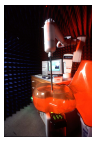
PCTEST ENGINEERING LABORATORY, INC.
6660-B Dobbin Road, Columbia, MD 21045 USA
Tel. 410.290.6652 / Fax 410.290.6554
http://www.pctestlab.com



CERTIFICATE OF COMPLIANCE
FCC Part 24 Certification

Applicant Name:
NEC Corporation of America
Radio Communications Systems Division
6535 N. State Highway 161
Irving, TX 75039 USA

Date of Testing:
April 04, 2008
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Test Report Serial No.:
0804030401.A98

FCC ID:	**A98-7N2P11**
APPLICANT:	**NEC CORPORATION OF AMERICA**

Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§2; §24(E)
EUT Type:	PCS GSM/GPRS Phone with RFID
Model(s):	FOMA N706i
Tx Frequency Range:	1850.20 - 1909.80MHz (PCS GSM)
Max. RF Output Power:	1.991 W EIRP PCS GSM (32.99 dBm)
Emission Designator(s):	241KGXW (PCS GSM)
Test Device Serial No.:	*identical prototype* [S/N: 004401200240477]

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.

Grant Conditions: Power output listed is EIRP for Part 24. This device also contains functions that are not operational in U.S. territories. This report is applicable only to U.S. operations.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.

Randy Ortanez
President

ACCREDITED
TESTING LABORATORY
CERTIFICATE #2041.01

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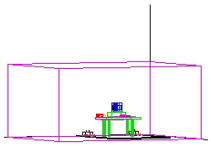
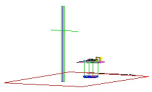


MEASUREMENT REPORT
FCC Part 24



§2.1033 General Information

APPLICANT:	NEC Corporation of America
APPLICANT ADDRESS:	Radio Communications Systems Division 6535 N. State Highway 161
TEST SITE:	PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS:	6660-B Dobbin Road, Columbia, MD 21045 USA
FCC RULE PART(S):	§2; §24(E)
BASE MODEL:	FOMA N706i
FCC ID:	A98-7N2P11
FCC CLASSIFICATION:	PCS Licensed Transmitter Held to Ear (PCE)
EMISSION DESIGNATOR(S):	241KGXW (PCS GSM)
MODE:	GSM
FREQUENCY TOLERANCE:	±0.00025 % (2.5 ppm)
Test Device Serial No.:	004401200240477 ☐ Production ☒ Pre-Production ☐ Engineering
DATE(S) OF TEST:	April 04, 2008
TEST REPORT S/N:	0804030401.A98

Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21045, U.S.A.

- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (IC-2451).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules.
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (IC-2451) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.

1.0 INTRODUCTION

1.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (see Figure 1-1). 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 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. This level is recorded. The difference between the gain of the horn and an isotropic antenna are taken into consideration.

Deviation from Measurement Procedure……..None

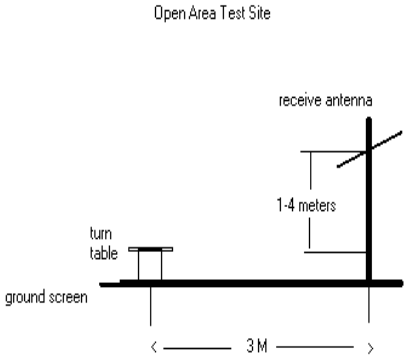


Figure 1-1. Diagram of 3-meter outdoor test range

1.2 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.

1.3 Testing Facility

These measurements were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2003 on January 27, 2006 and Industry Canada.

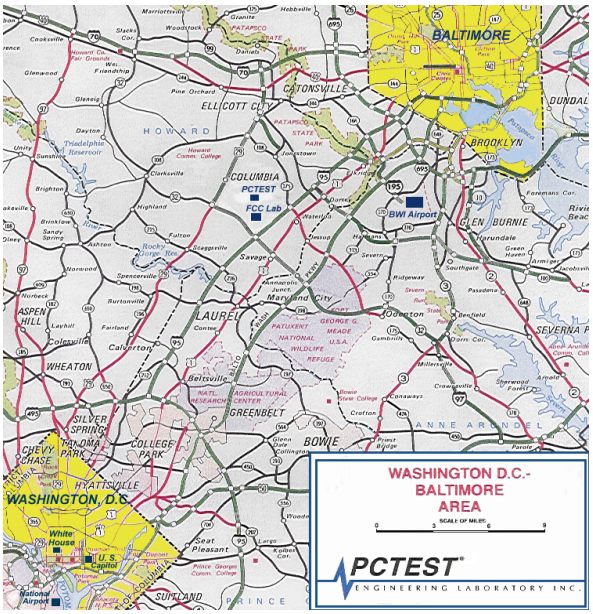


Figure 1-2. Map of the Greater Baltimore and Metropolitan Washington, D.C. area.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **NEC PCS GSM/GPRS Phone with RFID FCC ID: A98-7N2P11**. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
NEC / Model: FOMA N706i	A98-7N2P11	PCS GSM/GPRS Phone with RFID

Table 2-1. EUT Equipment Description

2.2 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

2.3 Labeling Requirements

Per 2.925

The FCC identifier shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.

Per 15.19; Docket 95-19

In addition to this requirement, a device subject to certification shall be labeled as follows:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(b)(2).

Please see attachment for FCC ID label and label location.

3.0 DESCRIPTION OF TESTS

3.1 Occupied Bandwidth Emission Limits

§2.1049, 24.238(a)

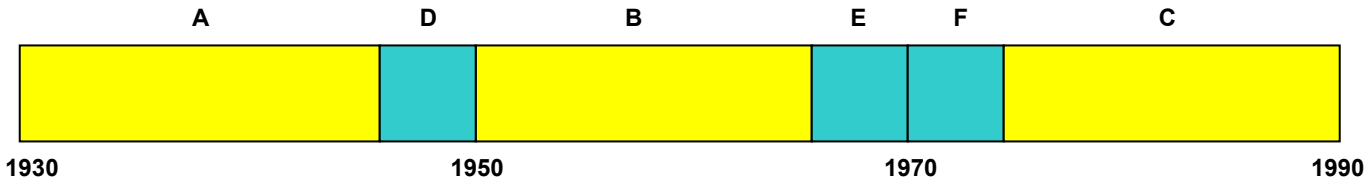
a. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB.

b. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz 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 26 dB 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.

d. 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.

