

HYUNDAI CALIBRATION & CERTIFICATION TECH. CO., LTD.



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CERTIFICATE OF COMPLIANCE

FCC Part 24(E), 22(H) Certification

Pantech Co., Ltd.

Shinsong Bldg, 25-12, Yeouido-dong,
Youngdeungpo-Gu, Seoul, 150-711, Korea

Date of Issue: Mar. 26, 2007

Test Report No.: HCT-SAR07-0310

Test Site: HYUNDAI CALIBRATION & CERTIFICATION
TECHNOLOGIES CO., LTD.

FCC ID :

JYCC810

APPLICANT :

Pantech CO., Ltd.

EUT Type:	Dual-Band Dual-Mode GSM/WCDMA Phone with Bluetooth
Trade Name/Model(s):	Pantech / C810
FCC Rule Part(s):	§22 Subpart H, §24 Subpart E, §2
FCC Classification:	Licensed Portable Transmitter Held to Ear (PCE)
Application Type:	Certification
Tx Frequency:	824.20 – 848.80 MHz (GSM850) / 1850.20 – 1909.80 MHz (GSM1900) 826.40 – 846.60 MHz (WCDMA850) / 1852.40 – 1907.60 MHz (WCDMA1900)
Rx Frequency:	869.20 – 893.80MHz (GSM850) / 1930.20 – 1989.80 MHz (GSM1900) 871.40 – 891.60 MHz (WCDMA850) / 1932.40 – 1987.60 MHz (WCDMA1900)
Max. RF Output Power:	1.991 W ERP GSM850 (32.99 dBm) / 0.897 W EIRP GSM1900 (29.53 dBm) 0.881 W ERP EDGE850 (29.45 dBm) / 0.463 W EIRP EDGE1900 (26.66 dBm) 0.299W ERP WCDMA850(24.75 dBm)/0.243 W EIRP WCDMA1900(23.86 dBm)
Maximum SAR:	0.657 W/kg GSM850 Head SAR / 1.19 W/kg GSM850 Body SAR 0.503 W/kg GSM1900 Head SAR / 0.469 W/kg GSM1900 Body SAR 0.759 W/kg WCDMA850 Head SAR / 0.329 W/kg WCDMA850 Body SAR 1.07 W/kg WCDMA1900 Head SAR / 0.383 W/kg WCDMA1900 Body SAR

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in § 2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Hyundai C-Tech Co., Ltd. Certifies that no party to this application has been denied FCC benefits pursuant to section 5301 of the Anti- Drug Abuse Act of 1998, 21 U.S. C. 853(a)

Report prepared by: Ki-Soo Kim

Manager of Product Compliance Team

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MEASUREMENT REPORT

1.1 SCOPE

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

General Information

Company Name:	Pantech Co., Ltd.
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E-Mail :	lit@pantech.com

- FCC ID: JYCC810
- EUT Type: Dual-Band Dual-Mode GSM/WCDMA Phone with Bluetooth
- Trade Name: Pantech
- Model(s): C810
- Serial Number(s): JYCC81020070301
- FCC Classification: Licensed Portable Transmitter Held to Ear (PCE)
- FCC Rule Part(s): §2, §22 Subpart H, §24 Subpart E
- Emission Designator(s): 246KGXW (GSM850) 246KGXW (GSM1900)
249KG7W (EDGE850) 245KG7W (EDGE1900)
4M20F9W (WCDMA850) 4M18F9W (WCDMA850)
- Modulation(s): GSM/EDGE/WCDMA
- Frequency Tolerance: ± 0.00025 % or 2.5 ppm
- Antenna Type: Intenna
- Antenna Specifications: Manufacturer: ACE ANTENNA
PART NUMBER: 10LY31A8J000018 (Length= 39.9 mm)
- Date(s) of Tests: Mar. 17, 2007 ~ Mar. 20, 2007
- Place of Tests: Hyundai C-Tech. EMC Lab.
Icheon, Kyounki-Do, KOREA
- Report Serial No.: HCT-SAR07-0310

2.1 INTRODUCTION

EUT DESCRIPTION

The Pantech C810 Dual-Band Dual-Mode GSM/WCDMA Phone with Bluetooth. Its basic purpose is used for communications. It transmits from 824.20 – 848.80MHz (GSM850), 1850.20MHz – 1909.80MHz (GSM1900), 826.40 – 846.60 MHz (WCDMA850), 1852.40 – 1907.60 MHz (WCDMA1900)) and receives from 869.20 – 893.80MHz (GSM850), 1930.20MHz – 1989.80MHz (GSM1900) 871.40 – 891.60 MHz (WCDMA850), 1932.40 – 1987.60 MHz (WCDMA1900)). The RF power is rated at GSM850 (1.991 W), GSM1900 (0.897 W), WCDMA850 (0.299W), WCDMA1900 (0.243W).

MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

Test Facility

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

3.1 INSERTS

Block/Circuit Diagrams & Description (Confidential)

The circuit diagrams & description are shown in Attachment J, and the block diagrams are shown in Attachment I.

Operating Instructions

The instruction manual is shown in Attachment M.

Parts List & Tune-Up Procedure (Confidential)

The parts list & tune-up procedure are shown in Attachment L.

Description of Freq. Stabilization Circuit (Confidential)

The description of frequency stabilization circuit is shown in Attachment K.

Description for Suppression of Spurious Radiation, for Limiting Modulation, and Harmonic Suppresion Circuits (Confidential)

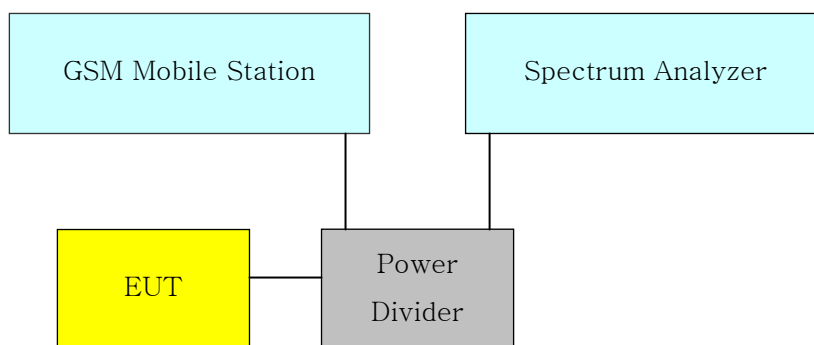
The description of suppression stabilization circuits are shown in Attachment K

4.1 DESCRIPTION OF TESTS

4.2 Conducted RF Power TEST

According to FCC §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 § 2.1033(c)(8). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

