RADIO TEST REPORT

Test Report No. : 31HE0196-HO-C

Applicant	:	**NEC CASIO Mobile Communications, Ltd.**
Type of Equipment	:	**Digital Portable Cellular Telephone**
Model No.	:	**KMP7N4Y1-1A**
Test standard	:	**FCC Part 15 Subpart C: 2010**
FCC ID	:	**A98-PUL1905**
Test Result	:	**Complied**

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by any agency of the Federal Government.
6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
7. This FCC ID: A98-PUL1905 is electrically identical to the previously certified FCC ID: A98-TBP4266.

Date of test: January 19 and 20, 2011

Representative test engineer:

Akio Hayashi
Engineer of WiSE Japan,
UL Verification Service

Approved by :

Go Ishiwata
Assistant Manager of WiSE Japan,
UL Verification Service

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

JAB Testing RTL02610

CONTENTS **PAGE**

SECTION 1: Customer information

Company Name	:	NEC CASIO Mobile Communications, Ltd.
Address	:	1753 Shimonumabe, Nakahara-ku, Kawasaki, Kanagawa 211-8666 Japan
Telephone Number	:	+81-44-455-8045
Facsimile Number	:	+81-44-455-8025
Contact Person	:	Kazuhiro Kurihara

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment	:	Digital Portable Cellular Telephone
Model No.	:	KMP7N4Y1-1A
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 3.8V
Receipt Date of Sample	:	December 23, 2010
Country of Mass-production	:	Japan
Condition of EUT	:	Production prototype
Modification of EUT	:	No Modification by the test lab

2.2 Product description

Model No: KMP7N4Y1-1A (referred to as the EUT in this report), is the Digital Portable Cellular Telephone.

Radio Specification

Bluetooth (Ver.2.1 + EDR)

Equipment Type	Transceiver
Frequency of Operation	2402-2480MHz
Other Clock Frequency	19.2MHz
Type of Modulation	FHSS
Bandwidth & Channel spacing	1MHz & 1MHz
Antenna Connector Type	Integrated antenna

WLAN (IEEE802.11b/g/n (SISO/HT20))

Equipment Type	Transceiver
Frequency of Operation	2412-2462MHz
Other Clock Frequency	19.2MHz
Type of Modulation	DSSS, OFDM
Antenna Connector Type	Integrated antenna

GSM

Equipment Type	Transceiver
Frequency of Operation	[Up Link] GSM850: 824 – 849MHz PCS: 1850 – 1910MHz [Down Link] GSM850: 869 – 894MHz PCS: 1930 – 1990MHz
Other Clock Frequency	19.2MHz
Type of Modulation	GMSK
Channel spacing	200kHz
Antenna Connector Type	Integrated antenna

W-CDMA

Equipment Type	Transceiver
Frequency of Operation	[Up Link] Band V: 824 – 849MHz [Down Link] Band V: 869 – 894MHz
Other Clock Frequency	19.2MHz
Type of Modulation	HPSK
Channel spacing	5MHz
Antenna Connector Type	Integrated antenna

GPS

Equipment Type	Receiver
Receiver Type	Direct Downconversion
Frequency of Operation	1575.42MHz
Other Clock Frequency	19.2MHz
Antenna Connector Type	Integrated antenna

RFID

Equipment Type	Transceiver
Frequency of Operation	13.56MHz
Type of Modulation	ASK
Antenna Connector Type	Integrated antenna

*This test report applies for RFID.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	FCC Part 15 Subpart C: 2010, final revised on December 6, 2010 and effective January 5, 2011
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.225 : Operation within the band 13.110-14.010MHz

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted emission	ANSI C63.4:2003 7. AC power line conducted emission measurements	Section 15.207	N/A	N/A	*1)
Electric Field Strength of Fundamental Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.225(a)	79.7dB 13.56MHz, QP, Vertical.	Complied	Radiated
Spectrum Mask	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.225(b)(c)	See data	Complied	Radiated
20dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.215(c)	See data	Complied	Radiated
Electric Field Strength of Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.209, Section 15.225 (d)	13.3dB 786.774MHz, QP, Horizontal	Complied	Radiated
Frequency Tolerance	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.225(e)	See data	Complied	Radiated
*1) The test is not applicable since the EUT is designed to stop transmission when the AC adaptor is connected. Note: UL Japan's EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.					

