case mode from all possible positions of X(E1)Y(E2)Z(H) axis for radiated emission. The worst case was found as E1 plan.

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced to the sole of the sole of the sole of the transaction documents. This document cannot be reproduced to the sole of the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號



4.2.1 Intra-Band

For uplink Intra-Band CA, evaluation has been done for contiguous and non-contiguous channel and bandwith, configurations that generates highest output power in standalone transmission have been selected for the final test.

		Tes	t Char	nnel		Ba	ndwid	lth (M	Hz)			Modu	Ilation		RB #					
Test Items	Band	L	М	Н	15	20	25	30	35	40	QPSK	16QAM	64QAM	256QAN	Edge left ⁺	Edge right	Edge right	+	Edge left	Full
		v	v	v	v						v	v	v	v				V		v
	5B	V	v	v	v						v	v	v	v				v		v
		v	v	v		v					v	v	v	v				V		v
		v	v	v				v			v	v	v	v				V		v
Max.	7C	v	v	v				v			v	v	v	v	v			V		v
Output		v	v	v						v	v	v	v	v	v			V		v
Power		v	v	v			v				v	v	v	v				V		v
	41C	v	v	v			v				v	v	v	v	V			v		v
		v	v	v						v	v	v	v	v	v			V		v
	380	v	v	v				v			v	v	v	v	v			v		v
	300	v	٧	v						v	v	v	v	v	V			v		v
	ED.		v		v						v									v
	JD		v			v					v									v
	70		v					v			v									v
Freqency			v							v	v									v
Stability	410		v				v				v									v
	410		v							v	v									v
			v					v			v									v
	380		v							v	v									v
		Tes	t Char	nnel		Ba	ndwid	th (M	Hz)			Modu	lation		·	R	B #			
Test Items	Band	L	М	Н	15	20	25	30	35	40	QPSK	16QAM	64QAM	256QAN	Edge left ⁺	Edge right	Edge right	+	Edge left	Full
			v		v						v	v	v	v						v
	5B		v		v						v	v	v	v						v
			v			v					v	v	v	v						v
			v					v			v	v	v	v						v
26dB and	7C		v					v			v	v	v	v						v
99 %			v							v	v	v	v	v						v
Bandwidth			v				v				v	v	v	v						v
	41C		v				v				v	v	v	v						v
			v							v	v	v	v	v						v
	200		v					v			v	v	v	v						v
	380		v							v	v	v	v	v						v
			v		v									v						v
	5B		v		v									v						v
			v			v								v						v
			v					v						v						v
Deals to Ass	7C		v					v						v						v
Peak-to-Av			v							v				v						v
erage Ratio			v				v			v				v						v
	41C		v				v							v						v
			v							v				v						v
	202		v					v						v						v
	380		v							v				v						v

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced to the sole of the sole of the sole of the transaction documents. This document cannot be reproduced to the sole of the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

SGS

Report No.: ER/2020/30084 Page 18 of 105

		Tes	t Chai	nnel		Ba	ndwid	lth (M	Hz)			Modu	lation	Ì			F	B #			
Test Items	Band	L	Μ	Н	15	20	25	30	35	40	QPSK	16QAM	64QAM	256QAN	Edge left	+	Edge left	Edge right	+	Edge right	Full
Rand Edgo	5 D	V		v	v						v					V			V		v
banu Luge	50	v		v		v					v					V			V		v
		Tes	t Chai	nnel		Ba	ndwid	lth (M	Hz)		Modulation					F	2B #			-	
Test Items	Band	L	Μ	н	15	20	25	30	35	40	QPSK	16QAM	64QAM	256QAN	Edge left	+	Edge right	Edge right	+	Edge left	Full
	70	v		v				v			v					V					v
		v		v						v	v					V					v
Mask	<i>4</i> 1C	v		v			v				v					V					v
WIDSK	410	v		v						v	v					V					v
	200	v		v				v			v					V					v
	300	v		v						v	v					V					v
		Tes	t Chai	nnel		Ba	ndwid	lth (M	Hz)			Modu	lation	1			F	2B #			-
Test Items	Band	L	Μ	н	15	20	25	30	35	40	QPSK	16QAM	64QAM	256QAN	Edge left	+	Edge right	Edge right	+	Edge left	Full
	E D	v	v	v	v						v								V		
	ЭD	v	v	v		v					v								v		
	70	v	v	v				v			v								V		
Conducted	10	v	v	v						v	v								V		
Emission	<i>4</i> 1C	v	v	v			v				v								V		
	410	v	v	v						v	v								V		
	380	V	V	v				v			v								V		
	300	V	v	v						v	V								v		

Radiated Emission

E-UTRA Band	Test Channel	Channel Band- width	Modulation	Resource Block Allocation				
		(MHz)		RBs allocated	RB Start			
5B	Low	10+5	QPSK	1/49+	1/0			
7C	Low	20+20	QPSK	1/99+	1/0			
41C	High	20+5	QPSK	1/99+	1/0			
38C	Mid	20+20	QPSK	1/99+1/0				

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested 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。

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



4.2.2 Inter-Band

For uplink Inter-Band CA configurations, following configurations have been selected for the final test.

E-UTRA Band	Test Channel	Channel Band- width	Modulation	Resource Bloc	k Allocation
		(MHz)		RBs allocated	RB Start
2A_5A	Low	5+5	QPSK	FUL	L
2A_12A	Mid	20+10	QPSK	FUL	L
4A_5A	High	20+5	QPSK	FUL	L
4A_12A	Mid	20+10	QPSK	FUL	L
12A_66A	Mid	5+1.4	QPSK	FUL	L

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五殿區新北產業園區五工路 134 號



MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1.10 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization =+/- 4.62dB
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

Radiated Spurious Emission:

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

	9KHZ - 301VIHZ. +/- 2.07 UD
Magguramantungartaintu	30MHz - 167MHz: +/- 4.22dB
(Polarization · Horizontal)	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.

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced to the sole of the sole of the sole of the transaction documents. This document cannot be reproduced to the sole of the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. This document cannot be reproduced to the sole of the sole of the transaction document. except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號





MAXIMUM OUTPUT POWER

6.1 Standard Applicable

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

ERP/EIRP LIMIT 6.1.1

According to FCC §2.1046

FCC 22.913(a)

(5) mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

FCC 24.232(c)

Mobile and portable stations are limited to 2 W EIRP.

FCC 27.50(c)

(10) Portable stations (hand-held devices) are limited to 3 watts ERP.

FCC 27.50(d)

(4) Mobile, and portable (hand-held) stations operating in the 1710-1755 MHz, 1695-1710 MHz and 1755-1780 MHz bands are limited to 1W EIRP.

FCC 27, 50(h)

(2) Mobile and other user stations transmitting in the BRS and EBS bands are limited to 2 W EIRP.

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

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

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



RSS-130 §4.6

The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment operating in 698-756 and 777-787 MHz.

RSS-132 §5.4

The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment in operating in the Bands 824-849 and 869-894MHz shall not exceed 11.5 watts.

RSS-133 §6.4

The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510.

According to section 5.1.2 of SRSP-510, Mobile stations and hand-held portables are limited to 2 watts maximum e.i.r.p. The equipment shall employ means to limit the power to the minimum necessary for successful communication.

RSS-139 §6.5

The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters in the Bands 1710-1780MHz shall not exceed one watt.

RSS-199 §4.4

For mobile subscriber equipment operating in the Band 2500-2690MHz, the e.i.r.p. shall not exceed 2 W.

6.2 **Test Set-up**



Note: Measurement setup for testing on Antenna connector

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

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

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



6.3 **Output Power Measurement Applicable Guideance**

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices,

(WCDMA/HSPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing, and KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results.

All LTE bands conducted average power is obtained from the simulator telecommunication test set.

Determining ERP and/or EIRP from conducted RF output power measurements 6.4

According to KDB 412172 D01 Power Approach,

 $EIRP = P_{\tau} + G_{\tau} - L_{c}$ ERP= EIRP-2.15, Where:

- ERP or EIRP = effective radiated power or equivalent isotropically radiated power (expressed in the same units as PT, typically dBW, dBm, or power spectral density (PSD)2), relative to either a dipole antenna (ERP) or an isotropic antenna (EIRP);
 - P_{T} = transmitter output power, expressed in dBW, dBm, or PSD;
 - G_{τ} = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
 - L_c = signal attenuation in the connecting cable between the transmitter and antenna. in dB.

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
PXA Spectrum Analyzer	Agilent	N9030A	MY53120760	04/21/2020	04/20/2021
Radio Communication Analyzer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412- 018	01/02/2020	01/01/2021

