JQA File No. : KL80100097
Issue Date : June 18, 2010

TEST REPORT

APPLICANT	:	Sharp Corporation, Communication Systems Group
ADDRESS	:	2-13-1, Iida Hachihonmatsu, Higashi-Hiroshima City, Hiroshima, 739-0192, JAPAN
PRODUCTS	:	Cellular Phone
MODEL NO.	:	842SH
SERIAL NO.	:	004401/11/268172/7
FCC ID	:	APYHRO00125
TEST STANDARD	:	CFR 47 FCC Rules and Regulations Part 15
TESTING LOCATION	:	Japan Quality Assurance Organization KITA-KANSAI Testing Center 1-7-7, Ishimaru, Minoh-shi, Osaka 562-0027, Japan
TEST RESULTS	:	**Passed**
DATE OF TEST	:	June 1, 2010 ~ June 16, 2010

This report must not used by the client to claim product endorsement by NVLAP or NIST or any agency of the U.S. Government.

NVLAP LAB CODE 200191-0

Junichi Wakamatsu
Manager
Japan Quality Assurance Organization
KITA-KANSAI Testing Center
Testing Dept. EMC Division
1-7-7, Ishimaru, Minoh-shi, Osaka 562-0027, Japan

- The measurement values stated in Test Report was made with traceable to National Institute of Advanced Industrial Science and Technology (AIST) of Japan and National Institute of Information and Communications Technology (NICT) of Japan.
- The applicable standard, testing condition and testing method which were used for the tests are based on the request of the applicant.
- The test results presented in this report relate only to the offered test sample.
- The contents of this test report cannot be used for the purposes, such as advertisement for consumers.
- This test report shall not be reproduced except in full without the written approval of JQA.

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DEFINITIONS FOR ABBREVIATION AND SYMBOLS USED IN THIS TEST REPORT

EUT : Equipment Under Test
AE : Associated Equipment
N/A : Not Applicable
N/T : Not Tested
EMC : Electromagnetic Compatibility
EMI : Electromagnetic Interference
EMS : Electromagnetic Susceptibility

☒ - indicates that the listed condition, standard or equipment is applicable for this report.
☐ - indicates that the listed condition, standard or equipment is not applicable for this report.

Documentation

1 Test Regulation

Applied Standard : CFR 47 FCC Rules and Regulations Part 15
Subpart C – Intentional Radiators

Test Requirements : §15.225, §15.207 and §15.209

Test Procedure : ANSI C63.4–2003

2 Test Location

KITA-KANSAI Testing Center
1-7-7, Ishimaru, Minoh-shi, Osaka 562-0027, Japan
KAMEOKA EMC Branch
9-1, Ozaki, Inukanno, Nishibetsuin-cho, Kameoka-shi, Kyoto 621-0126, Japan

3 Recognition of Test Laboratory

VLAC Code : VLAC-001-2 (Effective through : March 30, 2012)
NVLAP Lab Code : 200191-0 (Effective through : June 30, 2010)
BSMI Recognition No. : SL2-IS-E-6006, SL2-IN-E-6006, SL2-AI-E-6006
(Effective through : September 14, 2010)

VCCI Registration No. : R-008, C-006, C-007, C-1674, C-2143, C-3685, T-1418, T-1419, T-1819, T-1820, T-1821, G-172, G-173
(Effective through : March 30, 2012)
IC Registration No. : 2079E-1, 2079E-2 (Effective through : January 6, 2011)

Accredited as conformity assessment body for Japan electrical appliances and material law by METI. (Effective through : February 22, 2012)

4 Description of the Equipment Under Test

4.1 General Information

1.	Manufacturer	:	Sharp Corporation, Communication Systems Group 2-13-1, Iida Hachihonmatsu, Higashi-Hiroshima City, Hiroshima, 739-0192, JAPAN
2.	Products	:	Cellular Phone
3.	Model No.	:	842SH
4.	Serial No.	:	004401/11/268172/7
5.	Product Type	:	Pre-production
6.	Date of Manufacture	:	May, 2010
7.	Transmitting Frequency	:	13.560 MHz
8.	Receiving Frequency	:	13.560 MHz
9.	Power Rating	:	4.0VDC (Lithium-ion Battery Pack SHBCU1 770mAh)
10.	EUT Grounding	:	None
11.	EUT Authorization	:	Certification
12.	Receive Date of EUT	:	June 1, 2010

5 Test Condition

5.1 AC Powerline Conducted Emission

The requirements are ☐ - Applicable [☐ - Tested. ☐ - Not tested by applicant request.]
☒ - Not Applicable

Test site : KITA-KANSAI ☐ - Shielded room ☐ - Anechoic chamber
KAMEOKA ☐ - Shielded room ☐ - Conducted emission facility
☐ - 1st open site

Test instruments : Refer to Appendix C.

5.2 Radiated Emission

5.2.1 Radiated Emission 9 kHz – 30 MHz

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

Test site : ☒ - KAMEOKA 1st open site ☒ - 3 m ☐ - 10 m
☐ - KAMEOKA 2nd open site ☐ - 3 m ☐ - 10 m

Test instruments : Refer to Appendix C.

5.2.2 Radiated Emission 30 MHz – 1000 MHz

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

Test site : ☒ - KAMEOKA 1st open site ☒ - 3 m ☐ - 10 m
☐ - KAMEOKA 2nd open site ☐ - 3 m ☐ - 10 m

Test instruments : Refer to Appendix C.

5.2.3 Radiated Emission above 1 GHz

The requirements are ☐ - Applicable [☐ - Tested. ☐ - Not tested by applicant request.]
☒ - Not Applicable

Test site : ☐ - KAMEOKA 1st open site ☐ - 3 m ☐ - 10 m
☐ - KAMEOKA 2nd open site ☐ - 3 m ☐ - 10 m

Test instruments : Refer to Appendix C.

