



PCTEST ENGINEERING LABORATORY, INC.

6660-B Dobbin Road, Columbia, MD 21045 USA
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<http://www.pctestlab.com>



CERTIFICATE OF COMPLIANCE FCC Part 22 & 24 Certification

Applicant Name:
Samsung Electronics, Co. Ltd.
18600 Broadwick St.
Rancho Dominguez, CA 90220 USA

Date of Testing:
December 27 - 29, 2006
Test Site/Location:
PCTEST Lab., Columbia, MD, USA
Test Report Serial No.:
0612151117-W

FCC ID: A3LSGHA717

APPLICANT: SAMSUNG ELECTRONICS, CO. LTD.

Application Type: Certification
FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s): §2; §22(H), §24(E)
EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR
Model(s): SGH-A717
Tx Frequency Range: 826.40 - 846.60MHz (Cell. WCDMA) / 1852.40 - 1907.60MHz (PCS WCDMA)
Rx Frequency Range: 871.40 - 891.80MHz (Cell. WCDMA) / 1932.40 - 1995.60MHz (PCS WCDMA)
Max. RF Output Power: 0.241 W ERP Cell. WCDMA (23.820 dBm)
0.042 W EIRP PCS WCDMA (16.270 dBm)
Max. SAR Measurement: 0.576 W/kg Cell. WCDMA Head SAR; 0.497 W/kg Cell. WCDMA Body SAR
0.115 W/kg PCS WCDMA Head SAR; 0.168 W/kg PCS WCDMA Body SAR
Emission Designator(s): 4M16F9W (Cellular WCDMA) / 4M15F9W (PCS WCDMA)
Test Device Serial No.: identical prototype [S/N: N/A]

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Grant Conditions: Power output listed is ERP for Part 22 and EIRP for Part 24. SAR compliance for body-worn operating configuration is based on a separation distance of 1.5 cm between the back of the unit and the body of the user. End-users must be informed of the body-worn operating requirements for satisfying RF exposure compliance. Belt clips or holsters may not contain metallic components.

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

Randy Ortanez
President

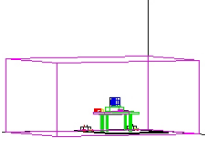


FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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TABLE OF CONTENTS

FCC PART 24 & 22 MEASUREMENT REPORT	3
1.0 INTRODUCTION	4
1.1 MEASUREMENT PROCEDURE	4
1.2 SCOPE	4
1.3 TESTING FACILITY	4
2.0 PRODUCT INFORMATION	5
2.1 EQUIPMENT DESCRIPTION	5
2.2 EMI SUPPRESSION DEVICE(S)/MODIFICATIONS	5
3.0 DESCRIPTION OF TESTS	6
3.1 OCCUPIED BANDWIDTH EMISSION LIMITS	6
3.2 CELLULAR - BASE FREQUENCY BLOCKS	6
3.3 CELLULAR - MOBILE FREQUENCY BLOCKS	6
3.4 PCS - BASE FREQUENCY BLOCKS	7
3.5 PCS - MOBILE FREQUENCY BLOCKS	7
3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL	7
3.7 RADIATED SPURIOUS AND HARMONIC EMISSIONS	7
3.8 FREQUENCY STABILITY / TEMPERATURE VARIATION	8
4.0 TEST EQUIPMENT CALIBRATION DATA	9
5.0 SAMPLE CALCULATIONS	10
6.0 TEST RESULTS	11
6.1 CONDUCTED OUTPUT POWER	12
6.2 EFFECTIVE RADIATED POWER OUTPUT DATA	13
6.3 EQUIVALENT ISOTROPIC RADIATED POWER OUTPUT DATA	14
6.4 CELLULAR WCDMA RADIATED MEASUREMENTS	15
6.5 PCS WCDMA RADIATED MEASUREMENTS	18
6.6 CELLULAR WCDMA FREQUENCY STABILITY	21
6.7 PCS WCDMA FREQUENCY STABILITY	23
7.0 PLOTS OF EMISSIONS	25
8.0 CONCLUSION	36
EXHIBIT A – TEST SETUP PHOTOGRAPHS	37
EXHIBIT B – INTERNAL PHOTOGRAPHS	38
EXHIBIT C – EXTERNAL PHOTOGRAPHS	39

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 2 of 39	



MEASUREMENT REPORT



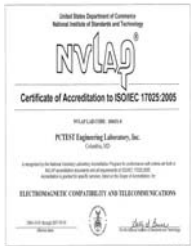
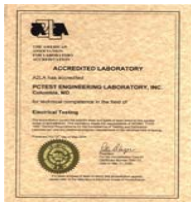
FCC Part 22 & 24

A. §2.1033 General Information

APPLICANT: Samsung Electronics, Co. Ltd.
APPLICANT ADDRESS: 18600 Broadwick St.
Rancho Dominguez, CA 90220 USA
TEST SITE: PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS: 6660-B Dobbin Road, Columbia, MD 21045 USA
FCC RULE PART(S): §2; §22(H), §24(E)
MODEL NAME: SGH-A717
FCC ID: A3LSGHA717
FCC CLASSIFICATION: PCS Licensed Transmitter Held to Ear (PCE)
EMISSION DESIGNATOR(S): 4M16F9W (Cellular WCDMA) / 4M15F9W (PCS WCDMA)
MODE: WCDMA / HSDPA
FREQUENCY TOLERANCE: $\pm 0.00025\%$ (2.5 ppm)
Test Device Serial No.: N/A ☐ Production ☒ Pre-Production ☐ Engineering
DATE(S) OF TEST: December 27 - 29, 2006
TEST REPORT S/N: 0612151117-W

A.1 Test Facility / Accreditations

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



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

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 3 of 39	

1.0 INTRODUCTION

1.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (see Figure 1-1). The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

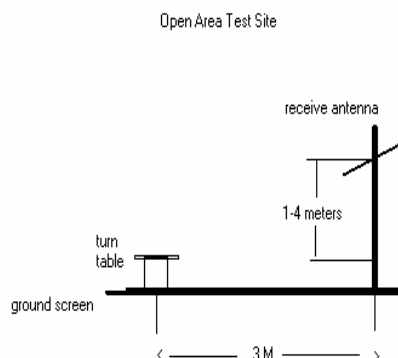


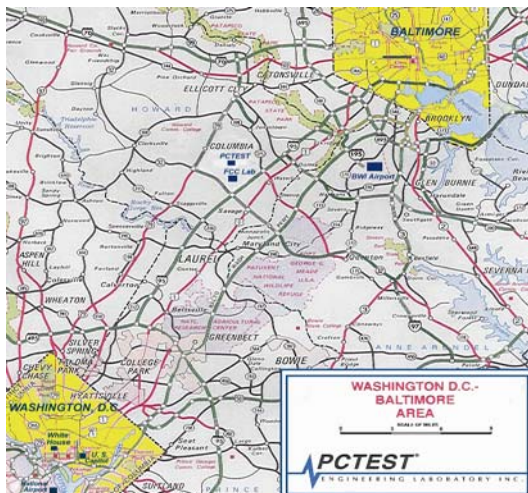
Figure 1-1. Diagram of 3-meter outdoor test range

Deviation from Measurement Procedure.....None

1.2 Scope

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

1.3 Testing Facility



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

Figure 1-3. Map of the Greater Baltimore and Metropolitan Washington, D.C. area.

FCC ID: A3LSGH717	PCTEST wires	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 4 of 39

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR FCC ID: A3LSGHA717**. The EUT consisted of the following components(s):

Manufacturer / Description	FCC ID	Serial Number
Samsung Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	A3LSGHA717	N/A

Table 2-1. EUT Equipment Description

2.2 EMI Suppression Device(s)/Modifications

EMI suppression device(s) added and/or modifications made during testing.

- None

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 5 of 39

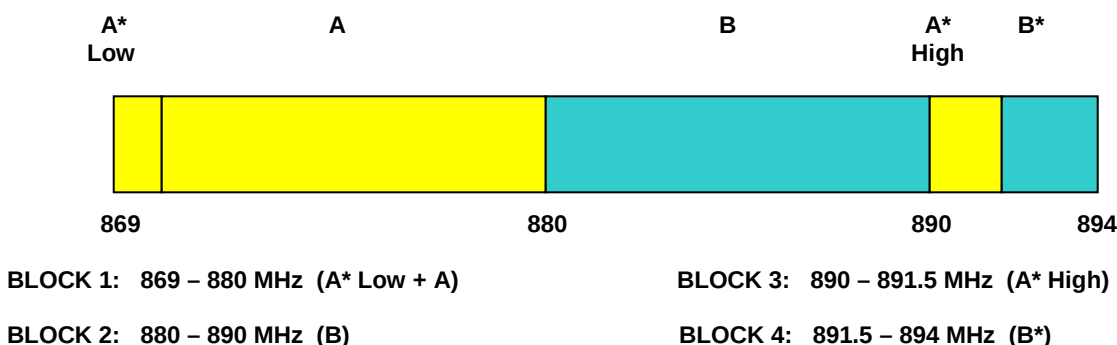
3.0 DESCRIPTION OF TESTS

3.1 Occupied Bandwidth Emission Limits

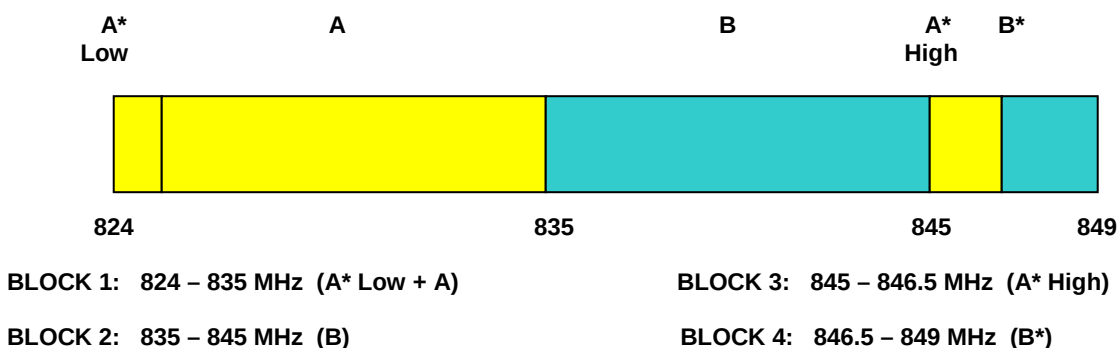
§2.1049, 22.917(a), 24.238(a)

- On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.
- Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
- When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
- The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

3.2 Cellular - Base Frequency Blocks

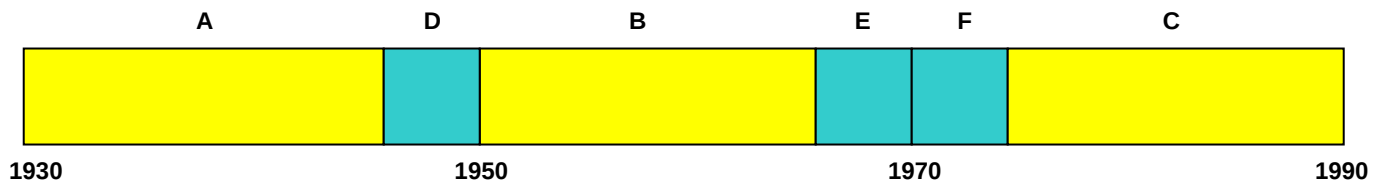


3.3 Cellular - Mobile Frequency Blocks



FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 6 of 39

3.4 PCS - Base Frequency Blocks



BLOCK 1: 1930 – 1945 MHz (A)

BLOCK 4: 1965 – 1970 MHz (E)

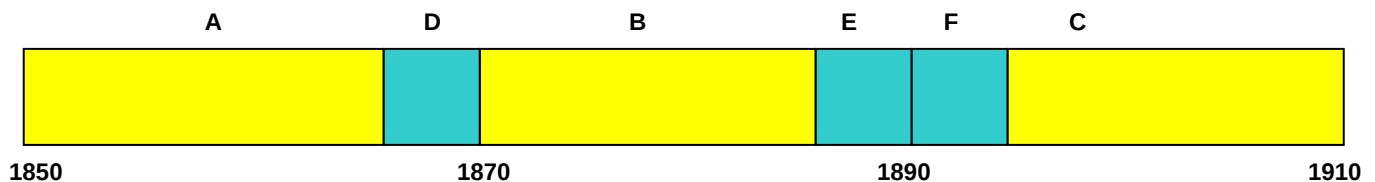
BLOCK 2: 1945 – 1950 MHz (D)

BLOCK 5: 1970 – 1975 MHz (F)

BLOCK 3: 1950 – 1965 MHz (B)

BLOCK 6: 1975 – 1990 MHz (C)

3.5 PCS - Mobile Frequency Blocks



BLOCK 1: 1850 – 1865 MHz (A)

BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 2: 1865 – 1870 MHz (D)

BLOCK 5: 1890 – 1895 MHz (F)

BLOCK 3: 1870 – 1885 MHz (B)

BLOCK 6: 1895 – 1910 MHz (C)

3.6 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, 22.917(a), 24.238(a); RSS-129 (8.1.1), RSS-133 (6.5.1)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

3.7 Radiated Spurious and Harmonic Emissions

§2.1053, 22.917(a), 24.238(a); RSS-132 (4.5.1.2), RSS-133 (6.5.1(i))

Spurious and harmonic radiated emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1".

