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FCC TEST REPORT (15.209)

REPORT NO. : RF140502C06-6 R1

MODEL NO. : KYY24

FCC ID : JOYKYY24

RECEIVED : May 02, 2014

TESTED : May 29, 2014

ISSUED : Jun. 27, 2014

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

ADDRESS : 9520 Towne Centre Drive, Suite 200 San Diego, CA 92121

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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Table of Contents

RELEASE CONTROL RECORD	3
1. CERTIFICATION	4
2. SUMMARY OF TEST RESULTS	5
2.1 MEASUREMENT UNCERTAINTY	5
3. GENERAL INFORMATION	6
3.1 GENERAL DESCRIPTION OF EUT	6
3.2 GENERAL DESCRIPTION OF APPLIED STANDARDS	6
3.3 DESCRIPTION OF SUPPORT UNITS	7
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	7
4. TEST TYPES AND RESULTS	8
4.1 RADIATED EMISSION MEASUREMENT	8
4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT	8
4.1.2 TEST INSTRUMENTS	9
4.1.3 TEST PROCEDURES	10
4.1.4 DEVIATION FROM TEST STANDARD	10
4.1.5 TEST SETUP	11
4.1.6 EUT OPERATING CONDITIONS	11
4.1.7 TEST RESULTS	12
5. PHOTOGRAPHS OF THE TEST CONFIGURATION	15
6. INFORMATION ON THE TESTING LABORATORIES	16
7. APPENDIX A - Modifications recorders for engineering changes to the eut BY THE LAB	17



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140502C06-6	Original release	Jun. 12, 2014
RF140502C06-6 R1	Revise Battery model name	Jun. 27, 2014



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1. CERTIFICATION

PRODUCT: Mobile Phone

MODEL NO.: KYY24

BRAND: TORQUE G01

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

TESTED: May 29, 2014

TEST SAMPLE: Identical Prototype

STANDARDS: FCC Part 15, Subpart C (Section 15.209)

ANSI C63.4-2003

The above equipment (model: KYY24) 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 : Jun. 27, 2014

Vera Huang / Specialist

APPROVED BY : *Sam Chen* , DATE : Jun. 27, 2014

Sam Chen / Senior Project Engineer



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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 -5.41dB at 39.99MHz.

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.



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Mobile Phone
MODEL NO.	KYY24
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. This is a test report for wireless charger.
2. The EUT has following accessories.

ITEM	BRAND	MODEL	SPECIFICATION
Battery	KYOCERA	5AAXBT081JAA-	3.8Vdc, 3000mAh
Earphone	HOSIDEN	HDH0261	1.5m cable

3. 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.



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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.

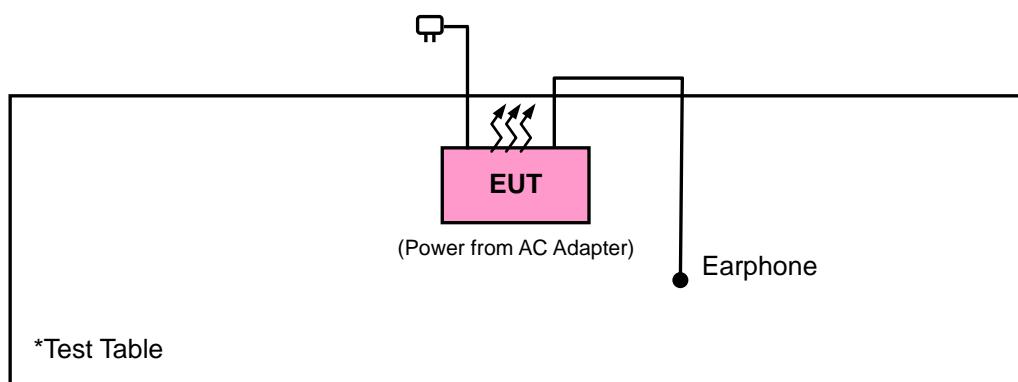
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Adapter	KDDI(MITSUMI)	0301PQA	N/A	N/A

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



*Test Table



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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.



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4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100412	Sep. 13, 2013	Sep. 12, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2013	Dec. 20, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Feb. 27. 2014	Feb. 26, 2015
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D- 209	Sep. 12, 2013	Sep. 11, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 18, 2013	Dec. 17, 2014
Loop Antenna	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier EMCI	EMC 012645	980115	Dec. 26, 2013	Dec. 25, 2014
Preamplifier EMCI	EMC 184045	980116	Jan. 13, 2014	Jan. 12, 2015
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

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.