3.2 PCS - Base Frequency Blocks



BLOCK 1: 1930 – 1945 MHz (A)

BLOCK 2: 1945 – 1950 MHz (D)

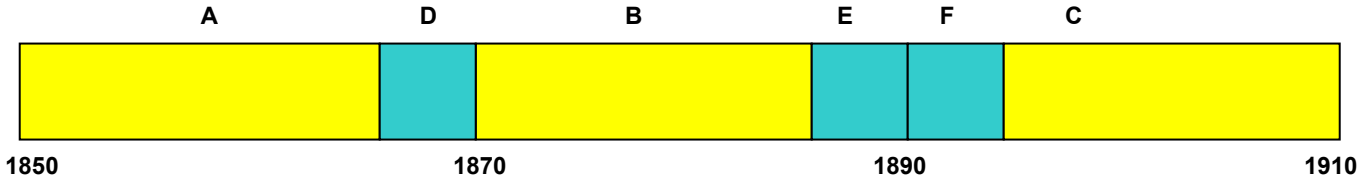
BLOCK 3: 1950 – 1965 MHz (B)

BLOCK 4: 1965 – 1970 MHz (E)

BLOCK 5: 1970 – 1975 MHz (F)

BLOCK 6: 1975 – 1990 MHz (C)

3.3 PCS - Mobile Frequency Blocks



BLOCK 1: 1850 – 1865 MHz (A)

BLOCK 2: 1865 – 1870 MHz (D)

BLOCK 3: 1870 – 1885 MHz (B)

BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 5: 1890 – 1895 MHz (F)

BLOCK 6: 1895 – 1910 MHz (C)

3.4 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, 24.238(a); RSS-133 (6.5.1)

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 a frequency including its 10th harmonic.

3.5 Radiated Spurious and Harmonic Emissions

§2.1053, 24.238(a); RSS-133 (6.5.1(i))

Spurious and harmonic radiated 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. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. A horn antenna was substituted in place of the EUT. This horn 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. The difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested in all configurations and the highest power is reported in GSM mode with a PCL of "0".

3.6 Frequency Stability / Temperature Variation

§2.1055, 24.235; RSS-133 (6.3)

The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

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% (±2.5 ppm) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).

2. 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 is made within one minute after applying power to the transmitter.

3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

4.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

Manufacturer	Model / Equipment	Calibration Date	Cal Interval	Calibration Due	Serial No.
-	263-10dB (DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
-	No.165 (30MHz - 1000MHz) RG58 Coax Cable	N/A		N/A	N/A
-	No.166 (1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167 (100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Agilent	8648D (9kHz-4GHz) Signal Generator	10/11/07	Biennial	10/10/09	3613A00315
Agilent	E4407B ESA Spectrum Analyzer	04/29/07	Annual	04/28/08	US39210313
Agilent	E4448A (3Hz-50GHz) Spectrum Analyzer	10/01/07	Annual	10/01/08	US42510244
Agilent	E5515C Wireless Communications Test Set	10/06/06	Biennial	10/05/08	GB43193972
Agilent	E5515C Wireless Communications Test Set	06/08/07	Biennial	06/08/09	GB46310798
Agilent	E5515C Wireless Communications Test Set	08/31/07	Biennial	08/30/09	GB41450275
Agilent	E6651A Mobile WiMAX Tester	08/23/07	Biennial	08/22/09	MY47310109
Agilent	E8257D (250kHz-20GHz) Signal Generator	03/08/07	Biennial	03/08/09	MY45470194
Agilent	HP 11713A Attenuation/Switch Driver	12/13/07	Annual	12/13/08	3439A02645
Agilent	HP 8449B (1-26.5GHz) Pre-Amplifier	12/13/07	Annual	12/12/08	3008A00985
Agilent	HP 8495A (0-70dB) DC-4GHz Attenuator	N/A		N/A	N/A
Agilent	HP 8566B (100Hz–22GHz) Spectrum Analyzer	12/13/07	Annual	12/13/08	3638A08713
Agilent	HP 8591A (9kHz-1.8GHz) Spectrum Analyzer	09/18/07	Annual	09/18/08	3144A02458
Agilent	HP 8901A Modulation Analyzer	06/18/07	Annual	06/18/08	2432A03467
Agilent	HP 8903 B Audio Analyzer	06/01/07	Annual	06/01/08	3011A09025
Compliance Design	Roberts Dipole Set	11/09/07	Biennial	11/08/09	146
Compliance Design	Roberts Dipole Set	11/09/07	Biennial	11/08/09	147
EMCO	3116 Horn Antenna (18 - 40GHz)	08/25/05	Triennial	08/24/08	9203-2178
EMCO	3816/2 LISN	08/09/06	Biennial	08/08/08	9707-1077
EMCO	3816/2 LISN	08/09/06	Biennial	08/08/08	9707-1079
EMCO	Dipole Pair	09/20/06	Biennial	09/19/08	23951
EMCO	Model 3115 (1-18GHz) Horn Antenna	09/24/07	Biennial	09/23/09	9704-5182
EMCO	Model 3115 (1-18GHz) Horn Antenna	10/04/07	Biennial	10/03/09	9205-3874
Gigatronics	80701A (0.05-18GHz) Power Sensor	04/20/07	Annual	04/19/08	1835299
Gigatronics	80701A (0.05-18GHz) Power Sensor	06/22/07	Annual	06/21/08	1833460
Gigatronics	8651A (50MHz-18GHz)	04/20/07	Annual	04/19/08	1834052
Gigatronics	8651A Universal Power Meter	06/22/07	Annual	06/21/08	8650319
K & L	11SH10 Band Pass Filter	N/A	Annual	N/A	1300/4000
K & L	11SH10 Band Pass Filter	N/A	Annual	N/A	4000/12000
MiniCircuits	VHF-1300+ High Pass Filter	N/A		N/A	30716
MiniCircuits	VHF-3100+ High Pass Filter	N/A		N/A	30721
Pasternack	PE2208-6 Bidirectional Coupler	N/A		N/A	N/A
Rohde & Schwarz	CMU200 Base Station Simulator	05/24/07	Annual	05/23/08	836371/079
Rohde & Schwarz	CMU200 Base Station Simulator	09/07/07	Annual	09/06/08	833855/010
Rohde & Schwarz	CMU200 Base Station Simulator	12/06/07	Annual	12/05/08	107826
Rohde & Schwarz	NRVD Dual Channel Power Meter	12/11/06	Biennial	12/10/08	101695
Rohde & Schwarz	NRVS Power Meter	07/03/07	Biennial	07/02/09	835360/079
Rohde & Schwarz	NRV-Z32 Peak Power Sensor (100uW-2W)	12/21/06	Biennial	12/20/08	100155
Rohde & Schwarz	NRV-Z33 Peak Power Sensor (1mW-20W)	11/28/06	Biennial	11/27/08	100004
Rohde & Schwarz	NRV-Z53 Power Sensor	07/03/07	Biennial	07/02/09	846076/007
Schwarzbeck	UHA9105 Dipole Antenna (400 - 1GHz) Rx	06/19/07	Biennial	06/18/09	91052404
Schwarzbeck	UHA9105 Dipole Antenna (400 - 1GHz) Tx	06/19/07	Biennial	06/18/09	91052403
SOLAR	8012-50 LISN (2)	11/08/07	Biennial	11/07/09	0310233, 0310234