FCC 15.31 (e)
This EUT provides stable voltage (DC3.2V) constantly to RF Part regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

3.3 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

Item	Frequency range	No.1 SAC*1/SR*2 (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Radiated emission (Measurement distance: 3m)	9kHz-30MHz	3.3 dB	2.7 dB	3.4 dB
	30MHz-300MHz	4.7 dB	4.5 dB	4.7 dB
	300MHz-1GHz	4.5 dB	4.6 dB	4.6 dB

*1: SAC=Semi-Anechoic Chamber
*2: SR= Shielded Room is applied besides radiated emission

Radiated emission test
The data listed in this test report has enough margin, more than site margin.

Frequency tolerance
Frequency Measurement uncertainty (with a 95% confidence level) for this test was: (±) 1.3 x 10^-6.

3.5 Test location

UL Japan, Inc. Shonan EMC Lab.
1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone number : +81 463 50 6400
Facsimile number : +81 463 50 6401
JAB Accreditation No. : RTL02610

	FCC Registration No.	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
☐ No.1 Semi-anechoic chamber	697847	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☐ No.2 Semi-anechoic chamber	697847	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☒ No.3 Semi-anechoic chamber	697847	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
☐ No.4 Full-anechoic chamber	-	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
☐ No.1 shielded room	-	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☐ No.2 shielded room	-	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☒ No.3 shielded room	-	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
☐ No.4 shielded room	-	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
☒ No.5 shielded room	-	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☐ No.6 shielded room	-	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-

3.6 Test set up, Data of EMI, and Test instruments

Refer to APPENDIX.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The mode is used :

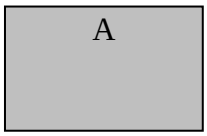
Mode	Remarks*
Transmitting (13.56MHz)	Continuous transmitting 13.56MHz (modulated)
The EUT was operated in a manner similar to typical use during the tests.	

Justification: The system was configured in typical fashion (as a customer would normally use it) for testing.

Frequency Tolerance:

Temperature : -20deg.C to +50deg.C Step 10deg.C
Voltage : Normal Voltage DC 3.8V
Maximum Voltage DC 4.37V, Minimum Voltage DC 3.23V (DC 3.8V ±15%)
*This EUT provides stable voltage (DC3.2V) constantly to RF Part regardless of input voltage (DC3.8V).

4.2 Configuration and peripherals



* Setup was taken into consideration and test data was taken under worse case conditions.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Digital Portable Cellular Telephone	KMP7N4Y1-1A	004401200620124	NEC CASIO Mobile Communications, Ltd.	EUT

SECTION 5: Radiated emission (Fundamental , Spurious Emission and Spectrum Mask)

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane.
The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity.
The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.
The height of the measuring antenna varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.
The measurements were performed for both vertical (angle of loop antenna: 0deg., 45deg., 90deg., and 135 deg.) and horizontal antenna polarization with the Test Receiver.
The measurements were made with the following detector function of the test receiver.
The test was made with the detector (RBW/VBW) in the following table.

Test Antennas are used as below;

Frequency	Below 30MHz	30MHz to 300MHz	300MHz to 1GHz
Antenna Type	Loop	Biconical	Logperiodic

Frequency	From 9kHz to 90kHz and From 110kHz to 150kHz	From 90kHz to 110kHz	From 150kHz to 490kHz	From 490kHz to 30MHz	From 30MHz to 1GHz
Instrument used	Test Receiver				
Detector	PK/AV	QP	PK/AV	QP	QP
IF Bandwidth	200Hz	200Hz	9kHz	9kHz	120kHz

- The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

* FCC Part 15 Section 15.31 (f)(2)

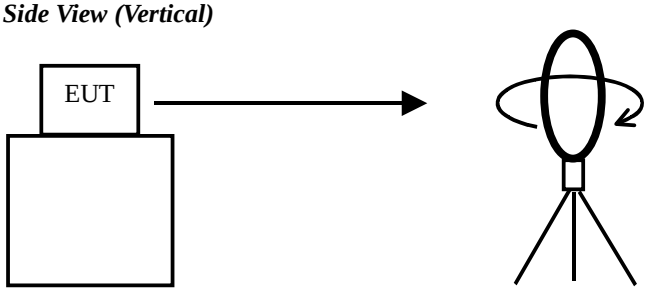
$$9\text{kHz} \sim 490\text{kHz}\,[\text{Limit at 3m}] = [\text{Limit at 300m}] - 40\log\left(\frac{3}{300}\right)$$

$$490\text{kHz} - 30\text{MHz}\,[\text{Limit at 3m}] = [\text{Limit at 30m}] - 40\log\left(\frac{3}{30}\right)$$

