TEST REPORT

For

Mobile Phone

In conformity with

FCC Part15B (Oct 01,2007)

Model: **F-09A**

FCC ID: **VQK-F09A**

Test Item: **Mobile Phone**

Report No: **RY0902P27R3**

Issue Date: **Feb. 27, 2009**

Prepared for

Fujitsu Limited.
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Prepared by

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History

Report No.	Issue Date	Revision Contents	Revised by
RY0902P27R3	2009Feb27	Initial Issue	T.Kato

1 General information

1.1 *Product description*

Test item	: Mobile phone
Manufacturer	: Fujitsu Limited
Address	: 1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki 211-8588, Japan
Model	: F-09A
FCC ID	: VQK-F09A
Description	: GSM1900/WCDMA850 Mobile Phone
Receipt date of EUT	: Feb.16, 2009
Nominal power voltages	: 3.7VDC (Lithium-ion battery)
Serial numbers	: 3567 5202 0009 441

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

Applicable Standard(s)	: Part15 Subpart B(Oct 01,2007)
Test(s) started	: Feb.23, 2009
Test(s) completed	: Feb.23, 2009
Purpose of test(s)	: Grant for Certification of FCC/IC
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 (EMC Testing Department)

Reviewer : T.Ikegami (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):

	Item	Manufacturer	Model No.	Serial No.	FCC ID/
A	Mobile phone (EUT)	Fujitsu Limited	F-09A	356752020009441	VQK-F09A
B	Battery pack	Fujitsu Limited	CA54310-0006	-	N/A
C	Notebook PC	TOSHIBA	PP410J0001G1	13513107	DoC
D	AC Adapter	TOSHIBA	PA3262U-1ACA	0212A0005779G	DoC
E	Mouse	TOSHIBA	G83C0001Y110	LZE30201086	DoC

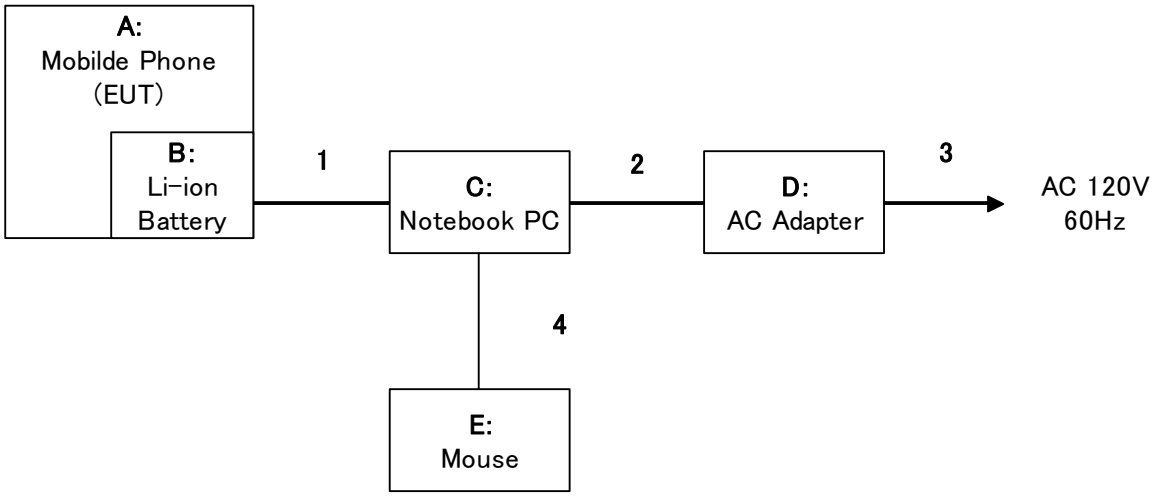
Connected cable(s):

No.	Item	Identification (Manu.e.t.c)	Shielded YES / NO	Ferrite Core YES / NO	Connector Type Shielded YES / NO	Length (m)
1	USB cable	NTT DOCOMO, INC.	No	No	Yes	0.7
2	DC power cable	TOSHIBA	No	No	No	1.8
3	AC power cable	-	No	No	No	1.5
4	Mouse cable	-	No	No	No	0.8

