TEST REPORT

For

Mobile Phone

In conformity with

FCC Part15B (01 Oct, 2008)

Model : CDMA CA003

FCC ID : TYKNX6520

Test Item : Mobile Phone

Report No : RY0907P09R2

Issue Date : 09 July, 2009

Prepared for

Casio Hitachi Mobile Communications Co., Ltd.
2-229-1, Sakuragaoka, Higashiyamato-shi, Tokyo,
207-8501, Japan

Prepared by

RF Technologies Ltd.
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History

Report No.	Issue Date	Revisions	Issued by
RY0907P09R2	09 July, 2009	Initial Issue	T.Kato

1 General information

1.1 *Product description*

Test item	: Mobile phone
Manufacturer	: Casio Hitachi Mobile Communications Co., Ltd.
Address	: 2-229-1, Sakuragaoka, Higashiyamato-shi, Tokyo, 207-8501, Japan
Model	: CDMA CA003
FCC ID	: TYKNX6520
Description	: CDMA850 Mobile Phone
Operating Frequency	: 12MHz (Min), 48MHz (max)
Receipt date of EUT	: 01 July, 2009
Nominal power voltages	: 3.7VDC (Lithium-ion battery)
Serial numbers	: SCADU000125

1.2 *Test(s) performed/ Summary of test result*

Applicable Standard(s)	: Part15 Subpart B(01 Oct, 2008)
Test(s) started	: 08 July, 2009
Test(s) completed	: 08 July, 2009
Purpose of test(s)	: Grant for Certification of FCC
Summary of test result	: Complied

Note: The above judgment is only based on the measurement data and it does not include the measurement uncertainty. Accordingly, the statement below is applied to the test result.
The EUT complies with the limit required in the standard in case that the margin is not less than the measurement uncertainty in the Laboratory.
Compliance of the EUT is more probable than non-compliance is case that the margin is less than the measurement uncertainty in the Laboratory.

Test engineer : T. Kato (Engineer, EMC Testing Department)

Reviewer : K.Ohnishi (Manager, EMC Testing Department)

1.3 *Test facility*

The Federal Communications Commission has reviewed the technical characteristics of the test facilities at RF Technologies Ltd., located in 472, Nippa-cho, Kohoku-ku, Yokohama, 223-0057, Japan, and has found these test facilities to be in compliance with the requirements of 47 CFR Part 15, section 2.948, per October 01, 2007.
The description of the test facilities has been filed under registration number 319924 at the Office of the Federal Communications Commission. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.
The list of all public test facilities is available on the Internet at http://www.fcc.gov.

Registered by Voluntary Control Council for Interference by Information Technology Equipment (VCCI).
Each registered facility number is as follows;
Test site (Semi-anechoic chamber 3m) R-2393
Test site (Shielded room) C-2617

Registered by Industry Canada (IC). The registered facility number is as follows;
Test site No.1(Semi-anechoic chamber 3m) : 6974A-1

Accredited by **National Voluntary Laboratory Accreditation Program** (NVLAP) for the emission tests stated in the scope of the certificate under Certificate Number 200780-0

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

NVLAP LAB CODE 200780-0

1.4 *Measurement uncertainty*

The treatment of uncertainty is based on the general matters on the definition of uncertainty in “Guide to the expression of uncertainty in measurement (GUM)” published by ISO. The Lab’s uncertainty is determined by referring UKAS Publication LAB34: 2002 “The Expression of Uncertainty in EMC Testing” and CISPR16-4-2: 2003 “Uncertainty in EMC Measurements”.
The uncertainty of the measurement result in the level of confidence of approximately 95% (k=2) is as follows;

RF frequency : ± 1 x 10^{-7}
RF conducted level : ± 1.0 dB
AC Power line emission : ± 1.9 dB
Radiated emission (30MHz - 1000MHz) : ± 5.7 dB
Radiated emission (above 1000MHz) : ± 5.8 dB
Temperature : ± 1 degree
Humidity : ± 5 %

1.5 *Description of essencial requirements and test results*

An overview of test requirements, as laid out in FCC Part15B are given below.

