



**FCC CFR47 PART 22 SUBPART H  
FCC CFR47 PART 24 SUBPART E  
INDUSTRY CANADA RSS-132 ISSUE 2  
INDUSTRY CANADA RSS-133 ISSUE 5  
CLASS II PERMISSIVE CHANGE**

**CERTIFICATION TEST REPORT  
FOR**

**EUT: PCI EXPRESS MINI CARD  
HOST: HANDHELD TERMINAL**

**FCC MODEL NUMBER: MC8795V  
HOST MODEL NUMBER: IT-800G**

**FCC ID: N7NMC8795  
IC: 2417C- MC8795**

**REPORT NUMBER: 09J12968-2**

**ISSUE DATE: APRIL 22, 2010**

*Prepared for*

**SIERRA WIRELESS INC.  
13811 WIRELESS WAY  
RICHMOND, BC, V6V 3A4, CANADA**

*Prepared by*

**COMPLIANCE CERTIFICATION SERVICES  
47173 BENICIA STREET  
FREMONT, CA 94538, U.S.A.  
TEL: (510) 771-1000  
FAX: (510) 661-0888**



**NVLAP LAB CODE 200065-0**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	04/22/10	Initial Issue	T. Chan

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SIERRA WIRELESS INC.  
13811 WIRELESS WAY  
RICHMOND, BC. V6V 3A4, CANADA

**EUT DESCRIPTION:** PCI EXPRESS MINI CARD  
**MODEL:** MC8795V

**HOST DESCRIPTION:** HANDHELD TERMINAL  
**HOST MODEL:** IT-800G

**SERIAL NUMBER:** 02132

**DATE TESTED:** FEBRUARE 21 TO APRIL 22, 2010

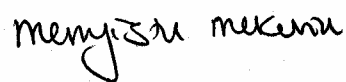
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H AND 24E	PASS
IC RSS-132 ISSUE 2 AND RSS-133 ISSUE 5	PASS

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. 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 MANAGER  
COMPLIANCE CERTIFICATION SERVICES

MENGISTU MEKURIA  
EMC ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR 47 Part 22, FCC CFR Part 24, FCC Part 27, RSS-132 Issue 2, RSS-133 Issue 5 and RSS-139 Issue 2.

## 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. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a PCI Express Mini Card supporting GPRS/EGPRS 850/1900 and WCDMA FDD II and V. The Host device is a Handheld Terminal (FCC ID: BBQIT800) with Bluetooth and RFID feature intended for data and voice transmission. The EUT is manufactured by Sierra Wireless and the Host device is manufactured by Casio Computer Co., Ltd.

The model number IT-800G is used only in case the MC8795V PCI Express Mini Card is mounted in a Handheld Terminal (FCC ID:BBQIT800) to distinguish from one in which the MC8795V PCI Express Mini Card is not mounted

### 5.2. MAXIMUM OUTPUT POWER

The test measurement passed within  $\pm 0.5$ dBm of the original output power.

### 5.3. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The major change filed under this application as follow:

Change #1: To change from Limited Modular Approval, Mobile Condition to Limited Modular Approval, Portable Condition.

Change #2: Collocated with Bluetooth and RFID radio FCC ID: BBQIT800.

### 5.4. MAXIMUM RADIATED OUTPUT POWER

The transmitter has a maximum ERP & EIRP output powers as follows:

#### GPRS MODE

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 824.2	GPRS	19.1	81.3
Mid CH - 836.6		20.3	107.2
High CH - 848.8		22.3	169.8

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1850.2	GPRS	31.2	1318.3
Mid CH - 1880.00		31.7	1479.1
High CH - 1909.8		30.5	1122.0

**EGPRS MODE**

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 824.2	EGPRS	18.00	63.1
Mid CH - 836.6		19.00	79.4
High CH - 848.8		20.50	112.2

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1850.2	EGPRS	28.30	676.1
Mid CH - 1880.00		29.00	794.3
High CH - 1909.8		27.60	575.4

**UMTS REL99**

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 826.4	WCDMA	11.50	14.1
Mid CH - 835.0		12.40	17.4
High CH - 846.6		12.70	18.6

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1852.4	WCDMA	27.60	575.4
Mid CH - 1880.00		28.60	724.4
High CH - 1907.6		27.80	602.6

**HSDPA REL6**

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 826.4	HSDPA	10.70	11.7
Mid CH - 835.0		11.60	14.5
High CH - 846.6		10.80	12.0

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1852.4	HSDPA	27.60	575.4
Mid CH - 1880.00		27.90	616.6
High CH - 1907.6		26.10	407.4

**HSPA REL6 (HSDPA & HSUPA)**

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low CH - 826.4	HSPA	11.20	13.2
Mid CH - 835.0		11.70	14.8
High CH - 846.6		10.70	11.7

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1852.4	HSPA	26.70	467.7
Mid CH - 1880.00		28.20	660.7
High CH - 1907.6		26.60	457.1



### 5.5. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was rsceex-AT.exe

The EUT was also linked with Agilent Communication Test Set.

### 5.6. WORST-CASE CONFIGURATION AND MODE

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT was investigated for X, Y, Z-Positions, and the EUT with the Ethernet Cradle and AC/DC adapter. After the investigations, the worst-position was turned out to be EUT with the Ethernet Cradle and AC/DC adapter for both Cell and PCS bands.

### 5.7. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Ethernet Cradle	Casio	HA-H62IO	2060	DoC
AC/DC Adapter	Casio	AD-S42120B	N/A	DoC

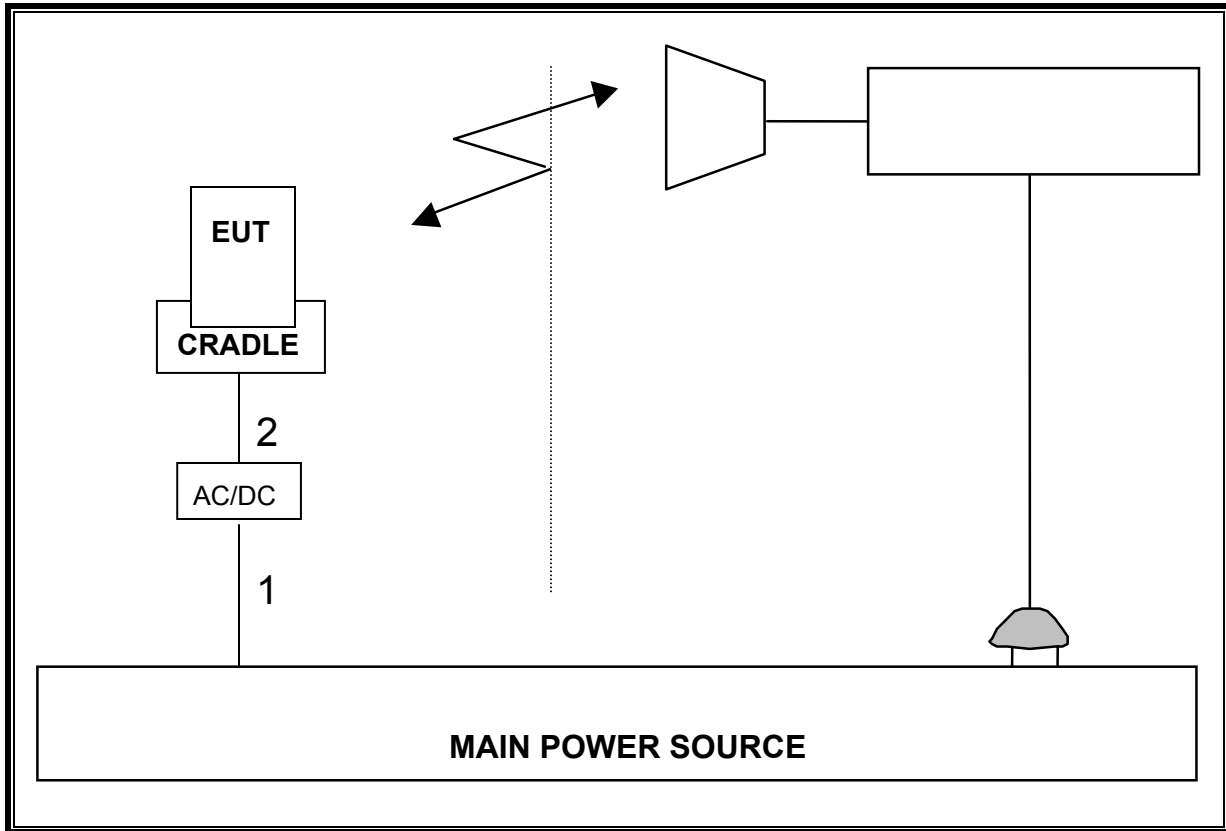
#### I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC Input	1	AC	Un-Shielded	2.0 m	N/A
2	DC Input	1	DC	Un-Shielded	2.0 m	Ferrite at one End

#### TEST SETUP

The host device with EUT is a Handheld Terminal that sits on the Ethernet Cradle which connects to the AC/DC Adapter. Communications Test Set is used to link the device under test.

