



**FCC CFR47 PART 22 SUBPART H PART 24 E
CLASS II PERMISSIVE CHANGE
CERTIFICATION TEST REPORT
FOR
GSM/GPRS Class 10/EDGE/HSDPA/HSUPA/WCDMA MODULE INSTALLED
IN A LENOVO T500/W500 SERIES THINKPAD LAPTOP**

**MODEL NUMBER: F3507g
FCC ID: VV7-MBMF3507G-L**

**REPORT NUMBER: 08U11719-1
ISSUE DATE: APRIL 14, 2008**

Prepared for

**ERICSSON AB
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SE-417 56 GOTHENBURG
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Prepared by

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NVLAP LAB CODE 200065-0

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: ERICSSON AB
LINDHOLMSPIREN 11
SE-417 56 GOTHENBURG
SWEDEN

EUT DESCRIPTION: GSM/GPRS CLASS 10/EDGE/HSDPA/HSUPA/WCDMA
MODULE INSTALLED IN A LENOVO T500/W500 THINKPAD
SERIES LAPTOP

MODEL: F3507g

SERIAL NUMBER: C3700006A0

DATE TESTED: APRIL 7-9, 2008

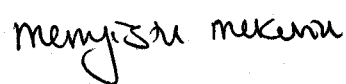
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22 SUBPART H	No Non-Compliance Noted
FCC PART 24 SUBPART E	No Non-Compliance Noted

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All expressions of Pass/Fail in this report are opinions expressed by CCS based on interpretations of the test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by CCS will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:



THU CHAN
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), FCC CFR 47 Part 2, FCC CFR 47 Part 22H, and 24E.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Radiated Emission, Above 2000 MHz	+/- 4.3 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/GPRS Class 10/EDGE/HSDPA/HSUPA/WCDMA Module installed in a Lenovo T500/W500 Series ThinkPad Laptop with Nissei & Amphenol Antennas.

5.2. DESCRIPTION OF CLASS II CHANGE

The change filed under this application is adding a ThinkPad T500/W500 Series (C5) with Nissei & Amphenol Antennas.

5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

GSM/GPRS/EGPRS

GPRS 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 824.2	GPRS	32.5	1778.3	32.6	1819.7
Mid CH - 836.6		32.6	1819.7	32.7	1862.1
High CH - 848.8		32.6	1819.7	32.7	1862.1

GPRS 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 1850.2	GPRS	30.3	1071.5	30.4	1086.4
Mid CH - 1880		30.3	1066.6	30.3	1078.9
High CH - 1909.8		30.4	1083.9	30.4	1099.0

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a Planar Inverted F antenna manufactured by Nissei Electric Co., Ltd with a maximum gain of -0.55dBi gain for cell band and 3.38dBi gain for PCS band.

5.5. SOFTWARE AND FIRMWARE

The EUT is linked with Communication Test Set.

5.6. WORST-CASE CONFIGURATION AND MODE

The following setting is used to configure the CMU200 to establish the link

Service selection → Test Mode A – Auto Slot Config. → off
Main Service → Packet Data
Network Support → GSM+GPRS
Slot Config → 33 dBm for GSM850/EGSM900 and 30 dBm for GSM1800
27 dBm for GSM850 EPRS and 26 dBm for GSM1800 EGPRS

Conducted power:

<u>Application</u>	<u>Rev. License</u>
WCDMA Mobile Test	A.09.06

WCDMA

The following settings were used to configure the Radio Communication Tester, CMU200.

- Connection
 - Dedicated Chan (CS): RMC
 - Band Select:
 - Band V for US Cell Band
 - Band II for US PCS Band
 - Band I for 2100MHz band
- Network
 - Requested UE Data
 - Authentication: Off
 - Security: Off
 - IMEI: ON
 - RLC Reestablish: Off
- BS Signal
 - Node –B Setting
 - RF Channel Downlink
 - Band V: 4357 / 4407 / 4458
 - Band II: 9662 / 9800 / 9938
 - Band I: 10562 / 10700 / 10838
 - Circuit Switched
 - RMC Setting

- Reference Channel Type: 12.2Kbps
- Test Mode: Loop Mode 1 RLC TM
- Channel Data Source DTCH: All One
- Signaling RAB Setting
 - SRB Cell DCH: 13.6 Kbps

- HSDPA HS-DSCH
 - Fixed Reference Channel

H-Set Selection: H-Set 1 QPSK

- UE Signal
 - Analyzer Setting
 - RF Channel Uplink:
 - Band V: 4132 / 4182 / 4233
 - Band II: 9262 / 9400 / 9538
 - Band I; 9612 / 9750 / 9888
 - UE power Control
 - Max Allowed UE Power: 25

GSM Mode

- To reset the Agilent 8960 to default all values > Shift & Preset
- To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob
 - > RF IN/OUT Amptd Offset
 - > RF IN/OUT Amptd Offset Setup
 - > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e.-35 is greater than -30).