1.5.1 Test requirements (FCC Part15B)

Test Description	Section in this report	Applicable	Result
Radiated emission (15.109)	2.1	Yes	Passed
AC power line conducted emission (15.107)	2.2	Yes	Passed

1.5.2 Normal test conditions

Temperature(*) : +15 degC to +35 degC
Relative humidity(*) : 20 % to 75 %
Supply voltage : 3.7 VDC (Nominal)

1.6 *Setup of equipment under test (EUT)*

1.6.1 Test configuration of EUT

Equipment(s) under test:

	Item	Manufacturer	Model No.	Serial No.	FCC ID
A	Mobile phone	Cashio Hitachi Mobile Communications Co., Ltd.	CDMA CA003	SCADU000125	TYKNX6520
B	Battery pack	CASIO	CA003UAA	None	N/A
C	AC charger	MITSUMI ELECTRIC	0203PQA	None	N/A
D	Cradle	CASIO	CA003PUA	None	N/A
E	Notebook PC	TOSHIBA	PP410J0001G1	13513107	DoC
F	Mouse	TOSHIBA	G83C0001Y110	LZE30201086	DoC

Connected cable(s):

No.	Item	Identification (Manu.e.t.c)	Shielded YES / NO	Ferrite Core YES / NO	Connector Type Shielded YES / NO	Length (m)
1	Charger cable (DC)	-	No	No	No	1.5
2	USB cable	HIROSE ELECTRIC	Yes	Yes	No	1.2
3	Mouse cable	-	No	No	No	0.8
4	Video out cable	CASIO	No	No	No	1.4

1.6.2 Operating condition:

[Configuration Ⅰ] USB connection

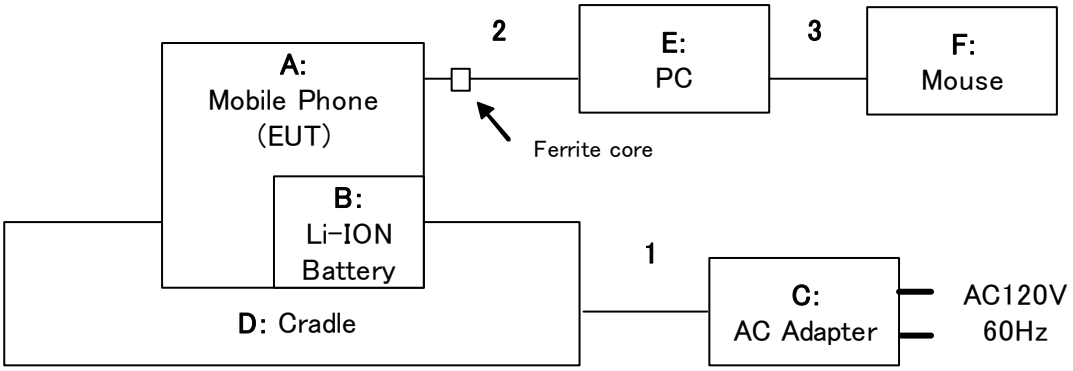
Mobile phone is connected to Notebook PC with USB cable.
With this condiction, emission level is tested during USB data communication.

[Configuration Ⅱ] Movie play

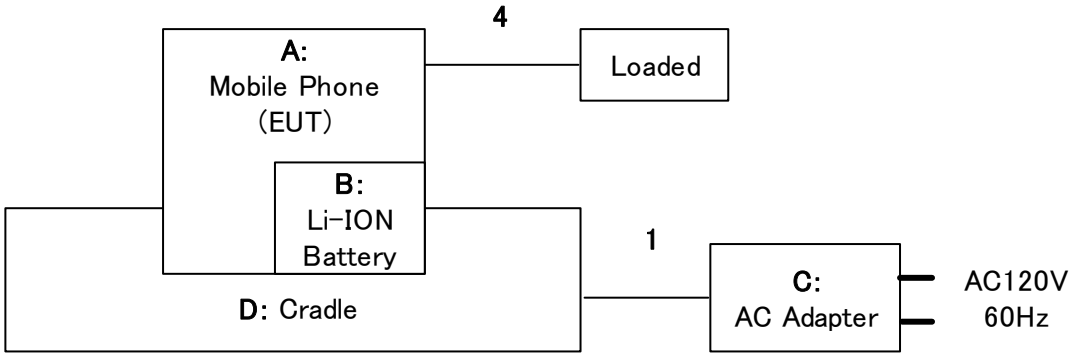
Stored movie file in Micro SD card is played, and this data is also emitted from Video Out Cable.

