



**FCC CFR47 PART 22 SUBPART H
AND PART 24 SUBPART E
CLASS II PERMISSIVE CHANGE
CERTIFICATION TEST REPORT**

FOR

CDMA CELL-PCS MODULE

MODEL NUMBER: PA3547E-1HSD

FCC ID: CJ6UPA3547G3

REPORT NUMBER: 07U11497-1

ISSUE DATE: DECEMBER 15, 2007

Prepared for
**TOSHIBA CORPORATION
OME COMPLEX, 2-9, SUEHIRO-CHO
TOKYO, 198-8710, JAPAN**

Prepared by
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NVLAP LAB CODE 200065-0

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: TOSHIBA CORPORATION
OME COMPLEX, 2-9, SUEHIRO-CHO
TOKYO, 198-8710, JAPAN

EUT DESCRIPTION: CDMA CELL-PCS MODULE

MODEL: PA3547E-1HSD

SERIAL NUMBER: 97012617J

DATE TESTED: DECEMBER 3 - 10, 2007

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. tested the above equipment in accordance with the requirements set forth in the above standards. 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 Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services 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
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

CHIN PANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and 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. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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
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 CDMA Cell-PCS Module installed in Toshiba Protégé M700 Tablet.

The module supports GSM, GPRS, EGPRS, WCDMA, and WCDMA+HSPDA. Device capabilities are documented in the theory of operation.

The radio module is manufactured by Tyco Electronics.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak output power ERP and EIRP as follows:

Part 22 (824 - 849MHz) & Part 24 (1850 - 1910MHz) Authorized Band:

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
824.2 - 848.75	GPRS	29.00	794.33
824.2 - 848.75	EGPRS	26.70	467.74
826.5 - 846.6	WCDMA	23.10	204.17
826.5 - 846.6	WCDMA+HSPDA	23.60	229.09

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
1850.25 - 1909.8	GPRS	30.40	1096.48
1850.25 - 1909.8	EGPRS	27.20	524.81
1852.4 - 1907.6	WCDMA	26.80	478.63
1852.4 - 1907.6	WCDMA+HSPDA	27.20	524.81

5.3. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The major change under this application is that the subject-approved module is being used in a Protégé M700 with TMZ011 antenna.

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes 2xDipole antennas, with a maximum gain of 1.20dBi for Cell band and 0.87dBi for PCS band.

5.5. SOFTWARE AND FIRMWARE

The test utility software used during testing was ProcommPlus 4.8 @ Copyright 1999 by Symantec Corporation, Build 71 for GSM and EDGE modulations, and the communication test set is used for WCDMA modulation to configure as below:

The following settings were used to configure the Wireless Communications Test Set, Agilent 8960 Series 10, E5515C.

Instrument information: (by press SYSTEM CONFIG)

Application: WCDMA Lap App C
E6703C C.03.11
Format: WCDMA

Call Control: (by press CALL SETUP)

2 of 4 Cell Parameters: PS Domain Information > Present
ATT (IMSI Attach) Flag State > Set
4 of 4 Security Info: Security Parameter - System Operations > None

Call Params: (by press CALL SETUP)

1 of 3
Channel Type: 12.2k RMC
Paging Service: RB Test Mode

HSDPA Parameters:

1 of 2
HSDPA RB Test Mode Setup
FRC Type > H-Set 5 QPSK
CN Domain > PS Domain
Uplink 64k DTCH for HSDPA Loopback State > On
HS-DSCH Data Pattern > CCITT PRBS15
RLC Header on HS-DSCH > Present

Channel (UARFCN) Params: DL Channel: 4357 / 4407 / 4458
UL Channel: 4132 / 4182 / 4233
UL Sep (Band) > 400MHz (Band 4)
Freq Bnad Ind > On

2 of 3
DL DTCH Data: ALL ONES
RLC Reestablish: Off
Call Limit State: Off
Call Drop Timer: Off
SRB Config.: 13.6k DCCH
3 of 3
UE Target Power: -5 dBm
UL CL Pwr Ctrl Params: Active bits (Select "All Up bits" after linked to get maximum power)
DL Channel: 9662 / 9800 / 9938 / 4357 / 4407 / 4458
UL Channel: 9262 / 9400 / 9538 / 4132 / 4182 / 4233

5.6. WORST-CASE CONFIGURATION AND MODE

Based on the above results from the different modulations, GSM850, GPRS, and WCDMA, WCDMA+HSDPA modulation is to be 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 GSM cell band and middle channel for GSM1900 band. For WCDMA+HSPDA modulation, the highest power was at low channel for Cellular band and high channel for PCS band.

Also the portable X,Y, Z and mobile positions have been investigated and the worst-case configuration has been evaluated on Y position at both @ 850MHz and @ 1900MHz bands by comparing the fundamental ERP / EIRP output power.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Toshiba	PPM70E-AAA14	97012615J	DoC
AC Adapter	Toshiba	PA3283U-5ACA	G71C0006Q210	DoC
Wireless Communications Test Set	Agilent	E5515C	10092	DoC