Control

- Operating Mode > Active Cell (GSM)
- Connection Type > Auto (For Voice Mode)

Call Parm

- BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
 - > Cell Band > PCS or GSM850 (US band)
- TCH Parameters > Timeslot > 1
 - > Traffic Channel > PCS Channel 512 / 661 / 810
 - > GSM850 Channel 128 / 190 / 251
 - > MS TX Level > 1 (for both PCS or GSM850)
 - > Timeslot > 1
 - > Speech Setup > Speech Source > Echo (Default)
- Press "Originate Call"

GPRS Mode

- To reset the Agilent 8960 to default all values > Shift & Preset
- To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob
 - > RF IN/OUT Amptd Offset
 - > RF IN/OUT Amptd Offset Setup
 - > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e.-35 is greater than -30).

Control

- Operating Mode > Active Cell (GPRS)
- Connection Type > ETSI Type A (For Data Mode)

Call Parm

- BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
 - > Cell Band > PCS or GSM850 (US band)

- TCH Parameters > Traffic Channel > PCS Channel 512 / 661 / 810
> GSM850 Channel 128 / 190 / 251
- > MS TX Level > 3 (33dBm for Cell band); 3 (30dBm for PCS band)

- PDTCH > Multislot Config > 1 Down, 2 Up
- > MS TX Level > 5 (33dBm Cell band); 1 (30dBm PCS band)
- > Coding Scheme > CS-4

- After the 8960 attaches to the EUT, then press "Start Data Connection"

EGPRS Mode

- To reset the Agilent 8960 to default all values > Shift & Preset
- To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob
 - > RF IN/OUT Amptd Offset
 - > RF IN/OUT Amptd Offset Setup
 - > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e.-35 is greater than -30).

Control

- Operating Mode > Active Cell (EGPRS)
- Connection Type > ETSI Type A (For Data Mode)

Call Parm

- BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
 - > Cell Band > PCS or GSM850 (US band)
- TCH Parameters > Traffic Band > PCS Channel 512 / 661 / 810
 - > GSM850 Channel 128 / 190 / 251
 - > MS TX Level > 6 (27 dBm Cell band); 5 (26 dBm PCS band)
- PDTCH > Multislot Config > 1 Down, 2 Up
- > MS TX Level > 6 (27dBm Cell band); 5 (26dBm PCS band)
- > Modulation Coding Scheme
 - > Uplink Modulation Coding Scheme > MCS 9
- After the 8960 attaches to the EUT, then press "Start Data Connection"

Based on the above results from the different modulations, GPRS is the worst-case scenario for all measurements.

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at high channel for Cell and PCS bands.

GSM/GPRS

GPRS 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 824.2	GPRS	32.5	1778.3	32.6	1819.7
Mid CH - 836.6		32.6	1819.7	32.7	1862.1
High CH - 848.8		32.6	1819.7	32.7	1862.1

GPRS 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 1850.2	GPRS	30.3	1071.5	30.4	1086.4
Mid CH - 1880		30.3	1066.6	30.3	1078.9
High CH - 1909.8		30.4	1083.9	30.4	1099.0

GSM/EGPRS

GPRS 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 824.2	EGPRS	27.4	549.5	30.4	1096.5
Mid CH - 836.6		27.7	588.8	30.2	1047.1
High CH - 848.8		27.2	524.8	30.2	1047.1

GPRS 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 1850.2	EGPRS	26.2	416.9	29.9	977.2
Mid CH - 1880		26.2	416.9	30.3	1078.9
High CH - 1909.8		26.2	416.9	29.9	977.2

WCDMA

WCDMA 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 826.4	WCDMA	22.85	192.75	25.75	375.84
Mid CH - 836.4		23.49	223.36	26.37	433.51
High CH - 846.6		23.10	204.17	26.00	398.11