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 7 of 39	

3.8 Frequency Stability / Temperature Variation

§2.1055, 22.355, 24.235; RSS-132 (4.3), RSS-133 (6.7(a,b))

The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter and the individual oscillators is measured at room temperature (20°C to provide a reference).
2. The equipment is subjected to an overnight “soak” at -30°C without any power applied.
3. After the overnight “soak” at -30°C (usually 14-16 hours) the equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter and the individual oscillators is made within one minute after applying power to the transmitter.
4. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. At least a period of one half-hour is provided to allow stabilization of the equipment at each temperature level.

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Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 8 of 39	

4.0 TEST EQUIPMENT CALIBRATION DATA

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

Manufacturer	Model / Equipment	Calibration Date	Cal Interval	Calibration Due	Serial No.
Agilent	E4404B/E4407B ESA Spectrum Analyzer	04/20/06	Annual	04/20/07	US39210313
Agilent	E5515C Wireless Communications Test Set	07/27/06	Annual	07/27/07	GB41450275
Agilent	E5515C Wireless Communications Test Set	10/06/06	Annual	10/06/07	GB43193972
Agilent	E4432B ESG-D Series Signal Generator	08/08/06	Annual	08/08/07	US40053896
Agilent	8648D (9kHz-4GHz) Signal Generator	10/01/06	Annual	10/01/07	3613A00315
EMCO	Model 3115 (1-18GHz) Horn Antenna	08/24/06	Biennial	08/23/08	9203-2178
EMCO	Model 3115 (1-18GHz) Horn Antenna	08/25/06	Biennial	08/24/08	9704-5182
Gigatronics	8657A Universal Power Meter	04/07/06	Annual	04/07/07	8650319
Gigatronics	80701A (0.05-18GHz) Power Sensor	04/11/06	Annual	04/11/07	1833460
Rohde & Schwarz	NRVS Power Meter	06/01/05	Biennial	06/01/07	835360/079
Rohde & Schwarz	NRV-Z53 Power Sensor	06/01/05	Biennial	06/01/07	846076/007
Rohde & Schwarz	CMU200 Base Station Simulator	11/08/06	Annual	11/08/07	107826
Rohde & Schwarz	CMU200 Base Station Simulator	07/26/06	Annual	07/26/07	833855/010
Rohde & Schwarz	CMU200 Base Station Simulator	04/20/06	Annual	04/20/07	836371/079
Agilent	HP 8566B (100Hz-22GHz)	12/21/06	Annual	12/21/07	3638A08713
Agilent	E4448A (3Hz-50GHz)	09/22/06	Annual	09/22/07	US42510244
Agilent	E8257D (250kHz-20GHz) Signal Generator	02/11/06	Annual	02/11/07	MY45470194
Agilent	E8257D (250kHz-20GHz) Signal Generator	03/30/06	Annual	03/30/07	MY44320964
Gigatronics	8651A (50MHz-18GHz)	07/28/06	Annual	07/28/07	1834052
Gigatronics	80701A (0.05-18GHz) Power Sensor	08/04/06	Annual	08/04/07	1835299
Agilent	HP 85650A Quasi-Peak Adapter	12/21/06	Annual	12/21/07	2043A00301
Agilent	HP 8449B (1-26.5GHz) Pre-Amplifier	12/12/06	Annual	12/12/07	3008A00985
Agilent	HP 11713A Attenuation/Switch Driver	12/12/06	Annual	12/12/07	N/A
Agilent	HP 85685A (20Hz-2GHz) Preselector	12/12/06	Annual	12/12/07	N/A
Agilent	HP 8566B Opt. 462 Impulse Bandwidth	12/12/06	Annual	12/12/07	3701A22204
EMCO	3115 (1-18GHz) Horn Antenna	04/04/05	Biennial	04/04/07	9205-3874
Compliance Design	A100 Roberts Dipoles	08/31/05	Biennial	08/31/07	5118
EMCO	Dipole Pair	09/21/06	Biennial	09/20/08	23951
SOLAR	8012-50 LISN (2)	11/18/05	Biennial	11/18/07	0313233, 0310234
Agilent	HP 8901A Modulation Analyzer	06/05/06	Annual	06/05/07	2432A03467
Agilent	HP 8903 B Audio Analyzer	06/01/06	Annual	06/01/07	3011A09025
K & L	11SH10 Band Pass Filter	N/A	Annual	N/A	1300/4000
K & L	11SH10 Band Pass Filter	N/A	Annual	N/A	4000/12000
Agilent	HP 8495A (0-70dB) DC-4GHz Attenuator	N/A		N/A	N/A
-	263-10dB (DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
Pasternack	PE2208-6 Bidirectional Coupler	N/A		N/A	N/A
-	No.165 (30MHz - 1000MHz) RG58 Coax Cable	N/A		N/A	N/A
-	No.166 (1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167 (100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A

Table 4-1. Test Equipment

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Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 9 of 39

5.0 SAMPLE CALCULATIONS

Emission Designator

Emission Designator = 4M16F9W

WCDMA BW = 4.16 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

Spurious Radiated Emission - PCS Band

Example: Channel 9262 PCS Mode 2nd Harmonic (3704.80 MHz)

The receive analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3704.80 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm - (-24.80) = 50.3 dBc.

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Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 10 of 39	

6.0 TEST RESULTS

Summary

The intentional radiator has been tested in a simulated typical installation to demonstrate compliance with the relevant FCC performance and procedural standards. The radio was transmitting at full power on the specified channels. The channels tested are high, middle and low of the allocated bands. Final system data was gathered in a mode that tended to maximize emissions by varying the orientation of the EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization. This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1".

Method/System: PCS Licensed Transmitter Held to Ear (PCE)

Mode(s): WCDMA / HSDPA

FCC Part Section(s)	RSS Section	Test Description	Test Limit	Test Condition	Test Result
TRANSMITTER MODE (TX)					
2.1049, 22.917(a), 24.238(a)	N/A	Occupied Bandwidth	N/A	CONDUCTED	N/A
2.1051, 22.917(a), 24.238(a)	RSS-132 (4.5.1.2) / RSS-133 (6.5.1(i))	Band Edge / Conducted Spurious Emissions	< 43 + log ₁₀ (P[Watts]) at Band Edge / for all out-of-band emissions		PASS
2.1046	N/A	Transmitter Conducted Output Power	N/A		N/A
22.913(a)(2)	RSS-132 (4.4) [SRSP-503(5.1.3)]	Effective Radiated Power	< 7 Watts max. ERP (< 6.3 Watts max. ERP (IC))	RADIATED	PASS
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		PASS
2.1051, 22.917(a), 24.238(a)	RSS-132 (4.5.1.2) / RSS-133 (6.5.1(i))	Undesirable Emissions	< 43 + log ₁₀ (P[Watts]) for all out-of-band emissions		PASS
2.1055, 22.355, 24.235	RSS-132 (4.3) / RSS-133 (6.7(a,b))	Frequency Stability	< 2.5 ppm		PASS
RECEIVER MODE (RX)					
15.107	RSS-Gen (7.2.2)	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits or < RSS-Gen table 2 limits	Line Conducted	PASS
15.109	RSS-132 (4.6) / RSS-133 (6.7(a,b)) / RSS-210 (7.3)	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.209 limits or < RSS-Gen limits [Section 6; Table 1]	RADIATED (30MHz-1GHz) (1-25 GHz)	PASS
RF EXPOSURE (SAR)					
2.1093	RSS-102	SAR Test or MPE	1.6 W/kg (SAR Limit)	3 Channels	PASS

Table 6-1. Summary of Test Results

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 11 of 39	

6.1 Conducted Output Power

§2.1046

Measurement Conditions for UMTS

The handset was placed into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing and are recommended for evaluating EMC measurements. All measurements were taken with a fully charged battery. The base station simulator configurations were set so as to achieve and maintain the EUT's maximum output power level. Power measurements were performed using the digital average power function of the base station simulator.

Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1's". Results for all applicable physical channel configurations (DPCCH, DPDCH and spreading codes) should be tabulated in the test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations should be clearly identified.

		HSDPA Inactive		HSDPA Active	
UMTS	Channel	12.2 kbps RMC	12.2 kbps AMR	12.2 kbps RMC	12.2 kbps AMR
	4132	22.43	23.02	22.92	23.03
	4175	22.62	23.34	22.56	22.77
	4233	23.12	23.02	23.01	23.52
PCS	9262	22.31	22.78	21.88	22.74
	9400	21.68	22.61	21.69	22.6
	9538	21.74	21.39	21.36	21.22

Table 6-2. Conducted Power for SGH-A717

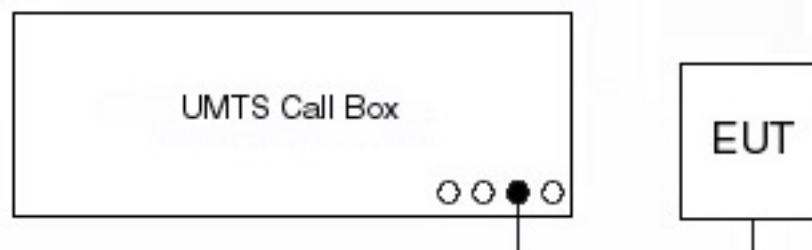


Figure 6-1. Conducted Power Measurement Setup

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 12 of 39	

6.2 Effective Radiated Power Output Data

§22.913(a)(2); RSS-132 (4.4) [SRSP-503(5.1.3)]

POWER: High (WCDMA Mode)

Freq. Tuned (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
826.40	-18.093	H	0.208	23.180	Standard
836.40	-19.663	H	0.150	21.770	Standard
846.60	-17.763	H	0.241	23.820	Standard

Table 6-3. Effective Radiated Power Output Data

NOTES:

Effective Radiated Power Output Measurements by Substitution Method according to ANSI/ TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 13 of 39	

6.3 Equivalent Isotropic Radiated Power Output Data

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

Radiated measurements at 3 meters

Supply Voltage: 3.7 VDC

Modulation: PCS WCDMA

FREQ. (MHz)	REF. LEVEL (dBm)	POL (H/V)	Azimuth (o angle)	EIRP (dBm)	EIRP (W)	Battery
1852.40	-27.111	H	60	15.970	0.040	Standard
1880.00	-26.981	H	60	16.270	0.042	Standard
1907.60	-27.341	H	60	16.080	0.041	Standard

Table 6-4. Equivalent Isotropic Radiated Power Output Data

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 14 of 39	

6.4 Cellular WCDMA Radiated Measurements

§2.1053, 22.917(a); RSS-132 (4.5.1.2)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 826.40 MHz
 CHANNEL: 4132 (Low)
 MEASURED OUTPUT POWER: 23.820 dBm = 0.242 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 36.83 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1652.80	-84.13	6.10	-78.03	H	101.8
2479.20	-89.35	6.70	-82.65	H	106.5
3305.60	-89.58	6.80	-82.78	H	106.6