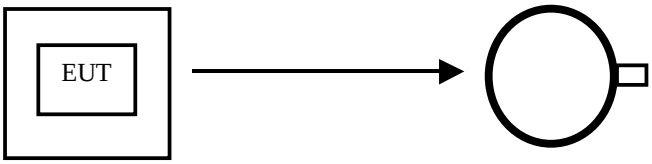
Measurement range : **0.09M-1GHz**
Test data : **APPENDIX**
Test result : **Pass**

Figure 1: Direction of the Loop Antenna

Side View (Vertical)

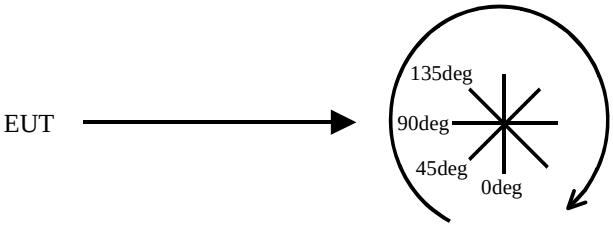


Top View (Horizontal)



Antenna was not rotated.

Top View (Vertical)



Front side: 0 deg.
Forward direction: clockwise

SECTION 6: Other test

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used
20dB Bandwidth	100kHz	1kHz	3kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Frequency Tolerance	1kHz	10Hz	30Hz	Auto	Peak	Max Hold	Spectrum Analyzer

Test data : APPENDIX
Test result : Pass

APPENDIX 1: Photographs of test setup

APPENDIX 2: Test data

Data of Field Strength and Outside Fileld Strength: FCC15.225

UL Japan, Inc.
Shonan No3 Semi-Anechoic Chamber

Report No. : 31HE0196-HO
Regulation : FCC Part15 SupartC 15.225
Test Distance : 3m
Date : 2011/1/19
Temperature : 22deg.C
Humidity : 32%

Power : DC3.8V
Mode : Transmitting (13.56MHz)
Remarks : EUT axis: Z
Antenna: Vertical (0deg.)

ENGINEER : Akio Hayashi

Field strength

No.	FREQ [MHz]	T/R Reading [dBuV]	ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT [dBuV/m]	LIMIT (3m) [dBuV/m]	MARGIN [dB]
1	13.560	50.5	19.6	6.0	0.3	32.2	44.2	123.9	79.7

Field strength of 13.553MHz to 13.567MHz Limit(3m) = 84dBuV/m + 40log 30m/3m
= 123.9dBuV/m (FCC15.225(a))

Outside Field strength

No.	FREQ [MHz]	T/R Reading [dBuV]	ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT [dBuV/m]	LIMIT (3m) [dBuV/m]	MARGIN [dB]
1	13.110	31.1	19.6	6.0	0.3	32.2	24.8	69.5	44.7
2	13.410	30.7	19.6	6.0	0.3	32.2	24.4	80.5	56.1
3	13.553	38.6	19.6	6.0	0.3	32.2	32.3	90.4	58.1
4	13.567	38.6	19.6	6.0	0.3	32.2	32.3	90.4	58.1
5	13.710	30.9	19.6	6.0	0.3	32.2	24.6	80.5	55.9
6	14.010	30.8	19.6	6.0	0.3	32.2	24.5	69.5	45.0

Outside filed strength frequencies
・filed strength band Fc±7kHz:13.553MHz to 13.567MHz
・Outside filde strength Fc±150kHz:13.410MHz to 13.710MHz
・Outside filde strength Fc±450kHz:13.110MHz to 14.010MHz
Fc = 13.56MHz