5.3 Occupied Bandwidth

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

Test site : KITA-KANSAI ☒ - Shielded room ☐ - 2nd Shielded room
KAMEOKA ☐ - Shielded room ☐ - Conducted emission facility

Test instruments : Refer to Appendix C.

5.4 Band-Edge Emission

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

Test site : KITA-KANSAI ☒ - Shielded room ☐ - 2nd Shielded room
KAMEOKA ☐ - Shielded room ☐ - Conducted emission facility

Test instruments : Refer to Appendix C.

5.5 Frequency Stability

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

Test site : KITA-KANSAI Environment Testing Room

Test instruments : Refer to Appendix C.

6 Preliminary Test and Test Setup

6.1 AC Powerline Conducted Emission

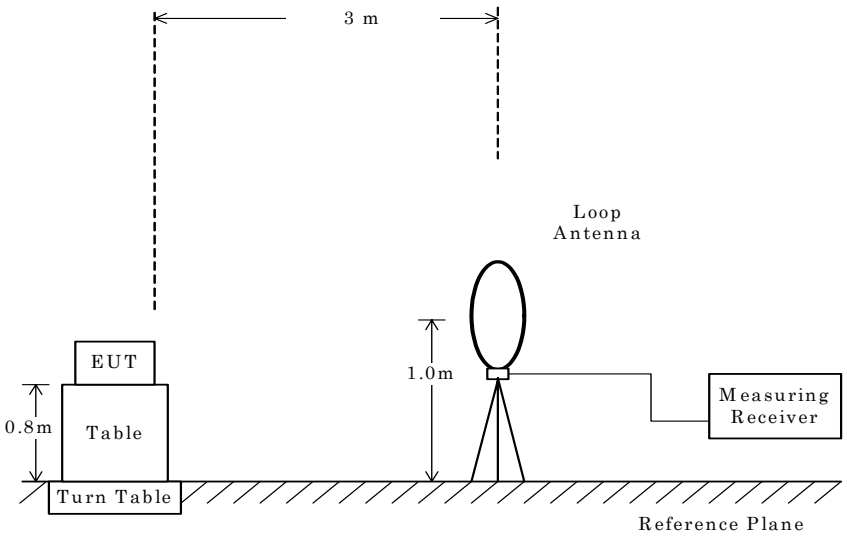
Not Applicable

6.2 Radiated Emission

6.2.1 Radiated Emission 9 kHz – 30 MHz

The preliminary tests were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT.
The EUT configuration(in X, Y and Z axis), cable configuration and mode of operation were determined for producing the maximum level of emissions.
This configurations was used for the final tests.

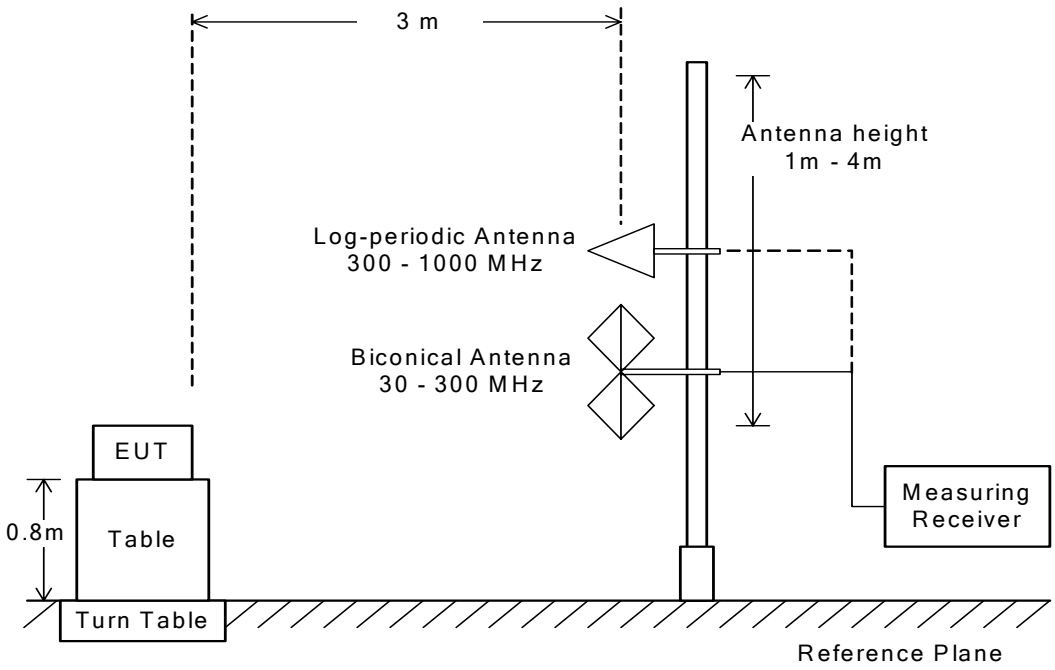
– Side View –



6.2.2 Radiated Emission 30 MHz – 1000 MHz

The preliminary tests were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT.
The EUT configuration(in X, Y and Z axis), cable configuration and mode of operation were determined for producing the maximum level of emissions.
This configurations was used for the final tests.

