



**FCC CFR47 PART 24 SUBPART E
CLASS II PERMISSIVE CHANGE**

**CERTIFICATION TEST REPORT
FOR**

SINGLE-BAND 1xRTT CDMA PHONE WITH BLUETOOTH

FCC MODEL NUMBER: K53-01

FCC ID: OVF- K5301

REPORT NUMBER: 10U13126-1

ISSUE DATE: MARCH 25, 2010

Prepared for

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10300 CAMPUS POINT 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> |
|-------------|-------------------|------------------|-------------------|
| -- | 03/2510 | Initial Issue | T. Chan |

TABLE OF CONTENTS

| | |
|--|-----------|
| 1. ATTESTATION OF TEST RESULTS | 4 |
| 2. TEST METHODOLOGY | 5 |
| 3. FACILITIES AND ACCREDITATION | 5 |
| 4. CALIBRATION AND UNCERTAINTY | 5 |
| 4.1. <i>MEASURING INSTRUMENT CALIBRATION</i> | 5 |
| 4.2. <i>SAMPLE CALCULATION</i> | 5 |
| 4.3. <i>MEASUREMENT UNCERTAINTY</i> | 5 |
| 5. EQUIPMENT UNDER TEST | 6 |
| 5.1. <i>DESCRIPTION OF EUT</i> | 6 |
| 5.2. <i>MAXIMUM CONDUCTED OUTPUT POWER</i> | 6 |
| 5.3. <i>MAXIMUM RADIATED OUTPUT POWER</i> | 6 |
| 5.4. <i>SOFTWARE AND FIRMWARE</i> | 6 |
| 5.5. <i>WORST-CASE CONFIGURATION AND MODE</i> | 7 |
| 5.6. <i>DESCRIPTION OF TEST SETUP</i> | 8 |
| 6. TEST AND MEASUREMENT EQUIPMENT | 10 |
| 7. LIMITS AND RESULTS | 11 |
| 7.1. <i>RADIATED OUTPUT POWER</i> | 11 |
| 7.2. <i>FIELD STRENGTH OF SPURIOUS RADIATION</i> | 13 |
| 8. SETUP PHOTOS | 15 |

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: KYOCERA WIRELESS CORP.
10300 CAMPUS POINT DRIVE
SAN DIEGO, CA 92121, USA

EUT DESCRIPTION: SINGLE-BAND 1XR TT CDMA PHONE WITH BLUETOOTH

MODEL: OVF-K5301

SERIAL NUMBER: F0000036187877

DATE TESTED: MARCH 24, 2010

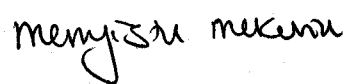
| APPLICABLE STANDARDS | |
|----------------------|--------------|
| STANDARD | TEST RESULTS |
| FCC PART 24E | PASS |

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, and FCC CFR Part 24.

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 Bluetooth featured Single-band CDMA Phone that manufactured by Kyocera Wireless Corporation.

5.2. MAXIMUM CONDUCTED OUTPUT POWER

The test measurement passed within ± 0.5 dBm of the original output power.

5.3. MAXIMUM RADIATED OUTPUT POWER

The transmitter has an average maximum EIRP output powers as follows:

1850 to 1910 MHz Authorized Band

| Frequency Range (MHz) | Modulation | EIRP Peak Power (dBm) | EIRP Peak Power (mW) |
|--------------------------|------------|-----------------------------|----------------------------|
| Low CH - 1851.25 | CDMA2000 | 24.6 | 288.4 |
| Mid CH - 1880.00 | | 25.2 | 331.1 |
| High CH - 1908.75 | | 24.7 | 295.1 |

5.4. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

5.5. 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 or headset, after the investigations, the worst-position was turned out to be an X-position without AC/DC adapter.

