M. Flom Associates, Inc.
International Compliance Testing Laboratory
3356 N. San Marcos Place, Suite 107
Chandler, AZ 85225
toll-free: (866) 311-3268
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http://www.mflom.com
info@mflom.com

Transmitter Certification

of

Model: Signature, Type: RHV-2

FCC ID: P7QRHV-2

to

Federal Communications Commission

Rule Part(s) 24E

Date Of Report: August 11, 2005 (amended September 23, 2005)

On the Behalf of the Applicant:

Vertu Ltd.

At the Request of: P.O. J93-9215867

Vertu Ltd.
Beacon Hill Road
Church Crookham, Hampshire GU52 8DY UK

Attention of: Mark Pope, Certification and Compliance Manager
+44 1252 611135; FAX: -611302
Mobile: +44 7774 8158594
mark.pope@vertu.com

Supervised By: David E. Lee, Quality Assurance Manager

List of Exhibits
(FCC **Certification** (PCS Transmitters) - Revised 9/28/98)

Applicant: Vertu Ltd.

FCC ID: P7QRHV-2

By Applicant:

1. Letter of Authorization

2. Identification Drawings, 2.1033(c)(11)
   - Id Label
   - Location of Label
   - Compliance Statement
   - Location of Compliance Statement

3. Photographs, 2.1033(c)(12)

4. Confidentiality Request: 0.457 And 0.459

5. Documentation: 2.1033(c)
   - (3) User Manual
   - (9) Tune Up Info
   - (10) Schematic Diagram
   - (10) Circuit Description
   - Block Diagram
   - Parts List
   - Active Devices

By M.F.A. Inc.

A. Testimonial & Statement of Certification

The Applicant has been cautioned as to the following:

15.21 Information to User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

Table of Contents

Required information per ISO/IEC Guide 25-1990, paragraph 13.2:

a) **Test Report**

b) Laboratory: (FCC: 31040/SIT) (Canada: IC 2044)	M. Flom Associates, Inc. 3356 N. San Marcos Place, Suite 107 Chandler, AZ 85225
c) Report Number:	d0580008
d) Client:	Vertu Ltd. Beacon Hill Road Church Crookham, Hampshire GU52 8DY UK

e) Identification:	Signature Series:	s01352	RHV-2 (Steel)	165024/4
	FCC ID: P7QRHV2	s01353	RHV-2 (Steel)	165022/8
		s01354	RHV-2 (Gold)	165000/4
Description:	GPRS/GSM Phone			

f) EUT Condition:	Not required unless specified in individual tests.
g) Report Date: EUT Received:	August 11, 2005 August 8, 2005
h, j, k):	As indicated in individual tests.
i) Sampling method:	No sampling procedure used.
l) Uncertainty:	In accordance with MFA internal quality manual.
m) Supervised by:	David E. Lee, Quality Assurance Manager
n) Results:	The results presented in this report relate only to the item tested.
o) Reproduction:	This report must not be reproduced, except in full, without written permission from this laboratory.

Accessories:	s01355	AC Charger	ACP-12UV	Serial # 00858	Inc cable CAV-A
	s01356	Data Cable	DLV-A	Serial # 073026008382A39	
	s01357	DC Power Lead	LCV-A	Serial # 020954	Inc cable CAV-A
	s01358	Stand	DTV-A	nsn	
	s01359	Headset	HSV-B	nsn	
	s01360/61	Battery	BLZ-2	nsn	

List of General Information Required for Certification
In Accordance with FCC Rules and Regulations,
Volume II, Part 2, 24E and Confidentiality

Sub-Part 2.1033

(c)(1): **Name and Address of Applicant**:

Vertu Ltd.
Beacon Hill Road
Church Crookham, Hampshire GU52 8DY UK

Manufacturer:

Vertu Ltd.
Beacon Hill Road
Church Crookham, Hampshire GU52 8DY UK

(c)(2): **FCC ID**: P7QRHV-2

Model Number: Signature, Type: RHV-2

(c)(3): **Instruction Manual(s)**:

Please See Attached Exhibits

(c)(4): **Type of Emission**: 256KGXW

(c)(5): **FREQUENCY RANGE, MHz**: 1850 - 1910

(c)(6): **Power Rating, Watts**: 1.00

____ Switchable X Variable ____ N/A

(c)(7): **Maximum Power Rating, Watts**: 2.00

Additional Information Supplied by Applicant:

The Phone Model Signature is a solidly constructed, hand assembled and crafted product of unique design, designed for a low volume bespoken market.

The construction is such that the Engine module is shielded on both sides, which defines the performance of the phone, from an EMC perspective.

The frame of the phone is of a Solid metal construction; more commonly associated with watches/ jewelry etc. This compares with most phones, where plastics are more extensively used. The metal Bezel frames provide only secondary shielding from an EMC perspective

The mechanical construction of this phone is now proven, having previously been used on the Vertu Model: MMII product.

The specialty nature of this product, its high price and exclusivity, means that it will only ever be sold in Limited Volumes. This Luxury market presents high customer demands in terms of additional exclusivity and service. The materials used in the phone are somewhat unique, for example: Metals – various, Ceramics, Leathers, Saphire Glass, Diamond etc.

From a Test perspective, The Engineering models are (and can only from an economic point of view), be constructed from Entry Level Materials (largely Stainless Steel). This is possible as the performance of stainless steel, acting as secondary screening only, is no worse than when other materials are used.

For some exclusive customers, the Stainless Steal metal parts may be replaced by other Yellow and White metals – eg Gold/Silver/Platinum etc. Being a fashion item, correspondingly ceramics and leathers may also change be fitted in differing shades of Finish (Matte to Polished) and colors. All of these things may be in mix and match combination, with the Rule that Metal is only replaced by Metal, and Ceramic, by Ceramic.

The Most exclusive Customers may request the additional use of decorative diamonds, on the outer surface of the metals. This may be in different degrees to suit customer requirements and taste.