– Side View –

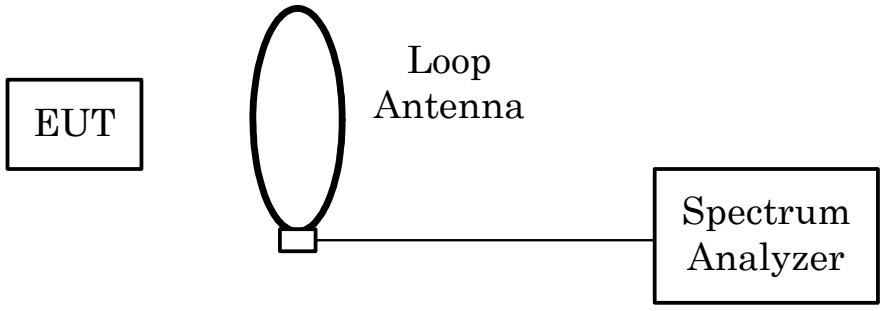


6.2.3 Radiated Emission above 1 GHz

Not Applicable

6.3 Occupied Bandwidth

The test system is shown as follows:

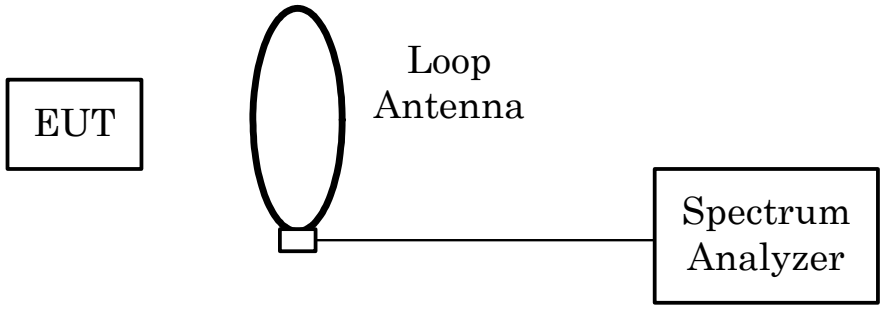


The setting of the spectrum analyzer are shown as follows:

Res. Bandwidth	1 kHz
Video Bandwidth	3 kHz
Span	30 kHz
Sweep Time	AUTO
Trace	Maxhold

6.4 Band-Edge Emission

The test system is shown as follows:



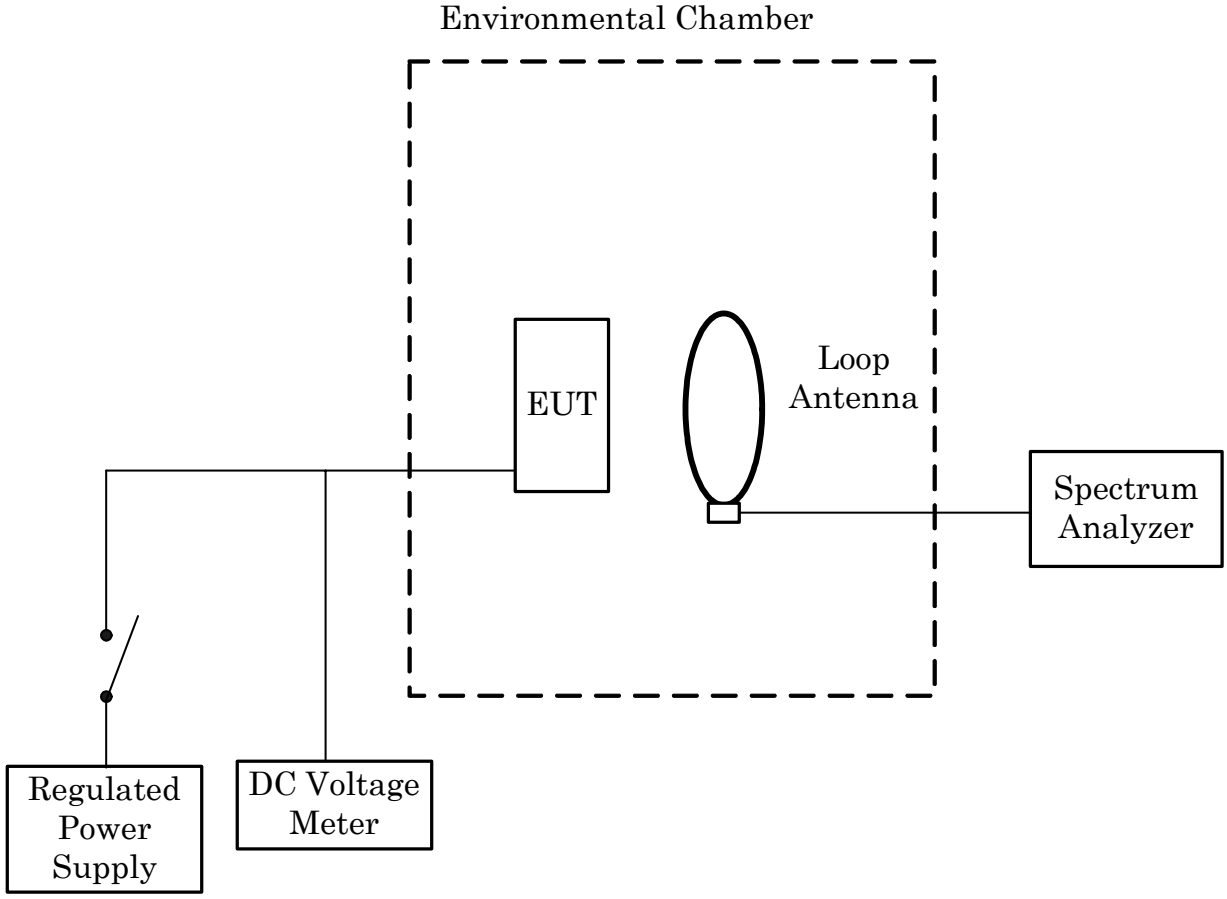
The setting of the spectrum analyzer are shown as follows:

TX Frequency	13.560 MHz
Band-Edge Frequency	13.110 MHz / 14.010 MHz
Res. Bandwidth	10 kHz
Video Bandwidth	10 kHz
Span	1 MHz
Sweep Time	AUTO
Trace	Maxhold

6.5 Frequency Stability

Frequency Stability versus Temperature

The EUT was placed in an environmental chamber and was tested in the range from –30 to +50 degrees Celsius. The EUT was stabilized at each temperature. The power (4.0VDC) supplied was applied to the transmitter and allowed to stabilize for 10 minutes. The transmitting frequency was measured at startup and 2 minutes, 5 minutes and 10 minutes after startup. This procedure was repeated from –20, +20 and +50 degrees Celsius.



