Zacta

TEST REPORT

Report number : Z101C-14106
Issue date : November 28, 2014

The device, as described herewith, was tested pursuant to applicable test procedure and complies with the requirements of;

FCC Part 22 Subpart H

The test results are traceable to the international or national standards.

Applicant	:	KYOCERA Corporation
Equipment under test (EUT)	:	Mobile Phone
Model number	:	KYY10
FCC ID	:	JOYKYY10

Date of test : November 19, 2014
Test place : TÜV SÜD Zacta Ltd. Yonezawa Testing Center
4149-7 Hachimanpara 5-chome
Yonezawa-shi Yamagata 992-1128 Japan
Phone: +81-238-28-2880 Fax: +81-238-28-2888
Test results : Complied

The results in this report are applicable only to the equipment tested.
This report shall not be re-produced except in full without the written approval of TÜV SÜD Zacta Ltd.
This test report must not be used by client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Tested by : Taiki Watanabe
Taiki Watanabe

Authorized by :
Eiji Akiba
Deputy General Manager of EMC Technical Department

NVLAP®
NVLAP LAB CODE 200306-0

Zacta

Table of contents

Zacta

1. Summary of Test

1.1 Purpose of test

It is the original test in order to verify conformance to FCC Part 22 Subpart H.

1.2 Standards

CFR47 FCC Part 22 Subpart H

1.2.1 Test Methods

ANSI/TIA/EIA-603-C-2004

1.2.2 Deviation from standards

None

1.3 List of applied test to the EUT

Test items Section	Test items	Condition	Result
2.1046	Conducted Output Power	Conducted	N/A *
22.913(a)	Effective Radiated Power	Radiated	PASS
22.917(a) 2.1049	Occupied Bandwidth	Conducted	N/A *
22.917(a) 2.1051	Band Edge Spurious and Harmonic at Antenna Terminal	Conducted	N/A *
22.917(a) 2.1053	Radiated emissions and Harmonic Emissions	Radiated	PASS
22.355 2.1055	Frequency Stability	Conducted	N/A *

*: Since there is no change in Module from FCC ID: JOYKYY06, only the Radiated test items were performed.

1.3.1 Test set up

Table-Top

1.4 Modification to the EUT by laboratory

None

2. Equipment Under Test

2.1 General Description of equipment

EUT is the Mobile Phone.

2.2 EUT information

Applicant	:	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa, Japan Phone: +81-45-943-6253 Fax: +81-45-943-6314
Equipment under test	:	Mobile Phone
Trade name	:	Kyocera
Model number	:	KYY10
Serial number	:	N/A
EUT condition	:	Pre-Production
Power ratings	:	Battery: DC 3.7V
Size	:	(W) 49.3 × (D) 17.7 × (H) 111.8 mm
Environment	:	Indoor and Outdoor use
Terminal limitation	:	-20˚C to 60˚C
RF Specification		
Frequency of Operation	:	Up Link CDMA2000: 824.70-848.31MHz Down Link CDMA2000: 869.70-893.31MHz
Modulation type	:	GMSK
Antenna type	:	Internal antenna
Antenna gain	:	0.2dBi

2.3 Variation of the family model(s)

Not applicable

2.4 Description of Test mode

The EUT had been tested under operating condition.
There are three channels have been tested as following:

Band	Channel	Frequency
Cellular CDMA	1031	824.70MHz
	384	836.52MHz
	777	848.31MHz

The field strength of spurious emissions was measured at each position of all three axis X, Y and Z to compare the level, and the maximum noise.
The worst emission was found in Z axis and the worst case recorded.

Zacta

3. Configuration of equipment

3.1 Equipment(s) used

No.	Equipment	Company	Model No.	Serial No.	FCC ID / DoC	Comment
1	Mobile Phone	KYOCERA	KYY10	N/A	JOYKYY10	EUT

3.2 System configuration

1. Mobile Phone
   (EUT)

Note1: Numbers assigned to equipment on this diagram correspond to the list in “3.1 Equipment(s) used”.

