



PCTEST ENGINEERING LABORATORY, INC.

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MEASUREMENT REPORT FCC Part 22 & 24 / IC RSS-132/RSS-133

Applicant Name:
Sony Corporation
1-7-1 Konan Minato-ku
Tokyo
Japan, 108-0075

Date of Testing:
April 11-15, 2011
Test Site/Location:
PCTEST Lab., Columbia, MD, USA
Test Report Serial No.:
0Y1103150537.AK8

FCC ID:	AK8PCG41312L
APPLICANT:	SONY CORPORATION

Application Type: Certification
FCC Classification: PCS Licensed Transmitter (PCB)
FCC Rule Part(s): §2; §22(H), §24(E)
IC Specification(s): RSS-132 Issue 2; RSS-133 Issue 5
EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN
Model(s): PCG-41312L
Tx Frequency Range: 824.20 - 848.80MHz (Cell. GSM) / 1850.20 - 1909.80MHz (PCS GSM)
826.40 - 846.60MHz (Cell. WCDMA) / 1852.4 - 1907.6MHz (PCS WCDMA)
824.70 - 848.31MHz (Cell. CDMA) / 1851.25 - 1908.75MHz (PCS CDMA)
Max. RF Output Power: 1.778 W ERP Cell. GSM (32.5 dBm) / 1.096 W EIRP PCS GSM (30.4 dBm)
0.2 W ERP Cell. WCDMA (23 dBm) / 0.209 W EIRP PCS WCDMA (23.2 dBm)
0.191 W ERP Cell. CDMA (22.8 dBm) / 0.257 W EIRP PCS CDMA (24.1 dBm)
0.933 W ERP EDGE850 (29.7 dBm) 0.562 W EIRP EDGE1900 (27.5 dBm)
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. Test results reported herein relate only to the item(s) tested.

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.

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

Randy Ortanez
President

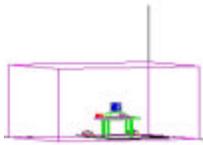


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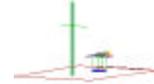
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MEASUREMENT REPORT

FCC Part 22 & 24



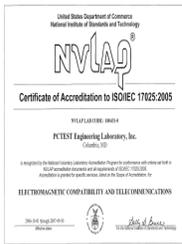
§2.1033 General Information

APPLICANT: Sony Corporation
APPLICANT ADDRESS: 1-7-1 Konan Minato-ku
Tokyo, Japan, 108-0075
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)
BASE MODEL : PCG-41312L
FCC ID: AK8PCG41312L
FCC CLASSIFICATION: PCS Licensed Transmitter (PCB)
MODE: GSM/EDGE/CDMA/WCDMA
FREQUENCY TOLERANCE: ±0.00025 % (2.5 ppm)
Test Device Serial No.: N/A Production Pre-Production Engineering
DATE(S) OF TEST: April 11-15, 2011
TEST REPORT S/N: 0Y1103150537.AK8

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 (2451A-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 (2451A-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 area, the Baltimore-Washington Intern't'l (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 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 28, 2009.

