



## Test Report

Product Name : 850MHz/1900MHz Mobile Phone

Model No : G1010B

FCC ID : TFQ GC953108

Applicant : Gradiente electronica S/A

Address : St. Fernandes Coelho, No.64, Sao Paulo, Brazil

Date of Receipt : 2005/07/05

Issued Date : 2005/07/13

Report No. : 057L084FI

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issued Date : 2005/07/13  
Report No. : 057L084FI



**Accredited by NIST (NVLAP)**  
NVLAP Lab Code: 200533-0

Product Name : 850MHz/1900MHz Mobile Phone  
Applicant : Gradiente electronica S/A  
Address : St. Fernandes Coelho, No.64, Sao Paulo, Brazil  
Manufacturer : CEC Wireless R&D Ltd.  
Model No. : G1010B  
Rated Voltage : AC 120V/60Hz  
EUT Voltage : DC 3.7V (Battery)  
Measurement Standard : FCC CFR Title 47 Part 2 22 24  
Measurement Reference : TIA/EIA 603-A  
Test Result : Complied

Test results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Rita Huang

( Rita Huang )

Tested By : Hsiu Ho

( Hsiu Ho )

Approved By : Gene Chang

( Gene Chang )

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	850MHz/1900MHz Mobile Phone
Model No.	G1010B
Antenna Type	Internal
TX Frequency	824MHz~849MHz(GSM850) 1850MHz ~ 1910MHz(PCS1900)
Rx Frequency	869MHz~894MHz(GSM850) 1930MHz ~ 1990MHz(PCS1900)
Hardware version	P2
Software version	0236040316020003
Power Adapter	MFR: Gradiente VAC: 100-240V~50-60Hz 90mA VAC: 6.5V-500mA Cable out: Non-Shielded,1.8m

### 1.2. Operational Description

The information contained within this report is intended to show verification of compliance of the 1900MHz Mobile Phone to the requirements of 47CFR2 and CFR 24.

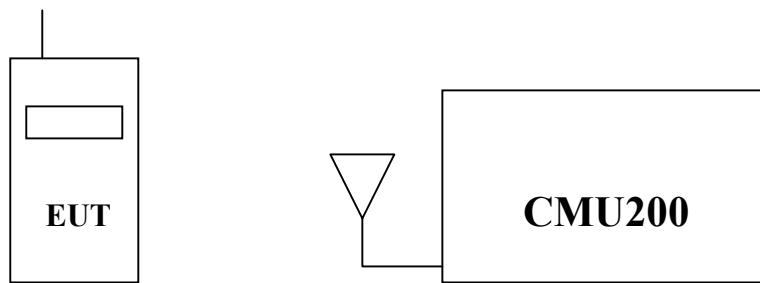
The EUT operates from a 120Vac/60Hz adapter where GSM is Power Class 1, operating with a maximum output power of 1 watt and GPRS is Multislot Class 10.

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

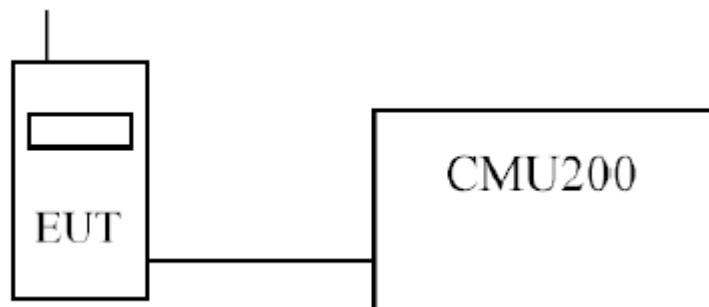
Test Mode:	GSM850 GSM
	PCS1900 GSM

### 1.3. Configuration of tested System

(a) Configuration of Radiated measurement



(b) Configuration of Conducted measurement



### 1.4. EUT Setup Procedures

- (1) Setup the EUT and simulators as shown on 1.3
- (2) Turn on the power of all equipments.
- (3) The EUT was set to communicate with CMU200.
- (4) Repeat the above procedure (3).

## 1.5. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: June 22, 2001 File on  
 Federal Communications Commission  
 FCC Engineering Laboratory  
 7435 Oakland Mills Road  
 Columbia, MD 21046  
 Reference 31040/SIT1300F2



July 03, 2001 Accreditation on NVLAP  
 NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation

Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,  
 Lin-Kou Shiang, Taipei,  
 Taiwan, R.O.C.  
 TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789  
 E-Mail : [service@quietek.com](mailto:service@quietek.com)

## 1.6. Type of Emission

300KGXW

## 1.7. DC voltages and DC currents

EUT Transmitting (in maximum power) : GSM 850

DC voltage : 3.7V , DC current : 0.23A

EUT Standby :

DC voltage : 3.7V , DC current : 0.10A

EUT Transmitting (in maximum power) : GSM 1900

DC voltage : 3.7V , DC current : 0.29A

EUT Standby :

DC voltage : 3.7V , DC current : 0.10A

## 2. Peak Power Output

### 2.1. Test Equipment

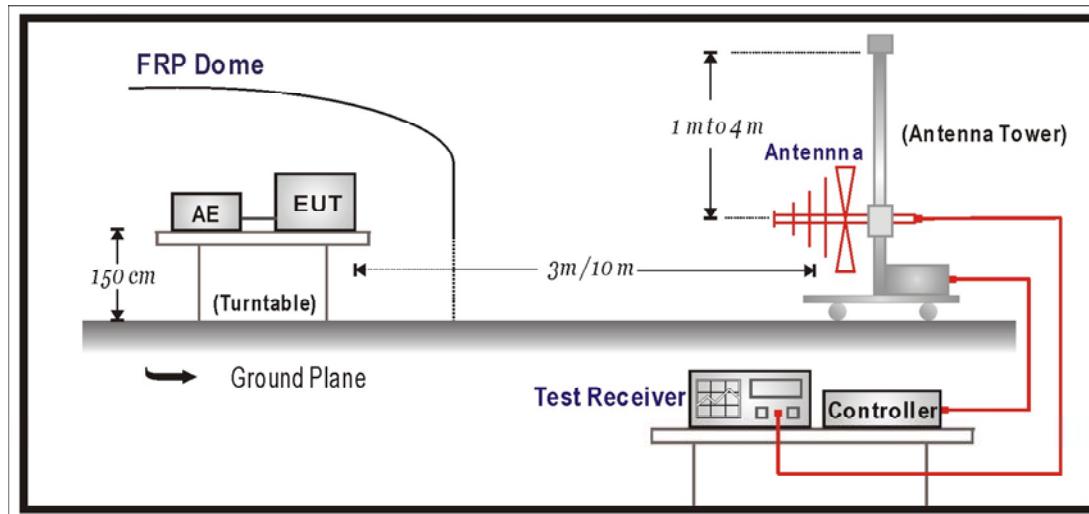
The following test equipments are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ OATS 3	Test Receiver	R & S	ESCS 30 / 100122	Feb., 2005
	Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2005
	Spectrum Analyzer	Advantest	R3162 / 120300652	Feb., 2005
	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2005
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2005
	Horn Antenna	ETS	3115 / 0005-6160	Jul., 2005
	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	Jul., 2005

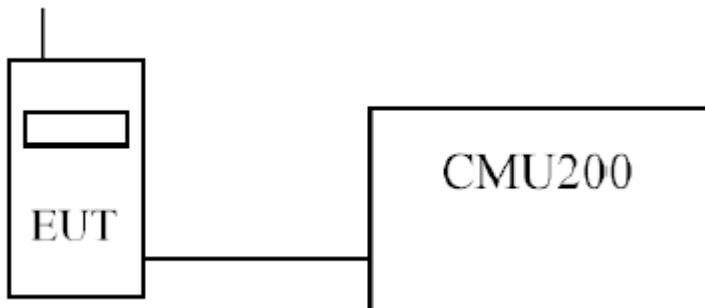
Note: 1. All equipments that need to be calibrated are with calibration period of 1 year.  
 2. Mark "X" test instruments are used to measure the final test results.

