

PCTEST ENGINEERING LABORATORY, INC.

7185 Oakland Mills Road, Columbia, MD 21046 USA Tel. 410.290.6652 / Fax 410.290.6654 http://www.pctestlab.com



MEASUREMENT REPORT

FCC Part 22, 24, & 27

Applicant Name:

Samsung Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, 16677, Korea Date of Testing: 12/1 - 12/29/15 Test Site/Location: PCTEST Lab., Columbia, MD, USA Test Report Serial No.: 0Y1512012034-R2.A3L

FCC ID:

A3LSMG930US

Certification

Portable Handset

APPLICANT:

SAMSUNG ELECTRONICS CO., LTD.

SM-G930V, SM-G930A, SM-G930P, SM-G930T, SM-G930R4

Application Type: Model(s): EUT Type: FCC Classification: FCC Rule Part(s): Test Procedure(s):

Test Device Serial No.:

PCS Licensed Transmitter Held to Ear (PCE) §2 §22(H) §24(E) §27(L)

ANSI/TIA-603-C-2004, KDB 971168 D01 v02r02, KDB 648474 D03 v01r04 *identical prototype* [S/N: C3D41, C3D2E, C3D8C, C436C, C3DC0, C3DAD, C3D11]

			ERP/EIRP		
Mode	Tx Frequency (MHz)	Emission Designator	Max. Power (W)	Max. Power (dBm)	
GPRS850	824.2 - 848.8	246KGXW	0.429	26.33	
EDGE850	824.2 - 848.8	247KG7W	0.098	19.90	
GPRS1900	1850.2 - 1909.8	248KGXW	0.544	27.36	
EDGE1900	1850.2 - 1909.8	247KG7W	0.106	20.25	
CDMA850	824.70 - 848.31	1M28F9W	0.105	20.23	
CDMA1900	1851.25 - 1908.75	1M28F9W	0.193	22.86	
WCDMA850	826.4 - 846.6	4M14F9W	0.081	19.08	
WCDMA1700	1712.4 - 1752.6	4M12F9W	0.180	22.56	
WCDMA1900	1852.4 - 1907.6	4M13F9W	0.188	22.74	

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. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 0Y1512012034-R2.A3L) supersedes and replaces the previously issued test report (S/N: 0Y1512012034-R1.A3L) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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.

Randy Ortanez President



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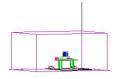


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MEASUREMENT REPORT FCC Part 22, 24, & 27



§2.1033 General Information

APPLICANT:	Samsung Electronics Co., Ltd.			
APPLICANT ADDRESS:	129, Samsung-ro,			
	Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea			
TEST SITE:	PCTEST ENGINEERING LABORATORY, INC.			
TEST SITE ADDRESS:	7185 Oakland Mills Road, Columbia, MD 21046 USA			
FCC RULE PART(S):	§2 §22(H) §24(E) §27(L)			
BASE MODEL:	SM-G930V, SM-G930A, SM-G930P, SM-G930T, SM-G930R4			
FCC ID:	A3LSMG930US			
FCC CLASSIFICATION:	PCS Licensed Transmitter Held to Ear (PCE)			
MODE:	GSM / GPRS / EDGE / CDMA / WCDMA			
FREQUENCY TOLERANCE:	±0.00025 % (2.5 ppm) C3D41, C3D2E, C3D8C,			
Test Device Serial No.:	C436C, C3DC0, C3DAD, \Box Production \boxtimes Pre-Production \Box Engineering C3D11			
DATE(S) OF TEST:	12/7 - 12/29/15			
TEST REPORT S/N:	0Y1512012034-R2.A3L			

Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.



- PCTEST facility is an FCC registered (PCTEST Reg. No. 159966) 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 (2451B-1).
- 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 (2451B-1) 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.

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1.0 INTRODUCTION

1.1 Scope

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

1.2 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity, the Baltimore-Washington Internt'I (BWI) airport, the city of Baltimore and the Washington, DC area. (See Figure 1-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The site coordinates are 39° 10'23" N latitude and 76° 49'50" W longitude. The facility is 0.4 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2014 on January 22, 2015.

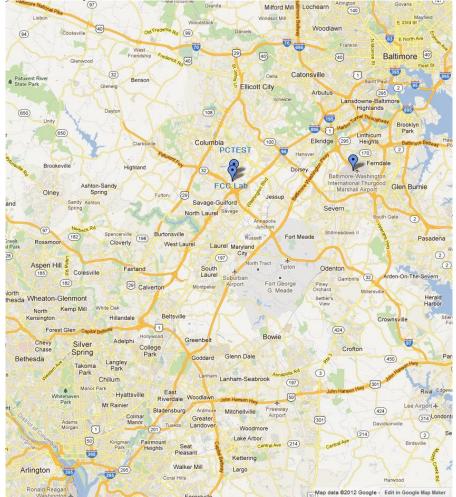


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMG930US**. The test data contained in this report pertains only to the emissions due to the EUT's 2G/3G licensed transmitters.

This device uses a closed-loop tuner circuit that dynamically updates the antenna impedance parameters to optimize antenna performance. The tuner for this device was set to simulate a "free space" condition in which the transmit antenna is matched to the medium into which it is transmitting and, thus, all power is at its maximum level.

This device also employs an antenna switching diversity (ASDiv) mechanism that allows for radiated transmission from one of two antennas at a time for cellular band CDMA/EvDO and cellular band WCDMA/HSPA. Both antennas cannot transmit simultaneously so dual transmission conditions were not investigated. The two antennas share the same conducted circuitry so only one set of conducted measurements is included. The main transmit antenna data is labeled as "Antenna A" and the secondary transmit antenna data is labeled as "Antenna B" in the radiated section of this report.

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev0/A (BC0, BC1, BC10), 850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n WLAN, 802.11a/n/ac UNII, Bluetooth (1x, EDR, LE), NFC, ANT+

2.3 Test Configuration

The Samsung Portable Handset FCC ID: A3LSMG930US was tested per the guidance of ANSI/TIA-603-C-2004 and KDB 971168 D01 v02r02. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on a certified wireless charging pad (WCP) while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

2.4 EMI Suppression Device(s)/Modifications

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

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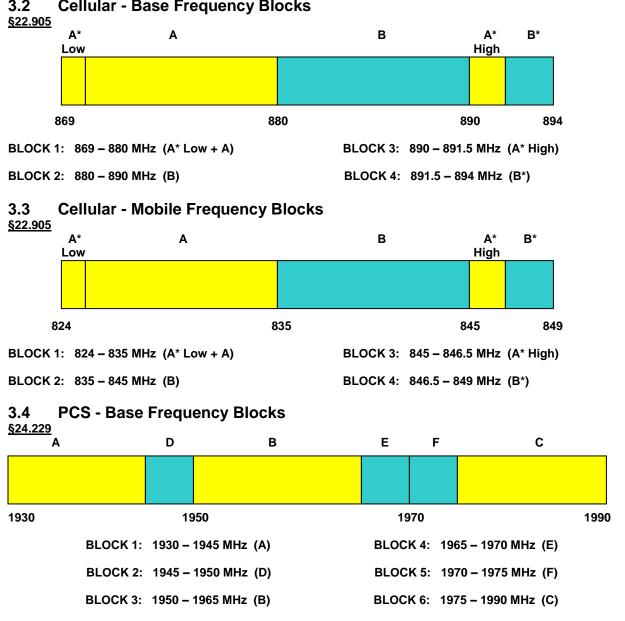


DESCRIPTION OF TESTS 3.0

Evaluation Procedure 3.1

The measurement procedures described in the "Land Mobile FM or PM - Communications Equipment -Measurements and Performance Standards" (ANSI/TIA-603-C-2004) and "Measurement Guidance for Certification of Licensed Digital Transmitters" (KDB 971168 D01 v02r02) were used in the measurement of the Samsung Portable Handset FCC ID: A3LSMG930US.





3.2 **Cellular - Base Frequency Blocks**

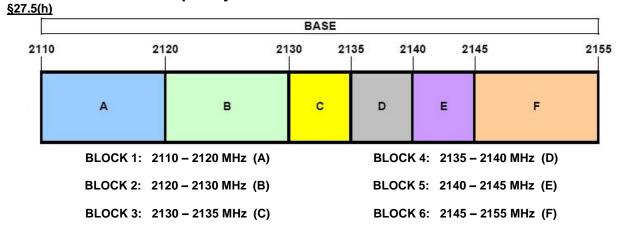
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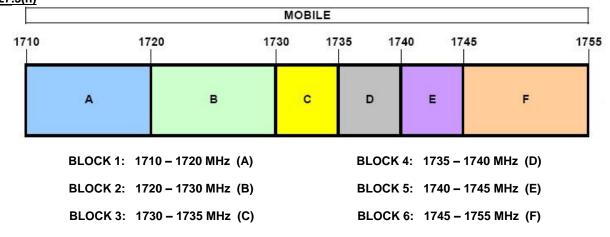
3.5 PCS - Mobile Frequency Blocks

<u>§24.229</u>	Α	D	В	E	F	С	
1850		1870		 1;	390		1910
	BLOCK 1: 18	850 – 186	5 MHz (A)	BLO	CK 4: 18	85 – 1890 MHz (E)	
	BLOCK 2: 1	865 – 187	0 MHz (D)	BLO	CK 5: 18	90 – 1895 MHz (F)	
	BLOCK 3: 18	870 – 188	5 MHz (B)	BLO	CK 6: 18	95 – 1910 MHz (C)	

3.6 AWS - Base Frequency Blocks



3.7 AWS - Mobile Frequency Blocks §27.5(h)



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3.8 Radiated Measurements

§2.1053 §22.913(a.2) §22.917(a) §24.232(c) §24.238(a) §27.50(d)(10) §27.53(h)

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Clause 5, Figure 5.7 of ANSI C63.4-2009. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. An ETS Lindgren Model 2188 raised turntable is used for radiated measurement. It is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. A 78cm high PVC support structure is placed on top of the turntable. A $\frac{3}{4}$ " (~1.9cm) sheet of high density polyethylene is used as the table top and is placed on top of the PVC supports to bring the total height of the table to 80cm.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

Per the guidance of ANSI/TIA-603-C-2004, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

 $P_{d [dBm]} = P_{g [dBm]} - cable loss [dB] + antenna gain [dBd/dBi]$

Where, P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to $P_{g [dBm]}$ – cable loss [dB].

Radiated power levels are investigated with the receive antenna vertically polarized while radiated spurious emissions levels are investigated with the receive antenna horizontally and vertically polarized per ANSI/TIA-603-C-2004.

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4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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5.0 TEST EQUIPMENT CALIBRATION DATA

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

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	LTx1	Licensed Transmitter Cable Set	4/16/2015	Annual	4/16/2016	LTx1
-	RE3	Radiated Emissions Cable Set	4/29/2015	Annual	4/29/2016	RE3
Agilent	8447D	Broadband Amplifier	6/12/2015	Annual	6/12/2016	2443A01900
Agilent	N9020A	MXA Signal Analyzer	11/5/2015	Annual	11/5/2016	US46470561
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	7/30/2015	Biennial	7/30/2017	121034
Emco	3115	Horn Antenna (1-18GHz)	1/30/2014	Biennial	1/30/2016	9704-5182
ETS Lindgren	3160-09	18-26.5 GHz Standard Gain Horn	6/17/2014	Biennial	6/17/2016	135427
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	10/22/2014	Biennial	10/22/2016	128338
K & L	11SH10-3075/U18000	High Pass Filter	7/18/2015	Annual	7/18/2016	11SH10-3075/U18000-2
K & L	11SH10-4000/12000	High Pass Filter	12/1/2014	Annual	12/1/2015	11SH10-4000/12000-2
K & L	13SH10-1000/U1000	N Type High Pass Filter	7/18/2015	Annual	7/18/2016	13SH10-1000/U1000-1
Mini Circuits	PWR-SEN-4GHS	USB Power Sensor	3/11/2015	Annual	3/11/2016	11401010036
Mini Circuits	TVA-11-422	RF Power Amp		N/A		QA1317001
Mini-Circuits	PWR-SENS-4RMS	USB Power Sensor	3/11/2015	Annual	3/11/2016	11210140001
Mini-Circuits	TVA-11-422	RF Power Amp		N/A		QA1303002
Rohde & Schwarz	CMU200	Base Station Simulator		N/A		836536/0005
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	3/12/2015	Annual	3/12/2016	100342
Rohde & Schwarz	TS-PR18	1-18 GHz Pre-Amplifier	3/5/2015	Annual	3/5/2016	100071
Rohde & Schwarz	TS-PR26	18-26.5 GHz Pre-Amplifier	3/3/2015	Annual	3/3/2016	100040
Schwarzbeck	UHA 9105	Dipole Antenna (400 - 1GHz) Rx	2/21/2014	Biennial	2/21/2016	9105-2404
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	1/28/2014	Biennial	1/28/2016	A051107
VWR	62344-734	Thermometer with Clock	2/20/2014	Biennial	2/20/2016	140140336

Table 5-1. Test Equipment

Note:

Equipment with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

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6.0 SAMPLE CALCULATIONS

GPRS Emission Designator

Emission Designator = 250KGXW

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

EDGE Emission Designator

Emission Designator = 250KG7W

EDGE BW = 250 kHz G = Phase Modulation 7 = Quantized/Digital Info W = Combination (Audio/Data)

CDMA Emission Designator

Emission Designator = 1M25F9W

CDMA BW = 1.25 MHz F = Frequency Modulation 9 = Composite Digital Info W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M16F9W

WCDMA BW = 4.16 MHz F = Frequency Modulation 9 = Composite Digital Info W = Combination (Audio/Data)

Spurious Radiated Emission

Example: Spurious emission at 3700.40 MHz

The receive spectrum 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 spectrum 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 25.50 dBm so this harmonic was 25.50 dBm - (-24.80) = 50.3 dBc.

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7.0 TEST RESULTS

7.1 Summary

Company Name:	Samsung Electronics Co., Ltd.
FCC ID:	A3LSMG930US
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
Mode(s):	<u>GSM / GPRS / EDGE / CDMA / WCDMA</u>

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER	MODE (TX)				
2.1049	Occupied Bandwidth	N/A		PASS	Section 7.2
2.1051 22.917(a) 24.238(a) 27.53(h)	Conducted Band Edge / Spurious Emissions	> 43 + log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Sections 7.3, 7.4
24.232(d)	Peak-Average Ratio	< 13 dB	CONDUCTED	PASS	Section 7.5
2.1046	Transmitter Conducted Output Power	N/A		PASS	RF Exposure Report
2.1055 22.355 24.235 27.54	Frequency Stability	< 2.5 ppm (Part 22) Emission must remain in band (Part 24, 27)		PASS	Section 7.9
22.913(a.2)	Effective Radiated Power	< 7 Watts max. ERP		PASS	Section 7.6
24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		PASS	Section 7.6
27.50(d.4)	Equivalent Isotropic Radiated Power	< 1 Watts max. EIRP	RADIATED	PASS	Section 7.6
2.1053 22.917(a) 24.238(a) 27.53(h)	Radiated Spurious Emissions	> 43 + log ₁₀ (P[Watts]) for all out-of-band emissions		PASS	Section 7.7

Table 7-1	Summary of	Test Results
-----------	------------	--------------

Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST "2G/3G Automation," Version 3.2.

