Test Report

Test Report Number	EOTEL019
Applied Standard(s)	FCC Part15 Subpart C, ANSI C63.4-2003
Date of Issue	10th, February 2014
Testing Laboratory Address	e-OHTAMA, Ltd. Tokyo Laboratory 2-8-20 Kuriki, Asao-ku Kawasaki-shi, Kanagawa, 215-0033 Japan
Test Date(s)	9th January, 2014 to 5th February, 2014
Product Name	Compact wireless thermo sensor
Model Number	JPTHERMO
Serial Number	-
Applicant (Client) Address	J-Power Systems Corporation 4-10-1 Kawajiri-cho, Hitachi-shi, Ibaraki-ken, JAPAN
Manufacturer Address	J-Power Systems Corporation 4-10-1 Kawajiri-cho, Hitachi-shi, Ibaraki-ken, JAPAN
FCC ID	2ABSHJPTHERMO

Test Result

The test result for the electromagnetic compatibility tests
as described in the section 1 to 2 and in this page was:

Pass

Tested by: Akihide Nano
Akihide Nano
Test Enginner

Approved by: Koji Imai
Koji Imai
Testing Group Leader

Checked box (☒) indicates that the listed condition, standard or equipment is applicable for this Report.
Blank box (☐) indicates that the listed condition, standard or equipment is not applicable for this Report.

Test results of this report refer only to the EUT tested here.

Page

1. Summary

1.1 Terms and definitions

AV
Average

DoC
Declaration of Conformity

EUT
Equipment Under Test

PK
Peak

QP
Quasi-peak

1.2 Standard(s) and Result

Applied Standard(s)	Normative Reference(s)	Classification	Result	Note
FCC Part15 Subpart C	20dB Bandwidth(FHSS only)	15.247(a)(1)	N/A	
	6dB Bandwidth(DHSS only)	15.247(a)(2)	Pass	
	Carrier Frequency Separation (FHSS only)	15.247(a)(1)	N/A	
	Number of Hopping Frequencies (FHSS only)	15.247(a)(1)	N/A	
	Time of Occupancy(Dwell Time) (FHSS only)	15.247(a)(1)	N/A	
	Maximum Peak Output Power	15.247(b)(1)(2)FHSS 15.247(b)(3)DHSS	Pass	
	Band Edge of Compliance of RF Conducted Emissions	15.247(d)	Pass	
	Restricted Bands of Operation	15.247(d)	Pass	
	Peak Power Spectral Density (FHSS only)	15.247(e)	N/A	
	Conducted emissions	15.207	N/A	
	Radiated emissions	15.209 15.205	Pass	
	Maximum Permissible Exposure	1.1310 Safety code6, 2.2.1	N/A	

Note1 : This test measured according to the following procedure:FCC publication KDB558074 Measurement of Digital Transmission Systems Operating under Section 15.247 March 23, 2005

1.3 Deviations from Standard(s)

There was no deviation from the standard.

2. Equipment Under Test (EUT)

2.1 General Descriptions

Compact wireless thermo sensor for overhead line, distribution line, substation and others.

2.2 Detailed Descriptions

Product Name	Compact wireless thermo sensor
Model Number	JPTHERMO
Serial Number	-
Power Supply	3.6V DC(battery only)
Dimension	113mm(W)×18mm(H)×22mm(D)
Operating Frequency	2401MHz - 2482MHz
Normal Placement	Outdoor
Condition of the EUT	Prototype

2.3 WORST-CASE CONFIGURATION AND MODE

(a) EUT axes

The fundamental was measured in three different orientations X, Y and Z to find worst-case orientation, and it was found that Y orientation is worst-case; therefore final testing for radiated emissions was performed with EUT in X orientation with Cable.

2.4 Operation Mode(s) of the EUT for EMC during the Test(s)

Operation Mode Name	Description
TX mode	Normal operation TX mode

2.5 Peripheral Devices(*)

Mark	Description	Model Number	Serial Number	FCC ID Code or DoC status	Manufacturer
N/A					

2.6 Interconnecting Cables(*)

Mark	Description	Length (m)	Shielded		Tested Port(s) (Note:1)	
			Cable	Connector	Applicable	Interface
N/A						

Remarks:

2.7 System Configuration

Unless otherwise specified in the following sections, the test configuration described here is applied for the tests. The configuration was choice by the applicant.

3. Test Data

3.1 Test specification

Standard	FCC Part15 Subpart C 15.205 15.207 15.209 15.249, ANSI C63.4-2003
Frequency Range	2401 MHz to 2482MHz
Test Date	9th January, 2014 to 5th February, 2014
Test Location	Tokyo Laboratory Anechoic chamber No.1
Test Engineer	Akihide Nano
Temperature	17.5 °C to 24.0 °C
Humidity	47.0 % RH to 56% RH
Pressure	991 hPa to 1005 hPa
Power Supply	3.6V DC(battery only)
Operation Mode Name	TX mode (Normal operation TX mode)
Tested TX modulation/data rate	F1D
Tested channel	Lower ch 2401MHz Middle ch 2441MHz Higher ch 2482MHz

Remark: *1 : Equivalent isotropic radiated power and Frequency Range only.

3.2 6dB Bandwidth

6dB Bandwidth (kHz)	Limit (kHz)
536	>500kHz

Pass

3.2.1 Test Result

Cannel	Center Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Lower	2401	536	500	36
Middle	2441	568	500	68
Higher	2482	610	500	110

3.2.2 Test Detail

EUT was tested based on FCC 15.247(a)(2)
with temporally antenna port.
The RBW is set to 100kHz and the VBW is set to 300kHz. The sweep time is coupled.

3.2.3 Test data

Figure 1 6dB Bandwidth(2401MHz)

Figure 2 6dB Bandwidth(2441MHz)

Figure 3 6dB Bandwidth(2482MHz)

3.3 Maximum Peak Output Power

Maximum Peak Output Power (dBm)	Limit (dBm)
0.2	≦30dBm

Pass

3.3.1 Test Result

Channel	Frequency (MHz)	S/A Reading (dBm)	Cable loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
Lower	2400.947	0.03	0.17	0.2	30	28.8
Middle	2441.006	−1.14	0.17	−0.97	30	30.97
Higher	2482.035	−3.37	0.20	−3.17	30	33.17

3.3.2 Test Detail

EUT was tested based on FCC 15.247(b)(1)(2)FHSS 15.247(b)(3)DHSS with temporally antenna port. The bandwidth of the RF frequency is measured with the spectrum analyzer using 1MHz RBW and 3MHz VBW.

3.3.3 Test data

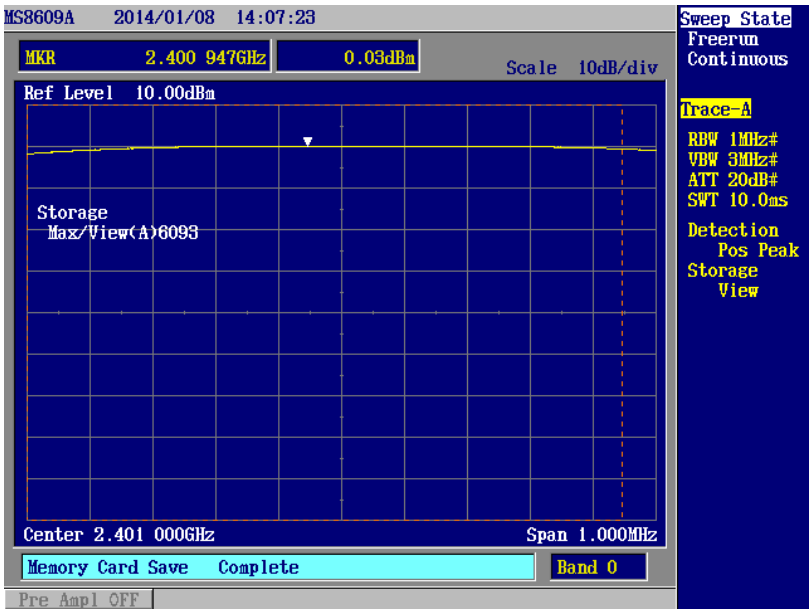


Figure 4 Maximum Peak Output Power(2401MHz)