### 2.2. Test Setup

#### Radiated Power Measurement



## Conducted Power Measurement



### 2.3. Limits

Limit	<2W or +33dBm
-------	---------------

### 2.4. Test Procedure

#### ➤RF Out Power (Radiated)

The Spectrum Analyzer was tuned to the test frequency. The device was put into Transmit mode then rotated through 360 degrees until the highest power level was observed in both horizontal and vertical polarization. The device was then replaced with a substitution antenna, which input signal was adjusted until the received level matched that of the previously detected emission.

#### ➤RF Out Power (Conducted)

Using a spectrum analyser and attenuator(s), the output power of the EUT was measured at the antenna terminals. The EUT only support GSM. The device is class 4(GSM850) and class1(PCS1900) module. The carrier was modulated by it's normal GMSK modulation and measurements performed with Timeslot 3(TS3) active.

### 2.5. Test Specification

According to Part 2.1046, 22.913,24.232.

## 2.6. Test Result of Peak Power Output

Product	850MHz/1900MHz Mobile Phone		
Test Mode	RF Output Power (Conducted)		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	GSM 850 GSM PCS1900 GSM		

### Maximum Power-GSM 850

Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
824.2	32.2	0.2	32.4	1.738
836.4	32.2	0.2	32.4	1.738
848.8	32.2	0.2	32.4	1.738

Note:

1. EUT complies with CFR 47.2.1046 and 22.913(a). The EUT does not exceed 7W at the measured frequencies.

### Maximum Power-GSM 1900

Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
1850.2	29.0	0.4	29.4	0.871
1880.0	28.7	0.4	29.1	0.813
1909.8	28.8	0.4	29.2	0.832

Note:

1. EUT complies with CFR 47.2.1046 and 24.232(b). The EUT does not exceed 2W or +33dBm at the measured frequencies.

Product	850MHz/1900MHz Mobile Phone					
Test Mode	RF Output Power (Radiated)					
Date of Test	2005/07/08			Test Site	CB5	
Test Condition	GSM 850GSM PCS 1900GSM					

**Maximum Power-GSM 850**

Frequency (MHz)	Raw Result (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
824.0	22.29	24.95	4.45	0.51	28.89	0.774
836.0	22.42	25.08	4.45	0.51	29.02	0.798
848.0	22.49	22.49	4.45	0.51	29.09	0.811

Note:

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.

**Maximum Power-GSM 1900**

Frequency (MHz)	Raw Result (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1880.0	18.77	20.08	10.4	1.02	29.46	0.883
1850.2	20.03	21.13	10.4	1.02	30.51	1.124
1909.8	19.10	20.41	10.4	1.02	29.79	0.953

Note:

1. The EUT meets the requirements of FCC CFR 47: Part 24, Section 24.232(b) for Effective Radiated Power.

### 3. Modulation Characteristics

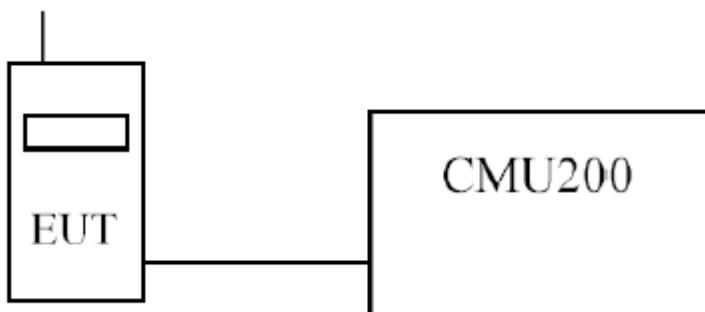
#### 3.1. Test Equipment

The following test equipment are used during the modulation characteristics test:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	Advantest	R3182 / 100803470	May, 2005
Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2005
Directional couple	Agilent	87300C/3239A01864	N/A

Note: All equipments that need to be calibrated are with calibration period of 1 year.

#### 3.2. Test Setup



#### 3.3. Modulation Description

GMSK is a form of binary signaling schemes which represent digital states as a shift between discrete sinusoidal frequencies called Frequency Shift Keying (FSK). Minimum Shift Keying (MSK) is

continuous phase FSK with the smallest possible modulation index  $h$ . Modulation index is defined as:

$$h = 2 * F * T_b$$

where  $F$  = Peak frequency deviation in Hz and  $T_b$  = Bit period in seconds

Two discrete frequencies, representing two distinct digital states, with equal phases at switch time  $t = 0$  requires a minimum value of  $h = 0.5$ . The Gaussian part of GMSK describes the fact that the digital pulses are filtered in the time domain. This results in bits which are sinusoidal rather than square. The effective spectrum is then compressed with the average carrier frequency in the center of the passband. This is a great advantage because of the significantly reduced bandwidth. GMSK is utilized because of these bandwidth conservation properties.

The bandwidth for GSM850 is a 25MHz up-link at 824-849MHz and down-link at 869-894MHz.

The PCS1900 is a 60 MHz up-link at 1850-1910 MHz and down-link at 1930-1990 MHz. The 65 MHz is divided into 299 channels, each of which is 200 kHz wide. Slight spectral spillage is allowed into neighboring channels (which is minimized by GMSK). This separated transmit/receive frequencies scheme under GSM enables easier duplex filtering.

Within the bandwidth, individual channels are subdivided into multiframe (made of 26 frames), frames (made of 8 time slots), and time slots (made of 8 fields). The time slots are 0.57 ms long allowing 156.25 bits of information including overhead.

The modulation used in GPRS is the same used in GSM. A GSM channel contains eight timeslots, each timeslot is dedicated to one circuit switched call. For GPRS the timeslots are assigned on an as needed basis, and more than one timeslot can be assigned for a particular transmission depending on the network and the device.

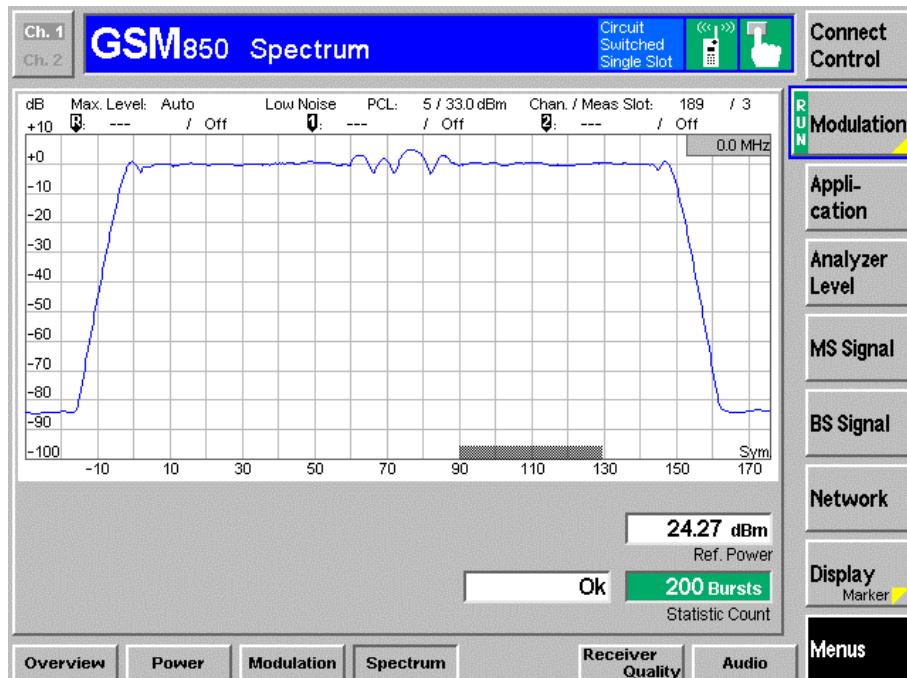
### **3.4. Test Specification**

According to Part 2.1047(d)