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7.2 Occupied Bandwidth §2.1049

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

KDB 971168 D01 v02r02 - Section 4.2

Test Settings

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW \geq 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within

1 – 5% of the 99% occupied bandwidth observed in Step 7

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

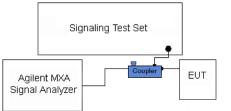


Figure 7-1. Test Instrument & Measurement Setup

Test Notes

None.

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Plot 7-1. Occupied Bandwidth Plot (Cellular GPRS Mode – Ch. 190)



Plot 7-2. Occupied Bandwidth Plot (EDGE850 Mode – Ch. 190)

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Plot 7-3. Occupied Bandwidth Plot (PCS GPRS Mode – Ch. 661)



Plot 7-4. Occupied Bandwidth Plot (EDGE1900 Mode - Ch. 661)

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Plot 7-5. Occupied Bandwidth Plot (Cellular CDMA Mode – Ch. 384)

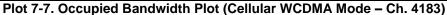


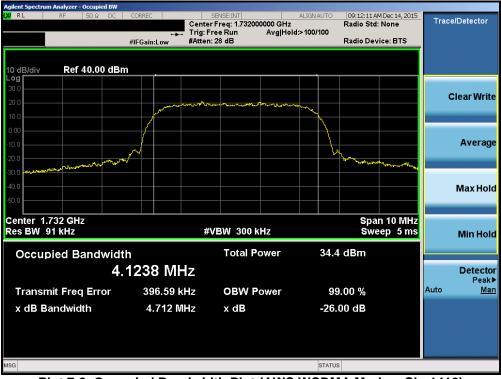
Plot 7-6. Occupied Bandwidth Plot (PCS CDMA Mode – Ch. 600)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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Plot 7-8. Occupied Bandwidth Plot (AWS WCDMA Mode – Ch. 1412)

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Plot 7-9. Occupied Bandwidth Plot (PCS WCDMA Mode - Ch. 9400)

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7.3 Spurious and Harmonic Emissions at Antenna Terminal §22.1051 §22.917(a) §24.238(a) §27.53(h)

Test Overview

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. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 D01 v02r02 - Section 6.0

Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 10GHz for Cell, 20GHz for AWS, 20GHz for PCS (separated into at least two plots per channel)
- 2. Detector = RMS
- 3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 4. Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

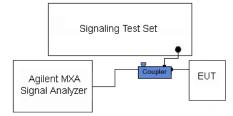


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

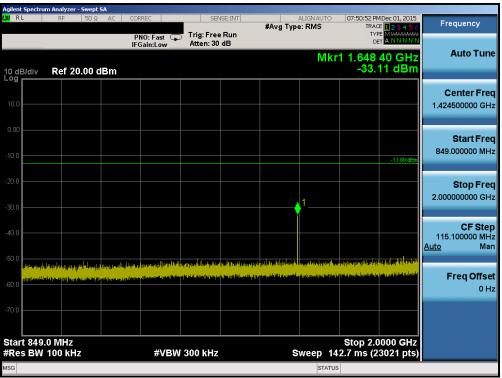
Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for Part 22 and 1 MHz or greater for Part 24, Part 27. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth 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.

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	m Analyzer - Swep									
LXI RL	RF 50 \$	2 AC C	ORREC	SEN	JSE:INT	#494	ALIGN AUTO Type: RMS		MDec 01, 2015	Frequency
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			IFGain:Low	Atten: 30	dB			D	etja nininin n	A
							M	kr1 822.	80 MHz	Auto Tune
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0.00										
										Start Freq
-10.0									-13.00 dBm	30.000000 MHz
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-20.0										Oton From
										Stop Freq
-30.0										823.000000 MHz
-30.0										
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										0 112
-70.0										
Start 30.0									23.0 MHz	
#Res BW	100 kHz		#VBW	/ 300 kHz			Sweep 98	.33 ms (1	5861 pts)	
MSG							STATUS	5		
										1 400)

Plot 7-10. Conducted Spurious Plot (Cellular GPRS Mode – Ch. 128)



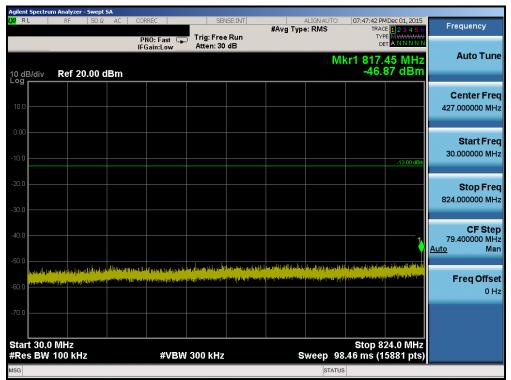
Plot 7-11. Conducted Spurious Plot (Cellular GPRS Mode – Ch. 128)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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	um Analyzer - Swej									
LXI RL	RF 50	Ω AC	CORREC	SEN	SE:INT	#Avg Type			MDec 01, 2015	Frequency
	_		PNO: Fast 🕞 IFGain:Low	Trig: Free #Atten: 24		HULD I I I I		TYI Di		
10 dB/div Log	Ref 10.00	dBm					Mk	r1 2.47: -31.	3 0 GHz 01 dBm	Auto Tune
0.00										Center Freq 6.000000000 GHz
-10.0	. 1								-13.00 dBm	Start Freq 2.000000000 GHz
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-50.0		and Deletities are	india atta and a sub-	an delen beretten di Dalaman (in an	lala kërdërdër kara	i i ci complete di di la			CF Step 800.000000 MHz <u>Auto</u> Man
-70.0										Freq Offset 0 Hz
-80.0 Start 2.00	00 GHz / 1.0 MHz		#\/B)A	3.0 MHz			waan 12		.000 GHz 6001 pts)	
#RES DW			#VDV	-5.0 WHZ		3	status		oour pis)	

Plot 7-12. Conducted Spurious Plot (Cellular GPRS Mode – Ch. 128)



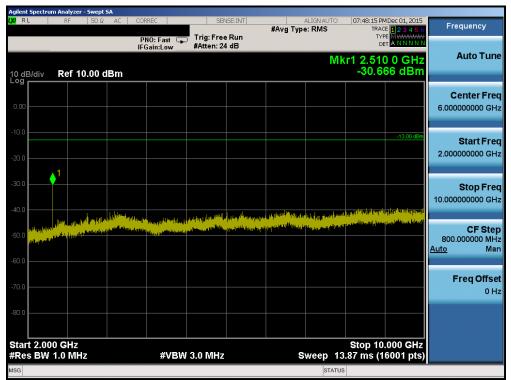
Plot 7-13. Conducted Spurious Plot (Cellular GPRS Mode – Ch. 190)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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	pectrum	Analyzer - Sw									
L <mark>XI</mark> RL		RF 50	DΩ AC	CORREC		SENSE:INT	#Avg Typ	ALIGN AUTO	07:47:56 PM TRACE	Dec 01, 2015	Frequency
				PNO: Fast		g: Free Run ten: 30 dB			TYPE	ANNNN	
	_			IFGain:Low	, At	ten: 30 dB					Auto Tune
								WK	1 1.673 ⁻ -31.7	10 GHZ	Auto Func
10 dB/	div	Ref 20.0	0 dBm						-51.7	3 ubili	
											Center Freq
10.0											1.424500000 GHz
0.00											
											Start Freq
-10.0										-13.00 dBm	849.000000 MHz
-20.0											Stop Freq
								.1			2.000000000 GHz
-30.0								↓ ♥ [†] ───			
											CF Step
-40.0											115.100000 MHz
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No.		alatal phates with the				a constitution and the state of the state of					Freq Offset
-60.0											0 Hz
-70.0											
Start	849.0	MHz							Stop 2.0	000 GHz	
#Res	BW	00 kHz		#V	BW 300	kHz	S	weep 14	2.7 ms (23		
MSG								STATUS	3		





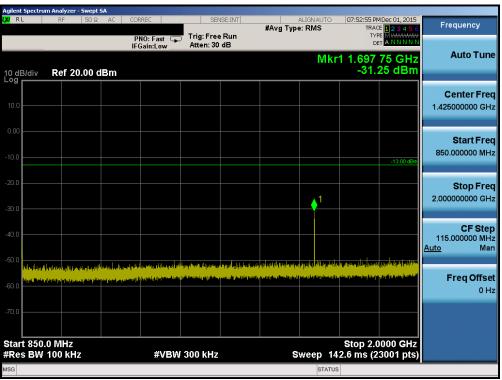
Plot 7-15. Conducted Spurious Plot (Cellular GPRS Mode – Ch. 190)

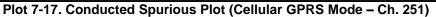
FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	NG	Reviewed by: Quality Manager
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	um Analyzer - Swept									
L <mark>XI</mark> RL	RF 50 Ω	AC CO	RREC	SEN	JSE:INT	#Avg Typ	ALIGN AUTO		MDec 01, 2015	Frequency
			NO: Fast 🕞 Gain:Low	Trig: Free Atten: 30		ani gi ye		TY D		Auto Tune
10 dB/div Log	Ref 20.00 c	lBm					N	/lkr1 767. -50.	70 MHz 00 dBm	Auto Tune
10.0										Center Freq 427.000000 MHz
-10.0									-13.00 dBm	Start Freq 30.000000 MHz
-20.0										Stop Freq 824.000000 MHz
-40.0						adde blil 11 mili				CF Step 79.400000 MHz <u>Auto</u> Man
10.000	e and the of the Anna Anna Anna Anna Anna Anna Anna Ann	lininininini dalaman Materiali	alaylan iyyista ayan bi Yilasiyo siyasiyasiyasi Y	i ga ga ka	and a second	ya podoki na podoka n Na podoka na podoka na Na podoka na	lander of the state of the stat	n gran ing na pangan di kadawaki di ka		Freq Offset 0 Hz
-70.0) MHz							Stop	24.0 MHz	
#Res BW			#VBW	/ 300 kHz		s	weep §	98.46 ms (1	5881 pts)	
MSG							STAT	US		





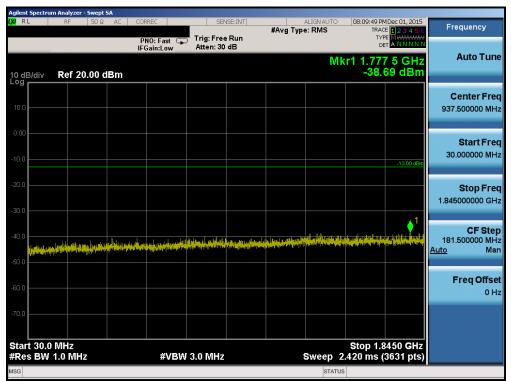


FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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			yzer - Swept										
l <mark>XI</mark> RI	-	RF	50 Ω	AC	CORRE	EC		ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRA	MDec 01, 2015 CE 123456	Frequency
					PN0 IEGai):Fast G in:Low	Trig: Free #Atten: 24				T١		
										M	1kr1 2.54	6 5 GHz	Auto Tune
10 dE Log	3/div	Re	f 10.00 (dBm							-29	01 dBm	
LUg													Center Freq
0.00													6.000000000 GHz
-10.0												-13.00 dBm	04-44 E-144
													Start Freq 2.00000000 GHz
-20.0		. 1											2.0000000000000
-30.0	· · · ·	<u> </u>											
-30.0													Stop Freq 10.00000000 GHz
-40.0									s at the state	4	NAME OF A DESCRIPTION OF A	The second second	10.00000000 GH2
	ak na sa	us ter	التحاكد فأسلع الرو	and an an array	aparen da alter	l _{een} n ^{sh} ijisse) _{Maa} nliiseaan	(Party Internet Party) and the second second second	a - styrespinster Heller (han di kilet	and a standard from the standard of the standa	terrenden der d Mississieren der		a producer Anno-John	CF Step
-50.0	an a	ومعالمين	ماليا المطلومين. م	4. 10		ومناهده فانتشارك المغرجين							800.000000 MHz
													<u>Auto</u> Man
-60.0													
-70.0													Freq Offset
10.0													0 Hz
-80.0													
Star	t 2.00	0 GI	Iz								Stop 10	0.000 GHz	
	s BW					#VBW	3.0 MHz		s	weep	13.87 ms (6001 pts)	
MSG										STAT	rus		

Plot 7-18. Conducted Spurious Plot (Cellular GPRS Mode – Ch. 251)



Plot 7-19. Conducted Spurious Plot (PCS GPRS Mode - Ch. 512)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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			er - Swept !										
l <mark>XI</mark> RL		RF	50 Ω	AC	CORRE	EC	SE	NSE:INT	#Avg Tv	ALIGN AUTO		MDec 01, 2015 E 1 2 3 4 5 6	Frequency
): Fast 🕞 in:Low	Trig: Fre Atten: 30				TY D		
10 dB Log r	J/div	Ref	20.00 d	IBm						N	/lkr1 9.40 -31.	4 0 GHz 50 dBm	Auto Tune
10.0 -													Center Freq 5.955000000 GHz
0.00 -												-13.00 dBm	Start Freq 1.910000000 GHz
-20.0 -30.0												_ ↓ 1	Stop Freq 10.000000000 GHz
-40.0	l period period				Anarys IV Mittaliae	Managara (California) La constantina (California)	, papa Pendan tahu pana tahun patrika	t _{en s} uite de l'Asserte de la Constant de la constant de la const La constant de la cons	in the second		h stand haf in die een stij heerde die pasiel die een gewonne weergenen in Mersonen weers die een gewonne weergenen in Mersonen weers die een die gewonne weers die gewonne weers die een die gewonne weers die gewonne weers weers die gewonne weers	an a suit ann ann an an A	CF Step 809.000000 MHz <u>Auto</u> Man
-60.0 =													Freq Offset 0 Hz
-70.0 Start	1.91	0 GHz									Stop 10	.000 GHz	
	BW 1	1.0 M	Hz			#VBW	3.0 MHz				14.02 ms (1	6181 pts)	
MSG										STA	TUS		





