

TEST REPORT

REPORT NUMBER: I12GC4413-FCC-RF

ON

Type of Equipment: GSM (GPRS) Digital Mobile Phone
Type of Designation: ZTE-G S217
Manufacturer: ZTE Corporation

ACCORDING TO

**FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO
TREATY MATTERS; GENERAL RULES AND REGULATIONS;
e-CFR, Oct 1, 2011**

PART 22, PUBLIC MOBILE SERVICES (Oct 1, 2011 Edition)

**PART 24, PERSONAL COMMUNICATIONS SERVICES (Oct 1,
2011 Edition)**

China Telecommunication Technology Labs.

Month date, year

Mar, 14, 2012

Signature



He Guili

Director

FCC ID: Q78-GS217

Report Date: 2012-03-14

Test Firm Name: China Telecommunication Technology Labs

Registration Number: 840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22 and 24. The sample tested was found to comply with the requirements defined in the applied rules.

CONTENTS

1 GENERAL INFORMATION	4
1.1 NOTES	4
1.2 TESTERS	5
1.3 TESTING LABORATORY INFORMATION	6
1.4 DETAILS OF APPLICANT OR MANUFACTURER	7
2 TEST ITEM	8
2.1 GENERAL INFORMATION	8
2.2 OUTLINE OF EUT	8
2.3 MODIFICATIONS INCORPORATED IN EUT	8
2.4 EQUIPMENT CONFIGURATION	8
2.5 OTHER INFORMATION	8
2.6 EUT PHOTOGRAPHS	8
3 SUMMARY OF TEST RESULTS	9
4 TEST RESULTS	10
4.1 RADIATED SPURIOUS EMISSION	10
4.2 RADIATED RF POWER OUTPUT	14
4.3 OCCUPIED BANDWIDTH	18
4.4 FREQUENCY STABILITY OVER TEMPERATURE VARIATION	26
4.5 FREQUENCY STABILITY OVER VOLTAGE VARIATION	28
4.6 CONDUCTED RF POWER OUTPUT	30
4.7 CONDUCTED SPURIOUS EMISSION	33
4.8 BAND-EDGE (CONDUCTED)	36
ANNEX C DEVIATIONS FROM PRESCRIBED TEST METHODS	43

1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22 and 24.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

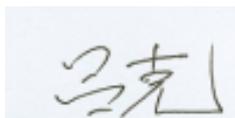
The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

China Telecommunication Technology Labs.(CTTL) authorizes the applicant or manufacturer (see section 1.4) to reproduce this report provided, and the test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CTTL Mr. He Guili.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. CTTL accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

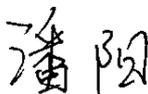
1.2 Testers

Name: Lv Ke
Position: Engineer
Department: Department of EMC test
Duration of the test: From 2012-02-10 to 2012-02-15
Signature:



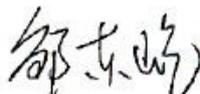
Editor of this test report:

Name: Pan Yang
Position: Engineer
Department: Department of EMC test
Date: 2012-03-14
Signature:



Technical responsibility for area of testing:

Name: Zou Dongyi
Position: Manager
Department: Department of EMC test
Date: 2012-03-14
Signature:



1.3 Testing Laboratory information

1.3.1 Location

Name: China Telecommunication Technology Labs.
Address: No. 11, Yue Tan Nan Jie, Xi Cheng District
BEIJING
P. R. CHINA, 100083
Tel: +86 10 68094053
Fax: +86 10 68011404
Email: emc@chinattl.com

1.3.2 Details of accreditation status

Accredited by: China National Accreditation for Laboratory (CNAL)
Registration number: CNAL Registration No.L0570
Standard: ISO/IEC 17025

1.3.3 Test location, where different from section 1.3.1

Name: -----
Street: -----
City: -----
Country: -----
Telephone: -----
Fax: -----
Postcode: -----

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name: ZTE Corporation
Address: No.6, Huashen Avenue, Yuhuatai District, Nanjing,
P.R.CHINA
Country: China
Telephone: + 86-25-52877697
Fax: + 86-25-52877697
Contact: Wu Meixia
Telephone: + 86-25-52877697
Email: wu.meixia1@zte.com.cn

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: --
Address: --
City: --
Country: --

2 Test Item

2.1 General Information

Manufacturer: ZTE Corporation
 Model Name: ZTE-G S217
 Product Name: GSM(GPRS)Digital Mobile Phone
 Serial Number: 862679010008611
 Production Status: Product
 Receipt date of test item: 2012-02-02

2.2 Outline of EUT

EUT is a GSM(GPRS) Digital Mobile Phone support GSM/GPRS 850/900/1800/1900. For GPRS, the multi class is 12 (maximum 4 up timeslots).

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	phone	ZTE CORPORATION	ZTE-G S217	86267901 0008611	None
B	Battery	ZTE CORPORATION	Li3706t42p3h383 857	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
1	USB	ZTE	1.0m	none	1	--

2.5 Other Information

Version of hardware and software:

HW Version: GMAN

SW Version: ZTE-CN-8S-P120A50V1.0.0

2.6 EUT Photographs

See external and internal photo of Annex A and B.

3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

Specification Clause	Name of Test	Result
2.1051, 24.238, 2.1053,22.917	Radiated Spurious Emission	Pass
2.1046,24.232	Radiated RF Power Output	Pass
22.913(a)	Effective Radiated Power (ERP)	Pass
2.1049,22.917(b), 24.238(b)	Occupied Bandwidth	*Note 1
2.1055,22.355, 24.235	Frequency Stability over Temperature Variation	Pass
2.1046,22.809,24. 232(b)	Conducted RF Power Output	Pass
2.1057,22.357,24. 238	Conducted spurious emissions	Pass
2.1055,22.355, 24.235	Frequency Stability over Voltage Variation	Pass
2.1051, 24.238, 2.1053, 22.917	Band-edge (conducted)	Pass
Note 1: No applicable performance criteria.		

Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2013-01-11	Normal
7330	Ultra Broadband Antenna	R/S	VULB 9160	vulb9160-3252	2013-09-05	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2014-01-23	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2013-11-16	Normal
7330-2	Radio Communications Analyzer	Anritsu	MT8820B	6200772659	2013-01-27	Normal
---	Power spliter	Jie sai	---	1000132	2012-01-02	Normal
7353-2	DC power	Agilent.	66319B	MY43000149	2012-03-02	Normal

4 Test Results

4.1 Radiated Spurious Emission

Specifications:	2.1051, 24.238, 2.1053, 22.917
Date of Tests	2012-02-10~2012-02-15
Test conditions:	Ambient Temperature: 15°C-35°C Relative Humidity: 30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661 for GSM/GPRS mode
Test Results:	Pass

Limit Level Construction:

Part 22:

According to Part 22.917(a), i.e., Out of band emissions, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB, so the limit level is:

$$P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$$

Part 24:

According to Part 24.238 (a), i.e., Out of band emissions, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB, so the limit level is:

$$P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$$

Test Setup:

The EUT was placed in an anechoic chamber. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

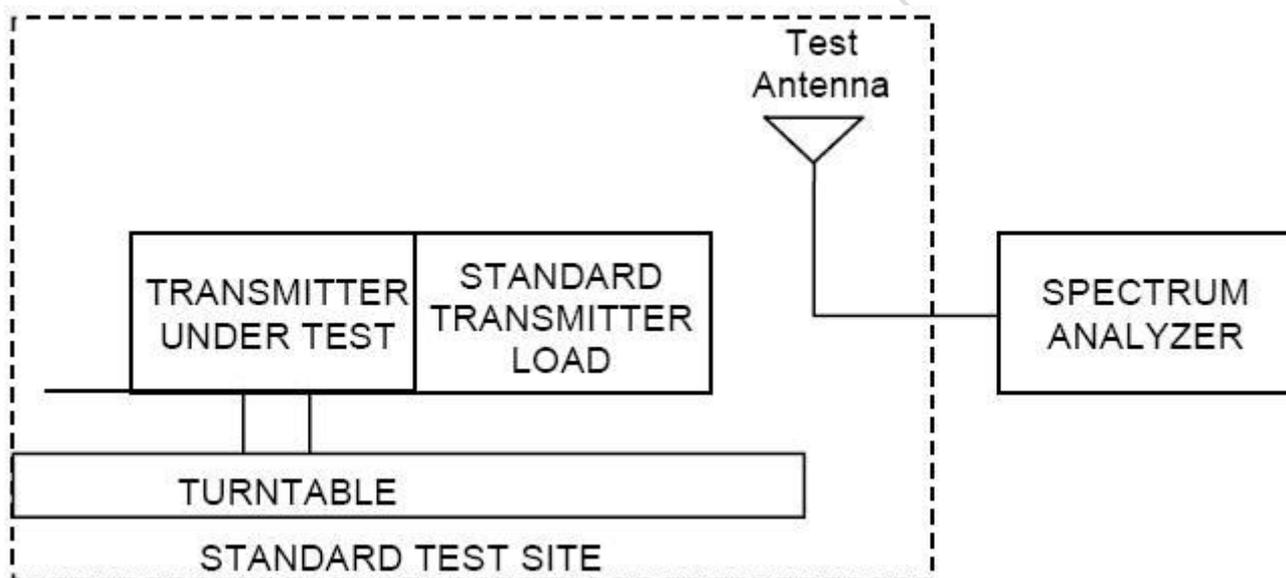


Figure SP

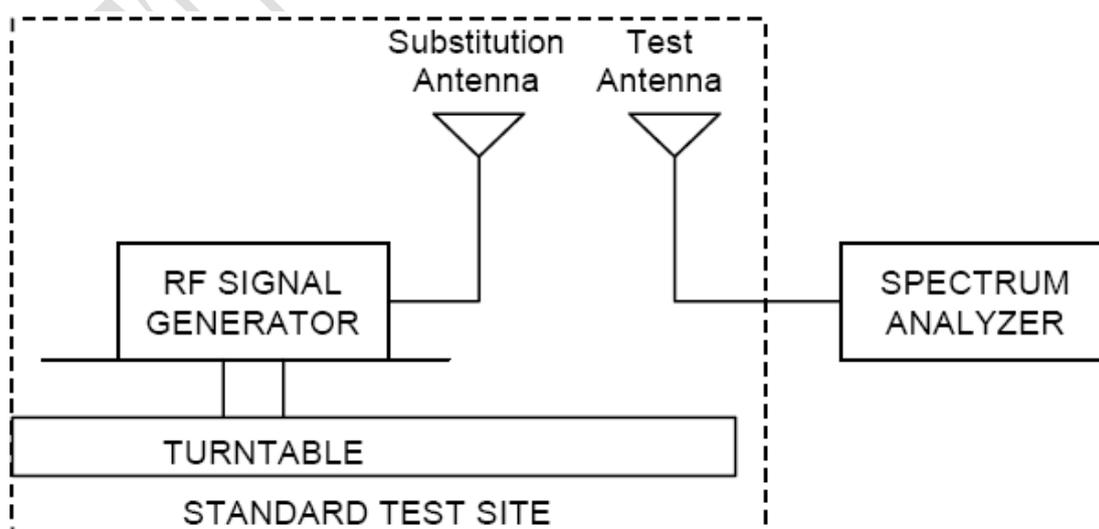
Test Method:

The measurement method is substitution method accordance with section 2.2.12 of ANSI/TIA-603-C: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

(a) Connect the equipment as illustrated and measure the spurious emissions as the method as above.



(b) Reconnect the equipment as illustrated.



(c) Remove the transmitter and replace it with a substitution antenna. The center of the substitution antenna should be approximately at the same location as the center of the transmitter.

(d) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

(e) Repeat step d) with both antennas vertically polarized for each spurious frequency.