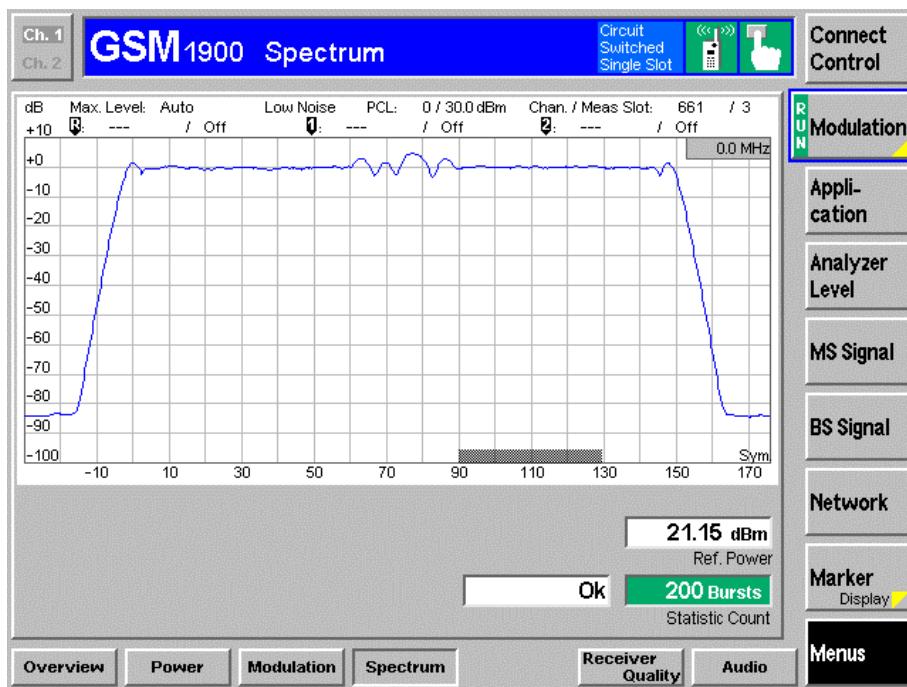
### 3.5. Test Result of Modulation

Product	850MHz/1900MHz Mobile Phone		
Test Mode	Modulation		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	GSM 850 GSM PCS1900 GSM		

Circuit Switched (GSM 850)



Circuit Switched (PCS1900)



## 4. Occupied Bandwidth

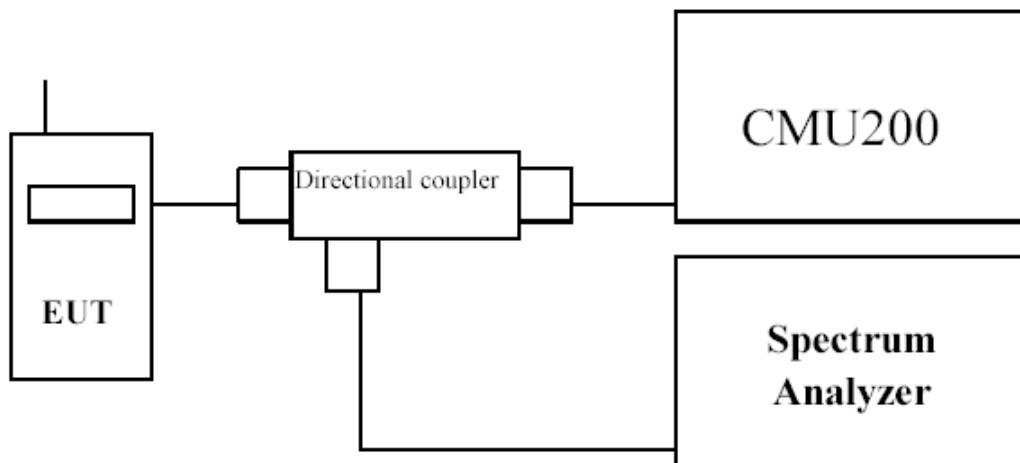
### 4.1. Test Equipment

The following test equipments are used during the occupied bandwidth tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	Advantest	R3182 / 100803470	May, 2005
Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2005
Directional coupler	Agilent	87300C/3239A01864	N/A

Note: All equipments upon which need to be calibrated are with calibration period of 1 year.

### 4.2. Test Setup



### 4.3. Test Procedure

#### ➤GSM

The EUT was set to transmit on maximum power and measurements were made on Timeslot 3.

#### ➤GPRS

The EUT was set to transmit on maximum power, (timeslots 3 and 4 active), and measurements were made on Timeslot 3.

Using a resolution bandwidth of 30kHz and a video bandwidth of 100kHz, the -26dBc points were established and the emission bandwidth determined.

The plots below show the resultant display from the Spectrum Analyser.

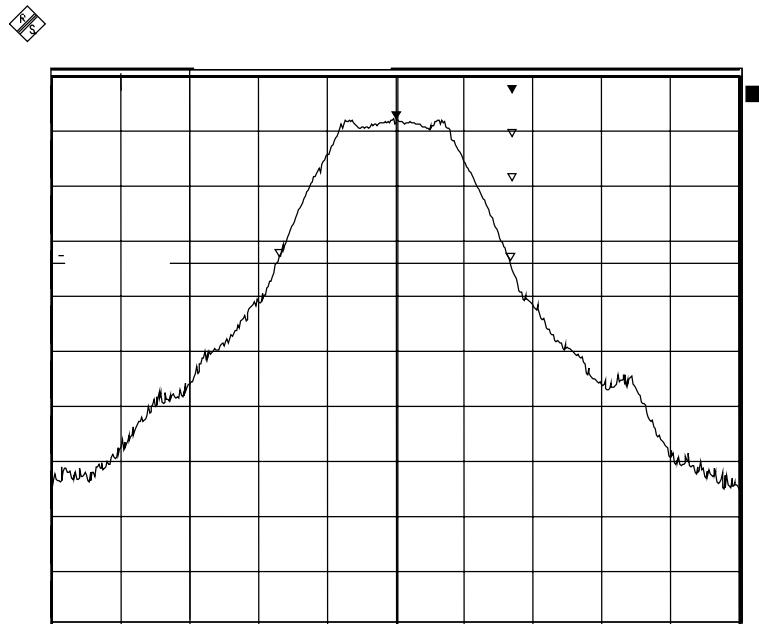
#### **4.4. Test Specification**

According to Part 2.1049, 22.917(b), 24.238(b).

