



RADIATED SPURIOUS EMISSIONS PORTIONS OF

**FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART L
INDUSTRY CANADA RSS-132 ISSUE 2
INDUSTRY CANADA RSS-133 ISSUE 5
INDUSTRY CANADA RSS-139 ISSUE 2**

**CERTIFICATION TEST REPORT
FOR**

TRI-BAND CDMA PHONE WITH BLUETOOTH + EDR

**FCC MODEL NUMBER: K55-02
IC MODEL NUMBER: S2100**

**FCC ID: OVF-K5502
IC: 3572A- S2100**

REPORT NUMBER: 10U13593-3

ISSUE DATE: JANUARY 11, 2011

Prepared for

**KYOCERA COMMUNICATIONS, INC
9520 TOWNE CENTER DRIVE
SAN DIEGO, CA 92121, U.S.A.**

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: KYOCERA COMMUNICATIONS, INC.
9520 Towne Center Drive,
San Diego, CA 92121

EUT DESCRIPTION: TRI-BAND CDMA PHONE WITH BLUETOOTH + EDR

MODEL: K55-02 for FCC & S2100 for IC

SERIAL NUMBER: IVS30A23M00042

DATE TESTED: DECEMBER 30, 2010 TO JANUARY 06, 2011

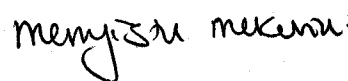
| APPLICABLE STANDARDS | |
|--|-------------------------|
| STANDARD | TEST RESULTS |
| FCC PART 22H, 24E, AND 27L | PASS (Radiated Portion) |
| IC RSS-132 ISSUE 2, RSS-133 ISSUE 5, AND RSS-139 ISSUE 2 | PASS (Radiated Portion) |

Compliance Certification Services, Inc. (UL 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 UL 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 UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

Tested By:



THU CHAN
ENGINEERING MANAGER
UL CCS

MENGISTU MEKURIA
EMC ENGINEER
UL CCS

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.

UL 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 Bluetooth featured Tri-band CDMA Phone that is manufactured by Kyocera Communications, Inc.

5.2. MAXIMUM OUTPUT POWER

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

824 to 849 MHz Authorized Band

| Frequency Range (MHz) | Modulation | ERP Output Power (dBm) | ERP Output Power (mW) |
|--------------------------|------------|------------------------------|-----------------------------|
| Low CH - 824.70 | CDMA2000 | 27.2 | 524.8 |
| Mid CH - 836.52 | | 27.6 | 575.4 |
| High CH - 848.31 | | 27.5 | 562.3 |

1850 to 1910 MHz Authorized Band

| Frequency Range (MHz) | Modulation | EIRP Output Power (dBm) | EIRP Output Power (mW) |
|--------------------------|------------|-------------------------------|------------------------------|
| Low CH - 1851.25 | CDMA2000 | 26.4 | 436.5 |
| Mid CH - 1880.00 | | 26.4 | 436.5 |
| High CH - 1908.75 | | 26.6 | 457.1 |

1710 to 1755 MHz Authorized Band

| Frequency Range (MHz) | Modulation | EIRP Output Power (dBm) | EIRP Output Power (mW) |
|--------------------------|------------|-------------------------------|------------------------------|
| Low CH - 1711.25 | AWS | 24.2 | 263.0 |
| MID-Ch- 1733.00 | | 26.5 | 446.7 |
| High CH - 1753.75 | | 24.9 | 309.0 |

5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

5.4. 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, and Z-Positions, and the worst position among X, Y, and Z with AC/DC adapter and headset, after the investigations, the worst-position was turned out to be a Z-position with AC/DC adapter and headset for all bands.

PROCEDURE USED TO ESTABLISH TEST SIGNAL

3G-CDMA2000 1xRTT

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

| <u>Application</u> | <u>Rev, License</u> |
|---------------------|---------------------|
| CDMA2000 Mobil Test | B.10.11, L |

1xRTT

- Call Setup > Shift & Preset
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC3 (Fwd3, Rvs3)
- FCH Service Option (SO) Setup > 55
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps
> R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Cell Info > Cell Parameters > System ID (SID) > 4395
> Network ID (NID) > 65535

Once "Active Cell" show "Connected " then change "Rvs Power Ctrl" from "Active bits" to "**All Up bits**" to get the maximum power.

Worst-case Measurement Result @ Low, Middle and High Channel

Worst-case Measurement Result for Low, Middle and High Channel under Radio Configuration RC3 and Service Option 55.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

| PERIPHERAL SUPPORT EQUIPMENT LIST | | | | |
|-----------------------------------|--------------|------------|---------------|--------|
| Description | Manufacturer | Model | Serial Number | FCC ID |
| AC Adapter (EUT) | Kyocera | TXTVL10148 | 02143 | DoC |
| Headset | Kyocera | N/A | 02106 | N/A |