Measurement Fouinment Used 6.5

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

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

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



6.6 LTE Measurement Results:

6.6.1

Intra-Band

																Power(d	Bm)		
Range	Modulation	BW (MHz)	Channel	Freq. (MHz)	RB Size / RB Office		Range	Modulation	BW (MHz)	Channel	Freq. (MHz)	RB Size / RB Office	PCC	SCC	Total	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Marg (dBr
	QPSK				1/24			QPSK				1/0	22.6	19.5	23.43	19.48	21.63	38.45	-16.8
	QPSK				Full			QPSK				Full	19.4	18	21.73	17.78	19.93	38.45	-18.5
	16QAM				1/24			16QAM				1/0	22.4	19.4	23.13	19.18	21.33	38.45	-17.1
	640AM	5	20428	826.8	Full 1/2/			640AM	10	20500	834	Full 1/0	10 /	16.2	20.82	16.87	19.02	38.45	-19.4
	640AM				Eull			640AM				Full	17.5	16.3	19 79	15.84	17.99	38.45	-20.
	256QAM				1/24			256QAM				1/0	18.3	15.1	19.03	15.08	17.23	38.45	-21.2
	256QAM				Full			256QAM				Full	18.1	11.2	18.83	14.88	17.03	38.45	-21.
	QPSK				1/49			QPSK				1/0	23	19.4	24.11	20.16	22.31	38.45	-16.
	QPSK				Full			QPSK				Full	21.2	14.1	21.98	18.03	20.18	38.45	-18
	16QAM				1/49 Eull			16QAM				I/U Full	23.3	13.2	23.80	19.85	22.00	38.45	-10
Low	640AM	10	20450	829	1/49		Low	640AM	5	20522	836.2	1/0	19.7	15.2	20.72	16.77	18.92	38.45	-19
	64QAM				Full			64QAM				Full	19.2	12.2	19.99	16.04	18.19	38.45	-20
	256QAM				1/49			256QAM				1/0	18	14.3	19.16	15.21	17.36	38.45	-21
	256QAM				Full			256QAM				Full	18.3	11.2	19.07	15.12	17.27	38.45	-21
	<u>QPSK</u>				1/49			QPSK				1/0	23.2	16.6	24.08	20.13	22.28	38.45	-16
					FUII 1/40							Full 1/0	20.8	13.7	21.50	10.88	19.76	38.45	-18
	160AM	10	00.150		Full			160AM	10	0.05.40		Full	20.1	13.3	20.93	16.98	19.13	38.45	-19
	64QAM	10	20450	829	1/49			64QAM	10	20549	838.9	1/0	19.4	16.5	21.17	17.22	19.37	38.45	-19
	64QAM				Full			64QAM				Full	19.1	12.2	19.93	15.98	18.13	38.45	-20
	256QAM				1/49			256QAM				1/0	18.4	11.1	19.12	15.17	17.32	38.45	-21
	256QAM OPSK				Full 1/24			OPSK				Full 1/0	23.1	19.4	23.92	19.97	22.12	38.45	-21
	QPSK				Full			QPSK				Full	21.3	14.5	22.04	18.09	20.24	38.45	-18
	16QAM				1/24			16QAM				1/0	22.7	20	23.52	19.57	21.72	38.45	-16
	640AM	5	20478	831.8	1/24			640AM	10	20550	839	1/0	20.3	17.2	21.12	16.82	19.32	38.45	-19
	64QAM				Full			64QAM				Full	19.5	12.9	20.35	16.40	18.55	38.45	-19
	256QAM				1/24 Full			256QAM				1/0 Full	18.6	15.6	19.31	15.36	17.51	38.45	-20
	QPSK				1/49	+		QPSK				1/0	22.6	15.7	23.17	19.22	21.37	38.45	-17
	QPSK				Full			QPSK			2 841.2	Full	21	13.9	21.72	17.77	19.92	38.45	-18
	16QAM 16QAM				1/49 Full			16QAM 16QAM	_	20572		1/0 Full	21.4	17.5	22.48	18.53	20.68	38.45	-17
Mid	64QAM	10	20500	834	1/49		Mid	64QAM	5	20572		1/0	19.3	11.7	19.75	15.80	17.95	38.45	-20
	64QAM				Full			64QAM				Full	19.3	12.3	20.08	16.13	18.28	38.45	-20
	256QAIVI 256QAM				Full			256QAM				Full	18.3	10.9	18.79	14.84	17.24	38.45	-21
	QPSK				1/49			QPSK				1/0	23.3	16.3	24.09	20.14	22.29	38.45	-16
	QPSK 160AM				Full 1/40			QPSK 160AM				Full 1/0	20.8	13.8	21.55	17.60	19.75	38.45	-18
	16QAM	10	00.474	001 (Full			16QAM	10	005.75	0.41.5	Full	20.3	13.3	23.00	17.12	19.27	38.45	-10
	64QAM	10	20476	831.0	1/49			64QAM	10	20575	841.5	1/0	20.2	12.9	20.91	16.96	19.11	38.45	-19
	64QAM				Full 1/49			64QAM				Full 1/0	19	12.1	19.82	15.87	18.02	38.45	-20
	256QAM				Full			256QAM				Full	18	10.9	18.80	14.85	17.00	38.45	-21
	QPSK				1/24			QPSK				1/0	22.3	19.2	23.10	19.15	21.30	38.45	-17
					Full 1/27							<u>Full</u>	21	14.3	21.77	17.82	20.79	38.45	-18
	16QAM	-	20520	024.0	Full			16QAM	10	204.00	044	Full	20.3	13.6	21.08	17.13	19.28	38.45	-19
	64QAM	Э	20526	030.0	1/24			64QAM	10	20000	044	1/0	19.2	16	19.95	16.00	18.15	38.45	-20
	64QAM				Full			64QAM				Full	19.2	12.6	19.99	16.04	18.19	38.45	-20
	2560AM				Full			256QAM				Full	17.0	11.5	19.05	14.54	17.25	38.45	-2
	QPSK				1/49			QPSK				1/0	22.2	15.2	22.80	18.85	21.00	38.45	-17
	QPSK				Full			QPSK 1(OAM				Full	20.6	13.6	21.37	17.42	19.57	38.45	-18
	16QAM				Eull			16QAM				Full	20.9	17	22.02	16.07	20.22	38.45	-10
High	64QAM	10	20550	839	1/49		High	64QAM	5	20622	846.2	1/0	18.7	11.2	19.22	15.27	17.42	38.45	-21
	64QAM				Full			64QAM				Full	19	11.9	19.72	15.77	17.92	38.45	-20
	256QAM				1/49 Eull			256QAM				1/0 Full	17.9	10.6	18.45	14.50	16.65	38.45	-2
	QPSK				1/49			QPSK				1/0	22.9	15.8	23.68	19.73	21.88	38.45	-1/
	QPSK				Full			QPSK				Full	20.5	13.5	21.30	17.35	19.50	38.45	-18
	16QAM				1/49			16QAM				1/0	22.5	14.9	23.17	19.22	21.37	38.45	-1
	640AM	10 20501	20501	834.1	1/49			640AM	10	20600	00 844	1/0	18.5	15.3	20.81	16.23	18.38	38.45	-19
	64QAM				Full			64QAM				Full	19.1	12.3	19.92	15.97	18.12	38.45	-20
	256QAM				1/49			256QAM				1/0	18.4	11.1	19.10	15.15	17.30	38.45	-21
	256()AM				E E LI II			2560AM				E LUI	18		18.83	1/ 88	1/03	38/15	- 21

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

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

	505	anvan	Lu.	
台灣檢驗	科技	股份	有限公	司

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



Report No.: ER/2020/30084 Page 25 of 105

Antenna	a gain (d	dBi)	-0.5																
	Range Modulati															Power(d	Bm)		
	Range	Modulation	BW (MHz)	Channel	Freq.	RB Size / RB Office	Range	Modulation	BW (MHz)	Channel	Freq.	RB Size / RB Office	PCC	scc	Total	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dBm)
		QPSK ODSK				1/49		QPSK ODSK				1/0	22.6	21.8	23.38	20.73	22.88	33.00	-10.12
		160AM				Full 1/49		160AM				Full 1/0	20.2	20.8	20.99	20.08	20.49	33.00	-12.51
		16QAM	10	20805	2505.5	Full		16QAM	20	20040	2510.0	Full	18.4	15.5	20.14	17.49	19.64	33.00	-13.36
		64QAM	10	20805	2505.5	1/49		64QAM	20	20949	2019.9	1/0	18.5	17.8	19.68	17.03	19.18	33.00	-13.82
		64QAM				Full		64QAM				Full	16.8	16.4	19.58	16.93	19.08	33.00	-13.92
		2560AM				Eull		2560AM				Eull	15.7	17.5	18.57	15.92	18.07	33.00	-14.93
		QPSK				1/99		QPSK				1/0	23.3	15.8	23.58	20.93	23.08	33.00	-9.92
		QPSK ODSK				1/0		<u>QPSK</u>				1/49	14.4	7.37	15.22	12.57	14.72	33.00	-18.28
		160AM				F uii 1/99		160AM				Full 1/0	20.9	17.8	21.69	20.29	21.19	33.00	-11.81
		16QAM				1/0		16QAM				1/49	15	7.54	15.69	13.04	15.19	33.00	-17.81
		16QAM	20	20850	2510	Full		16QAM	10	20994	2524.4	Full	19.9	13	20.68	18.03	20.18	33.00	-12.82
		64QAM				1/99		64QAM				1/0	20.3	12.4	20.64	17.99	20.14	33.00	-12.86
	Low	64QAM				Full	Low	64QAM				Full	18.7	11.7	19.45	16.8	18.95	33.00	-14.05
		256QAM				1/99		256QAM	I			1/0	19	11.3	19.25	16.6	18.75	33.00	-14.25
		256QAM				1/0		256QAM				1/49	15.1	8.45	15.94	13.29	15.44	33.00	-17.56
		QPSK				1/99		QPSK				1/0	23.1	16.5	23.92	21.27	23.42	33.00	-15.04
		QPSK				1/0		QPSK	1			1/99	1.61	7.51	15.39	12.74	14.89	33.00	-18.11
		QPSK 160AM				F ull		QPSK 160AM				Full 1/0	20.5	13.7	21.30	18.65	20.80	33.00	-12.20
		16QAM				1/0		16QAM				1/99	14.5	9.47	15.67	13.02	15.17	33.00	-17.83
		16QAM	20	20850	2510	Full		16QAM	20	21048	2529.8	Full	19.4	12.6	20.23	17.58	19.73	33.00	-13.27
		64QAM				1/99		64QAM				1/0	20.3	8.08	21.06	18.41	20.56	33.00	-12.44
		64QAM				Full		64QAM				Full	18.4	11.6	19.26	16.61	18.76	33.00	-14.24
		256QAM				1/99		256QAM	ļ			1/0	18.3	11.3	19.07	16.42	18.57	33.00	-14.43
		2560AM				Eull		256QAM				Eull	14.9	10.6	15.71	15.00	17.78	33.00	-17.79
		QPSK				1/49		QPSK				1/0	21.9	20.5	22.63	19.98	22.13	33.00	-10.87
		<u>QPSK</u>				Full		QPSK				Full	21	14.3	21.76	19.11	21.26	33.00	-11.74
		16QAM 16QAM				Eull		16QAM	•			Eull	21.7	20.4	22.39	19.74	21.89	33.00	-11.11
		64QAM	10	21006	2525.6	1/49		64QAM	20	21150	2540	1/0	18.1	18.1	19.78	17.13	19.28	33.00	-13.72
		64QAM				Full		64QAM	Į			Full	18.1	15.2	19.86	17.21	19.36	33.00	-13.64
		256QAM				1/49 Eull		256QAM	•			1/0 Full	17.1	17.2	18.71	16.06	18.21	33.00	-14.79
		QPSK				1/99		QPSK				1/0	21.3	14.7	21.73	19.08	21.23	33.00	-11.77
		QPSK				1/0		QPSK	Į			1/99	14.6	7.55	15.37	12.72	14.87	33.00	-18.13
		QPSK 160AM				F ull 1/00		QPSK 160AM	•			Full 1/0	19.8	12.9	20.61	17.96	20.11	33.00	-12.89
		16QAM				1/0		16QAM	ł			1/99	14.9	7.39	15.62	12.97	15.12	33.00	-17.88
		16QAM	20	21051	2530.1	Full 1/00		16QAM	10	21195	2544.5	Full	18.9	12	19.66	17.01	19.16	33.00	-13.84
7C		64QAM 64QAM				1/99	+	64QAM				1/0	18.3	7.76	18.58	15.93	18.08	33.00	-14.92
	Mid	64QAM				Full	Mid	64QAM	t			Full	18	11.1	18.77	16.12	18.27	33.00	-14.73
		256QAM				1/99		256QAM	ł			1/0	16.7	12.4	17.40	14.75	16.90	33.00	-16.10
		2560AM				Full		2560AM			Full	14.9	10.2	17.78	15.13	17.28	33.00	-17.84	
		QPSK				1/99		QPSK				1/0	22.8	15.7	23.53	20.88	23.03	33.00	-9.97
		QPSK OPSK				1/0		QPSK OPSK				1/99 Eull	14.4	7.69	15.28	12.63	14.78	33.00	-18.22
		16QAM				1/99		16QAM				1/0	22.5	15.2	23.23	20.58	22.73	33.00	-10.27
		16QAM				1/0		16QAM	1			1/99	15.2	7.93	15.97	13.32	15.47	33.00	-17.53
		16QAM	20	21001	2525.1	Full 1/00		16QAM	20	21199	2544.9	Full 1/0	20	13.1	20.78	18.13	20.28	33.00	-12.72
		64QAM				1/0		64QAM				1/99	14.7	7.2	15.44	12.79	14.94	33.00	-18.06
		64QAM				Full		64QAM	Į			Full	18.9	12	19.73	17.08	19.23	33.00	-13.77
		256QAM 256QAM				1/99		256QAM	ł			1/0	18.3	7.64	19.09	16.44	18.59	33.00	-14.41
		256QAM				Full		256QAM	e.			Full	17.9	11.1	18.75	16.10	18.25	33.00	-14.75
		QPSK				1/49		QPSK				1/0	22.1	21.1	22.89	20.24	22.39	33.00	-10.61
		QPSK 160AM				Full 1/40		QPSK 160AM				Full 1/0	19.7	13	20.50	17.85	20.00	33.00	-13.00
		16QAM	10	21204	25454	Full		16QAM	20	21250	25/0	Full	18.8	12.2	19.63	16.98	19.13	33.00	-13.87
		64QAM	10	21200	2040.0	1/49		64QAM	20	21350	2500	1/0	19.1	17.8	19.80	17.15	19.30	33.00	-13.70
		64QAM				Full 1/40		64QAM				Full 1/0	17.8	11.2	18.60	15.95	18.10	33.00	-14.90
		256QAM				Full		256QAM				Full	16.8	10.1	17.60	14.95	17.10	33.00	-15.90
		QPSK				1/99		QPSK				1/0	21.6	14	21.88	19.23	21.38	33.00	-11.62
		QPSK ODSK				1/0		QPSK				1/49	14.5	7.44	15.28	12.63	14.78	33.00	-18.22
		160AM				1/99		160AM				1/0	20.9	9.89	21.21	14.87	20.71	33.00	-15.98
		16QAM				1/0		16QAM				1/49	15.2	8.04	15.96	13.31	15.46	33.00	-17.54
		16QAM	20	21251	2550.1	Full		16QAM	10	21395	2564.5	Full	16.3	9.33	17.06	14.41	16.56	33.00	-16.44
		64QAM				1/99		64QAM				1/0	18.9	7.63	19.18	16.53	18.68	33.00	-14.32
	High	64QAM				Full	High	64QAM				Full	15.3	8.43	16.11	13.46	15.61	33.00	-17.39
		256QAM				1/99		256QAM				1/0	18	10.4	18.26	15.61	17.76	33.00	-15.24
		256QAM				1/0		256QAM				1/49	14.8	8.01 7.F	15.63	12.98	15.13	33.00	-17.87
		QPSK				1/99		QPSK				1/0	22.9	15.8	23.66	21.01	23.16	33.00	-9.84
		QPSK				1/0		QPSK				1/99	14.5	7.75	15.36	12.71	14.86	33.00	-18.14
		QPSK				Full		QPSK				Full	18	11.1	18.77	16.12	18.27	33.00	-14.73
		160AM				1/99		160AM				1/99	21.7	8.08	23.21	20.56	15.50	33.00	-17.50
		16QAM	20	21152	2540.2	Full		16QAM	20	21250	2560	Full	17	10.3	17.83	15.18	17.33	33.00	-15.67
		64QAM	20	21152	2340.2	1/99		64QAM	20	21350	2300	1/0	18.2	17.4	20.80	18.15	20.30	33.00	-12.70
		64QAM				1/0 Full		64QAM				1/99 Eu#	15	9.11	15.81	13.16	16.45	33.00	-17.69
		256QAM				1/99		256QAM				1/0	18	10.7	18.71	16.06	18.21	33.00	-14.79
		256QAM				1/99 1/0		256QAM				1/99	13.3	11.5	15.51	12.86	15.01	33.00	-17.99