1.6.2 Operating condition:

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

1.6.3 Setup diagram of tested system:



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*

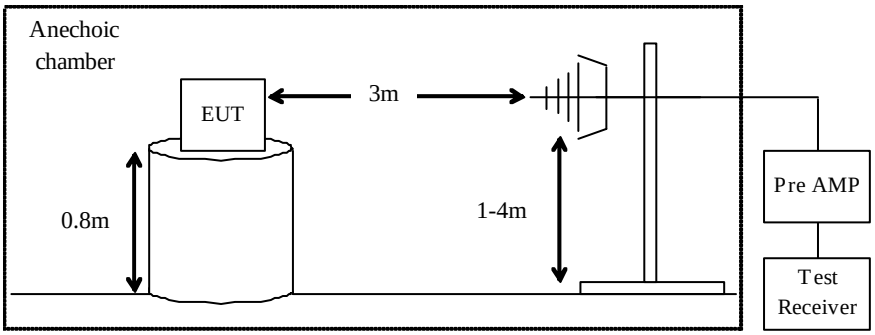
Reference Standard
Part15.109

Test Conditions

Date:	2009/02/23
Ambient Temperature:	16 degC
Relative humidity:	37 %
Test Voltage:	3.7 V

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, or 1MHz for above 1000MHz.
f) Level is measured with QP detect for 30 - 1000MHz, or AVE detector for above 1000MHz.

Test Setup

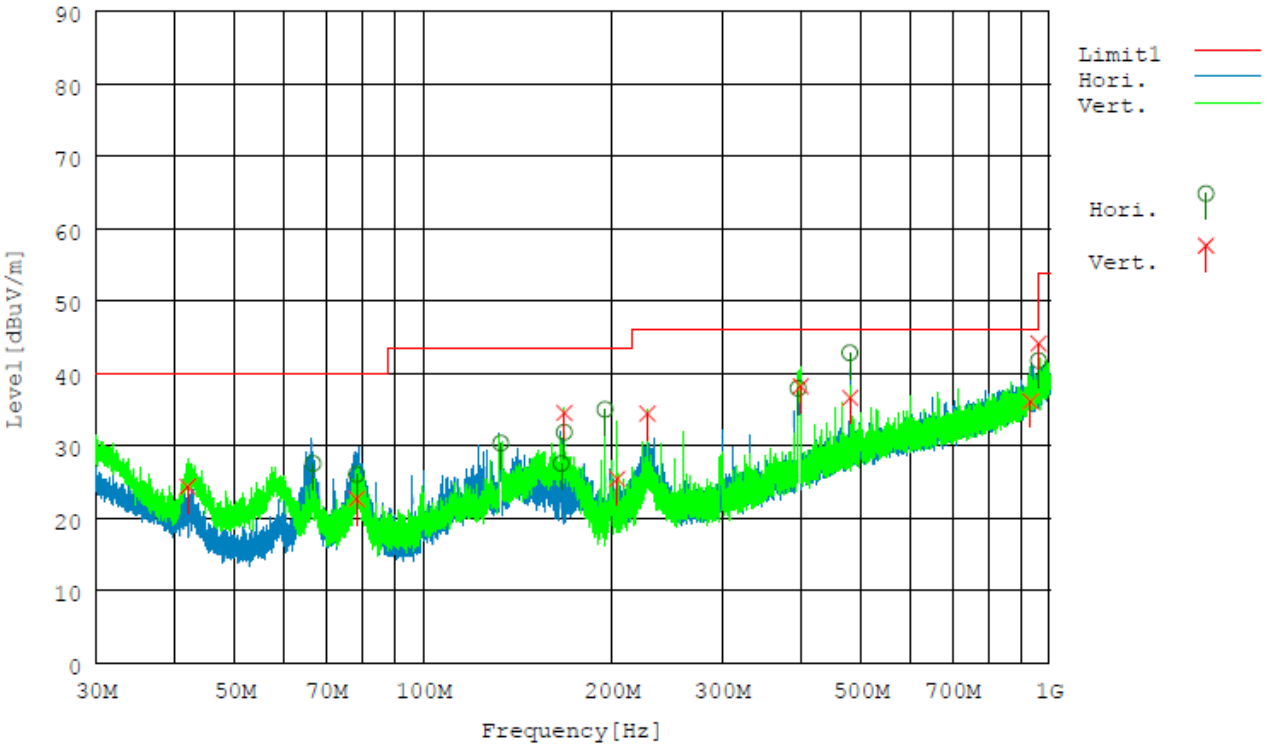


Limit

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	54.0

Test Results

Frequency (MHz)	Antenna	Field strength (dBuV/m)	Limit (dBuV/m)	Result
66.640	Hori	27.5	40.0	Passed
78.240	Hori	26.0	40.0	Passed
133.00	Hori	30.3	43.5	Passed
166.00	Hori	27.5	43.5	Passed
168.01	Hori	31.8	43.5	Passed
195.08	Hori	35.0	43.5	Passed
396.92	Hori	37.9	46.0	Passed
479.99	Hori	42.8	46.0	Passed
959.98	Hori	41.7	46.0	Passed
42.023	Vert	24.3	40.0	Passed
78.204	Vert	22.6	40.0	Passed
168.00	Vert	34.5	43.5	Passed
204.00	Vert	25.4	43.5	Passed
228.00	Vert	34.4	46.0	Passed
400.24	Vert	38.2	46.0	Passed
480.00	Vert	36.6	46.0	Passed
932.37	Vert	36.1	46.0	Passed
960.00	Vert	44.1	46.0	Passed