(f) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps d) and e) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

$$P_d(\text{dBm}) = P_g(\text{dBm}) - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

where:

P_d is the dipole equivalent power and

P_g is the generator output power into the substitution antenna.

Test Data (GSM channel 190)

Frequency [GHz]	Generator output power(P_g)[dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
2509.8	-20	10.85	8.05	-22.80	V
4183.0	-41	14.7	8.23	-47.65	V
8366.0	-30	22.93	9.64	-43.29	V
2509.8	-24.6	10.85	8.05	-26.8	H
3849.3	-50	14.03	8.23	-56.34	H
8274.2	-44	22.75	9.64	-57.00	H

Test Data (GSM channel 661)

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760.0	-44	13.8	7.75	-50.05	V
5640.8	-34.5	18.3	8.95	-43.85	V
3760.0	-39	13.8	7.75	-45.5	H
5640.8	-36.5	18.3	8.95	-45.85	H

Test Data (GPRS channel 190)

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
1673.7	-13.5	9.7	6.5	-16.65	V
3346.9	-38.0	12.8	7.9	-42.95	V
1673.7	-12.5	9.7	6.5	-15.65	H
2509.8	-18.5	10.8	7.9	-21.25	H
3346.9	-40.1	12.8	7.9	-45.05	H

Test Data (GPRS channel 661)

Frequency [GHz]	Generator output power(P_g) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (P_d) [dBm]	Antenna Polarization [H/V]
3760.0	-55.3	13.8	7.8	-61.35	V
7520.0	-38.2	20.7	9.3	-49.65	V
5640.8	-46.0	17.8	8.9	-54.85	H
9400.5	-34.8	25.6	9.8	-50.65	H

4.2 Radiated RF Power Output

Specifications:	2.1046,24.232,22.913(a)
Date of Tests	2012.02.14~2012.02.21
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810 for GSM, GPRS
Test Results:	Pass

Limit Level Construction:

(a) Radiated RF Power Output

According to Part 24.232(b), i.e., Mobile/portable stations are limited to 2 watts EIRP peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications, so the limit level is 2 W or 33 dBm.

(b) ERP

According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

Limits for Radiated RF Power Output

Frequency range	Limit Level (EIRP)/Resolution Bandwidth
TX channel	33dBm/1MHz
Limits for ERP	
Frequency range	Limit Level (ERP)
TX channel	7W

Test Setup:

The EUT was set in an anechoic chamber, which is connected to the Wireless Communications Test Set located outside the chamber. The test was done using an automated test system, where all test equipments were controlled by a computer. The test distance separation from the receive antenna is 3 meters.

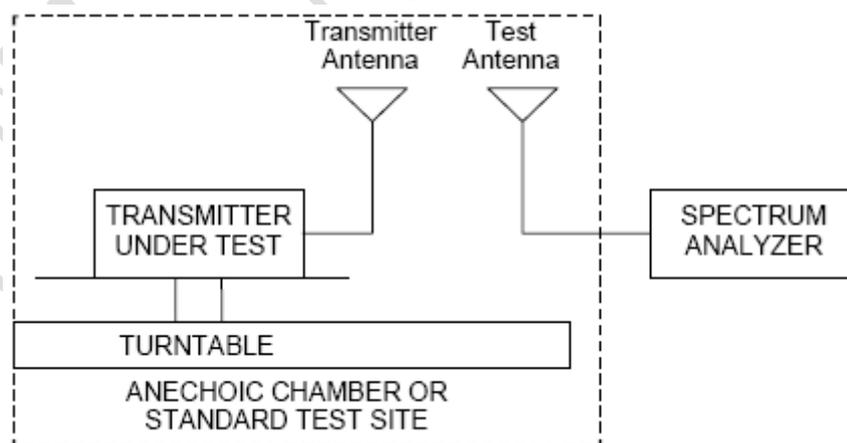


Figure EIRP

Test Method

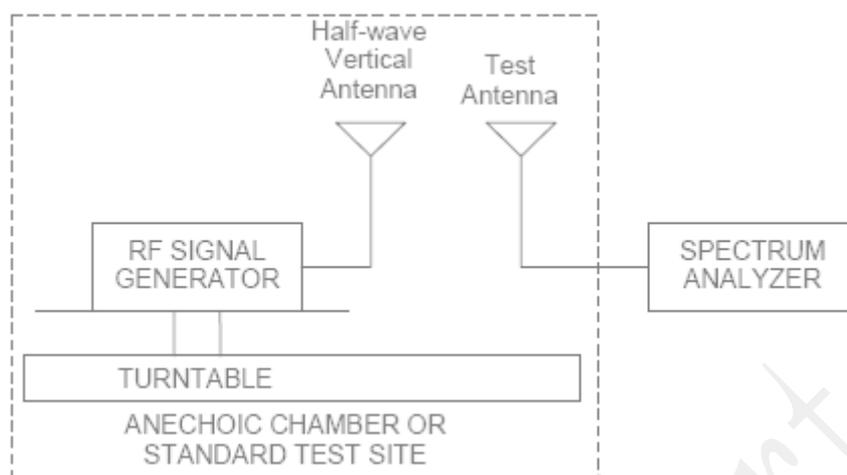
The measurement was performed accordance with section 2.2.17 of ANSI/TIA-603-C: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

a) Connect the equipment as illustrated. Mount the equipment in a vertical orientation on a multi-axis plastic holder in a RF anechoic chamber.



b) Key the transmitter on, then rotate the EUT 360 degree azimuthally and record spectrum analyzer power level (LVL) measurements at angular increments that are sufficiently small to permit resolution of all peaks.

c) Replace the transmitter under test with a vertically polarized half-wave dipole, or an antenna whose gain is known relative to an ideal half-wave dipole, illustrated as following. The center of the antenna should be at the same location as the center of the antenna under test.



d) Connect the antenna to a signal generator with a known output power and record the path loss (in dB) as LOSS.

$$\text{LOSS} = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$$

e) Determine the effective radiated output power at each angular position from the readings in steps b) and d) using the following equation:

$$\text{ERP (dBm)} = \text{LVL (dBm)} + \text{LOSS (dB)}$$

f) The maximum ERP is the maximum value determined in the preceding step.

Method of Calculation

ERP can then be calculated as follows:

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBd)}$$

where:

dBd refers to gain relative to an ideal dipole.

Test Data:

GSM 850 band mode:

Channel	Output power (Pg) [dBm]	Loss [dB]	Antenna Gain [dBd]	ERP (Pd) [dBm]
128 (824.2MHz)	37.0	6.0	-3.26	27.74
190 (836.6MHz)	38.9	6.0	-3.28	29.62
251 (848.8MHz)	39.2	6.0	-3.47	29.73

GSM 1900 band mode:

Channel	Output power (Pg) [dBm]	Loss [dB]	Antenna Gain [dBd]	EIRP (P _d) [dBm]
512 (1850.2MHz)	31.9	9.5	6.80	30.15
661 (1880.0MHz)	32.7	9.5	6.85	30.05
810 (1909.8MHz)	32.1	9.5	6.90	29.55

GPRS 850 band mode:

Channel	Output power (Pg) [dBm]	Loss [dB]	Antenna Gain [dBd]	ERP (P _d) [dBm]
128 (824.2MHz)	38.8	6.0	-3.26	29.54
190 (836.6MHz)	40.3	6.0	-3.28	31.02
251 (848.8MHz)	37.9	6.0	-3.47	28.43

GPRS 1900 band mode:

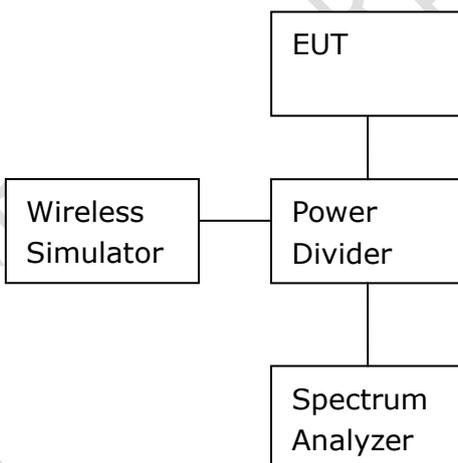
Channel	Output power (Pg) [dBm]	Loss [dB]	Antenna Gain [dBd]	EIRP (P _d) [dBm]
512 (1850.2MHz)	31.7	9.5	6.80	29.0
661 (1880.0MHz)	32.1	9.5	6.85	29.45
810 (1909.8MHz)	33.5	9.5	6.90	30.9

4.3 Occupied bandwidth

Specifications:	2.1049,22.917(b),24.238(b)
Date of Test	2012.02.10
Test conditis:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810 for GSM, GPRS
Test Results:	Pass
Test equipment Used:	

Test Setup

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method

The 99% occupied bandwidth was calculated form the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power band.

Note:

None

Test Data:

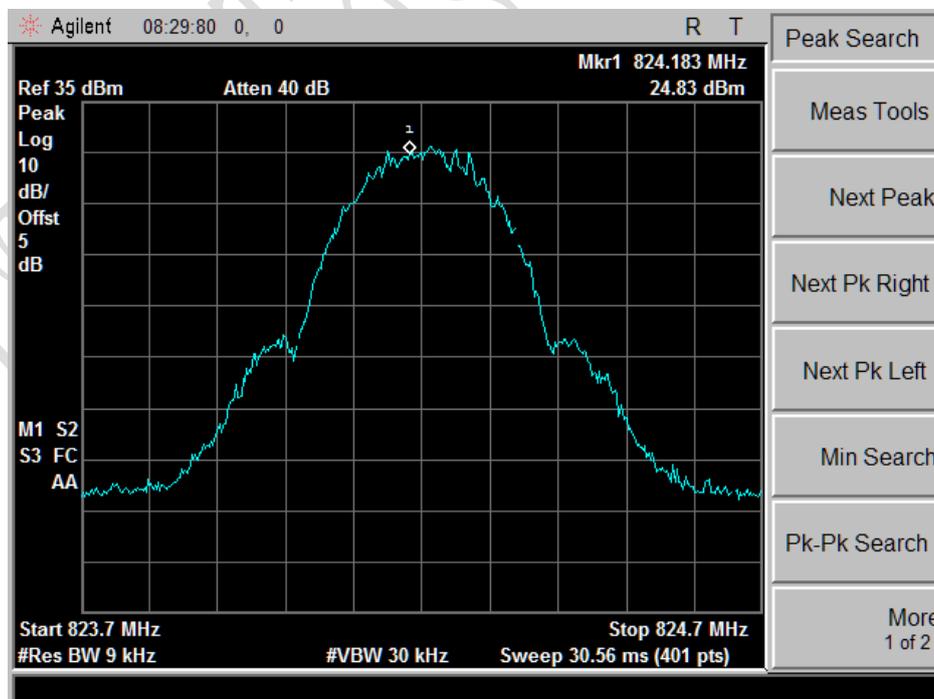
GSM 850 band mode

EUT channel no.	99% occupied bandwidth [kHz]
128 (824.2MHz)	247.5
190 (836.6MHz)	247.5
251 (848.8MHz)	247.5