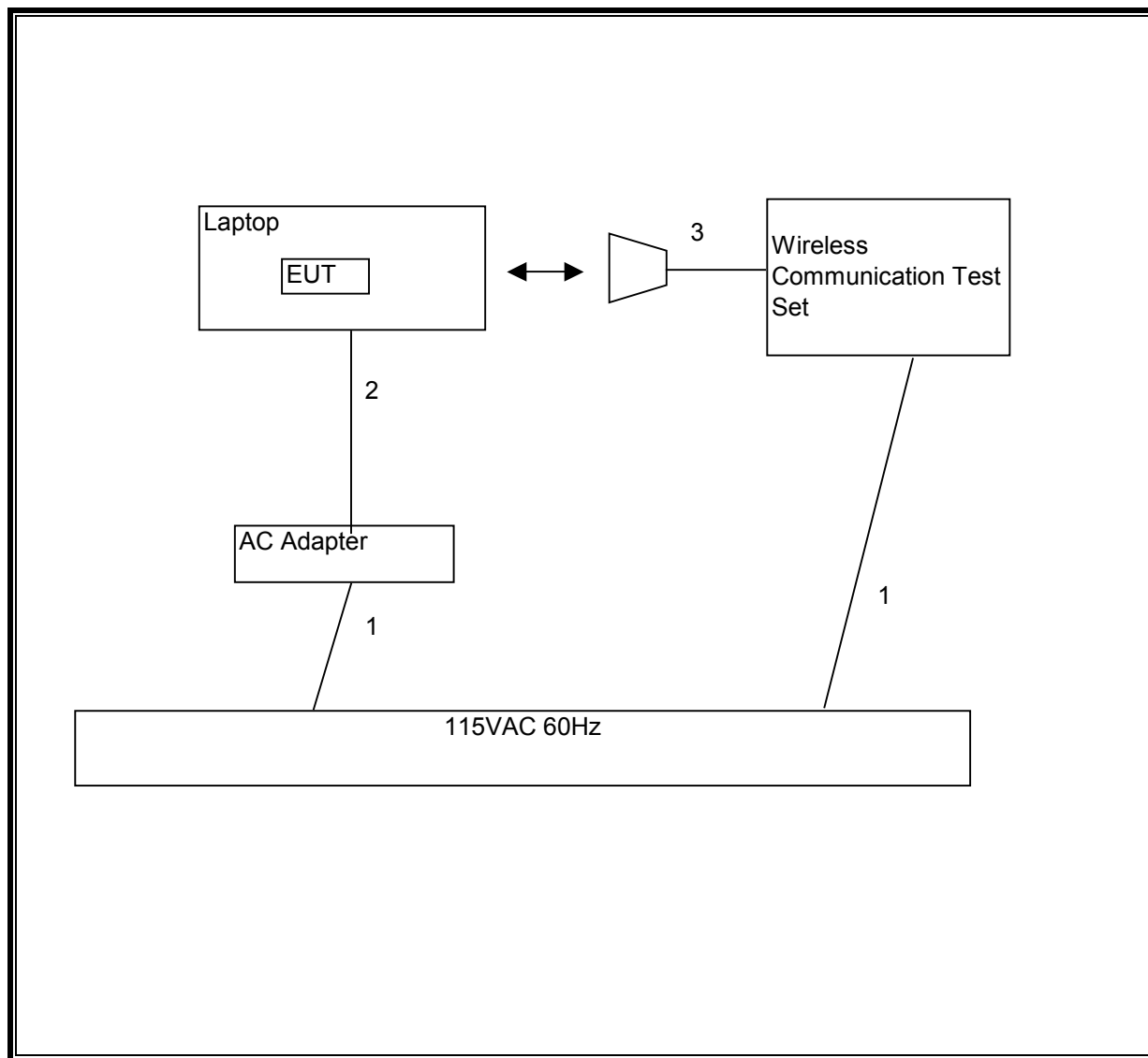
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	2	US 115V	Un-shielded	2m	NA
2	DC	1	D C	Un-shielded	2m	NA
3	RF In/Out	1	N-Type	Un-shielded	2m	To link EUT

TEST SETUP

The EUT is installed in Toshiba Tablet laptop during the tests. The Wireless Communication test set exercised the EUT.

SETUP DIAGRAM FOR TESTS



6. 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 Due
Communications Test Set	Agilent	E5515C	US41070176	6/29/2008
2.7GHz HPF	MicroTronic	HPM13194	2	CNR
1.5GHz HPF	MicroTronic	HPM13195	1	CNR
Dipole	EMCO	3121C-DB2	22435	3/25/2008
Quasi-Peak Adaptor	Agilent / HP	85650A	C00779	1/21/2008
SA RF Section, 1.5 GHz	Agilent / HP	85680B	N02455	1/7/2008
Spectrum Analyzer Display	Agilent / HP	85662A	N02480	4/7/2008
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	9/27/2008
Antenna, Horn, 18 GHz	EMCO	3115	C00872	4/15/2008
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	9/29/2008

7. LIMITS AND RESULTS

7.1. RF POWER OUTPUT

LIMIT

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.

GSM850 CELL GPRS Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	28.70	741.31
Middle	837.0	28.90	776.25
High	848.8	29.00	794.33

GSM850 CELL EGPRS Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	26.00	398.11
Middle	837.0	26.40	436.52
High	848.8	26.70	467.74

1900MHz GPRS PCS Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.20	29.00	794.33
Middle	1880.00	30.40	1096.48
High	1909.80	30.20	1047.13

1900MHz EGPRS PCS Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.20	26.70	467.74
Middle	1880.00	27.20	524.81
High	1909.80	27.10	512.86

WCDMA CELL CDMA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.4	23.10	204.17
Middle	836.4	22.90	194.98
High	848.6	22.80	190.55

WCDMA PCS CDMA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.40	26.30	426.58
Middle	1880.00	26.40	436.52
High	1907.60	26.80	478.63