**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
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	08/04/10
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	08/04/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	07/06/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00778	07/06/10
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01179	08/24/10
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	08/31/10
Antenna, Horn, 18 GHz	EMCO	3115	C00945	07/29/10
Antenna, Horn, 18 GHz	EMCO	3115	C00783	07/29/10
Antenna, Horn, 18 GHz	EMCO	3115	C00943	07/29/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	07/14/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	07/14/10
Dipole	Speag	D900V2	NA	11/16/11
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Signal Generator	R & S	SMP04	C00953	02/16/11
Communications Test Set	R & S	CMU200	C001131	04/16/10
Communications Test Set	Agilent / HP	E5515C	C01086	06/16/10
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	10/08/10
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	05/06/11
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	11/06/10

## **7. LIMITS AND RESULTS**

### **7.1. RADIATED OUTPUT POWER**

#### **LIMITS**

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

24.232(b) & RSS133 § 6.4 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.

RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

#### **TEST PROCEDURE**

ANSI / TIA / EIA 603 Clause 2.2.17, RSS-132 AND RSS-133.

#### **RESULTS**

**CELL OUTPUT POWER (ERP)**

**GPRS MODULATION**

High Frequency Substitution Measurement Compliance Certification Services Chamber B							
<b>Company:</b>		CASIO					
<b>Project #:</b>		09J12967					
<b>Date:</b>		2/21/2010					
<b>Test Engineer:</b>		MENGISTU MEKURIA					
<b>Configuration:</b>		EUT ALONE					
<b>Mode:</b>		TX, CELL BAND GPRS					
<b>Test Equipment:</b>							
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)							
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.							
f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
824.20	-18.4	V	32.6	14.2	38.5	-24.2	
824.20	-11.3	H	30.4	19.1	38.5	-19.4	
836.60	-16.0	V	32.7	16.7	38.5	-21.7	
836.60	-10.4	H	30.7	20.3	38.5	-18.1	
848.80	-13.2	V	32.0	18.8	38.5	-19.7	
848.80	-8.5	H	30.8	22.3	38.5	-16.2	
Rev. 1.24.7							

**EGPRS MODULATION**

High Frequency Substitution Measurement Compliance Certification Services Chamber B							
<b>Company:</b>	CASIO						
<b>Project #:</b>	09J12967						
<b>Date:</b>	2/21/2010						
<b>Test Engineer:</b>	MENGISTU MEKURIA						
<b>Configuration:</b>	EUT ALONE						
<b>Mode:</b>	TX, CELL BAND EGPRS						
<b>Test Equipment:</b>							
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)							
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.							
f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
824.20	-20.5	V	32.6	12.1	38.5	-26.4	
824.20	-14.4	H	30.4	16.0	38.5	-22.5	
836.60	-17.3	V	32.7	15.3	38.5	-23.1	
836.60	-11.8	H	30.7	19.0	38.5	-19.5	
848.80	-15.5	V	32.0	16.4	38.5	-22.0	
848.80	-10.3	H	30.8	20.5	38.5	-18.0	
Rev. 1.24.7							

**WCDMA MODULATION**

High Frequency Substitution Measurement Compliance Certification Services Chamber B							
<b>Company:</b>	CASIO						
<b>Project #:</b>	09J12967						
<b>Date:</b>	2/21/2010						
<b>Test Engineer:</b>	MENGISTU MEKURIA						
<b>Configuration:</b>	EUT ALONE						
<b>Mode:</b>	TX, CELL BAND WCDMA						
<b>Test Equipment:</b>							
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)							
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.							
f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
826.40	-23.5	V	32.6	9.1	38.5	-29.3	
826.40	-18.9	H	30.4	11.5	38.5	-26.9	
835.00	-22.3	V	32.7	10.3	38.5	-28.1	
835.00	-18.3	H	30.7	12.4	38.5	-26.0	
846.60	-22.8	V	32.0	9.2	38.5	-29.3	
846.60	-18.1	H	30.8	12.7	38.5	-25.8	
Rev. 1.24.7							

**HSDPA REL6**

High Frequency Substitution Measurement Compliance Certification Services Chamber B							
<b>Company:</b>	CASIO						
<b>Project #:</b>	09J12967						
<b>Date:</b>	4/22/2010						
<b>Test Engineer:</b>	MENGISTU MEKURIA						
<b>Configuration:</b>	EUT ALONE						
<b>Mode:</b>	TX, CELL BAND HSDPA						
<b>Test Equipment:</b>							
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)							
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.							
f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
826.40	-21.9	V	32.6	10.7	38.5	-27.8	
826.40	-22.5	H	30.4	7.8	38.5	-30.6	
835.00	-21.0	V	32.7	11.6	38.5	-26.8	
835.00	-22.3	H	30.7	8.4	38.5	-30.0	
846.60	-21.1	V	32.0	10.8	38.5	-27.6	
846.60	-22.6	H	30.8	8.1	38.5	-30.3	
Rev. 1.24.7							



**HSPA REL6 (HSDPA & HSUPA)**

High Frequency Substitution Measurement Compliance Certification Services Chamber B							
<b>Company:</b>	CASIO						
<b>Project #:</b>	09J12967						
<b>Date:</b>	4/22/2010						
<b>Test Engineer:</b>	MENGISTU MEKURIA						
<b>Configuration:</b>	EUT ALONE						
<b>Mode:</b>	TX, CELL BAND HSUPA						
<b>Test Equipment:</b>							
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)							
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.							
f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
826.40	-21.4	V	32.6	11.2	38.5	-27.2	
826.40	-21.3	H	30.4	9.1	38.5	-29.4	
835.00	-20.9	V	32.7	11.7	38.5	-26.7	
835.00	-20.6	H	30.7	10.2	38.5	-28.3	
846.60	-21.2	V	32.0	10.7	38.5	-27.7	
846.60	-21.4	H	30.8	9.4	38.5	-29.0	
Rev. 1.24.7							

**PCS OUTPUT POWER (EIRP)**

**GPRS MODULATION**

High Frequency Fundamental Measurement Compliance Certification Services Chamber B							
<b>Company:</b>	CASIO						
<b>Project #:</b>	09J12967						
<b>Date:</b>	2/21/2010						
<b>Test Engineer:</b>	MENGISTU MEKURIA						
<b>Configuration:</b>	EUT ALONE						
<b>Mode:</b>	TX, PCS BAND GPRS						
<b>Test Equipment:</b>							
Receiving: Horn T59, and Camber B SMA Cables							
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.850	-12.3	V	40.2	27.9	33.0	5.1	
1.850	-8.3	H	39.5	31.2	33.0	-1.8	
1.880	-13.5	V	40.3	26.8	33.0	6.2	
1.880	-8.5	H	40.1	31.7	33.0	-1.3	
1.910	-15.2	V	40.2	25.0	33.0	8.0	
1.910	-9.6	H	40.1	30.5	33.0	-2.5	
Rev. 1.24.7							

**EGPRS MODULATION**

High Frequency Fundamental Measurement Compliance Certification Services Chamber B							
<b>Company:</b>		CASIO					
<b>Project #:</b>		09J12967					
<b>Date:</b>		2/21/2010					
<b>Test Engineer:</b>		MENGISTU MEKURIA					
<b>Configuration:</b>		EUT ALONE					
<b>Mode:</b>		TX, PCS BAND EGPRS					
<b><u>Test Equipment:</u></b>							
Receiving: Horn T59, and Camber B SMA Cables							
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.850	-15.1	V	40.2	25.1	33.0	-7.9	
1.850	-11.2	H	39.5	28.3	33.0	-4.7	
1.880	-16.2	V	40.3	24.1	33.0	-8.9	
1.880	-11.1	H	40.1	29.0	33.0	-4.0	
1.910	-17.3	V	40.2	22.9	33.0	-10.1	
1.910	-12.5	H	40.1	27.6	33.0	-5.4	
Rev. 1.24.7							

**WCDMA MODULATION**

High Frequency Fundamental Measurement Compliance Certification Services Chamber B							
<b>Company:</b>		CASIO					
<b>Project #:</b>		09J12967					
<b>Date:</b>		2/21/2010					
<b>Test Engineer:</b>		MENGISTU MEKURIA					
<b>Configuration:</b>		EUT ALONE					
<b>Mode:</b>		TX, PCS BAND WCDMA					
<b>Test Equipment:</b>							
Receiving: Horn T59, and Camber B SMA Cables							
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	-16.4	V	40.2	23.8	33.0	-9.2	
1.852	-11.9	H	39.5	27.6	33.0	-5.4	
1.880	-17.7	V	40.3	22.5	33.0	-10.5	
1.880	-11.6	H	40.1	28.6	33.0	-4.5	
1.908	-18.0	V	40.2	22.2	33.0	-10.8	
1.908	-12.3	H	40.1	27.8	33.0	-5.2	
Rev. 1.24.7							