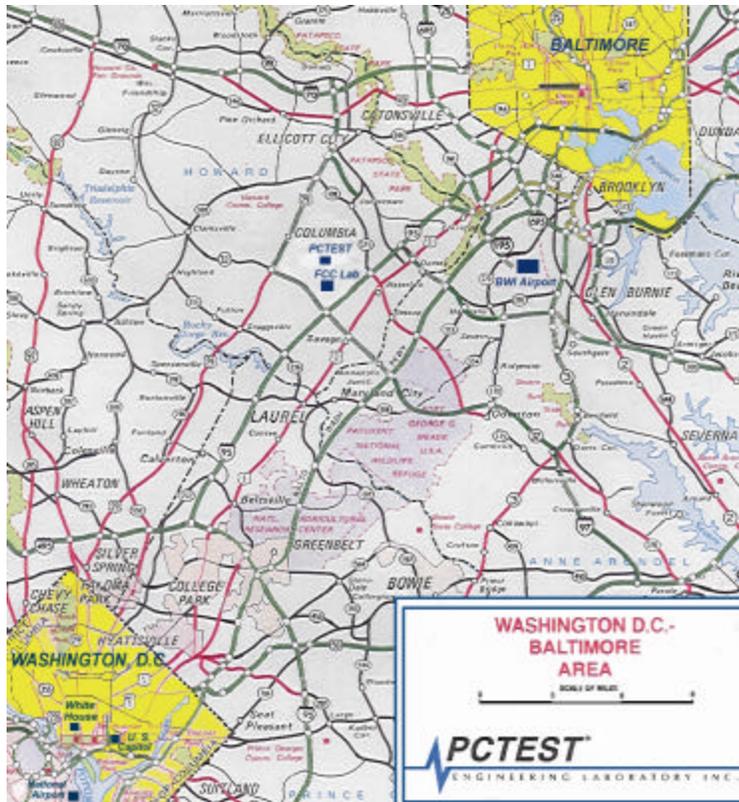


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Sony 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN FCC ID: AK8PCG41312L**. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
Sony / Model: PCG-41312L	AK8PCG41312L	850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN

Table 2-1. EUT Equipment Description

2.2 EMI Suppression Device(s)/Modifications

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

2.3 Labeling Requirements

Per 2.925

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

Per 15.19; Docket 95-19

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

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

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

Please see attachment for FCC ID label and label location.

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3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (see Figure 3-1). The equipment under test is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. This power level was recorded using a broadband average power meter. 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 with the power meter. 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.

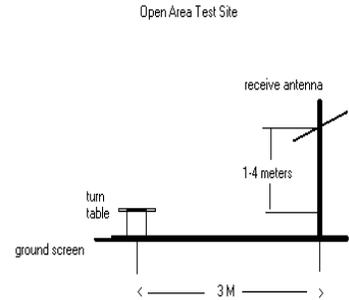
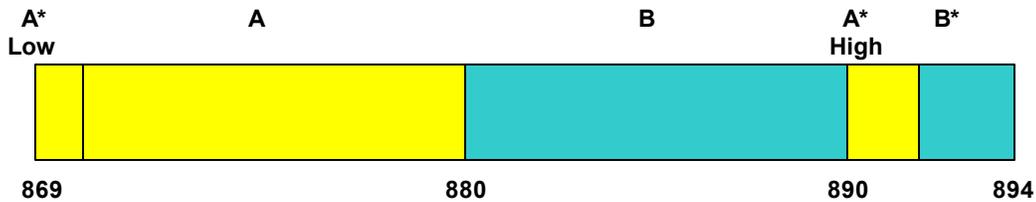


Figure 3-1. Diagram of 3-meter outdoor test range

Deviation from Measurement Procedure.....None

3.2 Cellular - Base Frequency Blocks



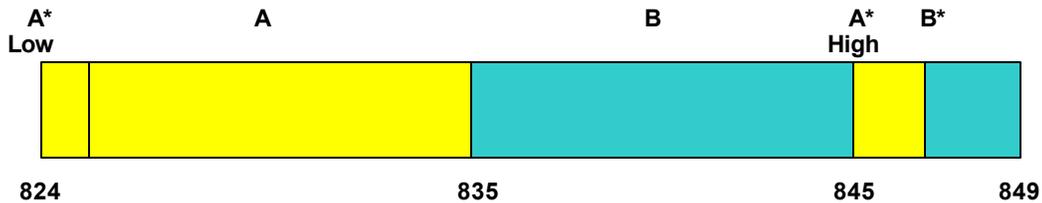
BLOCK 1: 869 – 880 MHz (A* Low + A)

BLOCK 3: 890 – 891.5 MHz (A* High)

BLOCK 2: 880 – 890 MHz (B)

BLOCK 4: 891.5 – 894 MHz (B*)

3.3 Cellular - Mobile Frequency Blocks



BLOCK 1: 824 – 835 MHz (A* Low + A)

BLOCK 3: 845 – 846.5 MHz (A* High)

BLOCK 2: 835 – 845 MHz (B)

BLOCK 4: 846.5 – 849 MHz (B*)

