

FCC TEST REPORT (15.209)

REPORT NO. : RF131114C03-7

MODEL NO. : C6730

FCC ID : V65C6730

RECEIVED : Nov. 14, 2013

TESTED : Dec. 17, 2013 ~ Dec. 31, 2013

ISSUED : Feb. 24, 2014

APPLICANT : Kyocera Communications, Inc. c/o Kyocera Corporation

ADDRESS : 8611 Balboa Ave. San Diego, CA 92123

ISSUED BY : Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

LAB ADDRESS : No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,
New Taipei City, Taiwan (R.O.C)

TEST LOCATION : No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF131114C03-7	Original release	Feb. 24, 2014



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1. CERTIFICATION

PRODUCT: Kyocera phone
MODEL NO.: C6730
BRAND: Kyocera
APPLICANT: Kyocera Communications, Inc. c/o Kyocera Corporation
TESTED: Dec. 17, 2013 ~ Dec. 31, 2013
TEST SAMPLE: Identical Prototype
STANDARDS: **FCC Part 15, Subpart C (Section 15.209)**
ANSI C63.4-2003

The above equipment (model: C6730) have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Vera Huang , **DATE :** Feb. 24, 2014

Vera Huang / Specialist

APPROVED BY : Sam chen , **DATE :** Feb. 24, 2014

Sam Chen / Senior Project Engineer

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD PARAGRAPH	TEST TYPE	RESULT	REMARK
15.209	Radiated Emission Test	PASS	Meet the requirement of limit. Minimum passing margin is -4.62dB at 39.18MHz.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Kyocera phone
MODEL NO.	C6730
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (Li-ion battery)
DATA CABLE	Refer to note as below
I/O PORT	Refer to user's manual
ACCESSORY DEVICES	Refer to note as below

NOTE:

1. The EUT has following accessories.

ITEM	BRAND	MODEL	DESCRIPTION
AC Adapter	Kyocera	SCP-42ADT	I/P: 100-240Vac, 50/60Hz, 200mA O/P: 5Vdc, 1000mA
Li-ion Battery	Kyocera	SCP-59LBPS	Rating: 3.8Vdc, 2000mAh
USB cable	Kyocera	SCP-11SDC	1.2m non-shielded cable w/o ferrite core

2. The above EUT information is declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (Section 15.209)

ANSI C63.4-2003

All test items have been performed and recorded as per the above standards.

3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

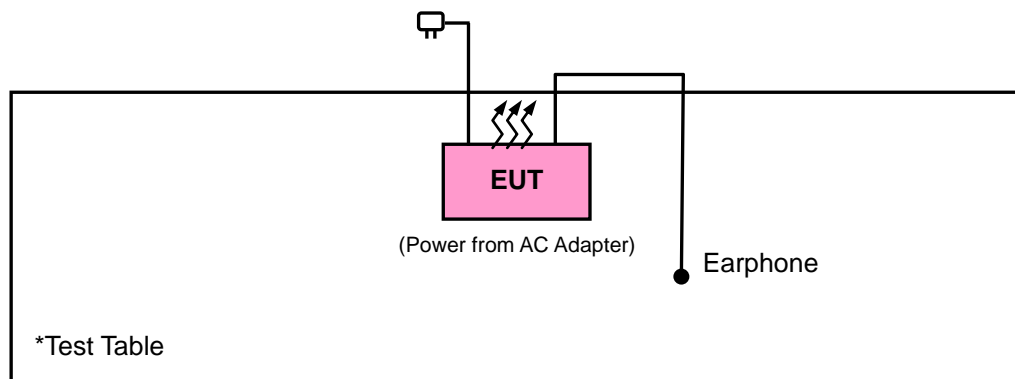
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	EARPHONE	GALIEN	HF-HB04D	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

NOTE:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1 was provided by client.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). Other emissions shall be at least 20dB below the highest level of the desired power.

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any Emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer Agilent	E4446A	MY51100039	Jul. 31, 2013	Jul. 30, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Sep. 12, 2013	Sep. 11, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-148	Jul. 15, 2013	Jul. 14, 2014
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 27, 2013	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Jul. 18, 2013	Jul. 17, 2014
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY52102544	Sep. 05, 2012	Sep. 04, 2014
Radio Communication Analyzer	MT8820C	6201300640	Aug. 01, 2013	Jul. 31, 2014

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.
4. The FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC 7450F-10.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

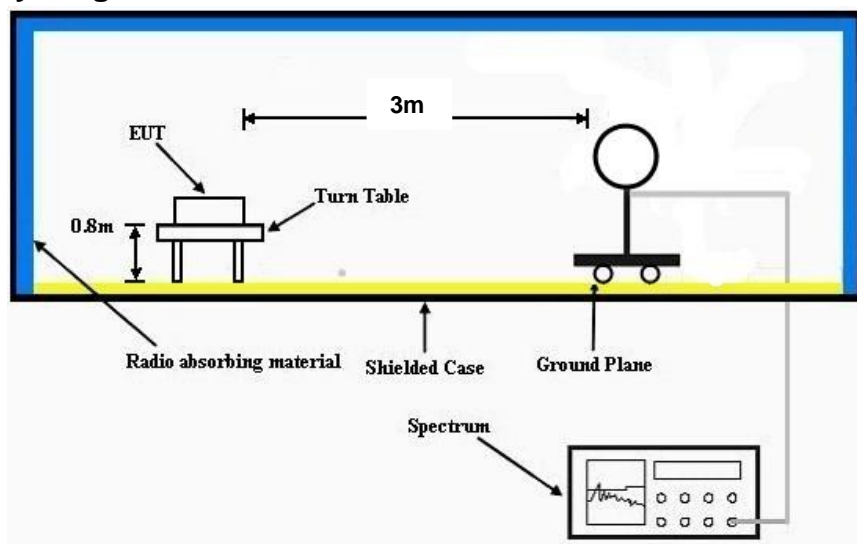
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.1.4 DEVIATION FROM TEST STANDARD