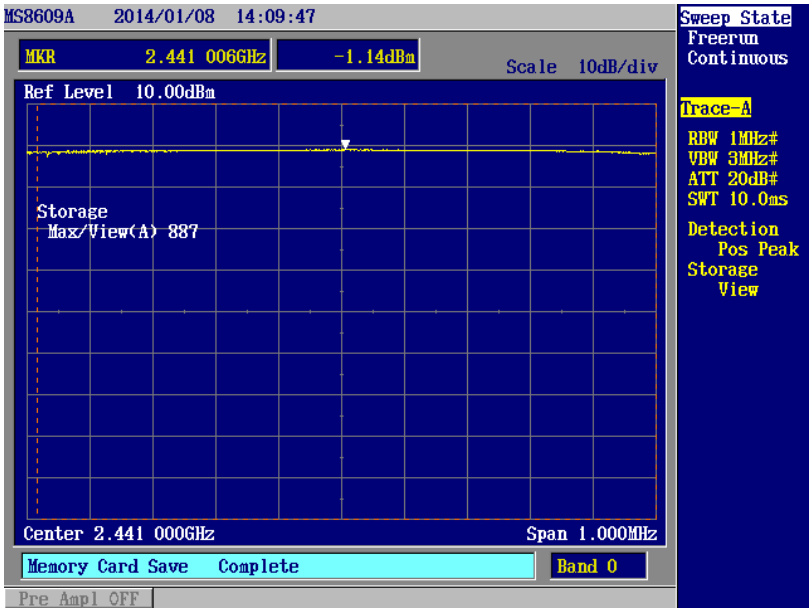


Figure 5 Maximum Peak Output Power(2441MHz)

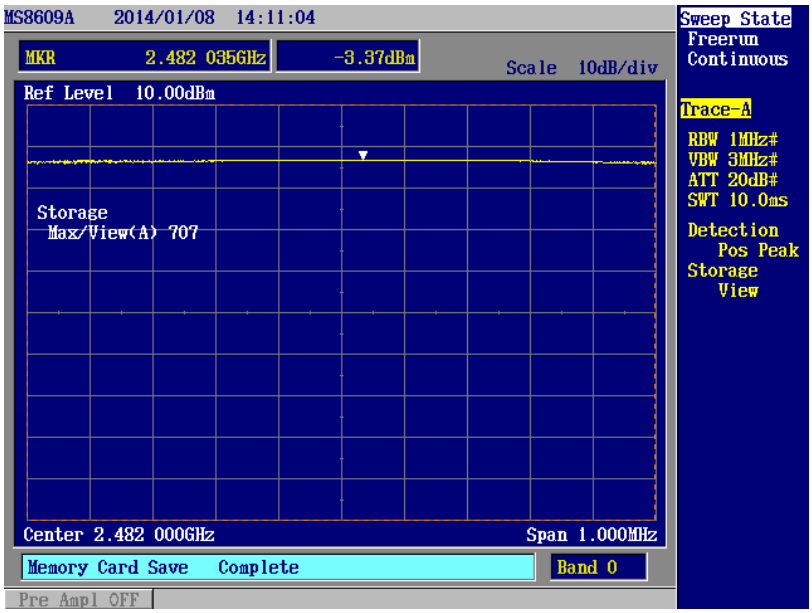


Figure 6 Maximum Peak Output Power(2482MHz)

3.4 Band Edge of Compliance of RF Conducted Emissions

Band Edge of Operation (dB)	Limit (dB)
21.70	>20

Pass

3.4.1 Test Result

Table1 Band Edge of Compliance of RF Conducted Emissions(2401MHz)

Edge	Frequency (MHz)	Deference (dB)	Limit (dB)	Margin (dB)
Lower	2400.00	36.20	>20	16.20
Higher	2402.05	35.00	>20	15.00

Table2 Band Edge of Compliance of RF Conducted Emissions(2441MHz)

Edge	Frequency (MHz)	Deference (dB)	Limit (dB)	Margin (dB)
Lower	2439.90	24.94	>20	4.94
Higher	2442.00	21.70	>20	1.70

Table3 Band Edge of Compliance of RF Conducted Emissions(2482MHz)

Edge	Frequency (MHz)	Deference (dB)	Limit (dB)	Margin (dB)
Lower	2480.85	22.93	>20	2.93
Higher	2483.20	22.48	>20	2.48

3.4.2 Test Detail

EUT was tested based on FCC 15.247(d) with temporally antenna port. The spectrum analyzer is set to RBW=100kHz, VBW=100kHz, Detector function=Peak.

3.4.3 Test data

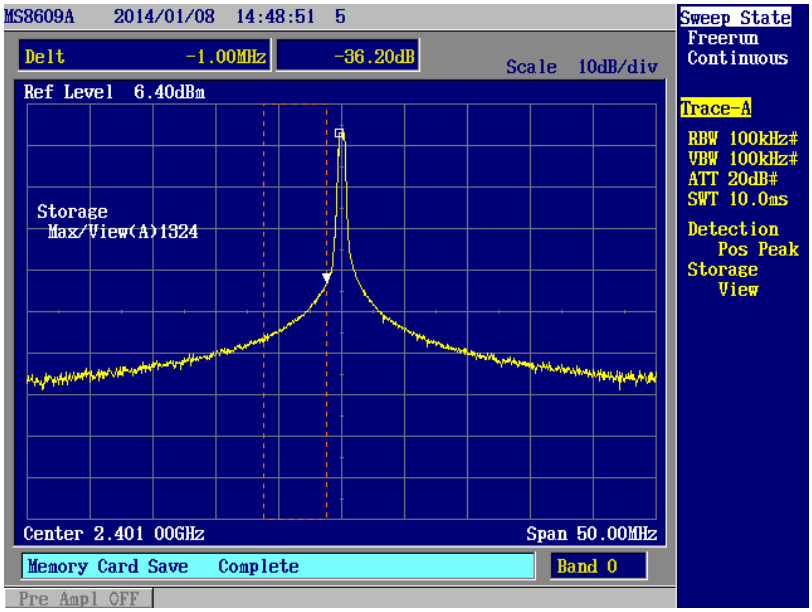


Figure 7 Band Edge of Compliance of RF Conducted Emissions (2401MHz/Lower)

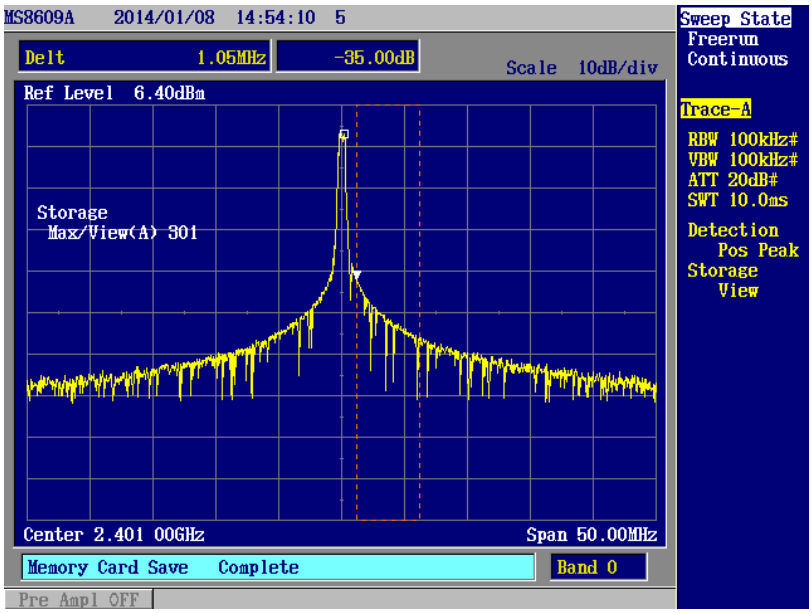


Figure 8 Band Edge of Compliance of RF Conducted Emissions (2401MHz/Higher)