Test Equipment Used

Equipment name	RFT ID No.
RF cable	CL11, CL21, CL24
Receive Antenna	BA03, DH02
Pre AMP	PR03, PR12
Test Receiver	TR04, TR06

Final Result

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

2.2 *AC power line conducted emissions*

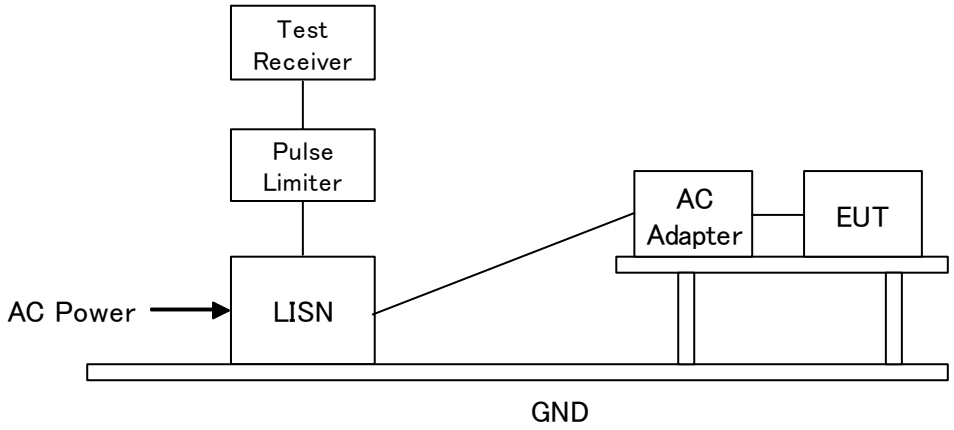
Reference Standard
FCC : Part15.107

Test Conditions

Date:	2009/02/23
Ambient Temperature:	16 degC
Relative humidity:	37 %
Test Voltage:	3.7 V

Test Method
a) Test data is trasmitted from EUT to Notebook PC with USB cable.
b) AC power is supplied to AC charger through LISN.
c) AC charger is connected to EUT.
d) AC Power Line emission is measured by EMI receiver.
Both Live/Neutral is measured emission level.