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) > 4145
> Network ID (NID) > 0

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.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

| PERIPHERAL SUPPORT EQUIPMENT LIST | | | | |
|-----------------------------------|--------------|------------|---------------|--------|
| Description | Manufacturer | Model | Serial Number | FCC ID |
| AC/DC Adapter | Kyocera | TXTVL10148 | 004S-001Y | DoC |
| Headset | Kyocera | N/A | N/A | N/A |

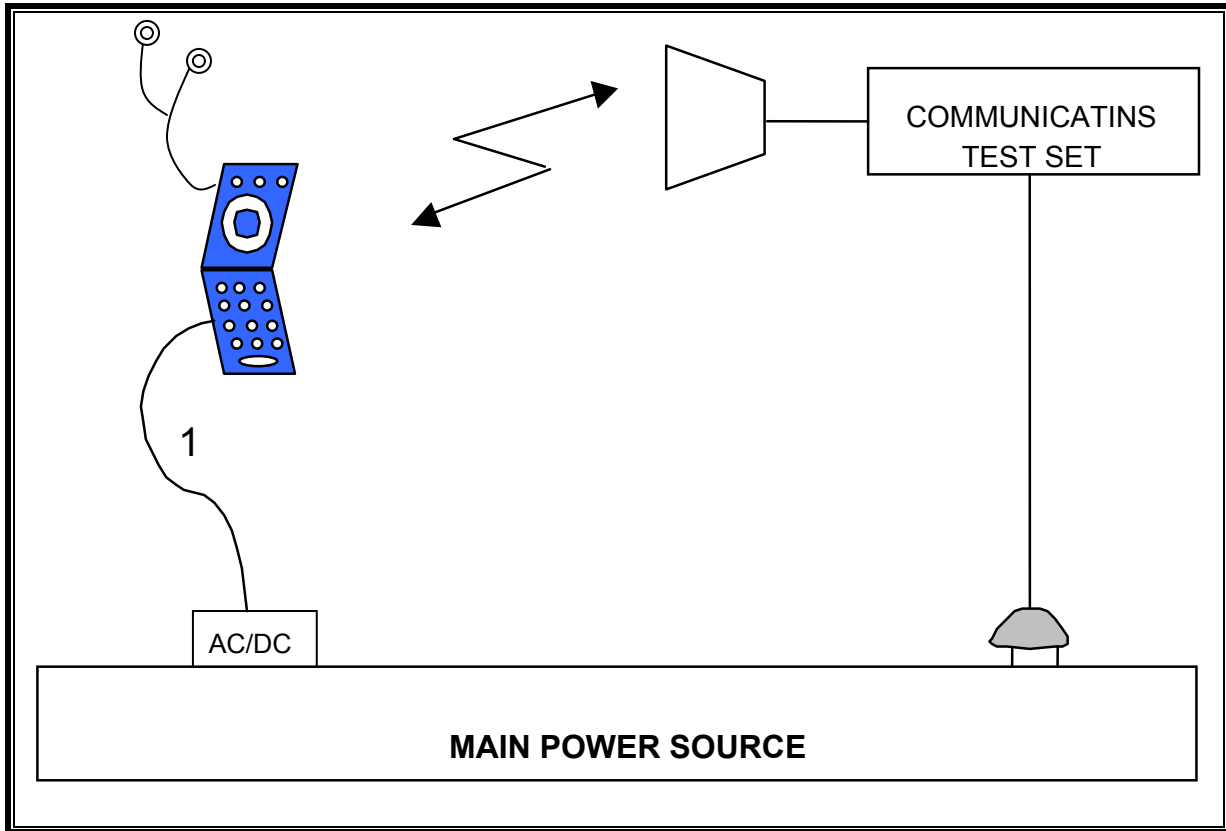
I/O CABLES

| 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 | 2.0 m | N/A |
| 2 | Audio | 1 | Mini-Jack | Un-Shielded | 1.3m | Mic on the wire |