4. Effective Radiated Power

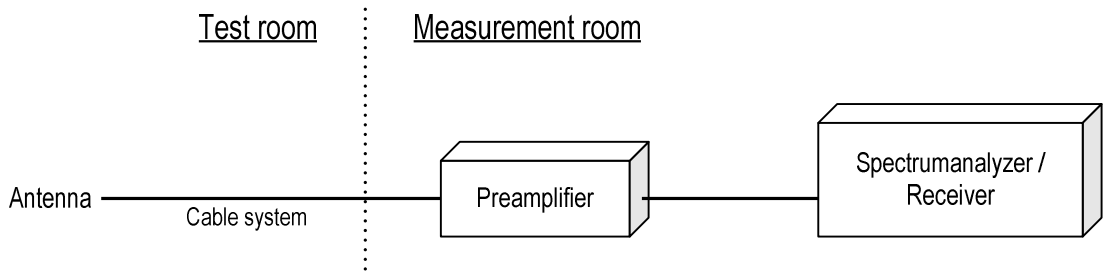
4.1 Measurement procedure [FCC 22.913(a)]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 1.5 meter surface, 0.8 meter height FRP table. Radiated emission measurements are performed at 3 meter distance with the broadband antenna (double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1 to 4 meters and stopped at height producing the maximum emission.
The bandwidth of the spectrum analyzer is set to 3MHz. The turntable is rotated by 360 degrees and stopped at azimuth of producing the maximum emission.

<Step 2>
The substitution antenna is replaced by the transmitter antenna (EUT).
The frequency of the signal generator is adjusted to the measurement frequency.
Level of the signal generator is adjusted to the level that is obtained from step 1, and record the emission level of signal generator.

Spectrum analyzer setting
- Detector: Peak (RBW: 3MHz, VBW: 8MHz)

- Test configuration



4.2 Calculation method

Result (ERP) = S.G Reading – Cable loss + Antenna Gain
Margin = Limit – Result (ERP)

4.3 Limit

7 W (38.45dBm)

Zacta

4.4 Test data

Date : November 19, 2014
Temperature : 22.3 [˚C]
Humidity : 21.5 [%] Test engineer :
Test place : 3m Semi-anechoic chamber Taiki Watanabe

[Cellular CDMA]

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]	
H	824.7	-6.7	34.1	0.7	-10.7	22.8	38.4	15.6	
H	836.5	-7.6	34.2	0.7	-10.7	22.8	38.4	15.6	*
H	848.3	-8.4	33.9	0.7	-10.8	22.4	38.4	16.0	

5. Radiated Emissions and Harmonic Emissions

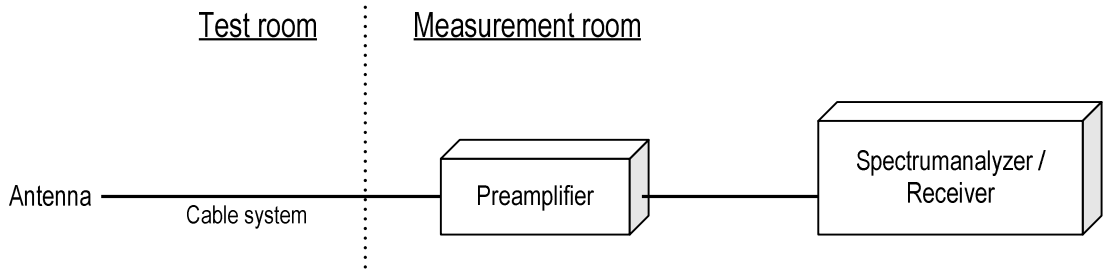
5.1 Measurement procedure [FCC 22.917(a), 2.1053]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 1.5 meter surface, 0.8 meter height FRP table.
Radiated emission measurements are performed at 3 meter distance with the broadband antenna (Biconical antenna, Log periodic antenna and double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1 to 4 meters and stopped at height producing the maximum emission.
The bandwidth of the spectrum analyzer is set to 1MHz. The turntable is rotated by 360 degrees and stopped at azimuth of producing the maximum emission. The frequency is investigated up to 20GHz.