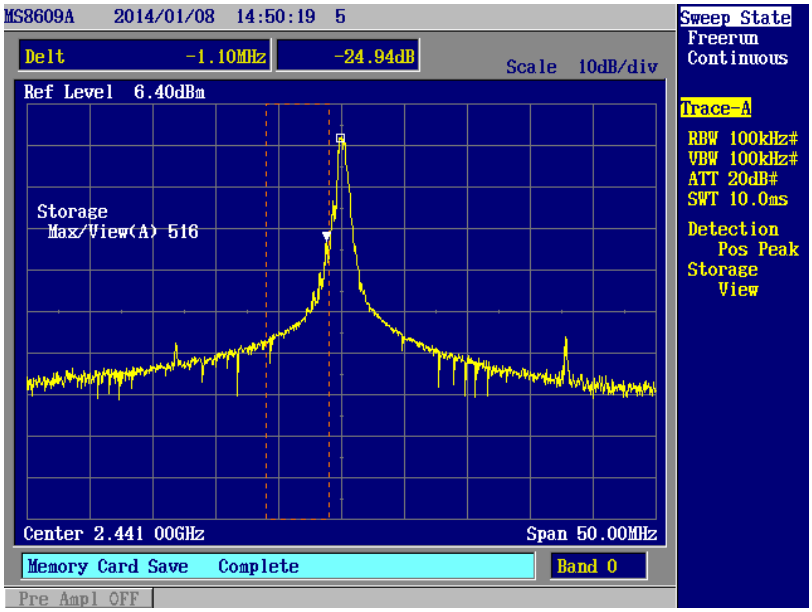


Figure 9 Band Edge of Compliance of RF Conducted Emissions (2441MHz/Lower)

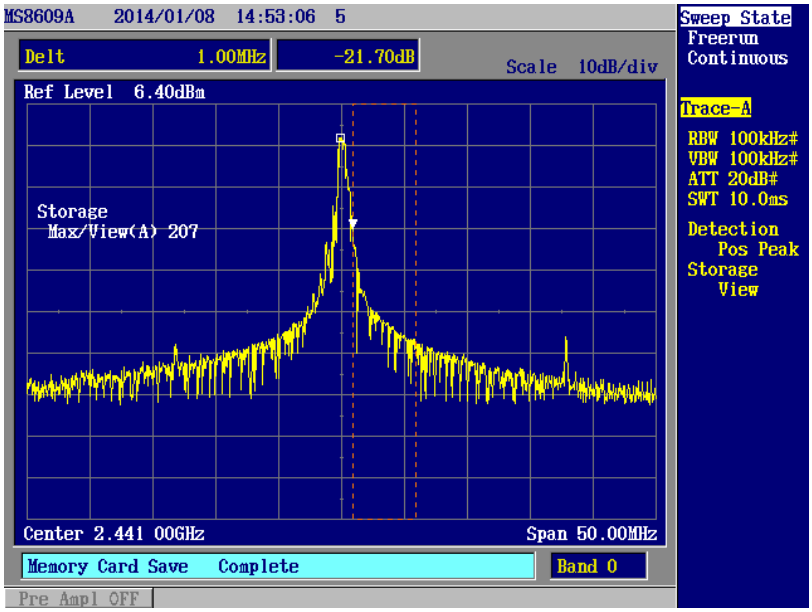


Figure 10 Band Edge of Compliance of RF Conducted Emissions (2441MHz/Higher)

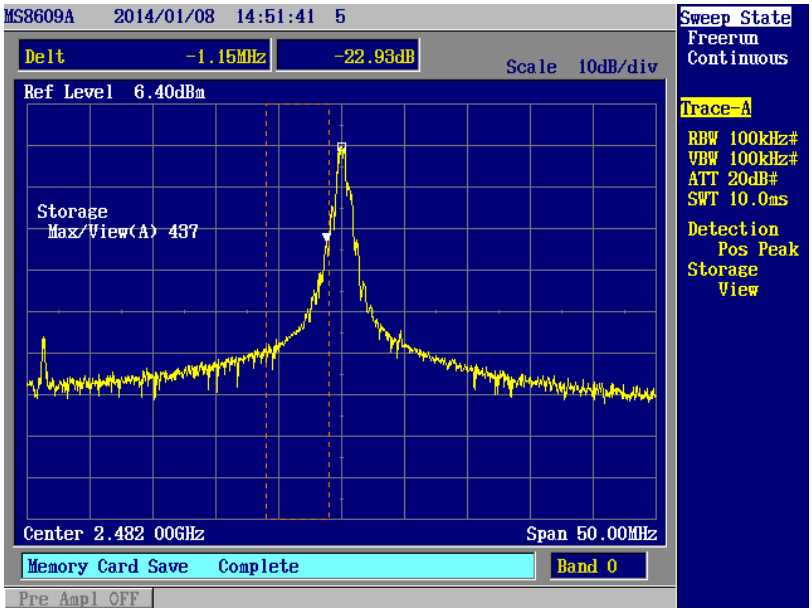


Figure 11 Band Edge of Compliance of RF Conducted Emissions (2482MHz/Lower)

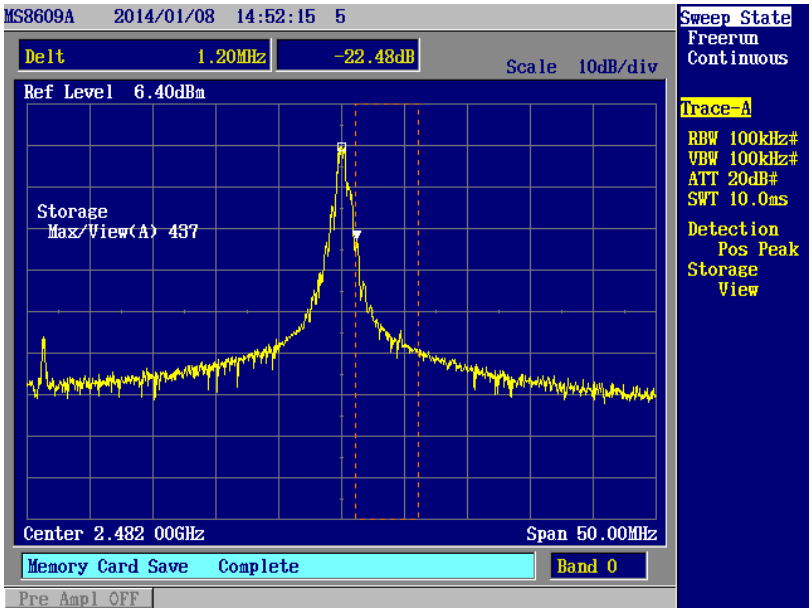


Figure 12 Band Edge of Compliance of RF Conducted Emissions (2482MHz/Higher)

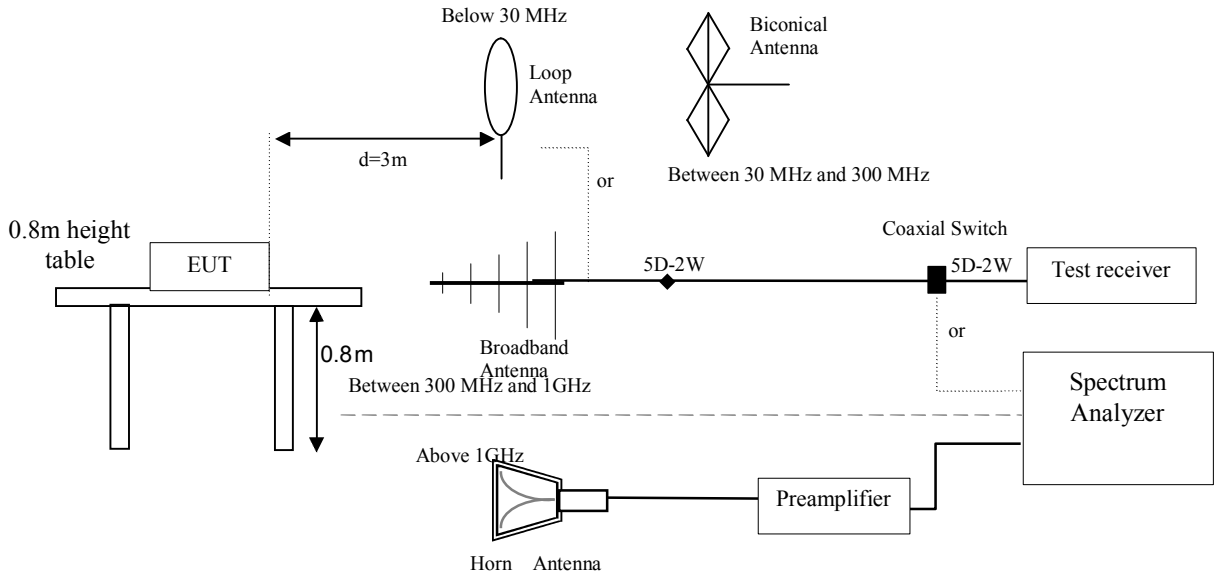
3.5 Radiated emission

3.5.1 Test Result

Pass

3.5.2 Test Detail

EUT was tested based on FCC 15.209 with antenna. See Annex B.