Table 4-1. Test Equipment

5.0 SAMPLE CALCULATIONS

Emission Designator

Emission Designator = 250KGXW

GSM BW = 250 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

Spurious Radiated Emission - PCS Band

Example: Channel 512 PCS Mode 2nd Harmonic (3700.40 MHz)

The receive analyzer reading at 3 meters with the EUT on the turntable was –81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of –81.0 dBm on the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of –30.9 dBm yielding –24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm – (-24.80) = 50.3 dBc.

6.0 TEST RESULTS

6.1 Summary

Company Name: NEC Corporation of America

FCC ID: A98-7N2P11

FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)

Mode(s): GSM

FCC Part Section(s)	RSS Section	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)						
2.1049, 24.238(a)	N/A	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.0
2.1051, 24.238(a)	RSS-133 (6.5.1)	Band Edge / Conducted Spurious Emissions	< 43 + $\log_{10}$ (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Section 7.0
2.1046	N/A	Transmitter Conducted Output Power	N/A		PASS	Section 6.2
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	RADIATED	PASS	Section 6.3
2.1053, 24.238(a)	RSS-133 (6.5.1)	Undesirable Emissions	< 43 + $\log_{10}$ (P[Watts]) for all out-of-band emissions		PASS	Section 6.4
2.1055, 24.235	RSS-133 (6.3)	Frequency Stability	< 2.5 ppm	CONDUCTED	PASS	Section 6.5
RECEIVER MODE (RX) / DIGITAL EMISSIONS						
15.107	RSS-Gen (7.2.2)	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits or < RSS-Gen table 2 limits	LINE CONDUCTED	PASS	Pt. 15B Test Report
15.109	RSS-133(6.7(a) / [RSS-Gen (7.2.2)] / RSS-210 (7.3)	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.209 limits or < RSS-210 table 3 limits	RADIATED (30MHz-1GHz) (1-25 GHz)	PASS	Pt. 15B Test Report
RF EXPOSURE						
2.1091 / 2.1093	RSS-102	SAR Test	1.6 W/kg (SAR Limit)	SAR	PASS	SAR Report

Table 6-1. Summary of Test Results

6.2 Conducted Output Power

§2.1046

A base station simulator (Rhode and Schwartz Model: CMU200) was used to establish communication with the **NEC PCS GSM/GPRS Phone with RFID FCC ID: A98-7N2P11**. The base station simulator parameters were set to produce the maximum power from the EUT. This device was tested in all configurations and the highest power is reported in GSM mode with a PCL of "0". The powers are reported below.

Band	Channel	GSM		GPRS	
		Power Control Level	Conducted Power	Uplink / Downlink Slots Used	Conducted Power
			[dBm]		[dBm]
PCS	512	0	30.45	1/1	30.34
	661	0	30.25	1/1	30.16
	810	0	30.09	1/1	30.08

Table 6-2. GSM Conducted Output Powers

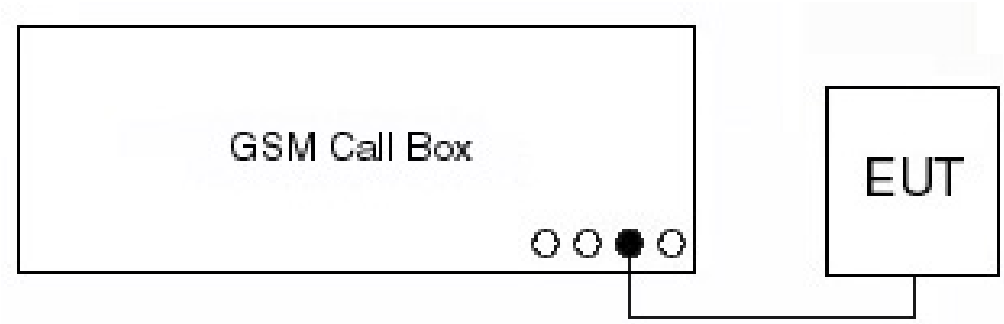


Figure 6-1. GSM Conducted Power Test Setup Diagram

6.3 Equivalent Isotropic Radiated Power Output Data

§24.232(c); RSS-133 (6.4) [SRSP-510 (5.1.2)]

POWER: PCL "0" (PCS GSM Mode)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1850.20	GSM1900	-7.720	24.99	8.00	H	32.99	1.991	Standard
1880.00	GSM1900	-7.750	24.96	8.00	H	32.96	1.977	Standard
1909.80	GSM1900	-7.740	24.97	8.00	H	32.97	1.982	Standard

Table 6-3. Equivalent Isotropic Radiated Power Output Data

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 = 5 MHz. 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 in all configurations and the highest power is reported in GSM mode with a PCL of "0". This unit was tested with its standard battery.

6.4 PCS GSM Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	1850.20	MHz		
CHANNEL:	512			
MEASURED OUTPUT POWER:	32.990	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 (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3700.40	-47.21	9.85	-37.36	H	70.3
5550.60	-41.49	10.72	-30.78	H	63.8
7400.80	-88.04	11.60	-76.44	H	109.4
9251.00	-83.92	11.36	-72.57	H	105.6
11101.20	-82.59	12.74	-69.85	H	102.8

Table 6-4. Radiated Spurious Data (PCS GSM Mode – Ch. 512)

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 = 5 MHz. 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 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.

This device was tested in all configurations and the highest power is reported in GSM mode with a PCL of "0".This unit was tested with its standard battery.