7 Equipment Under Test Modification

☒ - No modifications were conducted by JQA to achieve compliance to the limitations.
☐ - To achieve compliance to the limitations, the following changes were made by JQA during the compliance test.

The modifications will be implemented in all production models of this equipment.

Applicant : Not Applicable
Date : Not Applicable
Typed Name : Not Applicable
Position : Not Applicable Signatory : Not Applicable

8 Responsible Party

Responsible Party of Test Item (Product)

Responsible Party :

Contact Person :

Signatory

9 Deviation from Standard

☒ - No deviations from the standard described in clause 1.
☐ - The following deviations were employed from the standard described in clause 1.

10 Test Results

10.1 AC Powerline Conducted Emission

The requirements are ☐ - Applicable [☐ - Tested. ☐ - Not tested by applicant request.]
☒ - Not Applicable

☐ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Min. Limit Margin (Quasi-Peak) _____ dB at _____ MHz

Max. Limit Exceeding (Quasi-Peak) _____ dB at _____ MHz

Uncertainty of Measurement Results _____ dB(2σ)

Remarks : When the cellular phone is connected to the AC Charger and Stereo Handsfree, the RF(13.56MHz) communicating function is not available.

10.2 Radiated Emission

10.2.1 Radiated Emission (§15.225(a)(b)(c))

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

☒ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Max. Limit Margin (Quasi-Peak) 67.0 dB at 13.560 MHz

Max. Limit Exceeding (Quasi-Peak) _____ dB at _____ MHz

Uncertainty of Measurement Results 9 kHz – 30 MHz +/-1.6 dB(2σ)

Remarks : The Radited Emission at 30m of 13.560 MHz is 17.0dB(uV/m).

10.2.2 Radiated Emission (§15.225(d))

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

☒ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Min. Limit Margin (Quasi-Peak)	14.3	dB	at	203.4 MHz
Max. Limit Exceeding (Quasi-Peak)		dB	at	MHz

Uncertainty of Measurement Results		
9 kHz – 30 MHz	+/-1.6	dB(2σ)
30 MHz – 300 MHz	+/-4.3	dB(2σ)
300 MHz – 1000 MHz	+/-4.5	dB(2σ)
above 1 GHz		dB(2σ)

Remarks : When the cellular phone is connected to the AC Charger and Stereo Handsfree, the RF(13.56MHz) communicating function is not available.

10.3 Occupied Bandwidth

The requirements are ☒ - Applicable [☐ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

☒ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Uncertainty of Measurement Results at Frequency	+/-1.7	kHz(2σ)
Uncertainty of Measurement Results at Amplitude	+/-0.24	dB(2σ)

Remarks :

10.4 Band-Edge Emission

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

☒ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Uncertainty of Measurement Results at Frequency	+/-1.7	kHz(2σ)
Uncertainty of Measurement Results at Amplitude	+/-0.24	dB(2σ)

Remarks :

10.5 Frequency Stability

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

The Frequency Stability level is	+0.009731	%	at 13.560	MHz
Min. Limit Margin	-0.000269	%	at 13.560	MHz
Max. Limit Exceeding		%	at	MHz

Uncertainty of Measurement Results +/-1 Hz(2σ)

Remarks :

11 Summary

General Remarks :

The EUT was tested according to the requirements of the following standard.
CFR 47 FCC Rules and Regulations Part 15
The test configuration is shown in clause 12 to 14.
The conclusion for the test items of which are required by the applied regulation is indicated under the test results.
Determining compliance with the limits in this report was based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Test Results :

The "as received" sample;

☒ - fulfill the test requirements of the regulation mentioned on clause 1.
☐ - doesn't fulfill the test requirements of the regulation mentioned on clause 1.

Reviewed by:

Shigeru Kinoshita
Deputy Manager
Testing Dept. EMC Div.
JQA KITA-KANSAI Testing Center

Tested by:

Akio Hosoda
Advisor
Testing Dept. EMC Div.
JQA KITA-KANSAI Testing Center

12 Operating Condition

The test were carried under one modulation type shown as follows:
Modulation : ASK

The Radiated Emission test were carried under one test configuration shown in clause 14.
In all tests, the fully charged battery is used for the EUT.

Detailed Transmitter portion:
Transmitter frequency : 13.560 MHz

Detailed Receiver portion:
Receiver frequency : 13.560 MHz

Other Clock Frequency
RTC : 32.768 kHz
Reference : 26.0 MHz

13 Test Configuration

The equipment under test (EUT) consists of :

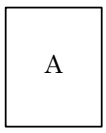
	Item	Manufacturer	Model No.	Serial No.	FCC ID
A	Cellular Phone	Sharp	842SH	004401/11/268172/7	APYHRO00125
B	Lithium-ion Battery	SANYO	SHBCU1	--	N/A

The auxiliary equipment used for testing :
None

Type of Cable:
None

14 Equipment Under Test Arrangement (Drawings)

a) Single Unit



Appendix A: Test Data

A.1 AC Powerline Conducted Emission

Not Applicable

A.2 Radiated Emission

A.2.1 Radiated Emission (§15.225(a)(b)(c) & §15.209(a))