**HSDPA REL6**

High Frequency Fundamental Measurement Compliance Certification Services Chamber B							
<b>Company:</b>		CASIO					
<b>Project #:</b>		09J12967					
<b>Date:</b>		4/21/2010					
<b>Test Engineer:</b>		MENGISTU MEKURIA					
<b>Configuration:</b>		EUT ALONE					
<b>Mode:</b>		TX, PCS BAND HSDPA					
<b><u>Test Equipment:</u></b>							
Receiving: Horn T59, and Camber B SMA Cables							
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	-18.3	V	40.2	21.9	33.0	-11.2	
1.852	-11.9	H	39.5	27.6	33.0	-5.4	
1.880	-19.5	V	40.3	20.7	33.0	-12.3	
1.880	-12.3	H	40.1	27.9	33.0	-5.1	
1.908	-19.4	V	40.2	20.8	33.0	-12.2	
1.908	-14.0	H	40.1	26.1	33.0	-6.9	
Rev. 1.24.7							

**HSPA REL6 (HSDPA & HSUPA)**

High Frequency Fundamental Measurement Compliance Certification Services Chamber B							
<b>Company:</b>		CASIO					
<b>Project #:</b>		09J12967					
<b>Date:</b>		4/22/2010					
<b>Test Engineer:</b>		MENGISTU MEKURIA					
<b>Configuration:</b>		EUT ALONE					
<b>Mode:</b>		TX, PCS BAND HSUPA					
<b>Test Equipment:</b>							
Receiving: Horn T59, and Camber B SMA Cables							
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse							
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	-17.8	V	40.2	22.3	33.0	-10.7	
1.852	-12.8	H	39.5	26.7	33.0	-6.3	
1.880	-17.3	V	40.3	23.0	33.0	-10.0	
1.880	-11.9	H	40.1	28.2	33.0	-4.8	
1.908	-17.4	V	40.2	22.8	33.0	-10.2	
1.908	-13.5	H	40.1	26.6	33.0	-6.4	
Rev. 1.24.7							

## **7.2. FIELD STRENGTH OF SPURIOUS RADIATION**

### **LIMIT**

§22.917 (e) and §24.238 (a), RSS-132 § 4.5.1, & RSS-133 § 6.5.1 (a) (i) & (b): 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) AND FCC 24.238 (b)(1)(2), RSS-132 AND RSS-133.

### **RESULTS**

**CELL SPURIOUS & HARMONIC (EIRP)**

**GPRS MODULATION**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement										
<b>Company:</b>		C ASIO COMPUTER CO., LTD.								
<b>Project #:</b>		09J12967								
<b>Date:</b>		3/1/2010								
<b>Test Engineer:</b>		MENGISTU MEKURIA								
<b>Configuration:</b>		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER								
<b>Mode:</b>		TX, GPRS CELL BAND								
Chamber		Pre-amplifier			Filter			Limit		
5m Chamber B		T145 8449B			Filter 1			FCC PART 22		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch. (824.2 MHz)</b>										
1.648	-34.5	H	3.0	37.2	35.5	1.0	-31.9	-13.0	-18.9	
2.473	-34.8	H	3.0	39.8	35.4	1.0	-29.3	-13.0	-16.3	
3.297	-40.9	H	3.0	43.9	35.5	1.0	-31.4	-13.0	-18.4	
4.121	-59.5	H	3.0	46.7	35.2	1.0	-47.1	-13.0	-34.1	
4.945	-65.6	H	3.0	48.8	35.3	1.0	-51.1	-13.0	-38.1	
1.648	-33.1	V	3.0	36.8	35.5	1.0	-30.9	-13.0	-17.9	
2.473	-40.6	V	3.0	41.7	35.4	1.0	-33.4	-13.0	-20.4	
3.297	-44.5	V	3.0	44.1	35.5	1.0	-34.9	-13.0	-21.9	
4.121	-59.9	V	3.0	46.1	35.2	1.0	-48.0	-13.0	-35.0	
4.945	-64.5	V	3.0	48.2	35.3	1.0	-50.6	-13.0	-37.6	
<b>Mid Ch. (836.6 MHz)</b>										
1.673	-32.3	H	3.0	37.5	35.5	1.0	-29.4	-13.0	-16.4	
2.510	-36.9	H	3.0	39.9	35.4	1.0	-31.4	-13.0	-18.4	
3.346	-43.5	H	3.0	44.1	35.5	1.0	-33.9	-13.0	-20.9	
4.183	-62.7	H	3.0	46.8	35.2	1.0	-50.1	-13.0	-37.1	
5.020	-65.3	H	3.0	48.9	35.3	1.0	-50.6	-13.0	-37.6	
1.673	-33.0	V	3.0	37.1	35.5	1.0	-30.4	-13.0	-17.4	
2.510	-38.0	V	3.0	41.8	35.4	1.0	-30.5	-13.0	-17.5	
3.346	-45.5	V	3.0	44.3	35.5	1.0	-35.8	-13.0	-22.8	
4.183	-60.5	V	3.0	46.3	35.2	1.0	-48.5	-13.0	-35.5	
5.020	-64.6	V	3.0	48.3	35.3	1.0	-50.5	-13.0	-37.5	
<b>HI Ch. (848.8 MHz)</b>										
1.697	-31.3	H	3.0	37.7	35.5	1.0	-28.2	-13.0	-15.2	
2.545	-35.7	H	3.0	40.1	35.4	1.0	-30.0	-13.0	-17.0	
3.394	-42.5	H	3.0	44.3	35.5	1.0	-32.7	-13.0	-19.7	
4.242	-60.3	H	3.0	47.0	35.2	1.0	-47.6	-13.0	-34.6	
5.090	-64.6	H	3.0	49.1	35.3	1.0	-49.8	-13.0	-36.8	
1.697	-31.3	V	3.0	37.4	35.5	1.0	-28.4	-13.0	-15.4	
2.545	-36.8	V	3.0	42.0	35.4	1.0	-29.3	-13.0	-16.3	
3.394	-44.3	V	3.0	44.4	35.5	1.0	-34.4	-13.0	-21.4	
4.242	-59.5	V	3.0	46.4	35.2	1.0	-47.3	-13.0	-34.3	
5.090	-63.1	V	3.0	48.5	35.3	1.0	-48.9	-13.0	-35.9	
Rev. 03.03.09										



**EGPRS MODULATION**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement											
<b>Company:</b>		C ASIO COMPUTER CO., LTD.									
<b>Project #:</b>		09J12967									
<b>Date:</b>		3/1/2010									
<b>Test Engineer:</b>		MENGISTU MEKURIA									
<b>Configuration:</b>		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER									
<b>Mode:</b>		TX, GPRS CELL BAND									
Chamber		Pre-amplifier			Filter			Limit			
5m Chamber B		T145 8449B			Filter 1			FCC PART 22			
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
<b>Low Ch. (824.2 MHz)</b>											
1.648	-35.6	H	3.0	37.2	35.5	1.0	-33.0	-13.0	-20.0		
2.473	-35.7	H	3.0	39.8	35.4	1.0	-30.2	-13.0	-17.2		
3.297	-42.6	H	3.0	43.9	35.5	1.0	-33.1	-13.0	-20.1		
4.121	-59.9	H	3.0	46.7	35.2	1.0	-47.5	-13.0	-34.5		
4.945	-66.6	H	3.0	48.8	35.3	1.0	-52.1	-13.0	-39.1		
1.648	-35.2	V	3.0	36.8	35.5	1.0	-33.0	-13.0	-20.0		
2.473	-42.8	V	3.0	41.7	35.4	1.0	-35.6	-13.0	-22.6		
3.297	-46.2	V	3.0	44.1	35.5	1.0	-36.6	-13.0	-23.6		
4.121	-60.1	V	3.0	46.1	35.2	1.0	-48.2	-13.0	-35.2		
4.945	-66.0	V	3.0	48.2	35.3	1.0	-52.1	-13.0	-39.1		
<b>Mid Ch. (836.6 MHz)</b>											
1.673	-33.2	H	3.0	37.5	35.5	1.0	-30.3	-13.0	-17.3		
2.510	-37.4	H	3.0	39.9	35.4	1.0	-31.9	-13.0	-18.9		
3.346	-44.3	H	3.0	44.1	35.5	1.0	-34.6	-13.0	-21.6		
4.183	-64.0	H	3.0	46.8	35.2	1.0	-51.4	-13.0	-38.4		
5.020	-64.3	H	3.0	48.9	35.3	1.0	-49.6	-13.0	-36.6		
1.673	-33.6	V	3.0	37.1	35.5	1.0	-31.0	-13.0	-18.0		
2.510	-37.2	V	3.0	41.8	35.4	1.0	-29.8	-13.0	-16.8		
3.346	-46.6	V	3.0	44.3	35.5	1.0	-36.8	-13.0	-23.8		
4.183	-61.6	V	3.0	46.3	35.2	1.0	-49.5	-13.0	-36.5		
5.020	-65.1	V	3.0	48.3	35.3	1.0	-51.0	-13.0	-38.0		
<b>Hi Ch. (848.8 MHz)</b>											
1.697	-31.9	H	3.0	37.7	35.5	1.0	-28.8	-13.0	-15.8		
2.545	-36.6	H	3.0	40.1	35.4	1.0	-30.9	-13.0	-17.9		
3.394	-43.7	H	3.0	44.3	35.5	1.0	-33.9	-13.0	-20.9		
4.242	-60.8	H	3.0	47.0	35.2	1.0	-48.1	-13.0	-35.1		
5.090	-64.9	H	3.0	49.1	35.3	1.0	-50.1	-13.0	-37.1		
1.697	-33.6	V	3.0	37.4	35.5	1.0	-30.7	-13.0	-17.7		
2.545	-37.4	V	3.0	42.0	35.4	1.0	-29.9	-13.0	-16.9		
3.394	-45.8	V	3.0	44.4	35.5	1.0	-35.9	-13.0	-22.9		
4.242	-60.2	V	3.0	46.4	35.2	1.0	-48.0	-13.0	-35.0		
5.090	-64.0	V	3.0	48.5	35.3	1.0	-49.8	-13.0	-36.8		
Rev. 03.03.09											

