683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080
Tel: +82-31-321-2664 Fax: +82-31-321-1664
http://www.digitalemc.com

CERTIFICATE OF COMPLIANCE
FCC Part 22 & 24 Certification

Dates of Tests: October 10 ~ 19, 2005
Test Report S/N:DR50110510K
Test Site : DIGITAL EMC CO., LTD.

FCC ID. **NPQFX2000XG**

APPLICANT **Telian Corporation**

Classification:	**Licensed Non-Broadcast Station Transmitter (TNB)**
FCC Rule Part(s):	**§22(H), §24(E), §2**
EUT Type:	**GSM850/PCS1900 Dual Band Terminal Equipment**
Model name:	**FX2000xg**
Serial number:	**Identical prototype**
TX Frequency Range:	**824.2 ~ 848.8 MHz (GSM850) / 1850.2 ~ 1909.8 MHz (PCS1900)**
RX Frequency Range:	**869.2 ~ 893.8 MHz (GSM850) / 1930.2 ~ 1989.8 MHz (PCS1900)**
Max. RF Output Power:	**3.020 W ERP GSM850**
	0.989 W EIRP PCS1900
Max. SAR Measurement:	**0.327W/kg GSM850 Body SAR**
	0.200W/kg PCS1900 Body SAR
Date of Issue:	**October 24, 2005**

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MEASUREMENT REPORT

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.

§2.1033 General Information

Applicant: Telian Corporation

Address: 5th FL. Namjeun Bldg, 53-3 Haan-Dong, Kwangmyung-Si, Kyunggi-Do, Korea

Attention: Wayne Hwang **(Senior Manager)**

- FCC ID: **NPQFX2000XG**
- Quantity: The mass product
- Tx Freq. Range: 824.2 ~ 848.8 MHz (GSM850) / 1850.2 ~ 1909.8 MHz (PCS1900)
- Rx Freq. Range: 869.2 ~ 893.8 MHz (GSM850) / 1930.2 ~ 1989.8 MHz (PCS1900)
- Max. Power Rating: 3.0208W ERP GSM850
  0.989W EIRP PCS1900
- FCC Classification(s): Licensed Non-Broadcast Station Transmitter (TNB)
- Equipment (EUT) Type: GSM850/PCS1900 Dual Band Terminal Equipment
- Modulation(s): GMSK
- Frequency Tolerance: ± 0.00025 % (2.5ppm)
- FCC Rule Part(s): §22(H), §24(E), §2
- Dates of Tests: October 10 ~ 19, 2005
- Place of Tests: DIGITAL EMC
- Test Report S/N: DR50110510K

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2. General Information

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.
Address : 683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080
http://www.digitalemc.com E-mail : demc@unitel.co.kr
Tel: +82-31-321-2664 Fax: +82-31-321-1664

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".
This laboratory is accredited by NVLAP for NVLAP Lab. Code : 200559-0.

Test operator: engineer

Data	Name	Signature
October 24, 2005	Won-Jung LEE	

Report Reviewed By: manager

Data	Name	Signature
October 24, 2005	Harvey Sung	

Ordering party:

Company name	:	Telian Corporation
Address	:	5th FL, Namjeun Bldg , 53-3 , Haan-Dong,
Zipcode	:	423-060
City/town	:	Kwangmyung-Si City, Kyonggi do
Country	:	KOREA
Date of order	:	September 5, 2005

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3. Test Report

3.1 Summary of test

FCC Part Section(s)	Parameter	Status (note 1)
22.913(a) / 24.232(b)	Power Output	C
2.1049(h)(i)	Occupied Bandwidth	C
24.238(b)	Emission Bandwidth	C
2.1051 / 24.238	Emission Limits Transmitter	C
2.1053 (a)	Field Strength of Spurious Radiation	C
2.1053	Receiver Radiated Emissions	C
2.1055	Frequency Stability	C
2.1057	Conducted Spurious Emissions	C
Note 1: C= Complies NC=Not Complies NT=Not Tested NA=Not Applicable		

The sample was tested according to the following specification:

FCC Parts §22(H), §24(E), §2; ANSI C-63.4-2003

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3.2 Power Output

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 2.1046 (a)
Tested Frequency	:	824.2MHz, 836.6MHz and 848.8MHz for GSM850 1850.2MHz, 1880.0MHz and 1909.8MHz for PCS1900

Measurement Procedure:

- During the process of testing, the EUT was controlled via Radio Communication tester to ensure max. Power transmission and proper modulation.
- Power output was measured at the RF output terminals when the transmitter is adjusted in accordance with Communication tester (or the tune-up procedure).

Measurement Data:

GSM850

Channel	Frequency (MHz)	TEST CONDITIONS Power Step: 5
		(dBm)
128	824.2	**31.33**
190	836.6	**31.92**
251	848.8	**32.48**

PCS1900

Channel	Frequency (MHz)	TEST CONDITIONS Power Step: 0
		(dBm)
512	1850.2	**29.54**
661	1880.0	**29.34**
810	1909.8	**28.89**

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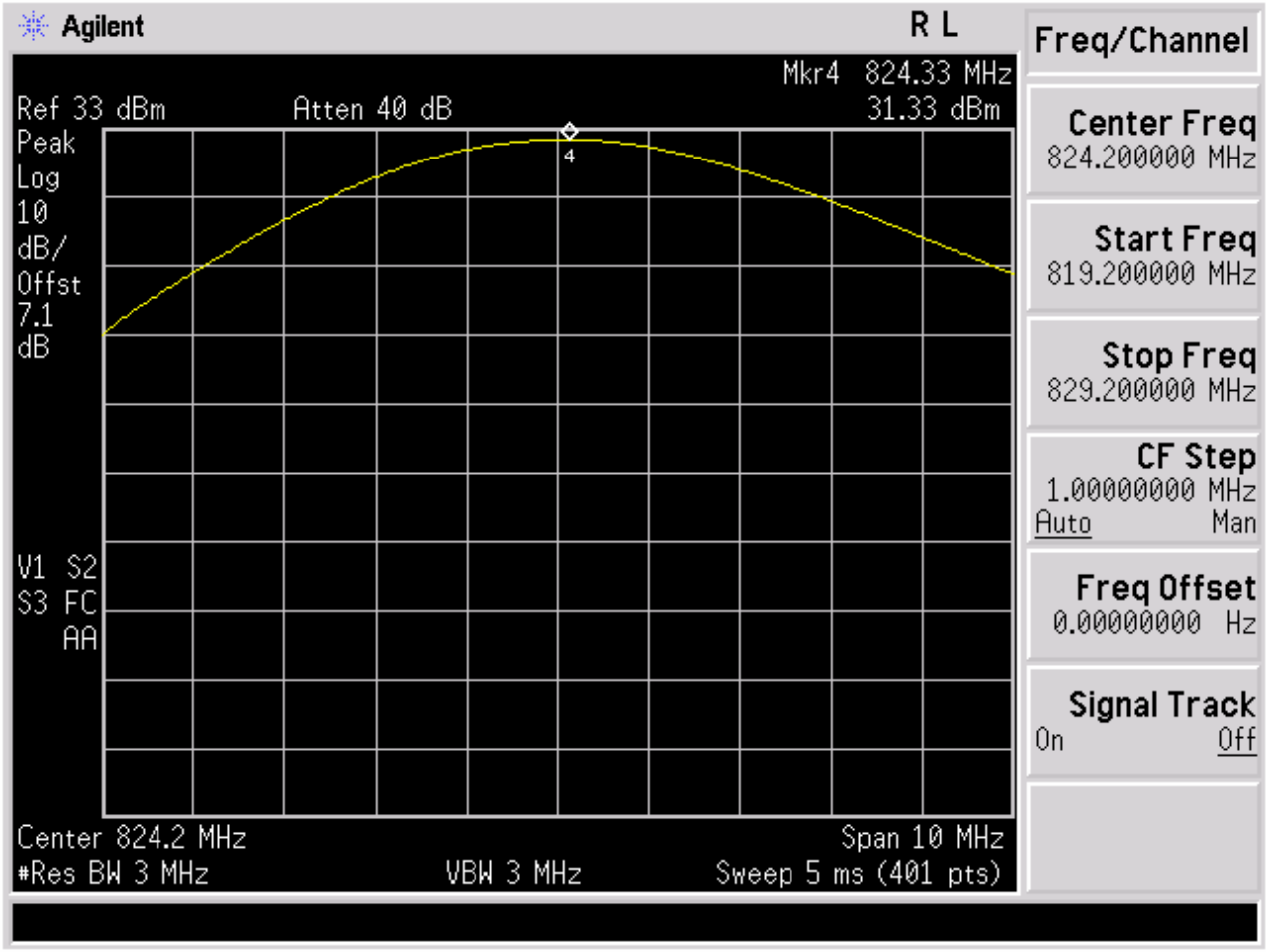
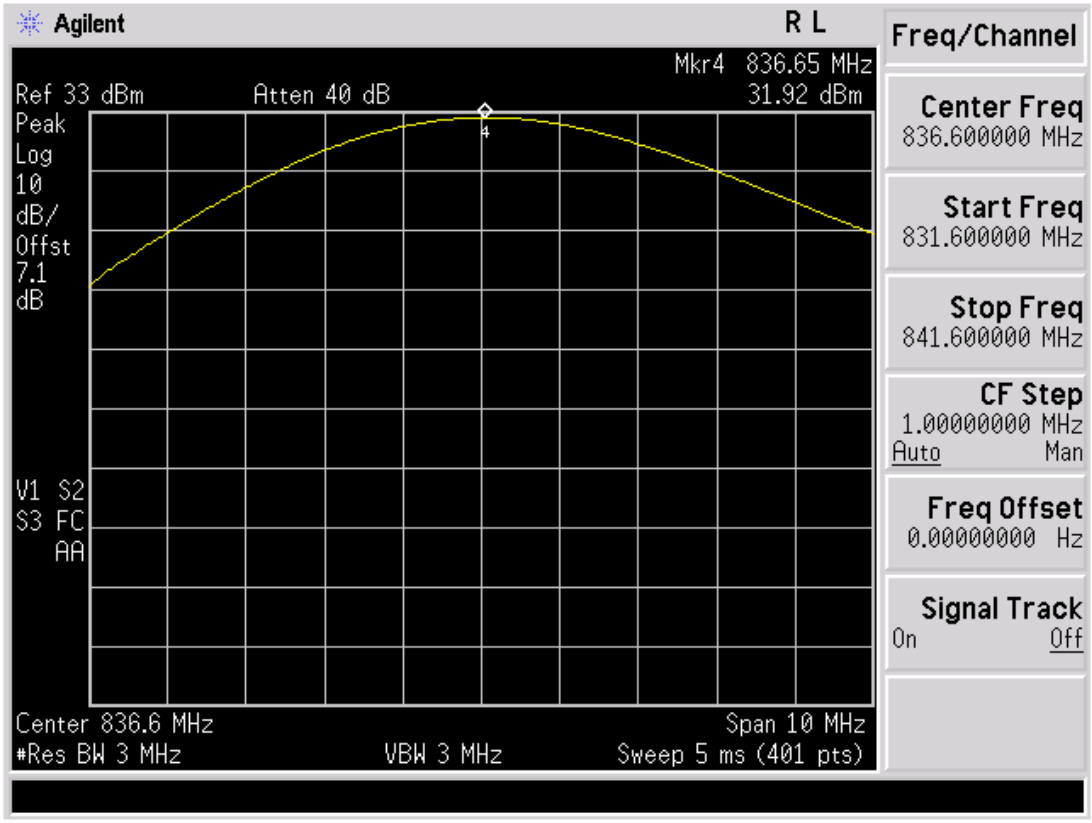
POWER OUT. GSM850 Ch.128



POWER OUT. GSM850 Ch.190



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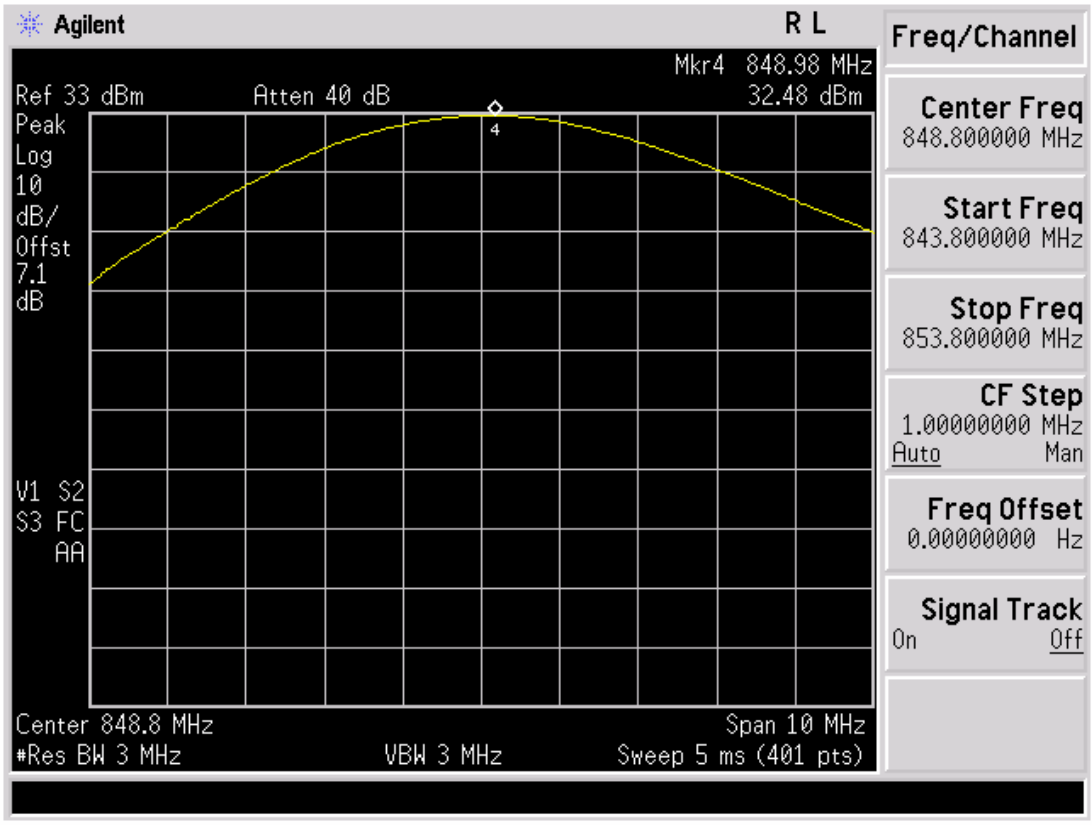
POWER OUT. GSM850 Ch.251