1.6.3 Setup diagram of tested system:

[Configuration Ⅰ]



[Configuration Ⅱ]



1.7 *Equipment modifications*

No modifications have been made to the equipment in order to achieve compliance with the applicable standards described in clause 1.2.

1.8 *Deviation from the standard*

No deviations from the standards described in clause 1.2.

2 Test procedure and result

2.1 *Radiated Emissions*

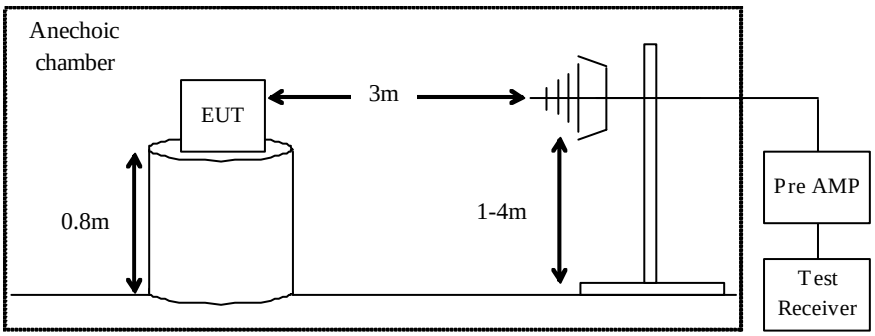
Reference Standard
Part15.109

Test Conditions

Date:	08 July, 2009
Ambient Temperature:	18 degC
Relative humidity:	59 %

Test Method
a) Test data is trasmitted from EUT to Notebook PC with USB cable.
b) Radiated spurious emission is received by receive antenna.
c) Turn table is rotated 360deg.
d) Maximum level of each spurious is measured by Test receiver.
e) RBW of spectrum analyzer is set to 100kHz for 30 - 1000MHz.
f) Level is measured with QP detect for 30 - 1000MHz.
e) From this revel (reading), field strength is calculated as below.