All of the above finishes will be sold using a single model Name: Signature, and FCCID: P7QRHV-2 to fulfill the requirements of this unique and very limited volume market, as they all offer the same performance and are electrically identical.

Subpart 2.1033 (continued)

(c)(8): Voltages & Currents in All Elements in Final RF Stage, Including Final Transistor or Solid State Device:

Collector Current, A	=	0.5
Collector Voltage, Vdc	=	3.6
Supply Voltage, Vdc	=	4.2 (Max)

(c)(9): **Tune-Up Procedure**:

Please See Attached Exhibits

(c)(10): **Circuit Diagram/Circuit Description**:

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please See Attached Exhibits

(c)(11): **Label Information**:

Please See Attached Exhibits

(c)(12): **Photographs**:

Please See Attached Exhibits

(c)(13): **Digital Modulation Description**:

___ Attached Exhibits
_X_ N/A

(c)(14): **Test and Measurement Data**:

Follows

Sub-part
2.1033(c)(14): **Test and Measurement Data**

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts:

_____	21 – Domestic Public Fixed Radio Services
_____	22 – Public Mobile Services
_____	22 Subpart H - Cellular Radiotelephone Service
_____	22.901(d) - Alternative technologies and auxiliary services
_____	23 – International Fixed Public Radiocommunication services
X	24 – Personal Communications Services
_____	74 Subpart H - Low Power Auxiliary Stations
_____	80 – Stations in the Maritime Services
_____	80 Subpart E - General Technical Standards
_____	80 Subpart F - Equipment Authorization for Compulsory Ships
_____	80 Subpart K - Private Coast Stations and Marine Utility Stations
_____	80 Subpart S - Compulsory Radiotelephone Installations for Small Passenger Boats
_____	80 Subpart T - Radiotelephone Installation Required for Vessels on the Great Lakes
_____	80 Subpart U - Radiotelephone Installations Required by the Bridge-to-Bridge Act
_____	80 Subpart V - Emergency Position Indicating Radiobeacons (EPIRB'S)
_____	80 Subpart W - Global Maritime Distress and Safety System (GMDSS)
_____	80 Subpart X - Voluntary Radio Installations
_____	87 – Aviation Services
_____	90 – Private Land Mobile Radio Services
_____	94 – Private Operational-Fixed Microwave Service
_____	95 Subpart A - General Mobile Radio Service (GMRS)
_____	95 Subpart C - Radio Control (R/C) Radio Service
_____	95 Subpart D - Citizens Band (CB) Radio Service
_____	95 Subpart E - Family Radio Service
_____	95 Subpart F - Interactive Video and Data Service (IVDS)
_____	97 - Amateur Radio Service
_____	101 – Fixed Microwave Services

Standard Test Conditions
and
Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-1992/2000, section 6.1.9, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst case measurements.

For PCS Equipment:

Pursuant to Section 24.51(d), the EUT complies with IEEE C95.1-1991, "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz."

The EUT uses digital modulation, as such, measurements of the modulation characteristics are not applicable. The applicant has provided a description of the modulation particular to the EUT.

Pursuant to Section 24.238(c), the EUT was tested at it's lowest and highest possible tuned frequencies.


THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

M. FLOM ASSOCIATES, INC.
Chandler, AZ

for technical competence in the field of

Electrical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing.

Presented this 16th day of June 2004.

President
For the Accreditation Council
Certificate Number 2152-01
Valid to August 31, 2006

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

A2LA

"A2LA has accredited M. Flom Associates, Inc. Chandler, AZ for technical competence in the field of Electrical Testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 – 1999 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Certificate Number: **2152-01**

Name of Test: EIRP Carrier Power (Radiated)

Specification: TIA/EIA 603(Substitution Method)

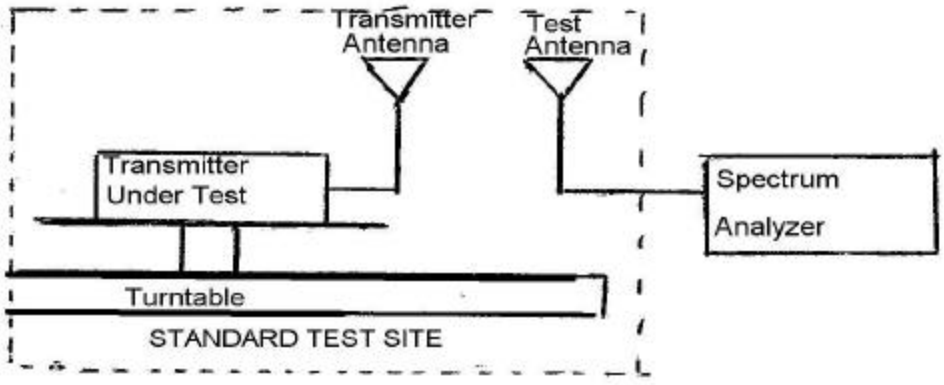
Measurement Procedure

Definition

The average radiated power of a licensed device is the equivalent power required, when delivered to a half-wave dipole or horn antenna, to produce at a distant point the same average received power as produced by the licensed device.

Method of Measurement:

A) Connect the equipment as illustrated. Place the transmitter to be tested on the turntable in the standard test site.



B) Raise and lower the test antenna from 1m to 6 m with the transmitter facing the antenna and record the highest received signal in dB as LVL.

C) Replace the transmitter under test with a half-wave or horn vertically polarized antenna. The center of the antenna should be at the same location as the transmitter under test. Connect the antenna to a signal generator with a known output power and record the path loss in dB or LOSS.