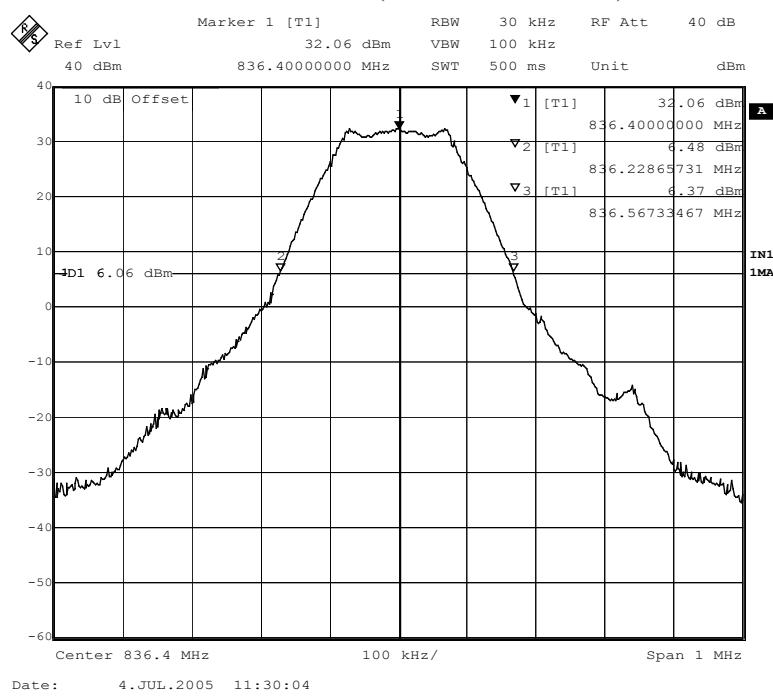
#### 4.5. Test Result of Occupied Bandwidth

Product	850MHz/1900MHz Mobile Phone		
Test Mode	Occupied Bandwidth		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	GSM 850 GSM		

Circuit Switched (GSM Mode CH 128)

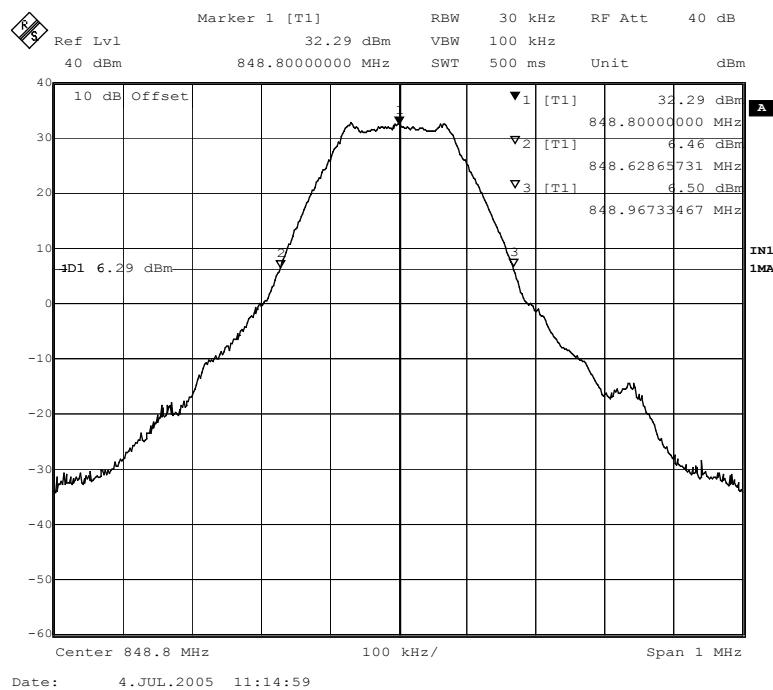


Circuit Switched (GSM Mode CH189)



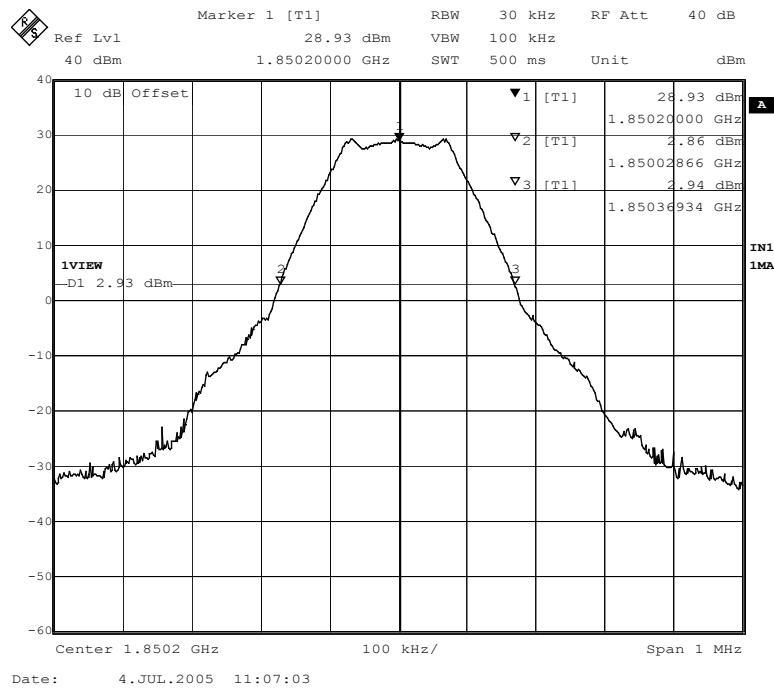
Product	850MHz/1900MHz Mobile Phone		
Test Mode	Occupied Bandwidth		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	PCS850 GSM		

### Circuit Switched (GSM Mode CH 251)

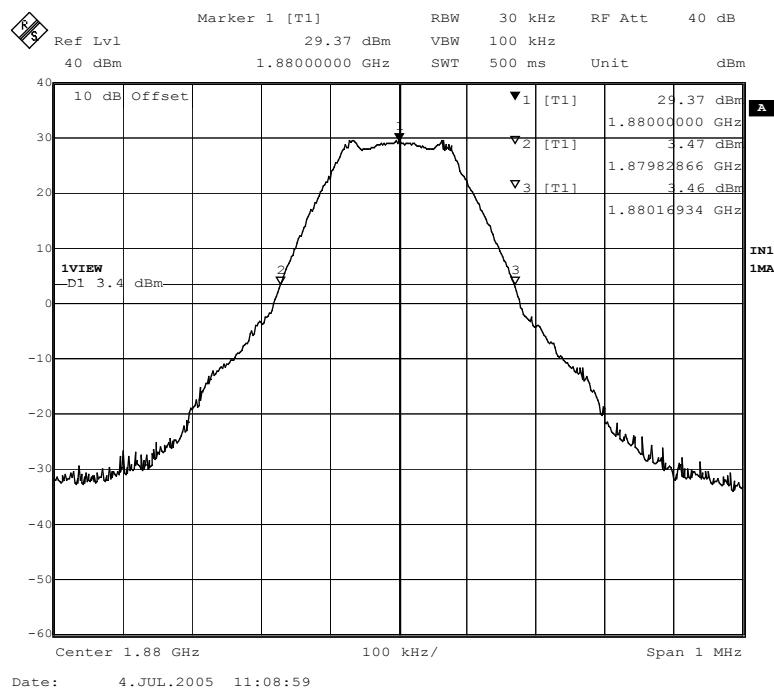


Product	850MHz/1900MHz Mobile Phone		
Test Mode	Occupied Bandwidth		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	PCS1900 GSM		

