

47 CFR PART 22H & 24E

TEST REPORT

of

GSM Mobile Phone

Trade Name:

Newplan

Brand Name:

Newplan

Model Name:

CP10/CP10A

Report No.:

SZ09110024E01

FCC ID.:

XY2CP10

prepared for

NEWPLAN ENTERPRISES LIMITED

10/F Ideal Center 320-322 Kwun Tong Road, Kwun Tong KL, HK

prepared by

Shenzhen Electronic Product Quality Testing Center

Morlab Laboratory

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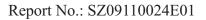




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| Change History | | | | | | | |
|----------------|-------------------|-------------------|--|--|--|--|--|
| Issue | Date | Reason for change | | | | | |
| 1.0 | December 02, 2009 | First edition | | | | | |



1. TEST CERTIFICATION

Equipment under Test: GSM Mobile Phone

Trade Name: Newplan Brand Name: Newplan Model Name: CP10/CP10A

FCC ID: XY2CP10

Applicant: NEWPLAN ENTERPRISES LIMITED

10/F Ideal Center 320-322 Kwun Tong Road, Kwun Tong KL, HK

Manufacturer: NEWPLAN ENTERPRISES LIMITED

10/F Ideal Center 320-322 Kwun Tong Road, Kwun Tong KL, HK

Test Standards: 47 CFR Part 2

47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E

Test Date(s): November 19, 2009 - November 24, 2009

Test Result: PASS

* We Hereby Certify That:

The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by:

Dated: 2019. 12. 4

Reviewed by:

Dated: 2009.12.4

Approved by:

Shu Luan

Deng Jiankun

Dated: 2w9, 12.4



2. GENERAL INFORMATION

2.1 EUT Description

EUT Type GSM Mobile Phone

Model Name...... CP10/CP10A

Hardware Version...... A2

Software Version NPCP10 1001 V1003

Frequency Range...... GSM 850MHz:

Tx: 824.20 - 848.80MHz (at intervals of 200kHz); Rx: 869.20 - 893.80MHz (at intervals of 200kHz)

GSM 1900MHz:

Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz); Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz)

Model Name: CP10/CP10A
Brand name: Newplan
Capacitance: 1000mAh
Rated voltage: 3.7V

Manufacturer: ShenZhen LiTongWei Electronic Technology Co.,

Ltd

Manufacturer Address: Buliding C,Shange Heng Lang Bai Fu Li industry park,Long Hua Da lang Tong Sheng Village,Bao An

district, Shenzhen City

Ancillary Equipments...... AC Adapter (Charger for Battery)

Model Name: CP10/CP10A
Brand Name: Newplan

Serial No.: (n.a. marked #1 by test site)

Rated Input: $\sim 100-240 \text{V}, 500 \text{Hz}$

Rated Output: = 5V, 500mA

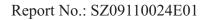
Manufacturer: Aquilstar precision industrial(shenzhen)co., LTD Manufacturer Address: Boshilong Industrial Park, Fenghuang Industry 3rd district, County, ShenZhen City, GD Province, China

Note 1: The transmitter (Tx) frequency arrangement of the Cellular 850MHz band used by the EUT can be represented with the formula F(n)=824.2+0.2*(n-128), 128<=n<=251; the lowest,



middle, highest channel numbers (ARFCHs) used and tested in this report are separately 128 (824.2MHz), 190 (836.6MHz) and 251 (848.8MHz).

- Note 2: The transmitter (Tx) frequency arrangement of the PCS 1900MHz band used by the EUT can be represented with the formula F(n)=1850.2+0.2*(n-512), 512<=n<=810; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 512 (1850.2MHz), 661 (1880.0MHz) and 810 (1909.8MHz).
- *Note 3:* For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.





2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22 and Part 24 for the EUT FCC ID Certification:

| No. | Identity | Document Title |
|-----|-------------------|---|
| 1 | 47 CFR Part 2 | Frequency Allocations and Radio Treaty Matters; General |
| | (10-1-05 Edition) | Rules and Regulations |
| 2 | 47 CFR Part 22 | Public Mobile Services |
| | (10-1-05 Edition) | |
| 3 | 47 CFR Part 24 | Personal Communications Services |
| | (10-1-05 Edition) | |

Test detailed items/section required by FCC rules and results are as below:

| No. | Section | Description | Result |
|-----|---------|---------------------------------------|--------|
| 1 | 2.106 | Frequencies | PASS |
| | 22.905 | | |
| | 24.229 | | |
| 2 | 2.1046 | Conducted RF Output Power | PASS |
| 3 | 2.1049 | 20dB Occupied Bandwidth | PASS |
| 4 | 2.1055 | Frequency Stability | PASS |
| | 22.355 | | |
| | 24.235 | | |
| 5 | 2.1051 | Conducted Out of Band Emissions | PASS |
| | 2.1057 | | |
| | 22.917 | | |
| | 24.238 | | |
| 6 | 2.1051 | Band Edge | PASS |
| | 2.1057 | | |
| | 22.917 | | |
| | 24.238 | | |
| 7 | 22.913 | Transmitter Radiated Power (EIPR/ERP) | PASS |
| | 24.232 | | |
| 8 | 2.1053 | Radiated Out of Band Emissions | PASS |
| | 2.1057 | | |
| | 22.917 | | |
| | 24.238 | | |



2.3 Facilities and Accreditations

2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen 518055 CHINA. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 741109.

2.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

| Temperature (°C): | 20 - 25 |
|-----------------------------|---------|
| Relative Humidity (%): | 40 - 60 |
| Atmospheric Pressure (kPa): | 96 |



3. 47 CFR PART 2, PART 22H REQUIREMENTS

3.1 Frequencies

3.1.1 Requirement

According to FCC section 22.905, the frequency blocks assignment for the cellular radiotelephone service is listed as below:

(a) Channel Block A:

Mobile 824 - 835MHz, Base 869 - 880MHz;

Mobile 845 - 846.5MHz, Base 890 - 891.5MHz

(b) Channel Block B:

Mobile 835 - 845 MHz, Base 880 - 890MHz;

Mobile 846.5 - 849 MHz, Base 891.5 - 894MHz

According to FCC section 24.229, the frequencies available in the Broadband PCS services are listed as below, in accordance with the frequency allocations table of FCC section 2.106.

(a) The following frequency blocks are available for assignment on an MTA basis:

Block A: 1850 - 1865MHz paired with 1930 - 1945MHz;

Block B: 1870 - 1885MHz paired with 1950 - 1965MHz.