Test Set-up

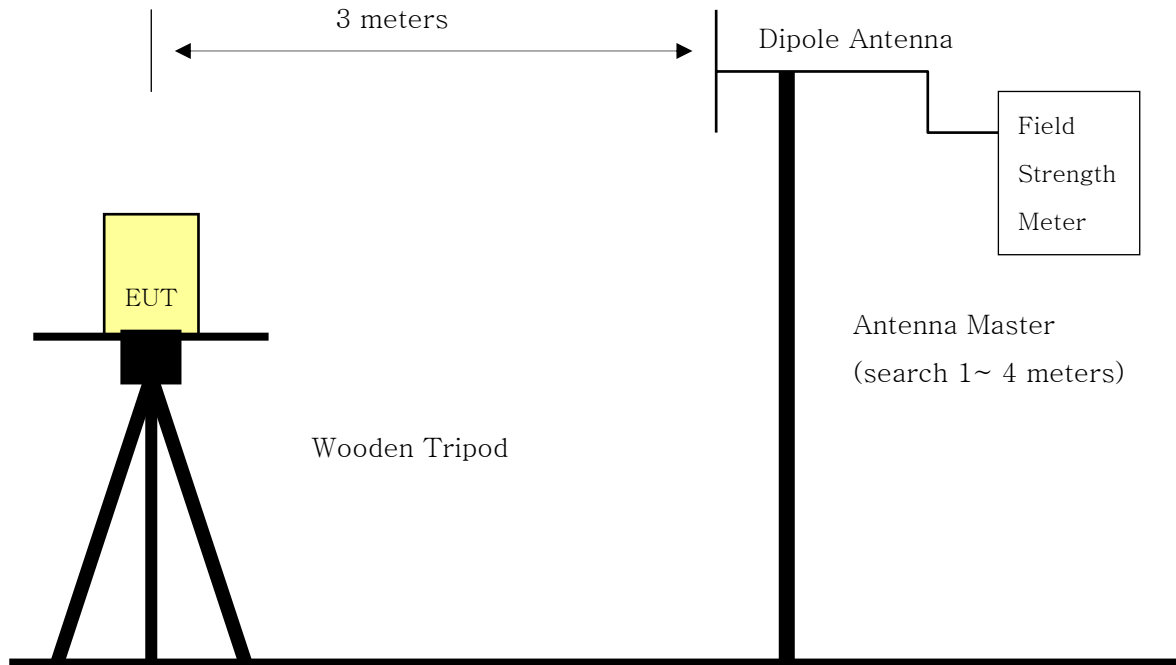


Test Procedure

- 1) The EUT was coupled to the spectrum analyzer and the base station simulator through a power divider. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The loss of the cables the test system is calibrated to correct the reading.
- 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.

4.3 Effective Radiated Power.

Test Set-up



[Open Field Test Site]

Test Procedure

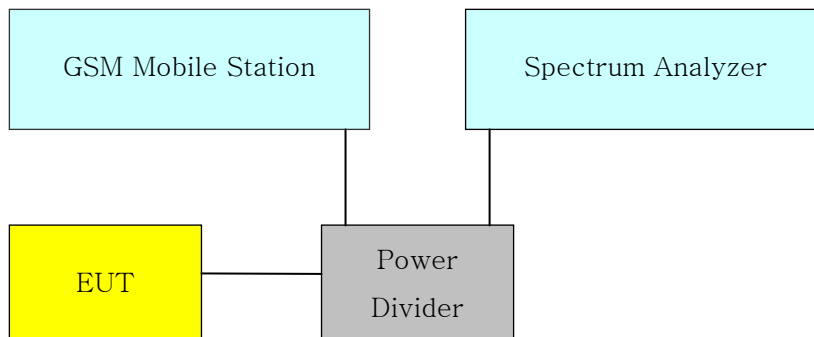
The measurement facilities used for this test have been documented in previous filings with the commission pursuant to section 2.948.

The open field test site is situated in open field with ground screen whose site attenuation characteristics meet ANSI C63.4 –2003. A mast capable of lifting the receiving antenna from a height of one to four meters is used together with a routable wooden platform mounted at three from the antenna mast.

- 1) The EUT mounted on a wooden tripod is 0.8 meter above test site ground level.
- 2) During the test , the turn table is rotated and the antenna height is also varied from 1 to 4 meters until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with $\lambda / 2$ dipole antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item(4).
- 6) The signal generator output level is the rating of effective radiated power(ERP).
- 7) The instrument settings used (RBW/ VBW) during ERP/ EIRP output power measurement are as Blows ;
-. Below 1 GHz : RBW 100 KHz, VBW 300 KHz / Above 1GHz : RBW 1 MHz, VBW 1 MHz

4.4 Occupied bandwidth.

Test Set-up

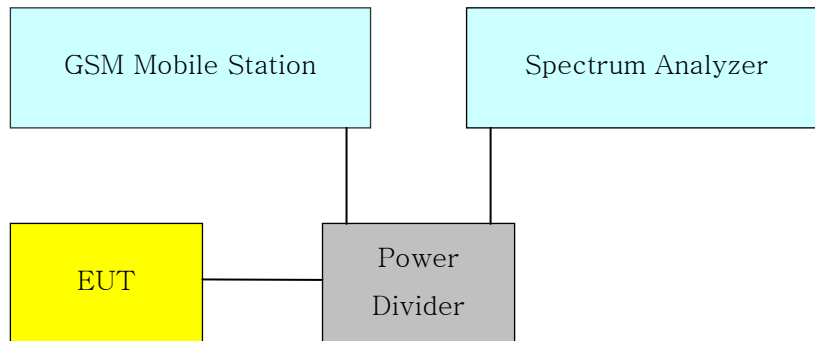


Test Procedure

The EUT was setup to maximum output power at its lowest channel. The occupied bandwidth was measured using a spectrum analyzer. The measurements are repeated for the highest and a middle channel. The EUT's occupied bandwidth is measured as the width of the signal between two points, one below the carrier center frequency and one above the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Plots of the EUT's occupied bandwidth are shown herein.

