RADIATED SPURIOUS EMISSIONS PORTIONS OF FCC CFR47 PART 24 SUBPART E

CERTIFICATION TEST REPORT FOR

Dual Band 1xRTT CDMA with Bluetooth

MODEL NUMBER: E4277

FCC ID: V65E4255

REPORT NUMBER: 12U14396-2

ISSUE DATE: May 3, 2012

Prepared for
KYOCERA COMMUNICATIONS, INC.
9520 TOWNE CENTER DRIVE
SAN DIEGO, CA 92121, USA

Prepared by
UL LLC
333 Pfingsten Road
Northbrook, IL 60062
847-272-8800

NVLAP Lab code: 100414-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--		Initial Issue	

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. MEASURING INSTRUMENT CALIBRATION 5

4.2. SAMPLE CALCULATION 5

4.3. MEASUREMENT UNCERTAINTY 5

5. EQUIPMENT UNDER TEST 6

5.1. DESCRIPTION OF EUT 6

5.2. MAXIMUM OUTPUT POWER 6

5.3. SOFTWARE AND FIRMWARE 6

5.4. WORST-CASE CONFIGURATION AND MODE 7

5.5. DESCRIPTION OF TEST SETUP 8

5.6. TEST AND MEASUREMENT EQUIPMENT 10

5.6.1. OUTPUT POWER 10

5.7. FIELD STRENGTH OF SPURIOUS RADIATION 11

6. SETUP PHOTOS 12

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: UL LLC
333 Pfingsten Rd
Northbrook, IL 60062

EUT DESCRIPTION: Dual Band 1xRTT CDMA with Bluetooth

MODEL: E4277

SERIAL NUMBER: 268435457816726867

DATE TESTED: **April 26, 2012**

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 24 Subpart E (Radiated Fundamental and Spurious Only)	Pass

UL LLC 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 LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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 LLC By:

Michael Ferrer
UL LLC

Tested By:

Bart Mucha
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR Part 24.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 333 Pfingsten Road, Northbrook, IL 60062

UL LLC is accredited by NVLAP, Laboratory Code 100414-0. The full scope of accreditation can be viewed at http://ts.nist.gov/Standards/scopes/1004140.htm

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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Path Loss/Gain (dB)

36.5 dBuV + 18.7 dB/m + (-26.3) dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
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 dual band CDMA Phone manufactured by Kyocera Corporation.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low CH - 1851.25	1 x EVDO, Rev A	26.37	433.51
Mid CH - 1880		28.69	739.61
High CH - 1908.75		28.37	687.07

5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Anritsu 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 on X, Y, and Z positions, and the worst position among X, Y, and Z with an AC adapter and headset. After the investigation the worst-cases were turned out to be Y position with AC/DC adapter and headset for PCS bands.

PROCEDURE USED TO ESTABLISH TEST SIGNAL

3G-CDMA2000 1xRTT

This procedure assumes the Anritsu MT8820C Test Set has the following applications installed and with valid license.

Application	Rev, License
CDMA2000	22.12 #006

1xRTT

- Recalled Preset Configuration with parameters as below
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC3 (Fwd3, Rvs3)
- FCH Service Option (SO) Setup > 32 (+ F-SCH)
- 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) > 8
  > 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.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC/DC Adapter	Kyocera	SCP-31ADT	-	na
Headset	Generic	-	-	na