(b) The following frequency blocks are available for assignment on a BTA basis:

Block C: 1895 - 1910 MHz paired with 1975 - 1990MHz;

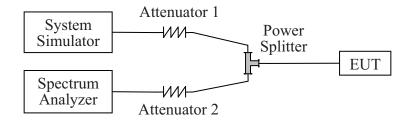
Block D: 1865 - 1870 MHz paired with 1945 - 1950MHz;

Block E: 1885 - 1890 MHz paired with 1965 - 1970MHz;

Block F: 1890 - 1895 MHz paired with 1970 - 1975MHz.

3.1.2 Test Description

1. Test Setup:



The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna



terminal is 500hm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2. Equipments List:

| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|-------------------|--------------|--------|------------|-----------|----------|
| System Simulator | Agilent | E5515C | GB43130131 | 2009.08 | 1 year |
| Spectrum Analyzer | Agilent | E7405A | US44210471 | 2009.08 | 1year |
| Power Splitter | Weinschel | 1506A | NW521 | (n.a.) | (n.a.) |
| Attenuator 1 | Resnet | 20dB | (n.a.) | (n.a.) | (n.a.) |
| Attenuator 2 | Resnet | 3dB | (n.a.) | (n.a.) | (n.a.) |

3.1.3 Test Result

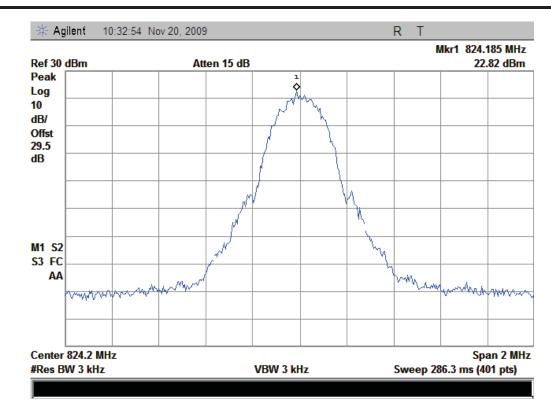
The Tx frequency arrangement of the Cellular 850MHz band employed by the EUT should be from 824.2MHz to 848.8MHz (the corresponding frequency block is from 824MHz to 849MHz), and Tx frequency arrangement of the PCS 1900MHz band employed by the EUT should be from 1850.2MHz to 1909.8MHz (the corresponding frequency block is from 1850MHz to 1910MHz). Here the lowest and highest channels are tested to verify the EUT's using the frequency block required.

1. Test Verdict:

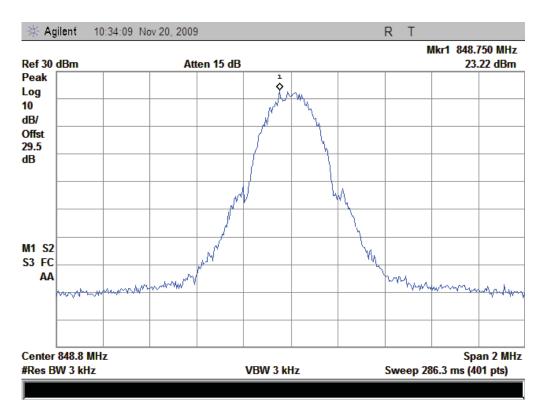
The required frequency block is employed legally, the verdict is PASS.

| Band | Channel | Frequency (MHz) | Measured Carrier (dBm) | Refer to Plot |
|---------|---------|-----------------|------------------------|---------------|
| GSM | 128 | 824.2 | 22.82 | Plot A |
| 850MHz | 251 | 848.8 | 23.22 | Plot B |
| GSM | 512 | 1850.2 | 19.28 | Plot C |
| 1900MHz | 810 | 1909.8 | 18.26 | Plot D |

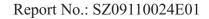




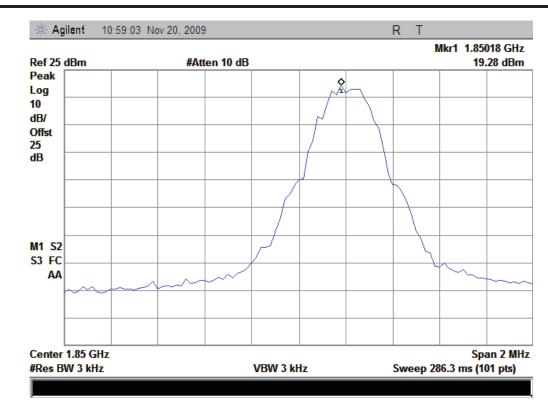
(Plot A: GSM 850MHz Channel = 128)



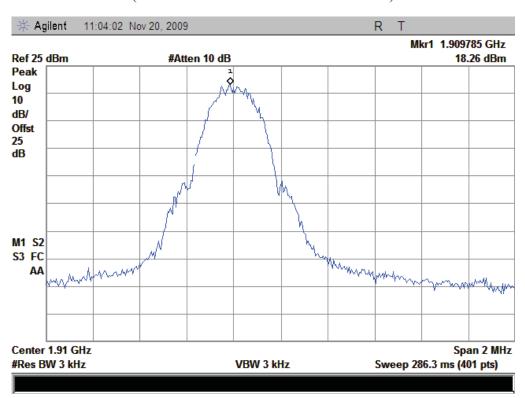
(Plot B: GSM 850MHz Channel = 251)







(Plot C: GSM 1900MHz Channel = 512)



(Plot D: GSM 1900MHz Channel = 810)



3.2 Conducted RF Output Power

3.2.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

3.2.2 Test Description

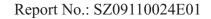
See section 3.1.2 of this report.

3.2.3 Test Result

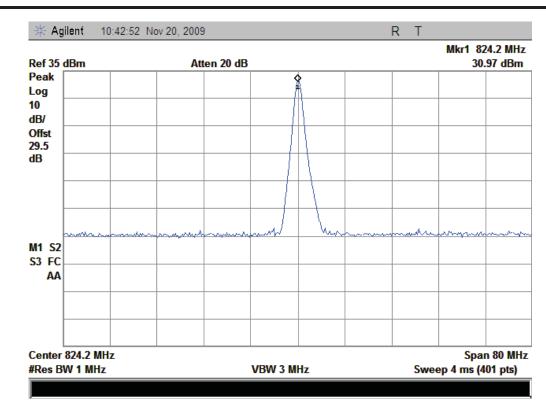
Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT. For the GSM 850MHz operates at PCL=5 (where Power Class is 4), the rated conducted RF output power is 33dBm within the tolerance of ± 3 dB, and For the GSM 1900MHz operates at PCL=0 (where Power Class is 1), the rated conducted RF output power is 30dBm within the tolerance of ± 3 dB.