4.5 Spurious and Harmonic Emissions at Antenna Terminal.

Test Set-up



Test Procedure

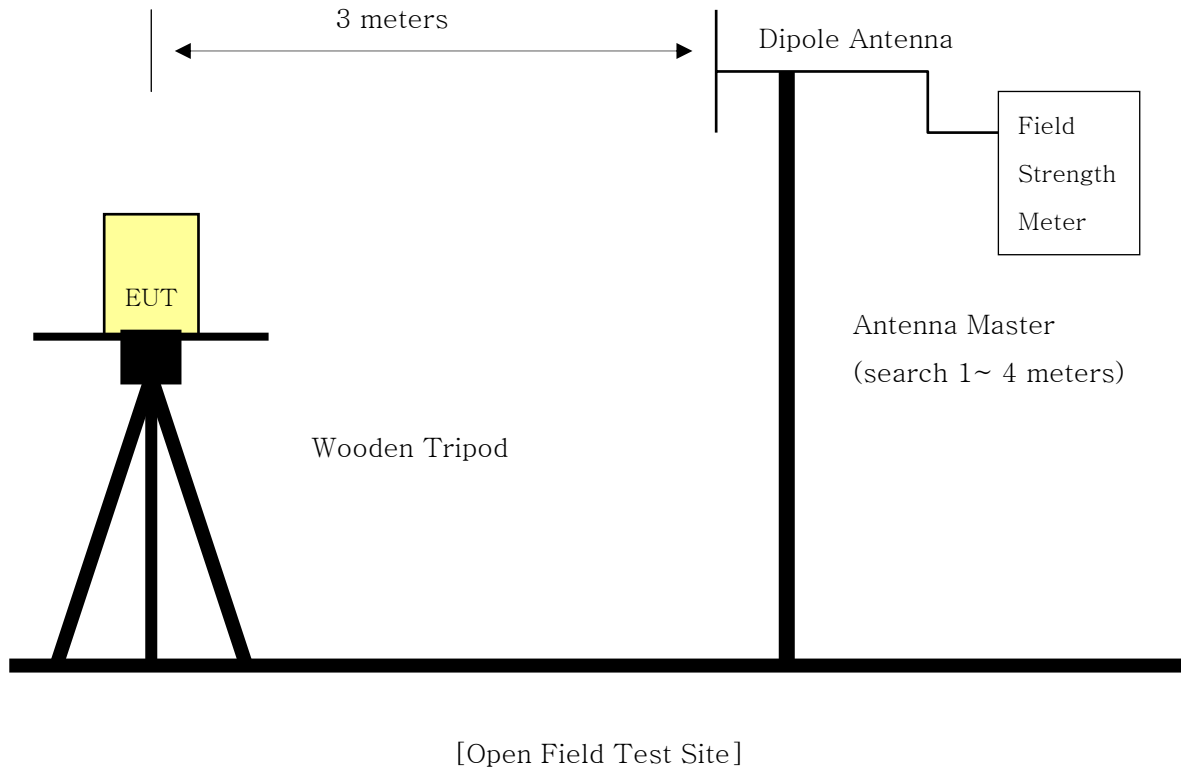
The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to 10 GHz. The transmitter is modulated with a 2500 Hz tone at a level of 16 dB greater than that

required to provide 50 % modulation.

At the input terminals of the spectrum analyzer, an isolator (RF circulator with one port terminated with 50 ohms) and an 870 MHz to 890 MHz band pass filter is connected between the test transceiver (for conducted tests) or the receive antenna (for radiated tests) and the analyzer. The rejection of the bandpass filter to signals in the 825 – 845 MHz range is adequate to limit the transmit energy from the test transceiver which appears to a level which will allow the analyzer to measure signals less than – 90 dBm. Calibration of the test receiver is performed in the 870 – 890 MHz range to insure accuracy to allow variation in the bandpass filter insertion loss to be calibrated.

4.6 Field strength of spurious radiation .

Test Set-up



Test Procedure

The measurement facilities used for this test have been documented in previous filings with the commission pursuant to section 2.948.

The open field test site is situated in open field with ground screen whose site attenuation characteristics meet ANSI C63.4 –2003. A mast capable of lifting the receiving antenna from a height of one to four meters is used together with a rotatable wooden platform mounted at three from the antenna mast.

- 1) The unit mounted on a wooden table 1.5 m × 1.0 m × 0.80 m is 0.8 meter above test site ground level.
- 2) During the emission test , the turntable is rotated and the EUT is manipulated to find the configuration resulting in maximum emission under normal condition of installation and operation.
- 3) The antenna height and polarization are also varied from 1 to 4 meters until the maximum signal is found.
- 4) The spectrum shall be scanned up to the 10th harmonic of the fundamental frequency.
- 5) The instrument settings used (RBW/ VBW) during ERP/ EIRP output power measurement are as follows ;
 - Below 1 GHz : RBW 100 KHz, VBW 300 KHz
 - Above 1 GHz : RBW 1 MHz, VBW 1 MHz

4.6.1 Field strength of spurious radiation .

Spectrum Analyzer Settings

1. [Resolution Bandwidth / Video Bandwidth]:
 - a) [3 kHz / 10 kHz] in the Span of 1 MHz directly below and above the GSM-Band,
 - b) [10 kHz / 30 kHz] in case the curve of the analyser IF-Filter leads to an exceeding of the limit, in this case a worst case correction factor of 20 dB (1 MHz -> 10 kHz) was used
 - c) [1 MHz / 3 MHz] otherwise
2. Sweep Time: Calculated by using a formula given in the Product Standard "GSM 11.10-1 edition 4" for spurious emissions measurements (depending on the transmitting signal, the span and the resolution bandwidth)
3. The spurious emissions (peak) were measured in both vertical and horizontal antenna polarization during the call is established on the lowest channel, mid channel and on the highest channel.

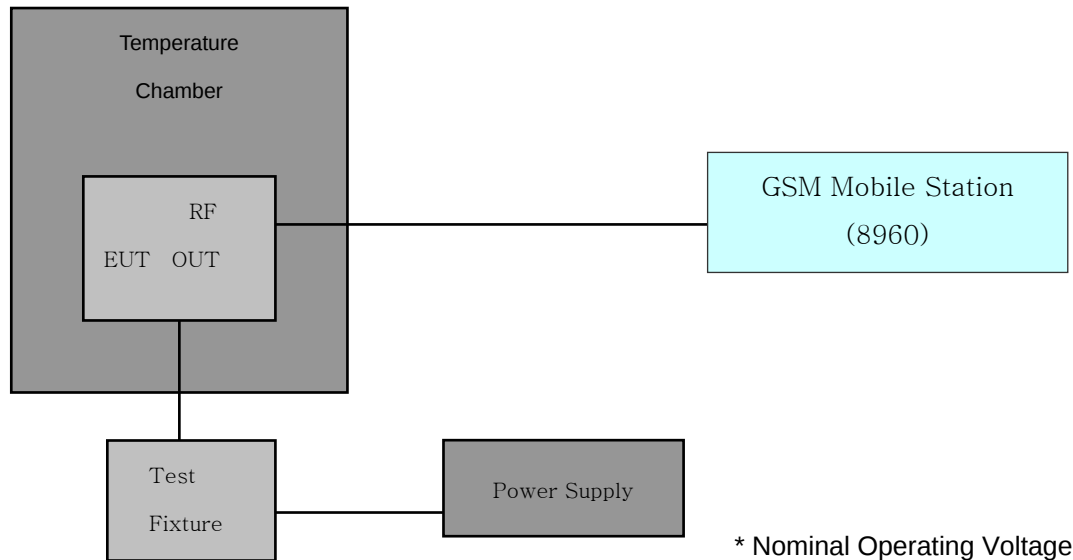
§ 2.1057 Frequency spectrum to be investigated.