WCDMA 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Low CH - 1852.4	WCDMA	23.52	224.91	26.48	444.63
Mid CH - 1880		23.59	228.56	26.52	448.75
High CH - 1907.6		23.43	220.29	26.24	420.73

WCDMA+HSDPA

WCDMA+HSDPA 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
SUB TEST 1					
Low CH - 826.4	WCDMA+HSDPA	23.40	218.78	26.25	421.70
Mid CH - 836.4		23.62	230.14	26.50	446.68
High CH - 846.6		23.52	224.91	26.28	424.62
SUB TEST 2					
Low CH - 826.4	WCDMA+HSDPA	22.22	166.72	25.74	374.97
Mid CH - 836.4		22.52	178.65	26.06	403.65
High CH - 846.6		22.36	172.19	25.92	390.84
SUB TEST 3					
Low CH - 826.4	WCDMA+HSDPA	22.21	166.34	25.92	390.84
Mid CH - 836.4		22.50	177.83	26.14	411.15
High CH - 846.6		22.29	169.43	26.01	399.02
SUB TEST 4					
Low CH - 826.4	WCDMA+HSDPA	21.29	134.59	25.30	338.84
Mid CH - 836.4		21.41	138.36	25.88	387.26
High CH - 846.6		21.24	133.05	25.55	358.92

WCDMA+HSDPA 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
SUB TEST 1					
Low CH - 1852.4	WCDMA+HSDPA	23.80	239.88	26.70	467.74
Mid CH - 1880		23.80	239.88	26.72	469.89
High CH - 1907.6		23.70	234.42	26.30	426.58
SUB TEST 2					
Low CH - 1852.4	WCDMA+HSDPA	22.74	187.93	26.25	421.70
Mid CH - 1880		22.76	188.80	26.35	431.52
High CH - 1907.6		22.73	187.50	26.20	416.87
SUB TEST 3					
Low CH - 1852.4	WCDMA+HSDPA	22.76	188.80	26.54	450.82
Mid CH - 1880		22.70	186.21	26.50	446.68
High CH - 1907.6		22.72	187.07	26.48	444.63
SUB TEST 4					
Low CH - 1852.4	WCDMA+HSDPA	21.67	146.89	26.09	406.44
Mid CH - 1880		21.56	143.22	25.98	396.28
High CH - 1907.6		21.70	147.91	25.90	389.05

WCDMA HSUPA

WCDMA+HSUPA 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
SUB TEST 1					
Low CH - 826.4	WCDMA+HSUPA	23.20	208.93	26.21	417.83
Mid CH - 836.4		23.60	229.09	26.48	444.63
High CH - 846.6		23.45	221.31	26.12	409.26
SUB TEST 2					
Low CH - 826.4	WCDMA+HSUPA	23.33	215.28	26.24	420.73
Mid CH - 836.4		23.62	230.14	26.46	442.59
High CH - 846.6		23.37	217.27	26.18	414.95
SUB TEST 3					
Low CH - 826.4	WCDMA+HSUPA	23.21	209.41	26.20	416.87
Mid CH - 836.4		23.63	230.67	26.49	445.66
High CH - 846.6		23.39	218.27	26.18	414.95
SUB TEST 4					
Low CH - 826.4	WCDMA+HSUPA	23.38	217.77	26.10	407.38
Mid CH - 836.4		23.60	229.09	26.51	447.71
High CH - 846.6		23.24	210.86	26.18	414.95
SUB TEST 5					
Low CH - 826.4	WCDMA+HSUPA	23.34	215.77	26.20	416.87
Mid CH - 836.4		23.69	233.88	26.52	448.75
High CH - 846.6		23.56	226.99	26.23	419.76

WCDMA+HSUPA 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	Conducted Average Power (dBm)	Conducted Average Power (mW)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
SUB TEST 1					
Low CH - 1852.4	WCDMA+HSUPA	23.83	241.55	27.00	501.19
Mid CH - 1880		23.85	242.66	27.00	501.19
High CH - 1907.6		23.81	240.44	26.75	473.15
SUB TEST 2					
Low CH - 1852.4	WCDMA+HSUPA	23.82	240.99	26.90	489.78
Mid CH - 1880		23.79	239.33	26.85	484.17
High CH - 1907.6		23.72	235.50	26.65	462.38
SUB TEST 3					
Low CH - 1852.4	WCDMA+HSUPA	23.83	241.55	26.89	488.65
Mid CH - 1880		23.85	242.66	26.86	485.29
High CH - 1907.6		23.79	239.33	26.66	463.45
SUB TEST 4					
Low CH - 1852.4	WCDMA+HSUPA	23.81	240.44	26.89	488.65
Mid CH - 1880		23.81	240.44	26.87	486.41
High CH - 1907.6		23.71	234.96	26.50	446.68
SUB TEST 5					
Low CH - 1852.4	WCDMA+HSUPA	23.80	239.88	26.82	480.84
Mid CH - 1880		23.76	237.68	26.70	467.74
High CH - 1907.6		23.70	234.42	26.33	429.54