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

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

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

262	Taiwan	Lta.
台灣檢驗科技	走股份有	限公司

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

SG

Report No.: ER/2020/30084 Page 26 of 105

Antenn	a gain (d	dBi)	-2.3																	
																	Power(d	Bm)		
			D\M/			RB Size /				D\M			RB Size /				ERP	EIRP	EIRP	Margin
	Range	Modulation	(MHz)	Channel	Freq.	RB		Range	Modulation	(MHz)	Channel	Freq.	RB	PCC	SCC	Total	Average	Average	Limit	(dBm)
			(2)			Office				(Office				(dBm)	(dBm)	(dBm)	(u.b.i.i)
		QPSK				1/75			QPSK				1/0	23.8	17	24.64	20.19	22.34	33.00	-10.66
		QPSK				1/0			QPSK				1/75	15.5	8.74	16.34	11.89	14.04	33.00	-18.96
		QPSK 1(QAM				Full 1/75			QPSK 1(QAM				Full	21	18.1	22.81	18.36	20.51	33.00	-12.49
		16QAM				1//5			16QAM				1/0	23.3	10	24.08	19.03	21.78	33.00	10.20
		16QAW				Eull			160AM				Eull	21	0.0	21.92	17.47	14.02	22.00	12 47
		640AM	15	37825	2577.5	1/75			640AM	15	37975	2592.5	1/0	22.1	14.2	22.80	18.35	20.50	33.00	-12.50
		640AM				1/0			640AM				1/75	15.8	8 5 5	16.58	12.13	14.28	33.00	-18.72
		640AM				Full			640AM				Full	20.9	14.2	21.75	17.3	19.45	33.00	-13.55
		256QAM				1/75			256QAM				1/0	19.1	11.8	19.86	15.41	17.56	33.00	-15.44
		256QAM				1/0			256QAM				1/75	15.8	8.62	16.55	12.1	14.25	33.00	-18.75
	Low	256QAM				Full		Low	256QAM				Full	19	12.1	19.83	15.38	17.53	33.00	-15.47
	LOW	QPSK				1/99		LOW	QPSK				1/0	23.8	16.8	24.61	20.16	22.31	33.00	-10.69
		QPSK				1/0			QPSK				1/99	15.6	8.58	16.39	11.94	14.09	33.00	-18.91
		QPSK				Full			QPSK				Full	22	15	22.77	18.32	20.47	33.00	-12.53
		16QAM				1/99			16QAM				1/0	23.4	16	24.12	19.67	21.82	33.00	-11.18
		16QAM				1/0			16QAM				1/99	16.2	8.56	16.90	12.45	14.60	33.00	-18.40
		16QAM	20	37850	2580	Full			16QAM	20	38048	2599.8	Full	21	14.1	21.84	17.39	19.54	33.00	-13.46
		64QAM				1/99			64QAM				1/0	22.1	14.7	22.82	18.37	20.52	33.00	-12.48
		64QAM				1/0			64QAM				1/99	15.9	8.42	16.60	12.15	14.30	33.00	-18.70
						Full 1/00							Full 1/0	21	14.1	21.79	17.34	17.49	33.00	-13.01
		256QAM				1/99			256QAIVI				1/0	15.0	9.45	16.50	12.14	17.00	22.00	-10.40
		2560AM				Eull			2560AM				Eull	10.7	12	10.37	15.37	17.52	33.00	-15/18
		OPSK				1/75			OPSK				1/0	23.8	17	24.60	20.15	22.30	33.00	-10.70
		OPSK				1/0			OPSK				1/75	15.4	8.62	16.26	11.81	13.96	33.00	-19.04
		OPSK				Full			OPSK				Full	22.1	14.9	22.83	18.38	20.53	33.00	-12.47
		16QAM				1/75			16QAM				1/0	23.3	16.1	24.02	19.57	21.72	33.00	-11.28
		16QAM				1/0			16QAM				1/75	16	8.7	16.76	12.31	14.46	33.00	-18.54
		16QAM	15	27025	2507 5	Full			16QAM	15	20075	2402 E	Full	21	14.1	21.83	17.38	19.53	33.00	-13.47
		64QAM	15	37925	2587.5	1/75			64QAM	15	38075	2002.5	1/0	22.1	14.6	22.83	18.38	20.53	33.00	-12.47
		64QAM				1/0			64QAM				1/75	15.8	8.47	16.54	12.09	14.24	33.00	-18.76
		64QAM				Full		64QAM				Full	21	14.1	21.79	17.34	19.49	33.00	-13.51	
		256QAM				1/75	5) +		256QAM 256QAM				1/0	19.1	11.7	19.86	15.41	17.56	33.00	-15.44
38C		256QAM				1/0							1/75	15.8	8.44	16.51	12.06	14.21	33.00	-18.79
	Mid	256QAM				Full		Mid	256QAM				Full	19	12.1	19.83	15.38	17.53	33.00	-15.47
		QPSK ODSK				1/99			QPSK ODSK				1/0	23.9	17	24.67	20.22	22.37	33.00	-10.63
		ODSK				1/0 Eull							1/99 Eull	10.0	0.42	10.31	10.20	20.45	33.00	-10.99
		160AM				F UII 1/00							1/0	22	14.9	22.75	10.30	20.45	22.00	-12.00
		160AM				1/99			160AM				1/99	16.2	8.66	16.86	12.03	14.56	33.00	-11.22
		160AM				Full			160AM				Eull	21.1	14 1	21.85	17.40	19.55	33.00	-13.45
		640AM	20	37901	2585.1	1/99			640AM	20	38099	2604.9	1/0	22	14.7	22.76	18.31	20.46	33.00	-12.54
		64QAM				1/0			64QAM				1/99	15.7	8.01	16.42	11.97	14.12	33.00	-18.88
		64QAM				Full			64QAM				Full	21.1	14	21.85	17.40	19.55	33.00	-13.45
		256QAM				1/99			256QAM				1/0	18.1	14.7	19.76	15.31	17.46	33.00	-15.54
		256QAM				1/0			256QAM				1/99	15.7	8.39	16.46	12.01	14.16	33.00	-18.84
		256QAM				Full			256QAM				Full	19	12	19.80	15.35	17.50	33.00	-15.50
		QPSK				1/75			QPSK				1/0	23.8	16.8	24.55	20.10	22.25	33.00	-10.75
		QPSK				1/0			QPSK				1/75	15.5	8.5	16.25	11.80	13.95	33.00	-19.05
		QPSK				Full			QPSK				Full	22	14.9	22.76	18.31	20.46	33.00	-12.54
		160AM				1/75			16QAM				1/0	23.5	16.2	24.20	19.75	21.90	33.00	-11.10
		16QAM				1/0			16QAM				1/75	16.1	8.76	16.85	12.40	14.55	33.00	-18.45
		16QAM	15	38025	2597.5	Full			16QAM	15	38175	2612.5	Full	21	14	21.76	17.31	19.46	33.00	-13.54
		64QAM				1/75			64QAM				1/0	22.2	14.6	22.87	18.42	20.57	33.00	-12.43
		64QAM				1/0			64QAM				1//5	15.8	8.24	16.52	12.07	14.22	33.00	-18.78
		64QAM				Full			64QAM				Full	21	14.1	21.81	17.36	19.51	33.00	-13.49
		256QAM				1/75			256QAM				1/0	19.1	12	19.89	15.44	17.59	33.00	-15.41
		256QAM				1/0			256QAM				1//5	15.8	8.32	10.48	12.03	14.18	33.00	-18.82
	High					Fuii 1/00		High					Fuii 1/0	19.1	16.9	19.83	10.38	17.53	33.00	-15.47
		OPSK				1/99			OPSK				1/00	23.0	10.8	24.45	20.00	12.00	33.00	-10.85
		QPSK ODSK			1/U			OPSK				E	21	10	22.90	10.04	20.50	22.00	12 50	
						1/00			160AM				1/0	21	16 1	22.80	10.35	20.50	22.00	-12.50
		160AM				1/99			160AM				1/00	16.1	8.62	16.94	12.00	14.54	33.00	-18.46
		160AM				Eull			160AM				Full	21	14 1	21.78	17.39	19.49	33.00	-13.52
		640AM	20	37952	2590.2	1/00			640AM	20	38150	2610	1/0	21	14.1	21.70	18.28	20.43	33.00	-12.52
		640AM				1/0			640AM				1/99	15.8	8.28	16.52	12.07	14.22	33.00	-18.78
		640AM				Full			640AM				Full	21	14.1	21.76	17.31	19.46	33.00	-13.54
		2560AM				1/99			2560AM				1/0	19.1	12	19.88	15.43	17.58	33.00	-15.42
		256QAM 256QAM				1/0			2560AM				1/99	15.9	8.26	16.55	12.10	14.25	33.00	-18.75
		2560AM				Full			2560AM				Full	19	11.9	19.75	15.30	17.45	33.00	-15.55