Table 6-5. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4132)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 15 of 39



Cellular WCDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1.2)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 835.00 MHz
CHANNEL: 4175 (Mid)
MEASURED OUTPUT POWER: 23.820 dBm = 0.241 W
MODULATION SIGNAL: WCDMA (Internal)
DISTANCE: 3 meters
LIMIT: $43 + 10 \log_{10} (W) =$ 36.82 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1670.00	-84.83	6.10	-78.73	H	102.5
2505.00	-88.46	6.70	-81.76	H	105.6
3340.00	-89.48	6.80	-82.68	H	106.5

Table 6-6. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4175)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 16 of 39	

Cellular WCDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1.2)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 846.60 MHz
 CHANNEL: 4233 (High)
 MEASURED OUTPUT POWER: 23.820 dBm = 0.241 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) = 36.82$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1693.20	-84.94	6.10	-78.84	H	102.7
2539.80	-88.06	6.70	-81.36	H	105.2
3386.40	-89.08	6.80	-82.28	H	106.1

Table 6-7. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4233)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 17 of 39

6.5 PCS WCDMA Radiated Measurements

S2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1852.40 MHz
 CHANNEL: 9262 (Low)
 MEASURED OUTPUT POWER: 16.270 dBm = 0.042 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 29.27 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3704.80	-74.95	8.70	-66.25	H	82.5
5557.20	-65.00	9.70	-55.30	H	71.6
7409.60	-79.43	9.90	-69.53	H	85.8

Table 6-8. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 18 of 39

PCS WCDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz
 CHANNEL: 9400 (Mid)
 MEASURED OUTPUT POWER: 16.270 dBm = 0.042 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) = 29.27$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-75.10	8.70	-66.40	H	82.7
5640.00	-65.18	9.70	-55.48	H	71.7
7520.00	-79.13	9.90	-69.23	H	85.5

Table 6-9. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
 according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 19 of 39



PCS WCDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1907.60 MHz
 CHANNEL: 9538 (High)
 MEASURED OUTPUT POWER: 16.270 dBm = 0.042 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 29.27 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3815.20	-74.24	8.70	-65.54	H	81.8
5722.80	-58.42	9.70	-48.72	H	65.0
7630.40	-78.93	9.90	-69.03	H	85.3

Table 6-10. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
 according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the worst case is reported with HSDPA Active at 12.2 kbps AMR with TPC bits all set to "1". This unit was tested with its standard battery.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 20 of 39	

6.6 Cellular WCDMA Frequency Stability

S2.1055, 22.355; RSS-132 (4.3)

OPERATING FREQUENCY: 836,400,007 Hz

CHANNEL: 4175

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	836,400,007	0.00	0.000000
100 %		-30	836,400,057	-50.18	-0.000006
100 %		-20	836,400,066	-58.55	-0.000007
100 %		-10	836,399,940	66.91	0.000008
100 %		0	836,399,915	92.00	0.000011
100 %		10	836,399,898	108.73	0.000013
100 %		20	836,399,865	142.19	0.000017
100 %		30	836,400,099	-92.00	-0.000011
100 %		40	836,400,074	-66.91	-0.000008
100 %		50	836,399,999	8.36	0.000001
85 %		20	836,399,948	58.55	0.000007
115 %	4.26	20	836,399,974	33.46	0.000004
BATT. ENDPOINT	3.52	20	836,400,057	-50.18	-0.000006

Table 6-11. Frequency Stability Data (Cellular WCDMA Mode – Ch. 4175)

Note:

Standard batteries were used to perform this test.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 21 of 39	

Cellular WCDMA Frequency Stability (Cont'd)

§2.1055, 22.355; RSS-132 (4.3)

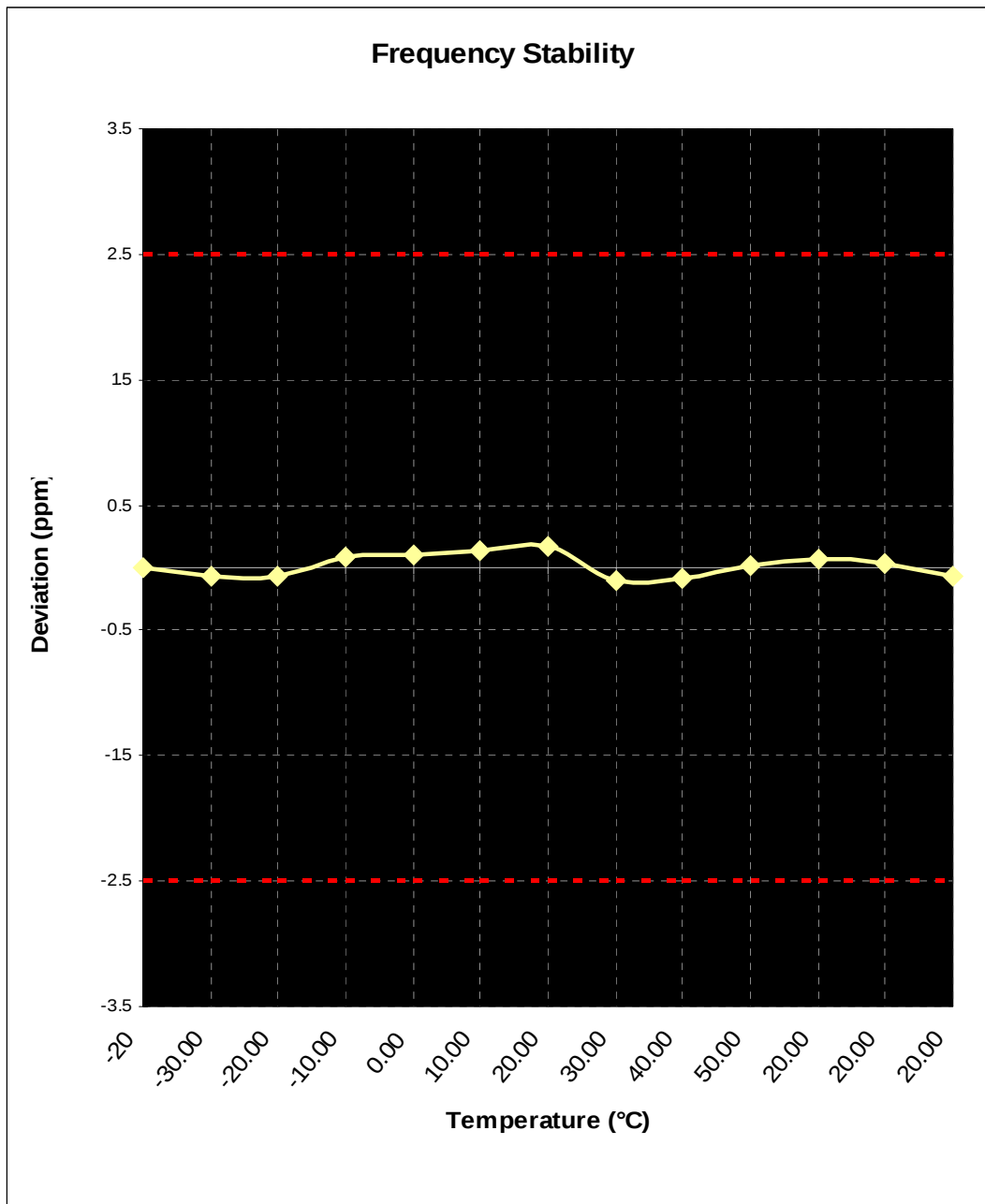


Figure 6-2. Frequency Stability Graph (Cellular WCDMA Mode – Ch. 4175)

Note:

Standard batteries were used to perform this test.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 22 of 39	

6.7 PCS WCDMA Frequency Stability

S2.1055, 24.235; RSS-133 (6.7(a,b))

OPERATING FREQUENCY: 1,880,000,003 Hz

CHANNEL: 9400

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	1,880,000,003	0.00	0.000000
100 %		-30	1,880,000,153	-150.40	-0.000008
100 %		-20	1,880,000,059	-56.40	-0.000003
100 %		-10	1,879,999,871	131.60	0.000007
100 %		0	1,879,999,909	94.00	0.000005
100 %		10	1,879,999,796	206.80	0.000011
100 %		20	1,880,000,172	-169.20	-0.000009
100 %		30	1,880,000,135	-131.60	-0.000007
100 %		40	1,879,999,909	94.00	0.000005
100 %		50	1,879,999,759	244.40	0.000013
85 %		20	1,879,999,683	319.60	0.000017
115 %	4.26	20	1,879,999,702	300.80	0.000016
BATT. ENDPOINT	3.52	20	1,879,999,871	131.60	0.000007

Table 6-12. Frequency Stability Data (PCS WCDMA Mode – Ch. 9400)

Note:

Standard batteries were used to perform this test.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 23 of 39	

PCS WCDMA Frequency Stability (Cont'd)

§2.1055, 24.235; RSS-133 (6.7(a,b))