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 |
| Preamplifier, 26.5 GHz | Agilent / HP | 8449B | C01063 | 08/04/10 |
| Antenna, Horn, 18 GHz | EMCO | 3115 | C00783 | 07/29/10 |
| Antenna, Horn, 18 GHz | EMCO | 3115 | C00943 | 07/29/10 |
| Dipole | Speag | D900V2 | NA | 11/16/11 |
| Highpass Filter, 2.7 GHz | Micro-Tronics | HPM13194 | N02687 | CNR |
| Signal Generator | R & S | SMP04 | C00953 | 02/16/11 |
| Communications Test Set | Agilent / HP | E5515C | C01086 | 06/16/10 |
| Spectrum Analyzer, 26.5 GHz | Agilent / HP | E4440A | C01178 | 08/31/10 |

7. LIMITS AND RESULTS

7.1. RADIATED OUTPUT POWER

LIMITS

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

PCS OUTPUT POWER (EIRP)

| High Frequency Fundamental Measurement Compliance Certification Services Chamber B | | | | | | | |
|---|---------------------|--------------------------|--------------------|---------------|----------------|---------------|-------|
| Company: | | KYOCERA | | | | | |
| Project #: | | 10U13126 | | | | | |
| Date: | | 3/24/2010 | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | |
| Configuration: | | EUT ALONE | | | | | |
| Mode: | | TX, CDMA 1XR TT PCS BAND | | | | | |
| Test Equipment: | | | | | | | |
| 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 | -24.9 | V | 40.2 | 15.3 | 33.0 | -17.7 | |
| 1.850 | -14.9 | H | 39.5 | 24.6 | 33.0 | -8.4 | |
| 1.880 | -25.6 | V | 40.3 | 14.7 | 33.0 | -18.3 | |
| 1.880 | -14.9 | H | 40.1 | 25.2 | 33.0 | -7.8 | |
| 1.910 | -25.5 | V | 40.2 | 14.7 | 33.0 | -18.3 | |
| 1.910 | -15.4 | H | 40.1 | 24.7 | 33.0 | -8.3 | |
| Rev. 1.24.7 | | | | | | | |

7.2. FIELD STRENGTH OF SPURIOUS RADIATION

LIMIT

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

TEST PROCEDURE

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

RESULTS

PCS Spurious & Harmonic (EIRP)

| Compliance Certification Services Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | | |
|---|------------------|--------------------------|----------------------|----------------|-------------|---------------|------------|-------------|--------------|-------|--|
| Company: | | KYOCERA | | | | | | | | | |
| Project #: | | 10U13126 | | | | | | | | | |
| Date: | | 3/24/2010 | | | | | | | | | |
| Test Engineer: | | MENGISTU MEKURIA | | | | | | | | | |
| Configuration: | | EUT ALONE | | | | | | | | | |
| Mode: | | TX, CDMA 1XR TT 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 | |
| Low Ch. (1851.25 MHz) | | | | | | | | | | | |
| 3.703 | -60.7 | H | 3.0 | 45.3 | 35.4 | 1.0 | -49.8 | -13.0 | -36.8 | | |
| 3.703 | -59.0 | V | 3.0 | 45.1 | 35.4 | 1.0 | -48.3 | -13.0 | -35.3 | | |
| Mid Ch. (1880.00 MHz) | | | | | | | | | | | |
| 3.760 | -61.7 | H | 3.0 | 45.5 | 35.3 | 1.0 | -50.5 | -13.0 | -37.5 | | |
| 3.760 | -62.0 | V | 3.0 | 45.3 | 35.3 | 1.0 | -51.1 | -13.0 | -38.1 | | |
| Hi Ch. (1908.75 MHz) | | | | | | | | | | | |
| 3.818 | -58.0 | H | 3.0 | 45.7 | 35.3 | 1.0 | -46.6 | -13.0 | -33.6 | | |
| 3.818 | -60.7 | V | 3.0 | 45.4 | 35.3 | 1.0 | -49.6 | -13.0 | -36.6 | | |
| | | V | | | | | | | | | |
| | | V | | | | | | | | | |
| <p>Note: No other emissions were detected within -40 dB margin to the limits. Rev. 03.03.09</p> | | | | | | | | | | | |