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	IBM	92P1160	11S92P1160Z1ZBGH6BFEQJ	DoC
Laptop	Lenovo	T400 Series	ZZC7092	DoC
Communications Test	R & S	CMU200	106291	NA
Horn 1-18GHz	EMCO	3115	NA	NA

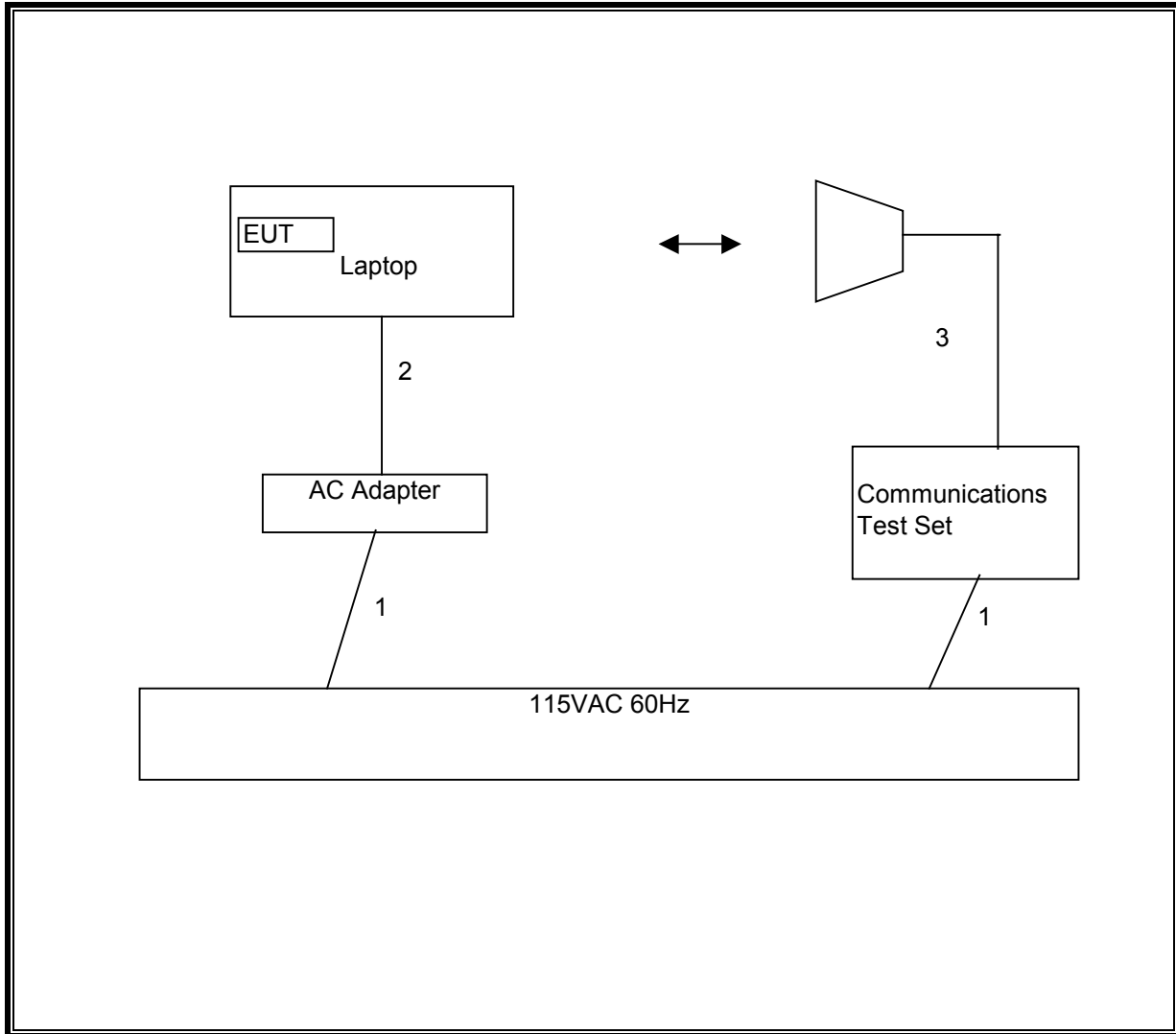
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	2	115VAC	Un-shielded	1m	NA
2	DC	1	DC	Un-shielded	1m	NA
3	RF IN/OUT	1	Horn Antenna	Un-shielded	2m	NA