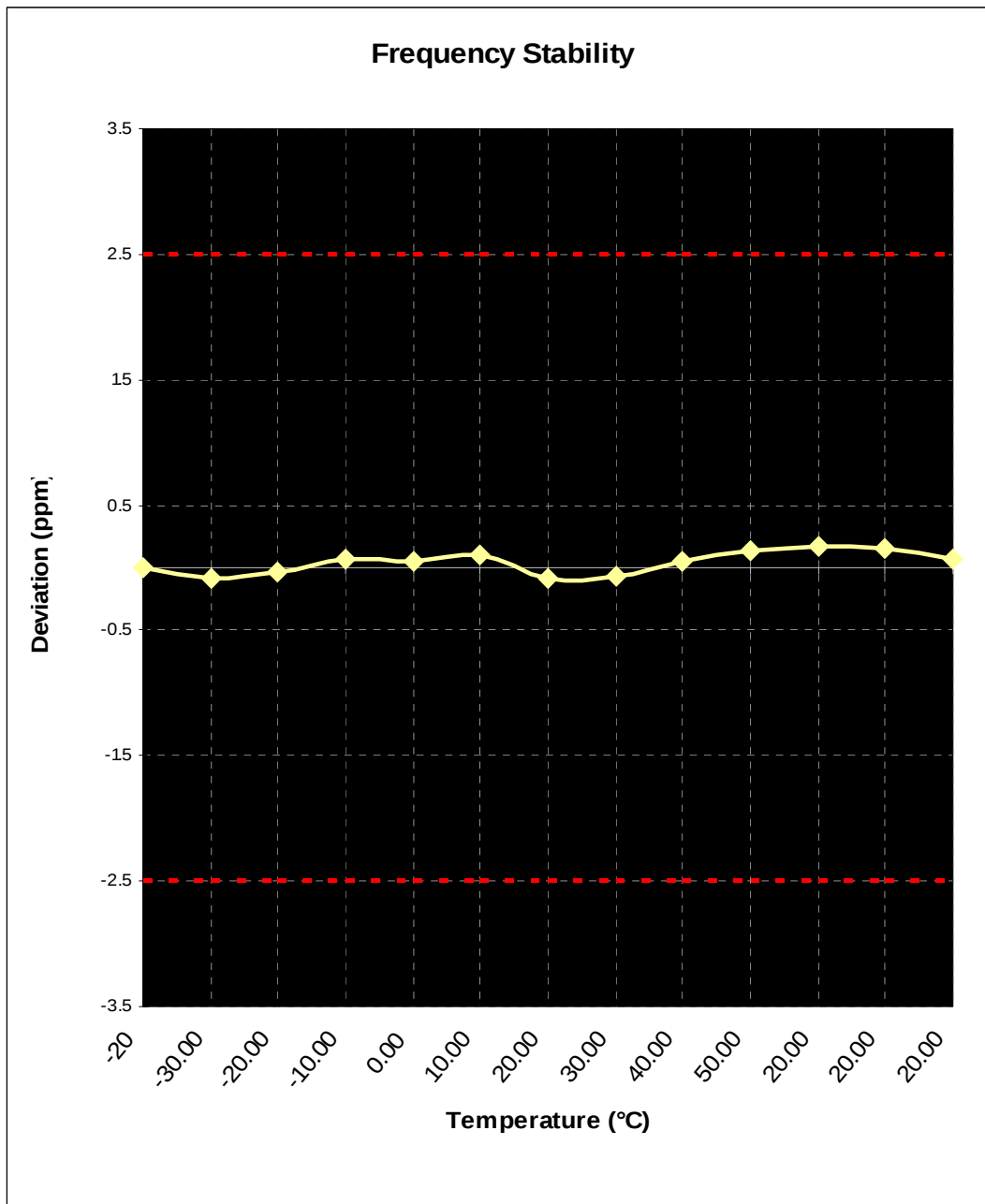


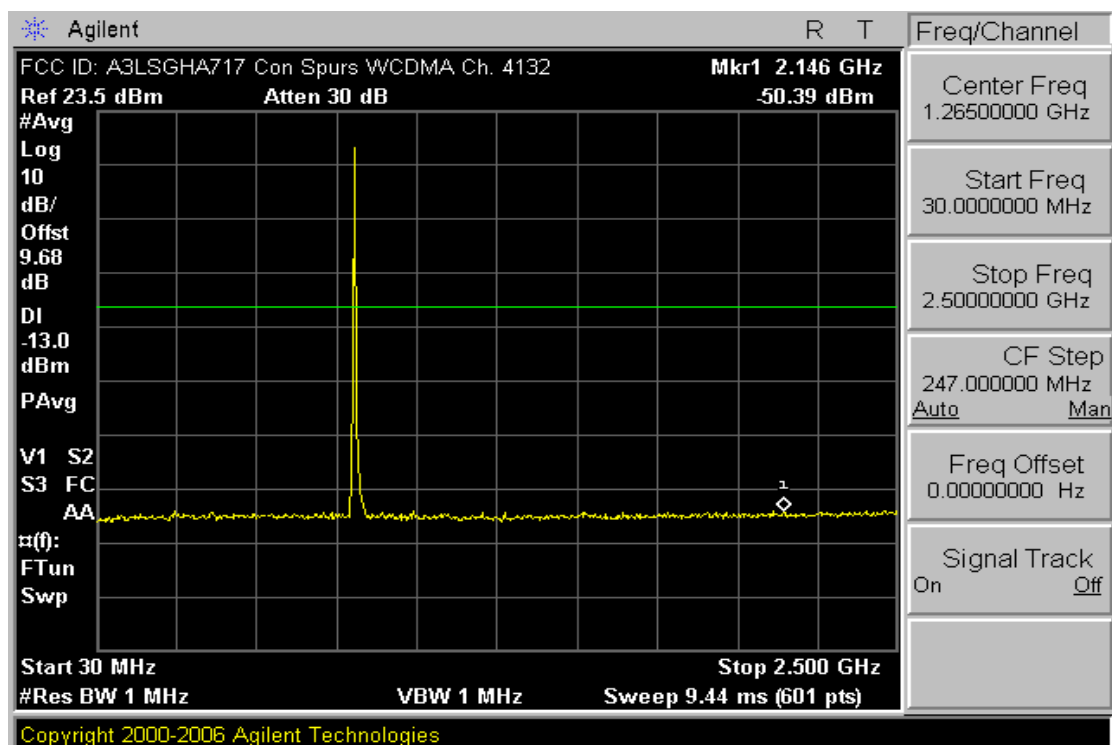
Figure 6-3. Frequency Stability Graph (PCS WCDMA Mode – Ch. 9400)

Note:

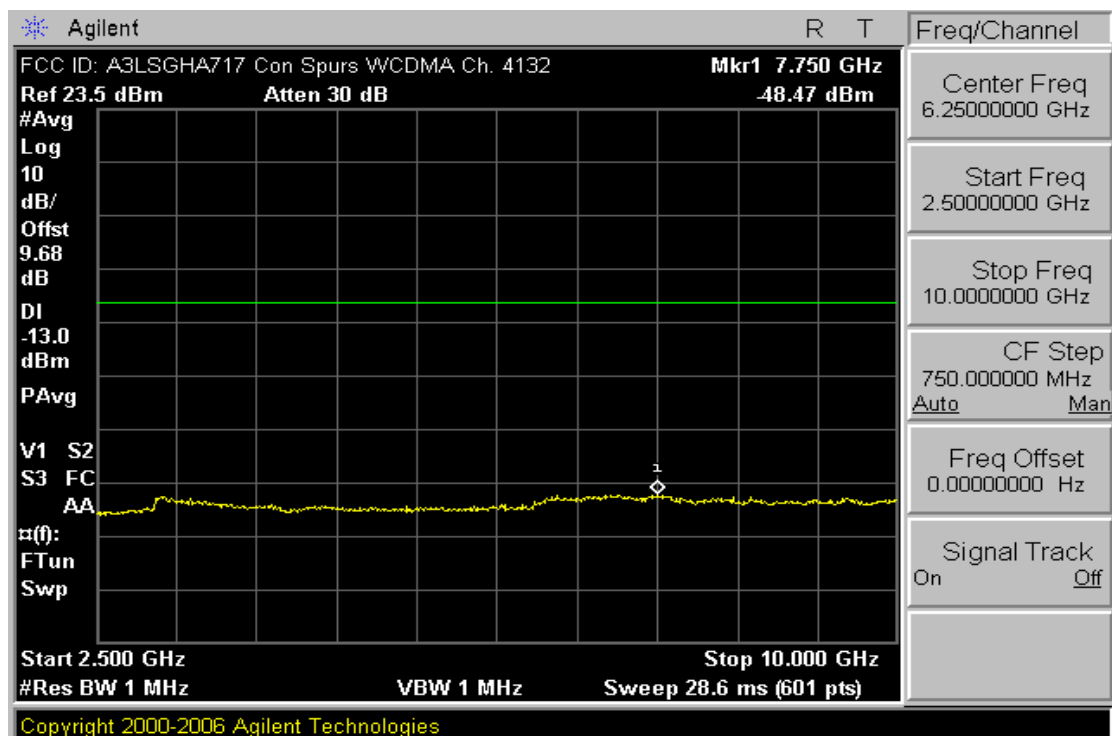
Standard batteries were used to perform this test.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 24 of 39	

7.0 PLOTS OF EMISSIONS

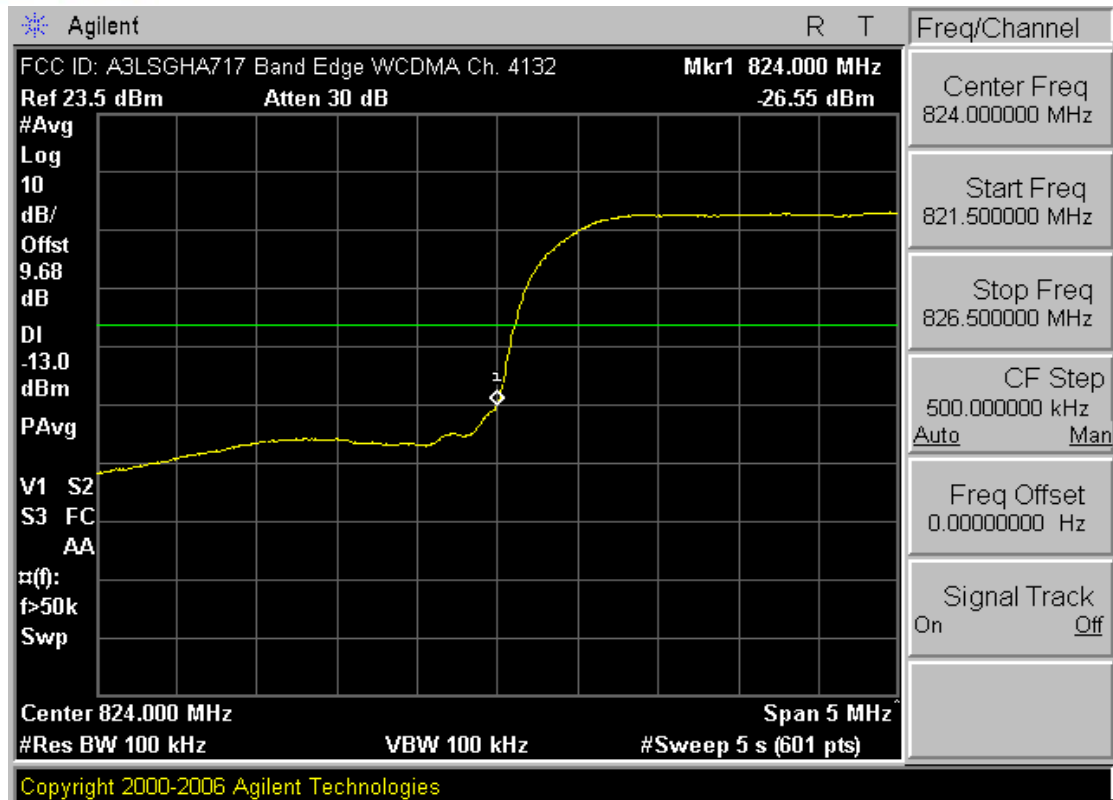


Plot 7-1. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)