PCS GSM Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	1880.00	MHz		
CHANNEL:	661			
MEASURED OUTPUT POWER:	32.990	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 (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-47.02	9.78	-37.24	H	70.2
5640.00	-39.52	10.92	-28.60	H	61.6
7520.00	-87.80	11.66	-76.14	H	109.1
9400.00	-84.29	11.56	-72.72	H	105.7
11280.00	-81.83	12.63	-69.20	H	102.2

Table 6-5. Radiated Spurious Data (PCS GSM Mode – Ch. 661)

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 = 5 MHz. 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 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.

This device was tested in all configurations and the highest power is reported in GSM mode with a PCL of "0". This unit was tested with its standard battery.

PCS GSM Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	1909.80	MHz		
CHANNEL:	810			
MEASURED OUTPUT POWER:	32.990	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 (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3819.60	-46.54	9.71	-36.83	H	69.8
5729.40	-42.05	11.12	-30.93	H	63.9
7639.20	-87.22	11.44	-75.78	H	108.8
9549.00	-84.46	11.73	-72.73	H	105.7
11458.80	-81.08	12.52	-68.55	H	101.5

Table 6-6. Radiated Spurious Data (PCS GSM Mode – Ch. 810)

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 = 5 MHz. 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 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.

This device was tested in all configurations and the highest power is reported in GSM mode with a PCL of "0". This unit was tested with its standard battery.

6.5 PCS GSM Frequency Stability Measurements

§2.1055, 24.235; RSS-133 (6.3)

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 661

REFERENCE VOLTAGE: 3.8 VDC

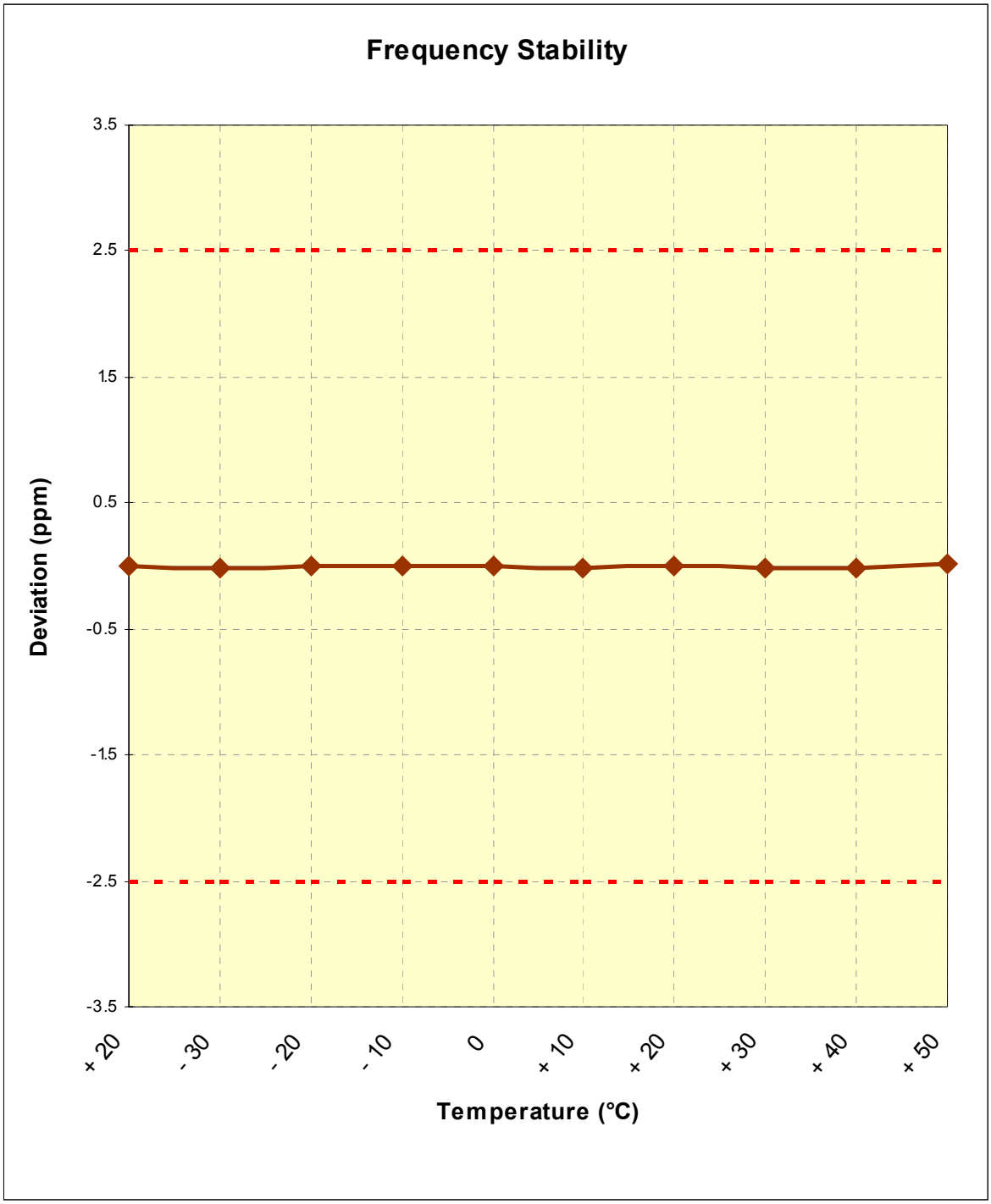
DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,879,999,986	-14	-0.000001
100 %		- 30	1,879,999,983	-17	-0.000001
100 %		- 20	1,879,999,988	-12	-0.000001
100 %		- 10	1,880,000,010	10	0.000001
100 %		0	1,880,000,015	15	0.000001
100 %		+ 10	1,879,999,983	-17	-0.000001
100 %		+ 20	1,879,999,986	-14	-0.000001
100 %		+ 30	1,879,999,979	-21	-0.000001
100 %		+ 40	1,879,999,982	-18	-0.000001
100 %		+ 50	1,880,000,017	17	0.000001
115 %	4.37	+ 20	1,879,999,984	-16	-0.000001
BATT. ENDPOINT	3.40	+ 20	1,879,999,976	-24	-0.000001

Table 6-7. Frequency Stability Data (PCS GSM Mode – Ch. 661)