D) Calculate the radiated output power from the following:

$$\text{average radiated power} = 10 \log_{10} \text{Ó } 10^{(LVL - LOSS)/10} \text{ (dBm)}$$

Name of Test: EIRP Carrier Power (Radiated)

Test Equipment

	Asset	Description	s/n	Cycle	Last Cal
Transducer					
	i00088	EMCO 3109-B 25MHz-300MHz	2336	24 mo.	Sep-03
X	i00089	Aprel 2001 200MHz-1GHz	001500	24 mo.	Sep-03
X	i00103	EMCO 3115 1GHz-18GHz	9208-3925	24 mo.	Jan-04
Amplifier					
X	i00028	HP 8449A	2749A00121	12 mo.	May-05
Spectrum Analyzer					
X	i00029	HP 8563E	3213A00104	12 mo.	May-05
X	i00033	HP 85462A	3625A00357	12 mo.	Sep-04
Substitution Generator					
	i00067	HP 8920A Communication TS	3345U01242	12 mo.	Jun-05
X	i00207	HP 8753D Network Analyzer	3410A08514	12 mo.	Jul-05

Measurement Results

GSM / GPRS 1900

Frequency Tuned, MHz	Measured, dBm	Sub Gen, dBm	Sub Meter dBm	Path Loss, dB	Cable CF, dB	Ant, dBi	EIRP, dBm	EIRP, Watts
1850.200000	5.40	10.0	-12.2	22.2	2.78	5.1	29.9	0.977
1880.000000	3.90	10.0	-13.6	23.6	2.82	5.3	30.0	1.000
1909.800000	2.50	10.0	-14.1	24.1	2.87	5.5	29.2	0.832

EGPRS 1900

Frequency Tuned, MHz	Measured, dBm	Sub Gen, dBm	Sub Meter dBm	Path Loss, dB	Cable CF, dB	Ant, dBi	EIRP, dBm	EIRP, Watts
1850.200000	2.10	10.0	-12.2	22.2	2.78	5.1	26.6	0.457
1880.000000	0.90	10.0	-13.6	23.6	2.82	5.3	27.0	0.501
1909.800000	-0.80	10.0	-14.1	24.1	2.87	5.5	25.9	0.389

Performed By: Fred Chastain, Test Technician

Name of Test: Emission Masks (Occupied Bandwidth)

Specification: 47 CFR 2.1049(c)(1), 22

Measurement Procedure

A) The EUT and test equipment were set up as shown below

B) For EUTs supporting digital modulation, the digital modulation mode was operated to its maximum extent.

C) The Occupied Bandwidth was measured with the Spectrum Analyzer controls set as shown on the test results.

Test Equipment

The relevant equipment used during the test is listed below.

Directional Coupler Serial no. C-1530-10-U (0204)
RLC Electronics Calibration N/A

Directional Coupler Serial no. C-0510-10-U (0204)
RLC Electronics Calibration N/A

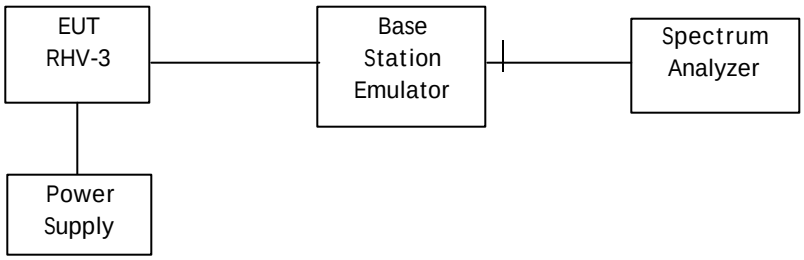
Base Station Emulator Serial no. 837727/006
Rohde & Schwarz CMU200 Calibrated 16 Dec, 2004 . Due 16 Dec, 2005

Spectrum Analyser Serial no. 3943A11206
Agilent 8563E Calibrated 29 Jun, 2003 Due 29 Jun, 2006

Name of Test: Emission Masks (Occupied Bandwidth)

Test Set-Up

The measurement equipment is set up as shown below.



Measurement Procedure

1) The EUT is connected via a conducted connection and placed in a call with random (worst case) modulation against the base station emulator.

   a) For PCS mid channel 661, Tx Power Control level 0 (max power).

2) The spectrum analyser is connected via the coupled RF port on the base station emulator.

3) The maximum power in 1 MHz RBW is measured.

4) The Occupied Bandwidth is measured via the 99% Power BW function on the spectrum analyser.

5) The channel is changed to low channel PCS - CH512.

6) The band edge emissions limit is checked in 1% RBW for compliance.

7) The channel is changed to the next band edge channel.

8) The band edge emissions limit is checked in 1% RBW for compliance.