3.5.3 Test data

Table4 Radiated Emission (Lower ch 9kHz-30MHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
0.031	50.1	18.6	68.7	80	H	188	86.9	18.2
0.077	49.4	16.5	65.9	80	H	358	83.6	17.7

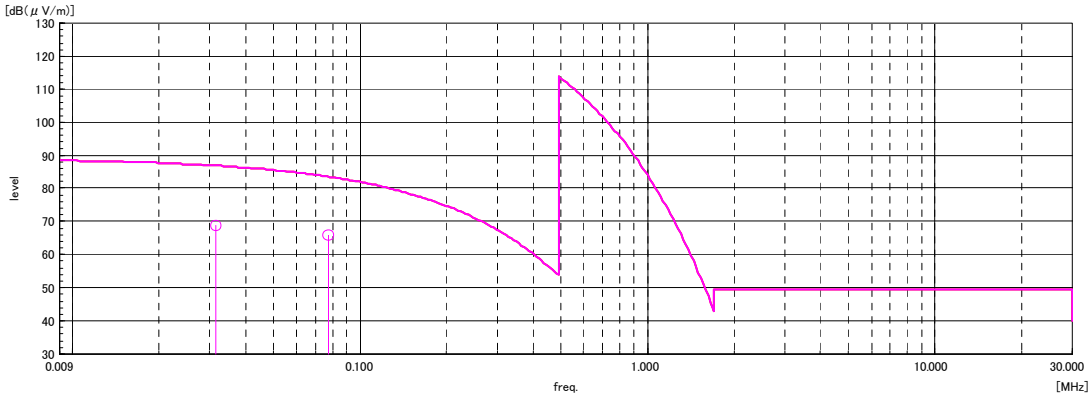


Figure 13 Radiated Emission (Lower ch 9kHz-30MHz)

Table5 Radiated Emission (Middle ch 9kHz-30MHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
0.032	50.7	18.6	69.3	80	H	252	86.8	17.5
0.077	48.4	16.5	64.9	80	H	259	83.6	18.7

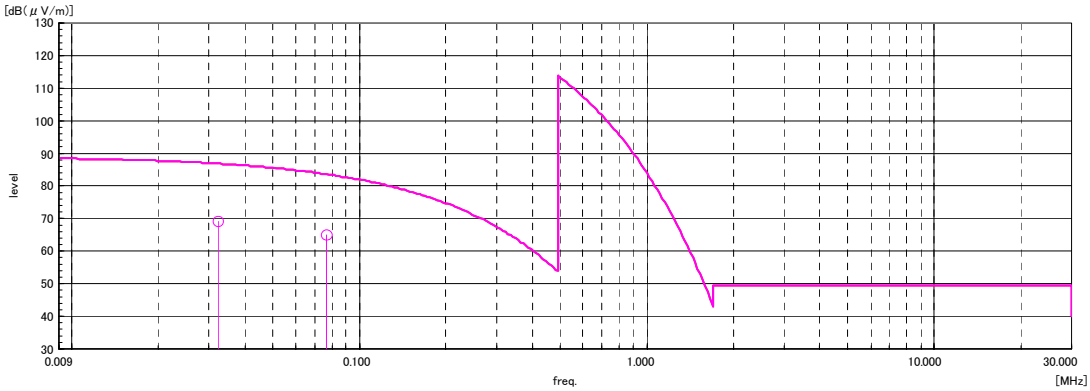


Figure 14 Radiated Emission (Middle ch 9kHz-30MHz)

Table6 Radiated Emission (Higher ch 9kHz-30MHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
0.032	50.7	18.6	69.3	80	H	252	86.8	17.5
0.077	48.4	16.5	64.9	80	H	259	83.6	18.7

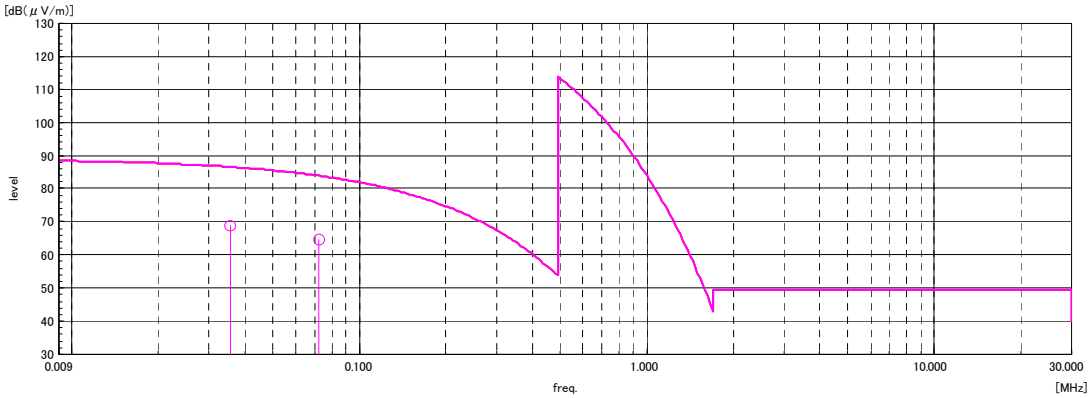


Figure 15 Radiated Emission (Higher ch 9kHz-30MHz)

Table7 Radiated Emission (Lower ch 30MHz-1GHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
260.022	0.4	22.1	22.5	100	V	121	46.0	23.5
295.880	0.4	24.0	24.4	254	H	352	46.0	21.6
960.055	3.6	29.7	33.3	156	H	222	54.0	24.3
997.580	4.4	30.4	34.8	249	V	268	54.0	23.6

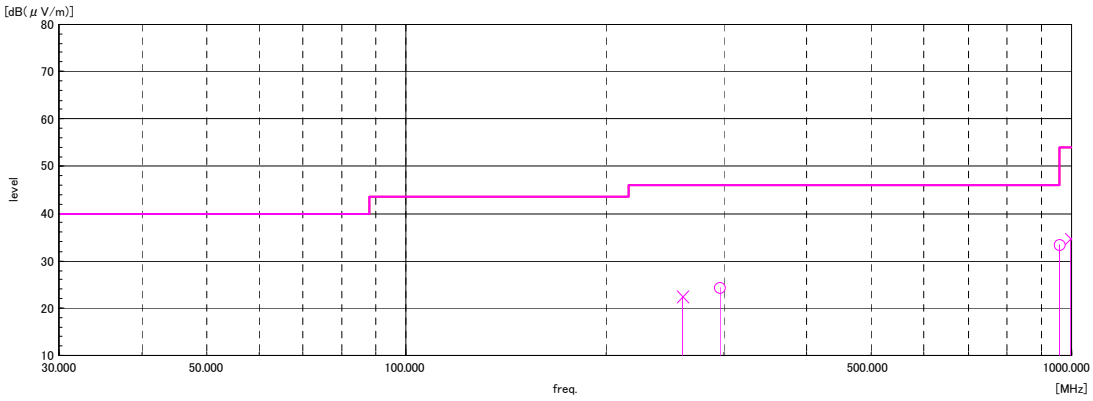


Figure 16 Radiated Emission (Lower ch 30MHz-1GHz)

Table8 Radiated Emission (Middle ch 30MHz-1GHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
290.799	0.4	23.2	23.6	111	V	133	46.0	22.4
292.682	0.4	23.8	24.2	354	H	231	46.0	21.8
730.205	2.3	26.6	28.9	104	V	287	46.0	17.1
960.841	3.6	29.7	33.3	336	H	26	54.0	20.7