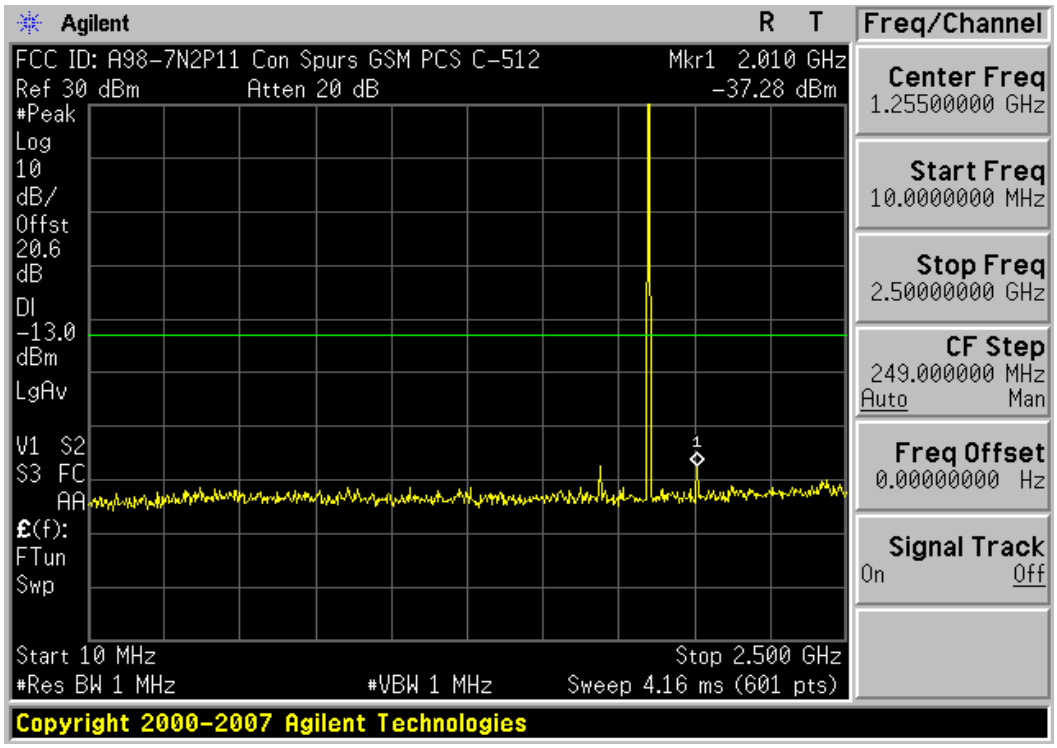
PCS GSM Frequency Stability Measurements (Cont'd)

§2.1055, 24.235; RSS-133 (6.3)

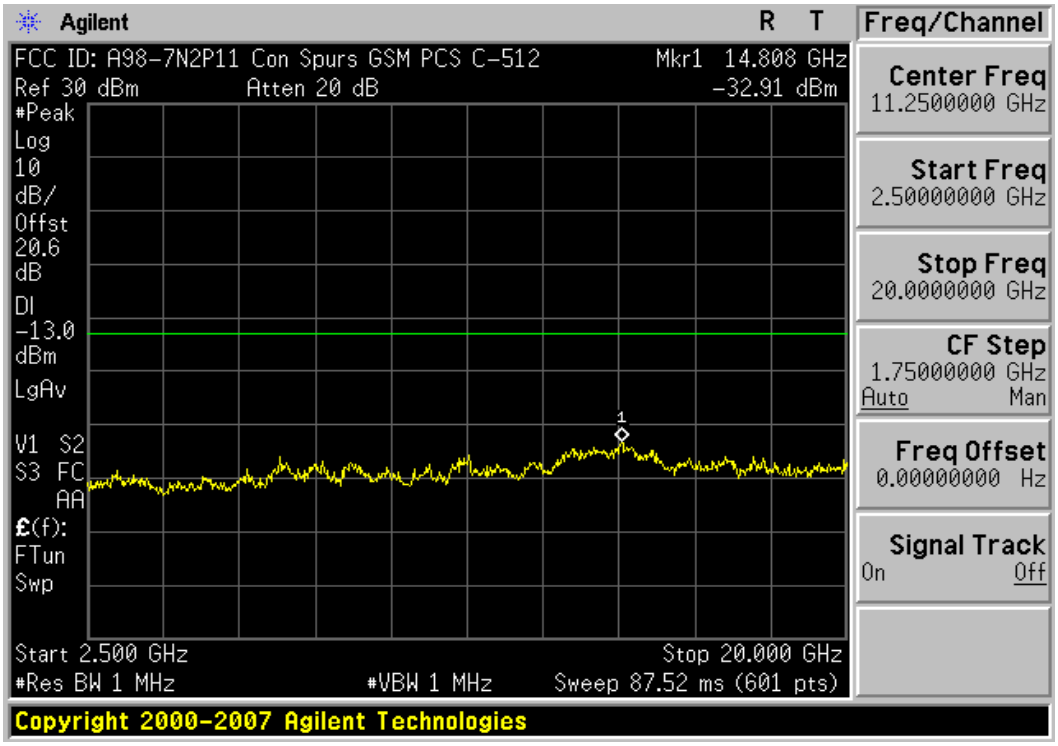


Plot 6-1. Frequency Stability Graph (PCS GSM Mode – Ch. 661)