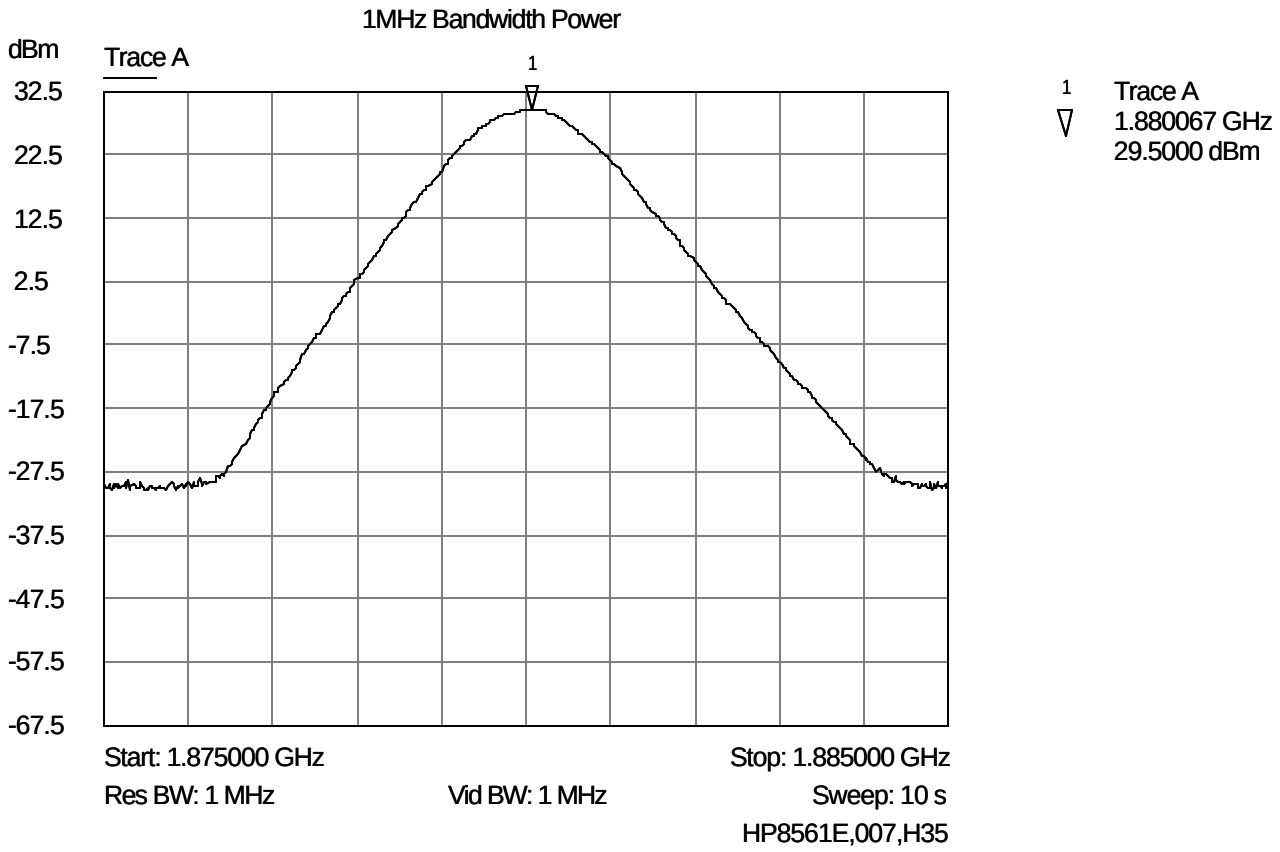
9) Repeat 7) & 8) up to the last band edge channel 810

10) The results are attached in the following pages.

Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

Applicant Supplied Data



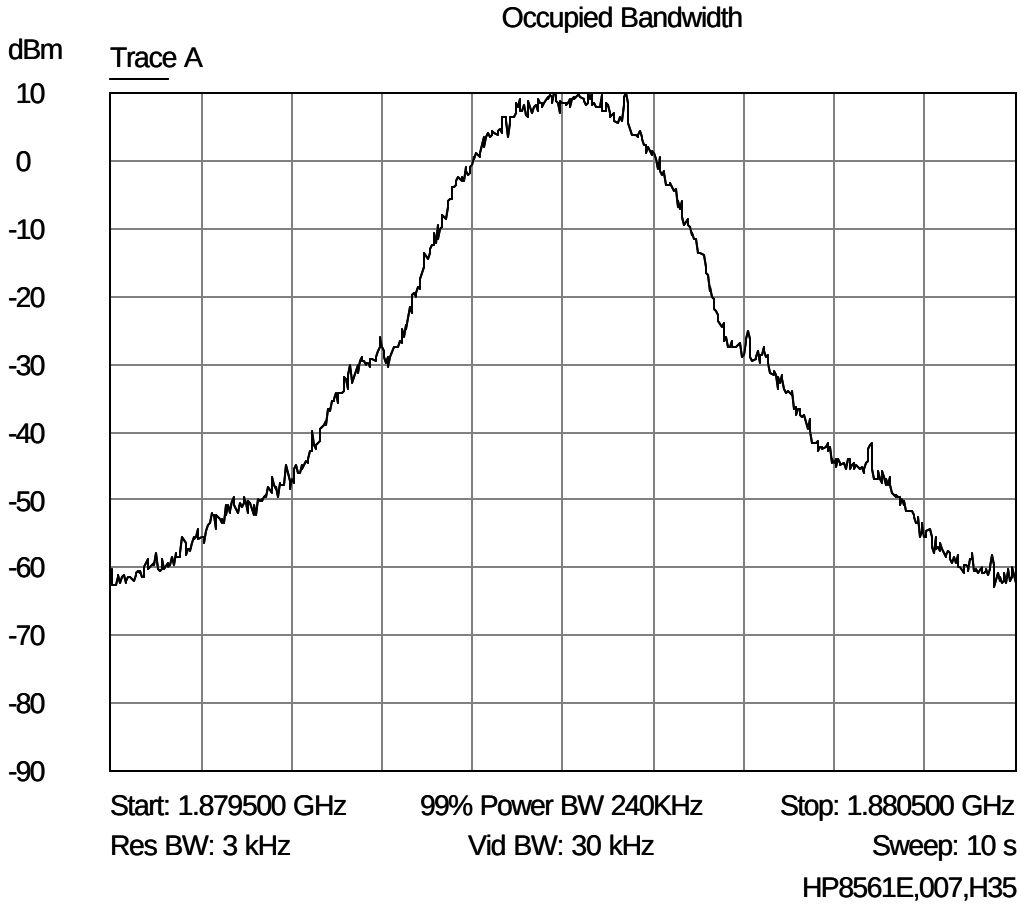
Power: HIGH POWER, REFERENCE IN 1MHz
Modulation: GSM 1900
MID CHANNEL

Verified by: David E. Lee, Quality Assurance Manager

Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

Applicant Supplied Data



Power: HIGH POWER
Modulation: GSM 1900
MID CHANNEL, 99% POWER BANDWIDTH

Verified by: David E. Lee, Quality Assurance Manager

Name of Test: Field Strength of Spurious Radiation

Specification: 47 CFR 2.1053(a)