WCDMA+HSPDA CELL CDMA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.4	22.30	169.82
Middle	836.4	23.60	229.09
High	848.6	23.60	229.09

WCDMA+HSPDA PCS CDMA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.40	26.10	407.38
Middle	1880.00	26.90	489.78
High	1907.60	27.20	524.81

GSM850 GPRS Output Power (ERP)

<p align="center">High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber</p> <p>Company: Toshiba Project #: 07U11497 Date: 12/4/2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: GSM850, GPRS</p> <p><u>Test Equipment:</u> Receiving: Smol 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: 177081002</p>									
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	102.3	V	29.3	0.6	0.0	28.7	38.5	-9.7	
824.20	100.9	H	25.8	0.6	0.0	25.2	38.5	-13.2	
Mid Ch									
837.00	102.5	V	29.5	0.6	0.0	28.9	38.5	-9.5	
837.00	100.5	H	25.4	0.6	0.0	24.8	38.5	-13.6	
High Ch									
848.80	102.9	V	29.7	0.7	0.0	29.0	38.5	-9.4	
848.80	101.3	H	25.8	0.7	0.0	25.1	38.5	-13.3	
Rev. 1.24.7									

GSM850 EGPRS Output Power (ERP)

<p align="center">High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber</p> <p>Company: Toshiba Project #: 07U11497 Date: 12/4/2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: GSM850, EGPRS</p> <p><u>Test Equipment:</u> 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: 177081002</p>									
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	99.6	V	26.6	0.6	0.0	26.0	38.5	-12.4	
824.20	98.0	H	22.9	0.6	0.0	22.3	38.5	-16.1	
Mid Ch									
837.00	100.0	V	27.0	0.6	0.0	26.4	38.5	-12.0	
837.00	99.0	H	23.9	0.6	0.0	23.3	38.5	-15.1	
High Ch									
848.80	100.6	V	27.4	0.7	0.0	26.7	38.5	-11.7	
848.80	100.0	H	24.5	0.7	0.0	23.8	38.5	-14.6	
Rev. 1 247									

CELL Band WCDMA Output Power (ERP)

<p align="center">High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber</p> <p>Company: Toshiba Project #: 07U11497 Date: 12/4/2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: WCDMA Y Position (Worst Case)</p> <p><u>Test Equipment:</u> 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: 177081002</p>									
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									
826.40	94.0	V	21.0	0.6	0.0	20.4	38.5	-18.0	
826.40	98.8	H	23.7	0.6	0.0	23.1	38.5	-15.3	
Mid Ch									
836.40	95.2	V	22.2	0.6	0.0	21.6	38.5	-16.8	
836.40	98.6	H	23.5	0.6	0.0	22.9	38.5	-15.5	
High Ch									
846.60	96.0	V	22.8	0.7	0.0	22.1	38.5	-16.3	
846.60	99.0	H	23.5	0.7	0.0	22.8	38.5	-15.6	
Rev. 1.24.7									

Cell Band WCDMA+HSDPA Output Power (ERP)

<p align="center">High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber</p> <p>Company: Toshiba Project #: 07U11497 Date: 12/4/2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: WCDMA+HSDPA Y Position (Worst Case)</p> <p><u>Test Equipment:</u> 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: 177081002</p>									
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									
826.40	95.0	V	22.0	0.6	0.0	21.4	38.5	-17.0	
826.40	98.0	H	22.9	0.6	0.0	22.3	38.5	-16.1	
Mid Ch									
836.40	95.5	V	22.5	0.6	0.0	21.9	38.5	-16.5	
836.40	99.3	H	24.2	0.6	0.0	23.6	38.5	-14.9	
High Ch									
846.60	96.0	V	22.8	0.7	0.0	22.1	38.5	-16.3	
846.60	99.8	H	24.3	0.7	0.0	23.6	38.5	-14.8	
Rev. 1.24.7									

GSM1900 Band GPRS Output Power (EIRP)

High Frequency Fundamental Measurement Compliance Certification Services, Fremont 5m Chamber Site

Company: Toshiba America Information Systems, Inc.
Project #: 07U11497
Date: 12/3/2007
Test Engineer: Chin Pang
Configuration: EUT Only
Mode: PCS, TX, GPRS
Y pos (Worst Case)

Test Equipment:

Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

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	92.0	V	18.6	0.9	8.3	26.0	33.0	-7.0	
1.850	95.5	H	21.6	0.9	8.3	29.0	33.0	-4.0	
Mid Ch									
1.880	95.4	V	22.1	0.9	8.3	29.5	33.0	-3.5	
1.880	95.8	H	23.0	0.9	8.3	30.4	33.0	-2.6	
High Ch									
1.910	92.9	V	19.6	0.9	8.3	27.0	33.0	-6.0	
1.910	95.6	H	22.8	0.9	8.3	30.2	33.0	-2.8	

Rev. 1.24.7

GSM1900 Band EGPRS Output Power (EIRP)

<p align="center">High Frequency Fundamental Measurement Compliance Certification Services, Fremont 5m Chamber Site</p> <p>Company: Toshiba America Information Systems, Inc. Project #: 07U11497 Date: 12/04/2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: PCS, TX, EGPRS Y Position (Worst Case)</p> <p><u>Test Equipment:</u> Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002</p>									
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 Channel									
1.850	90.8	V	17.4	0.9	8.3	24.8	33.0	-8.2	
1.850	93.2	H	19.3	0.9	8.3	26.7	33.0	-6.3	
Mid Channel									
1.880	92.0	V	17.7	0.9	8.3	25.1	33.0	-7.9	
1.880	94.6	H	19.8	0.9	8.3	27.2	33.0	-5.8	
High Channel									
1.910	91.3	V	18.0	0.9	8.3	25.4	33.0	-7.6	
1.910	92.5	H	19.7	0.9	8.3	27.1	33.0	-5.9	
Rev. 1.24.7									

