

---

## ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

### INTENTIONAL RADIATOR CERTIFICATION TO

### FCC PART 22 SUBPART H, PART 24 SUBPART E and

### PART 27 SUBPART L REQUIREMENT

OF

**Applicant:** Barco NV  
President Kennedypark 35, 8500 Kortrijk, Belgium

**Product Name:** Pulse

**Brand Name:** Barco NV

**Model No.:** R8767900, R87679001

**Model Difference:** Only difference between both is the modular boards have been removed to be able to send an empty Pulse to the costumer

**FCC ID:** 2AOUF-R8767900X

**Report Number:** ER/2017/90085

**FCC Rule Part:** 2, 22H & 24E & 27L

**Issue Date:** Jan. 08, 2018

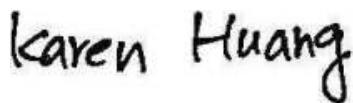
**Date of Test:** Oct. 03, 2017

**Date of EUT Received:** Sep. 13, 2017

**We hereby certify that:**

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

**Prepared By:**  
Karen Huang

Karen Huang / Clerk

**Approved By:**  
Jim Chang

Jim Chang / Asst. Manager



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

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

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

## Revision History

Report Number	Revision	Description	Issue Date
ER/2017/90085	Rev.00	Initial creation of document	Jan. 08, 2018

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## Contents

1. GENERAL PRODUCT INFORMATION .....	4
2. SYSTEM TEST CONFIGURATION .....	7
3. SUMMARY OF TEST RESULTS .....	10
4. DESCRIPTION OF TEST MODES.....	11
5. MEASUREMENT UNCERTAINTY.....	13
6. RF CONDUCTED OUTPUT POWER MEASUREMENT.....	14
7. EFFECTIVE RADIATED POWER AND EQUIVALENT ISOTROPIC RADIATED POWER MEASUREMENT.....	21
8. OCCUPIED BANDWIDTH MEASUREMENT.....	30
9. OUT OF BAND EMISSION AT ANTENNA TERMINALS .....	40
10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT.....	62
11. FREQUENCY STABILITY MEASUREMENT.....	96
12. PEAK TO AVERAGE RATIO.....	103

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 1. GENERAL PRODUCT INFORMATION

### 1.1. Product Description

General:

Product Name:	Pulse
Brand Name:	Barco NV
Model No.:	R8767900, R87679001
Model difference:	Only difference between both is the modular boards have been removed to be able to send an empty Pulse to the costumer
Product HW version:	10
Product SW version:	1,3,10
Power Supply:	12Vdc from DC power source

### GPRS / WCDMA:

Cellular Phone Standards Frequency Range and Power	Operating Frequency	
	GPRS 850	824.2 MHz– 848.8 MHz
	EDGE 850	824.2 MHz– 848.8 MHz
	GPRS 1900	1850.2MHz – 1909.8MHz
	EDGE 1900	1850.2MHz – 1909.8MHz
	WCDMA / HSPA+ Band II	1852.4MHz – 1907.6MHz
	WCDMA / HSPA+ Band IV	1712.4MHz – 1752.6MHz
	WCDMA / HSPA+ Band V	826.4MHz - 846.6MHz
IMEI:	356136071257200	

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

**Type of Emission:**

Frequency Band	Type of Emission:
GRPS 850	243KGXW
EDGE 850	268KG7W
GRPS 1900	245KGXW
EDGE 1900	252KG7W
WCDMA Band II	4M06F9W
HSDPA Band II	4M04F9W
HSUPA Band II	4M04F9W
WCDMA Band IV	4M06F9W
HSDPA Band IV	4M05F9W
HSUPA Band IV	4M04F9W
WCDMA Band V	4M07F9W
HSDPA Band V	4M04F9W
HSUPA Band V	4M04F9W

**Max ERP/EIRP Power Measurement Result:**

	dBm		W
GRPS 850	<b>22.53</b>	ERP	0.179
EDGE 850	<b>23.96</b>	ERP	0.249
GRPS 1900	<b>23.52</b>	EIRP	0.225
EDGE 1900	<b>23.49</b>	EIRP	0.223
WCDMA Band II	<b>21.11</b>	EIRP	0.129
HSDPA Band II	<b>20.38</b>	EIRP	0.109
HSUPA Band II	<b>20.32</b>	EIRP	0.108
WCDMA Band IV	<b>21.59</b>	EIRP	0.144
HSDPA Band IV	<b>22.45</b>	EIRP	0.176
HSUPA Band IV	<b>22.21</b>	EIRP	0.166
WCDMA Band V	<b>18.89</b>	ERP	0.077
HSDPA Band V	<b>19.96</b>	ERP	0.099
HSUPA Band V	<b>20.11</b>	ERP	0.103

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 1.2. Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22, 24, 27

ANSI / TIA / EIA 603-D-2010

KDB971168 D01 Power Meas license Digital System

KDB941225 of the Output power Procedure of (SAR Measurement Procedures for 3G Devices, WCDMA / HSPA) was used for EUT and Base station setting.

TS 151 010-1 is used to set, and measure the output power.

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

## 1.3. Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 (TAF code 0513)

FCC Registration Number and Designation number are: 509634 / TW0001

## 1.4. Special Accessories

No special accessories were used during testing.

## 1.5. Equipment Modifications

There were no modifications incorporated into the EUT.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 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

According to measurement procured TIA/EIA 603C, the EUT is placed on a turn 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)

According to measurement procured TIA/EIA 603C, The EUT is a placed on as turn table which is 0.8 m above ground plane. 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 according to the requirements in Section 8 and 13.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 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 example with cable loss, attenuator and splitter.

Low Band: Offset = RF cable loss (dB) + attenuation factor(dB) =4.1+10=14.1(dB)

High Band: Offset = RF cable loss (dB) + attenuation factor(dB) =4.1+10=14.1(dB)

## 2.5. Final Amplifier Voltage and Current Information:

Test mode	DC voltage (V)	DC current (mA)
GPRS 850	12	1137
GPRS 1900	12	1097
EDGE 850	12	1130
EDGE 1900	12	11.21
WCDMA B2	12	1213
WCDMA B4	12	1237
WCDMA B5	12	1219
HSUPA B2	12	1176
HSUPA B4	12	1173
HSUPA B5	12	1163
HSDPA B2	12	1183
HSDPA B4	12	1165
HSDPA B5	12	1172

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 2.6. Configuration of Tested System

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

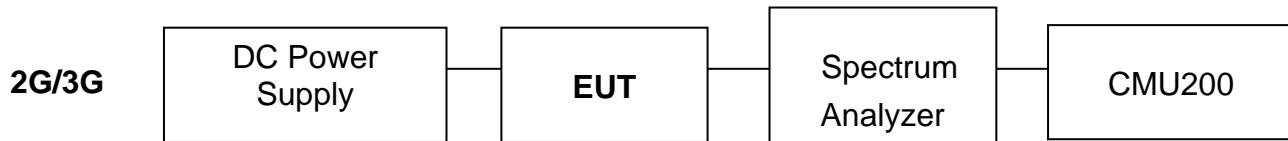
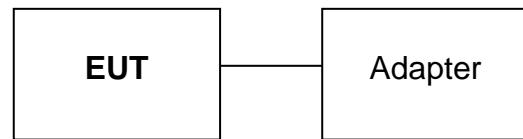


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)



Remote Side

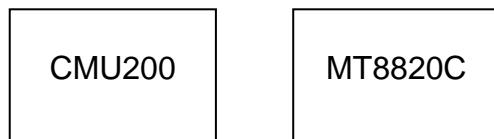


Table 2-1 Equipment Used in

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2.	Universal Radio Communication Tester	Anritsu	MT8820C	6200307563	shielded	Un-shielded

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

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

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

### 3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046	RF Power Output	Compliant
§2.1046(a) §22.913(a)(5) §24.232(c) §27.50(d)(4) §27.50(h)(2)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(h) §27.53(m)(4)(6)	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(h) §27.53(m)	Field Strength of Spurious Radiation	Compliant
§24.232(d) §27.50(d)(5)	Peak to Average Ratio	Compliant
§2.1055(a)(1) §22.355 §24.235 §27.54	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。

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 4. DESCRIPTION OF TEST MODES

### 4.1. The Worst Test Modes and Channel Details

1. The EUT has been tested under operating condition.
2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X(E1)Y(E2)Z(H) axis and antenna ports. The worst case was found as listed below. Following channel(s) was (were) selected for the final test as listed below:

BAND	ERP/EIRP	RADIATED EMISSION and Wireless charging Cover
GPRS/EDGE 850	E2-plan	E2-plan
GPRS/EDGE 1900	E2-plan	E2-plan
WCDMA/HSPA Band II	E2-plan	E2-plan
WCDMA/HSPA Band IV	E2-plan	E2-plan
WCDMA/HSPA Band V	E2-plan	E2-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 [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## GPRS/EDGE MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	128 to 251	128, 190, 251	GPRS/EDGE 850
EIRP	512 to 810	512, 661, 810	GPRS/EDGE 1900
FREQUENCY STABILITY	128 to 251 512 to 810	190 661	GPRS 850 GPRS 1900
OCCUPIED BANDWIDTH	128 to 251 512 to 810	190 661	GPRS/EDGE 850 GPRS/EDGE 1900
PEAK TO AVERAGE RATIO	128 to 251 512 to 810	128, 190, 251 512, 661, 810	GPRS/EDGE 850 GPRS/EDGE 1900
BAND EDGE	128 to 251 512 to 810	128, 251 512, 810	GPRS/EDGE 850 GPRS/EDGE 1900
CONDUCETED EMISSION	128 to 251 512 to 810	128, 190, 251 512, 661, 810	GPRS/EDGE 850 GPRS/EDGE 1900
RADIATED EMISSION	128 to 251 512 to 810	128, 190, 251 512, 661, 810	GPRS 850 GPRS 1900

## WCDMA/HSPA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band V
EIRP	9262 to 9538 1312 to 1513	9262, 9400, 9583 1312, 1413, 1513	WCDMA/HSPA Band II WCDMA/HSPA Band IV
FREQUENCY STABILITY	4132 to 4233 1312 to 1513 9262 to 9538	4183 1413 9400	WCDMA Band II WCDMA Band IV WCDMA Band V
OCCUPIED BANDWIDTH	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9583	WCDMA/HSPA Band II WCDMA/HSPA Band IV WCDMA/HSPA Band V
PEAK TO AVERAGE RATIO	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9583	WCDMA/HSPA Band II WCDMA/HSPA Band IV WCDMA/HSPA Band V
BAND EDGE	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4233 1312, 1513 9262, 9583	WCDMA Band II WCDMA Band IV WCDMA Band V
CONDUCETED EMISSION	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9583	WCDMA Band II WCDMA Band IV WCDMA Band V
RADIATED EMISSION	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9583	HSDPA Band II HSUPA Band IV WCDMA Band 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 [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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

## 5. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1.10 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization = +/- 4.62dB
99% Occupied Bandwidth	+/- 5.19 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.70 dB
Peak to Average Ratio	+/- 0.70 dB
Frequency Stability vs. Temperature	+/- 5.19 Hz
Frequency Stability vs. Voltage	+/- 5.19 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

### Radiated Spurious Emission:

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

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

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

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

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

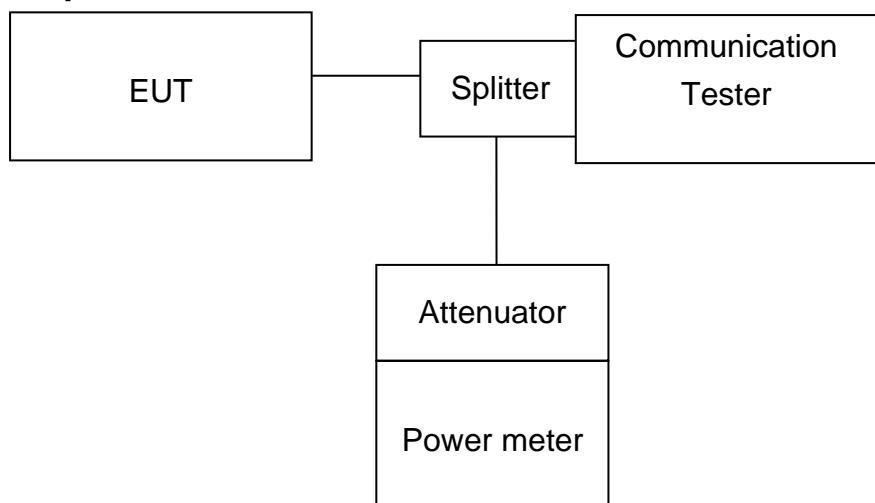
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for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

## 6. RF CONDUCTED OUTPUT POWER MEASUREMENT

### 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.

### 6.2. Test Set-up



*Note: Measurement setup for testing on Antenna connector*

### 6.3. Measurement Procedure

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. TS 151 010-1 is reference to conduct the test measurement of output power.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCD-MA/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

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 6.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HU-BER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	10/27/2016	10/26/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

## 6.5. Measurement Result

### RF Conducted Output Power

EUT Mode	Frequency (MHz)	CH	Average Burst Power (1DN 1UP) Class 8 (dBm)
GPRS 850	824.2	128	29.45
	836.6	190	29.35
	848.8	251	29.05
GPRS 1900	1850.2	512	28.4
	1880.0	661	28.3
	1909.8	810	28.15
EDGE 850	824.2	128	24.73
	836.6	190	24.61
	848.8	251	24.6
EDGE 1900	1850.2	512	24.43
	1880.0	661	24.32
	1909.8	810	24.3

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

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

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

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

**WCDMA MODE:**

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 V8.4.0 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7). RMC 12.2kps is used for this testing.

**Results:**

Mode	Avg. Power (dBm)			Avg. Power (dBm)			Avg. Power (dBm)		
	Band II Channel			Band IV Channel			Band V Channel		
	9262	9400	9538	1312	1413	1513	4132	4183	4233
WCDMA	21.36	20.37	20.38	21.96	21.14	21.20	21.80	20.96	21.02
HSDPA	21.37	20.63	20.26	21.92	21.11	21.19	21.76	20.93	20.97
HSUPA	21.72	20.92	20.45	21.89	21.02	21.13	21.55	20.71	20.75

**HSDPA Release 6 MODE:**

The following 4 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C10.1.4 & C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing.

**HSDPA SUB-TEST Setting**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

**Note: The recommended HSDPA MPRs are implemented as per following sub-tests.**

**Results:**

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

Mode	Sub test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)		Result
		9262	9400	9538			
HSDPA II	1	21.37	20.63	20.58	20.3	~ 25.7	Pass
	2	21.09	20.48	20.36	20.3	~ 25.7	Pass
	3	20.63	21.62	20.39	19.8	~ 25.7	Pass
	4	21.05	21.76	20.41	19.8	~ 25.7	Pass

Mode	Sub test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)		Result
		1312	1413	1513			
HSDPA IV	1	21.92	21.11	21.19	20.3	~ 25.7	Pass
	2	21.81	20.91	21.03	20.3	~ 25.7	Pass
	3	21.56	20.68	21.04	19.8	~ 25.7	Pass
	4	21.85	20.83	20.53	19.8	~ 25.7	Pass

Mode	Sub test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)		Result
		4132	4183	4233			
HSDPA V	1	21.76	20.93	20.97	20.3	~ 25.7	Pass
	2	21.66	20.93	20.90	20.3	~ 25.7	Pass
	3	21.40	20.87	20.80	19.8	~ 25.7	Pass
	4	21.50	20.92	20.67	19.8	~ 25.7	Pass

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

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

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

## HSPA (HSDPA & HSUPA) Release 6 MODE

The following 5 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing

### HSPA SUB-TEST Setting

Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH(FOR HSUPA)

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Code s)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps )
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225 5	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

**Note: The recommended HSUPA MPRs are implemented as per following sub-tests.**

## Results:

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

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

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

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

Mode	Sub test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)			Result
		9262	9400	9538				
HSUPA II	1	21.72	<b>20.92</b>	20.45	18.8	~	25.7	<b>Pass</b>
	2	21.50	20.63	20.01	16.8	~	25.7	<b>Pass</b>
	3	21.49	20.71	20.30	17.8	~	25.7	<b>Pass</b>
	4	21.60	20.81	20.31	16.8	~	25.7	<b>Pass</b>
	5	21.42	20.59	20.31	18.8	~	25.7	<b>Pass</b>

Mode	Sub test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)			Result
		1312	1413	1513				
HSDPA IV	1	21.89	21.02	<b>21.13</b>	20.3	~	25.7	<b>Pass</b>
	2	21.66	20.79	20.36	20.3	~	25.7	<b>Pass</b>
	3	21.54	20.87	19.90	19.8	~	25.7	<b>Pass</b>
	4	21.60	20.65	20.01	19.8	~	25.7	<b>Pass</b>
	5	21.58	20.62	20.07	19.8	~	25.7	<b>Pass</b>

Mode	Sub test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)			Result
		4132	4183	4233				
HSUPA V	1	21.55	<b>20.71</b>	20.75	18.8	~	25.7	<b>Pass</b>
	2	21.53	20.69	20.20	16.8	~	25.7	<b>Pass</b>
	3	21.42	20.66	20.09	17.8	~	25.7	<b>Pass</b>
	4	21.35	20.61	20.36	16.8	~	25.7	<b>Pass</b>
	5	21.24	20.64	20.28	16.8	~	25.7	<b>Pass</b>

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

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

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

**Minimum Communications Power Measurement****PCS 1900 band**

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	30.7	28.7	25.9	23.7	22.4	19.6	17.4	15.6	13.3

PCL	9	10	11	12	13	14	15
Output power (dBm)	10.96	8.41	6.55	4.38	2.3	0.17	-1.82

Note: The EUT output power was controlled by simulator. Set Communication Tester [MT8820C](#) PCL as above, and get the mobile phone output power reading

**WCDMA/HSDPA/HSUPA band II, IV, V**

The EUT output power was controlled by simulator. Set Communication Tester MT8820C function key “UE Power Control” and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). The min. power was measures by a function key “minimum power” then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 7. EFFECTIVE RADIATED POWER AND EQUIVALENT ISOTROPIC RADIATED POWER MEASUREMENT

### 7.1. Standard Applicable

According to FCC §2.1046

FCC 22.913(a) Mobile station is limited to 7W ERP.

FCC 24.232(c) Mobile and portable stations are limited to 2 W EIRP.

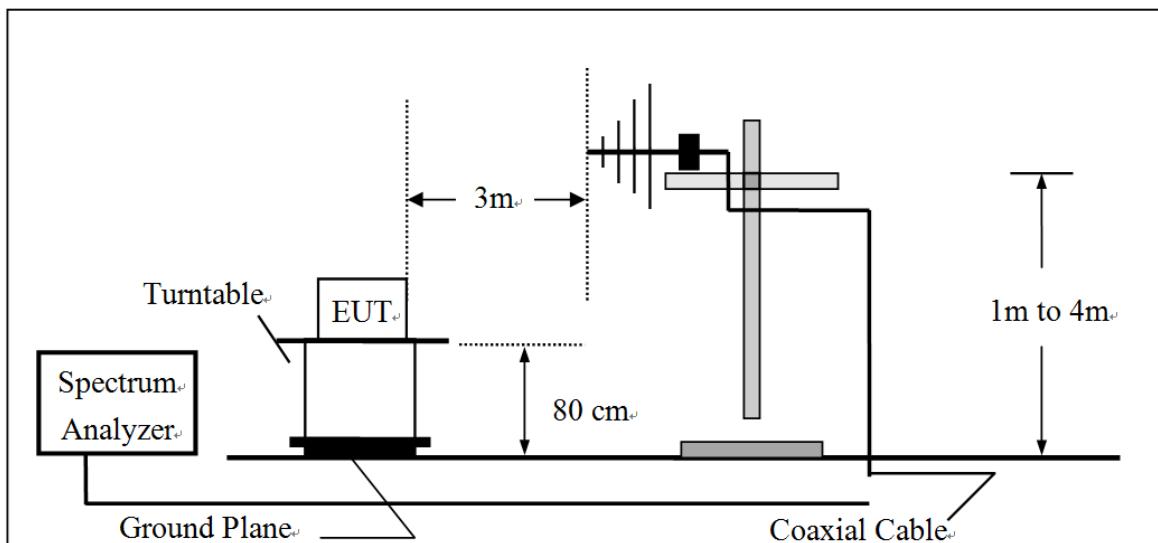
FCC 27.50(c) (10) Control stations and mobile stations are limited to 3 W ERP.

FCC 27.50(d)(4) Fixed, mobile, and portable (hand-held) stations are limited to 1W EIRP.

FCC 27, 50(h)(2) Mobile and other user stations. Mobile stations are limited to 2 W EIRP

### 7.2. Test SET-UP

#### (A) Radiated Power Test Set-Up, Frequency Below1000MHz



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

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

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

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

台灣檢驗科技股份有限公司

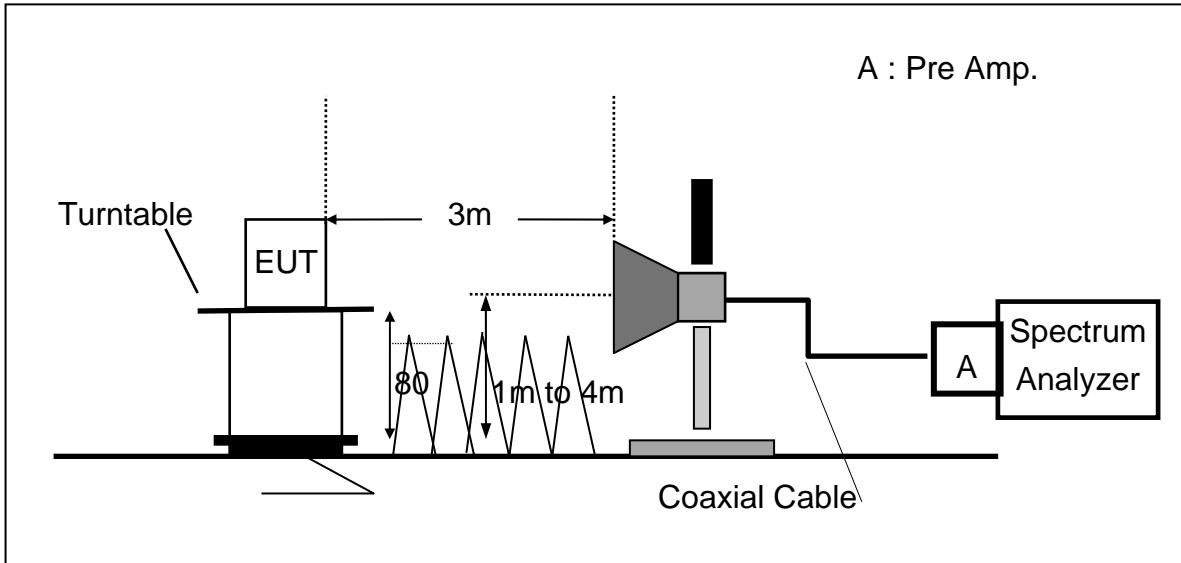
t (886-2) 2299-3279

f (886-2) 2298-0488

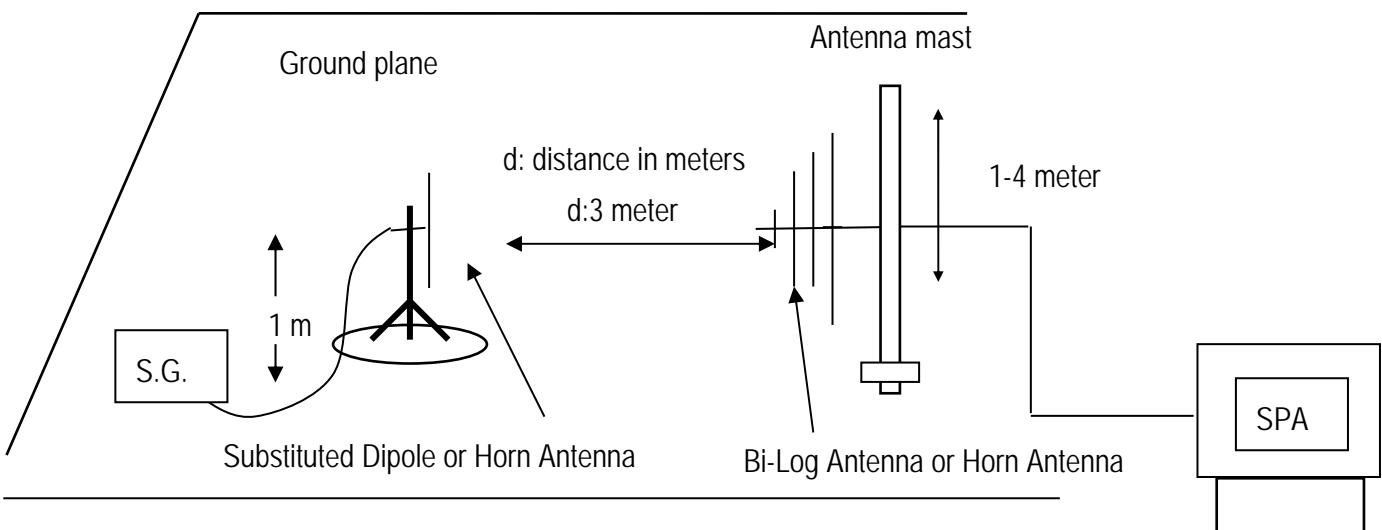
[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

(B) Radiated Power Test Set-UP Frequency Over 1 GHz



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

### 7.3. Measurement Procedure

1. The testing follows the Measurement Procedure of FCC KDB 971168 D01
2. The EUT was placed on a non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.
3. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated
4. The testing follows the Measurement Procedure of FCC KDB 971168 D01
5. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G.
6.  $ERP = S.G. \text{ output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$
7.  $ERP = S.G. \text{ output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$
8. Spectrum setting:
  - (1) Detector = Peak, marker the highest value of the detector by maximum hold, set RBW wide enough to capture the entire signal of emission, and  $VBW > 3 \times RBW$ .
  - (2) KDB 971168 D01 is adopted, and the procedure as lists under item 4, Measurement of the Average Power over the Fundamental Signal Bandwidth, is followed to set correspondingly for the acquisition of proper measurement data.  
Set frequency = nominal signal center frequency;  
Set span = 2 X occupied BW;  
Set  $RBW \approx 1\text{--}5\%$  of the span, not to exceed 1 MHz  
Set  $VBW = 3 \times RBW$ ;  
Select average power (RMS) detector  
Set sweep time and number of measurement points to achieve a minimum of 1 millisecond/pt integration time (ex. Point = 601points, then sweep time =  $601 \times 10^{-3} = 6\text{s}$ .)

Activate trace averaging routine over a minimum of 10 sweeps;  
Activate marker/span pair and set span = signal or channel bandwidth;  
Activate the band/interval power marker function;  
Record the band power level;  
Record adjusted value as the average signal power level. Then activate the occupied bandwidth measurement function.

The proper adjustment due to limitation of spectrum capability is given compensated to spectrum with conversion factor of  $10 \times \log (TBW/RBW)$ , where TBW is the transmission of UE exceeding the maximum BW UE can extends, and RBW is the resolution BW in UE.

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

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

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

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

## 7.4. Measurement Equipment Used

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCI7	100760	05/11/2017	05/10/2018
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/25/2017	04/24/2018
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2017	09/19/2018
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/04/2017	08/03/2018
Pre-Amplifier	Agilent	8447D	2944A07676	01/03/2017	01/02/2018
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/03/2017	01/02/2018
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R
Low Loss Cable	Huber Suhner	966_RX	9	01/05/2017	01/04/2018
3m Site NSA	SGS	966 chamber	N/A	07/01/2017	06/30/2018
Low Loss Cable	Huber Suhner	966 TX	1	01/05/2017	01/04/2018
Horn Antenna	Schwarzbeck	BBHA9170	184	12/13/2016	12/12/2017
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/05/2017	01/04/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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

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

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

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

## 7.5. Measurement Result: (Peak) –using option of peak measurement

EUT			Measurement					
Operation Band	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
GPRS 850	824.2	128	V	16.78	3.31	-2.92	17.16	38.45
			H	20.00	3.31	-2.92	20.38	38.45
	836.6	190	V	16.18	3.29	-2.96	16.50	38.45
			H	22.21	3.29	-2.96	<b>22.53</b>	38.45
EDGE 850	848.8	251	V	14.84	3.27	-3.00	15.10	38.45
			H	22.23	3.27	-3.00	22.50	38.45
	824.2	128	V	18.35	3.31	-2.92	18.73	38.45
			H	23.58	3.31	-2.92	<b>23.96</b>	38.45
	836.6	190	V	16.77	3.29	-2.96	17.09	38.45
			H	22.50	3.29	-2.96	22.83	38.45
	848.8	251	V	16.74	3.27	-3.00	17.01	38.45
			H	22.04	3.27	-3.00	22.31	38.45

Remark: The RBW,VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

EUT			Measurement					
Operation Band	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
GPRS 1900	1850.2	512	V	12.88	9.94	-4.46	18.36	33.00
			H	18.04	9.94	-4.46	<b>23.52</b>	33.00
	1880.0	661	V	11.21	10.03	-4.51	16.73	33.00
			H	16.97	10.03	-4.51	22.50	33.00
	1909.8	810	V	16.15	10.13	-4.55	21.73	33.00
			H	16.28	10.13	-4.55	21.85	33.00
	1850.2	512	V	16.93	9.94	-4.46	22.41	33.00
			H	18.02	9.94	-4.46	<b>23.49</b>	33.00
EDGE 1900	1880.0	661	V	16.98	10.03	-4.51	22.50	33.00
			H	17.07	10.03	-4.51	22.60	33.00
	1909.8	810	V	12.48	10.13	-4.55	18.06	33.00
			H	16.44	10.13	-4.55	22.02	33.00

Remark: The RBW,VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

EUT			Measurement					
Operation Band	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
WCDMA Band II	1852.4	9262	V	10.07	9.95	-4.46	15.55	33.00
			H	15.62	9.95	-4.46	<b>21.11</b>	33.00
	1880.0	9400	V	7.75	10.03	-4.51	13.28	33.00
			H	13.93	10.03	-4.51	19.45	33.00
HSDPA Band II	1907.6	9538	V	7.89	10.12	-4.55	13.46	33.00
			H	15.14	10.12	-4.55	20.71	33.00
	1852.4	9262	V	9.16	9.95	-4.46	14.65	33.00
			H	14.90	9.94	-4.46	<b>20.38</b>	33.00
HSUPA Band II	1880.0	9400	V	7.44	10.03	-4.51	12.96	33.00
			H	13.94	10.03	-4.51	19.46	33.00
	1907.6	9538	V	9.04	10.12	-4.55	14.62	33.00
			H	14.76	10.12	-4.55	20.33	33.00
	1852.4	9262	V	9.77	9.94	-4.46	15.25	33.00
			H	14.83	9.94	-4.46	20.31	33.00
	1880.0	9400	V	8.04	10.04	-4.51	13.57	33.00
			H	13.58	10.03	-4.51	19.11	33.00
	1907.6	9538	V	7.79	10.12	-4.55	13.36	33.00
			H	14.75	10.12	-4.55	<b>20.32</b>	33.00

Remark: The RBW,VBW of SPA for frequency RBW=5 MHz, VBW=8 MHz

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

EUT			Measurement					
Operation Band	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
WCDMA Band IV	1712.4	1312	V	12.78	9.49	-4.31	17.96	30.00
			H	15.77	9.48	-4.31	20.94	30.00
	1732.6	1413	V	13.00	9.55	-4.31	18.25	30.00
			H	15.95	9.55	-4.31	21.19	30.00
HSDPA Band IV	1712.4	1312	V	12.46	9.62	-4.33	17.74	30.00
			H	16.30	9.62	-4.33	<b>21.59</b>	30.00
	1732.6	1413	V	13.26	9.48	-4.31	18.42	30.00
			H	16.26	9.48	-4.31	21.43	30.00
HSUPA Band IV	1712.4	1312	V	12.73	9.55	-4.31	17.98	30.00
			H	16.66	9.55	-4.31	21.89	30.00
	1732.6	1413	V	12.79	9.62	-4.34	18.07	30.00
			H	17.17	9.62	-4.33	<b>22.45</b>	30.00
	1752.6	1513	V	14.37	9.48	-4.31	19.54	30.00
			H	16.92	9.48	-4.31	22.09	30.00
	1712.4	1312	V	15.60	9.55	-4.31	20.84	30.00
			H	16.18	9.56	-4.31	21.43	30.00
	1732.6	1413	V	15.66	9.62	-4.34	20.94	30.00
			H	16.92	9.62	-4.34	<b>22.21</b>	30.00

Remark: The RBW,VBW of SPA for frequency RBW=5 MHz, VBW=8 MHz

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

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

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

EUT			Measurement					
Operation Band	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
WCDMA Band V	826.4	4132	V	10.87	3.30	-2.93	11.24	38.45
			H	18.51	3.30	-2.93	<b>18.89</b>	38.45
	836.6	4183	V	10.85	3.29	-2.96	11.17	38.45
			H	18.51	3.29	-2.96	18.84	38.45
HSDPA Band V	846.6	4233	V	8.98	3.27	-2.99	9.26	38.45
			H	18.48	3.27	-2.99	18.75	38.45
	826.4	4132	V	11.49	3.30	-2.93	11.86	38.45
			H	19.59	3.30	-2.93	<b>19.96</b>	38.45
HSUPA Band V	836.6	4183	V	11.13	3.29	-2.96	11.45	38.45
			H	19.46	3.29	-2.96	19.79	38.45
	846.6	4233	V	9.65	3.27	-2.99	9.93	38.45
			H	19.41	3.27	-2.99	19.69	38.45
	826.4	4132	V	11.42	3.30	-2.93	11.79	38.45
			H	19.31	3.30	-2.93	19.68	38.45
	836.6	4183	V	10.67	3.29	-2.96	10.99	38.45
			H	19.67	3.29	-2.97	19.99	38.45
	846.6	4233	V	9.82	3.27	-2.99	10.09	38.45
			H	19.84	3.27	-3.00	<b>20.11</b>	38.45