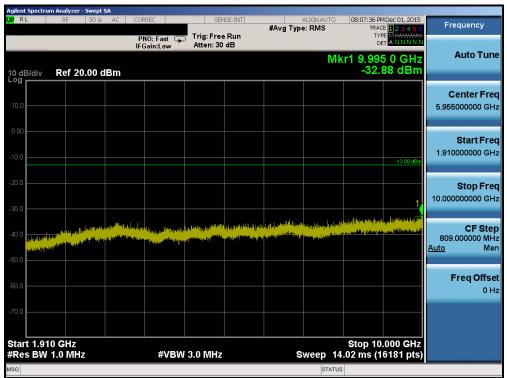
Plot 7-21. Conducted Spurious Plot (PCS GPRS Mode – Ch. 512)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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RL RF 50 Ω AC CORREC SENSE:INT ALIGNAUTO 08:07:25 PM Dec 01, 2015 #Avg Type: RMS TRACE 12.34 5 G Trig: Free Run IFGain: Low Atten: 30 dB Det a NNNNN	ency
PNO: Fast ()	
	to Tune
o dB/div Ref 20.00 dBm -38.02 dBm	
°g	
	ter Freq
940.000	000 MHz
	art Freq
	000 MHz
-13.00 dBm	
20.0 Std	op Freq
1.850000	
300	
	CF Step
	000 мніз
	Man
Free Free	qOffset
	0 Hz
70.0	
itart 30.0 MHz Stop 1.8500 GHz	
Res BW 1.0 MHz #VBW 3.0 MHz Sweep 2.427 ms (3641 pts)	
SG STATUS	





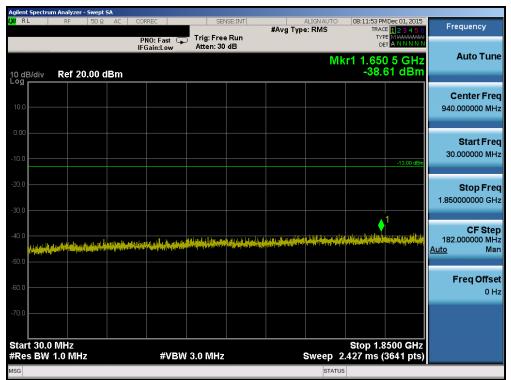
Plot 7-23. Conducted Spurious Plot (PCS GPRS Mode - Ch. 661)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager				
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	um Analyzer - Swept !									
L <mark>XI</mark> RL	RF 50 Ω	AC CO	RREC	SEN	ISE:INT	#Avg Type			1Dec 01, 2015 E <mark>1 2 3 4 5 6</mark>	Frequency
			NO: Fast 🖵 Gain:Low	Trig: Free Atten: 20		word the		TYP		
10 dB/div Log	Ref 10.00 d	Bm					Mk	r1 16.932 -25.3	2 0 GHz 35 dBm	Auto Tune
0.00										Center Freq 15.000000000 GHz
-10.0							1		-13.00 dBm	Start Freq 10.000000000 GHz
-30.0	Nation protection and a second	a da jarahili firina	a garan Maran Salaran Mataka sarata kari	alepelandi kadite	lajj _{ta p} antataja ^{ta} ngan ^{gantaja} ng			ni Manazaka interansi 194 In Stania (minima antina intera	a landara ya hara ya ku Tanang disebut ya she	Stop Freq 20.000000000 GHz
-50.0	in ferdeni ay a fe ^{rdand} in ^{da k} ina ar i ^{n ca}									CF Step 1.00000000 GHz <u>Auto</u> Man
-70.0										Freq Offset 0 Hz
-80.0	DOD GHZ							Stop 20	.000 GHz	
#Res BW			#VBW	3.0 MHz		S	weep 2	5.33 ms (2	0001 pts)	
MSG							STATU	s		





Plot 7-25. Conducted Spurious Plot (PCS GPRS Mode - Ch. 810)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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	trum Analyzer - Swept S									
(X) RL	RF 50 Ω	AC COP	REC		JSE:INT	#Avg Type	ALIGN AUTO e: RMS		4Dec 01, 2015	Frequency
			NO: Fast 🖵	Trig: Free Atten: 30						
		IFU	Gain:Low	Atten: 30	aD		8.41			Auto Tune
	D-5 00 00 d	Date					IVIP	-32	4 0 GHz 19 dBm	
10 dB/div	Ref 20.00 d	вт						<u></u>		
										Center Freq
10.0										5.957500000 GHz
0.00										
										Start Freq
-10.0									-13.00 dBm	1.915000000 GHz
-20.0										Stop Freq
									1	10.00000000 GHz
-30.0										
	م العظمين ا		las	فأقاقه بالمحابدي	e (E. Bellikker, March	- Aller Hyperstein	Contraction of the	gundelenaredie 	and a second	CF Step
-40.0 <mark> 40-04</mark>	and the state of the	والمعطانا المعطا والمعط		Last Black State	والمطالاتك أعطاهم	and the second	a and a standard and a state of the state of	ale addeballista disk parties		808.500000 MHz
and the	a la site de la seconda de									<u>Auto</u> Man
-50.0										
										Freq Offset
-60.0										0 Hz
-70.0										
-70,0										
	915 GHz								.000 GHz	
#Res B	W 1.0 MHz		#VBW	3.0 MHz		S	weep 14	.01 ms (1	6171 pts)	
MSG							STATUS	3		





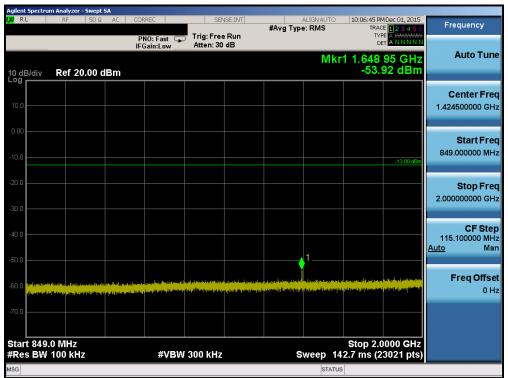
Plot 7-27. Conducted Spurious Plot (PCS GPRS Mode - Ch. 810)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 28 of 100	
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		n Analyzer - Swep									
l <mark>XI</mark> RL	-	RF 50 \$	Ω AC CC	DRREC		ISE:INT	#Avg Typ	ALIGN AUTO	TRAC	4Dec 01, 2015 E 1 2 3 4 5 6	Frequency
				PNO: Fast 🖵 Gain:Low	Trig: Free Atten: 30				TYF DE	TANNNN	
			11	-Galli.LUW	Titterit. 00	40		M	cr1 823	00 MHz	Auto Tune
10 dE	Ridio	Ref 20.00	dBm						-33.3	20 dBm	
Log	274112	1(01 20.00									
											Center Freq
10.0											426.500000 MHz
0.00											Start Freq
40.0											30.000000 MHz
-10.0										-13.00 dBm	
-20.0											
20.0											Stop Freq
-30.0										1	823.000000 MHz
-40.0											CF Step 79.300000 MHz
											Auto Man
-50.0										į	
										l l	Freq Offset
		NAME OF A DESCRIPTION OF				n an a succession of the subscription of the	na a antai puntaani. Wagaanii Albaani	a stategy and an addition		An address of the second s	0 Hz
	asta of grotte	alas da si parati da da bata di		and some also deside							
-70.0											
Star	t 30.0	MHz							Stop 8	23.0 MHz	
		100 kHz		#VBW	/ 300 kHz		s	weep 98		5861 pts)	
MSG								STATUS			



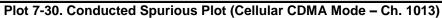


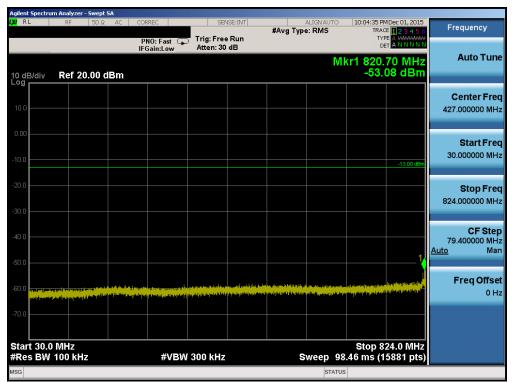
Plot 7-29. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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	ım Analyzer - Swept S		-							
LXIRL	RF 50 Ω	AC CC	RREC	SEN	JSE:INT	#Avg Type	ALIGN AUTO		MDec 01, 2015	Frequency
		F	PNO: Fast 🖵 Gain:Low	Trig: Free Atten: 20				TY D		
10 dB/div	Ref 10.00 d	Bm					Mk	r1 2.47 -48.	5 5 GHz 71 dBm	Auto Tune
0.00										Center Freq 6.000000000 GHz
-10.0									-13.00 dBm	Start Freq 2.000000000 GHz
-30.0										Stop Freq 10.000000000 GHz
-50.0				and a second			a a far a star a star a far far far far star a s Tha star a st			CF Step 800.000000 MHz <u>Auto</u> Man
-70.0										Freq Offset 0 Hz
-80.0 Start 2.00	00 GHz							Stop 10	.000 GHz	
#Res BW	1.0 MHz		#VBW	3.0 MHz		\$	weep 13	.87 ms (1	6001 pts)	
MSG							STATUS			





Plot 7-31. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	ISUNG	Reviewed by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Daga 20 of 100					
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	um Analyzer - Swept SA					
(X/RL	RF 50 Ω	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:04:42 PMDec 01, 2015 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast 🕞 IFGain:Low	Trig: Free Run Atten: 30 dB		TYPE A WWWWWW DET A N N N N N	
	-	IFGain:Low	Allen: 00 4D	Mke	1 1.673 40 GHz	Auto Tune
10 dB/div	Ref 20.00 dE	200		IVINI	-56.43 dBm	
	Rei 20.00 uE					
						Center Freq
10.0						1.424500000 GHz
0.00						Otherst Frank
						Start Freq 849.000000 MHz
-10.0					-13.00 dBm	849.00000 WHZ
-20.0						Stop Freq
						2.000000000 GHz
-30.0						
						CF Step
-40.0						115.100000 MHz
						<u>Auto</u> Man
-50.0				<u> </u>		
	well burners and a structure of	فسرائدة وفيقي وربالا ليربي المريب والم	ومراجع والمتحد والمتحد والمتحد والمتحال المحاد	Longith production of the second s		Freq Offset
-60.0 (1996)	Annual	والمراجع والتناف والمراد فساره ومداه	alatha is production and straining strain stars from	an an an the stirute time and a district formalise to an a	and the planet and a second in the local sector of the first second sector and the first second sector and the	0 Hz
-70.0						
-70.0						
Start 849					Stop 2.0000 GHz	
#Res BW	100 kHz	#VBN	300 kHz	Sweep 14	2.7 ms (23021 pts)	
MSG				STATUS		





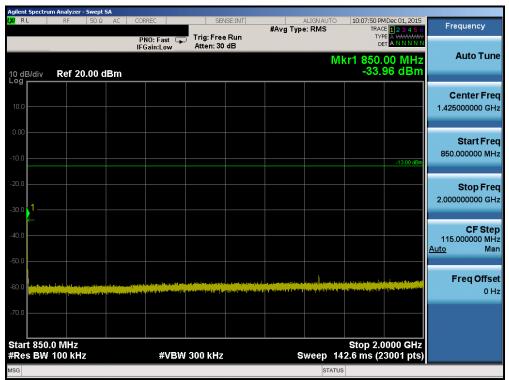
Plot 7-33. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	NG	Reviewed by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dogo 21 of 100				
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	trum Analyzer										
L <mark>XI</mark> RL	RF	50Ω.	AC CC	RREC	SEM	ISE:INT	#Avg Typ	ALIGNAUTO		MDec 01, 2015 E 1 2 3 4 5 6	Frequency
				NO: Fast 🔾 Gain:Low	Trig: Free Atten: 30				TYI		
10 dB/div	Ref 2	0.00 dB	m					M	kr1 795. -57.	10 MHz 33 dBm	Auto Tune
10.0											Center Freq 427.000000 MHz
-10.0										-13.00 dBm	Start Freq 30.000000 MHz
-20.0											Stop Freq 824.000000 MHz
-40.0											CF Step 79.400000 MHz <u>Auto</u> Man
60.0	en bergig gester beigeten b			an an an Stan an Anna a' Star an Ist had a star be de na a dhista		e positiva e a decense positiv La positi pogla decensi a de	na fi pana pana 1914 na kaodim Na producti di antera kaodim na s	la an than a state of the second state of the second second second second second second second second second s	a a gun an		Freq Offset 0 Hz
-70.0											
	0.0 MHz W 100 kH	z		#VBW	/ 300 kHz		s	weep 98	8 Stop 46 ms <u>(1</u>	24.0 MHz 5881 pts)	
MSG								STATUS			





Plot 7-35. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager					
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	pectrum	Analyzer ·								-			
IXI RL		RF	50 Ω	AC C	ORREC	SE	VSE:INT	#Avg Typ	ALIGN AUTO	TRAC	MDec 01, 2015	Frequency	y
					PNO: Fast 🔾	Trig: Fre		•		TYI			
	-				FGain:Low	Atten: 20	aD					Auto T	une
		B-6.44							IVIN	-46	5 5 GHz 79 dBm		
10 dB/	div	Ref 10	0.00 d	BM						-40.			
												Center F	Frea
0.00												6.000000000	
-10.0											-13.00 dBm		
											413.00 dbii	Start F	
-20.0												2.000000000	GHz
-30.0												Stop F	Fred
												10.000000000	
-40.0		-										10.000000000	OTTE
	•												
-50.0										والمروية أوروية أشارين		CF S 800.000000	
		لاست المقاد			and the second secon					Later Man a disc State			Man
-60.0 🏧					All ton	<u> </u>							
												Freq Of	ffeat
-70.0													0 Hz
													0112
-80.0													
	0.000	011-								8 4 40			
Start #Pes		GHZ .0 MH:	7		#VB/	/ 3.0 MHz			Sweep 13	Stop 10	.000 GHz		
		e with			<i></i>	- 5.0 Wi112					ooor pis)		
MSG									STATUS				

Plot 7-36. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

gilent Spectru												
() RL	RF	50 Ω		ORREC PNO: Fas	*	Trig: Fre	e Run	#Avg Typ	ALIGNAUTO e: RMS	10:00:44 PM TRAC TYF	1 Dec 01, 2015 E 1 2 3 4 5 6 E A 4 4 4 5 6 T A N N N N N	Frequency
			I	FGain:Lo	w_	Atten: 30			Mk		5 0 GHz 10 dBm	Auto Tun
0 dB/div	Ref 20	.00 dE	3m							-43.	10 dBm	
10.0												Center Fre 937.500000 M⊦
10.0											-13.00 dBm	Start Fre 30.000000 M⊦
20.0												Stop Fre 1.845000000 GH
0.0											1	CF Ste 181.500000 Mi Auto Mi
0.0		er-Jupti-ter-	an a	**************************************	*****	n galetinni, iç yanış iliştiri	**********			99999999999999999999999999999999999999		Freq Offs
70.0												
tart 30.0 Res BW				#	VBW	3.0 MHz			Sweep_2	Stop 1.8 .420 ms (450 GHz 3631 pts)	
sg									STATUS		pro/	