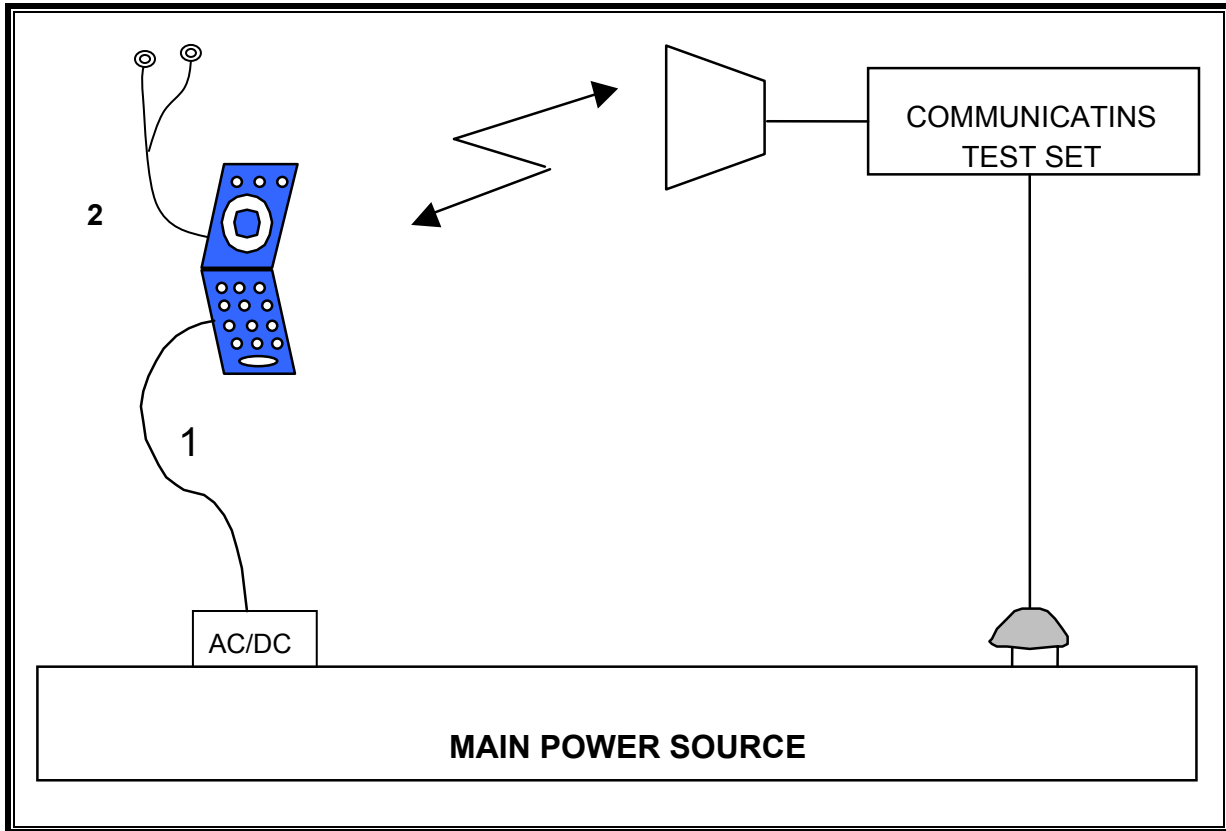
I/O CABLES

| I/O CABLE LIST | | | | | | |
|----------------|----------|----------------------|----------------|-------------|--------------|---------|
| Cable No. | Port | # of Identical Ports | Connector Type | Cable Type | Cable Length | Remarks |
| 1 | DC Input | 1 | Mini-USB | Un-Shielded | 1.8 m | N/A |
| 2 | Audio | 1 | Mini-Jack | Un-Shielded | 1.4 m | N/A |

TEST SETUP

The EUT is a CDMA phone and-is tested as a standalone configuration. 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 |
| Spectrum Analyzer, 44 GHz | Agilent / HP | E4446A | C01069 | 03/05/11 |
| Communications Test Set | Agilent / HP | E5515C | C01086 | 06/17/11 |
| EMI Test Receiver, 30 MHz | R & S | ESHS 20 | N02396 | 05/06/11 |
| Signal Generator | R & S | SMP04 | C00953 | 02/16/11 |
| Preamplifier, 1300 MHz | Agilent / HP | 8447D | C00885 | 01/06/11 |
| Preamplifier, 26.5 GHz | Agilent / HP | 8449B | C01052 | 07/14/11 |
| Dipole | Speag | D900V2 | N/A | 11/16/11 |
| Highpass Filter, 1.5 GHz | Micro-Tronics | HPM13193 | N02689 | CNR |
| Highpass Filter, 2.7 GHz | Micro-Tronics | HPM13194 | N02687 | CNR |
| LISN, 30 MHz | FCC | LISN-50/250-25-2 | N02625 | 11/10/11 |
| Antenna, Bilog, 2 GHz | Sunol Sciences | JB1 | C01011 | 07/12/11 |
| Antenna, Horn, 18 GHz | EMCO | 3115 | C00943 | CNR |
| Antenna, Horn, 18 GHz | EMCO | 3115 | C00945 | 06/29/11 |

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.

27.50 (d) (2) & RSS-139 § 6.4 Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to a peak EIRP of 1 watt.

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, RSS-133, & RSS-139

Path Loss method using Pre-calibrated Substitution values:

1. Configure the EUT per instructions in the standard with respect to whether antenna or resistive load should be connected to antenna port.
2. For measurements in the 30 - 1000 MHz region testing is to be performed on a qualified open area test site (OATS) with a ground plane. For measurements above 1 GHz, it is not mandatory that a test site with metallic ground plane be used.
3. Perform radiated emissions testing per CCS Core Test Procedure 4.5 or 4.6 as appropriate to the frequency of interest, with the measurement antenna in a selected polarization.

4. Record the raw spectrum analyzer reading. Calculate the radiated output power using:

- $ERP \text{ or } EIRP = \text{Spectrum Analyzer Reading (dBm)} + \text{Path Loss (dB)}$

Or if a preamp and/or filter is used during the measurement procedure:

- $ERP \text{ or } EIRP = \text{Spectrum Analyzer Reading (dBm)} + \text{Path Loss (dB)} - \text{Preamp Gain (dB)} + \text{Filter Loss (dB)}$

Where

- Path Loss was measured in the same chamber / OATS, with the same measurement antenna, the same measurement path coax cables, and the applicable polarization and EUT height, with respect to a dipole under 1 GHz or with respect to an isotropic source above 1 GHz
5. NOTE: The Pre-calibrated path loss must have been measured without a preamplifier or filter, otherwise the above equations must be adjusted accordingly. If this recommended practice was followed during the Pre-calibrated procedure, only the measurement antenna, measurement path coax cables, and facility form the matched set. Other components (e.g. preamplifier) may be included during the measurement procedure as required to meet sensitivity requirements and avoid overload by including their gains and losses in accordance with the above equation.