Remark: The RBW,VBW of SPA for frequency RBW=5 MHz, VBW=8 MHz

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

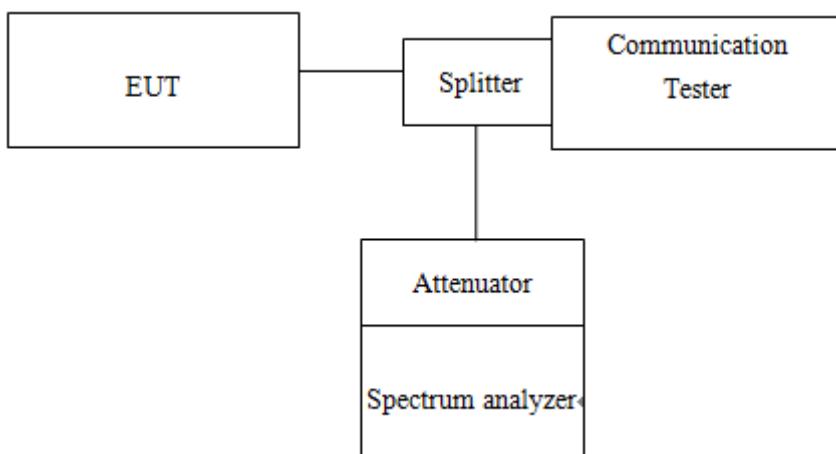
Member of SGS Group

## 8. OCCUPIED BANDWIDTH MEASUREMENT

### 8.1. 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.

### 8.2. Test Set-up



### 8.3. 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%.

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

#### 8.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HU-BER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	10/27/2016	10/26/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 8.5. Measurement Result

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		GSM 850	GPRS 850	EDGE 850	GSM 850	GPRS 850	EDGE 850
824.2	128	-	0.24193	0.26529	-	0.31890	0.34550
836.6	190	-	0.24149	0.26205	-	0.31630	0.34890
848.8	251	-	0.24340	0.26805	-	0.32020	0.35900

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		GSM 1900	GPRS 1900	EDGE 1900	GSM 1900	GPRS 1900	EDGE 1900
1850.2	512	-	0.24398	0.24691	-	0.32150	0.31700
1880.0	661	-	0.24430	0.25202	-	0.32090	0.31730
1909.8	810	-	0.24506	0.25192	-	0.32250	0.32180

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA II	HSDPA II	HSUPA II	WCDMA II	HSDPA II	HSUPA II
1850.20	9262	4.0619	4.0324	4.0370	4.6530	4.5760	4.5740
1880.00	9400	4.0605	4.0370	4.0423	4.6230	4.5600	4.5690
1909.80	9538	4.0640	4.0414	4.0359	4.6510	4.5720	4.5680

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA IV	HSDPA IV	HSUPA IV	WCDMA IV	HSDPA IV	HSUPA IV
1712.40	1312	4.0592	4.0399	4.0358	4.6430	4.5760	4.5610
1732.60	1413	4.0597	4.0357	4.0372	4.6200	4.5780	4.5660
1752.60	1513	4.0628	4.0458	4.0411	4.6240	4.5970	4.5760

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA V	HSDPA V	HSUPA V	WCDMA V	HSDPA V	HSUPA V
826.40	4132	4.0607	4.0407	4.0432	4.6400	4.5640	4.5470
836.60	4183	4.0650	4.0375	4.0382	4.6330	4.5800	4.5610
846.60	4233	4.0609	4.0400	4.0406	4.6170	4.5580	4.5630

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

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

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

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

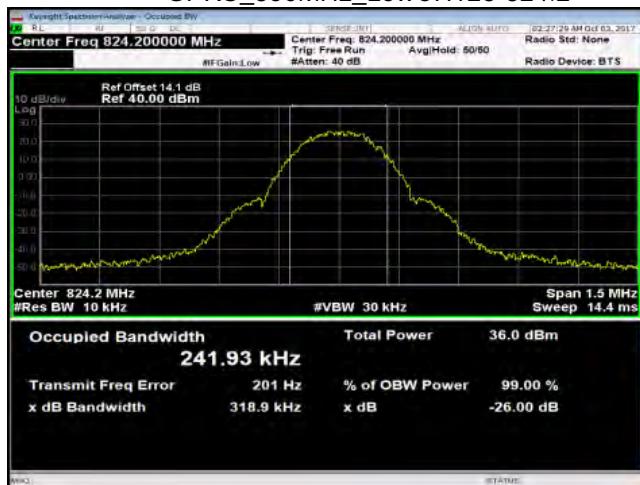
台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

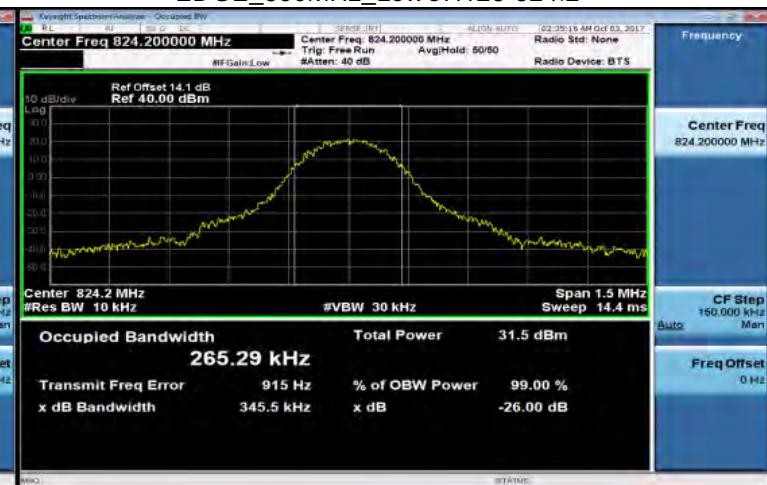
[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

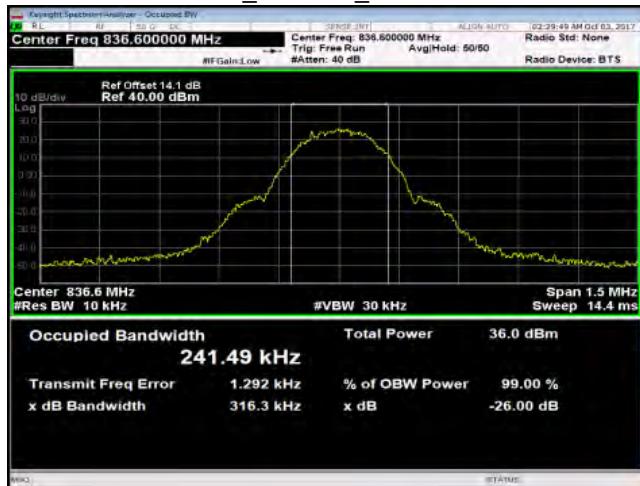
GPRS\_850MHz\_LowCH128-824.2



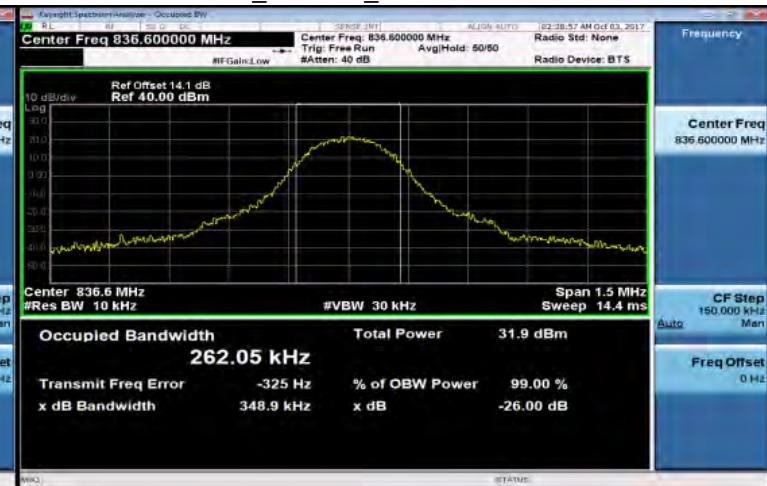
EDGE\_850MHz\_LowCH128-824.2



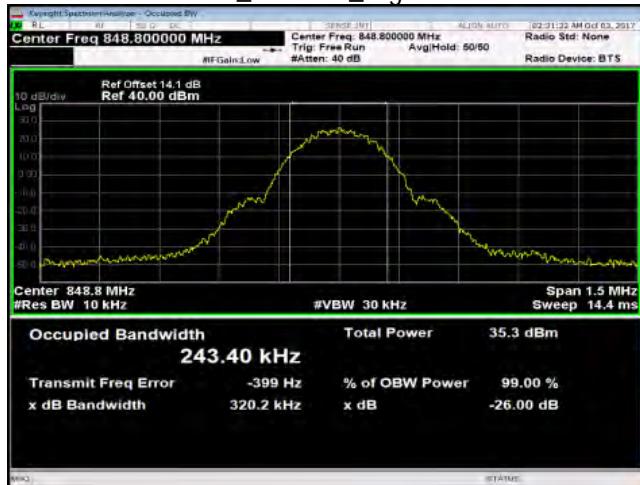
GPRS\_850MHz\_MidCH190-836.6



EDGE\_850MHz\_MidCH190-836.6



GPRS\_850MHz\_HighCH251-848.8



EDGE\_850MHz\_HighCH251-848.8



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

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

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

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

台灣檢驗科技股份有限公司

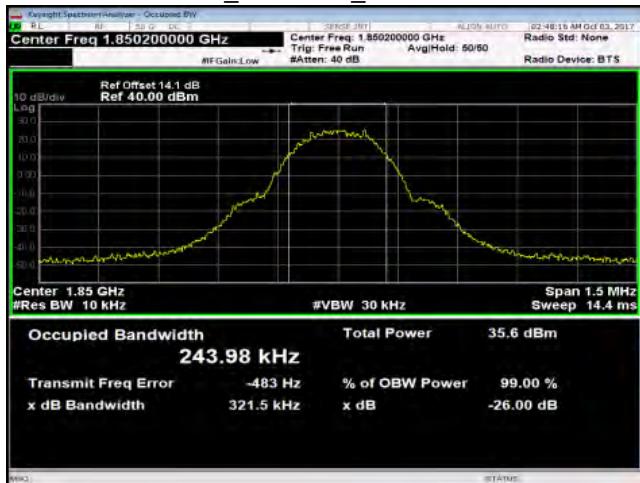
t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

GPRS\_1900MHz\_LowCH512-1850.2



EDGE\_1900MHz\_LowCH512-1850.2



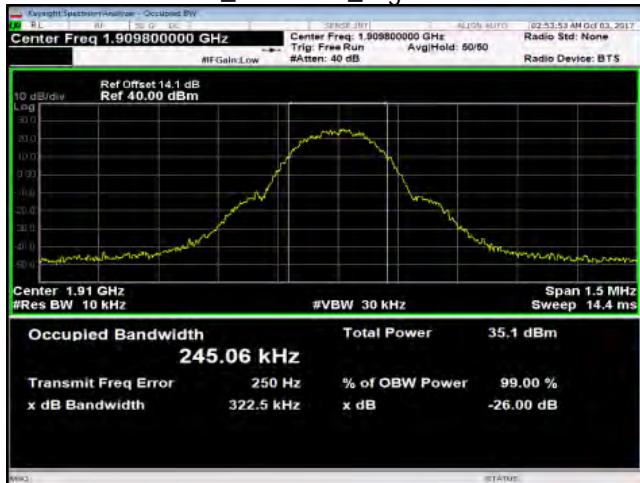
GPRS\_1900MHz\_MidCH661-1880



EDGE\_1900MHz\_MidCH661-1880



GPRS\_1900MHz\_HighCH810-1909.8



EDGE\_1900MHz\_HighCH810-1909.8

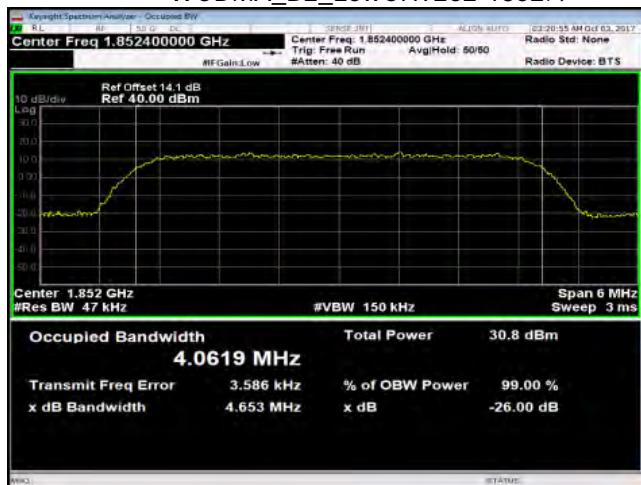


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

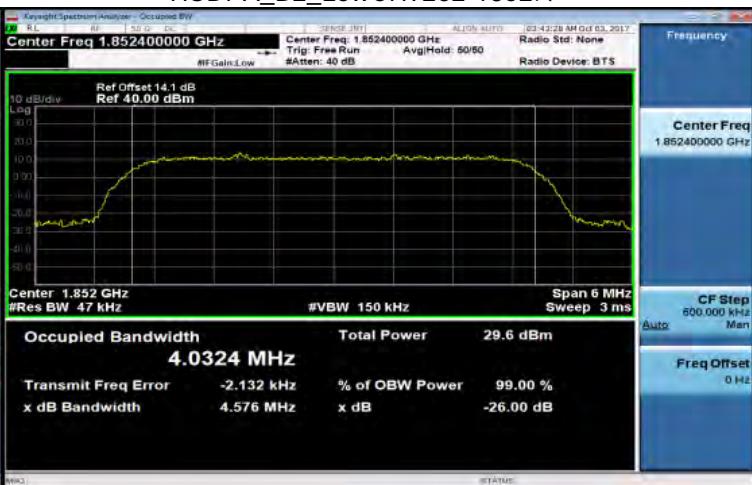
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

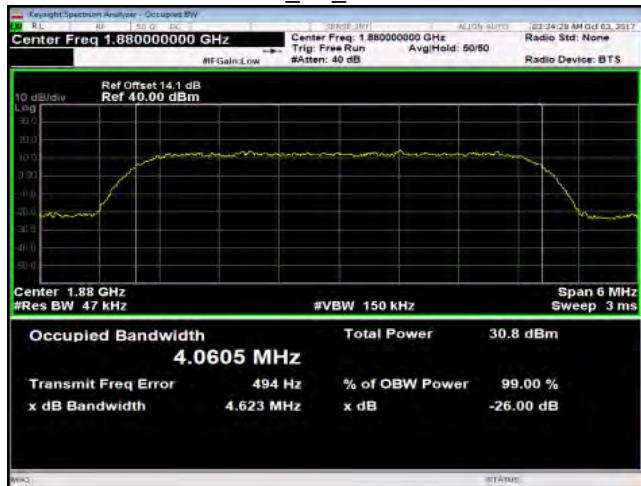
WCDMA\_B2\_LowCH9262-1852.4



HSDPA\_B2\_LowCH9262-1852.4



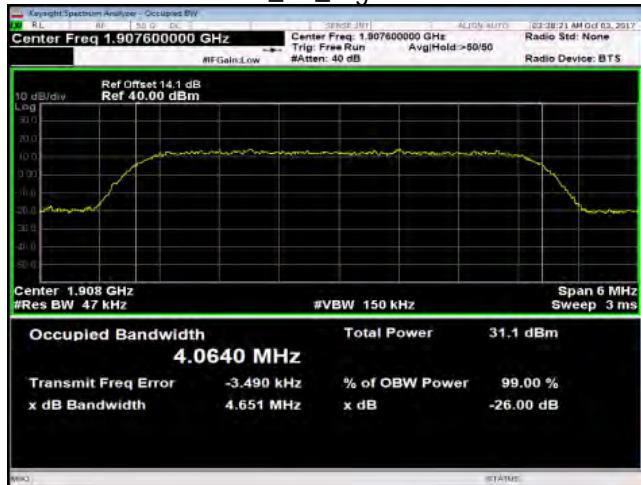
WCDMA\_B2\_MidCH9400-1880



HSDPA\_B2\_MidCH9400-1880



WCDMA\_B2\_HighCH9538-1907.6



HSDPA\_B2\_HighCH9538-1907.6



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

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

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

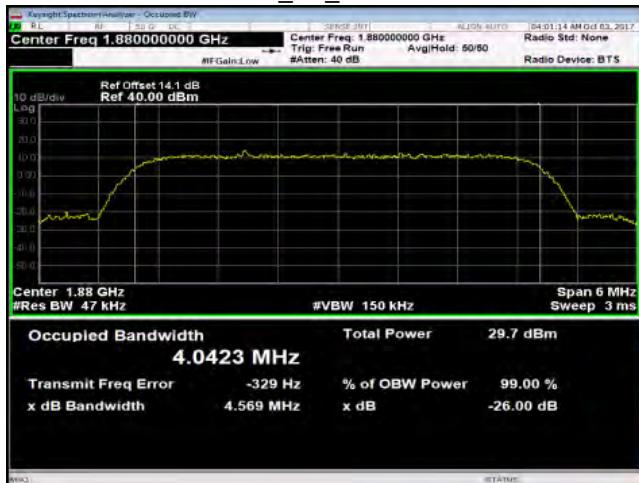
## HSUPA\_B2\_LowCH9262-1852.4



## WCDMA\_B4\_LowCH1312-1712.4



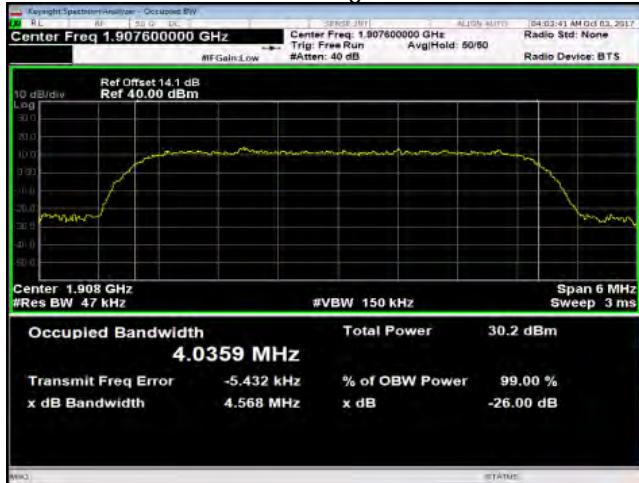
## HSUPA\_B2\_MidCH9400-1880



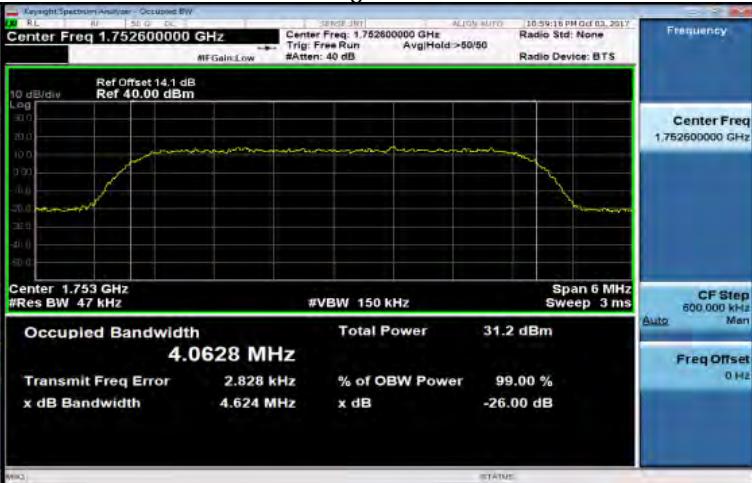
## WCDMA\_B4\_MidCH1413-1732.6



## HSUPA\_B2\_HighCH9538-1907.6



## WCDMA\_B4\_HighCH1513-1752.6



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

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

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

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

台灣檢驗科技股份有限公司

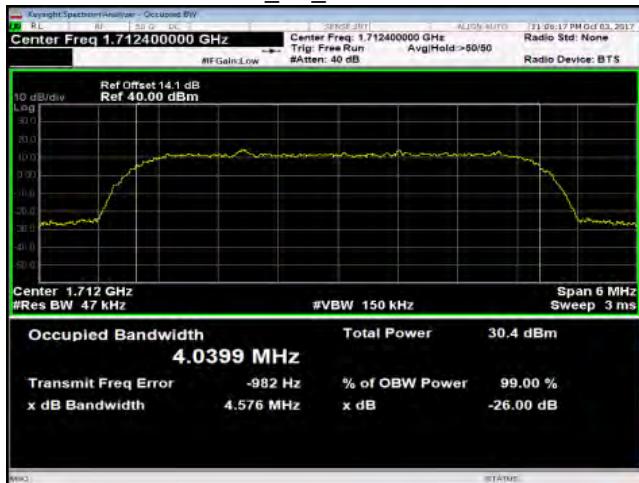
t (886-2) 2299-3279

f (886-2) 2298-0488

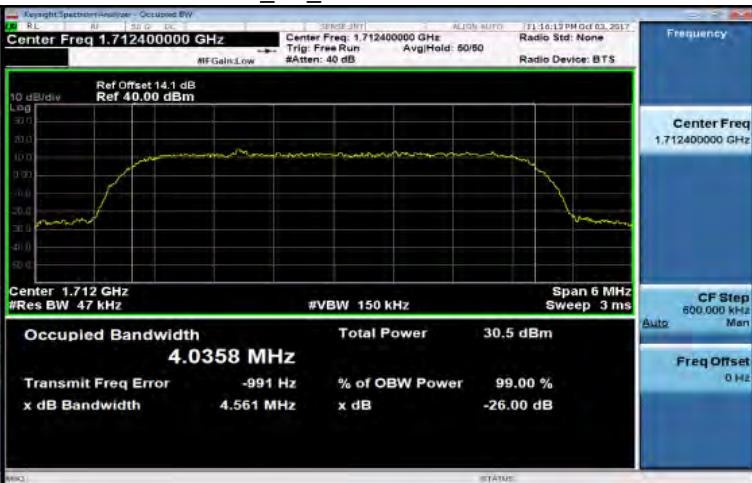
[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

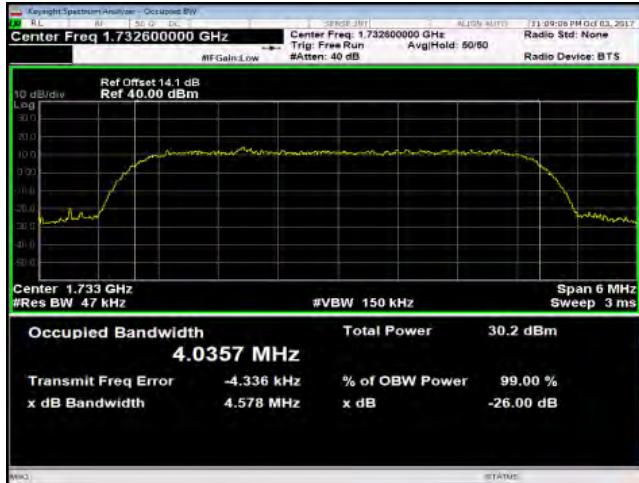
HSDPA\_B4\_LowCH1312-1712.4



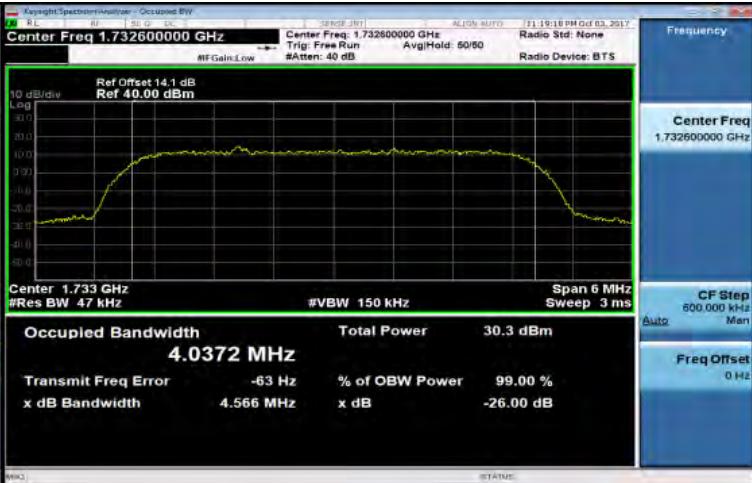
HSUPA\_B4\_LowCH1312-1712.4



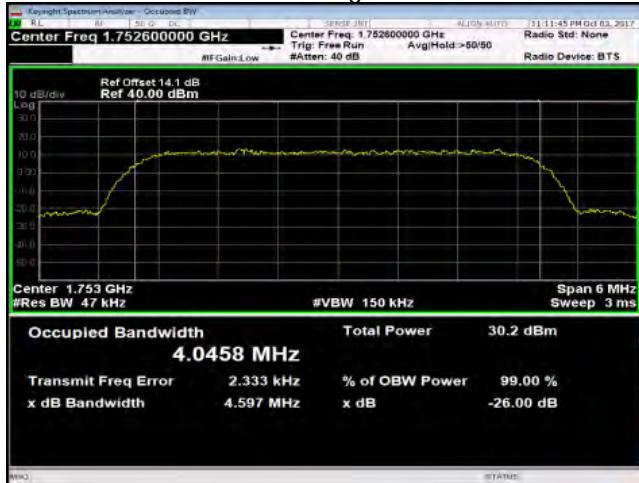
HSDPA\_B4\_MidCH1413-1732.6



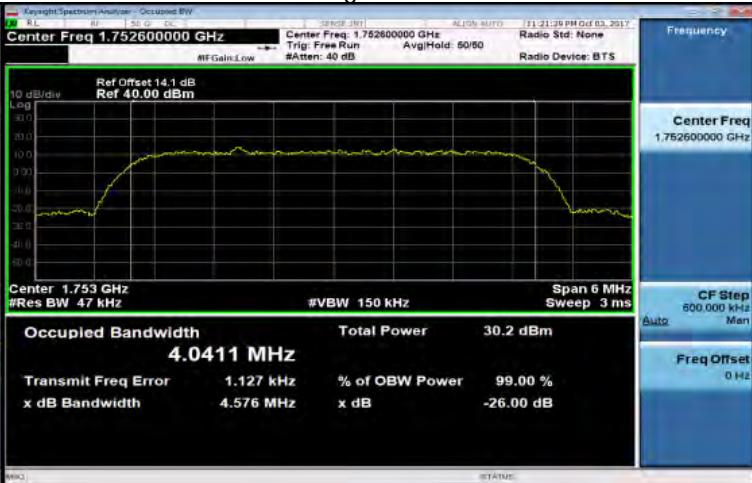
HSUPA\_B4\_MidCH1413-1732.6



HSDPA\_B4\_HighCH1513-1752.6



HSUPA\_B4\_HighCH1513-1752.6



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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## WCDMA\_B5\_LowCH4132-826.4



## HSDPA\_B5\_LowCH4132-826.4



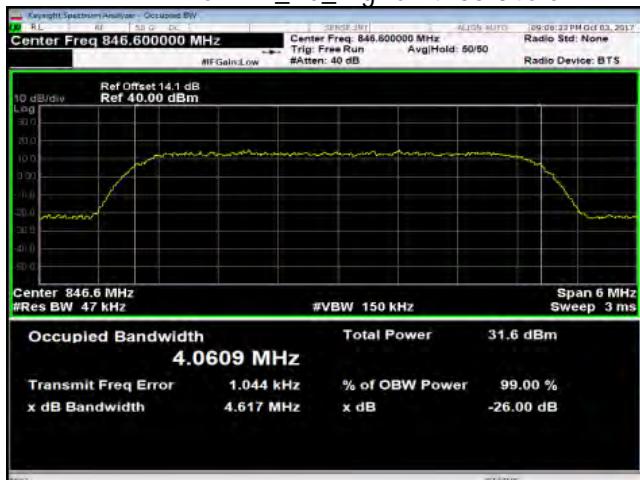
## WCDMA\_B5\_MidCH4183-836.6



## HSDPA\_B5\_MidCH4183-836.6



## WCDMA\_B5\_HighCH4233-846.6



## HSDPA\_B5\_HighCH4233-846.6

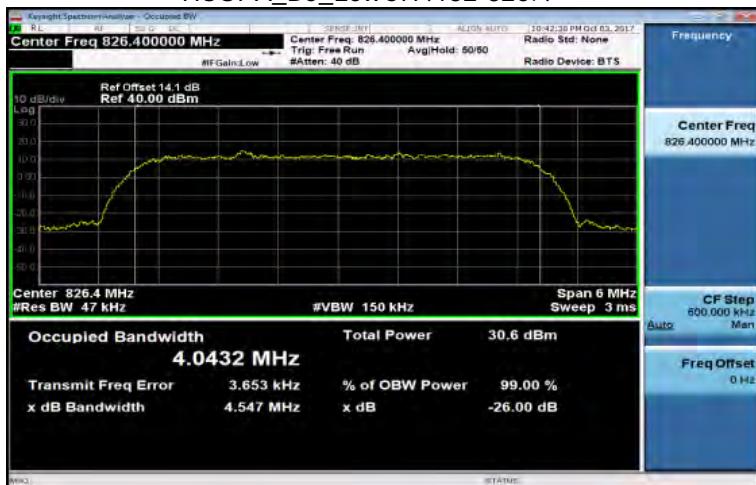


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

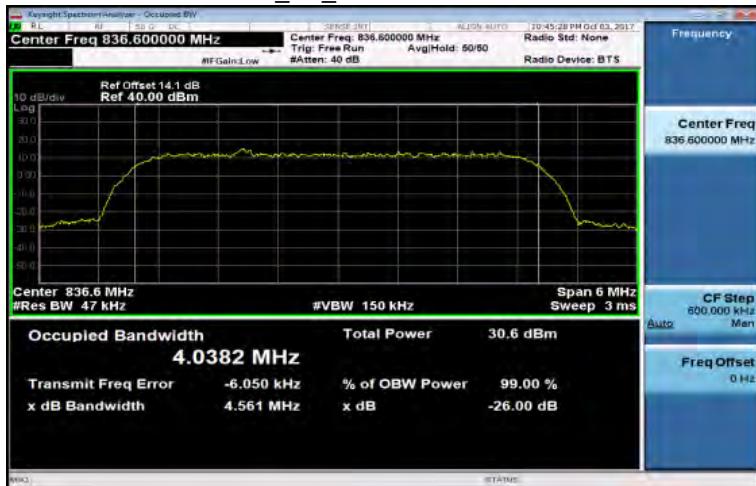
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

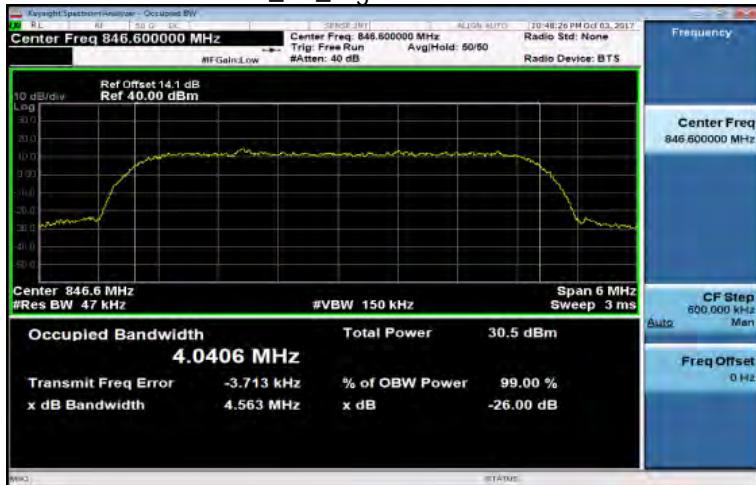
### HSUPA\_B5\_LowCH4132-826.4



### HSUPA\_B5\_MidCH4183-836.6



### HSUPA\_B5\_HighCH4233-846.6



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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 9. OUT OF BAND EMISSION AT ANTENNA TERMINALS

### 9.1. Standard Applicable

FCC §22.917(a), §24.238(a), §27.53(g)(h), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than  $43 + 10 \log$  (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

§27.53 (m) (4) shall not be less than  $55 + 10 \log$  (mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

#### FCC §27.53(g)

Compliance 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)

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.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

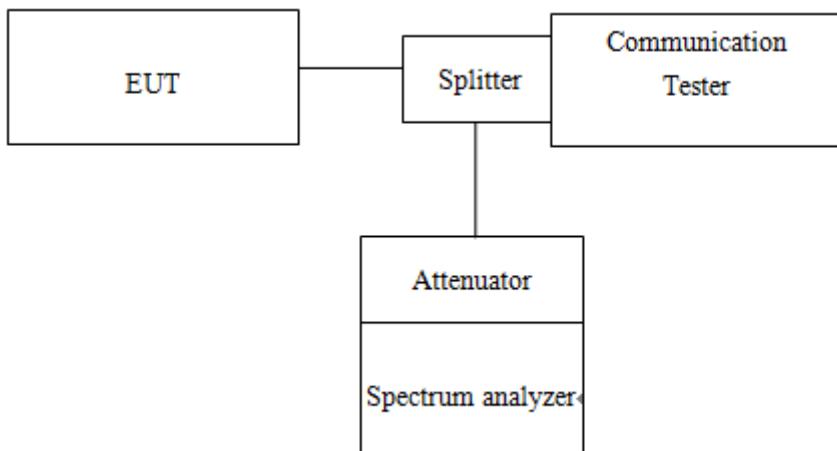
Member of SGS Group

## FCC §27.53(m) (4) (6)

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 § 27.53(m)(6). In addition, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz.

Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation 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.

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

### 9.3. Measurement Procedure

#### 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.

#### Band Edge

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  $\geq$  1% EBW.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

#### 9.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	10/27/2016	10/26/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

#### 9.5. Measurement Result:

Refer to next pages.

**NOTE: The occurrence of the spike on the conducted emission is the signal of the fundamental emission.**

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

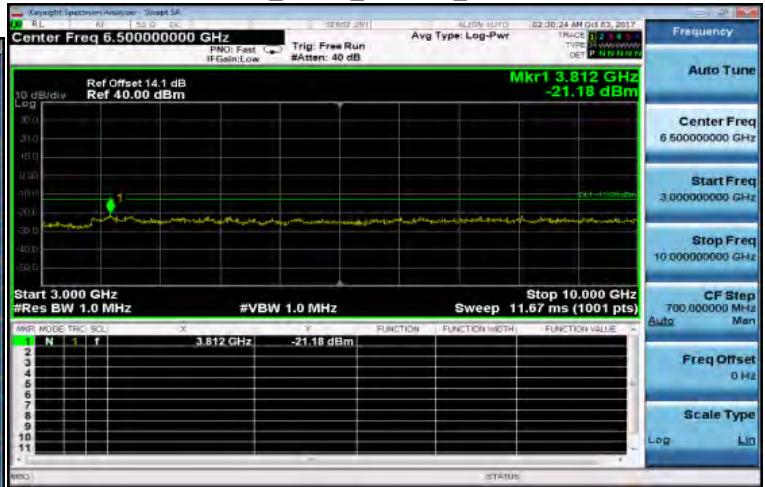
Member of SGS Group

### Emission

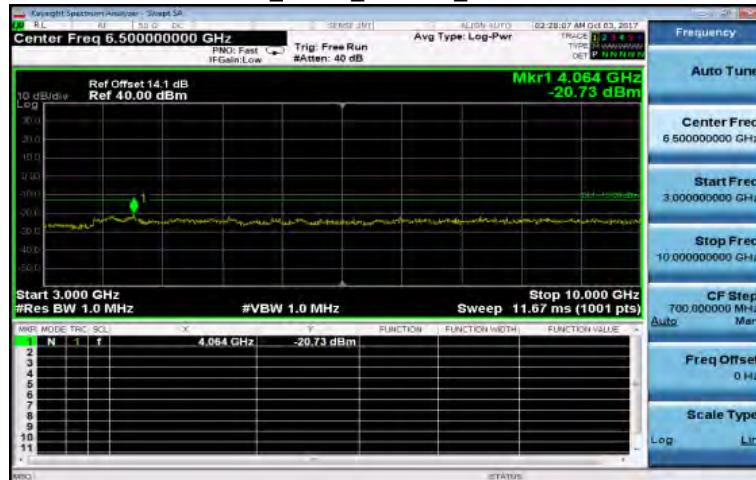
30MHz~3GHz\_GPRS\_850MHz\_LowCH128-824.2



3GHz~10GHz\_GPRS\_850MHz\_MidCH190-836.6



3GHz~10GHz\_GPRS\_850MHz\_LowCH128-824.2



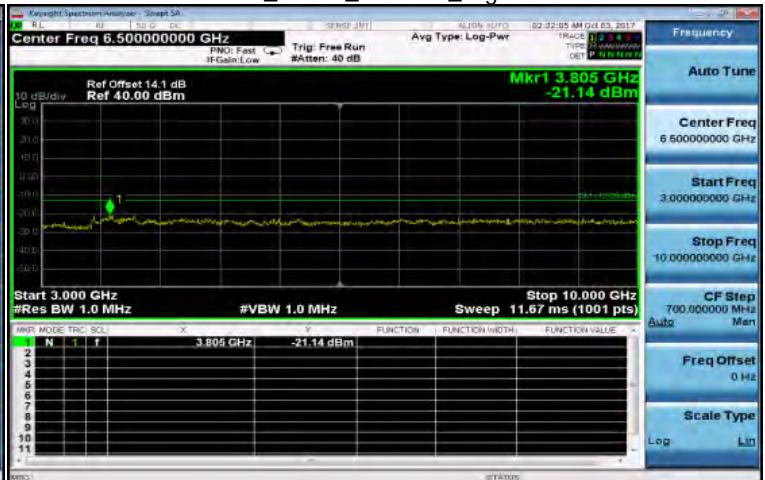
30MHz~3GHz\_GPRS\_850MHz\_HighCH251-848.8



30MHz~3GHz\_GPRS\_850MHz\_MidCH190-836.6



3GHz~10GHz\_GPRS\_850MHz\_HighCH251-848.8



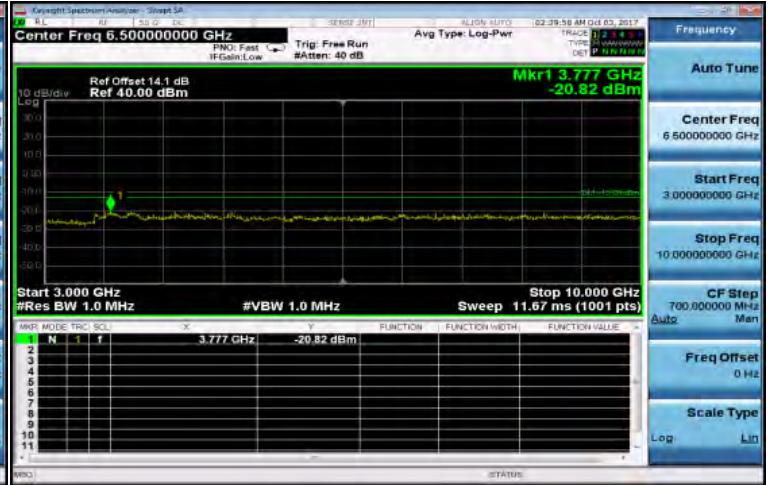
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

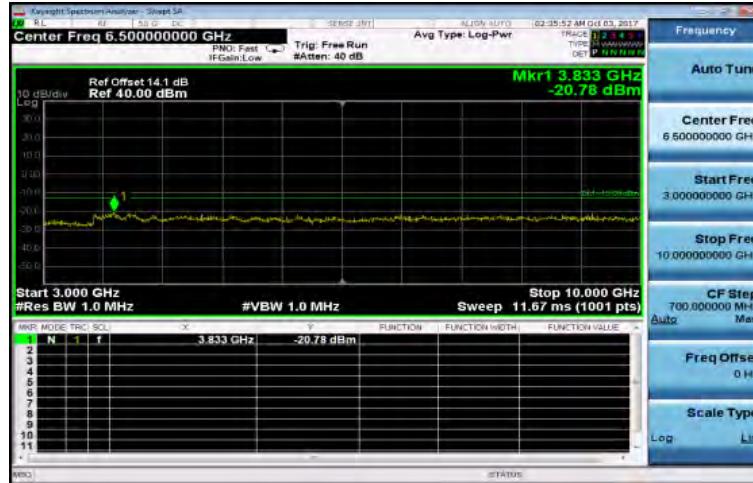
30MHz~3GHz\_EDGE\_850MHz\_LowCH128-824.2



3GHz~10GHz\_EDGE\_850MHz\_MidCH190-836.6



3GHz~10GHz\_EDGE\_850MHz\_LowCH128-824.2



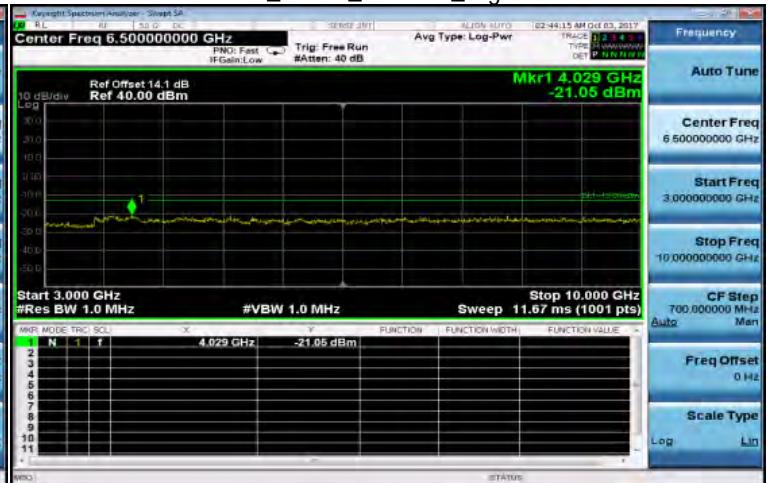
30MHz~3GHz\_EDGE\_850MHz\_HighCH251-848.8



30MHz~3GHz\_EDGE\_850MHz\_MidCH190-836.6



3GHz~10GHz\_EDGE\_850MHz\_HighCH251-848.8



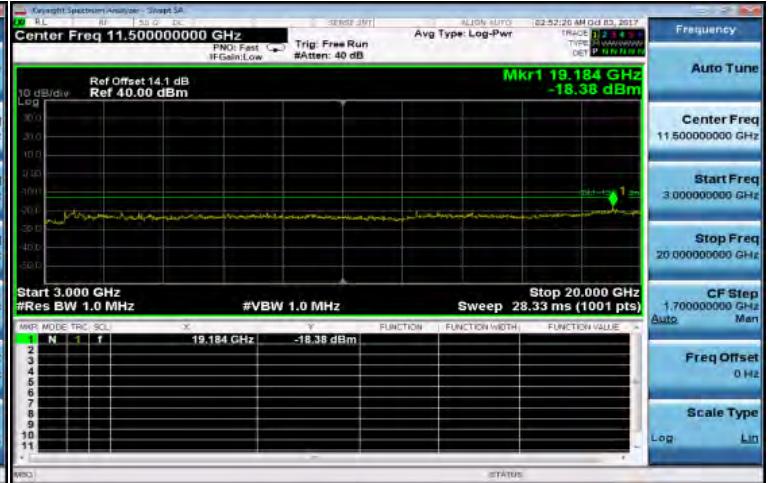
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

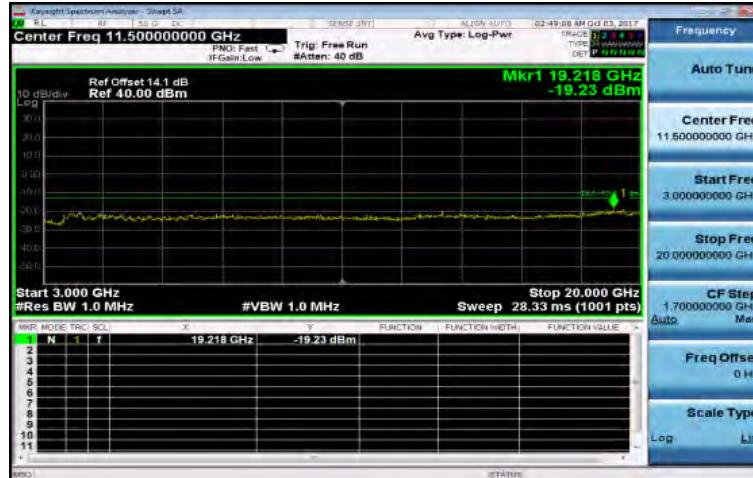
## 30MHz~3GHz\_GPRS\_1900MHz\_LowCH512-1850.2



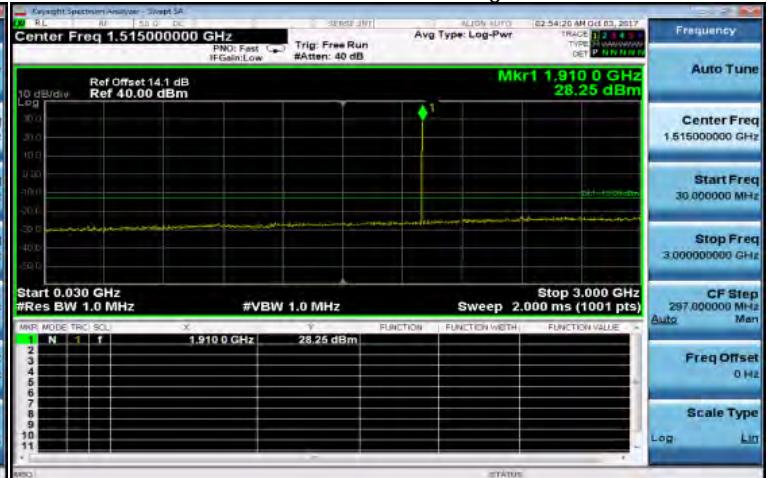
## 3GHz~10GHz\_GPRS\_1900MHz\_MidCH661-1880



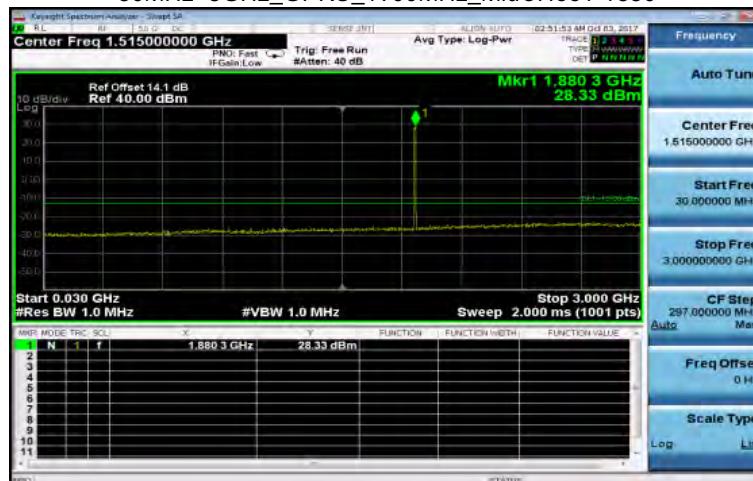
## 3GHz~10GHz\_GPRS\_1900MHz\_LowCH512-1850.2



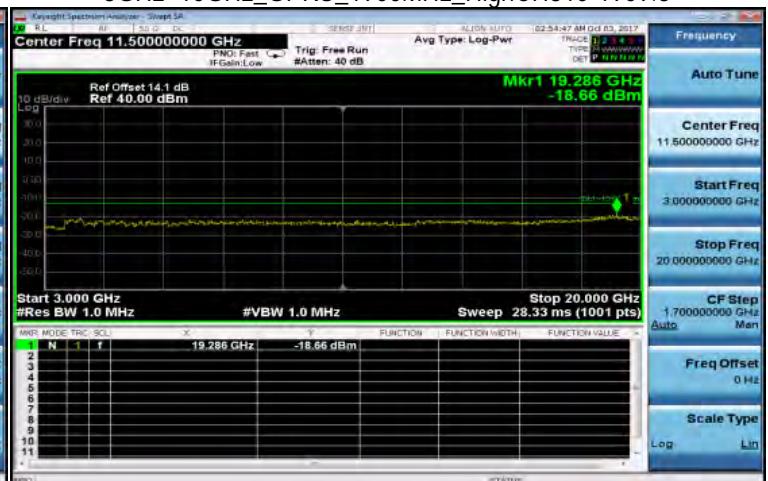
## 30MHz~3GHz\_GPRS\_1900MHz\_HighCH810-1909.8



## 30MHz~3GHz\_GPRS\_1900MHz\_MidCH661-1880



## 3GHz~10GHz\_GPRS\_1900MHz\_HighCH810-1909.8



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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

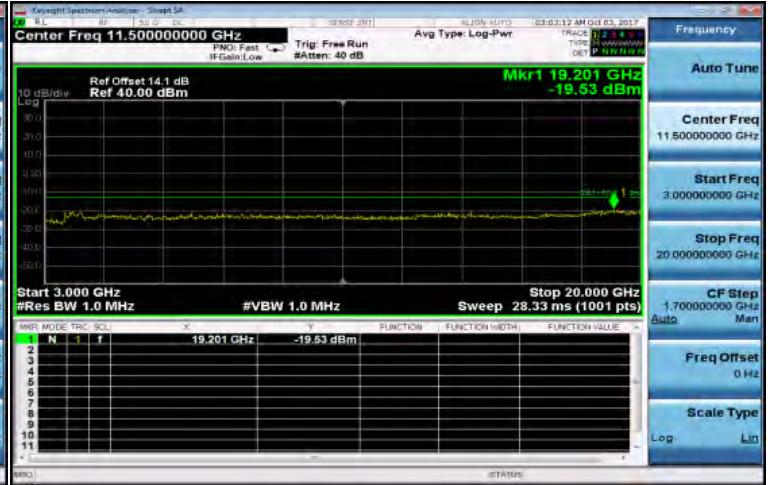
[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

## 30MHz~3GHz\_EDGE\_1900MHz\_LowCH512-1850.2



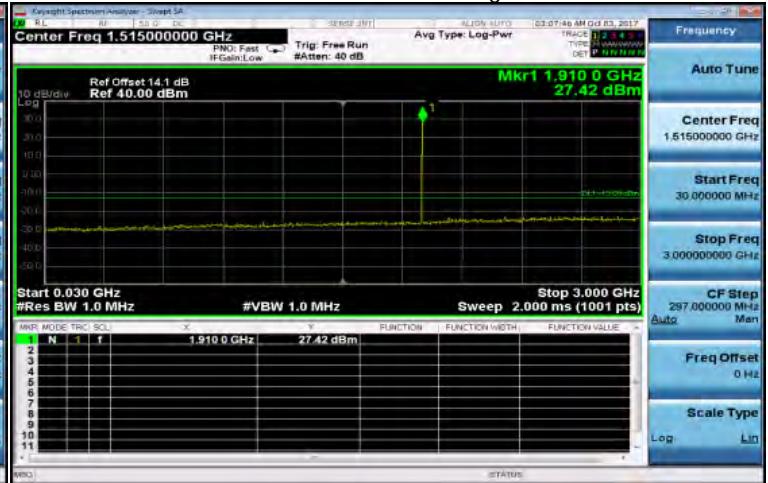
## 3GHz~10GHz\_EDGE\_1900MHz\_MidCH661-1880



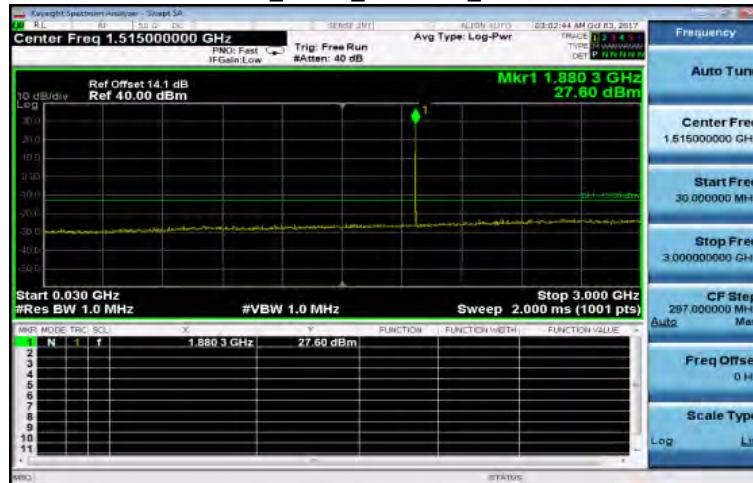
## 3GHz~10GHz\_EDGE\_1900MHz\_LowCH512-1850.2



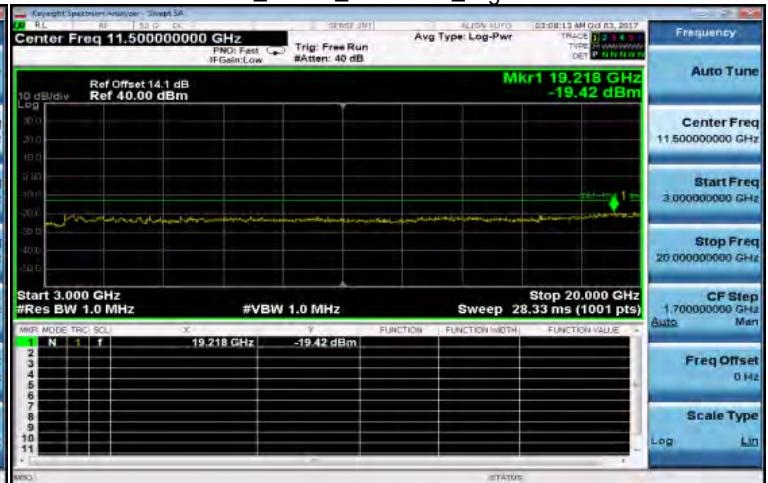
## 30MHz~3GHz\_EDGE\_1900MHz\_HighCH810-1909.8



## 30MHz~3GHz\_EDGE\_1900MHz\_MidCH661-1880



## 3GHz~10GHz\_EDGE\_1900MHz\_HighCH810-1909.8



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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

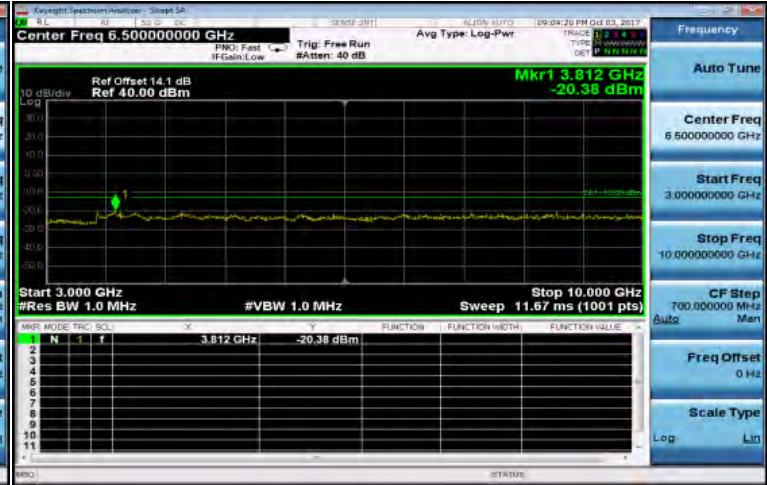
[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

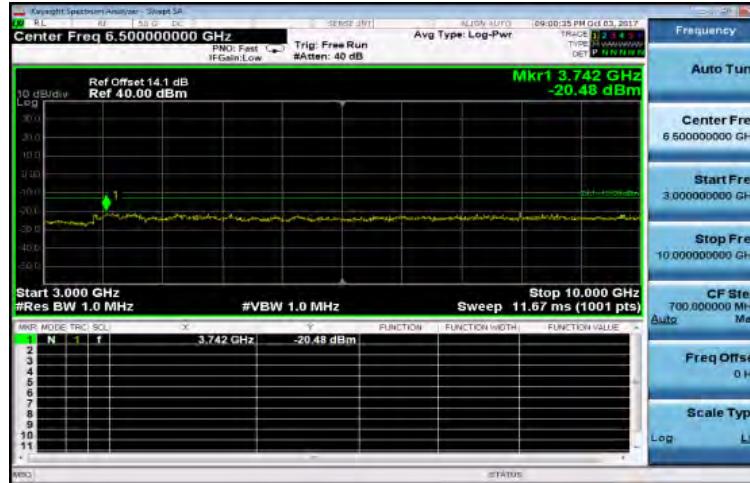
30MHz~3GHz\_WCDMA\_B5\_LowCH4132-826.4



3GHz~10GHz\_WCDMA\_B5\_MidCH4183-836.6



3GHz~10GHz\_WCDMA\_B5\_LowCH4132-826.4



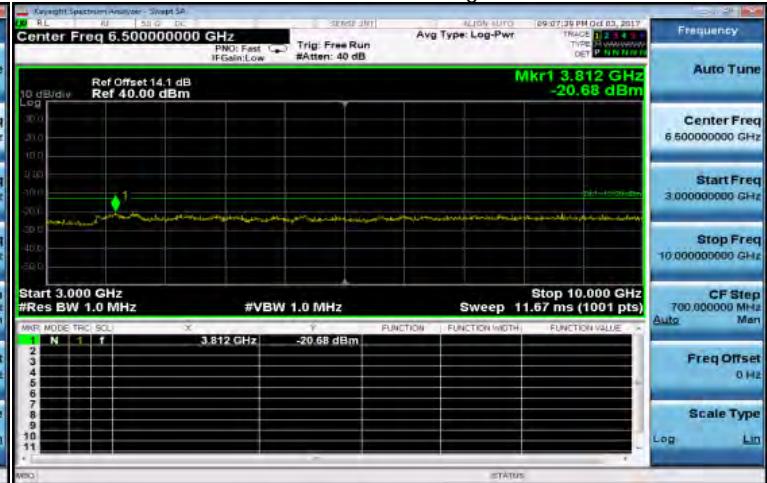
30MHz~3GHz\_WCDMA\_B5\_HighCH4233-846.6



30MHz~3GHz\_WCDMA\_B5\_MidCH4183-836.6



3GHz~10GHz\_WCDMA\_B5\_HighCH4233-846.6



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

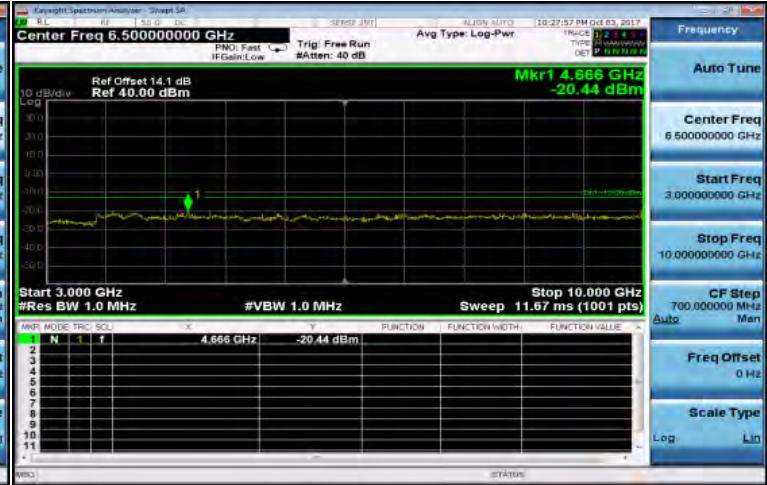
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

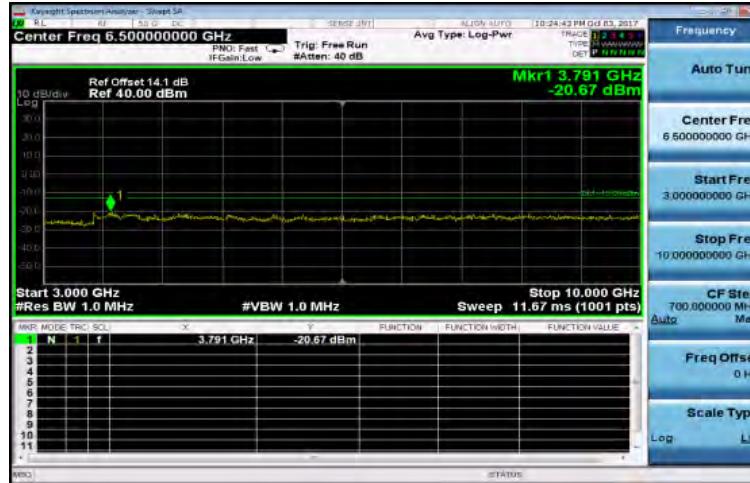
30MHz~3GHz\_HSDPA\_B5\_LowCH4132-826.4



3GHz~10GHz\_HSDPA\_B5\_MidCH4183-836.6



3GHz~10GHz\_HSDPA\_B5\_LowCH4132-826.4



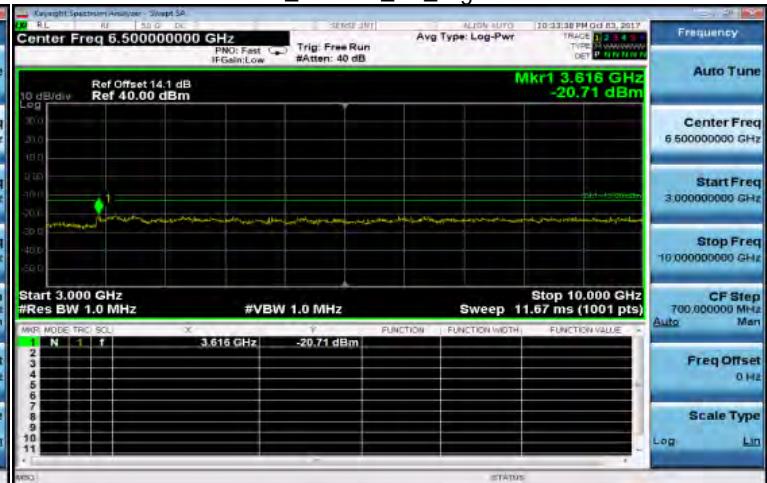
30MHz~3GHz\_HSDPA\_B5\_HighCH4233-846.6



30MHz~3GHz\_HSDPA\_B5\_MidCH4183-836.6



3GHz~10GHz\_HSDPA\_B5\_HighCH4233-846.6



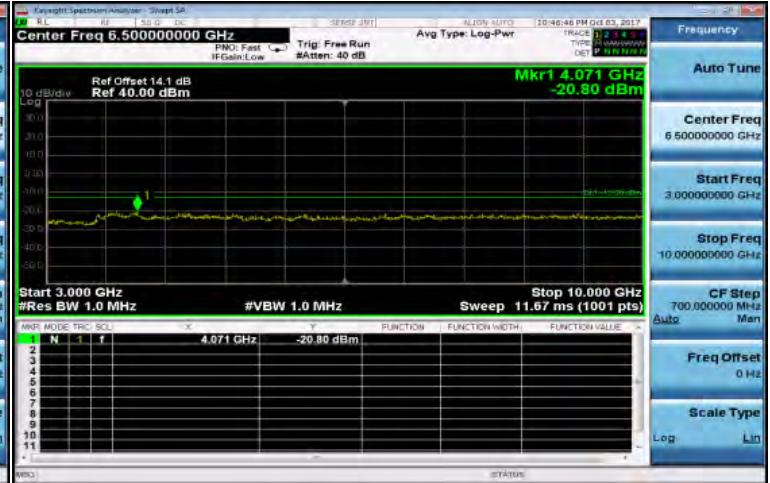
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