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4.0 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
-	263-10dB	(DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
-	No.166	(1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167	(100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Agilent	8449B	(1-26.5GHz) Pre-Amplifier	2/8/2011	Annual	2/8/2012	3008A00985
Agilent	85650A	Quasi-Peak Adapter	4/2/2011	Annual	4/2/2012	3303A01872
Agilent	E4407B	ESA Spectrum Analyzer	4/6/2011	Annual	4/6/2012	US39210313
Agilent	E4448A	PSA (3Hz-50GHz) Spectrum Analyzer	11/30/2010	Annual	11/30/2011	US42510244
Agilent	E5515C	Wireless Communications Test Set	10/11/2010	Annual	10/11/2011	GB46110872
Agilent	E5515C	Wireless Communications Test Set	10/8/2010	Annual	10/8/2011	GB46310798
Agilent	E8257D	(250kHz-20GHz) Signal Generator	3/30/2011	Annual	3/30/2012	MY45470194
Agilent	E8267C	Vector Signal Generator	10/11/2010	Annual	10/11/2011	US42340152
Agilent	N9020A	MXA Signal Analyzer	9/8/2010	Annual	9/8/2011	US46470561
Agilent	E5515C	Wireless Communications Test Set	2/8/2011	Annual	2/8/2012	GB45360985
Anritsu	ML2495A	Power Meter	10/13/2010	Annual	10/13/2011	941001
Compliance Design	Roberts	Dipole Set	4/7/2010	Biennial	4/7/2012	146
Compliance Design	Roberts	Dipole Set	4/7/2010	Biennial	4/7/2012	147
Emco	3115	Horn Antenna (1-18GHz)	10/14/2009	Biennial	10/14/2011	9704-5182
Emco	3115	Horn Antenna (1-18GHz)	4/8/2010	Biennial	4/8/2012	9205-3874
Espec	ESX-2CA	Environmental Chamber	2/8/2011	Annual	2/8/2012	17620
Gigatronics	80701A	(0.05-18GHz) Power Sensor	10/11/2010	Annual	10/11/2011	1833460
Gigatronics	8651A	Universal Power Meter	10/11/2010	Annual	10/11/2011	8650319
K & L	11SH10	Band Pass Filter	N/A		N/A	1300/4000
K & L	11SH10	Band Pass Filter	N/A		N/A	4000/12000
MiniCircuits	VHF-1300+	High Pass Filter	N/A		N/A	30716
MiniCircuits	VHF-3100+	High Pass Filter	N/A		N/A	30721
Pasternack	PE2208-6	Bidirectional Coupler	N/A		N/A	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	11/11/2010	Annual	11/11/2011	836371/0079
Rohde & Schwarz	CMU200	Base Station Simulator	6/17/2010	Annual	6/17/2011	836536/0005
Rohde & Schwarz	FSQ 26	Spectrum Analyzer	8/28/2010	Annual	8/28/2011	200452
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	8/30/2010	Annual	8/30/2011	100976
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	3/11/2011	Annual	3/11/2012	103962
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Rx	7/17/2009	Biennial	7/17/2011	9105-2404
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Tx	7/17/2009	Biennial	7/17/2011	9105-2403
Sunol	DRH-118	Horn Antenna (1 - 18GHz)	5/14/2009	Biennial	5/14/2011	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	7/17/2009	Biennial	7/17/2011	A051107

Table 4-1. Test Equipment

FCC ID: AK8PCG41312L		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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5.0 SAMPLE CALCULATIONS

GSM Emission Designator

Emission Designator = 250KGXW

GSM BW = 250 kHz
 G = Phase Modulation
 X = Cases not otherwise covered
 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) (Measured at the 99.75% power bandwidth)

CDMA Emission Designator

Emission Designator = 1M27F9W

CDMA BW = 1.27 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: GSM Channel 512 PCS Mode 2nd Harmonic (3700.40 MHz)

The average power meter 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 terminal is adjusted to produce a reading of -81.0 dBm on the power meter. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm - (-24.80) = 50.3 dBc.

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6.0 TEST RESULTS

6.1 Summary

Company Name: Sony Corporation
 FCC ID: AK8PCG41312L
 FCC Classification: PCS Licensed Transmitter (PCB)
 Mode(s): GSM/EDGE/CDMA/WCDMA