6. Repeat for other frequencies of interest and the other polarization as required.

RESULTS

CELL OUTPUT POWER (ERP)

| High Frequency Substitution Measurement Compliance Certification Services Chamber A | | | | | | | |
|--|---------------------|--------------------------|--------------------|--------------|----------------|----------------|-------|
| Company: | | KYOCERA | | | | | |
| Project #: | | 10U13593 | | | | | |
| Date: | | 12/30/2010 | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | |
| Configuration: | | EUT ALONE | | | | | |
| Mode: | | TX, 1xRTT CDMA CELL BAND | | | | | |
| Test Equipment: | | | | | | | |
| Receiving: Sunoi T122, 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 |
| 824.70 | -9.0 | V | 34.8 | 25.8 | 38.5 | -12.7 | |
| 824.70 | -3.3 | H | 30.5 | 27.2 | 38.5 | -11.2 | |
| 836.52 | -9.5 | V | 33.1 | 23.6 | 38.5 | -14.8 | |
| 836.52 | -3.6 | H | 31.2 | 27.6 | 38.5 | -10.8 | |
| 848.31 | -9.8 | V | 32.1 | 22.3 | 38.5 | -16.1 | |
| 848.31 | -3.7 | H | 31.2 | 27.5 | 38.5 | -10.9 | |
| Rev. 1.24.7 | | | | | | | |

PCS OUTPUT POWER (EIRP)

| High Frequency Fundamental Measurement Compliance Certification Services Chamber A | | | | | | | |
|---|---------------------|-------------------------|--------------------|---------------|----------------|---------------|-------|
| Company: | | KYOCERA | | | | | |
| Project #: | | 10U13593 | | | | | |
| Date: | | 12/30/2010 | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | |
| Configuration: | | EUT ALONE | | | | | |
| Mode: | | TX, 1xRTT CDMA PCS BAND | | | | | |
| Test Equipment: | | | | | | | |
| Receiving: Horn T73, 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 |
| 1.851 | -24.1 | V | 40.4 | 16.3 | 33.0 | -16.7 | |
| 1.851 | -13.4 | H | 39.7 | 26.4 | 33.0 | -6.6 | |
| 1.880 | -24.6 | V | 39.9 | 15.3 | 33.0 | -17.7 | |
| 1.880 | -13.7 | H | 40.1 | 26.4 | 33.0 | -6.6 | |
| 1.909 | -24.5 | V | 39.8 | 15.3 | 33.0 | -17.7 | |
| 1.909 | -13.6 | H | 40.2 | 26.6 | 33.0 | -6.4 | |
| Rev. 1.24.7 | | | | | | | |

AWS OUTPUT POWER (EIRP)

| High Frequency Fundamental Measurement Compliance Certification Services Chamber A | | | | | | | |
|--|---------------------|-------------------------|--------------------|---------------|----------------|---------------|-------|
| Company: | | KYOCERA | | | | | |
| Project #: | | 10U13593 | | | | | |
| Date: | | 12/30/2010 | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | |
| Configuration: | | EUT ALONE | | | | | |
| Mode: | | TX, 1xRTT CDMA AWS BAND | | | | | |
| Test Equipment: | | | | | | | |
| Receiving: Horn T73, 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 |
| 1.711 | -24.3 | V | 39.8 | 15.6 | 30.0 | -14.5 | |
| 1.711 | -14.9 | H | 39.1 | 24.2 | 30.0 | -5.8 | |
| 1.733 | -24.3 | V | 40.0 | 15.7 | 30.0 | -14.3 | |
| 1.733 | -13.3 | H | 39.8 | 26.5 | 30.0 | -3.5 | |
| 1.754 | -25.2 | V | 40.1 | 14.9 | 30.0 | -15.1 | |
| 1.754 | -15.1 | H | 40.0 | 24.9 | 30.0 | -5.1 | |
| 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.

§27.53 (g) and RSS-139 § 6.5 For operations in the 1710–1755MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b), FCC 24.238 (b), & FCC 27.53 (g)(1)(2)(3), RSS-132, RSS-133, & RSS-139

RESULTS

CELL SPURIOUS & HARMONIC (ERP)