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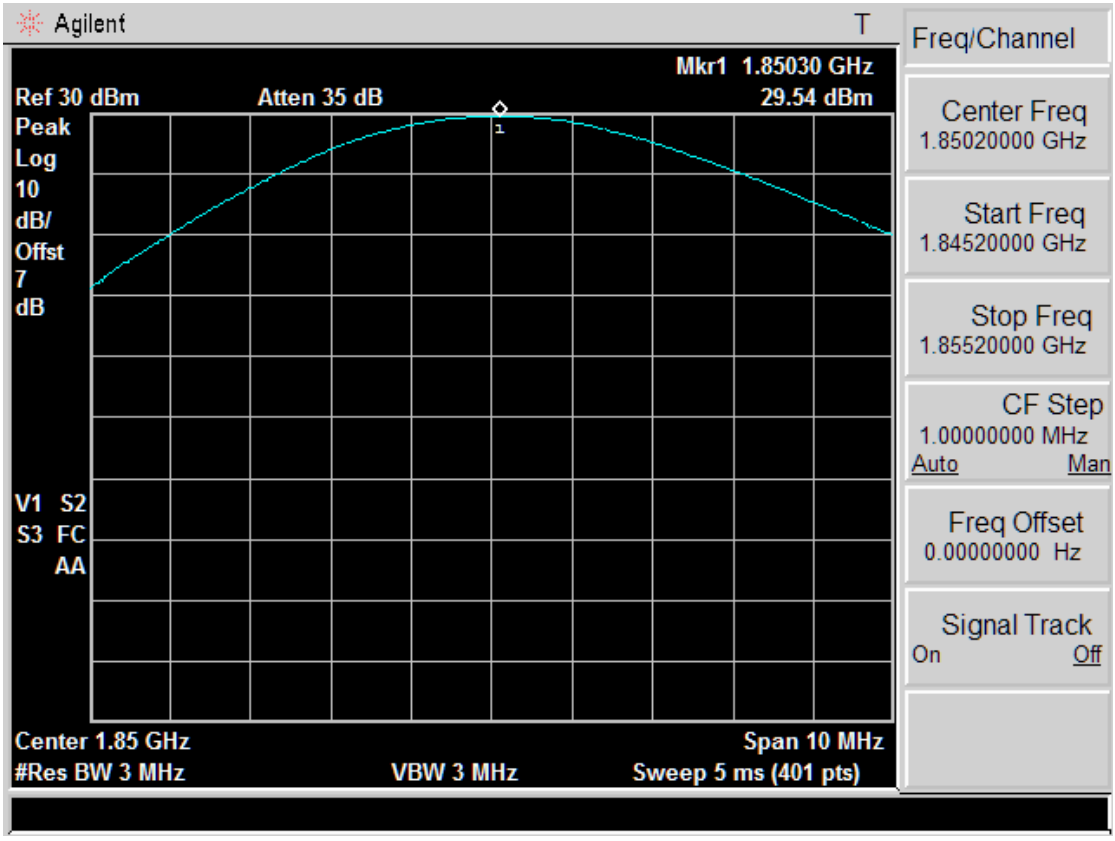
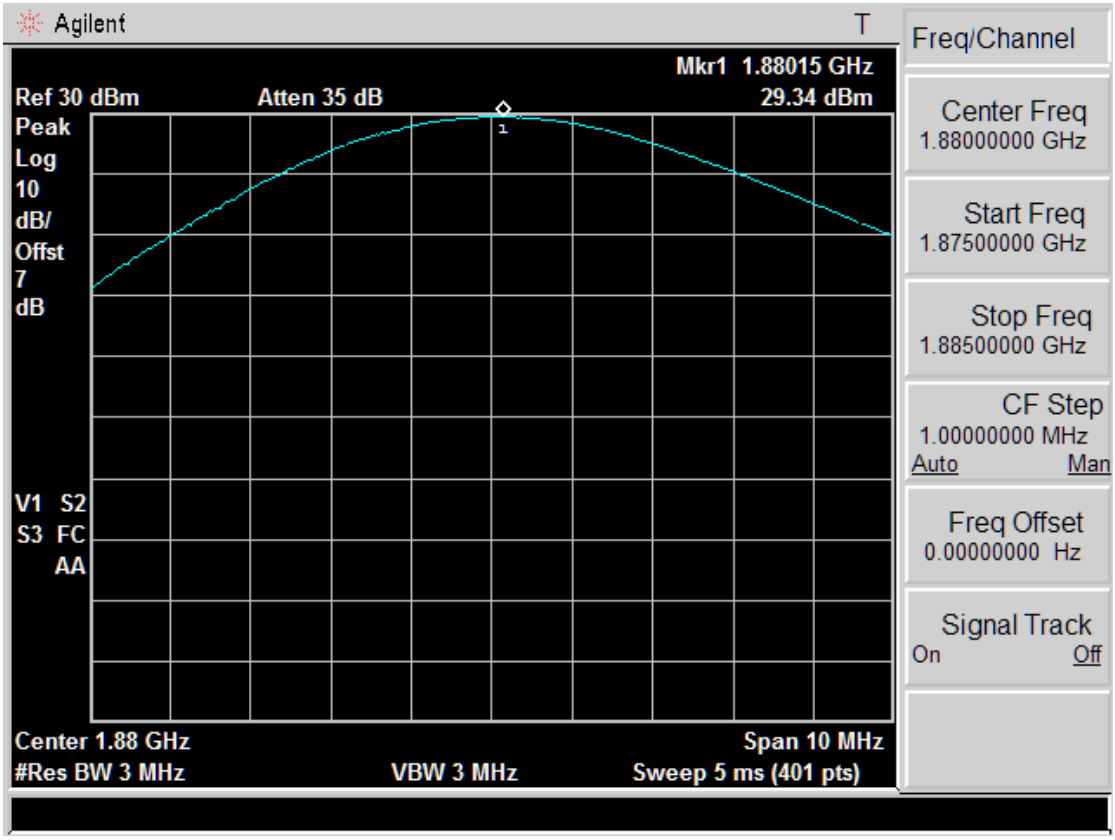
POWER OUT. PCS1900 Ch.512



POWER OUT. PCS1900 Ch.661



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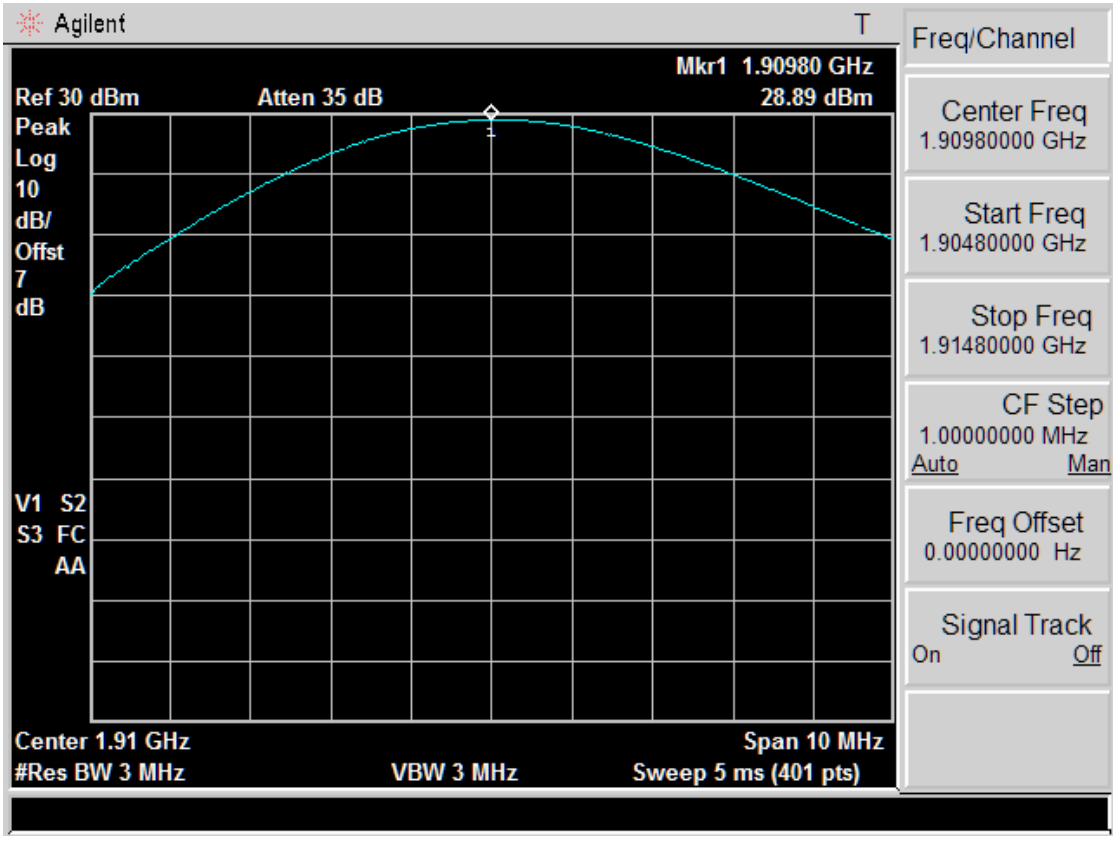
POWER OUT. PCS1900 Ch.810



ERP (GSM850)

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 22.913(a)
Tested Frequency	:	824.2MHz, 836.6MHz and 848.8MHz for GSM850
RBW=VBW	:	3MHz

Measurement Procedure:

Effective Radiated Power Output Measurements by Substitution Method

according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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

Measurement Data:

GSM850

Channel	Frequency (MHz)	TEST CONDITIONS Power Step: 5				
		Ref. level (dBm)	Pol. (H/V)	ERP (dBm)	ERP (W)	Supplied Power
128	824.2	-5.055	V	33.21	2.094	Charger
190	836.6	-4.266	V	33.98	2.500	Charger
251	**848.8**	**-3.949**	**V**	**34.80**	**3.020**	Charger

Note: Battery is options for this phone.

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EIRP (PCS1900)

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 24.232(b)
Tested Frequency	:	1850.2MHz, 1880.0MHz and 1909.8MHz for PCS1900
RBW=VBW	:	3MHz

Measurement Procedure:

Effective Radiated Power Output Measurements by Substitution Method

according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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.

Measurement Data:

PCS1900

Channel	Frequency (MHz)	TEST CONDITIONS Power Step: 0				
		Ref. level (dBm)	Pol. (H/V)	EIRP (dBm)	EIRP (W)	Supplied Power
512	1850.2	-11.07	V	29.04	0.802	Charger
661	**1880.0**	**-10.64**	**V**	**29.95**	**0.989**	Charger
810	1909.8	-11.76	V	28.50	0.708	Charger

Note: Battery is options for this phone.

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3.3 Occupied Bandwidth

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 2.1049 (h)(i)
Tested Frequency	:	824.2MHz, 836.6MHz and 848.8MHz for GSM850 1850.2MHz, 1880.0MHz and 1909.8MHz for PCS1900

Measurement Procedure:

- The 99% power bandwidth was measured with a calibrated spectrum analyzer.
- Spectrum analyzer plots are included on the following pages.

Measurement Data:

GSM850

Channel	Frequency (MHz)	99% Bandwidth (kHz)
128	824.2	**250**
190	836.6	**253**
251	848.8	**255**

PCS1900

Channel	Frequency (MHz)	99% Bandwidth (kHz)
512	1850.2	**252**
661	1880.0	**253**
810	1909.8	**257**

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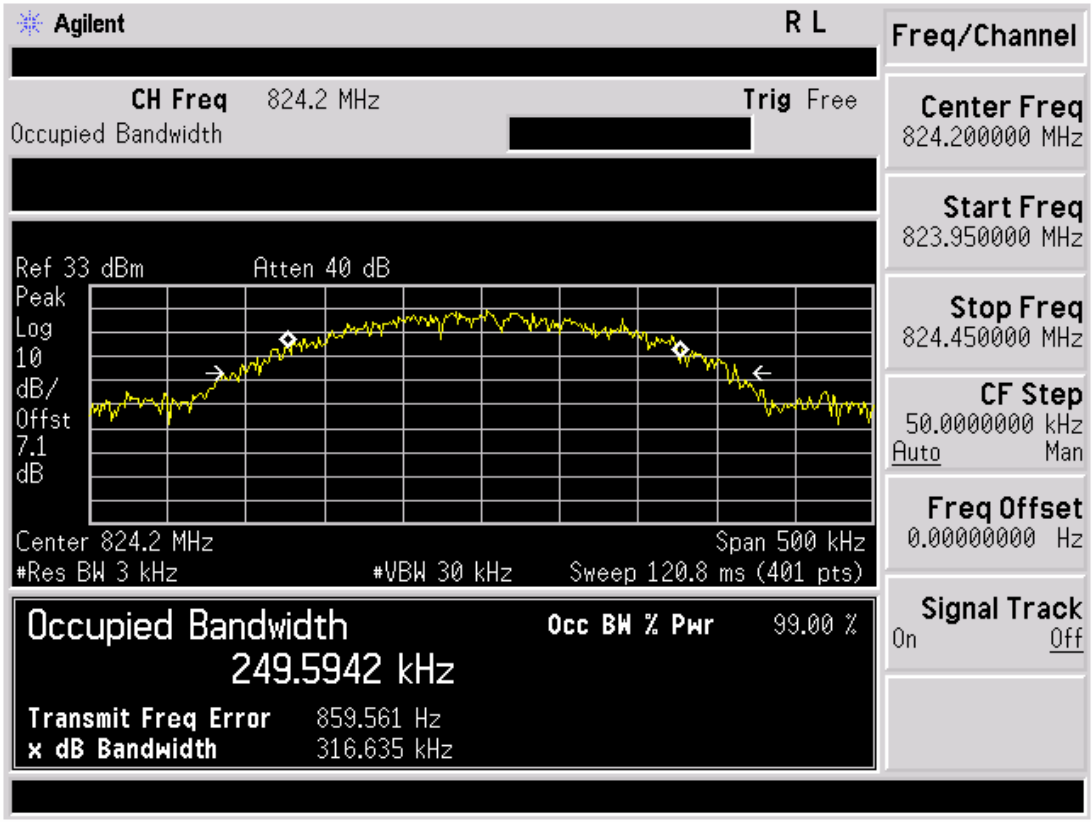
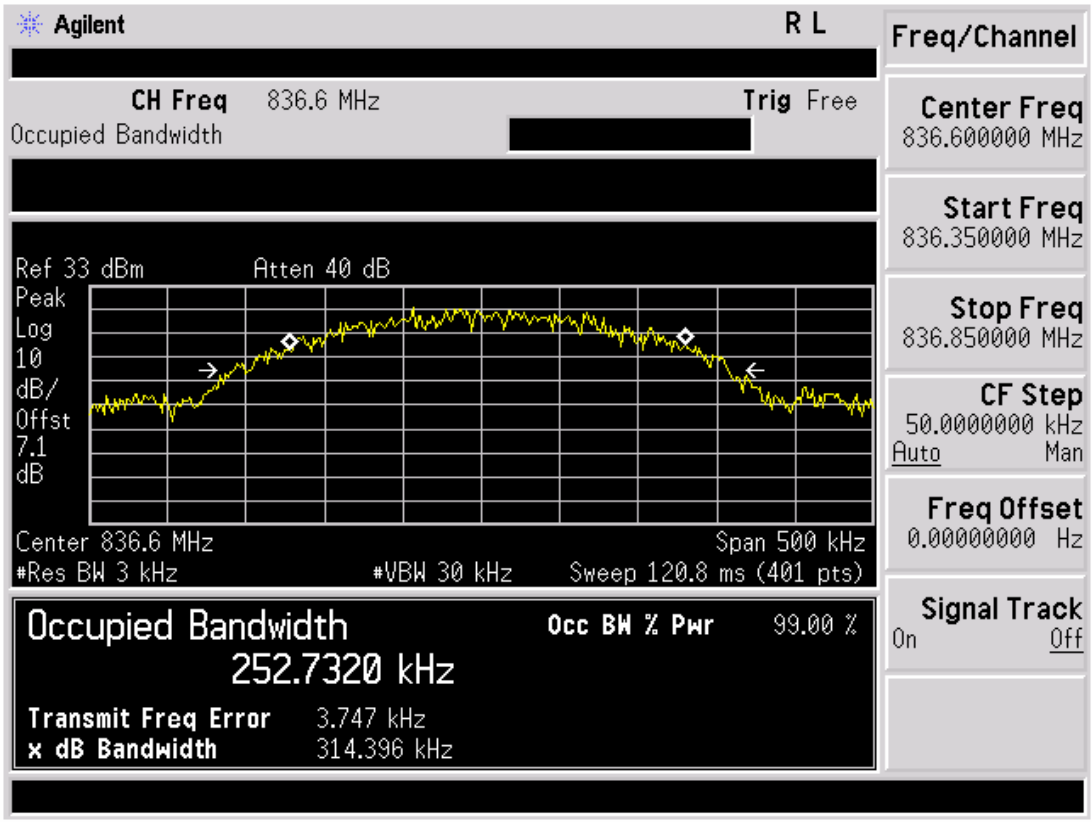
GSM850 **99 % Bandwidth Ch. 128**