- (a) In all of the measurements set forth in Secs. 2.1051 and 2.1053, the spectrum shall be investigated from the lowest radio frequency signal generated in the equipment, without going below 9 kHz, up to at least the frequency shown below:
- (1) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
 - (b) Particular attention should be paid to harmonics and sub harmonics of the carrier frequency as well as to those frequencies removed from the carrier by multiples of the oscillator frequency. Radiation at the frequencies of multiplier stages should also be checked.
 - (c) The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.
 - (d) Unless otherwise specified, measurements above 40 GHz shall be performed using a minimum resolution bandwidth of 1 MHz.

4.7 Frequency stability .

4.7.1 Frequency stability with variation of ambient temperature.

Test Set-up



Test Procedure

The frequency stability of the transmitter is measured by:

- Temperature:** The temperature is varied from -30°C to $+50^{\circ}\text{C}$ using an environmental chamber.
- Primary Supply Voltage:** The primary supply voltage is varied from 85 % to 115 % of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied.

Specification — The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ± 0.0001 (± 1 ppm) of the center frequency.

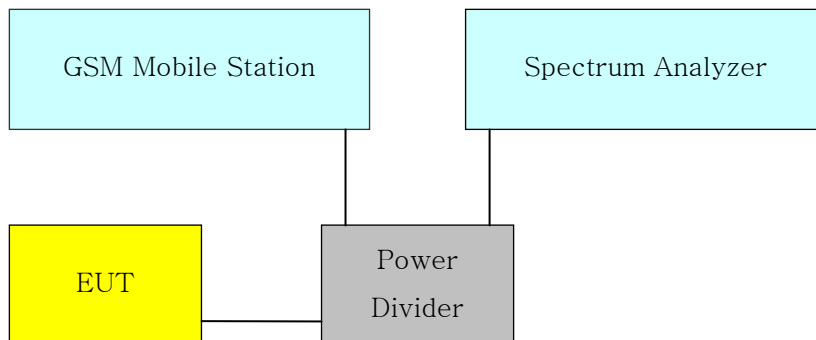
Time Period and Procedure:

- The carrier frequency of the transmitter and the individual oscillators is measured at room temperature (25°C to 27°C to provide a reference).
- The equipment is subjected to an overnight "soak" at -30°C without any power applied.
- After the overnight "soak" at 30°C (usually 14-16 hours), the equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter and the individual oscillators is made within a three minute interval after applying power to the transmitter.
- Frequency measurements are made at 10°C interval up to room temperature. At least a period of one and one half-hour is provided to allow stabilization of the equipment at each temperature level.
- Again the transmitter carrier frequency and the individual oscillators is measured at room temperature to begin measurement of the upper temperature levels.
- Frequency were made at 10 intervals starting at 30°C up to $+50^{\circ}\text{C}$ allowing at least two hours at each temperature for stabilization. In all measurements the frequency is measured within three minutes after applying power to the transmitter.
- The artificial load is mounted external to the temperature chamber.

NOTE: The EUT is tested down to the battery endpoint.

4.7.2 Frequency stability with variation of primary supply voltage.

Test Set-up

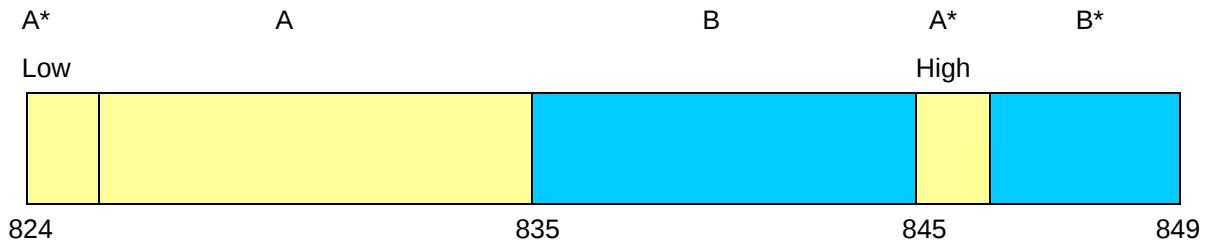


Test Procedure

- 4) The primary supply is varied in steps of 5 % from 85 to 115 % of the nominal supply voltage, or reduce primary supply voltage to the battery operating end point.
- 5) The frequency is recorded each 5 % step.

4.8 Frequency Block Edge

4.8.1 Cellular - Mobile Frequency Blocks



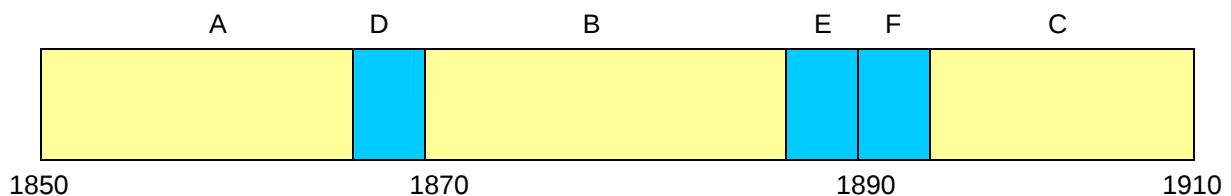
BLOCK 1: 824 – 835 MHz (A* Low + A)

BLOCK 2: 835 – 845 MHz (B)

BLOCK 3: 845 – 846.5 MHz (A* High)

BLOCK 4: 846.5 – 849 MHz (B*)

4.7.2 PCS - Mobile Frequency Blocks



BLOCK 1: 1850 – 1865 MHz (A)

BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 2: 1865 – 1870 MHz (D)

BLOCK 5: 1890 – 1895 MHz (F)

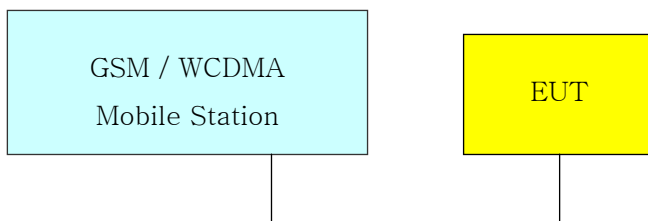
BLOCK 3: 1870 – 1885 MHz (B)

BLOCK 6: 1895 – 1910 MHz (C)

5.1 Test Data

5.1 Conducted Output Power

A base station simulator (Model: CMU200) was used to establish communication with the Pantech Dual-Band Dual-Mode GSM/WCDMA Phone with Bluetooth. The base station simulator parameter were set to produce the maximum power from the EUT. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. The power are reported below.