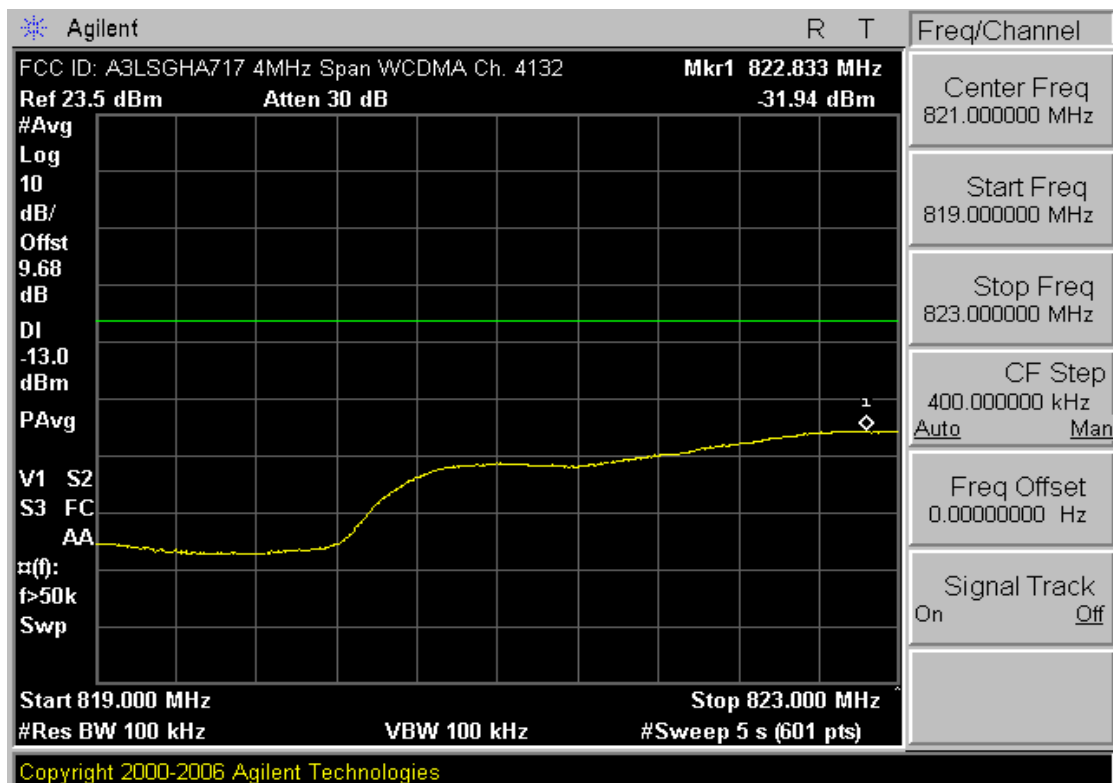


Plot 7-2. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 25 of 39

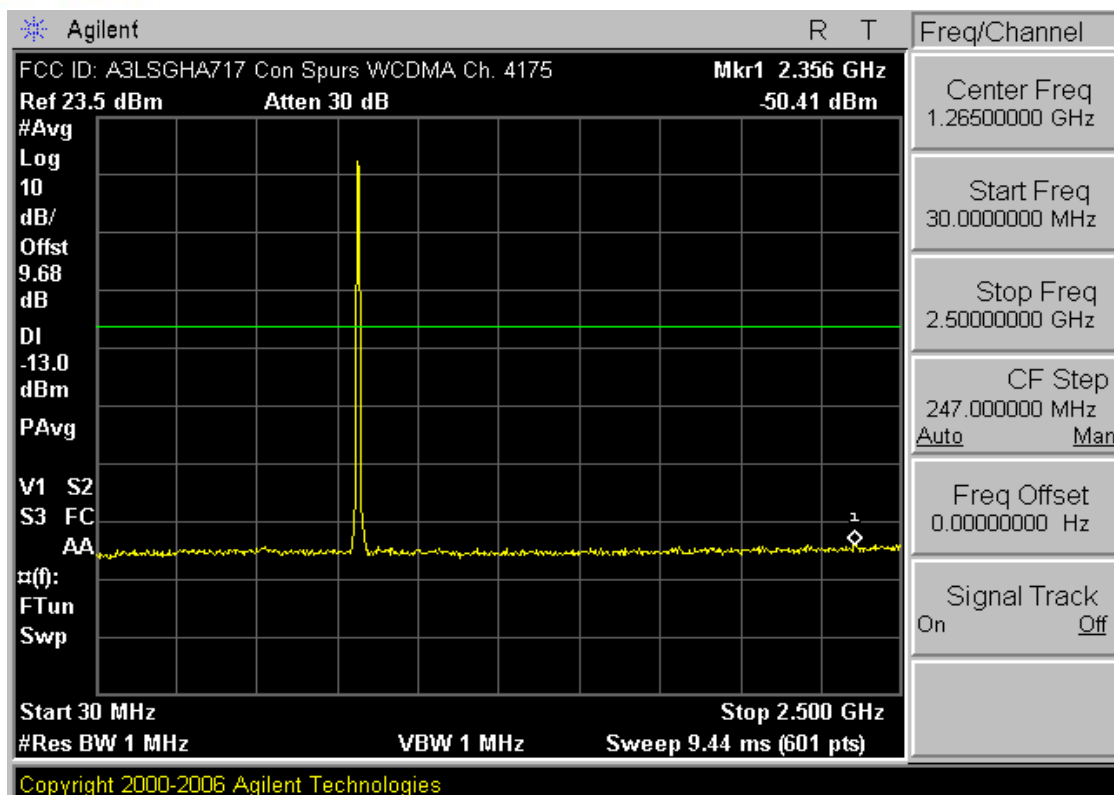


Plot 7-3. Band Edge Plot (Cellular WCDMA Mode – Ch. 4132)

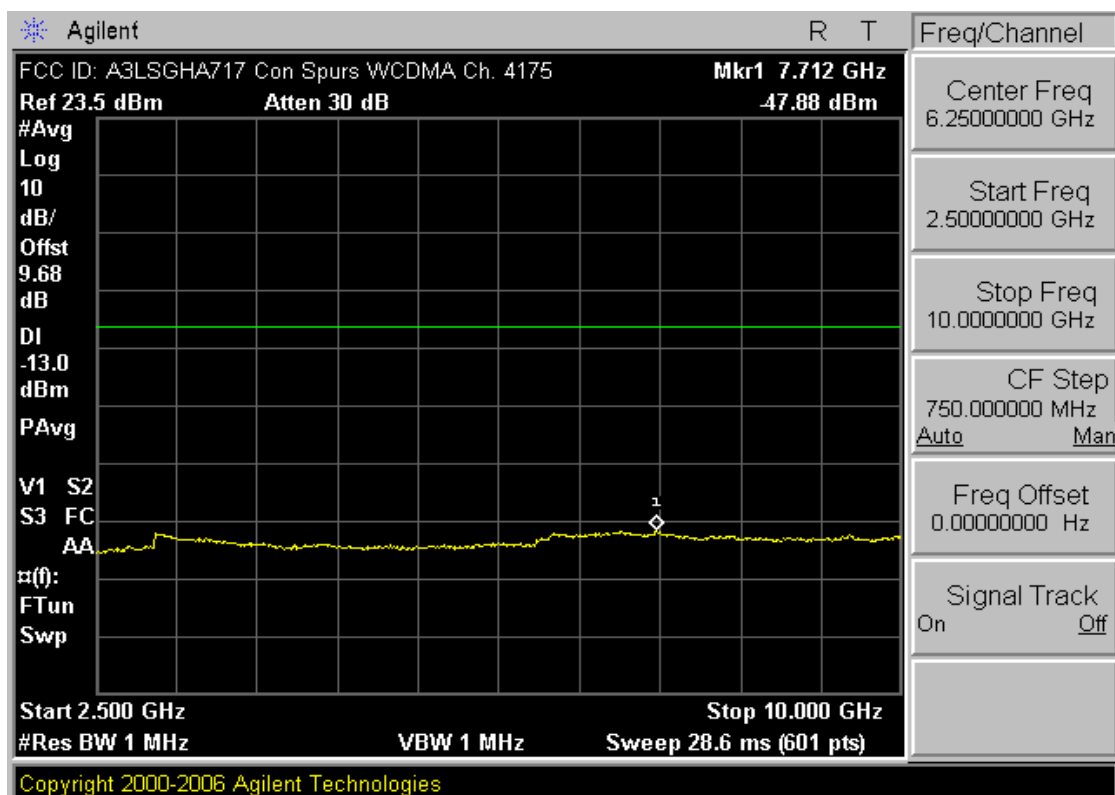


Plot 7-4. 4MHz Span Plot (Cellular WCDMA Mode – Ch. 4132)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 26 of 39	

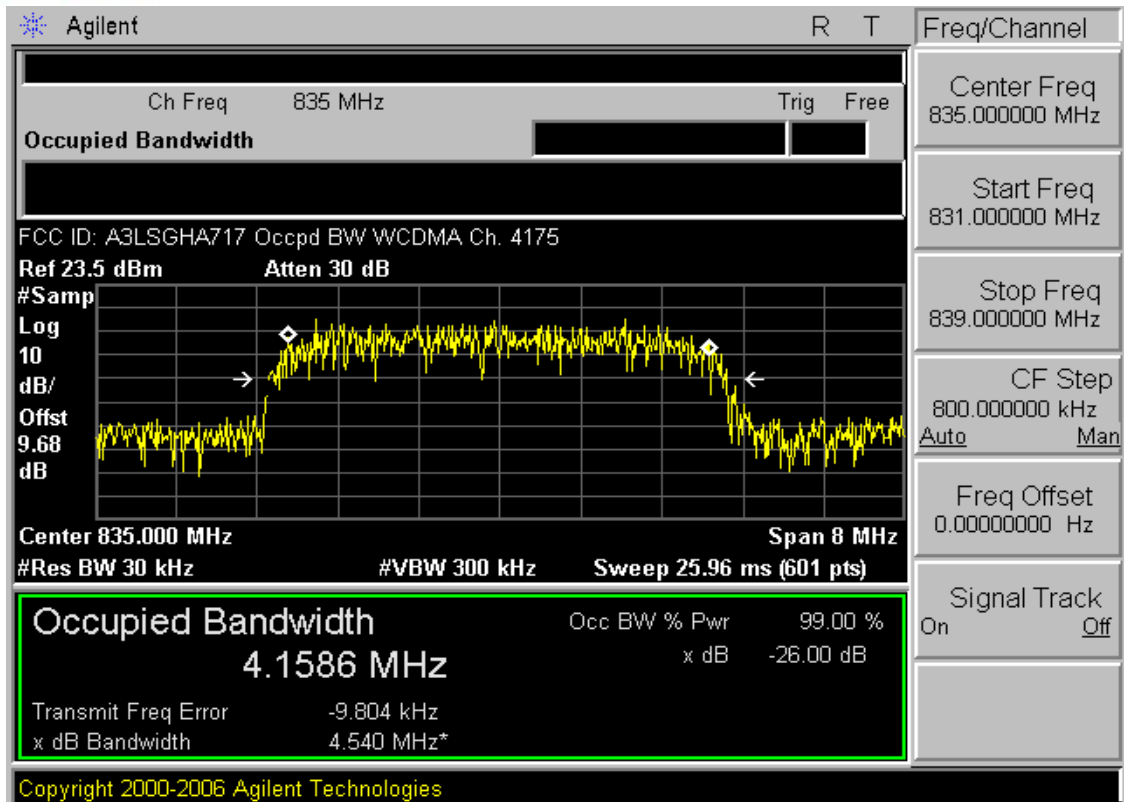


Plot 7-5. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4175)

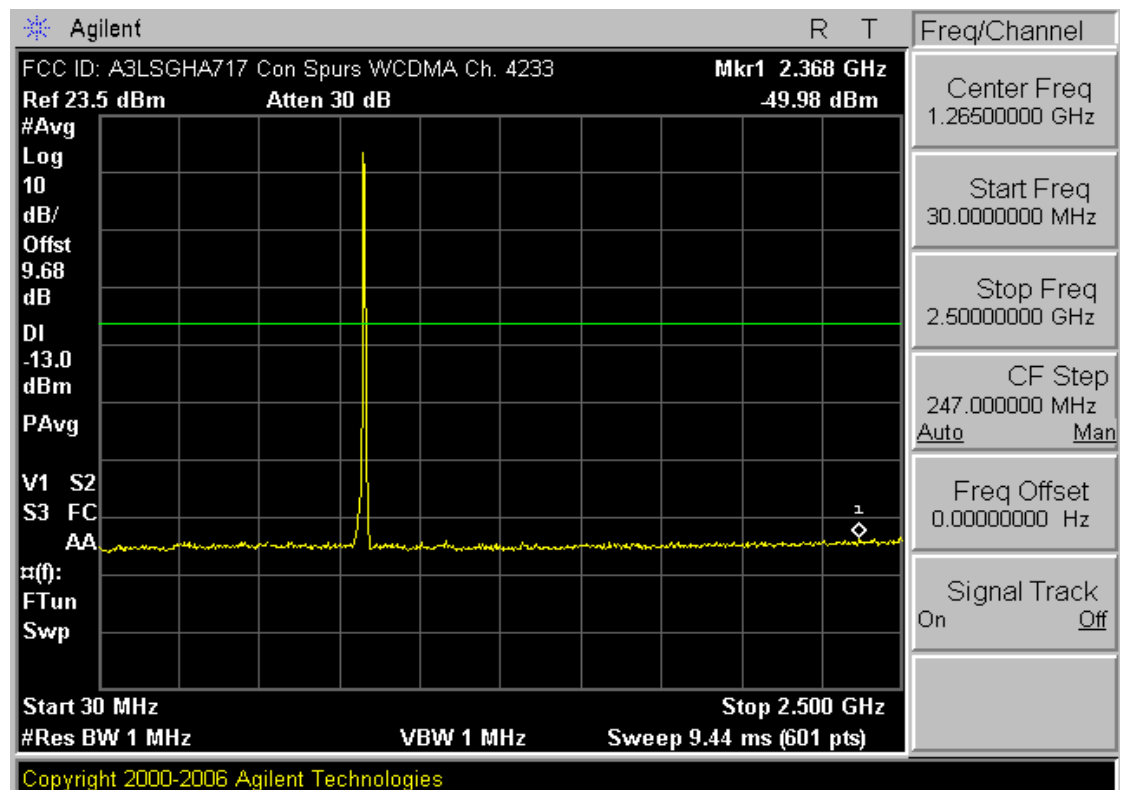


Plot 7-6. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4175)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 27 of 39