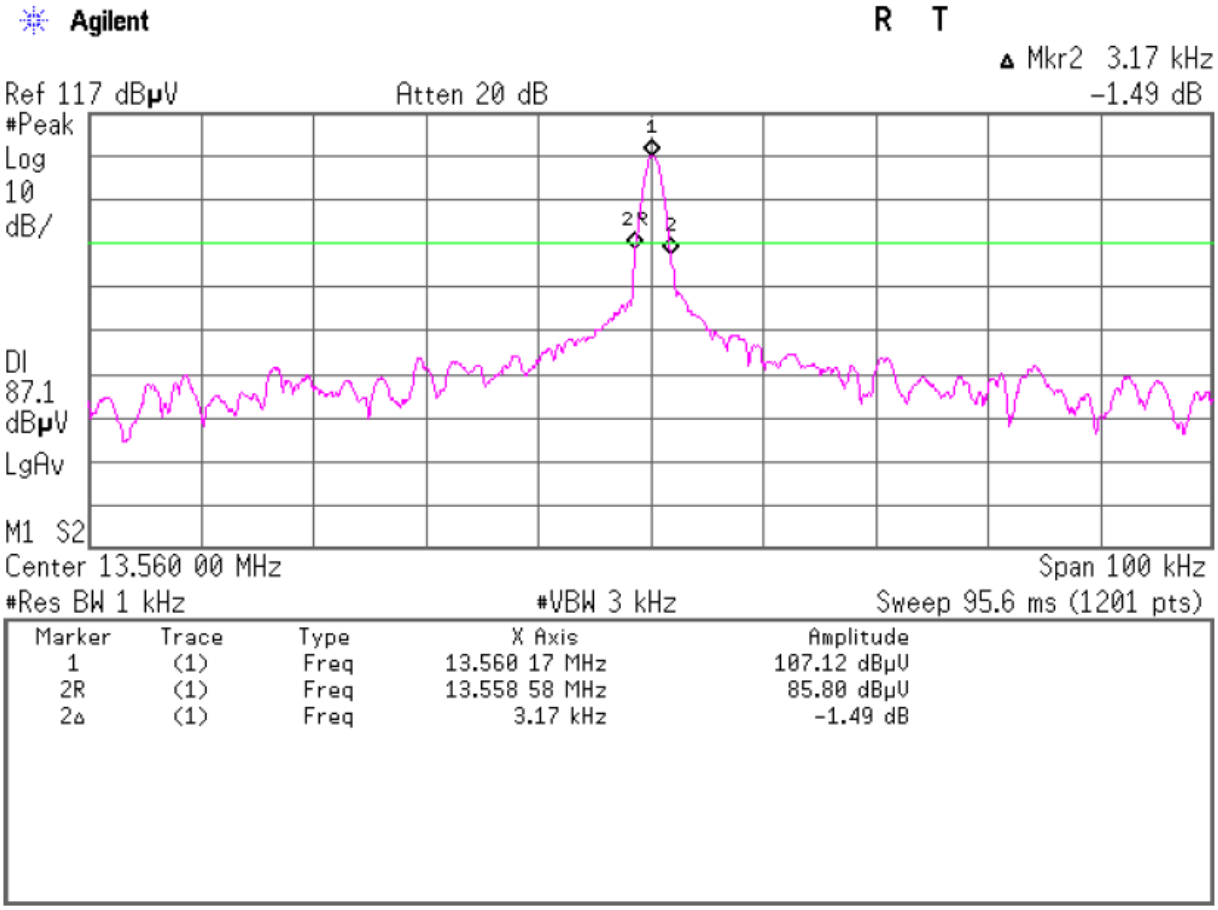
Limits (3m)
・13.410MHz to 13.553MHz and 13.567MHz to 13.710MHz : 50.5dBuV/m + 40log30m/3m = 90.4dBuV/m (FCC15.225(b))
・13.110MHz to 14.010MHz and 13.710MHz to 14.010MHz : 40.5dBuV/m + 40log30m/3m = 80.5dBuV/m (15.225(c))
・Below 13.110MHz and Above 14.010MHz : 29.5dBuV/m + 40log30m/3m = 69.5dBuV/m (FCC15.225(d)and FCC15.209)

-20dB bandwidth

UL Japan. Inc. Shonan No3 Shielded room
REPORT No. : 31HE0196-HO

REGULATION : FCC Part15SubpartC 215(c)
DATE : 2011/1/19
TEMP./HUMI : 22deg.C. / 32%
POWER : DC3.8V
TEST MODE : Transmitting(13.56MHz)
ENGINEER : Akio Hayashi