Test Date: June 16, 2010

Test condition : Transmitting

Temp.: 19 °C, Humi: 86 %

Frequency [MHz]	Correction Factor [dB(1/m)]	Meter Readings at 3 m [dB(μV)]	Limits [dB(μV/m)]	Specified Distance [m]	Extrapolated Results [dB(μV/m)]	Margin [dB]	Remarks
13.560	0.3	56.7	84.0	30.0	17.0	+67.0	-
27.12	2.3	< 30.0	29.5	30.0	< - 7.7	> +37.2	-

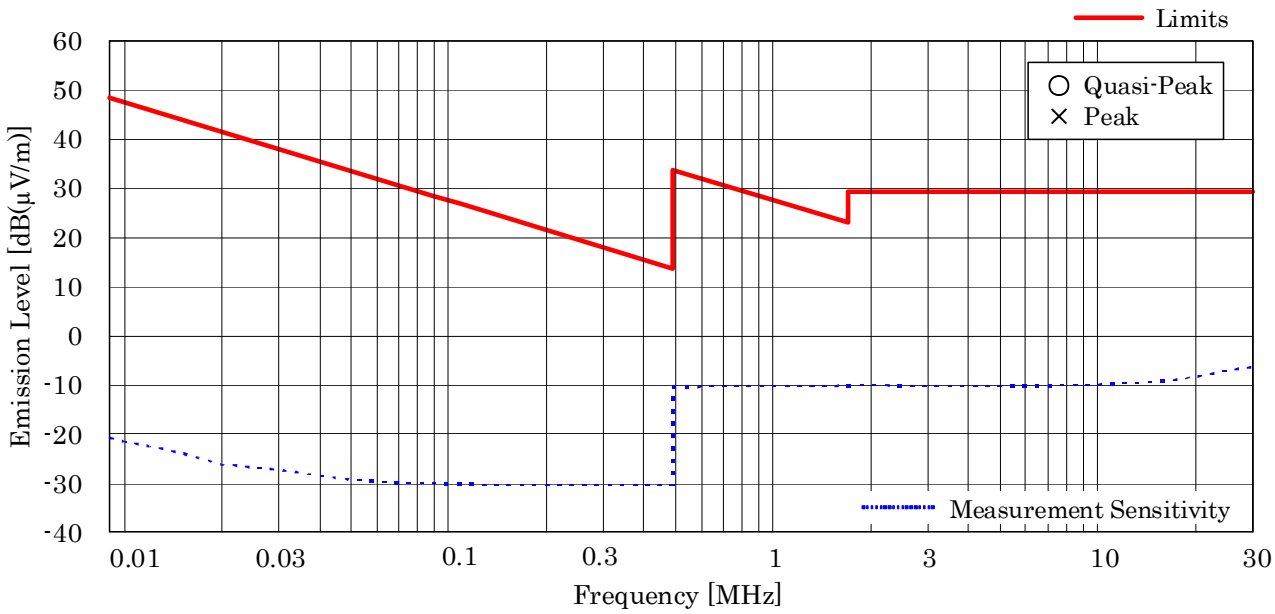
NOTES
1. Test Distance : 3 m
2. The correction factor includes the antenna factor and the cable loss.
3. The symbol of "<" means "or less".
4. The symbol of ">" means "more than".
5. The testing loop antenna was rotated at the vertical and horizontal axis to maximize received emissions.
   The above Meter Reading was maximum emission level.
6. Calculation:
   For fundamental, the measured field strength was extrapolated to distance 30m, using the formula that field strength using the formula that field strength aries as the inverse distance square(40 dB per decade of distance).

   Fundamental : Correction Factor + Meter Reading = 0.3 + 56.7 = 57.0 dB(μV/m)
   Result at 30 m = -40 + 57.0 = 17.0 dB(μV/m) (Conversion Factor : 40dB/decade)
   Limits for fundamental(§15.225(a)) = 20log10(15848) = 84.0 dBμV/m
   Harmonic : Correction Factor + Meter Reading = 2.3 + <30.0 = <32.3 dB(μV/m)
   Result at 30 m = -40 + <32.3 = <-7.7 dB(μV/m) (Conversion Factor : 40dB/decade)
   Limits for fundamental(§15.209(a)) = 20log10(30) = 29.5 dBμV/m
8. Test receiver setting(s) :
   Quasi-Peak Detector IF Bandwidth: 9kHz or 200Hz(9 kHz -90 kHz, 110 kHz -490 kHz)
   Average Detector, IF Bandwidth: 9kHz or 200Hz(Except for 9 kHz -90 kHz, 110 kHz -490 kHz)

A.2.2.1 Radiated Emission (§15.209(a))(9kHz – 30MHz)

Test Date: June 16, 2010
Temp.: 19 °C, Humi: 86 %

Frequency [MHz]	Correction Factor [dB(1/m)]	Meter Readings at 3 m [dB(μV)]	Limits at D m [dB(μV/m)]	Results at D m [dB(μV/m)]	Margin [dB]	Remarks
0.01	8.5	< 30.0	47.6	< -41.5	> +89.1	-
0.03	2.8	< 30.0	38.1	< -47.2	> +85.3	-
0.05	0.7	< 30.0	33.6	< -49.3	> +82.9	-
0.10	-0.1	< 30.0	27.6	< -50.1	> +77.7	-
0.50	-0.4	< 30.0	33.6	< -10.4	> +44.0	-
1.00	-0.3	< 30.0	27.6	< -10.3	> +37.9	-
5.00	-0.2	< 30.0	29.5	< -10.2	> +39.7	-
10.00	0.1	< 30.0	29.5	< - 9.9	> +39.4	-
20.00	1.7	< 30.0	29.5	< - 8.3	> +37.8	-
30.00	3.7	< 30.0	29.5	< - 6.3	> +35.8	-