Test Setup



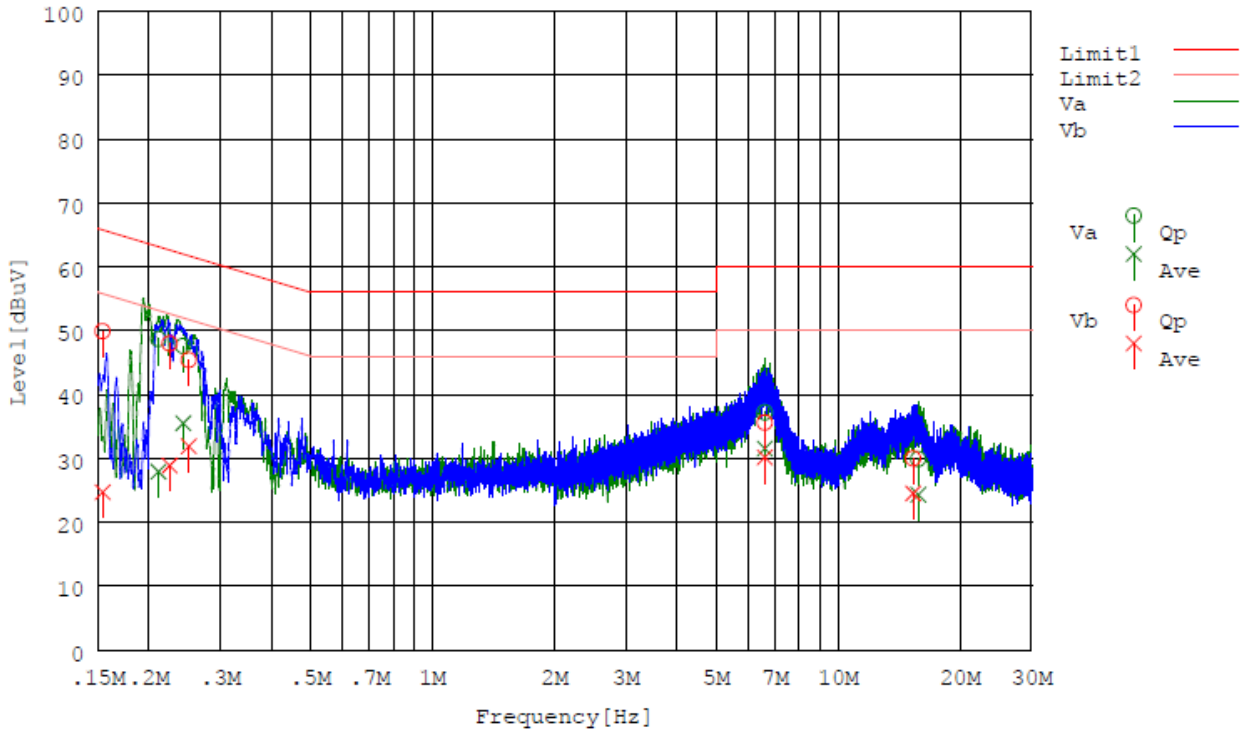
Limit

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

Frequency (MHz)	Line (Live/Neutral)	QP Level (dBuV)	AVE Level (dBuV)	QP Limit (dBuV)	AVE Limit (dBuV)	Result
0.211	Live	48.7	27.9	63.2	53.2	Passed
0.243	Live	47.6	35.5	62.0	52.0	Passed
6.599	Live	37.2	31.5	60.0	50.0	Passed
15.766	Live	29.9	24.3	60.0	50.0	Passed
0.154	Neutral	49.9	24.7	65.8	55.8	Passed
0.225	Neutral	48.0	28.9	62.6	52.6	Passed
0.251	Neutral	45.4	31.9	61.7	51.7	Passed
6.593	Neutral	35.6	30.2	60.0	50.0	Passed
15.312	Neutral	30.0	24.5	60.0	50.0	Passed

Graphical Data



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
BA03	Bilogical Antenna	CHASE	CBL6111	1309	2008/5/7	2009/5/31
CL11	Antenna Cable for RE	RFT	-	-	2008/6/11	2009/6/30
CL21	RF Cable 0.5m	SUCOFLEX	SF104PE	48772/4PE	2008/6/10	2009/6/30
CL22	RF Cable 2.0m	SUCOFLEX	SF104	274755/4	2008/6/10	2009/6/30
CL23	RF Cable 0.5m	SUCOFLEX	SF104PE	48773/4PE	2008/6/10	2009/6/30
CL24	RF Cable 5.0m	SUCOFLEX	SF104PE	48775/4PE	2008/6/10	2009/6/30
CL25	RF Cable 10m	SUCOFLEX	SF104E	20752/4E	2008/5/9	2009/5/31
LN05	LISN	Kyoritsu	KNW-407	8-1773-2	2008/5/21	2009/5/31
LN06	LISN	Kyoritsu	KNW-407	8-1773-3	2008/5/12	2009/5/31
LN13	LISN	Kyoritsu	KNW-407F	8-2003-3	2008/7/14	2009/7/31
PR04	Pre. Amplifier (1-26G)	RFT	LNP126	060208-01	2008/6/10	2009/6/30
PR08	Pre. Amplifier	Sonoma Instrument	315	263504	2009/1/8	2010/1/31
PR11	Pre. Amplifier (0.1-25G)	RFT	AFS42-00102650	1413028	2009/1/6	2010/1/31
PR12	Pre. Amplifier (1-26G)	Agilent Technologies	8449B	3008A02513	2009/1/13	2010/1/31
TR04	Test Receiver (F/W : 3.82 SP1)	Rohde & Schwarz	ESCI	100447	2008/9/16	2009/9/30
TR06	Test Receiver (F/W : 3.93 SP2)	Rohde & Schwarz	ESU26	100002	2008/9/2	2009/9/30
DH01	DRG Horn Antenna	A.H. Systems	SAS-571	785	2008/1/31	2010/1/31
DH02	DRG Horn Antenna	A.H. Systems	SAS-200/571	239	2007/4/20	2009/4/30
DH04	DRB Horn Antenna	Schwarzbeck	BBHA9120B	2C-005	2008/2/13	2010/2/28

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.