**WCDMA MODULATION**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement										
<b>Company:</b>		C ASIO COMPUTER CO., LTD.								
<b>Project #:</b>		09J12967								
<b>Date:</b>		3/1/2010								
<b>Test Engineer:</b>		MENGISTU MEKURIA								
<b>Configuration:</b>		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER								
<b>Mode:</b>		TX, WCDMA CELL BAND								
<b>Chamber</b>		<b>Pre-amplifier</b>			<b>Filter</b>			<b>Limit</b>		
5m Chamber B		T145 8449B			Filter 1			FCC PART 22		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch. (826.4 MHz)</b>										
1.653	-45.4	H	3.0	37.3	35.5	1.0	-42.7	-13.0	-29.7	
2.479	-48.9	H	3.0	39.8	35.4	1.0	-43.5	-13.0	-30.5	
3.306	-61.0	H	3.0	44.0	35.5	1.0	-51.5	-13.0	-38.5	
1.653	-49.6	V	3.0	36.8	35.5	1.0	-47.3	-13.0	-34.3	
2.479	-52.7	V	3.0	41.7	35.4	1.0	-45.4	-13.0	-32.4	
3.306	-63.3	V	3.0	44.2	35.5	1.0	-53.6	-13.0	-40.6	
<b>Mid Ch. (835.0 MHz)</b>										
1.673	-47.4	H	3.0	37.5	35.5	1.0	-44.4	-13.0	-31.4	
2.509	-54.7	H	3.0	39.9	35.4	1.0	-49.3	-13.0	-36.3	
3.346	-64.0	H	3.0	44.1	35.5	1.0	-54.4	-13.0	-41.4	
1.673	-50.1	V	3.0	37.1	35.5	1.0	-47.5	-13.0	-34.5	
2.509	-57.0	V	3.0	41.8	35.4	1.0	-49.5	-13.0	-36.5	
3.346	-62.8	V	3.0	44.3	35.5	1.0	-53.0	-13.0	-40.0	
<b>Hi Ch. (846.6 MHz)</b>										
1.697	-49.0	H	3.0	37.7	35.5	1.0	-45.8	-13.0	-32.8	
2.546	-56.6	H	3.0	40.1	35.4	1.0	-50.9	-13.0	-37.9	
3.394	-64.1	H	3.0	44.3	35.5	1.0	-54.4	-13.0	-41.4	
1.697	-50.9	V	3.0	37.4	35.5	1.0	-48.0	-13.0	-35.0	
2.546	-57.0	V	3.0	42.0	35.4	1.0	-49.4	-13.0	-36.4	
3.394	-63.6	V	3.0	44.4	35.5	1.0	-53.7	-13.0	-40.7	
Rev. 03.03.09										

**HSPA REL6 (HSDPA & HSUPA)**

Compliance Certification Services										
Above 1GHz High Frequency Substitution Measurement										
<b>Company:</b>		C ASIO COMPUTER CO., LTD.								
<b>Project #:</b>		09J12967								
<b>Date:</b>		4/22/2010								
<b>Test Engineer:</b>		MENGISTU MEKURIA								
<b>Configuration:</b>		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER								
<b>Mode:</b>		TX, HSUPA CELL BAND								
Chamber		Pre-amplifier			Filter			Limit		
5m Chamber B		T145 8449B			Filter 1			FCC PART 22		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch. (826.4 MHz)</b>										
1.653	-59.5	H	3.0	37.3	35.5	1.0	-56.8	-13.0	-43.8	
2.479	-48.3	H	3.0	39.8	35.4	1.0	-42.9	-13.0	-29.9	
3.306	-64.6	H	3.0	44.0	35.5	1.0	-55.1	-13.0	-42.1	
1.653	-58.2	V	3.0	36.8	35.5	1.0	-55.9	-13.0	-42.9	
2.479	-51.5	V	3.0	41.7	35.4	1.0	-44.2	-13.0	-31.2	
3.306	-63.8	V	3.0	44.2	35.5	1.0	-54.2	-13.0	-41.2	
<b>Mid Ch. (835.0 MHz)</b>										
1.673	-56.9	H	3.0	37.5	35.5	1.0	-54.0	-13.0	-41.0	
2.509	-52.0	H	3.0	39.9	35.4	1.0	-46.5	-13.0	-33.5	
3.346	-63.3	H	3.0	44.1	35.5	1.0	-53.7	-13.0	-40.7	
1.673	-57.6	V	3.0	37.1	35.5	1.0	-55.0	-13.0	-42.0	
2.509	-56.1	V	3.0	41.8	35.4	1.0	-48.7	-13.0	-35.7	
3.346	-63.8	V	3.0	44.3	35.5	1.0	-54.1	-13.0	-41.1	
<b>Hi Ch. (846.6 MHz)</b>										
1.697	-56.2	H	3.0	37.7	35.5	1.0	-53.1	-13.0	-40.1	
2.546	-53.3	H	3.0	40.1	35.4	1.0	-47.6	-13.0	-34.6	
3.394	-63.9	H	3.0	44.3	35.5	1.0	-54.1	-13.0	-41.1	
1.697	-56.3	V	3.0	37.4	35.5	1.0	-53.3	-13.0	-40.3	
2.546	-57.2	V	3.0	42.0	35.4	1.0	-49.7	-13.0	-36.7	
3.394	-64.5	V	3.0	44.4	35.5	1.0	-54.6	-13.0	-41.6	
Rev. 03.03.09										

**PCS Spurious & Harmonic (EIRP)**

**GPRS MODULATION**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement										
Company:		C ASIO COMPUTER CO., LTD.								
Project #:		09J12967								
Date:		3/1/2010								
Test Engineer:		MENGISTU MEKURIA								
Configuration:		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER								
Mode:		TX, GPRS PCS BAND								
Chamber		Pre-amplifier			Filter			Limit		
5m Chamber A		T145 8449B			Filter 1			FCC PART 24		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch. (1850.2 MHz)</b>										
3.700	-30.5	H	3.0	45.0	35.4	1.0	-19.9	-13.0	-6.9	
5.551	-61.2	H	3.0	49.9	35.4	1.0	-45.7	-13.0	-32.7	
7.401	-64.9	H	3.0	52.9	35.7	1.0	-46.7	-13.0	-33.7	
9.251	-63.1	H	3.0	55.2	35.6	1.0	-42.4	-13.0	-29.4	
11.101	-57.6	H	3.0	55.9	34.8	1.0	-35.6	-13.0	-22.6	
12.951	-64.1	H	3.0	57.2	34.0	1.0	-39.9	-13.0	-26.9	
3.700	-31.7	V	3.0	44.9	35.4	1.0	-21.2	-13.0	-8.2	
5.551	-59.6	V	3.0	49.3	35.4	1.0	-44.7	-13.0	-31.7	
7.401	-60.8	V	3.0	51.8	35.7	1.0	-43.7	-13.0	-30.7	
9.251	-65.5	V	3.0	54.2	35.6	1.0	-45.9	-13.0	-32.9	
11.101	-61.6	V	3.0	56.3	34.8	1.0	-39.1	-13.0	-26.1	
12.951	-63.8	V	3.0	58.2	34.0	1.0	-38.6	-13.0	-25.6	
<b>Mid Ch. (1880.0 MHz)</b>										
3.760	-28.3	H	3.0	45.2	35.3	1.0	-17.4	-13.0	-4.4	
5.640	-60.8	H	3.0	50.1	35.4	1.0	-45.2	-13.0	-32.2	
7.520	-62.6	H	3.0	53.1	35.7	1.0	-44.2	-13.0	-31.2	
9.400	-59.9	H	3.0	55.4	35.6	1.0	-39.0	-13.0	-26.0	
11.280	-58.4	H	3.0	55.8	34.7	1.0	-36.3	-13.0	-23.3	
13.160	-66.1	H	3.0	57.6	34.0	1.0	-41.5	-13.0	-28.5	
3.760	-33.2	V	3.0	45.1	35.3	1.0	-22.4	-13.0	-9.4	
5.640	-59.4	V	3.0	49.4	35.4	1.0	-44.4	-13.0	-31.4	
7.520	-62.4	V	3.0	52.0	35.7	1.0	-45.1	-13.0	-32.1	
9.400	-60.9	V	3.0	54.4	35.6	1.0	-41.0	-13.0	-28.0	
11.280	-62.2	V	3.0	56.5	34.7	1.0	-39.3	-13.0	-26.3	
13.160	-67.8	V	3.0	58.4	34.0	1.0	-42.4	-13.0	-29.4	
<b>Hi Ch. (1909.8 MHz)</b>										
3.820	-29.2	H	3.0	45.3	35.3	1.0	-18.1	-13.0	-5.1	
5.729	-61.2	H	3.0	50.2	35.4	1.0	-45.4	-13.0	-32.4	
7.639	-66.0	H	3.0	53.2	35.7	1.0	-47.5	-13.0	-34.5	
9.549	-56.8	H	3.0	55.6	35.6	1.0	-35.7	-13.0	-22.7	
11.459	-60.1	H	3.0	55.7	34.6	1.0	-37.9	-13.0	-24.9	
13.369	-68.0	H	3.0	57.9	33.9	1.0	-42.9	-13.0	-29.9	
3.820	-35.0	V	3.0	45.2	35.3	1.0	-24.1	-13.0	-11.1	
5.729	-61.6	V	3.0	49.5	35.4	1.0	-46.5	-13.0	-33.5	
7.639	-61.3	V	3.0	52.1	35.7	1.0	-43.9	-13.0	-30.9	
9.549	-61.7	V	3.0	54.6	35.6	1.0	-41.7	-13.0	-28.7	
11.459	-68.3	V	3.0	56.7	34.6	1.0	-45.2	-13.0	-32.2	
13.369	-68.1	V	3.0	58.6	33.9	1.0	-42.4	-13.0	-29.4	
Rev. 03.03.09										