1. Test Verdict:

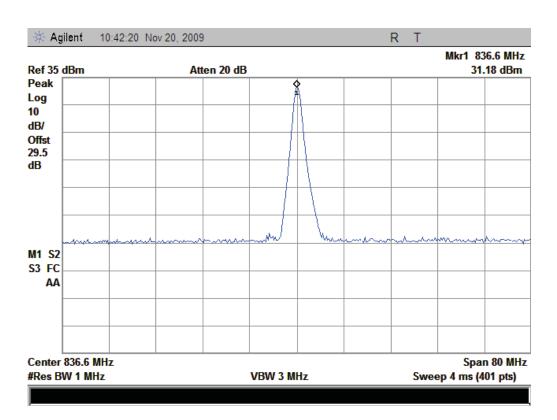
| | | | Measured Output | | Rated Output | | |
|---------------|---------|-----------------|-----------------|---------------|-----------------|------|---------|
| Band | Channel | Frequency (MHz) | Power | | Power Tolerance | | Verdict |
| | | | dBm | Refer to Plot | dBm | (dB) | |
| GSM 850MHz | 128 | 824.2 | 30.97 | Plot A | | | PASS |
| | 190 | 836.6 | 31.18 | Plot B | 33 | ±3 | PASS |
| | 251 | 848.8 | 31.68 | Plot C | | | PASS |
| GSM | 512 | 1850.2 | 27.63 | Plot D | | | PASS |
| | 661 | 1880.0 | 27.98 | Plot E | 30 | ±3 | PASS |
| 1900MHz | 810 | 1909.8 | 28.03 | Plot F | | | PASS |



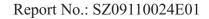




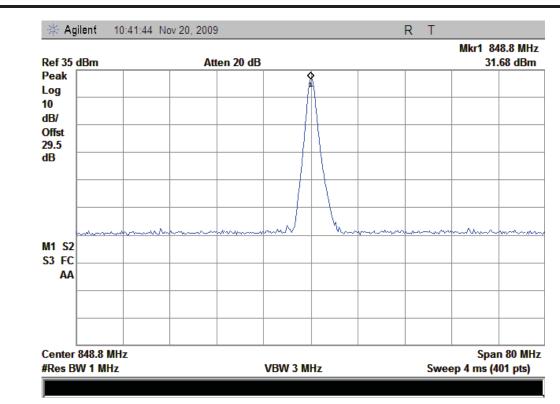
(Plot A: GSM 850MHz Channel = 128)



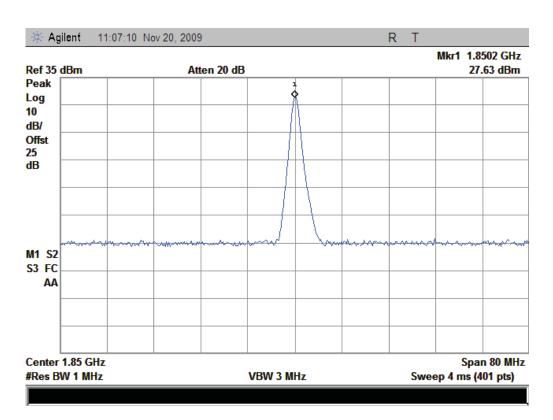
(Plot B: GSM 850MHz Channel = 190)



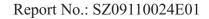




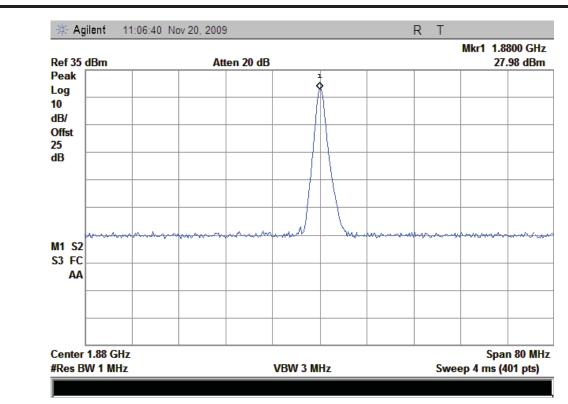
(Plot C: GSM 850MHz Channel = 251)



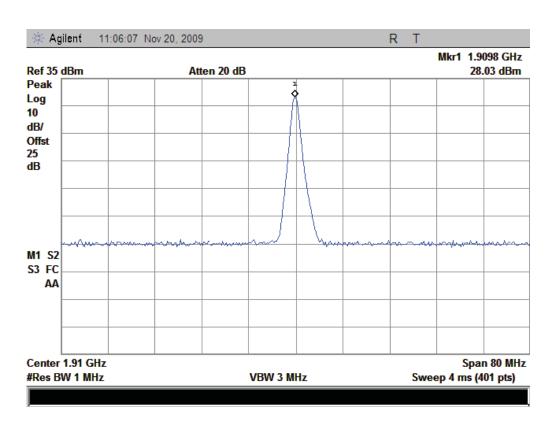
(Plot D: GSM 1900MHz Channel = 512)







(Plot E: GSM 1900MHz Channel = 661)



(Plot F: GSM 1900MHz Channel = 810)



3.3 99% Occupied Bandwidth

3.3.1 Definition

According to FCC section 2.1049, 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 radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth,.

3.3.2 Test Description

See section 3.1.2 of this report.

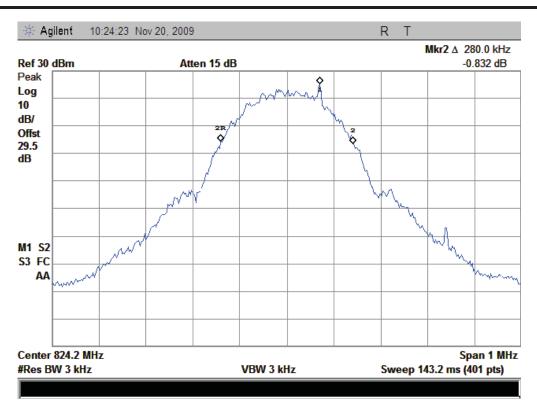
3.3.3 Test Verdict

Here the lowest, middle and highest channels are tested to record the 99% occupied bandwidth, it's about 300kHz.