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

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



Report No.: ER/2020/30084 Page 27 of 105

Antenn	a gain (i	dBi)	-3					-						-			Dowor/d	Rm)			
		, i		1		DR Sizo /							DD Sizo /				Power(d	BM)	EIDD		
	Pango	Modulation	BW	Channol	Erog	RD SIZE /		Pango	Modulation	BW	Channel	From	RD SIZE /	PCC	SCC	Total	Avorago	Avorago	Limit	Margin	
	Range	wouldtion	(MHz)	Channel	rieq.	Offico		Kange	wouldtion	(MHz)	Channel	rieq.	Offico	FCC	300	TOtal	(dBm)	(dRm)	(dRm)	(dBm)	
		OPSK				1/24			OPSK				1/0	22.6	24.4	24.27	10.22	(UBIII)	22.00	11.62	
		OPSK				Eull			OPSK	•			Eull	20.7	10.0	24.37	17.22	10.51	22.00	12.40	
		160AM				1/24			160AM	·			1/0	20.7	24.1	24.11	19.06	21.11	22.00	11 00	
		160AM				Eull			160AM	•			Full	20.8	15.9	21.62	16.70	18.62	33.00	-14.38	
		640AM	5	39683	2499.3	1/24			640AM	20	39800	2511	1/0	20.5	21.3	21.02	16.12	18.27	33.00	-14.73	
		640AM				Eull			640AM				Full	20.7	15.9	21.50	16.35	18.50	33.00	-14.50	
		256QAM				1/24			256QAM	•			1/0	19	19.8	19.75	14.6	16.75	33.00	-16.25	
		256QAM				Full			256QAM				Full	18.7	13.9	19.52	14.37	16.52	33.00	-16.48	
		QPSK				1/99			QPSK				1/0	24.4	21.2	24.37	19.22	21.37	33.00	-11.63	
		QPSK				1/0			QPSK				1/24	15.2	8.3	15.98	10.83	12.98	33.00	-20.02	
		QPSK				Full			QPSK				Full	21.8	14.7	22.46	17.31	19.46	33.00	-13.54	
		16QAM				1/99			16QAM				1/0	24	15.9	24.00	18.85	21.00	33.00	-12.00	
		16QAM				1/0			16QAM				1/24	16.1	8.68	16.79	11.64	13.79	33.00	-19.21	
		16QAM	20	39750	2506	Full			16QAM	5	39867	2517.7	Full	20.8	13.9	21.54	16.39	18.54	33.00	-14.46	
		64QAM				1/99			64QAM				1/0	22.2	17.1	22.19	17.04	19.19	33.00	-13.81	
	Low	64QAM				1/0		Low	64QAM				1/24	15.4	8.09	16.16	11.01	13.16	33.00	-19.84	
						Full 1/00							Full 1/0	20.9	13.9	21.55	10.4	16.55	33.00	-14.45	
		2560AM				1/99			2560AM				1/24	17.0	10.2	16.27	1112	13.27	33.00	-10.23	
		2560AM				Full			2560AM	•			Full	18.9	11.9	19.59	14.44	16.59	33.00	-16.41	
		QPSK				1/99			QPSK				1/0	22.5	19.7	24.34	19.19	21.34	33.00	-11.66	
		QPSK				1/0			QPSK				1/99	15.3	8.33	16.12	10.97	13.12	33.00	-19.88	
		QPSK				Full			QPSK				Full	21.9	14.9	22.67	17.52	19.67	33.00	-13.33	
		16QAM				1/99			16QAM				1/0	23.3	15.9	23.99	18.84	20.99	33.00	-12.01	
		16QAM				1/0			16QAM				1/99	16.3	8.67	16.96	11.81	13.96	33.00	-19.04	
		16QAM	20	39750	2506	Full			16QAM	20	39948	2525.8	Full	20.9	14	21.68	16.53	18.68	33.00	-14.32	
		64QAM	20	07700	2000	1/99			64QAM	. 20	07710	2020.0	1/0	21.6	14.1	22.27	17.12	19.27	33.00	-13.73	
		64QAM				1/0			64QAM				1/99	15.4	8.12	16.13	10.98	13.13	33.00	-19.87	
		64QAM				Full 1/00			64QAM				Full 1/0	20.9	13.9	21.65	16.5	18.65	33.00	-14.35	
		256QAM				1/99			256QAM				1/0	19.1	0.24	14.40	11.04	12.40	33.00	10.21	
		256QAM				Eull			256QAW	•			1/99 Eull	10.0	0.34	10.49	14.55	16.70	22.00	16.20	
		OPSK				1/2/			OPSK				1/0	23.7	24.5	24.45	10.30	21.45	33.00	-10.50	
		OPSK				Eull			OPSK				Full	21.8	17	22.40	17.50	19.60	33.00	-13.40	
		16QAM				1/24			16QAM				1/0	23.2	24	23.97	18.82	20.97	33.00	-12.03	
		16QAM	_	40500	0500.0	Full			16QAM		10/15	0505.5	Full	20.9	15.9	21.70	16.55	18.70	33.00	-14.30	
		64QAM	5	40528	2583.8	1/24			64QAM	20	40645	2595.5	1/0	21.9	22.6	22.62	17.47	19.62	33.00	-13.38	
		64QAM				Full			64QAM				Full	20.8	15.9	21.55	16.40	18.55	33.00	-14.45	
		256QAM				1/24			256QAM				1/0	19	19.7	19.73	14.58	16.73	33.00	-16.27	
		256QAM				Full			256QAM				Full	18.9	14	19.67	14.52	16.67	33.00	-16.33	
		QPSK				1/99			QPSK				1/0	24.4	16.8	24.44	19.29	21.44	33.00	-11.56	
		QPSK				1/0			QPSK				1/24	15.3	8.2	16.07	10.92	13.07	33.00	-19.93	
		QPSK				Full			QPSK				Full	21.9	14.7	22.57	17.42	19.57	33.00	-13.43	
		16QAM				1/99			16QAM				1/0	24	15.9	23.97	18.82	20.97	33.00	-12.03	
		16QAIVI				T/U Full			160AW				T/24 Eull	15.9	8.45	21.64	16.40	19.64	33.00	-19.41	
410		640AM	20	40595	2590.5	1/00		+ Mid	16QAM	5	40712	2602.2	1/0	20.9	14	21.04	17.55	10.04	33.00	-14.30	
410		640AM				1/0	+		640AM				1/24	15.6	8.31	16.31	11.16	13.31	33.00	-19.69	
	Mid	64QAM				Full			Mid 64QAM	і Л			Full	20.9	13.9	21.61	16.46	18.61	33.00	-14.39	
		256QAM				1/99			256QAM				1/0	19.6	16.1	19.56	14.41	16.56	33.00	-16.44	
		256QAM				1/0			256QAM				1/24	15.5	8.23	16.27	11.12	13.27	33.00	-19.73	
		256QAM				Full			256QAM				Full	19	11.9	19.66	14.51	16.66	33.00	-16.34	
		QPSK				1/99			QPSK				1/0	23.7	16.8	24.51	19.36	21.51	33.00	-11.49	
		QPSK				1/0			QPSK				1/99	15.2	8.35	16.05	10.90	13.05	33.00	-19.95	
		QPSK				Full			QPSK				Full	21.9	14.8	22.67	17.52	19.67	33.00	-13.33	
		16QAM				1/99			16QAM				1/0	23.2	15.9	23.94	18.79	20.94	33.00	-12.06	
		16QAM				1/0			16QAM	4			1/99	16.1	8.44	16.75	11.60	13.75	33.00	-19.25	
		640AM	20	40521	2583.1	1/00			64OAM	20	40719	2602.9	1/0	20.9	14	21.00	17.40	10.00	22.00	12.26	
		640AM				1/0			640AM				1/99	15.8	8	16.45	11.47	13.45	33.00	-19.55	
		640AM				Full			640AM				Full	21	13.9	21.74	16.59	18.74	33.00	-14.26	
		256QAM				1/99			256QAM				1/0	19	11.6	19.72	14.57	16.72	33.00	-16.28	
		256QAM				1/0			256QAM				1/99	15.7	8.24	16.40	11.25	13.40	33.00	-19.60	
		256QAM				Full			256QAM				Full	18.9	11.9	19.68	14.53	16.68	33.00	-16.32	
		QPSK				1/24			QPSK				1/0	23.7	24.5	24.46	19.31	21.46	33.00	-11.54	
		QPSK				Full			QPSK				Full	21.8	17	22.60	17.45	19.60	33.00	-13.40	
		160AM				1/24			16QAM				1/0	22.4	24.1	24.09	18.94	21.09	33.00	-11.91	
		160AM	5	41373	2668.3	Full			16QAM	20	41490	2680	Full	20.9	15.9	21.70	16.55	18.70	33.00	-14.30	
		64QAM				1/24			64QAM				1/0	21.3	22	22.01	16.86	19.01	33.00	-13.99	
		64QAM				Full			64QAM				Full	20.9	16	21.69	16.54	18.69	33.00	-14.31	
		256QAM				1/24			256QAM				1/0	18.9	19.7	19.65	14.50	16.65	33.00	-16.35	
		256QAM				Full 1/00			256QAM				Full	18.9	14	19.71	14.56	16./1	33.00	-16.29	
		QPSK				1/99			QPSK				1/0	24.5	16.6	24.52	19.37	21.52	33.00	-11.48	
		QPSK				1/0			QPSK				1/24	15.3	8.35	16.13	10.98	13.13	33.00	-19.87	
		UPSK 1(OAM				Full 1/00			UPSK 1(OAM				Full 1/0	21.2	17.9	22.65	17.50	19.65	33.00	-13.35	
		160AM				1/99			160AM				1/24	24.4	0.62	24.37	19.22	12.02	33.00	-11.03	
		160AM				Full			160AM				Full	21	0.03	21 71	16.56	18.71	33.00	-14.20	
		640AM	20	41440	2675	1/00			640AM	5	41557	2686.7	1/0	21.5	13.7	21.71	16.35	18.50	33.00	-14.50	
		640AM				1/0			640AM				1/24	15.5	8 16	16.27	11 12	13.27	33.00	-19.73	
	High	640AM				Eull		High	640AM				Full	21	14	21.69	16.54	18.69	33.00	-14.31	
		25604M				1/90			2560AM				1/0	19.8	11.8	19.77	14.62	16.77	33.00	-16.23	
		2560AM				1/0			2560AM				1/24	15.8	83	16.50	11.35	13.50	33.00	-19.50	
		2560AM				Full			2560AM				Full	18.9	11.9	19.60	14.45	16.60	33,00	-16.40	
		QPSK				1/99			QPSK				1/0	23.6	16.6	24.39	19.24	21.39	33.00	-11.61	
		QPSK				1/0			QPSK				1/99	15.4	8.38	16.20	11.05	13.20	33.00	-19.80	
		QPSK				Full			QPSK				Full	21.9	14.8	22.68	17.53	19.68	33.00	-13.32	
		16QAM				1/99			16QAM				1/0	23.2	15.7	23.93	18.78	20.93	33.00	-12.07	
		160AM				1/0			16QAM				1/99	16	8.52	16.73	11.58	13.73	33.00	-19.27	
		16QAM	20	41202	264.0.0	Full			16QAM	20	41400	2420	Full	21	14.1	21.76	16.61	18.76	33.00	-14.24	
		64QAM	20	41292	2000.2	1/99				64QAM	20	41490	2680	1/0	21.6	14	22.31	17.16	19.31	33.00	-13.69
		64QAM				1/0			64QAM			2000	1/99	15.6	8.15	16.28	11.13	13.28	33.00	-19.72	
		64QAM				Full			64QAM				Full	20.9	14.1	21.74	16.59	18.74	33.00	-14.26	
		256QAM				1/99			256QAM				1/0	18.9	11.6	19.63	14.48	16.63	33.00	-16.37	
		256QAM				1/0			256QAM				1/99	15.5	8.24	16.25	11.10	13.25	33.00	-19.75	
		DECOANA				Endl			2540414				E. J.	10.0	10	10.71	14 54	14 71	22.00	14.00	