Guide: ANSI/TIA/EIA-603-1992/2001, Paragraph 1.2.12 and Table 16, 47 CFR 22.917

Measurement Procedure

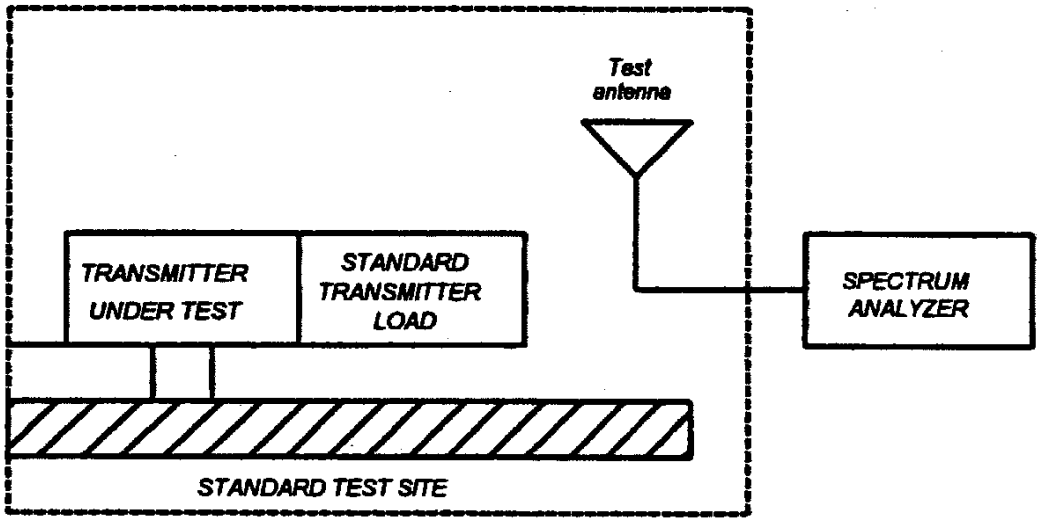
1.2.12.1 Definition: Radiated spurious emissions are emissions from the equipment when transmitting into a non-radiating load on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired.

1.2.12.2 Method of Measurement

A) Connect the equipment as illustrated

B) Adjust the spectrum analyzer for the following settings:
1) Resolution Bandwidth 100 kHz (<1 GHZ), 1 MHZ (> 1GHz).
2) Video Bandwidth = 3 times Resolution Bandwidth, or 30 kHz (22.917)
3) Sweep Speed ≤2000 Hz/second
4) Detector Mode = Mean or Average Power

C) Place the transmitter to be tested on the turntable in the standard test site. The transmitter is transmitting into a non-radiating load which is placed on the turntable. The RF cable to this load should be of minimum length.

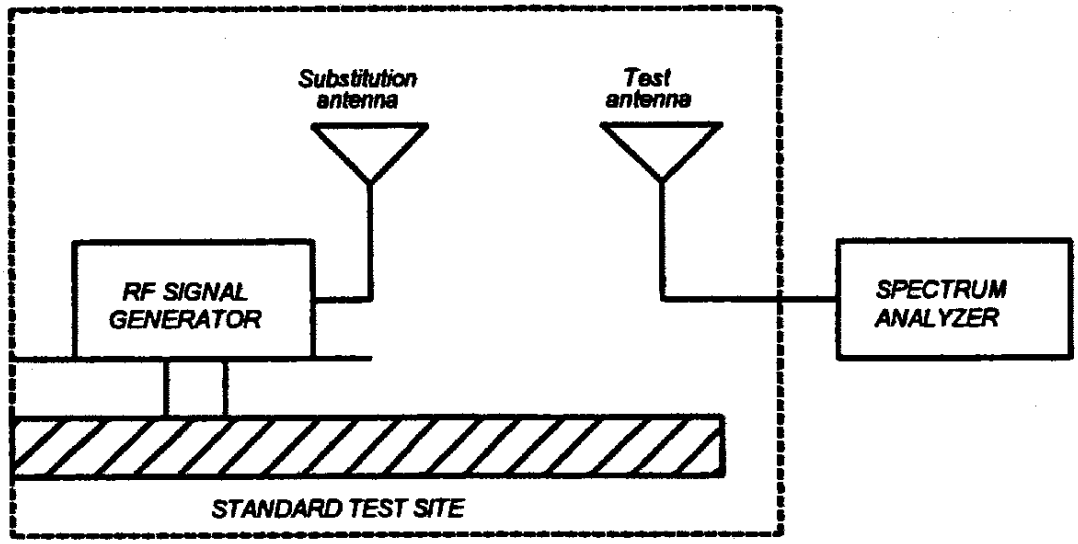


Name of Test: Field Strength of Spurious Radiation (Cont.)

D) For each spurious measurement the test antenna should be adjusted to the correct length for the frequency involved. This length may be determined from a calibration ruler supplied with the equipment. Measurements shall be made from the lowest radio frequency generated in the equipment to the tenth harmonic of the carrier, except for the region close to the carrier equal to ± the test bandwidth (see section 1.3.4.4).

E) For each spurious frequency, raise and lower the test antenna from 1 m to 4 m to obtain a maximum reading on the spectrum analyzer with the test antenna at horizontal polarity. Repeat this procedure to obtain the highest possible reading. Record this maximum reading.

F) Repeat step E) for each spurious frequency with the test antenna polarized vertically.



G) Reconnect the equipment as illustrated.

H) Keep the spectrum analyzer adjusted as in step B).

I) Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.3 m above the ground.

Name of Test: Field Strength of Spurious Radiation (Cont.)

J) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

K) Repeat step J) with both antennas vertically polarized for each spurious frequency.

L) Calculate power in dBm into a reference to isotropic by reducing the readings obtained in steps J) and K) by the power loss in the cable between the generator and the antenna and further corrected for the gain of the substitution antenna used.

M) The levels recorded in step L) are absolute levels of radiated spurious emissions in dBm. The radiated spurious emissions in dB can be calculated by the following:

Radiated spurious emissions dB =

$10\log_{10}$(TX power in watts/0.001) – the levels in step l)

NOTE: It is permissible that other antennas provided can be referenced to a dipole.