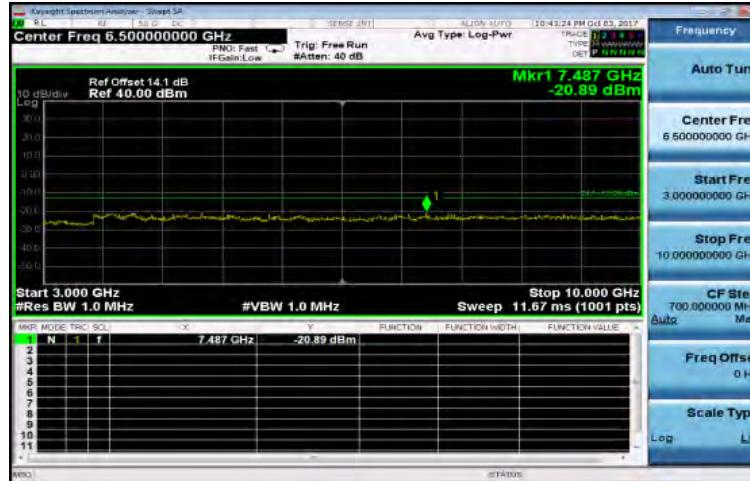
30MHz~3GHz\_HSUPA\_B5\_LowCH4132-826.4



3GHz~10GHz\_HSUPA\_B5\_MidCH4183-836.6



3GHz~10GHz\_HSUPA\_B5\_LowCH4132-826.4



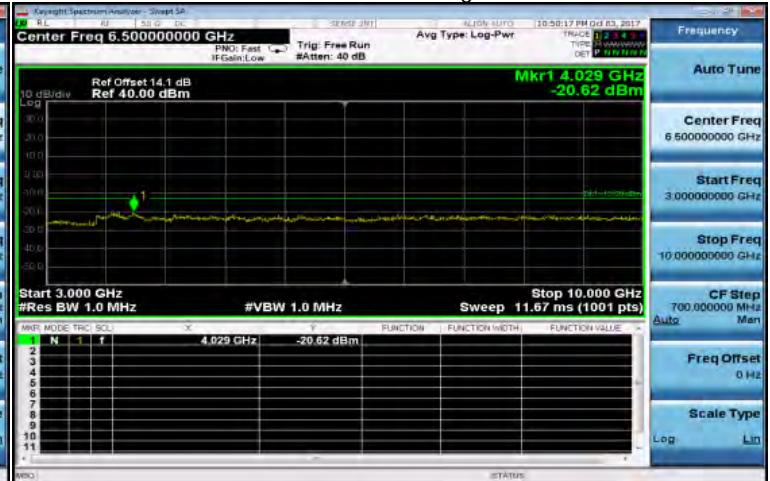
30MHz~3GHz\_HSUPA\_B5\_HighCH4233-846.6



30MHz~3GHz\_HSUPA\_B5\_MidCH4183-836.6



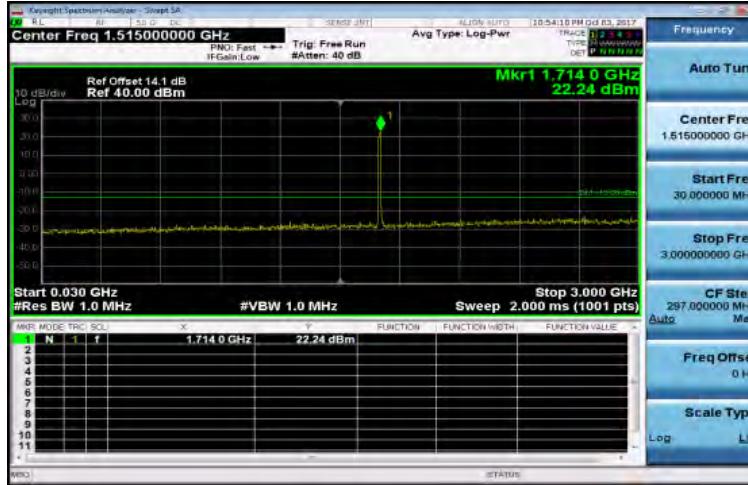
3GHz~10GHz\_HSUPA\_B5\_HighCH4233-846.6



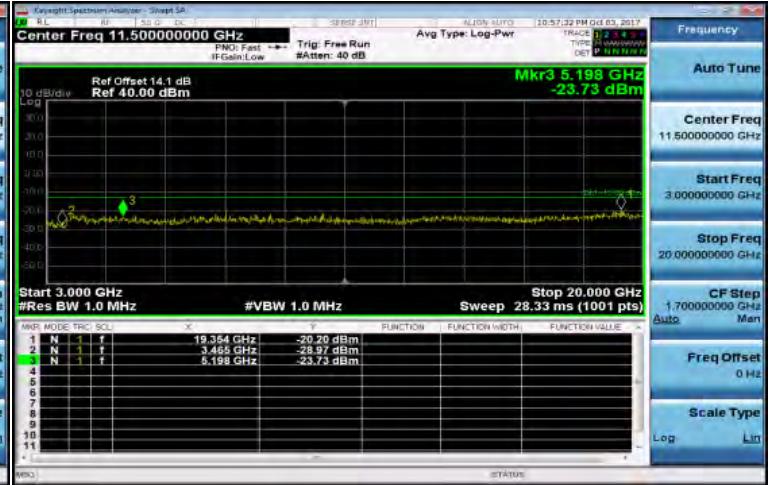
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

30MHz~3GHz\_WCDMA\_B4\_LowCH1312-1712.4



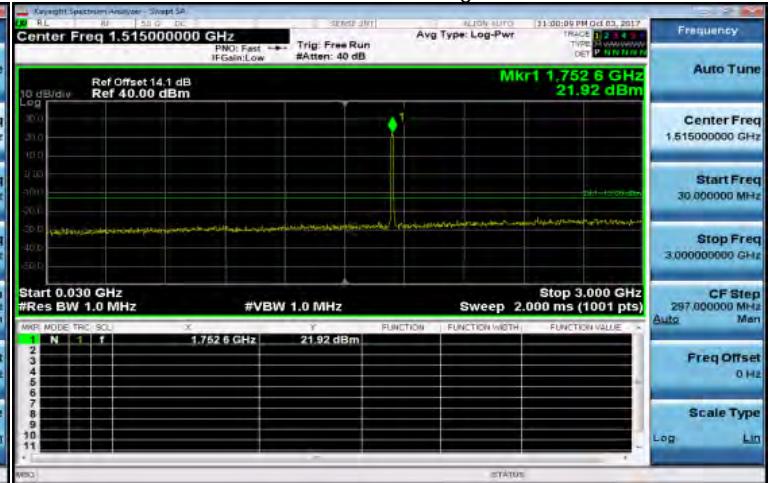
3GHz~10GHz\_WCDMA\_B4\_MidCH1413-1732.6



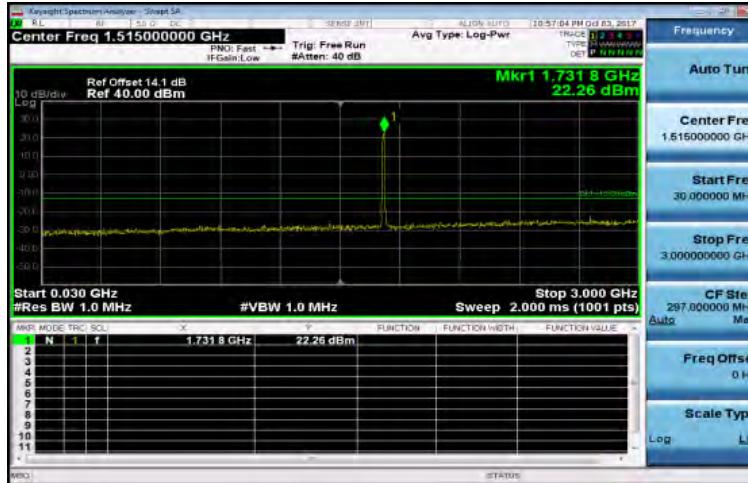
3GHz~10GHz\_WCDMA\_B4\_LowCH1312-1712.4



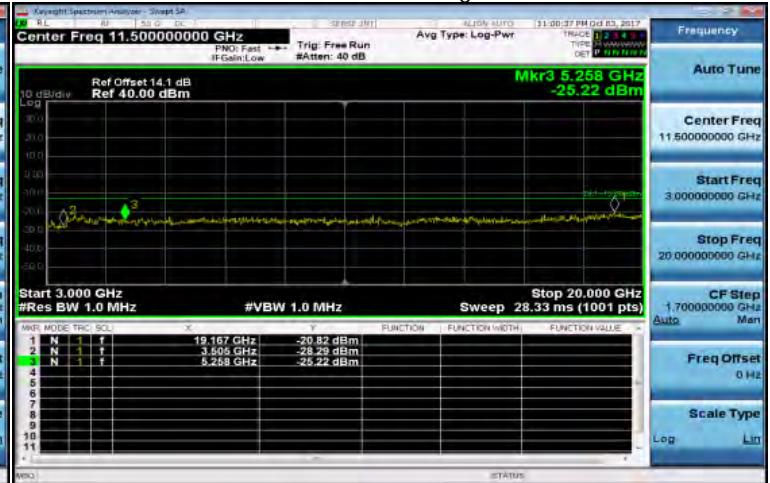
30MHz~3GHz\_WCDMA\_B4\_HighCH1513-1752.6



30MHz~3GHz\_WCDMA\_B4\_MidCH1413-1732.6



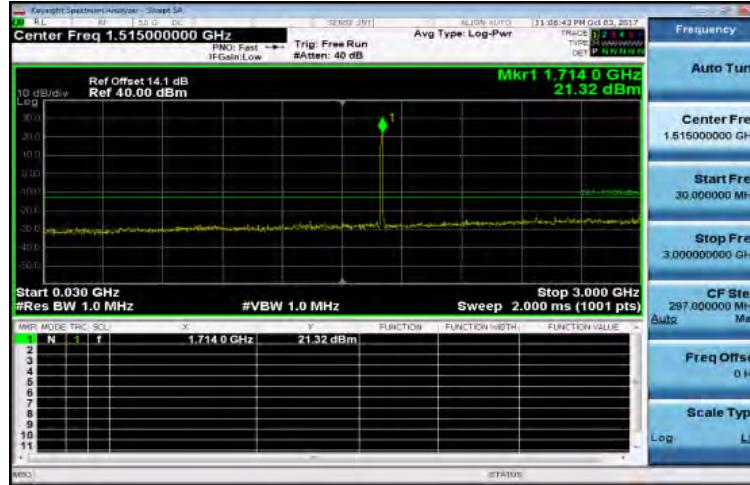
3GHz~10GHz\_WCDMA\_B4\_HighCH1513-1752.6



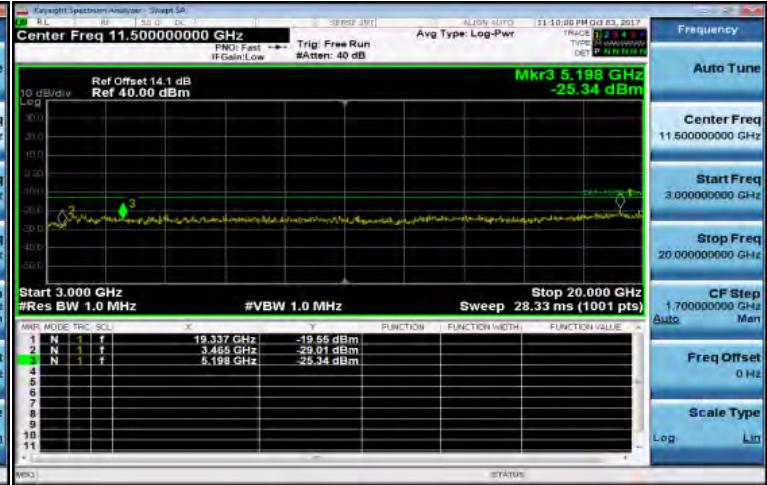
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

30MHz~3GHz\_HSDPA\_B4\_LowCH1312-1712.4



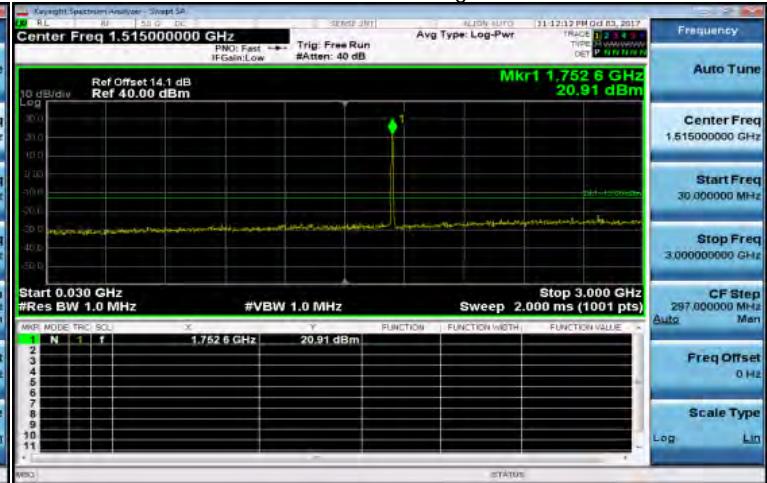
3GHz~10GHz\_HSDPA\_B4\_MidCH1413-1732.6



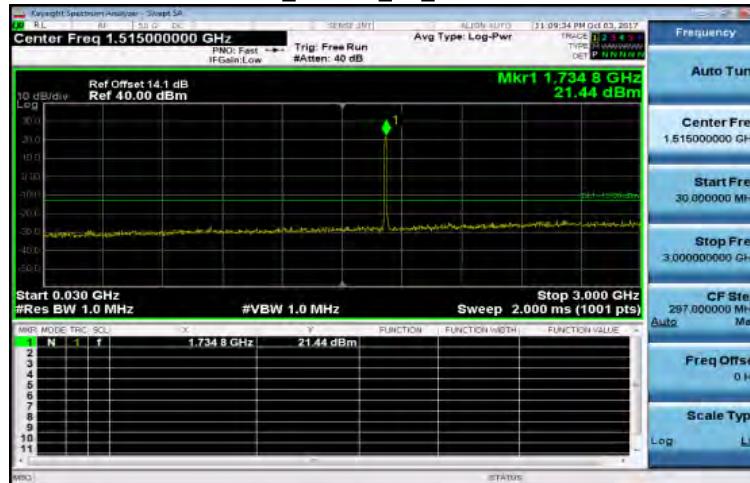
3GHz~10GHz\_HSDPA\_B4\_LowCH1312-1712.4



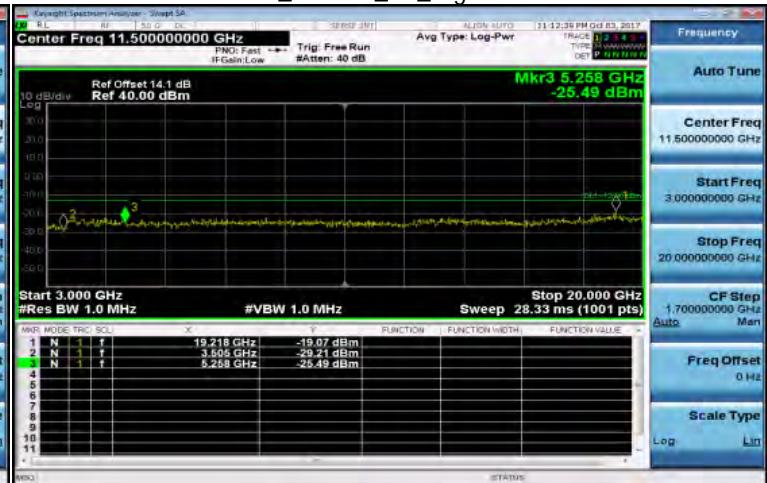
30MHz~3GHz\_HSDPA\_B4\_HighCH1513-1752.6



30MHz~3GHz\_HSDPA\_B4\_MidCH1413-1732.6



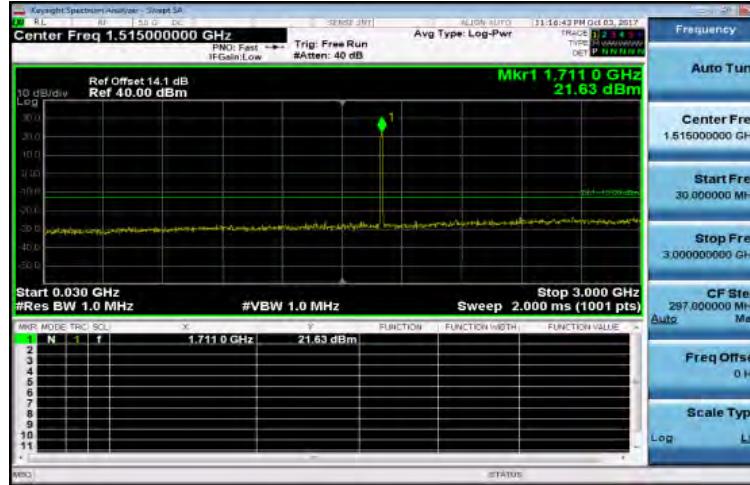
3GHz~10GHz\_HSDPA\_B4\_HighCH1513-1752.6



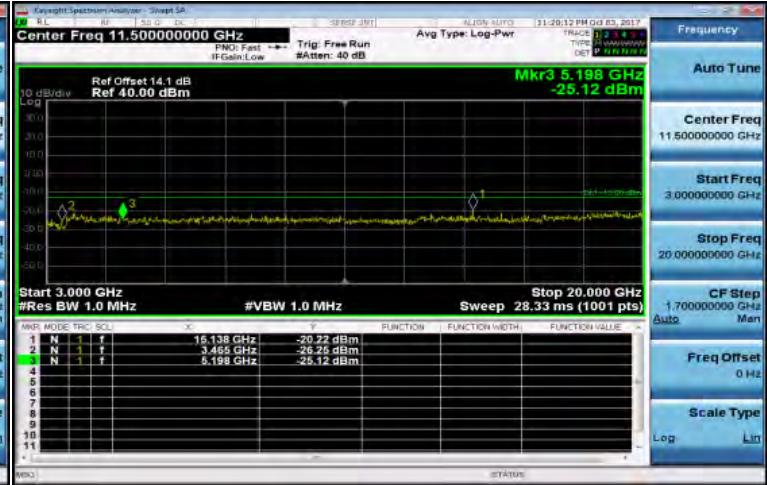
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

30MHz~3GHz\_HSUPA\_B4\_LowCH1312-1712.4



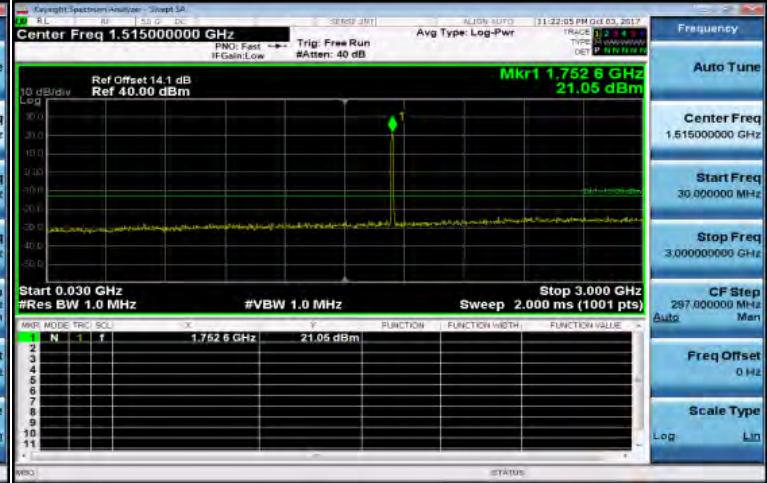
3GHz~10GHz\_HSUPA\_B4\_MidCH1413-1732.6



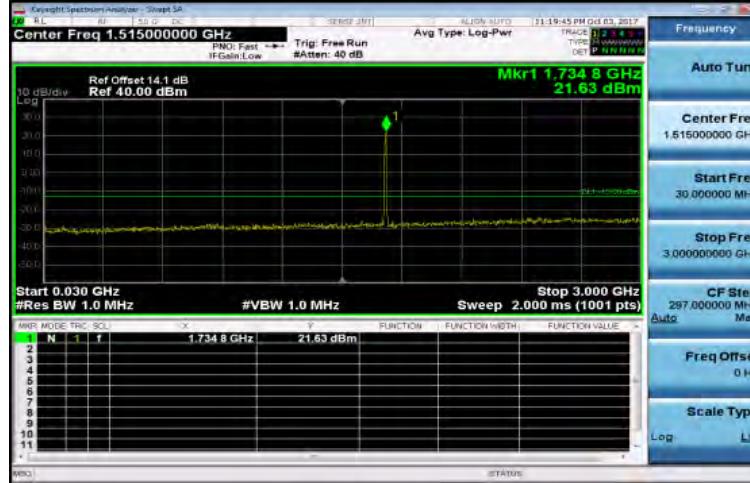
3GHz~10GHz\_HSUPA\_B4\_LowCH1312-1712.4



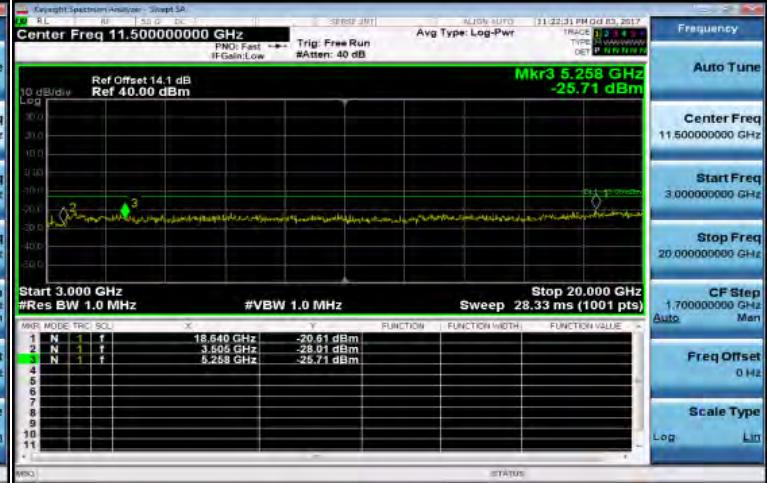
30MHz~3GHz\_HSUPA\_B4\_HighCH1513-1752.6



30MHz~3GHz\_HSUPA\_B4\_MidCH1413-1732.6



3GHz~10GHz\_HSUPA\_B4\_HighCH1513-1752.6

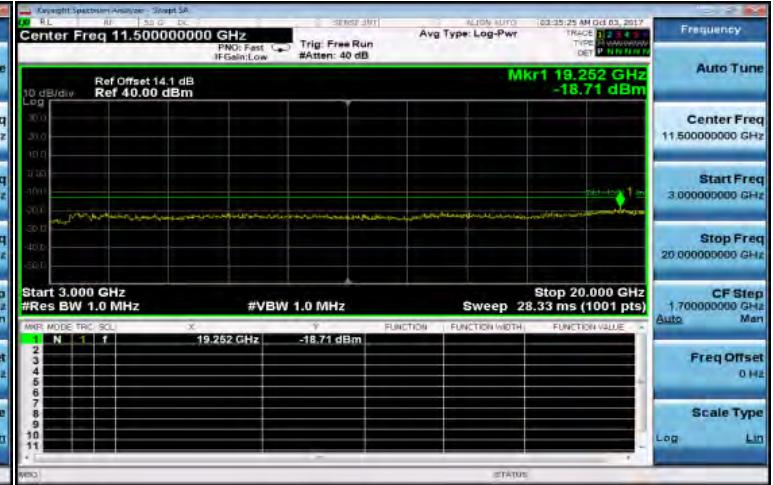


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

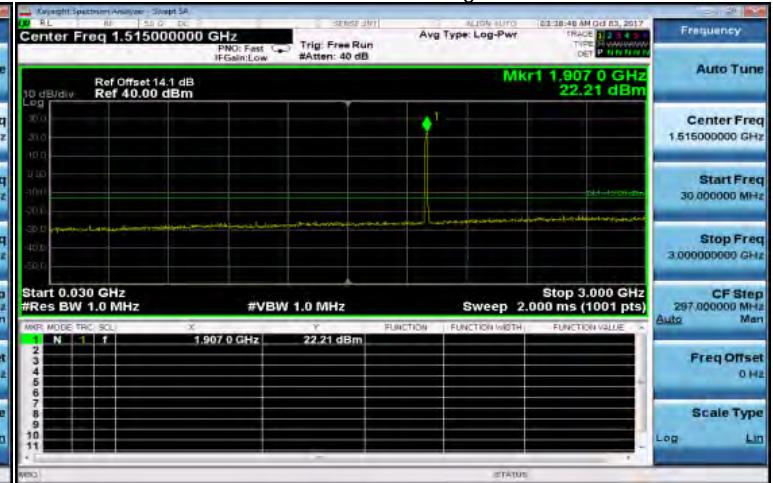
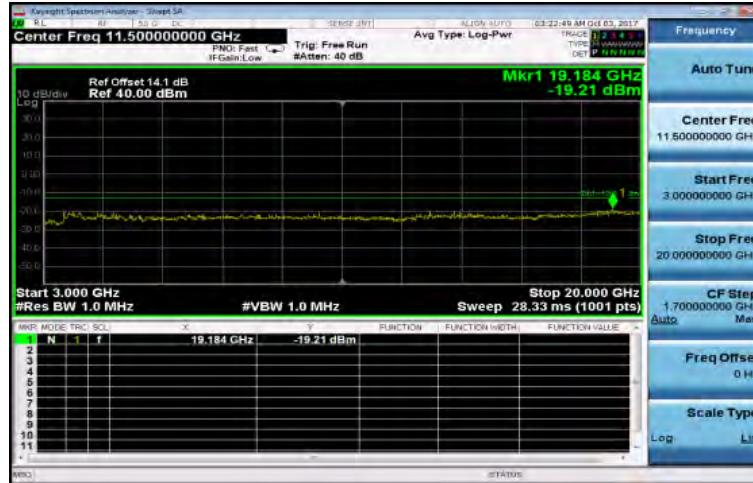
30MHz~3GHz\_WCDMA\_B2\_LowCH9262-1852.4

3GHz~10GHz\_WCDMA\_B2\_MidCH9400-1880



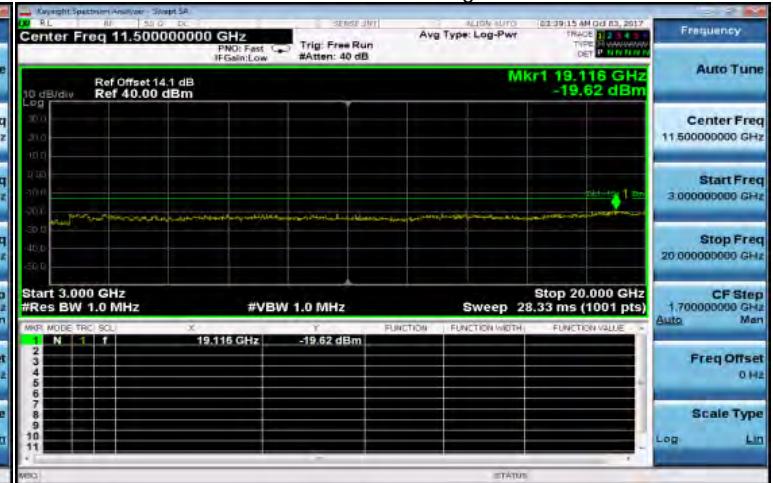
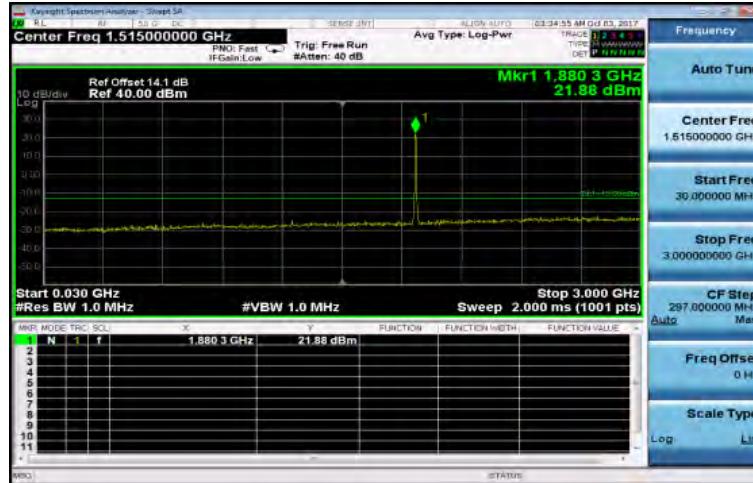
3GHz~10GHz\_WCDMA\_B2\_LowCH9262-1852.4

30MHz~3GHz\_WCDMA\_B2\_HighCH9538-1907.6



30MHz~3GHz\_WCDMA\_B2\_MidCH9400-1880

3GHz~10GHz\_WCDMA\_B2\_HighCH9538-1907.6



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

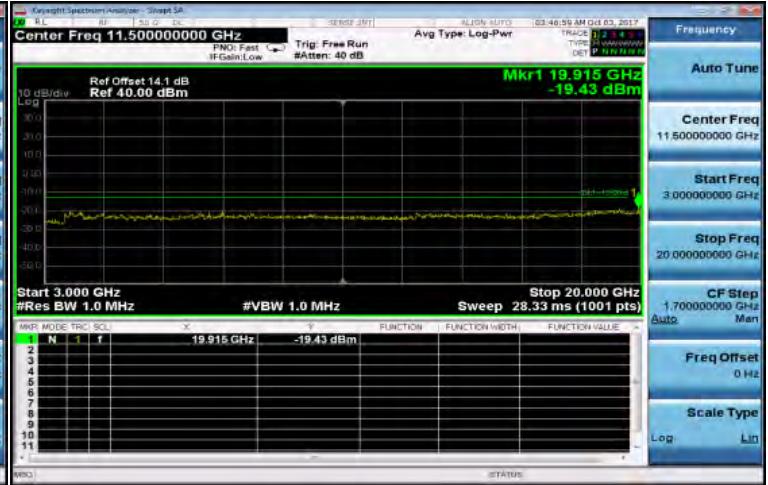
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

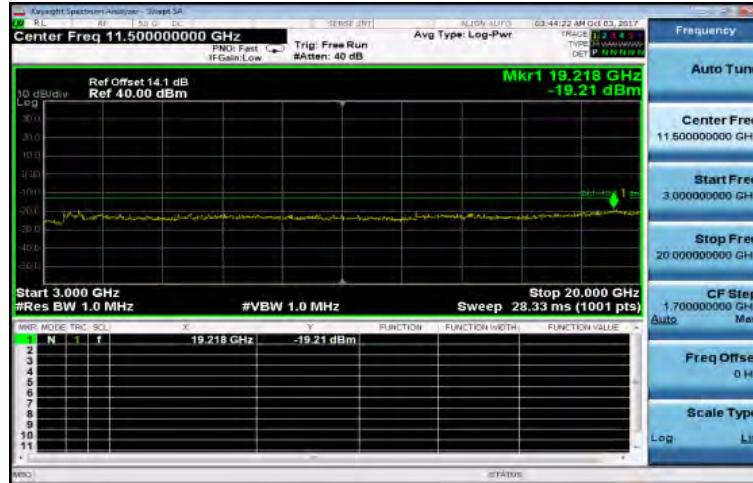
30MHz~3GHz\_HSDPA\_B2\_LowCH9262-1852.4



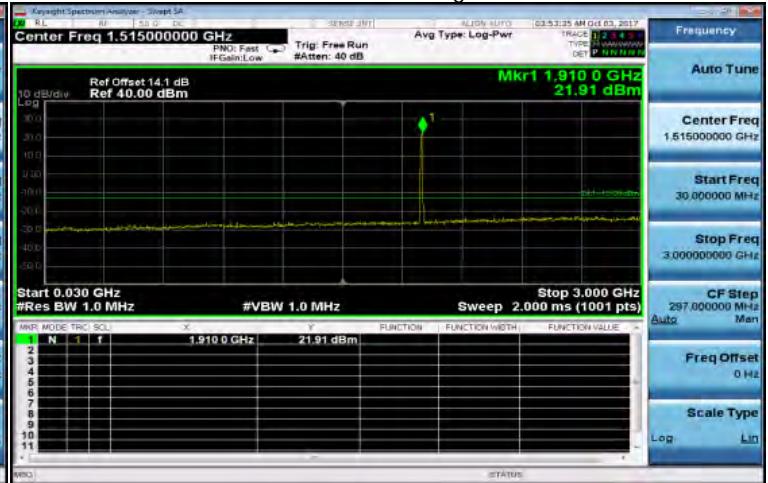
3GHz~10GHz\_HSDPA\_B2\_MidCH9400-1880



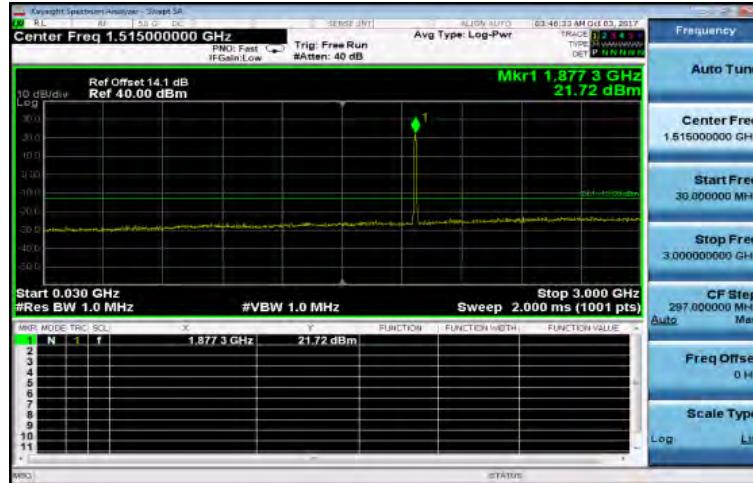
3GHz~10GHz\_HSDPA\_B2\_LowCH9262-1852.4



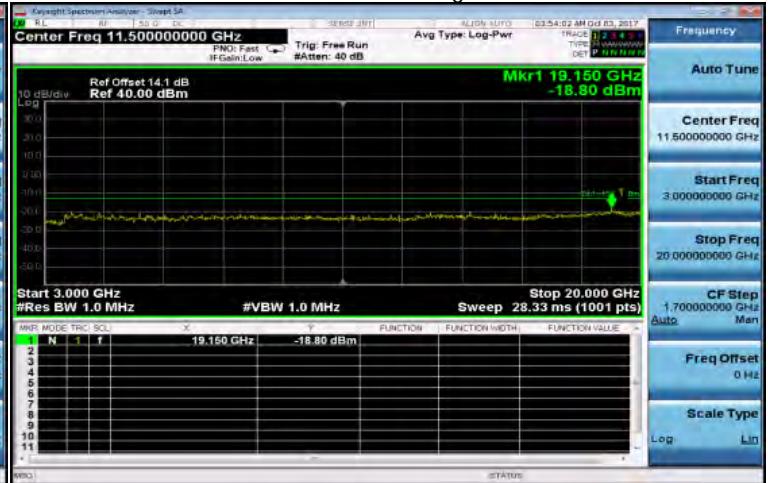
3MHz~3GHz\_HSDPA\_B2\_HighCH9538-1907.6



30MHz~3GHz\_HSDPA\_B2\_MidCH9400-1880



3GHz~10GHz\_HSDPA\_B2\_HighCH9538-1907.6



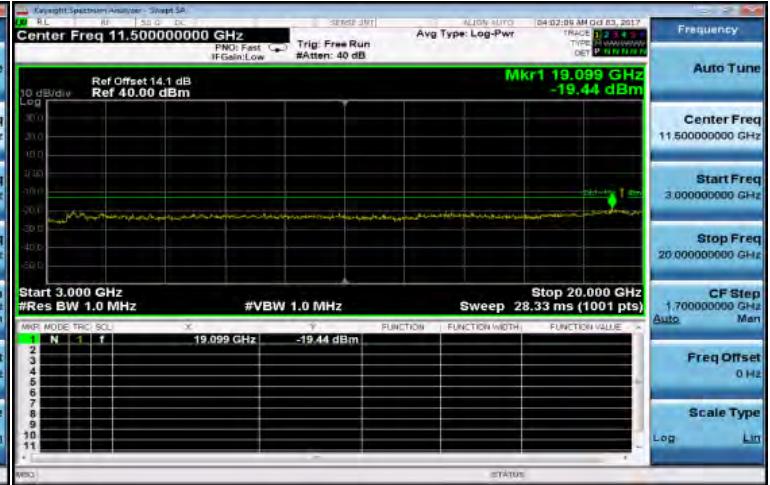
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