20dB Bandwidth: 3.17kHz



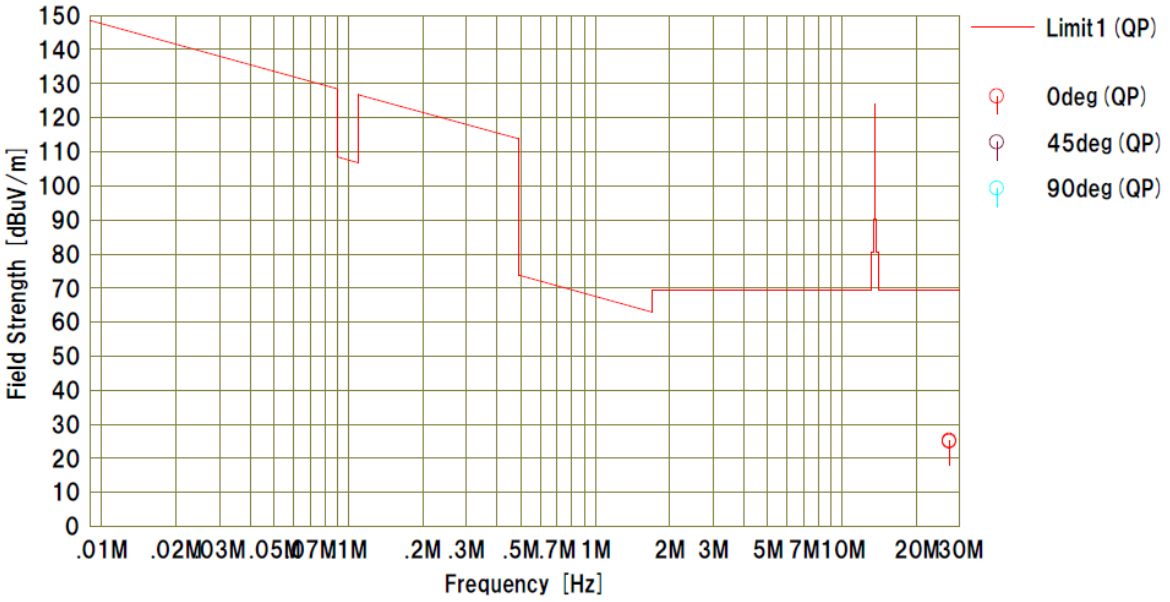
DATA OF MAGNETIC EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2011/01/19

Mode : Transmitting (13.56MHz)
Report No. : 31HE0196-HO
Power : DC3.8V (Battery)
Temp./Humi. : 22deg.C./32%

Remarks : (Antenna:EUT-axis) _Horizontal:X-axis/Vertical:Z-axis

Limit1 : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
Tested by : Akio Hayashi



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Antenna	Table [deg]	Comment
1	27.12000	30.2	20.5	6.5	32.2	25.0	69.5	44.5	0deg	0	Horizontal
2	27.12000	30.5	20.5	6.5	32.2	25.3	69.5	44.2	0deg	0	Vertical

Calculation:Result [dBuV/m] =Reading [dBuV] +Ant.Fac [dB/m] +Loss (Cable+ATT) [dB] -Gain (AMP) [dB]
Ant.Type=LOOP:Loop Antenna