PCS Band WCDMA Output Power (EIRP)

High Frequency Fundamental Measurement Compliance Certification Services, Fremont 5m Chamber Site

Company: Toshiba America Information Systems, Inc.
Project #: 07U11497
Date: 12/3/2007
Test Engineer: Chin Pang
Configuration: EUT Only
Mode: PCS, TX, WCDMA-12.2K RMC
Y pos (Worst Case)

Test Equipment:

Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Mobile Config									
Low Ch									
1852	91.8	V	18.4	0.9	8.3	25.8	33.0	-7.2	
1852	92.8	H	18.9	0.9	8.3	26.3	33.0	-6.7	
Mid Ch									
1880	92.0	V	18.7	0.9	8.3	26.1	33.0	-6.9	
1880	91.8	H	19.0	0.9	8.3	26.4	33.0	-6.6	
High Ch									
1908	92.7	V	19.4	0.9	8.3	26.8	33.0	-6.2	
1908	90.6	H	17.8	0.9	8.3	25.2	33.0	-7.8	

Rev. 1.24.7

PCS Band WCDMA + HSPDA Output Power (EIRP)

High Frequency Fundamental Measurement **Compliance Certification Services, Fremont 5m Chamber Site**

Company: Toshiba America Information Systems, Inc.
Project #: 07U11497
Date: 12/3/2007
Test Engineer: Chin Pang
Configuration: EUT Only
Mode: PCS, TX, WCDMA-HSDPA
Y pos (Worst Case)

Test Equipment:

Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

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									
1852	92.0	V	18.6	0.9	8.3	26.0	33.0	-7.0	
1852	92.6	H	18.7	0.9	8.3	26.1	33.0	-6.9	
Mid Ch									
1880	92.2	V	18.9	0.9	8.3	26.3	33.0	-6.7	
1880	92.3	H	19.5	0.9	8.3	26.9	33.0	-6.1	
High Ch									
1908	93.1	V	19.8	0.9	8.3	27.2	33.0	-5.8	
1908	91.0	H	18.2	0.9	8.3	25.6	33.0	-7.4	

Rev. 1.24.7

7.2. MAXIMUM PERMISSIBLE EXPOSURE

LIMITS

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

CALCULATIONS

Given

$$E = \sqrt{(30 * P * G) / d}$$

and

$$S = E^2 / 3770$$

where

E = Field Strength in Volts/meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:

$$d = \sqrt{((30 * P * G) / (3770 * S))}$$

Changing to units of Power to mW and Distance to cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = 100 * d \text{ (m)}$$

yields

$$d = 100 * \sqrt{((30 * (P / 1000) * G) / (3770 * S))}$$

$$d = 0.282 * \sqrt{(P * G / S)}$$

where

d = distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power Density in mW/cm²

Substituting the logarithmic form of power and gain using:

$$P \text{ (mW)} = 10^{(P \text{ (dBm)} / 10)} \text{ and}$$

$$G \text{ (numeric)} = 10^{(G \text{ (dBi)} / 10)}$$

yields

$$d = 0.282 * 10^{((P + G) / 20)} / \sqrt{S} \quad \text{Equation (1)}$$

where

d = MPE distance in cm

P = Power in dBm

G = Antenna Gain in dBi

S = Power Density Limit in mW/cm²

Equation (1) and the measured peak power is used to calculate the MPE distance.

LIMITS

From §1.1310 Table 1 (B), $S = 1.0 \text{ mW/cm}^2$

RESULTS

No non-compliance noted: (MPE distance equals 20 cm)

Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	Power Density (mW/cm²)
GSM850MHz Celllar	20.0	29.00	1.20	0.21
GSM1900 MHz PCS	20.0	30.40	0.87	0.27
WCDMA+HSPDA Celllar	20.0	23.60	1.20	0.06
WCDMA+HSPDA PCS	20.0	27.20	0.87	0.13

NOTE: For mobile or fixed location transmitters, the minimum separation distance is 20 cm, even if calculations indicate that the MPE distance would be less.

7.3. FIELD STRENGTH OF SPURIOUS RADIATION

LIMIT

§22.917 (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)

RESULTS

No non-compliance noted.

High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba										
Project #: 07U11497										
Date: 12-5-2007										
Test Engineer: Chin Pang										
Configuration: EUT Only										
Mode: TX, GSM850 GPRS										
<u>Test Equipment:</u>										
EMCO Horn 1-18GHz			Horn > 18GHz			Limit		<input checked="" type="checkbox"/> High Pass Filter		
T60; S/N: 2238 @3m ▾						FCC 22 ▾				
Hi Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)						Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz		
						T145 Agilent 3008A ▾				