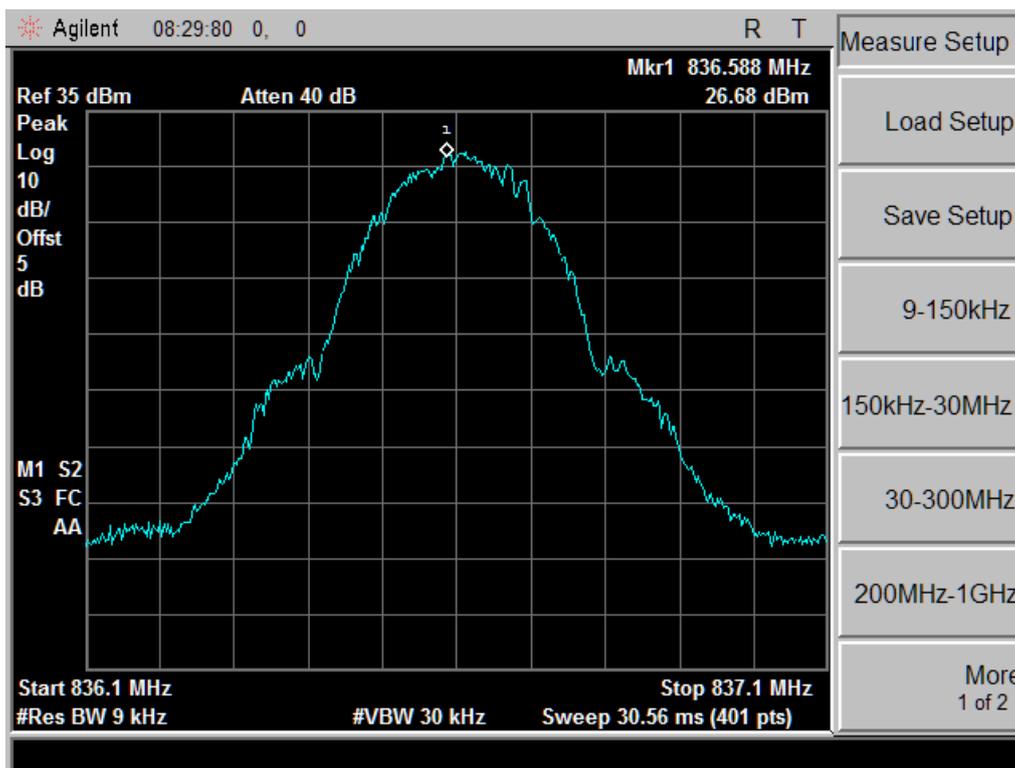
GSM 1900 band mode

EUT channel no.	99% occupied bandwidth [kHz]
512 (1850.2MHz)	245.0
661 (1880.0MHz)	245.0
810 (1909.8MHz)	242.5

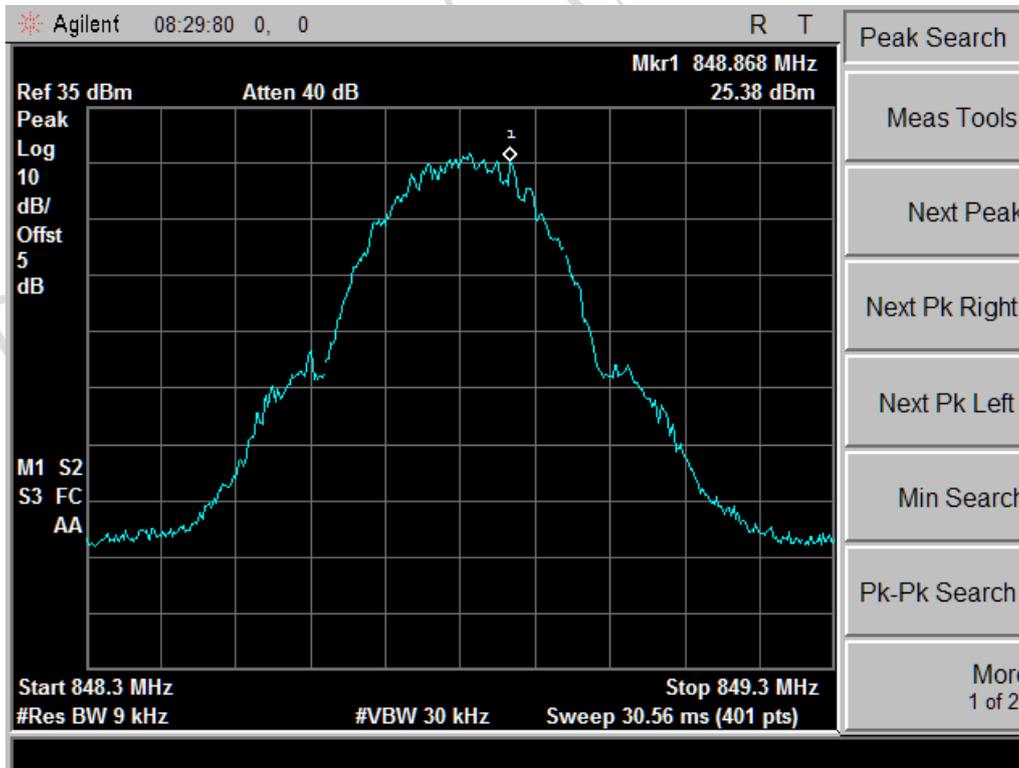
Graphical results for GSM mode:



GSM850 Channel 128



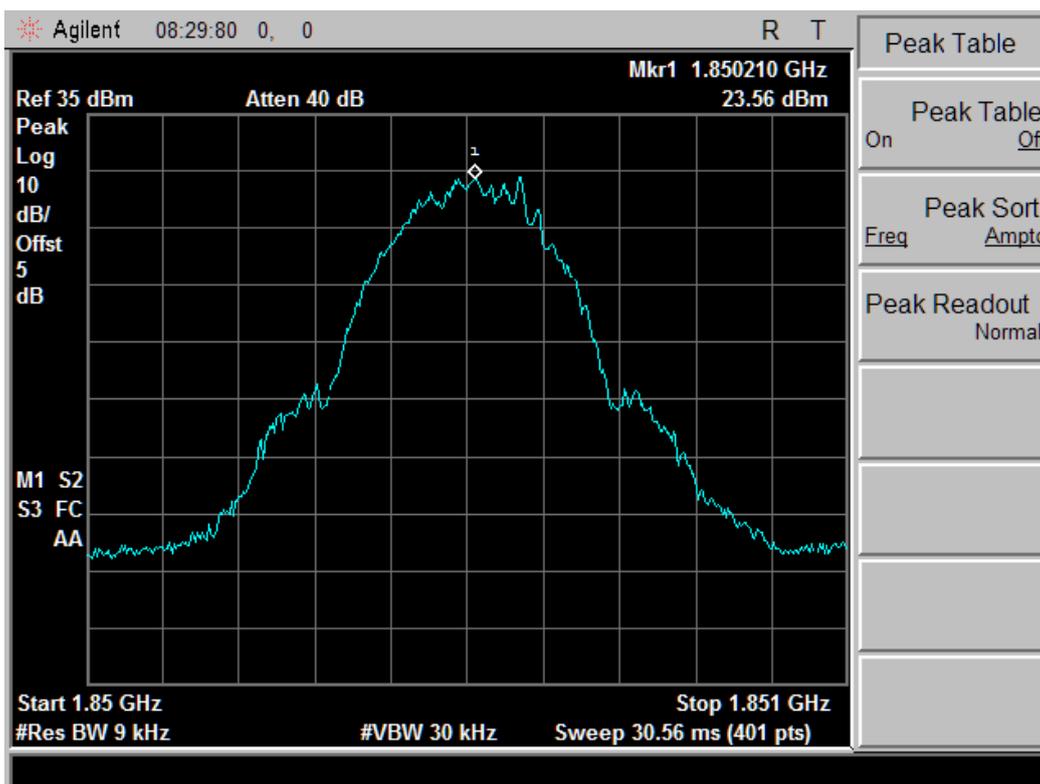
GSM850 Channel 190



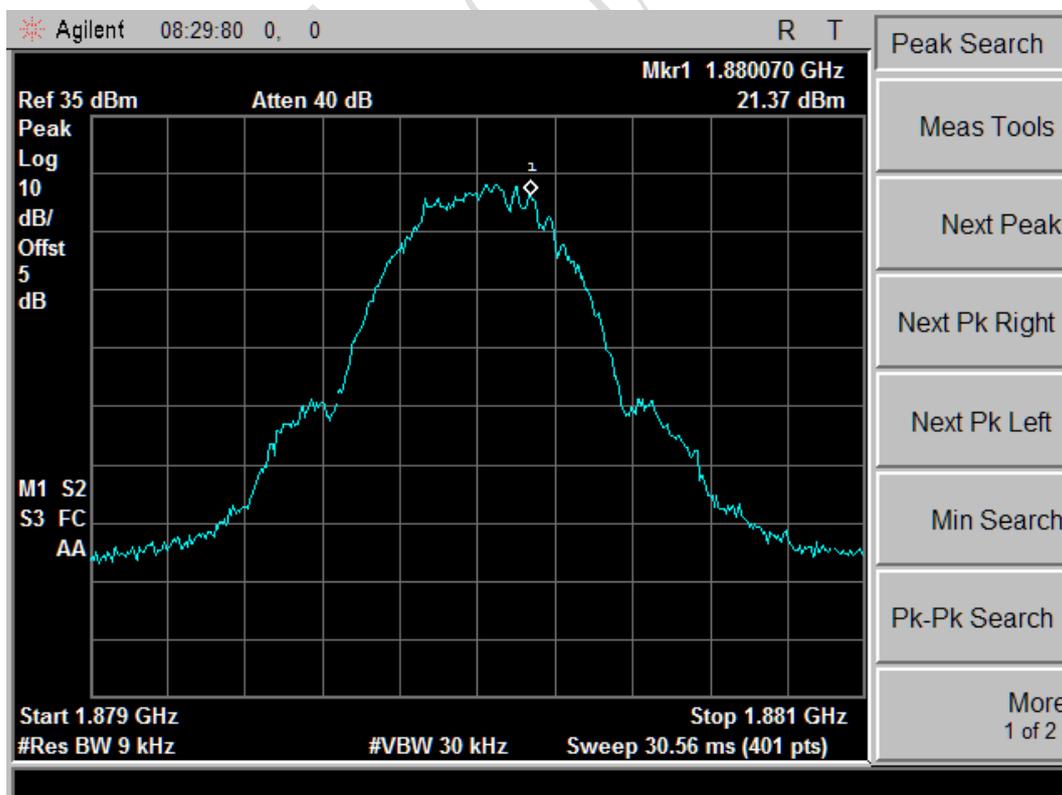
GSM850 Channel 251

FCC Parts 2, 22 and 24
Equipment: ZTE-G S217

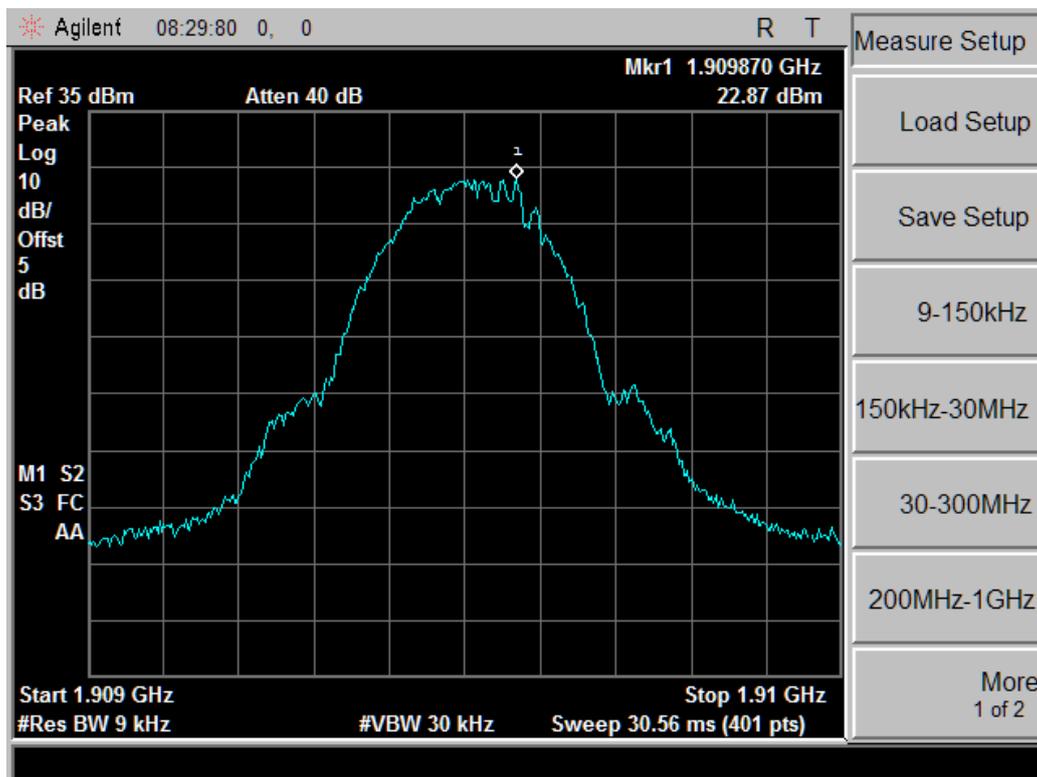
REPORT NO.: I12GC4413-FCC-RF



GSM1900 Channel 512



GSM1900 Channel 661



GSM1900 Channel 810

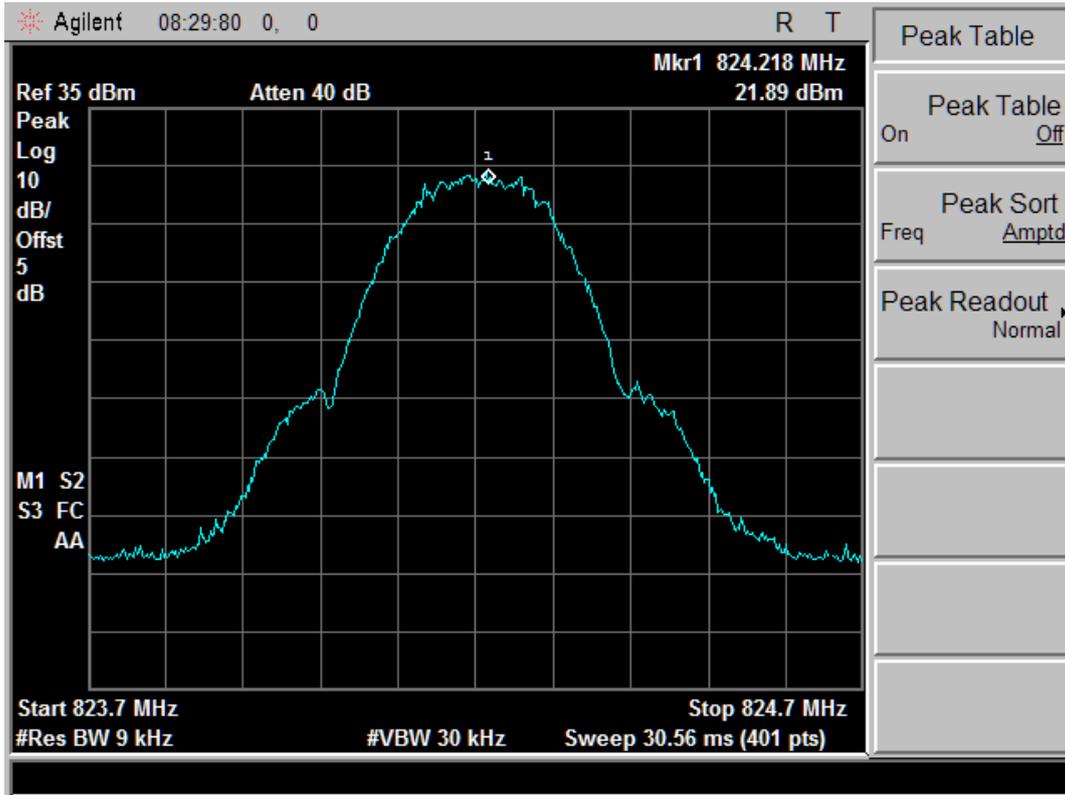
GPRS 850 band mode

EUT channel no.	99% occupied bandwidth [kHz]
128 (824.2MHz)	242.5
190 (836.6MHz)	242.5
251 (848.8MHz)	245.0

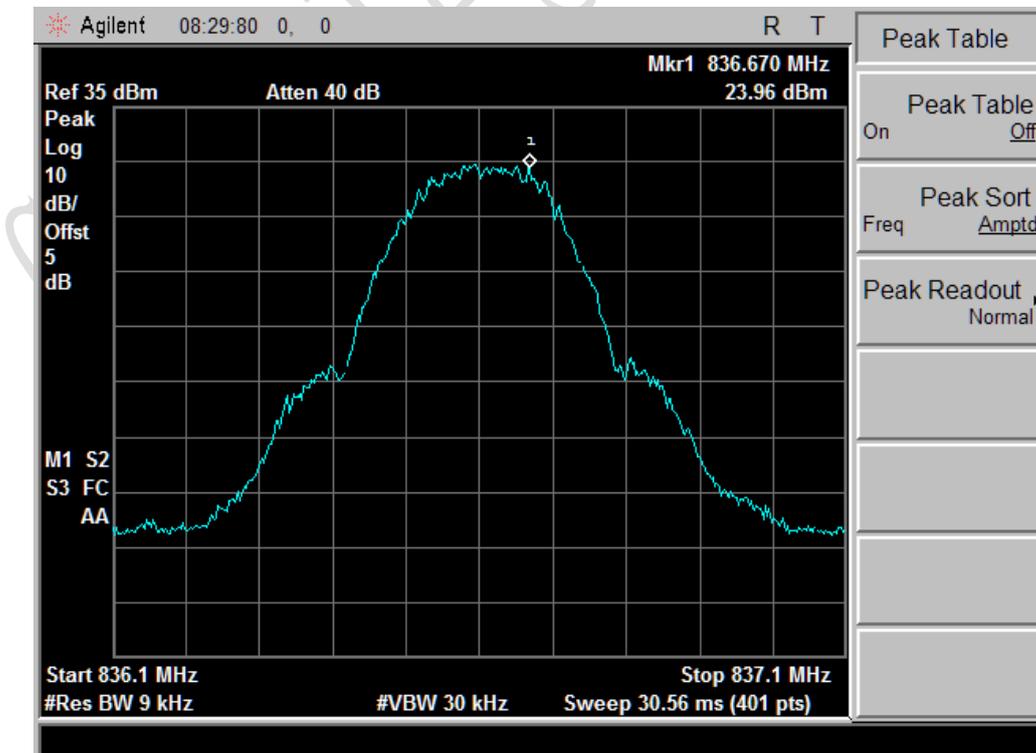
GPRS 1900 band mode

EUT channel no.	99% occupied bandwidth [kHz]
512 (1850.2MHz)	242.5
661 (1880.0MHz)	240.0
810 (1909.8MHz)	240.0

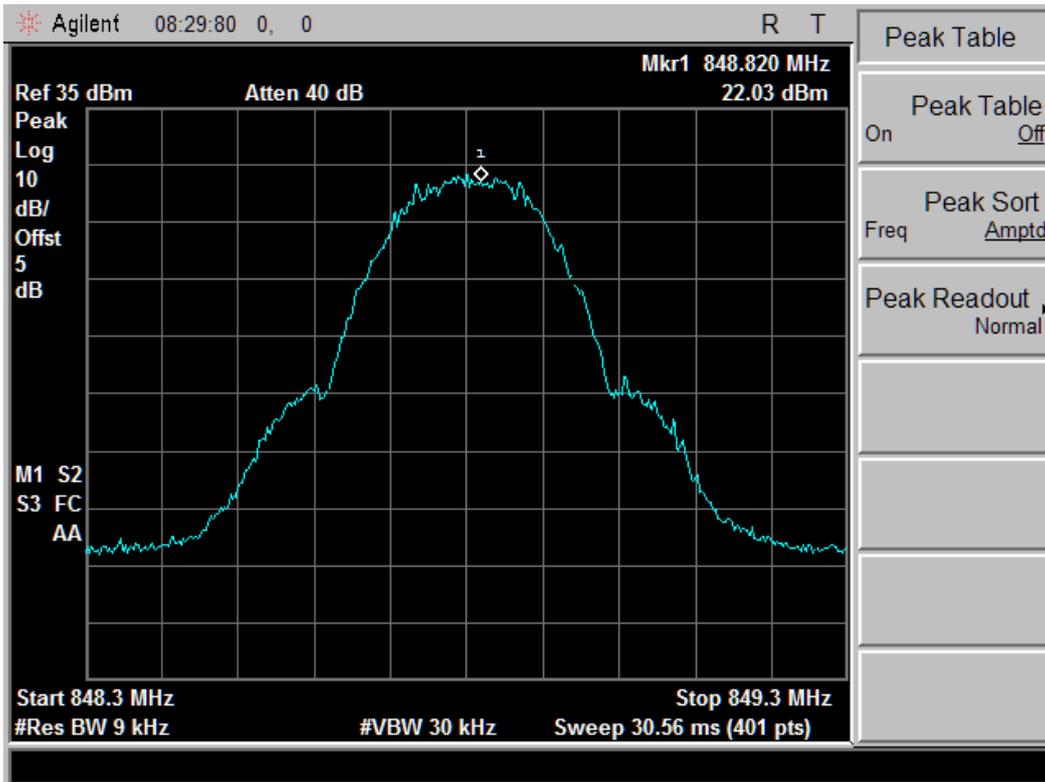
Graphical results for GPRS mode:



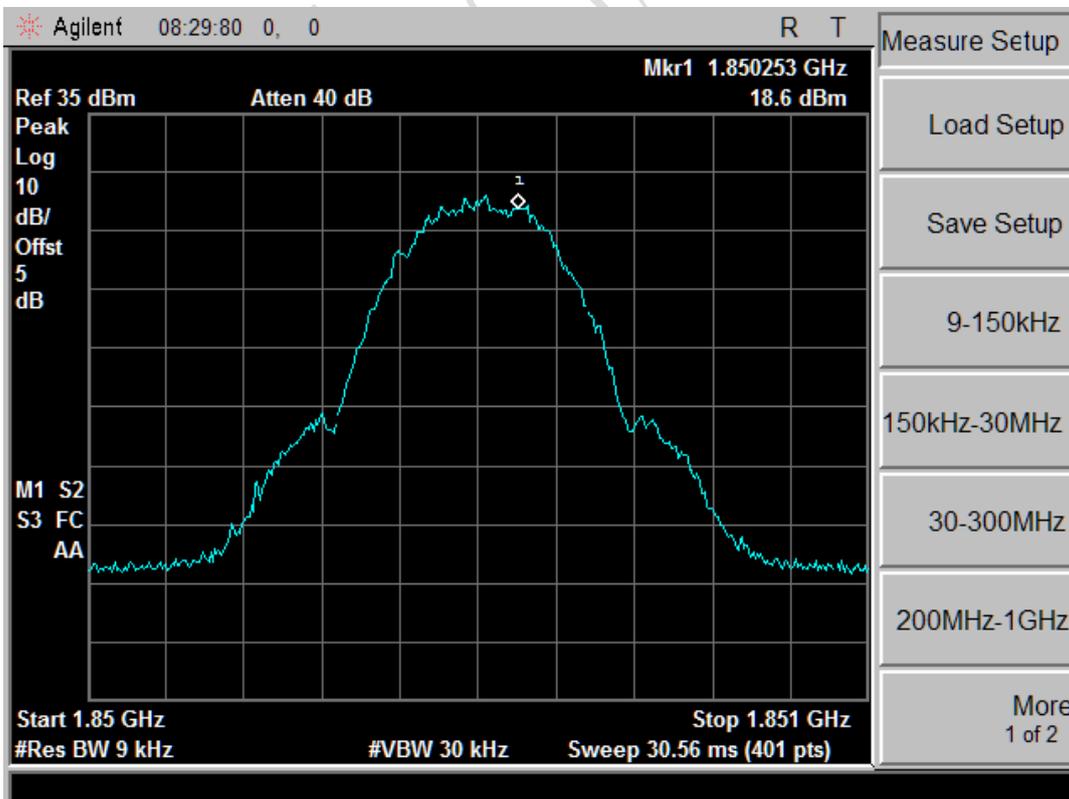
GPRS850 Channel 128



GPRS850 Channel 190



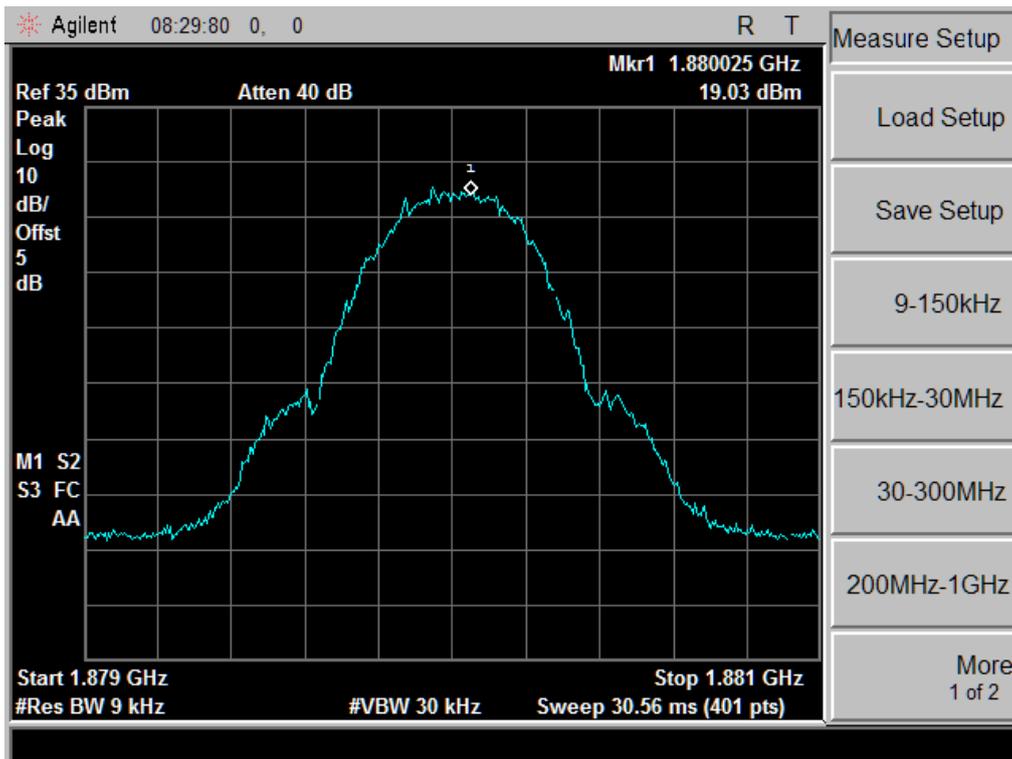
GPRS850 Channel 251



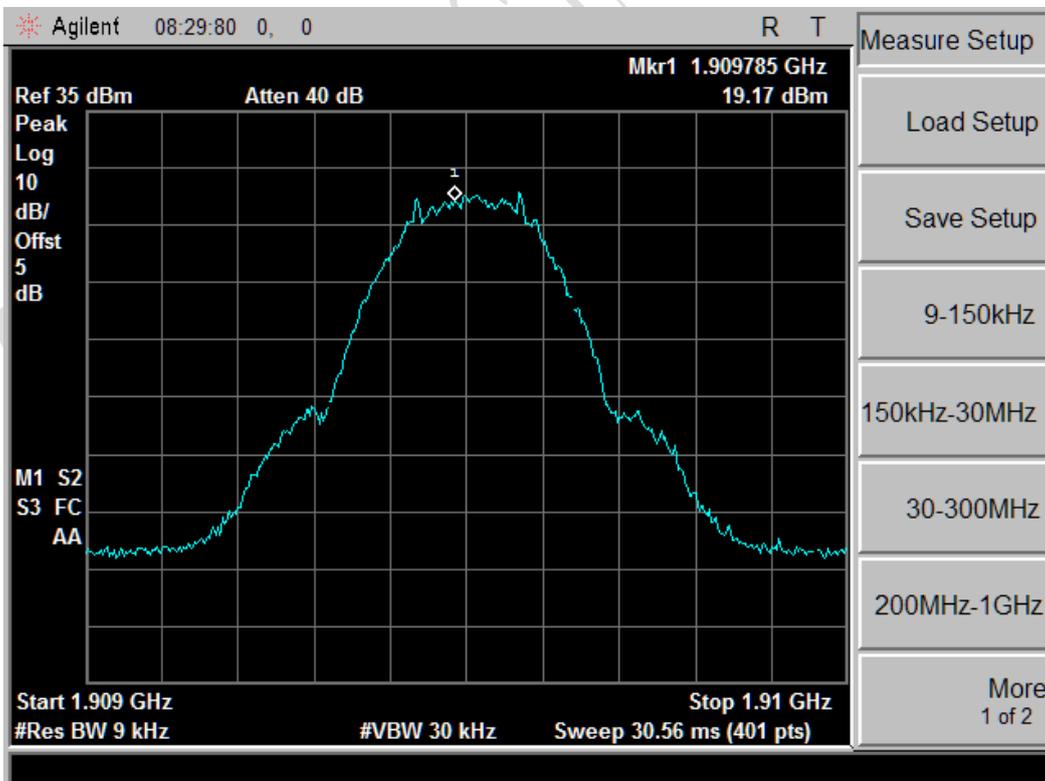
GPRS1900 Channel 512

FCC Parts 2, 22 and 24
Equipment: ZTE-G S217

REPORT NO.: I12GC4413-FCC-RF



GPRS1900 Channel 661



GPRS1900 Channel 810

4.4 Frequency Stability over Temperature Variation

Specifications:	2.1055,22.355,24.235
Date of Test	2012.02.14
Test conditions:	Ambient Temperature:-30°C-50°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661 for GSM, GPRS mode
Test Results:	Pass
Limit	
Frequency deviation [ppm]	±2.5

Test Setup

The EUT was placed in a temperature chamber, demonstrated as figure T. The CMU 200 was used to set the TX channel and power level, modulate the TX signal with different bit patterns and measure the frequency of TX. A dummy battery powered by a DC power supply is used to provide a constant power source.

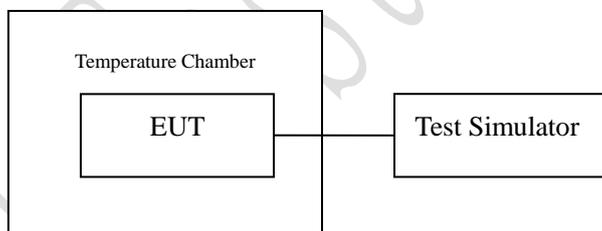


Figure T: setup for measurement of frequency stability over temperature variation

Test Method

1. The EUT was turned off and placed in the temperature chamber.
2. The temperature of the chamber was set to -30°C and allowed to stabilize.
3. The EUT temperature was allowed to stabilize for 45 minutes.
4. The EUT was turned on and set to transmit with Wireless Telecommunications Test Set.
5. The maximum transmit frequency deviation during one minute period was measured by Wireless Communications Test Set.
6. The steps 3-5 were repeated for -20°C, -10°C, 0°C, 10°C, 20°C, 30°C, 40°C and 50°C.

Test data:

GSM 850 band modeCompliance windows: $\pm 2091.5\text{Hz}$

Temperature[°C]	Deviation[Hz]	Remarks
-30	23	Pass
-20	19	Pass
-10	17	Pass
0	12	Pass
10	8	Pass
20	5	Pass
30	7	Pass
40	13	Pass
50	17	Pass

GSM 1900 band modeCompliance windows: $\pm 4700.0\text{Hz}$

Temperature[°C]	Deviation[Hz]	Remarks
-30	33	Pass
-20	27	Pass
-10	29	Pass
0	21	Pass
10	14	Pass
20	11	Pass
30	17	Pass
40	21	Pass
50	23	Pass

GPRS 850 band modeCompliance windows: $\pm 2091.5\text{Hz}$

Temperature[°C]	Deviation[Hz]	Remarks
-30	25	Pass
-20	25	Pass
-10	18	Pass
0	13	Pass
10	7	Pass
20	6	Pass
30	7	Pass
40	10	Pass
50	13	Pass

GPRS 1900 band mode

Compliance windows: $\pm 4700.0\text{Hz}$

Temperature[°C]	Deviation[Hz]	Remarks
-30	29	Pass
-20	26	Pass
-10	28	Pass
0	24	Pass
10	19	Pass
20	12	Pass
30	14	Pass
40	17	Pass
50	19	Pass

4.5 Frequency Stability over Voltage Variation

Specifications:	2.1055,22.355,24.235
Date of Test	2012.02.14
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661
Test Results:	Pass
Limit	
Frequency deviation [ppm]	± 2.5

Test Setup

The EUT was placed in a shielding chamber and powered by an adjustable power supply, demonstrated as figure V. A Wireless Telecommunications Test Set was used to set the TX channel and power level, modulate the TX signal with different bit patterns and measure the frequency of TX.

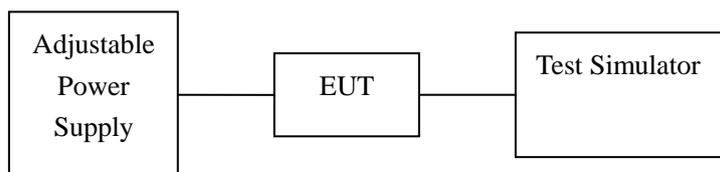


Figure V: test setup for measurement of frequency stability over voltage variation

Test Method

The EUT was powered by the adjustable power supply. The frequency stability is measured by the Wireless Telecommunications Test Set.

Test data:

GSM 850 band mode

Compliance windows: $\pm 2091.5\text{Hz}$

Level	Voltage[V]	Deviation[Hz]	Remarks
Nominal	3.7	18	Pass
Cut-off Point	3.4	-23	Pass

GSM 1900 band mode

Compliance windows: $\pm 4700.0\text{Hz}$

Level	Voltage[V]	Deviation[Hz]	Remarks
Nominal	3.7	22	Pass
Cut-off Point	3.4	13	Pass

GPRS 850 band mode

Compliance windows: $\pm 2091.5\text{Hz}$

Level	Voltage[V]	Deviation[Hz]	Remarks
Nominal	3.7	11	Pass
Cut-off Point	3.3	19	Pass

GPRS 1900 band mode

Compliance windows: $\pm 4700.0\text{Hz}$

Level	Voltage[V]	Deviation[Hz]	Remarks
Nominal	3.7	15	Pass
Cut-off Point	3.3	26	Pass

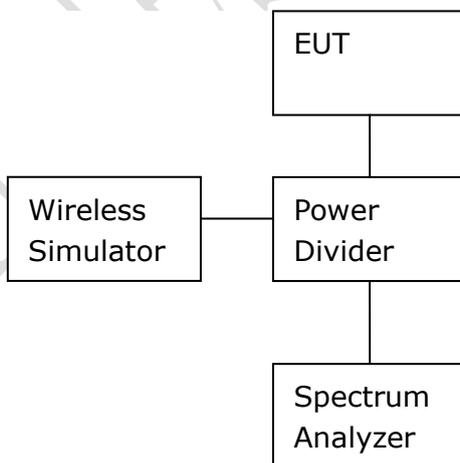
4.6 Conducted RF Power Output

Specifications:	2.1046,22.913(a),24.232(c)
Date of Tests	2012.02.10
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810 for GSM, GPRS
Test Results:	Pass

Limit Level Construction: ERP: According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.	
Limits for ERP	
Frequency range	Limit Level (ERP)
TX channel	7W or 38.5dBm

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method

- 1) The EUT was coupled to the spectrum analyzer and the base station simulator through a power divider. The lost of the cables the test system is calibrated to correct the readings.
- 2) The spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.