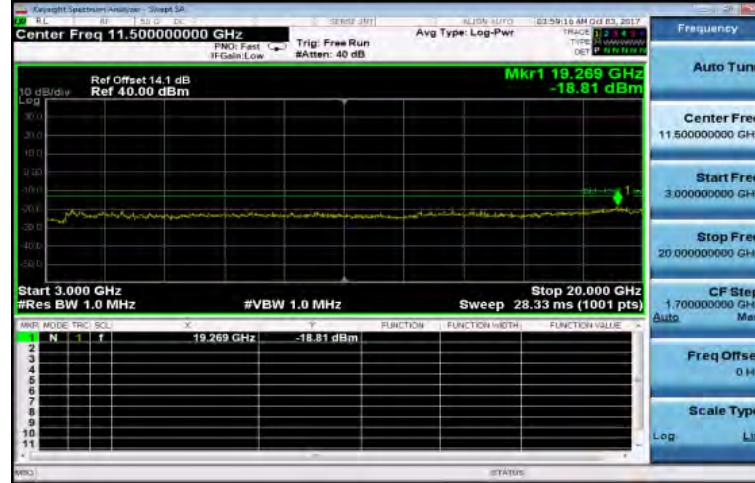
30MHz~3GHz\_HSUPA\_B2\_LowCH9262-1852.4



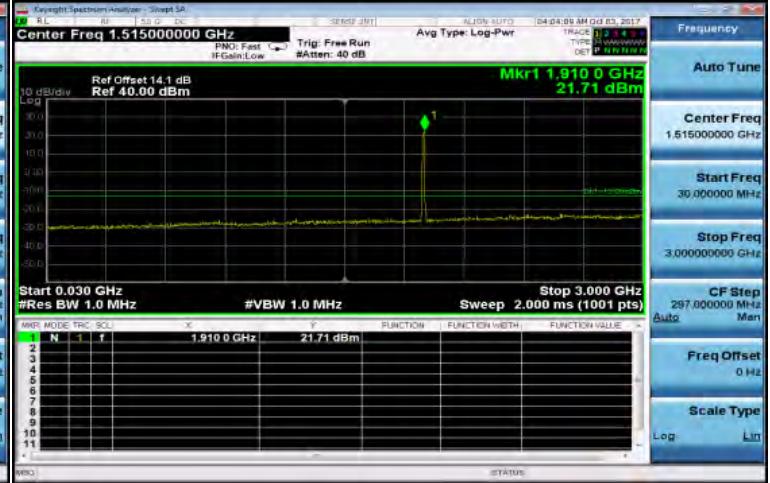
3GHz~10GHz\_HSUPA\_B2\_MidCH9400-1880



3GHz~10GHz\_HSUPA\_B2\_LowCH9262-1852.4



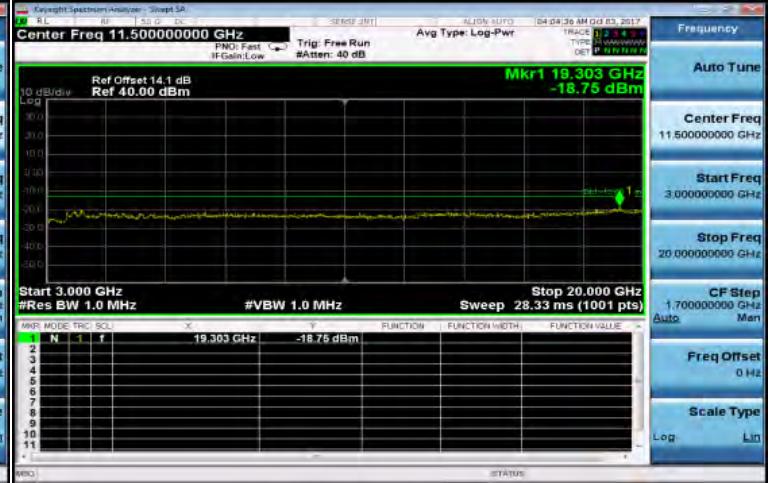
30MHz~3GHz\_HSUPA\_B2\_HighCH9538-1907.6



30MHz~3GHz\_HSUPA\_B2\_MidCH9400-1880



3GHz~10GHz\_HSUPA\_B2\_HighCH9538-1907.6



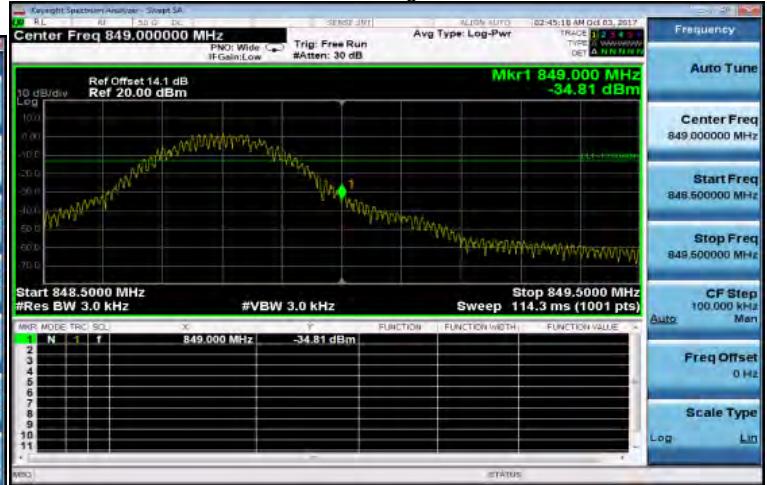
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

Band Edge  
GPRS\_850MHz\_LowCH128-824.2



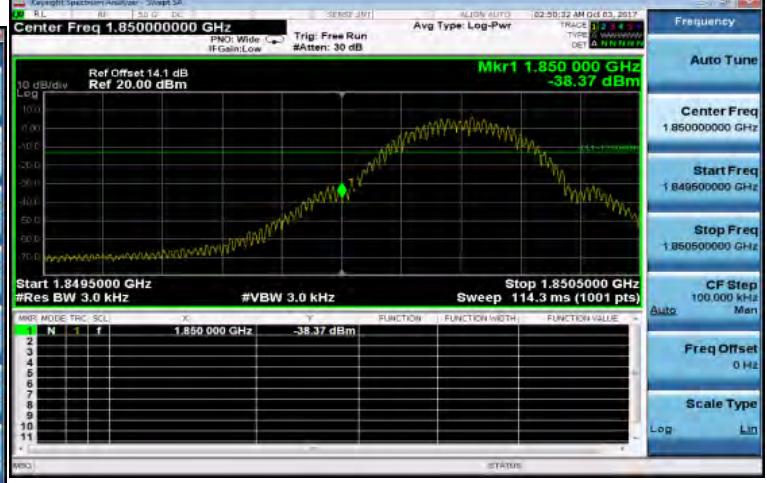
EDGE\_850MHz\_HighCH251-848.8



GPRS\_850MHz\_HighCH251-848.8



GPRS\_1900MHz\_LowCH512-1850.2



EDGE\_850MHz\_LowCH128-824.2



GPRS\_1900MHz\_HighCH810-1909.8



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

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

EDGE\_1900MHz\_LowCH512-1850.2



WCDMA\_B2\_HighCH9538-1907.6



## EDGE\_1900MHz\_HighCH810-1909.8



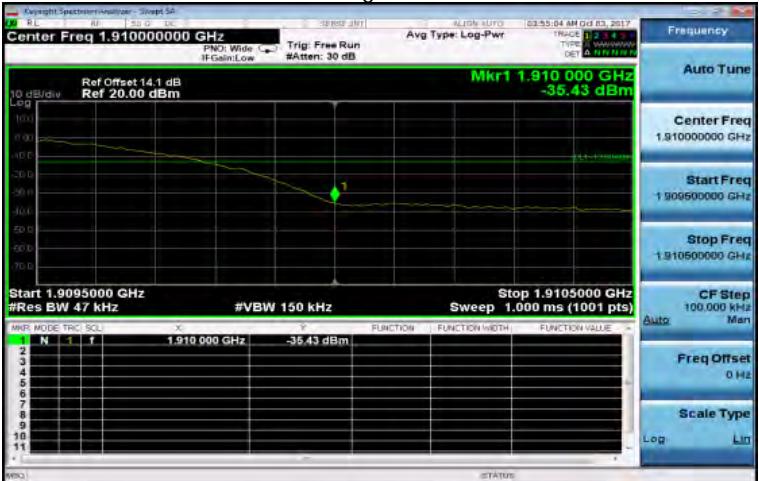
## HSDPA\_B2\_LowCH9262-1852.4



## WCDMA\_B2\_LowCH9262-1852.4



HSDPA\_B2\_HighCH9538-1907.6



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

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

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

HSUPA\_B2\_LowCH9262-1852.4



WCDMA\_B4\_HighCH1513-1752.6



HSUPA\_B2\_HighCH9538-1907.6



HSDPA\_B4\_LowCH1312-1712.4



WCDMA\_B4\_LowCH1312-1712.4



HSDPA\_B4\_HighCH1513-1752.6



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

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

HSUPA\_B4\_LowCH1312-1712.4



WCDMA\_B5\_HighCH4233-846.6



HSUPA\_B4\_HighCH1513-1752.6



HSDPA\_B5\_LowCH4132-826.4



WCDMA\_B5\_LowCH4132-826.4



HSDPA\_B5\_HighCH4233-846.6



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

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

HSUPA\_B5\_LowCH4132-826.4



HSUPA\_B5\_HighCH4233-846.6



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

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

## 10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

### 10.1. Standard Applicable

According to FCC §2.1053,

FCC §22.917(a) , §24.238(a) , §27.53(g)(h) , the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than  $43 + 10 \log_{10}(p)$  (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

FCC §27.53 (m) (4) shall not be less than  $55 + 10 \log_{10}(p)$  (mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

**Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber Equipment**

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)$ <sup>Note</sup>
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)$ <sup>Note</sup>
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

**Note:** Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 for the permitted frequency ranges for various equipment types.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

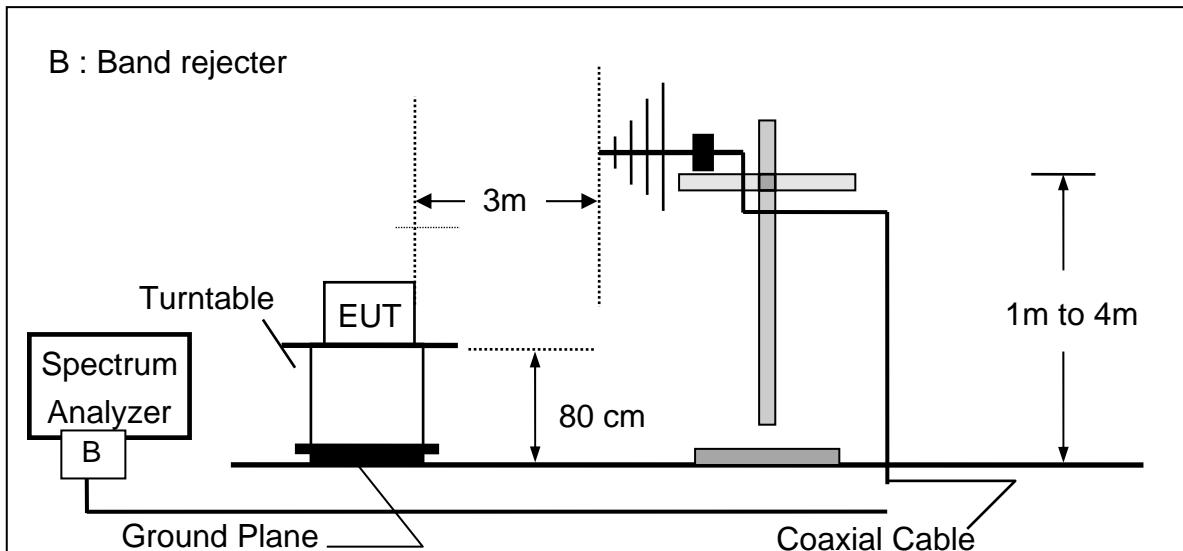
f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

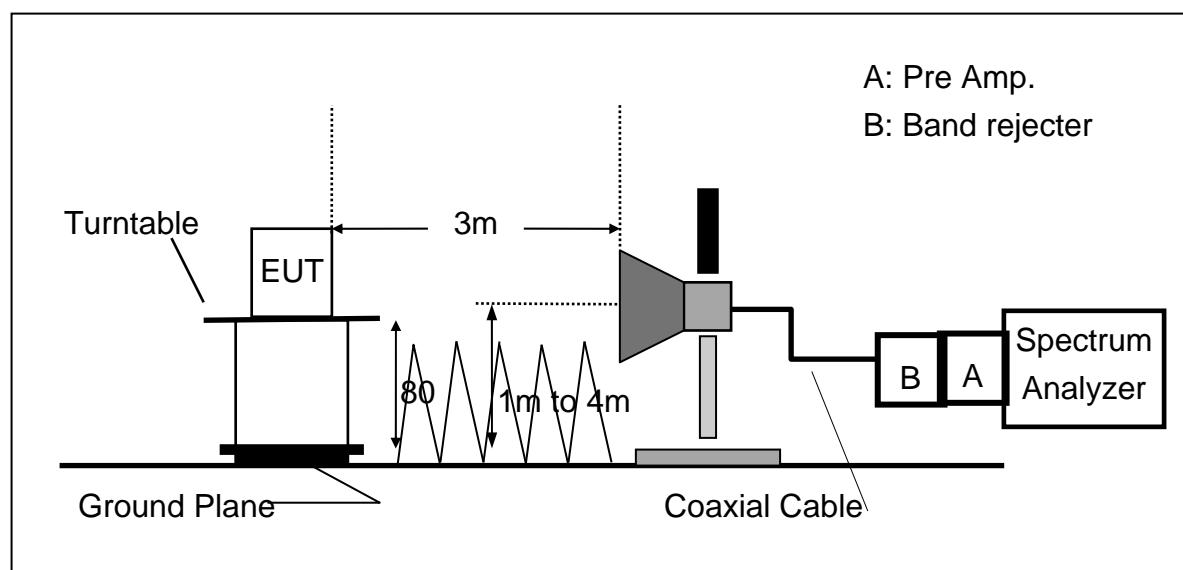
Member of SGS Group

## 10.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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

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

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

### 10.3. Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

$$\text{ERP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBd)} + \text{Cable Loss(dB)}$$

$$\text{EIRP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBi)} + \text{Cable Loss(dB)}$$

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.

“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.

“---” : denotes Noise Floor.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

#### 10.4. Measurement Equipment Used:

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCI7	100760	05/11/2017	05/10/2018
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/25/2017	04/24/2018
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2017	09/19/2018
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/04/2017	08/03/2018
Pre-Amplifier	Agilent	8447D	2944A07676	01/03/2017	01/02/2018
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/03/2017	01/02/2018
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R
Low Loss Cable	Huber Suhner	966_RX	9	01/05/2017	01/04/2018
3m Site NSA	SGS	966 chamber	N/A	07/01/2017	06/30/2018
Low Loss Cable	Huber Suhner	966 TX	1	01/05/2017	01/04/2018
Horn Antenna	Schwarzbeck	BBHA9170	184	12/13/2016	12/12/2017
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/05/2017	01/04/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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

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

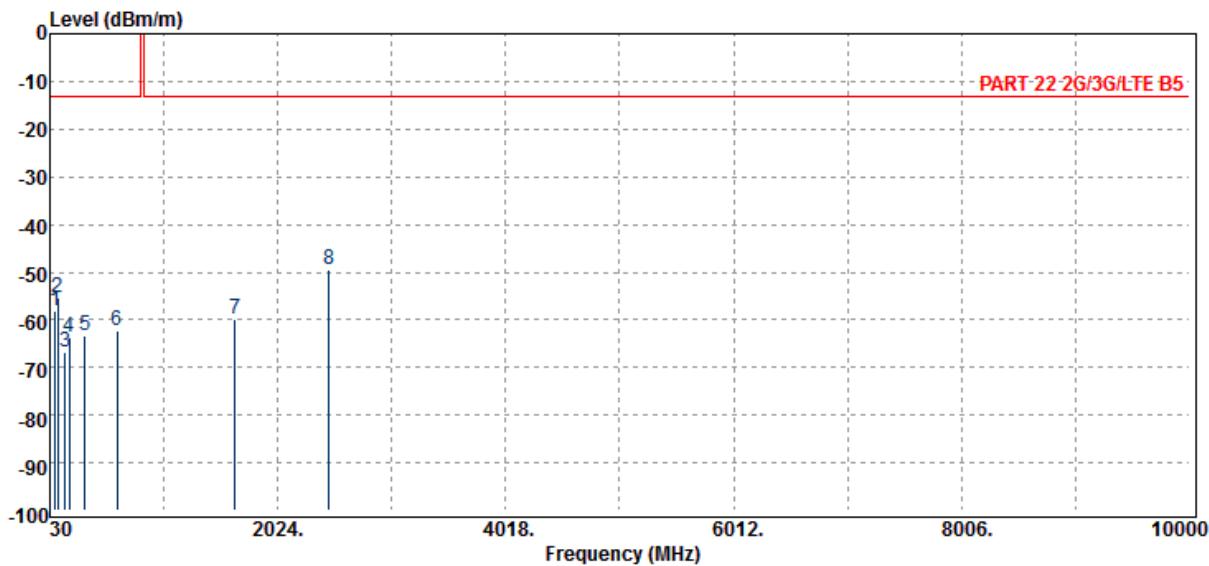
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for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

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

## 10.5. Measurement Result:

### Radiated Spurious Emission Measurement Result: EDGE 850 Mode (The Worst Case)

Operation Band :EDGE 850 Temp./Humi. :24 deg\_C / 61 RH  
 Fundamental Frequency :824.2 MHz Engineer :Kane  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane Measurement Pol. Antenna :VERTICAL



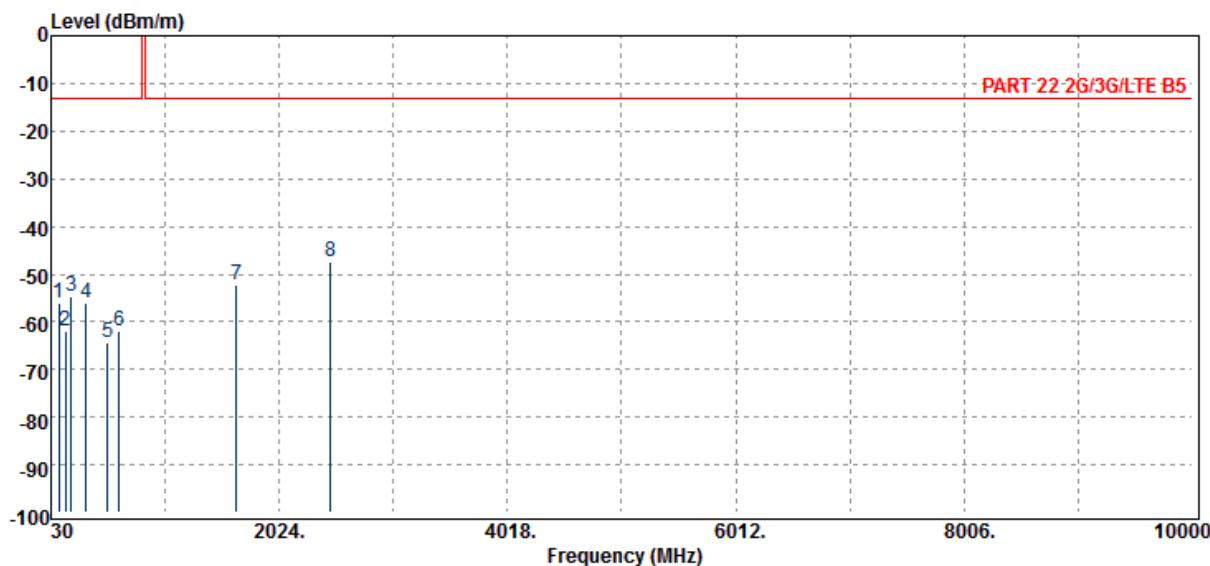
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			SG Output Level dBm	Antenna Gain dBd				
76.56	S	-58.29	-53.28	-3.87	-1.14	-13.00	-45.29	
95.96	S	-55.34	-52.95	-1.16	-1.23	-13.00	-42.34	
159.98	S	-66.66	-63.55	-1.64	-1.48	-13.00	-53.66	
202.66	S	-63.51	-65.08	3.22	-1.65	-13.00	-50.51	
335.55	S	-63.18	-65.04	3.80	-1.93	-13.00	-50.18	
618.79	S	-62.35	-63.00	3.20	-2.56	-13.00	-49.35	
1648.40	H	-59.70	-64.74	9.26	-4.22	-13.00	-46.70	
2472.60	H	-49.60	-55.26	10.88	-5.22	-13.00	-36.60	

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

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

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

Operation Band :EDGE 850  
 Fundamental Frequency :824.2 MHz  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



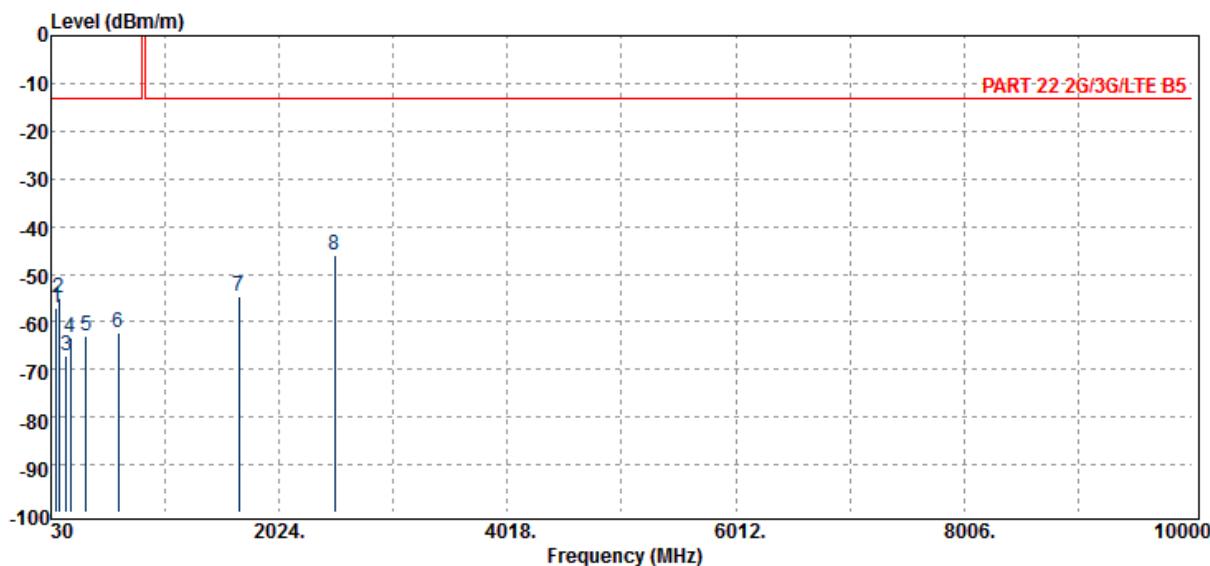
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
94.99	S	-55.94	-53.67	-53.67	-1.04	-1.23	-13.00	-42.94
159.01	S	-61.94	-58.79	-58.79	-1.68	-1.47	-13.00	-48.94
204.60	S	-54.67	-56.32	-56.32	3.30	-1.65	-13.00	-41.67
335.55	S	-56.14	-58.01	-58.01	3.80	-1.93	-13.00	-43.14
526.64	S	-64.29	-65.54	-65.54	3.71	-2.46	-13.00	-51.29
624.61	S	-62.09	-62.78	-62.78	3.19	-2.51	-13.00	-49.09
1648.40	H	-52.27	-57.31	-57.31	9.26	-4.22	-13.00	-39.27
2472.60	H	-47.29	-52.95	-52.95	10.88	-5.22	-13.00	-34.29

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

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

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

Operation Band :EDGE 850  
 Fundamental Frequency :836.6 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :VERTICAL



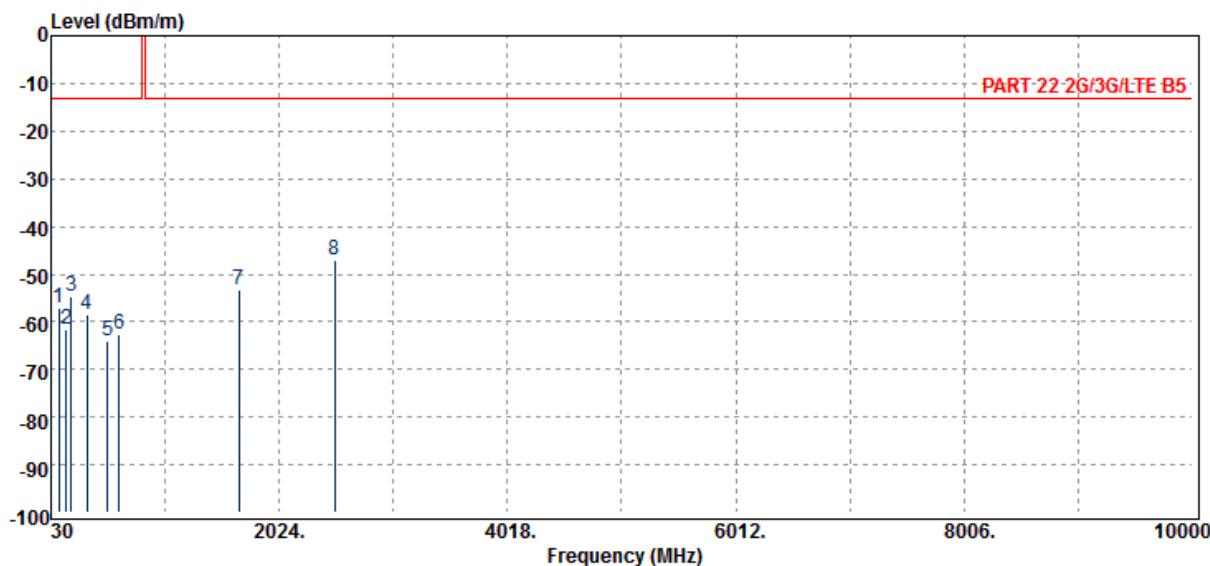
Freq. MHz	Note	ERP/EIRP dBm	SG	Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm				
76.56	S	-57.05	-52.04	-3.87	-1.14	-13.00	-44.05
95.96	S	-54.95	-52.56	-1.16	-1.23	-13.00	-41.95
159.98	S	-66.97	-63.85	-1.64	-1.48	-13.00	-53.97
201.69	S	-63.30	-64.83	3.17	-1.64	-13.00	-50.30
335.55	S	-62.87	-64.73	3.80	-1.93	-13.00	-49.87
616.85	S	-62.24	-62.87	3.21	-2.58	-13.00	-49.24
1673.20	H	-54.78	-59.84	9.35	-4.29	-13.00	-41.78
2509.80	H	-45.91	-51.56	10.91	-5.26	-13.00	-32.91

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

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

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

Operation Band :EDGE 850  
 Fundamental Frequency :836.6 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



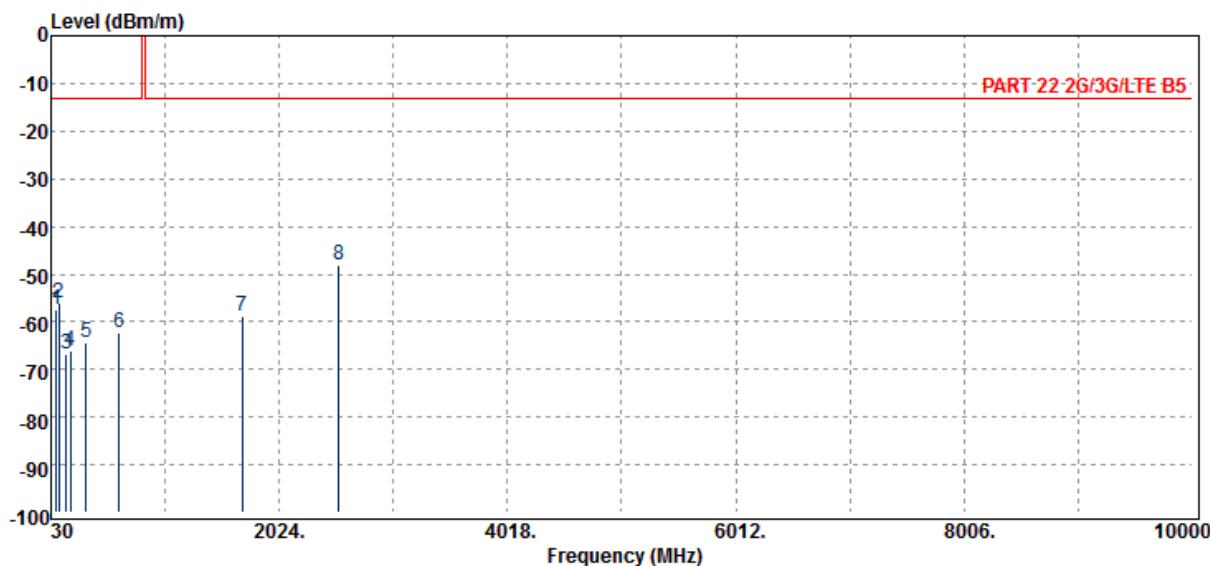
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	Antenna Gain dBd				
96.93	S	-57.15	-54.65	-1.27	-1.24	-13.00	-44.15	
159.98	S	-61.61	-58.50	-1.64	-1.48	-13.00	-48.61	
204.60	S	-54.84	-56.48	3.30	-1.65	-13.00	-41.84	
343.31	S	-58.33	-60.17	3.83	-1.99	-13.00	-45.33	
521.79	S	-64.04	-65.36	3.74	-2.41	-13.00	-51.04	
623.64	S	-62.76	-63.44	3.19	-2.52	-13.00	-49.76	
1673.20	H	-53.15	-58.21	9.35	-4.29	-13.00	-40.15	
2509.80	H	-46.96	-52.61	10.91	-5.26	-13.00	-33.96	

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

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

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

Operation Band :EDGE 850  
 Fundamental Frequency :848.8 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :VERTICAL



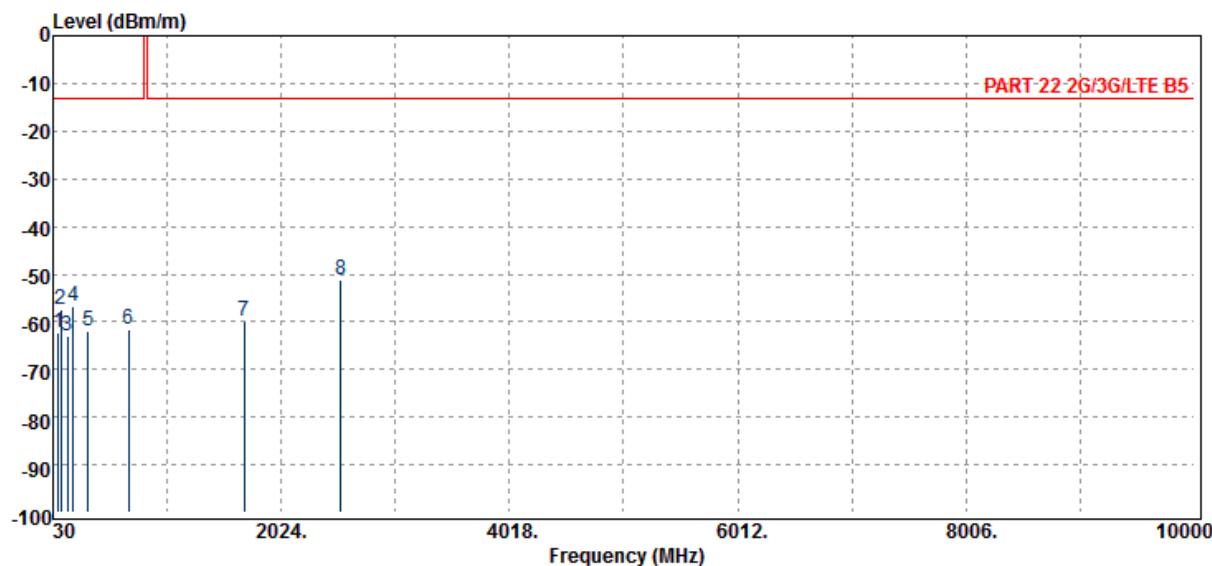
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
76.56	S	-57.43	-52.42	-52.42	-3.87	-1.14	-13.00	-44.43
95.96	S	-56.15	-53.76	-53.76	-1.16	-1.23	-13.00	-43.15
159.98	S	-66.90	-63.78	-63.78	-1.64	-1.48	-13.00	-53.90
202.66	S	-66.23	-67.81	-67.81	3.22	-1.65	-13.00	-53.23
337.49	S	-64.21	-66.07	-66.07	3.80	-1.95	-13.00	-51.21
628.49	S	-62.30	-63.01	-63.01	3.18	-2.47	-13.00	-49.30
1697.60	H	-58.83	-63.96	-63.96	9.43	-4.31	-13.00	-45.83
2546.40	H	-48.26	-53.89	-53.89	10.96	-5.33	-13.00	-35.26

