OHTAMA

EMC Test Report

Test Report Number	T-1560564-01
Applied Standard(s)	EN55014-1:2006+A1:2009+A2:2011 EN61000-3-2:2014 EN61000-3-3:2013 EN55014-2:1997+A1:2001+A2:2008
Date of Issue	25 February, 2016
Testing Laboratory Address	e-OHTAMA, LTD. Ashigawa Laboratory 1661 Ohshuku, Ashigawa-cho, Fuefuki-shi, Yamanashi 409-3704 JAPAN e-OHTAMA, LTD. Kamikuishiki Laboratory 3415 Furuseki-machi, Kofu-shi, Yamanashi 409-3712 JAPAN
Test Date(s)	13 January, 2016 to 28 January, 2016
Product Name	Super Modular Multi System Air Conditioner
Model Number	MMY-MAP2006FT8P-E MMY-MAP1406FT8P-E RBM-Y1801F6PE
Serial Number	52700001 52700005 55100001
Applicant (Client) Address	Toshiba Carrier Corporation Fuji Factory and Engineering Center 336, Tadehara, Fuji-shi, Shizuoka-ken, 416-8521 Japan
Manufacturer Address	Toshiba Carrier (Thailand) Co., Ltd 144/9 Moo 5, Bangkadi Industrial Park, Tivanon Road, Tambol Bangkadi, Amphur Muang, Pathumthani 12000, Thailand
License Holder Address	Toshiba Carrier Corporation Fuji Factory and Engineering Center 336, Tadehara, Fuji-shi, Shizuoka-ken, 416-8521 Japan

Test Result

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

☒ **Pass**

TÜV SÜD Product Service

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Approved by: Masashi Fujimoto, Center Manager

TÜV SÜD JAPAN LTD.

REVIEWED
02 MAR 2016
SIG.

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Blank box (☐) indicates that the listed condition, standard or equipment is not applicable for this Report.
It is not allowed to copy this report, except in full, without written permission of the test laboratory.
Test results of this report refer only to the EUT tested here.

1. Summary

1.1 Terms and definitions

AV
Average

CDN
Coupling Decoupling Network

EFT/B
Electrical Fast Transient / Burst

PK
Peak

QP
Quasi-peak

VCP
Vertical coupling plane

1.4 Performance Criteria

The performance criteria, as specified by the applicant, for the immunity tests are:

Performance Criterion A
The apparatus shall continue to operate as intended during and after the test.
No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of those may be derived from the product description and documentation, and from what the user may reasonably expect from apparatus if used as intended.
Both EUT and AE shall continue to operate as intended during and after the test.

Performance Criterion B
The apparatus shall continue to operate as intended after the test.
No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of those may be derived from the product description and documentation, and from what the user may reasonably expect from apparatus if used as intended.
Both EUT and AE shall continue to operate as intended after the test. When degradation of performance occur, it shall restore after the test.

Performance Criterion C
Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.
Temporary loss of function is allowed, provided the function is self-recoverable of can be restored by re-start of Remote Controller, of by any operation specified in the instructions for use.

"Judgment" in the immunity test result(s) corresponds to the performance criteria above.

1.5 Monitoring of the Performance

- Indoor Unit: Does Fan Motor operate normally?
- Wired Remote Controller: Is there any deterioration of LCD display?
- Outdoor Unit: Does Outdoor Unit Fan rotate?
- FS Unit: in each interval of operation such as Cooling mode to Heating mode, and Heating mode to Cooling mode, check the sound hearing from 2way valve into the FS unit.
  If no sound, FS unit does not operate

2.3 Modification to the EUT

Refer to CDF.

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

Operation Mode Name	Description
Heating mode	ambient temperature 15±5°C or stable temperature, maximum operating rate Only as for the harmonic ambient temperature 15±2°C
Cooling mode	ambient temperature 30±5°C or stable temperature, maximum operating rate Only as for the harmonic ambient temperature 30±2°C

2.5.3 EUT

Mark	Description	Model Number	Serial Number	Manufacturer
EUT2	Flow Selector Unit	RBM-Y1801F6PE	55100001	Toshiba Carrier (Thailand) Co., Ltd.

2.5.4 Peripheral Devices

Mark	Description	Model Number	Serial Number	Manufacturer
A	Outdoor Unit	MMY-MAP2006FT8P-E	52700001	Toshiba Carrier (Thailand) Co., Ltd.
B	Indoor Unit A	MMC-AP0247HP1-E	601Z0001	Toshiba Carrier (Thailand) Co., Ltd.
C	Indoor Unit B	MMC-AP0247HP1-E	601Z0002	Toshiba Carrier (Thailand) Co., Ltd.
D	Indoor Unit C	MMC-AP0487HP1-E	601Z0001	Toshiba Carrier (Thailand) Co., Ltd.
E	Indoor Unit D	MMU-AP0484HP1-E	601Z0001	Toshiba Carrier (Thailand) Co., Ltd.
F	Indoor Unit E	MMU-AP0484HP1-E	601Z0002	Toshiba Carrier (Thailand) Co., Ltd.
G	Indoor Unit F	MMU-AP0482WH1	601Z0001	Toshiba Carrier
H	Wired remote controller A	RBC-AMT32E	L3161111	Toshiba Carrier
I	Wired remote controller B	RBC-AMT32E	L3071115	Toshiba Carrier
J	Wired remote controller C	RBC-AMT32E	L9140915	Toshiba Carrier
K	Wired remote controller D	RBC-AMT32E	L3071115	Toshiba Carrier
L	Wired remote controller E	RBC-AMT32E	L3221110	Toshiba Carrier
M	Wired remote controller F	RBC-AMT32E	L3190712	Toshiba Carrier
N	Drain up kit	TCB-DP31HEX	12023	Toshiba Carrier

2.5.6 EUT

Mark	Description	Model Number	Serial Number	Manufacturer
EUT3	Outdoor Unit	MMY-MAP1406FT8P-E	52700005	Toshiba Carrier

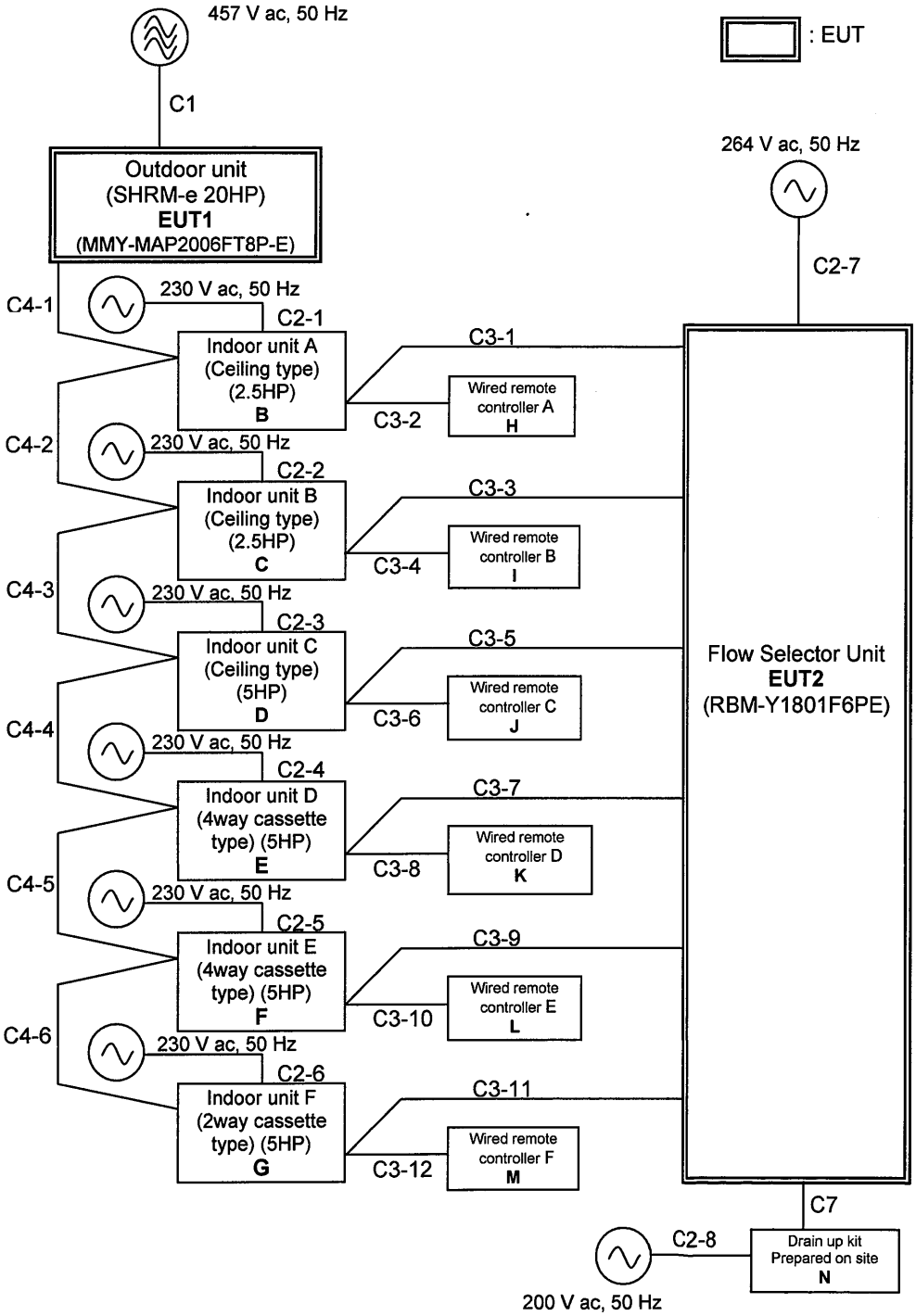
2.5.7 Peripheral Devices

Mark	Description	Model Number	Serial Number	Manufacturer
O	FS Unit	RBM-Y1801F6PE	55100001	Toshiba Carrier (Thailand) Co., Ltd.
P	Indoor Unit A	MMC-AP0247HP1-E	601Z0001	Toshiba Carrier (Thailand) Co.
Q	Indoor Unit B	MMC-AP0247HP1-E	601Z0002	Toshiba Carrier (Thailand) Co.
R	Indoor Unit C	MMC-AP0487HP1-E	601Z0001	Toshiba Carrier (Thailand) Co.
S	Indoor Unit D	MMU-AP0364HP1-E	601Z0001	Toshiba Carrier (Thailand) Co.
T	Indoor Unit E	MMU-AP0364HP1-E	601Z0002	Toshiba Carrier (Thailand) Co.
U	Wired remote controller A	RBC-AMT32E	L3161111	Toshiba Carrier
V	Wired remote controller B	RBC-AMT32E	L3071115	Toshiba Carrier
W	Wired remote controller C	RBC-AMT32E	L9140915	Toshiba Carrier
X	Wired remote controller D	RBC-AMT32E	L3071115	Toshiba Carrier
Y	Wired remote controller E	RBC-AMT32E	L3221110	Toshiba Carrier
Z	Drain up kit	TCB-DP31HEX	12023	Toshiba Carrier

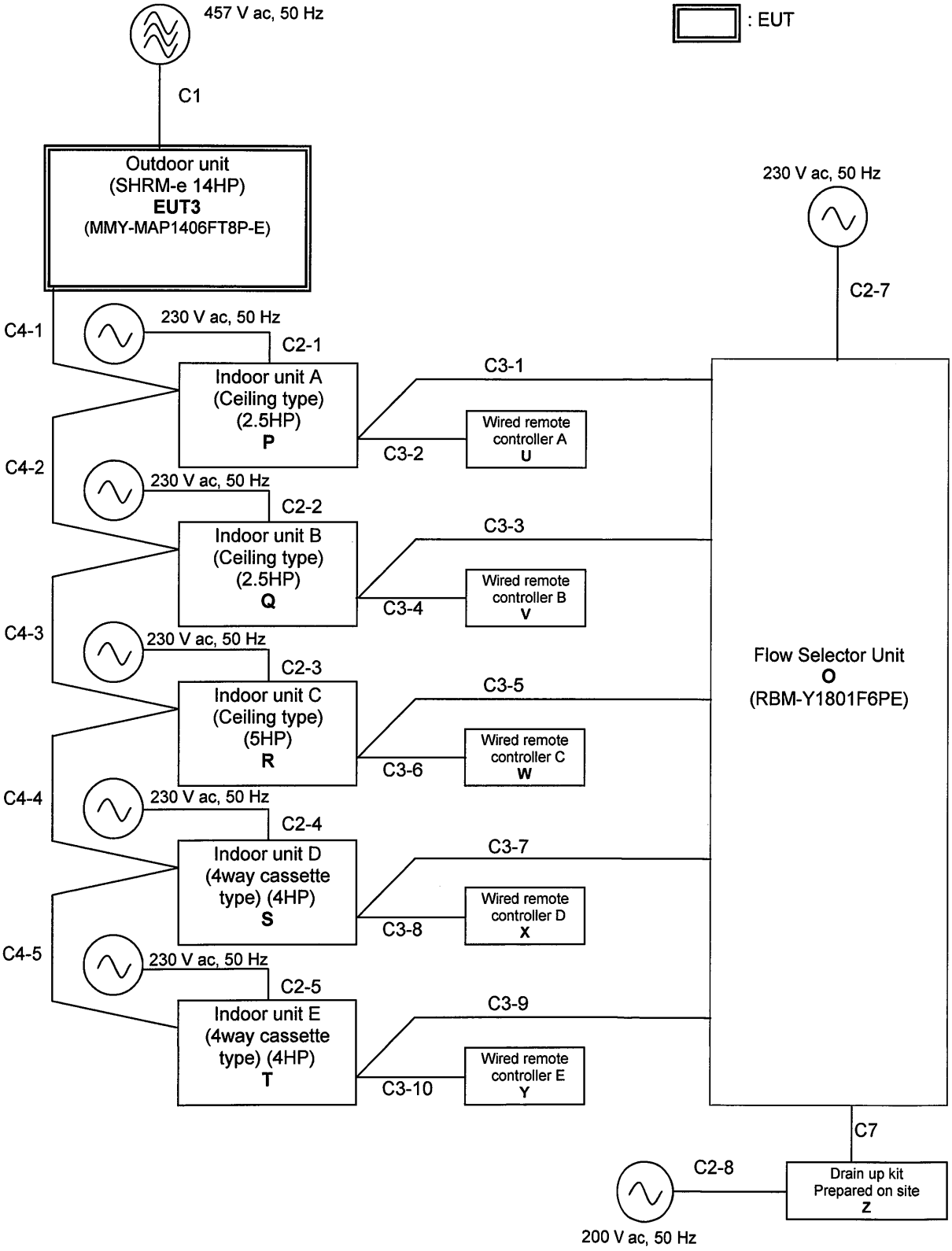
2.6 System Configuration

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

Setup 1 (Conducted Emissions, Radiated Electric-Field Emissions and Disturbance Power

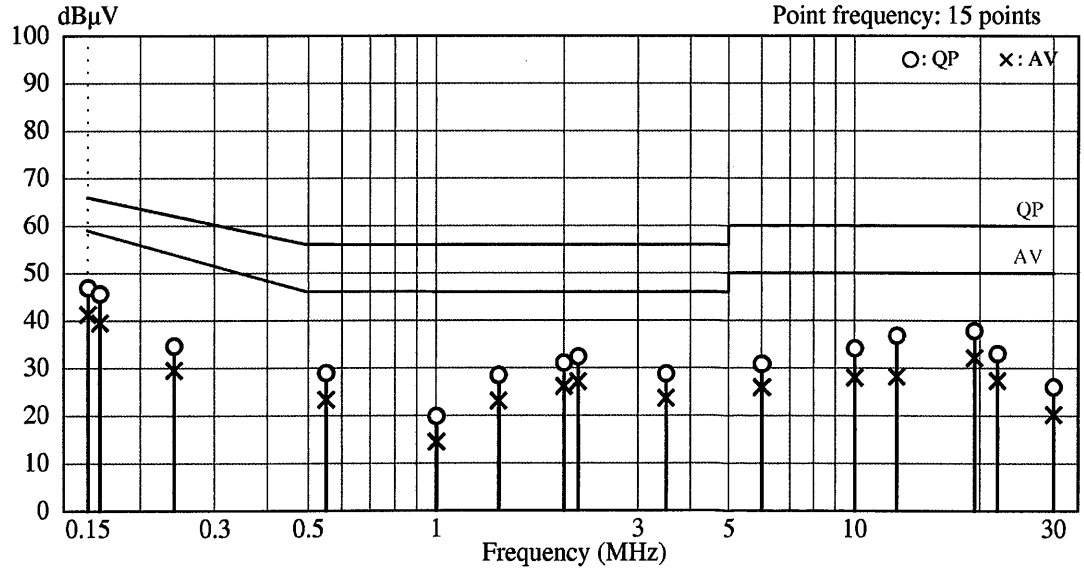


Setup 2 (Conducted Emissions, Radiated Electric-Field Emissions and Disturbance Power)