Plot 7-37. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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		n Analyzer - Si										
l XI RL		RF !	50Ω AC	CORR	.EC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRA	MDec 01, 2015 CE 1 2 3 4 5 6	Frequency
					0:Fast 🖵 ain:Low	Trig: Free Atten: 30				TΥ	PE A WARAAAA ET A N N N N N	
				IFG	ain:LUW	Atten: 00	40		Ν.	16+1 0 00	1.5.047	Auto Tune
10 dB	Valiu	Ref 20.0	0 dBm						IV	/lkr1 9.98 -40.	09 dBm	
Log	suiv	Ker 20.0							1			
												Center Freq
10.0												5.955000000 GHz
0.00												Start Freq
												1.910000000 GHz
-10.0											-13.00 dBm	
-20.0												Stop Freq
												10.00000000 GHz
-30.0											4	
-40.0											(CF Step
*40.0				State and state of the		والمحمد ومقدول	and the second second					809.000000 MHz Auto Man
-50.0	الله و يو يو المركز الم	and second				Column and a second			a leader of the			Auto Man
00.0												
-60.0												Freq Offset
												0 Hz
-70.0												
		0 GHz 1.0 MHz			#\/B\M	3.0 MHz			ween	Stop 10 ') 14.02 ms	0.000 GHz	
	, - - v v				#0000	5.0 WHZ		3			o to t pis)	
MSG									STAT	105		





Plot 7-39. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager					
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Agilent S	Spectrun	n Analyzer -										
L <mark>XU</mark> RL		RF	50 Ω	AC COF	RREC		ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	4Dec 01, 2015 E 1 2 3 4 5 6	Frequency
					NO: Fast 🖵 Gain:Low	Trig: Free Atten: 30	Run dB			TYP	TANNNN	
				II V	Jain.209				MI	or1 1 611		Auto Tune
10 dB/	ídiv	Ref 20	.00 dB	m						(r1 1.61) -47.	30 dBm	
Log			.00 ab									
												Center Freq
10.0												940.000000 MHz
0.00												Start Freq
-10.0												30.000000 MHz
-10.0											-13.00 dBm	
-20.0												
20.0												Stop Freq 1.85000000 GHz
-30.0												1.85000000 GHZ
-40.0												CF Step 182.000000 MHz
										♦ '		Auto Man
-50.0	الدادر المعاملات	Approximate and				njarijitang sebakanjatista			alipite Manageria	neg in a construction of	Nya, ing planana Mapinala	
												Freq Offset
-60.0												0 Hz
-70.0												
Start										Stop 1.8	500 GHz	
#Res	BW	1.0 MHz	4		#VBW	3.0 MHz			Sweep 2	.427 ms (3641 pts)	
MSG									STATUS	3		





Plot 7-41. Conducted Spurious Plot (PCS CDMA Mode - Ch. 600)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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Plot 7-43. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 26 of 100
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	um Analyzer - Swept S/									
L <mark>XI</mark> RL	RF 50 Ω	AC CORF	REC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS		4Dec 01, 2015 E 1 2 3 4 5 6	Frequency
		PN	0: Fast 🖵 ain:Low	Trig: Free Atten: 30				TYF		
		IFG	ain:Low	Atten: 50			MI	(r1 9.96)		Auto Tur
	Ref 20.00 di	3					IVIP	-39	86 dBm	
10 dB/div	Rei 20.00 di	5111								
										Center Fre
10.0										5.957500000 GH
0.00										Start Fre
										1.915000000 GH
-10.0									-13.00 dBm	1.91000000 81
-20.0										Stop Fre
										10.00000000 GH
-30.0									4	
-40.0										CF Ste
	الاستراف مرين				and the second states				and the second s	808.500000 MH Auto Ma
-50.0	and the second			a di litta da la litta	ante i l'antes		Contraction (Sec. 1)			Addo Mit
-60.0										Freq Offs
										U P
-70.0										
Start 1.9								Stop 10	.000 GHz	
#Res BW			#VBW	3.0 MHz		s	weep 14		6171 pts)	
MSG							STATUS			





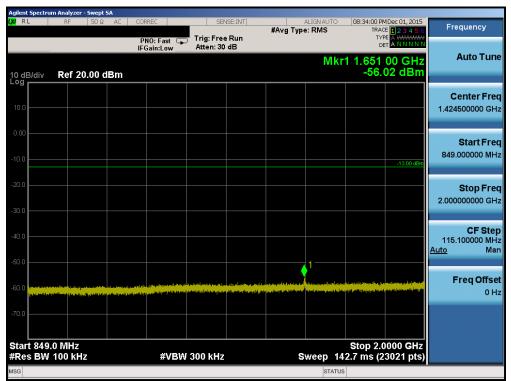
Plot 7-45. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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Agilent		n Analyzer - Swej									
ι <mark>μι</mark> κι	-	RF 50	Ω AC	CORREC		JSE:INT	#Avg Type	ALIGN AUTO e: RMS	TRAC	1Dec 01, 2015 E <mark>1 2 3 4 5 6</mark>	Frequency
				PNO: Fast 🕞	Trig: Free Atten: 30				TYF De	E A WWWWW T A N N N N N	
				II Gam.cow				M	(r1 822.	50 MHz	Auto Tune
10 dE	3/div	Ref 20.00	dBm						-33.	77 dBm	
Log											
											Center Freq
10.0											426.500000 MHz
0.00											
0.00											Start Freq
-10.0											30.000000 MHz
-10.0										-13.00 dBm	
-20.0											Oton Eror
											Stop Freq 823.000000 MHz
-30.0										1	823.000000 141112
										\rightarrow	
-40.0											CF Step 79.300000 MHz
											<u>Auto</u> Man
-50.0											
											Freq Offset
-60.0				a design of the size of the second							0 Hz
-70.0											
	t 30.0									23.0 MHz	
#Res	s BW	100 kHz		#VBW	/ 300 kHz		S	weep 98	.33 ms (1	5861 pts)	
MSG								STATUS			

Plot 7-46. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)



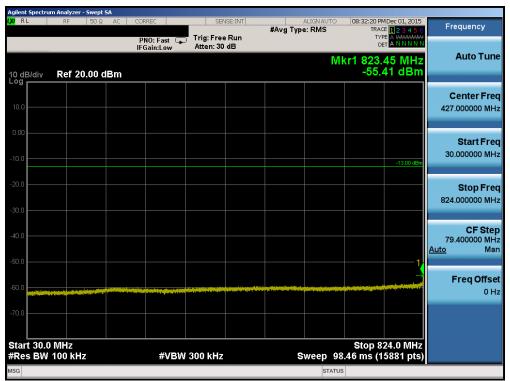
Plot 7-47. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager				
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Log Center Freq 000		ım Analyzer - Swept S										
PN0: Fast Trig: Free Run Atten: 20 dB Mkr1 9.494.0 GHz -49.92 dBm Auto Tune 0 dB/div Ref 10.00 dBm	LXIRL	RF 50 Ω	AC COR	REC	SEN	JSE:INT	#Ava Tv				Frequenc	су
Nink 1 9.334 0 0 GHz Nink 1 9.334 0 GHz							in the second	pe. rano	TYI	E A WANNAMA		
0.00	10 dB/div	Ref 10.00 d	Bm					Mk	r1 9.49 -49.	4 0 GHz 92 dBm	Auto	Tune
-200 -1300 det Start Freq -201 -1300 det -1300 det -201 -1300 det -1300 d	0.00											
400 400 400 400 400 400 400 400	-10.0									-13.00 dBm		
-500 -1 -1 -1 CF Step -600 -1 -1 -1 -1 -600 -1 -1 -1 -1 -600 -1 -1 -1 -1 -700 -1 -1 -1 -1 -1 -700 -1 -1 -1 -1 -1 -700 -1 -1 -1 -1 -1 -1 -700 -1 -1 -1 -1 -1 -1 -1 -700 -1 1 1 <td>-30.0</td> <td></td>	-30.0											
-70.0 -70.0 -80.0 Start 2.000 GHz Stop 10.000 GHz	-50.0							te de la filma de la compañía de la Conte en 1920 de la compañía de la co			800.0000	о мніз
Start 2.000 GHz Stop 10.000 GHz	-70.0										Freq C	Offset 0 Hz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 13.87 ms (16001 pts)	-80.0								Stop 10			
				#VBW	3.0 MHz			Sweep 13	.87 ms (1	6001 pts)		
MSG STATUS	MSG							STATUS	5			

Plot 7-48. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)



Plot 7-49. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager				
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	m Analyzer - Swept Sf					
L <mark>XI</mark> RL	RF 50 Ω	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	08:32:28 PMDec 01, 2015 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast C IFGain:Low	Trig: Free Run Atten: 30 dB		TYPE A WANNAM DET A N N N N N	
		II Gam.Low		M	kr1 849.55 MHz	Auto Tune
10 dB/div	Ref 20.00 dE	3m			-56.40 dBm	
Log						
						Center Freq
10.0						1.424500000 GHz
0.00						Start Freq
-10.0						849.000000 MHz
-10.0					-13.00 dBm	
-20.0						
20.0						Stop Freq 2.00000000 GHz
-30.0						2.00000000 GH2
-40.0						CF Step 115.100000 MHz
						Auto Man
-50.0						
<u>_</u>						Freq Offset
-60.0 - 60.0			na na pana pana na pana na pana pana pa		a los atéricos presenten en al ateria de plana signi	0 Hz
-70.0						
Start 849.	0 MHz				Stop 2.0000 GHz	
#Res BW	100 kHz	#VB	W 300 kHz	Sweep 14	12.7 ms (23021 pts)	
MSG				STATU	s	

Plot 7-50. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)



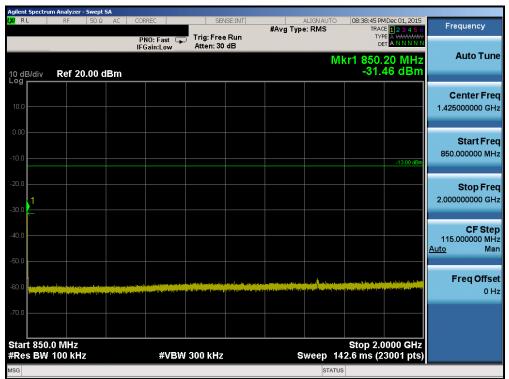
Plot 7-51. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	NG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 40 of 100
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Agilent		n Analyzer - Swep									
LAU RI	L	RF 50 \$	2 AC CO	DRREC		VSE:INT	#Avg Type	ALIGN AUTO e: RMS	TRAC	4Dec 01, 2015 E 1 2 3 4 5 6	Frequency
				PNO: Fast 🖵 FGain:Low	Trig: Free Atten: 30				TYF De	TANNNN	
				Call.Low				M	(r1 820	85 MHz	Auto Tune
10 dF	B/div	Ref 20.00	dBm						-57.9	93 dBm	
Log											
											Center Freq
10.0											427.000000 MHz
0.00											
0.00											Start Freq
-10.0											30.000000 MHz
-10.0										-13.00 dBm	
-20.0											01 E
											Stop Freq 824.000000 MHz
-30.0											824.000000 WHZ
-40.0											CF Step 79.400000 MHz
											<u>Auto</u> Man
-50.0	<u> </u>									4	
										(Freq Offset
-60.0	Bengit Mercel An				and the difference of the second	a selfere de la seconda. A la seconda de la seconda	a new distance in the second			The state of the state of the state	0 Hz
-70.0											
	t 30.0									24.0 MHz	
#Re	sBW	100 kHz		#VBW	300 kHz		S	weep 98	.46 ms (1	5881 pts)	
MSG								STATUS			

Plot 7-52. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)



Plot 7-53. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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	ım Analyzer - Swept SA					
L <mark>XI</mark> RL	RF 50 Ω	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	08:38:54 PMDec 01, 2015 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast 🔾 IFGain:Low	Trig: Free Run Atten: 20 dB		TYPE A WWWWW DET A N N N N N	
10 dB/div Log	Ref 10.00 dE	Зm		Mk	r1 9.779 0 GHz -50.06 dBm	Auto Tune
0.00						Center Freq 6.000000000 GHz
-10.0					-13.00 dBm	Start Freq 2.000000000 GHz
-30.0						Stop Freq 10.000000000 GHz
-50.0						CF Step 800.000000 MHz <u>Auto</u> Man
-70.0						Freq Offset 0 Hz
-80.0						
Start 2.00 #Res BW		#VB	N 3.0 MHz	Sweep 13	Stop 10.000 GHz .87 ms (16001 pts)	
MSG				STATUS	6	

Plot 7-54. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)

PNO: Fast IFGain:Low Trig: Free Run Atten: 30 dB Mkr1 1.705 0 GHz -34.15 dB Auto 1 00 Center 867.500000 Start I 30.000000 Start I Start I 30.000000 Start I Start I 30.000000 Start I 30.000000 Start I	<mark>U</mark> RL	m Analyzer - Sw RF 5	OΩ DC	CORREC	SEN	ISE:INT		ALIGN AUTO	09:15:35 AM	Dec 14, 2015	English
Order Ref 20.00 dBm -34.15 dBm 000 -34.15 dBm -34.15 dBm 100 -34.15 dBm -367.500000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100 -30.0000 -30.0000 100				PNO: Fast 📮 IFGain:Low			#Avg Typ	e: RMS	TRACI TYP DE	123456 A WWWWW A N N N N N	Frequency
100 Image: second s	0 dB/div	Ref 20.0	0 dBm					M	(r1 1.705 -34.1	0 GHz 15 dBm	Auto Tun
100											Center Fre 867.500000 MH
Stop 1 Stop 1 1.70500000 1.70500000 Auto Freq O										-13.00 dBm	Start Fre 30.000000 M⊦
40.0 167.500000 Auto 50.0 Auto 50.0 Auto 50.0 Image: Auto Image: Auto <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>Stop Fre 1.705000000 GF</td>										1	Stop Fre 1.705000000 GF
50.0 TO 0 TO 0											CF Ste 167.50000 MH <u>Auto</u> Ma
	60.0	,,,				a opening and the second s	^{مري} د مريد المريد ولي مريد مريد المريد مريد المريد المريد المريد المريد المريد المريد المريد المريد المريد الم				Freq Offs 0 F
Start 30.0 MHz Stop 1.7050 GHz									Stop 1 7	050 CHz	
tart 30.0 MHz Stop 1.7050 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 2.233 ms (3351 pts)				#VBW	3.0 MHz			Sweep 2	2.233 ms (3	3351 pt <u>s)</u>	

Plot 7-55. Conducted Spurious Plot (AWS WCDMA Mode – Ch. 1312)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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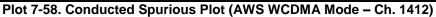


Plot 7-57. Conducted Spurious Plot (AWS WCDMA Mode – Ch. 1312)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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Frequency
Auto Tune
Center Freq 870.000000 MHz
870.000000 MHz
Start Freq
30.000000 MHz
Stop Freq
1.710000000 GHz
CF Step
168.000000 MHz
<u>Auto</u> Man
Freq Offset
0 Hz