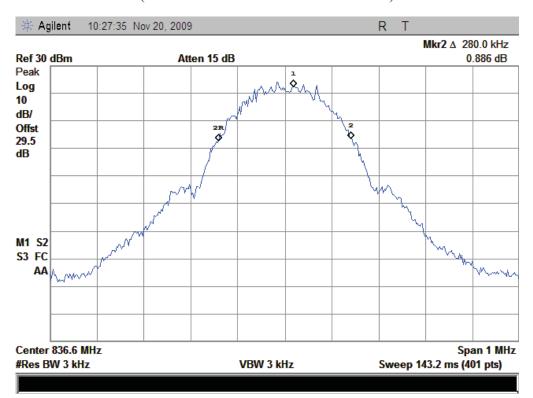
1. Test Verdict:

| Band | Channel | Frequency (MHz) | Measured 99% Occupied Bandwidth (kHz) | Refer to Plot |
|----------------|---------|-----------------|---------------------------------------|---------------|
| CCM | 128 | 824.2 | 280 | Plot A |
| GSM 850MHz | 190 | 836.6 | 280 | Plot B |
| OSUMINZ | 251 | 848.8 | 282.5 | Plot C |
| CCM | 512 | 1850.2 | 280 | Plot D |
| GSM 1900MHz | 661 | 1880.0 | 280 | Plot E |
| 1900MHZ | 810 | 1909.8 | 280 | Plot F |



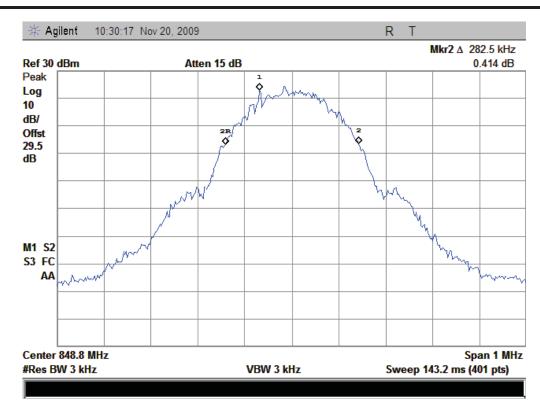


(Plot A: GSM 850MHz Channel = 128)

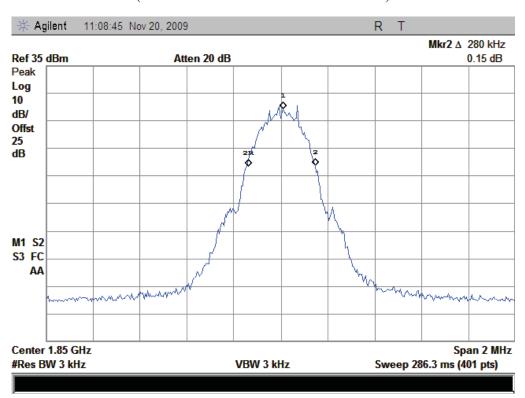


(Plot B: GSM 850MHz Channel = 190)



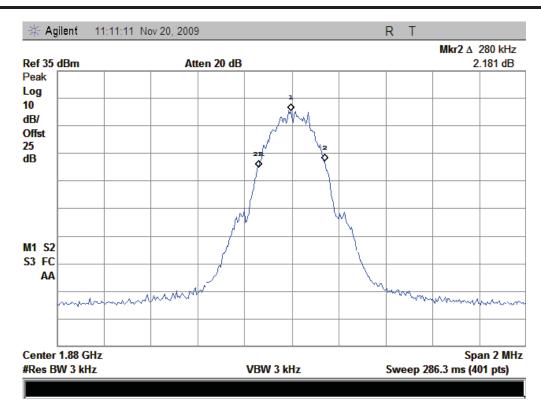


(Plot C: GSM 850MHz Channel = 251)

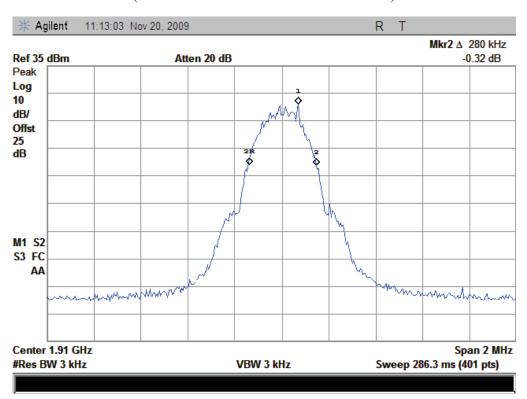


(Plot D: GSM 1900MHz Channel = 512)





(Plot E: GSM 1900MHz Channel = 661)



(Plot F: GSM 1900MHz Channel = 810)



3.4 Frequency Stability

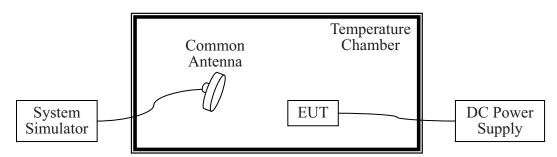
3.4.1 Requirement

According to FCC section 22.355 and FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

3.4.2 Test Description

1. Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common Antenna.

2. Equipments List:

| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|------------------|--------------------|------------|------------|-----------|----------|
| System Simulator | Agilent | E5515C | GB43130131 | 2009.08 | 1year |
| DC Power Supply | Good Will | GPS-3030DD | EF920938 | 2009.08 | 2year |
| Temperature | YinHe Experimental | HL4003T | (n.a.) | 2009.08 | 1 year |
| Chamber | Equip. | | | | |

3.4.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.7VDC, 4.2VDC and 3.6VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency



deviation limit of GSM 850MHz band is $\pm 2.5 ppm$, and GSM 1900MHz is $\pm 1 ppm$