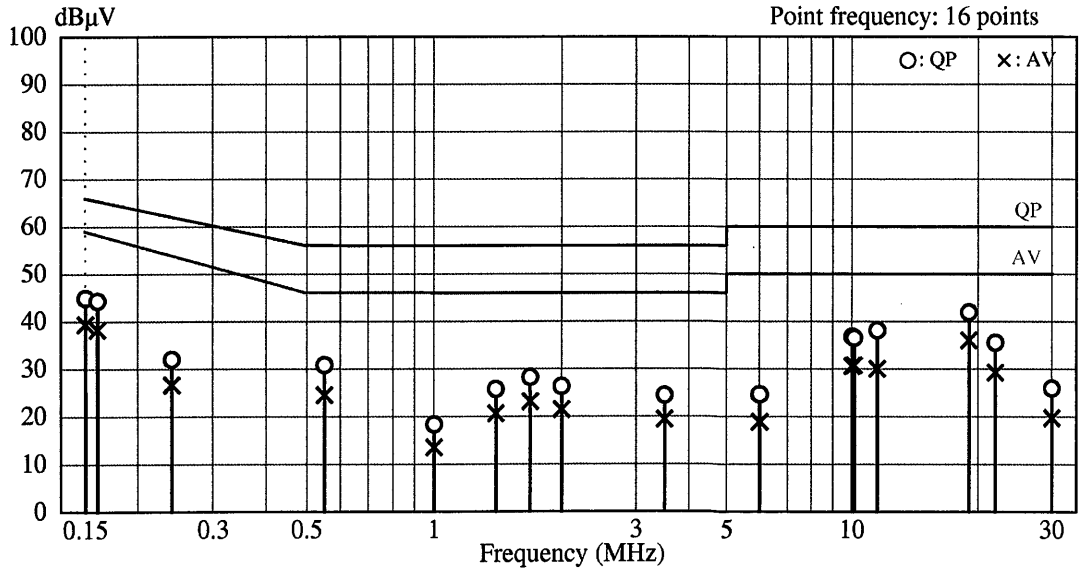
3.1.1.3 Heating mode (L1)

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	36.3	30.7	10.6	46.9	41.3	66.0	59.0	19.1	17.7
0.1600	35.0	28.9	10.6	45.6	39.5	65.5	58.3	19.9	18.8
0.2400	24.0	18.9	10.6	34.6	29.5	62.1	53.9	27.5	24.4
0.5500	18.2	12.6	10.7	28.9	23.3	56.0	46.0	27.1	22.7
1.0000	9.0	3.6	10.8	19.8	14.4	56.0	46.0	36.2	31.6
1.4000	17.6	12.2	10.8	28.4	23.0	56.0	46.0	27.6	23.0
2.0000	20.1	15.2	10.9	31.0	26.1	56.0	46.0	25.0	19.9
2.1641	21.4	16.2	10.9	32.3	27.1	56.0	46.0	23.7	18.9
3.5000	17.7	12.6	11.0	28.7	23.6	56.0	46.0	27.3	22.4
6.0000	19.5	14.6	11.3	30.8	25.9	60.0	50.0	29.2	24.1
10.0000	22.4	16.2	11.7	34.1	27.9	60.0	50.0	25.9	22.1
12.5935	24.8	16.2	12.0	36.8	28.2	60.0	50.0	23.2	21.8
19.3581	25.1	19.4	12.7	37.8	32.1	60.0	50.0	22.2	17.9
22.0000	20.1	14.4	12.9	33.0	27.3	60.0	50.0	27.0	22.7
30.0000	12.7	6.9	13.3	26.0	20.2	60.0	50.0	34.0	29.8



3.1.1.5 Heating mode (L3)

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	34.3	28.8	10.6	44.9	39.4	66.0	59.0	21.1	19.6
0.1600	33.7	27.6	10.6	44.3	38.2	65.5	58.3	21.2	20.1
0.2400	21.3	15.9	10.7	32.0	26.6	62.1	53.9	30.1	27.3
0.5500	20.1	13.8	10.7	30.8	24.5	56.0	46.0	25.2	21.5
1.0000	7.5	2.7	10.8	18.3	13.5	56.0	46.0	37.7	32.5
1.4000	14.9	9.8	10.8	25.7	20.6	56.0	46.0	30.3	25.4
1.6887	17.3	12.2	10.9	28.2	23.1	56.0	46.0	27.8	22.9
2.0000	15.4	10.5	10.9	26.3	21.4	56.0	46.0	29.7	24.6
3.5000	13.4	8.4	11.0	24.4	19.4	56.0	46.0	31.6	26.6
6.0000	13.4	7.6	11.2	24.6	18.8	60.0	50.0	35.4	31.2
10.0000	25.2	19.0	11.6	36.8	30.6	60.0	50.0	23.2	19.4
10.1104	24.9	19.1	11.6	36.5	30.7	60.0	50.0	23.5	19.3
11.4854	26.3	18.2	11.8	38.1	30.0	60.0	50.0	21.9	20.0
19.0005	29.5	23.6	12.4	41.9	36.0	60.0	50.0	18.1	14.0
22.0000	22.9	16.6	12.6	35.5	29.2	60.0	50.0	24.5	20.8
30.0000	12.7	6.5	13.2	25.9	19.7	60.0	50.0	34.1	30.3



3.1.2 Test specification

Standard	EN55014-1:2006+A1:2009+A2:2011
Frequency Range	0.15 MHz to 30 MHz
Test Date	20 January, 2016
Test Location	Ashigawa Laboratory Open site No.2
Test Engineer	Tatsuya Ito
Temperature	12 °C
Humidity	16 % RH
Pressure	925 hPa
Power Supply	457 V ac, 50 Hz
Operation Mode Name	Heating mode
Configuration	Setup 2

3.1.2.1 Test Result

Pass

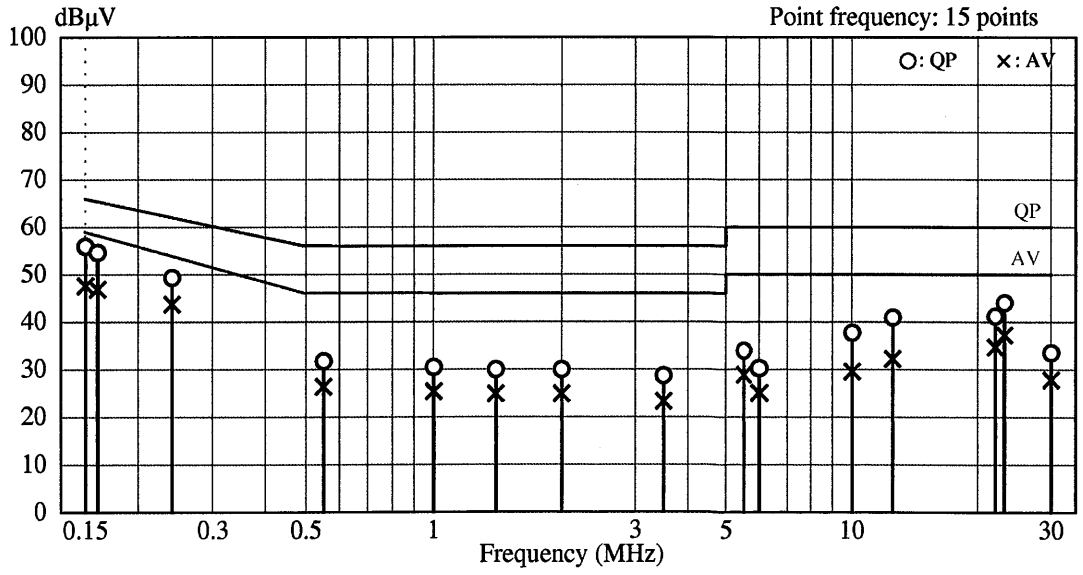
3.1.2.2 Test Detail

Tested Port	Minimum limit margin	Note
AC power cable for Outdoor Unit (Mark C1)	10.1 dB at 0.1500 MHz (QP)	

Remarks: No clicks were observed in this test.

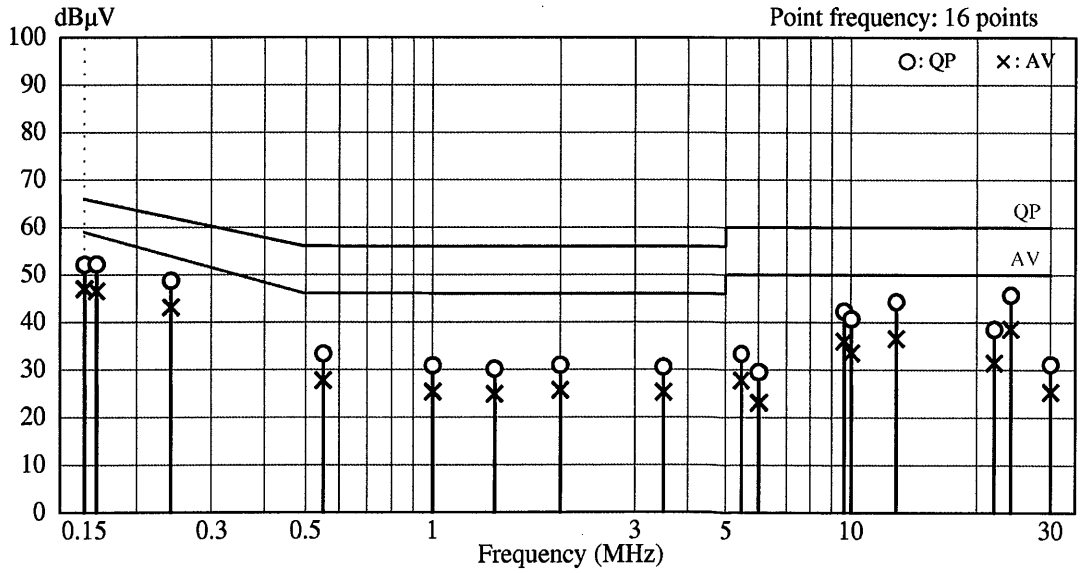
3.1.2.4 Heating mode (L2)

Frequency (MHz)	Reading (dBμV)		Correction factor (dB)	Noise level (dBμV)		Limit (dBμV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	45.3	37.0	10.6	55.9	47.6	66.0	59.0	10.1	11.4
0.1600	44.0	36.2	10.6	54.6	46.8	65.5	58.3	10.9	11.5
0.2400	38.6	33.0	10.7	49.3	43.7	62.1	53.9	12.8	10.2
0.5500	21.0	15.6	10.7	31.7	26.3	56.0	46.0	24.3	19.7
1.0000	19.6	14.5	10.8	30.4	25.3	56.0	46.0	25.6	20.7
1.4000	19.1	14.0	10.8	29.9	24.8	56.0	46.0	26.1	21.2
2.0000	19.0	13.9	10.9	29.9	24.8	56.0	46.0	26.1	21.2
3.5000	17.6	12.2	11.0	28.6	23.2	56.0	46.0	27.4	22.8
5.5107	22.7	17.6	11.2	33.9	28.8	60.0	50.0	26.1	21.2
6.0000	18.9	13.7	11.3	30.2	25.0	60.0	50.0	29.8	25.0
10.0000	26.0	17.8	11.7	37.7	29.5	60.0	50.0	22.3	20.5
12.4920	28.9	20.2	12.0	40.9	32.2	60.0	50.0	19.1	17.8
22.0000	28.3	21.8	12.9	41.2	34.7	60.0	50.0	18.8	15.3
23.1487	31.0	24.2	13.0	44.0	37.2	60.0	50.0	16.0	12.8
30.0000	20.1	14.4	13.4	33.5	27.8	60.0	50.0	26.5	22.2



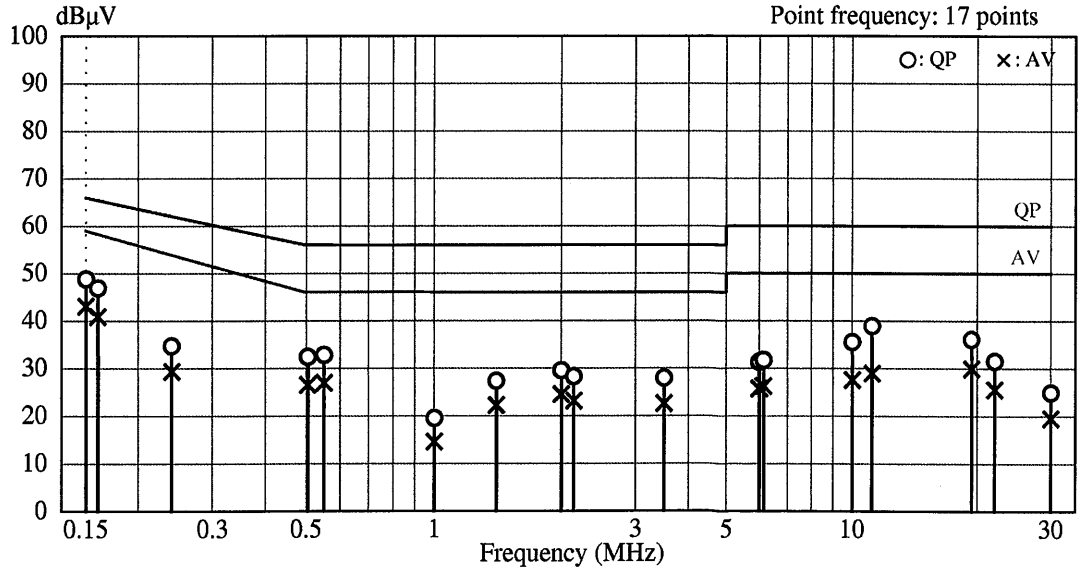
3.1.2.6 Heating mode (Neutral)

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	41.5	36.4	10.6	52.1	47.0	66.0	59.0	13.9	12.0
0.1600	41.6	35.9	10.6	52.2	46.5	65.5	58.3	13.3	11.8
0.2400	38.1	32.5	10.6	48.7	43.1	62.1	53.9	13.4	10.8
0.5500	22.6	17.0	10.7	33.3	27.7	56.0	46.0	22.7	18.3
1.0000	20.0	14.5	10.8	30.8	25.3	56.0	46.0	25.2	20.7
1.4000	19.3	14.0	10.8	30.1	24.8	56.0	46.0	25.9	21.2
2.0000	20.0	14.7	10.9	30.9	25.6	56.0	46.0	25.1	20.4
3.5000	19.5	14.2	11.0	30.5	25.2	56.0	46.0	25.5	20.8
5.4390	22.1	16.5	11.2	33.3	27.7	60.0	50.0	26.7	22.3
6.0000	18.2	11.8	11.3	29.5	23.1	60.0	50.0	30.5	26.9
9.6158	30.6	24.3	11.7	42.3	36.0	60.0	50.0	17.7	14.0
10.0000	29.0	21.8	11.7	40.7	33.5	60.0	50.0	19.3	16.5
12.8162	32.3	24.5	12.0	44.3	36.5	60.0	50.0	15.7	13.5
22.0000	25.5	18.4	13.0	38.5	31.4	60.0	50.0	21.5	18.6
24.0811	32.5	25.3	13.2	45.7	38.5	60.0	50.0	14.3	11.5
30.0000	17.7	11.9	13.4	31.1	25.3	60.0	50.0	28.9	24.7



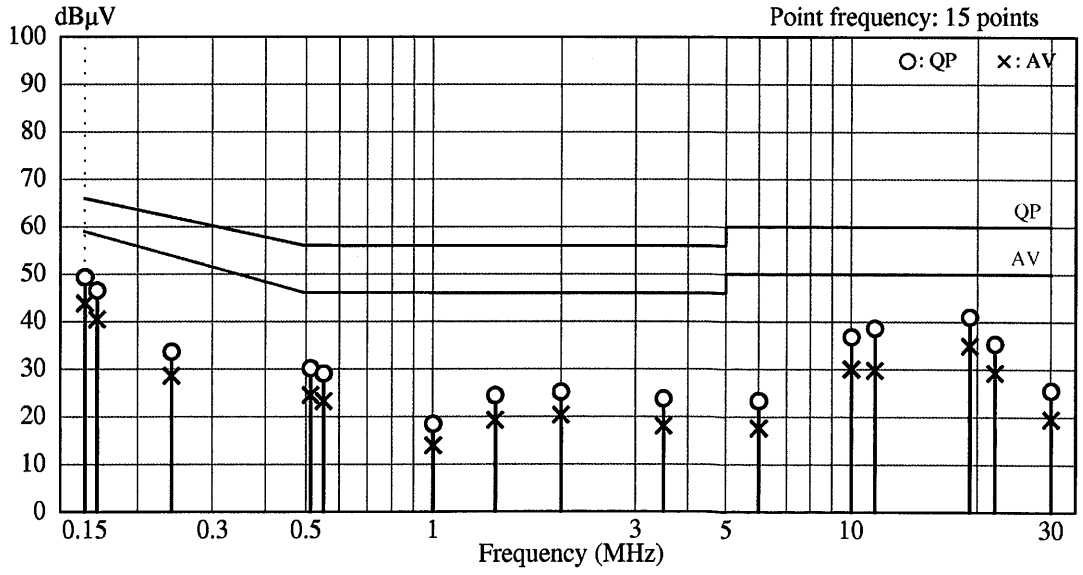
3.1.3.3 Cooling mode (L1)

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	38.2	32.5	10.6	48.8	43.1	66.0	59.0	17.2	15.9
0.1600	36.3	30.2	10.6	46.9	40.8	65.5	58.3	18.6	17.5
0.2400	24.1	18.7	10.6	34.7	29.3	62.1	53.9	27.4	24.6
0.5037	21.7	15.8	10.7	32.4	26.5	56.0	46.0	23.6	19.5
0.5500	22.1	16.2	10.7	32.8	26.9	56.0	46.0	23.2	19.1
1.0000	8.7	3.7	10.8	19.5	14.5	56.0	46.0	36.5	31.5
1.4000	16.5	11.4	10.8	27.3	22.2	56.0	46.0	28.7	23.8
2.0000	18.6	13.6	10.9	29.5	24.5	56.0	46.0	26.5	21.5
2.1426	17.3	12.2	10.9	28.2	23.1	56.0	46.0	27.8	22.9
3.5000	16.9	11.5	11.0	27.9	22.5	56.0	46.0	28.1	23.5
6.0000	20.0	14.4	11.3	31.3	25.7	60.0	50.0	28.7	24.3
6.1339	20.4	14.9	11.3	31.7	26.2	60.0	50.0	28.3	23.8
10.0000	23.8	15.8	11.7	35.5	27.5	60.0	50.0	24.5	22.5
11.1611	27.0	17.0	11.9	38.9	28.9	60.0	50.0	21.1	21.1
19.3520	23.4	17.2	12.7	36.1	29.9	60.0	50.0	23.9	20.1
22.0000	18.6	12.6	12.9	31.5	25.5	60.0	50.0	28.5	24.5
30.0000	11.6	6.2	13.3	24.9	19.5	60.0	50.0	35.1	30.5