GSM850 **99 % Bandwidth Ch. 190**



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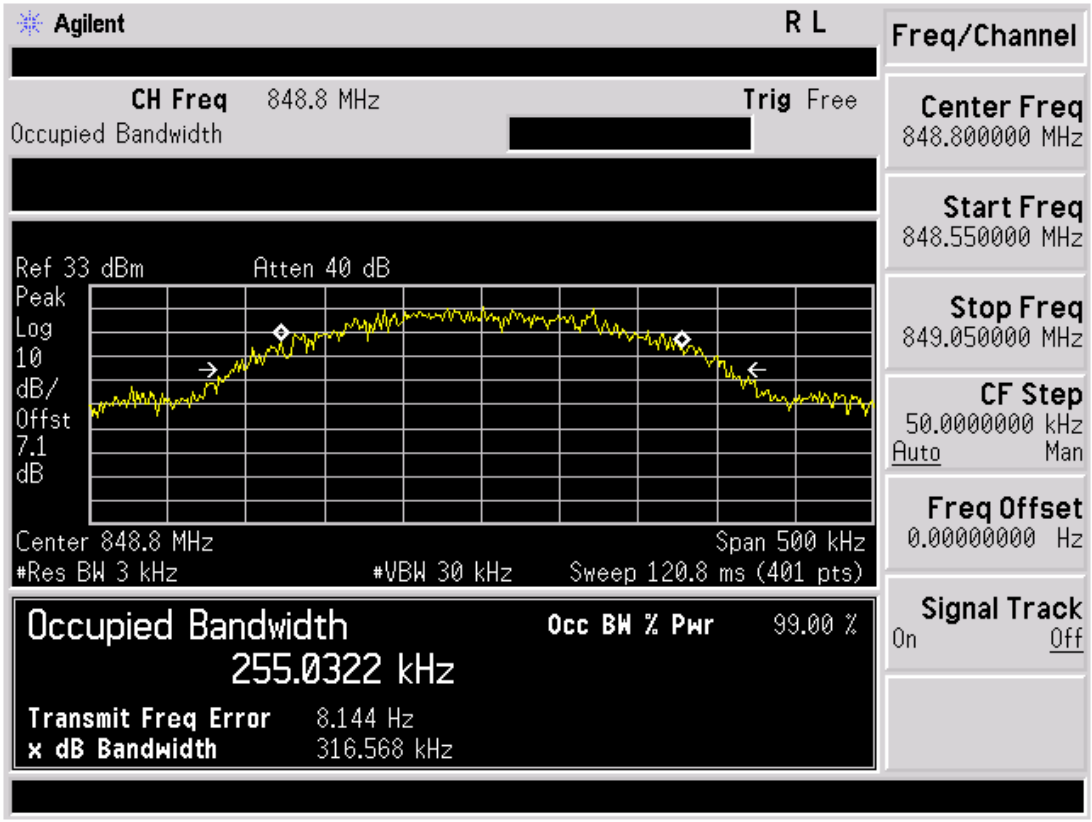
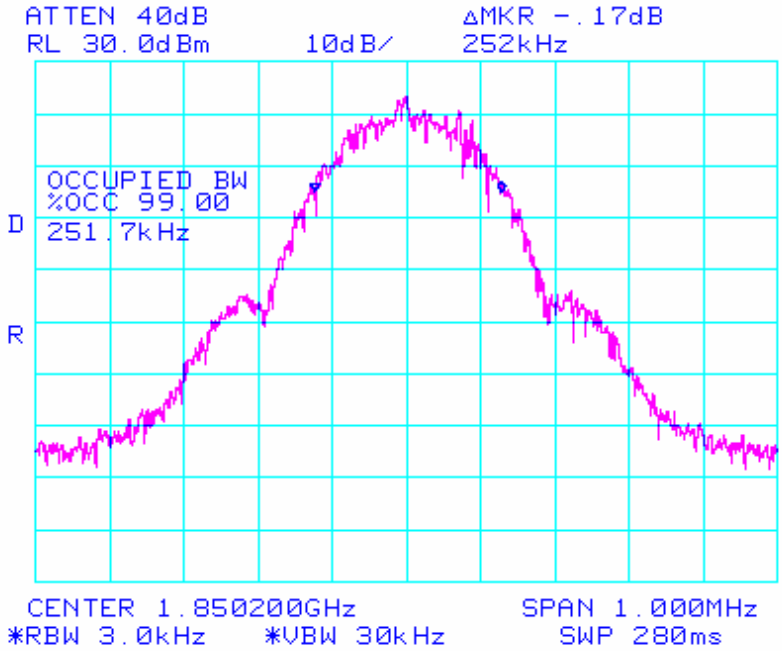
GSM850 **99 % Bandwidth Ch. 251**



PCS1900 **99 % Bandwidth Ch. 512**



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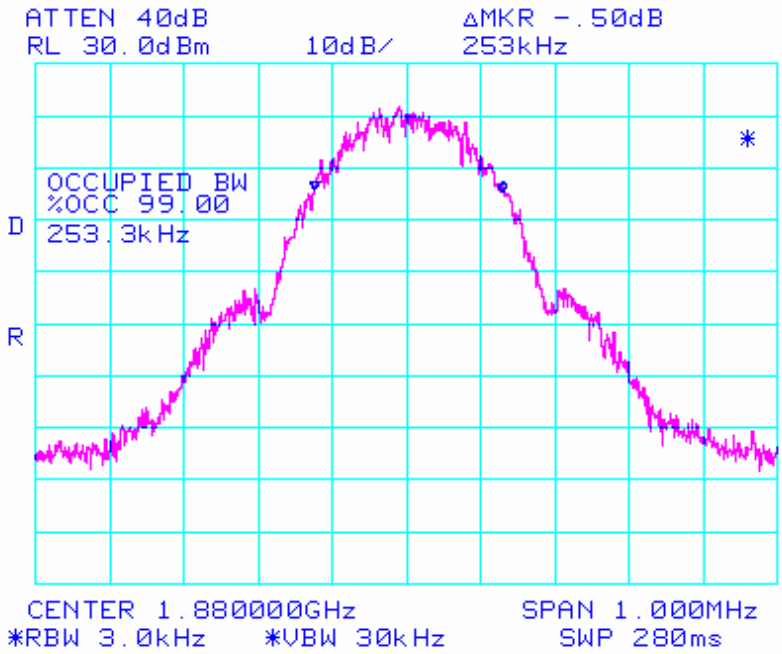
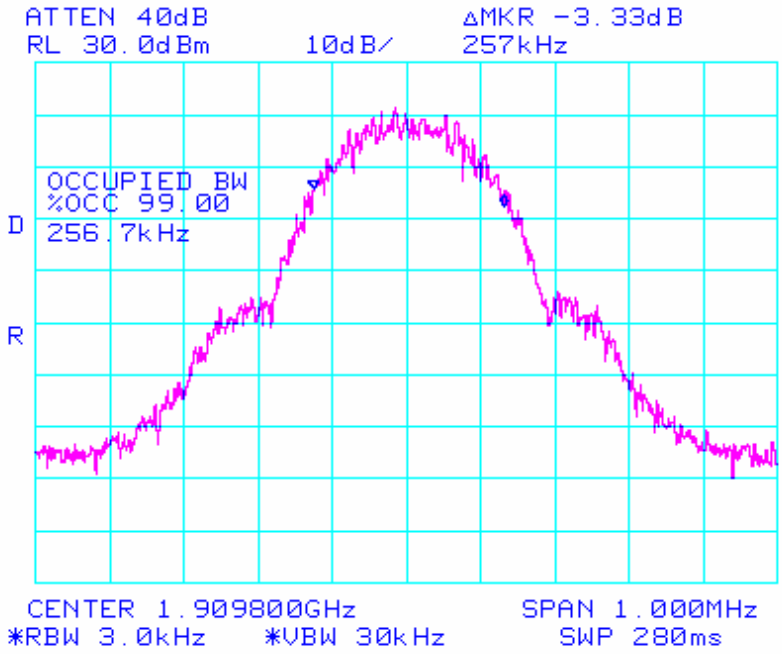
PCS1900 **99 % Bandwidth Ch. 661**



PCS1900 **99 % Bandwidth Ch. 810**



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3.4 Occupied Bandwidth Emission Limit

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 24.238(b)
Tested Frequency	:	824.2MHz, 836.6MHz and 848.8MHz for GSM850 1850.2MHz, 1880.0MHz and 1909.8MHz for PCS1900

Measurement Procedure:

- (a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43+10log(P) dB.

  (b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1㎒ or greater. However, in the 1㎒ bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26dB below the transmitter power.

  (c) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

- The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.
- Spectrum analyzer plots are included on the following pages.

Measurement Data:

GSM850

Channel	Frequency (MHz)	-26dBc Bandwidth (kHz)
128	824.2	**315**
190	836.6	**323**
251	848.8	**313**

PCS1900

Channel	Frequency (MHz)	-26dBc Bandwidth (kHz)
512	1850.2	**318**
661	1880.0	**323**
810	1909.8	**320**

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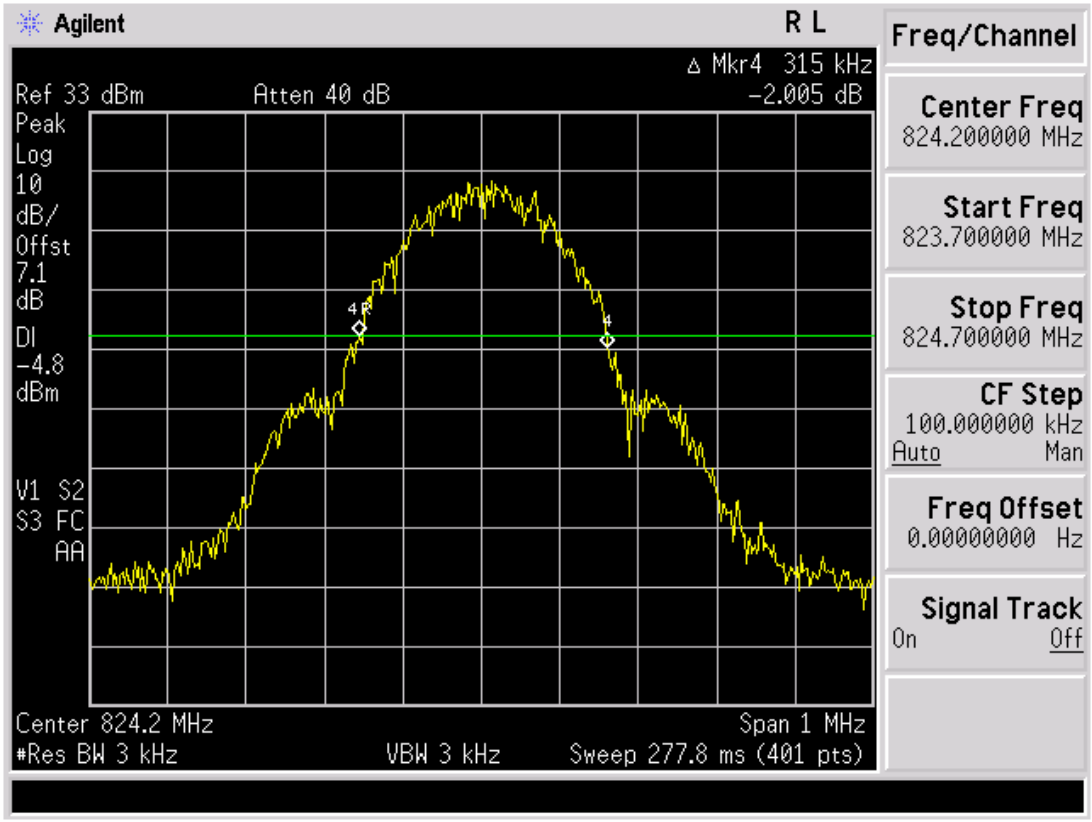
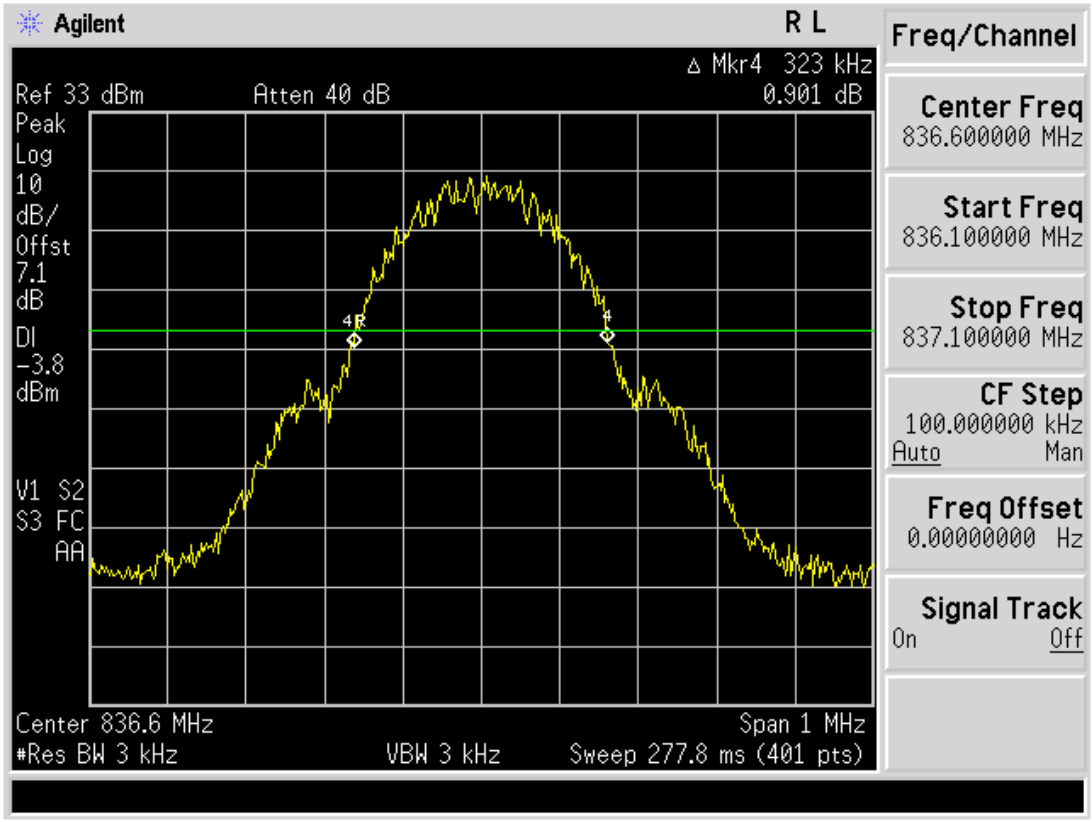
GSM850 **-26dBc Bandwidth Ch. 128**