| Hand | | | | | | | | | | |
|---|-----------|-----------------|---------------------|--------|---------------------|----------|---------------|--------|---------------|---------|
| Rand Power (VDC) Temperat (824.2MHz) (836.6MHz) (848.8MHz) Verd | | Test Conditions | Test C | | Frequency Deviation | | | | | |
| CVDC ure (°C) (824.2MHz) (836.6MHz) (848.8MHz) | Dand | Dayyan Tammanat | Dorman | Chann | Channel = 128 | | Channel = 190 | | Channel = 251 | |
| GSM 850MHz Band Az Limits Hz Hz Limits Hz | Ballu | 1 | | (824. | 2MHz) | (836. | 6MHz) | (848. | 8MHz) | verdict |
| GSM 850MHz | | (VDC) ure (C) | (VDC) | Hz | Limits | Hz | Limits | Hz | Limits | |
| GSM 850MHz 3.7 | | -30 | | -11.47 | | -9.62 | | -9.78 | | |
| GSM 850MHz 3.7 0 | | -20 | | 11.93 | | 8.38 | | 7.90 | | |
| GSM 850MHz | | -10 | | -10.70 | | -9.72 | | -5.93 | | |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | 0 | | 3.04 | | 5.12 | | -1.61 | | |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | 3.7 +10 | 3.7 | -21.86 | | -25.63 | | -21.34 | | |
| Hand | | +20 | | 19.23 | ±2060.5 | 18.97 | ±2091.5 | 17.57 | ±2122 | PASS |
| +50 | | +30 | | 25.67 | | 24.34 | | 22.93 | | |
| 4.2 | | +40 | | 9.88 | | 14.77 | | 10.28 | | |
| 3.6 | | +50 | | -14.82 | | -10.78 | | -11.10 | | |
| Band $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | 4.2 +25 | 4.2 | 26.90 | | 23.14 | | 28.99 | | |
| Band Power Temperat (VDC) ure $(^{\circ}C)$ Channel = 512 Channel = 661 Channel = 810 (1850.2MHz) (1880.0MHz) Verd | | 3.6 +25 | 3.6 | -5.91 | | -3.87 | | -7.01 | | |
| Band Power Temperat (1850.2MHz) (1880.0MHz) (1909.8MHz) Verd | | Test Conditions | Frequency Deviation | | | | | | | |
| (VDC) ure $(^{\circ}C)$ $(1850.2MHz)$ $(1880.0MHz)$ $(1909.8MHz)$ | Rand | Power Temperat | Power (VDC) | | | Chann | el = 661 | Chann | nel = 810 | Verdict |
| | Dana | 1 | | | | <u> </u> | | ` ' | | · |
| Hz Limits Hz Limits Hz Limits | | (VBC) the (C) | | (VDC) | Hz | Limits | Hz | Limits | Hz | Limits |
| -30 -4.20 -1.52 -0.97 | | -30 | | -4.20 | | -1.52 | | -0.97 | | |
| -20 -3.60 -3.33 0.29 | | -20 | | -3.60 | | -3.33 | | 0.29 | | |
| -10 14.30 16.54 14.51 | | -10 | | 14.30 | | 16.54 | | 14.51 | | |
| 0 24.22 20.42 23.80 | | 0 | | 24.22 | | 20.42 | | 23.80 | | |
| GSM 3.7 +10 27.09 29.59 28.45 | GSM | 3.7 +10 | 3.7 | 27.09 | | 29.59 | | 28.45 | | |
| 1900MHz +20 9.94 ±1850.2 12.39 ±1880.0 6.97 ±1909.8 PAS | | +20 | | 9.94 | ±1850.2 | 12.39 | ± 1880.0 | 6.97 | ± 1909.8 | PASS |
| +30 18.53 18.02 14.81 | 1900WIIIZ | +30 | | 18.53 | | 18.02 | | 14.81 | | |
| +40 22.28 19.81 18.00 | | +40 | | 22.28 | | 19.81 | | 18.00 | | |
| +50 -6.58 -7.41 -4.70 | | +50 | | -6.58 | | -7.41 | | -4.70 | | |
| 4.2 +25 -3.33 -4.81 | | 4.2 +25 | 4.2 | -3.33 | | -3.33 | | -4.81 | | |
| 3.6 +25 6.08 9.72 9.06 | | | | 6.00 | } | o =o | | 0 0 6 | | |



3.5 Conducted Out of Band Emissions

3.5.1 Requirement

According to FCC section 22.917(a) and FCC section 24.238(a), 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. This calculated to be -13dBm.

3.5.2 Test Description

See section 3.1.2 of this report.

3.5.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

1. Test Verdict:

| Band | Channe 1 | Frequency (MHz) | Measured Max. Spurious Emission (dBm) | Refer to Plot | Limit (dBm) | Verdic t |
|----------------|----------|--------------------|---------------------------------------|---------------|-------------|----------|
| CCM | 128 | 824.2 | -28.18 | Plot A | | PASS |
| GSM 850MHz | 190 | 836.6 | -29.29 | Plot B | -13 | PASS |
| | 251 | 848.8 | -26.83 | Plot C | | PASS |
| CCM | 512 | 1850.2 | -34.9 | Plot D | | PASS |
| GSM 1000MH- | 661 | 1880.0 | -36 | Plot E | -13 | PASS |
| 1900MHz | 810 | 1909.8 | -36 | Plot F | | PASS |

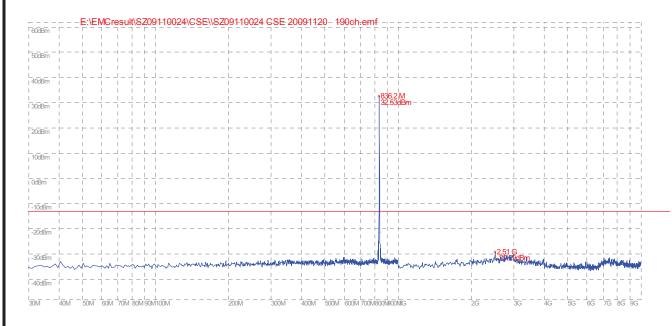
2. Test Plot for the Whole Measurement Frequency Range:

Note: the power of the EUT transmitting frequency should be ignored.



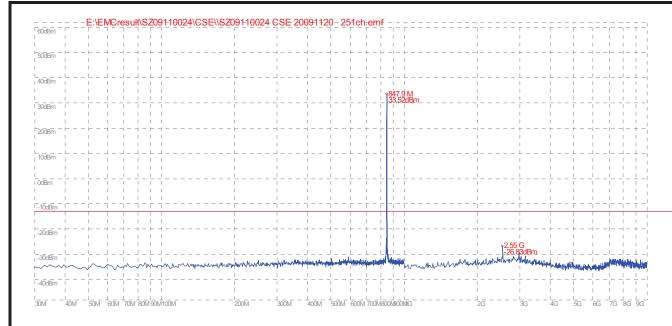


(Plot A: GSM 850MHz Channel = 128, 30MHz to 10GHz)

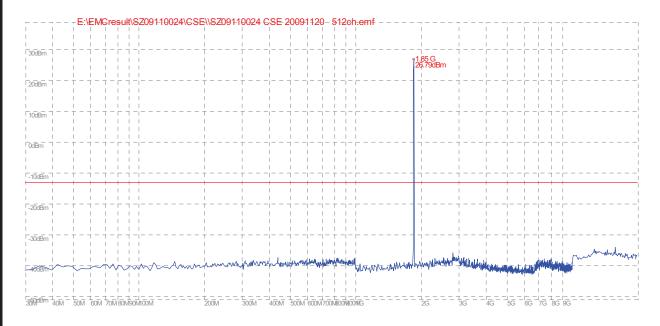


(Plot B: GSM 850MHz Channel = 190, 30MHz to 10GHz)

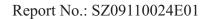




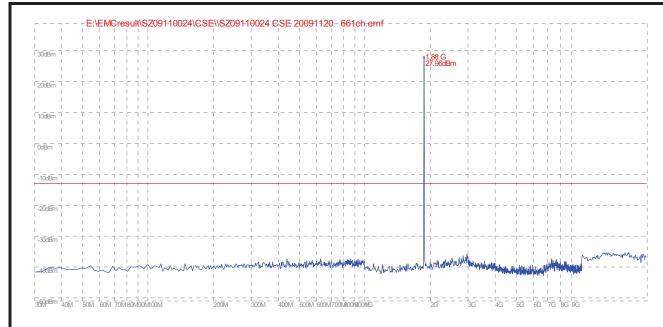
(Plot C: GSM 850MHz Channel = 251, 30MHz to 10GHz)