TEST SETUP

The EUT is installed in a Laptop Host during the tests. Communication test set exercised the EUT.

SETUP DIAGRAM FOR TESTS



5.8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	Asset	Cal Date	Cal Due
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	8/3/2007	9/27/2008
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	39368	9/29/08
Horn 1-18GHz	EMCO	3115	C00945	39187	4/15/08
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	39211	5/9/08
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	38839	8/7/08
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	38975	9/29/08
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	39006	8/6/09
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR	CNR
Horn	EMCO	3115	C00872	04/15/07	04/15/08
Dipole	Speag	D900V2	NA	11/16/07	11/16/08
Signal Generator	R & S	SMP04	C00953	11/16/07	02/16/09
Communication Test Set	R & S	CMU200	C001131	4/16/2007	4/16/08
Communications Test Set	Agilent / HP	E5515C	C01086	06/29/07	06/29/08

5.8.1. OUTPUT POWER

LIMITS

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17

RESULTS

No non-compliance noted

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 824.2	GPRS	31.6	1445.44
Mid CH - 836.5		32.8	1905.46
High CH - 848.8		32.9	1949.84

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1850	GPRS	29.3	851.14
Mid CH - 1880		27.5	562.34
High CH - 1909		29.7	933.25

GSM, GPRS Output Power (ERP)

High Frequency Substitution Measurement									
Compliance Certification Services, Fremont 5m Chamber									
Company:		SONY ERICSSON MOBILE COMMUNICATIONS							
Project #:		08U11719							
Date:		4/9/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT ALONE (T500)							
Mode:		TX, CELL GPRS MODE							
Test Equipment:									
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)									
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081003									
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
824.20	104.5	V	32.1	0.5	0.0	31.6	38.5	-6.8	
824.20	101.2	H	26.2	0.5	0.0	25.7	38.5	-12.7	
Mid Ch									
836.60	104.6	V	33.4	0.6	0.0	32.8	38.5	-5.7	
836.60	102.9	H	28.7	0.6	0.0	28.1	38.5	-10.3	
High Ch									
848.80	105.4	V	33.9	0.7	0.0	32.9	38.5	-5.6	
848.80	104.0	H	29.9	0.7	0.0	29.2	38.5	-9.3	
Rev. 1.24.7									

GSM, GPRS Output Power (EIRP)

High Frequency Fundamental Measurement									
Compliance Certification Services, Fremont 5m Chamber Site									
Company:		SONY ERICSSON MOBILE COMMUNICATION							
Project #:		08U11719							
Date:		4/9/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT ALONE (T500)							
Mode:		TX, PCS GPRS MODE							
Test Equipment:									
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Thanh Cable									
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002, Thanh cable									
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
1.850	94.0	V	21.9	0.9	8.3	29.3	33.0	-3.7	
1.850	94.0	H	20.8	0.9	8.3	28.2	33.0	-4.9	
Mid Ch									
1.880	92.2	V	20.1	0.9	8.3	27.5	33.0	-5.5	
1.880	92.4	H	19.9	0.9	8.3	27.3	33.0	-5.7	
High Ch									
1.909	92.3	V	20.0	0.9	8.4	27.5	33.0	-5.5	
1.909	94.4	H	22.2	0.9	8.4	29.7	33.0	-3.3	
Rev. 1.24.7									

5.8.2. FIELD STRENGTH OF SPURIOUS RADIATION

LIMIT

§22.917 (e) and §24.238(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

§24.238 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b), FCC 24.238 (b)

RESULTS

GSM, GPRS Spurious & Harmonic (ERP)

High Frequency Substitution Measurement
 Compliance Certification Services, Fremont 5m B-Chamber