Plot 7-59. Conducted Spurious Plot (AWS WCDMA Mode – Ch. 1412)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	AMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 11 of 100
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Plot 7-61. Conducted Spurious Plot (AWS WCDMA Mode – Ch. 1513)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 45 of 100
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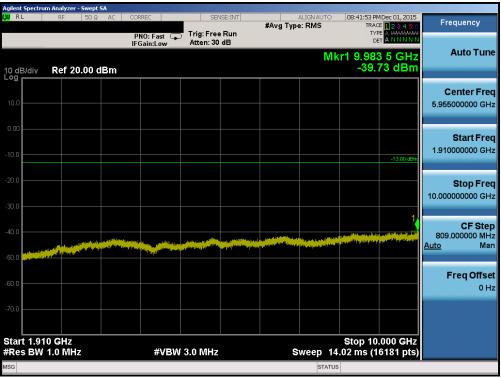
Plot 7-63. Conducted Spurious Plot (AWS WCDMA Mode – Ch. 1513)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager					
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	oectrum Analyzer								
L <mark>XI</mark> RL	RF	50 Ω AC	CORREC	SENSE:INT	#Avg Type: F	GNAUTO	08:41:46 PME TRACE	123456	Frequency
			PNO: Fast 🕞 IFGain:Low) Trig: Free Run Atten: 30 dB			DET	A WARAAA A N N N N N N	Auto Tune
10 dB/c	div Ref 2	0.00 dBm				Mki	1 1.845 -36.8	0 GHz 3 dBm	Auto Tune
10.0									Center Freq 937,500000 MHz
0.00									937.500000 MHZ
									Start Freq 30.000000 MHz
-10.0								-13.00 dBm	
-20.0									Stop Freq 1.845000000 GHz
-30.0								1	CF Step
-40.0									181.500000 MHz <u>Auto</u> Man
-50.0	Manager and a start of the start	ter all a subscription of the second s	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,					
-60.0									Freq Offset 0 Hz
-70.0									
Start :	30.0 MHz						Stop 1.84	50 GHz	
#Res	BW 1.0 MH	z	#VBW	3.0 MHz	Sv	veep 2.4	420 ms (3	631 pts)	
MSG						STATUS			

Plot 7-64. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)



Plot 7-65. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager				
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Plot 7-67. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	MMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 49 of 100
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	ectrum Analyzer - Swept							1		1
l <mark>XI</mark> RL	RF 50 Ω	AC CORF	REC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS		MDec 01, 2015	Frequency
			IO: Fast 🖵	Trig: Free				TYI	E A WWWWWW	
		IFG	ain:Low	Atten: 30	dB					Auto Tune
							IMIK	(r1 9.98	4 0 GHz	Autorun
10 dB/di	iv Ref 20.00 d	dBm						-39.	84 dBm	
										Center Fred
10.0										5.955000000 GHz
										5.95500000 GHZ
0.00										
0.00										Start Fred
-10.0										1.91000000 GH
-10.0									-13.00 dBm	
-20.0										
-20.0										Stop Fred
										10.00000000 GH;
-30.0										
										CF Step
-40.0		A	6.00 · · ·	والمتحديد والمعادي		and the second	A Disco Barrowski			809.000000 MH
		edited with the second second		and the second s	North Harrison	of the statistic line of the state	(The second state			<u>Auto</u> Mar
-50.0	The second s									
										Freq Offse
-60.0										0 H:
-70.0										
Start 1	.910 GHz							Stop 10	.000 GHz	
	3W 1.0 MHz		#VBW	3.0 MHz		s	weep 14	.02 ms (1	6181 pts)	
MSG							STATUS			
							UNATUR			





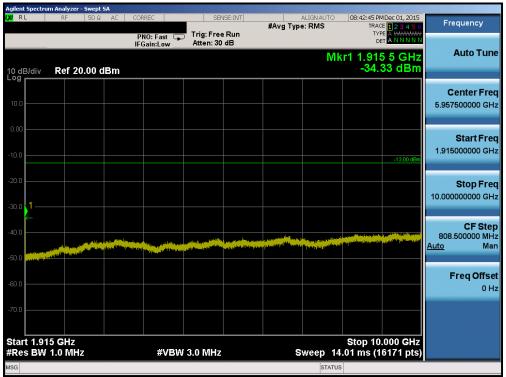
Plot 7-69. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	ISUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 40 of 100
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	ım Analyzer - Swept SA							_		
LXU RL	RF 50 Ω	AC COF	REC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	4Dec 01, 2015 E 1 2 3 4 5 6	Frequency
			NO: Fast 🔾 Gain:Low	Trig: Free Atten: 30				TYF De		Auto Tune
10 dB/div	Ref 20.00 dE	3m					Mk	r1 1.610 -47.3	30 GHz 36 dBm	Auto Tune
10.0										Center Freq 940.000000 MHz
-10.0									-13.00 dBm	Start Freq 30.000000 MHz
-20.0										Stop Freq 1.85000000 GHz
-40.0								↓ ¹	و مارو و	CF Step 182.00000 MHz <u>Auto</u> Man
-50.0	ngan mana mana kang m	ngang masa nga punisa danya	19-19-19-19-19-19-19-19-19-19-19-19-19-1	gaaren de lagen oppenskeren	interior, del geninato de					Freq Offset 0 Hz
-70.0										
Start 30.0 #Res BW			#VBW	3.0 MHz			Sweep 2	Stop 1.8 427 ms (500 GHz 3641 pts)	
MSG							STATUS	6		





Plot 7-71. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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Plot 7-72. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager		
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7.4 Band Edge Emissions at Antenna Terminal §22.1051 §22.917(a) §24.238(a) §27.53(h)

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 D01 v02r02 - Section 6.0

Test Settings

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW \geq 1% of the emission bandwidth
- 4. VBW <u>></u> 3 x RBW
- 5. Detector = RMS
- 6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
- 7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

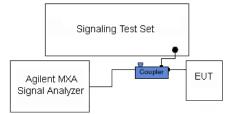


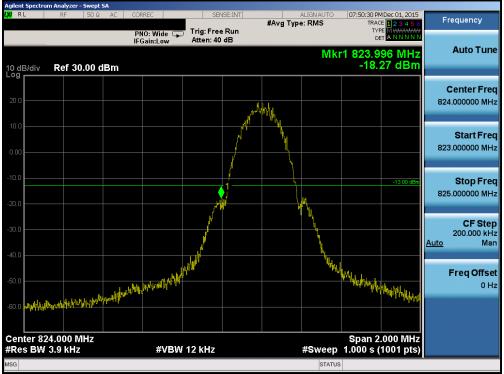
Figure 7-3. Test Instrument & Measurement Setup

Test Notes

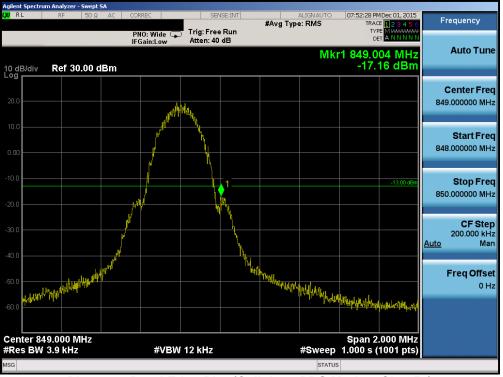
Per 22.917(b), 24.238(b), 27.53(h)(3), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. 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.

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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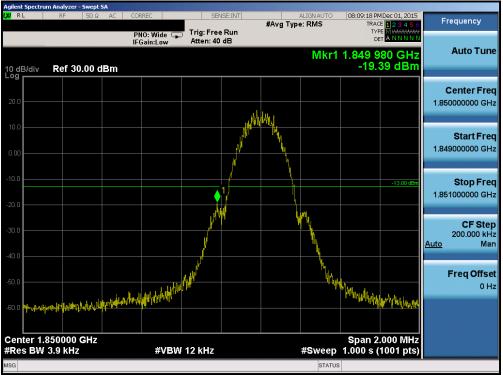
Plot 7-73. Band Edge Plot (Cellular GPRS Mode – Ch. 128)

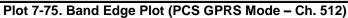


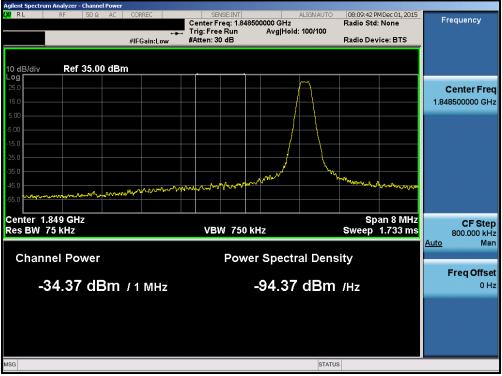
Plot 7-74. Band Edge Plot (Cellular GPRS Mode – Ch. 251)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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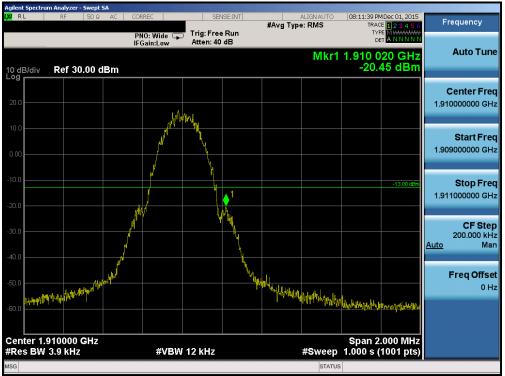


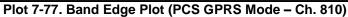


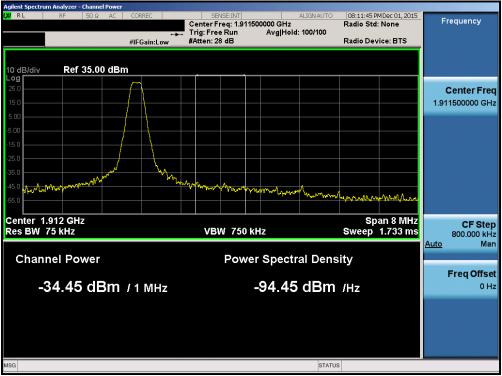
Plot 7-76. 4MHz Span Plot (PCS GPRS Mode – Ch. 512)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager		
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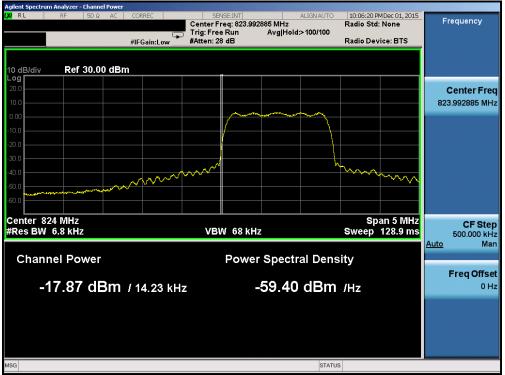




Plot 7-78. 4MHz Span Plot (PCS GPRS Mode – Ch. 810)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager		
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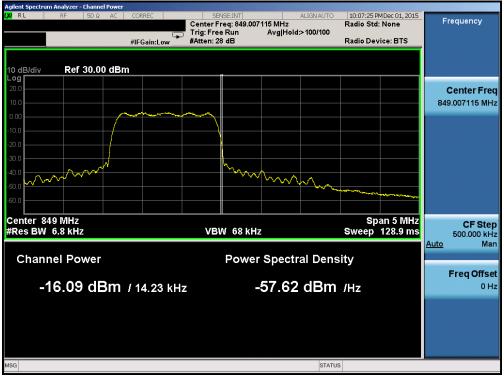




Plot 7-80. 4MHz Span Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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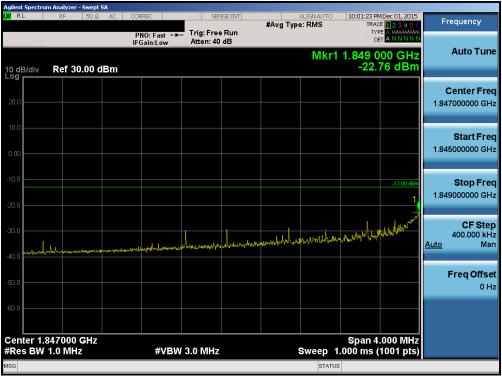
Plot 7-82. 4MHz Span Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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Plot 7-83. Band Edge Plot (PCS CDMA Mode – Ch. 25)



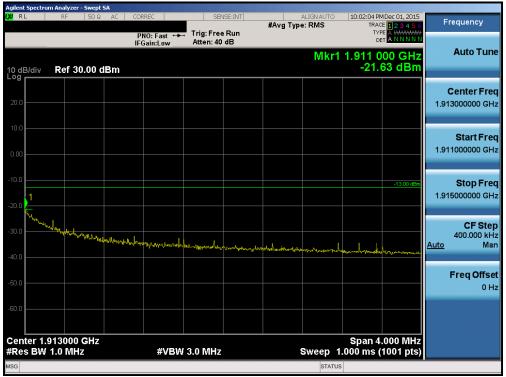
Plot 7-84. 4MHz Span Plot (PCS CDMA Mode - Ch. 25)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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Plot 7-86. 4MHz Span Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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	um Analyzer - Swept SA						_		
(XV) RL	RF 50Ω AC	CORREC	SENS	E:INT	#Avg Type	ALIGN AUTO	TRAC	4Dec 01, 2015 E 1 2 3 4 5 6	Frequency
10 dB/div	Ref 30.00 dBm	PNO: Fast 🖵 IFGain:Low	Trig: Free F Atten: 40 d			Mkr	TYF	00 MHz 55 dBm	Auto Tune
20.0									Center Freq 824.000000 MHz
0.00					A and a construction of the construction of th	www			Start Freq 816.500000 MHz
-10.0				1				-13.00 dBm	Stop Freq 831.500000 MHz
-30.0							h	hundred	CF Step 1.500000 MHz <u>Auto</u> Man
-40.0	mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm								Freq Offset 0 Hz
-60.0									
Center 82 #Res BW	24.000 MHz 100 kHz	#VBW	300 kHz			Sweep 1.	Span 1 867 ms (5.00 MHz 1001 pts)	
MSG						STATUS			





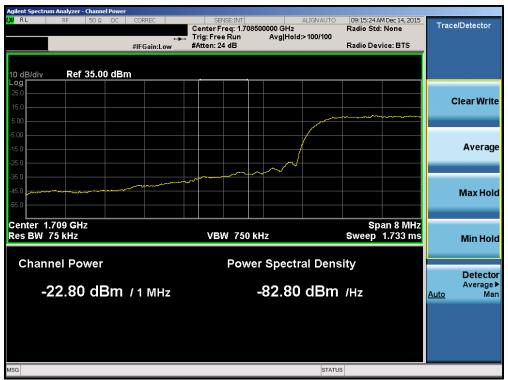
Plot 7-88. Band Edge Plot (Cellular WCDMA Mode - Ch. 4233)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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Plot 7-89. Band Edge Plot (AWS WCDMA Mode – Ch. 1312)