3.1.3.5 Cooling mode (L3)

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	38.7	33.2	10.6	49.3	43.8	66.0	59.0	16.7	15.2
0.1600	35.9	29.8	10.6	46.5	40.4	65.5	58.3	19.0	17.9
0.2400	22.9	17.8	10.7	33.6	28.5	62.1	53.9	28.5	25.4
0.5121	19.4	13.8	10.7	30.1	24.5	56.0	46.0	25.9	21.5
0.5500	18.3	12.5	10.7	29.0	23.2	56.0	46.0	27.0	22.8
1.0000	7.6	3.1	10.8	18.4	13.9	56.0	46.0	37.6	32.1
1.4000	13.6	8.4	10.8	24.4	19.2	56.0	46.0	31.6	26.8
2.0000	14.2	9.4	10.9	25.1	20.3	56.0	46.0	30.9	25.7
3.5000	12.7	7.0	11.0	23.7	18.0	56.0	46.0	32.3	28.0
6.0000	12.1	6.4	11.2	23.3	17.6	60.0	50.0	36.7	32.4
10.0000	25.2	18.4	11.6	36.8	30.0	60.0	50.0	23.2	20.0
11.3767	26.8	17.9	11.8	38.6	29.7	60.0	50.0	21.4	20.3
19.1413	28.6	22.5	12.4	41.0	34.9	60.0	50.0	19.0	15.1
22.0000	22.7	16.6	12.6	35.3	29.2	60.0	50.0	24.7	20.8
30.0000	12.3	6.3	13.2	25.5	19.5	60.0	50.0	34.5	30.5



3.1.4 Test specification

Standard	EN55014-1:2006+A1:2009+A2:2011
Frequency Range	0.15 MHz to 30 MHz
Test Date	20 January, 2016
Test Location	Ashigawa Laboratory Open site No.2
Test Engineer	Tatsuya Ito
Temperature	27 °C
Humidity	13 % RH
Pressure	925 hPa
Power Supply	457 V ac, 50 Hz
Operation Mode Name	Cooling mode
Configuration	Setup 2

3.1.4.1 Test Result

Pass

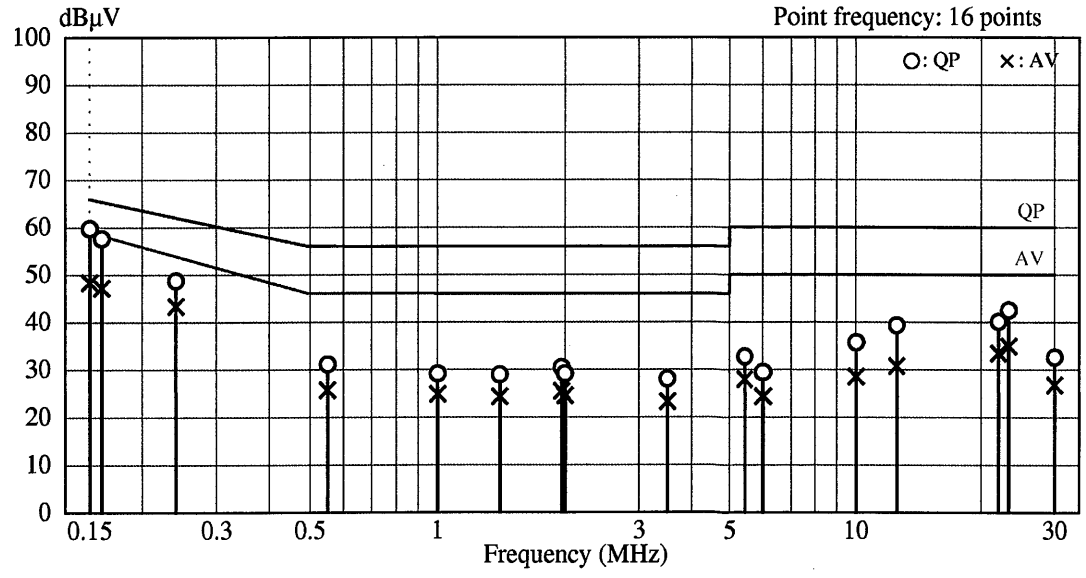
3.1.4.2 Test Detail

Tested Port	Minimum limit margin	Note
AC power cable for Outdoor Unit (Mark C1)	5.6 dB at 0.1500 MHz (QP)	

Remarks: No clicks were observed in this test.

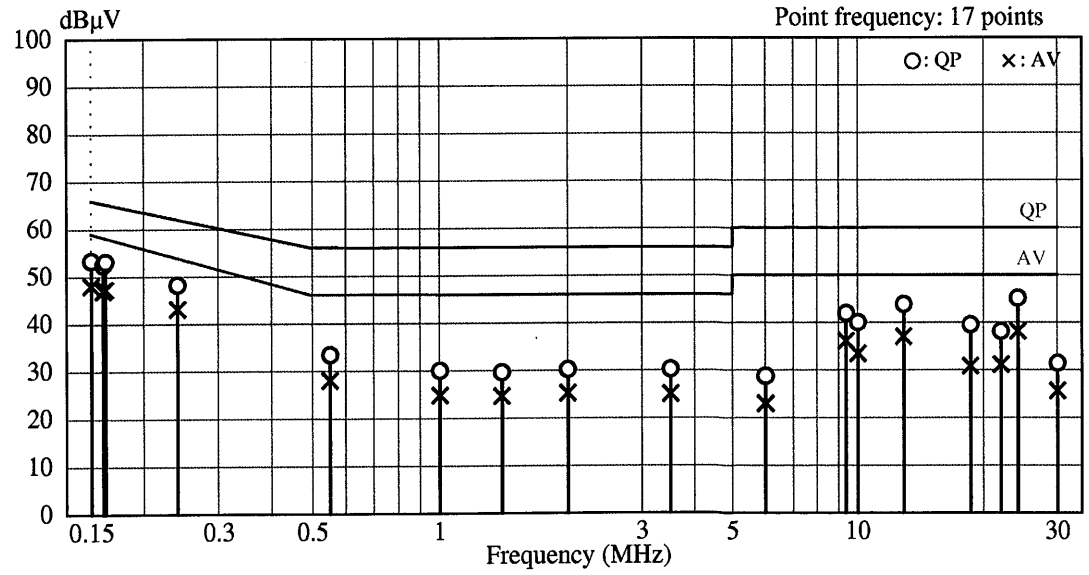
3.1.4.4 Cooling mode (L2)

Frequency (MHz)	Reading (dBμV)		Correction factor (dB)	Noise level (dBμV)		Limit (dBμV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	49.1	37.7	10.6	59.7	48.3	66.0	59.0	6.3	10.7
0.1600	47.0	36.6	10.6	57.6	47.2	65.5	58.3	7.9	11.1
0.2400	38.0	32.6	10.7	48.7	43.3	62.1	53.9	13.4	10.6
0.5500	20.4	15.0	10.7	31.1	25.7	56.0	46.0	24.9	20.3
1.0000	18.3	14.0	10.8	29.1	24.8	56.0	46.0	26.9	21.2
1.4000	18.1	13.5	10.8	28.9	24.3	56.0	46.0	27.1	21.7
1.9632	19.5	14.5	10.9	30.4	25.4	56.0	46.0	25.6	20.6
2.0000	18.2	13.6	10.9	29.1	24.5	56.0	46.0	26.9	21.5
3.5000	17.0	12.2	11.0	28.0	23.2	56.0	46.0	28.0	22.8
5.4183	21.5	16.7	11.2	32.7	27.9	60.0	50.0	27.3	22.1
6.0000	18.1	13.0	11.3	29.4	24.3	60.0	50.0	30.6	25.7
10.0000	24.0	16.8	11.7	35.7	28.5	60.0	50.0	24.3	21.5
12.4956	27.3	18.7	12.0	39.3	30.7	60.0	50.0	20.7	19.3
22.0000	27.2	20.5	12.9	40.1	33.4	60.0	50.0	19.9	16.6
23.2663	29.5	21.9	13.0	42.5	34.9	60.0	50.0	17.5	15.1
30.0000	19.2	13.3	13.4	32.6	26.7	60.0	50.0	27.4	23.3



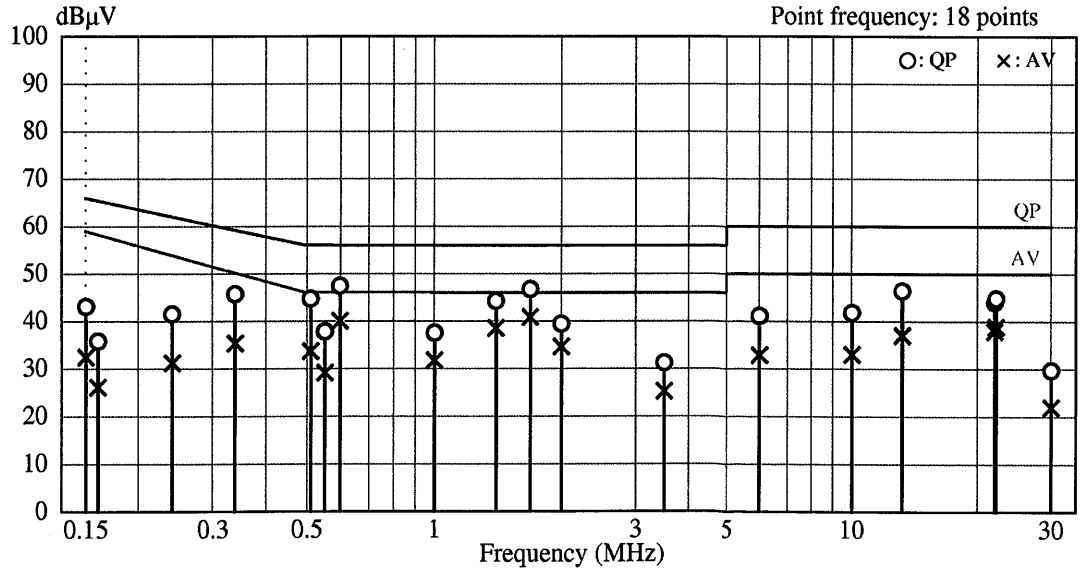
3.1.4.6 Cooling mode (Neutral)

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	42.7	37.4	10.6	53.3	48.0	66.0	59.0	12.7	11.0
0.1600	41.8	36.3	10.6	52.4	46.9	65.5	58.3	13.1	11.4
0.1620	42.5	36.6	10.6	53.1	47.2	65.4	58.2	12.3	11.0
0.2400	37.6	32.5	10.6	48.2	43.1	62.1	53.9	13.9	10.8
0.5500	22.7	17.3	10.7	33.4	28.0	56.0	46.0	22.6	18.0
1.0000	19.2	14.0	10.8	30.0	24.8	56.0	46.0	26.0	21.2
1.4000	18.8	13.8	10.8	29.6	24.6	56.0	46.0	26.4	21.4
2.0000	19.3	14.3	10.9	30.2	25.2	56.0	46.0	25.8	20.8
3.5000	19.2	14.0	11.0	30.2	25.0	56.0	46.0	25.8	21.0
6.0000	17.4	11.6	11.3	28.7	22.9	60.0	50.0	31.3	27.1
9.3766	30.3	24.5	11.6	41.9	36.1	60.0	50.0	18.1	13.9
10.0000	28.3	21.7	11.7	40.0	33.4	60.0	50.0	20.0	16.6
12.8764	31.8	25.0	12.0	43.8	37.0	60.0	50.0	16.2	13.0
18.6008	26.8	18.1	12.7	39.5	30.8	60.0	50.0	20.5	19.2
22.0000	25.1	18.1	13.0	38.1	31.1	60.0	50.0	21.9	18.9
24.1212	31.9	24.9	13.2	45.1	38.1	60.0	50.0	14.9	11.9
30.0000	18.0	12.2	13.4	31.4	25.6	60.0	50.0	28.6	24.4



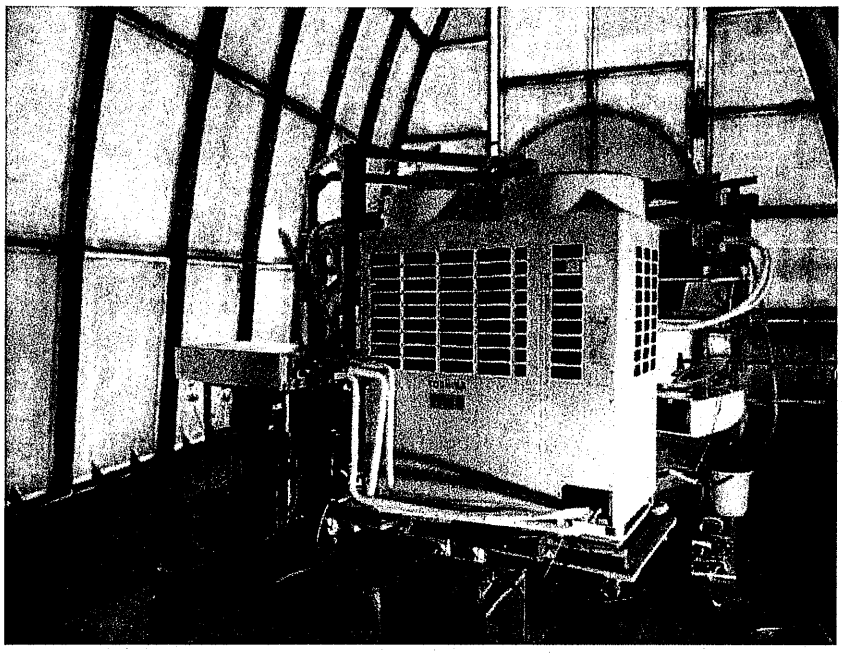
3.1.5.3 Cooling mode (L)

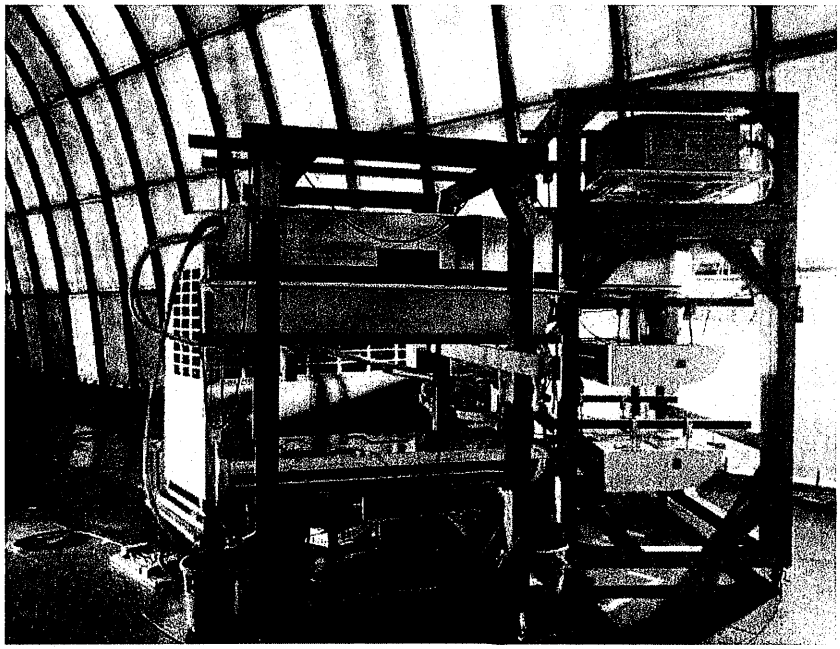
Frequency (MHz)	Reading (dBμV)		Correction factor (dB)	Noise level (dBμV)		Limit (dBμV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	33.2	22.5	9.9	43.1	32.4	66.0	59.0	22.9	26.6
0.1600	25.7	16.0	10.1	35.8	26.1	65.5	58.3	29.7	32.2
0.2400	31.7	21.4	9.8	41.5	31.2	62.1	53.9	20.6	22.7
0.3385	35.6	25.2	10.1	45.7	35.3	59.2	50.2	13.5	14.9
0.5093	34.4	23.3	10.3	44.7	33.6	56.0	46.0	11.3	12.4
0.5500	27.6	18.9	10.2	37.8	29.1	56.0	46.0	18.2	16.9
0.5968	37.2	29.8	10.2	47.4	40.0	56.0	46.0	8.6	6.0
1.0000	27.4	21.6	10.1	37.5	31.7	56.0	46.0	18.5	14.3
1.4000	34.2	28.5	10.0	44.2	38.5	56.0	46.0	11.8	7.5
1.6900	36.7	30.8	10.0	46.7	40.8	56.0	46.0	9.3	5.2
2.0000	29.4	24.6	10.0	39.4	34.6	56.0	46.0	16.6	11.4
3.5000	21.1	15.1	10.1	31.2	25.2	56.0	46.0	24.8	20.8
6.0000	30.8	22.5	10.3	41.1	32.8	60.0	50.0	18.9	17.2
10.0000	31.3	22.5	10.5	41.8	33.0	60.0	50.0	18.2	17.0
13.2006	35.8	26.4	10.6	46.4	37.0	60.0	50.0	13.6	13.0
22.0000	33.0	26.9	11.0	44.0	37.9	60.0	50.0	16.0	12.1
22.1502	33.8	27.8	11.0	44.8	38.8	60.0	50.0	15.2	11.2
30.0000	18.5	10.7	11.2	29.7	21.9	60.0	50.0	30.3	28.1