Band	Channel	Power Control Level	GSM	GPRS	EDGE
GSM 850	128	5	32.87	32.80	27.25
	190	5	32.89	33.05	27.21
	251	5	32.85	32.91	27.2
GSM 1900	512	0	30.01	29.98	26.07
	661	0	30.06	30.05	26.15
	810	0	30.15	30.14	26.25

Band	Channel	HSDPA INACTIVE		HSDPA ACTIVE	
		12.2kbps RMC (dBm)	12.2kbps AMR (dBm)	12.2kbps RMC (dBm)	12.2kbps AMR (dBm)
WCDMA 850	4132	24.03	24.02	23.88	24.01
	4175	23.94	23.92	23.91	23.89
	4233	24.07	24.05	24.07	24.01
WCDMA 1900	9262	24.02	24.02	24.01	24.01
	9400	24.07	24.06	24.15	24.04
	9538	24.18	24.11	24.07	24.09

6.1 Test Data

6.2 Effective Radiated Power Output(GSM / WCDMA)

Radiated measurements at 3 meters

POWER : High (GSM850 Mode)

Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
824.20	-14.5	V	1.828	32.62	Standard
836.60	-14.2	V	1.991	32.99	Standard
848.80	-14.6	V	1.782	32.51	Standard
836.60	-17.7	V	0.881	29.45	Standard

POWER : High (WCDMA850 Mode)

Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
826.40	-22.4	H	0.299	24.75	Standard
835.00	-22.8	H	0.272	24.35	Standard
846.60	-22.9	H	0.269	24.30	Standard

Note: Standard batteries are the only options for this phone

NOTES:

Effective Radiated Power Output Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

7.1 Test Data

7.2 Equivalent Isotropic Radiated Power (E.I.R.P.) (GSM / WCDMA)

Radiated measurements at 3 meters

POWER : High (GSM1900 Mode)

Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	Azimuth (o angle)	EIRP (W)	EIRP (dBm)	BATTERY
1850.20	-24.5	H	90	0.897	29.53	Standard
1880.00	-24.7	H	90	0.857	29.33	Standard
1909.80	-24.9	H	90	0.817	29.12	Standard
1850.20	-27.4	H	90	0.463	26.66	Standard

POWER : High (WCDMA1900 Mode)

Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	Azimuth (o angle)	EIRP (W)	EIRP (dBm)	BATTERY
1852.40	-30.2	H	90	0.243	23.86	Standard
1880.00	-30.7	H	90	0.219	23.40	Standard
1907.60	-30.4	H	90	0.232	23.66	Standard

Note: Standard batteries are the only options for this phone

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.2 GSM850 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	824.20 MHz
■ CHANNEL:	128 (Low)
■ MEASURED OUTPUT POWER:	32.99 dBm = 1.991 W
■ MODULATION SIGNAL:	GSM (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	- 45.99 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1648.40	- 46.8	7.3	- 39.5	H	- 68.2
2472.60	- 42.3	8.3	- 34.0	H	- 61.9
3296.80	- 44.2	9.7	- 34.5	H	- 61.2

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.3 GSM850 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	836.60 MHz
■ CHANNEL:	190 (Mid)
■ MEASURED OUTPUT POWER:	32.99 dBm = 1.991 W
■ MODULATION SIGNAL:	GSM (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	- 45.99 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1673.20	- 53.3	7.3	- 46.0	H	- 74.7
2509.80	- 54.3	8.3	- 46.0	H	- 73.9
3346.40	- 58.7	9.7	- 49.0	H	- 75.7

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.4 GSM850 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	848.80 MHz
■ CHANNEL:	251 (High)
■ MEASURED OUTPUT POWER:	32.99 dBm = 1.991 W
■ MODULATION SIGNAL:	GSM (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	- 45.99 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1699.60	-47.3	7.3	-40.0	H	-68.7
2549.40	-49.8	8.3	-41.5	H	-69.4
3399.20	-51.7	9.7	-42.0	H	-68.7

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.5 WCDMA850 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	826.40 MHz
■ CHANNEL:	4132 (Low)
■ MEASURED OUTPUT POWER:	24.75 dBm = 0.299 W
■ MODULATION SIGNAL:	WCDMA (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	- 37.76 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1652.80	-53.3	7.3	-46.0	H	-66.5
2479.20	-55.8	8.3	-47.5	H	-67.2
3305.60	-65.7	9.7	-56.0	H	-74.5

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.6 WCDMA850 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	835.00 MHz
■ CHANNEL:	4175 (Mid)
■ MEASURED OUTPUT POWER:	24.75 dBm = 0.299 W
■ MODULATION SIGNAL:	WCDMA (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	- 37.76 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1672.80	-61.3	7.3	-54.0	H	-74.5
2509.20	-62.5	8.3	-54.2	H	-73.9
3345.60	-66.7	9.7	-57.0	H	-75.5

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.7 WCDMA850 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	846.60 MHz
■ CHANNEL:	4233 (High)
■ MEASURED OUTPUT POWER:	24.75 dBm = 0.299 W
■ MODULATION SIGNAL:	WCDMA (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	- 37.76 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1693.20	-49.3	7.3	-42.0	H	-62.5
2539.80	-50.3	8.3	-42.0	H	-61.7
3386.40	-59.7	9.7	-50.0	H	-68.5

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.8 GSM1900 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	1850.20 MHz
■ CHANNEL:	512 (Low)
■ MEASURED OUTPUT POWER:	29.53dBm = 0.897 W
■ MODULATION SIGNAL:	GSM (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	-42.53 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3700.40	-59.6	12.4	-47.2	H	-67.7
5550.60	-57.2	11.7	-45.5	H	-66.9
7400.80	-58.7	11.5	-47.2	H	-69.0