3) The resolution bandwidth of the spectrum analyzer was comparable to the emission bandwidth.

hold mode.

Note:

None

Test Results:

GSM 850 band mode

Channel No.	Peak output power [dBm]
128 (824.2MHz)	31.552
190 (836.6MHz)	32.956
251 (848.8MHz)	31.597

GSM 1900 band mode

Channel No.	Peak output power [dBm]
512 (1850.2MHz)	28.575
661 (1880.0MHz)	28.38
810 (1909.8MHz)	28.351

GPRS 850 band mode

Channel No.	Peak output power [dBm]
128 (824.2MHz)	27.933
190 (836.6MHz)	29.077
251 (848.8MHz)	28.056

GPRS 1900 band mode

Channel No.	Peak output power [dBm]
512 (1850.2MHz)	24.868
661 (1880.0MHz)	24.654
810 (1909.8MHz)	24.785

TTL Test Report

4.7 Conducted Spurious Emission

Specifications:	2.1057,22.359,24.238
Date of Tests	2012.02.10
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810 for GSM, and GPRS mode
Test Results:	Pass

Limit Level Construction:

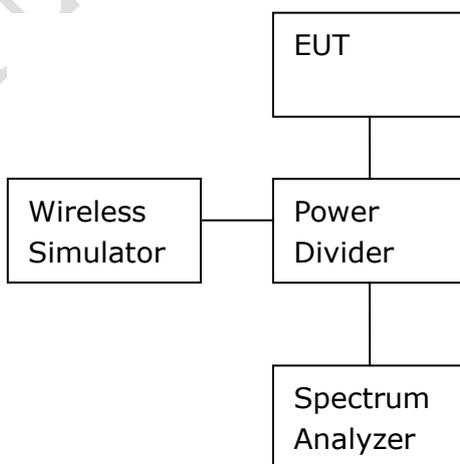
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is:
 $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$

Limits for Radiated spurious emissions(UE)

Frequency range	Limit Level /Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

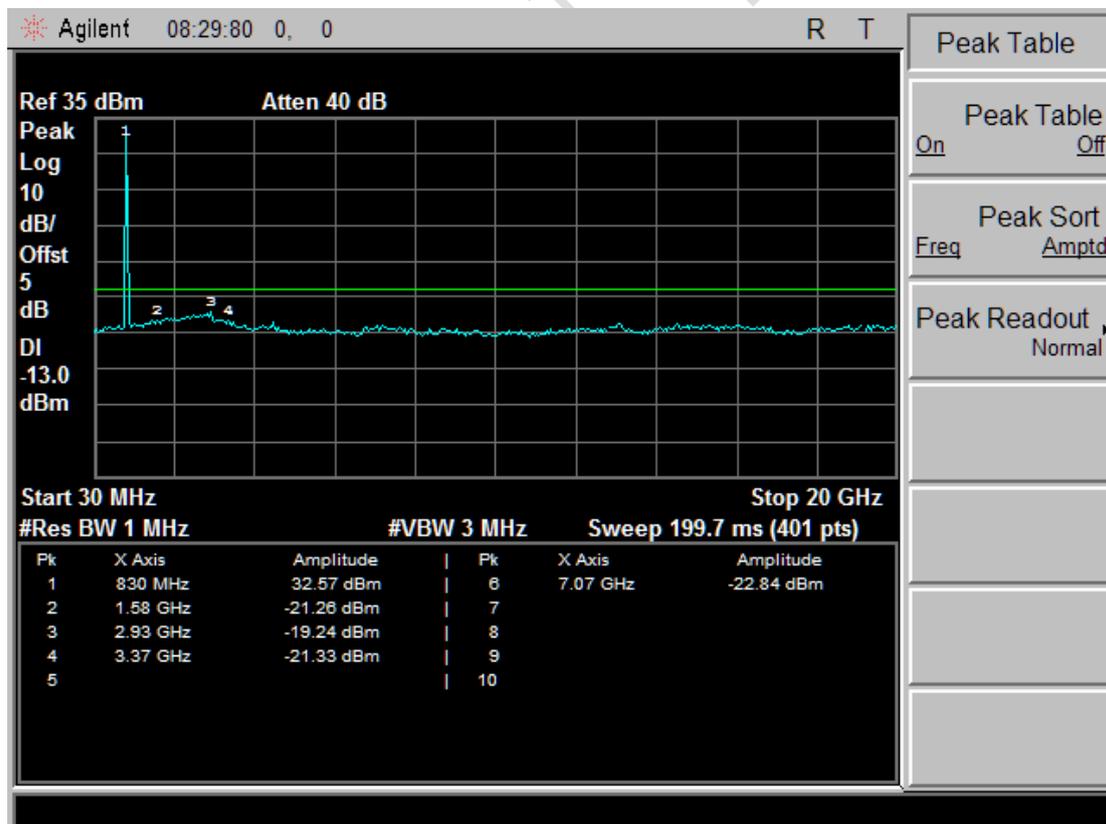
The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency.

Note:

None

Graphical results for GSM mode:

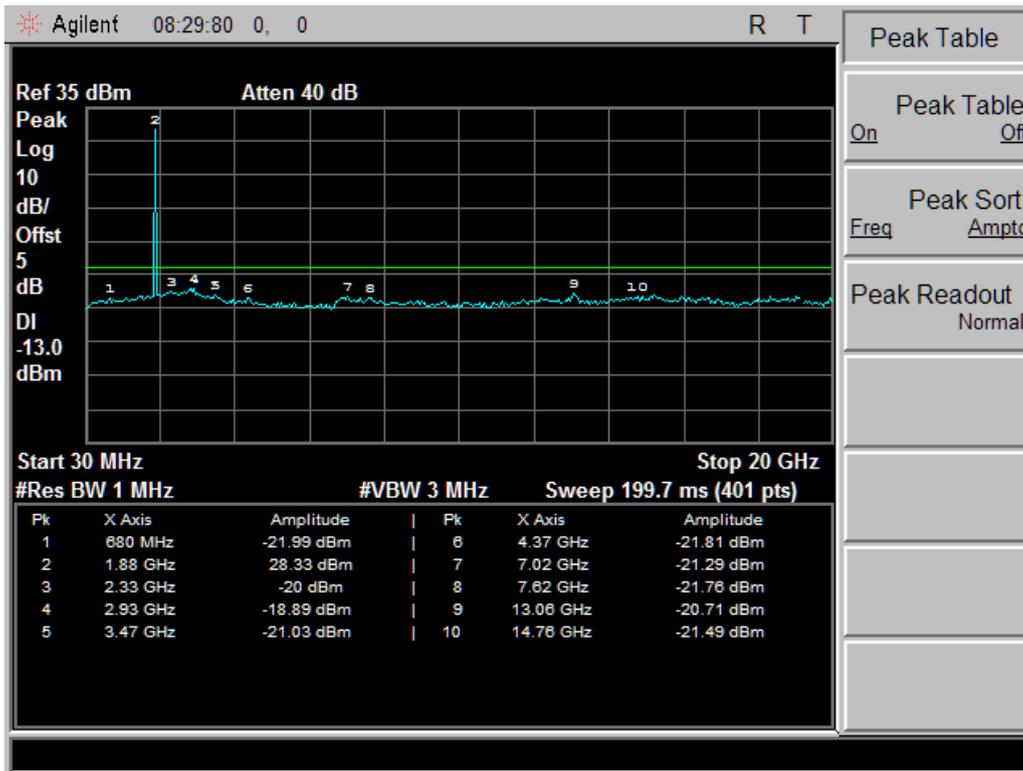


GSM850 Channel 190

Note: 830 MHz is the EUT's operating frequency point.