Test Setup



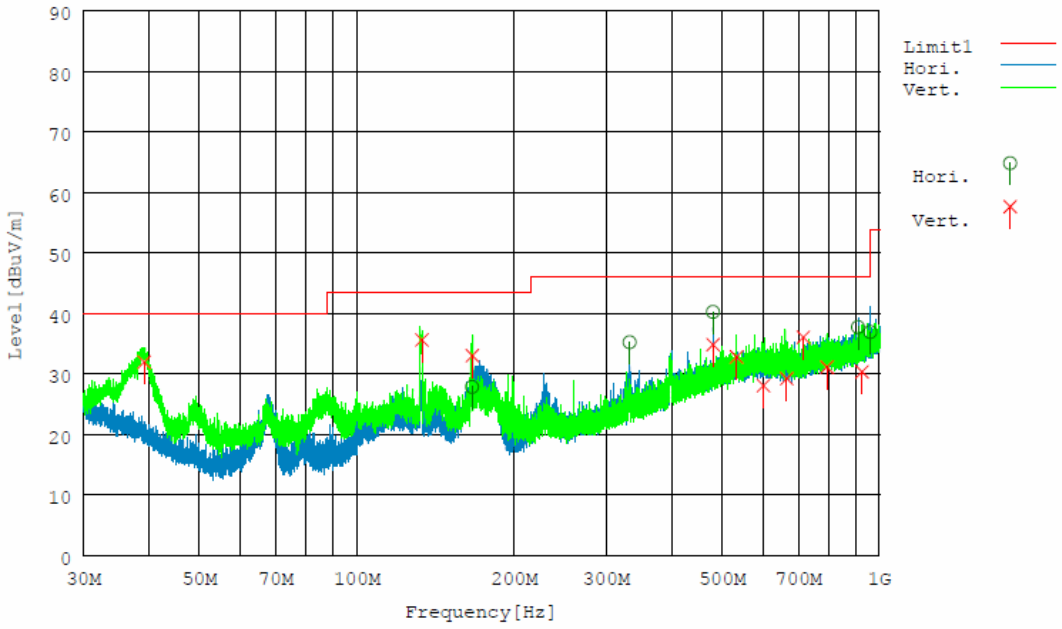
Limit

Frequency (MHz)	Distance (m)	Field strength (uV/m)	Field strength (dBuV/m)
30 - 88	3	100	40.0
88 - 216	3	150	43.5
216 - 960	3	200	46.0
above 960	3	500	53.9

Test Results

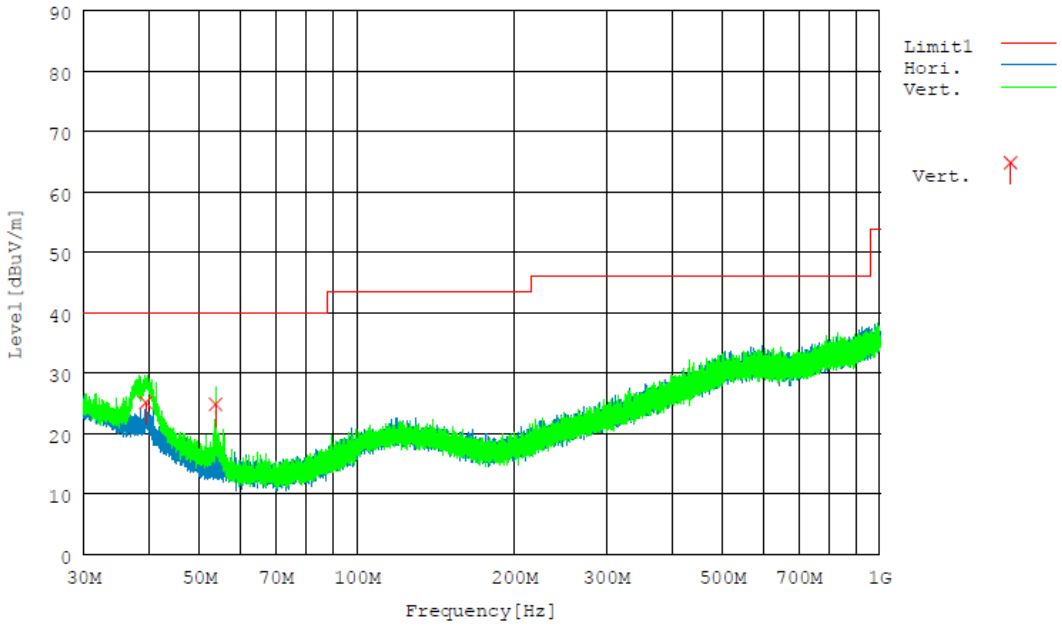
[Configuration Ⅰ]

Frequency [MHz]	Reading [dB]	Ant [dB]	Los [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna	
166.250	38.2	9.7	9.4	29.5	27.8	43.5	15.7	Hori.	Pass
332.825	38.7	14.4	11.7	29.6	35.2	46.0	10.8	Hori.	Pass
480.000	37.7	17.3	14.9	29.7	40.2	46.0	5.8	Hori.	Pass
910.384	31.3	20.6	14.7	28.9	37.7	46.0	8.3	Hori.	Pass
960.000	29.3	21.1	14.9	28.4	36.9	46.0	9.1	Hori.	Pass
39.230	40.5	13.5	7.6	29.7	31.9	40.0	8.1	Vert.	Pass
133.330	44.6	11.4	9.1	29.5	35.6	43.5	7.9	Vert.	Pass
166.400	43.4	9.7	9.4	29.5	33.0	43.5	10.5	Vert.	Pass
480.000	32.3	17.3	14.9	29.7	34.8	46.0	11.2	Vert.	Pass
532.464	29.5	18.0	15.0	29.7	32.8	46.0	13.2	Vert.	Pass
599.875	24.4	18.8	14.5	29.7	28.0	46.0	18.0	Vert.	Pass
665.000	25.7	19.1	14.0	29.6	29.2	46.0	16.8	Vert.	Pass
715.305	32.2	19.3	14.0	29.5	36.0	46.0	10.0	Vert.	Pass
793.313	25.8	19.9	14.8	29.4	31.1	46.0	14.9	Vert.	Pass
926.000	23.4	20.8	14.8	28.7	30.3	46.0	15.7	Vert.	Pass