| Compliance Certification Services Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|---|------------------|--------------------------|--------------|----------------|-------------|-------------|-------------|-------------|------------|-------|
| Company: | | KYOCERA | | | | | | | | |
| Project #: | | 10U13593 | | | | | | | | |
| Date: | | 12/30/2010 | | | | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | | | | |
| Configuration: | | EUT ALONE | | | | | | | | |
| Mode: | | TX, 1xRTT CDMA CELL BAND | | | | | | | | |
| Chamber | | Pre-amplifier | | | Filter | | Limit | | | |
| 5m Chamber A | | T144 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 |
| Low Ch. (824.70 MHz) | | | | | | | | | | |
| 1.649 | -50.6 | H | 3.0 | 36.6 | 38.2 | 1.0 | -51.2 | -13.0 | -38.2 | |
| 2.474 | -53.9 | H | 3.0 | 40.0 | 37.5 | 1.0 | -50.4 | -13.0 | -37.4 | |
| 3.299 | -56.7 | H | 3.0 | 43.9 | 37.1 | 1.0 | -49.0 | -13.0 | -36.0 | |
| 4.124 | -63.3 | H | 3.0 | 46.2 | 36.5 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 1.649 | -51.8 | V | 3.0 | 36.8 | 38.2 | 1.0 | -52.1 | -13.0 | -39.1 | |
| 2.474 | -55.1 | V | 3.0 | 41.7 | 37.5 | 1.0 | -49.9 | -13.0 | -36.9 | |
| 3.299 | -57.1 | V | 3.0 | 44.0 | 37.1 | 1.0 | -49.2 | -13.0 | -36.2 | |
| 4.124 | -61.2 | V | 3.0 | 45.9 | 36.5 | 1.0 | -50.8 | -13.0 | -37.8 | |
| Mid Ch. (836.60 MHz) | | | | | | | | | | |
| 1.673 | -45.6 | H | 3.0 | 36.8 | 38.1 | 1.0 | -45.8 | -13.0 | -32.8 | |
| 2.510 | -55.7 | H | 3.0 | 40.1 | 37.5 | 1.0 | -52.0 | -13.0 | -39.0 | |
| 3.346 | -58.3 | H | 3.0 | 44.0 | 37.1 | 1.0 | -50.4 | -13.0 | -37.4 | |
| 4.183 | -64.3 | H | 3.0 | 46.4 | 36.5 | 1.0 | -53.4 | -30.0 | -23.4 | |
| 1.673 | -50.2 | V | 3.0 | 37.1 | 38.1 | 1.0 | -50.2 | -13.0 | -37.2 | |
| 2.510 | -58.6 | V | 3.0 | 41.9 | 37.5 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 3.346 | -57.3 | V | 3.0 | 44.1 | 37.1 | 1.0 | -49.3 | -13.0 | -36.3 | |
| 4.183 | -63.3 | V | 3.0 | 46.1 | 36.5 | 1.0 | -52.7 | -30.0 | -22.7 | |
| Hi Ch. (848.31 MHz) | | | | | | | | | | |
| 1.697 | -43.2 | H | 3.0 | 37.0 | 38.1 | 1.0 | -43.2 | -13.0 | -30.2 | |
| 2.545 | -52.3 | V | 3.0 | 42.0 | 37.5 | 1.0 | -46.8 | -13.0 | -33.8 | |
| 3.393 | -58.6 | H | 3.0 | 44.1 | 37.1 | 1.0 | -50.5 | -13.0 | -37.5 | |
| 4.242 | -62.9 | H | 3.0 | 46.5 | 36.5 | 1.0 | -51.9 | -13.0 | -38.9 | |
| 1.697 | -51.4 | V | 3.0 | 37.4 | 38.1 | 1.0 | -51.1 | -13.0 | -38.1 | |
| 2.545 | -53.6 | V | 3.0 | 42.0 | 37.5 | 1.0 | -48.1 | -13.0 | -35.1 | |
| 3.393 | -56.2 | V | 3.0 | 44.2 | 37.1 | 1.0 | -48.0 | -13.0 | -35.0 | |
| 4.242 | -62.7 | V | 3.0 | 46.2 | 36.5 | 1.0 | -52.0 | -13.0 | -39.0 | |

Note: No other emissions were detected within -40 dB margin to the limits.
 Rev. 03.03.09

PCS Spurious & Harmonic (EIRP)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: KYOCERA
Project #: 10U13593
Date: 12/31/2010
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, 1xRTT CDMA PCS BAND

Chamber

5m Chamber A

Pre-amplifier

T144 8449B

Filter

Filter 1

Limit

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 |
|------------------------------|------------------|-----------------|--------------|----------------|-------------|-------------|------------|-------------|------------|-------|
| Low Ch. (1851.25 MHz) | | | | | | | | | | |
| 3.703 | -55.4 | H | 3.0 | 45.0 | 36.8 | 1.0 | -46.2 | -13.0 | -33.2 | |
| 5.554 | -65.3 | H | 3.0 | 49.9 | 36.3 | 1.0 | -50.6 | -13.0 | -37.6 | |
| 7.405 | -67.4 | H | 3.0 | 52.9 | 36.6 | 1.0 | -50.0 | -13.0 | -37.0 | |
| 9.256 | -66.5 | H | 3.0 | 55.3 | 37.0 | 1.0 | -47.3 | -13.0 | -34.3 | |
| 3.703 | -55.2 | V | 3.0 | 44.9 | 36.8 | 1.0 | -46.1 | -13.0 | -33.1 | |
| 5.554 | -62.3 | V | 3.0 | 49.3 | 36.3 | 1.0 | -48.3 | -13.0 | -35.3 | |
| 7.405 | -66.4 | V | 3.0 | 51.8 | 36.6 | 1.0 | -50.2 | -13.0 | -37.2 | |
| 9.256 | -65.3 | V | 3.0 | 54.2 | 37.0 | 1.0 | -47.0 | -13.0 | -34.0 | |
| Mid Ch. (1880.00 MHz) | | | | | | | | | | |
| 3.760 | -52.9 | H | 3.0 | 45.2 | 36.8 | 1.0 | -43.5 | -13.0 | -30.5 | |
| 5.640 | -66.5 | H | 3.0 | 50.1 | 36.3 | 1.0 | -51.7 | -13.0 | -38.7 | |
| 7.520 | -67.2 | H | 3.0 | 53.1 | 36.6 | 1.0 | -49.8 | -13.0 | -36.8 | |
| 9.400 | -66.2 | H | 3.0 | 55.4 | 37.0 | 1.0 | -46.8 | -13.0 | -33.8 | |
| 3.760 | -50.6 | V | 3.0 | 45.1 | 36.8 | 1.0 | -41.3 | -13.0 | -28.3 | |
| 5.640 | -66.4 | V | 3.0 | 49.4 | 36.3 | 1.0 | -52.3 | -13.0 | -39.3 | |
| 7.520 | -67.4 | V | 3.0 | 52.0 | 36.6 | 1.0 | -51.0 | -13.0 | -38.0 | |
| 9.400 | -66.1 | V | 3.0 | 54.4 | 37.0 | 1.0 | -47.7 | -13.0 | -34.7 | |
| Hi Ch. (1908.75 MHz) | | | | | | | | | | |
| 3.818 | -50.2 | H | 3.0 | 45.3 | 36.7 | 1.0 | -40.6 | -13.0 | -27.6 | |
| 5.726 | -63.4 | V | 3.0 | 49.5 | 36.3 | 1.0 | -49.2 | -13.0 | -36.2 | |
| 7.635 | -66.7 | H | 3.0 | 53.2 | 36.6 | 1.0 | -49.1 | -13.0 | -36.1 | |
| 9.544 | -66.7 | H | 3.0 | 55.6 | 37.1 | 1.0 | -47.2 | -13.0 | -34.2 | |
| 3.818 | -53.2 | V | 3.0 | 45.2 | 36.7 | 1.0 | -43.7 | -13.0 | -30.7 | |
| 5.726 | -67.1 | V | 3.0 | 49.5 | 36.3 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 7.635 | -67.0 | V | 3.0 | 52.1 | 36.6 | 1.0 | -50.4 | -13.0 | -37.4 | |
| 9.544 | -67.3 | V | 3.0 | 54.6 | 37.1 | 1.0 | -48.7 | -13.0 | -35.7 | |