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

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

いいていいないないのでしいな日常来催到が高以上で、「いうないない」では、「いうない」では、「いうない」」では、「いうない」では、「いうない」」では、「いうない」では、「いうない」」では、「いうない」」では、「いうない」」では、「いうない」」では、「いうない」」では、「いうない」」では、「いっない」」では、「いっない」」では、「いっない」」では、「いっない」」」では、「いっない」」では、「いっない」」では、「いっない」」では、「いっない」」」では、「いっない」」」では、「いっない」」」では、「いっない」」」では、「いっない」」」では、「いっない」」」」では、「いっない」」」」」
「いっない」」

「いっない」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」」
「いっない」
「いっない」」
「いっない」
「いっない」」
「いっない」」
「いっない」
「いっな

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



6.6.2 Inter-Band

Antenna	Gain	-1.0																										
				First Band								Second Ban	b			Po	wer(dBi	n)	FIRP	EIRP Lim	nit (dBm)	Margin						
	Band	Dango	Modula	Band	Channel	Freq.	DR		Band	Dango	Modula	Band	Channel	Freq.	DR	DCC	scc	Total	(dBm)	DCC	500	(dBm)						
	Dallu	кануе	tion	width	Channel	(MHz)	КD		Dallu	капуе	tion	width	Channer	(MHz)	RD	FUU	300	TOTAL	(ubiii)	PUL	SUL	(ubiii)						
		Low	QPSK	5 MHz	18625	1852.5	1			Low	QPSK	5 MHz	20425	826.5	1	24.25	20.63	25.82	24.82			8.18						
2A-5A			QPSK	5 MHz	18900	1880	1	+			QPSK	5 MHz	20525	836.5	1	24.19	19.87	25.56	24.56			8.44						
	2	Mid	QPSK	5 MHz	18900	1880	1	1.	r.	Mid	QPSK	10 MHz	20525	836.5	1	23.15	19.37	24.67	23.67	22	20 /E	9.33						
	2	wiid	QPSK	20 MHz	18900	1880	1	1	5	witu	QPSK	5 MHz	20525	836.5	1	24.21	18.78	25.30	24.30	33	30.40	8.70						
			QPSK	20 MHz	18900	1880	1	1			QPSK	10 MHz	20525	836.5	1	24.39	20.09	25.76	24.76			8.24						
		High	QPSK	5 MHz	19175	1907.5	1			High	QPSK	5 MHz	20625	846.5	1	23.74	16.54	24.50	23.50			9.50						
Antenna	Gain	-1.0																										
				First Band								Second Band	t		-	Po	wer(dBr	n)		EIRP Lim	it (dBm)	Manada						
	Dand	Dango	Modula	Band	Channel	Freq.	DD		Dand	Dango	Modula	Band	Channel	Freq.	DD	DCC	500	Total	(dBm)	D 00	600	(dBm)						
	Danu	Range	tion	width	Channel	(MHz)	КD		Бапи	Range	tion	width	Channel	(MHz)	КD	PUU	SUL	TOTAL	(ubiii)	PCC	SCC	(UDIII)						
		Low	QPSK	20 MHz	18700	1860	1			Low	QPSK	5 MHz	23035	701.5	1	24.28	20.24	25.72	24.72			8.28						
2A-12A			QPSK	5 MHz	18900	1880	1	+			QPSK	5 MHz	23095	707.5	1	23.85	20.56	25.52	24.52			8.48						
	2	Mid	QPSK	5 MHz	18900	1880	1	1.	10	Mid	QPSK	10 MHz	23095	707.5	1	23.89	20.92	25.66	24.66	22	24 77	8.34						
	2	IVIIG	QPSK	20 MHz	18900	1880	1		12	witu	QPSK	5 MHz	23095	707.5	1	24	20.28	25.54	24.54	33	34.77	8.46						
			QPSK	20 MHz	18900	1880	1	1			QPSK	10 MHz	23095	707.5	1	24.06	21.13	25.85	24.85			8.15						
		High	QPSK	20 MHz	19100	1900	1			High	QPSK	5 MHz	23155	713.5	1	23.61	20.08	25.20	24.20			8.80						
ntenna (Gain	0.7																										
				First Band								Second Ban	d			Po	ower(dB	m)	EIDD	EIRP Lin	nit (dBm)	Morgin						
	Dand	Dango	Modula	Band	Channel	Freq.	DD		Pand	Dango	Modula	Band	Channel	Freq.	DD	DCC	500	Total	(dBm)	DCC	500	(dPm)						
	Dallu	кануе	tion	width	Channer	(MHz)	RD		Dallu	капуе	tion	width	Channel	(MHz)	КD	FUU	300	TOTAL	(ubiii)	PUL	SUL	(ubiii)						
		Low	QPSK	20 MHz	20050	1720	1			Low	QPSK	5 MHz	20425	826.5	1	23.67	20.45	25.36	26.06			3.94						
4A-5A			QPSK	5 MHz	20175	1732.5	1	+			QPSK	5 MHz	20525	836.5	1	23.48	19.89	25.06	25.76	1		4.24						
	4	Mid	QPSK	5 MHz	20175	1732.5	1		F	Mid	QPSK	10 MHz	20525	836.5	1	23.37	20.84	25.30	26.00	20	20 45	4.00						
	4	ivitu	QPSK	20 MHz	20175	1732.5	1		5	witu	QPSK	5 MHz	20525	836.5	1	23.67	21.17	25.61	26.31	- 50	30.40	3.69						
			QPSK	20 MHz	20175	1732.5	1				QPSK	10 MHz	20525	836.5	1	23.64	20.96	25.51	26.21	1		3.79						
		High	QPSK	20 MHz	20300	1745	1			High	QPSK	5 MHz	20625	846.5	1	23.75	21.17	25.66	26.36	1		3.64						
ntenna	Gain	0.7																										
				First Band			-					Second Ban	d		•	Po	ower(dB	m)	EIDD	EIRP Lim	nit (dBm)	Morgin						
	Dond	Danga	Modula	Band	Channel	Freq.	DD		Dand	Dongo	Modula	Band	Channel	Freq.	DD	DCC	500	Total	(dDm)	DOO	6.00	(dBm)						
	Danu	Range	tion	width	Channel	(MHz)	КD		Danu	Range	tion	width	Channel	(MHz)	RD	PUL	SUL	TOTAL	(ubili)	PCC	SUL	(ubili)						
		Low	QPSK	20 MHz	20050	1720	1			Low	QPSK	10 MHz	23060	704	1	22.78	21.57	25.23	25.93			4.07						
4A-12A			QPSK	1.4 MHz	20175	1732.5	1	+			QPSK	5 MHz	23095	707.5	1	22.47	21.47	25.01	25.71			4.29						
	4	Mid	QPSK	1.4 MHz	20175	1732.5	1		10	Mid	QPSK	10 MHz	23095	707.5	1	22.51	21.35	24.98	25.68	20	24 77	4.32						
	4	ivitu	QPSK	20 MHz	20175	1732.5	1		12	witu	QPSK	5 MHz	23095	707.5	1	22.67	21.32	25.06	25.76	30	34.77	4.24						
			QPSK	20 MHz	20175	1732.5	1				QPSK	10 MHz	23095	707.5	1	22.87	21.48	25.24	25.94			4.06						
		High	QPSK	20 MHz	20300	1745	1			High	QPSK	10 MHz	23130	711	1	22.61	21.46	25.08	25.78			4.22						
ntenna (Gain	-1.1																										
				First Band	· · · · ·		·					Second Ban	d		•	Po	ower(dB	m)	LIDD	EIRP Lin	nit (dBm)	Manusia						
	Dend	D	Modula	Band	0	Freq.			D I	D	Modula	Band	01	Freq.		D 00	600	T . 1 . 1				Margin						
	Band	Range	tion	width	Channel	(MHz)	кв		Band	Range	tion	width	Channel	(MHz)	КВ	PCC	SUC	Total	(aBm)	PCC	SCC	(aBm)						
		Low	QPSK	5 MHz	23035	701.5	1			Low	QPSK	20 MHz	132072	1720	1	23.51	19.61	24.99	23.89			6.11						
2A-66A			QPSK	5 MHz	23095	707.5	1	+			QPSK	1.4 MHz	132322	1745	1	23.78	21.14	25.67	24.57	1		5.43						
			QPSK	5 MHz	23095	707.5	1	· ·	<i>,</i> .		QPSK	20 MHz	132322	1745	1	23.51	21.43	25.60	24.50	a		5.50						
	12	Mid	QPSK	10 MHz	23095	707.5	1		66	Mid	QPSK	1.4 MHz	132322	1745	1	23.45	20.37	25.19	24.09	34.77	30	5.91						
			QPSK	10 MHz	23095	707.5	1		00								QPSK	20 MHz	132322	1745	1	23.74	21.03	25.60	24.50	1	5	5.50
		Hiah	QPSK	5 MHz	23155	713.5	1			Hiah	QPSK	20 MHz	132572	1770	1	23.48	21.34	25.55	24.45	1		5.55						
																						0.00						

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號



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

t (886-2) 2299-3279

f (886-2) 2298-0488



OCCUPIED BANDWIDTH MEASUREMENT

7.1 Standard Applicable

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

7.2 **Test Set-up**



7.3 **Measurement Procedure**

99% &26dB Bandwidth with detector peak

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

99% Bandwidth with detector sample

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% ~ 5% of emission BW, VBW= 3 times RBW, -20dBc display line was placed on the screen (or 20dB bandwidth). Set RBW to 99% bandwidth, RBW= 1% ~ 5%, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

					1
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
PXA Spectrum Analyzer	Agilent	N9030A	MY53120760	04/21/2020	04/20/2021
Radio Communication Analyzer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