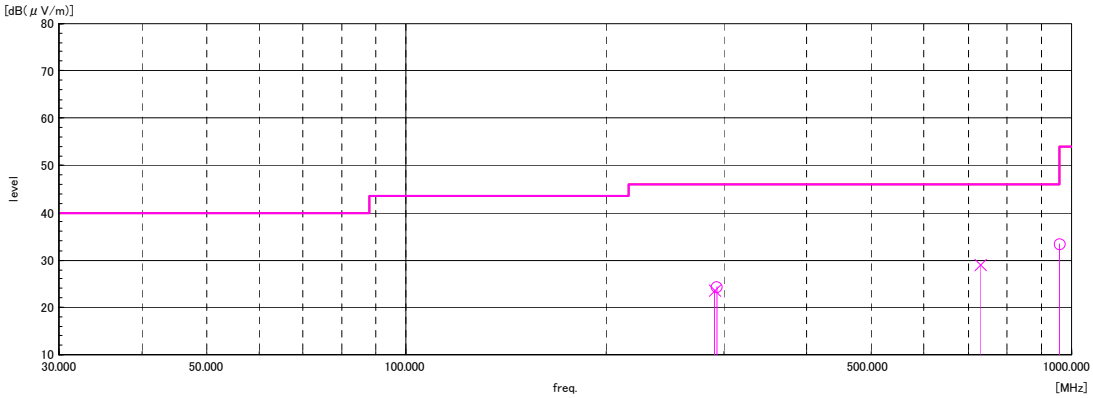


Figure 17 Radiated Emission (Middle ch 30MHz-1GHz)

Table9 Radiated Emission (Higher ch 30MHz-1GHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
277.147	0.4	22.8	23.2	287	V	172	46.0	22.8
294.808	0.4	24.0	24.4	250	H	334	46.0	21.6
764.434	2.8	26.6	29.4	258	V	145	46.0	16.6
966.452	3.7	29.8	33.5	160	H	89	54.0	20.5

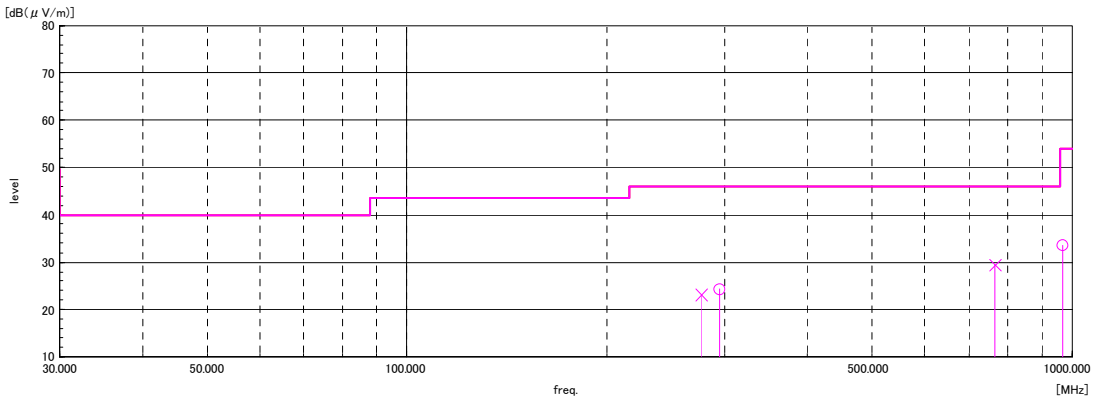


Figure 18 Radiated Emission (Higher ch 30MHz-1GHz)

Table10 Radiated Emission (Lower ch 1GHz-5GHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
2474.750	28.8	7.3	36.1	259	V	110	54.0	17.9
4801.804	33.9	16.4	50.3	105	H	13	54.0	3.7

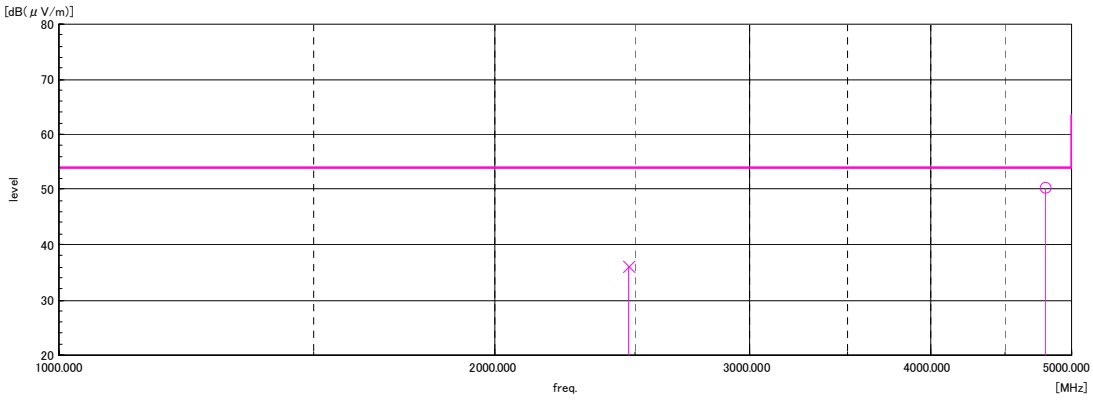


Figure 19 Radiated Emission (Lower ch 1GHz-5GHz)

Table11 Radiated Emission (Middle ch 1GHz-5GHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
4881.967	34.0	16.7	50.7	104	H	3	54.0	3.3

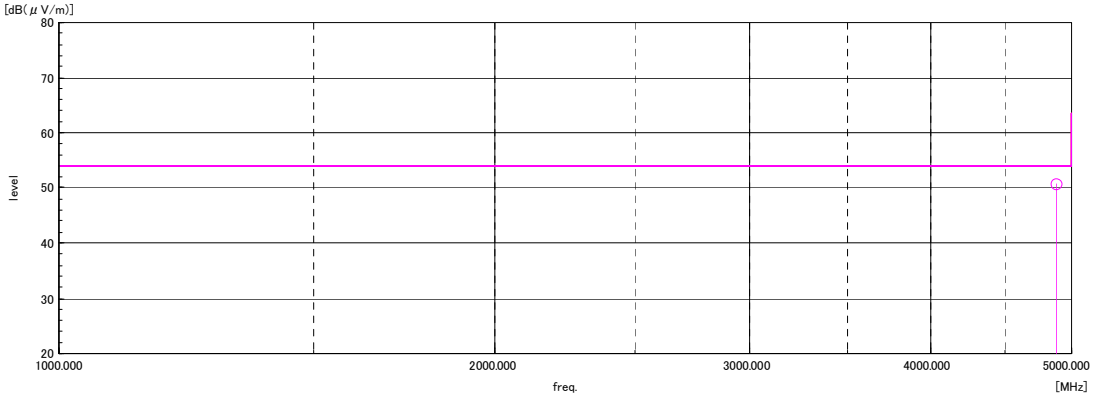


Figure 20 Radiated Emission (Middle ch 1GHz-5GHz)

Table12 Radiated Emission (Higher ch 1GHz-5GHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
3490.943	25.6	12.6	38.2	348	H	18	54	15.8
4963.890	35.5	17.0	52.5	99	H	354	54	1.5

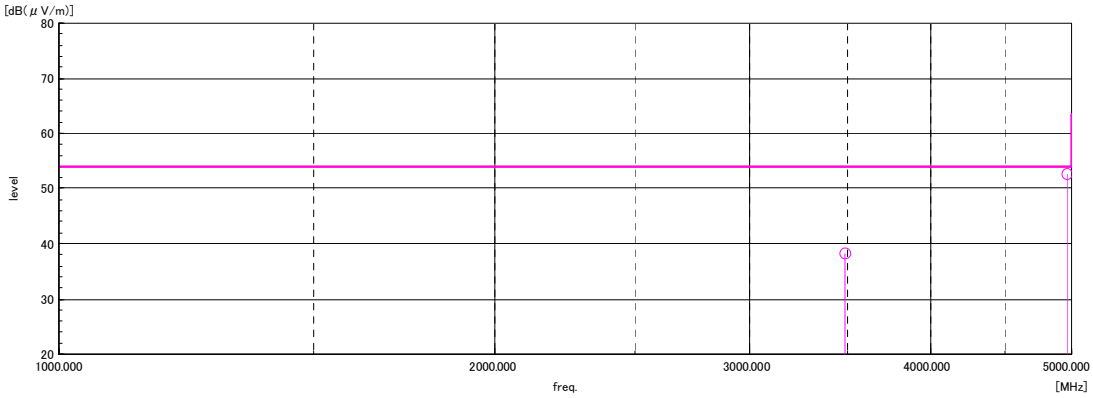


Figure 21 Radiated Emission (Higher ch 1GHz-5GHz)

Table13 Radiated Emission (Lower ch 5GHz-15GHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
7203.108	33.0	15.0	48.0	99	H	352	54.0	6.0
14813.136	18.7	29.1	47.8	400	V	269	54.0	6.2