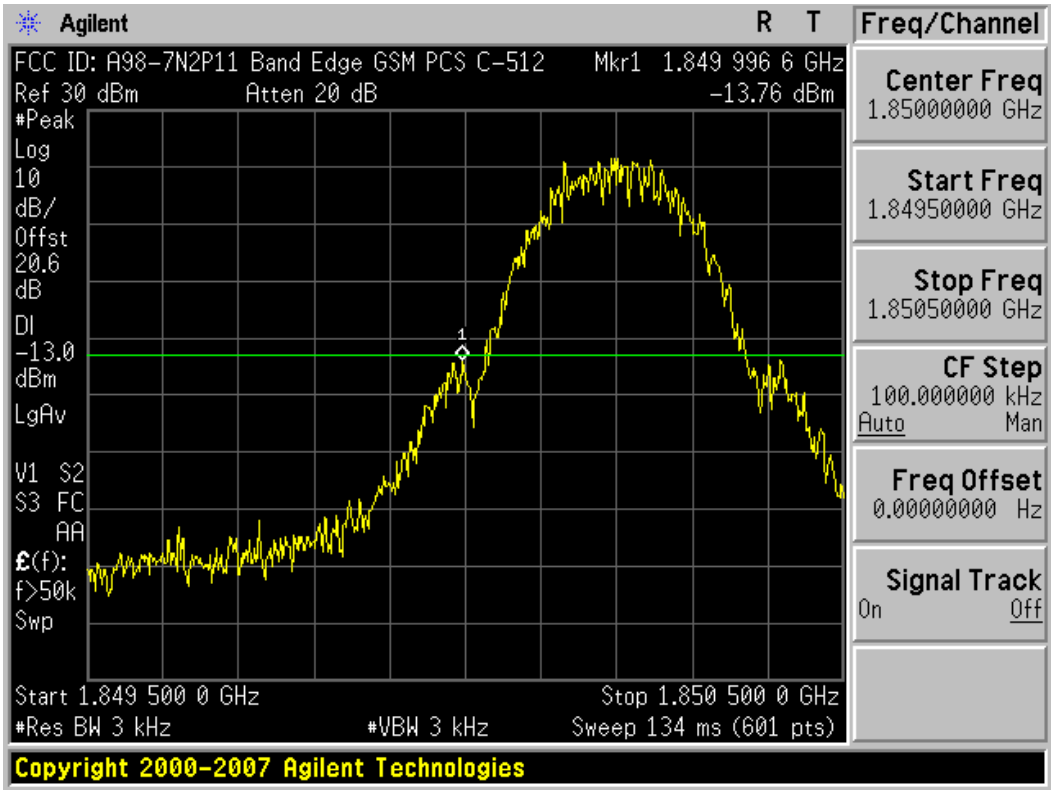
7.0 PLOTS OF EMISSIONS



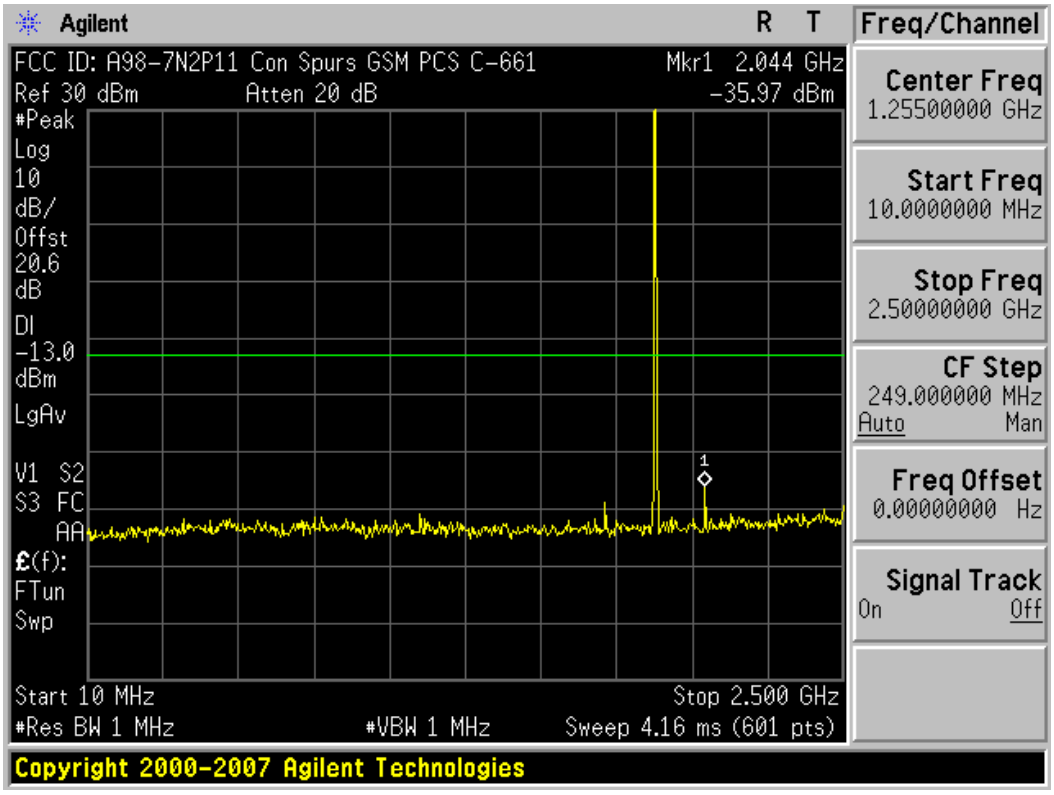
Plot 7-1. Conducted Spurious Plot (PCS GSM Mode – Ch. 512)



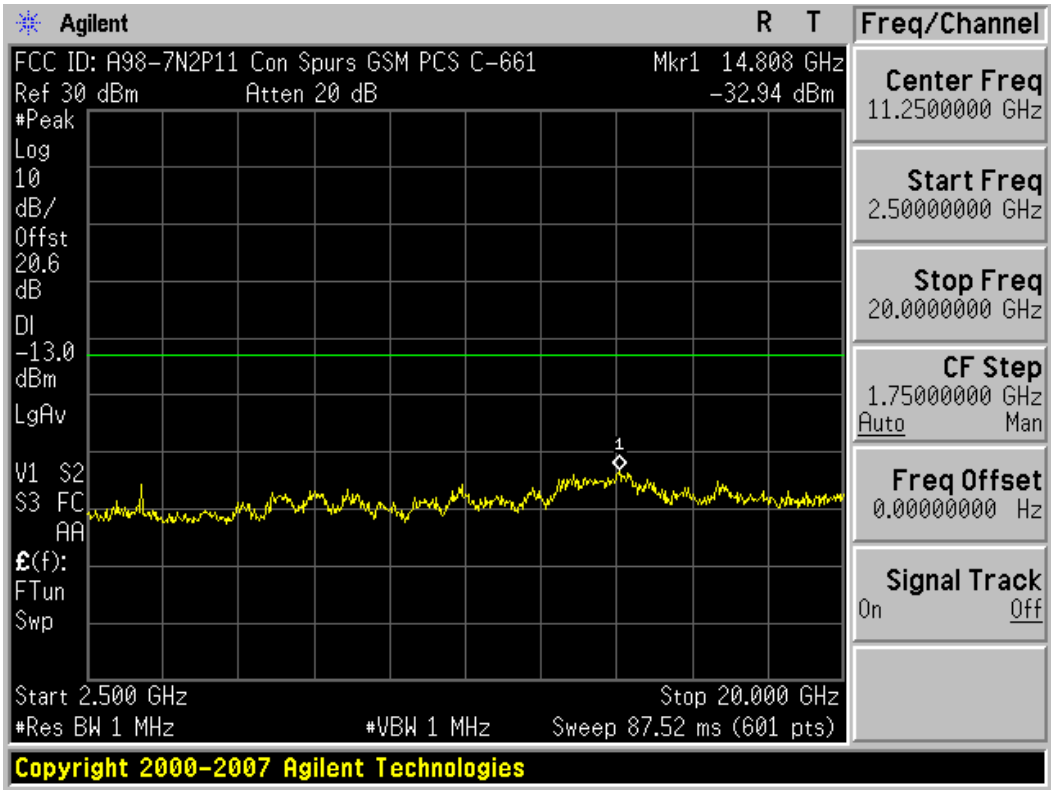
Plot 7-2. Conducted Spurious Plot (PCS GSM Mode – Ch. 512)