**EGPRS MODULATION**

Compliance Certification Services										
Above 1GHz High Frequency Substitution Measurement										
Company:		C ASIO COMPUTER CO., LTD.								
Project #:		09J12967								
Date:		3/1/2010								
Test Engineer:		MENGISTU MEKURIA								
Configuration:		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER								
Mode:		TX, EGPRS PCS BAND								
Chamber		Pre-amplifier			Filter			Limit		
5m Chamber A		T145 8449B			Filter 1			FCC PART 24		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch. (1850.2 MHz)</b>										
3.700	-31.1	H	3.0	45.0	35.4	1.0	-20.4	-13.0	-7.4	
5.551	-62.4	H	3.0	49.9	35.4	1.0	-46.8	-13.0	-33.8	
7.401	-66.3	H	3.0	52.9	35.7	1.0	-48.1	-13.0	-35.1	
9.251	-62.9	H	3.0	55.2	35.6	1.0	-42.2	-13.0	-29.2	
11.101	-64.4	H	3.0	55.9	34.8	1.0	-42.4	-13.0	-29.4	
12.951	-62.9	H	3.0	57.2	34.0	1.0	-38.7	-13.0	-25.7	
3.700	-33.3	V	3.0	44.9	35.4	1.0	-22.8	-13.0	-9.8	
5.551	-61.1	V	3.0	49.3	35.4	1.0	-46.2	-13.0	-33.2	
7.401	-66.0	V	3.0	51.8	35.7	1.0	-48.9	-13.0	-35.9	
9.251	-67.8	V	3.0	54.2	35.6	1.0	-48.1	-13.0	-35.1	
11.101	-65.8	V	3.0	56.3	34.8	1.0	-43.3	-13.0	-30.3	
12.951	-64.0	V	3.0	58.2	34.0	1.0	-38.9	-13.0	-25.9	
<b>Mid Ch. (1880.0 MHz)</b>										
3.760	-29.4	H	3.0	45.2	35.3	1.0	-18.6	-13.0	-5.6	
5.640	-62.6	H	3.0	50.1	35.4	1.0	-46.9	-13.0	-33.9	
7.520	-65.6	H	3.0	53.1	35.7	1.0	-47.3	-13.0	-34.3	
9.400	-61.6	H	3.0	55.4	35.6	1.0	-40.7	-13.0	-27.7	
11.280	-60.4	H	3.0	55.8	34.7	1.0	-38.3	-13.0	-25.3	
13.160	-68.6	H	3.0	57.6	34.0	1.0	-43.9	-13.0	-30.9	
3.760	-34.9	V	3.0	45.1	35.3	1.0	-24.2	-13.0	-11.2	
5.640	-64.0	V	3.0	49.4	35.4	1.0	-49.0	-13.0	-36.0	
7.520	-64.8	V	3.0	52.0	35.7	1.0	-47.5	-13.0	-34.5	
9.400	-63.3	V	3.0	54.4	35.6	1.0	-43.4	-13.0	-30.4	
11.280	-62.9	V	3.0	56.5	34.7	1.0	-40.1	-13.0	-27.1	
13.160	-69.9	V	3.0	58.4	34.0	1.0	-44.5	-13.0	-31.5	
<b>Hi Ch. (1909.8 MHz)</b>										
3.820	-30.1	H	3.0	45.3	35.3	1.0	-19.1	-13.0	-6.1	
5.729	-63.1	H	3.0	50.2	35.4	1.0	-47.3	-13.0	-34.3	
7.639	-65.8	H	3.0	53.2	35.7	1.0	-47.3	-13.0	-34.3	
9.549	-56.4	H	3.0	55.6	35.6	1.0	-35.3	-13.0	-22.3	
11.459	-61.6	H	3.0	55.7	34.6	1.0	-39.4	-13.0	-26.4	
13.369	-67.8	H	3.0	57.9	33.9	1.0	-42.8	-13.0	-29.8	
3.820	-36.0	V	3.0	45.2	35.3	1.0	-25.2	-13.0	-12.2	
5.729	-62.2	V	3.0	49.5	35.4	1.0	-47.1	-13.0	-34.1	
7.639	-65.5	V	3.0	52.1	35.7	1.0	-48.0	-13.0	-35.0	
9.549	-63.2	V	3.0	54.6	35.6	1.0	-43.2	-13.0	-30.2	
11.459	-66.2	V	3.0	56.7	34.6	1.0	-43.1	-13.0	-30.1	
13.369	-69.7	V	3.0	58.6	33.9	1.0	-44.0	-13.0	-31.0	

Rev. 03.03.09

**WCDMA MODULATION**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement											
<b>Company:</b>		C ASIO COMPUTER CO., LTD.									
<b>Project #:</b>		09J12967									
<b>Date:</b>		3/1/2010									
<b>Test Engineer:</b>		MENGISTU MEKURIA									
<b>Configuration:</b>		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER									
<b>Mode:</b>		TX, WCDMA PCS BAND									
Chamber			Pre-amplifier			Filter			Limit		
5m Chamber A			T144 8449B			Filter 1			FCC PART 24		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
<b>Low Ch. (1852.4 MHz)</b>											
3.705	-42.6	H	3.0	45.0	36.8	1.0	-33.4	-13.0	-20.4		
5.557	-64.1	H	3.0	50.0	36.3	1.0	-49.4	-13.0	-36.4		
7.410	-66.6	H	3.0	52.9	36.6	1.0	-49.3	-13.0	-36.3		
3.705	-43.6	V	3.0	44.9	36.8	1.0	-34.4	-13.0	-21.4		
5.557	-62.3	V	3.0	49.3	36.3	1.0	-48.3	-13.0	-35.3		
7.410	-66.3	V	3.0	51.8	36.6	1.0	-50.1	-13.0	-37.1		
<b>Mid Ch. (1880.0 MHz)</b>											
3.760	-39.7	H	3.0	45.2	36.8	1.0	-30.3	-13.0	-17.3		
5.640	-66.5	H	3.0	50.1	36.3	1.0	-51.7	-13.0	-38.7		
7.520	-66.7	H	3.0	53.1	36.6	1.0	-49.3	-13.0	-36.3		
3.760	-42.3	V	3.0	45.1	36.8	1.0	-33.1	-13.0	-20.1		
5.640	-66.0	V	3.0	49.4	36.3	1.0	-51.9	-13.0	-38.9		
7.520	-66.9	V	3.0	52.0	36.6	1.0	-50.6	-13.0	-37.6		
<b>Hi Ch. (1907.6 MHz)</b>											
3.815	-38.2	H	3.0	45.3	36.7	1.0	-28.6	-13.0	-15.6		
5.723	-66.5	H	3.0	50.2	36.3	1.0	-51.5	-13.0	-38.5		
7.630	-67.2	H	3.0	53.2	36.6	1.0	-49.7	-13.0	-36.7		
3.815	-38.4	V	3.0	45.2	36.7	1.0	-28.9	-13.0	-15.9		
5.723	-64.8	V	3.0	49.5	36.3	1.0	-50.6	-13.0	-37.6		
7.630	-66.4	V	3.0	52.1	36.6	1.0	-49.9	-13.0	-36.9		
Rev. 03.03.09											