3.1.6 Test Setup Photographs (EUT)

Setup 1





3.2 Conducted Emissions (Load and additional terminal)

3.2.1 Test specification

Standard	EN55014-1:2006+A1:2009+A2:2011
Frequency Range	0.15 MHz to 30 MHz
Test Date	13 January, 2016
Test Location	Ashigawa Laboratory Open site No.2
Test Engineer	Tatsuya Ito
Temperature	28 °C
Humidity	26 % RH
Pressure	931 hPa
Power Supply	264 V ac, 50 Hz
Operation Mode Name	Cooling mode
Configuration	Setup 1

3.2.1.1 Test Result

Pass

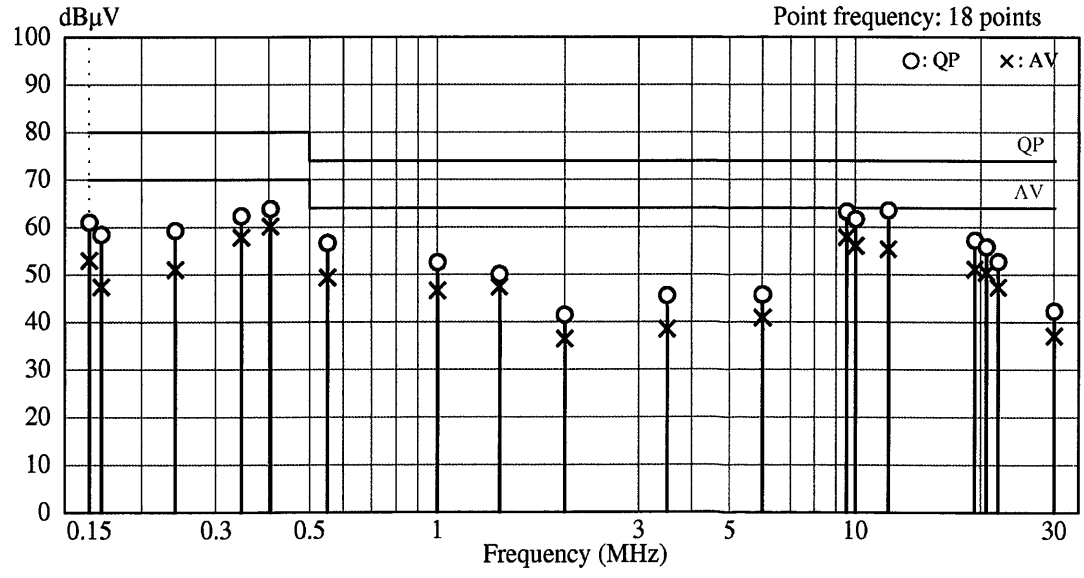
3.2.1.2 Test Detail

Tested Port	Minimum limit margin	Note
Signal Cable between Indoor Unit and FS Unit (EUT2 side, Mark C3-5)	6.2 dB at 9.5205 MHz (AV)	

Remarks: Discontinuous disturbances were measured with continuous disturbances, and the relevant limit for continuous disturbances were applied without increasing the limit.

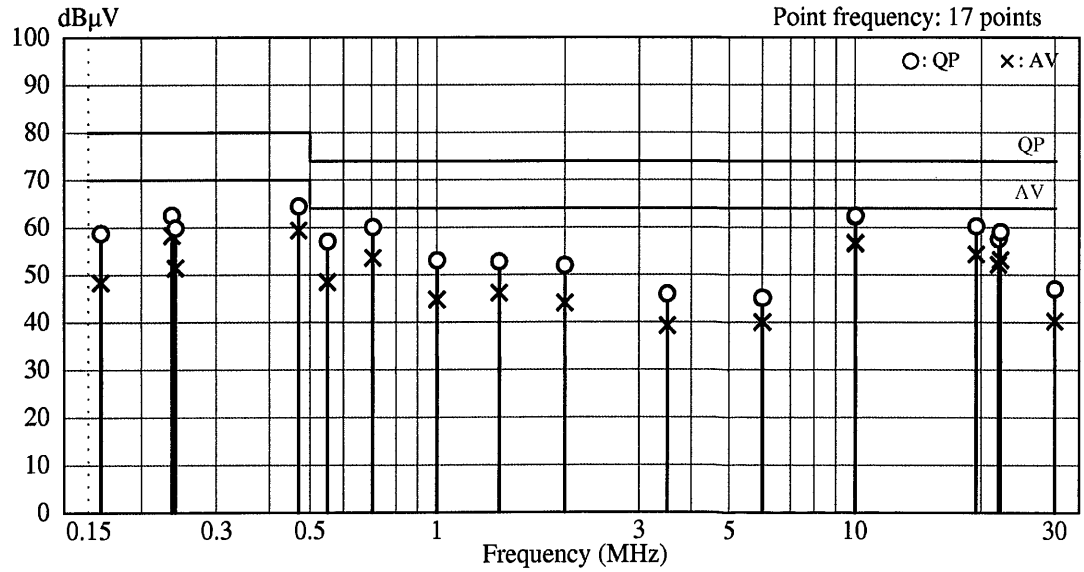
3.2.1.4 Cooling mode (B)

Frequency (MHz)	Reading (dBμV)		Correction factor (dB)	Noise level (dBμV)		Limit (dBμV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	14.8	6.7	46.2	61.0	52.9	80.0	70.0	19.0	17.1
0.1600	12.1	1.1	46.3	58.4	47.4	80.0	70.0	21.6	22.6
0.2400	13.0	4.8	46.2	59.2	51.0	80.0	70.0	20.8	19.0
0.3443	16.0	11.5	46.3	62.3	57.8	80.0	70.0	17.7	12.2
0.4034	17.5	13.8	46.3	63.8	60.1	80.0	70.0	16.2	9.9
0.5500	10.3	3.0	46.3	56.6	49.3	74.0	64.0	17.4	14.7
1.0000	6.1	0.1	46.4	52.5	46.5	74.0	64.0	21.5	17.5
1.4000	3.6	0.9	46.4	50.0	47.3	74.0	64.0	24.0	16.7
2.0000	-5.1	-10.1	46.5	41.4	36.4	74.0	64.0	32.6	27.6
3.5000	-1.0	-8.1	46.5	45.5	38.4	74.0	64.0	28.5	25.6
6.0000	-1.0	-5.9	46.7	45.7	40.8	74.0	64.0	28.3	23.2
9.5205	16.4	11.0	46.8	63.2	57.8	74.0	64.0	10.8	6.2
10.0000	14.8	9.2	46.8	61.6	56.0	74.0	64.0	12.4	8.0
11.9730	16.7	8.5	46.8	63.5	55.3	74.0	64.0	10.5	8.7
19.3375	10.3	4.2	46.9	57.2	51.1	74.0	64.0	16.8	12.9
20.6247	9.0	3.6	46.8	55.8	50.4	74.0	64.0	18.2	13.6
22.0000	5.9	0.5	46.8	52.7	47.3	74.0	64.0	21.3	16.7
30.0000	-4.2	-9.4	46.5	42.3	37.1	74.0	64.0	31.7	26.9



3.2.2.3 Cooling mode (A)

Frequency (MHz)	Reading (dBμV)		Correction factor (dB)	Noise level (dBμV)		Limit (dBμV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1600	12.4	2.0	46.3	58.7	48.3	80.0	70.0	21.3	21.7
0.2352	16.2	11.9	46.3	62.5	58.2	80.0	70.0	17.5	11.8
0.2400	13.6	5.2	46.2	59.8	51.4	80.0	70.0	20.2	18.6
0.4696	18.1	13.0	46.3	64.4	59.3	80.0	70.0	15.6	10.7
0.5500	10.7	2.1	46.3	57.0	48.4	74.0	64.0	17.0	15.6
0.7042	13.7	7.2	46.3	60.0	53.5	74.0	64.0	14.0	10.5
1.0000	6.6	-1.7	46.4	53.0	44.7	74.0	64.0	21.0	19.3
1.4000	6.3	-0.3	46.4	52.7	46.1	74.0	64.0	21.3	17.9
2.0000	5.4	-2.5	46.5	51.9	44.0	74.0	64.0	22.1	20.0
3.5000	-0.6	-7.3	46.5	45.9	39.2	74.0	64.0	28.1	24.8
6.0000	-1.6	-6.7	46.7	45.1	40.0	74.0	64.0	28.9	24.0
10.0000	15.4	9.9	46.8	62.2	56.7	74.0	64.0	11.8	7.3
10.0157	15.6	9.7	46.8	62.4	56.5	74.0	64.0	11.6	7.5
19.4483	13.3	7.4	46.9	60.2	54.3	74.0	64.0	13.8	9.7
22.0000	10.7	5.3	46.8	57.5	52.1	74.0	64.0	16.5	11.9
22.2206	12.2	6.3	46.8	59.0	53.1	74.0	64.0	15.0	10.9
30.0000	0.5	-6.3	46.5	47.0	40.2	74.0	64.0	27.0	23.8



3.2.3 Test specification

Standard	EN55014-1:2006+A1:2009+A2:2011
Frequency Range	0.15 MHz to 30 MHz
Test Date	13 January, 2016
Test Location	Ashigawa Laboratory Open site No.2
Test Engineer	Tatsuya Ito
Temperature	28 °C
Humidity	26 % RH
Pressure	931 hPa
Power Supply	264 V ac, 50 Hz
Operation Mode Name	Cooling mode
Configuration	Setup 1

3.2.3.1 Test Result

Pass

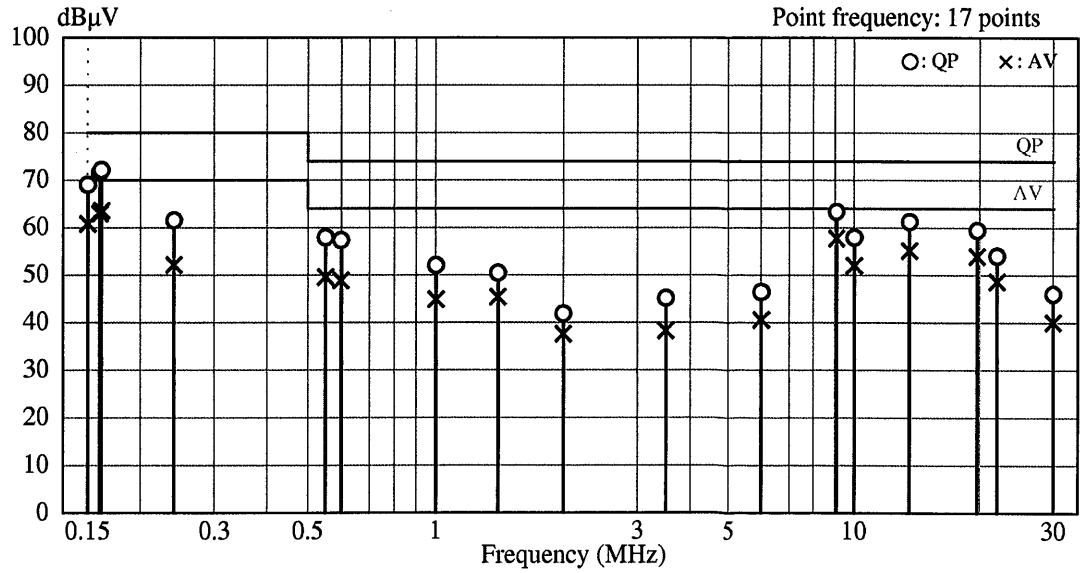
3.2.3.2 Test Detail

Tested Port	Minimum limit margin	Note
Signal Cable between Indoor Unit and FS Unit (EUT2 side, Mark C3-11)	6.0 dB at 9.0439 MHz (AV)	

Remarks: Discontinuous disturbances were measured with continuous disturbances,
and the relevant limit for continuous disturbances were applied without increasing the limit.

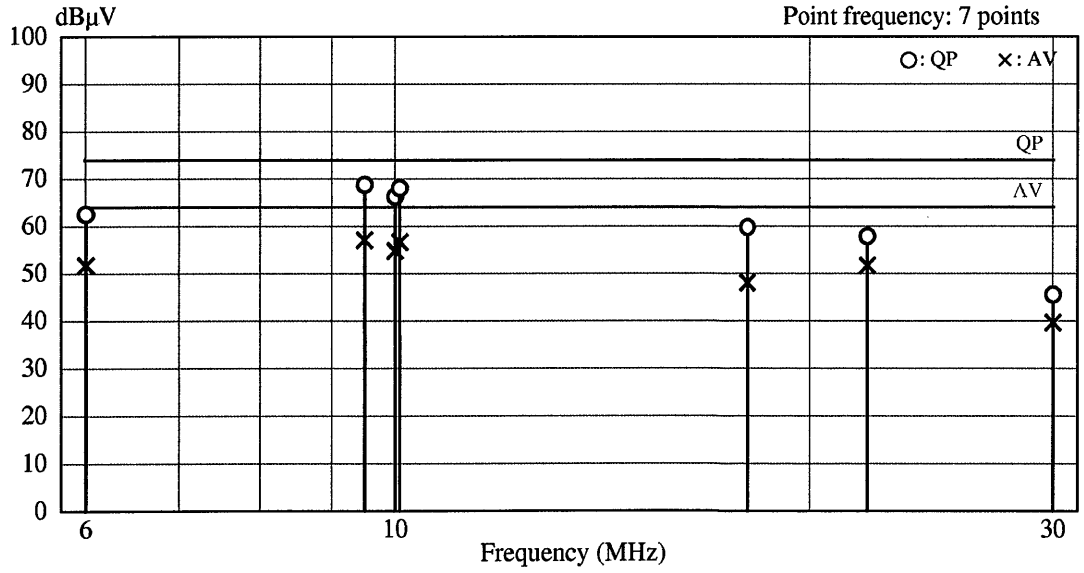
3.2.3.4 Cooling mode (B)

Frequency (MHz)	Reading (dBμV)		Correction factor (dB)	Noise level (dBμV)		Limit (dBμV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
0.1500	22.8	14.5	46.2	69.0	60.7	80.0	70.0	11.0	9.3
0.1600	25.2	16.6	46.3	71.5	62.9	80.0	70.0	8.5	7.1
0.1614	25.8	17.2	46.3	72.1	63.5	80.0	70.0	7.9	6.5
0.2400	15.3	5.9	46.2	61.5	52.1	80.0	70.0	18.5	17.9
0.5500	11.6	3.2	46.3	57.9	49.5	74.0	64.0	16.1	14.5
0.5983	11.0	2.5	46.3	57.3	48.8	74.0	64.0	16.7	15.2
1.0000	5.6	-1.6	46.4	52.0	44.8	74.0	64.0	22.0	19.2
1.4000	4.0	-1.1	46.4	50.4	45.3	74.0	64.0	23.6	18.7
2.0000	-4.7	-9.0	46.5	41.8	37.5	74.0	64.0	32.2	26.5
3.5000	-1.4	-8.3	46.5	45.1	38.2	74.0	64.0	28.9	25.8
6.0000	-0.3	-6.2	46.7	46.4	40.5	74.0	64.0	27.6	23.5
9.0599	16.5	10.9	46.8	63.3	57.7	74.0	64.0	10.7	6.3
10.0000	11.1	5.1	46.8	57.9	51.9	74.0	64.0	16.1	12.1
13.5405	14.3	8.2	46.9	61.2	55.1	74.0	64.0	12.8	8.9
19.7008	12.5	7.0	46.9	59.4	53.9	74.0	64.0	14.6	10.1
22.0000	7.2	1.8	46.8	54.0	48.6	74.0	64.0	20.0	15.4
30.0000	-0.5	-6.5	46.5	46.0	40.0	74.0	64.0	28.0	24.0



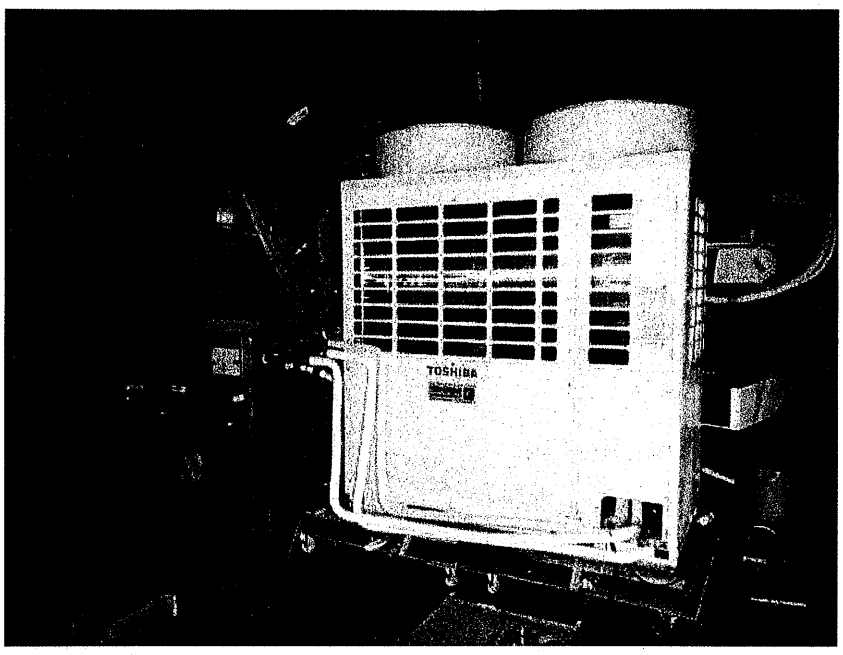
3.2.4.3 Cooling mode (A)