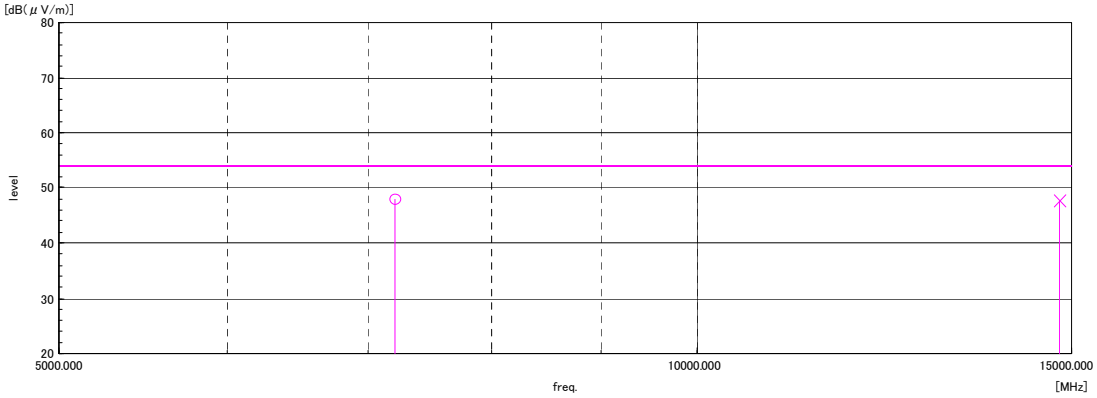


Figure 22 Radiated Emission (Lower ch 5GHz-15GHz)

Table14 Radiated Emission (Middle ch 5GHz-15GHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
7323.148	27.6	15.0	42.6	99	H	48	54.0	11.4
14836.765	18.8	29.0	47.8	245	V	346	54.0	6.2

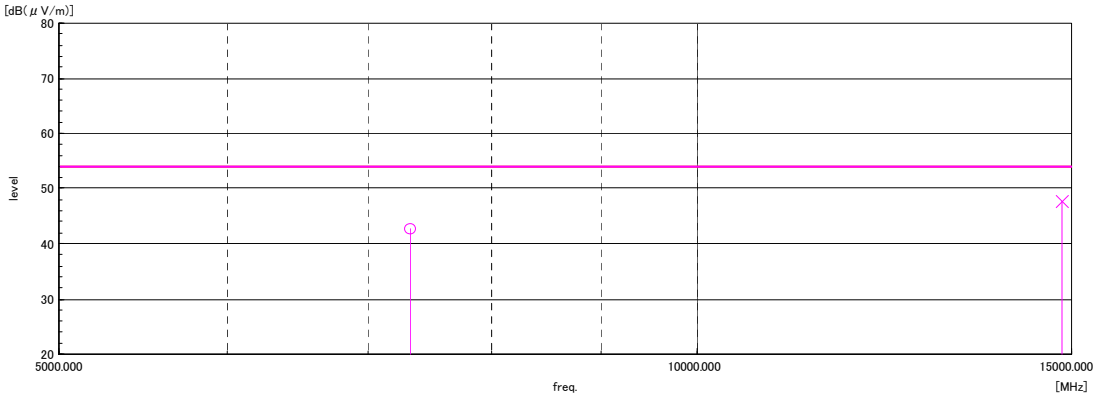


Figure 23 Radiated Emission (Middle ch 5GHz-15GHz)

Table15 Radiated Emission (Higher ch 5GHz-15GHz)

Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Noise level (dBμV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBμV/m)	Margin (dB)
7445.993	31.9	15.1	47.0	101	H	28	54.0	7.0
14801.889	18.8	29.1	47.9	349	V	27	54.0	6.1

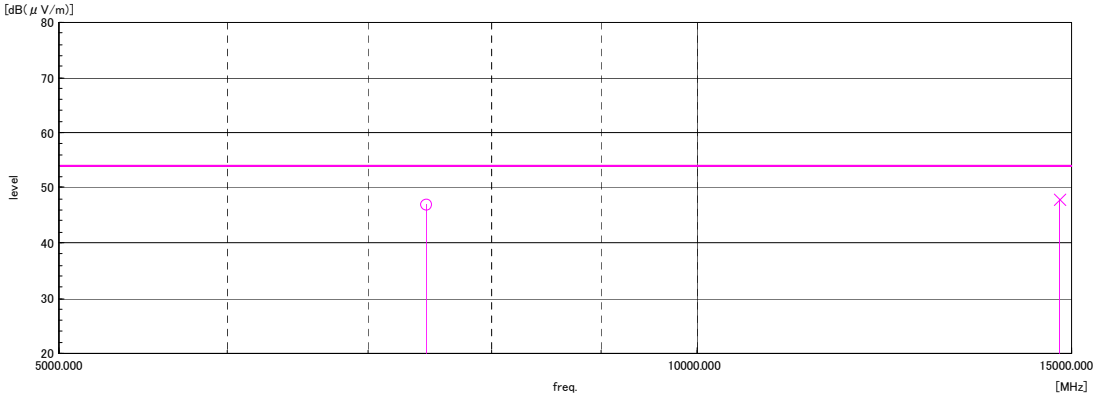


Figure 24 Radiated Emission (Higher ch 5GHz-15GHz)

Table16 Radiated Emission (Lower ch 15GHz-26GHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
16246.804	19.2	21.4	40.6	100	V	296	54.0	13.4
17776.618	19.3	24.9	44.2	100	H	20	54.0	9.8

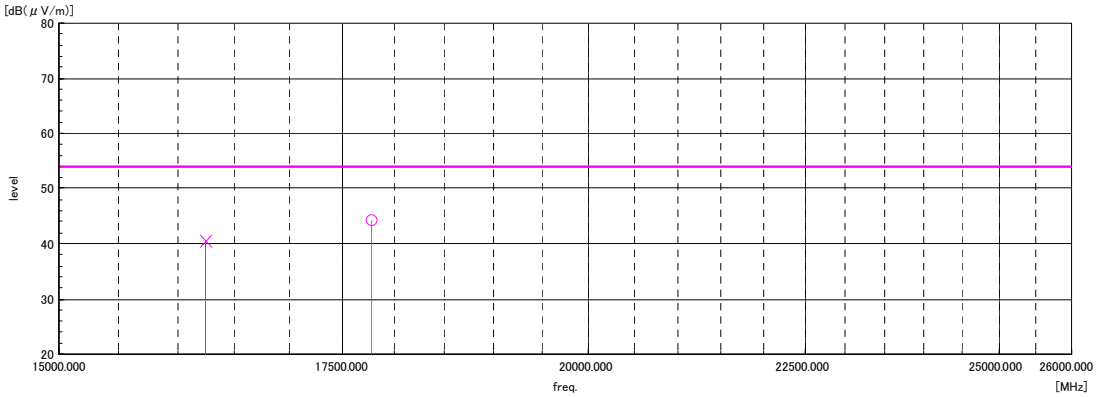


Figure 25 Radiated Emission (Lower ch 15GHz-26GHz)

Table17 Radiated Emission (Middle ch 15GHz-26GHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
16195.342	19.2	21.3	40.5	100	H	335	54.0	13.5
17812.336	19.6	25.2	44.8	110	V	265	54.0	9.2

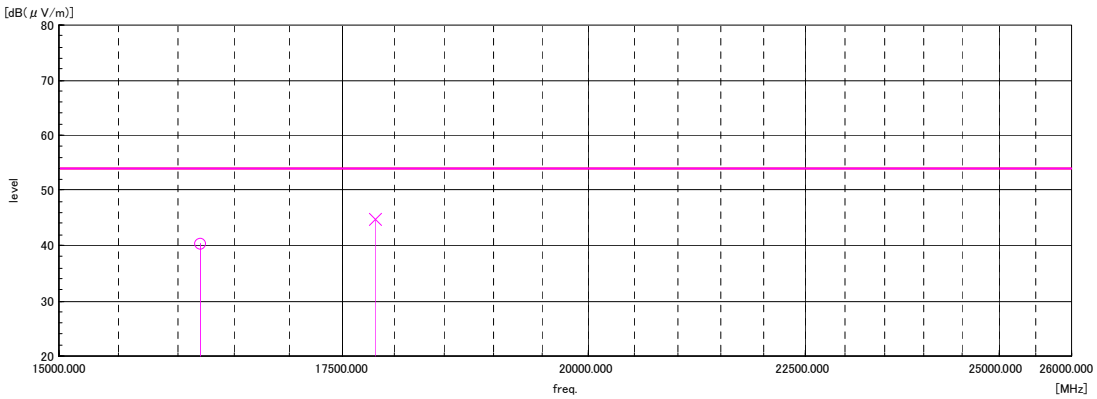


Figure 26 Radiated Emission (Middle ch 15GHz-26GHz)