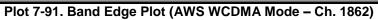


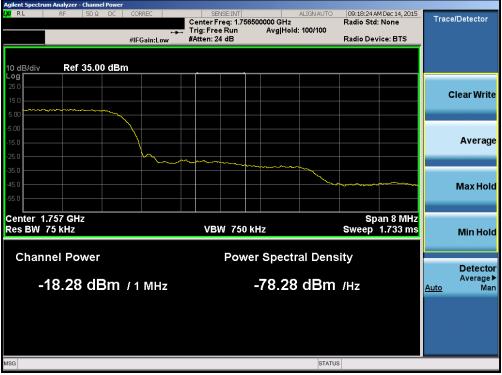
Plot 7-90. 4MHz Span Plot (AWS WCDMA Mode – Ch. 1312)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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	ım Analyzer - Swept SA					
L <mark>XI</mark> RL	RF 50 Ω DC	CORREC	SENSE:INT	ALIGNAUTO #Avg Type: RMS	09:18:12 AM Dec 14, 2015 TRACE 1 2 3 4 5 6	Frequency
		PNO: Wide 🖵 IFGain:Low	Trig: Free Run Atten: 40 dB		TYPE A WWWWW DET A N N N N	Auto Tune
10 dB/div Log	Ref 30.00 dBm			Mkr'	1 1.755 060 GHz -22.22 dBm	Auto Tune
20.0						Center Freq 1.755000000 GHz
0.00		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Start Freq 1.747500000 GHz
-10.0			1		-13.00 dBm	Stop Freq 1.762500000 GHz
-30.0	~~~~		· Lym			CF Step 1.500000 MHz <u>Auto</u> Man
-50.0				لىرىد. 	and the second	Freq Offset 0 Hz
-60.0						
#Res BW	755000 GHz 100 kHz	#VBW	300 kHz	Sweep	Span 15.00 MHz 1.867 ms (1001 pts)	
MSG				STATU	IS	





Plot 7-92. 4MHz Span Plot (AWS WCDMA Mode - Ch. 1862)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	NG	Reviewed by: Quality Manager
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Plot 7-93. Band Edge Plot (PCS WCDMA Mode – Ch. 9262)



Plot 7-94. 4MHz Span Plot (PCS WCDMA Mode - Ch. 9262)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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	Analyzer - Swept SA					
LXVI RL	RF 50Ω AC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	08:42:26 PMDec 01, 2015 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast 🖵 IFGain:Low	Trig: Free Run Atten: 40 dB			
10 dB/div Log	Ref 30.00 dBm	1		Mkr1	1.910 000 GHz -20.480 dBm	Auto Tune
20.0						Center Freq 1.910000000 GHz
0.00		Munder marked	im			Start Freq 1.902500000 GHz
-10.0			1		-13.00 dBm	Stop Freq 1.917500000 GHz
-30.0	mm			many		CF Step 1.500000 MHz <u>Auto</u> Man
-50.0				har and the second	man when when when when when when when whe	Freq Offset 0 Hz
-60.0						
Center 1.9 #Res BW 1		#VBW	300 kHz	Sweep 1	Span 15.00 MHz .867 ms (1001 pts)	
MSG				STATUS		





Plot 7-96. 4MHz Span Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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7.5 Peak-Average Ratio

Test Overview

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Test Procedure Used

KDB 971168 D01 v02r02 - Section 5.7.1

Test Settings

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

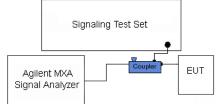


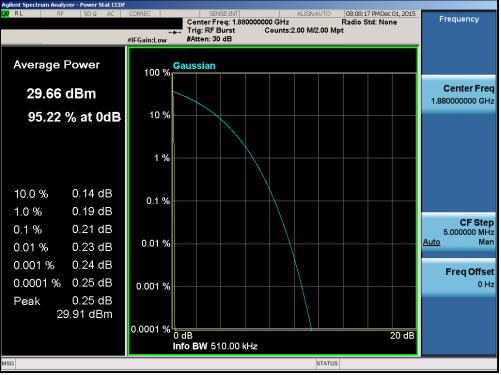
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

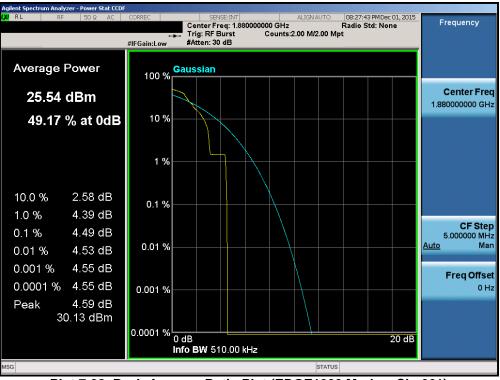
None

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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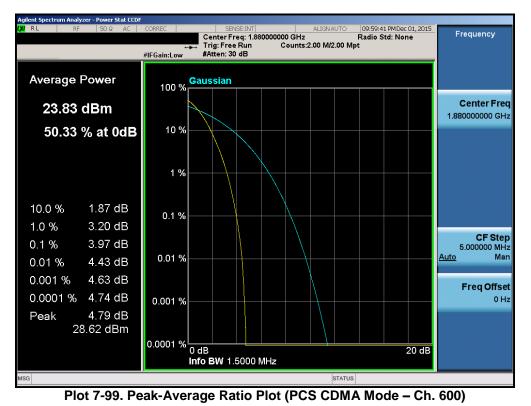


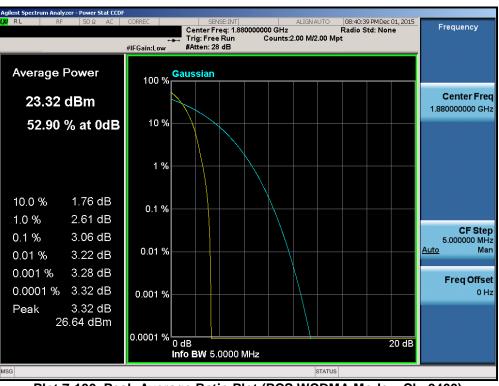


Plot 7-98. Peak-Average Ratio Plot (EDGE1900 Mode – Ch. 661)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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Plot 7-100. Peak-Average Ratio Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	UNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 67 of 109
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7.6 Radiated Power (ERP/EIRP) §22.913(a)(2) 24.232(c) 27.50(d.4)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-C-2004 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using horizontally and vertically polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v02r02 - Section 5.2.1

ANSI/TIA-603-C-2004 - Section 2.2.17

Test Settings

- Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
- 2. RBW = 1 5% of the expected OBW, not to exceed 1MHz
- 3. VBW \geq 3 x RBW
- 4. Span = 1.5 times the OBW
- 5. No. of sweep points $\geq 2 \times \text{span} / \text{RBW}$
- 6. Detector = RMS
- 7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
- 8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
- 9. Trace mode = trace averaging (RMS) over 100 sweeps
- 10. The trace was allowed to stabilize

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Reviewed by: Quality Manager
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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

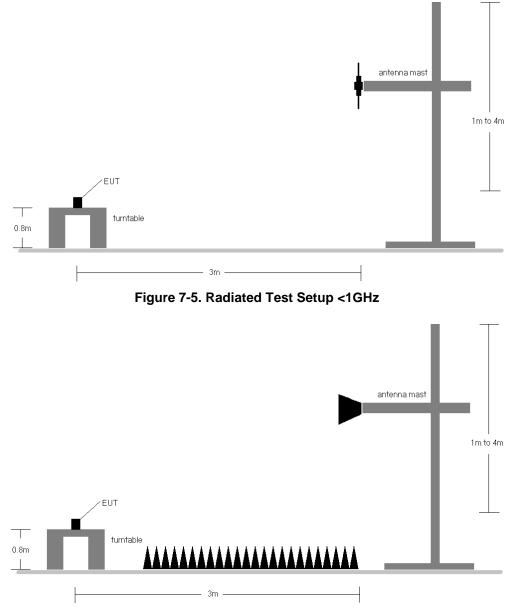


Figure 7-6. Radiated Test Setup >1GHz

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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- 1) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest power is reported in GPRS mode while transmitting with one slot active.
- 2) This device employs UMTS technology with WCDMA (AMR/RMC), HSDPA, and HSUPA capabilities. For WCDMA and HSUPA transmission, all configurations were investigated and the worst case UMTS emissions were found in RMC WCDMA mode at 12.2kbps with HSDPA inactive and TPC bits all set to "1."
- 3) This device was tested under all RC and SO combinations and the worst case is reported with RC3/SO55 with "All Up" power control bits.
- 4) This unit was tested with its standard battery.
- 5) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager		
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7.6.1 Antenna-A Radiated Power (ERP/EIRP)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBd]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.20	GPRS850	V	1.45	287	23.35	2.98	26.33	0.429	38.45	-12.13
836.60	GPRS850	V	1.32	294	21.94	3.04	24.98	0.315	38.45	-13.47
848.80	GPRS850	V	1.32	4	22.04	3.11	25.15	0.327	38.45	-13.30
824.20	EDGE850	V	1.45	287	16.92	2.98	19.90	0.098	38.45	-18.56

Table 7-2. ERP (Cellular GPRS/EDGE)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBd]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.70	CDMA850	V	1.39	60	15.28	4.95	20.23	0.105	38.45	-18.22
836.52	CDMA850	V	2.18	98	14.67	5.00	19.67	0.093	38.45	-18.78
848.31	CDMA850	V	1.24	102	13.98	5.05	19.03	0.080	38.45	-19.42

Table 7-3. ERP (Cellular CDMA)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBd]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
826.40	WCDMA850	V	1.39	106	13.59	4.95	18.54	0.071	38.45	-19.91
836.60	WCDMA850	V	2.20	60	14.08	5.00	19.08	0.081	38.45	-19.37
846.60	WCDMA850	V	1.25	80	13.02	5.05	18.07	0.064	38.45	-20.38

Table 7-4. ERP (Cellular WCDMA)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager				
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Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1712.40	WCDMA1700	V	1.00	31	13.30	9.26	22.56	0.180	30.00	-7.44
1732.60	WCDMA1700	V	1.00	33	12.55	8.99	21.54	0.143	30.00	-8.46
1752.60	WCDMA1700	V	1.00	35	12.27	8.74	21.01	0.126	30.00	-8.99

Table 7-5. EIRP (AWS WCDMA)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GPRS1900	V	1.11	105	17.04	8.34	25.38	0.345	33.01	-7.63
1880.00	GPRS1900	V	1.06	19	18.90	8.46	27.36	0.544	33.01	-5.65
1909.80	GPRS1900	V	1.06	73	18.15	8.65	26.80	0.479	33.01	-6.21
1880.00	EDGE1900	V	1.00	193	11.79	8.46	20.25	0.106	33.01	-12.76

Table 7-6. EIRP (PCS GPRS/EDGE)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1851.25	CDMA1900	Н	1.69	341	12.87	9.54	22.41	0.174	33.01	-10.60
1880.00	CDMA1900	Н	1.64	337	13.08	9.50	22.58	0.181	33.01	-10.43
1908.75	CDMA1900	н	2.08	335	13.38	9.48	22.86	0.193	33.01	-10.15

Table 7-7. EIRP (PCS CDMA)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	Н	2.21	343	13.07	9.54	22.61	0.182	33.01	-10.40
1880.00	WCDMA1900	Н	2.72	340	13.24	9.50	22.74	0.188	33.01	-10.27
1907.60	WCDMA1900	Н	2.15	328	11.59	9.48	21.07	0.128	33.01	-11.94

Table 7-8. EIRP (PCS WCDMA)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
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7.6.1 Antenna-B Radiated Power (ERP)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBd]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.70	CDMA850	V	1.32	150	10.87	2.98	13.85	0.024	38.45	-24.60
836.52	CDMA850	V	1.45	155	11.38	3.04	14.42	0.028	38.45	-24.03
848.31	CDMA850	V	1.45	155	10.81	3.10	13.91	0.025	38.45	-24.54

Table 7-9. ERP (Cellular CDMA)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBd]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
826.40	WCDMA850	<	1.20	181	12.03	2.99	15.02	0.032	38.45	-23.43
836.60	WCDMA850	V	1.20	179	13.67	3.04	16.71	0.047	38.45	-21.74
846.60	WCDMA850	V	1.20	180	12.83	3.10	15.93	0.039	38.45	-22.53

Table 7-10. ERP (Cellular WCDMA)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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7.7 Radiated Spurious Emissions Measurements §22.1053 §22.917(a) 24.238(a) 27.53(h)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-C-2004 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v02r02 - Section 5.8

ANSI/TIA-603-C-2004 - Section 2.2.12

Test Settings

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW \geq 3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points $\geq 2 \times \text{span} / \text{RBW}$
- 5. Detector = Peak
- 6. Trace mode = max hold
- 7. The trace was allowed to stabilize

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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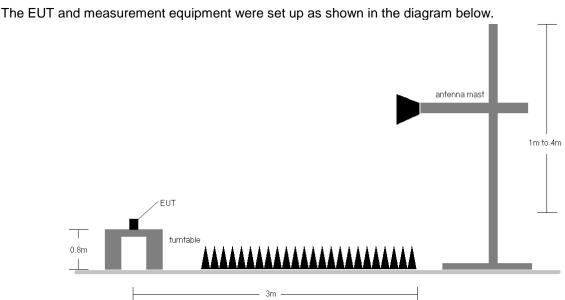


Figure 7-7. Test Instrument & Measurement Setup

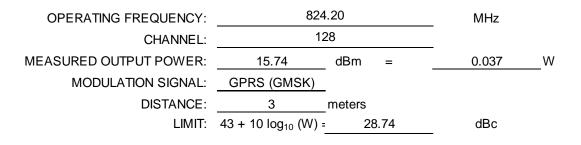
Test Notes

- 1) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest power is reported in GPRS mode while transmitting with one slot active.
- 2) This device employs UMTS technology with WCDMA (AMR/RMC), HSDPA, and HSUPA capabilities. For WCDMA and HSUPA transmission, all configurations were investigated and the worst case UMTS emissions were found in RMC WCDMA mode at 12.2kbps with HSDPA inactive and TPC bits all set to "1."
- 3) This device was tested under all RC and SO combinations and the worst case is reported with RC3/SO55 with "All Up" power control bits.
- 4) This unit was tested with its standard battery.
- 5) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
- 6) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 7) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 8) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

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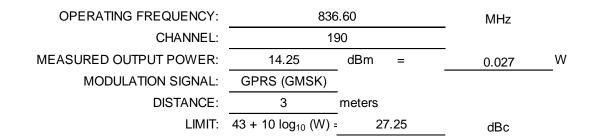


7.8 Antenna-A Radiated Spurious Emissions Measurements



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1648.40	н	1.10	314	-50.72	6.56	-44.17	59.9
2472.60	Н	1.00	95	-47.42	7.29	-40.13	55.9
3296.80	Н	1.00	0	-57.72	7.37	-50.35	66.1
4121.00	Н	1.00	0	-58.08	8.02	-50.07	65.8
4945.20	Н	1.00	0	-58.32	8.74	-49.59	65.3
5769.40	н	1.00	56	-51.29	9.20	-42.09	57.8

Table 7-11. Radiated Spurious Data (Cellular GPRS Mode – Ch. 128)



Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.20	Н	1.21	302	-54.30	6.55	-47.75	62.0
2509.80	Н	1.10	93	-51.35	7.34	-44.01	58.3

 Table 7-12. Radiated Spurious Data (Cellular GPRS Mode – Ch. 190)