Note: No other emissions were detected within -40 dB margin to the limits.
 Rev. 03.03.09

AWS Spurious & Harmonic (EIRP)

| Compliance Certification Services Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|--|------------------|-------------------------|--------------|----------------|-------------|-------------|------------|-------------|------------|-------|
| Company: | | KYOCERA | | | | | | | | |
| Project #: | | 10U13593 | | | | | | | | |
| Date: | | 12/31/2010 | | | | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | | | | |
| Configuration: | | EUT ALONE | | | | | | | | |
| Mode: | | TX, 1xRTT CDMA AWS BAND | | | | | | | | |
| Chamber | | Pre-amplifier | | | Filter | | | Limit | | |
| 5m Chamber A | | T144 8449B | | | Filter 1 | | | FCC PART 27 | | |
| 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 |
| Low Ch. (1711.25 MHz) | | | | | | | | | | |
| 3.423 | -58.4 | H | 3.0 | 44.2 | 37.0 | 1.0 | -50.2 | -13.0 | -37.2 | |
| 5.134 | -67.1 | H | 3.0 | 49.2 | 36.3 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 6.845 | -66.1 | H | 3.0 | 52.1 | 36.5 | 1.0 | -49.5 | -13.0 | -36.5 | |
| 3.423 | -59.8 | V | 3.0 | 44.3 | 37.0 | 1.0 | -51.5 | -13.0 | -38.5 | |
| 5.134 | -67.2 | V | 3.0 | 48.6 | 36.3 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 6.845 | -65.1 | V | 3.0 | 51.1 | 36.5 | 1.0 | -49.5 | -13.0 | -36.5 | |
| Mid Ch. (1733.00 MHz) | | | | | | | | | | |
| 3.466 | -58.3 | H | 3.0 | 44.3 | 37.0 | 1.0 | -50.0 | -13.0 | -37.0 | |
| 5.199 | -67.9 | H | 3.0 | 49.3 | 36.2 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 6.932 | -66.9 | H | 3.0 | 52.3 | 36.5 | 1.0 | -50.1 | -13.0 | -37.1 | |
| 3.466 | -60.9 | V | 3.0 | 44.4 | 37.0 | 1.0 | -52.5 | -13.0 | -39.5 | |
| 5.199 | -67.2 | V | 3.0 | 48.8 | 36.2 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 6.932 | -66.2 | V | 3.0 | 51.2 | 36.5 | 1.0 | -50.4 | -13.0 | -37.4 | |
| Hi Ch. (1754.75 MHz) | | | | | | | | | | |
| 3.510 | -60.7 | H | 3.0 | 44.5 | 37.0 | 1.0 | -52.2 | -13.0 | -39.2 | |
| 5.264 | -67.2 | V | 3.0 | 48.9 | 36.3 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.019 | -66.9 | H | 3.0 | 52.4 | 36.5 | 1.0 | -50.0 | -13.0 | -37.0 | |
| 3.510 | -59.7 | V | 3.0 | 44.5 | 37.0 | 1.0 | -51.2 | -13.0 | -38.2 | |
| 5.264 | -67.3 | V | 3.0 | 48.9 | 36.3 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.019 | -66.3 | V | 3.0 | 51.3 | 36.5 | 1.0 | -50.4 | -13.0 | -37.4 | |
| <p>Note: No other emissions were detected within -40 dB margin to the limits. Rev. 03.03.09</p> | | | | | | | | | | |

7.3. RECEIVER SPURIOUS EMISSIONS

LIMIT

RSS-Gen 7.2.2

Spurious Emission Limits for Receivers:

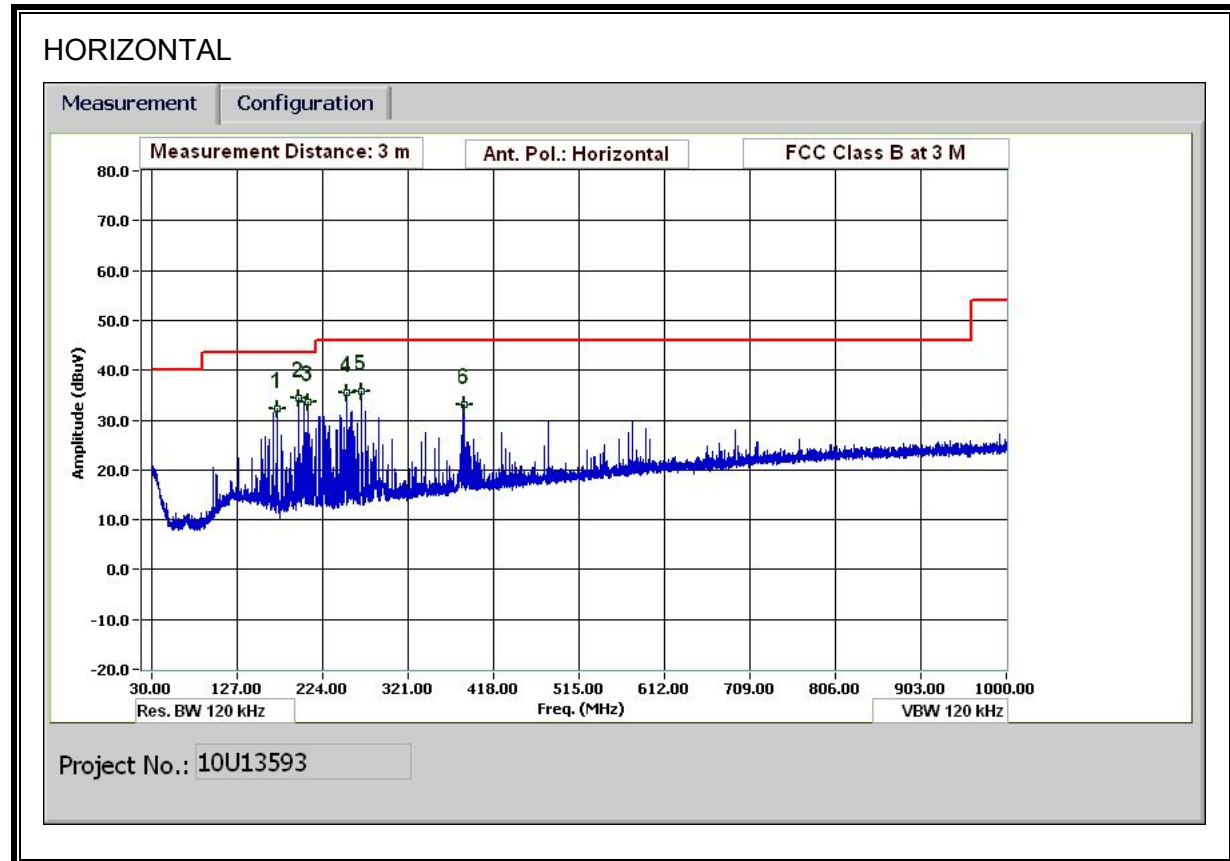
| Spurious Frequency (MHz) | Field Strength (microvolts/m at 3 metres) |
|-----------------------------|---|
| 30-88 | 100 |
| 88-216 | 150 |
| 216-960 | 200 |
| Above 960 | 500 |

TEST PROCEDURE

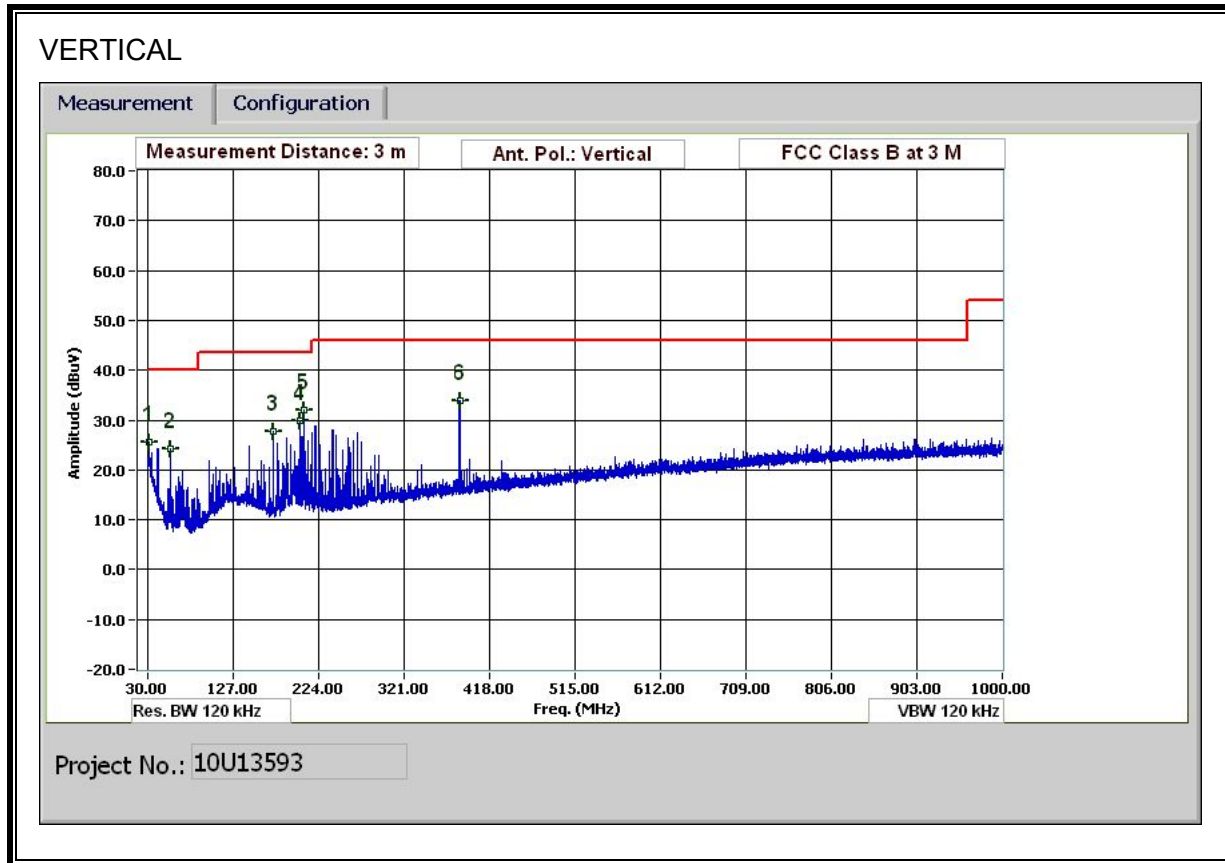
The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