GSM850 **-26dBc Bandwidth Ch. 190**



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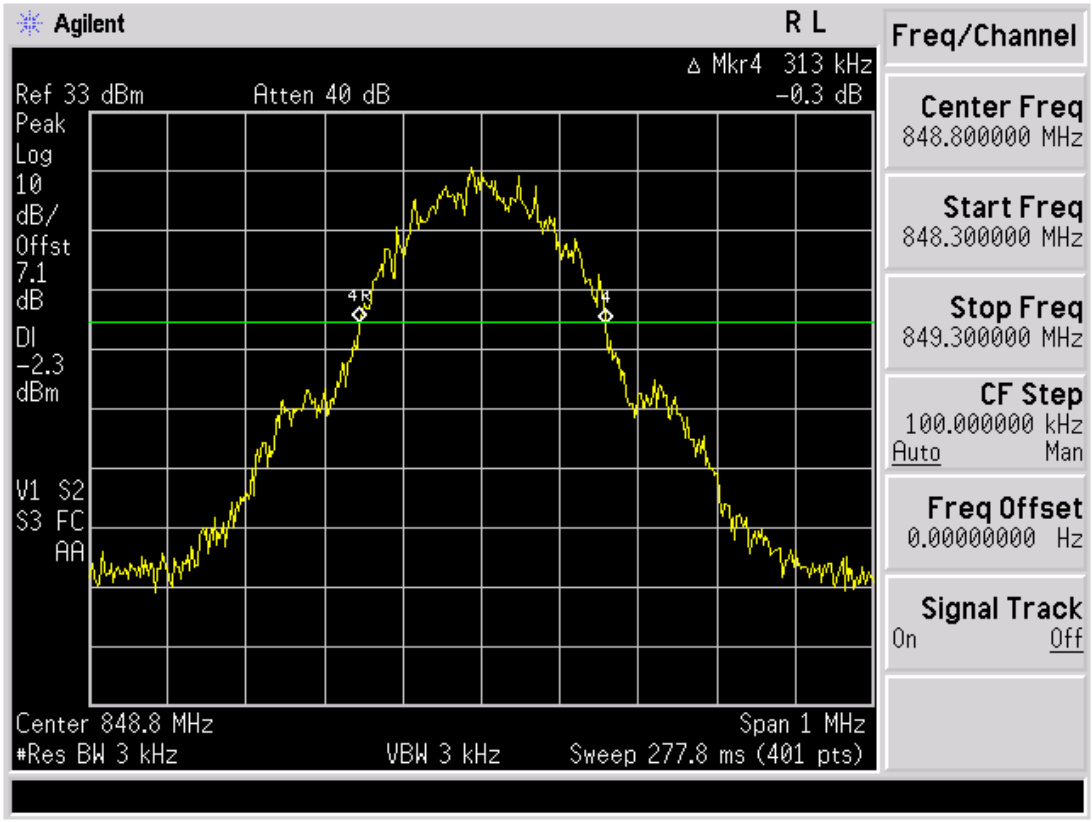
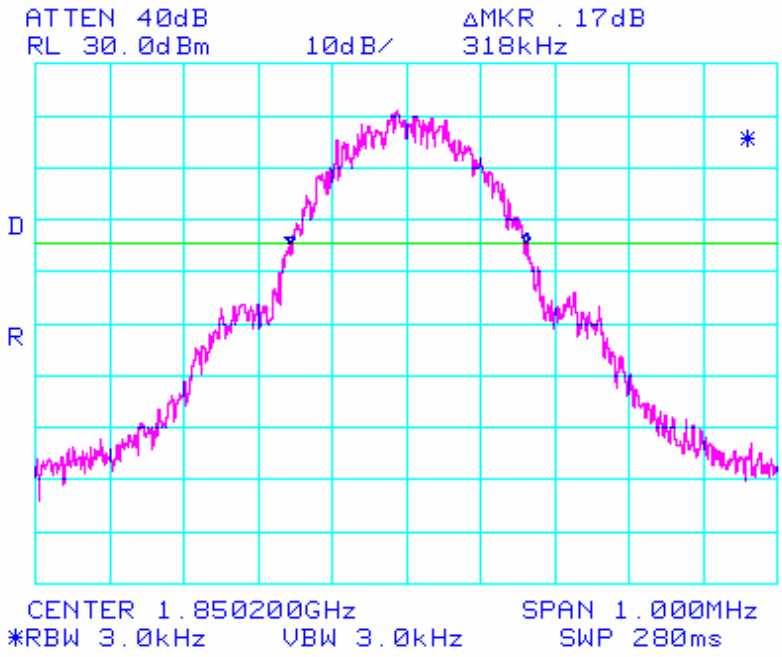
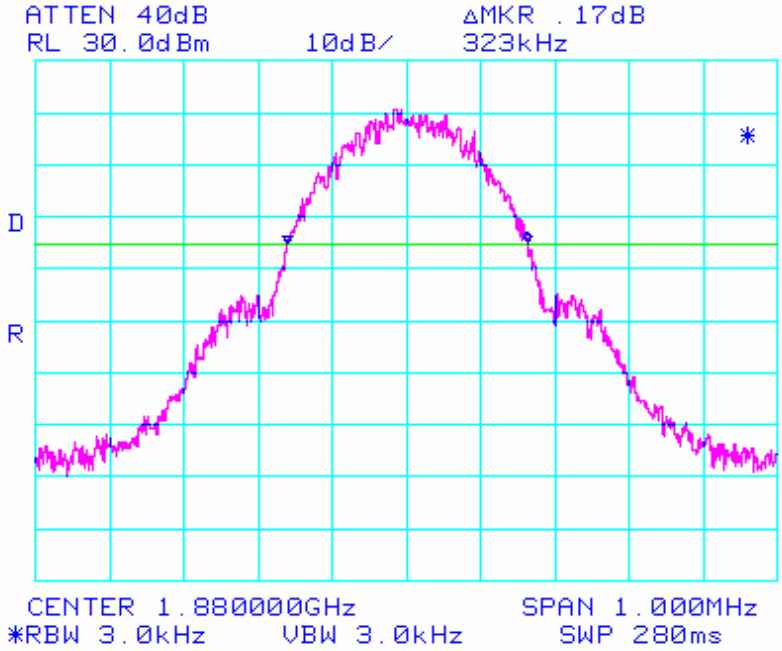
GSM850 **-26dBc Bandwidth Ch. 251**



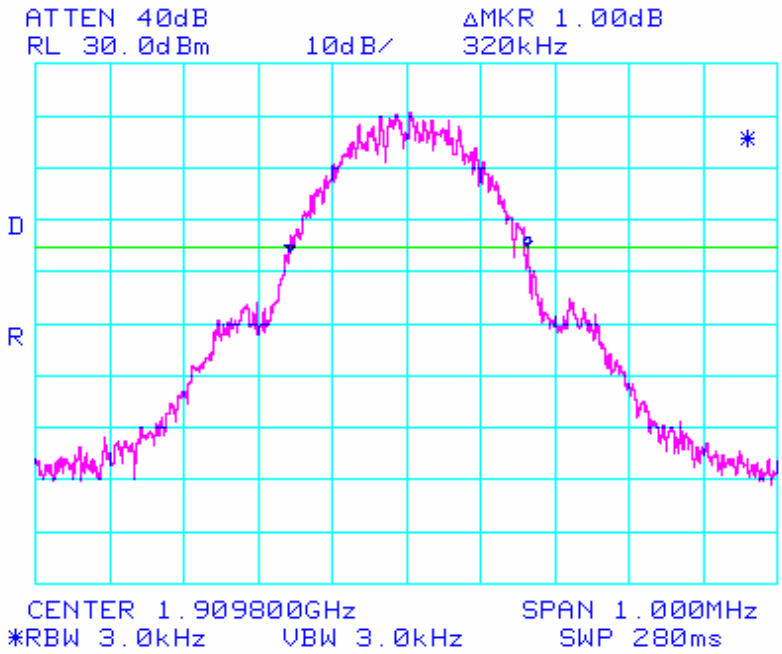
PCS1900 **-26dBc Bandwidth Ch. 512**



PCS1900 **-26dBc Bandwidth Ch. 661**



PCS1900 **-26dBc Bandwidth Ch. 810**



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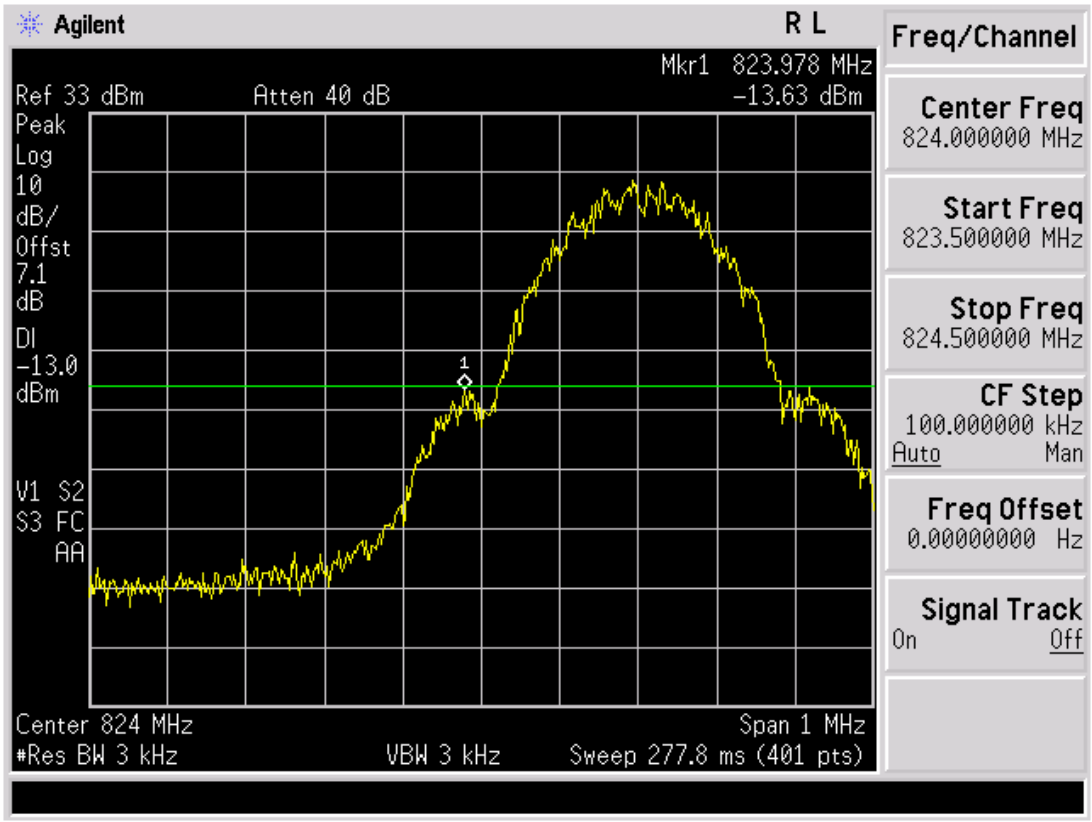
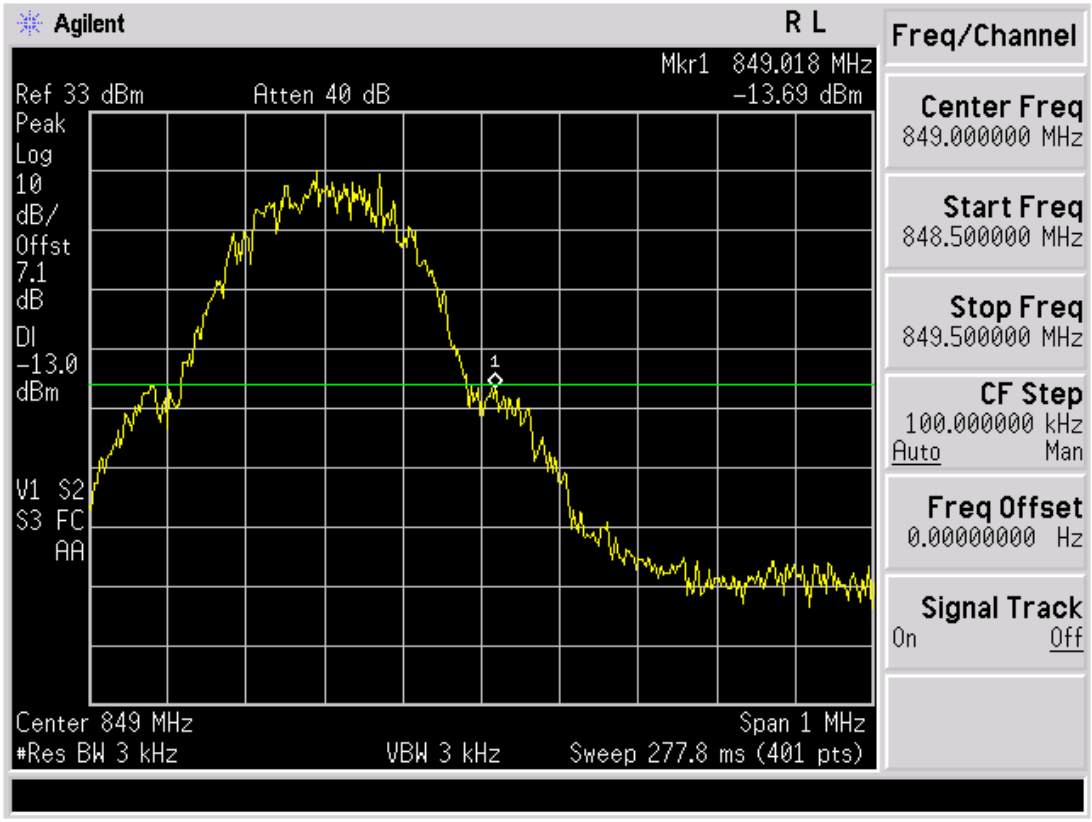
GSM850 **Band Edge Ch. 128**