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)						
2.1049, 22.917(a), 24.238(a)	RSS-Gen (4.6.1) RSS-133 (2.3)	Occupied Bandwidth	N/A	CONDUCTED	PASS	See note below
2.1051, 22.917(a), 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Band Edge / Conducted Spurious Emissions	< 43 + log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	
2.1046	RSS-133 (6.4)	Transmitter Conducted Output Power	N/A		PASS	RF Exposure Report
24.232(d)	RSS-132 (4.4) RSS-133 (4.1)	Peak-Average Ratio	< 13 dB		PASS	See note below
22.913(a)(2)	RSS-132 (4.4) [SRSP-503(5.1.3)]	Effective Radiated Power	< 7 Watts max. ERP	RADIATED	PASS	Section 6.2
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		PASS	Section 6.3
2.1053, 22.917(a), 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Undesirable Emissions	< 43 + log ₁₀ (P[Watts]) for all out-of-band emissions		PASS	Sections 6.4, 6.5, 6.6, 6.7, 6.8, 6.9
RECEIVER MODE (RX) / DIGITAL EMISSIONS						
N/A	RSS-132 (4.6) RSS-133 (6.6)	Receiver Spurious Emissions Limits	< RSS-Gen limits [Section 6; Table 1]	RADIATED	PASS	Section 6.10

Table 6-1. Summary of Test Results

Note:

Conducted test results can be found under the FCC Authorization database of granted applications for FCC Part 22 and 24 report for FCC ID: N7NMC7750. The data from that grant represent the EUT under worse case test settings. The Sony Laptop FCC ID: AK8PCG41312L contains the identical module, but is set at lower power settings than the worst case test conditions. The data remains applicable in this test report.

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6.2 Effective Radiated Power Output Data

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

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
824.20	GSM850	-7.800	30.40	0.00	V	30.40	1.096	Standard
836.60	GSM850	-5.700	32.50	0.00	V	32.50	1.778	Standard
848.80	GSM850	-5.900	32.30	0.00	V	32.30	1.698	Standard
836.60	EDGE850	-8.500	29.70	0.00	V	29.70	0.933	Standard

Table 6-2. Effective Radiated Power Output Data (GSM)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
826.40	WCDMA850	-17.300	20.90	0.00	V	20.90	0.123	Standard
836.60	WCDMA850	-15.200	23.00	0.00	V	23.00	0.200	Standard
846.60	WCDMA850	-16.200	22.00	0.00	V	22.00	0.158	Standard

Table 6-3. Effective Radiated Power Output Data (WCDMA)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
824.70	CDMA850	-16.300	21.90	0.00	V	21.90	0.155	Standard
836.52	CDMA850	-15.400	22.80	0.00	V	22.80	0.191	Standard
848.31	CDMA850	-16.200	22.00	0.00	V	22.00	0.158	Standard

Table 6-4. Effective Radiated Power Output Data (CDMA)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This level is recorded using the power meter. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 11 of 32	

6.3 Equivalent Isotropic Radiated Power Output Data

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

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1850.20	GSM1900	-10.400	22.30	8.00	V	30.30	1.072	Standard
1880.00	GSM1900	-11.300	21.40	8.00	V	29.40	0.871	Standard
1909.80	GSM1900	-10.300	22.40	8.00	V	30.40	1.096	Standard
1909.80	EDGE1900	-13.200	19.50	8.00	V	27.50	0.562	Standard

Table 6-5. Equivalent Isotropic Radiated Power Output Data (GSM)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1852.40	WCDMA1900	-17.500	15.20	8.00	V	23.20	0.209	Standard
1880.00	WCDMA1900	-19.700	13.00	8.00	V	21.00	0.126	Standard
1907.60	WCDMA1900	-20.300	12.40	8.00	V	20.40	0.110	Standard

Table 6-6. Equivalent Isotropic Radiated Power Output Data (WCDMA)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1851.25	CDMA1900	-16.600	16.10	8.00	V	24.10	0.257	Standard
1880.00	CDMA1900	-17.300	15.40	8.00	V	23.40	0.219	Standard
1908.75	CDMA1900	-17.200	15.50	8.00	V	23.50	0.224	Standard

Table 6-7. Equivalent Isotropic Radiated Power Output Data (CDMA)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.4 Cellular GSM Radiated Measurements

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.20 MHz
 CHANNEL: 128
 MEASURED OUTPUT POWER: 32.500 dBm = 1.778 W
 MODULATION SIGNAL: GSM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 45.50 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1648.40	-47.99	6.42	-41.57	V	74.1
2472.60	-40.76	6.74	-34.02	V	66.5
3296.80	-66.20	7.55	-58.65	V	91.1
4121.00	-90.95	7.56	-83.40	V	115.9
4945.20	-90.55	9.05	-81.50	V	114.0