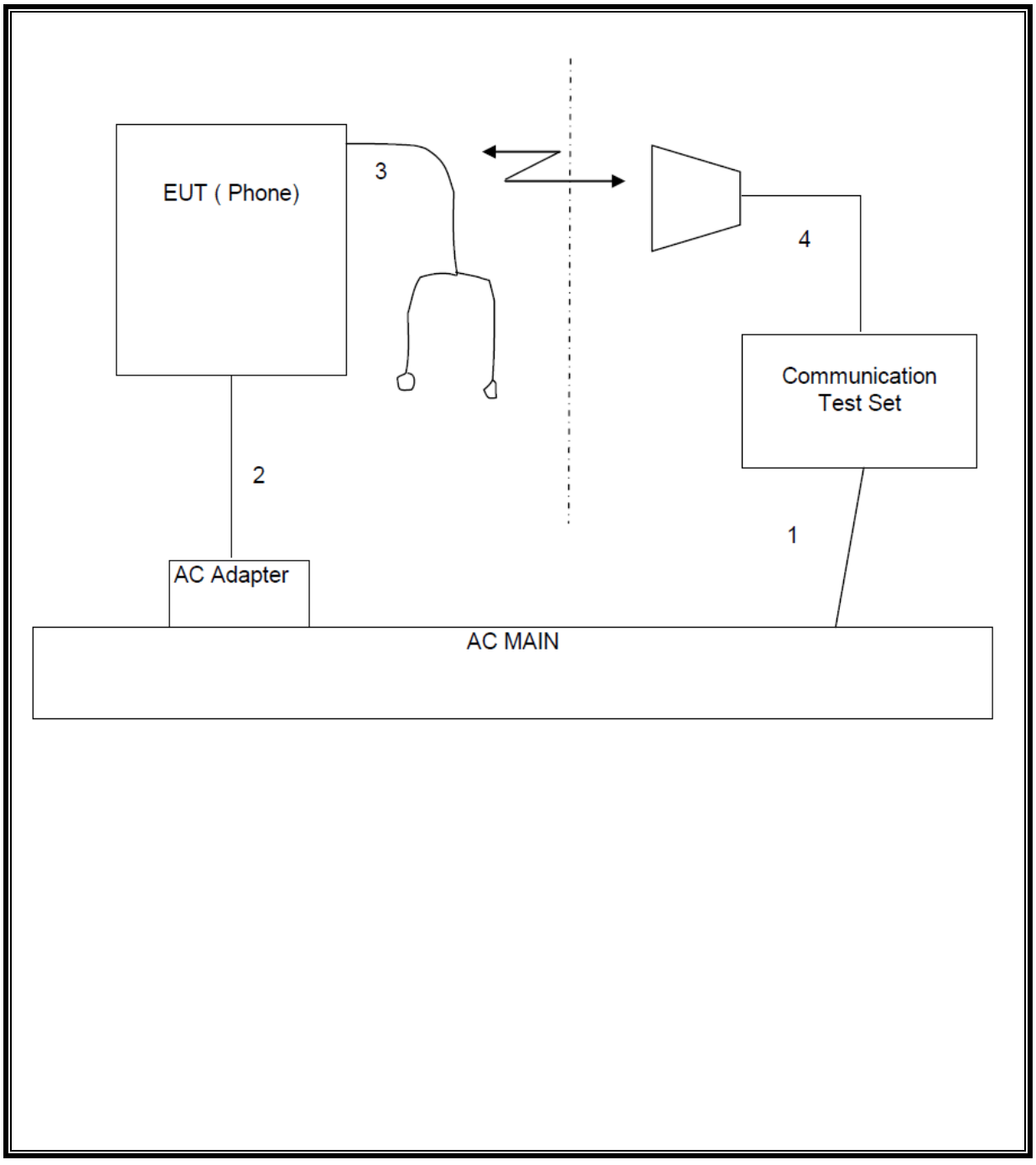
I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	US115V	None - direct plug	0m	na
2	DC	1	DC	unshielded	2m	na
3	Audio	1	Headset	shielded	1.5m	na

TEST SETUP

The EUT is a CDMA phone and is tested as a standalone configuration. Communication Test Set is used to link the device under test.

SETUP DIAGRAM FOR TESTS



5.6. 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 Date**	**Cal Due**
Spectrum Analyzer	Rhode & Schwarz	FSEK	EMC4182	20111227	20121231
Antenna Array	UL	BOMS	EMC4276	20111227	20121231
Communication Test Set	Anritsu	MT8820C	T235	20110617	20120630
Substitution Signal Generator	Agilent	PSA-E	EMC4243	20111227	20121231
Substitution Antenna	EMCO	3117	S/N00060338	20111218	20121031

5.6.1. OUTPUT POWER

LIMITS

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.