[Configuration Ⅱ]

Frequency [MHz]	Reading [dB]	Ant [dB]	Los [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna	
39.485	33.9	13.3	7.6	29.7	25.1	40.0	14.9	Vert.	Pass
53.690	39.1	7.6	7.8	29.7	24.8	40.0	15.2	Vert.	Pass



Test Equipment Used

Equipment name	RFT ID No.
RF cable	CL11
Receive Antenna	BA04, LP01
Pre AMP	PR03
Test Receiver	TR04

Final Result

The EUT met the requirements of the standard for this test.

2.2 *AC power line conducted emissions*

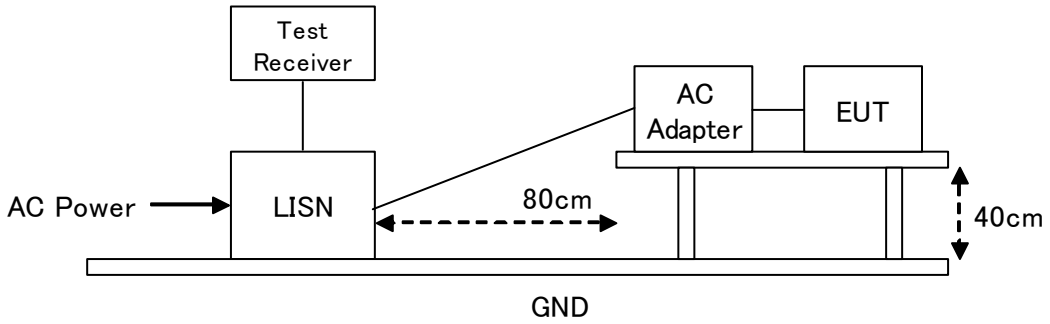
Reference Standard
FCC : Part15.107

Test Conditions

Date:	08 July, 2009
Ambient Temperature:	18 degC
Relative humidity:	59 %
Test Voltage:	3.7 V

Test Method
a) AC power is supplied to AC charger through LISN.
b) AC charger is connected to EUT.
c) AC Power Line emission is measured by EMI receiver.
Both Va/Vb line are measured emission level.