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.9 GSM1900 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	1880.00 MHz
■ CHANNEL:	661 (Mid)
■ MEASURED OUTPUT POWER:	29.53dBm = 0.897 W
■ MODULATION SIGNAL:	GSM (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	-42.53 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-50.2	12.4	-37.8	H	-58.3
5460.00	-49.7	11.7	-38.0	H	-59.4
7520.00	-51.5	11.5	-40.0	H	-61.8

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.10 GSM1900 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	1909.80 MHz
■ CHANNEL:	810 (High)
■ MEASURED OUTPUT POWER:	29.53dBm = 0.897 W
■ MODULATION SIGNAL:	GSM (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	-42.53 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3819.60	-57.2	12.4	-44.8	H	-65.3
5729.40	-57.3	11.7	-45.6	H	-67.0
7639.20	-56.8	11.5	-45.3	H	-67.1

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.11 WCDMA1900 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	1852.40 MHz
■ CHANNEL:	9262 (Low)
■ MEASURED OUTPUT POWER:	23.86dBm = 0.243 W
■ MODULATION SIGNAL:	WCDMA (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	-36.86 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3704.80	-64.0	12.4	-51.6	H	-66.5
5557.20	-58.7	11.7	-47.0	H	-62.8
7409.60	-65.5	11.5	-54.0	H	-70.2

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.12 WCDMA1900 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	1880.00 MHz
■ CHANNEL:	9400 (Mid)
■ MEASURED OUTPUT POWER:	23.86dBm = 0.243 W
■ MODULATION SIGNAL:	WCDMA (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	-36.86 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-62.4	12.4	-50.0	H	-64.9
5640.00	-59.2	11.7	-47.5	H	-63.3
7520.00	-59.5	11.5	-48.0	H	-64.2

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer.

For CDMA signals, a peak detector is used, with RBW = VBW = 3MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

8.1 Test Data

8.13 WCDMA1900 Radiated Measurements

Field Strength of SPURIOUS Radiation

■ OPERATING FREQUENCY:	1907.60 MHz
■ CHANNEL:	9538 (High)
■ MEASURED OUTPUT POWER:	23.86dBm = 0.243 W
■ MODULATION SIGNAL:	WCDMA (Internal)
■ DISTANCE:	3 meters
■ LIMIT: $-(43 + 10 \log_{10} (W)) =$	-36.86 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3715.20	-60.2	12.4	-47.8	H	-62.7
5722.80	-57.7	11.7	-46.0	H	-61.8
7630.40	-58.5	11.5	-47.0	H	-63.2

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

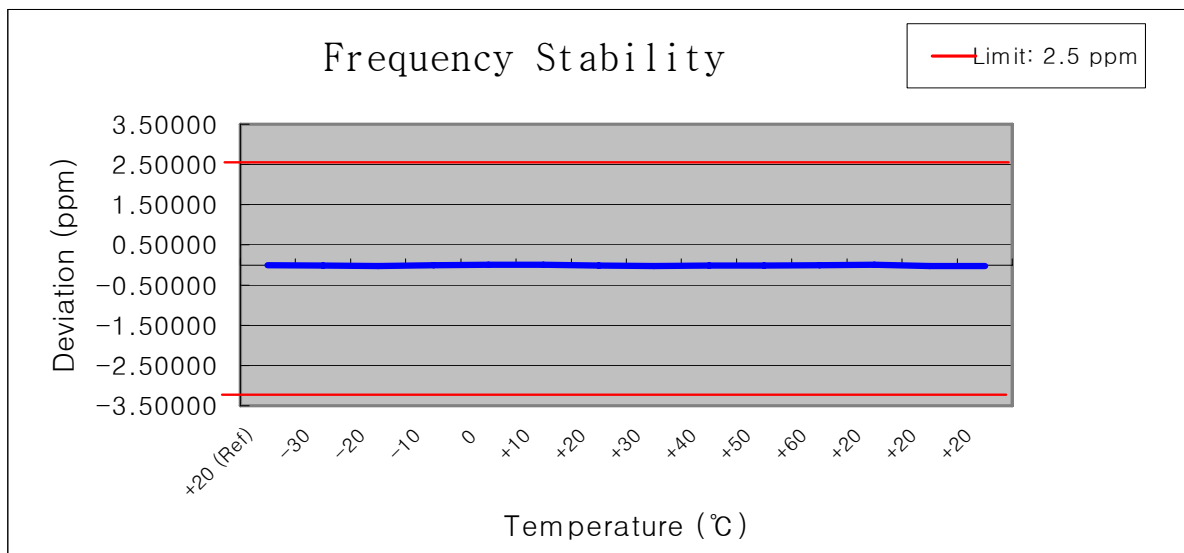
The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

9.1 Test Data

9.2 FREQUENCY STABILITY (GSM850)

OPERATING FREQUENCY:	836,600,022 Hz
CHANNEL:	190
REFERENCE VOLTAGE:	3.7 VDC
DEVIATION LIM IT:	± 0.00025 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Deviation (%)	Deviation (ppm)
100	3.7	+20 (Ref)	836,600,022	0.000000	0.00000
100		-30	836,600,034	-0.000001	-0.01434
100		-20	836,600,041	-0.000002	-0.02271
100		-10	836,600,028	-0.000001	-0.00717
100		0	836,600,020	0.000000	0.00239
100		+10	836,600,019	0.000000	0.00359
100		+20	836,600,033	-0.000001	-0.01315
100		+30	836,600,046	-0.000003	-0.02869
100		+40	836,600,038	-0.000002	-0.01913
100		+50	836,600,031	-0.000001	-0.01076
100		+60	836,600,022	0.000000	0.00000
85	3.15	+20	836,600,017	0.000001	0.00598
115	4.26	+20	836,600,043	-0.000003	-0.02510
BATT.END POINT	3.14	+20	836,600,039	-0.000002	-0.02032