DATA OF RADIATED EMISSION TEST

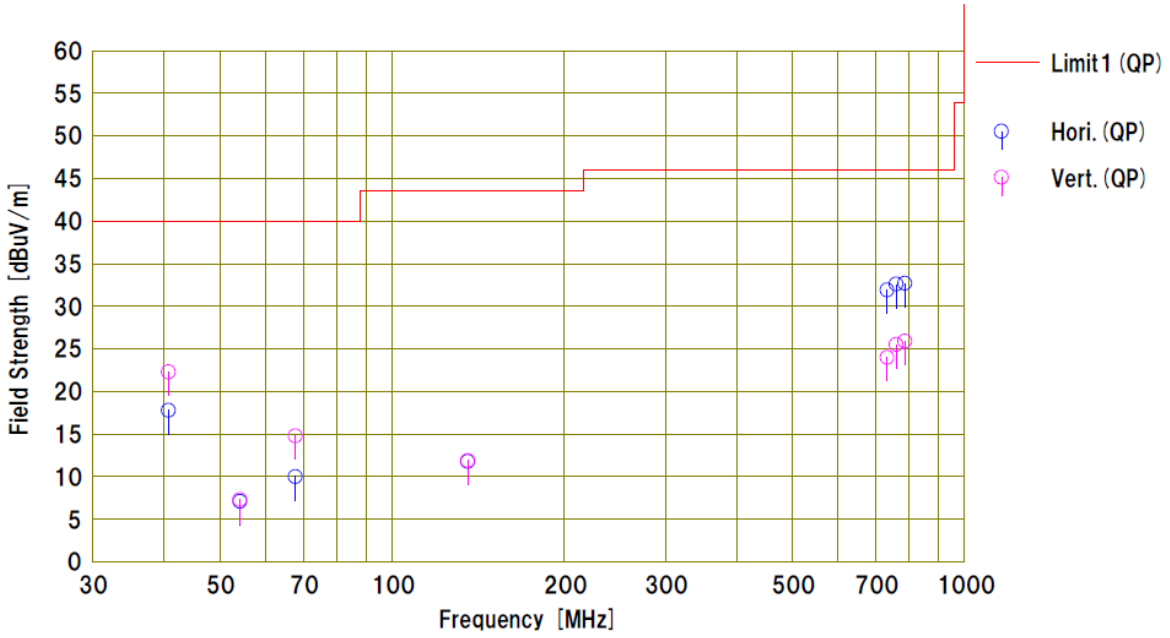
UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2011/01/20

Mode : Transmitting (13.56MHz)
Report No. : 31HE0196-HO
Power : DC3.8V (Battery)
Temp./Humi. : 20deg.C./30%

Remarks : Hor:X, Ver:Z

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	40.680	28.8	14.4	6.7	32.1	17.8	40.0	22.2	Hori.	400	159	BC	
2	54.240	22.7	9.7	6.8	32.1	7.1	40.0	32.9	Hori.	100	0	BC	Not Detected
3	67.800	28.4	6.8	6.9	32.1	10.0	40.0	30.0	Hori.	279	1	BC	
4	135.600	23.1	13.3	7.5	32.1	11.8	43.5	31.7	Hori.	100	0	BC	Not Detected
5	732.242	33.7	19.9	10.1	31.8	31.9	46.0	14.1	Hori.	100	0	LP	
6	759.364	34.0	20.1	10.2	31.7	32.6	46.0	13.4	Hori.	125	359	LP	
7	786.774	33.8	20.2	10.3	31.6	32.7	46.0	13.3	Hori.	100	1	LP	
8	40.680	33.3	14.4	6.7	32.1	22.3	40.0	17.7	Vert.	100	267	BC	
9	54.240	22.9	9.7	6.8	32.1	7.3	40.0	32.7	Vert.	100	0	BC	Not Detected
10	67.800	33.2	6.8	6.9	32.1	14.8	40.0	25.2	Vert.	100	266	BC	
11	135.600	23.2	13.3	7.5	32.1	11.9	43.5	31.6	Vert.	100	0	BC	Not Detected
12	732.250	25.8	19.9	10.1	31.8	24.0	46.0	22.0	Vert.	212	314	LP	
13	759.371	26.9	20.1	10.2	31.7	25.5	46.0	20.5	Vert.	215	104	LP	
14	786.492	27.0	20.2	10.3	31.6	25.9	46.0	20.1	Vert.	206	64	LP	

Calculation:Result [dBuV/m] =Reading [dBuV] +Ant.Fac [dB/m] +Loss (Cable) [dB] -Gain (PreAMP) [dB]
Ant.Type=BC:Biconical Antenna, LP:Logperiodic Antenna, SHA-03:Horn Antenna

Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.
Shonan No5 Shielded room

Report No. : 31HE0196-HO
Regulation : FCC Part15 SupartC 15.225 (e)

Date : 2011/1/19
Power : DC3.8V(Battery)
Temperature : 26deg.C
Mode : Transmitting (13.56MHz)
Humidity : 35%

ENGINEER : Minoru Nakatake

Temperature Variation: -20deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560182	0.0001820	0.00134	0.01
after 2minutes	13.56	13.560188	0.0001878	0.00138	0.01
after 5minutes	13.56	13.560187	0.0001872	0.00138	0.01
after 10minutes	13.56	13.560187	0.0001869	0.00138	0.01