GSM850 **Band Edge Ch. 251**



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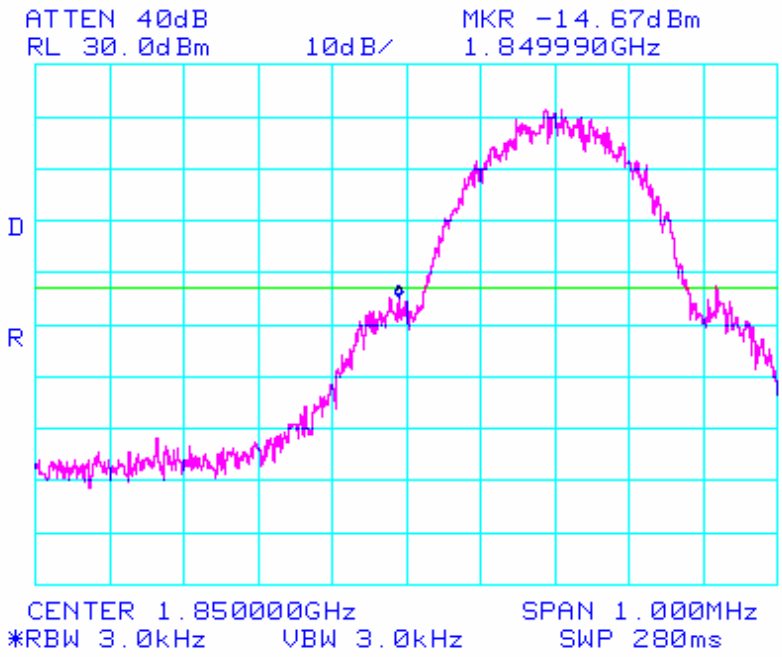
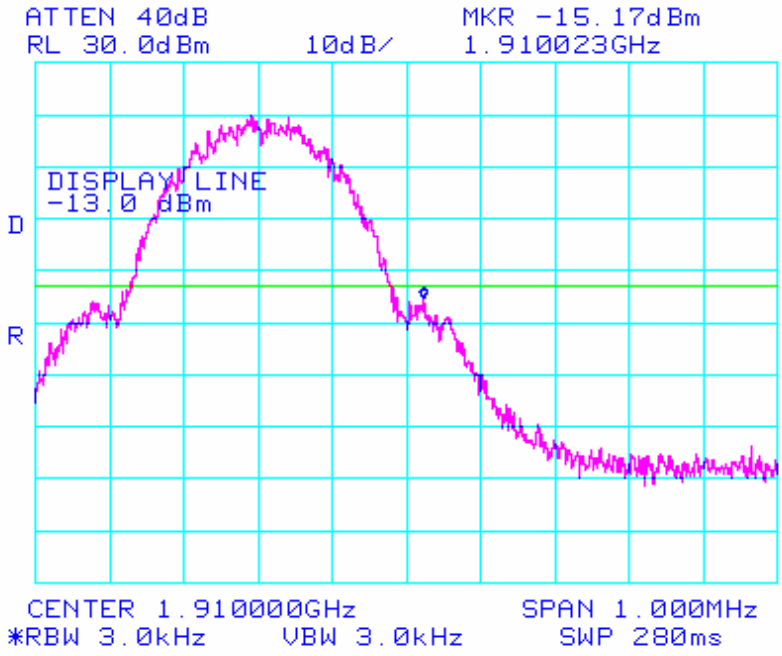
PCS1900 **Band Edge Ch. 512**



PCS1900 **Band Edge Ch. 810**



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3.5 Spurious and Harmonic Emissions at Antenna Terminal

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 2.1051, 24.238(a)
Tested Frequency	:	824.2MHz, 836.6MHz and 848.8MHz for GSM850 1850.2MHz, 1880.0MHz and 1909.8MHz for PCS1900

Measurement 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'th harmonics of the highest frequency.
- Spectrum analyzer plots are included on the following pages.

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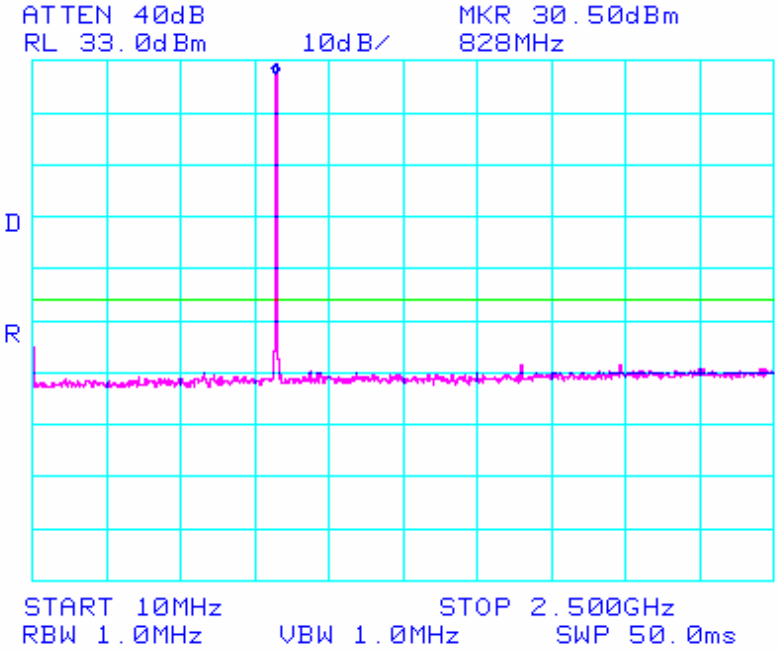
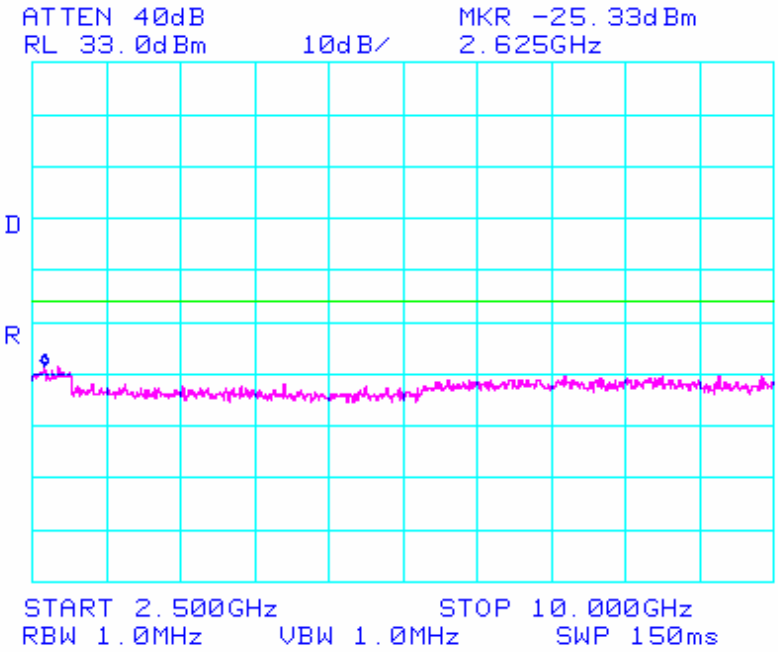
GSM850 Spurious Emissions at Antenna Terminal / Ch.128 -1



GSM850 Spurious Emissions at Antenna Terminal / Ch.128 -2



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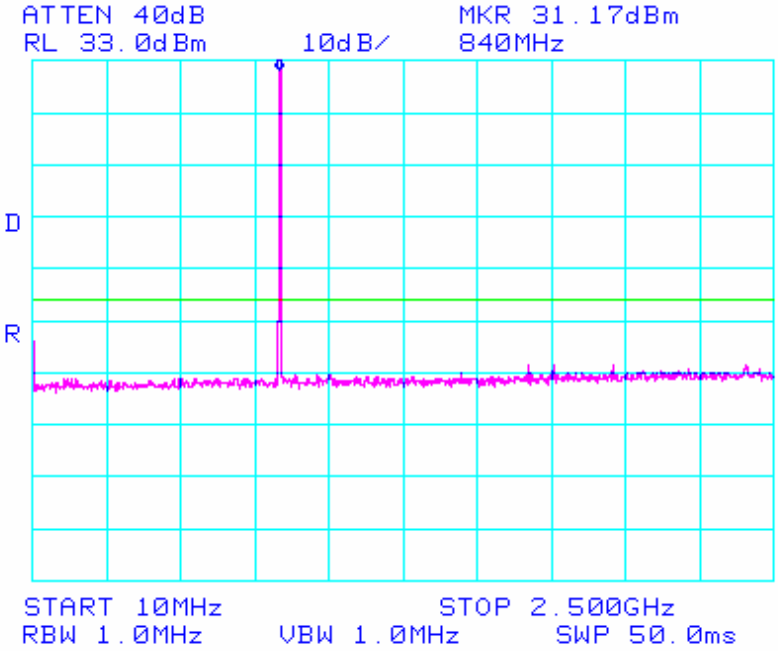
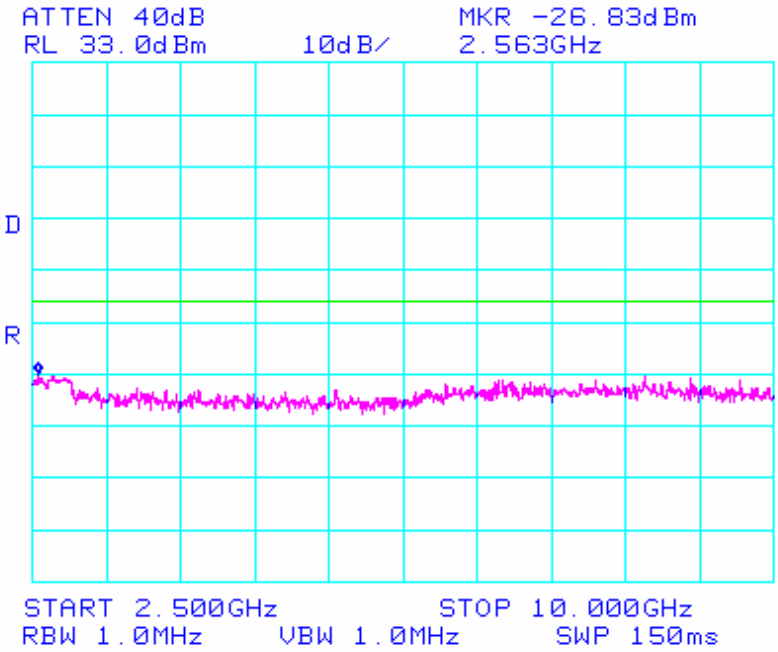
GSM850 Spurious Emissions at Antenna Terminal / Ch.190 -1



GSM850 Spurious Emissions at Antenna Terminal / Ch.190 -2



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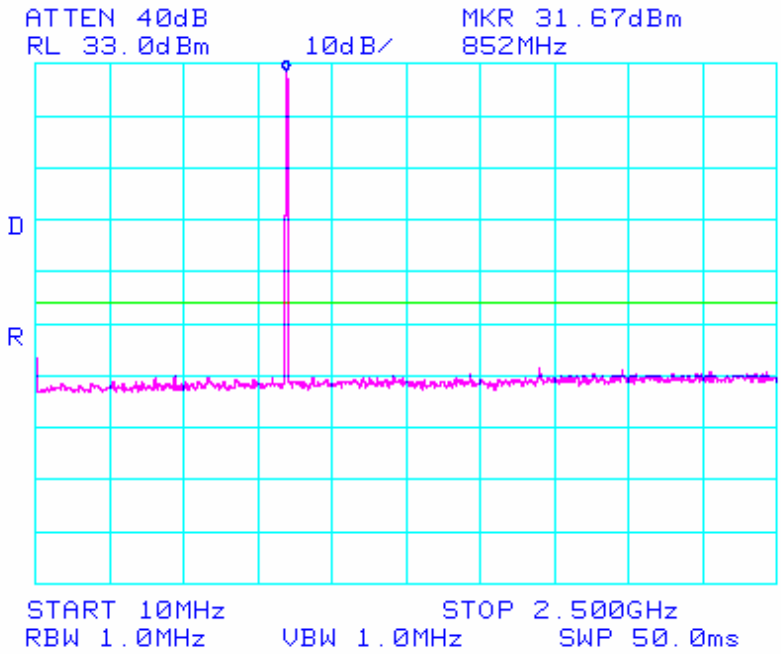
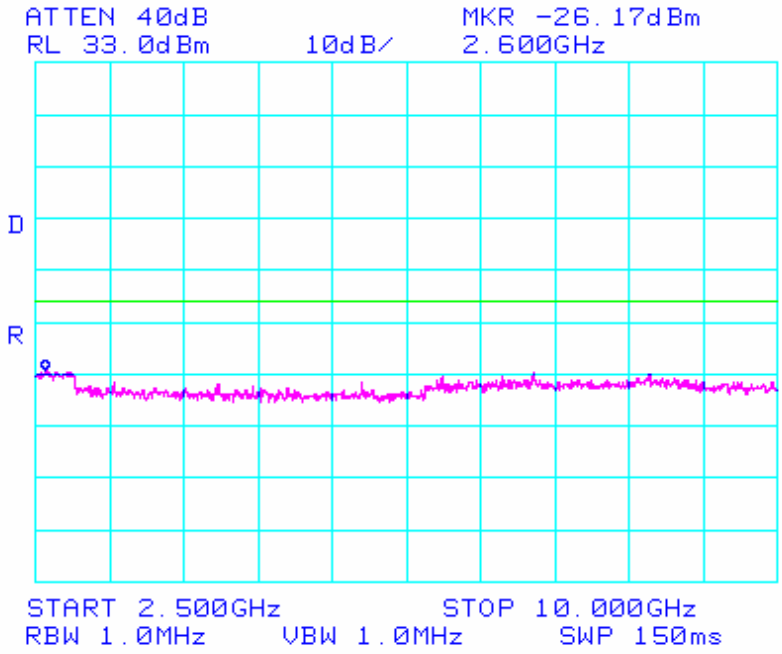
GSM850 Spurious Emissions at Antenna Terminal / Ch.251 -1