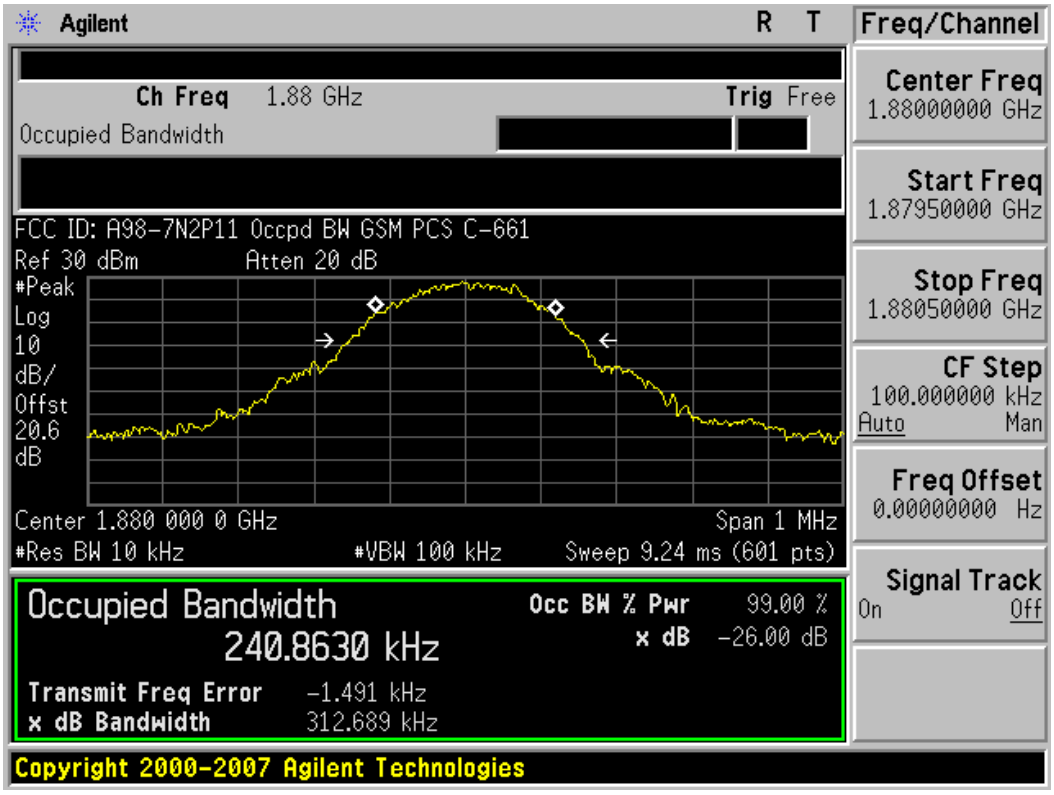
Plot 7-3. Band Edge Plot (PCS GSM Mode – Ch. 512)



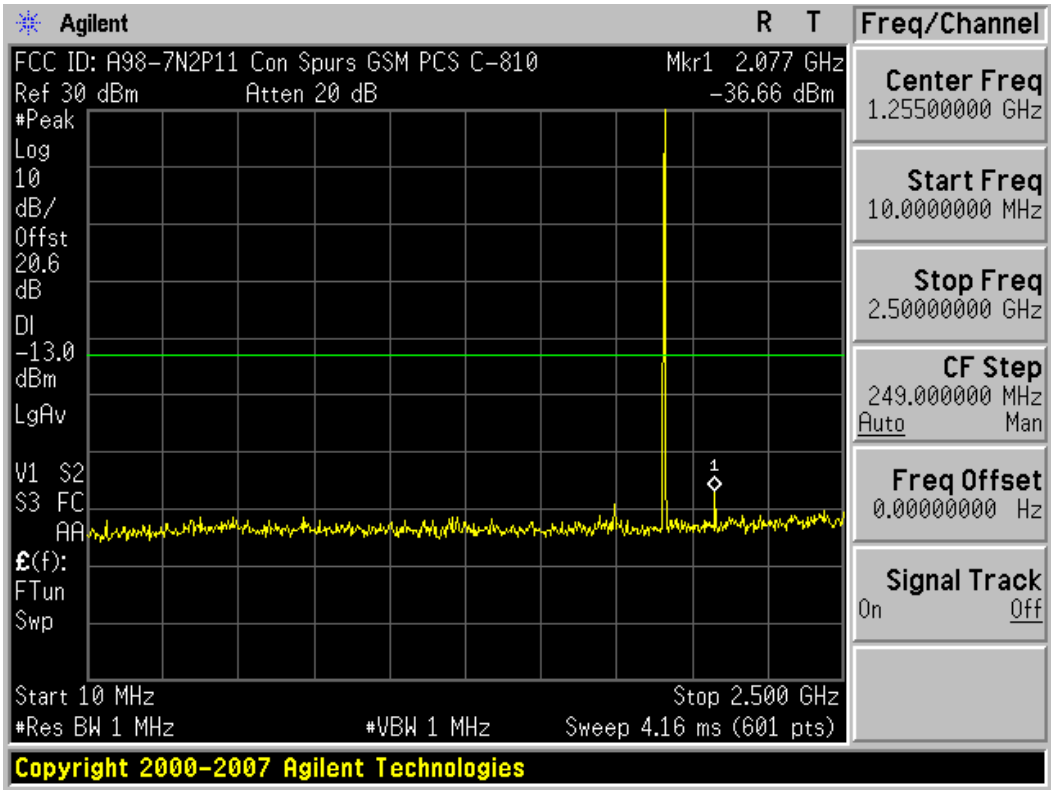
Plot 7-4. Conducted Spurious Plot (PCS GSM Mode – Ch. 661)