### Circuit Switched (GSM Mode CH 512)

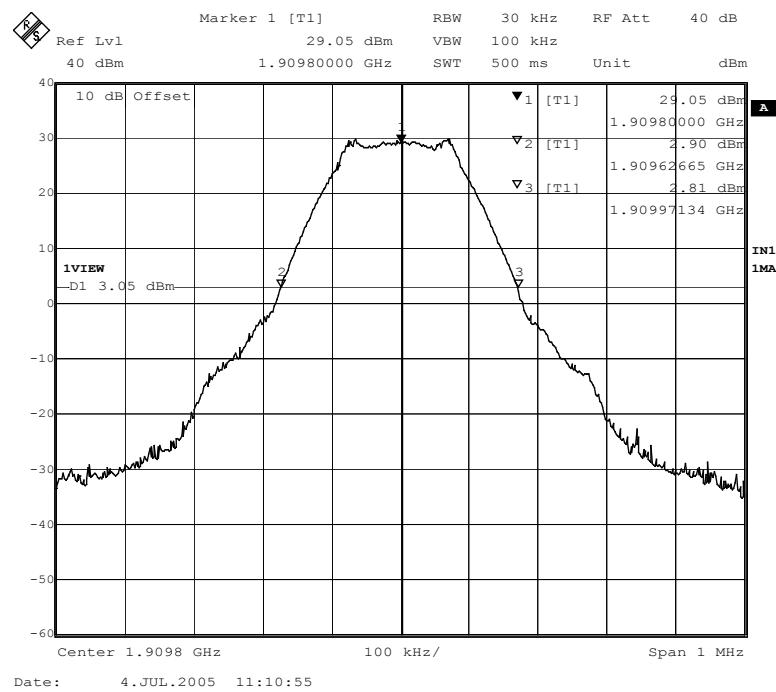


### Circuit Switched (GSM Mode CH661)



Product	850MHz/1900MHz Mobile Phone		
Test Mode	Occupied Bandwidth		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	PCS1900 GSM		

### Circuit Switched (GSM Mode CH 810)



## 5. Spurious Emission At Antenna Terminals (+/-1MHz)

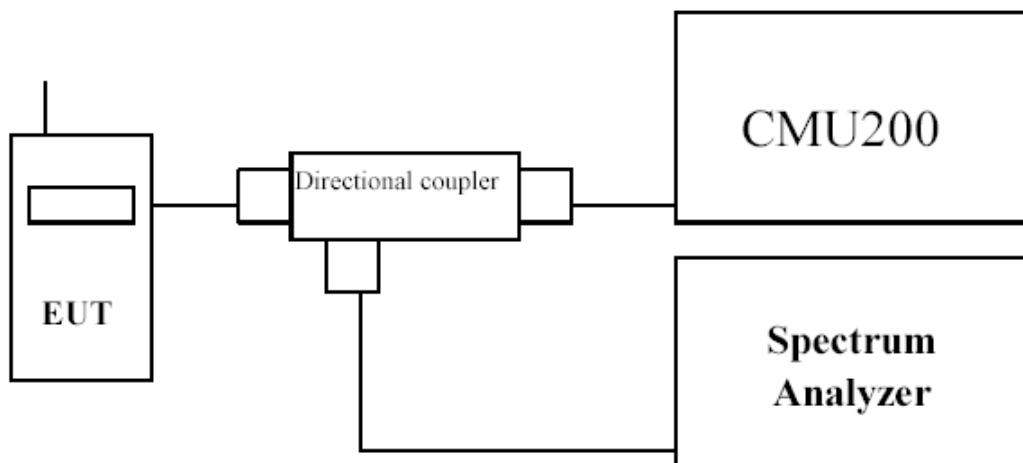
### 5.1. Test Equipment

The following test equipments are used during the spurious emission test

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	Advantest	R3182 / 100803470	May, 2005
Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2005
Directional coupler	Agilent	87300C/3239A01864	N/A

Note: All equipments upon which need to be calibrated are with calibration period of 1 year.

### 5.2. Setup



### 5.3. Limits

GSM850 Transmitter limits for narrowband spurious emission

Lower Block Edge Test Frequencies	Upper Block Edge Test Frequencies
Block A Frequency : 824 MHz	Block B Frequency : 849 MHz

PCS 1900 Transmitter limits for narrowband spurious emission

Lower Block Edge Test Channels/Frequencies	Upper Block Edge Test Channels/Frequencies
Block A Channel : 512 Frequency : 1850.2 MHz	Block C Channel : 810 Frequency : 1909.8 MHz

### 5.4. Test Procedure

In accordance with Part 22.917 and 24.238, at least 1% of the emission bandwidth was used for the resolution and video bandwidths up to 1MHz away from the Block Edge. At greater than 1MHz, the resolution and video bandwidth were increased to 1MHz.

The reference power and path losses of all channels used for testing in each frequency block were measured.

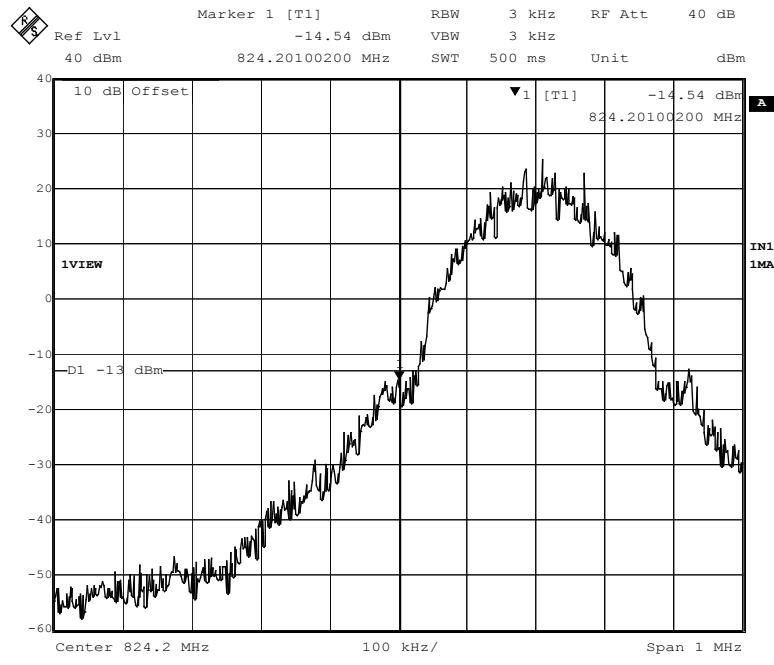
### 5.5. Test Specification

According to Part 2.1049, 22.917,24.238.