Test Equipment

	Asset	Description	s/n	Cycle	Last Cal
Transducer					
	i00088	EMCO 3109-B 25MHz-300MHz	2336	24 mo.	Sep-03
X	i00089	Aprel 2001 200MHz-1GHz	001500	24 mo.	Sep-03
X	i00103	EMCO 3115 1GHz-18GHz	9208-3925	24 mo.	Jan-04
Amplifier					
X	i00028	HP 8449A	2749A00121	12 mo.	May-05
Spectrum Analyzer					
X	i00029	HP 8563E	3213A00104	12 mo.	May-05
X	i00033	HP 85462A	3625A00357	12 mo.	Oct-04
Substitution Generator					
X	i00067	HP 8920A Communication TS	3345U01242	12 mo.	Jun-05
	i00207	HP 8753D Network Analyzer	3410A08514	12 mo.	Jun-05

Name of Test: Field Strength of Spurious Radiation

g0580044: 2005-Aug-09 Tue 11:41:00
State: 2: High Power GSM/GPRS

Frequency Tuned, MHz	Frequency Emission, MHz	Meter, dBuV	CF, dB	EIRP, dBm	Margin, dB
1850.200000	3700.350000	22.15	37.39	-35.7	-22.70
1880.000000	3760.000000	27.10	13.92	-54.2	-41.20
1909.800000	3819.600000	25.43	14.43	-55.4	-42.40
1850.200000	5550.550000	23.62	39.58	-32.0	-19.00
1880.000000	5640.000000	27.10	15.94	-52.2	-39.20
1909.800000	5729.400000	21.27	16.30	-57.7	-44.70
1850.200000	7400.800000	20.10	18.21	-56.9	-43.90
1880.000000	7520.000000	27.10	18.76	-49.4	-36.40
1909.800000	7639.200000	25.43	19.29	-50.5	-37.50
1850.200000	9251.000000	23.93	20.19	-51.1	-38.10
1880.000000	9400.000000	27.10	22.04	-46.1	-33.10
1909.800000	9549.000000	24.77	23.19	-47.3	-34.30
1850.200000	11101.200000	27.27	28.25	-39.7	-26.70
1880.000000	11280.000000	27.10	30.41	-37.7	-24.70
1909.800000	11458.800000	24.77	32.54	-37.9	-24.90
1850.200000	12951.400000	18.77	23.15	-53.3	-40.30
1880.000000	13160.000000	27.10	24.06	-44.1	-31.10
1909.800000	13368.600000	28.93	25.13	-41.2	-28.20
1850.200000	14801.600000	28.27	25.61	-41.3	-28.30
1880.000000	15040.000000	27.10	27.60	-40.5	-27.50
1909.800000	15278.400000	28.43	25.53	-41.3	-28.30
1850.200000	16651.800000	23.10	21.89	-50.2	-37.20
1880.000000	16920.000000	29.10	18.67	-47.5	-34.50
1909.800000	17188.200000	26.10	19.70	-49.4	-36.40

Performed By: Fred Chastain, Test Technician

Name of Test: Field Strength of Spurious Radiation

g0580045: 2005-Aug-09 Tue 12:13:00
State: 2: High Power EGPRS

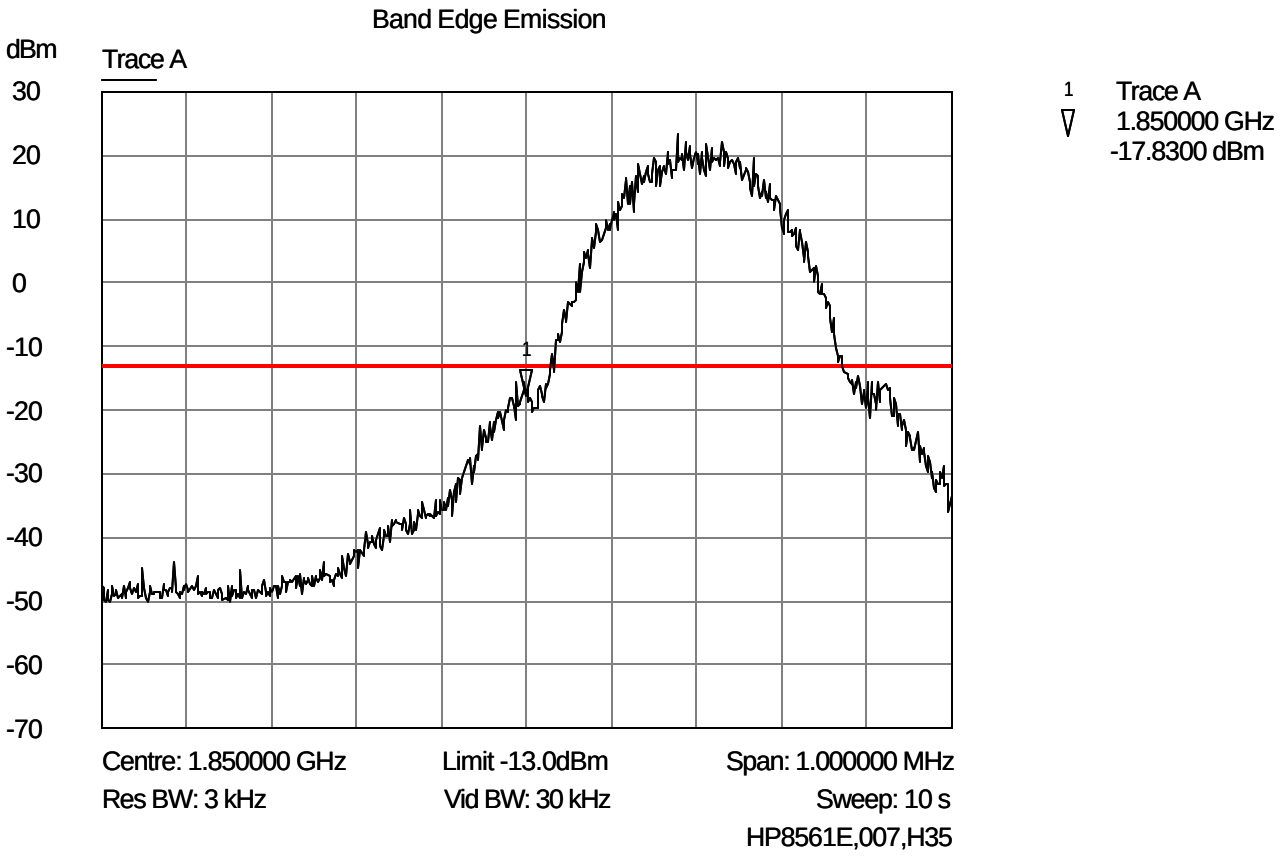
Frequency Tuned, MHz	Frequency Emission, MHz	Meter, dBuV	CF, dB	EIRP, dBm	Margin, dB
1850.200000	3700.333333	26.60	13.39	-55.20	-42.20
1880.000000	3759.933333	26.77	13.92	-54.50	-41.50
1909.800000	3819.533333	27.43	14.43	-53.40	-40.40
1850.200000	5550.533333	26.60	15.58	-53.00	-40.00
1880.000000	5639.933333	25.77	15.94	-53.50	-40.50
1909.800000	5729.333333	27.27	16.30	-51.70	-38.70
1850.200000	7400.733333	26.60	18.21	-50.40	-37.40
1880.000000	7519.933333	26.77	18.76	-49.70	-36.70
1909.800000	7639.133333	27.60	19.29	-48.30	-35.30
1850.200000	9250.933333	27.10	20.19	-47.90	-34.90
1880.000000	9399.933333	26.77	22.04	-46.40	-33.40
1909.800000	9548.933333	28.10	23.19	-43.90	-30.90
1850.200000	11101.133333	27.10	28.25	-39.90	-26.90
1880.000000	11279.933333	26.77	30.41	-38.00	-25.00
1909.800000	11458.733333	23.77	32.54	-38.90	-25.90
1850.200000	12951.333333	27.60	23.15	-44.50	-31.50
1880.000000	13159.933333	26.77	24.06	-44.40	-31.40
1909.800000	13368.533333	28.10	25.13	-42.00	-29.00
1850.200000	14801.533333	27.60	25.61	-42.00	-29.00
1880.000000	15039.933333	27.93	27.60	-39.70	-26.70
1909.800000	15278.333333	28.93	25.53	-40.80	-27.80
1850.200000	16651.733333	29.60	21.89	-43.70	-30.70
1880.000000	16919.933333	30.43	18.68	-46.10	-33.10
1909.800000	17188.133333	24.93	19.70	-50.60	-37.60