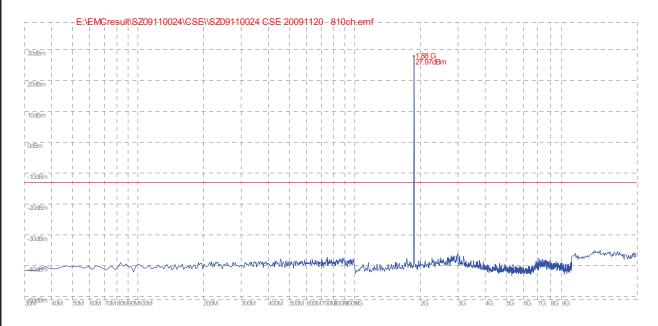
(Plot D: GSM 1900MHz Channel = 512, 30MHz to 20GHz)







(Plot E: GSM 1900MHz Channel = 661, 30MHz to 20GHz)



(Plot F: GSM 1900MHz Channel = 810, 30MHz to 20GHz)



3.6 Band Edge

3.6.1 Requirement

According to FCC section 22.917(b) and FCC section 24.238(b), in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

3.6.2 Test Description

See section 3.1.2 of this report.

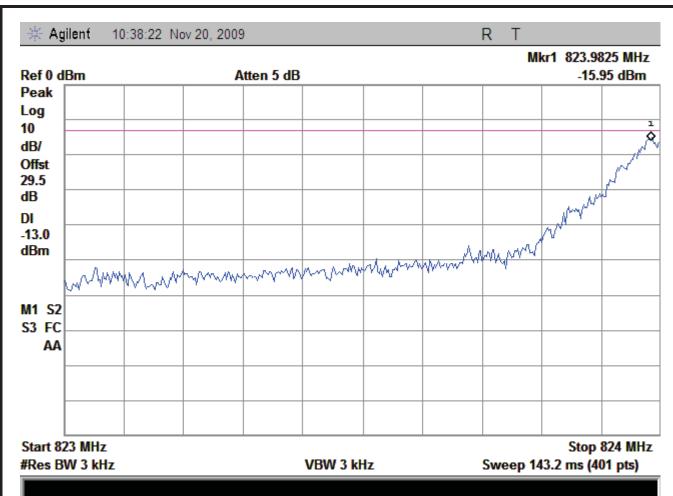
3.6.3 Test Result

The lowest and highest channels are tested to verify the band edge emissions.

1. Test Verdict:

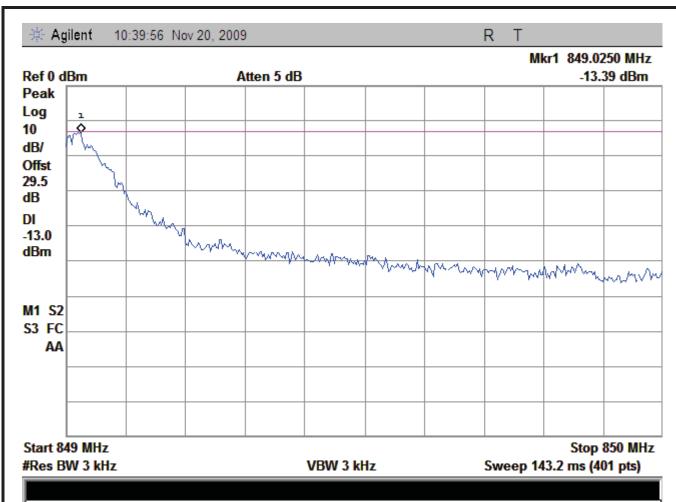
| Band | Channel | Frequency | Measured Max. Band | Refer to Limit (dBm) | | Verdict |
|---------|---------|-----------|---------------------|----------------------|----------------|---------|
| | | (MHz) | Edge Emission (dBm) | Plot | Lillit (dDill) | verdict |
| GSM | 128 | 824.2 | -15.95 | Plat A | -13 | PASS |
| 850MHz | 251 | 848.8 | -13.39 | Plot B | -13 | PASS |
| GSM | 512 | 1850.2 | -15.87 | Plat C | -13 | PASS |
| 1900MHz | 810 | 1909.8 | -16.89 | Plot D | -13 | PASS |





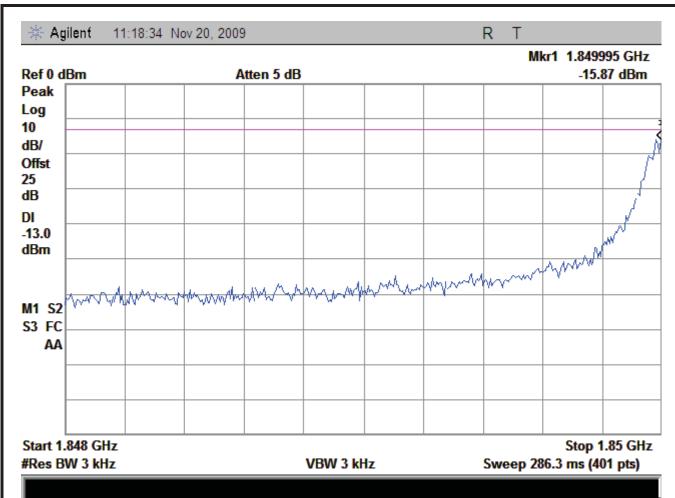
(Plot A: Channel = 128)





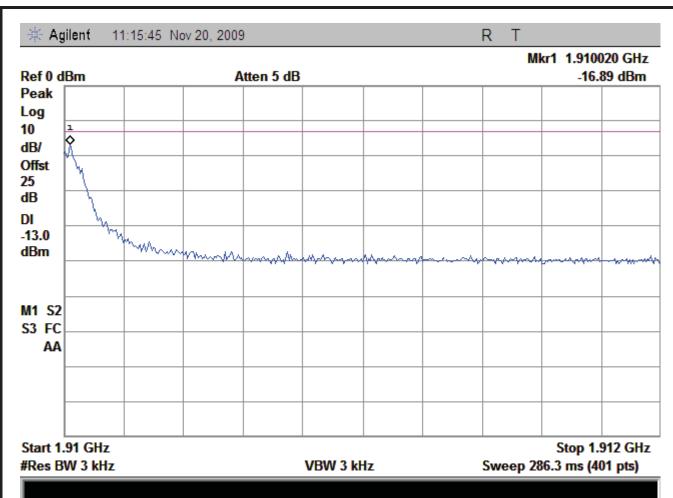
(Plot B: Channel = 251)