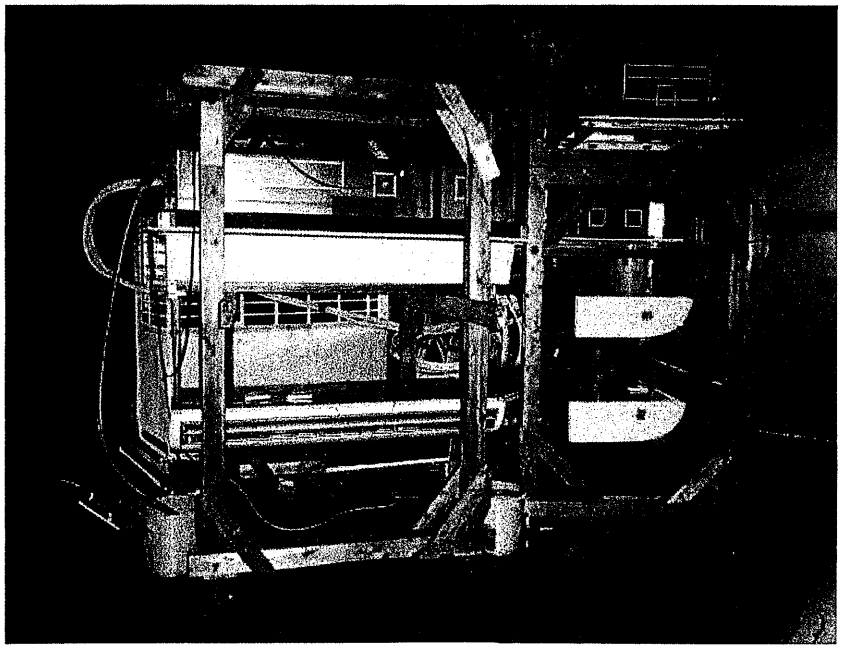
Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBµV)		Limit (dBµV)		Margin (dB)	
	QP	AV		QP	AV	QP	AV	QP	AV
6.0000	15.8	5.0	46.7	62.5	51.7	74.0	64.0	11.5	12.3
9.5067	21.9	10.2	46.8	68.7	57.0	74.0	64.0	5.3	7.0
10.0000	19.4	7.9	46.8	66.2	54.7	74.0	64.0	7.8	9.3
10.0768	21.2	9.8	46.8	68.0	56.6	74.0	64.0	6.0	7.4
17.9909	12.8	1.1	46.9	59.7	48.0	74.0	64.0	14.3	16.0
22.0000	11.0	4.8	46.8	57.8	51.6	74.0	64.0	16.2	12.4
30.0000	-1.0	-6.9	46.5	45.5	39.6	74.0	64.0	28.5	24.4



3.2.5 Test Setup Photographs (EUT)

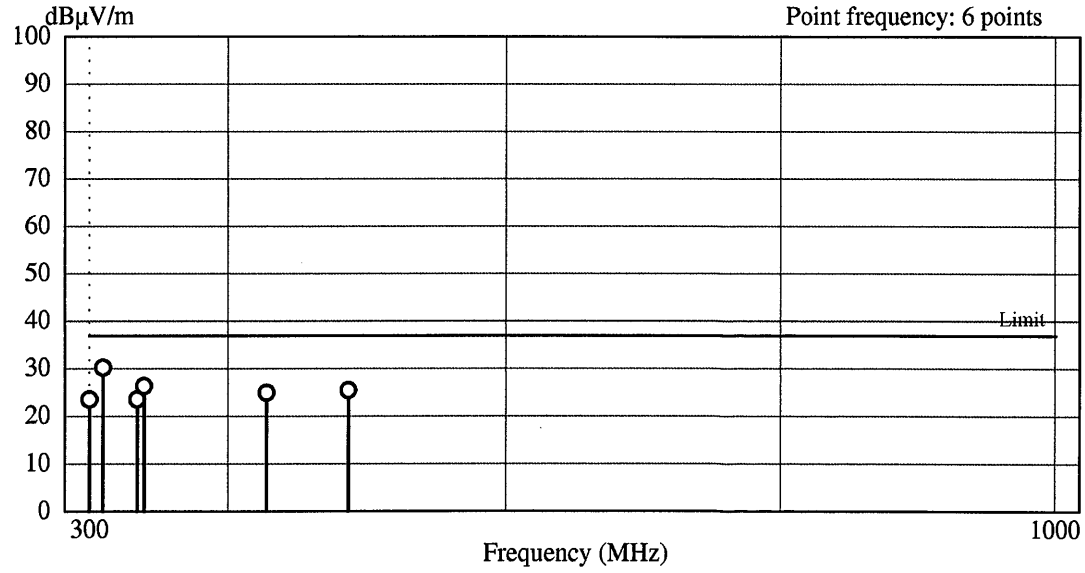
Setup 1





3.3.1.3 Heating mode, Below 1 000 MHz (10 m), Horizontal

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Antenna height (m)	Turn table angle (°)	Limit (dBµV/m)	Margin (dB)
300.00	28.9	-5.4	23.5	2.0	183	37.0	13.5
309.68	35.3	-5.1	30.2	3.2	119	37.0	6.8
334.24	27.9	-4.4	23.5	1.3	189	37.0	13.5
339.18	30.7	-4.4	26.3	3.5	89	37.0	10.7
427.63	26.7	-1.8	24.9	1.2	189	37.0	12.1
486.65	25.7	-0.3	25.4	3.5	219	37.0	11.6



3.3.2 Test Specification

Standard	EN55014-1:2006+A1:2009+A2:2011
Test Distance	10m
Frequency Range	300 MHz to 1 000 MHz
Test Date	19 January, 2016
Test Location	Ashigawa Laboratory Open site No.2
Test Engineer	Tatsuya Ito
Temperature	17 °C
Humidity	20 % RH
Pressure	919 hPa
Power Supply	457 V ac, 50 Hz
Operation Mode Name	Heating mode
Configuration	Setup 2

3.3.2.1 Test Result

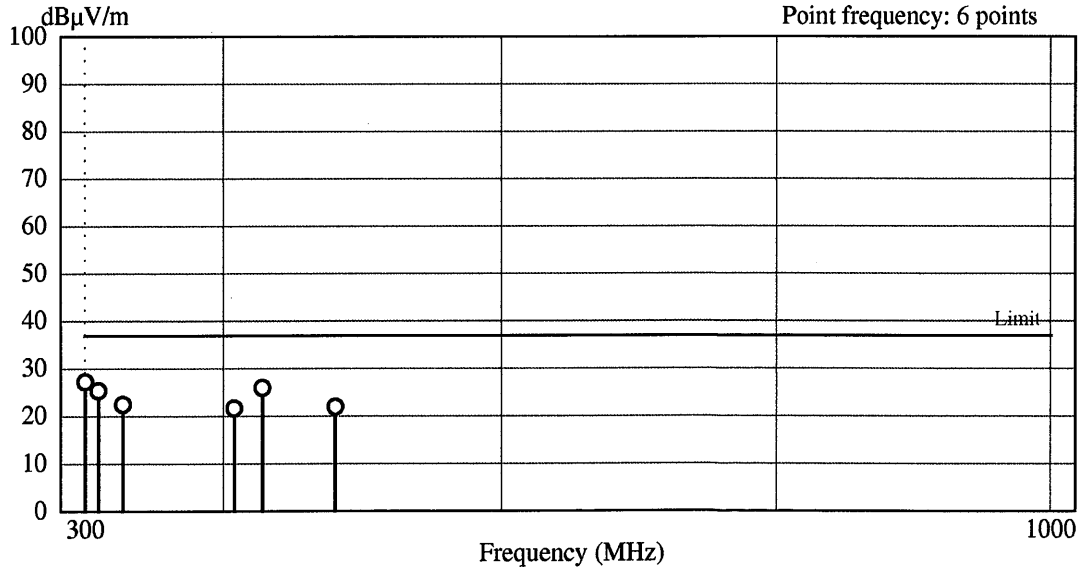
Pass

3.3.2.2 Test Detail

Minimum limit margin	Note
9.8 dB at 300.00 MHz	

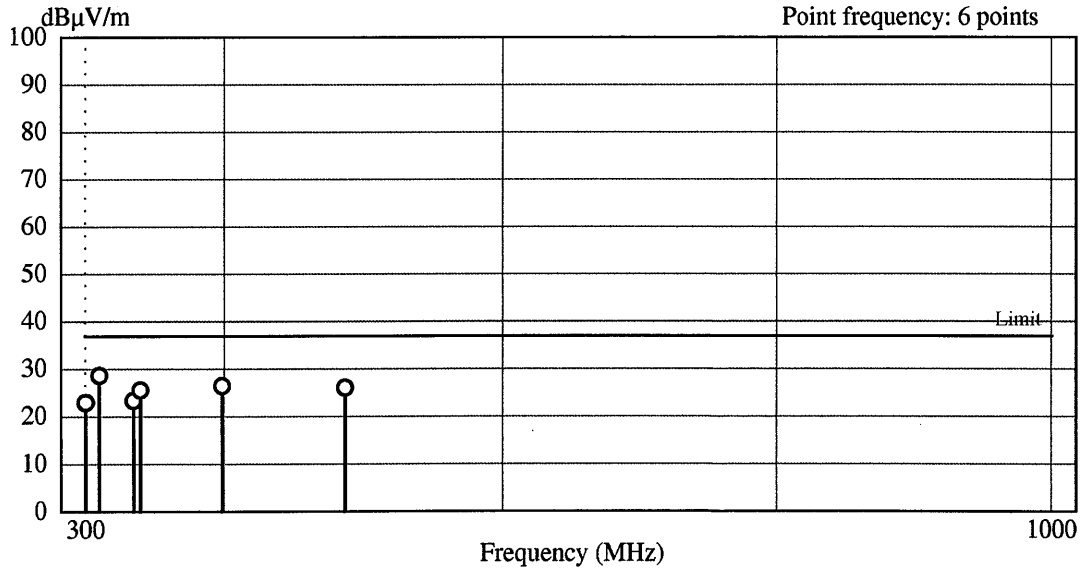
3.3.2.4 Heating mode, Below 1 000 MHz (10 m), Vertical

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Antenna height (m)	Turn table angle (°)	Limit (dBµV/m)	Margin (dB)
300.00	32.6	-5.4	27.2	1.0	123	37.0	9.8
309.43	30.4	-5.1	25.3	1.0	127	37.0	11.7
327.30	26.9	-4.5	22.4	1.0	90	37.0	14.6
407.58	24.1	-2.5	21.6	1.0	140	37.0	15.4
427.80	27.7	-1.8	25.9	1.0	100	37.0	11.1
479.87	22.4	-0.5	21.9	1.0	115	37.0	15.1



3.3.3.3 Cooling mode, Below 1 000 MHz (10 m), Horizontal

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Antenna height (m)	Turn table angle (°)	Limit (dBµV/m)	Margin (dB)
300.00	28.3	-5.4	22.9	2.1	181	37.0	14.1
309.68	33.7	-5.1	28.6	3.1	115	37.0	8.4
334.24	27.7	-4.4	23.3	1.6	190	37.0	13.7
339.18	29.9	-4.4	25.5	1.8	168	37.0	11.5
398.16	29.1	-2.7	26.4	1.2	180	37.0	10.6
486.65	26.3	-0.3	26.0	1.0	163	37.0	11.0



3.3.4 Test Specification

Standard	EN55014-1:2006+A1:2009+A2:2011
Test Distance	10m
Frequency Range	300 MHz to 1 000 MHz
Test Date	19 January, 2016
Test Location	Ashigawa Laboratory Open site No.2
Test Engineer	Tatsuya Ito
Temperature	27 °C
Humidity	17 % RH
Pressure	919 hPa
Power Supply	457 V ac, 50 Hz
Operation Mode Name	Cooling mode
Configuration	Setup 2

3.3.4.1 Test Result

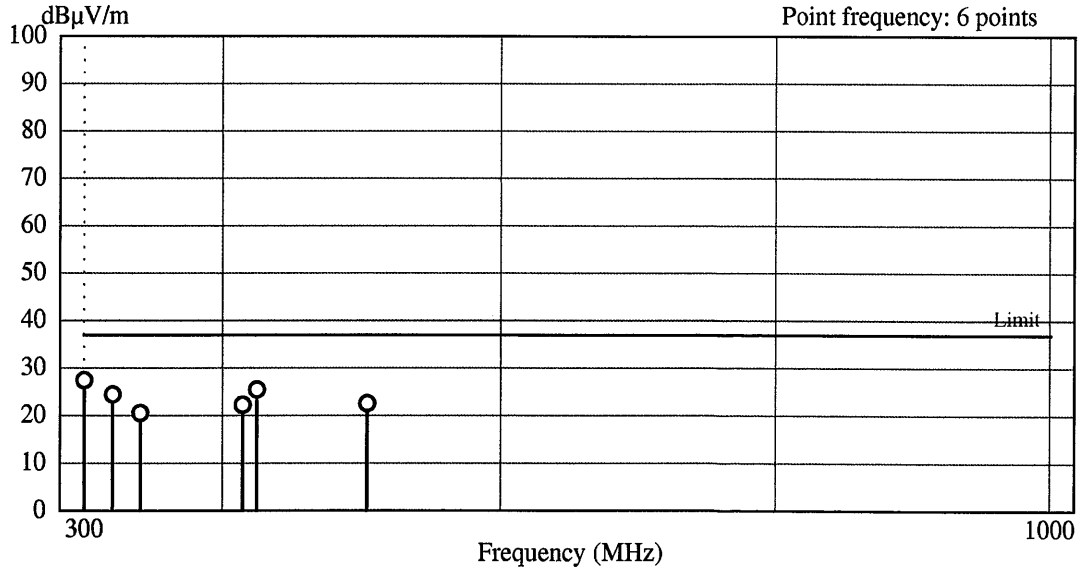
Pass

3.3.4.2 Test Detail

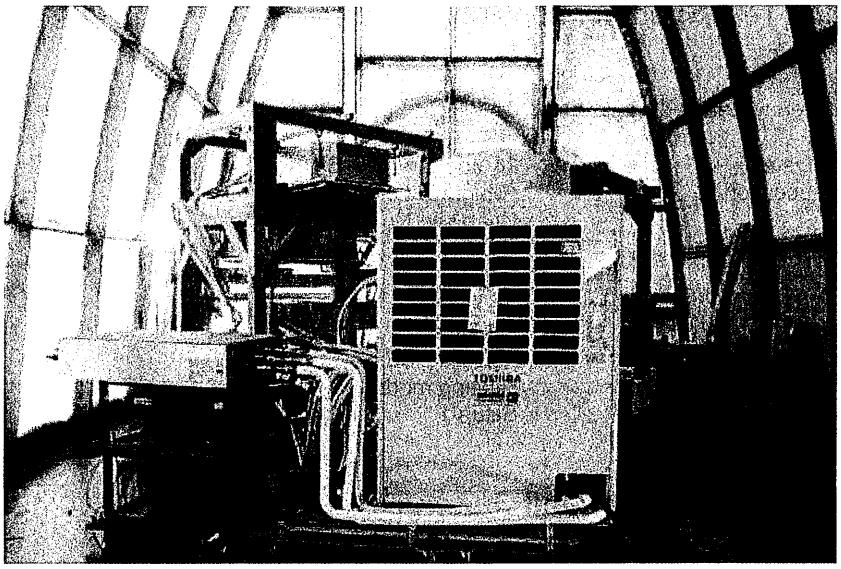
Minimum limit margin	Note
9.6 dB at 300.00 MHz	

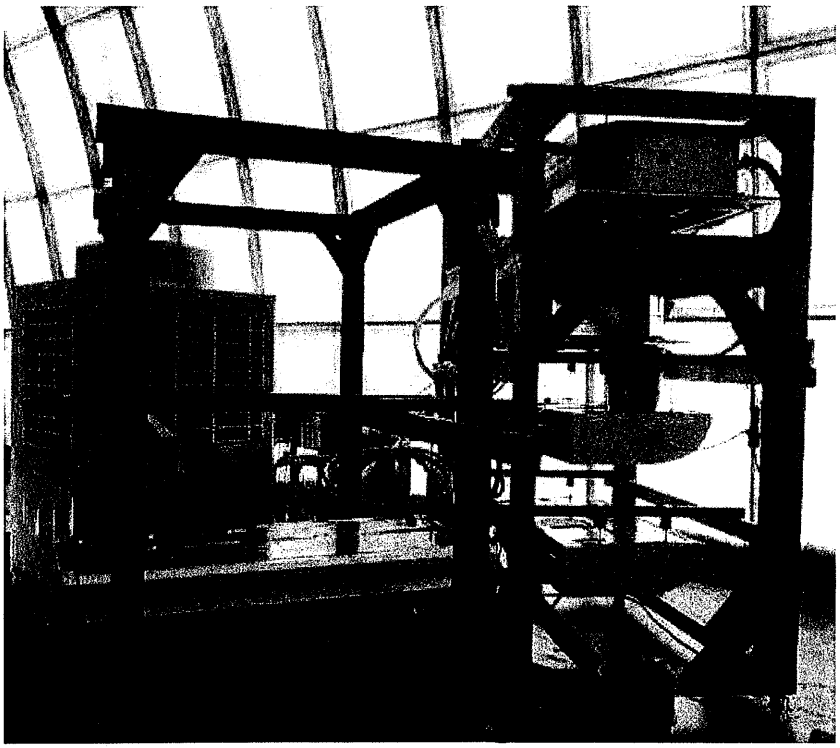
3.3.4.4 Cooling mode, Below 1 000 MHz (10 m), Vertical

Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Noise level (dBµV/m)	Antenna height (m)	Turn table angle (°)	Limit (dBµV/m)	Margin (dB)
300.00	32.8	-5.4	27.4	1.0	225	37.0	9.6
320.63	29.1	-4.7	24.4	1.0	89	37.0	12.6
340.66	24.9	-4.4	20.5	1.0	91	37.0	16.5
414.37	24.5	-2.3	22.2	1.0	65	37.0	14.8
424.57	27.3	-1.9	25.4	1.0	105	37.0	11.6
503.59	22.5	0.0	22.5	1.0	128	37.0	14.5



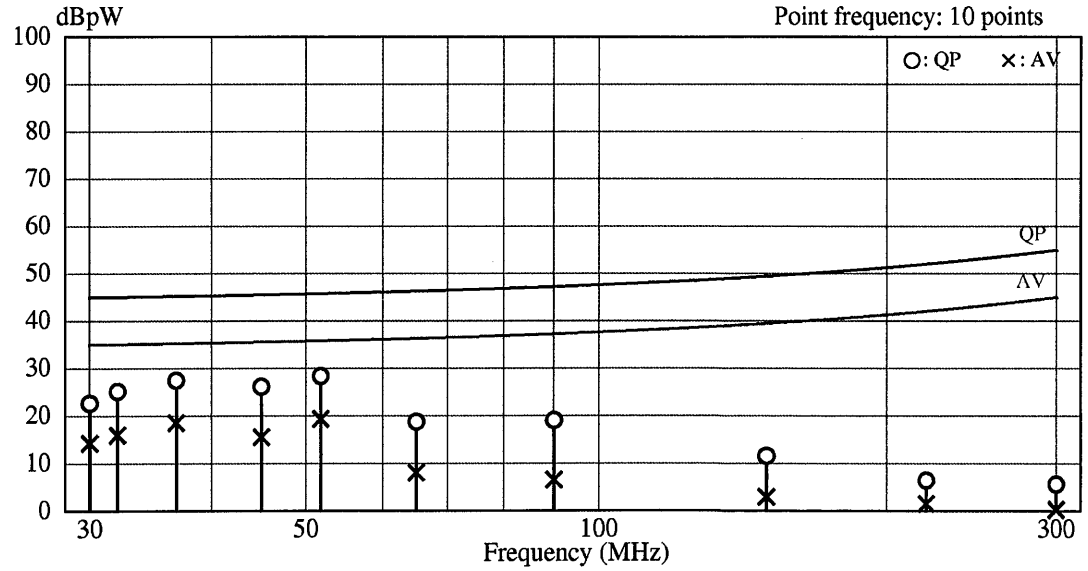
Setup 2





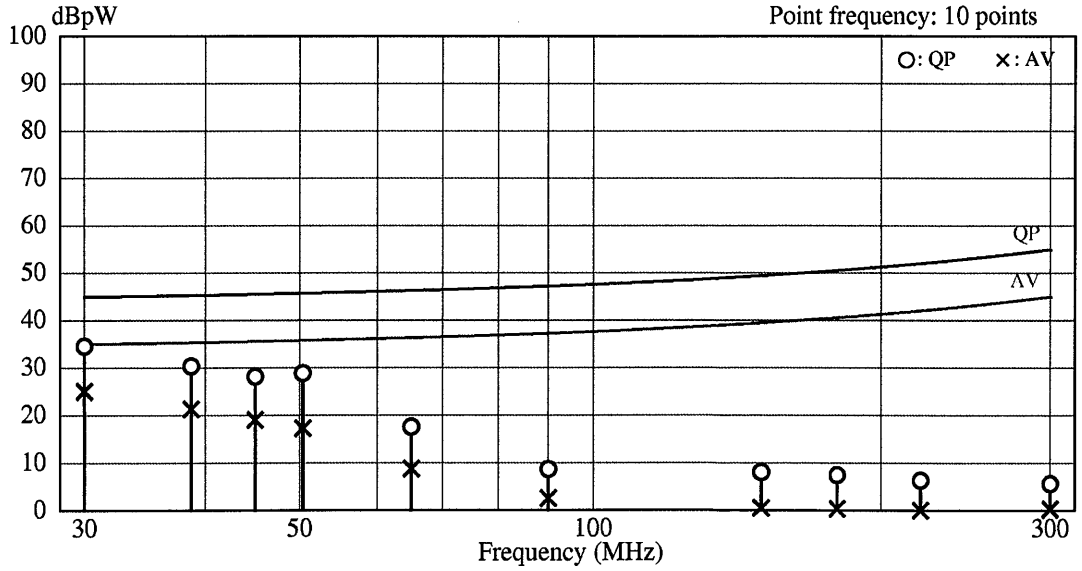
3.4.1.3 Heating mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	19.3	10.9	3.3	22.6	14.2	45.0	35.0	22.4	20.8	0.4
32.04	21.8	12.6	3.3	25.1	15.9	45.1	35.1	20.0	19.2	0.5
36.82	24.3	15.4	3.1	27.4	18.5	45.3	35.3	17.9	16.8	0.2
45.00	23.1	12.5	3.0	26.1	15.5	45.6	35.6	19.5	20.1	0.1
51.78	25.6	16.6	2.7	28.3	19.3	45.8	35.8	17.5	16.5	1.8
65.00	16.7	6.0	2.0	18.7	8.0	46.3	36.3	27.6	28.3	0.1
90.00	17.1	4.6	1.9	19.0	6.5	47.2	37.2	28.2	30.7	0.1
150.00	10.0	1.4	1.5	11.5	2.9	49.4	39.4	37.9	36.5	0.1
220.00	5.6	0.7	0.8	6.4	1.5	52.0	42.0	45.6	40.5	0.1
300.00	3.9	-2.4	1.7	5.6	-0.7	55.0	45.0	49.4	45.7	0.1



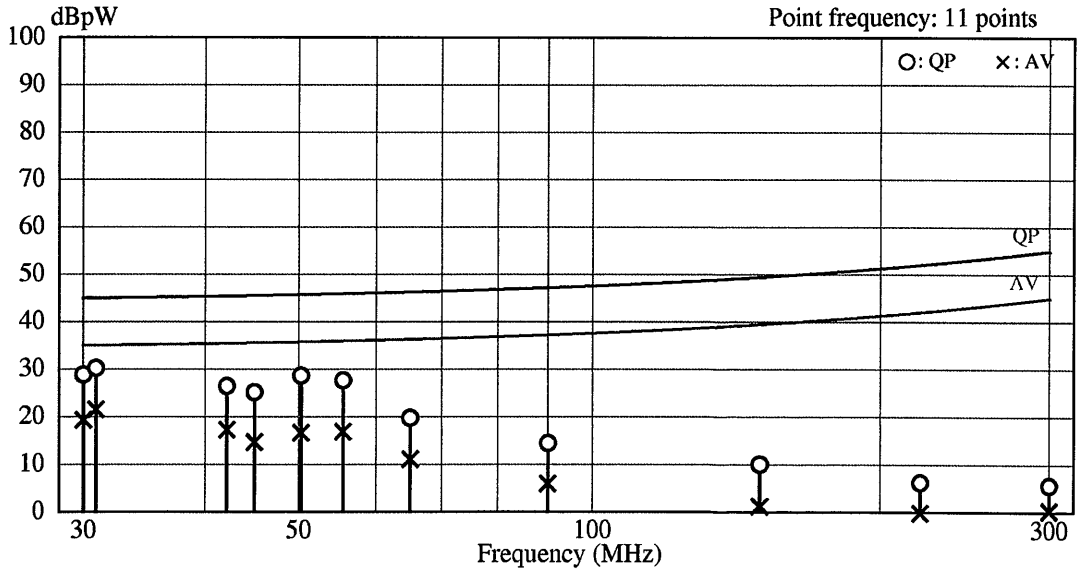
3.4.2.3 Heating mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	31.2	21.7	3.3	34.5	25.0	45.0	35.0	10.5	10.0	1.9
38.68	27.2	18.2	3.1	30.3	21.3	45.3	35.3	15.0	14.0	1.2
45.00	25.1	16.0	3.0	28.1	19.0	45.6	35.6	17.5	16.6	0.5
50.35	26.0	14.4	2.8	28.8	17.2	45.8	35.8	17.0	18.6	0.6
65.00	15.5	6.7	2.0	17.5	8.7	46.3	36.3	28.8	27.6	0.1
90.00	6.7	0.6	1.9	8.6	2.5	47.2	37.2	38.6	34.7	0.1
150.00	6.5	-1.0	1.5	8.0	0.5	49.4	39.4	41.4	38.9	0.1
180.00	6.5	-0.6	0.9	7.4	0.3	50.6	40.6	43.2	40.3	0.1
220.00	5.5	-0.8	0.8	6.3	0.0	52.0	42.0	45.7	42.0	0.1
300.00	3.9	-2.4	1.7	5.6	-0.7	55.0	45.0	49.4	45.7	0.1



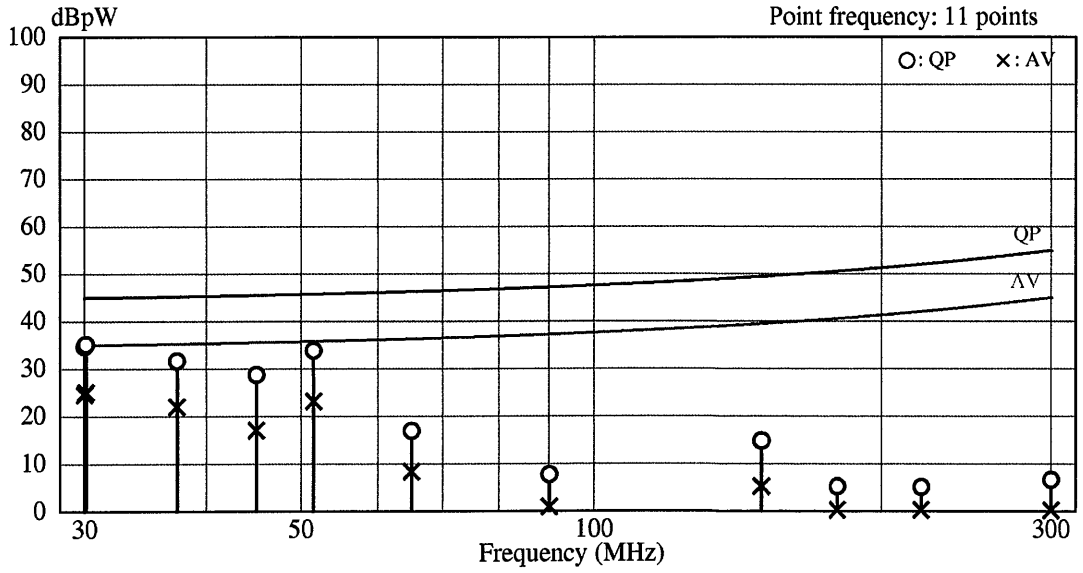
3.4.3.3 Heating mode

Frequency (MHz)	Reading (dBμV) QP	AV	Correction factor (dB)	Noise level (dBpW) QP	AV	Limit (dBpW) QP	AV	Margin (dB) QP	AV	Distance (m)
30.00	25.5	16.0	3.3	28.8	19.3	45.0	35.0	16.2	15.7	0.3
30.89	26.8	18.1	3.4	30.2	21.5	45.0	35.0	14.8	13.5	0.3
42.13	23.3	14.1	3.1	26.4	17.2	45.4	35.4	19.0	18.2	1.5
45.00	22.1	11.6	3.0	25.1	14.6	45.6	35.6	20.5	21.0	0.1
50.26	25.7	13.7	2.9	28.6	16.6	45.8	35.8	17.2	19.2	0.8
55.51	25.3	14.5	2.3	27.6	16.8	45.9	35.9	18.3	19.1	0.5
65.00	17.7	9.0	2.0	19.7	11.0	46.3	36.3	26.6	25.3	0.1
90.00	12.5	4.0	1.9	14.4	5.9	47.2	37.2	32.8	31.3	0.1
150.00	8.5	-0.3	1.5	10.0	1.2	49.4	39.4	39.4	38.2	0.1
220.00	5.4	-1.0	0.8	6.2	-0.2	52.0	42.0	45.8	42.2	0.1
300.00	3.9	-2.4	1.7	5.6	-0.7	55.0	45.0	49.4	45.7	0.1



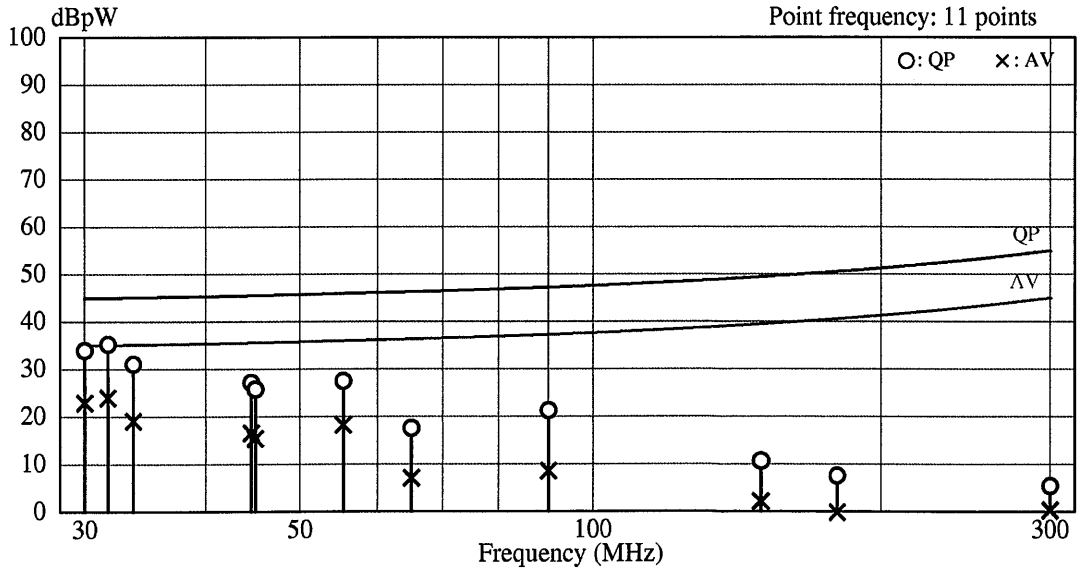
3.4.4.3 Heating mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	31.4	21.2	3.3	34.7	24.5	45.0	35.0	10.3	10.5	0.1
30.09	31.8	21.7	3.3	35.1	25.0	45.0	35.0	9.9	10.0	0.1
37.33	28.5	18.8	3.1	31.6	21.9	45.3	35.3	13.7	13.4	1.4
45.00	25.7	14.0	3.0	28.7	17.0	45.6	35.6	16.9	18.6	0.1
51.49	31.1	20.4	2.7	33.8	23.1	45.8	35.8	12.0	12.7	0.8
65.00	14.9	6.3	2.0	16.9	8.3	46.3	36.3	29.4	28.0	0.1
90.00	5.8	-1.0	1.9	7.7	0.9	47.2	37.2	39.5	36.3	0.1
150.00	13.3	3.7	1.5	14.8	5.2	49.4	39.4	34.6	34.2	0.1
180.00	4.3	-2.1	0.9	5.2	-1.2	50.6	40.6	45.4	41.8	0.1
220.00	4.3	-2.1	0.8	5.1	-1.3	52.0	42.0	46.9	43.3	0.1
300.00	4.9	-1.5	1.7	6.6	0.2	55.0	45.0	48.4	44.8	0.1



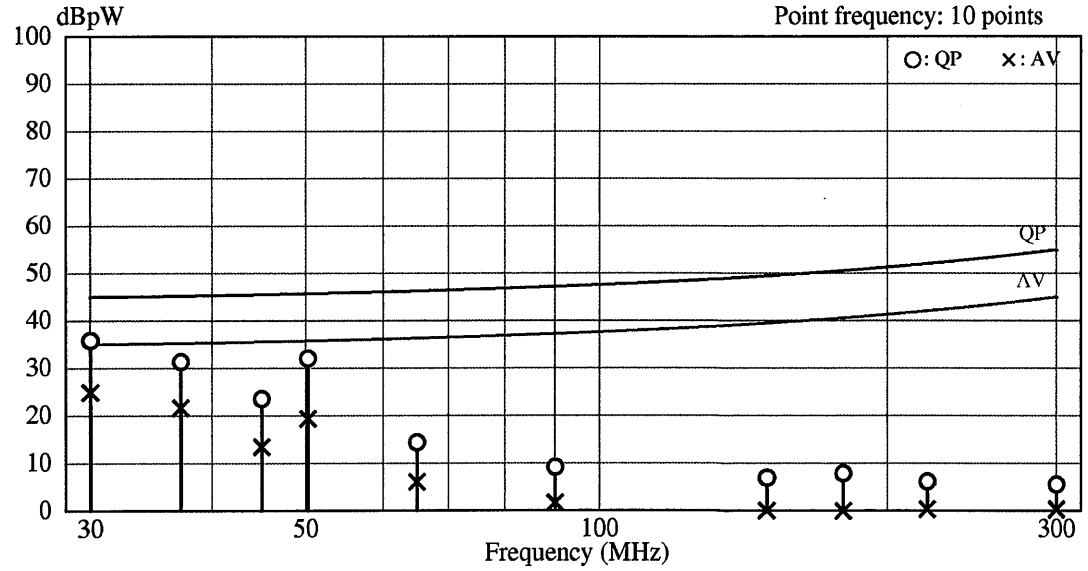
3.4.5.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	30.6	19.5	3.3	33.9	22.8	45.0	35.0	11.1	12.2	1.3
31.70	31.9	20.6	3.3	35.2	23.9	45.1	35.1	9.9	11.2	1.3
33.68	27.8	15.8	3.2	31.0	19.0	45.1	35.1	14.1	16.1	1.2
44.56	24.1	13.5	3.0	27.1	16.5	45.5	35.5	18.4	19.0	0.1
45.00	22.7	12.3	3.0	25.7	15.3	45.6	35.6	19.9	20.3	0.1
55.36	25.1	15.9	2.3	27.4	18.2	45.9	35.9	18.5	17.7	1.7
65.00	15.5	5.0	2.0	17.5	7.0	46.3	36.3	28.8	29.3	0.1
90.00	19.3	6.6	1.9	21.2	8.5	47.2	37.2	26.0	28.7	0.1
150.00	9.1	0.6	1.5	10.6	2.1	49.4	39.4	38.8	37.3	0.1
180.00	6.6	-1.1	0.9	7.5	-0.2	50.6	40.6	43.1	40.8	0.1
300.00	3.7	-2.5	1.7	5.4	-0.8	55.0	45.0	49.6	45.8	0.1