Table 6-8. Radiated Spurious Data (Cellular GSM Mode – Ch. 128)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 13 of 32	

Cellular GSM Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.60 MHz
 CHANNEL: 190
 MEASURED OUTPUT POWER: 32.500 dBm = 1.778 W
 MODULATION SIGNAL: GSM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 45.50 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.20	-43.30	6.43	-36.88	V	69.4
2509.80	-40.11	6.77	-33.34	V	65.8
3346.40	-93.73	7.55	-86.18	V	118.7
4183.00	-91.21	7.81	-83.40	V	115.9
5019.60	-90.18	9.02	-81.16	V	113.7

Table 6-9. Radiated Spurious Data (Cellular GSM Mode – Ch. 190)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 14 of 32	

Cellular GSM Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.80 MHz
 CHANNEL: 251
 MEASURED OUTPUT POWER: 32.500 dBm = 1.778 W
 MODULATION SIGNAL: GSM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 45.50 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1697.60	-43.42	6.44	-36.98	V	69.5
2546.40	-42.62	6.83	-35.79	V	68.3
3395.20	-65.59	7.55	-58.04	V	90.5
4244.00	-91.46	8.06	-83.40	V	115.9
5092.80	-89.68	8.91	-80.76	V	113.3

Table 6-10. Radiated Spurious Data (Cellular GSM Mode – Ch. 251)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.5 Cellular WCDMA Radiated Measurements

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 826.40 MHz
 CHANNEL: 4132
 MEASURED OUTPUT POWER: 23.000 dBm = 0.200 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 36.00 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1652.80	-65.56	6.42	-59.14	V	82.1
2479.20	-67.35	6.74	-60.61	V	83.6
3305.60	-93.88	7.55	-86.33	V	109.3
4132.00	-91.00	7.60	-83.40	V	106.4
4958.40	-90.49	9.05	-81.44	V	104.4

Table 6-11. 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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 16 of 32	

Cellular WCDMA Radiated Measurements (Cont'd)
§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.60 MHz
 CHANNEL: 4183
 MEASURED OUTPUT POWER: 23.000 dBm = 0.200 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 36.00 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.20	-67.03	6.42	-60.60	V	83.6
2509.80	-68.12	6.76	-61.36	V	84.4
3346.40	-93.76	7.55	-86.21	V	109.2
4183.00	-91.18	7.78	-83.40	V	106.4
5019.60	-90.25	9.04	-81.22	V	104.2

Table 6-12. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Cellular WCDMA Radiated Measurements (Cont'd)
§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 846.60 MHz
 CHANNEL: 4233
 MEASURED OUTPUT POWER: 23.000 dBm = 0.200 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 36.00 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1693.20	-65.55	6.43	-59.12	V	82.1
2539.80	-67.44	6.82	-60.62	V	83.6
3386.40	-93.59	7.55	-86.04	V	109.0
4233.00	-91.41	8.01	-83.40	V	106.4
5079.60	-89.77	8.93	-80.83	V	103.8

Table 6-13. 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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 18 of 32	

6.6 Cellular CDMA Radiated Measurements

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.70 MHz
 CHANNEL: 1013
 MEASURED OUTPUT POWER: 22.800 dBm = 0.191 W
 MODULATION SIGNAL: CDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 35.80 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-54.88	6.42	-48.47	V	71.3
2474.10	-59.35	6.74	-52.61	V	75.4
3298.80	-66.89	7.55	-59.34	V	82.1
4123.50	-90.96	7.57	-83.40	V	106.2
4948.20	-65.15	9.05	-56.10	V	78.9

Table 6-14. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN		Page 19 of 32

Cellular CDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.52 MHz
 CHANNEL: 384
 MEASURED OUTPUT POWER: 22.800 dBm = 0.191 W
 MODULATION SIGNAL: CDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 35.80 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-59.00	6.43	-52.58	V	75.4
2509.56	-57.31	6.77	-50.55	V	73.3
3346.08	-66.29	7.55	-58.74	V	81.5
4182.60	-63.80	7.81	-55.99	V	78.8
5019.12	-63.69	9.02	-54.66	V	77.5

Table 6-15. Radiated Spurious Data (Cellular CDMA Mode – Ch. 384)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 20 of 32	