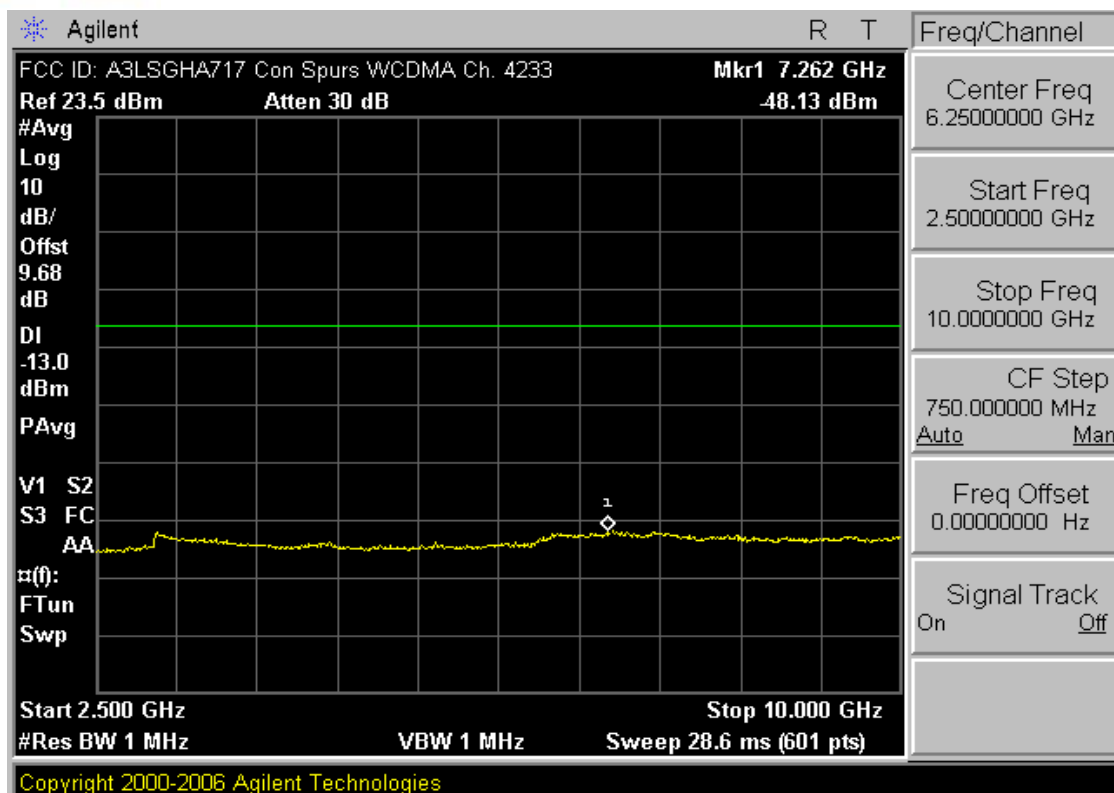


Plot 7-7. Occupied Bandwidth Plot (Cellular WCDMA Mode – Ch. 4175)

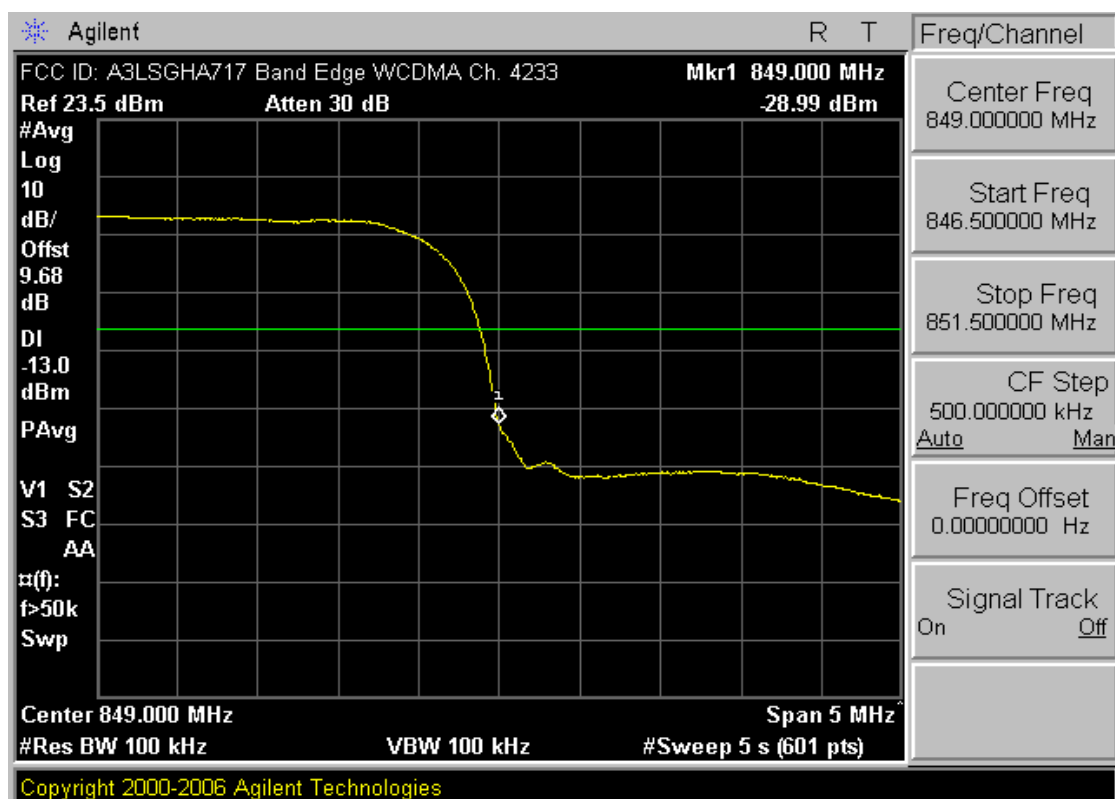


Plot 7-8. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 28 of 39	

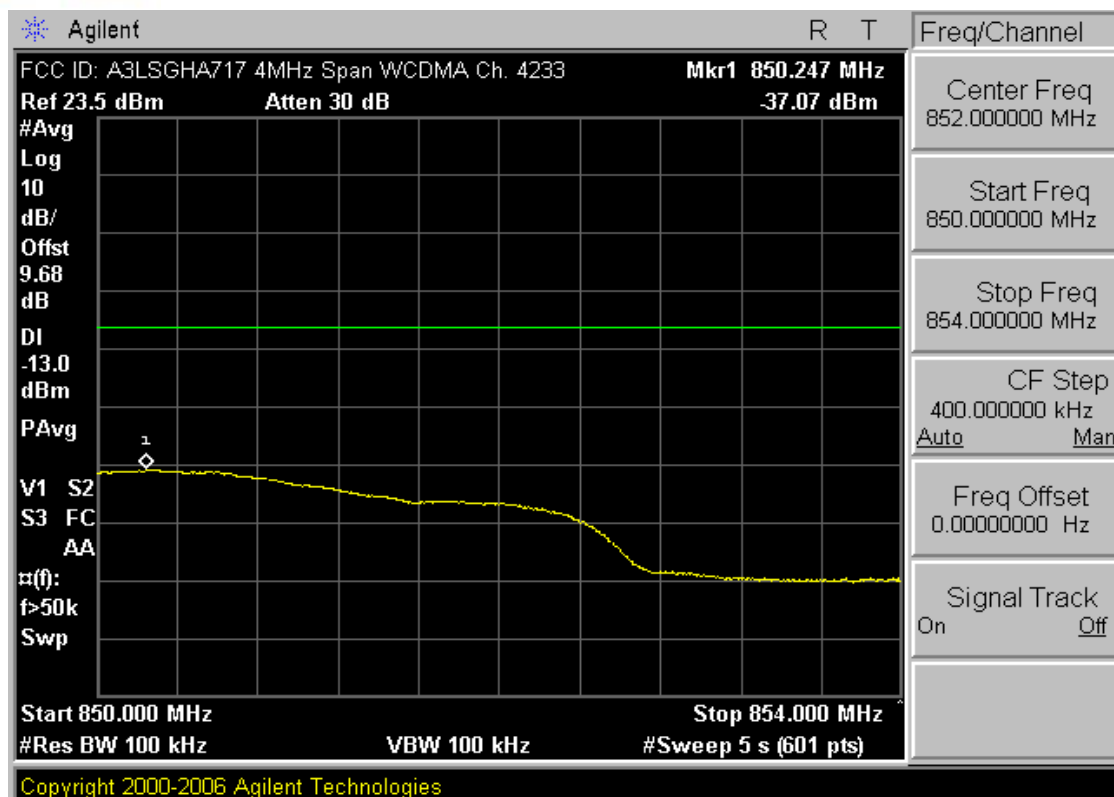


Plot 7-9. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)

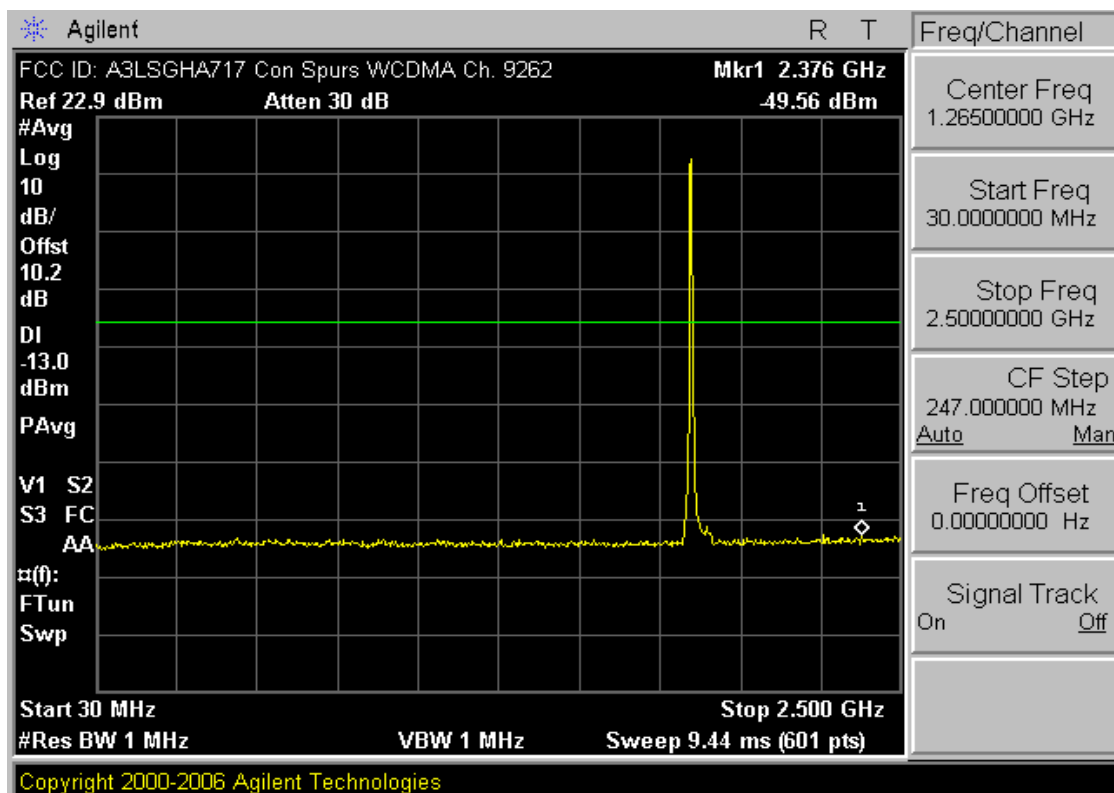


Plot 7-10. Band Edge Plot (Cellular WCDMA Mode – Ch. 4233)