FCC Parts 2, 22 and 24
Equipment: ZTE-G S217

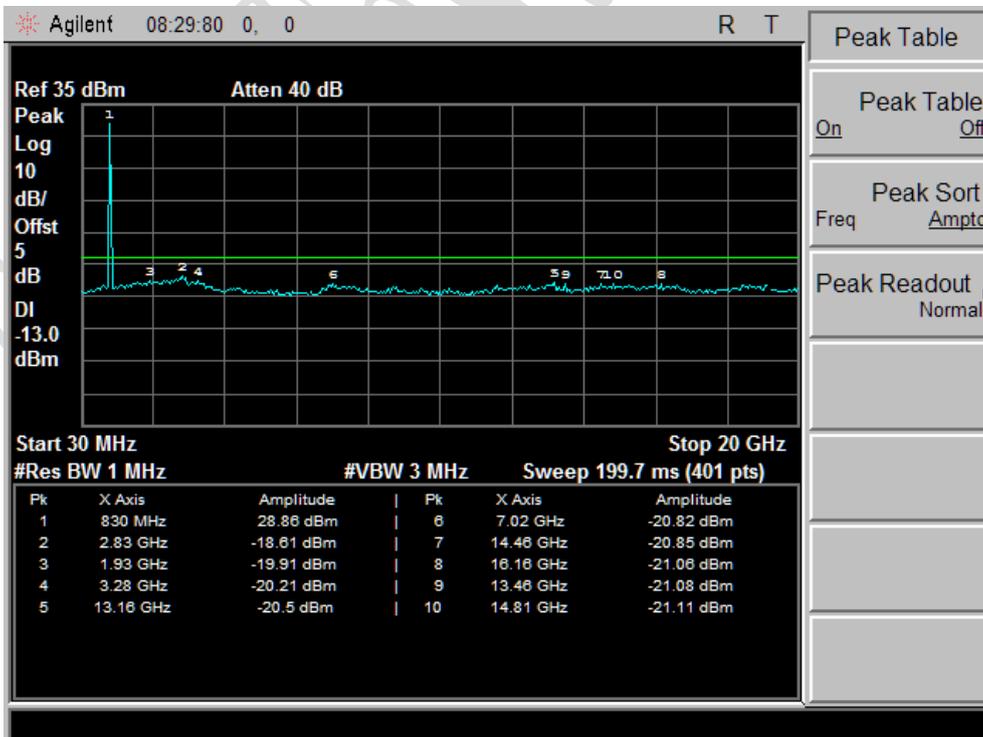
REPORT NO.: I12GC4413-FCC-RF



GSM1900 Channel 661

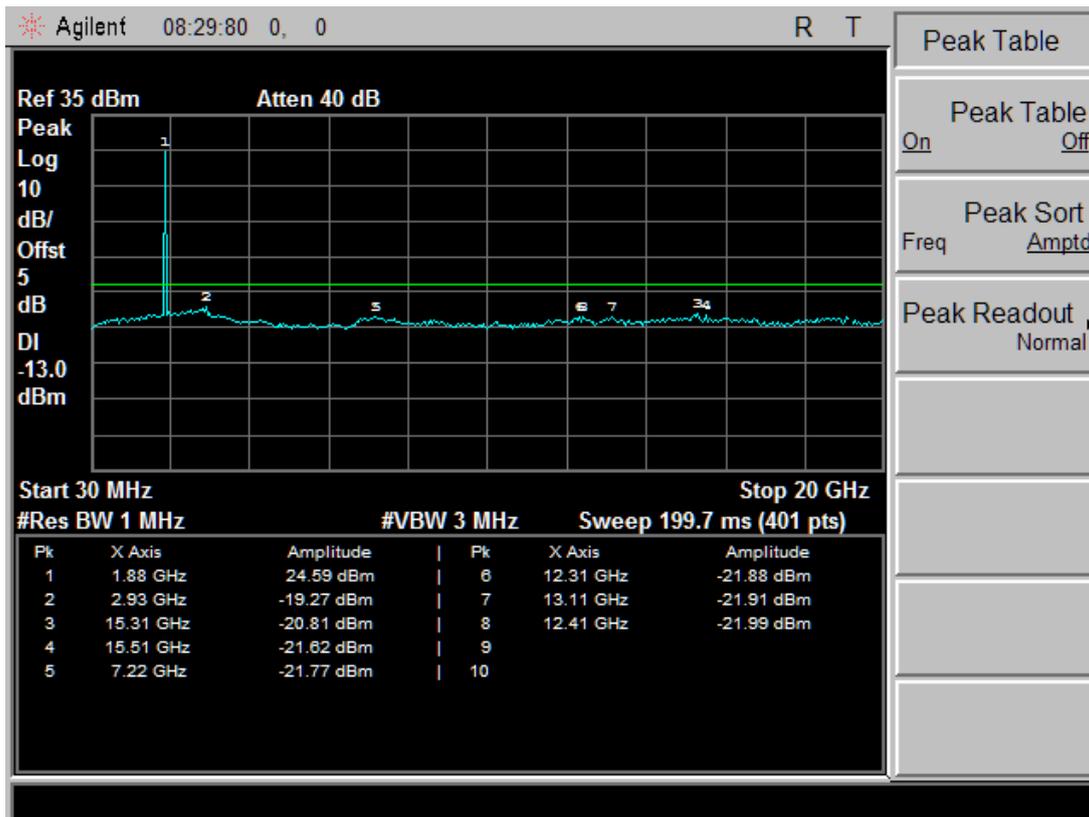
Note: 1880 MHz is the EUT's operating frequency point.

Graphical results for GPRS mode:



GPRS850 Channel 190

Note: 830 MHz is the EUT's operating frequency point.



GPRS1900 Channel 661

Note: 1880 MHz is the EUT's operating frequency point.

4.8 Band-edge (conducted)

Specifications:	2.1051, 24.238, 2.1053, 22.917
Date of Tests	2012-02-10
Test conditions:	Ambient Temperature: 15°C-35°C Relative Humidity: 30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 251, 512 and 810 for GSM and GPRS
Test Results:	Pass

Limit Level Construction:

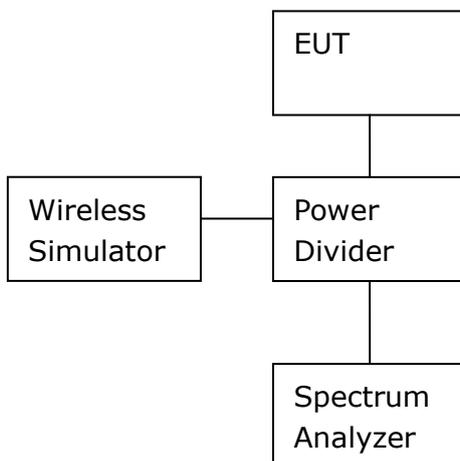
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is:
 $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$

Limits for Radiated spurious emissions

Frequency range	Limit Level
Band edge	-13dBm

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method

- 1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The lost of the cables the test system is calibrated to correct the readings.
- 2) The spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.
- 3) The resolution bandwidth of the spectrum analyzer was a little greater than 1% of the 26dB emission bandwidth.

Note: --

Test Results:

GSM 850 band mode:

Band-edge emission		
EUT Channel	Frequency [MHz]	Level [dBm]
128 left band edge (824.2MHz)	823.998	-15.86
251 right band edge (848.8MHz)	849.013	-14.787

GSM 1900 band mode:

Band-edge emission		
EUT Channel	Frequency [MHz]	Level [dBm]
512 left band edge (1850.2MHz)	1849.998	-17.32
810 right band edge (1909.8MHz)	1910.005	-15.231

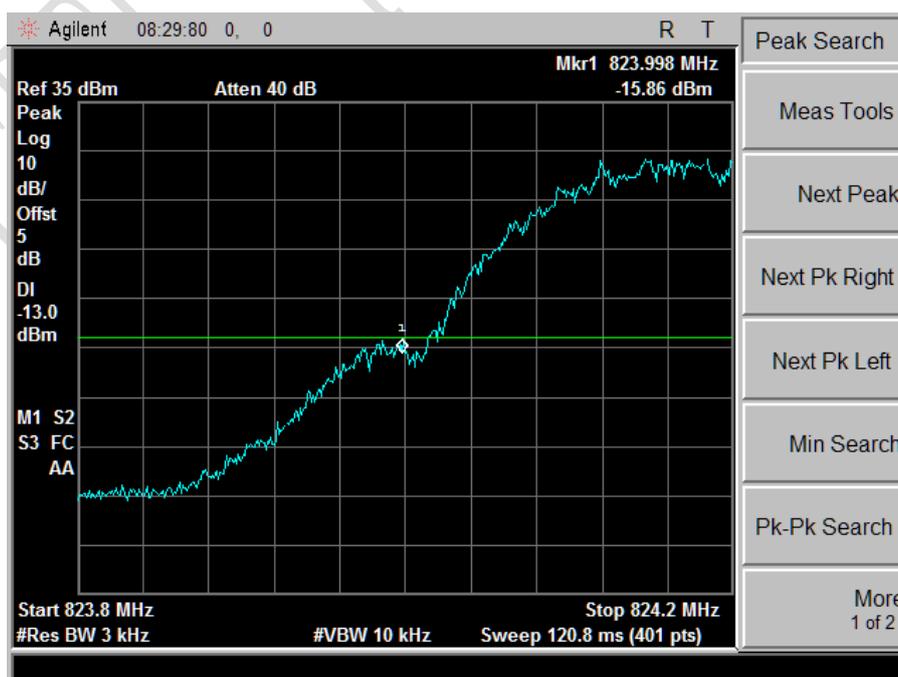
GPRS 850 band mode:

Band-edge emission		
EUT Channel	Frequency [MHz]	Level [dBm]
128 left band edge (824.2MHz)	823.998	-16.187
251 right band edge (848.8MHz)	849.008	-18.069

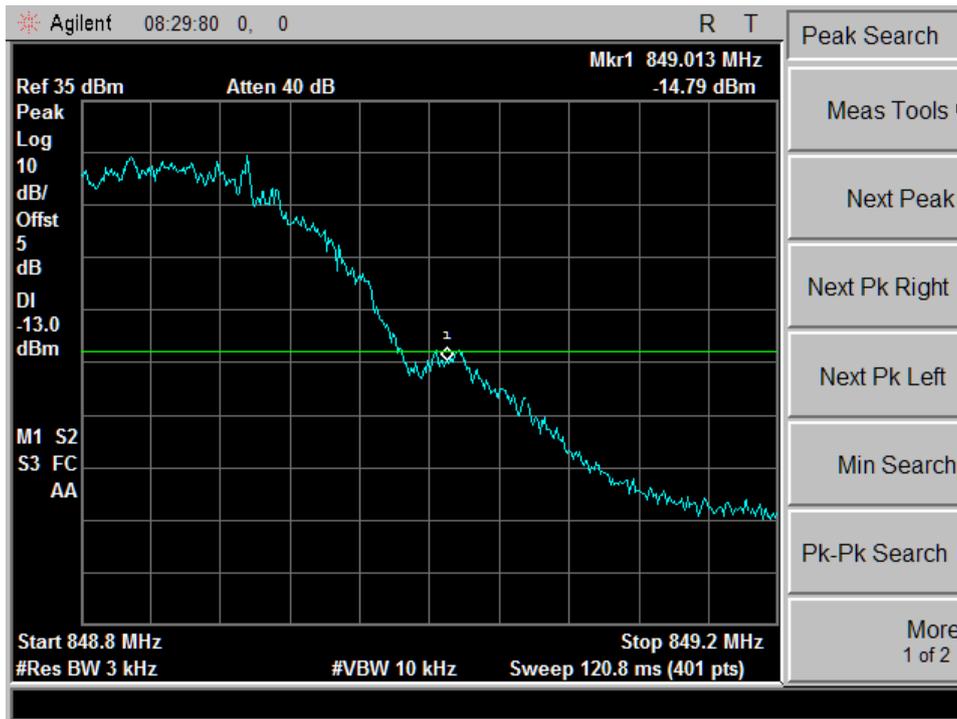
GPRS 1900 band mode:

Band-edge emission		
EUT Channel	Frequency [MHz]	Level [dBm]
512 left band edge (1850.2MHz)	1849.984	-20.474
810 right band edge (1909.8MHz)	1910.002	-20.647

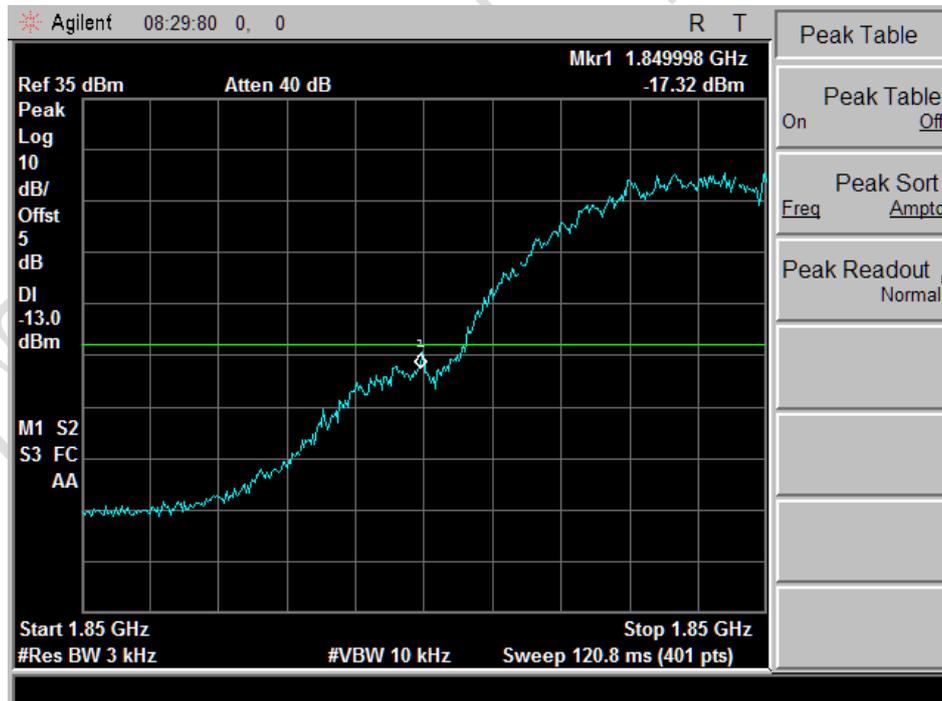
Graphical results for GSM mode:



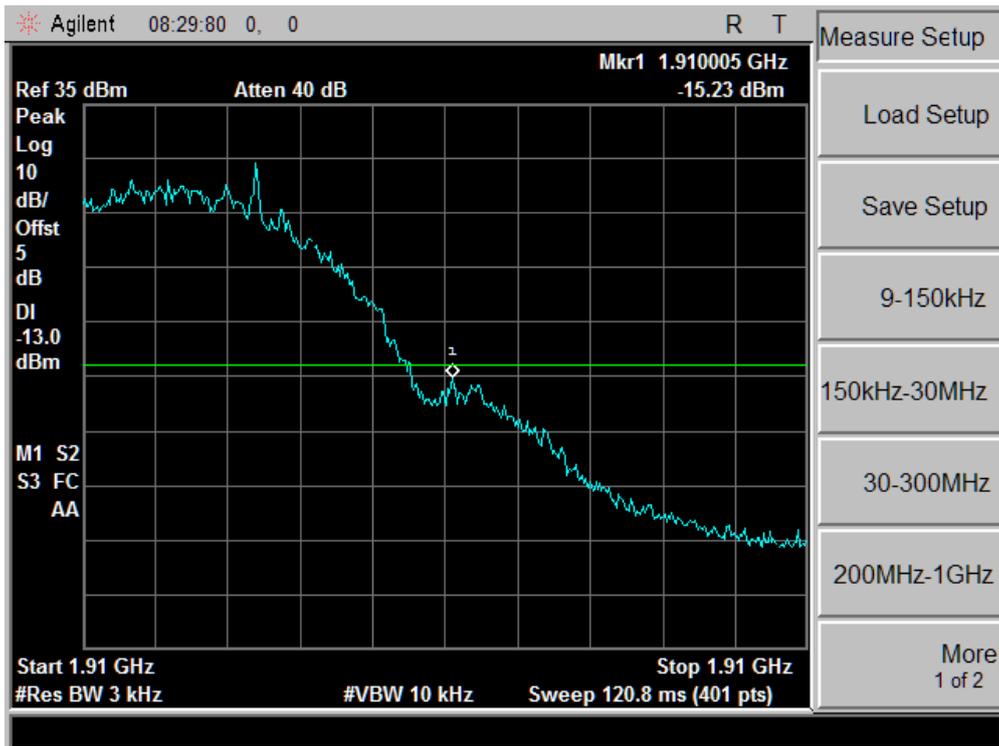
GSM850 Channel 128 Left band edge



GSM850 Channel 251 Right band edge

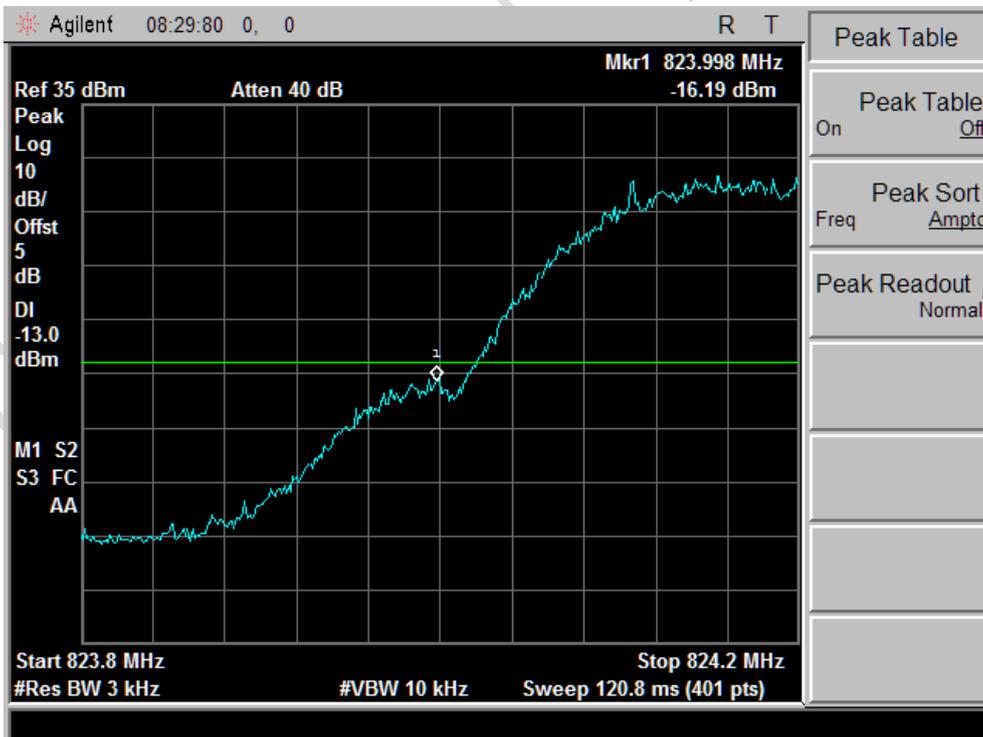


GSM1900 Channel 512 Left band edge



GSM1900 Channel 810 Right band edge

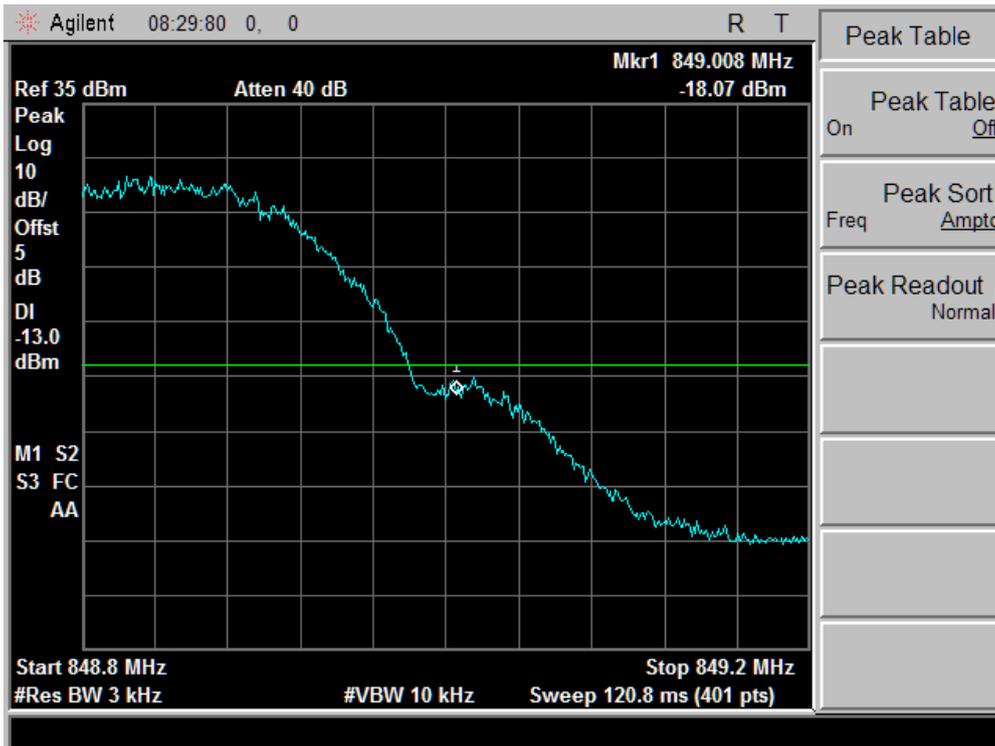
Graphical results for GPRS mode:



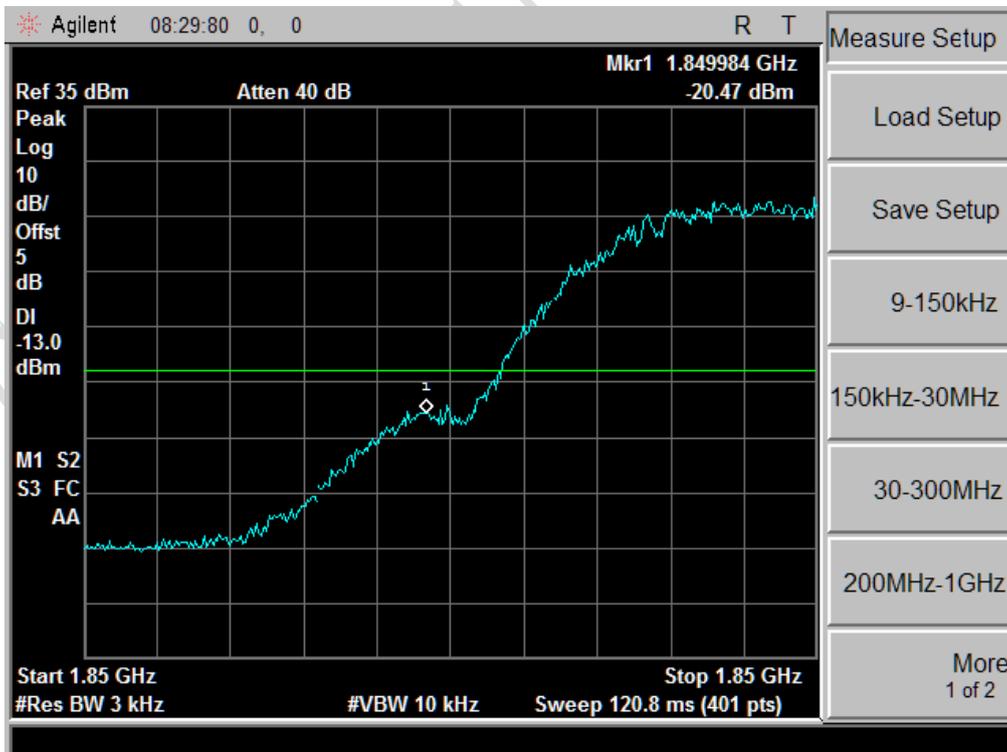
GPRS850 Channel 128 Left band edge

FCC Parts 2, 22 and 24
Equipment: ZTE-G S217

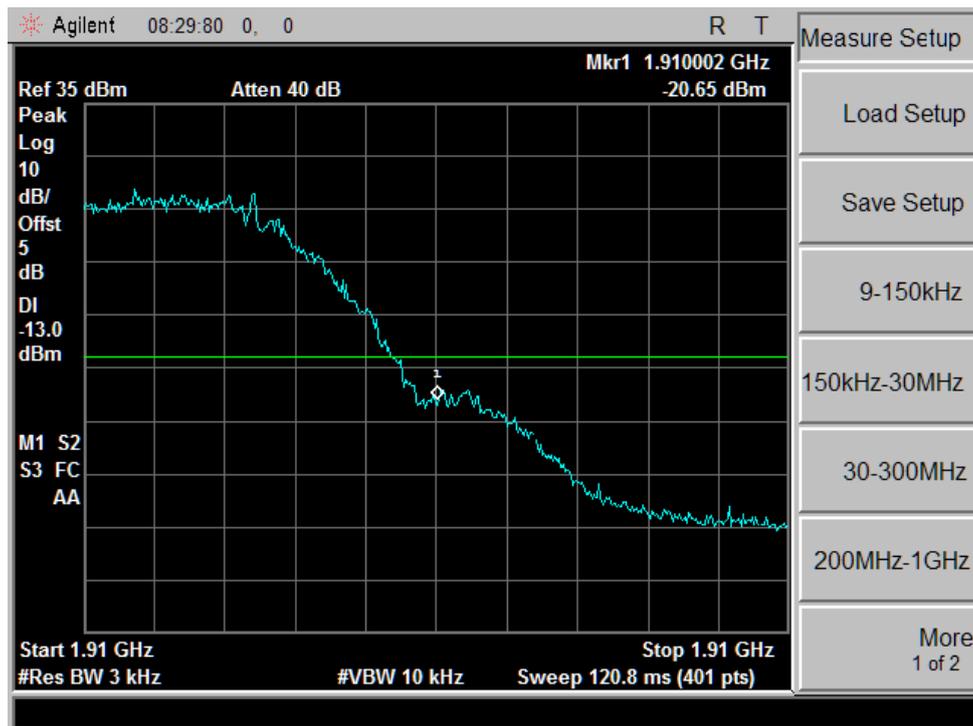
REPORT NO.: I12GC4413-FCC-RF



GPRS850 Channel 251 Right band edge



GPRS1900 Channel 512 Left band edge



GPRS1900 Channel 810 Right band edge

China Test Technology Labs

ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

————— The End of this Report —————

TTL Test Report