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										
1.648	52.0	H	-51.5	3.8	7.1	4.9	-50.4	-13.0	-37.4	
2.473	51.8	H	-49.9	4.9	9.3	7.1	-47.6	-13.0	-34.6	
1.648	55.0	V	-49.2	3.8	7.1	4.9	-48.1	-13.0	-35.1	
2.473	52.0	V	-49.9	4.9	9.3	7.1	-47.6	-13.0	-34.6	
Mid Ch										
1.674	54.5	H	-48.9	3.9	7.2	5.0	-47.8	-13.0	-34.8	
2.511	54.0	H	-47.5	4.9	9.3	7.1	-45.3	-13.0	-32.3	
1.674	55.1	V	-49.0	3.9	7.2	5.0	-47.9	-13.0	-34.9	
2.511	54.5	V	-47.2	4.9	9.3	7.1	-45.0	-13.0	-32.0	
High Ch										
1.698	53.0	H	-50.3	3.9	7.2	5.1	-49.2	-13.0	-36.2	
2.546	56.0	H	-45.3	4.9	9.3	7.1	-43.2	-13.0	-30.2	
1.698	59.0	V	-45.1	3.9	7.2	5.1	-43.9	-13.0	-30.9	
2.546	54.7	V	-46.8	4.9	9.3	7.1	-44.7	-13.0	-31.7	

Rev. 4127

Note: No other emissions were detected above the system noise floor.

GSM850 EGPRS Spurious & Harmonic (ERP)

High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba Project #: 07U11497 Date: 12-5-2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: TX, GSM850 EGPRS										
<u>Test Equipment:</u>										
EMCO Horn 1-18GHz		Horn > 18GHz		Limit		<input checked="" type="checkbox"/> High Pass Filter				
T60; S/N: 2238 @3m				FCC 22						
HI Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)				Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz				
				T145 Agilent 3008A						
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, 824.2MHz										
1.648	55.5	H	-48.0	3.8	7.1	4.9	-46.9	-13.0	-33.9	
2.473	54.0	H	-47.7	4.9	9.3	7.1	-45.4	-13.0	-32.4	
1.648	52.0	V	-52.2	3.8	7.1	4.9	-51.1	-13.0	-38.1	
2.473	50.6	V	-51.3	4.9	9.3	7.1	-49.0	-13.0	-36.0	
Mid Ch, 837MHz										
1.674	57.5	H	-45.9	3.9	7.2	5.0	-44.8	-13.0	-31.8	
2.511	56.5	H	-45.0	4.9	9.3	7.1	-42.8	-13.0	-29.8	
1.674	52.7	V	-51.4	3.9	7.2	5.0	-50.3	-13.0	-37.3	
2.511	53.0	V	-48.7	4.9	9.3	7.1	-46.5	-13.0	-33.5	
High Ch, 848.8MHz										
1.698	55.2	H	-48.1	3.9	7.2	5.1	-47.0	-13.0	-34.0	
2.546	54.3	H	-47.0	4.9	9.3	7.1	-44.9	-13.0	-31.9	
1.698	52.0	V	-52.1	3.9	7.2	5.1	-50.9	-13.0	-37.9	
2.546	53.6	V	-47.9	4.9	9.3	7.1	-45.8	-13.0	-32.8	
Rev. 4.12.7										
Note: No other emissions were detected above the system noise floor.										

CELL Band WCDMA Spurious & Harmonic (ERP)

High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba Project #: 07U11497 Date: 12-10-2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: TX, CELL, WCDMA										
Test Equipment:										
EMCO Horn 1-18GHz		Horn > 18GHz		Limit		<input checked="" type="checkbox"/> High Pass Filter				
T60; S/N: 2238 @3m				FCC 22						
Hi Frequency Cables: <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)										
Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz								
T145 Agilent 3008A										
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										
1.653	51.5	H	-52.0	3.8	7.1	4.9	-50.9	-13.0	-37.9	
2.479	47.3	H	-54.4	4.9	9.3	7.1	-52.1	-13.0	-39.1	
1.648	50.0	V	-54.2	3.8	7.1	4.9	-53.1	-13.0	-40.1	
2.473	46.0	V	-55.9	4.9	9.3	7.1	-53.6	-13.0	-40.6	
Mid Ch										
1.673	52.0	H	-51.4	3.9	7.2	5.0	-50.3	-13.0	-37.3	
2.509	48.8	H	-52.7	4.9	9.3	7.1	-50.5	-13.0	-37.5	
1.673	50.5	V	-53.6	3.9	7.2	5.0	-52.5	-13.0	-39.5	
2.509	46.8	V	-54.9	4.9	9.3	7.1	-52.7	-13.0	-39.7	
High Ch										
1.693	53.2	H	-50.2	3.9	7.2	5.1	-49.0	-13.0	-36.0	
2.540	50.0	H	-51.4	4.9	9.3	7.1	-49.2	-13.0	-36.2	
1.693	52.0	V	-52.1	3.9	7.2	5.1	-50.9	-13.0	-37.9	
2.540	48.0	V	-53.6	4.9	9.3	7.1	-51.4	-13.0	-38.4	
Rev. 4.12.7										
Note: No other emissions were detected above the system noise floor.										