Table18 Radiated Emission (Higher ch 15GHz-26GHz)

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Ant height (m)	Ant Pol (H/V)	Turn table angle (digree)	Limit (dBµV/m)	Margin (dB)
16324.533	19.7	21.1	40.8	100	V	315	54.0	13.2
17793.098	19.4	25.1	44.5	100	H	355	54.0	9.5

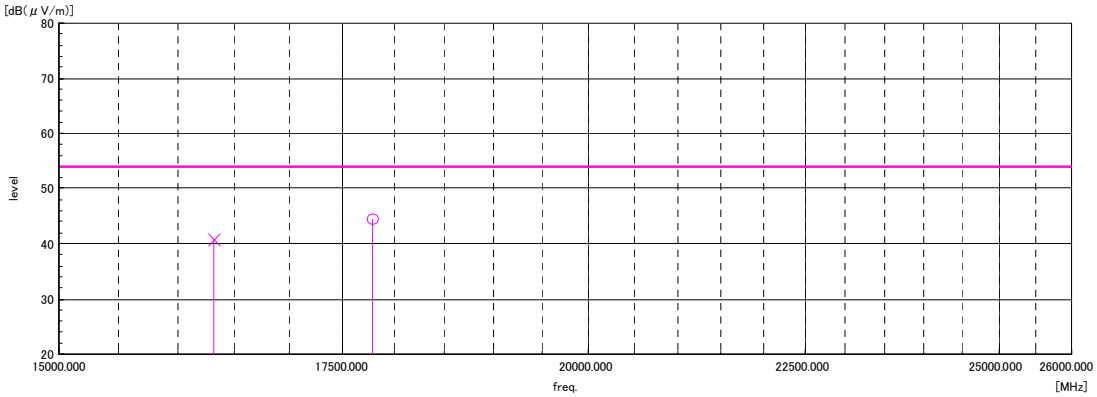


Figure 27 Radiated Emission (Higher ch 15GHz-26GHz)

4. Test Setup Photographs

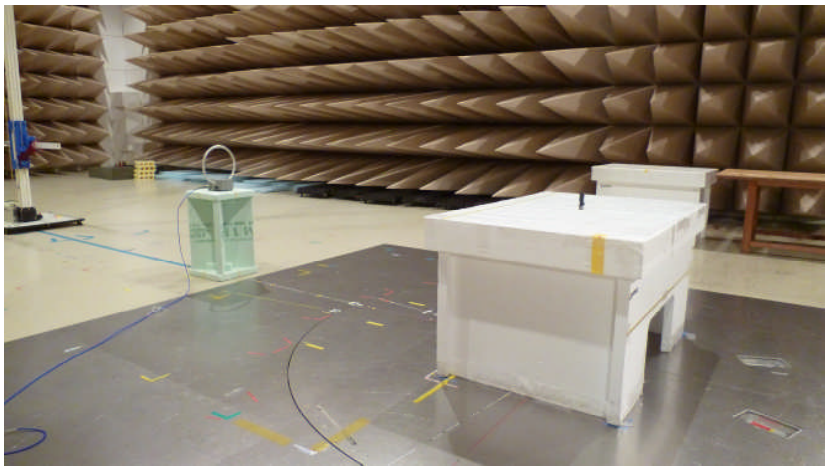


Photo1 Test setup for radiated

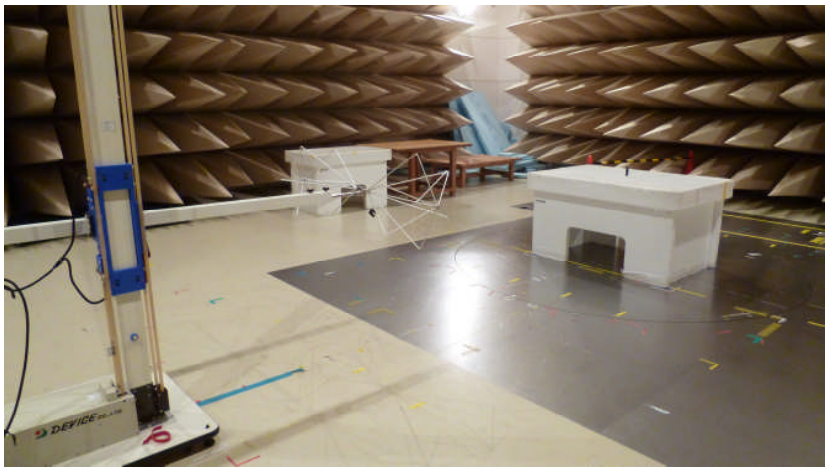


Photo2 Test setup for radiated

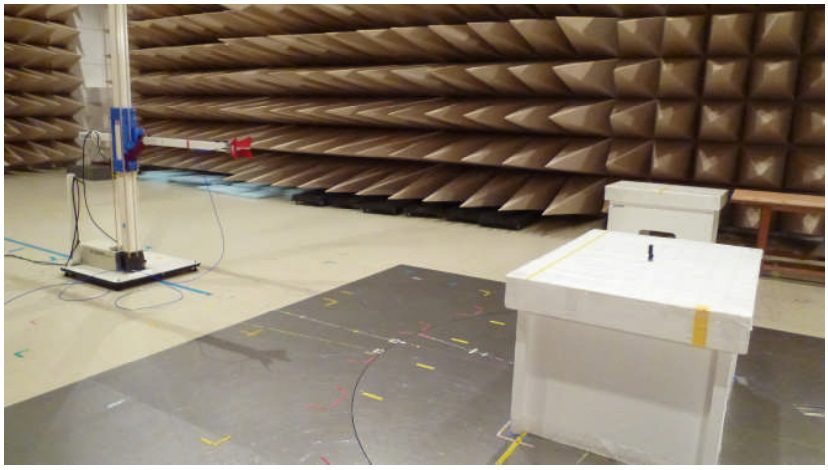


Photo3 Test setup for radiated

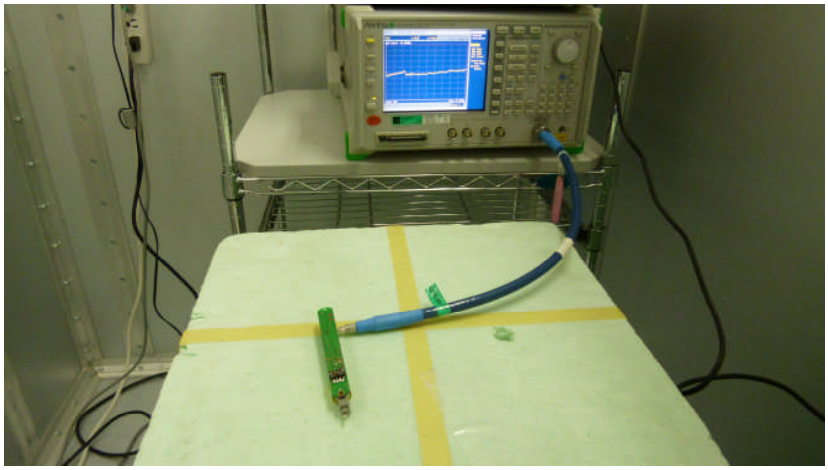


Photo4 Test setup for conducted

5. Test facility

5.1 Test Instruments

5.1.1 Conducted Emissions

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
Spectrum Analyzer	Anritsu	MS8609A	6200684960	2013/09/13	2014/09/30
Cable	HUBER+SUHNER	SUCOFLEX104EA	-	2013/05/07	2014/05/31