**HSPA REL6 (HSDPA & HSUPA)**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement											
<b>Company:</b>		C ASIO COMPUTER CO., LTD.									
<b>Project #:</b>		09J12967									
<b>Date:</b>		4/22/2010									
<b>Test Engineer:</b>		MENGISTU MEKURIA									
<b>Configuration:</b>		EUT, ETHERNET CRADLE, AND AC/DC ADAPTER									
<b>Mode:</b>		TX, HSUPA PCS BAND									
Chamber			Pre-amplifier			Filter			Limit		
5m Chamber B			T145 8449B			Filter 1			FCC PART 24		
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
<b>Low Ch. (1852.4 MHz)</b>											
3.705	-58.8	H	3.0	45.3	35.4	1.0	-47.8	-13.0	-34.8		
5.557	-66.5	H	3.0	50.0	35.4	1.0	-50.9	-13.0	-37.9		
3.705	-55.6	V	3.0	45.1	35.4	1.0	-44.8	-13.0	-31.8		
5.557	-65.3	V	3.0	49.2	35.4	1.0	-50.6	-13.0	-37.6		
<b>Mid Ch. (1880.0 MHz)</b>											
3.760	-62.8	H	3.0	45.5	35.3	1.0	-51.6	-13.0	-38.6		
5.640	-67.5	H	3.0	50.2	35.4	1.0	-51.8	-13.0	-38.8		
3.760	-61.2	V	3.0	45.3	35.3	1.0	-50.2	-13.0	-37.2		
5.640	-66.9	V	3.0	49.3	35.4	1.0	-52.1	-13.0	-39.1		
<b>Hi Ch. (1907.6 MHz)</b>											
3.815	-53.2	H	3.0	45.7	35.3	1.0	-41.8	-13.0	-28.8		
5.723	-66.2	H	3.0	50.3	35.4	1.0	-50.4	-13.0	-37.4		
3.815	-50.5	V	3.0	45.4	35.3	1.0	-39.4	-13.0	-26.4		
5.723	-66.1	V	3.0	49.4	35.4	1.0	-51.1	-13.0	-38.1		
Rev. 03.03.09											

### 7.3. RECEIVER SPURIOUS EMISSIONS

#### LIMIT

RSS-Gen 7.2.2

Spurious Emission Limits for Receivers:

Spurious Frequency (MHz)	Field Strength (microvolts/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