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)

HORIZONTAL AND VERTICAL DATA

30-1000MHz Frequency Measurement
 Compliance Certification Services, Fremont 5m Chamber

Test Engr: MENGISTU MEKURIA
 Date: 01/05/11
 Project #: 10U13593
 Company: KYOCERA
 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 | Pad dB | Corr. dBuV/m | Limit dBuV/m | Margin dB | Ant. Pol. V/H | Det. P/A/QP | Notes |
|---------|----------|-----------|---------|-------|--------|-----------|--------|--------------|--------------|-----------|---------------|-------------|-------|
| 31.2 | 3.0 | 33.8 | 19.6 | 0.5 | 28.4 | 0.0 | 0.0 | 25.5 | 40.0 | -14.5 | V | P | |
| 55.561 | 3.0 | 43.8 | 8.1 | 0.7 | 28.4 | 0.0 | 0.0 | 24.2 | 40.0 | -15.8 | V | P | |
| 172.446 | 3.0 | 44.0 | 10.6 | 1.2 | 28.2 | 0.0 | 0.0 | 27.6 | 43.5 | -15.9 | V | P | |
| 202.927 | 3.0 | 44.7 | 12.0 | 1.3 | 28.2 | 0.0 | 0.0 | 29.7 | 43.5 | -13.8 | V | P | |
| 207.367 | 3.0 | 47.0 | 12.0 | 1.3 | 28.2 | 0.0 | 0.0 | 32.0 | 43.5 | -11.5 | V | P | |
| 384.015 | 3.0 | 45.6 | 14.7 | 1.8 | 28.1 | 0.0 | 0.0 | 33.9 | 46.0 | -12.1 | V | P | |
| 172.446 | 3.0 | 48.9 | 10.6 | 1.2 | 28.2 | 0.0 | 0.0 | 32.4 | 43.5 | -11.1 | H | P | |
| 196.447 | 3.0 | 49.6 | 11.8 | 1.2 | 28.2 | 0.0 | 0.0 | 34.4 | 43.5 | -9.1 | H | P | |
| 207.367 | 3.0 | 48.5 | 12.0 | 1.3 | 28.2 | 0.0 | 0.0 | 33.5 | 43.5 | -10.0 | H | P | |
| 250.929 | 3.0 | 50.5 | 11.8 | 1.4 | 28.2 | 0.0 | 0.0 | 35.5 | 46.0 | -10.5 | H | P | |
| 268.45 | 3.0 | 50.2 | 12.4 | 1.4 | 28.2 | 0.0 | 0.0 | 35.8 | 46.0 | -10.2 | H | P | |
| 384.015 | 3.0 | 44.7 | 14.7 | 1.8 | 28.1 | 0.0 | 0.0 | 33.1 | 46.0 | -12.9 | H | P | |

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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: KYOCERA WIRELESS
Project #: 10U13593
Date: 1/6/2011
Test Engineer: MENGISTU MEKURIA
Configuration: EUT, HEADSET, AND AC ADAPTER
Mode: RX MODE

Test Equipment:

| | | | | |
|---------------------|------------------------------|-------------------------------|------------------------|--------------|
| Horn 1-18GHz | Pre-amplifier 1-26GHz | Pre-amplifier 26-40GHz | Horn > 18GHz | Limit |
| T73; S/N: 6717 @3m | T144 Miteq 3008A00931 | | | RX RSS 210 |

Hi Frequency Cables

| | | | | | |
|--------------------------|---------------------------|---------------------------|------------|----------------------|--|
| 3' cable 22807700 | 12' cable 22807600 | 20' cable 22807500 | HPF | Reject Filter | Peak Measurements RBW=VBW=1MHz |
| 3' cable 22807700 | 12' cable 22807600 | 20' cable 22807500 | | | Average Measurements RBW=1MHz ; VBW=10Hz |

| f GHz | Dist (m) | Read Pk dBuV | Read Avg. dBuV | AF dB/m | CL dB | Amp dB | D Corr dB | Filtr dB | Peak dBuV/m | Avg dBuV/m | Pk Lim dBuV/m | Avg Lim dBuV/m | Pk Mar dB | Avg Mar dB | Notes (V/H) |
|----------|-------------|-----------------|-------------------|------------|----------|-----------|--------------|-------------|----------------|---------------|------------------|-------------------|--------------|---------------|----------------|
| 3.479 | 3.0 | 49.6 | 46.9 | 31.1 | 4.7 | -37.0 | 0.0 | 0.0 | 48.4 | 45.7 | 74 | 54 | -25.6 | -8.3 | V |
| 3.526 | 3.0 | 48.9 | 46.9 | 31.2 | 4.8 | -37.0 | 0.0 | 0.0 | 47.9 | 45.9 | 74 | 54 | -26.1 | -8.1 | V |
| 3.573 | 3.0 | 50.0 | 46.8 | 31.3 | 4.8 | -36.9 | 0.0 | 0.0 | 49.2 | 46.0 | 74 | 54 | -24.8 | -8.0 | V |
| 3.479 | 3.0 | 50.4 | 47.9 | 31.1 | 4.7 | -37.0 | 0.0 | 0.0 | 49.2 | 46.7 | 74 | 54 | -24.8 | -7.3 | H |
| 3.526 | 3.0 | 51.1 | 48.3 | 31.2 | 4.8 | -37.0 | 0.0 | 0.0 | 50.1 | 47.3 | 74 | 54 | -23.9 | -6.7 | H |
| 3.573 | 3.0 | 51.1 | 48.0 | 31.3 | 4.8 | -36.9 | 0.0 | 0.0 | 50.2 | 47.2 | 74 | 54 | -23.8 | -6.8 | 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 [*] | 56 to 46 [*] |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