7.4 Measurement Equipment Used

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

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

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



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



7.5 Measurement Result

		LIE CA B	AND 5			
Bandwidth	Modulation	RB Size /	Channel	Frequency	99% BW	26 dB BW
(MHz)	WOUUIALIUH	RB Offset	Channel	(MHz)	(MHz)	(MHz)
	QPSK				13.753	14.570
	16QAM				13.801	14.520
	64QAM	23/0 + 30/0			13.801	14.490
	256QAM				13.789	14.510
	QPSK				13.895	14.700
	16QAM		20525	024 E	13.841	14.590
	64QAM	50/0 + 25/0	20525	030.0	13.836	14.670
	256QAM				13.835	14.680
	QPSK				18.929	28.000
	16QAM				18.936	29.290
	64QAM	0/0 + 0/0			18.813	22.070
	256QAM				18.804	19.950
		LTE CA B	AND 7	•	•	
Bandwidth	Modulation	LTE CA B. RB Size /	AND 7	Frequency	99% BW	26 dB BW
Bandwidth (MHz)	Modulation	LTE CA B RB Size / RB Offset	AND 7 Channel	Frequency (MHz)	99% BW (MHz)	26 dB BW (MHz)
Bandwidth (MHz)	Modulation QPSK	LTE CA B RB Size / RB Offset	AND 7 Channel	Frequency (MHz)	99% BW (MHz) 27.741	26 dB BW (MHz) 29.400
Bandwidth (MHz)	Modulation QPSK 16QAM	LTE CA B RB Size / RB Offset	AND 7 Channel	Frequency (MHz)	99% BW (MHz) 27.741 27.744	26 dB BW (MHz) 29.400 29.200
Bandwidth (MHz) 10MHz + 20MHz	Modulation QPSK 16QAM 64QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0	AND 7 Channel	Frequency (MHz)	99% BW (MHz) 27.741 27.744 27.653	26 dB BW (MHz) 29.400 29.200 29.230
Bandwidth (MHz) 10MHz + 20MHz	Modulation QPSK 16QAM 64QAM 256QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0	AND 7 Channel	Frequency (MHz)	99% BW (MHz) 27.741 27.653 27.694	26 dB BW (MHz) 29.400 29.200 29.230 29.270
Bandwidth (MHz) 10MHz + 20MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK	LTE CA B RB Size / RB Offset 50/0 + 100/0	AND 7 Channel	Frequency (MHz)	99% BW (MHz) 27.741 27.653 27.694 27.802	26 dB BW (MHz) 29.400 29.200 29.230 29.270 29.500
Bandwidth (MHz) 10MHz + 20MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK 16QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0	AND 7 Channel	Frequency (MHz)	99% BW (MHz) 27.741 27.653 27.694 27.802 27.802	26 dB BW (MHz) 29.400 29.200 29.230 29.230 29.270 29.500 29.460
Bandwidth (MHz) 10MHz + 20MHz 20Mz + 10MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK 16QAM 64QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0 100/0 + 50/0	AND 7 Channel 21100	Frequency (MHz) 2535.0	99% BW (MHz) 27.741 27.653 27.694 27.802 27.802 27.771	26 dB BW (MHz) 29.400 29.200 29.230 29.270 29.500 29.460 29.480
Bandwidth (MHz) 10MHz + 20MHz 20Mz + 10MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK 16QAM 64QAM 256QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0 100/0 + 50/0	AND 7 Channel 21100	Frequency (MHz) 2535.0	99% BW (MHz) 27.741 27.744 27.653 27.694 27.802 27.802 27.771 27.812	26 dB BW (MHz) 29.400 29.200 29.230 29.270 29.500 29.460 29.480 29.440
Bandwidth (MHz) 10MHz + 20MHz 20Mz + 10MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK 16QAM 64QAM 256QAM QPSK	LTE CA B RB Size / RB Offset 50/0 + 100/0 100/0 + 50/0	AND 7 Channel 21100	Frequency (MHz) 2535.0	99% BW (MHz) 27.741 27.653 27.694 27.802 27.802 27.771 27.812 37.549	26 dB BW (MHz) 29.400 29.200 29.230 29.270 29.500 29.460 29.480 29.480 29.440 39.930
Bandwidth (MHz) 10MHz + 20MHz 20Mz + 10MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK 16QAM 256QAM QPSK 16QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0 100/0 + 50/0	AND 7 Channel 21100	Frequency (MHz) 2535.0	99% BW (MHz) 27.741 27.653 27.694 27.802 27.802 27.771 27.812 37.549 37.606	26 dB BW (MHz) 29.400 29.200 29.230 29.270 29.500 29.460 29.460 29.480 29.440 39.930 39.710
Bandwidth (MHz) 10MHz + 20MHz 20Mz + 10MHz 20MHz + 20MHz	Modulation QPSK 16QAM 64QAM 256QAM QPSK 16QAM 64QAM QPSK 16QAM 64QAM	LTE CA B RB Size / RB Offset 50/0 + 100/0 100/0 + 50/0 100/0 + 100/0	AND 7 Channel 21100	Frequency (MHz) 2535.0	99% BW (MHz) 27.741 27.744 27.653 27.694 27.802 27.802 27.771 27.812 37.549 37.606 37.512	26 dB BW (MHz) 29.400 29.200 29.230 29.270 29.500 29.460 29.480 29.480 39.930 39.710 39.680

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested 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。



		LTE CA BA	AND 38			
Bandwidth	Modulation	RB Size /	Channol	Frequency	99% BW	26 dB BW
(MHz)	wouldtion	RB Offset	Спанне	(MHz)	(MHz)	(MHz)
	QPSK				28.295	30.070
15MHz + 15MHz	16QAM	75/0 + 75/0			28.331	30.000
	64QAM	1310 + 1310			28.266	29.970
	256QAM		20000	2505.0	28.301	29.960
	QPSK		30000	2090.0	37.574	39.860
	16QAM	100/0 100/0			37.475	39.550
	64QAM	100/0 + 100/0			37.498	39.670
	256QAM				37.474	39.650
		LTE CA BA	AND 41			
Bandwidth	Modulation	RB Size /	Channol	Frequency	99% BW	26 dB BW
(MHz)	wouldtion	RB Offset	Channel	(MHz)	(MHz)	(MHz)
	QPSK				22.780	23.990
5MHz ± 20MHz	16QAM	$25/0 \pm 100/0$			22.829	24.050
	64QAM	23/0 + 100/0			22.883	24.100
	256QAM				22.792	24.120
	QPSK				22.887	24.350
	16QAM		10400	2502.0	22.907	24.140
	64QAM	100/0 + 25/0	40020	2093.0	22.873	24.190
	256QAM				22.900	24.210
	QPSK				37.487	39.680
	16QAM	100/0 100/0			37.616	39.600
ZUIVIHZ + ZUIVIHZ	64QAM	100/0 + 100/0			37.517	39.760
	256QAM				37.529	39.500

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

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



Report No.: ER/2020/30084 Page 32 of 105

Band5 15MHz QPSK 25 0 50 0 Mid836.5





Band5_15MHz_16QAM_25_0_50_0_Mid836.5



Band5_15MHz_16QAM_50_0_25_0_Mid836.5



Band5_15MHz_64QAM_25_0_50_0_Mid836.5



Band5_15MHz_64QAM_50_0_25_0_Mid836.5

Keysight Spectrum Analyzer - Occupied B	W			
RL N 50 0 DC enter Freq 836.500000 NFE	MHz Co #FGain:Low #A	sense:int] A inter Freq: 836.500000 MHz ig: Free Run Avg Hold: itten: 30 dB	LIGN AUTO 111/25/55 PM Jun 30 Radio Std: None 50/50 Radio Device: B1	rs Frequency
Ref Offset 13.8 d 0 dB/div Ref 30.00 dBr	iB m			
• • • • • • • • • • • • • • • • • • •				Center Fre 836.500000 MH
0.0 0.0 0.0			hummen	
1.0				
enter 836.5 MHz Res BW 200 kHz		#VBW 620 kHz	Span 30 Sweep 1	MHz CF Ste ms 3.00000 M
Occupied Bandwid	th 3.836 MHz	Total Power	30.2 dBm	Auto M Freq Offs
Transmit Freq Error x dB Bandwidth	-48.210 kHz 14.67 MHz	% of OBW Powe x dB	r 99.00 % -26.00 dB	01

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

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

SGS Taiwan Ltd.	
台灣檢驗科技股份有限公司	

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



Report No.: ER/2020/30084 Page 33 of 105

Band5 15MHz 256QAM 25 0 50 0 Mid836.5





Band5 20MHz QPSK 50 0 50 0 Mid836.5



Band5 20MHz 16QAM 50 0 50 0 Mid836.5



12:19:24 AM 3ul 01, Radio Std: None enter Freq 836.500000 MHz Freq Center Freq: 836 Trig: Free Run Radio Device: BTS Ref Offset 13.8 dE Ref 30.00 dBm Center Fre 836.500000 MH 836.5 MHz Span 40 MHz Sweep 1 ms CF Step 4.000000 MHz Man #VBW 1.2 MHz 24.6 dBn Occupied Bandwidth Total Pow 18.813 MHz Freq Offse -34.890 kHz 0 H Transmit Freq Error % of OBW Power 99.00 % x dB Bandwidth 22.07 MHz -26.00 dB x dB

Band5 20MHz 64QAM 50 0 50 0 Mid836.5

Band5 20MHz 256QAM 50 0 50 0 Mid836.5

RL IV	50 0 DC	ALL 2	SD Center Fr	GEONT] #0: 836.500	000 MHz	IGN AUTO	12:20:42 A	H Jul 01, 2020	Frequency
Center Freq 65	NFE	#FGain:Low	Trig: Free #Atten: 3	Run 0 dB	Avg Hold: 6	6/50	Radio Dev	vice: BTS	
10 dB/div Ref	Offset 13.8 df f 30.00 dBm	3							
20.0			m	-		n			Center Free 836.500000 MH
-10.0				/					
-20.0 -30.0						un,	thomas	m.	
-40.0								- no	
-60.0									
Center 836.5 M #Res BW 390 k	Hz Hz		#VB	W 1.2 M	Hz		Spa Swe	n 40 MHz eep 1 ms	CF Step 4.000000 MH
Occupied E	Bandwidt	h		Total P	ower	23.	5 dBm		Auto Mar
	18	8.804 MF	lz						Freq Offset
Transmit Fre	q Error	-34.690 k	Hz	% of OE	BW Power	r 99	9.00 %		0 Hz
x dB Bandwi	dth	19.95 M	Hz	x dB		-26.	00 dB		

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

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

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

SGS Taiwan Ltd.	
台灣檢驗科技股份有限公司	

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

www.sgs.com.tw



Report No.: ER/2020/30084 Page 34 of 105

Band7 30MHz QPSK 50 0 100 0 Mid2535

Keysight Spect	trum Analyzer - Occupied BV	v				- 2
Center Fre	NF E	I GHZ #FGain:Low #Atte	r Freq: 2.535000000 GHz Free Run Avg[Hold:> n: 30 dB	IGN AUTO 05:04 Radio 50/50 Radio	St PH Jul 01, 2020 Std: None Device: BTS	Frequency
10 dB/div	Ref Offset 14.8 d Ref 30.00 dBn	B				
20.0 10.0 0.00			ma			Center Fre 2.535000000 GH
0.0	morel				A	
0.0						
0.0						
enter 2.5 Res BW	35 GHz 620 kHz		VBW 2 MHz	5	pan 40 MHz weep 1 ms	CF Ste 4.000000 Mi
Occup	ied Bandwidt	h	Total Power	31.4 dBm		Auto Mi
Transm	it Freq Error	-155.91 kHz	% of OBW Power	99.00 %		Freq Offs 01
x dB Ba	indwidth	29.40 MHz	x dB	-26.00 dB		
90				STATUS		



Band7 30MHz 16QAM 50 0 100 0 Mid2535



Band7_30MHz_16QAM_100_0_50_0_Mid2535

Center F	req 2.535000000 NFE	GHz Cente #FGain:Low #Atte	Free Run Avy n: 30 dB	ALIGN AUTO GHz g Hold: 50/50	Radio Std: None Radio Device: B	Frequency
10 dB/div	Ref Offset 14.8 dl Ref 30.00 dBn	B 1				
20.0 10.0						Center Fre 2.535000000 GH
20.0	would				Lour	
0.0						
conter 2	535 GHz				Span 40	MHz
Res BW	620 kHz		VBW 2 MHz		Sweep 1	CF Ste 4.000000 MH
Occu	pied Bandwidt 27	^h /.802 MHz	Total Powe	r 28	.6 dBm	Auto Ma
Transı x dB B	mit Freq Error andwidth	66.319 kHz 29.46 MHz	% of OBW I x dB	Power 9 -20	9.00 % 5.00 dB	01

Band7 30MHz 64QAM 50 0 100 0 Mid2535



Band7_30MHz_64QAM_100_0_50_0_Mid2535

RF 50 Ω DC		SENSE:INT		ALIGN AUTO	05:43:32 PM	ad 01, 2020	Erequency
req 2.535000000 NFE	2.535000000 GHz NFE Center Free Run Avg Hold: 50/50		50/50	Radio Std: None		riequeity	
	#FGain:Low	#Atten: 30 dB			Radio Devic	e: BTS	
Ref Offset 14.8 de Ref 30.00 dBm	3						
							Center Free
			may amount	- marker of	~		2.535000000 GH
			Y				
1							
535 CH2					Enan	40 MHz	<u> </u>
620 kHz		#VBW 2	MHz		Swee	p 1 ms	CF Step 4.000000 MHz
oled Bandwidt	h	Tot	al Power	28.2 dBm			Auto Mar
27	.771 MH	z					Freq Offset
nit Freq Error	48.355 kH	lz %o	f OBW Powe	er 99	.00 %		0 H
andwidth	29.48 MH	z xdł	в	-26.0	00 dB		
							1
	Ref Office 1 4.9 off Ref 30.00 dBm 535 GHz 620 kHz bield Bandwidt 27 nit Freq Error andwidth	req 2.5300000 GHz req 2.5300000 GHz NE Galactow Ref Offset 14.8 dB Ref 30.00 dBm 335 GHz 620 kHz bled Bandwidth 27.771 MH: nit Freq Error 48.355 kH andwidth 29.48 MH	Arter 200 off reg 2.5350000 GHz FF 2.5350000 GHz FF 2.5350000 GHz FF 2.535000 GHz FF 2.535000 GHz FF 2.5350 GHz Constraints Statistical off FF 2.5350 GHz Statistical off Statistical	Avgilded and a second and a sec	Algebraid of the second	Allow	All ALTO CONTROL AND ALL AND A