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

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

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

Operation Band :EDGE 850  
 Fundamental Frequency :848.8 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	Antenna Gain dBd				
75.59	S	-62.28	-56.99	-4.16	-1.14	-13.00	-49.28	
94.99	S	-57.36	-55.08	-1.04	-1.23	-13.00	-44.36	
159.01	S	-62.81	-59.66	-1.68	-1.47	-13.00	-49.81	
204.60	S	-56.74	-58.38	3.30	-1.65	-13.00	-43.74	
336.52	S	-62.06	-63.92	3.80	-1.94	-13.00	-49.06	
692.51	S	-61.51	-61.76	3.09	-2.84	-13.00	-48.51	
1697.60	H	-59.70	-64.83	9.43	-4.31	-13.00	-46.70	
2546.40	H	-51.12	-56.75	10.96	-5.33	-13.00	-38.12	

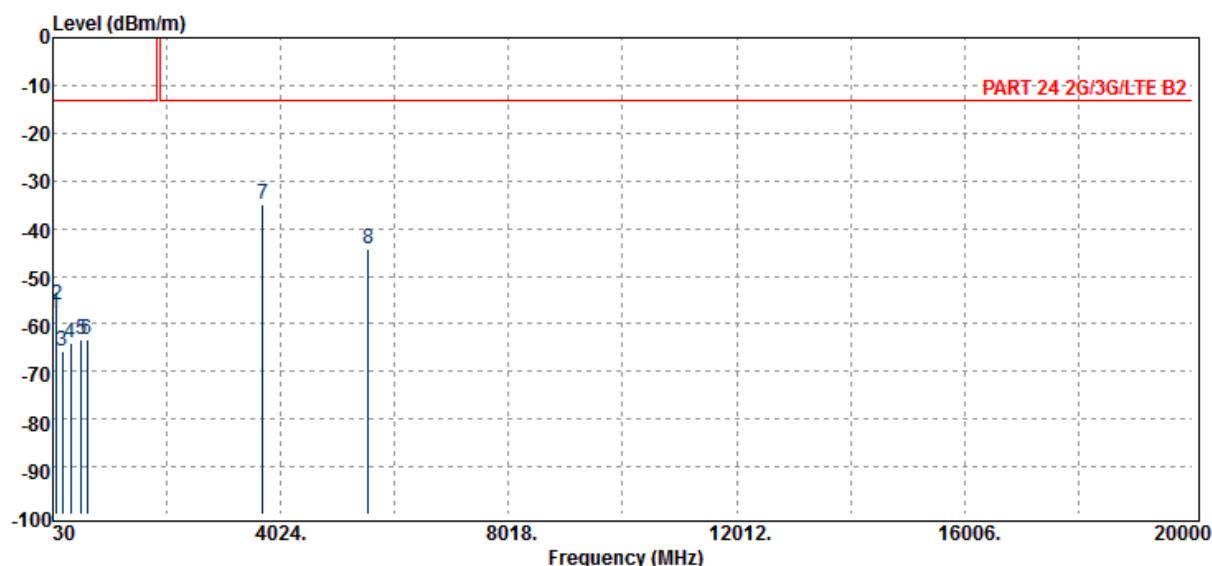
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

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

**Radiated Spurious Emission Measurement Result: GPRS 1900 Mode (The Worst Case)**

Operation Band :GPRS 1900 Temp./Humi. :22 deg\_C / 62 RH  
 Fundamental Frequency :1850.2 MHz Engineer :Kane  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane Measurement Pol. Antenna :VERTICAL



Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
74.62	S	-57.79		-52.21	-4.45	-1.13	-13.00	-44.79
95.96	S	-56.15		-53.76	-1.16	-1.23	-13.00	-43.15
202.66	S	-65.75		-67.32	3.22	-1.65	-13.00	-52.75
343.31	S	-63.84		-65.68	3.83	-1.99	-13.00	-50.84
521.79	S	-63.43		-64.76	3.74	-2.41	-13.00	-50.43
633.34	S	-63.27		-63.99	3.17	-2.46	-13.00	-50.27
3700.40	H	-35.08		-40.94	12.44	-6.58	-13.00	-22.08
5550.60	H	-44.44		-49.10	12.90	-8.24	-13.00	-31.44

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

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

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

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

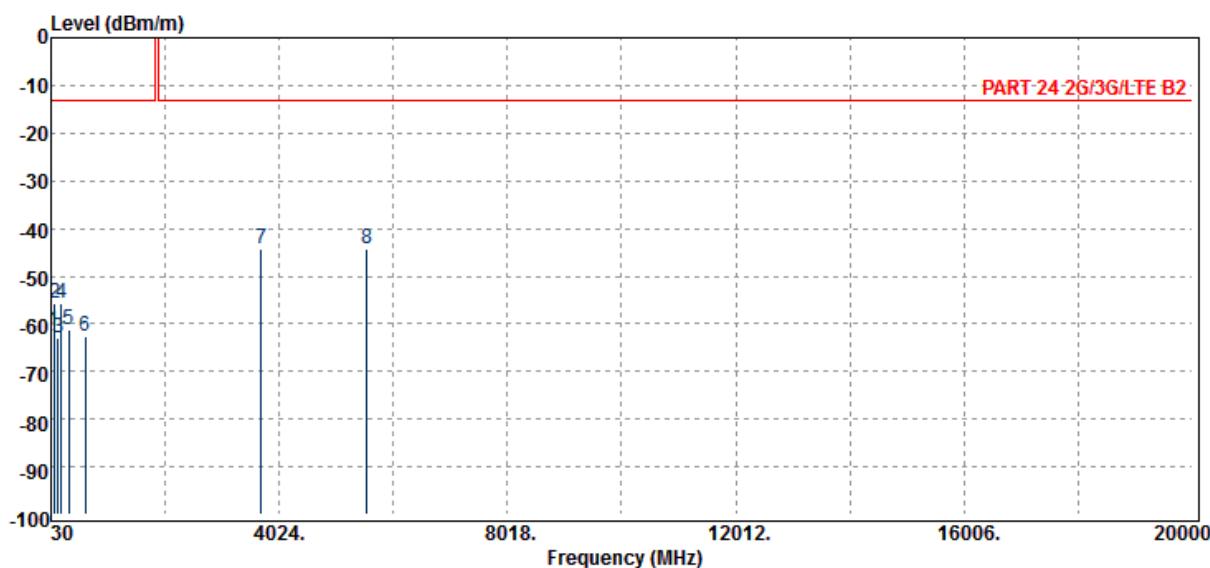
台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

Operation Band :GPRS 1900  
 Fundamental Frequency :1850.2 MHz  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



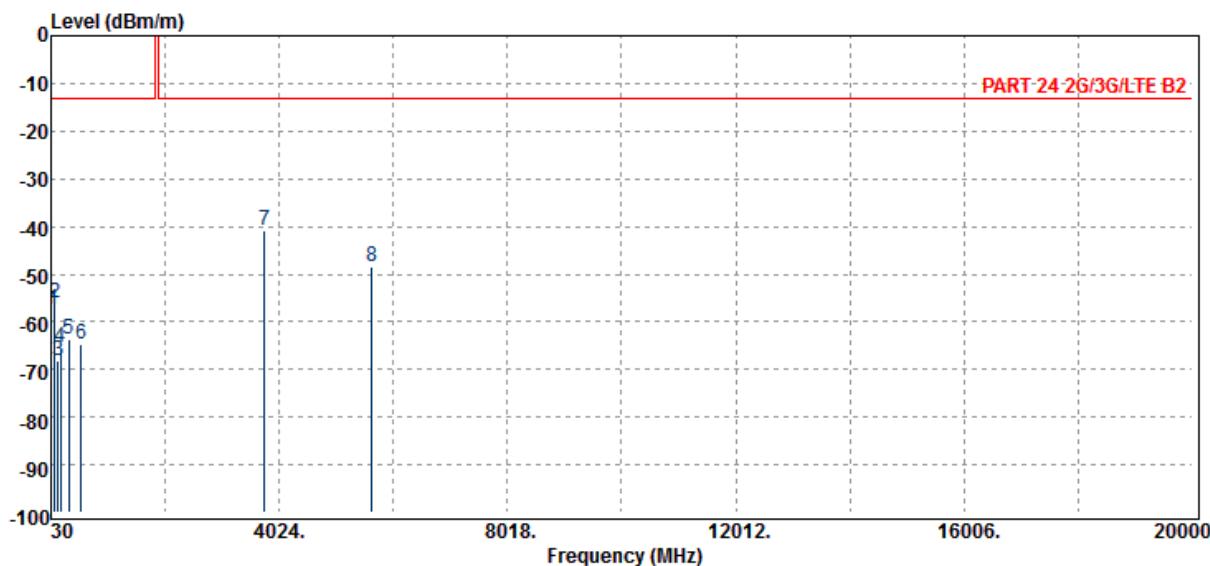
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	Antenna Gain dBd				
74.62	S	-61.57	-55.98	-4.45	-1.13	-13.00	-48.57	
95.96	S	-55.79	-53.40	-1.16	-1.23	-13.00	-42.79	
159.98	S	-63.04	-59.93	-1.64	-1.48	-13.00	-50.04	
204.60	S	-55.58	-57.23	3.30	-1.65	-13.00	-42.58	
336.52	S	-61.41	-63.27	3.80	-1.94	-13.00	-48.41	
624.61	S	-62.50	-63.18	3.19	-2.51	-13.00	-49.50	
3700.40	H	-44.20	-50.07	12.44	-6.58	-13.00	-31.20	
5550.60	H	-44.14	-48.80	12.90	-8.24	-13.00	-31.14	

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

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

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

Operation Band :GPRS 1900  
 Fundamental Frequency :1880 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :VERTICAL



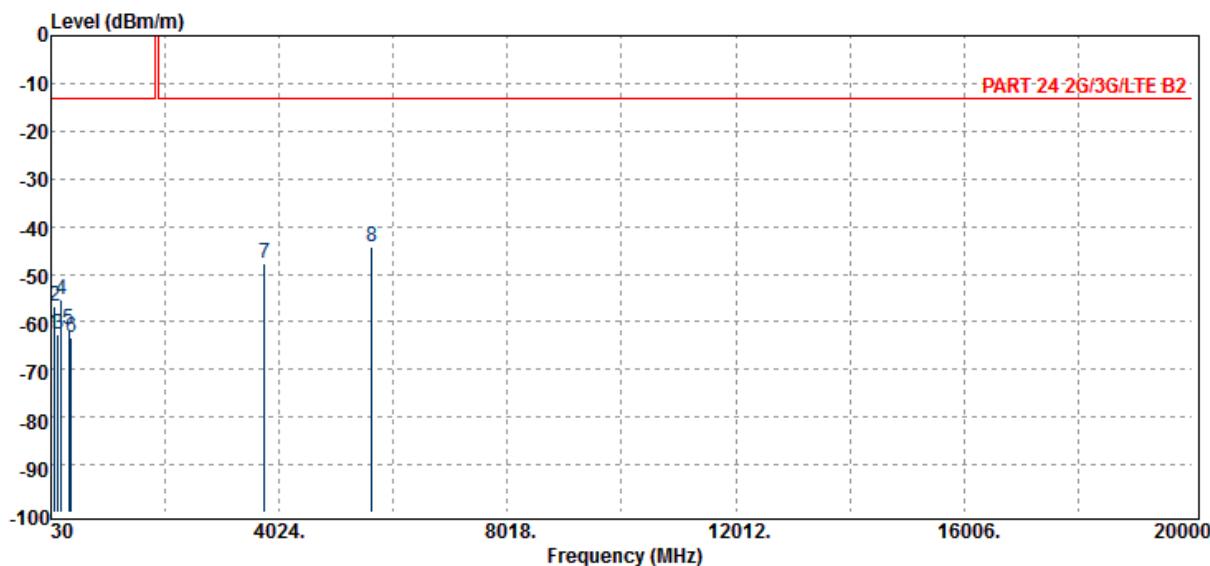
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	Antenna Gain dBd				
75.59	S	-57.41	-52.12	-4.16	-1.14	-13.00	-44.41	
95.96	S	-56.02	-53.63	-1.16	-1.23	-13.00	-43.02	
159.98	S	-68.02	-64.90	-1.64	-1.48	-13.00	-55.02	
202.66	S	-65.49	-67.06	3.22	-1.65	-13.00	-52.49	
335.55	S	-63.73	-65.60	3.80	-1.93	-13.00	-50.73	
563.50	S	-64.76	-65.49	3.49	-2.76	-13.00	-51.76	
3760.00	H	-40.66	-46.52	12.45	-6.60	-13.00	-27.66	
5640.00	H	-48.37	-52.91	12.90	-8.36	-13.00	-35.37	

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

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

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

Operation Band :GPRS 1900  
 Fundamental Frequency :1880 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



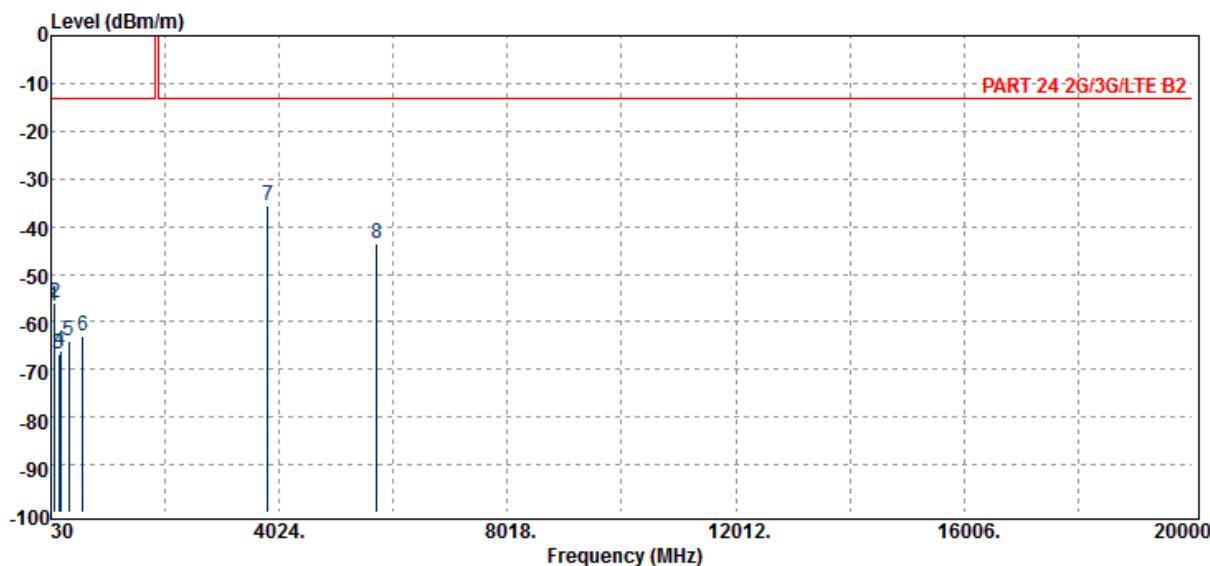
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
74.62	S	-62.50		-56.92	-4.45	-1.13	-13.00	-49.50
95.96	S	-56.69		-54.30	-1.16	-1.23	-13.00	-43.69
159.98	S	-62.77		-59.66	-1.64	-1.48	-13.00	-49.77
204.60	S	-55.31		-56.96	3.30	-1.65	-13.00	-42.31
337.49	S	-61.52		-63.38	3.80	-1.95	-13.00	-48.52
377.26	S	-63.22		-64.82	3.84	-2.24	-13.00	-50.22
3760.00	H	-47.69		-53.54	12.45	-6.60	-13.00	-34.69
5640.00	H	-44.33		-48.87	12.90	-8.36	-13.00	-31.33

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

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

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

Operation Band :GPRS 1900  
 Fundamental Frequency :1909.8 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :VERTICAL



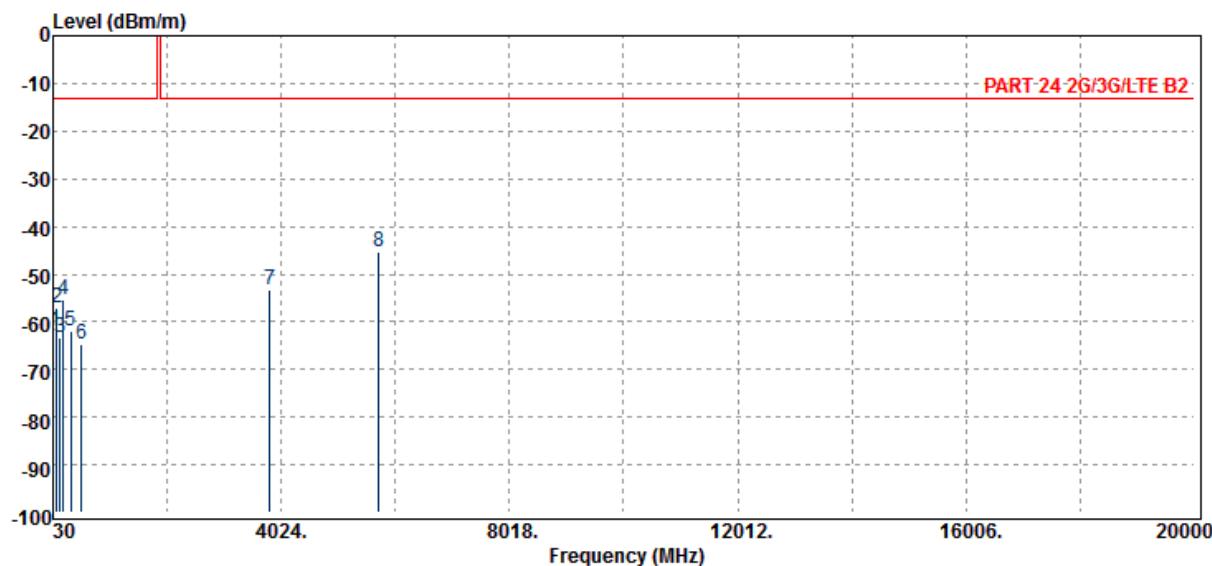
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
75.59	S	-56.90		-51.60	-4.16	-1.14	-13.00	-43.90
95.96	S	-56.10		-53.71	-1.16	-1.23	-13.00	-43.10
160.95	S	-66.76		-63.72	-1.57	-1.48	-13.00	-53.76
202.66	S	-66.13		-67.70	3.22	-1.65	-13.00	-53.13
335.55	S	-63.89		-65.75	3.80	-1.93	-13.00	-50.89
587.75	S	-63.13		-63.66	3.32	-2.79	-13.00	-50.13
3819.60	H	-35.62		-41.43	12.47	-6.65	-13.00	-22.62
5729.40	H	-43.57		-48.07	12.90	-8.39	-13.00	-30.57

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

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

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

Operation Band :GPRS 1900  
 Fundamental Frequency :1909.8 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
75.59	S	-62.10		-56.80	-4.16	-1.14	-13.00	-49.10
95.96	S	-56.94		-54.55	-1.16	-1.23	-13.00	-43.94
159.98	S	-63.35		-60.24	-1.64	-1.48	-13.00	-50.35
204.60	S	-55.50		-57.15	3.30	-1.65	-13.00	-42.50
335.55	S	-61.85		-63.71	3.80	-1.93	-13.00	-48.85
521.79	S	-64.61		-65.94	3.74	-2.41	-13.00	-51.61
3819.60	H	-53.17		-58.99	12.47	-6.65	-13.00	-40.17
5729.40	H	-45.43		-49.94	12.90	-8.39	-13.00	-32.43

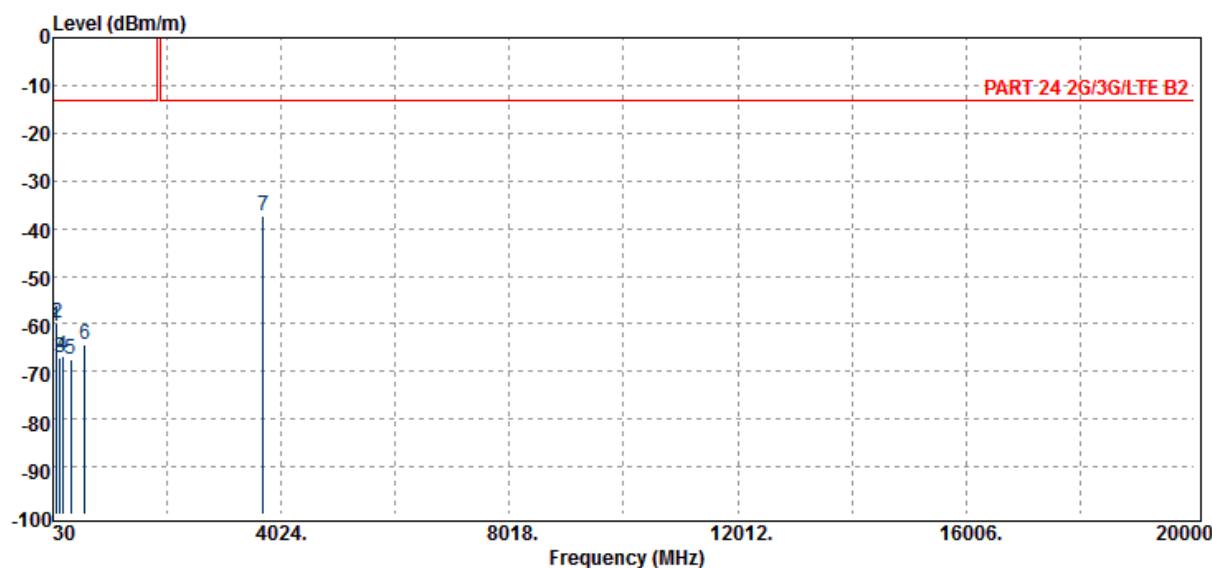
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

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

**Radiated Spurious Emission Measurement Result: WCDMA Band 2 Mode (The Worst Case)**

Operation Band :WCDMA B2 Temp./Humi. :22 deg\_C / 62 RH  
 Fundamental Frequency :1852.4 MHz Engineer :Kane  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane Measurement Pol. Antenna :VERTICAL



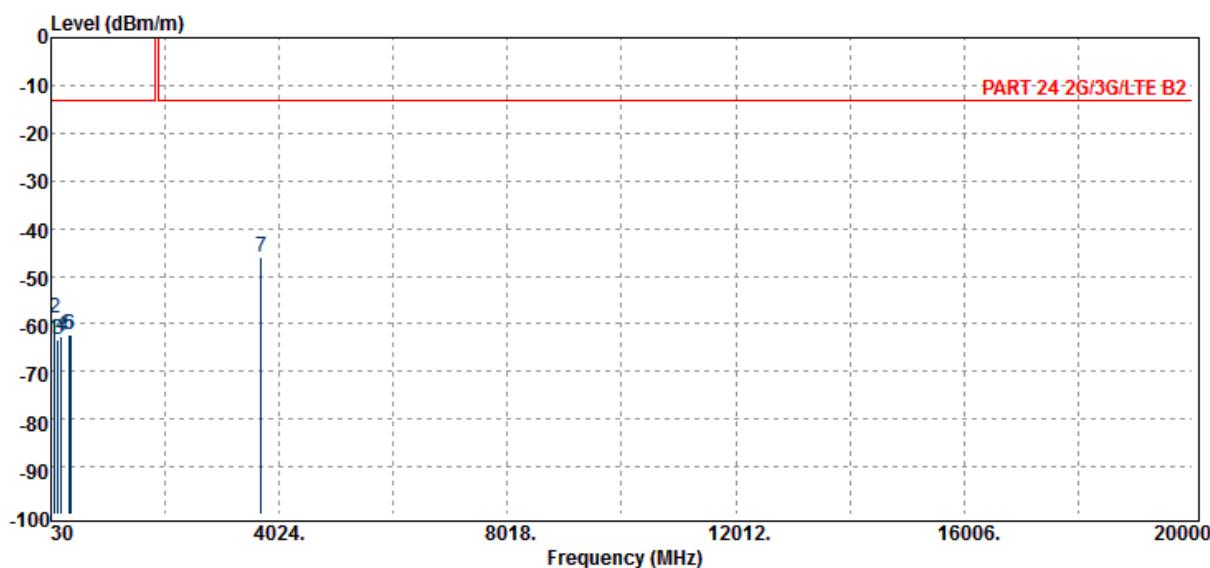
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit	Margin
						dBm	dB
78.50	S	-60.44	-55.99	-3.29	-1.15	-13.00	-47.44
94.02	S	-59.86	-57.71	-0.93	-1.22	-13.00	-46.86
159.01	S	-67.15	-64.00	-1.68	-1.47	-13.00	-54.15
202.66	S	-66.78	-68.35	3.22	-1.65	-13.00	-53.78
345.25	S	-67.61	-69.44	3.84	-2.01	-13.00	-54.61
584.84	S	-64.46	-65.01	3.34	-2.79	-13.00	-51.46
3704.80	H	-37.41	-43.27	12.44	-6.58	-13.00	-24.41

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

Operation Band :WCDMA B2  
 Fundamental Frequency :1852.4 MHz  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



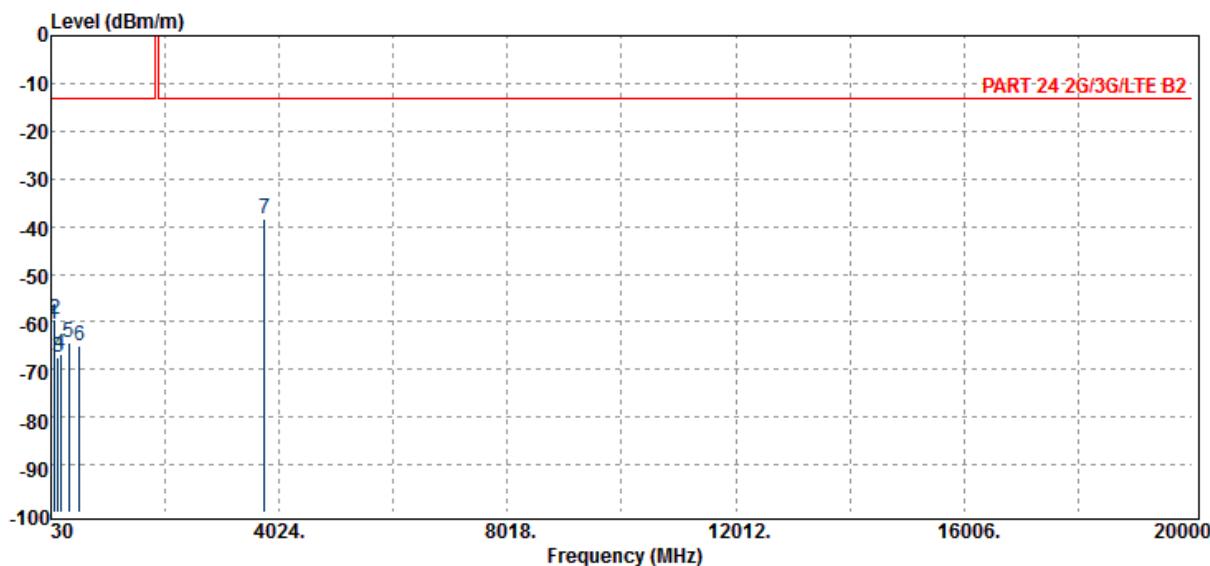
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	dBm				
75.59	S	-63.22		-57.92	-4.16	-1.14	-13.00	-50.22
95.96	S	-58.71		-56.33	-1.16	-1.23	-13.00	-45.71
159.98	S	-63.49		-60.38	-1.64	-1.48	-13.00	-50.49
204.60	S	-62.54		-64.19	3.30	-1.65	-13.00	-49.54
335.55	S	-62.19		-64.06	3.80	-1.93	-13.00	-49.19
366.59	S	-62.44		-64.11	3.85	-2.17	-13.00	-49.44
3704.80	H	-46.02		-51.88	12.44	-6.58	-13.00	-33.02

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

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

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

Operation Band :WCDMA B2  
 Fundamental Frequency :1880 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :VERTICAL



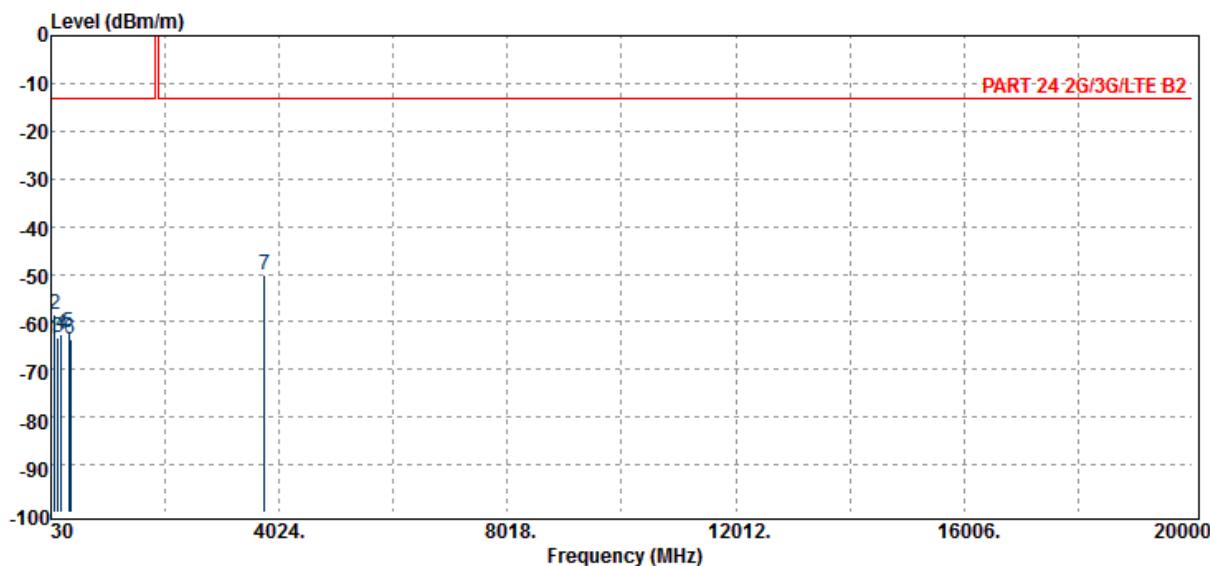
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
75.59	S	-60.48		-55.19	-4.16	-1.14	-13.00	-47.48
94.99	S	-59.64		-57.37	-1.04	-1.23	-13.00	-46.64
159.01	S	-67.48		-64.32	-1.68	-1.47	-13.00	-54.48
202.66	S	-66.65		-68.22	3.22	-1.65	-13.00	-53.65
333.61	S	-64.37		-66.25	3.79	-1.92	-13.00	-51.37
524.70	S	-64.96		-66.24	3.72	-2.44	-13.00	-51.96
3760.00	H	-38.40		-44.25	12.45	-6.60	-13.00	-25.40

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

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

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

Operation Band :WCDMA B2  
 Fundamental Frequency :1880 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



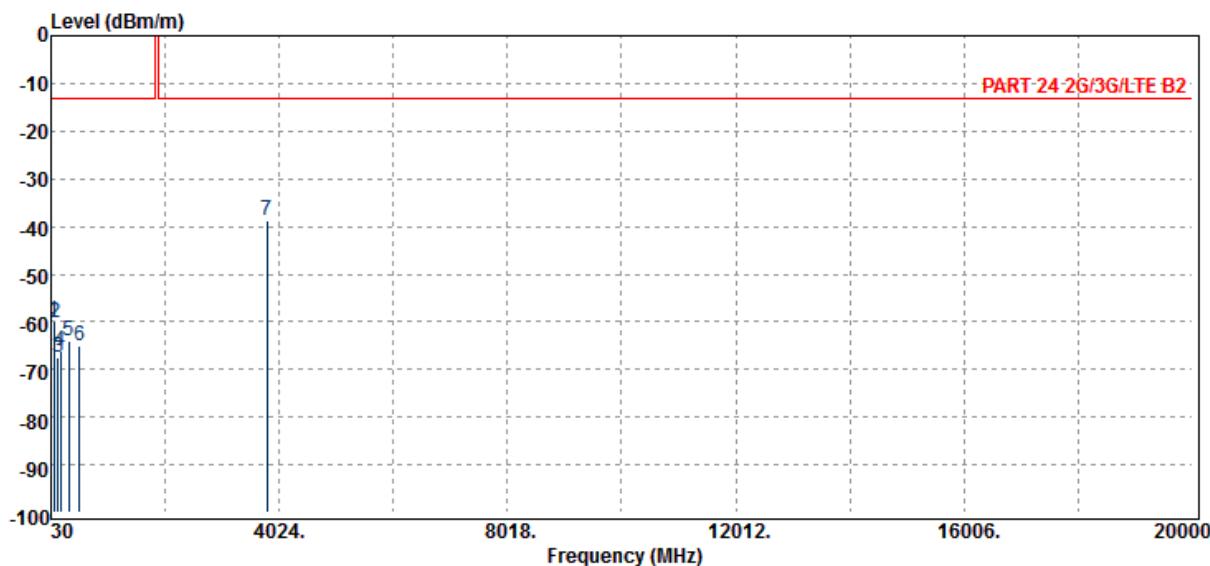
Freq. MHz	Note	ERP/EIRP dBm	SG	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm				
75.59	S	-63.58	-58.28	-4.16	-1.14	-13.00	-50.58
95.96	S	-58.54	-56.15	-1.16	-1.23	-13.00	-45.54
159.98	S	-63.40	-60.28	-1.64	-1.48	-13.00	-50.40
214.30	S	-62.76	-64.52	3.44	-1.68	-13.00	-49.76
337.49	S	-62.16	-64.02	3.80	-1.95	-13.00	-49.16
366.59	S	-63.72	-65.39	3.85	-2.17	-13.00	-50.72
3760.00	H	-50.15	-56.01	12.45	-6.60	-13.00	-37.15