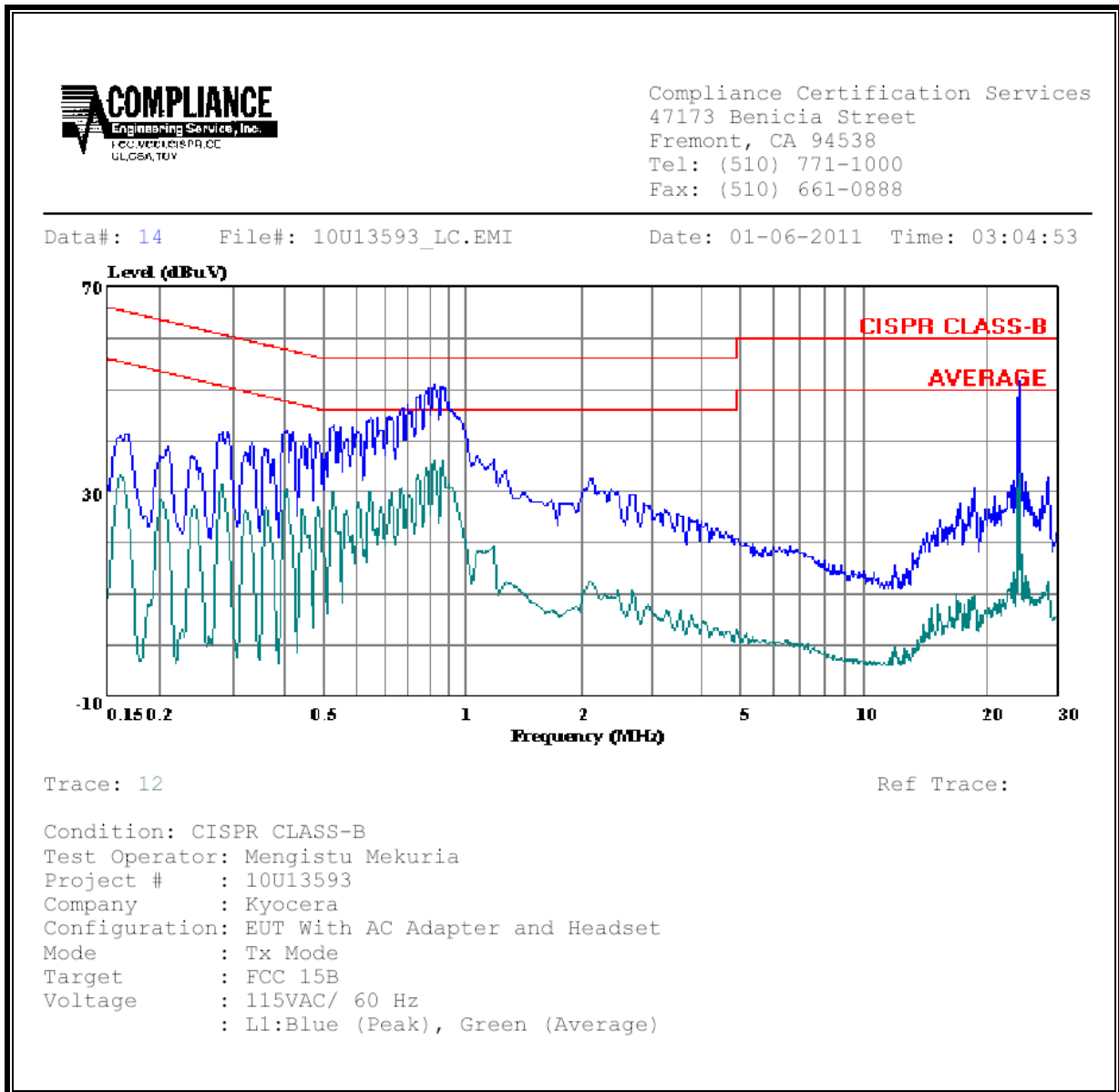
^{*} Decreases with the logarithm of the frequency.

RESULTS

6 WORST EMISSIONS

| CONDUCTED EMISSIONS DATA (115VAC 60Hz) | | | | | | | | | |
|--|-----------|-----------|-----------|---------------|-------------|------------|---------|---------|-------------------|
| Freq. (MHz) | Reading | | | Class (dB) | Limit QP | EN B AV | Margin | | Remark L1 / L2 |
| | PK (dBuV) | QP (dBuV) | AV (dBuV) | | | | QP (dB) | AV (dB) | |
| 0.53 | 42.99 | -- | 30.28 | 0.00 | 56.00 | 46.00 | -13.01 | -15.72 | L1 |
| 0.92 | 51.65 | -- | 36.03 | 0.00 | 56.00 | 46.00 | -4.35 | -9.97 | L1 |
| 24.01 | 51.64 | -- | 35.92 | 0.00 | 60.00 | 50.00 | -8.36 | -14.08 | L1 |
| 0.29 | 40.10 | -- | 30.28 | 0.00 | 60.41 | 50.41 | -20.31 | -20.13 | L2 |
| 0.92 | 46.49 | -- | 29.63 | 0.00 | 56.00 | 46.00 | -9.51 | -16.37 | L2 |
| 24.01 | 46.00 | -- | 28.68 | 0.00 | 60.00 | 50.00 | -14.00 | -21.32 | L2 |
| 6 Worst Data | | | | | | | | | |

LINE 1 RESULTS



LINE 2 RESULTS