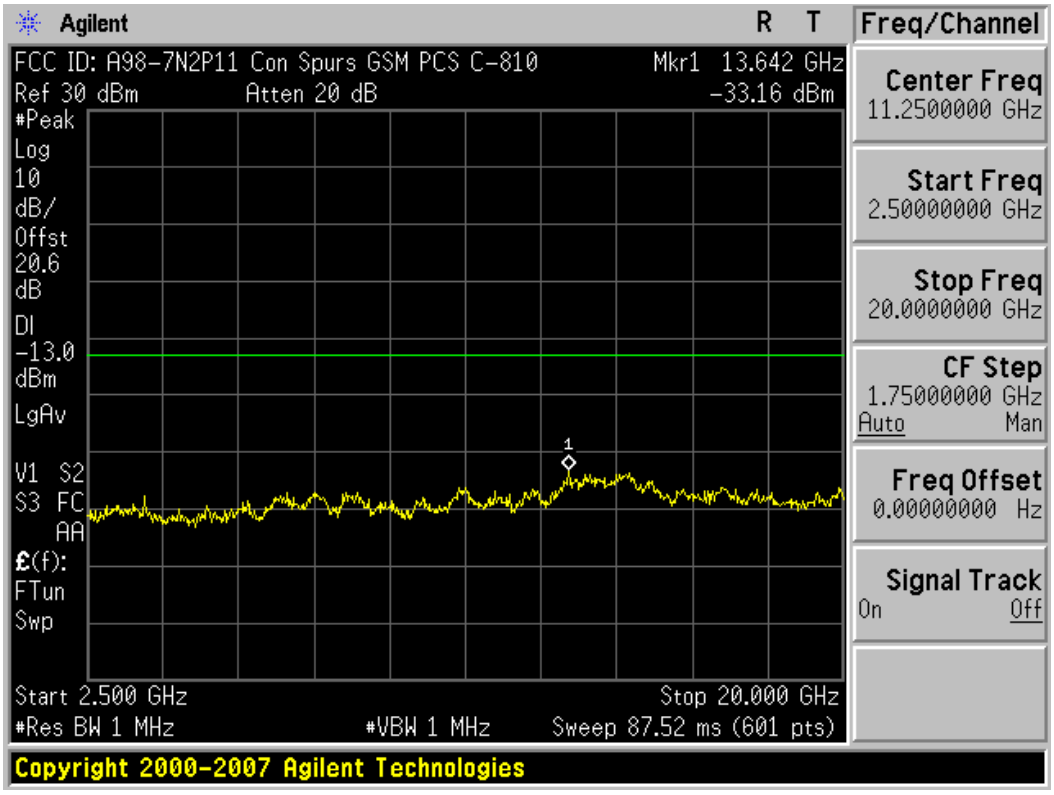
Plot 7-5. Conducted Spurious Plot (PCS GSM Mode – Ch. 661)



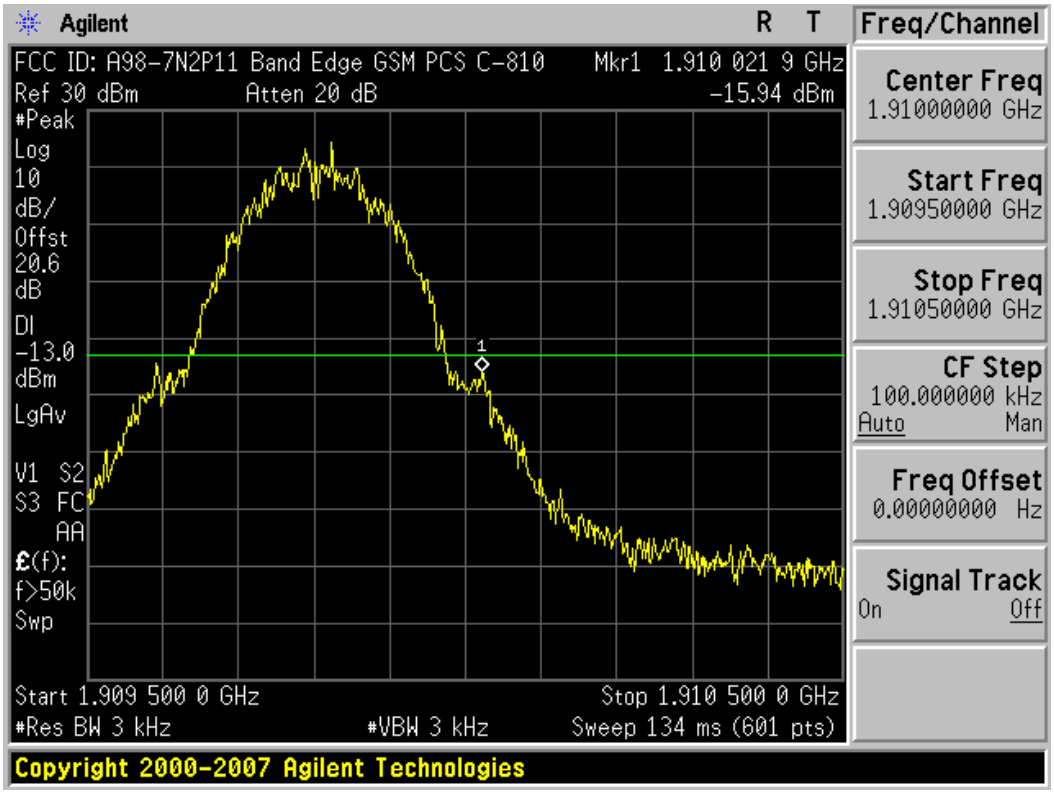
Plot 7-6. Occupied Bandwidth Plot (PCS GSM Mode – Ch. 661)



Plot 7-7. Conducted Spurious Plot (PCS GSM Mode – Ch. 810)



Plot 7-8. Conducted Spurious Plot (PCS GSM Mode – Ch. 810)



Plot 7-9. Band Edge Plot (PCS GSM Mode – Ch. 810)

8.0 CONCLUSION

The data collected show that the **NEC PCS GSM/GPRS Phone with RFID FCC ID: A98-7N2P11** complies with all the requirements of Parts 2 and 24 of the FCC rules.