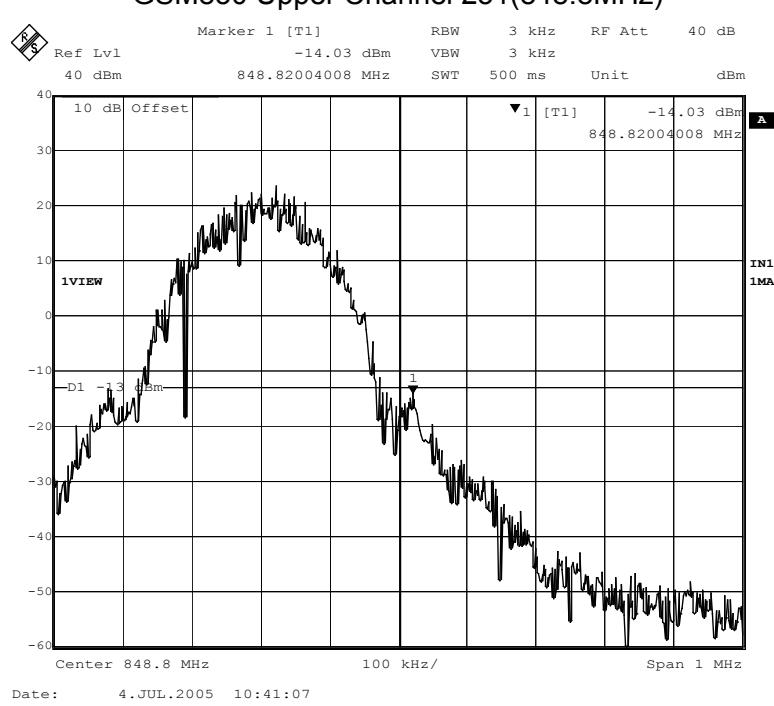
## 5.6. Spurious Emission At Antenna Terminals (+/-1MHz)

Product	850MHz/1900MHz Mobile Phone		
Test Mode	Spurious Emission At Antenna Terminals (+/-1MHz)		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	Block Edge Test (GSM) 850		

### GSM850 Lower Channel 128 (824.2MHz)

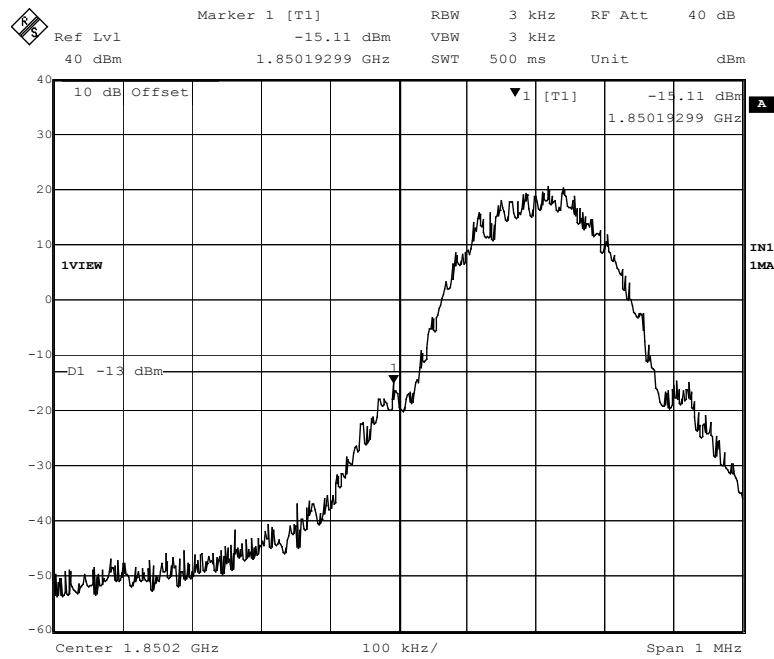


### GSM850 Upper Channel 251(848.8MHz)



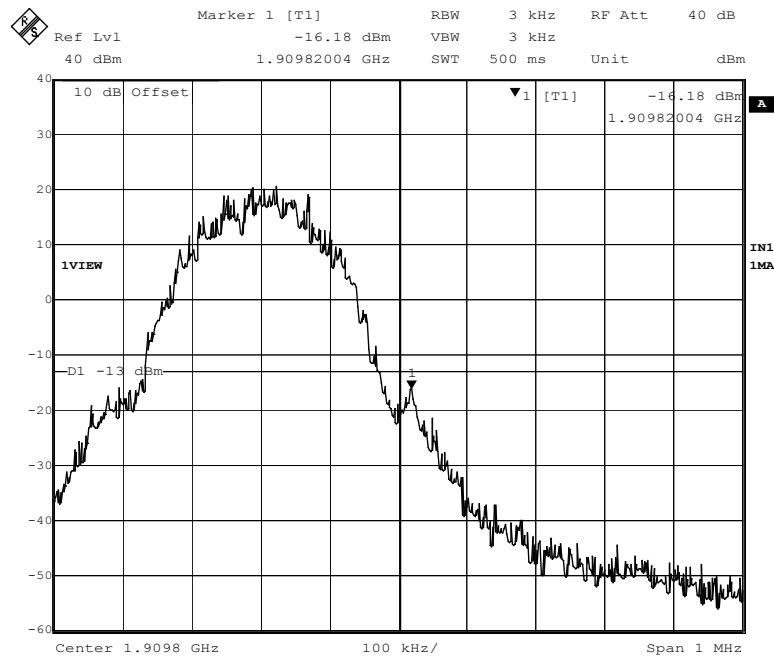
Product	850MHz/1900MHz Mobile Phone		
Test Mode	Spurious Emission At Antenna Terminals (+/-1MHz)		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	Block Edge Test (GSM) 1900		

### PCS1900 Lower Channel 512 (1850.2MHz)



Date: 4.JUL.2005 10:31:49

### PCS1900 Upper Channel 810(1910.0MHz)



Date: 4.JUL.2005 10:30:32

## 6. Spurious Emission

### 6.1. Test Equipment

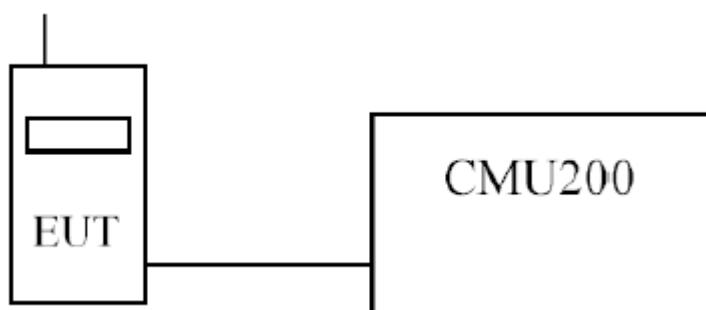
The following test equipments are used during the radiated emission test:

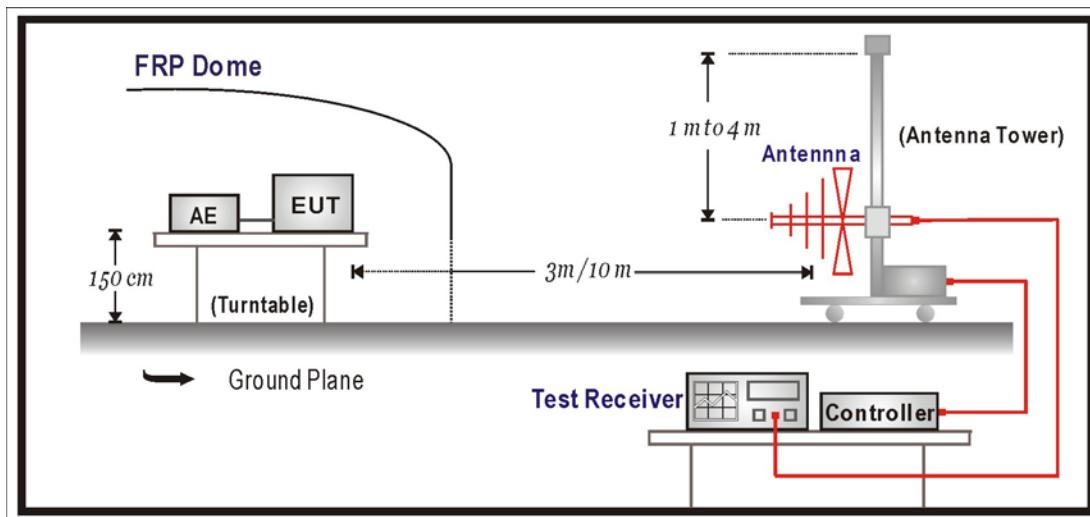
Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ OATS 3	Test Receiver	R & S	ESCS 30 / 100122	Feb., 2005
	Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2005
	Spectrum Analyzer	Advantest	R3162 / 120300652	Feb., 2005
	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2005
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2005
	Horn Antenna	ETS	3115 / 0005-6160	Jul., 2005
	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	Jul., 2005

Note: 1. All equipments that need to be calibrated are with calibration period of 1 year.  
2. Mark “X” test instruments are used to measure the final test results.