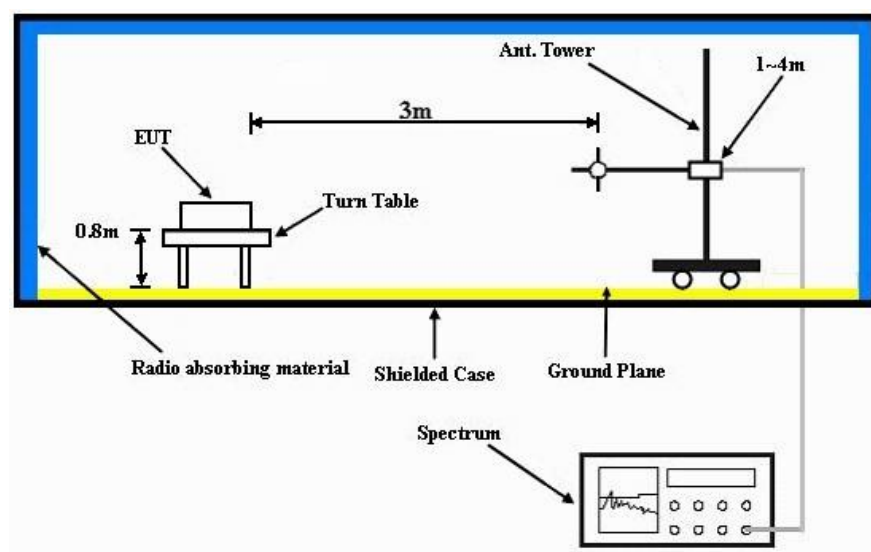
No deviation.

4.1.5 TEST SETUP

Frequency range 9k~30MHz:



Frequency range 30~1000MHz:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

Set the EUT under charging condition.



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4.1.7 TEST RESULTS

RADIATED WORST-CASE DATA:

EUT TEST CONDITION		MEASUREMENT DETAIL	
INPUT POWER	120Vac, 60 Hz	FREQUENCY RANGE	0.009~30MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	DETECTOR FUNCTION	Quasi-Peak Average (AV)
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA OPEN AT 3m								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
0.252	51.77	31.9	89.7	-37.93	19.87	100	0	Average
0.5037	43.42	23.57	56.81	-13.39	19.85	100	0	Average
0.75855	42.2	22.35	54.99	-12.79	19.85	100	0	Average
1.013	39.58	19.72	53.75	-14.17	19.86	100	0	QP
1.253	39.3	19.43	52.82	-13.52	19.87	100	0	QP
1.512	39.55	19.67	52.01	-12.46	19.88	100	0	QP

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. Above limits have been translated by the formula



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EUT TEST CONDITION		MEASUREMENT DETAIL	
INPUT POWER	120Vac, 60 Hz	FREQUENCY RANGE	0.009~30MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	DETECTOR FUNCTION	Quasi-Peak Average (AV)
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA CLOSE AT 3m								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
0.252	46.03	26.16	89.7	-43.67	19.87	100	360	Average
0.504	38.54	18.69	56.81	-18.27	19.85	100	360	Average
0.756	38.19	18.34	54.99	-16.8	19.85	100	360	Average
1.013	35.26	15.4	53.75	-18.49	19.86	100	360	QP
1.26	39.14	19.27	52.79	-13.65	19.87	100	360	QP
1.512	37.4	17.52	52.01	-14.61	19.88	100	360	QP

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. Above limits have been translated by the formula



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BELOW 1GHz WORST-CASE DATA :

EUT TEST CONDITION		MEASUREMENT DETAIL	
FREQUENCY RANGE	Below 1000MHz	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	DETECTOR FUNCTION	Peak (PK) Quasi-Peak (QP)
TESTED BY	Johnson Liao		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
166.89	36.43	54.72	43.5	-7.07	12.05	1.43	31.77	100	155	QP
242.76	36.82	55.69	46	-9.18	11.15	1.8	31.82	100	119	QP
267.06	36.21	54.32	46	-9.79	11.97	1.9	31.98	100	238	QP
370	35.23	50.21	46	-10.77	14.63	2.31	31.92	100	159	QP
497.4	33.9	45.52	46	-12.1	17.27	2.77	31.66	100	135	Peak
680.1	32.64	40.55	46	-13.36	20.57	3.36	31.84	100	189	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
39.18	35.38	52.35	40	-4.62	13.39	0.64	31	100	360	QP
166.89	36.62	54.91	43.5	-6.88	12.05	1.43	31.77	100	259	Peak
242.76	37.5	56.37	46	-8.5	11.15	1.8	31.82	100	217	Peak
355.3	38.25	53.64	46	-7.75	14.26	2.25	31.9	100	183	QP
500.9	36.62	48.13	46	-9.38	17.33	2.78	31.62	100	307	Peak
598.2	35.97	45.55	46	-10.03	19.57	3.08	32.23	100	218	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5.phtml. If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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