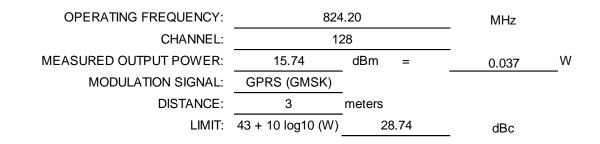
FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	848	8.80	MHz	
CHANNEL:	25			
MEASURED OUTPUT POWER:	14.44	dBm =	0.028	W
MODULATION SIGNAL:	GPRS (GMSK)			_
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	27.44	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1697.60	Н	1.00	369	-51.35	6.55	-44.80	59.2
2546.40	Н	1.00	93	-52.89	7.36	-45.52	60.0
3395.20	Н	1.00	0	-60.20	7.51	-52.69	67.1
4244.00	Н	1.00	249	-46.94	8.40	-38.54	53.0

Table 7-13. Radiated Spurious Data (Cellular GPRS Mode – Ch. 251)



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1648.40	Н	-	-	-67.07	6.56	-60.52	75.0
2472.60	Н	-	-	-65.90	7.29	-58.61	73.0
3296.80	Н	-	-	-62.87	7.37	-55.50	69.9

Table 7-14. Radiated Spurious Data with WCP (Cellular GPRS Mode – Ch. 128)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY:	824.70	MHz
CHANNEL:	1013	_
MEASURED OUTPUT POWER:	<u> 16.13 </u> dBm =	0.041 W
MODULATION SIGNAL:	CDMA	
DISTANCE:	3meters	
LIMIT:	43 + 10 log ₁₀ (W) =29.13	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1649.40	Н	1.00	345	-60.14	6.56	-53.58	69.7
2474.10	Н	1.00	0	-63.84	7.30	-56.54	72.7

Table 7-15. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)

OPERATING FREQUENCY:	836	6.52	MHz	
CHANNEL:	38			
MEASURED OUTPUT POWER:	15.90	dBm =	0.039	W
MODULATION SIGNAL:	CDMA	_		-
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	28.90	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.04	Н	1.00	175	-60.67	6.55	-54.12	70.0
2509.56	Н	1.00	0	-61.37	7.34	-54.03	69.9

Table 7-16. Radiated Spurious Data (Cellular CDMA Mode – Ch. 384)

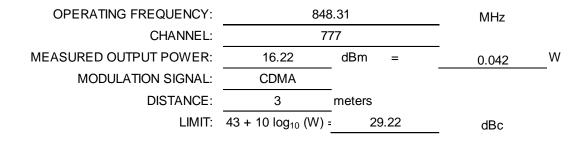
FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY:	848	3.31	MHz
CHANNEL:	77		
MEASURED OUTPUT POWER:	16.22	dBm =	0.042 W
MODULATION SIGNAL:	CDMA		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	29.22	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1696.62	Н	1.00	151	-58.76	6.55	-52.22	68.4
2544.93	Н	1.00	0	-60.88	7.36	-53.52	69.7

Table 7-17. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)



Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1696.62	Н	1.00	305	-60.51	6.55	-53.97	70.2
2544.93	Н	1.00	360	-61.05	7.36	-53.69	69.9

Table 7-18. Radiated Spurious Data with WCP (Cellular CDMA Mode – Ch. 777)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY:	826	MHz		
CHANNEL:	41	_		
MEASURED OUTPUT POWER:	14.41	dBm =	0.028	W
MODULATION SIGNAL:	WCDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	27.41	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1652.80	Н	1.00	189	-62.77	6.56	-56.22	70.6
2479.20	Н	1.00	0	-61.57	7.30	-54.27	68.7

Table 7-19. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4132)

OPERATING FREQUENCY:	836	6.60	MHz	
CHANNEL:	41	_		
MEASURED OUTPUT POWER:	14.97	dBm =	0.031	W
MODULATION SIGNAL:	WCDMA			-
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	27.97	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.20	Н	1.00	338	-61.95	6.55	-55.40	70.4
2509.80	Н	1.00	0	-60.79	7.34	-53.45	68.4

Table 7-20. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY:	846	6.60	MHz
CHANNEL:	42		
MEASURED OUTPUT POWER:	14.40	dBm =	0.028 W
MODULATION SIGNAL:	WCDMA		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	27.40	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1693.20	Н	1.00	170	-60.95	6.55	-54.40	68.8
2539.80	Н	1.00	360	-60.95	7.36	-53.60	68.0

Table 7-21. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4233)

OPERATING FREQUENCY:	836	6.60	MHz	
CHANNEL:	41	83		
MEASURED OUTPUT POWER:	14.97	dBm =	0.031	W
MODULATION SIGNAL:	WCDMA	-		_
DISTANCE:	3	meters		
LIMIT:	43 + 10 log10 (W)	27.97	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.20	Н	1.00	230	-62.11	6.55	-55.56	70.0
2509.80	Н	1.00	0	-60.52	7.34	-53.18	67.6

Table 7-22. Radiated Spurious Data with WCP (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager		
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OPERATING FREQUENCY:	1712.40	MHz
CHANNEL:	1312	
MEASURED OUTPUT POWER:	dBm =	<u> 0.180 </u> W
MODULATION SIGNAL:	WCDMA	
DISTANCE:	3meters	
LIMIT:	43 + 10 log ₁₀ (W) = 35.56	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3424.80	Н	1.00	0	-57.73	9.68	-48.05	70.6
5137.20	Н	1.00	360	-57.15	10.68	-46.47	69.0

Table 7-23. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1312)

OPERATING FREQUENCY:	173	2.60	MHz	
CHANNEL:	14	13	_	
MEASURED OUTPUT POWER:	21.54	dBm =	0.143	W
MODULATION SIGNAL:	WCDMA			-
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	34.54	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3465.20	Н	1.00	360	-58.13	9.71	-48.43	71.0
5197.80	Н	1.00	0	-56.40	10.59	-45.81	68.4

 Table 7-24. Radiated Spurious Data (AWS WCDMA Mode - Ch. 1413)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager		
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OPERATING FREQUENCY:	175	2.60	MHz	
CHANNEL:	15	_		
MEASURED OUTPUT POWER:	21.01	dBm =	0.126	W
MODULATION SIGNAL:	WCDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	34.01	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3505.20	Н	1.00	360	-57.81	9.73	-48.09	70.6
5257.80	Н	1.00	0	-56.08	10.64	-45.44	68.0

Table 7-25. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1513)

OPERATING FREQUENCY:	171	MHz		
CHANNEL:	13	312		
MEASURED OUTPUT POWER:	22.56	dBm =	0.180	W
MODULATION SIGNAL:	WCDMA	-		
DISTANCE:	3	meters		
LIMIT:	43 + 10 log10 (W)	35.56	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3424.80	Н	1.00	360	-59.95	9.68	-50.27	72.8
5137.20	Н	1.00	0	-54.83	10.68	-44.15	66.7

Table 7-26. Radiated Spurious Data with WCP (AWS WCDMA Mode – Ch. 1312)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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OPERATING FREQUENCY:	1850.20		MHz	
CHANNEL:	512		_	
MEASURED OUTPUT POWER:	25.38 dBm	=	0.345	W
MODULATION SIGNAL:	GPRS (GMSK)			
DISTANCE:	<u> </u>	S		
LIMIT:	43 + 10 log ₁₀ (W) =	38.38	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3700.40	Н	1.00	0	-54.34	9.44	-44.90	70.3
5550.60	Н	1.00	135	-39.37	10.78	-28.59	54.0
7400.80	Н	1.00	360	-58.65	10.69	-47.96	73.3

Table 7-27. Radiated Spurious Data (PCS GPRS Mode – Ch. 512)

OPERATING FREQUENCY:	188	0.00	MHz
CHANNEL:	66	_	
MEASURED OUTPUT POWER:	27.36	dBm =	0.544 W
MODULATION SIGNAL:	GPRS (GMSK)		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	40.36	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3760.00	Н	1.00	307	-53.98	9.28	-44.70	70.1
5640.00	Н	1.00	43	-50.80	11.03	-39.77	65.1

Table 7-28. Radiated Spurious Data (PCS GPRS Mode – Ch. 661)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	190	9.80	MHz
CHANNEL:	8		
MEASURED OUTPUT POWER:	26.80	dBm =	0.479 W
MODULATION SIGNAL:	GPRS (GMSK)		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	39.80	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3819.60	Н	1.00	0	-53.49	9.19	-44.30	69.7
5729.40	Н	1.00	0	-61.57	11.28	-50.29	75.7
7639.20	Н	1.00	0	-58.56	11.17	-47.39	72.8

 Table 7-29. Radiated Spurious Data (PCS GPRS Mode – Ch. 810)

OPERATING FREQUENCY:	188	0.00	MHz
CHANNEL:	66		
MEASURED OUTPUT POWER:	27.36	dBm =	0.544 W
MODULATION SIGNAL:	GPRS (GMSK)		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log10 (W)	40.36	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3760.00	Н	1.02	325	-56.78	9.28	-47.50	72.9
5640.00	Н	1.02	325	-63.97	11.03	-52.94	78.3
7520.00	Н	-	-	-62.53	10.97	-51.56	76.9

Table 7-30. Radiated Spurious Data with WCP (PCS GPRS Mode – Ch. 661)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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OPERATING FREQUENCY:	185	MHz		
CHANNEL:	2			
MEASURED OUTPUT POWER:	18.39	dBm =	0.069	W
MODULATION SIGNAL:	CDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	31.39	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3702.50	Н	1.00	0	-55.14	9.43	-45.71	64.1
5553.75	Н	1.00	360	-55.91	10.79	-45.12	63.5

 Table 7-31. Radiated Spurious Data (PCS CDMA Mode – Ch. 25)

OPERATING FREQUENCY:	188	0.00	MHz	
CHANNEL:	60			
MEASURED OUTPUT POWER:	18.58	dBm =	0.072	W
MODULATION SIGNAL:	CDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	31.58	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3760.00	Н	1.00	360	-55.50	9.28	-46.22	64.6
5640.00	Н	1.00	0	-56.76	11.03	-45.72	64.1

 Table 7-32. Radiated Spurious Data (PCS CDMA Mode – Ch. 600)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager			
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OPERATING FREQUENCY:	190	8.75	MHz	
CHANNEL:	11	_		
MEASURED OUTPUT POWER:	18.50	dBm =	0.071	W
MODULATION SIGNAL:	CDMA			-
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	31.50	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3817.50	Н	1.00	360	-54.02	9.19	-44.83	63.2
5726.25	Н	1.00	0	-56.67	11.28	-45.39	63.8

Table 7-33. Radiated Spurious Data (PCS CDMA Mode – Ch. 1175)

OPERATING FREQUENCY:	188	0.00	MHz	
CHANNEL:	60			
MEASURED OUTPUT POWER:	18.58	dBm =	0.072 V	V
MODULATION SIGNAL:	CDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log10 (W)	31.58	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3760.00	Н	1.00	360	-55.34	9.28	-46.06	64.5
5640.00	Н	1.00	0	-54.36	11.03	-43.32	61.7

 Table 7-34. Radiated Spurious Data with WCP (PCS CDMA Mode – Ch. 600)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	1852.40	MHz
CHANNEL:	9262	
MEASURED OUTPUT POWER:	<u> 19.61 </u> dBm =	0.091 W
MODULATION SIGNAL:	WCDMA	
DISTANCE:	<u> </u>	
LIMIT:	43 + 10 log ₁₀ (W) = 32.61	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3704.80	Н	1.00	0	-55.49	9.43	-46.06	65.7
5557.20	Н	1.00	360	-54.21	10.80	-43.42	63.0

Table 7-35. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)

OPERATING FREQUENCY:	188	0.00	MHz	
CHANNEL:	94	00	_	
MEASURED OUTPUT POWER:	19.48	dBm =	0.089	W
MODULATION SIGNAL:	WCDMA			-
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	32.48	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3760.00	Н	1.00	360	-54.56	9.28	-45.28	64.9
5640.00	Н	1.00	0	-53.95	11.03	-42.91	62.5

 Table 7-36. Radiated Spurious Data (PCS WCDMA Mode - Ch. 9400)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	190	7.60	MHz	
CHANNEL:	95	38	_	
MEASURED OUTPUT POWER:	18.62	dBm =	0.073	W
MODULATION SIGNAL:	WCDMA			_
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	31.62	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3815.20	Н	1.00	360	-54.91	9.19	-45.72	65.3
5722.80	Н	1.00	0	-54.88	11.27	-43.60	63.2

Table 7-37. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

OPERATING FREQUENCY:	185	2.40	MHz	
CHANNEL:	92	262	_	
MEASURED OUTPUT POWER:	19.61	dBm =	0.091	W
MODULATION SIGNAL:	WCDMA	-		_
DISTANCE:	3	meters		
LIMIT:	43 + 10 log10 (W)	32.61	dBc	

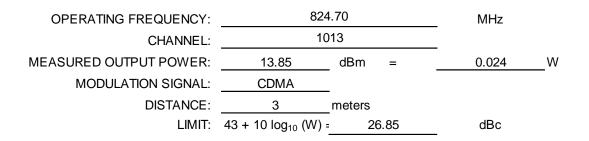
Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	[dBc]
3704.80	Н	1.00	360	-55.58	9.43	-46.15	65.8
5557.20	Н	1.00	0	-54.29	10.80	-43.50	63.1

Table 7-38. Radiated Spurious Data with WCP (PCS WCDMA Mode – Ch. 9262)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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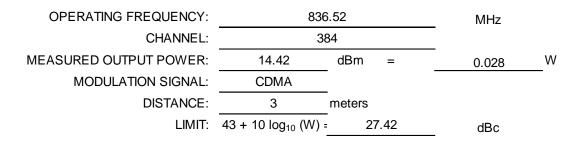


7.8.1 Antenna-B Radiated Spurious Emissions Measurements



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1649.40	Н	1.00	165	-61.02	6.56	-54.46	70.6
2474.10	Н	1.00	0	-63.53	7.30	-56.23	72.4
3298.80	Н	1.00	360	-57.97	7.37	-50.60	66.7

 Table 7-39. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)



Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.04	Н	1.00	175	-60.85	6.55	-54.30	70.2
2509.56	Н	1.00	0	-57.23	7.34	-49.89	65.8

Table 7-40. Radiated Spurious Data (Cellular CDMA Mode – Ch. 384)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	848	3.31	MHz
CHANNEL:	77	77	
MEASURED OUTPUT POWER:	13.91	dBm =	0.025 W
MODULATION SIGNAL:	CDMA		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	26.91	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1696.62	Н	1.00	136	-58.76	6.55	-52.22	68.4
2544.93	Н	1.00	0	-59.54	7.36	-52.18	68.4

Table 7-41. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)

OPERATING FREQUENCY:	836	6.52	MHz	
CHANNEL:	38	34		
MEASURED OUTPUT POWER:	14.42	dBm =	0.028	W
MODULATION SIGNAL:	CDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log10 (W)	27.42	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.04	Н	1.00	0	-62.68	6.55	-56.13	72.4
2521.35	Н	1.00	330	-58.23	7.34	-50.89	67.1