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

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

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

SGS Taiwan Ltd 台灣檢驗科技股份有限公司

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

t (886-2) 2299-3279

f (886-2) 2298-0488



Report No.: ER/2020/30084 Page 35 of 105

Band7 30MHz 256QAM 50 0 100 0 Mid2535





Band7 40MHz QPSK 100 0 100 0 Mid2535



Band7 40MHz 16QAM 100 0 100 0 Mid2535



Band7 40MHz 64QAM 100 0 100 0 Mid2535



Band7_40MHz_256QAM_100_0_100_0_Mid2535

RL	RF 50 Ω DC		SENSE:INT	ALIGN AUTO	06:30:50 PM Jul 01, 202	D Erecuency
Center Fre	eq 2.535000000	GHz	Center Freq: 2.535000000 GHz Trig: Free Run Avg Ho	ld: 50/50	Radio Std: None	Frequency
		#FGain:Low	#Atten: 30 dB		Radio Device: BTS	_
10 dB/div	Ref Offset 14.8 d Ref 30.00 dBn	B N				
20.0						Center Free
10.0			many man			2.535000000 GH
10.0			V			
-20.0				h		
-30.0						9
-40.0						-1
-50.0						
-60.0						
Center 2.5 #Res BW	535 GHz 820 kHz		#VBW 2.4 MHz		Span 80 Mi Sweep 1 n	tz CF Step 8.000000 MH
Occup	ied Bandwidt	h	Total Power	24.9	dBm	Auto Mar
	37	7.541 MH	z			Freq Offse
Transm	nit Freq Error	-191.65 kH	z % of OBW Po	wer 99	.00 %	0 H
x dB Ba	andwidth	39.66 MH	iz xdB	-26.0	0 dB	

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery 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 I td. 台灣檢驗科技股份有限公司

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

t (886-2) 2299-3279

f (886-2) 2298-0488



Report No.: ER/2020/30084 Page 36 of 105

Band38 30MHz QPSK 75 0 75 0 Mid2595





Band38 30MHz 64QAM 75 0 75 0 Mid2595



Band38 30MHz 256QAM 75 0 75 0 Mid2595

🔤 Keysight Spec	strum Analyzer - Occupied BV	v								
Center Fr	eq 2.595000000 NFE	GHz #FGain:Low	Center Fr Trig: Free #Atten: 3	reg: 2.59500 e Run 0 dB	Avg Hold:	60/50	Radio	Std: No Device:	04, 2020 me BTS	Frequency
10 dB/div	Ref Offset 14.8 d Ref 30.00 dBr	B n								
20.0		m	many		~ ~~~					Center Free 2.595000000 GH
10.0 20.0 Auto	~			·				here	فالبدلم	
40.0 60.0										
60.0									0.000	
Res BW	620 kHz		#VE	3W 2 MH	z		1	span 4 Sweep	0 MH2 0 1 ms	CF Step 4.000000 MH
Occup	led Bandwidt	հ 3.301 MH	z	Total P	ower	29.0	dBn	n		Auto Mar
Transm	nit Freq Error	-33.098 kH	łz	% of O	BW Powe	r 99	.00 %	6		0 H
x dB Ba	andwidth	29.96 MF	Z	хdВ		-26.	00 dE	5		
										L

Band38 40MHz QPSK 100 0 100 0 Mid2595



Band38_40MHz_16QAM_100_0_100_0_Mid2595

enter Freq 2.595	000000 GHz	Center Freq: 2.595000000 GHz	GN AUTO 10:43:41 PM 3ul 04, 2020 Radio Std: None	Frequency
	NFE #FGain:Low	#Atten: 30 dB	Radio Device: BTS	
dB/div Ref 30	et 14.8 dB .00 dBm			
0				Center Fr 2.595000000 G
a martine	unur		have an and	
2				
nter 2.595 GHz es BW 820 kHz		#VBW 2.4 MHz	Span 80 MHz Sweep 1 ms	CF St 8.000000 M
Occupied Ban	dwidth 37.475 MI	Total Power HZ	31.6 dBm	Auto Ma
Transmit Freq E	rror -177.09 l	kHz % of OBW Power	99.00 %	0
k dB Bandwidth	39.55 N	MHz x dB	-26.00 dB	

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

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

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

台灣檢驗科技股份有用	限公司

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



Report No.: ER/2020/30084 Page 37 of 105

Band38 40MHz 64QAM 100 0 100 0 Mid2595





Band41 25MHz QPSK 25 0 100 0 Mid2593



Band41_25MHz_QPSK_100_0_25_0_Mid2593

Center Fre	rq 2.593000000	MFGain:Low #Att	ter Freq: 2.593000000 GHz : Free Run Avg Hold: en: 30 dB	-50/50 Radi	o Std: None o Device: BTS	Frequency
10 dB/div	Ref Offset 14.8 d Ref 30.00 dBr	B n				
20.0	- r				_	Center Free 2.593000000 GH
0.00 10.0 20.0					men	
40.0						
50.0						
enter 2.593 GHz Res BW 510 kHz			#VBW 1.5 MHz		Span 40 MHz Sweep 1 ms	CF Step 4.000000 MHz
Occupi	ied Bandwidt 22	th 2.887 MHz	Total Power	32.5 dBr	n	Auto Ma
Transmi	it Freq Error	56.450 kHz	% of OBW Powe	r 99.00 9	%	0)
x dB Ba	ndwidth	24.35 MHz	x dB	-26.00 d	В	

Band41 25MHz 16QAM 25 0 100 0 Mid2593



Band41_25MHz_16QAM_100_0_25_0_Mid2593

Reysight Spec	R/ 50 Q DC		SENSE:INT	ALIS	IN AUTO	15:13:35 PM N	d 02, 2020	
Center Fr	eq 2.593000000	GHz Ce	nter Freq: 2.59300 g: Free Run	0000 GHz Avg Hold:>50	R/50	adio Std: N	one	Frequency
		#FGain:Low #A	tten: 30 dB		R	adio Device	EBTS	
10 dB/div	Ref Offset 14.8 dE Ref 30.00 dBm	3						
20.0								Center Free
10.0	- m		~					2.593000000 GHz
0.00								
-10.0								
-20.0	man and a second							
40.0								
-50.0								
-60.0								
Center 2.	Center 2.593 GHz Span 40 MHz Span 40 MHz Sweep 1 ms							CF Step
Occur	ied Bandwidt	h	Total P	Total Power 31.4 dBm			4.000000 MHz Auto Man	
	22	.907 MHz						Freq Offset
Transm	nit Freq Error	41.360 kHz	% of OE	W Power	99.0	0 %		0 Hi
x dB B	andwidth	24.14 MHz	x dB		-26.00	dB		

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery 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 I td. 台灣檢驗科技股份有限公司

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

```
f (886-2) 2298-0488
```