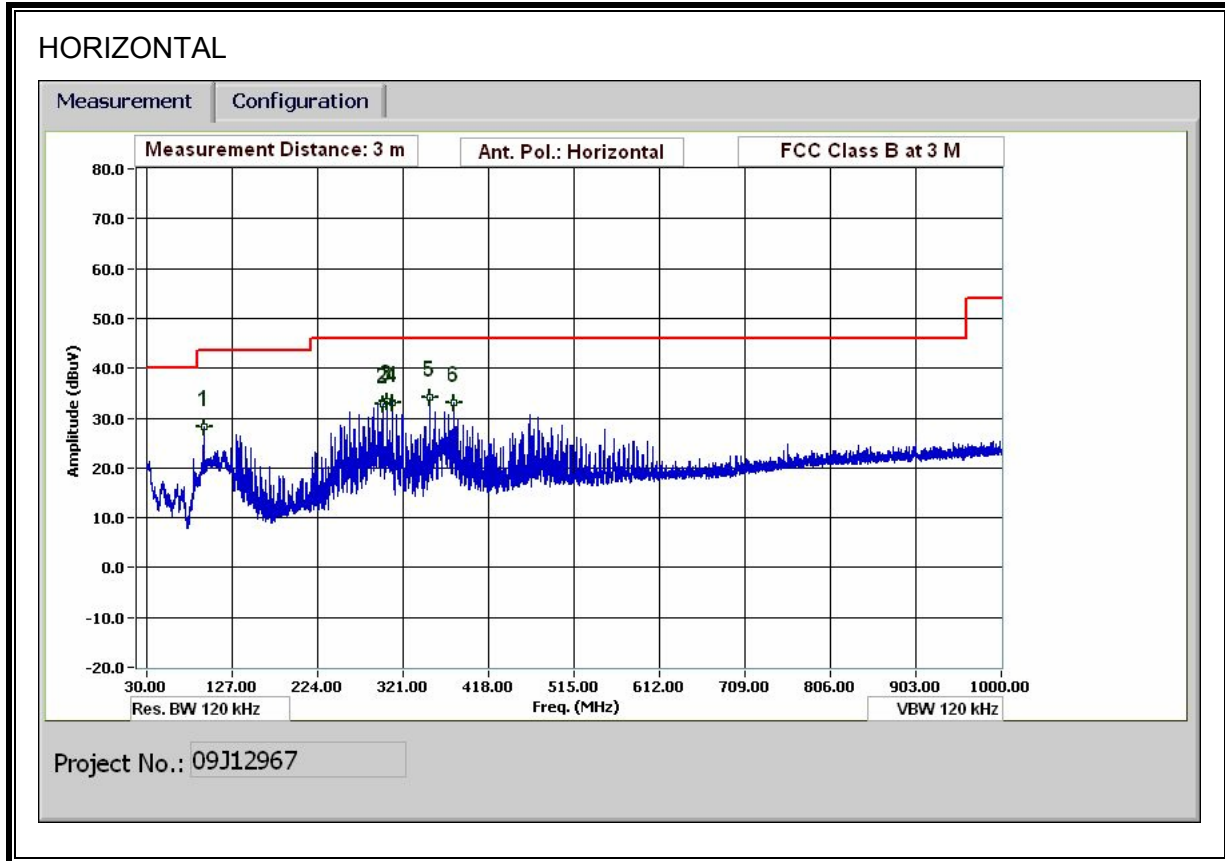
#### TEST PROCEDURE

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

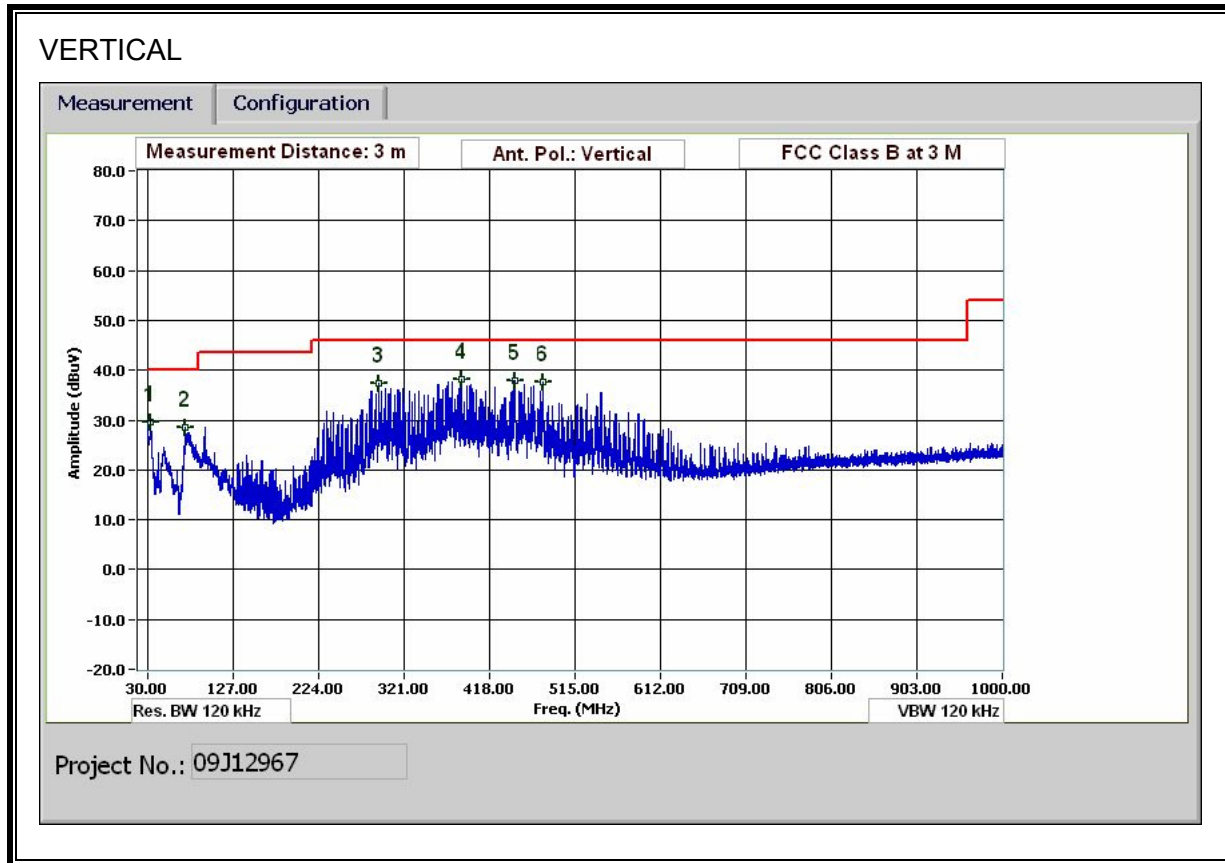
#### RESULTS



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)**

30-1000MHz Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Mengistu Mekuria											
Date:		02/26/09											
Project #:		09J12967											
Company:		Casio											
EUT Description:		Handheld Terminal, Ethernet Cradle, and AC/DC Adapter											
EUT M/N:		II-800RC											
Test Target:		FCC Class B											
Mode Oper:		TX Worst-Case											
f	Measurement Frequency	Amp	Preamp Gain	Margin	Margin vs. Limit								
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters										
Read	Analyzer Reading	Filter	Filter Insert Loss										
AF	Antenna Factor	Corr.	Calculated Field Strength										
CL	Cable Loss	Limit	Field Strength Limit										
f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol V/H	Det. P/A/QP	Notes
94.563	3.0	48.2	8.7	0.9	29.5	0.0	0.0	28.2	43.5	-15.3	H	P	
297.851	3.0	46.7	13.2	1.6	28.8	0.0	0.0	32.7	46.0	-13.3	H	P	
303.011	3.0	47.3	13.3	1.6	28.8	0.0	0.0	33.4	46.0	-12.6	H	P	
308.411	3.0	46.8	13.4	1.6	28.8	0.0	0.0	33.0	46.0	-13.0	H	P	
351.493	3.0	47.2	14.2	1.8	29.1	0.0	0.0	34.0	46.0	-12.0	H	P	
378.254	3.0	45.7	14.6	1.8	29.2	0.0	0.0	33.0	46.0	-13.0	H	P	
33.000	3.0	39.8	19.0	0.5	29.7	0.0	0.0	29.6	40.0	-10.4	V	P	
72.962	3.0	49.3	8.1	0.7	29.6	0.0	0.0	28.5	40.0	-11.5	V	P	
292.811	3.0	51.4	13.1	1.6	28.8	0.0	0.0	37.3	46.0	-8.7	V	P	
386.895	3.0	50.6	14.8	1.9	29.2	0.0	0.0	38.1	46.0	-7.9	V	P	
446.057	3.0	49.4	15.8	2.0	29.5	0.0	0.0	37.8	46.0	-8.2	V	P	
478.578	3.0	48.7	16.4	2.1	29.6	0.0	0.0	37.6	46.0	-8.4	V	P	

Rev. 1.27.09  
 Note: No other emissions were detected above the system noise floor.

**SPURIOUS EMISSIONS ABOVE 1000 MHz (WORST-CASE CONFIGURATION)**

High Frequency Measurement																	
Compliance Certification Services, Fremont 5m Chamber																	
Company:		CASIO															
Project #:		09J12967															
Date:		2/25/2010															
Test Engineer:		MENGISTU MEKURIA															
Configuration:		EUT , ETHERNET CRADLE, AND AC ADAPTER															
Mode:		RXMODE															
<b>Test Equipment:</b>																	
Horn 1-18GHz				Pre-amplifer 1-26GHz				Pre-amplifer 26-40GHz				Horn > 18GHz				Limit	
T59; S/N: 3245 @3m				T145 Agilent 3008A0050												FCC 15.209	
<b>Hi Frequency Cables</b>																	
3' cable 22807700				12' cable 22807600				20' cable 22807500				HPF		Reject Filter		Peak Measurements	
3' cable 22807700				12' cable 22807600				20' cable 22807500								RBW=VBW=1MHz Average Measurements RBW=1MHz ; VBW=10Hz	
f	Dist	Read Pk	Read Avg	AF	CL	Amp	D Corr	Fldr	Peak	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes		
GHz	(m)	dBuV	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	(V/H)		
1.835	3.0	54.3	52.2	27.0	3.3	-35.5	0.0	0.0	49.1	47.0	74	54	-24.9	-7.0	V		
1.835	3.0	56.2	54.6	27.0	3.3	-35.5	0.0	0.0	51.0	49.4	74	54	-23.0	-4.6	H		
Rev. 07.22.09																	
f	Measurement Frequency			Amp	Preamp Gain			Avg Lim	Average Field Strength Limit								
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters			Pk Lim	Peak Field Strength Limit								
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m			Avg Mar	Margin vs. Average Limit								
AF	Antenna Factor			Peak	Calculated Peak Field Strength			Pk Mar	Margin vs. Peak Limit								
CL	Cable Loss			HPF	High Pass Filter												

## 7.4. POWER LINE CONDUCTED EMISSION

### LIMIT

RSS-Gen 7.2.2

Except when the requirements applicable to a given device state otherwise, for any licence-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

Table 2 – AC Power Lines Conducted Emission Limits

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 <sup>*</sup>	56 to 46 <sup>*</sup>
0.5-5	56	46
5-30	60	50

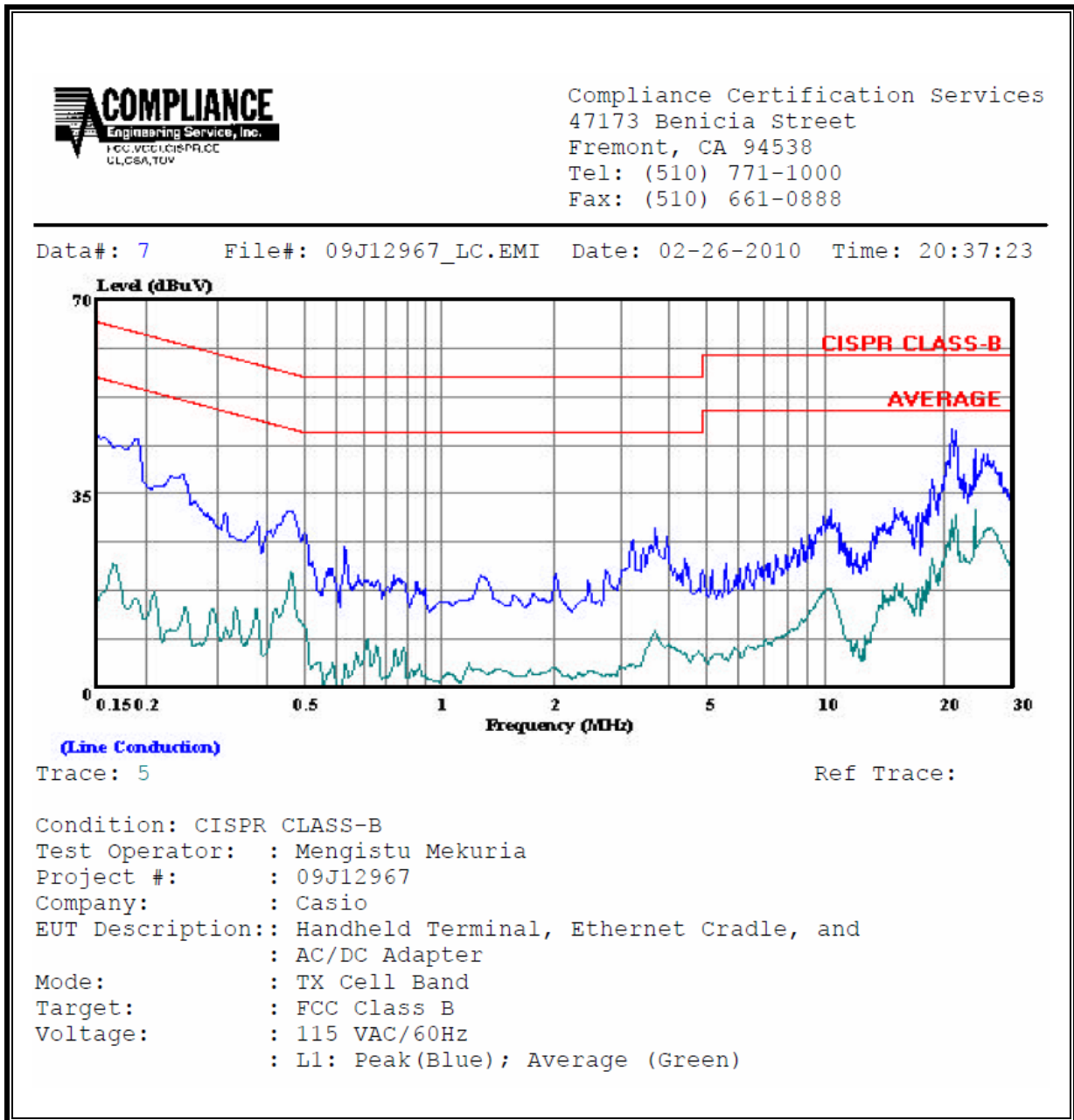
<sup>\*</sup> Decreases with the logarithm of the frequency.