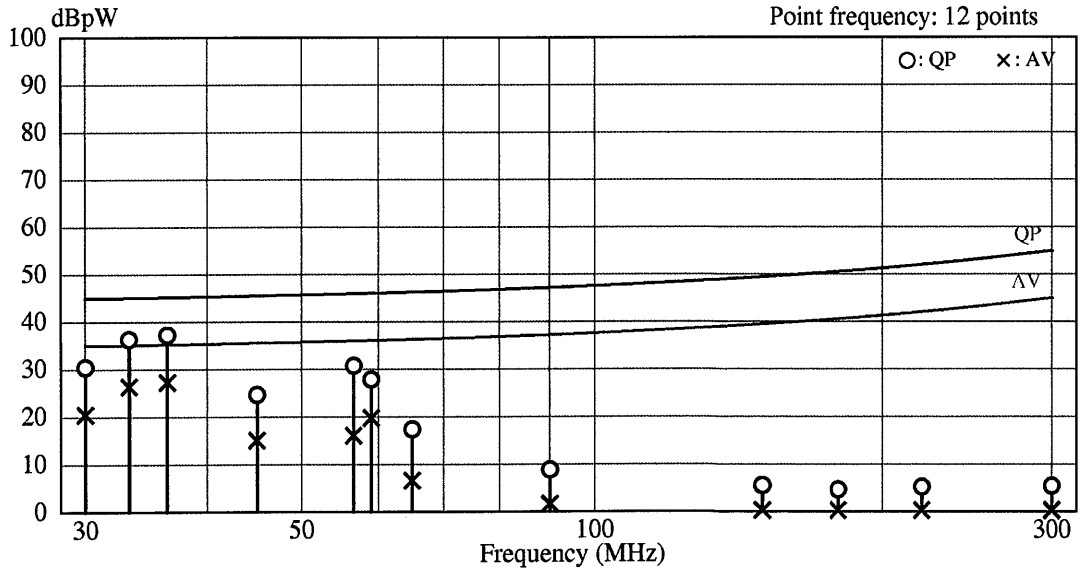
3.4.6.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	AV	Correction factor (dB)	Noise level (dBpW) QP	AV	Limit (dBpW) QP	AV	Margin (dB) QP	AV	Distance (m)
30.00	32.5	21.5	3.3	35.8	24.8	45.0	35.0	9.2	10.2	2.1
37.14	28.2	18.5	3.1	31.3	21.6	45.3	35.3	14.0	13.7	1.0
45.00	20.5	10.4	3.0	23.5	13.4	45.6	35.6	22.1	22.2	0.1
50.24	29.1	16.4	2.9	32.0	19.3	45.7	35.7	13.7	16.4	0.7
65.00	12.3	4.0	2.0	14.3	6.0	46.3	36.3	32.0	30.3	0.1
90.00	7.2	-0.3	1.9	9.1	1.6	47.2	37.2	38.1	35.6	0.1
150.00	5.4	-1.5	1.5	6.9	0.0	49.4	39.4	42.5	39.4	0.1
180.00	6.9	-1.0	0.9	7.8	-0.1	50.6	40.6	42.8	40.7	0.1
220.00	5.3	-1.1	0.8	6.1	-0.3	52.0	42.0	45.9	42.3	0.1
300.00	3.8	-2.4	1.7	5.5	-0.7	55.0	45.0	49.5	45.7	0.1



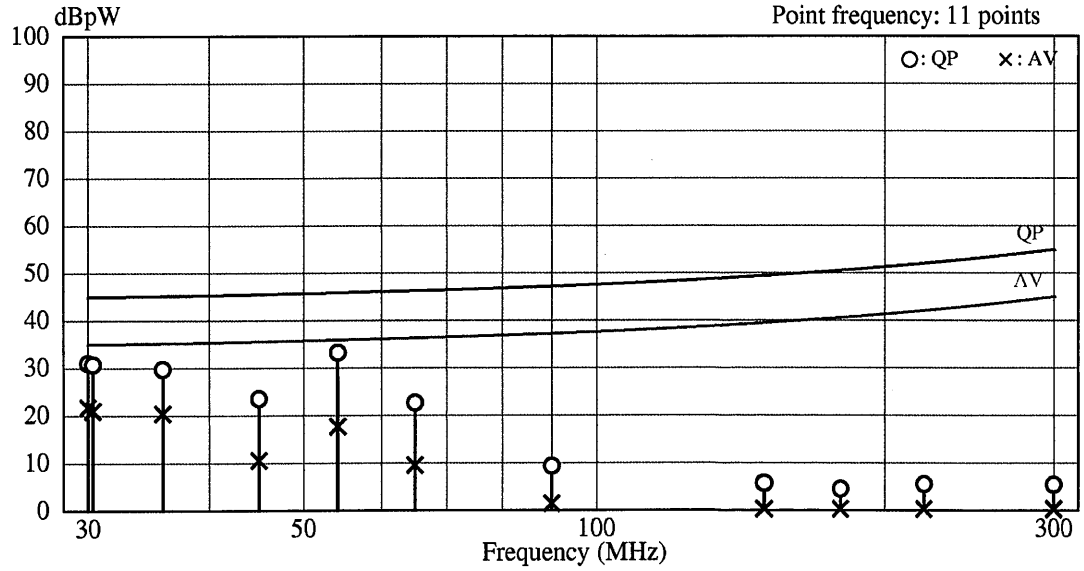
3.4.7.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	27.1	17.1	3.3	30.4	20.4	45.0	35.0	14.6	14.6	1.7
33.27	33.0	23.0	3.3	36.3	26.3	45.1	35.1	8.8	8.8	1.4
36.42	34.1	24.1	3.1	37.2	27.2	45.2	35.2	8.0	8.0	1.4
45.00	21.6	12.0	3.0	24.6	15.0	45.6	35.6	21.0	20.6	1.0
56.59	28.4	13.7	2.3	30.7	16.0	46.0	36.0	15.3	20.0	3.0
58.99	25.7	17.6	2.1	27.8	19.7	46.1	36.1	18.3	16.4	0.1
65.00	15.3	4.5	2.0	17.3	6.5	46.3	36.3	29.0	29.8	0.1
90.00	6.9	-0.3	1.9	8.8	1.6	47.2	37.2	38.4	35.6	0.1
150.00	4.0	-2.3	1.5	5.5	-0.8	49.4	39.4	43.9	40.2	0.1
180.00	3.7	-2.5	0.9	4.6	-1.6	50.6	40.6	46.0	42.2	0.1
220.00	4.4	-1.9	0.8	5.2	-1.1	52.0	42.0	46.8	43.1	0.1
300.00	3.7	-2.6	1.7	5.4	-0.9	55.0	45.0	49.6	45.9	0.1



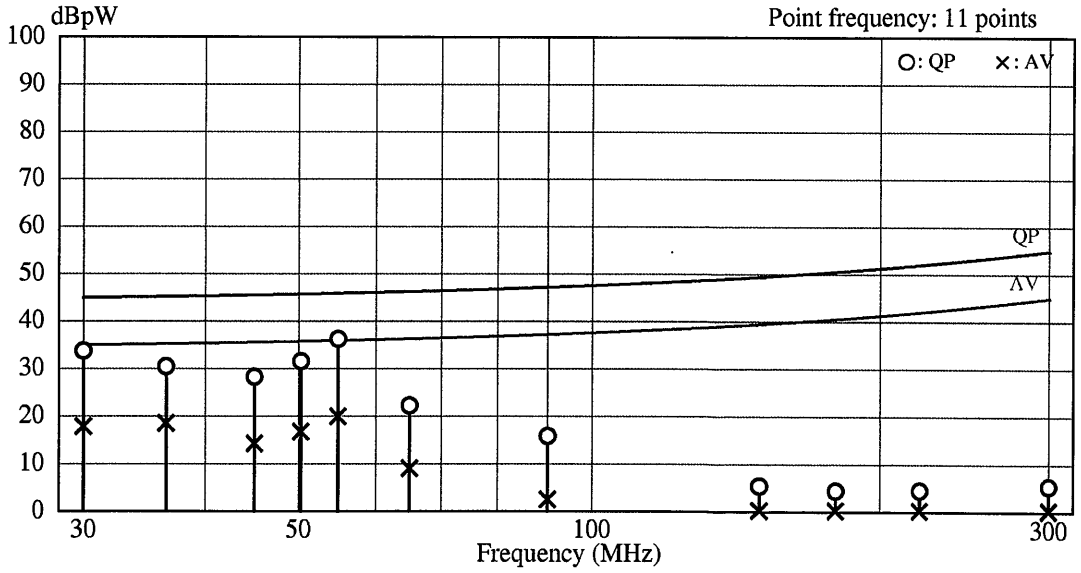
3.4.8.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	27.7	18.4	3.3	31.0	21.7	45.0	35.0	14.0	13.3	1.1
30.35	27.4	17.6	3.3	30.7	20.9	45.0	35.0	14.3	14.1	1.2
35.84	26.6	17.3	3.1	29.7	20.4	45.2	35.2	15.5	14.8	2.1
45.00	20.5	7.5	3.0	23.5	10.5	45.6	35.6	22.1	25.1	0.1
54.21	30.8	15.2	2.4	33.2	17.6	45.9	35.9	12.7	18.3	1.1
65.00	20.6	7.5	2.0	22.6	9.5	46.3	36.3	23.7	26.8	0.1
90.00	7.4	-0.5	1.9	9.3	1.4	47.2	37.2	37.9	35.8	0.1
150.00	4.2	-2.1	1.5	5.7	-0.6	49.4	39.4	43.7	40.0	0.1
180.00	3.6	-2.7	0.9	4.5	-1.8	50.6	40.6	46.1	42.4	0.1
220.00	4.7	-1.5	0.8	5.5	-0.7	52.0	42.0	46.5	42.7	0.1
300.00	3.7	-2.6	1.7	5.4	-0.9	55.0	45.0	49.6	45.9	0.1



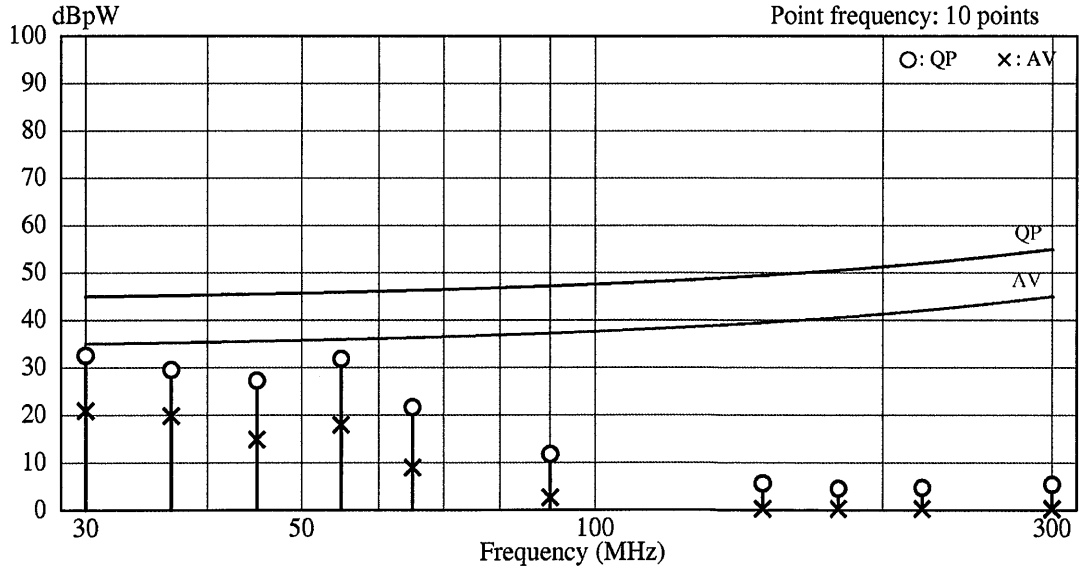
3.4.9.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	30.4	14.5	3.3	33.7	17.8	45.0	35.0	11.3	17.2	0.1
36.47	27.3	15.4	3.1	30.4	18.5	45.2	35.2	14.8	16.7	2.0
45.00	25.2	11.2	3.0	28.2	14.2	45.6	35.6	17.4	21.4	0.1
50.27	28.6	13.8	2.9	31.5	16.7	45.8	35.8	14.3	19.1	1.3
54.90	33.8	17.5	2.4	36.2	19.9	45.9	35.9	9.7	16.0	1.3
65.00	20.2	7.0	2.0	22.2	9.0	46.3	36.3	24.1	27.3	0.1
90.00	13.9	0.6	1.9	15.8	2.5	47.2	37.2	31.4	34.7	0.1
150.00	3.9	-2.4	1.5	5.4	-0.9	49.4	39.4	44.0	40.3	0.1
180.00	3.5	-2.7	0.9	4.4	-1.8	50.6	40.6	46.2	42.4	0.1
220.00	3.7	-2.5	0.8	4.5	-1.7	52.0	42.0	47.5	43.7	0.1
300.00	3.7	-2.6	1.7	5.4	-0.9	55.0	45.0	49.6	45.9	0.1



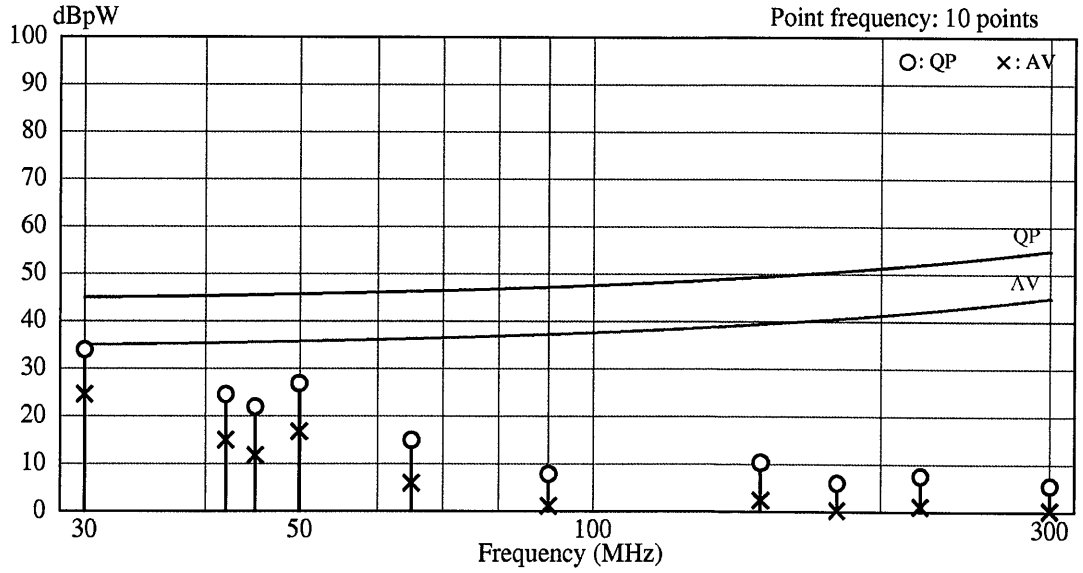
3.4.10.3 Cooling mode

Frequency (MHz)	Reading (dBµV)		Correction factor (dB)	Noise level (dBpW)		Limit (dBpW)		Margin (dB)		Distance (m)
	QP	AV		QP	AV	QP	AV	QP	AV	
30.00	29.2	17.5	3.3	32.5	20.8	45.0	35.0	12.5	14.2	0.1
36.75	26.4	16.7	3.1	29.5	19.8	45.3	35.3	15.8	15.5	1.5
45.00	24.2	11.8	3.0	27.2	14.8	45.6	35.6	18.4	20.8	0.1
54.89	29.4	15.5	2.4	31.8	17.9	45.9	35.9	14.1	18.0	0.3
65.00	19.6	6.9	2.0	21.6	8.9	46.3	36.3	24.7	27.4	0.1
90.00	9.8	0.7	1.9	11.7	2.6	47.2	37.2	35.5	34.6	0.1
150.00	4.1	-2.2	1.5	5.6	-0.7	49.4	39.4	43.8	40.1	0.1
180.00	3.6	-2.7	0.9	4.5	-1.8	50.6	40.6	46.1	42.4	0.1
220.00	3.9	-2.4	0.8	4.7	-1.6	52.0	42.0	47.3	43.6	0.1
300.00	3.7	-2.6	1.7	5.4	-0.9	55.0	45.0	49.6	45.9	0.1