Test Setup



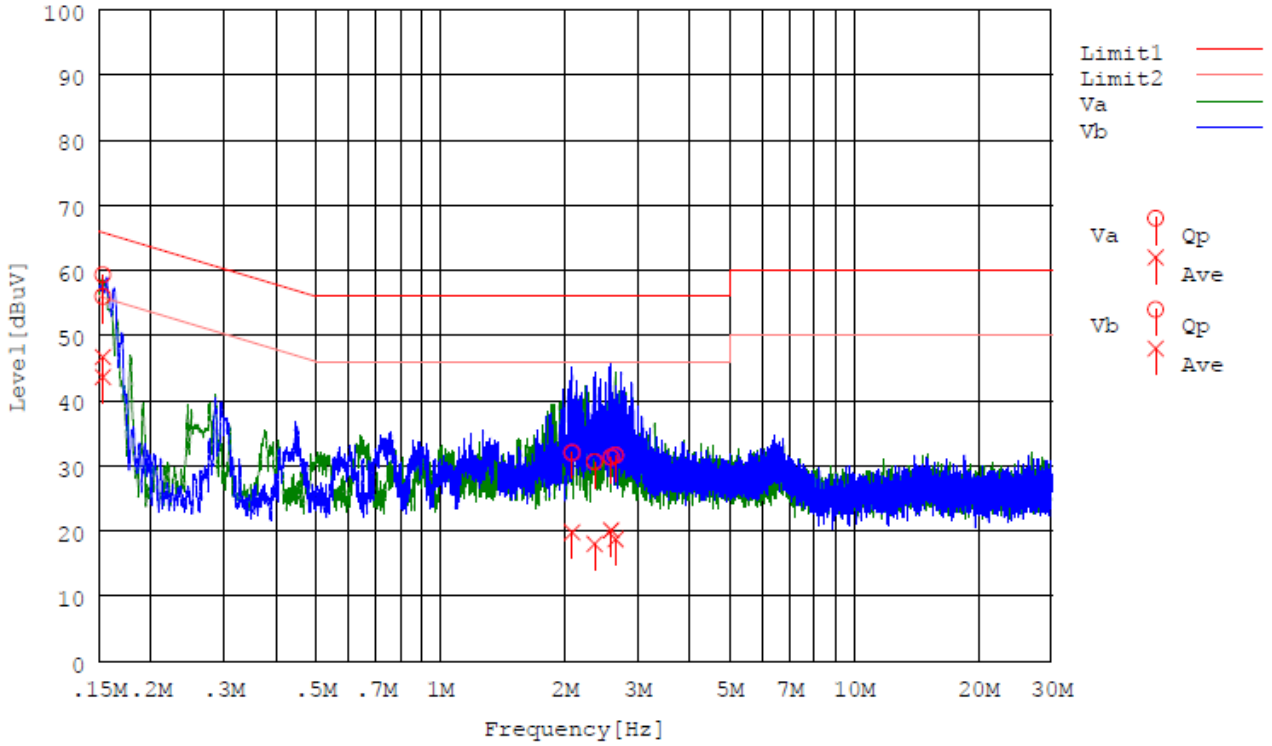
Limit

Frequency (MHz)	Limit QP (dBuV)	Limit AV (dBuV)
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

Test Results

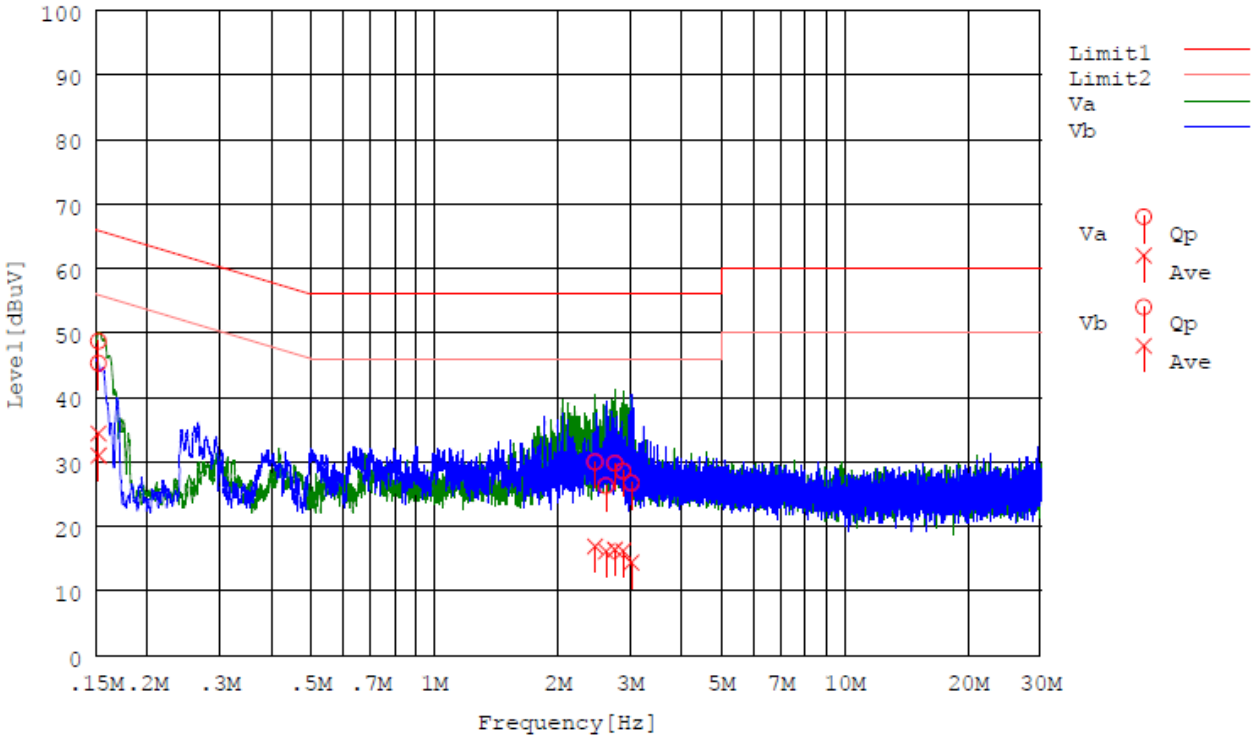
[Configuration Ⅰ]