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 29 of 39

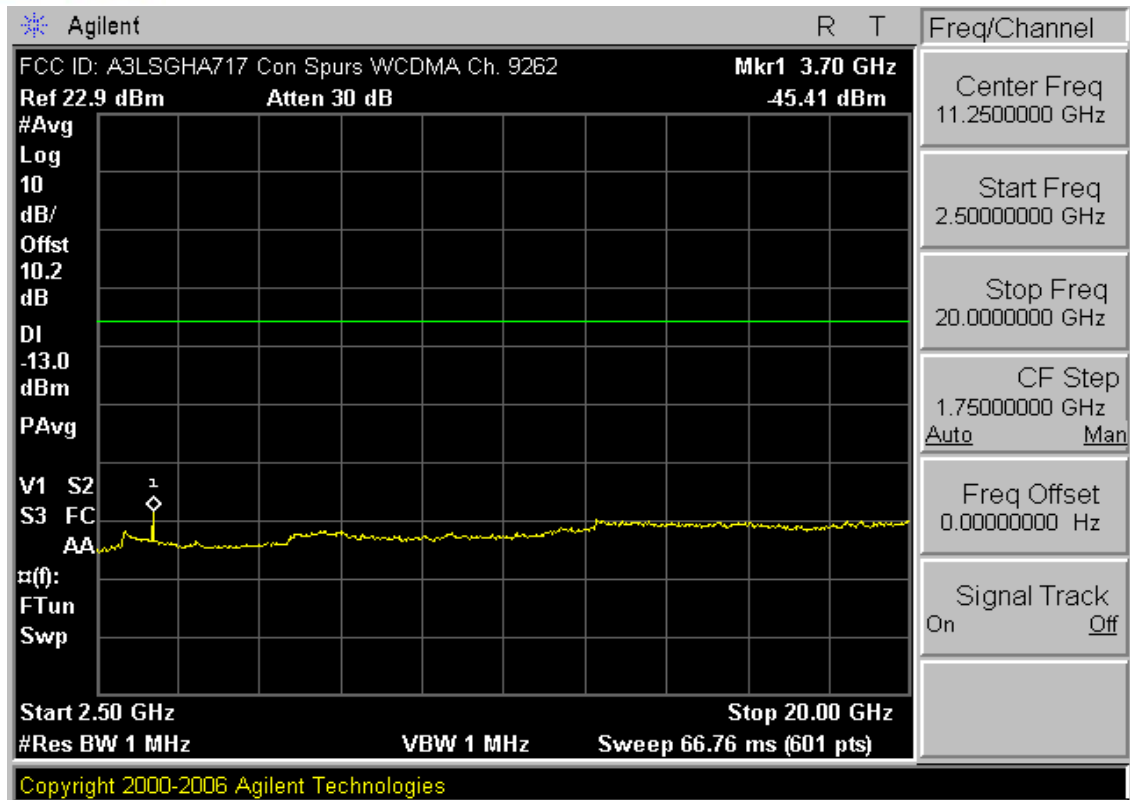


Plot 7-11. 4MHz Span Plot (Cellular WCDMA Mode – Ch. 4233)

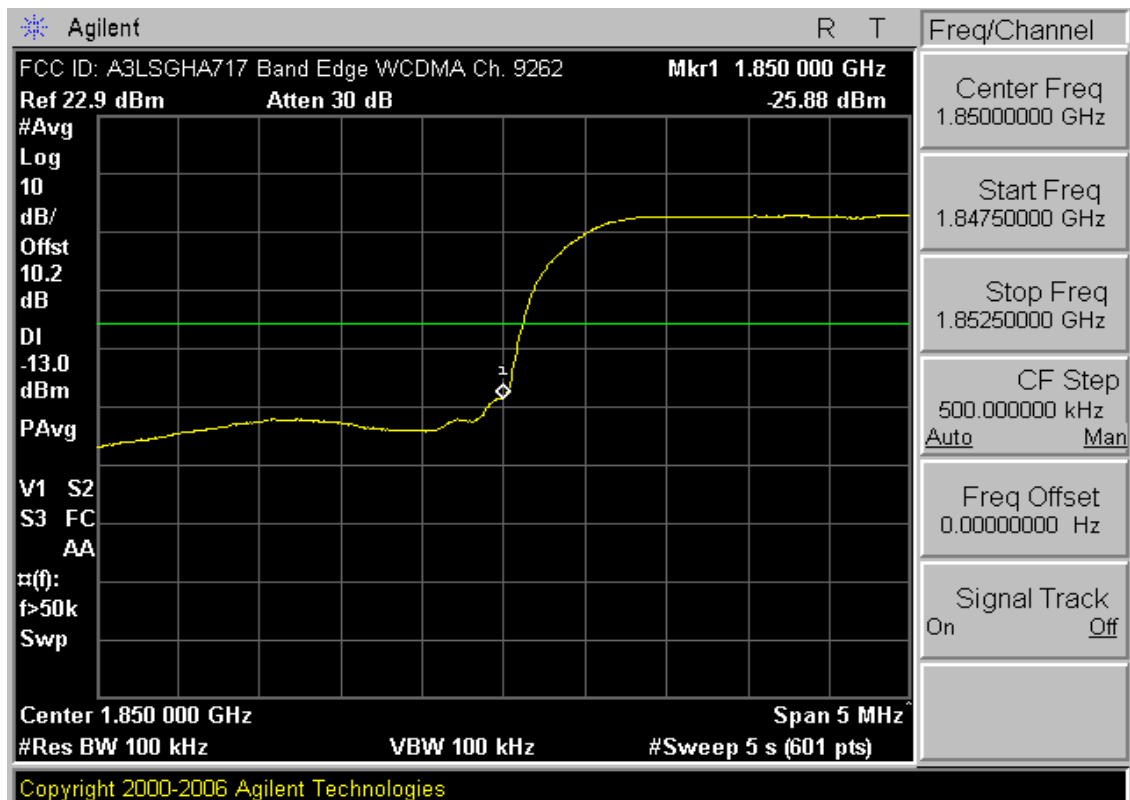


Plot 7-12. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 30 of 39

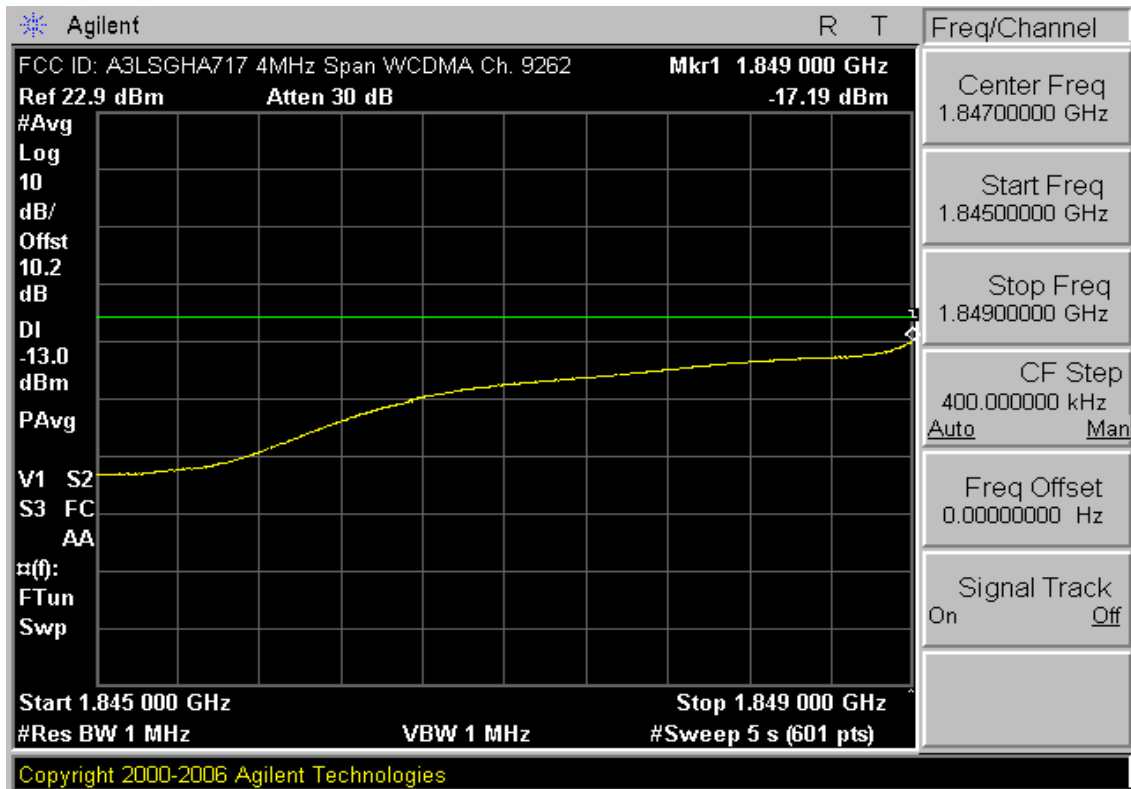


Plot 7-13. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)

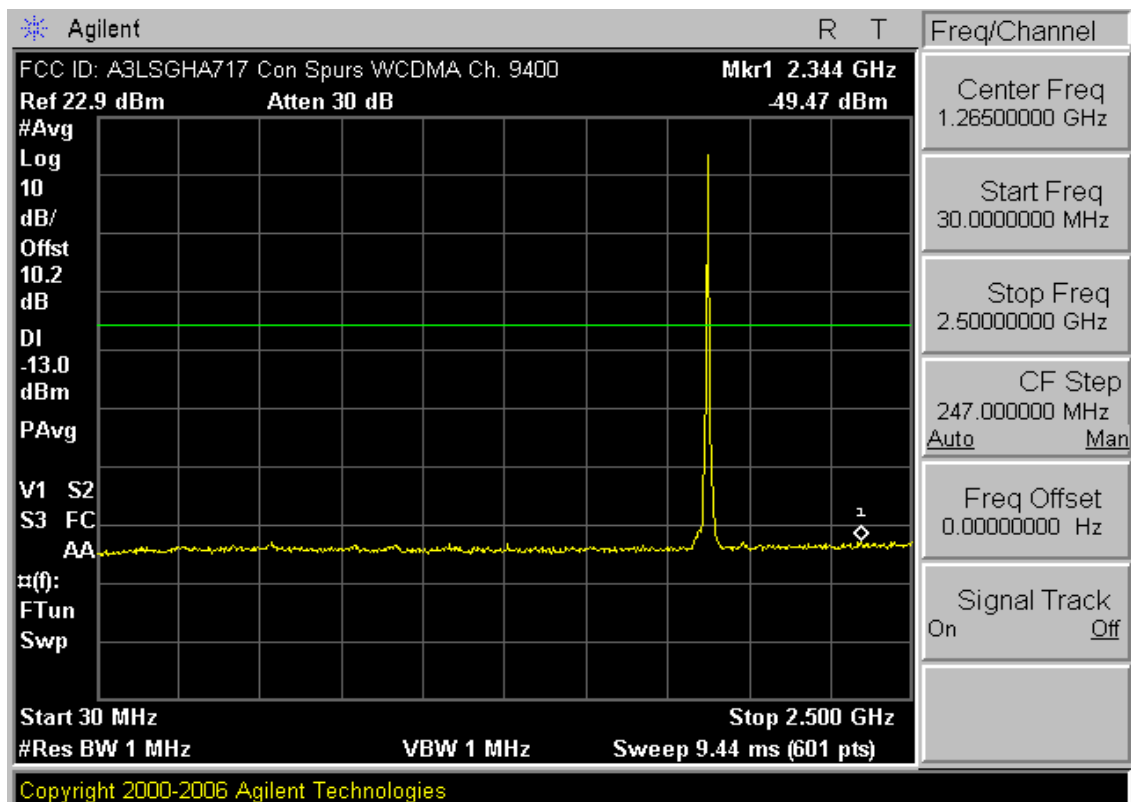


Plot 7-14. Band Edge Plot (PCS WCDMA Mode – Ch. 9262)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 31 of 39	