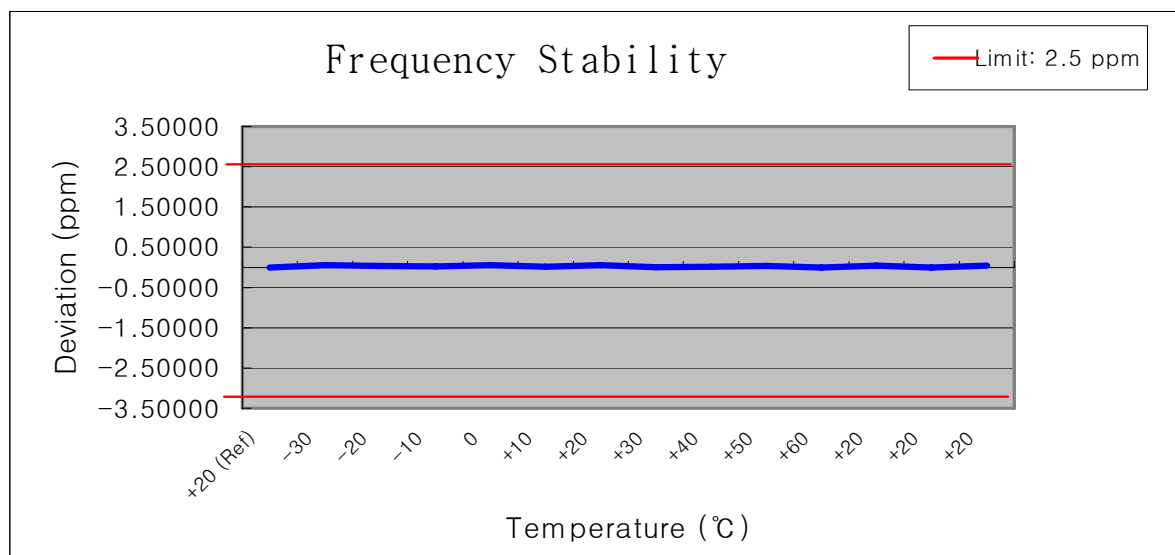


9.1 Test Data

9.3 FREQUENCY STABILITY (WCDMA850)

OPERATING FREQUENCY: 835,000,071 Hz
CHANNEL: 4175
REFERENCE VOLTAGE: 3.7 VDC
DEVIATION LIM IT: ± 0.00025 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Deviation (%)	Deviation (ppm)
100	3.7	+20 (Ref)	835,000,071	0.000000	0.00000
100		-30	835,000,029	0.000005	0.05030
100		-20	835,000,046	0.000003	0.02994
100		-10	835,000,053	0.000002	0.02156
100		0	835,000,028	0.000005	0.05150
100		+10	835,000,061	0.000001	0.01198
100		+20	835,000,027	0.000005	0.05269
100		+30	835,000,063	0.000001	0.00958
100		+40	835,000,058	0.000002	0.01557
100		+50	835,000,046	0.000003	0.02994
100		+60	835,000,072	0.000000	-0.00120
85	3.15	+20	835,000,037	0.000004	0.04072
115	4.26	+20	835,000,074	0.000000	-0.00359
BATT.END POINT	3.14	+20	835,000,038	0.000004	0.03952

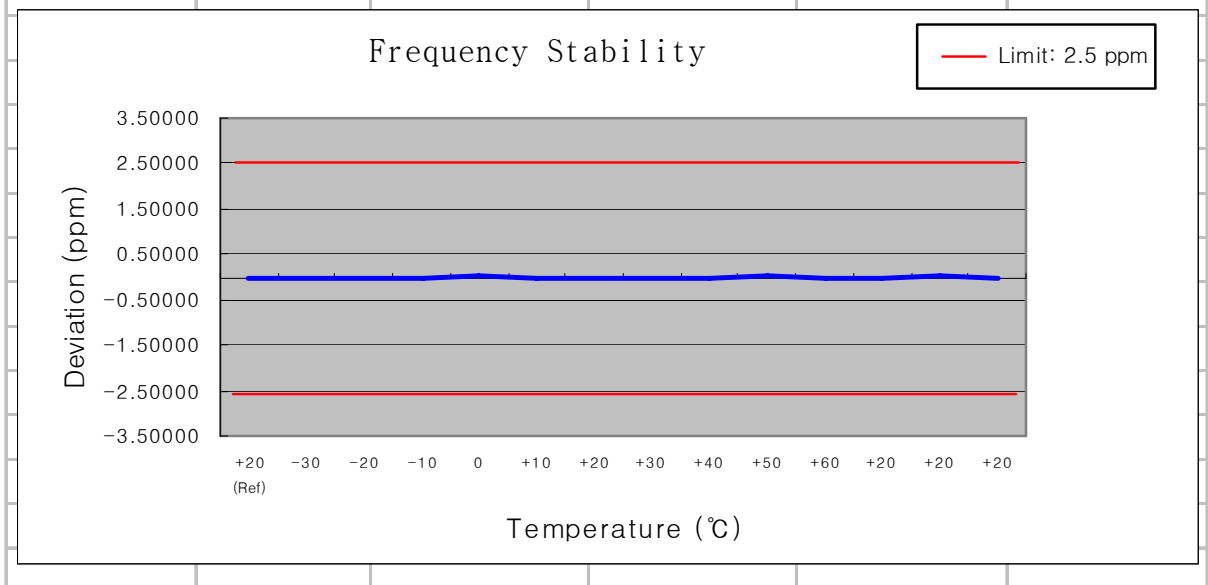


9.1 Test Data

9.4 FREQUENCY STABILITY (GSM1900)

OPERATING FREQUENCY: 1,880,000,029 Hz
CHANNEL: 661
REFERENCE VOLTAGE: 3.7 VDC
DEVIATION LIM IT: ± 0.00025 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Deviation (%)	Deviation (ppm)
100	3.7	+20 (Ref)	1,880,000,029	0.000000	0.00000
100		-30	1,880,000,037	0.000000	-0.00426
100		-20	1,880,000,031	0.000000	-0.00106
100		-10	1,880,000,043	-0.000001	-0.00745
100		0	1,880,000,025	0.000000	0.00213
100		+10	1,880,000,034	0.000000	-0.00266
100		+20	1,880,000,039	-0.000001	-0.00532
100		+30	1,880,000,046	-0.000001	-0.00904
100		+40	1,880,000,037	0.000000	-0.00426
100		+50	1,880,000,027	0.000000	0.00106
100		+60	1,880,000,031	0.000000	-0.00106
85	3.15	+20	1,880,000,049	-0.000001	-0.01064
115	4.26	+20	1,880,000,025	0.000000	0.00213
BATT.END POINT	3.14	+20	1,880,000,037	0.000000	-0.00426