<div style="text-align: center; padding: 5px;">High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber</div>											
<div style="padding: 5px;">Company: Toshiba Project #: 07U11497 Date: 12-10-2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: TX, CELL, WCDMA+HSDPA</div>											
<div style="padding: 5px;">Test Equipment:</div>											
EMCO Horn 1-18GHz				Horn > 18GHz				Limit		<input checked="" type="checkbox"/> High Pass Filter	
T60; S/N: 2238 @3m ▾								FCC 22 ▾			
Hi Frequency Cables —											
<input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)				Pre-amplifier 1-26GHz				Pre-amplifier 26-40GHz			
				T145 Agilent 3008A ▾							

f GHz	SA reading (dBμV/m)	Ant. Pol. (H/V)	SG reading (dBrn)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch										
1.653	51.5	H	-52.0	3.8	7.1	4.9	-50.9	-13.0	-37.9	
2.479	47.0	H	-54.7	4.9	9.3	7.1	-52.4	-13.0	-39.4	
1.648	48.8	V	-55.4	3.8	7.1	4.9	-54.3	-13.0	-41.3	
2.473	46.5	V	-55.4	4.9	9.3	7.1	-53.1	-13.0	-40.1	
Mid Ch										
1.673	51.3	H	-52.1	3.9	7.2	5.0	-51.0	-13.0	-38.0	
2.509	47.8	H	-53.7	4.9	9.3	7.1	-51.5	-13.0	-38.5	
1.673	50.0	V	-54.1	3.9	7.2	5.0	-53.0	-13.0	-40.0	
2.509	46.2	V	-55.5	4.9	9.3	7.1	-53.3	-13.0	-40.3	
High Ch										
1.693	52.0	H	-51.4	3.9	7.2	5.1	-50.2	-13.0	-37.2	
2.540	47.5	H	-53.9	4.9	9.3	7.1	-51.7	-13.0	-38.7	
1.693	50.8	V	-53.3	3.9	7.2	5.1	-52.1	-13.0	-39.1	
2.540	46.5	V	-55.1	4.9	9.3	7.1	-52.9	-13.0	-39.9	

Rev. 4.12/7

Note: No other emissions were detected above the system noise floor.

GSM1900 Band GPRS Spurious & Harmonic (EIRP)

High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba										
Project #:07U11497										
Date: 12/6/2007										
Test Engineer: Chin pang										
Configuration: EUT Only										
Mode: TX, PCS GSM1900 GPRS										
<u>Test Equipment:</u>										
EMCO Horn 1-18GHz			Horn > 18GHz			Limit		High Pass Filter		
T72; S/N: 6739 @3m						FCC 24				
<div> <div> <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft) </div> <div> Pre-amplifier 1-26GHz T145 Agilent 3008A </div> <div> Pre-amplifier 26-40GHz </div> </div>										
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, 1850.2MHz										
9.251	54.0	H	-35.6	9.3	13.6	11.4	-31.3	-13.0	-18.3	
11.100	48.5	H	-33.8	11.2	13.9	11.7	-31.1	-13.0	-18.1	
12.951	43.8	H	-36.7	12.3	14.9	12.8	-34.0	-13.0	-21.0	
9.251	46.0	V	-43.6	9.3	13.6	11.4	-39.3	-13.0	-26.3	
11.100	45.5	V	-37.4	11.2	13.9	11.7	-34.7	-13.0	-21.7	
12.951	40.5	V	-38.9	12.3	14.9	12.8	-36.2	-13.0	-23.2	
Mid Ch, 1880MHz										
9.499	53.0	H	-35.9	9.5	13.6	11.4	-31.9	-13.0	-18.9	
11.280	50.0	H	-31.7	11.4	14.0	11.8	-29.1	-13.0	-16.1	
13.160	47.5	H	-30.8	12.3	15.0	12.8	-28.2	-13.0	-15.2	
9.499	50.0	V	-38.9	9.5	13.6	11.4	-34.9	-13.0	-21.9	
11.280	45.0	V	-37.3	11.4	14.0	11.8	-34.7	-13.0	-21.7	
13.160	44.2	V	-34.9	12.3	15.0	12.8	-32.3	-13.0	-19.3	
High Ch, 1910MHz										
9.549	52.0	H	-36.8	9.6	13.6	11.4	-32.8	-13.0	-19.8	
11.459	48.0	H	-33.1	11.6	14.0	11.9	-30.6	-13.0	-17.6	
13.369	43.6	H	-34.6	12.3	15.0	12.9	-31.9	-13.0	-18.9	
9.549	48.3	V	-40.5	9.6	13.6	11.4	-36.5	-13.0	-23.5	
11.459	45.2	V	-36.5	11.6	14.0	11.9	-34.0	-13.0	-21.0	
13.369	41.3	V	-37.7	12.3	15.0	12.9	-35.0	-13.0	-22.0	
Rev. 4.12.7										
Note: No other emissions were detected above the system noise floor.										

GSM1900 Band EGPRS Spurious & Harmonic (EIRP)

High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba Project #: 07U11497 Date: 12/6/2007 Test Engineer: Chin Pang Configuration: EUT Only Mode: TX, PCS GSM1900 EGPRS										
Test Equipment:										
EMCO Horn 1-18GHz T72; S/N: 6739 @3m			Horn > 18GHz			Limit FCC 24		<input checked="" type="checkbox"/> High Pass Filter		
Hi Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (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, 1850.2MHz										
9.251	54.6	H	-35.0	9.3	13.6	11.4	-30.7	-13.0	-17.7	
11.100	49.0	H	-33.3	11.2	13.9	11.7	-30.6	-13.0	-17.6	
12.951	48.2	H	-32.3	12.3	14.9	12.8	-29.6	-13.0	-16.6	
9.251	50.5	V	-39.1	9.3	13.6	11.4	-34.8	-13.0	-21.8	
11.100	48.2	V	-34.7	11.2	13.9	11.7	-32.0	-13.0	-19.0	
12.951	46.7	V	-32.7	12.3	14.9	12.8	-30.0	-13.0	-17.0	
Mid Ch, 1880MHz										
9.499	53.7	H	-35.2	9.5	13.6	11.4	-31.2	-13.0	-18.2	
11.280	50.0	H	-31.7	11.4	14.0	11.8	-29.1	-13.0	-16.1	
13.160	47.0	H	-31.3	12.3	15.0	12.8	-28.7	-13.0	-15.7	
9.499	50.0	V	-38.9	9.5	13.6	11.4	-34.9	-13.0	-21.9	
11.280	48.5	V	-33.8	11.4	14.0	11.8	-31.2	-13.0	-18.2	
13.160	46.0	V	-33.1	12.3	15.0	12.8	-30.5	-13.0	-17.5	
High Ch, 1910MHz										
9.549	53.5	H	-35.3	9.6	13.6	11.4	-31.3	-13.0	-18.3	
11.459	50.6	H	-30.5	11.6	14.0	11.9	-28.0	-13.0	-15.0	
13.369	48.0	H	-30.2	12.3	15.0	12.9	-27.5	-13.0	-14.5	
9.549	49.5	V	-39.3	9.6	13.6	11.4	-35.3	-13.0	-22.3	
11.459	48.6	V	-33.1	11.6	14.0	11.9	-30.6	-13.0	-17.6	
13.369	46.3	V	-32.7	12.3	15.0	12.9	-30.0	-13.0	-17.0	
Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.										