Band41 25MHz 64QAM 25 0 100 0 Mid2593

Keysight Spectrum Analyzer - Occupied B	v			
enter Freq 2.593000000	I GHz Cente #IFGain:Low #Atte	r Free: 2.593000000 GHz FreeRun Avg[Hold: 50 n: 30 dB	Radio Std: N Radio Devic	e: BTS
0 dB/div Ref 0ffset 14.8 d Ref 30.00 dBr	B			
	~~~~~		~	Center Fre 2.593000000 GH
0.0				~~~~
0.0				
0.0				
enter 2.593 GHz Res BW 510 kHz		VBW 1.5 MHz	Span Swee	40 MHz CF Ste p 1 ms 4.000000 MH
Occupied Bandwid	^h 2.883 MHz	Total Power	31.7 dBm	Auto Ma
Transmit Freq Error x dB Bandwidth	-184.75 kHz 24.10 MHz	% of OBW Power x dB	99.00 % -26.00 dB	01
X dB Bandwidth	24.10 MH2	XUB	-20.00 08	
90			STATUS	



## Band41 25MHz 256QAM 25 0 100 0 Mid2593



#### Band41 25MHz 256QAM 100 0 25 0 Mid2593

Keysight Spectrum Analyzer - Occupie	ed BW					
Center Freq 2.5930000	MFGain:Low	Center Freq: 2.59300 Trig: Free Run #Atten: 30 dB	ALIGN / Avg Hold: 50/50	Radio Std: Radio Dev	None ice: BTS	Frequency
10 dB/div Ref 30.00 d	8 dB IBm					
200 100				~		Center Free 2.593000000 GH
20.0 20.0				kum		
10.0						
60.0						
Center 2.593 GHz Res BW 510 kHz		#VBW 1.5 M	Hz	Spa Swe	n 40 MHz ep 1 ms	CF Step 4.000000 MH
Occupied Bandw	idth 22 900 MH	Total P	ower	29.1 dBm		Auto Mar
Transmit Freq Error	36.833 kH	Lz %ofOE	BW Power	99.00 %		0 H
x dB Bandwidth	24.21 MH	z x dB		-26.00 dB		

#### Band41 40MHz QPSK 100 0 100 0 Mid2593



#### Band41_40MHz_16QAM_100_0_100_0_Mid2593

enter Freg 2.593	000000 GHz	Center	Freq: 2.593000000 GH	ALIGN AUT	0 05:44:36 PI Radio Std:	434 02, 2020 None	Frequency
	NFE #FGain:	Low #Atten:	ree Run Avg H : 30 dB	lold: 50/50	Radio Dev	ice: BTS	
dB/div Ref 30	set 14.8 dB 0.00 dBm						
0			V	m			Center Fre 2.593000000 G
0							
nter 2.593 GHz es BW 820 kHz		#\	/BW 2.4 MHz		Spa Swe	n 80 MHz ep 1 ms	CF St 8.000000 M
Occupied Bar	cupled Bandwidth 37.616 MH		Total Power		31.5 dBm		Auto Ma
Transmit Freq I	Error -98.	.772 kHz	% of OBW Po	wer	99.00 %		0
x dB Bandwidth	n 39	.60 MHz	x dB	-2	6.00 dB		

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

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

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

SGS Taiwan Ltd 台灣檢驗科技股份有限公司

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

t (886-2) 2299-3279

f (886-2) 2298-0488



## Band41_40MHz_64QAM_100_0_100_0_Mid2593

10 dB/div	NFE Ref Offset 14.9 dl Ref 30.00 dBn	#IFGain.tow	Trig: Fre #Atten: 3	•Run 0 dB	Avg Hold>50	R	adio Devic	CHE BTS	Center Freq 2.593000000 GHz
10 dB/div Log 20.0 10.0 0.00 10.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20	Ref Offset 14.9 dl Ref 30.00 dBn	3 ) ///////////////////////////////////			L				Center Freq 2.593000000 GHz
	•••••	· · · · · · · · · · · · · · · · · · ·			•	harden			Center Free 2.593000000 GHz
10.0 0.00 10.0 20.0 30.0	argen and					-			2.593000000 GH
0.00 10.0 20.0 30.0	er and the most of			×		harne			
20.0	and a second					menne			
30.0								and the second s	1
40.0									
50.0									
60.0									
Center 2.593 Res BW 820	GHz 0 kHz		#VE	3W 2.4 M	Hz		Span Swee	80 MHz ep 1 ms	CF Step 8.000000 MH
Occupier	d Bandwidt	h		Total P	ower	31.8 d	Bm		Auto Mar
Occupier	37	.517 MI	Ηz			• • • •			Freq Offse
Transmit F	Freq Error	-70.706	kHz	% of OE	W Power	99.00	0 %		он
x dB Band	dwidth	39.76 N	IHz	x dB		-26.00	dB		
						-			

#### Band41 40MHz 256QAM 100 0 100 0 Mid2593



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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. SGS Taiwan Ltd. No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

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



# OUT OF BAND EMISSION AT ANTENNA TERMINALS

#### 8.1 Standard Applicable

## FCC §22.917(a), §24.238(a), §27.53(h)

# RSS-130 §4.7, RSS-132 §5.5, RSS-133 §6.5.1, RSS-139 §6.5, RSS-199 §4.5

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

## FCC §27.53(g) for LTE B12

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

## FCC §27.53(h)(3) for LTE B4, 66

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

## FCC §27.53(m) (4) (6) for LTE B7, B38, B41

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measurement procedure. Compliance with these rules is based on the use of measurement astrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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

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

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



## RSS-130 §4.7.1 for LTE B12

Compliance for operations in the 617-652 MHz, 663-698 MHz, 698-756 MHz and the 777-787 MHz band, the unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

## RSS-139 §6.6 for LTE B4, 66

In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,Footnote 2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

## RSS-199 §4.5 for LTE B7, 38, 41

In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

Equipment shall comply with the following unwanted emission limits:

for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least 43 + 10 log10 p for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

40 + 10 log10 p from the channel edges to 5 MHz away

43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and

55 + 10 log10 p at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than 43 + 10 log10 p on all frequencies between 2490.5 MHz and 2496 MHz, and 55 + 10 log10 p at or below 2490.5 MHz.

In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

# 8.2 Test SET-UP



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

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

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

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



#### **Measurement Procedure** 8.3

#### 8.3.1 **Conducted Emission**

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
- 3. Allow trace to fully stabilize
- 4. Repeat above procedures until all default test channel measured were complete.

#### 8.3.2 **Band Edge or Mask**

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. The band edge of low and high channels for the highest RF powers was measured. Setting RBW ≥ 1% EBW.
- 3. Allow trace to fully stabilize
- 4. Repeat above procedures until all default test channel measured were complete.

#### 8.4 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
PXA Spectrum Analyzer	Agilent	N9030A	MY53120760	04/21/2020	04/20/2021
Radio Communication Analyzer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

#### 8.5 **Measurement Result:**

Refer to next pages.

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

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

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

## Report No.: ER/2020/30084 Page 43 of 105



#### Out of Band Emission

Emission_Band5_15MHz_QPSK_1_49_1_0_30MHz~3GHz_CH_Low831.5



Emission_Band5_15MHz_QPSK_1_49_1_0_30MHz~3GHz_CH_Mid836.5



## Emission_Band5_15MHz_QPSK_1_49_1_0_30MHz~3GHz_CH_High841.5

Reysight Spect	IU 50 (	Nept SA		SENSE:INT		ALIGN AUTO	09:04:43 PH Jul 06	2020	
tart Freq	30.00000	NFE	PNO: Fast	Trig: Free Run	Avg Ty	pe: Log-Pwr	TRACE 1 2 TYPE HW	3456	Frequency
10 dB/div	Ref Offset 1 Ref 30.00	3.8 dB dBm	IFGain:Low	EAtten: 30 dB		Mk	r3 2.524 5 0 -35.81 d	SHz Bm	Auto Tu
20.0			¥1						Center Fr 1.515000000 G
10.0 20.0 30.0					2		3	***	Start Fr 30.000000 M
40.0 50.0 60.0		~~~~	1		have a substant				Stop Fr 3.000000000 G
Start 0.030 Res BW 1	GHz .0 MHz	<u> </u>	#VB	W 1.0 MHz		Sweep 2.	Stop 3.000 000 ms (1001	GHz pts)	CF Sto 297.000000 Mi Auto M
1 N 1 2 N 1 3 N 1 4	1	8 1.6 2.6	43.8 MHz 83 0 GHz 24 5 GHz	25.65 dBm -39.29 dBm -35.81 dBm			P.046,1504,1940		Freq Offs 0
6 7 8 9									Scale Ty
10									Log l
60						STATUS			

## Emission_Band5_20MHz_QPSK_1_49_1_0_30MHz~3GHz_CH_Low834



Emission_Band5_20MHz_QPSK_1_49_1_0_30MHz~3GHz_CH_Mid836.5



#### Emission_Band5_20MHz_QPSK_1_49_1_0_30MHz~3GHz_CH_High839

🔤 Keysight Spectrum An	salyzer - Swept SA					
Start Freq 30.0	000000 MHz		SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr	09:39:19 PH Jul 06, 2020 TRACE 1 2 3 4 5 6	Frequency
	NFE F	NO: Fast Gain:Low	Trig: Free Run #Atten: 30 dB		DET PNNNN	
10 dB/div Ref	0ffset 13.8 dB 30.00 dBm			M	r3 2.517 0 GHz -35.81 dBm	Auto Tune
20.0	¥					Center Freq 1.515000000 GHz
-20.0			A2		3	Start Freq 30.000000 MHz
-40.0 -50.0 -60.0	ي. ما اي منهمي منهم منهم منهم منهم منهم منهم من		and a support of the second of the	and a region of the region of the second		Stop Freq 3.00000000 GHz
Start 0.030 GH #Res BW 1.0 M	z IHz	#VBW	1.0 MHz	Sweep 2	Stop 3.000 GHz .000 ms (1001 pts)	CF Step 297.000000 MHz Auto Man
1 N 1 f 2 N 1 f 3 N 1 f 4 6	837 1.678 2.517	8 MHz 0 GHz 0 GHz	25.29 dBm -38.84 dBm -35.81 dBm	ACTION FUNCTION WOTH	FUNCTION VALUE	Freq Offset 0 Hz
7 8 9 10						Scale Type
× [						

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested 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。

SGS Taiwan I	Ltd.
台灣檢驗科技股份有	限公司

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



# Report No.: ER/2020/30084 Page 44 of 105

### Emission_Band5_15MHz_QPSK_1_49_1_0_3GHz~26GHz_CH_Low831.5



#### Emission_Band5_15MHz_QPSK_1_49_1_0_3GHz~26GHz_CH_Mid836.5



#### Emission_Band5_15MHz_QPSK_1_49_1_0_3GHz~26GHz_CH_High841.5

						um Analyzer - Swept SA	Ceysight Spect	- 14
Frequency	09:05:00 PH Jul 06, 2020 TRACE 1 2 3 4 5 6	Aug Type: Log-Pwr	SENSE INT	Trin Fre	00 GHz	q 6.5000000	nter Fre	Cen
Auto Tune	Akr1 3.791 GHz -30.59 dBm	N	30 dB	#Atten:	PNO: Fast ** IFGain:Low B	Ref Offset 13.8 di Ref 30.00 dBn	dB/div	10 d
Center Freq 6.50000000 GHz							0	20.0 10.0
Start Freq 3.00000000 GHz	0(1-1200 dBe					1	0	-10.0 -20.0 -30.0
Stop Freq 10.00000000 GHz		₽.a.,a [.] ?~~	660. avr.1, 11 ~ 11	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10,		0 <b></b>	-40.0 -60.0 -60.0
CF Step 700.000000 MHz Auto Man	Stop 10.000 GHz 1.67 ms (1001 pts)	Sweep 1	łz	3W 1.0 MH	#VB	GHz 0 MHz	art 3.000 es BW 1	Star #Re
Freq Offset 0 Hz	(		dBm	-30.59 d	3.791 GHz	1	N 1	2345
Scale Type								6 7 8 9 10 11
	•	STATUS						×

### Emission_Band5_20MHz_QPSK_1_49_1_0_3GHz~26GHz_CH_Low834

and a shere an semilar . Such as					
enter Freg 6.50000000	GHz	SENSE INT	Aug Type: Log-Pwr	09:10:07 PH 3d 06, 2020 TRACE 1 2 3 4 5 6	Frequency
NFE	PNO: Fast **** IFGain:Low	Trig: Free Run #Atten: 30 dB		DET P NNNN	
ef Offset 13.8 dB Ref 30.00 dBm			N	1kr1 4.015 GHz -30.83 dBm	Auto Tun
20.0					Center Fre 6.500000000 GH
				0.1 -1 2 00 -00m	Start Fre 3.000000000 Gi
			ي. يوني المريخ من مريخ بر المريخ من المريخ م	ered to and field or any th	Stop Fr 10.00000000 G
tart 3.000 GHz Res BW 1.0 MHz	#VBW 1	.0 MHz	Sweep 1	Stop 10.000 GHz 1.67 ms (1001 pts)	CF St 700.000000 M
2 EXECUTE EXEC	4.015 GHz	-30.83 dBm	ACTION FUNCTION WOTH	FUNCTION VALUE	Freq Offs 0
6 7 8 9 0					Scale Ty

#### Emission_Band5_20MHz_QPSK_1_49_1_0_3GHz~26GHz_CH_Mid836.5

Keysight Spectrum Analyzer -	Swept SA					
Center Freq 6.500	000000	GHz	SENSE INT	Aug Type: Log-Pwr	09:14:21 PH Jul 06, 2020 TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
	NFE	IFGain:Low	#Atten: 30 dB		DET P NNNNN	Auto Tune
10 dB/div Ref 30.0	13.8 dB 0 dBm				-31.61 dBm	
20.0						Center Freq 6.50000000 GHz
-10.0					551-1200 (Det	Start Freq 3.00000000 GHz
40.0		197., ***., et austrij		anders and a fair of the set of the set of the set of the set	******	Stop Freq 10.00000000 GHz
Start 3.000 GHz #Res BW 1.0 MHz		#VBW	1.0 MHz	Sweep 1	Stop 10.000 GHz 1.67 ms (1001 pts)	CF Step 700.000000 MHz
MER MORE FOR EAST	x	4.008 GHz	-31.61 dBm	ACTION FUNCTION WOTH	FUNCTION VALUE -	AUGO Mian
2 3 4 5						Freq Offset 0 Hz
7 8 9						Scale Type
10 11						Log Lin
( )						
M9G				STATUS	5	

#### Emission_Band5_20MHz_QPSK_1_49_1_0_3GHz~26GHz_CH_High839

Keysight Spe	ctrum Analyzer - Sive	ipi SA				
Center Fi	req 6.50000	0000 GHz	Trio: Free Run	Avg Type: Log-Pwr	09:39:37 PH Jul 06, 2020 TRACE 1 2 3 4 5 6 Type III 0000000	Frequency
		NFE PNO: Fast IFGain:Low	#Atten: 30 dB		DET P NNNNN	Auto Turne
10 dB/div	Ref Offset 13. Ref 30.00 c	.8 dB <b>1Bm</b>		•	4kr1 3.812 GHz -31.05 dBm	Auto Tune
20.0 10.0						Center Freq 6.500000000 GHz
-10.0 -20.0 -30.0	\$ ¹				Ex.1 -1 2.00 eDec	Start Freq 3.00000000 GHz
-40.0 -50.0 -60.0	and a second	Kanadar an Antonio Sandra and Antonio			6	Stop Freq 10.00000000 GHz
Start 3.00 #Res BW	0 GHz 1.0 MHz	#VB	W 1.0 MHz	Sweep 1	Stop 10.000 GHz 1.67 ms (1001 pts)	CF Step 700.000000 MHz Auto Man
1 N 1 2 3 4 5 6	1	3.812 GHz	-31.05 dBm			Freq Offset 0 Hz
7 8 9 10						Scale Type
<				STATU		

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

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sqs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery 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 I	Ltd.
台灣檢驗科技股份有	限公司

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

```
f (886-2) 2298-0488
```