Frequency [MHz]	Reading dB [QP]	Reading dB [AV]	C.Fac [dB]	Result dB μ V[QP]	Result dB μ V[AV]	Limit dB μ V[QP]	Limit dB μ V[AV]	Margin dB [QP]	Margin dB [AV]	Line	
0.153	55.7	43.3	0.3	56.0	43.6	65.8	55.8	9.8	12.2	Va	Pass
2.359	30.1	17.5	0.5	30.6	18.0	56.0	46.0	25.4	28	Va	Pass
2.653	31.1	18.2	0.5	31.6	18.7	56.0	46.0	24.4	27.3	Va	Pass
0.153	59.0	46.4	0.3	59.3	46.7	65.8	55.8	6.5	9.1	Vb	Pass
2.083	31.5	19.3	0.5	32.0	19.8	56.0	46.0	24.0	26.2	Vb	Pass
2.588	30.8	19.6	0.5	31.3	20.1	56.0	46.0	24.7	25.9	Vb	Pass



[Configuration Ⅱ]

Frequency [MHz]	Reading dB [QP]	Reading dB [AV]	C.Fac [dB]	Result dB μ V[QP]	Result dB μ V[AV]	Limit dB μ V[QP]	Limit dB μ V[AV]	Margin dB [QP]	Margin dB [AV]	Line	
0.152	45.0	30.7	0.3	45.3	31.0	65.9	55.9	20.6	24.9	Va	Pass
2.467	29.5	16.4	0.5	30.0	16.9	56.0	46.0	26.0	29.1	Va	Pass
2.755	29.3	15.9	0.5	29.8	16.4	56.0	46.0	26.2	29.6	Va	Pass
2.882	28.1	15.7	0.5	28.6	16.2	56.0	46.0	27.4	29.8	Va	Pass
0.152	48.4	34.1	0.3	48.7	34.4	65.9	55.9	17.2	21.5	Vb	Pass
2.621	25.8	15.6	0.5	26.3	16.1	56.0	46.0	29.7	29.9	Vb	Pass
3.024	26.2	13.9	0.5	26.7	14.4	56.0	46.0	29.3	31.6	Vb	Pass



Test Equipment Used

Equipment name	RFT ID No.
EMI Receiver	TR04
LISN	LN06
RF cable	CL11

Final Result

The EUT met the requirements of the standard for this test

4 List of utilized test equipment/ calibration

RFT ID No.	Kind of Equipment and Precision	Manufacturer	Model No.	Serial Number	Calibration Date	Calibrated until
AC01	Anechoic Chamber (1st test room)	JSE	203397C	-	2008/7/4	2009/7/31
BA04	Bilogical Antenna	SCHAFFNER	CA2855	2903	2009/1/6	2010/1/31
CL11	Antenna Cable for RE	RFT	-	-	2009/4/13	2010/4/30
LN06	LISN	Kyoritsu	KNW-407	8-1773-3	2009/5/26	2010/5/31
PR03	Pre. Amplifier	Anritsu	MH648A	M41984	2009/5/26	2010/5/31
TR04	Test Receiver (F/W : 3.82 SP1)	Rohde & Schwarz	ESCI	100447	2008/9/16	2009/9/30

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.