PCS Band WCDMA Spurious & Harmonic (EIRP)

High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba Project #: 07U11497 Date: 12/6/2007 Test Engineer: Chin pang Configuration: EUT Only Mode: TX, PCS WCDMA										
Test Equipment:										
EMCO Horn 1-18GHz T72; S/N: 6739 @3m			Horn > 18GHz			Limit FCC 24		<input checked="" type="checkbox"/> High Pass Filter		
HI Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (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, 1852.4MHz										
3.705	50.2	H	-44.5	5.9	8.6	6.4	-41.8	-13.0	-28.8	
5.556	49.5	H	-40.9	7.4	10.8	8.6	-37.6	-13.0	-24.6	
7.409	47.6	H	-41.4	8.3	12.3	10.2	-37.4	-13.0	-24.4	
3.705	49.6	V	-45.2	5.9	8.6	6.4	-42.5	-13.0	-29.5	
5.556	47.5	V	-43.9	7.4	10.8	8.6	-40.6	-13.0	-27.6	
7.409	46.7	V	-43.1	8.3	12.3	10.2	-39.1	-13.0	-26.1	
Mid Ch, 1880MHz										
3.760	50.0	H	-44.6	6.0	8.7	6.5	-41.9	-13.0	-28.9	
5.640	48.0	H	-42.4	7.4	10.9	8.7	-39.0	-13.0	-26.0	
7.520	46.5	H	-42.5	8.3	12.4	10.3	-38.4	-13.0	-25.4	
3.760	48.0	V	-46.7	6.0	8.7	6.5	-44.0	-13.0	-31.0	
5.640	45.3	V	-46.1	7.4	10.9	8.7	-42.7	-13.0	-29.7	
7.520	45.2	V	-44.6	8.3	12.4	10.3	-40.5	-13.0	-27.5	
High Ch, 1.908Hz										
3.815	55.0	H	-39.5	6.0	8.8	6.6	-36.8	-13.0	-23.8	
5.723	48.0	H	-42.5	7.5	10.9	8.8	-39.0	-13.0	-26.0	
7.630	46.2	H	-42.7	8.4	12.5	10.4	-38.6	-13.0	-25.6	
3.815	53.5	V	-41.1	6.0	8.8	6.6	-38.4	-13.0	-25.4	
5.723	46.9	V	-44.6	7.5	10.9	8.8	-41.1	-13.0	-28.1	
7.630	45.0	V	-44.7	8.4	12.5	10.4	-40.6	-13.0	-27.6	
Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.										

PCS Band WCDMA+HSPDA Spurious & Harmonic (EIRP)