GSM850 Spurious Emissions at Antenna Terminal / Ch.251-2



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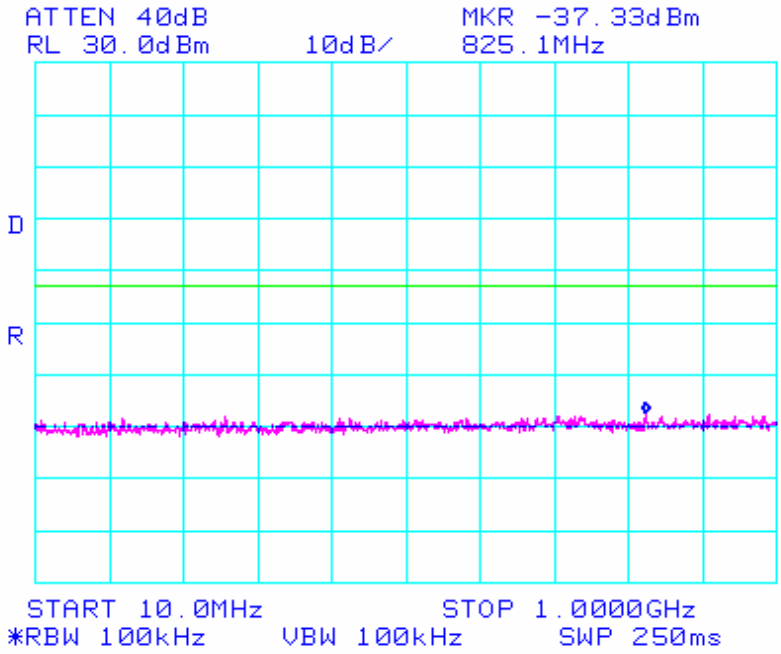
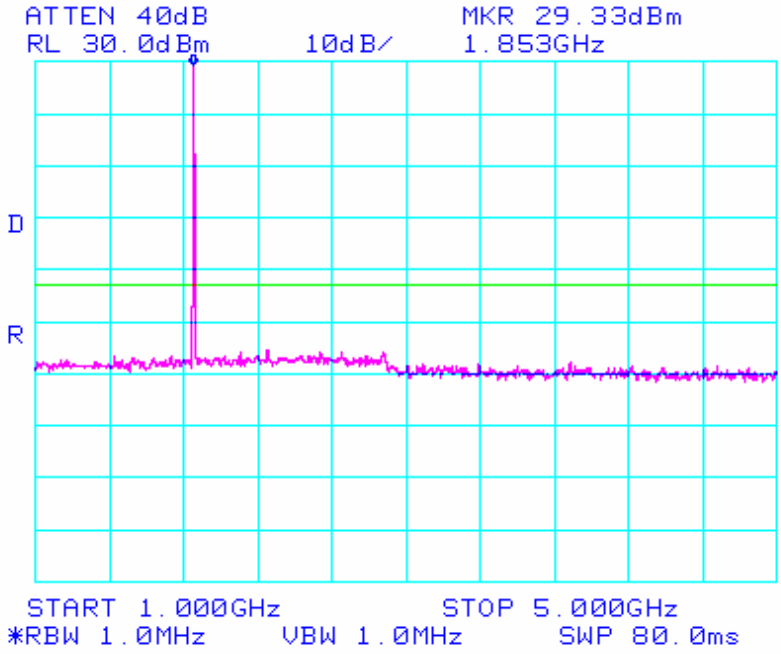
PCS1900 Spurious Emissions at Antenna Terminal / Ch.512 -1



PCS1900 Spurious Emissions at Antenna Terminal / Ch.512 -2



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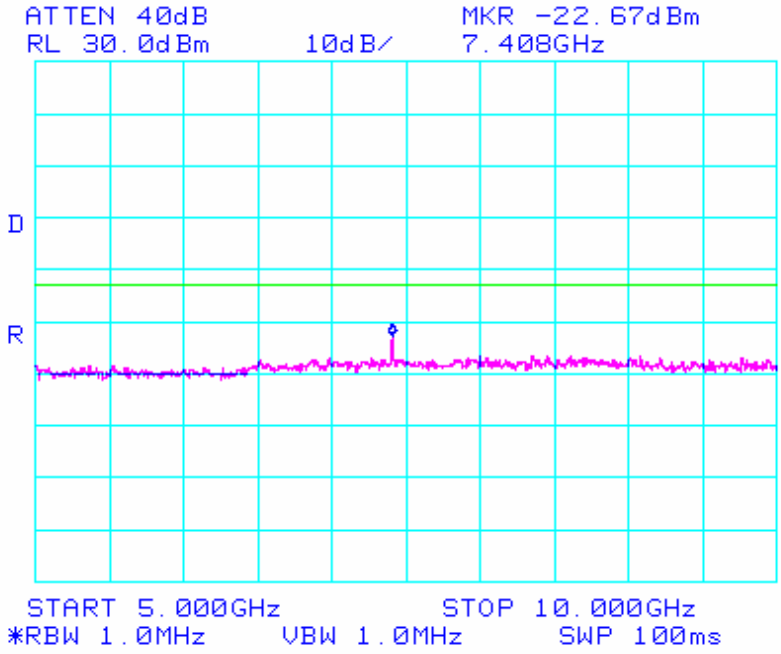
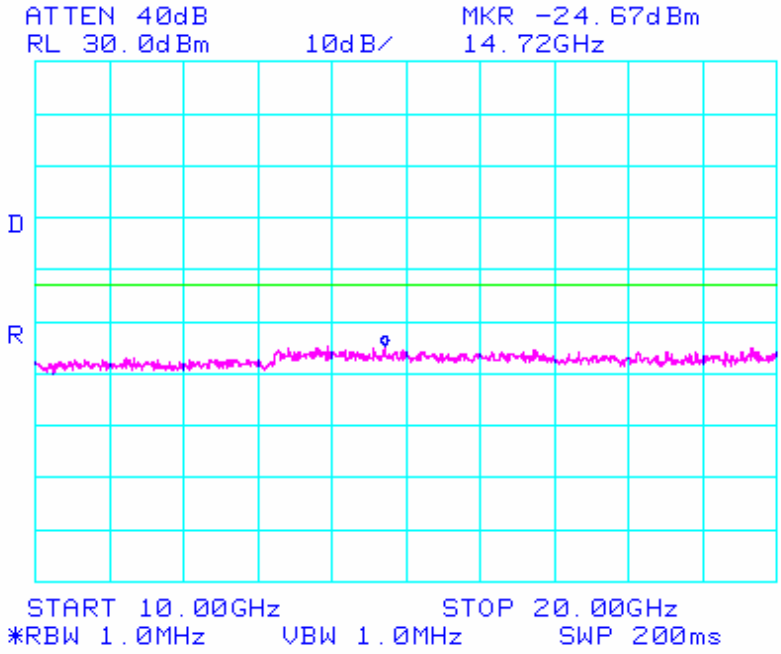
PCS1900 Spurious Emissions at Antenna Terminal / Ch.512 -3



PCS1900 Spurious Emissions at Antenna Terminal / Ch.512 -4



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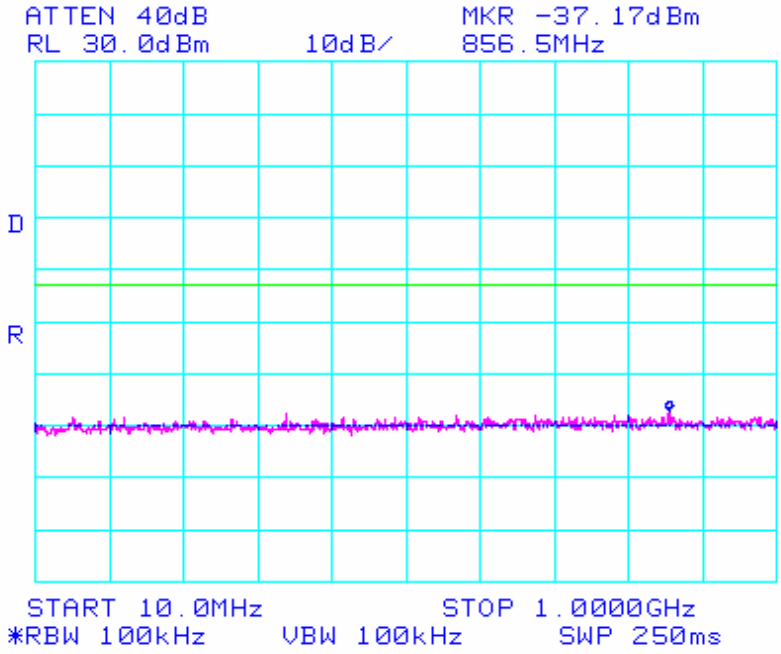
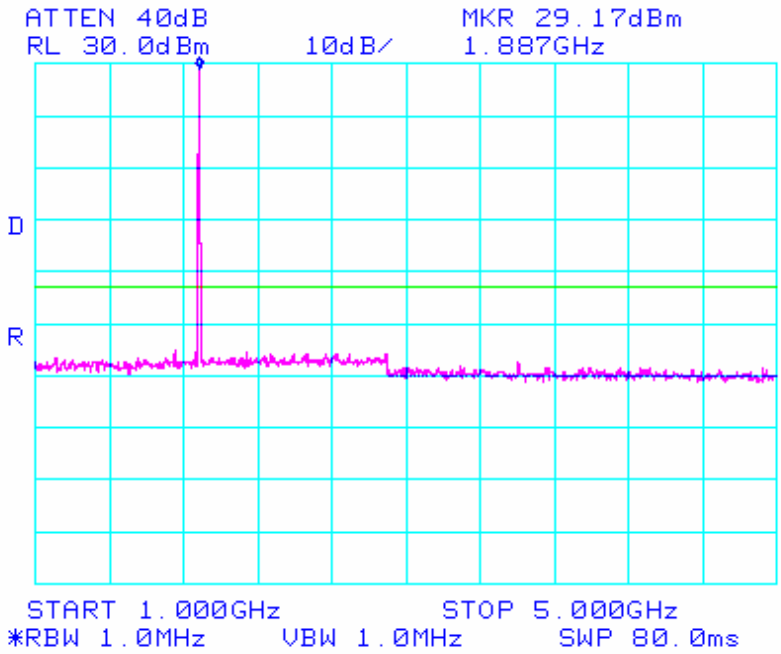
PCS1900 Spurious Emissions at Antenna Terminal / Ch.661 -1



PCS1900 Spurious Emissions at Antenna Terminal / Ch.661 -2



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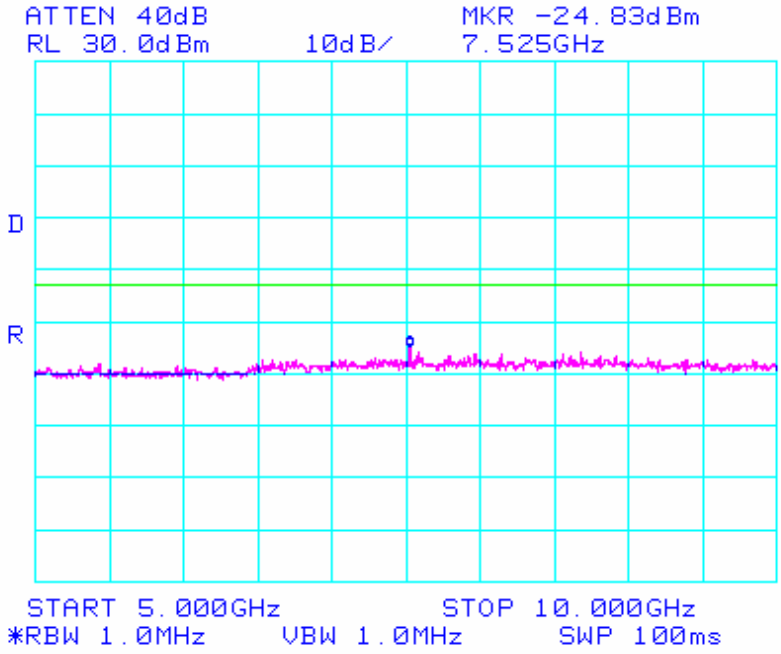
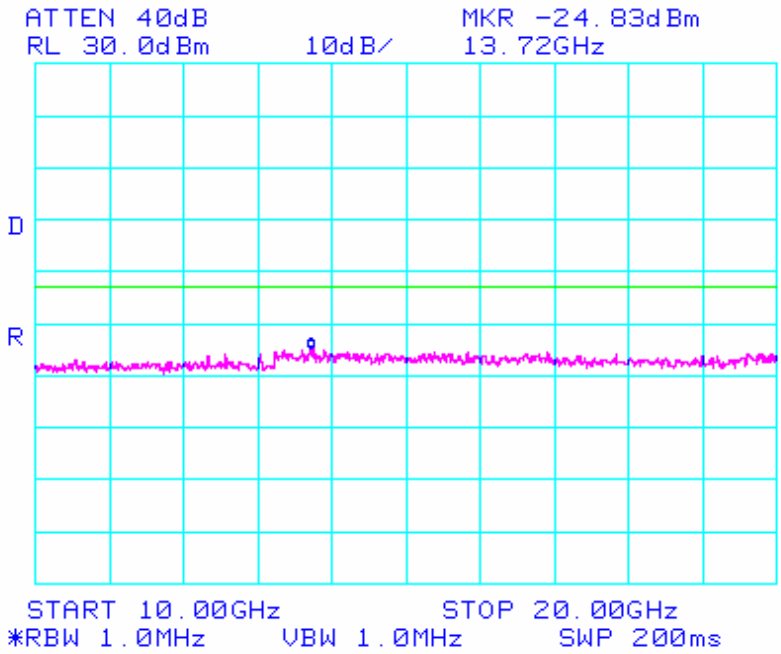
PCS1900 Spurious Emissions at Antenna Terminal / Ch.661 -3