<Step 2>
The substitution antenna is replaced by the transmitter antenna (EUT).
The frequency of the signal generator is adjusted to the measurement frequency.
Level of the signal generator is adjusted to the level that is obtained from step 1, and record the emission level of signal generator.

Spectrum analyzer setting
- Detector: Peak (RBW: 1MHz, VBW: 3MHz)

- Test configuration



5.2 Calculation method

Result = S.G Reading – Cable loss + Antenna Gain
Margin = Limit – Result (ERP)

5.3 Limit

-13dBm or less

5.4 Test data

Date : November 19, 2014
Temperature : 22.3 [˚C]
Humidity : 21.5 [%] Test engineer : Taiki Watanabe
Test place : 3m Semi-anechoic chamber

[Cellular CDMA]
(Channel: 1013)

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1649.4	-42.8	-43.5	1.0	6.8	-37.7	-13.0	24.7
V	1649.4	-50.9	-51.0	1.0	6.8	-45.2	-13.0	32.2
H	2474.1	-40.3	-37.0	1.3	7.5	-30.8	-13.0	17.8
V	2474.1	-39.6	-34.2	1.3	7.5	-28.0	-13.0	15.0
V	4123.5	-62.6	-56.5	1.7	8.1	-50.0	-13.0	37.0

(Channel: 384)

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1673.0	-44.6	-45.3	1.0	6.6	-39.7	-13.0	26.7
V	1673.0	-50.7	-52.0	1.0	6.6	-46.4	-13.0	33.4
H	2509.5	-41.1	-37.7	1.3	7.5	-31.5	-13.0	18.5
V	2509.5	-42.2	-37.0	1.3	7.5	-30.8	-13.0	17.8
V	4182.5	-60.2	-53.3	1.7	8.4	-46.6	-13.0	33.6

(Channel: 777)

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1696.6	-46.5	-47.1	1.0	6.4	-41.7	-13.0	28.7
V	1696.6	-52.7	-53.7	1.0	6.4	-48.3	-13.0	35.3
H	2545.0	-44.6	-41.0	1.3	7.6	-34.7	-13.0	21.7
V	2545.0	-44.0	-38.4	1.3	7.6	-32.1	-13.0	19.1
V	4241.5	-64.2	-59.0	1.7	8.5	-52.2	-13.0	39.2

Note: No emission were detected in frequency range 30MHz to 1000MHz at the 3 meters distance.

6. Uncertainty of measurement

Expanded uncertainties stated are calculated with a coverage Factor k=2.
Please note that these results are not taken into account when determining compliance or non-compliance with test result.

Test item	Measurement uncertainty
Conducted emission at mains port	±3.0dB
Radiated emission (9kHz – 30MHz)	±4.4dB
Radiated emission (30MHz – 1000MHz)	±4.5dB
Radiated emission (1000MHz – 26GHz)	±3.9dB

7. Laboratory description

1. Location:

TÜV SÜD Zacta Ltd. Yonezawa Testing Center
4149-7 Hachimanpara 5-chome Yonezawa-shi Yamagata 992-1128 Japan
Phone: +81-238-28-2880 Fax: +81-238-28-2888

2. Facility filing information:

1) NVLAP accreditation: NVLAP Lab. code: 200306-0

2) VLAC accreditation: Lab. code: VLAC-013

Site name	Radiated emission	Conducted emission for mains port	Conducted emission for telecom port	Radiated emission (CMAD)	Expiry Date
3m Semi-anechoic chamber	VLAC-013			-	Jul. 3, 2015
10m Semi-anechoic chamber No.1				VLAC-013	
10m Semi-anechoic chamber No.2					
Shielded room No.1	-	VLAC-013		-	

3) FCC filing:

Site name	Registration Number	Expiry Date
Site 3	91065	Oct. 1, 2017
3m Semi-anechoic chamber	540072	Feb. 20, 2017
10m Semi-anechoic chamber No.1		
10m Semi-anechoic chamber No.2		
Shielded room No.1		

4) Industry Canada Oats site filing:

Site name	Sites on file: Oats 3m/10m	Expiry Date
Site 3	4224A-3	Jan. 23, 2015
3m Semi-anechoic chamber	4224A-4	
10m Semi-anechoic chamber No.1	4224A-5	
10m Semi-anechoic chamber No.2	4224A-6	Jan. 15, 2017

5) VCCI site filing:

Site name	Radiated emission	Conducted emission for mains port	Conducted emission for telecom port	Expiry Date
Site 3	R-138	C-134	T-1222	Nov. 16, 2017
3m Semi-anechoic chamber	A-0166			Jul. 3, 2015
10m Semi-anechoic chamber No.1				
10m Semi-anechoic chamber No.2				
Shielded room No.1	-	A-0166		

6) TÜV SÜD PS authorization:
Authorized as an EMC test laboratory

7) TÜV Rheinland authorization:
Authorized as an EMC test laboratory

Appendix A. Test equipment

Radiated emission

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100451	Nov. 30, 2014	Nov. 16, 2013
Preamplifier	ANRITSU	MH648A	M96057	Jun. 30, 2015	Jun. 12, 2014
Loop antenna	ROHDE&SCHWARZ	HFH2-Z2	891847/17	Mar. 31, 2015	Mar. 5, 2014
Biconical antenna	Schwarzbeck	VHA9103/BBA9106	2125	May 31, 2015	May 7, 2014
Log periodic antenna	Schwarzbeck	UHALP9108A	0560	May 31, 2015	May 7, 2014
Attenuator	TME	CFA-01NPJ-6	N/A (S275)	Jun. 30, 2015	Jun. 9, 2014
Attenuator	TME	CFA-01NPJ-3	N/A (S272)	Jun. 30, 2015	Jun. 9, 2014
Spectrum analyzer	Agilent Technologies	E4440A	US44302655	May 31, 2015	May 30, 2014
Preamplifier	Agilent Technologies	8449B	3008A1008	Dec. 31, 2014	Dec. 9, 2013
Dipole antenna	Schwarzbeck	VHAP	1020	Sep. 30, 2015	Sep. 5, 2014
Dipole antenna	Schwarzbeck	UHAP	994	Sep. 30, 2015	Sep. 5, 2014
Double ridged guide antenna	EMCO	3115	5205	Dec. 31, 2014	Dec. 10, 2013
Attenuator	Agilent Technologies	8491B	MY39268633	Jan. 31, 2015	Jan. 15, 2014
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170189	May 31, 2015	May 2, 2013
Preamplifier	TSJ	MLA-1840-B03-35	1240332	May 31, 2015	May 2, 2013
Double ridged guide antenna	EMCO	3115	4328	Jan. 31, 2015	Jan. 21, 2014
Signal generator	ROHDE&SCHWARZ	SMB100A	177525	Feb. 28, 2015	Feb. 18, 2014
Microwave cable	SUHNER	SUCOFELX102/2m	31648/2	Feb. 28, 2015	Feb. 13, 2014
High pass filter	Micro-Tronics	HPM50115	004	Jul. 31, 2015	Jul. 12, 2014
High pass filter	Wainwright	WHKX2.8/18G-6SS	1	Jul. 31, 2015	Jul. 17, 2014
Wideband radio frequency tester	ROHDE&SCHWARZ	CMW500	116338	Mar. 31, 2015	Mar. 7, 2014
Microwave cable	SUHNER	SUCOFLEX104/9m	346316/4	Oct. 31, 2015	Oct. 22, 2014
		SUCOFLEX104/1m	322084/4	Oct. 31, 2015	Oct. 22, 2014
		SUCOFLEX104/1.5m	317226/4	Oct. 31, 2015	Oct. 22, 2014
		SUCOFLEX104/7m	41625/6	Oct. 31, 2015	Oct. 22, 2014
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.3.61	N/A	N/A
3m Semi-anechoic chamber	TOKIN	N/A	N/A (9002-NSA)	May 31, 2015	May 6, 2014
3m Semi-anechoic chamber	TOKIN	N/A	N/A (9002-SVSWR)	May 31, 2015	May 6, 2014

*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.