Company: SONY ERICSSON MOBILE COMMUNICATIONS
Project #: 08U11719
Date: 4/8/2008
Test Engineer: Chin Pang
Configuration: EUT ALONE
Mode: TX, CELL GPRS MODE
 Lenovo ThinkPad T500

Test Equipment:

EMCO Horn 1-18GHz

Horn > 18GHz

Limit

High Pass Filter

T60; S/N: 2238 @3m

FCC 22

Hi Frequency Cables

(2 ft)

(2 ~ 3 ft)

(4 ~ 6 ft)

(12 ft)

Pre-amplifier 1-26GHz

Pre-amplifier 26-40GHz

T145 Agilent 3008A

ERP

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch. (824.2 MHz)										
1.648	52.0	H	-51.5	3.8	7.1	4.9	-50.4	-13.0	-37.4	
2.473	62.0	H	-39.7	4.9	9.3	7.1	-37.4	-13.0	-24.4	
1.648	50.5	V	-53.7	3.8	7.1	4.9	-52.6	-13.0	-39.6	
2.473	60.7	V	-41.2	4.9	9.3	7.1	-39.0	-13.0	-26.0	
Mid Ch. (836.6 MHz)										
1.732	51.5	H	-51.8	4.0	7.4	5.2	-50.5	-13.0	-37.5	
2.510	56.7	H	-44.8	4.9	9.3	7.1	-42.6	-13.0	-29.6	
1.732	52.0	V	-52.0	4.0	7.4	5.2	-50.7	-13.0	-37.7	
2.510	56.6	V	-45.1	4.9	9.3	7.1	-42.9	-13.0	-29.9	
Hi Ch. (848.8 MHz)										
1.698	52.3	H	-51.0	3.9	7.2	5.1	-49.9	-13.0	-36.9	
2.546	57.6	H	-43.7	4.9	9.3	7.1	-41.6	-13.0	-28.6	
1.698	53.0	V	-51.1	3.9	7.2	5.1	-49.9	-13.0	-36.9	
2.546	58.0	V	-43.5	4.9	9.3	7.1	-41.4	-13.0	-28.4	

Rev. 412.7

GSM, GPRS Spurious & Harmonic (EIRP)

High Frequency Substitution Measurement
 Compliance Certification Services, Fremont 5m B-Chamber

Company: SONY ERICSSON MOBILE COMMUNICATION
Project #: 08U11719
Date: 4/8/2008
Test Engineer: Chin Pang
Configuration: EUT ALONE
Mode: TX, PCS GPRS MODE
 Lenovo ThinkPad T500

Test Equipment:

EMCO Horn 1-18GHz

T60; S/N: 2238 @3m

Horn > 18GHz

Limit

FCC 24

High Pass Filter

Hi Frequency Cables

(2 ft)

(2~3 ft)

(4~6 ft)

(12 ft)

Pre-amplifier 1-26GHz

T145 Agilent 3008A

Pre-amplifier 26-40GHz

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch. (1850.2 MHz)										
3.700	51.8	H	-45.0	5.9	9.7	7.5	-41.3	-13.0	-28.3	
5.551	46.0	H	-45.0	7.4	11.0	8.9	-41.3	-13.0	-28.3	
3.700	52.0	V	-44.9	5.9	9.7	7.5	-41.2	-13.0	-28.2	
5.551	47.6	V	-44.4	7.4	11.0	8.9	-40.7	-13.0	-27.7	
Mid Ch. (1880.0 MHz)										
3.760	48.8	H	-47.8	6.0	9.7	7.5	-44.1	-13.0	-31.1	
5.640	48.5	H	-42.6	7.4	11.2	9.0	-38.8	-13.0	-25.8	
3.760	57.5	V	-39.2	6.0	9.7	7.5	-35.5	-13.0	-22.5	
5.640	48.5	V	-43.6	7.4	11.2	9.0	-39.8	-13.0	-26.8	
Hi Ch. (1908.75 MHz)										
3.820	46.5	H	-49.9	6.0	9.7	7.6	-46.2	-13.0	-33.2	
5.729	45.6	H	-45.6	7.5	11.3	9.2	-41.8	-13.0	-28.8	
3.820	51.6	V	-44.9	6.0	9.7	7.6	-41.2	-13.0	-28.2	
5.729	46.6	V	-45.6	7.5	11.3	9.2	-41.8	-13.0	-28.8	

Rev. 412.7