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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:

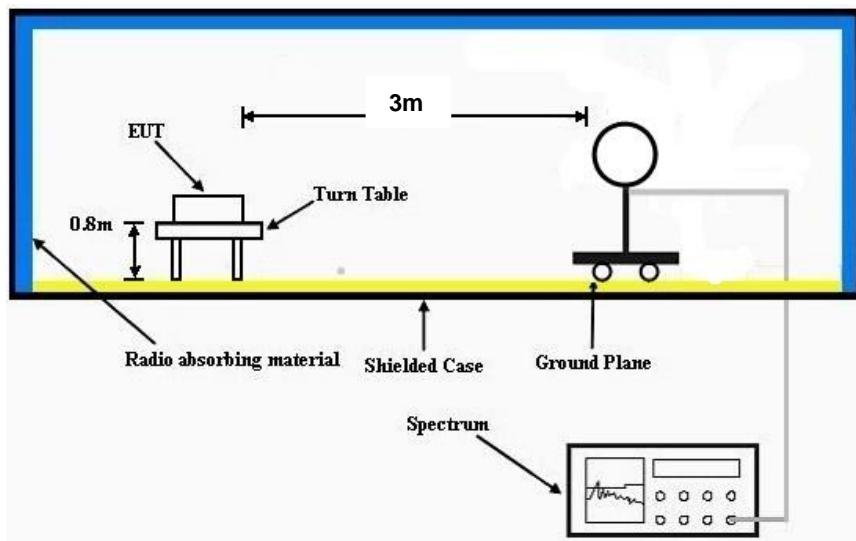
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above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

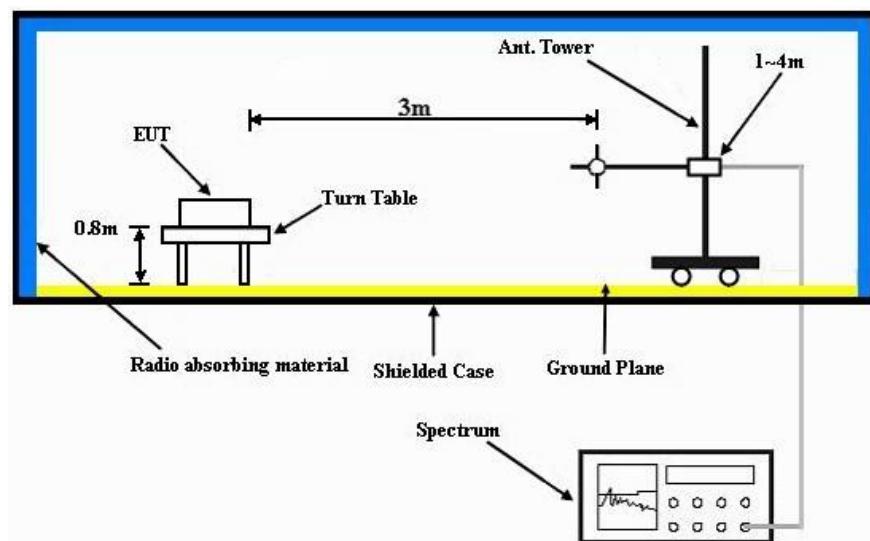
No deviation.

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		Peter Weng		

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA OPEN AT 3m								
FREQ. (MHz)	EMISSION LEVEL (dB _{UV} /m)	READ LEVEL (dB _{UV})	LIMIT (dB _{UV} /m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
0.112	78.8	58.97	106.62	-27.82	19.83	100	0	Average
0.336	55.2	35.45	97.08	-41.88	19.75	100	0	Average
0.56	47.95	28.21	72.64	-24.69	19.74	100	0	QP
0.784	42.18	22.43	69.72	-27.54	19.75	100	0	QP
1.008	40.13	20.38	67.54	-27.41	19.75	100	0	QP
1.232	36.66	16.9	65.79	-29.13	19.76	100	0	QP

REMARKS:

1. Emission level(dB_{UV}/m)=Raw Value(dB_{UV}) + 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	Peter Weng		

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
0.112	74.19	54.36	106.62	-32.43	19.83	100	360	Average
0.336	51.23	31.48	97.08	-45.85	19.75	100	360	Average
0.56	44.1	24.36	72.64	-28.54	19.74	100	360	QP
0.784	39.76	20.01	69.72	-29.96	19.75	100	360	QP
1.008	38.36	18.61	67.54	-29.18	19.75	100	360	QP
1.232	37.28	17.52	65.79	-28.51	19.76	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	Peter Weng						

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
42.69	23.46	40.26	40	-16.54	13.58	0.7	31.08	166	308	Peak
140.16	28.19	46.16	43.5	-15.31	12.37	1.3	31.64	100	257	Peak
204.42	30.58	51.09	43.5	-12.92	9.56	1.62	31.69	100	135	Peak
538.7	22.55	33.17	46	-23.45	18.19	2.91	31.72	111	88	Peak
610.1	23.98	33.21	46	-22.02	19.73	3.12	32.08	100	192	Peak
703.2	25.15	32.63	46	-20.85	20.86	3.44	31.78	100	218	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
39.99	34.59	51.39	40	-5.41	13.54	0.65	30.99	100	122	Peak
111.27	24.94	45.47	43.5	-18.56	10.18	1.14	31.85	185	236	Peak
204.69	24.75	45.26	43.5	-18.75	9.56	1.62	31.69	100	155	Peak
547.1	22.46	33.01	46	-23.54	18.39	2.94	31.88	122	196	Peak
575.1	23.11	33.16	46	-22.89	19.03	3.02	32.1	108	189	Peak
652.1	24.8	33.33	46	-21.2	20.23	3.25	32.01	100	185	Peak

REMARKS:

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



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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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.



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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.

---END---