Table 7-42. Radiated Spurious Data with WCP (Cellular CDMA Mode – Ch. 384)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	826	.40	MHz	
CHANNEL:	41	32		
MEASURED OUTPUT POWER:	15.02	dBm =	0.032	W
MODULATION SIGNAL:	WCDMA			
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	28.02	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1652.80	Н	1.00	360	-60.69	6.56	-54.14	68.5
2479.20	Н	1.00	0	-61.92	7.30	-54.62	69.0

 Table 7-43. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4132)

OPERATING FREQUENCY:	836	6.60	MHz	
CHANNEL:	41	83	_	
MEASURED OUTPUT POWER:	16.71	dBm =	0.047	W
MODULATION SIGNAL:	WCDMA	_		_
DISTANCE:	3	meters		
LIMIT:	43 + 10 log ₁₀ (W) =	29.71	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.20	Н	1.00	360	-61.48	6.55	-54.93	69.9
2509.80	Н	1.00	0	-63.58	7.34	-56.24	71.2

Table 7-44. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	846	6.60	MHz
CHANNEL:	42	4233	
MEASURED OUTPUT POWER:	15.93	dBm =	0.039 W
MODULATION SIGNAL:	WCDMA		
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	28.93	dBc

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [m]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1693.20	Н	1.00	360	-60.52	6.55	-53.97	68.4
2539.80	Н	1.00	0	-60.93	7.36	-53.58	68.0

Table 7-45. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4233)

OPERATING FREQUENCY:	846.60		MHz	
CHANNEL:	42	33		
MEASURED OUTPUT POWER:	15.93	dBm =	0.039	W
MODULATION SIGNAL:	WCDMA			_
DISTANCE:	3	meters		
LIMIT:	43 + 10 log10 (W)	28.93	dBc	

Frequency [MHz]	Ant. Pol. [H/V]	Height	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1693.20	Н	1.00	182	-60.16	6.55	-53.61	68.0
2529.80	Н	1.00	0	-60.79	7.36	-53.44	67.8

Table 7-46. Radiated Spurious Data with WCP (Cellular WCDMA Mode – Ch. 4233)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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7.9 Frequency Stability / Temperature Variation §2.1055 §22.355 §24.235 §27.54

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-C-2004. 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 and AC powered 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.

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 24 and Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-C-2004

Test Settings

- 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 fifteen minutes 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.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

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OPERATING FREQUENCY: 836,600,000 Hz

CHANNEL:

190

VDC

REFERENCE VOLTAGE: 3.85

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	836,600,233	233	0.0000279
100 %		- 30	836,599,903	-97	-0.0000116
100 %		- 20	836,600,063	63	0.0000075
100 %		- 10	836,599,652	-348	-0.0000416
100 %		0	836,600,147	147	0.0000176
100 %		+ 10	836,600,208	208	0.0000249
100 %		+ 20	836,599,823	-177	-0.0000212
100 %		+ 30	836,599,870	-130	-0.0000155
100 %		+ 40	836,599,991	-9	-0.0000011
100 %		+ 50	836,599,963	-37	-0.0000044
BATT. ENDPOINT	3.45	+ 20	836,600,162	162	0.0000194

 Table 7-47. Frequency Stability Data (Cellular GPRS Mode – Ch. 190)

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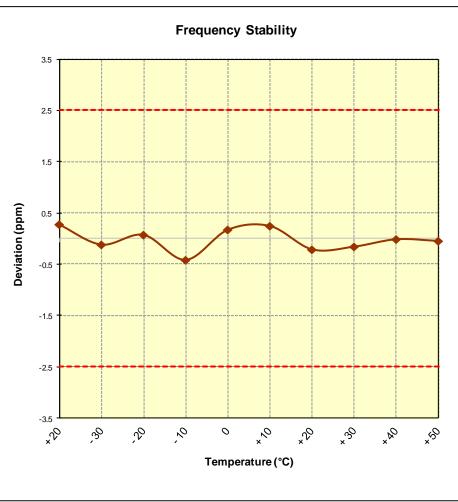


Figure 7-8. Frequency Stability Graph (Cellular GPRS Mode – Ch. 190)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY: 836,520,000 Hz

CHANNEL:

REFERENCE VOLTAGE: 3.85

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	836,520,007	7	0.000008
100 %		- 30	836,519,937	-63	-0.0000075
100 %		- 20	836,519,972	-28	-0.0000033
100 %		- 10	836,519,996	-4	-0.0000005
100 %		0	836,520,059	59	0.0000071
100 %		+ 10	836,520,011	11	0.0000013
100 %		+ 20	836,520,109	109	0.0000130
100 %		+ 30	836,519,808	-192	-0.0000230
100 %		+ 40	836,520,054	54	0.0000065
100 %		+ 50	836,519,900	-100	-0.0000120
BATT. ENDPOINT	3.45	+ 20	836,520,084	84	0.0000100

384

VDC

Table 7-48. Frequency Stability Data (Cellular CDMA Mode – Ch. 384)

FCC ID: A3LSMG930US		FCC PL 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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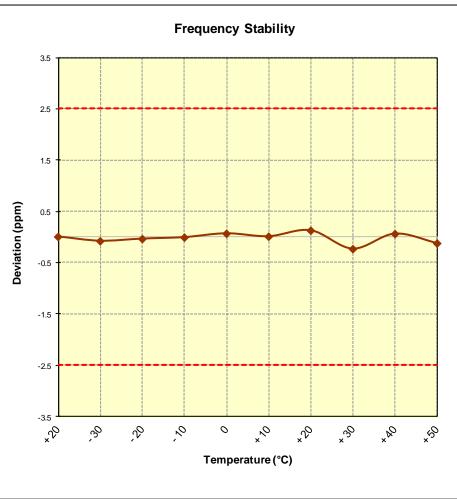


Figure 7-9. Frequency Stability Graph (Cellular CDMA Mode – Ch. 384)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY:	836,600,000	Hz
CHANNEL:	4183	
REFERENCE VOLTAGE:	3.85	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	836,600,166	166	0.0000198
100 %		- 30	836,600,058	58	0.0000069
100 %		- 20	836,600,211	211	0.0000252
100 %		- 10	836,599,689	-311	-0.0000372
100 %		0	836,599,824	-176	-0.0000210
100 %		+ 10	836,600,150	150	0.0000179
100 %		+ 20	836,599,919	-81	-0.0000097
100 %		+ 30	836,600,324	324	0.0000387
100 %		+ 40	836,600,346	346	0.0000414
100 %		+ 50	836,599,876	-124	-0.0000148
BATT. ENDPOINT	3.45	+ 20	836,599,760	-240	-0.0000287

 Table 7-49. Frequency Stability Data (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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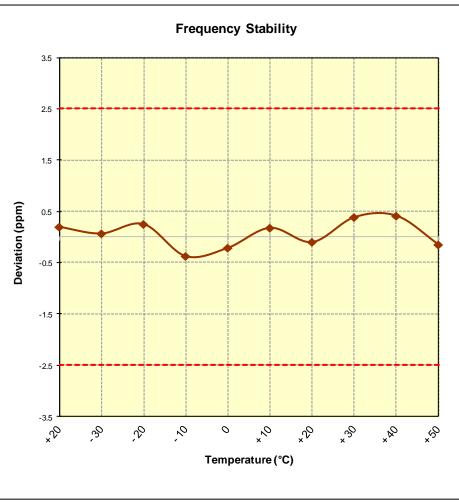


Figure 7-10. Frequency Stability Graph (Cellular WCDMA Mode – Ch. 4183)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager	
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OPERATING FREQUENCY:	1,732,600,000	Hz
CHANNEL:	1413	
REFERENCE VOLTAGE:	3.85	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,732,600,309	309	0.0000178
100 %		- 30	1,732,599,877	-123	-0.0000071
100 %		- 20	1,732,600,076	76	0.0000044
100 %		- 10	1,732,600,138	138	0.0000080
100 %		0	1,732,599,884	-116	-0.0000067
100 %		+ 10	1,732,600,065	65	0.0000038
100 %		+ 20	1,732,600,222	222	0.0000128
100 %		+ 30	1,732,600,078	78	0.0000045
100 %		+ 40	1,732,599,885	-115	-0.000066
100 %		+ 50	1,732,599,892	-108	-0.0000062
BATT. ENDPOINT	3.45	+ 20	1,732,599,897	-103	-0.0000059

 Table 7-50. Frequency Stability Data (AWS WCDMA Mode – Ch. 1412)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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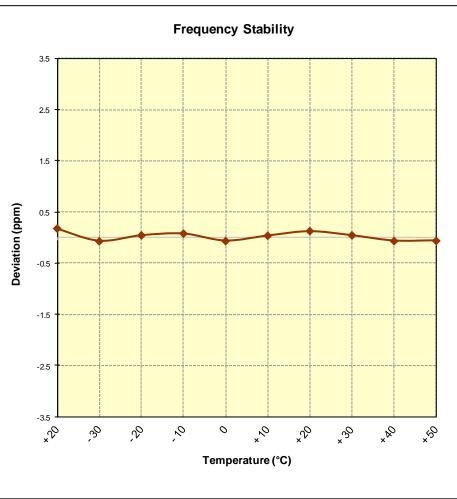


Figure 7-11. Frequency Stability Graph (AWS WCDMA Mode – Ch. 1412)

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OPERATING FREQUENCY:	1,880,000,000	Hz
CHANNEL:	661	
REFERENCE VOLTAGE:	3.85	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,879,999,549	-451	-0.0000240
100 %		- 30	1,880,000,019	19	0.0000010
100 %		- 20	1,879,999,905	-95	-0.0000051
100 %		- 10	1,880,000,082	82	0.0000044
100 %		0	1,879,999,587	-413	-0.0000220
100 %		+ 10	1,879,999,905	-95	-0.0000051
100 %		+ 20	1,880,000,002	2	0.0000001
100 %		+ 30	1,879,999,901	-99	-0.0000053
100 %		+ 40	1,880,000,313	313	0.0000166
100 %		+ 50	1,880,000,087	87	0.0000046
BATT. ENDPOINT	3.45	+ 20	1,879,999,909	-91	-0.0000048

Table 7-51. Frequency Stability Data (PCS GPRS Mode – Ch. 661)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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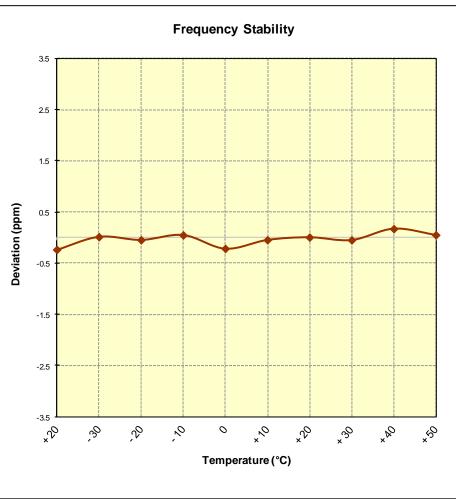


Figure 7-12. Frequency Stability Graph (PCS GPRS Mode – Ch. 661)

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OPERATING FREQUENCY:	1,880,000,000	Hz
CHANNEL:	600	
REFERENCE VOLTAGE:	3.85	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,879,999,665	-335	-0.0000178
100 %		- 30	1,879,999,849	-151	-0.000080
100 %		- 20	1,880,000,057	57	0.0000030
100 %		- 10	1,880,000,147	147	0.0000078
100 %		0	1,879,999,932	-68	-0.0000036
100 %		+ 10	1,879,999,610	-390	-0.0000207
100 %		+ 20	1,879,999,946	-54	-0.0000029
100 %		+ 30	1,879,999,709	-291	-0.0000155
100 %		+ 40	1,880,000,181	181	0.0000096
100 %		+ 50	1,880,000,026	26	0.0000014
BATT. ENDPOINT	3.45	+ 20	1,879,999,994	-6	-0.000003

Table 7-52. Frequency Stability Data (PCS CDMA Mode – Ch. 600)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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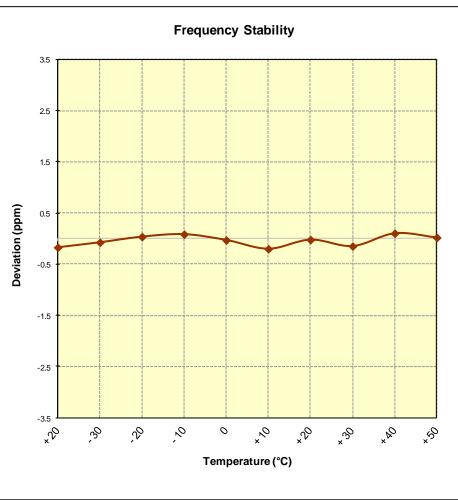


Figure 7-13. Frequency Stability Graph (PCS CDMA Mode – Ch. 600)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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OPERATING FREQUENCY:	1,880,000,000	Hz
CHANNEL:	9400	
REFERENCE VOLTAGE:	3.85	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,879,999,932	-68	-0.0000036
100 %		- 30	1,879,999,699	-301	-0.0000160
100 %		- 20	1,879,999,811	-189	-0.0000101
100 %		- 10	1,880,000,093	93	0.0000049
100 %		0	1,879,999,772	-228	-0.0000121
100 %		+ 10	1,880,000,105	105	0.0000056
100 %		+ 20	1,880,000,004	4	0.0000002
100 %		+ 30	1,879,999,863	-137	-0.0000073
100 %		+ 40	1,880,000,106	106	0.0000056
100 %		+ 50	1,879,999,694	-306	-0.0000163
BATT. ENDPOINT	3.45	+ 20	1,880,000,113	113	0.0000060

Table 7-53. Frequency Stability Data (PCS WCDMA Mode – Ch. 9400)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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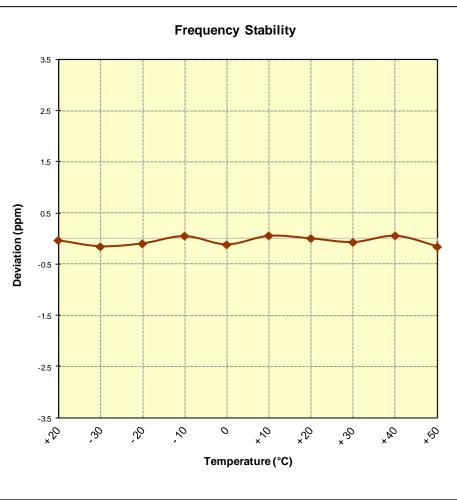


Figure 7-14. Frequency Stability Graph (PCS WCDMA Mode – Ch. 9400)

FCC ID: A3LSMG930US		FCC Pt. 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG930US** complies with all the requirements of Parts 22, 24, & 27 of the FCC rules.

FCC ID: A3LSMG930US		FCC PL 22, 24, & 27 GSM/GPRS/EDGE/CDMA/WCDMA MEASUREMENT REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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