Cellular CDMA Radiated Measurements (Cont'd)
§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.31 MHz
 CHANNEL: 777
 MEASURED OUTPUT POWER: 22.800 dBm = 0.191 W
 MODULATION SIGNAL: CDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 35.80 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1696.62	-57.53	6.44	-51.09	V	73.9
2544.93	-62.03	6.83	-55.20	V	78.0
3393.24	-64.20	7.55	-56.65	V	79.5
4241.55	-66.59	8.05	-58.54	V	81.3
5089.86	-64.13	8.92	-55.21	V	78.0

Table 6-16. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 21 of 32	

6.7 PCS GSM Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1850.20 MHz
 CHANNEL: 512
 MEASURED OUTPUT POWER: 30.400 dBm = 1.096 W
 MODULATION SIGNAL: GSM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 43.40 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3700.40	-60.72	9.49	-51.23	V	81.6
5550.60	-57.61	10.41	-47.20	V	77.6
7400.80	-85.13	11.08	-74.05	V	104.4
9251.00	-83.20	12.26	-70.94	V	101.3
11101.20	-80.55	13.19	-67.36	V	97.8

Table 6-17. Radiated Spurious Data (PCS GSM Mode – Ch. 512)

NOTES:

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

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 22 of 32	

PCS GSM Radiated Measurements (Cont'd)
§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz
 CHANNEL: 661
 MEASURED OUTPUT POWER: 30.400 dBm = 1.096 W
 MODULATION SIGNAL: GSM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 43.40 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-60.73	9.43	-51.29	V	81.7
5640.00	-55.48	10.24	-45.24	V	75.6
7520.00	-84.95	11.12	-73.84	V	104.2
9400.00	-83.37	12.32	-71.04	V	101.4
11280.00	-79.87	13.17	-66.70	V	97.1

Table 6-18. Radiated Spurious Data (PCS GSM Mode – Ch. 661)

NOTES:

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

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 23 of 32	

PCS GSM Radiated Measurements (Cont'd)
§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1909.80 MHz
 CHANNEL: 810
 MEASURED OUTPUT POWER: 30.400 dBm = 1.096 W
 MODULATION SIGNAL: GSM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 43.40 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3819.60	-59.44	9.37	-50.06	V	80.5
5729.40	-53.27	10.08	-43.19	V	73.6
7639.20	-84.85	11.21	-73.63	V	104.0
9549.00	-83.38	12.38	-71.00	V	101.4
11458.80	-79.21	13.15	-66.05	V	96.5

Table 6-19. Radiated Spurious Data (PCS GSM Mode – Ch. 810)

NOTES:

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

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 24 of 32	

6.8 PCS WCDMA Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1852.40 MHz
 CHANNEL: 9262
 MEASURED OUTPUT POWER: 23.200 dBm = 0.209 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 36.20 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3704.80	-60.10	9.49	-50.61	V	73.8
5557.20	-63.95	10.39	-53.56	V	76.8
7409.60	-85.11	11.08	-74.03	V	97.2
9262.00	-83.22	12.27	-70.95	V	94.2
11114.40	-80.50	13.19	-67.31	V	90.5

Table 6-20. 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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 25 of 32	

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
 MEASURED OUTPUT POWER: 23.200 dBm = 0.209 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 36.20 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-60.83	9.43	-51.39	V	74.6
5640.00	-63.28	10.24	-53.04	V	76.2
7520.00	-84.95	11.12	-73.84	V	97.0
9400.00	-83.37	12.32	-71.04	V	94.2
11280.00	-79.87	13.17	-66.70	V	89.9

Table 6-21. 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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 26 of 32	

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
 MEASURED OUTPUT POWER: 23.200 dBm = 0.209 W
 MODULATION SIGNAL: WCDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 36.20 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3815.20	-56.56	9.38	-47.18	V	70.4
5722.80	-61.92	10.09	-51.83	V	75.0
7630.40	-84.86	11.21	-73.65	V	96.8
9538.00	-83.40	12.37	-71.03	V	94.2
11445.60	-79.26	13.16	-66.10	V	89.3

Table 6-22. 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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 27 of 32	