Temperature Variation: -10deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560222	0.0002222	0.00164	0.01
after 2minutes	13.56	13.560222	0.0002224	0.00164	0.01
after 5minutes	13.56	13.560223	0.0002227	0.00164	0.01
after 10minutes	13.56	13.560222	0.0002223	0.00164	0.01

Temperature Variation: 0deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560231	0.0002313	0.00171	0.01
after 2minutes	13.56	13.560231	0.0002314	0.00171	0.01
after 5minutes	13.56	13.560231	0.0002314	0.00171	0.01
after 10minutes	13.56	13.560231	0.0002313	0.00171	0.01

Temperature Variation: 10deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560222	0.0002223	0.00164	0.01
after 2minutes	13.56	13.560221	0.0002214	0.00163	0.01
after 5minutes	13.56	13.560221	0.0002213	0.00163	0.01
after 10minutes	13.56	13.560221	0.0002211	0.00163	0.01

Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.
Shonan No5 Shield room

Report No. : 31HE0196-HO
Regulation : FCC Part15 SupartC 15.225 (e)

Date : 2011/1/19
Temperature : 26deg.C
Humidity : 35%

ENGINEER : Minoru Nakatake

Power : DC3.8V(Battery)
Mode : Transmitting (13.56MHz)

Temperature Variation: 20deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560204	0.0002037	0.00150	0.01
after 2minutes	13.56	13.560203	0.0002029	0.00150	0.01
after 5minutes	13.56	13.560202	0.0002023	0.00149	0.01
after 10minutes	13.56	13.560203	0.0002028	0.00150	0.01

Temperature Variation: 30deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560185	0.0001852	0.00137	0.01
after 2minutes	13.56	13.560182	0.0001822	0.00134	0.01
after 5minutes	13.56	13.560182	0.0001822	0.00134	0.01
after 10minutes	13.56	13.560182	0.0001822	0.00134	0.01

Temperature Variation: 40deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560168	0.0001685	0.00124	0.01
after 2minutes	13.56	13.560166	0.0001662	0.00123	0.01
after 5minutes	13.56	13.560166	0.0001661	0.00122	0.01
after 10minutes	13.56	13.560166	0.0001660	0.00122	0.01

Temperature Variation: 50deg.C.

Test Conditions	Original Frequency (MHz)	Mesure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560162	0.0001621	0.00120	0.01
after 2minutes	13.56	13.560163	0.0001626	0.00120	0.01
after 5minutes	13.56	13.560163	0.0001626	0.00120	0.01
after 10minutes	13.56	13.560163	0.0001628	0.00120	0.01

Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.
Shonan No5 Shielded room

Report No. : 31HE0196-HO
Regulation : FCC Part15 SupartC 15.225 (e)

Date : 2011/1/19
Power : DC3.8V(Battery)
Temperature : 26deg.C
Mode : Transmitting (13.56MHz)
Humidity : 35%

ENGINEER : Minoru Nakatake

Input Voltage:DC3.23V (85%)
Temperature Variation: 20deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560202	0.0002024	0.00149	0.01
after 2minutes	13.56	13.560204	0.0002040	0.00150	0.01
after 5minutes	13.56	13.560205	0.0002053	0.00151	0.01
after 10minutes	13.56	13.560206	0.0002057	0.00152	0.01

Input Voltage:DC4.37V (115%)
Temperature Variation: 20deg.C.

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.560187	0.0001869	0.00138	0.01
after 2minutes	13.56	13.560186	0.0001861	0.00137	0.01
after 5minutes	13.56	13.560186	0.0001863	0.00137	0.01
after 10minutes	13.56	13.560187	0.0001866	0.00138	0.01

APPENDIX 3: Test instruments

EMI Test Instruments

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2010/07/21 * 12
SJM-10	Measure	PROMART	SEN1935	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	-	RE	
SLP-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100218	RE	2010/10/15 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2010/02/06 * 12
SAT6-03	Attenuator	JFW	50HF-006N	-	RE	2010/02/06 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2010/10/15 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2010/04/02 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2010/10/15 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2010/02/09 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2010/09/13 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	FT	2010/11/16 * 12
SSCA-01	Search coil	LANGER	RF-R 400-1	02-0634	FT	Pre Check
SCH-01	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	FT	2010/04/24 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	FT	2010/02/17 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2010/01/27 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

Test item:

RE: Radiated Emissions
FT: Frequency Tolerance