### 6.2. Test Setup

#### (a) Spurious emissions at antenna terminals.



**(b) Field strength of spurious radiation.****6.3. Limits**

Limit	<-13dBm
-------	---------

43 + 10Log(P) down on the carrier where P is the power in Watts.

**6.4. Test Procedure**

In accordance with Part 2.1051, the spurious emissions from the antenna terminal were measured. The transmitter output power was attenuated using a combination of filters and attenuators and the frequency spectrum investigated from 9kHz to 20GHz. The EUT was set to transmit on full power. The EUT was tested on bottom, middle and top channels for both power levels. The resolution and video bandwidth was set to 1MHz in accordance with Part 24.238. The spectrum analyzer detector was set to Max Hold.

In addition, measurements were made up to the 10<sup>th</sup> harmonic of the fundamental.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to TIA/EIA 603-A on radiated measurement.

## 6.5. Test Specification

According to Part 2.1051, 2.1053, 22.917(a), 24.238(b).

## 6.6. Test Result of Spurious Emission

Product	850MHz/1900MHz Mobile Phone		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2005/07/08	Test Site	CB5
Test Condition	GSM 850 GSM PCS 1900 GSM	Test Range	9KHz~20GHz

### GSM850 Mid-Channel 189

Frequency (GHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
1.673	-38.96	0.58	-38.38	-13
2.500	-51.26	0.70	-50.56	-13
3.348	-56.21	1.01	-55.20	-13
4.182	-58.69	1.18	-57.51	-13
7.605	-66.19	1.43	-64.76	-13
8.360	-64.59	1.82	-62.77	-13

Note:

1. Spurious emissions past 9GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit

### PCS1900 Mid-Channel 661

Frequency (GHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
3.575	-21.81	1.10	-30.71	-13
5.630	-42.25	1.23	-41.02	-13
9.408	-37.65	2.19	-35.46	-13
11.280	-54.46	2.12	-52.34	-13
13.150	-57.42	1.97	-55.45	-13

Note:

2. Spurious emissions past 14GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit

Product	850MHz/1900MHz Mobile Phone		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2005/07/08	Test Site	No.3 OATS
Test Condition	Channel 189 (GSM 850 GSM)	Test Range	9KHz ~20GHz

Frequency (GHz)	Reading Level (dBm)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	ERP Value (dBm)	Limit (dBm)

### Horizontal Emissions

1.673	-45.56	-50.26	0.70	7.75	-43.21	-13
2.507	-58.01	-63.12	0.79	8.45	-55.46	-13
3.347	-56.09	-62.32	1.22	9.95	-53.59	-13
5.02	-61.22	-63.34	1.44	10.75	-54.03	-13
6.69	-61.37	-61.59	1.79	9.95	-53.43	-13
7.527	-61.22	-60.12	2.00	9.35	-52.77	-13

### Vertical Emissions

1.673	-37.42	-42.34	0.70	7.75	-35.29	-13
2.507	-56.40	-62.16	0.79	8.45	-54.50	-13
3.348	-56.93	-63.56	1.22	9.95	-54.83	-13
5.018	-62.00	-64.33	1.36	10.75	-54.94	-13
6.691	-61.07	-61.51	1.44	9.95	-53.00	-13
7.527	-60.04	-59.73	1.79	9.35	-52.17	-13

#### Note:

3. Receiver setting (Peak Detector) : RBW:1MHz; VBW:3MHz .
4. ERP Value = Signal Generator Level + Antenna Gain - Cable Loss
5. Spurious emissions past 8 GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit

Product	850MHz/1900MHz Mobile Phone					
Test Mode	Spurious Emission (Radiated)					
Date of Test	2005/03/01			Test Site	No.3 OATS	
Test Condition	Channel 661 (PCS1900 GSM)			Test Range	9KHz ~20GHz	

Frequency (GHz)	Reading Level (dBm)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Value (dBm)	Limit (dBm)

### Horizontal Emissions

3.757	-36.29	-36.64	12.60	1.41	-25.45	-13
5.639	-45.10	-37.27	13.10	1.56	-25.73	-13
7.525	-52.53	-48.86	11.50	2.01	-37.37	-13
9.408	-46.58	-36.91	12.00	2.74	-27.65	-13
11.280	-56.31	-42.57	11.60	2.64	-33.61	-13

### Vertical Emissions

3.765	-32.06	-31.77	12.6	1.41	-20.51	-13
5.641	-47.78	-44.09	13.1	1.56	-32.55	-13
7.52	-57.40	-51.31	11.5	2.01	-41.82	-13
9.38	-40.39	-39.19	12.0	2.74	-29.93	-13
11.282	-55.30	-40.55	11.6	2.64	-31.59	-13

#### Note:

1. Receiver setting (Peak Detector) : RBW:1MHz; VBW:3MHz .
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 12GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit

## 7. Frequency Stability Under Temperature & Voltage Variations

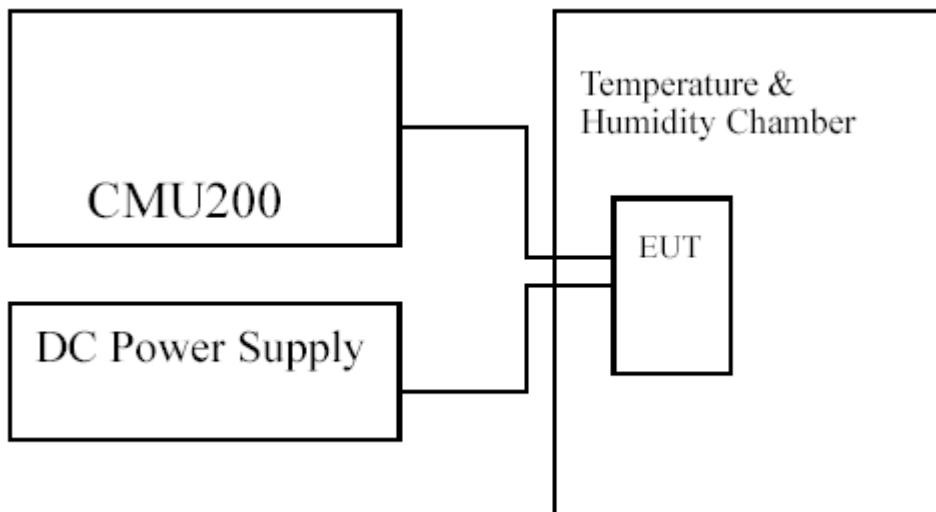
### 7.1. Test Equipment

The following test equipments are used during the frequency stability test:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2005
Standard Temperature & Humidity Chamber	WIT	TH-1S-B / 108210	Aug., 2004
DC Power Supply	Topward	6303D / 670302	N/A

Note: All equipments upon which need to be calibrated are with calibration period of 1 year

### 7.2. Test Setup



### 7.3. Limits

Limit	<±1ppm
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## 7.4. Test Procedure

### **GSM**

The EUT was set to transmit on maximum power and measurements were made on Timeslot3. Universal Radio Communication Tester, (CMU200), was used to measure The Frequency Error. The maximum result of measurements made over 200 bursts was recorded.