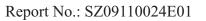


(Plot C: Channel = 512)





(Plot D: Channel = 810)





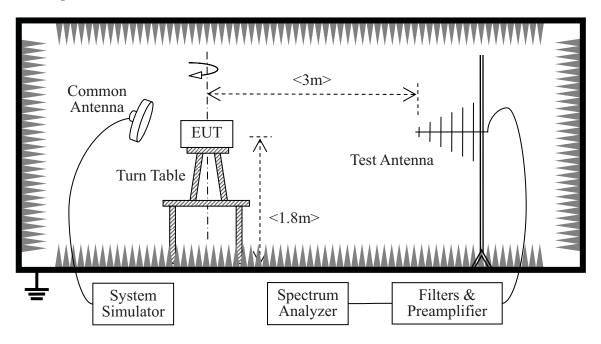
3.7 Transmitter Radiated Power (EIRP/ERP)

3.7.1 Requirement

According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7Watts, and FCC section 24.232, the broadband PCS mobile station is limited to 2Watts e.i.r.p. peak power.

3.7.2 Test Description

1. Test Setup:



The EUT, which is powered by the Battery charged with the AC Adapter, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. GSM850MHz band Power Control Level (PCL) = 5 and Power Class = 4 and GSM1900MHz band Power Control Level (PCL) = 0 and Power Class = 1. A call is established between the EUT and the SS via a Common Antenna.

The Test Antenna is a Bi-Log one (used for 30MHz to 1GHz) or a Horn one (used for above 3GHz), and it's located at the same height as the EUT. The Filters consists of Notch Filters and High Pass Filter.

2. Equipments List:

| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|------------------|--------------|--------|------------|-----------|----------|
| System Simulator | Agilent | E5515C | GB43130131 | 2009.08 | 1 year |



| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|-----------------------|--------------|------------|------------|-----------|----------|
| Spectrum Analyzer | Agilent | E7405A | US44210471 | 2009.08 | 1year |
| Full-Anechoic Chamber | Albatross | 9m*6m*6m | (n.a.) | 2009.08 | 2year |
| Test Antenna - Bi-Log | Schwarzbeck | VULB 9163 | 9163-274 | 2009.08 | 1 year |
| Test Antenna - Horn | Schwarzbeck | BBHA 9120C | 9120C-384 | 2009.08 | 1 year |

3.7.3 Test Result

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested.

The substitution corrections are obtained as described below:

 $A_{SUBST} = P_{SUBST_TX} - P_{SUBST_RX} - L_{SUBST_CABLES} + G_{SUBST_TX_ANT}$

 $A_{TOT} = L_{CABLES} + A_{SUBST}$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

P_{SUBST TX} is signal generator level,

P_{SUBST RX} is receiver level,

L_{SUBST CABLES} is cable losses including both TX and RX cables,

G_{SUBST TX ANT} is substitution antenna gain.

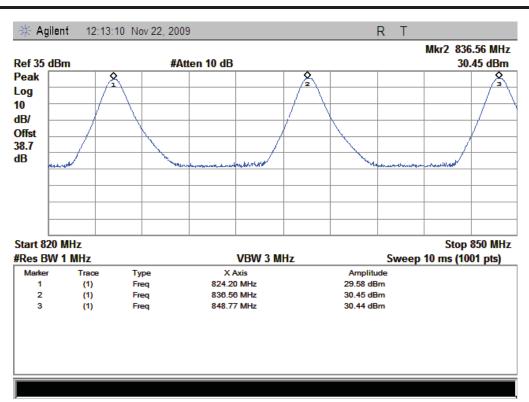
 A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final value which contain the data of A_{TOT} .

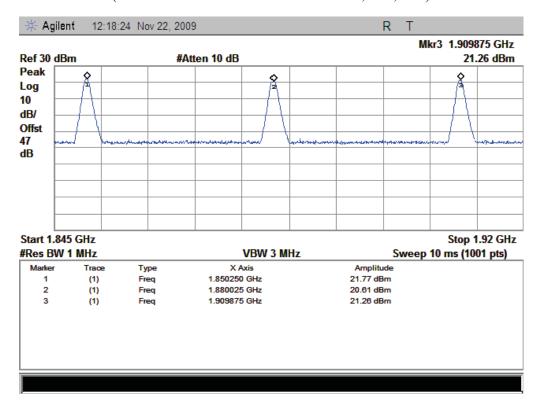
1. Test Verdict:

| Band | Chann | Frequency | Measured ERP/EIRP | | | Limit | | Verdict | |
|----------------|-------|-----------|-------------------|------|---------------|-------|---|---------|--|
| | el | (MHz) | dBm | W | Refer to Plot | dBm | W | verdict | |
| GSM 850MHz | 128 | 824.20 | 29.58 | 0.91 | | 38.45 | 7 | PASS | |
| | 190 | 836.60 | 30.45 | 1.11 | Plot A | | | PASS | |
| | 251 | 848.80 | 30.44 | 1.11 | | | | PASS | |
| GSM 1900MHz | 512 | 1850.2 | 21.77 | 0.15 | | 33 | 2 | PASS | |
| | 661 | 1880.0 | 20.61 | 0.12 | Plot B | | | PASS | |
| | 810 | 1909.8 | 21.26 | 0.13 | | | | PASS | |





(Plot A: GSM 850MHz Channel = 128, 190, 251)



(Plot B: GSM 1900MHz Channel = 512, 661, 810)



3.8 Radiated Out of Band Emissions

3.8.1 Requirement

According to FCC section 22.917(a) and section 24.238(a), 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. This calculated to be -13dBm.

3.8.2 Test Description

See section 3.7.2 of this report.

Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

3.8.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360° , and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

1. Test Verdict:

| Band | Channe 1 | Frequenc y (MHz) | Measured M Emission | ax. Spurious n (dBm) | | Limit (dBm) | Verdict |
|----------------|----------|---------------------|------------------------|-------------------------|---------------|----------------|---------|
| | | | Test Antenna | Test Antenna | Refer to Plot | | |
| | | | Horizontal | Vertical | | | |
| GSM 850MHz | 128 | 824.2 | -39 | -28 | Plot A.1/A.2 | | PASS |
| | 190 | 836.6 | -51 | -46 | Plot B.1/B.2 | -13 | PASS |
| | 251 | 848.8 | -55 | -46 | Plot C.1/C.2 | | PASS |
| GSM 1900MHz | 512 | 1850.2 | -28 | -24 | Plot D.1/D.2 | | PASS |
| | 661 | 1880.0 | -33 | -32 | Plot E.1/E.2 | -13 | PASS |
| | 810 | 1909.8 | -32 | -30 | Plot F.1/F.2 | | PASS |

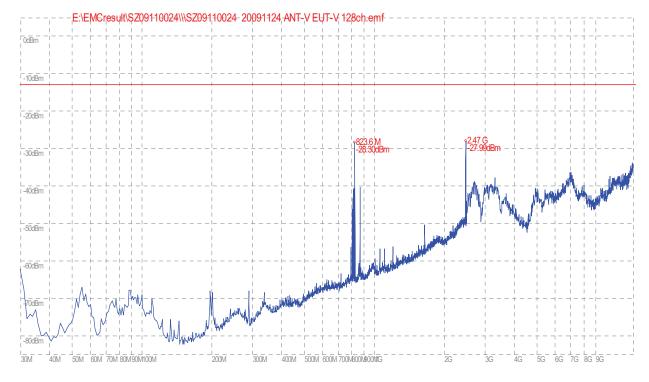
2. Test Plot for the Whole Measurement Frequency Range:

Note: the power of the EUT transmitting frequency should be ignored.





(Plot A.1: GSM 850MHz Channel = 128, Test Antenna Horizontal)



(Plot A.2: GSM 850MHz Channel = 128, Test Antenna Vertical)



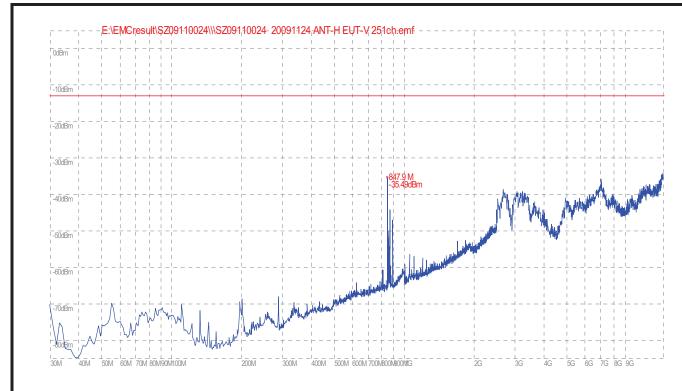


(Plot B.1: GSM 850MHz Channel = 190, Test Antenna Horizontal)



(Plot B.2: GSM 850MHz Channel = 190, Test Antenna Vertical)





(Plot C.1: GSM 850MHz Channel = 251, Test Antenna Horizontal)

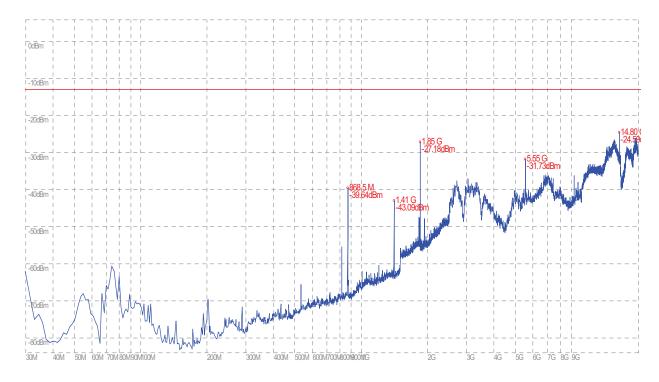


(Plot C.2: GSM 850MHz Channel = 251, Test Antenna Vertical)





(Plot D.1: GSM 1900MHz Channel = 512, Test Antenna Horizontal)

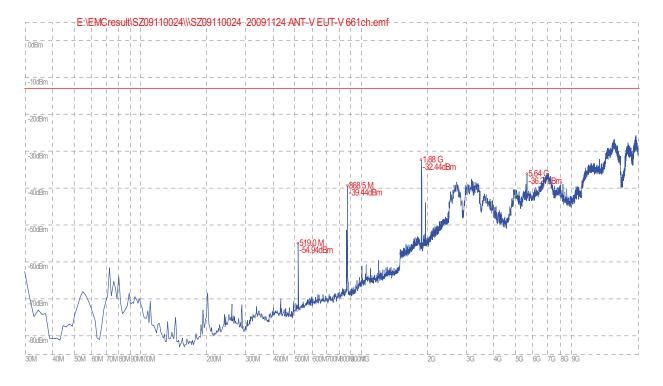


(Plot D.2: GSM 1900MHz Channel = 512, Test Antenna Vertical)



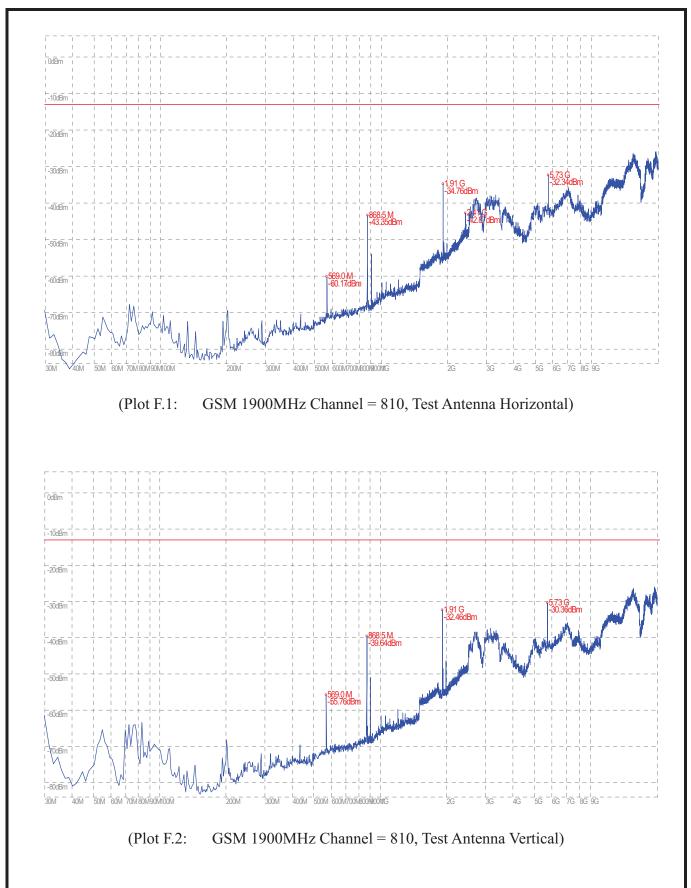


(Plot E.1: GSM 1900MHz Channel = 661, Test Antenna Horizontal)



(Plot E.2: GSM 1900MHz Channel = 661, Test Antenna Vertical)





** END OF REPORT **