PCS1900 Spurious Emissions at Antenna Terminal / Ch.661 -4



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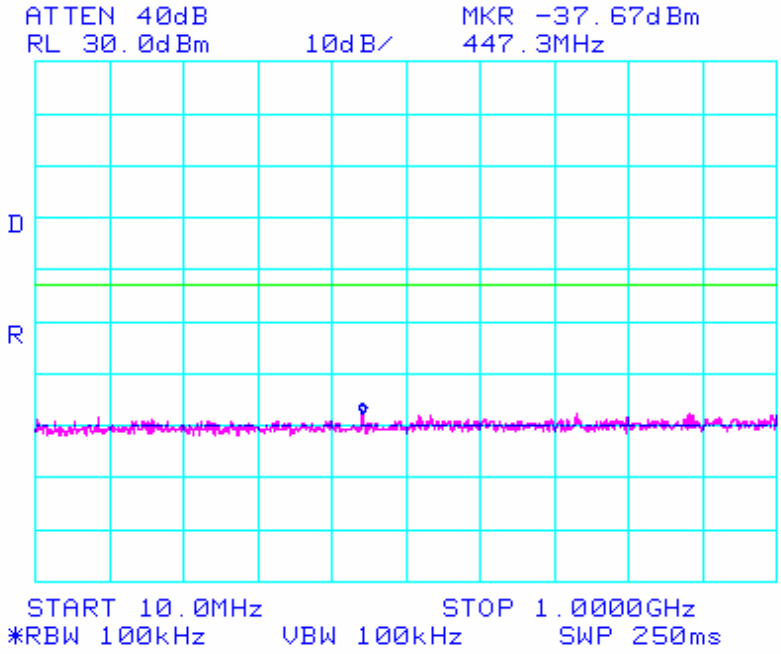
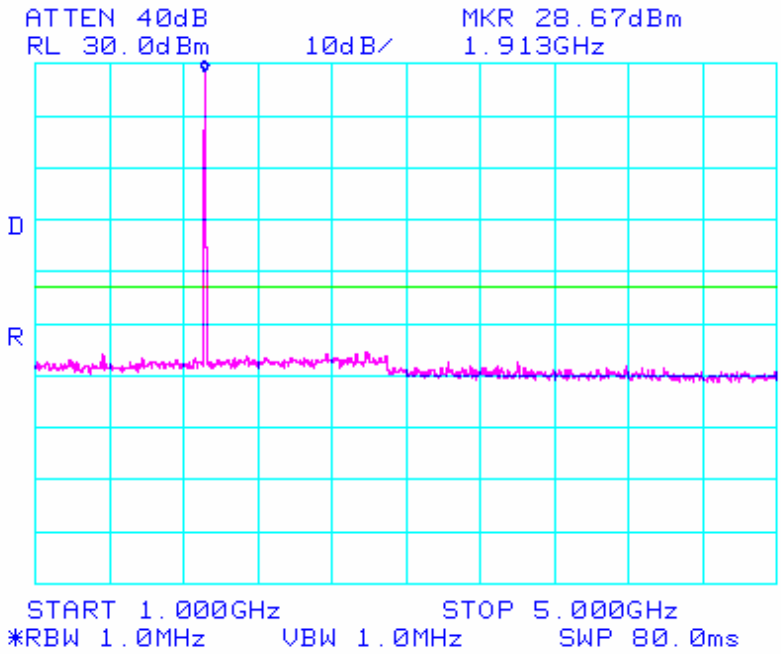
PCS1900 Spurious Emissions at Antenna Terminal / Ch.810 -1



PCS1900 Spurious Emissions at Antenna Terminal / Ch.810 -2



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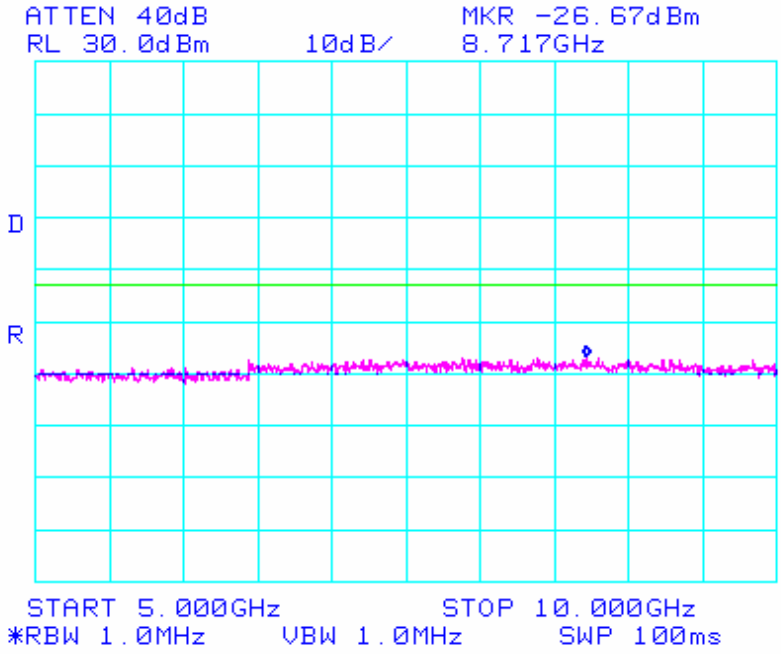
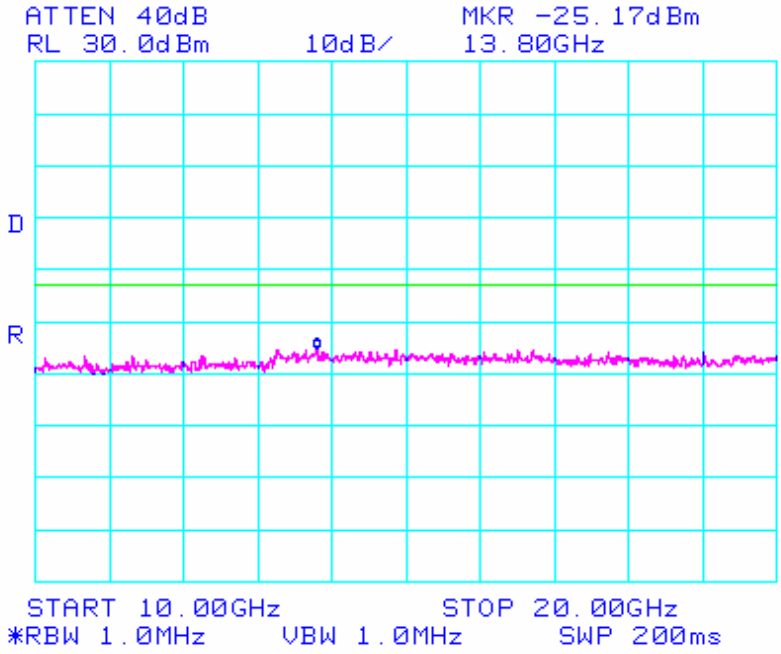
PCS1900 Spurious Emissions at Antenna Terminal / Ch.810 -3



PCS1900 Spurious Emissions at Antenna Terminal / Ch.810 -4



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3.6 Field Strength of Spurious Radiation

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 2.1053(a)
Tested Frequency	:	824.2MHz, 836.6MHz and 848.8MHz for GSM850 1850.2MHz, 1880.0MHz and 1909.8MHz for PCS1900

Measurement Procedure:

- Radiation and harmonic emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna.
  The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, 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.

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GSM850 Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 824.2 MHz

CHANNEL : 128(Low)

MEASURED OUTPUT POWER : 34.80 dBm = 3.020 W

MODULATION SIGNAL : GSM (Internal)

DISTANCE : 3 meters

LIMIT : 43 + 10 $\log_{10}$ (W) = 47.80 dBc

Freq. (MHz)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBd)	**CORRECT GENERATOR LEVEL** (dBm)	**POL** (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected at a level greater than 10dB below limit.					
-	-	-	-	-	-

NOTE

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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 1GHz, 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.

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GSM850 Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 836.6 MHz

CHANNEL : 190(Mid)

MEASURED OUTPUT POWER : 34.80 dBm = 3.020 W

MODULATION SIGNAL : GSM (Internal)

DISTANCE : 3 meters

LIMIT : $43 + 10 \log_{10} (W)$ = 47.80 dBc

Freq. (MHz)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBd)	**CORRECT GENERATOR LEVEL** (dBm)	**POL** (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected at a level greater than 10dB below limit.					
-	-	-	-	-	-

NOTE

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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 1GHz, 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.

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GSM850 Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 848.8 MHz

CHANNEL : 251(High)

MEASURED OUTPUT POWER : 34.80 dBm = 3.020 W

MODULATION SIGNAL : GSM (Internal)

DISTANCE : 3 meters

LIMIT : $43 + 10 \log_{10} (W)$ = 47.80 dBc

Freq. (MHz)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBd)	**CORRECT GENERATOR LEVEL** (dBm)	**POL** (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected at a level greater than 10dB below limit.					
-	-	-	-	-	-

NOTE

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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 1GHz, 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.

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PCS1900 Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 1850.2 MHz

CHANNEL : 512(Low)

MEASURED OUTPUT POWER : 29.95 dBm = 0.989 W

MODULATION SIGNAL : GSM (Internal)

DISTANCE : 3 meters

LIMIT : 43 + 10 $\log_{10}$ (W) = 42.95 dBc

Freq. (MHz)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBi)	**CORRECT GENERATOR LEVEL** (dBm)	**POL** (H/V)	(dBc)
7400.8	-33.36	11.65	-21.71	V	51.66
-	-	-	-	-	-
-	-	-	-	-	-

NOTE

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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 1GHz, 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.

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PCS1900 Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 1880.0 MHz
CHANNEL : 661(Mid)
MEASURED OUTPUT POWER : 29.95 dBm = 0.989 W
MODULATION SIGNAL : GSM (Internal)
DISTANCE : 3 meters
LIMIT : 43 + 10 $\log_{10}$ (W) = 42.95 dBc

Freq. (MHz)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBi)	**CORRECT GENERATOR LEVEL** (dBm)	**POL** (H/V)	(dBc)
7520.0	-32.87	11.63	-21.24	V	51.19
-	-	-	-	-	-
-	-	-	-	-	-

NOTE

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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 1GHz, 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.

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PCS1900 Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 1909.8 MHz

CHANNEL : 810(High)

MEASURED OUTPUT POWER : 29.95 dBm = 0.989 W

MODULATION SIGNAL : GSM (Internal)

DISTANCE : 3 meters

LIMIT : 43 + 10 $\log_{10}$ (W) = 42.95 dBc

Freq. (MHz)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBi)	**CORRECT GENERATOR LEVEL** (dBm)	**POL** (H/V)	(dBc)
7639.2	-35.42	11.60	-23.82	V	53.77
-	-	-	-	-	-
-	-	-	-	-	-

NOTE

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

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. 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 1GHz, 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.

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3.7 Frequency Stability/Temperature Variation.

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 2.1055
Tested Frequency	:	836.6MHz for GSM850 1880.0MHz for PCS1900

Measurement Procedure:

The frequency stability of the transmitter is measured by:

a) **Temperature** :The temperature is varied from -30°C to + 50°C using an environmental chamber.
b) **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 minimum frequency stability shall be +/- 0.00025% at any time during normal operation.

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 ±0.00025(±2.5ppm) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter and the individual oscillators is measured at room temperature (25°C to 27 °C to provide a reference)
2. The equipment is subjected to an overnight “soak” at -30°C without any power applied.
3. 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 to the transmitter and the individual oscillators is made within a three minute interval after applying power to the transmitter.
4. Frequency measurements is 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.
5. Again the transmitter carrier frequency and the individual oscillators is measured at room temperature to begin measurement of the upper temperature levels.
6. Frequency were made at 10intervals starting at -30°C up to +50°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.
7. The artificial load is mounted external to the temperature chamber.

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

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Frequency Stability (GSM850)

OPERATING FREQUENCY : 836,599,988 Hz

CHANNEL : 190(Mid)

REFERENCE VOLTAGE : 120 VAC

DEVIATION LIMIT : ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VAC)	TEMP (dB)	FREQ (Hz)	Deviation (%)
100%	120	+20(Ref)	836,599,988	0.0000000
100%		-30	836,599,973	-0.0000018
100%		-20	836,599,974	-0.0000017
100%		-10	836,599,982	-0.0000007
100%		0	836,599,974	-0.0000017
100%		+10	836,599,982	-0.0000007
100%		+20	836,599,981	-0.0000008
100%		+25	836,599,988	0.0000000
100%		+30	836,599,986	-0.0000002
100%		+40	836,599,984	-0.0000005
100%		+50	836,600,006	0.0000022
100%		+60	836,600,009	0.0000025
85%	102	+20	836,599,979	-0.0000011
115%	138	+20	836,599,975	-0.0000016
BATT.ENDPOINT	-	-	-	-

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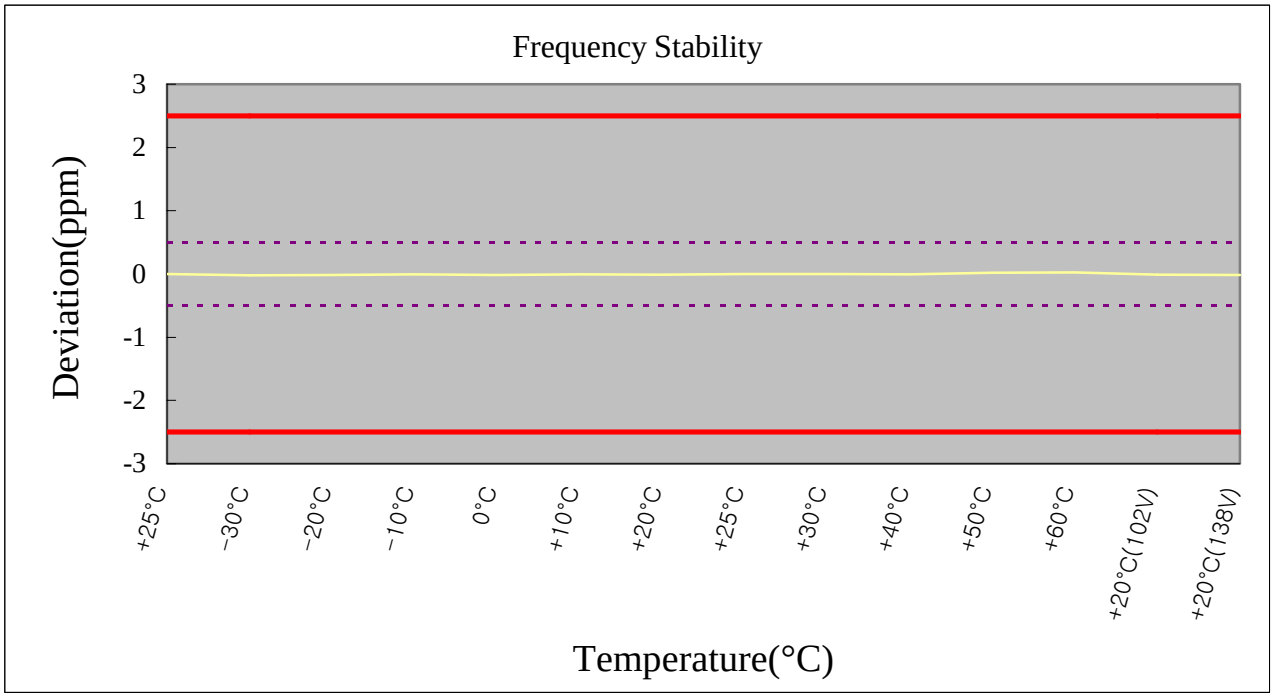
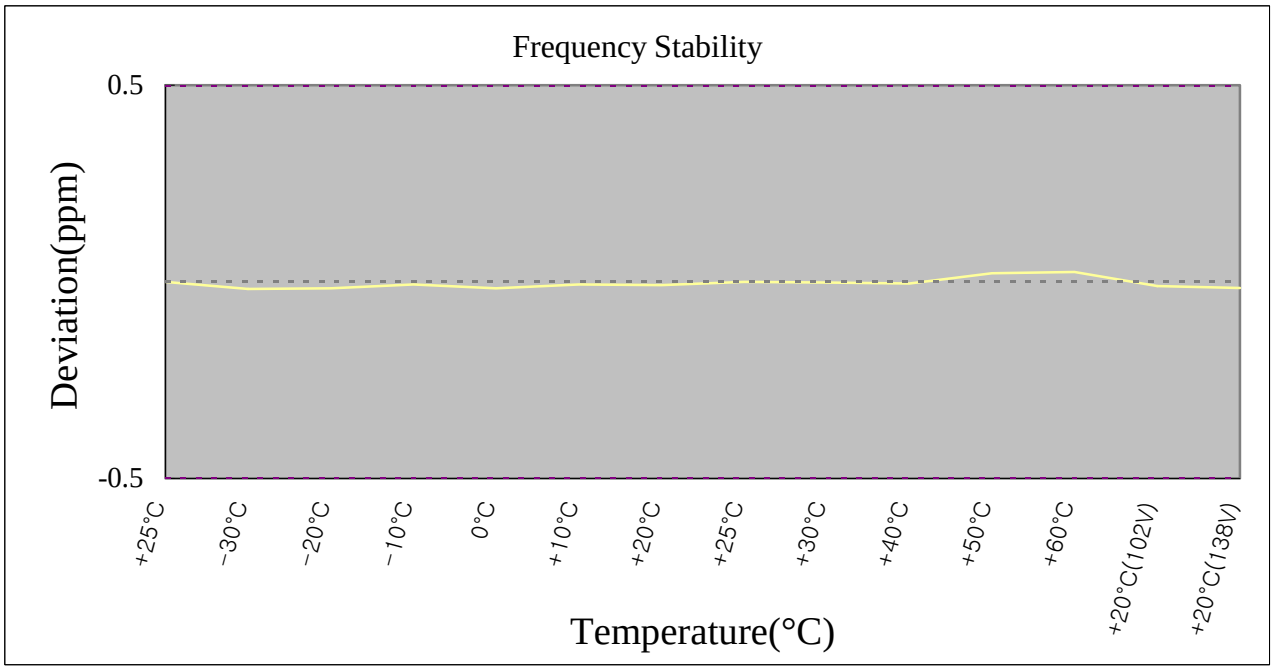
Frequency Stability(GSM850) **(Continued…)**