### **GPRS**

The EUT was set to transmit on maximum power, (timeslots 3 and 4 active), and measurements performed on Timeslot 3. A Universal Radio Communication Tester, (CMU200), was used to measure the frequency error. The maximum result of measurements made over 200 bursts was recorded.

## 7.5. Test Specification

According to Part 2.1055, 24.235

## 7.6. Test Result of Frequency Stability Under Temperature Variations

.Product	850MHz/1900MHz Mobile Phone		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2005/07/08	Test Site	CB4
Test Condition	GSM 850 GSM/ Channel 189	Test Range	-30°C ~+50°C

### GSM-Circuit Switched

Temperature Interval()	Test Frequency (GHz)	Deviation (Hz)	Limit (Hz)
-30	0.836	54	±836
-20	0.836	42	±836
-10	0.836	28	±836
0	0.836	-38	±836
10	0.836	-24	±836
20	0.836	-22	±836
30	0.836	-23	±836
40	0.836	-29	±836
50	0.836	-32	±836

### GSM-Circuit Switched

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (Hz)
3.145	0.836	-40	±836
3.7	0.836	-24	±836
4.225	0.836	-36	±836

.Product	850MHz/1900MHz Mobile Phone		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2005/07/08	Test Site	CB4
Test Condition	PCS 1900 GSM/ Channel 661	Test Range	-30°C ~+50°C

### GSM-Circuit Switched

Temperature Interval()	Test Frequency (GHz)	Deviation (Hz)	Limit (Hz)
-30	1.88	62	±1880
-20	1.88	57	±1880
-10	1.88	35	±1880
0	1.88	-45	±1880
10	1.88	-39	±1880
20	1.88	-36	±1880
30	1.88	-42	±1880
40	1.88	-38	±1880
50	1.88	-49	±1880

### GSM-Circuit Switched

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (Hz)
3.145	1.88	-45	±1880
3.7	1.88	-36	±1880
4.225	1.88	-40	±1880

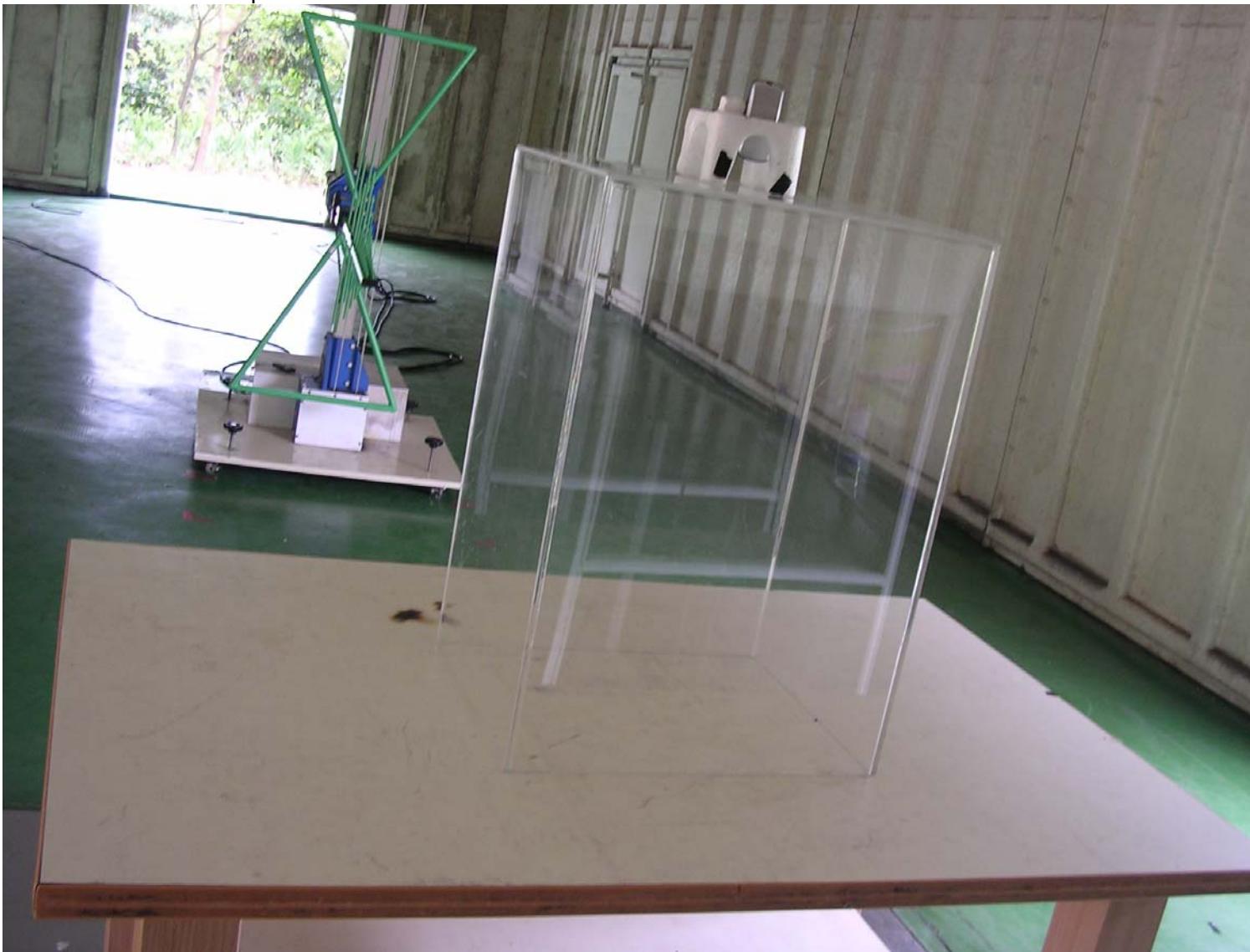
## 8. EMI Reduction Method During Compliance Testing

No modification was made during testing.

## **Attachment 1: EUT Test Photographs**

Test Mode : PCS 850 GSM / PCS1900 GSM

Description : Front View of Spurious Emission Test



Test Mode : PCS 850 GSM / PCS1900 GSM  
Description : Back View of Spurious Emission Test



Test Mode : PCS 850 GSM / PCS1900 GSM

Description : Front View of Spurious Emission Test



Test Mode : PCS 850 GSM / PCS1900 GSM  
Description : Back View of Spurious Emission Test

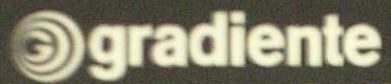


## **Attachment 2: EUT Detailed Photographs**









BC-1

BATERIA SLIM DE IONS DE LÍTIO



**Cuidados:**

- não coloque em curto circuito
- use somente carregador original
- não pode ser descartada em lixo doméstico



Li-ion

Cuidado! Risco de explosão se atirada ao fogo



Nº Série: BYD20050112000178



Fabricado na China