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

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

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

Operation Band :WCDMA B2  
 Fundamental Frequency :1907.6 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :VERTICAL



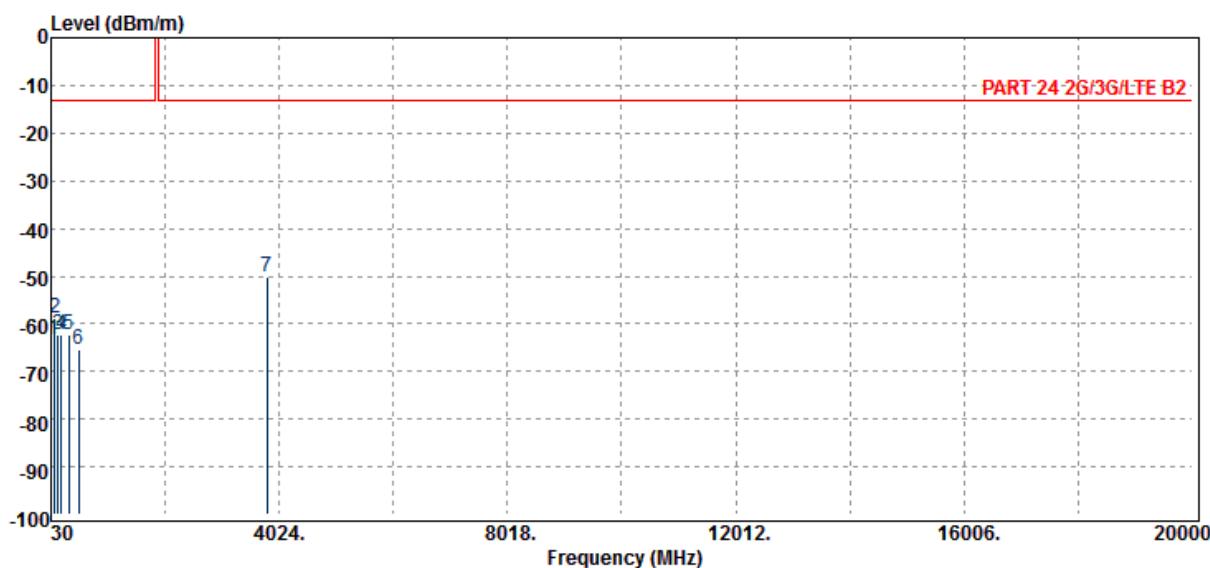
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
75.59	S	-59.90		-54.61	-4.16	-1.14	-13.00	-46.90
93.05	S	-60.12		-58.09	-0.81	-1.22	-13.00	-47.12
159.01	S	-67.58		-64.43	-1.68	-1.47	-13.00	-54.58
202.66	S	-66.12		-67.69	3.22	-1.65	-13.00	-53.12
336.52	S	-63.95		-65.81	3.80	-1.94	-13.00	-50.95
526.64	S	-65.08		-66.33	3.71	-2.46	-13.00	-52.08
3815.20	H	-38.71		-44.54	12.46	-6.63	-13.00	-25.71

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

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

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

Operation Band :WCDMA B2  
 Fundamental Frequency :1907.6 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
75.59	S	-63.28		-57.98	-4.16	-1.14	-13.00	-50.28
94.99	S	-58.66		-56.39	-1.04	-1.23	-13.00	-45.66
159.98	S	-62.32		-59.20	-1.64	-1.48	-13.00	-49.32
217.21	S	-62.19		-63.88	3.38	-1.69	-13.00	-49.19
336.52	S	-62.25		-64.11	3.80	-1.94	-13.00	-49.25
519.85	S	-65.40		-66.75	3.75	-2.39	-13.00	-52.40
3815.20	H	-50.04		-55.87	12.46	-6.63	-13.00	-37.04

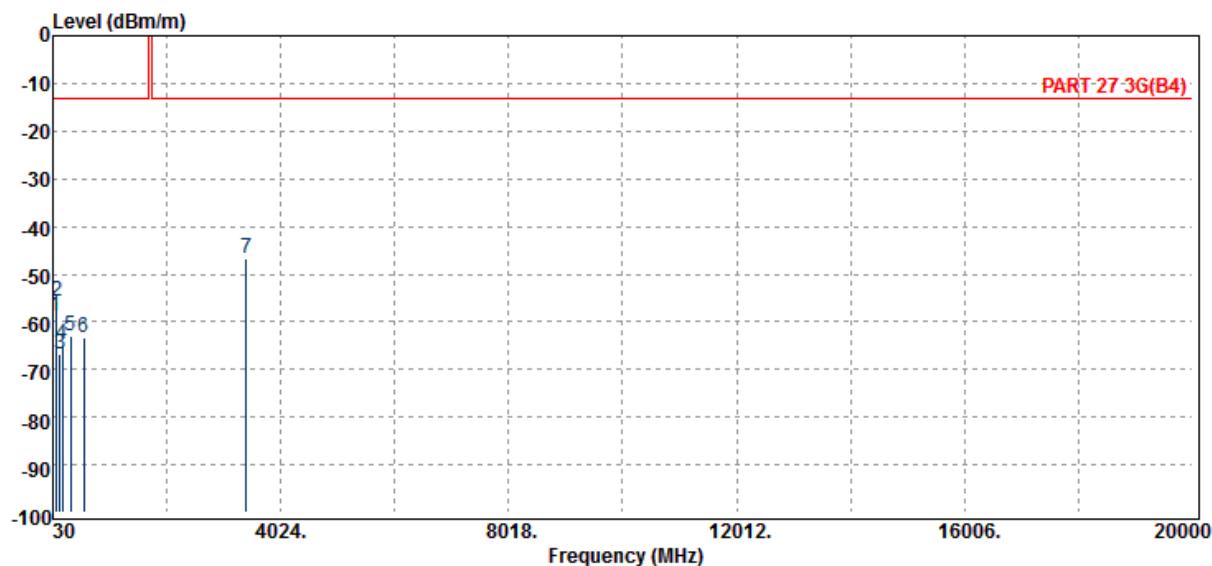
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

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

**Radiated Spurious Emission Measurement Result: HSDPA Band 4 Mode (The Worst Case)**

Operation Band :HSDPA B4 Temp./Humi. :22 deg\_C / 62 RH  
 Fundamental Frequency :1712.4 MHz Engineer :Kane  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane Measurement Pol. Antenna :VERTICAL



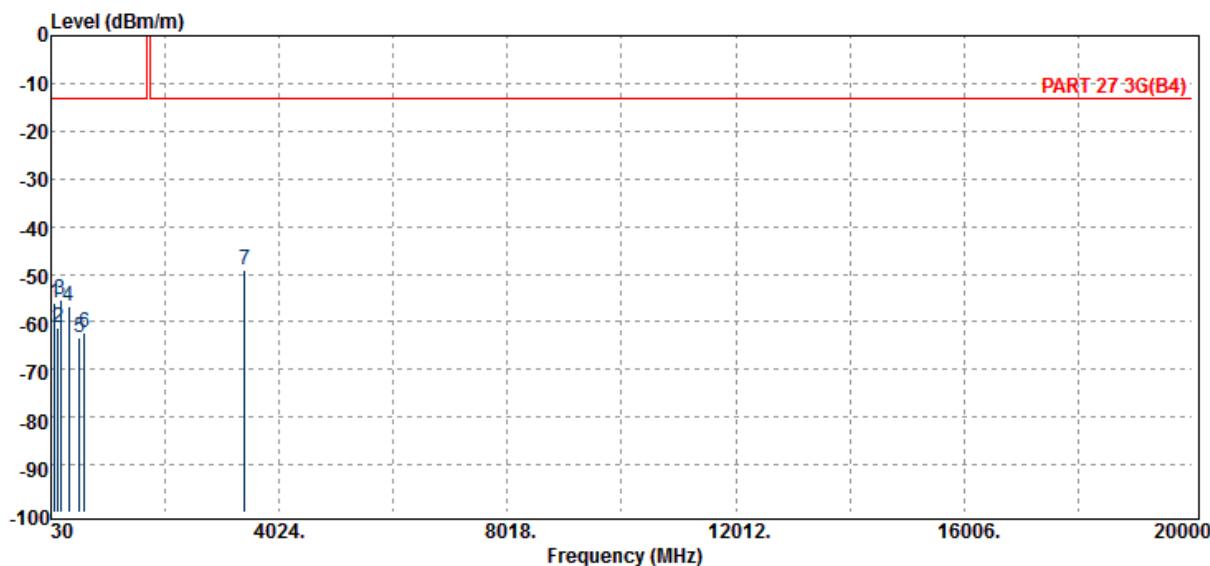
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
74.62	S	-58.82		-53.24	-4.45	-1.13	-13.00	-45.82
95.96	S	-55.60		-53.21	-1.16	-1.23	-13.00	-42.60
159.98	S	-66.87		-63.76	-1.64	-1.48	-13.00	-53.87
202.66	S	-64.63		-66.20	3.22	-1.65	-13.00	-51.63
342.34	S	-62.81		-64.65	3.83	-1.99	-13.00	-49.81
570.29	S	-63.46		-64.13	3.44	-2.77	-13.00	-50.46
3424.80	H	-46.79		-52.83	12.27	-6.23	-13.00	-33.79

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

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

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

Operation Band :HSDPA B4  
 Fundamental Frequency :1712.4 MHz  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



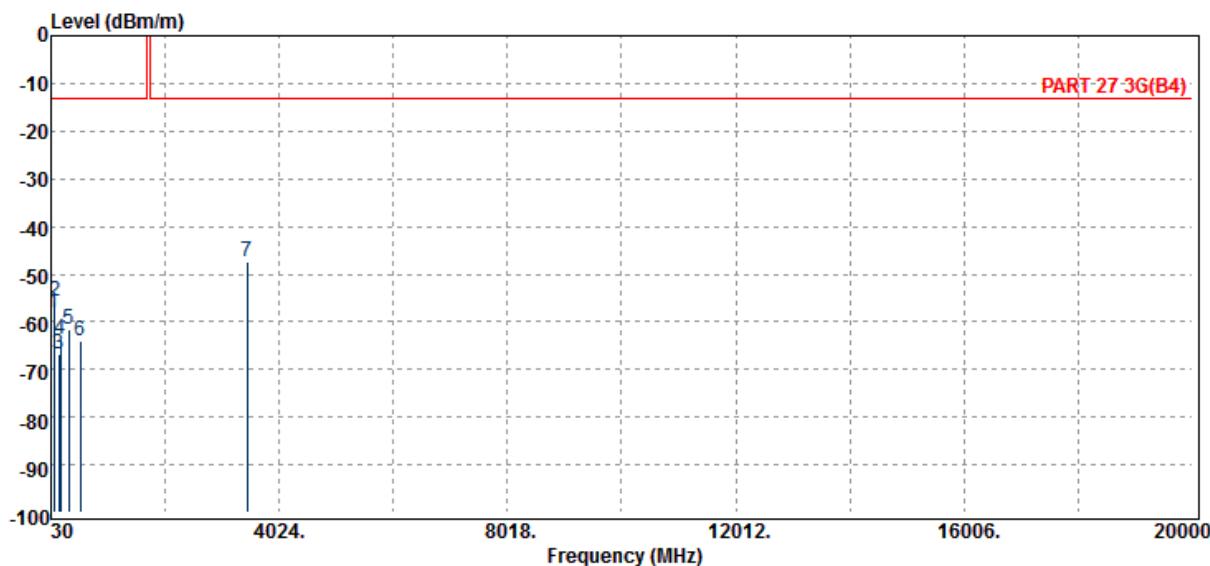
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
94.99	S	-55.90		-53.63	-1.04	-1.23	-13.00	-42.90
159.98	S	-61.41		-58.30	-1.64	-1.48	-13.00	-48.41
202.66	S	-55.20		-56.77	3.22	-1.65	-13.00	-42.20
343.31	S	-56.59		-58.42	3.83	-1.99	-13.00	-43.59
526.64	S	-63.47		-64.72	3.71	-2.46	-13.00	-50.47
610.06	S	-62.43		-63.01	3.22	-2.64	-13.00	-49.43
3424.80	H	-49.01		-55.05	12.27	-6.23	-13.00	-36.01

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

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

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

Operation Band :HSDPA B4  
 Fundamental Frequency :1732.6 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :VERTICAL



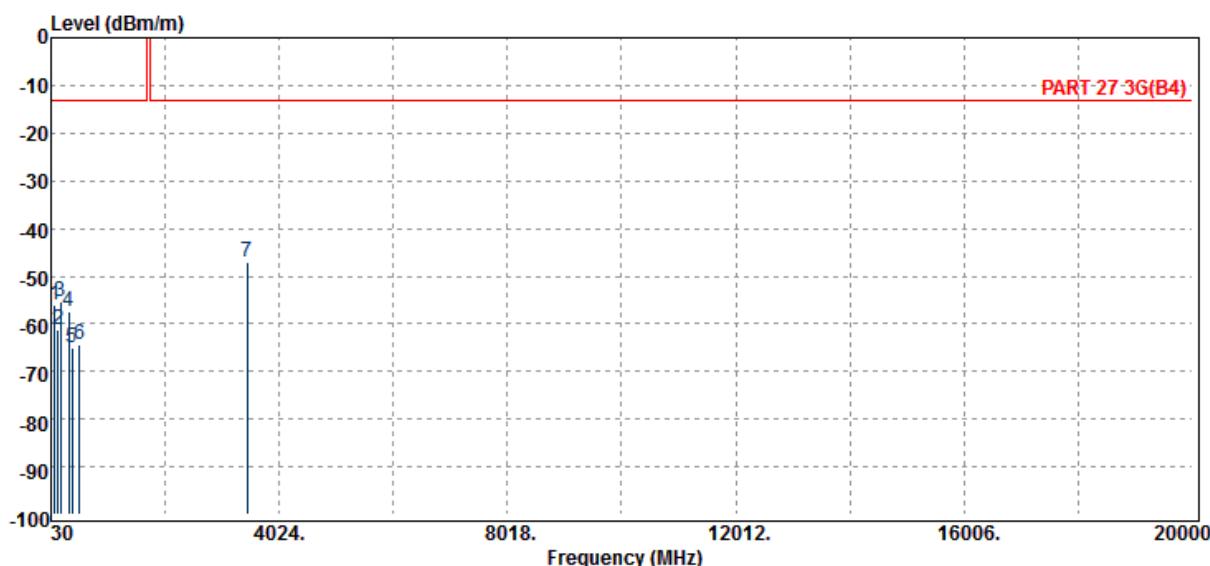
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit	Margin
						dBm	dB
78.50	S	-58.10	-53.65	-3.29	-1.15	-13.00	-45.10
94.99	S	-55.55	-53.28	-1.04	-1.23	-13.00	-42.55
165.80	S	-66.76	-64.04	-1.21	-1.50	-13.00	-53.76
202.66	S	-63.57	-65.14	3.22	-1.65	-13.00	-50.57
335.55	S	-61.69	-63.55	3.80	-1.93	-13.00	-48.69
539.25	S	-64.06	-65.11	3.64	-2.59	-13.00	-51.06
3465.20	H	-47.53	-53.63	12.34	-6.25	-13.00	-34.53

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

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

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

Operation Band :HSDPA B4  
 Fundamental Frequency :1732.6 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



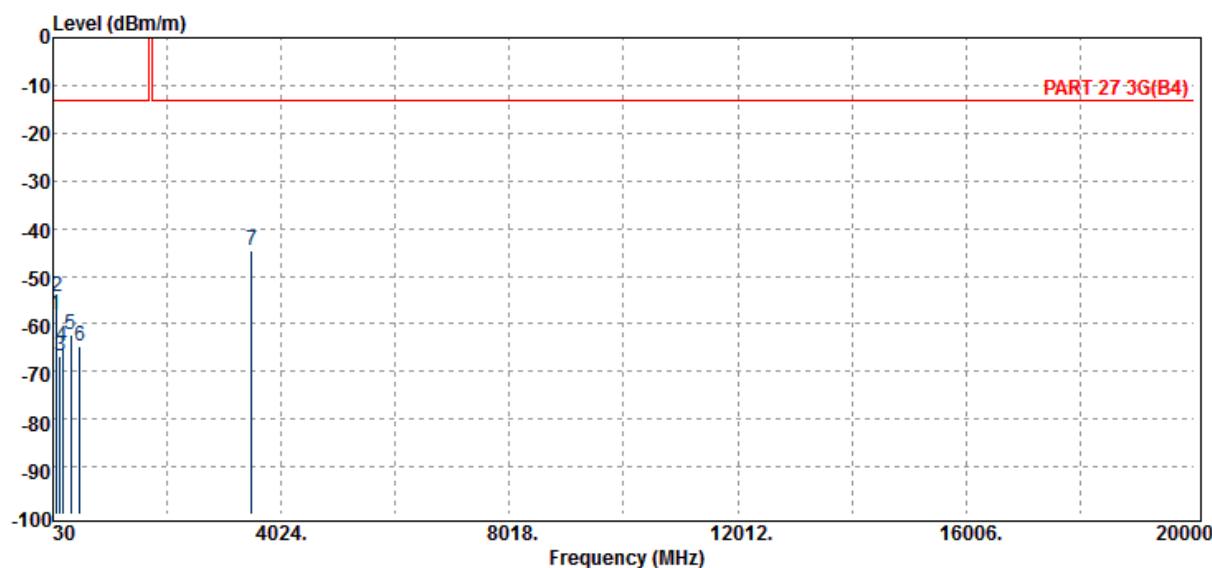
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S	Output Level dBm				
95.96	S	-56.15		-53.76	-1.16	-1.23	-13.00	-43.15
159.98	S	-61.25		-58.14	-1.64	-1.48	-13.00	-48.25
202.66	S	-55.44		-57.01	3.22	-1.65	-13.00	-42.44
336.52	S	-57.61		-59.47	3.80	-1.94	-13.00	-44.61
401.51	S	-65.22		-66.65	3.82	-2.39	-13.00	-52.22
522.76	S	-64.39		-65.70	3.73	-2.42	-13.00	-51.39
3465.20	H	-47.16		-53.25	12.34	-6.25	-13.00	-34.16

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

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

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

Operation Band :HSDPA B4  
 Fundamental Frequency :1752.6 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :VERTICAL



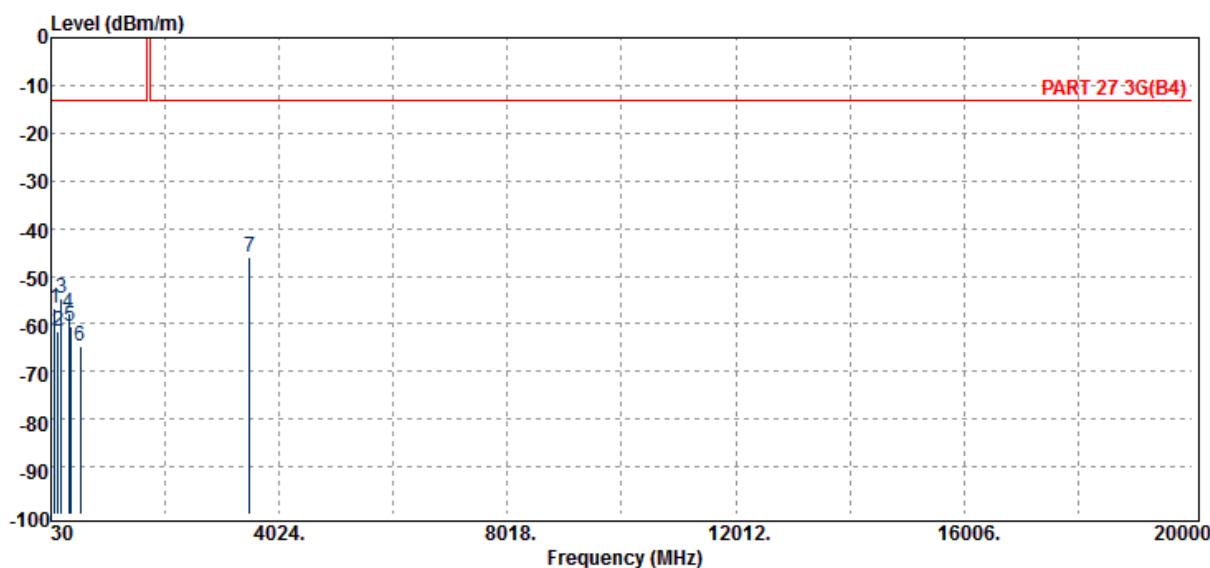
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG	Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm				
76.56	S	-58.08	-53.07	-3.87	-1.14	-13.00	-45.08
94.99	S	-54.49	-52.21	-1.04	-1.23	-13.00	-41.49
159.98	S	-66.66	-63.55	-1.64	-1.48	-13.00	-53.66
202.66	S	-64.80	-66.37	3.22	-1.65	-13.00	-51.80
335.55	S	-62.23	-64.09	3.80	-1.93	-13.00	-49.23
502.39	S	-64.60	-66.13	3.85	-2.32	-13.00	-51.60
3505.20	H	-44.60	-50.54	12.40	-6.47	-13.00	-31.60

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

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

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

Operation Band :HSDPA B4  
 Fundamental Frequency :1752.6 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :22 deg\_C / 62 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
95.96	S	-56.62	-54.24	-54.24	-1.16	-1.23	-13.00	-43.62
159.01	S	-61.71	-58.56	-58.56	-1.68	-1.47	-13.00	-48.71
204.60	S	-54.68	-56.33	-56.33	3.30	-1.65	-13.00	-41.68
338.46	S	-57.67	-59.53	-59.53	3.81	-1.95	-13.00	-44.67
366.59	S	-60.50	-62.17	-62.17	3.85	-2.17	-13.00	-47.50
539.25	S	-64.57	-65.62	-65.62	3.64	-2.59	-13.00	-51.57
3505.20	H	-45.88	-51.81	-51.81	12.40	-6.47	-13.00	-32.88

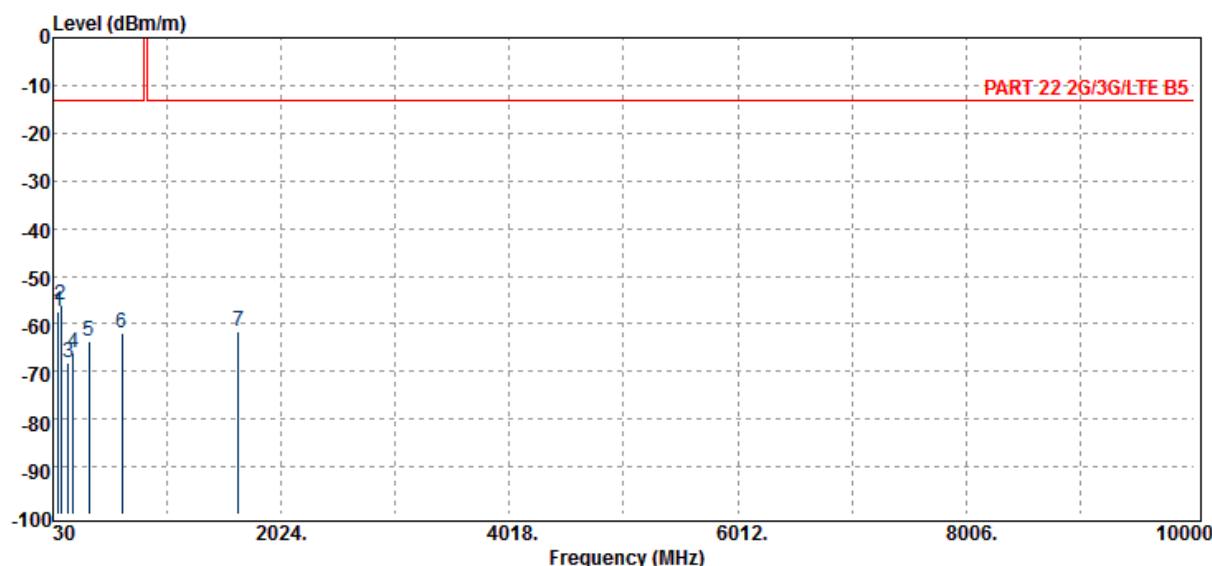
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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

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

**Radiated Spurious Emission Measurement Result: HSUPA Band 5 Mode (The Worst Case)**

Operation Band :HSUPA B5 Temp./Humi. :24 deg\_C / 61 RH  
 Fundamental Frequency :826.4 MHz Engineer :Kane  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane Measurement Pol. Antenna :VERTICAL



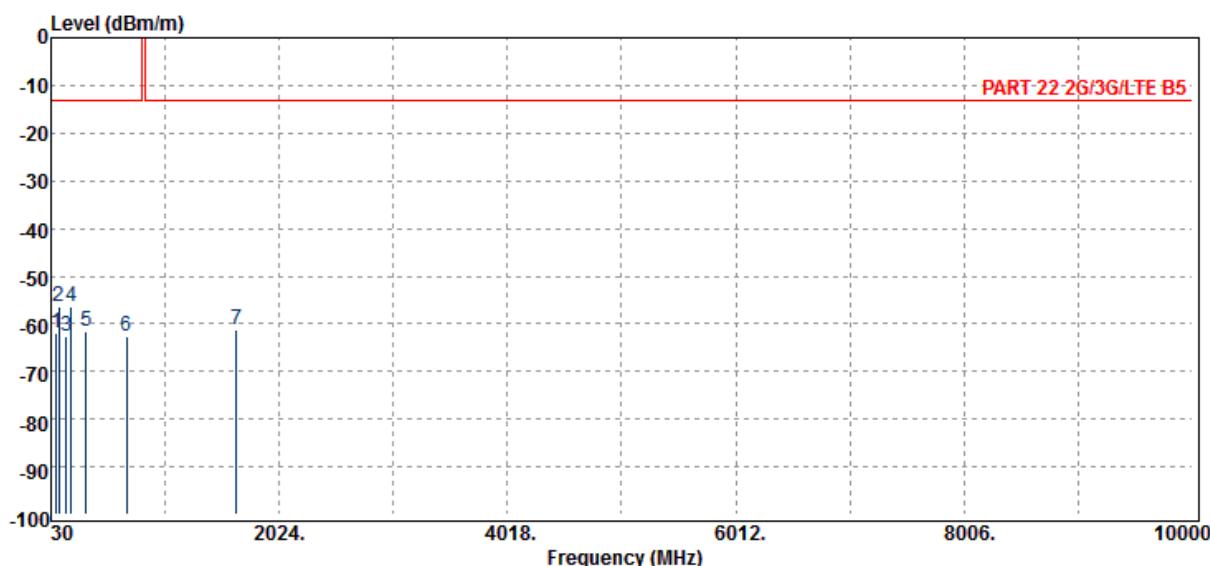
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
75.59	S	-57.38	-52.09	-52.09	-4.16	-1.14	-13.00	-44.38
95.96	S	-56.06	-53.67	-53.67	-1.16	-1.23	-13.00	-43.06
159.98	S	-68.33	-65.22	-65.22	-1.64	-1.48	-13.00	-55.33
204.60	S	-66.10	-67.75	-67.75	3.30	-1.65	-13.00	-53.10
343.31	S	-63.73	-65.56	-65.56	3.83	-1.99	-13.00	-50.73
634.31	S	-62.01	-62.73	-62.73	3.17	-2.45	-13.00	-49.01
1652.80	H	-61.48	-66.52	-66.52	9.27	-4.24	-13.00	-48.48

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

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

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

Operation Band :HSUPA B5  
 Fundamental Frequency :826.4 MHz  
 Operation Mode :Tx CH LOW  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



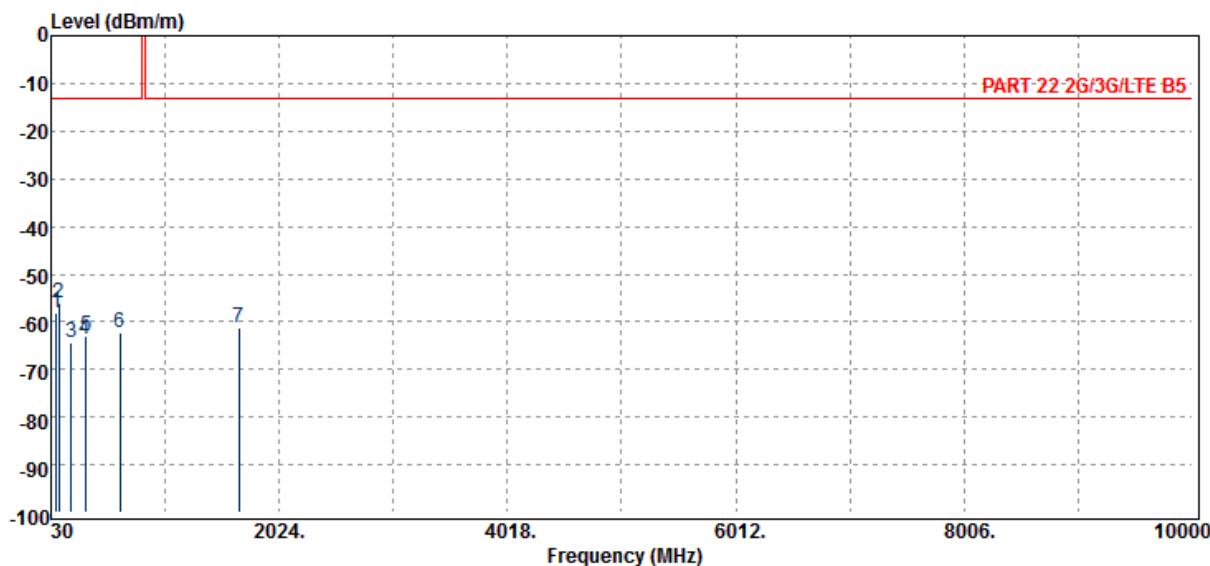
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
75.59	S	-62.11	-56.81	-4.16	-1.14	-13.00	-49.11	
95.96	S	-56.44	-54.05	-1.16	-1.23	-13.00	-43.44	
159.98	S	-62.69	-59.57	-1.64	-1.48	-13.00	-49.69	
204.60	S	-56.24	-57.88	3.30	-1.65	-13.00	-43.24	
336.52	S	-61.53	-63.40	3.80	-1.94	-13.00	-48.53	
692.51	S	-62.66	-62.90	3.09	-2.84	-13.00	-49.66	
1652.80	H	-61.18	-66.21	9.27	-4.24	-13.00	-48.18	

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

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

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

Operation Band :HSUPA B5  
 Fundamental Frequency :836.6 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :VERTICAL



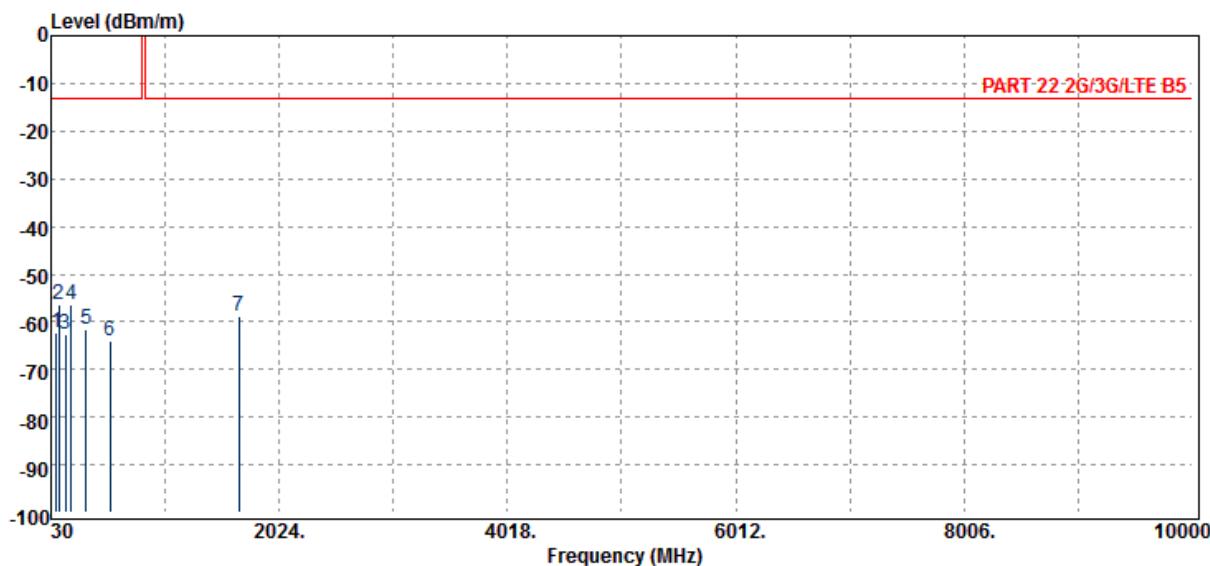
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit	Margin
						dBm	dB
75.59	S	-58.00	-52.71	-4.16	-1.14	-13.00	-45.00
94.99	S	-56.21	-53.94	-1.04	-1.23	-13.00	-43.21
204.60	S	-64.44	-66.09	3.30	-1.65	-13.00	-51.44
330.70	S	-63.74	-65.60	3.77	-1.91	-13.00	-50.74
338.46	S	-62.99	-64.84	3.81	-1.95	-13.00	-49.99
629.46	S	-62.32	-63.04	3.18	-2.47	-13.00	-49.32
1673.20	H	-61.08	-66.14	9.35	-4.29	-13.00	-48.08