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Frequency Stability (PCS1900)

OPERATING FREQUENCY : 1,879,999,991 Hz

CHANNEL : 0661(Mid)

REFERENCE VOLTAGE : 120 VAC

DEVIATION LIMIT : ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	**POWER** (VAC)	TEMP (dB)	**FREQ** (Hz)	**Deviation** (%)
100%	120	+20(Ref)	1,879,999,991	0.0000000
100%		-30	1,879,999,980	-0.0000006
100%		-20	1,879,999,977	-0.0000007
100%		-10	1,879,999,983	-0.0000004
100%		0	1,879,999,986	-0.0000003
100%		+10	1,879,999,986	-0.0000003
100%		+20	1,879,999,985	-0.0000003
100%		+25	1,879,999,991	0.0000000
100%		+30	1,879,999,984	-0.0000004
100%		+40	1,879,999,979	-0.0000006
100%		+50	1,879,999,983	-0.0000004
100%		+60	1,879,999,979	-0.0000006
85%	102	+20	1,879,999,976	-0.0000008
115%	138	+20	1,879,999,976	-0.0000008
BATT.ENDPOINT	-	-	-	-

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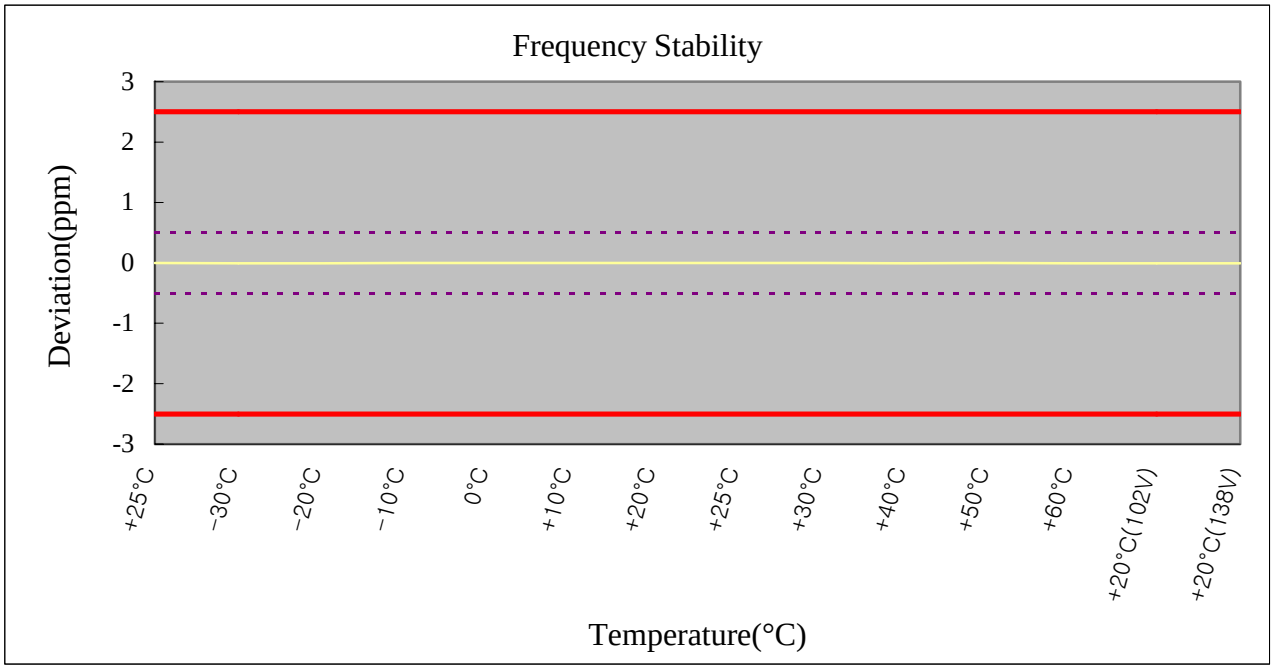
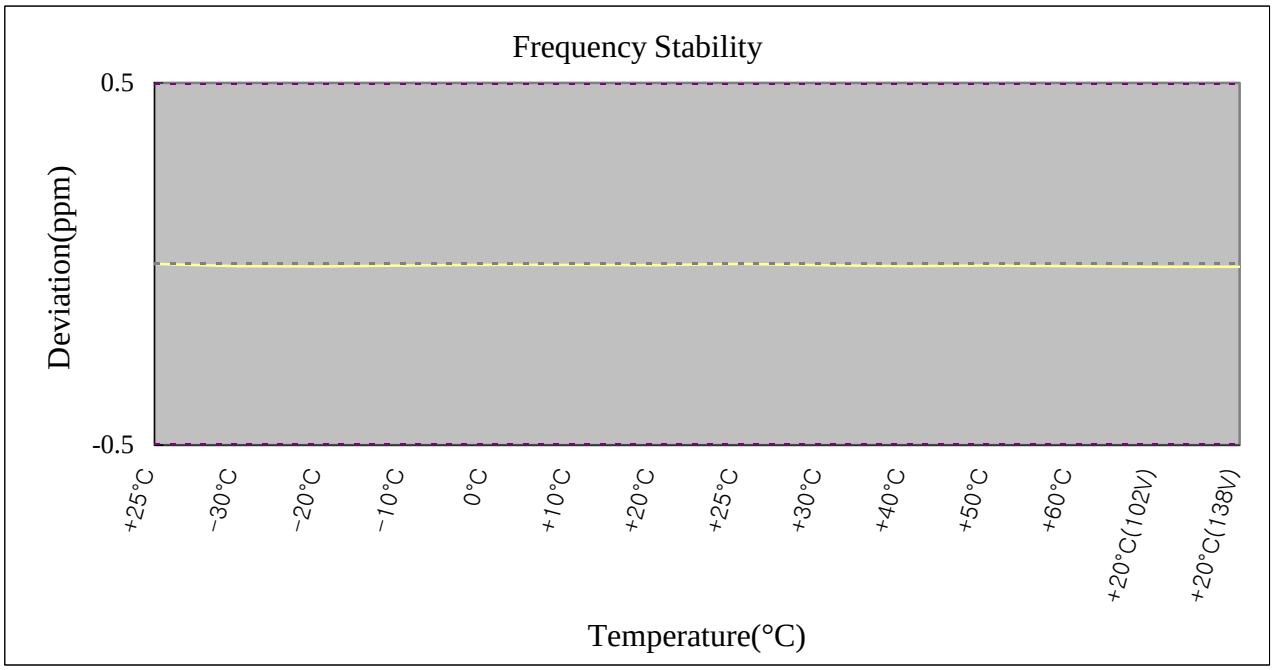
Frequency Stability (PCS1900) **(continued…)**





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3.8 Receiver Radiated Emissions

FCC ID	:	**NPQFX2000XG**
Specification	:	47 CFR 2.1053
Bandwidth	:	120kHz (< 1GHz) 1 Mz (> 1GHz)
Tested mode	:	GSM and PCS mode

Measurement Procedure:

- Final test was performed according to ANSI C63.4-2003 at the open field test site. There are no deviations from the standard.
- The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 3meters. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.
- The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.
- These tests were performed at 120kHz of 6dB bandwidth.

Measurement Data

GSM850

Frequency [㎒]	ANT Pol.	Reading [dB㎶]	T.F [dB]	Results [dB㎶/m]	Limits [dB㎶/m]	Margin [dB]
	No emissions were detected at a level greater than 10dB below limit.					

PCS1900

Frequency [㎒]	ANT Pol.	Reading [dB㎶]	T.F [dB]	Results [dB㎶/m]	Limits [dB㎶/m]	Margin [dB]
	No emissions were detected at a level greater than 10dB below limit.					

Remark

1. There is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated.
2. Measurements above 1GHz is performed using a minimum resolution bandwidth of 1MHz.
   The EUT was tested up to the 20GHz and no significant emission was found.

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4. TEST EQUIPMENT

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	S/N
01	Spectrum Analyzer	Agilent	E4404B	19/11/05	30601-01-6025569
02	Spectrum Analyzer	H.P	8563E	06/10/06	3551A04634
03	Power Meter	H.P	EPM-442A	04/07/06	GB37170413
04	Power Sensor	H.P	8481A	05/07/06	3318A96332
05	Frequency Counter	H.P	5342A	21/10/06	2119A04450
06	Multfunction Synthesizer	H.P	8904A	21/10/06	3633A08404
07	Signal Generator	Rohde Schwarz	SMR20	17/05/06	101251
08	Signal Generator	H.P	E4421A	05/07/06	US37230529
09	Audio Analyzer	H.P	8903B	07/07/06	3011A0944B
10	Modulation Analyzer	H.P	8901B	05/07/06	3028A03029
11	Oscilloscope	LeCroy	9314A	10/10/06	93144390
12	CDMA Mobile Station Test Set	H.P	8924C	21/10/06	US35360688
13	Power Splitter	WEINSCHEL	1593	21/10/06	332
14	BAND Reject Filter	Wainwright	WRCG824	21/10/06	SN1
15	BAND Reject Filter	Wainwright	WRCG1750	21/10/06	SN2
16	AC Power supply	DAEKWANG	5KVA	18/04/06	N/A
17	DC Power Supply	H.P	6622A	18/04/06	465487
18	Attenuator (30dB)	H.P	8498A	21/10/06	50101
19	Attenuator (10dB)	WEINSCHEL	23-10-34	21/10/06	BP4387
20	HORN ANT	EMCO	3115	06/03/07	6419
21	HORN ANT	EMCO	3115	04/25/07	21097
22	HORN ANT	A.H.Systems	SAS-574	09/11/06	154
23	HORN ANT	A.H.Systems	SAS-574	09/11/06	155
24	Dipole Antenna	Schwarzbeck	VHA9103	29/10/05	2116
25	Dipole Antenna	Schwarzbeck	VHA9103	29/10/05	2117
26	Dipole Antenna	Schwarzbeck	UHA9105	29/10/05	2261

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4. TEST EQUIPMENT (CONTINUED)

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	S/N
27	Dipole Antenna	Schwarzbeck	UHA9105	29/10/05	2262
28	RFI/FIELD Iintensity Meter	Kyorits	KNM-504D	07/07/06	SN-161-4
29	Frequency Converter	Kyorits	KCV-604C	07/07/06	4-230-3
30	TEMP & HUMIDITY Chamber	JISCO	J-RHC2	13/09/06	021031
31	Log Periodic Antenna	Schwarzbeck	UHALP9108A1	29/10/05	1098
32	Biconical Antenna	Schwarzbeck	VHA9103	29/10/05	VHA91031946
33	Digital Multimeter	H.P	34401A	18/04/06	3146A13475
34	Attenuator (10dB)	WEINSCHEL	23-10-34	21/10/06	BP4386
35	High-Pass Filter	ANRITSU	MP526	12/05/06	M27756
36	Attenuator (3dB)	Agilent	8491B	21/10/06	58177
37	Amplifier (25dB)	Agilent	8447D	18/04/06	2944A10144
38	Position Controller	TOKIN	5901T	N/A	14173
39	Driver	TOKIN	5902T2	N/A	14174
40	Spectrum Analyzer	H.P	8591E	18/04/06	3649A05889
41	RFI/FIELD Intensity Meter	Kyorits	KNW-2402	04/07/06	4N-170-3
42	LISN	Kyorits	KNW-407	11/08/06	8-317-8
43	LISN	Kyorits	KNW-242	11/08/06	8-654-15
44	CVCF	NF Electronic	4400	N/A	344536 4420064
45	Software	ToYo EMI	EP5/RE	N/A	Ver 2.0.800
46	Software	ToYo EMI	EP5/CE	N/A	Ver 2.0.801
47	Software	AUDIX	e3	N/A	Ver 3.0
48	Software	Agilent	Benchlink	N/A	A.01.09 021211

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5. EMISSION DESIGNATOR

GSM850

Emission Designator = 255KGXW

GSM BW = 255KHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

(Measured at the 99.75% power bandwidth)

PCS1900

Emission Designator = 257KGXW

GSM BW = 257 KHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

(Measured at the 99.75% power bandwidth)

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6. CONCLUSION

The data collected shows that the **Telian Corporation.** Dual band GSM phone **FCC ID: NPQFX2000xg** complies with all the requirements of Parts 2 , 22 and 24 of the FCC rules.

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