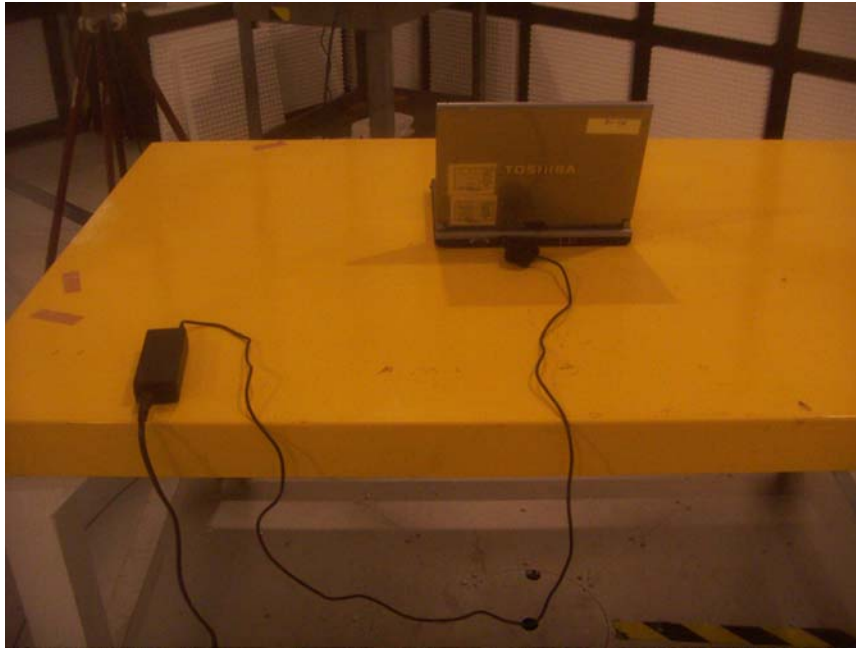
High Frequency Substitution Measurement										
Compliance Certification Services, Fremont 5m B-Chamber										
Company: Toshiba										
Project #:07U11497										
Date: 120/9/2007										
Test Engineer: Chin pang										
Configuration: EUT Only										
Mode: TX, PCS WCDMA+HSDPA										
Test Equipment:										
EMCO Horn 1-18GHz		Horn > 18GHz		Limit		High Pass Filter				
T60; S/N: 2238 @3m				FCC 24						
Hi Frequency Cables				Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz				
<input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)				T145 Agilent 3008A						
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, 1852.4MHz										
3.705	51.5	H	-45.3	5.9	9.7	7.5	-41.6	-13.0	-28.6	
5.556	47.4	H	-43.6	7.4	11.0	8.9	-39.9	-13.0	-26.9	
7.409	46.5	H	-41.9	8.3	12.0	9.8	-38.1	-13.0	-25.1	
3.705	47.5	V	-49.4	5.9	9.7	7.5	-45.7	-13.0	-32.7	
5.556	45.6	V	-46.4	7.4	11.0	8.9	-42.7	-13.0	-29.7	
7.409	45.0	V	-44.2	8.3	12.0	9.8	-40.4	-13.0	-27.4	
Mid Ch, 1880MHz										
3.760	50.5	H	-46.1	6.0	9.7	7.5	-42.4	-13.0	-29.4	
5.640	46.5	H	-44.6	7.4	11.2	9.0	-40.8	-13.0	-27.8	
7.520	45.6	H	-42.5	8.3	12.0	9.8	-38.8	-13.0	-25.8	
3.760	47.0	V	-49.7	6.0	9.7	7.5	-46.0	-13.0	-33.0	
5.640	46.0	V	-46.1	7.4	11.2	9.0	-42.3	-13.0	-29.3	
7.520	44.0	V	-44.9	8.3	12.0	9.8	-41.2	-13.0	-28.2	
High Ch, 1.908GHz										
3.815	60.0	H	-36.4	6.0	9.7	7.6	-32.7	-13.0	-19.7	
5.723	47.0	H	-44.2	7.5	11.3	9.1	-40.4	-13.0	-27.4	
7.630	46.1	H	-41.8	8.4	12.0	9.8	-38.1	-13.0	-25.1	
3.815	58.0	V	-38.5	6.0	9.7	7.6	-34.8	-13.0	-21.8	
5.723	46.2	V	-46.0	7.5	11.3	9.1	-42.2	-13.0	-29.2	
7.630	45.0	V	-43.7	8.4	12.0	9.8	-40.0	-13.0	-27.0	
Rev. 412.7										
Note: No other emissions were detected above the system noise floor.										

8. SETUP PHOTOS

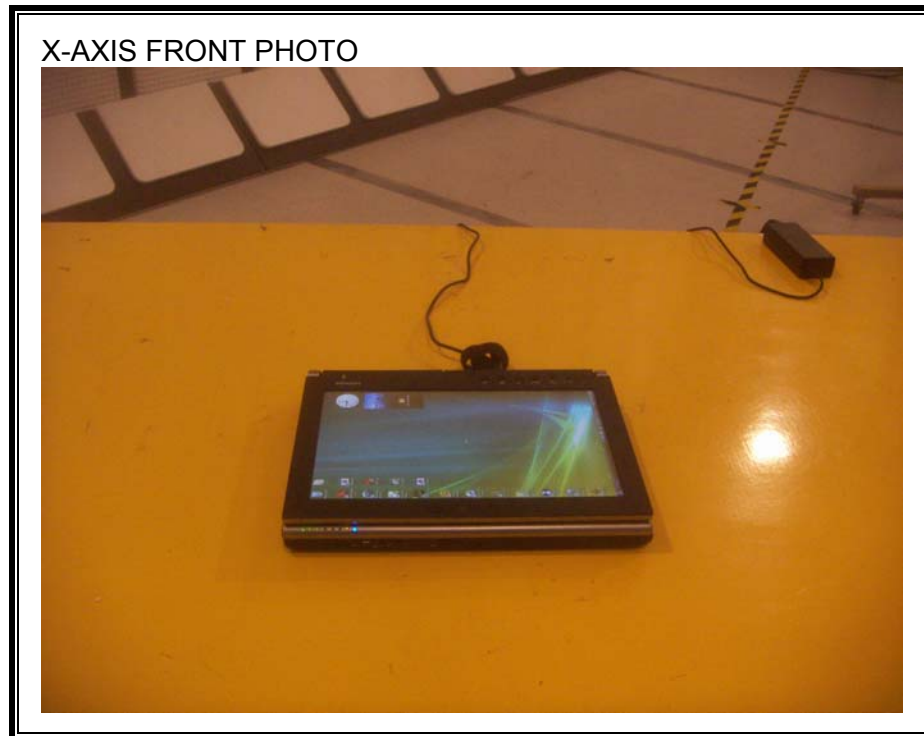
RADIATED RF MEASUREMENT SETUP FOR MOBILE CONFIGURATION



RADIATED BACK PHOTO



RADIATED RF MEASUREMENT SETUP FOR PORTABLE CONFIGURATION



X-AXIS BACK PHOTO



Y-AXIS FRONT PHOTO



Y-AXIS BACK PHOTO



Z-AXIS FRONT PHOTO



Z-AXIS BACK PHOTO



END OF REPORT