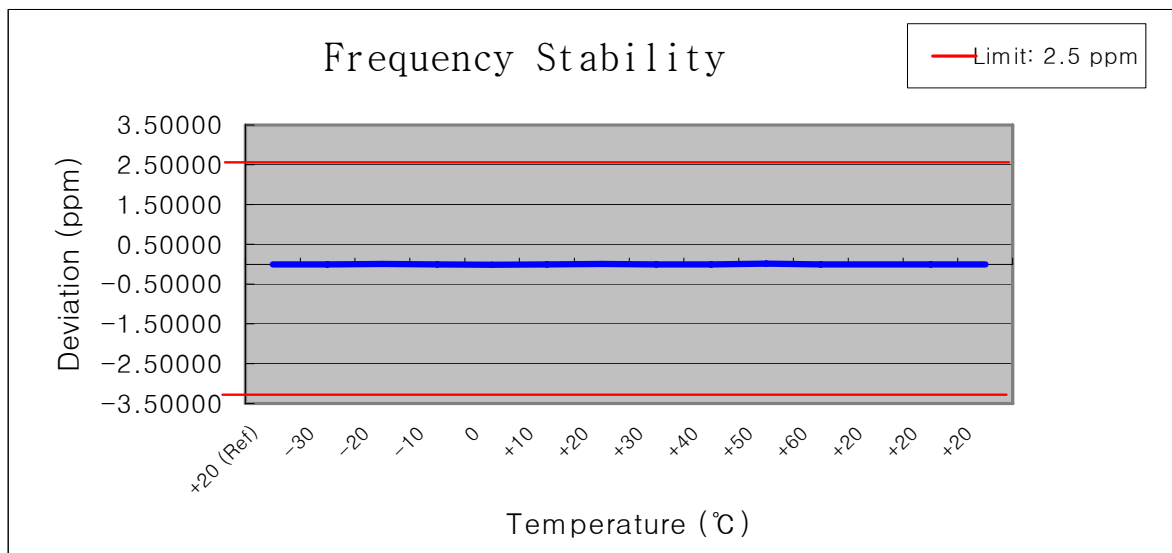


9.1 Test Data

9.5 FREQUENCY STABILITY (WCDMA1900)

OPERATING FREQUENCY: 1,880,000,046 Hz
CHANNEL: 9400
REFERENCE VOLTAGE: 3.7 VDC
DEVIATION LIM IT: ± 0.00025 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Deviation (%)	Deviation (ppm)
100	3.7	+20 (Ref)	1,880,000,046	0.000000	0.00000
100		-30	1,880,000,052	0.000000	-0.00319
100		-20	1,880,000,031	0.000001	0.00798
100		-10	1,880,000,047	0.000000	-0.00053
100		0	1,880,000,069	-0.000001	-0.01223
100		+10	1,880,000,046	0.000000	0.00000
100		+20	1,880,000,039	0.000000	0.00372
100		+30	1,880,000,049	0.000000	-0.00160
100		+40	1,880,000,053	0.000000	-0.00372
100		+50	1,880,000,027	0.000001	0.01011
100		+60	1,880,000,049	0.000000	-0.00160
85	3.15	+20	1,880,000,063	-0.000001	-0.00904
115	4.26	+20	1,880,000,047	0.000000	-0.00053
BATT.END POINT	3.14	+20	1,880,000,059	-0.000001	-0.00691



10.1 PLOT(S) OF EMISSION

(SEE ATTACHMENT D)

11.1 LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Date	Calibration Interval	Calibration Due
R&S	ES140/ Spectrum Analyzer	831564/003	11/06/2006	Annual	11/06/2007
Advantest	R3273/ Spectrum Analyzer	J04821	03/15/2007	Annual	03/15/2008
Agilent	HP8373ED / Signal Generator	US8710152	06/14/2006	Annual	06/14/2007
Agilent	E4416A/ Power Meter	GB41291412	01/22/2007	Annual	01/22/2008
Agilent	E9327A/ Power Sensor	US40440910	01/24/2007	Annual	01/24/2008
Agilent	HP8901B/ Modulation Analyzer	3438A05231	08/04/2006	Annual	08/04/2007
Agilent	8903A/ Audio Analyzer	2433A04322	08/04/2006	Annual	08/04/2007
R&S	CMU200/ Base Station	839117/011	01/28/2007	Annual	01/28/2008
Agilent	8960 (E5515C)/ Base Station	US41070189	05/03/2006	Annual	05/03/2007
Tescom	TC-3000/ Bluetooth Simulator	3000A4900112	01/22/2007	Annual	01/22/2008
MITEQ	AMF-6D-01180-35-20P/ AMP	990893	02/24/2007	Annual	02/24/2008
Wainwright	WHK1.2/15G-10EF/H.P.F	2	06/28/2006	Annual	06/28/2007
Wainwright	WHK3.3/18G-10EF/H.P.F	1	06/28/2006	Annual	06/28/2007
Agilent	778D/ Dual Directional Coupler	16072	11/09/2006	Annual	11/09/2007
Agilent	1506A/ Power Divider	99441	11/10/2006	Annual	11/10/2007
Digital	EP-3010/ Power Supply	3110117	12/29/2006	Annual	12/29/2007
Schwarzbeck	UHAP/ Dipole Antenna	630	11/13/2006	Annual	11/13/2007
Schwarzbeck	UHAP/ Dipole Antenna	605	11/13/2006	Annual	11/13/2007
R&S	HFH2-Z2/ Loop Antenna	881056/070	12/11/2006	Annual	12/11/2007
Schwarzbeck	VULB9160/ TRILOG Antenna	3150	04/06/2006	Annual	04/06/2007
Schwarzbeck	VULB9160/ TRILOG Antenna	4150	01/23/2007	Annual	01/23/2008
Schwarzbeck	BBHA 9120D/ Horn Antenna	1099	03/31/2006	Annual	03/31/2007
Schwarzbeck	BBHA 9120D/ Horn Antenna	1201	05/02/2006	Annual	05/02/2007

12.1 SAMPLE CALCULATIONS

A. ERP Sample Calculation

Freq. Tuned (MHz)	LEVEL(1) (dBm)	POL (H/V)	ERP (W)	ERP(2) (dBm)	BATTERY
824.20	-14.5	V	1.828	32.62	Standard

- 1) The EUT mounted on a wooden tripod is 0.8 meter above test site ground level.
- 2) During the test , the turn table is rotated and the antenna height is also varied from 1 to 4 meters until the maximum signal is found.
- 3) Record the field strength meter's level.(**LEVEL**)
- 4) Replace the EUT with dipole antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item(3).
- 6) The signal generator output level with cable loss is the rating of effective radiated power(**ERP**).
(Cable loss means the factor between Signal Generator and Transmitting Antenna.)

For more details, please refer to the test set-up procedure.

B. GSM Emission Designator

Emission Designator = 250KGXW

GSM BW = 250 KHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

C. WCDMA Emission Designator

Emission Designator = 4M2F9W

GSM BW = 4.2 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

13.1 CONCLUSION

The data collected shows that the Dual-Band Dual-Mode GSM/WCDMA phone with Bluetooth **FCC ID: JYCC810** complies with all the requirements of Parts 2, 22 and 24 of the FCC rules.