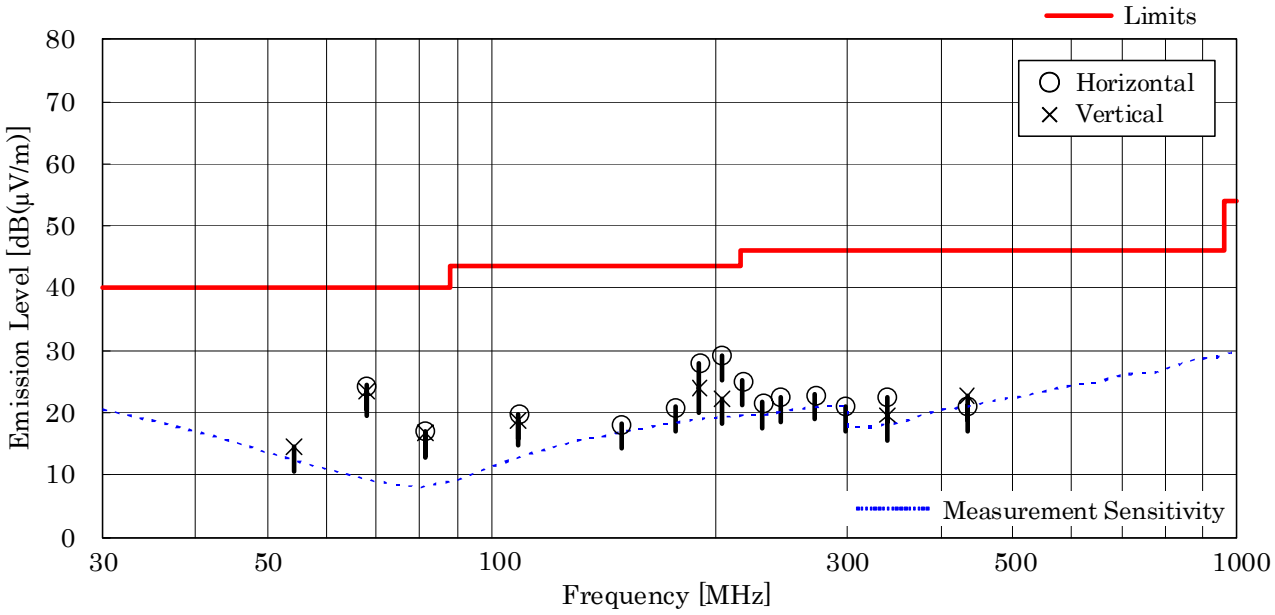


NOTES
1. Test Distance : 3 m (Specified Distance D [m] = 300 m (9 kHz - 490 kHz) / 30 m (490 kHz - 30 MHz)
2. The spectrum was checked from 9 kHz to 30 MHz.
3. The correction factor includes the antenna factor and the cable loss.
4. The symbol of "<" means "or less".
5. The symbol of ">" means "more than".
6. Calculated result at 30.00 MHz, as the worst point shown on underline:
   Correction Factor + Meter Reading = 3.7 + <30.0 = <33.7 dB(μV/m)
   Result at 30 m = -40.0 + <33.7 = <-6.3 dB(μV/m) (Conversion Factor : 40dB/decade)
7. Test receiver setting(s) :
   Peak 200 Hz (9 kHz - 90 kHz, 110 kHz - 150 kHz) / Peak 9 kHz (150 kHz - 490 kHz)
   CISPR QP 200 Hz (90 kHz - 110 kHz) / CISPR QP 9 kHz (490 kHz - 30 MHz)

A.2.2.2 Radiated Emission (§15.209(a))(30MHz – 1000MHz)