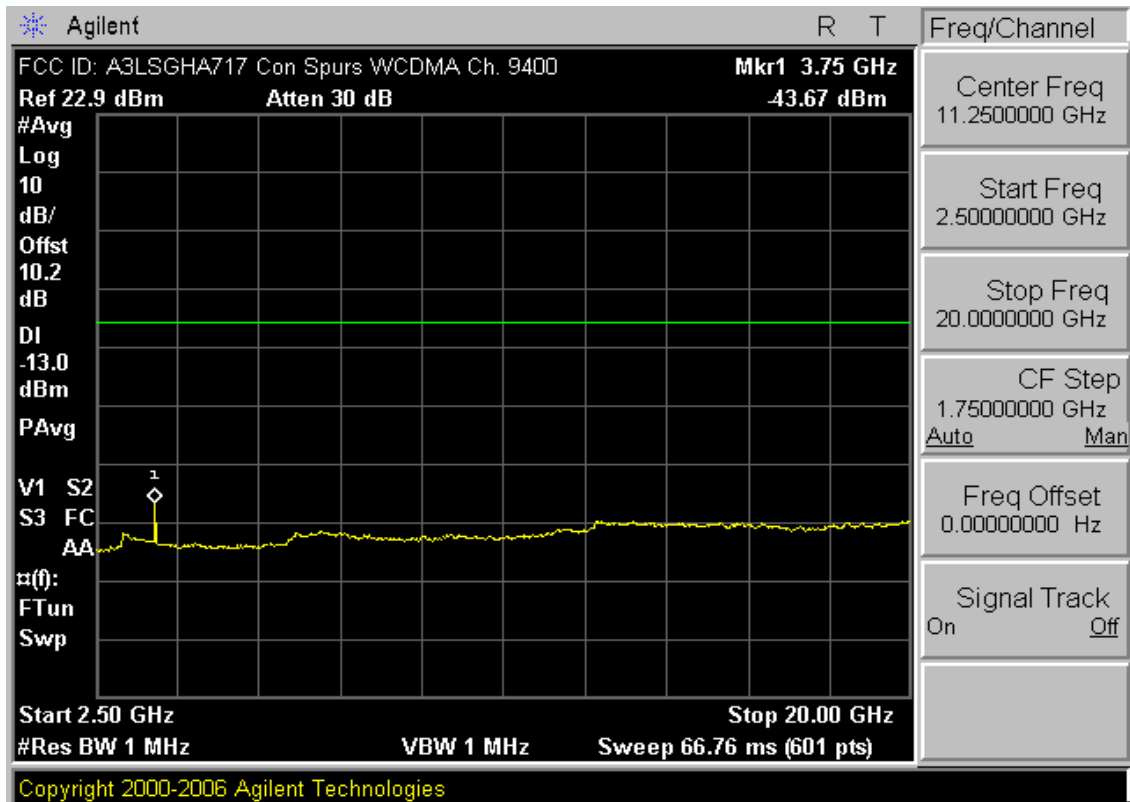


Plot 7-15. 4MHz Span Plot (PCS WCDMA Mode – Ch. 9262)

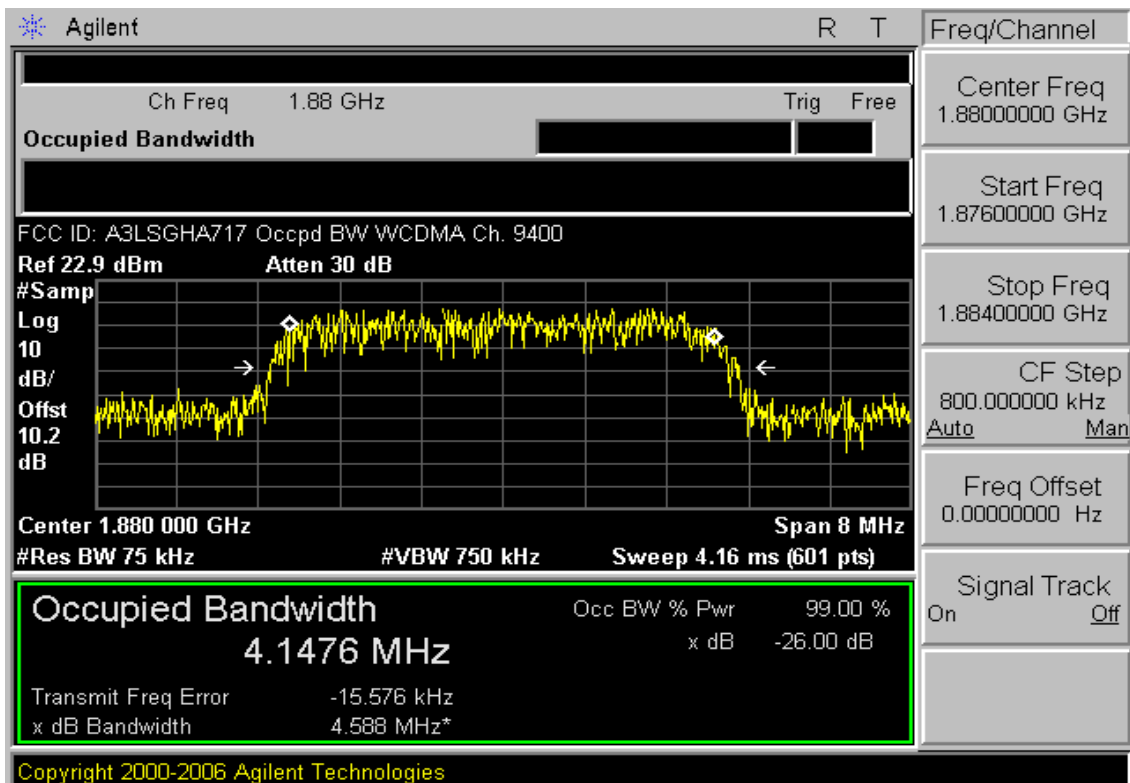


Plot 7-16. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 32 of 39	

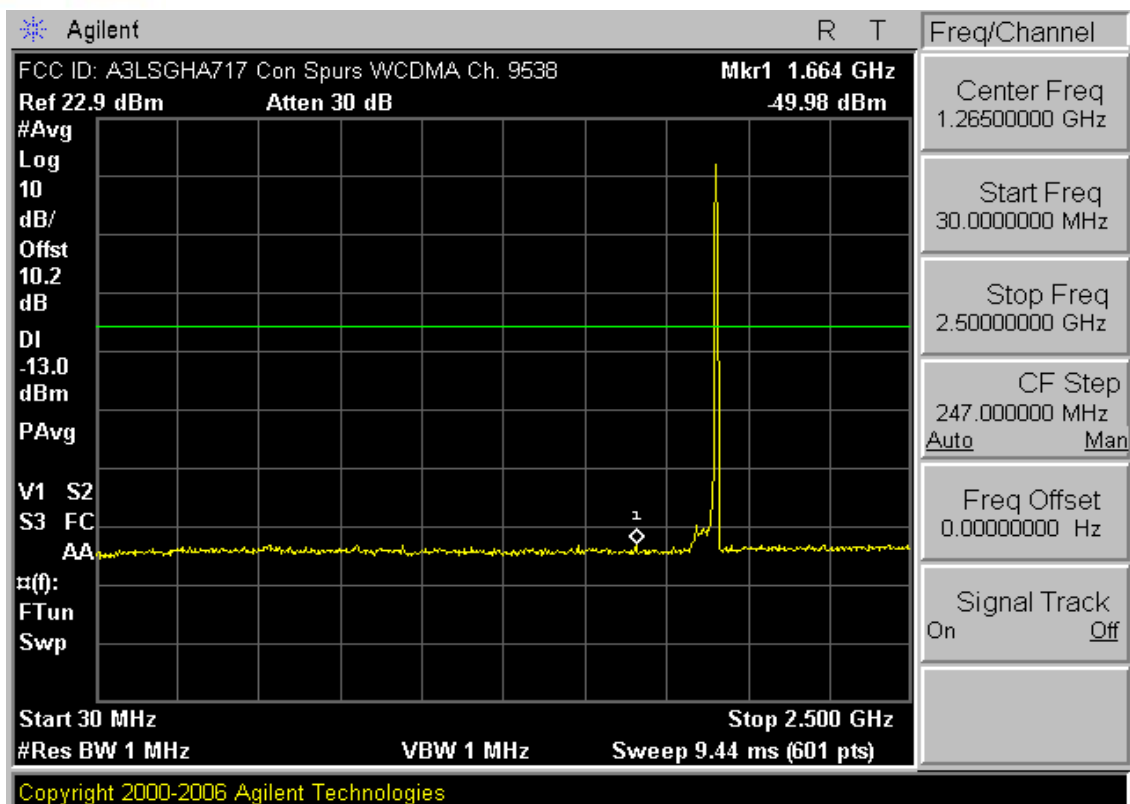


Plot 7-17. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9400)

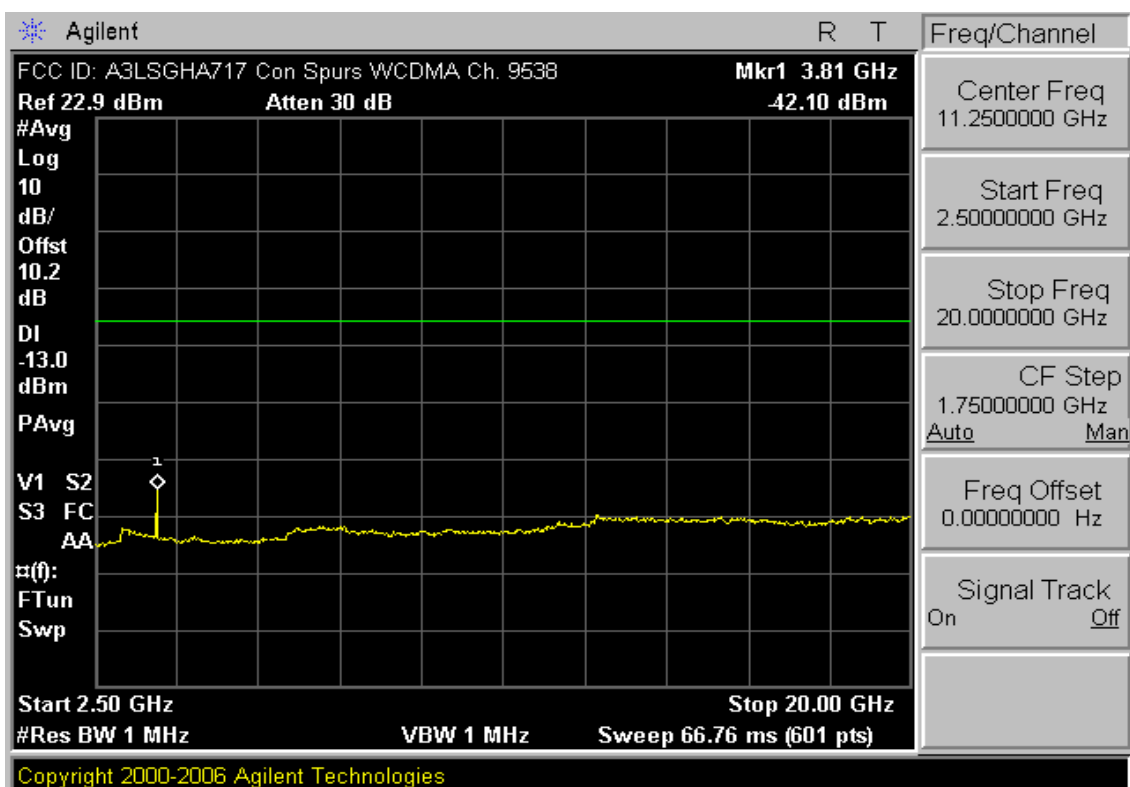


Plot 7-18. Occupied Bandwidth Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 33 of 39	



Plot 7-19. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9538)



Plot 7-20. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 34 of 39



Plot 7-21. Band Edge Plot (PCS WCDMA Mode – Ch. 9538)



Plot 7-22. 4MHz Span Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: A3LSGHA717	PCTEST wireless	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR		Page 35 of 39

8.0 CONCLUSION

The data collected shows that the **Samsung Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR FCC ID: A3LSGHA717** complies with all the requirements of Parts 2, 22, and 24 of the FCC rules.

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 36 of 39	

EXHIBIT A – TEST SETUP PHOTOGRAPHS

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 37 of 39	

EXHIBIT B – INTERNAL PHOTOGRAPHS

FCC ID: A3LSGHA717	 PCTEST w i r e l e s s	FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 38 of 39	

EXHIBIT C – EXTERNAL PHOTOGRAPHS

FCC ID: A3LSGHA717		FCC Pt. 22/24 WCDMA / HSDPA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0612151117-W	Test Dates: December 27 - 29, 2006	EUT Type: Dual-Band Dual-Mode GSM/EDGE/WCDMA Phone with Bluetooth 2.0 w/ EDR	Page 39 of 39	