Performed By: Fred Chastain, Test Technician

Name of Test: Emission at Band Edges (Conducted)

Measurement Results

Applicant Supplied Data



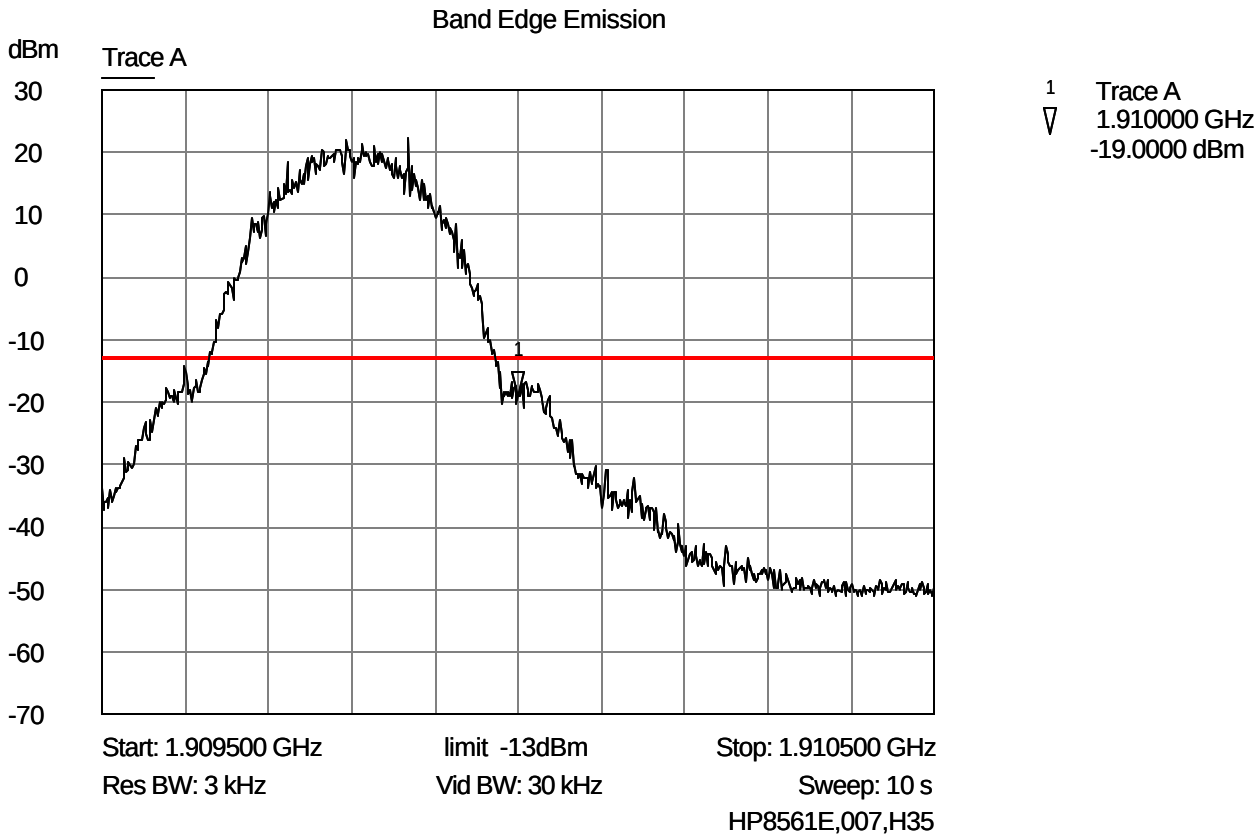
Power: HIGH POWER
Modulation: GSM 1900
LOW CHANNEL, LOWER BAND EDGE

Verified by: David E. Lee, Quality Assurance Manager

Name of Test: Emission at Band Edges (Conducted)

Measurement Results

Applicant Supplied Data



Power: HIGH POWER
Modulation: GSM 1900
HIGH CHANNEL, UPPER BAND EDGE

Verified by: David E. Lee, Quality Assurance Manager

Name of Test: Frequency Stability (Temperature Variation)

Specification: 47 CFR 2.1055(a)(1), 24.235

Measurement Procedure

A) The EUT and test equipment were set up as shown on the following page.