Test Date: June 16, 2010
Temp.: 19 °C, Humi: 86 %

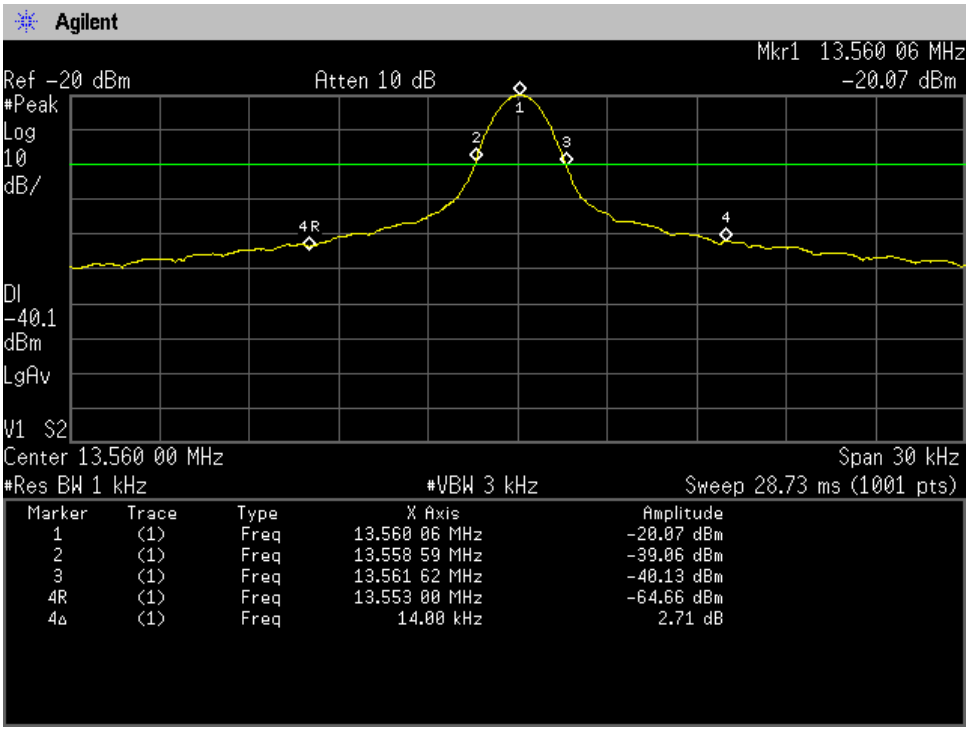
Frequency [MHz]	Antenna Factor [dB(1/m)]	Cable Loss [dB]	Meter Readings [dB(μV)] Hori.	Meter Readings [dB(μV)] Vert.	Limits [dB(μV/m)]	Results [dB(μV/m)] Hori.	Results [dB(μV/m)] Vert.	Margin [dB]	Remarks
54.2	11.2	1.3	< 0.0	2.0	40.0	< 12.5	14.5	+25.5	-
67.8	7.9	1.5	15.0	14.0	40.0	24.4	23.4	+15.6	-
81.4	6.6	1.6	8.9	8.5	40.0	17.1	16.7	+22.9	-
108.5	10.9	1.9	7.0	6.0	43.5	19.8	18.8	+23.7	-
149.2	14.5	2.3	1.4	< 0.0	43.5	18.2	< 16.8	+25.3	-
176.3	15.9	2.5	2.5	< 0.0	43.5	20.9	< 18.4	+22.6	-
189.8	16.4	2.6	9.0	5.0	43.5	28.0	24.0	+15.5	-
203.4	16.5	2.7	10.0	3.0	43.5	29.2	22.2	+14.3	-
217.0	16.7	2.8	5.6	< 0.0	46.0	25.1	< 19.5	+20.9	-
230.5	16.7	2.9	2.0	< 0.0	46.0	21.6	< 19.6	+24.4	-
244.1	17.1	3.0	2.5	< 0.0	46.0	22.6	< 20.1	+23.4	-
271.2	17.7	3.2	2.0	< 0.0	46.0	22.9	< 20.9	+23.1	-
298.3	17.6	3.4	0.0	< 0.0	46.0	21.0	< 21.0	+25.0	-
339.0	14.4	3.7	4.5	1.5	46.0	22.6	19.6	+23.4	-
433.9	16.6	4.3	0.2	1.8	46.0	21.1	22.7	+23.3	-



NOTES
1. Test Distance : 3 m
2. The spectrum was checked from 30 MHz to 1000 MHz.
3. The symbol of "<" means "or less".
4. The symbol of ">" means "more than".
5. Calculated result at 203.4 MHz, as the worst point shown on underline:
   Antenna Factor + Cable Loss + Meter Reading = 16.5 + 2.7 + 10.0 = 29.2 dB(μV/m)
6. Test receiver setting(s) : CISPR QP 120 kHz (QP : Quasi-Peak)

A.3 Occupied Bandwidth

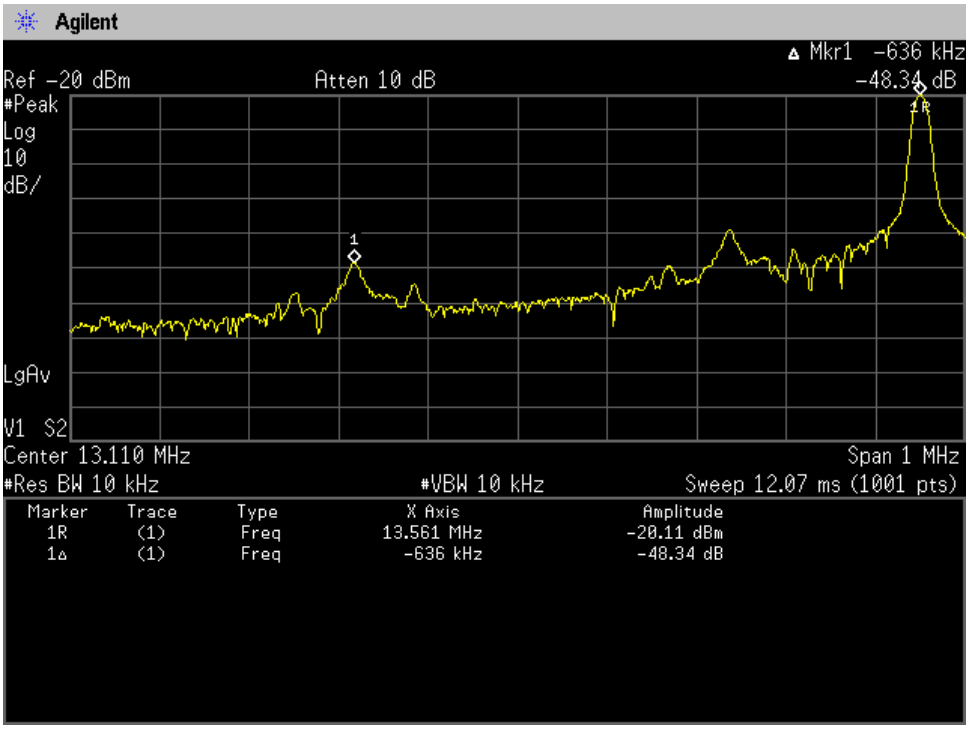
Test Date : June 1, 2010
Temp.:23°C, Humi:52%