TEST PROCEDURE

RSS-133, & ANSI / TIA / EIA 603C Clause 2.2.17

RESULTS

CDMA Output Power (EIRP)

Description	Freq. MHz	Polarization	SG Output dBm	Voltage at antenna dBm	Substitution Peak Field Strength Measured dBuV/m	TX ant dBi	EIRP Level	EUT Measured Peak Level dBuV/m	Delta between EUT and Substitution dB	EIRP Level EUT dBm	limit dBm	Margin dB
Channel 25, fundamental	1851.25	Horizontal	0	-0.99	102.39	4.73	3.74	125.02	22.63	26.37	33	-6.63
		Vertical	0	-0.99	100.54	4.62	3.63	120.48	19.94	23.57	33	-9.43
Channel 600, fundamental	1880	Horizontal	0	-1.02	103.17	4.69	3.67	128.19	25.02	28.69	33	-4.31
		Vertical	0	-1.02	100.81	4.42	3.4	121.49	20.68	24.08	33	-8.92
Channel 1175, fundamental	1908.75	Horizontal	0	-0.99	102.96	4.67	3.68	127.65	24.69	28.37	33	-4.63
		Vertical	0	-0.99	100.93	4.33	3.34	120.34	19.41	22.75	33	-10.25

5.7. 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

No non-compliance noted.
1xRTT CDMA2000, PCS Spurious & Harmonic (EIRP):

Description	Freq. MHz	Polarization	SG Output dBm	Voltage at anntena dBm	Substitution Peak Filed Strenght Measured dBuV/m	TX ant dBi	EIRP Level	EUT Measured Peak Level dBuV/m	Delta between EUT and Substitution dB	EIRP Level EUT dBm	limit dBm	Margin dB
Channel 25, second harmonic	3702.5	Horizontal	-20	-21.69	80.83	8.42	-13.27	62.1	-18.73	-32	-13	-19
		Vertical	-20	-21.69	82.54	8.35	-13.34	63.58	-18.96	-32.3	-13	-19.3
channel 25, sixth harmonic	11107.5	Horizontal	-30	-32.4	78.3	13.09	-19.31	62.69	-15.61	-34.92	-13	-21.92
		Vertical	-30	-32.4	79.1	13.07	-19.33	66.91	-12.19	-31.52	-13	-18.52
Channel 25, seventh harmonic	12958.75	Horizontal	-20	-22.65	85.73	13.45	-9.2	63.22	-22.51	-31.71	-13	-18.71
		Vertical	-20	-22.65	86	13.5	-9.15	70.01	-15.99	-25.14	-13	-12.14
Channel 600, second harmonic	3760	Horizontal	-20	-21.83	82.1	8.4	-13.43	66.11	-15.99	-29.42	-13	-16.42
		Vertical	-20	-21.83	84.28	8.23	-13.6	69.21	-15.07	-28.67	-13	-15.67
Channel 600, sixth harmonic	11280	Horizontal	-30	-32.48	79.36	13.15	-19.33	64.81	-14.55	-33.88	-13	-20.88
		Vertical	-30	-32.48	79.44	13.13	-19.35	56.73	-22.71	-42.06	-13	-29.06
channel 600, seventh harmonic	13160	Horizontal	-20	-22.98	85.96	13.6	-9.38	63.9	-22.06	-31.44	-13	-18.44
		Vertical	-20	-22.98	85.97	13.62	-9.36	68.65	-17.32	-26.68	-13	-13.68
channel 1175, second harmonic	3817.5	Horizontal	-20	-21.79	80.87	8.4	-13.39	63.75	-17.12	-30.51	-13	-17.51
		Vertical	-20	-21.79	83.09	8.17	-13.62	69.09	-14	-27.62	-13	-14.62
channel 1175, sixth harmonic	11452.5	Horizontal	-30	-32.56	79.67	13.16	-19.4	61.85	-17.82	-37.22	-13	-24.22
		Vertical	-30	-32.56	79.82	13.13	-19.43	66.33	-13.49	-32.92	-13	-19.92
channel 1175, second harmonic	13361.25	Horizontal	-20	-23.23	88.02	13.58	-9.65	no emission				
		Vertical	-20	-23.23	87.92	13.61	-9.62	no emission				