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

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

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

Operation Band :HSUPA B5  
 Fundamental Frequency :836.6 MHz  
 Operation Mode :Tx CH MID  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



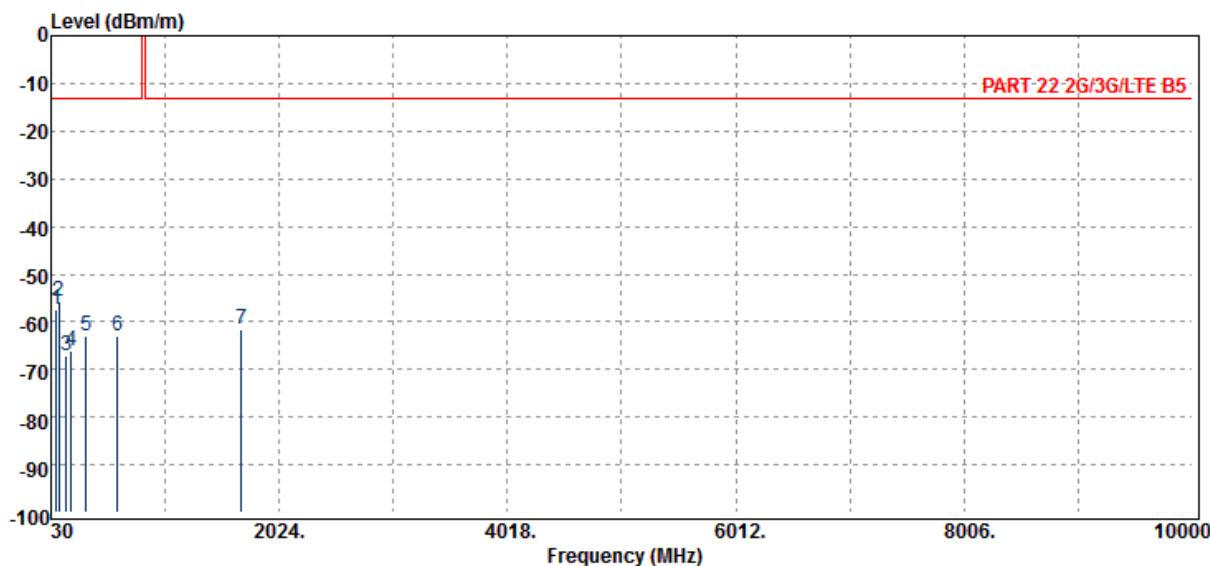
Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
75.59	S	-62.41	-57.12	-4.16	-1.14	-13.00	-49.41	
95.96	S	-56.52	-54.13	-1.16	-1.23	-13.00	-43.52	
159.01	S	-62.60	-59.45	-1.68	-1.47	-13.00	-49.60	
204.60	S	-56.23	-57.88	3.30	-1.65	-13.00	-43.23	
335.55	S	-61.51	-63.38	3.80	-1.93	-13.00	-48.51	
548.95	S	-63.91	-64.81	3.59	-2.69	-13.00	-50.91	
1673.20	H	-58.92	-63.98	9.35	-4.29	-13.00	-45.92	

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

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

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

Operation Band : HSUPA B5  
 Fundamental Frequency : 846.6 MHz  
 Operation Mode : Tx CH HIGH  
 EUT Pol. : E2 Plane  
 Temp./Humi. : 24 deg\_C / 61 RH  
 Engineer : Kane  
 Measurement Pol. : VERTICAL



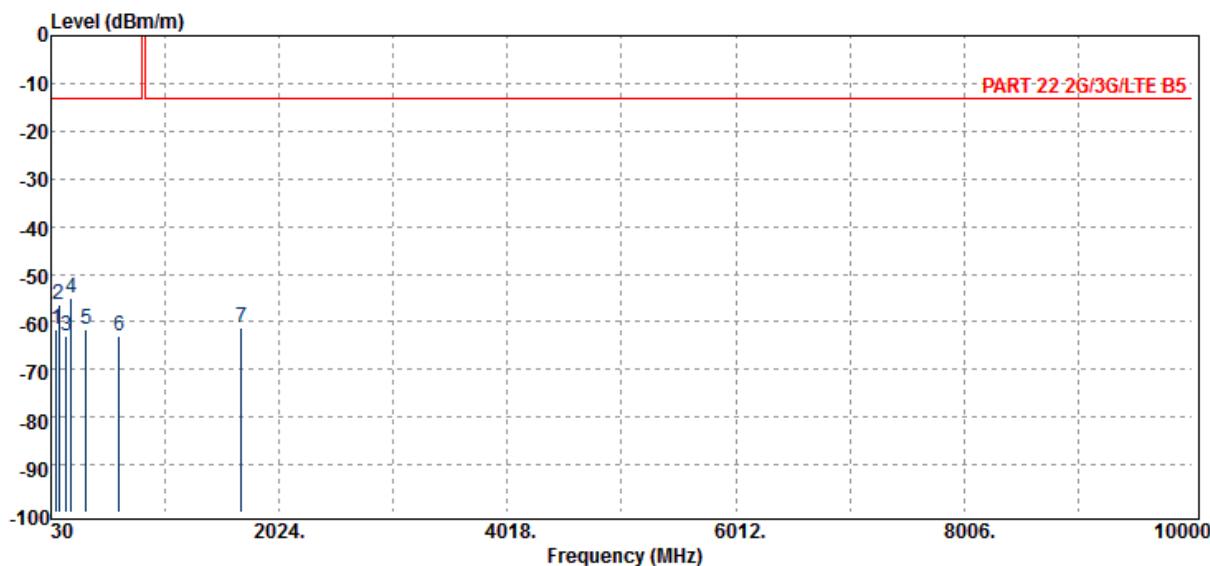
Freq. MHz	Note	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			F/H/E/S					
75.59	S	-57.28		-51.98	-4.16	-1.14	-13.00	-44.28
95.96	S	-55.86		-53.47	-1.16	-1.23	-13.00	-42.86
159.98	S	-67.20		-64.09	-1.64	-1.48	-13.00	-54.20
204.60	S	-66.20		-67.84	3.30	-1.65	-13.00	-53.20
335.55	S	-63.02		-64.89	3.80	-1.93	-13.00	-50.02
610.06	S	-63.04		-63.63	3.22	-2.64	-13.00	-50.04
1693.20	H	-61.68		-66.79	9.42	-4.30	-13.00	-48.68

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

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

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

Operation Band :HSUPA B5  
 Fundamental Frequency :846.6 MHz  
 Operation Mode :Tx CH HIGH  
 EUT Pol. :E2 Plane  
 Temp./Humi. :24 deg\_C / 61 RH  
 Engineer :Kane  
 Measurement Pol. :Antenna :HORIZONTAL



Freq. MHz	Note F/H/E/S	ERP/EIRP dBm	SG Output Level dBm		Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
			Output Level dBm	SG Output Level dBm				
75.59	S	-61.61	-56.32	-4.16	-1.14	-13.00	-48.61	
95.96	S	-56.39	-54.00	-1.16	-1.23	-13.00	-43.39	
159.98	S	-63.07	-59.96	-1.64	-1.48	-13.00	-50.07	
204.60	S	-55.11	-56.75	3.30	-1.65	-13.00	-42.11	
335.55	S	-61.57	-63.43	3.80	-1.93	-13.00	-48.57	
621.70	S	-63.12	-63.78	3.20	-2.53	-13.00	-50.12	
1693.20	H	-61.38	-66.49	9.42	-4.30	-13.00	-48.38	

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

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

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

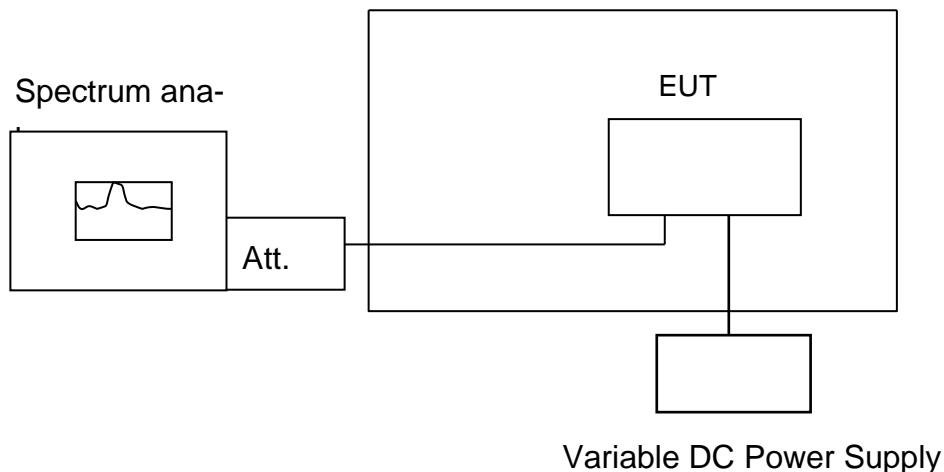
## 11. FREQUENCY STABILITY MEASUREMENT

### 11.1. Standard Applicable:

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

### 11.2. Test Set-up:

Temperature Chamber



**Note:** Measurement setup for testing on Antenna connector

### 11.3. Measurement Procedure:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to 25 . Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

### 11.4. Measurement Equipment Used:

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HU-BER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	10/27/2016	10/26/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyzer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

**11.5. Measurement Result:**

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
FREQUENCY ERROR vs. VOLTAGE				
12	20	836600027	27	2091
11.5	20	836600035	35	2091
11	20	836600025	25	2091
10.5 (End point)	20	836600039	39	2091
FREQUENCY ERROR vs. Temp.				
12	50	836600016	16	2091
12	40	836600020	20	2091
12	30	836600029	29	2091
12	20	836600028	28	2091
12	10	836600034	34	2091
12	0	836600021	21	2091
12	-10	836600036	36	2091
12	-20	836600043	43	2091
12	-30	836600031	31	2091

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
FREQUENCY ERROR vs. VOLTAGE				
12	20	1879999976	-24	4700
11.5	20	1879999972	-28	4700
11	20	1879999978	-22	4700
10.5 (End point)	20	1879999994	-6	4700
FREQUENCY ERROR vs. Temp.				
12	50	1879999925	-75	4700
12	40	1879999976	-24	4700
12	30	1879999961	-39	4700
12	20	1879999982	-18	4700
12	10	1879999973	-27	4700
12	0	1879999982	-18	4700
12	-10	1879999981	-19	4700
12	-20	1879999967	-33	4700
12	-30	1879999972	-18	4700

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

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

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

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

Reference Frequency: WCDMA II Mid Channel 1880 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
<b>FREQUENCY ERROR vs. VOLTAGE</b>				
12	20	1880000023	23	4700
11.5	20	1880000012	12	4700
11	20	1880000025	25	4700
10.5 (End point)	20	1880000039	39	4700
<b>FREQUENCY ERROR vs. Temp.</b>				
Reference Frequency: WCDMA II Mid Channel 1880				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
12	50	1880000034	34	4700
12	40	1880000041	41	4700
12	30	1880000051	51	4700
12	20	1880000043	43	4700
12	10	1880000034	34	4700
12	0	1880000025	25	4700
12	-10	1880000036	36	4700
12	-20	1880000058	58	4700
12	-30	1880000015	15	4700

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

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

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

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

Reference Frequency: WCDMA IV Mid Channel 1732.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
FREQUENCY ERROR vs. VOLTAGE				
12	20	173259982	-18	4331
11.5	20	173259997	-3	4331
11	20	173259980	-20	4331
10.5 (End point)	20	173259983	-17	4331
FREQUENCY ERROR vs. Temp.				
Reference Frequency: WCDMA IV Mid Channel 1732.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
12	50	173259985	-15	4331
12	40	173259972	-28	4331
12	30	173259963	-37	4331
12	20	173259971	-29	4331
12	10	173259981	-19	4331
12	0	173259996	-4	4331
12	-10	173259990	-10	4331
12	-20	173259973	-27	4331
12	-30	173259986	-14	4331

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

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

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

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

Reference Frequency: WCDMA V Mid Channel 836.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
FREQUENCY ERROR vs. VOLTAGE				
12	20	836600021	21	2091
11.5	20	836600008	8	2091
11	20	836600015	15	2091
10.5 (End point)	20	836600021	21	2091
FREQUENCY ERROR vs. Temp.				
Reference Frequency: WCDMA V Mid Channel 836.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(Hz)		
12	50	836600016	16	2091
12	40	836600028	28	2091
12	30	836600031	31	2091
12	20	836600027	27	2091
12	10	836600031	31	2091
12	0	836600025	25	2091
12	-10	836600031	31	2091
12	-20	836600025	25	2091
12	-30	836600031	31	2091

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

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

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

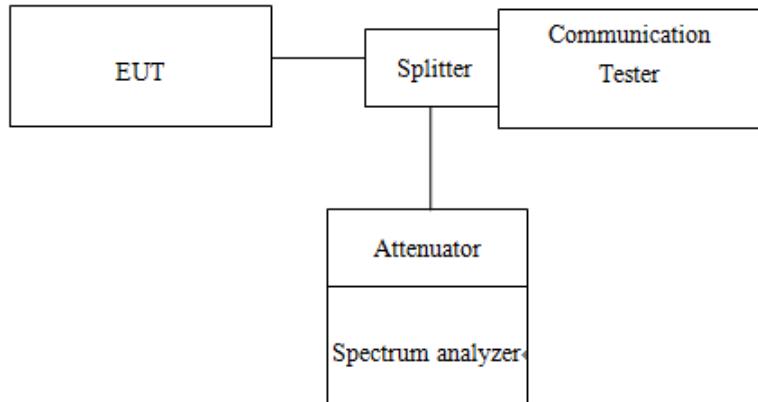
SGS Taiwan Ltd. | No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路134號

## 12. PEAK TO AVERAGE RATIO

### 12.1. Standard Applicable

The peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

### 12.2. Test SET-UP



### 12.3. Measurement Procedure

1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly;
2. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth; & internal =1ms
3. Set the number of counts to a value that stabilizes the measured CCDF curve.

### 12.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	10/27/2016	10/26/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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

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

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

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

## 12.5. Measurement Result

### Tabular Results:

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		GSM 850	GPRS 850	EDGE 850
824.2	128	-	10.26	13.3
836.6	190	-	9.61	11.5
848.8	251	-	8.51	11.83

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		GSM 1900	GPRS 1900	EDGE 1900
1850.2	512	-	10.26	12.86
1880	661	-	9.22	11.99
1909.8	810	-	9.45	12.92

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		WCDMA II	HSDPA II	HSUPA II
1852.4	9262	3.01	3.69	3.60
1880	9400	2.80	3.92	3.64
1907.6	9538	3.04	3.72	3.66

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		WCDMA IV	HSDPA IV	HSUPA IV
1712.4	1312	2.84	3.58	3.92
1732.6	1413	2.82	3.72	3.71
1752.6	1513	2.81	3.77	3.57

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		WCDMA V	HSDPA V	HSUPA V
826.4	4132	2.76	3.97	4.12
836.6	4183	2.77	4.08	4.07
846.6	4233	2.86	4.01	3.87

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

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

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

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

台灣檢驗科技股份有限公司 | t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group

GPRS\_850MHz\_LowCH128-824.2



EDGE\_850MHz\_LowCH128-824.2



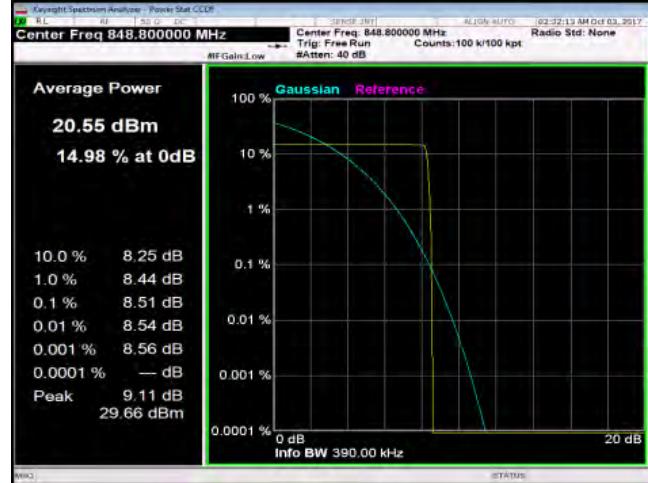
GPRS\_850MHz\_MidCH190-836.6



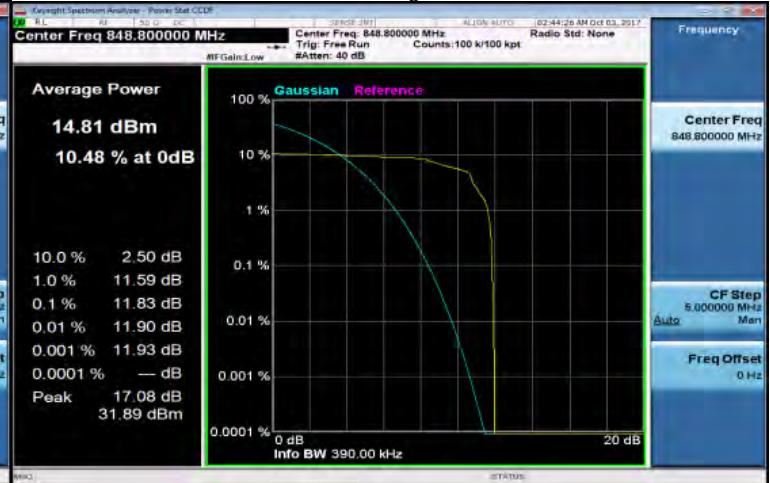
EDGE\_850MHz\_MidCH190-836.6



GPRS\_850MHz\_HighCH251-848.8



EDGE\_850MHz\_HighCH251-848.8

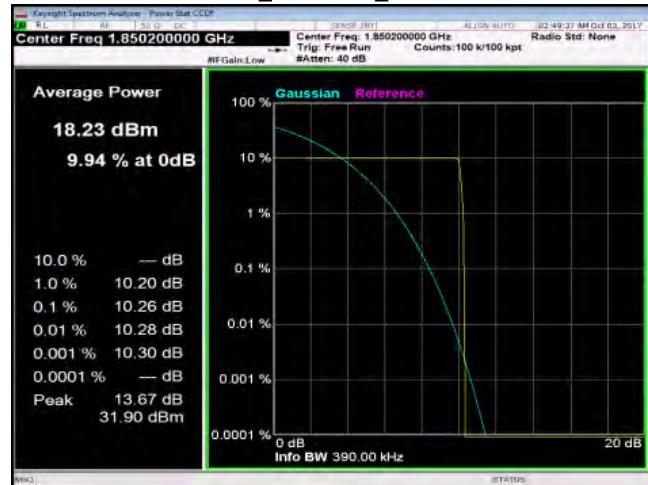


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

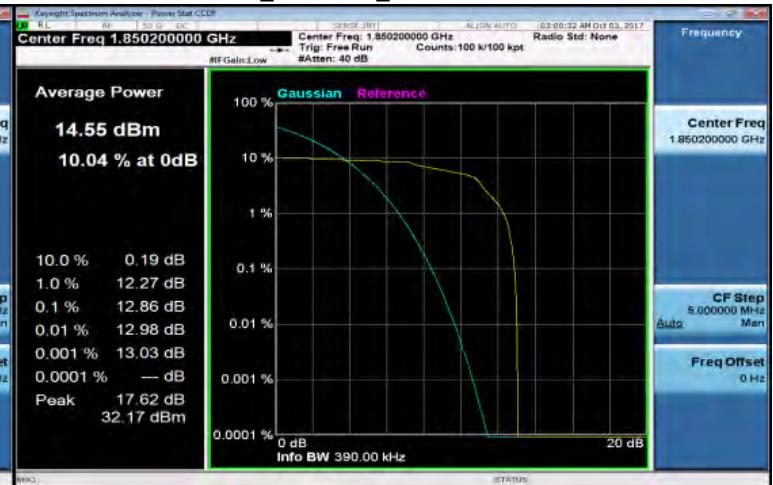
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

GPRS\_1900MHz\_LowCH512-1850.2



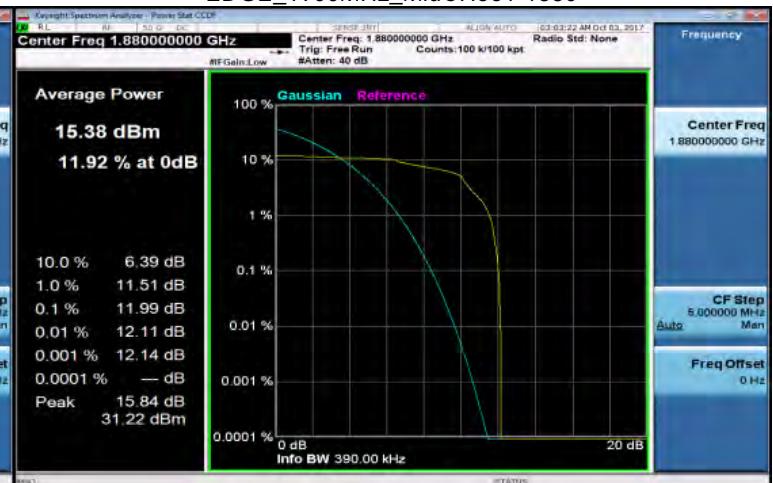
EDGE\_1900MHz\_LowCH512-1850.2



GPRS\_1900MHz\_MidCH661-1880



EDGE\_1900MHz\_MidCH661-1880



GPRS\_1900MHz\_HighCH810-1909.8



EDGE\_1900MHz\_HighCH810-1909.8



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

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

WCDMA\_B2\_LowCH9262-1852.4



HSDPA\_B2\_LowCH9262-1852.4



WCDMA\_B2\_MidCH9400-1880



HSDPA\_B2\_MidCH9400-1880



WCDMA\_B2\_HighCH9538-1907.6



HSDPA\_B2\_HighCH9538-1907.6



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

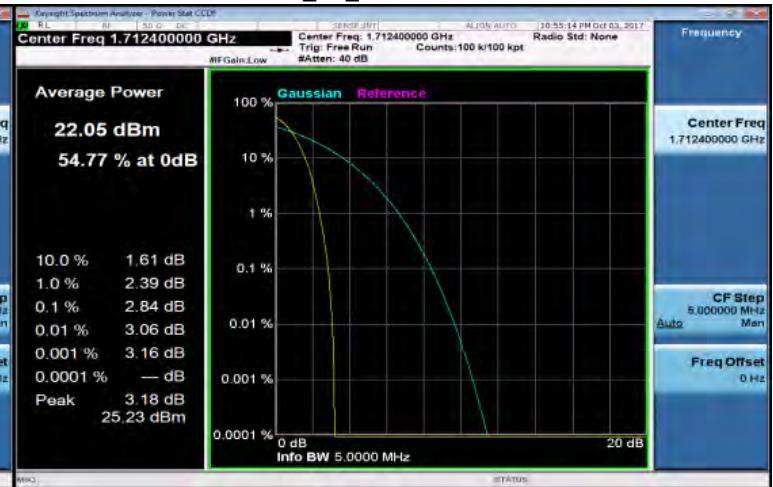
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

HSUPA\_B2\_LowCH9262-1852.4



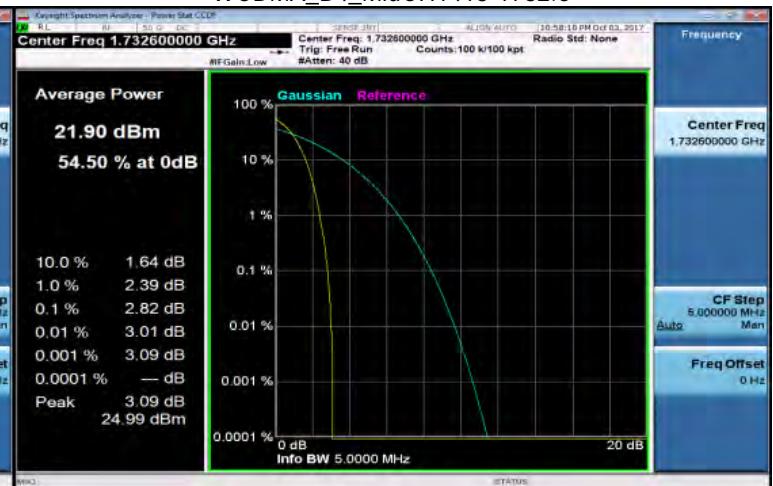
WCDMA\_B4\_LowCH1312-1712.4



HSUPA\_B2\_MidCH9400-1880



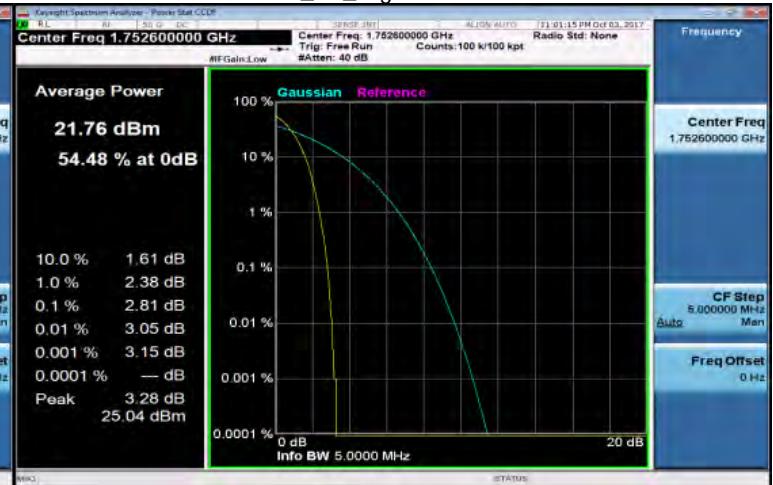
WCDMA\_B4\_MidCH1413-1732.6



HSUPA\_B2\_HighCH9538-1907.6



WCDMA\_B4\_HighCH1513-1752.6



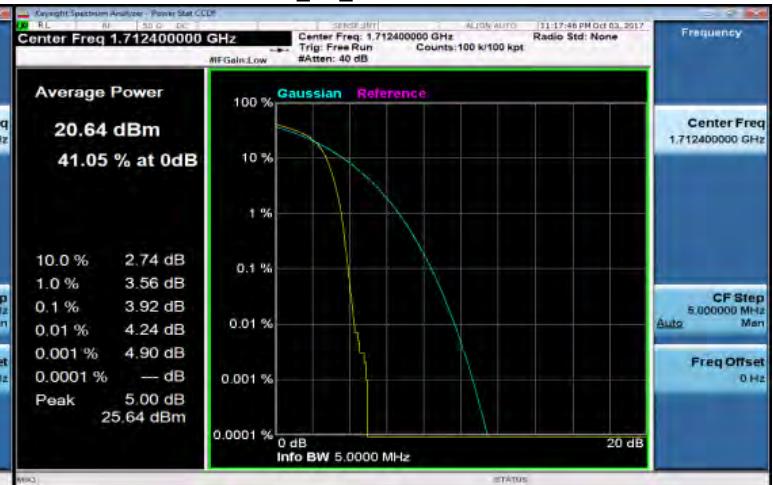
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

HSDPA\_B4\_LowCH1312-1712.4



HSUPA\_B4\_LowCH1312-1712.4



HSDPA\_B4\_MidCH1413-1732.6



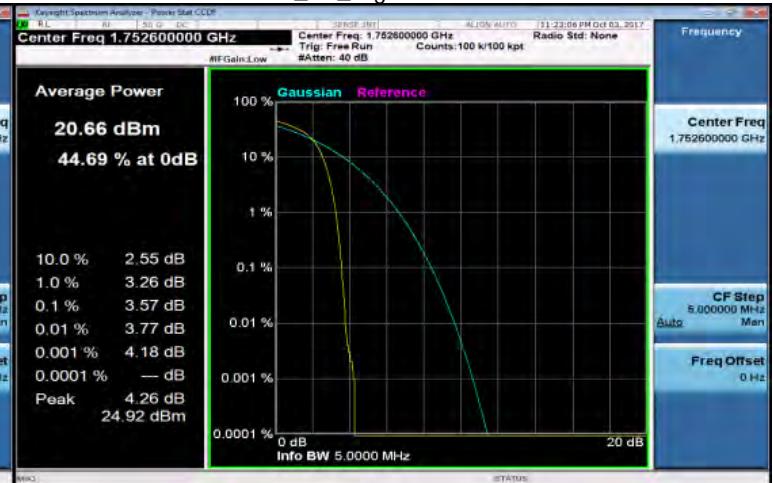
HSUPA\_B4\_MidCH1413-1732.6



HSDPA\_B4\_HighCH1513-1752.6



HSUPA\_B4\_HighCH1513-1752.6



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

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

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

WCDMA\_B5\_LowCH4132-826.4



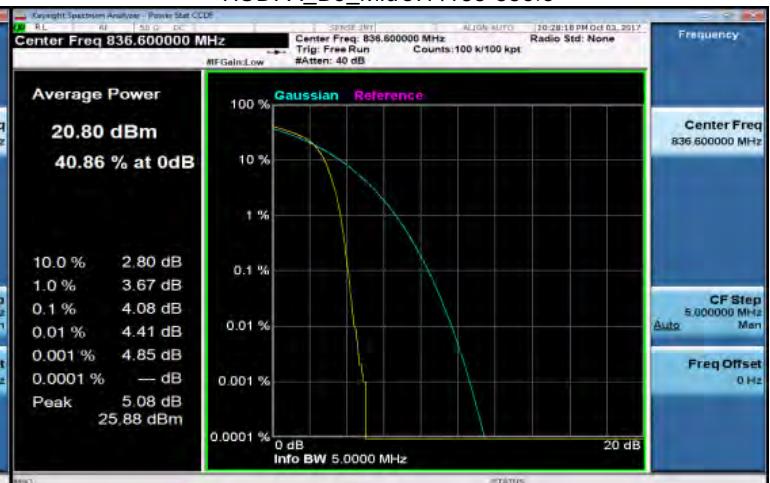
HSDPA\_B5\_LowCH4132-826.4



WCDMA\_B5\_MidCH4183-836.6



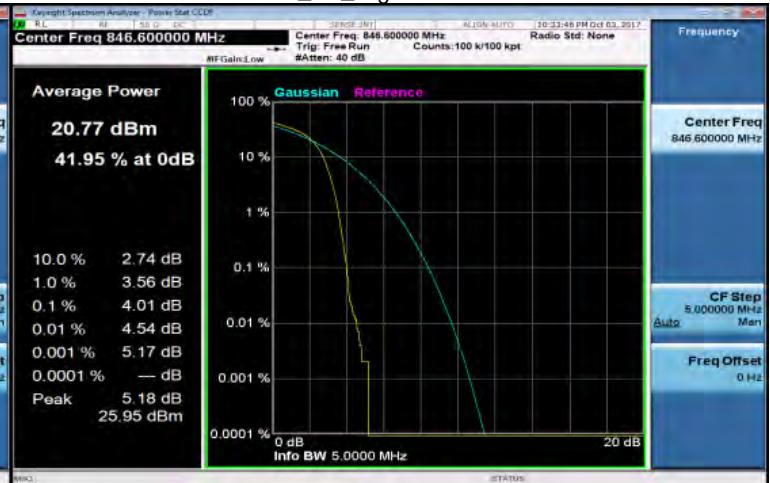
HSDPA\_B5\_MidCH4183-836.6



WCDMA\_B5\_HighCH4233-846.6



HSDPA\_B5\_HighCH4233-846.6



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

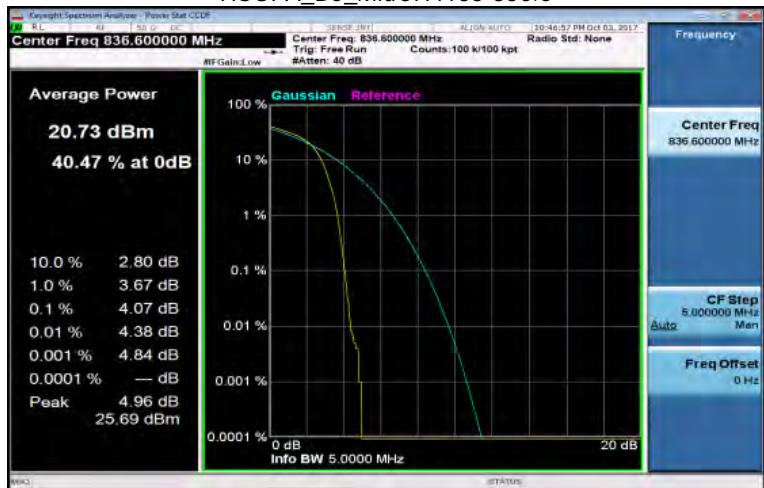
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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

HSUPA\_B5\_LowCH4132-826.4



HSUPA\_B5\_MidCH4183-836.6



HSUPA\_B5\_HighCH4233-846.6



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

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

*~ End of Report ~*

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

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

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

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

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

Member of SGS Group