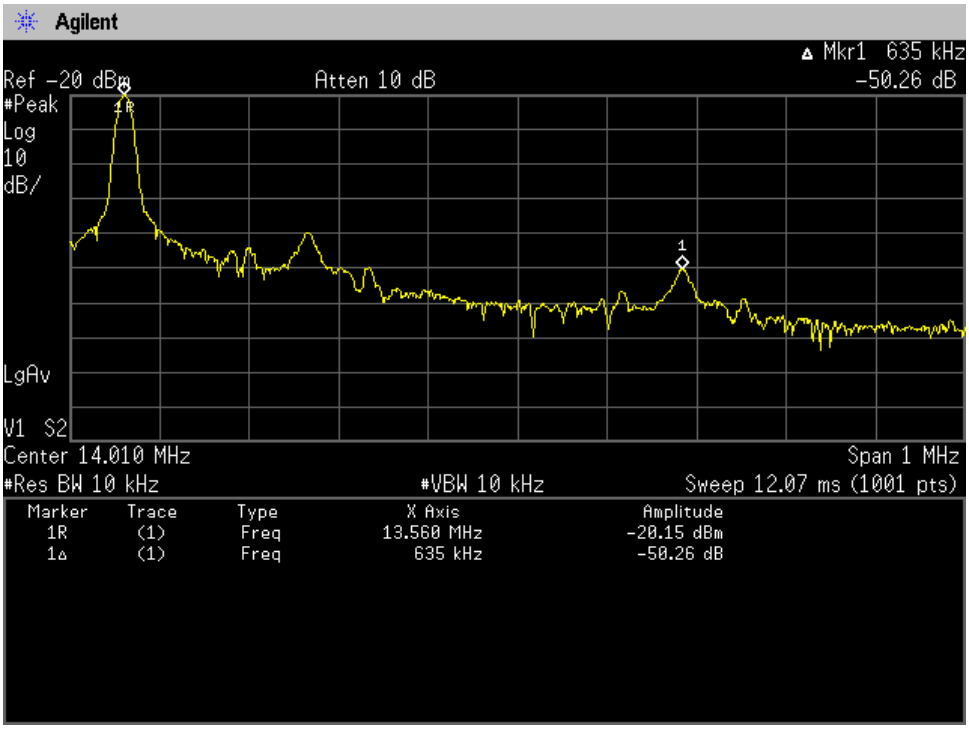
A.4 Band-Edge Emission

Test Date : June 1, 2010
Temp.:23°C, Humi:52%

Band-Edge Emission



Band-Edge Emission



A.5 Frequency Stability

Test Date: June 6, 2010

Transmitting Frequency : 13.560 MHz
DC Supply Voltage : 4.0 VDC

Ambient Temperature [°C]	Frequency with time elapse[MHz] Startup	2 minutes	5 minutes	10 minutes
-20	13.559963	13.559987	13.559985	13.559984
20	13.560009	13.560009	13.560009	13.560009
50	13.560008	13.560008	13.560008	13.560008

Ambient Temperature [°C]	Diviation with time elapse[%] Startup	2 minutes	5 minutes	10 minutes	Limits [%]	Margin [%]
-20	**- 0.000269**	- 0.000096	- 0.000114	- 0.000118	0.01	+ 0.009731
20	+ 0.000065	+ 0.000065	+ 0.000065	+ 0.000065	0.01	+ 0.009935
50	+ 0.000059	+ 0.000059	+ 0.000059	+ 0.000059	0.01	+ 0.009941

Sample of calculated result at 13.560 MHz, as the Minimum Margin point:
Ambient Temperature : -20 °C / Startup
DC Supply Voltage 4.0V

Minimum Margin: 0.010000 - 0.000269 = 0.009731 (%)
The point shown on " ____ " is the Minimum Margin Point. The Maximum Deviation Point is shown on a thick letter.

Note: The measurement were made after all of components of the oscillator sufficiently stabilized at each temperature.

Appendix B: Test Arrangement (Photographs)

B.1 AC Powerline Conducted Emission

Not Applicable

B.2 Radiated Emission

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Appendix C: Test Instruments

C.1 AC Powerline Conducted Emission

Not Applicable

C.2 Radiated Emission

C.2.1 Radiated Emission 9 kHz – 30 MHz

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Test Receiver	ESCS 30	Rohde & Schwarz	A-1	2010/2	1 Year
Loop Antenna	HFH2-Z2	Rohde & Schwarz	C-3	2009/8	1 Year
RF Cable	RG213/U	Rohde & Schwarz	H-29	2009/8	1 Year

C.2.2 Radiated Emission 30MHz – 1000 MHz

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Test Receiver	ESCS 30	Rohde & Schwarz	A-1	2010/2	1 Year
Biconical Antenna	VHA9103/FBAB9177	Schwarzbeck	C-25	2010/5	1 Year
Log-periodic Antenna	UHALP9108-A1	Schwarzbeck	C-28	2010/5	1 Year
RF Cable	--	----	H-1	2010/5	1 Year
Site Attenuation	--	----	H-11	2009/11	1 Year

C.3 Modulation Characteristics

Not Applicable

C.3 Occupied Bandwidth

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Spectrum Analyzer	E4446A	Agilent	A-39	2010/1	1 Year
Loop Antenna	LU-100A (S/N:10020729)	KENWOOD	--	N/A	N/A

C.4 Band-Edge Emission

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Spectrum Analyzer	E4446A	Agilent	A-39	2010/1	1 Year
Loop Antenna	LU-100A (S/N:10020729)	KENWOOD	--	N/A	N/A

C.5 Frequency Stability

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Spectrum Analyzer	FSL3	Rohde & Schwarz	A-40	2010/1	1 Year
Loop Antenna	LU-100A (S/N:10020729)	KENWOOD	--	N/A	N/A
Environmental Chamber	PL-4KPH (S/N:14007470)	TABAI ESPEC	--	N/A	N/A
Temperature Recorder	SRF106AS00000M11 (S/N:01400909)	TABAI ESPEC	--	2009/8	1 Year