5.1.2 Radiated Electric-Field Emissions

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
EMI Test Receiver	Rohde & Schwarz	ESI26	100035	2014/01/4	2015/01/31
Pre amplifier	Hewlett Packard	8449B	3008A0079	2013/07/1	2014/07/31
Cable	Mini-Circuits	CBL-25FT-NMNM+	83148	2013/12/20	2014/12/31
Cable	Mini-Circuits	CBL-25FT-NMNM+	83145	2013/12/20	2014/12/31
Cable	Mini-Circuits	CBL-2M-NMNM+	71548	2013/12/20	2014/12/31
Cable	HUBER+SUHNER	SUCOFLEX104	104547/4	2013/06/19	2015/06/30
Loop Antenna	EMCO	6507	9108-1268	2013/04/03	2014/04/30
Biconical Antenna	Schwarzbeck	BBA9106	2542	2013/06/10	2014/06/30
Logperidodec Antenna	Schwarzbeck	UHALP9108A	0779	203/06/10	2014/06/30
Horn Antenna	ETS-LINDGREN	3117	00146463	2013/05/01	2014/05/31
Horn Antenna	ETS-LINDGREN	3116C	00146359	2014/01/28	2015/01/31

5.2 Test equipment

Dimension	Material	Measurement
1.5m(W) X 0.8m(H) X 1.0m(D)	Polystyrene	Conducted Emissions,Radiated Emissions
1.5m(W) X 0.8m(H) X 1.0m(D)	Polystyrene	Radiated Emissions

5.3 Normalized Site Attenuation

Site Name	Laboratory	Calibration Date	Due Date
No.1 EMC test room	Tokyo Laboratory	2013/10/23	2014/10/31

Annex A (Miscellaneous Information)

A.1 Test Locations

Unless otherwise described in this report, the tests were carried out at the following locations:

e-OHTAMA, Ltd., Tokyo Laboratory
2-8-10 Kurigi, Aso-ku, Kawasaki-shi, Kanagawa, Japan
TEL: +81-44-980-2090
FAX: +81-44-980-2052

VLAC Attestation No.: VLAC-018-1
VCCI Registration No.:A-0021

Annex B (Description of Test Method)

Unless otherwise described in this report, tests are carried out using the methods which are described in the applied standards and summarized in this section.

Specifically for 47 CFR 15 Subpart B, section 6 of ANSI C63.4-2003 is to be used for EUT arrangements and operations, and section 8 of the standard is to be used for radiated emissions measurement procedures.

B.1 Conducted Emissions (AC Main and Other Terminals)

Table-top EUT is placed on a wooden table so that one side (rear or bottom) of the EUT is separated 0.4 m from the reference plane (metallic wall or ground plane), and floor-standing EUT is placed on the ground plane.
Mains to the EUT is supplied through a LISN, and mains to non-EUT components, if any, are supplied through yet another LISN(s).
If LISN is not applicable, mains would be supplied directly and a voltage probe would be used instead for the measurement.
For each current-carrying conductors or terminals to be measured, a spectrum analyzer is used to pre-scan the emissions.
For each of the significant emissions detected, the maximum signal level is read using a measuring receiver having CISPR 16 quasi-peak (QP) and average (AV) detector function and 9 kHz nominal bandwidth.
Then, appropriate correction factor —consists of transducer (LISN or voltage probe) factor and transmission loss (due to the attenuator, filter and/or transient suppressor, if any, and the cable) in the system— is applied to the receiver reading to calculate the corresponding emission level.
For example, if reading on the receiver is 33.0 dBµV, the transducer factor is 0.5 dB, and transmission loss (attenuation) in the coaxial cable and the attenuator is 10.5 dB, the emission level is calculated as:
33.0 dBµV + 0.5 dB + 10.5 dB = 44.0 dBµV.
Finally, the calculated emission level is compared with the upper limit specified in the standard.
Actual measurement will be carried out according to the appropriate edition of CISPR 16-2-1, CISPR 22, and ANSI C63.4 and/or other standards whichever applicable.
Specifically for 47 CFR 15 Subpart B, section 6 of ANSI C63.4-2003 is to be used for EUT arrangements and operations, and section 8 of the standard is to be used for radiated emissions measurement procedures.

B.2 Radiated Electric-Field Emissions (30 MHz to 1000MHz)

EUT is placed on a turn-table in a test site, on a table (styrene form) 0.8 m height or on the floor unless otherwise specified in the standard.
Receiving antenna ---usually biconical, log-periodic or biconical/log-periodic hybrid---is positioned at the specified distance from the EUT.
For each polarization (horizontal and vertical), a spectrum analyzer is used to pre-scan the emissions while rotating the turn-table.
For each of the significant electromagnetic field detected, the test personnel discriminates EUT's emissions from the ambient noises.
For each of the significant emissions, maximum level of the emission is searched while rotating the turn-table and varying the antenna height between 1 m and 4 m, and the maximum signal level is read using a measuring receiver having CISPR 16 quasi-peak (QP) detector function and 120 kHz nominal bandwidth.
Then, appropriate correction factor —consists of antenna factor, amplifier gain and transmission loss (due to the attenuator and the cable loss) in the system— is applied to the receiver reading to calculate the corresponding field strength.
For example, if reading on the receiver is 33.0 dBµV, the antenna factor is 9.4 dB (1/m), the amplifier gain is 25.6 dB, and transmission loss (attenuation) in the coaxial cable and the attenuator is 6.5 dB, the field strength is calculated as: 33.0 dBµV + 9.4 dB (1/m) - 25.6 dB + 6.5 dB = 23.3 dBµV/m.
Finally, the calculated field strength is compared with the upper limit specified in the standard.
Actual measurement will be carried out according to the appropriate edition of CISPR 16-2-3, CISPR 22, and ANSI C63.4 and/or other standards whichever applicable.
Specifically for 47 CFR 15 Subpart B, section 6 of ANSI C63.4-2003 is to be used for EUT arrangements and operations, and section 8 of the standard is to be used for radiated emissions measurement procedures.

B.3 Radiated Electric-Field Emissions above 1000MHz

EUT is placed on a turn-table in a test site, on a table (styrene foam) 0.8 m height or on the floor unless otherwise specified in the standard.
Receiving antenna ---usually double ridge waveguide horn or standard horn--- is positioned at the specified distance from the EUT.
For each polarization (horizontal and vertical), a spectrum analyzer is used to pre-scan the emissions while rotating the turn-table.
For each of the significant electromagnetic field detected, the test personnel discriminates EUT's emissions from the ambient noises.
For each of the significant emissions, maximum level of the emission is searched while rotating the turn-table and varying the antenna height if it is required, and the maximum signal level is read using a spectrum analyzer or a measuring receiver having peak detector function and 1 MHz nominal bandwidth, unless otherwise specified in the standard. To obtain average readings with spectrum analyzers, video averaging (usually with VBW = 10 Hz) may be used.
As specified in the applicable standard, the antenna height would be (1) varied between 1 m and 4 m, or (2) varied so that the whole height of the EUT is covered by the main lobe of the receiving antenna, or (3) fixed to the approximate radiation center of the EUT.
Then, appropriate correction factor ---consists of antenna factor, amplifier gain and transmission loss (due to the attenuator and the cable loss) in the system--- is applied to the spectrum analyzer/receiver reading to calculate the corresponding field strength, and the result is compared with the upper limit specified in the standard.
Actual measurement will be carried out according to the appropriate edition of CISPR 16-2-3, CISPR 22, ANSI C63.4 and/or other standards whichever applicable.
Specifically for 47 CFR 15 Subpart B, section 6 of ANSI C63.4-2003 is to be used for EUT arrangements and operations, and section 8 of the standard is to be used for radiated emissions measurement procedures.

B.4 Radiated Magnetic-Field Emissions

EUT is placed on a turn-table in a test site, on a (styrene foam) table 0.8 m height or on the floor unless otherwise specified in the standard.
Receiving antenna ---loop antenna (active or passive) --- is positioned at the specified distance from the EUT.
A spectrum analyzer is used to pre-scan the emissions while rotating the turn-table.
For each of the significant electromagnetic field detected, the test personnel discriminates EUT's emissions from the ambient noises.
For each of the significant emissions, maximum level of the emission is searched while rotating the turn-table and rotating the receiving antenna about its center, and the maximum signal level is read using a measuring receiver having CISPR 16 quasi-peak (QP) detector function and 120 kHz nominal bandwidth.
Then, appropriate correction factor ---consists of antenna factor, and transmission loss (cable loss) in the system--- is applied to the receiver reading to calculate the corresponding field strength, and the result is compared with the upper limit specified in the standard.
In general, it is assumed that magnetic field strength can be converted to electric field strength by applying the free space impedance of approximately 377 ohms, and vice versa.
Actual measurement will be carried out according to the appropriate edition of CISPR 16-2-3, ANSI C63.4 and/or other standards whichever applicable.