### RESULTS

**6 WORST EMISSIONS**

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.18	45.00	--	22.28	0.00	64.44	54.44	-19.44	-32.16	L1
0.46	31.83	--	20.79	0.00	56.67	46.67	-24.84	-25.88	L1
21.15	46.53	--	31.30	0.00	60.00	50.00	-13.47	-18.70	L1
0.17	44.13	--	23.69	0.00	65.01	55.01	-20.88	-31.32	L2
0.46	40.17	--	28.39	0.00	56.67	46.67	-16.50	-18.28	L2
21.04	47.84	--	32.10	0.00	60.00	50.00	-12.16	-17.90	L2
6 Worst Data									

**LINE 1 RESULTS**

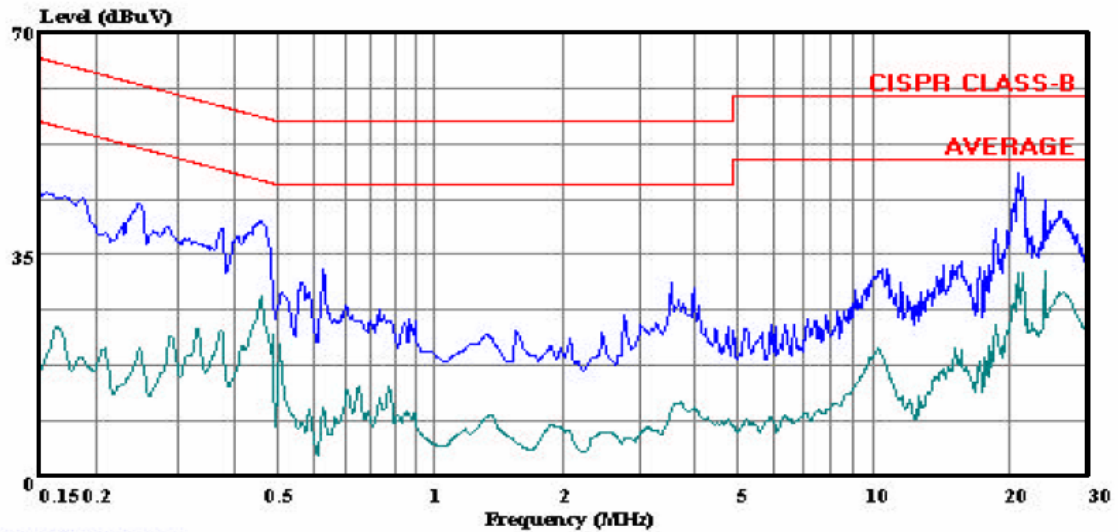


**LINE 2 RESULTS**



Compliance Certification Services  
47173 Benicia Street  
Fremont, CA 94538  
Tel: (510) 771-1000  
Fax: (510) 661-0888

Data#: 14 File#: 09J12967\_LC.EMI Date: 02-26-2010 Time: 20:45:17



(Line Conduction)

Trace: 12

Ref Trace:

Condition: CISPR CLASS-B  
Test Operator: : Mengistu Mekuria  
Project #: : 09J12967  
Company: : Casio  
EUT Description: : Handheld Terminal, Ethernet Cradle, and  
: AC/DC Adapter  
Mode: : TX Cell Band  
Target: : FCC Class B  
Voltage: : 115 VAC/60Hz  
: L2: Peak (Blue); Average (Green)

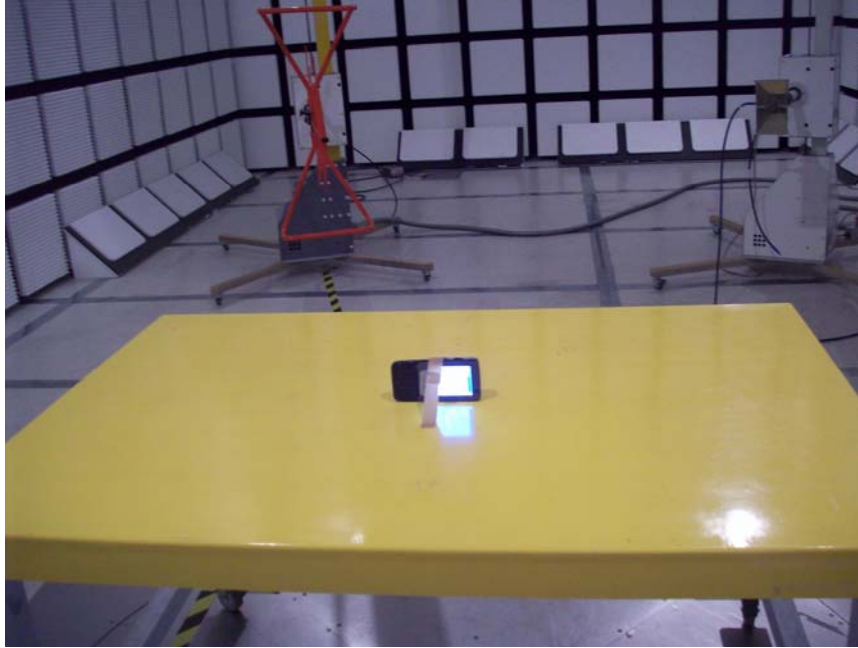


## 8. SETUP PHOTOS

### RADIATED RF MEASUREMENT SETUP FOR PORTABLE CONFIGURATION



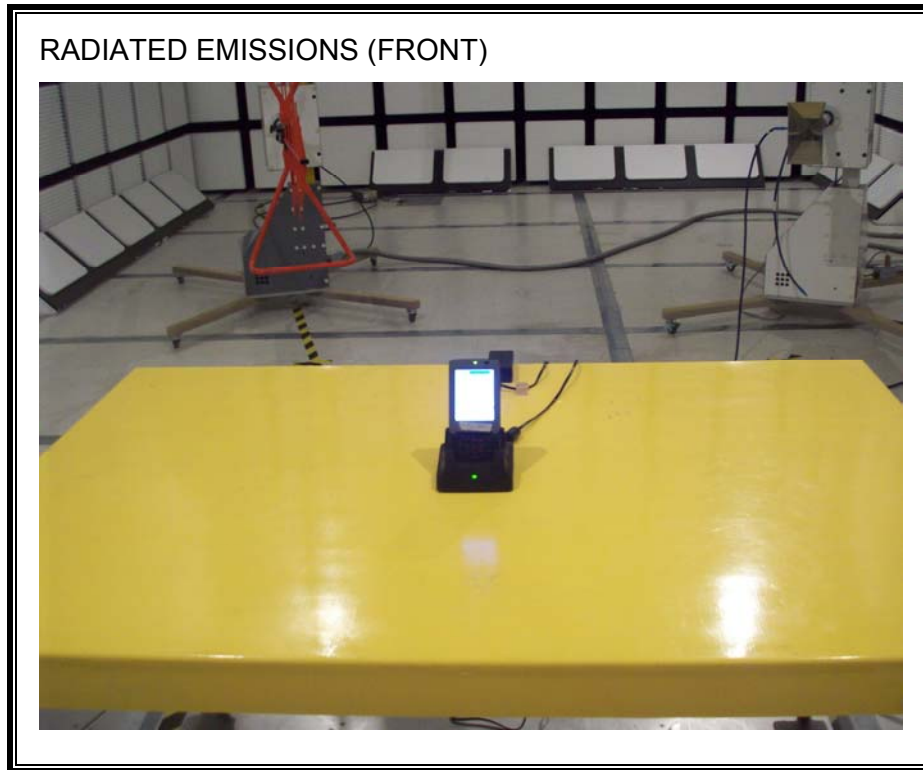
Y-AXIS PHOTO

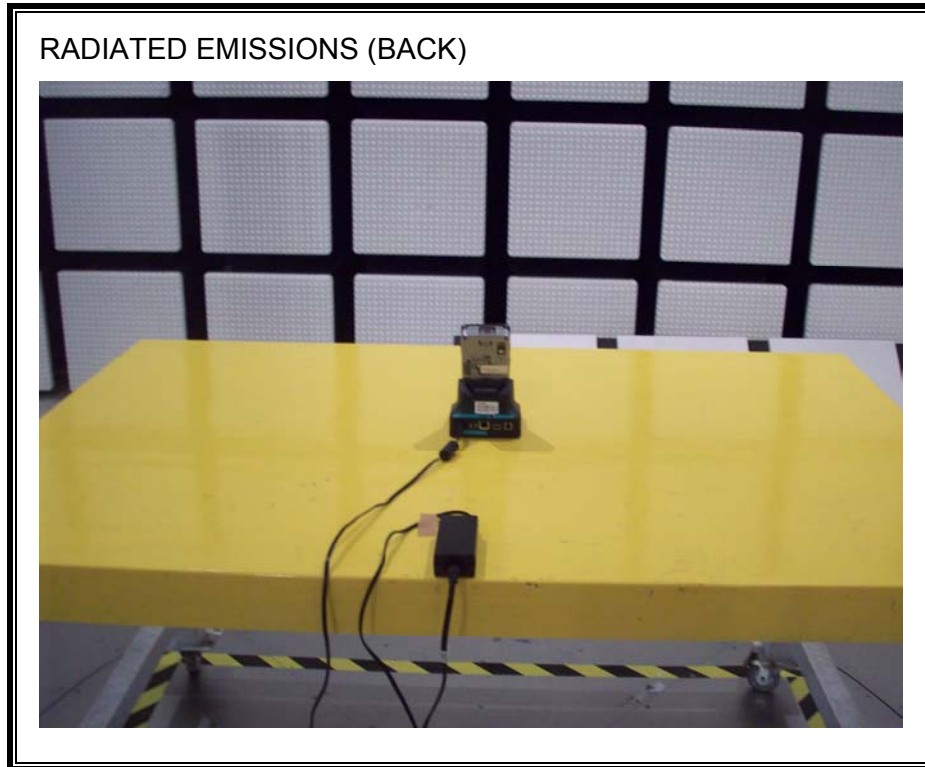


Z-AXIS PHOTO



**RADIATED EMISSION**





**AC MAINS LINE CONDUCTED EMISSION**



LINE CONDUCTED EMISSION (BACK)



**END OF REPORT**