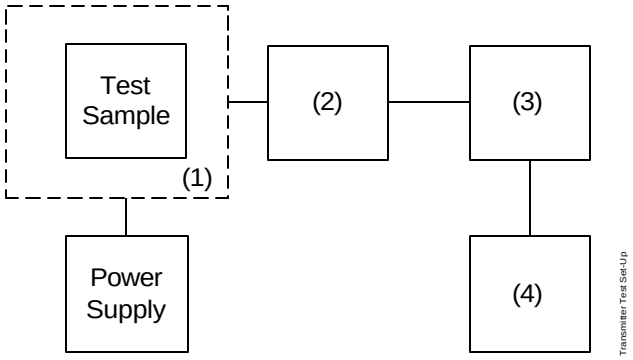
B) With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.

C) With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.

FCC Requirements: +/- 1ppm

GSM Requirements: +/- 0.1 ppm

Transmitter Test Set-Up



Test Equipment

The relevant equipment used during the test is listed below.

Environmental Chamber	Serial no. 30913	NMP Asset reg. 7672	
Thermotron S1.2	Calibrated 7 Aug 04		Due 7 Aug 05
Base Station Emulator	Serial no. 100715	NMP Asset reg. 7937	
Rohde & Schwarz CMU200	Calibrated 9 April 04		Due 9 April 06
Power Supply	Serial no. 2924A-02342	NMP Asset reg. 458	
Agilent 6632A	Calibrated 20 Aug 04		Due 20 Aug 05

Name of Test: Frequency Stability (Temperature Variation)

Measurement Results

Applicant Supplied Data

Temperature (°C)	GSM1900 Frequency Error (Hz) Limit = +/- 185 Hz		
	ch 512	ch 661	ch 810
-30	-24.54	-35.93	-47.92
-20	-25.08	32.00	-31.73
-10	-26.17	32.81	29.36
0	-33.90	-31.59	26.17
10	30.17	-34.44	28.75
20	31.32	31.46	-27.33
30	33.02	-35.05	23.39
40	34.10	-31.79	-37.56
50	-33.97	31.53	-35.26

Verified by: David E. Lee, Quality Assurance Manager

Name of Test: Frequency Stability (Voltage Variation)

Specification: 47 CFR 2.1055(d)(1)

Guide: ANSI/TIA/EIA-603-1992, Paragraph 2.2.2

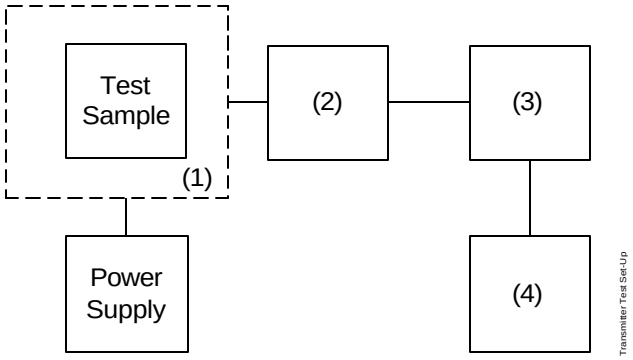
Measurement Procedure

A) The EUT was placed in a temperature chamber (if required) at 25±5°C and connected as shown below.

B) The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.

C) The variation in frequency was measured for the worst case.

Transmitter Test Set-Up: Voltage Variation



	Asset	Description	s/n	Cycle	Last Cal
(1) **Temperature, Humidity, Vibration**					
	i00027	Tenney Temp. Chamber	9083-765-234	NCR	
(2) **Coaxial Attenuator**					
X	i00231/2	PASTERNACK PE7021-30 (30 dB)	231 or 232	NCR	
	i00122/3	NARDA 766 (10 dB)	7802 or 7802A	NCR	
(3) **RF Power**					
X	i00020	HP 8901A Power Mode	2105A01087	12 mo.	Apr-05
(4) **Frequency Counter**					
X	i00020	HP 8901A Frequency Mode	2105A01087	12 mo.	Apr-05

Results: Frequency Stability (Voltage Variation)

Applicant Supplied Data

FCC Requirements: +/- 1ppm

GSM Requirements: +/- 0.1 ppm

Voltage (%)	Voltage (V)	GSM1900 Frequency Error (Hz) Limit = +/- 185 Hz		
		ch 512	ch 661	ch 810
End Point	<3.4	Tx off	Tx off	Tx off
Nominal	4.0	27.81	23.80	22.58
115% Nominal	4.6	25.66	22.51	21.86
85% Nominal	3.4	-47.02	21.72	23.65

The transmit power amplifier supply is disabled below 3.3 V and phone powers off at 3.2

Verified by: David E. Lee, Quality Assurance Manager

Name of Test: Necessary Bandwidth and Emission Bandwidth

Specification: 47 CFR 2.202(g)

Modulation =

Necessary Bandwidth:

Necessary Bandwidth (B_N), = 256kHz

(measured at the 99% power bandwidth) 240kHz

Supervised By: David E. Lee, Quality Assurance Manager

END OF TEST REPORT

Testimonial
and
Statement of Certification

This is to certify that:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.

2. **That** the technical data supplied with the application was taken under my direction and supervision.

3. **That** the data was obtained on representative units, randomly selected.

4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.

Certifying Engineer: David E. Lee, Quality Assurance Manager

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Chandler, Arizona 85225-7176
(480) 926-3100 phone, fax (480) 926-3598