6.9 PCS CDMA Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1851.25 MHz
 CHANNEL: 25
 MEASURED OUTPUT POWER: 24.100 dBm = 0.257 W
 MODULATION SIGNAL: CDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10}(W) =$ 37.10 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-57.91	9.49	-48.42	V	72.5
5553.75	-88.26	10.40	-77.86	V	102.0
7405.00	-85.12	11.08	-74.04	V	98.1
9256.25	-83.21	12.26	-70.95	V	95.0
11107.50	-80.52	13.19	-67.33	V	91.4

Table 6-23. Radiated Spurious Data (PCS CDMA Mode – Ch. 25)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 28 of 32	

PCS CDMA 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: 600
 MEASURED OUTPUT POWER: 24.100 dBm = 0.257 W
 MODULATION SIGNAL: CDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 37.10 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-53.93	9.43	-44.49	V	68.6
5640.00	-87.70	10.24	-77.46	V	101.6
7520.00	-84.95	11.12	-73.84	V	97.9
9400.00	-83.37	12.32	-71.04	V	95.1
11280.00	-79.87	13.17	-66.70	V	90.8

Table 6-24. Radiated Spurious Data (PCS CDMA Mode – Ch. 600)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

FCC ID: AK8PCG41312L		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 29 of 32	

PCS CDMA Radiated Measurements (Cont'd)
§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1908.75 MHz
 CHANNEL: 1175
 MEASURED OUTPUT POWER: 24.100 dBm = 0.257 W
 MODULATION SIGNAL: CDMA (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 37.10 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3817.50	-50.65	9.37	-41.27	V	65.4
5726.25	-87.15	10.08	-77.06	V	101.2
7635.00	-84.85	11.21	-73.64	V	97.7
9543.75	-83.39	12.38	-71.02	V	95.1
11452.50	-79.23	13.15	-66.08	V	90.2

Table 6-25. Radiated Spurious Data (PCS CDMA Mode – Ch. 1175)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GPRS mode while transmitting with one slot active. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found when the laptop was in the normal upright position, with the LCD screen at a 90 degree angle with the keyboard. The data reported in the table above was measured in this test setup.

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Test Report S/N: 0Y1103150537.AK8	Test Dates: April 11-15, 2011	EUT Type: 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN	Page 30 of 32	

6.10 Receiver Spurious Emissions

RSS-132 (4.6), RSS-133 (6.6)

Frequency [MHz]	Level [dBm]	AFCL [dB]	Pol [H/V]	Height [m]	Azimuth [degrees]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
42.10	-96.33	13.37	V	1.3	170	24.03	40.00	-15.97
168.20	-91.00	14.29	V	1.5	30	30.29	43.52	-13.23
265.20	-87.41	14.69	H	1.3	320	34.28	46.02	-11.74
342.80	-94.80	17.40	V	1.8	240	29.60	46.02	-16.42
456.80	-95.70	19.96	V	1.3	130	31.26	46.02	-14.76
539.30	-95.18	21.50	V	1.5	150	33.32	46.02	-12.70

Table 6-26. Radiated Measurements at 3-meters

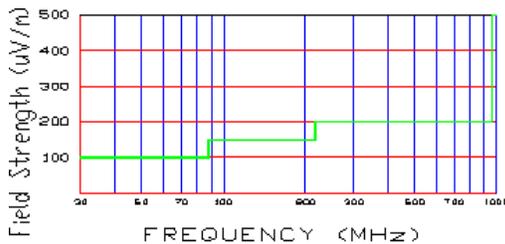


Figure 6-1. 3-Meter Limits

NOTES:

1. All modes of operation were investigated and the worst-case emissions are reported.
2. The EUT was set to receive mode in the middle channel of operation.
3. Radiated emissions were measured from 30MHz to three times that of the highest tunable frequency or local oscillator.
4. The radiated limits are shown on Figure 6-1. Above 960MHz the limit is 500µV/m.

1. All readings are calibrated by a Signal Generator with accuracy traceable to the National Institute of Standards and Technology (NIST).
2. AFCL = Antenna Factor and Cable Loss
3. Measurements are made using CISPR quasi-peak mode. Average measurements are recorded above 1GHz.

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7.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Sony 850/1900 GSM/GPRS/EDGE/WCDMA/HSPA/CDMA/EvDO and Band13 LTE Laptop with BT and WLAN FCC ID: AK8PCG41312L** complies with all the requirements of Parts 2, 22, and 24 of the FCC rules and RSS-132 and RSS-133 of the Industry Canada rules .

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