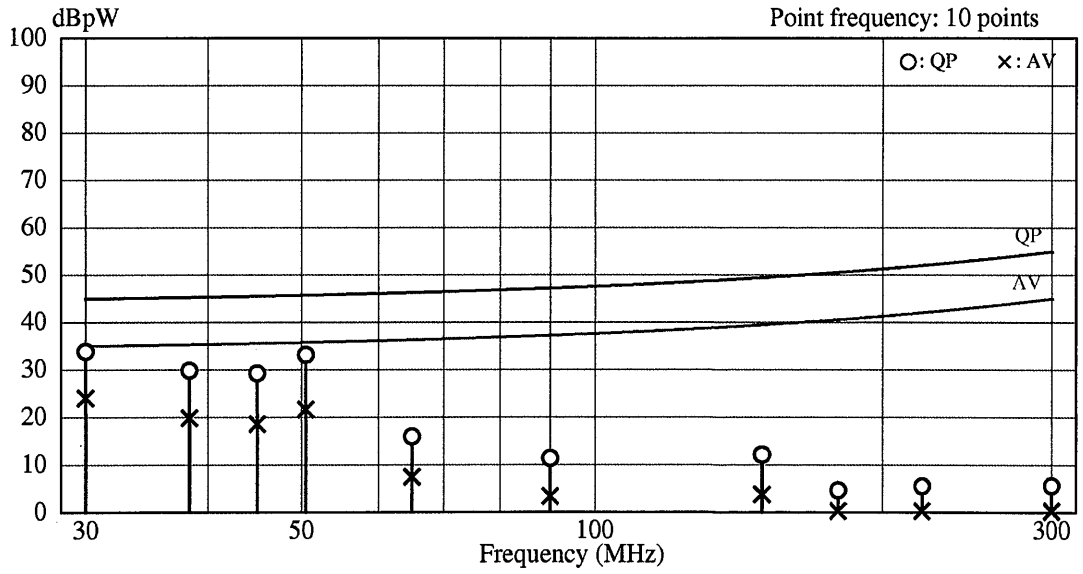
3.4.11.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	30.6	21.2	3.3	33.9	24.5	45.0	35.0	11.1	10.5	0.2
41.97	21.4	11.8	3.1	24.5	14.9	45.4	35.4	20.9	20.5	0.9
45.00	18.9	8.7	3.0	21.9	11.7	45.6	35.6	23.7	23.9	0.5
49.91	23.9	13.8	2.9	26.8	16.7	45.7	35.7	18.9	19.0	0.5
65.00	12.9	3.9	2.0	14.9	5.9	46.3	36.3	31.4	30.4	0.1
90.00	5.9	-0.8	1.9	7.8	1.1	47.2	37.2	39.4	36.1	0.1
150.00	8.8	0.9	1.5	10.3	2.4	49.4	39.4	39.1	37.0	0.1
180.00	5.1	-1.9	0.9	6.0	-1.0	50.6	40.6	44.6	41.6	0.1
220.00	6.7	0.3	0.8	7.5	1.1	52.0	42.0	44.5	40.9	0.1
300.00	3.8	-2.5	1.7	5.5	-0.8	55.0	45.0	49.5	45.8	0.1



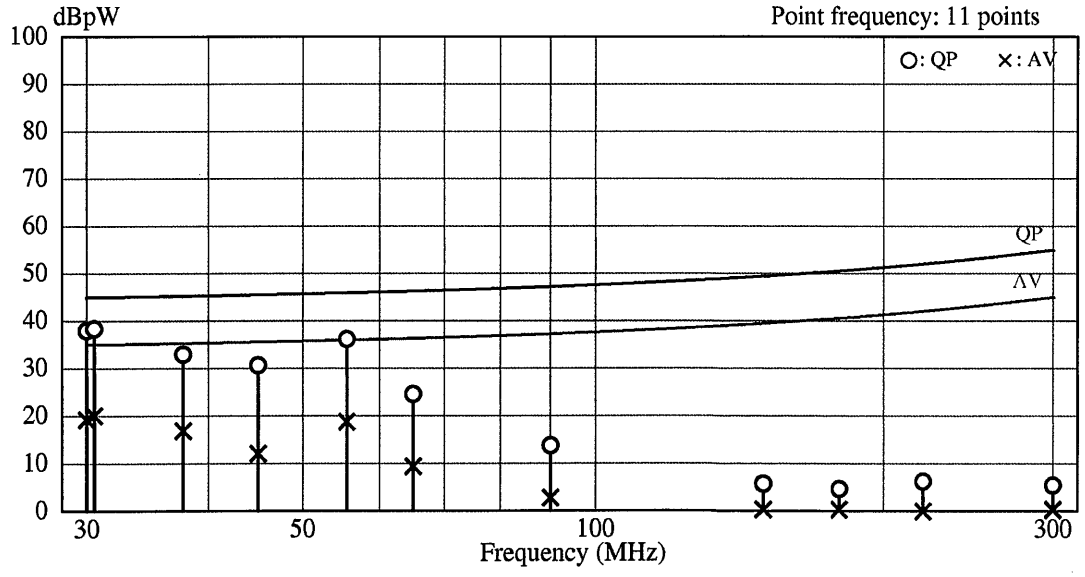
3.4.12.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	30.5	20.7	3.3	33.8	24.0	45.0	35.0	11.2	11.0	0.1
38.31	26.7	16.7	3.1	29.8	19.8	45.3	35.3	15.5	15.5	1.6
45.00	26.2	15.5	3.0	29.2	18.5	45.6	35.6	16.4	17.1	0.1
50.53	30.3	18.8	2.8	33.1	21.6	45.8	35.8	12.7	14.2	0.6
65.00	13.9	5.4	2.0	15.9	7.4	46.3	36.3	30.4	28.9	0.1
90.00	9.4	1.4	1.9	11.3	3.3	47.2	37.2	35.9	33.9	0.1
150.00	10.6	2.2	1.5	12.1	3.7	49.4	39.4	37.3	35.7	0.1
180.00	3.7	-2.6	0.9	4.6	-1.7	50.6	40.6	46.0	42.3	0.1
220.00	4.7	-1.5	0.8	5.5	-0.7	52.0	42.0	46.5	42.7	0.1
300.00	3.9	-2.4	1.7	5.6	-0.7	55.0	45.0	49.4	45.7	0.1

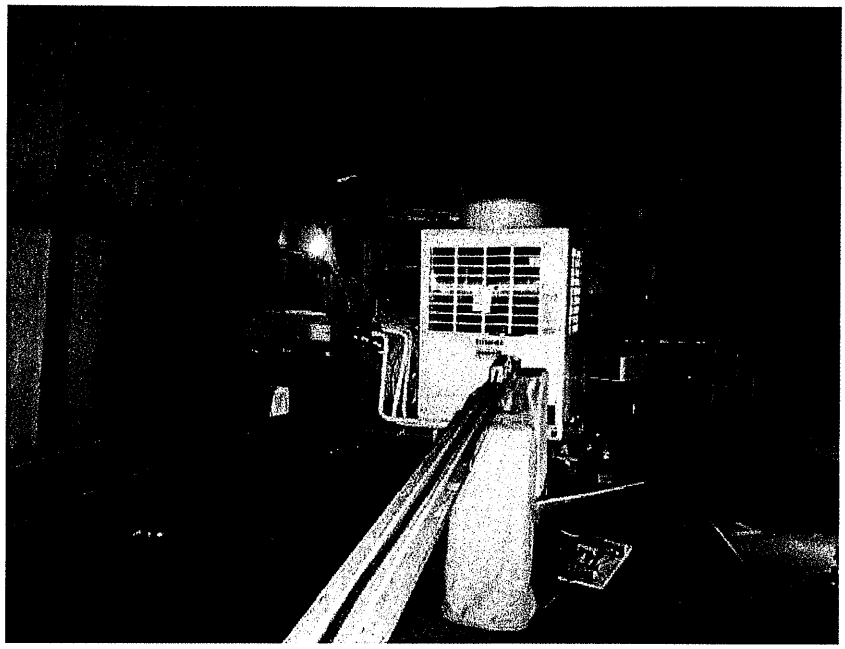


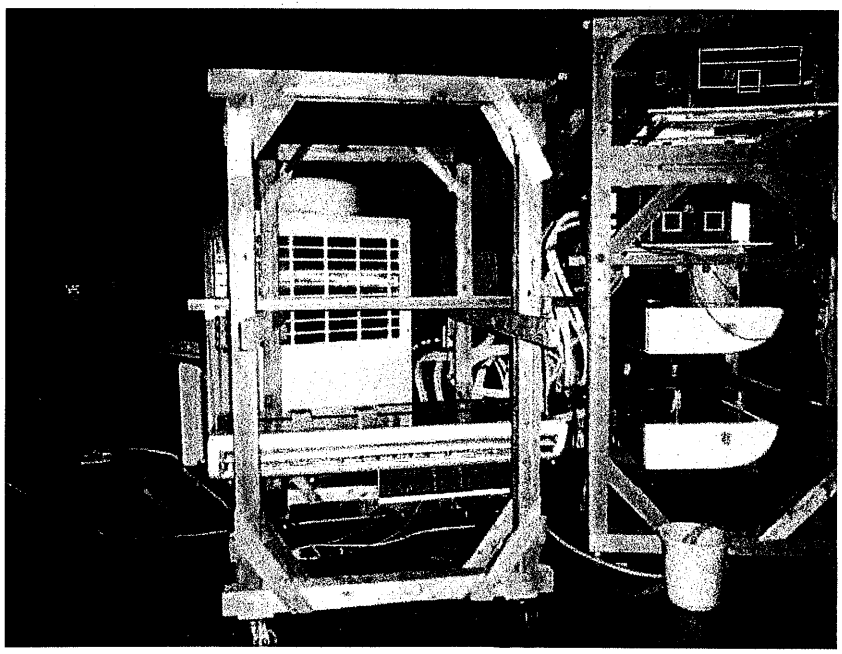
3.4.13.3 Cooling mode

Frequency (MHz)	Reading (dBμV) QP	Reading (dBμV) AV	Correction factor (dB)	Noise level (dBpW) QP	Noise level (dBpW) AV	Limit (dBpW) QP	Limit (dBpW) AV	Margin (dB) QP	Margin (dB) AV	Distance (m)
30.00	34.6	15.9	3.3	37.9	19.2	45.0	35.0	7.1	15.8	0.1
30.53	35.0	16.7	3.3	38.3	20.0	45.0	35.0	6.7	15.0	1.0
37.71	29.8	13.7	3.1	32.9	16.8	45.3	35.3	12.4	18.5	2.5
45.00	27.6	9.0	3.0	30.6	12.0	45.6	35.6	15.0	23.6	0.1
55.50	33.8	16.4	2.3	36.1	18.7	45.9	35.9	9.8	17.2	1.3
65.00	22.5	7.3	2.0	24.5	9.3	46.3	36.3	21.8	27.0	0.1
90.00	11.8	0.8	1.9	13.7	2.7	47.2	37.2	33.5	34.5	0.1
150.00	4.2	-2.1	1.5	5.7	-0.6	49.4	39.4	43.7	40.0	0.1
180.00	3.7	-2.6	0.9	4.6	-1.7	50.6	40.6	46.0	42.3	0.1
220.00	5.4	-0.9	0.8	6.2	-0.1	52.0	42.0	45.8	42.1	0.1
300.00	3.7	-2.6	1.7	5.4	-0.9	55.0	45.0	49.6	45.9	0.1



Setup 2





3.5.1.3 Cooling mode

Test Data of L1 Harmonics Current

Voltage (max)	230.37 V	THC (max)	0.1297 A
Current (max)	0.5281 A	POHC (max) / Limit	0.0675 A / ----- *4
Power (max)	107.28 W	Apparent Power (max)	121.63 VA
Power Factor (max)	0.8825	Reactive Power (max)	57.33 var
Fundamental Current (max)	0.5112 A	THD (max)	25.45 %

Order	Limit1[A rms]	Limit2[A rms]	Ave[A rms]	Max[A rms]	LimitOver[s]	Judge
1	-----	-----	0.5106	0.5112	-----	N/A
2	1.0800	2.1600	0.0106	0.0109	0.0	Pass
3	2.3000	4.6000	0.0131	0.0132	0.0	Pass
4	0.4300	0.8600	0.0062	0.0065	0.0	Pass
5	1.1400	2.2800	0.0555	0.0556	0.0	Pass
6	0.3000	0.6000	0.0071	0.0074	0.0	Pass
7	0.7700	1.5400	0.0384	0.0385	0.0	Pass
8	0.2300	0.4600	0.0064	0.0067	0.0	Pass
9	0.4000	0.8000	0.0367	0.0368	0.0	Pass
10	0.1840	0.3680	0.0064	0.0067	0.0	Pass
11	0.3300	0.6600	0.0359	0.0360	0.0	Pass
12	0.1533	0.3067	0.0060	0.0063	0.0	Pass
13	0.2100	0.4200	0.0352	0.0353	0.0	Pass
14	0.1314	0.2629	0.0058	0.0061	0.0	Pass
15	0.1500	0.3000	0.0337	0.0339	0.0	Pass
16	0.1150	0.2300	0.0053	0.0056	0.0	Pass
17	0.1324	0.2647	0.0323	0.0324	0.0	Pass
18	0.1022	0.2044	0.0050	0.0053	0.0	Pass
19	0.1184	0.2368	0.0307	0.0308	0.0	Pass
20	0.0920	0.1840	0.0046	0.0049	0.0	N/A
21	0.1071	0.2143	0.0288	0.0290	0.0	Pass
22	0.0836	0.1673	0.0042	0.0045	0.0	N/A
23	0.0978	0.1957	0.0271	0.0273	0.0	Pass
24	0.0767	0.1533	0.0038	0.0040	0.0	N/A
25	0.0900	0.1800	0.0252	0.0255	0.0	Pass
26	0.0708	0.1415	0.0034	0.0036	0.0	N/A
27	0.0833	0.1667	0.0232	0.0234	0.0	Pass
28	0.0657	0.1314	0.0029	0.0031	0.0	N/A
29	0.0776	0.1552	0.0214	0.0216	0.0	Pass
30	0.0613	0.1227	0.0025	0.0027	0.0	N/A
31	0.0726	0.1452	0.0195	0.0197	0.0	Pass
32	0.0575	0.1150	0.0021	0.0023	0.0	N/A
33	0.0682	0.1364	0.0175	0.0178	0.0	Pass
34	0.0541	0.1082	0.0018	0.0020	0.0	N/A
35	0.0643	0.1286	0.0156	0.0159	0.0	Pass
36	0.0511	0.1022	0.0014	0.0016	0.0	N/A
37	0.0608	0.1216	0.0138	0.0141	0.0	Pass
38	0.0484	0.0968	0.0013	0.0015	0.0	N/A
39	0.0577	0.1154	0.0119	0.0123	0.0	Pass
40	0.0460	0.0920	0.0011	0.0012	0.0	N/A

N/A : Not Apply

*4 When the Edition 3.0 is applied, 200% of the Limit1 value is applied to each Limit2 value.

3.6 Voltage fluctuations and Flickers

3.6.1 Test Specification

Standard	EN61000-3-3:2013
Observation Period	10 minutes (Pst, dc, d(t), dmax) 1 minute / 24 measurements (dmax by manual switching) 120 minutes (Plt)
Test Date	26 January, 2016
Test Location	Kamikuishiki Laboratory Anechoic chamber No.1
Test Engineer	Tetsuya Sasamoto
Temperature	30 °C
Humidity	37 % RH
Pressure	939 hPa
Power Supply	230 V ac, 50 Hz
Operation Mode Name	Cooling mode

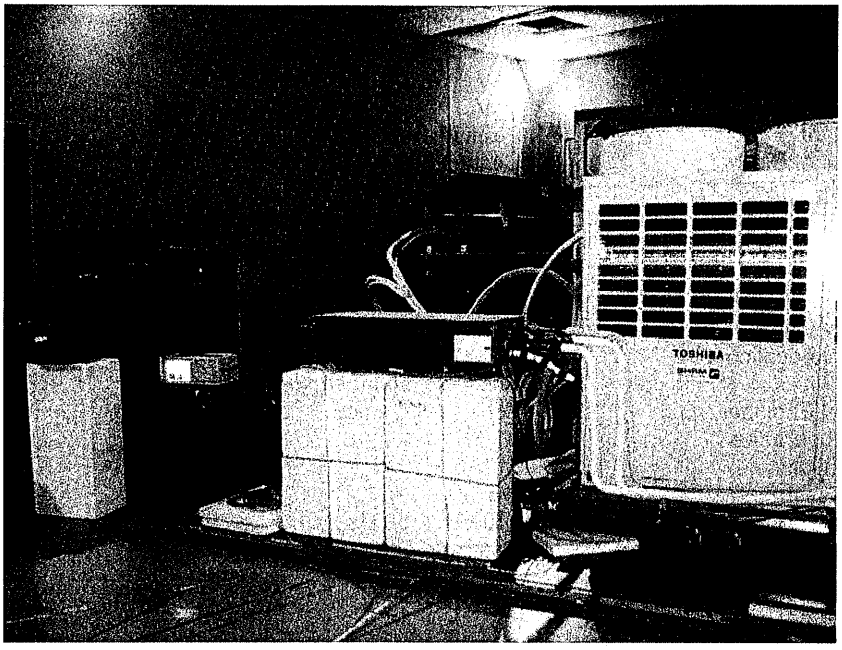
3.6.1.1 Test Result

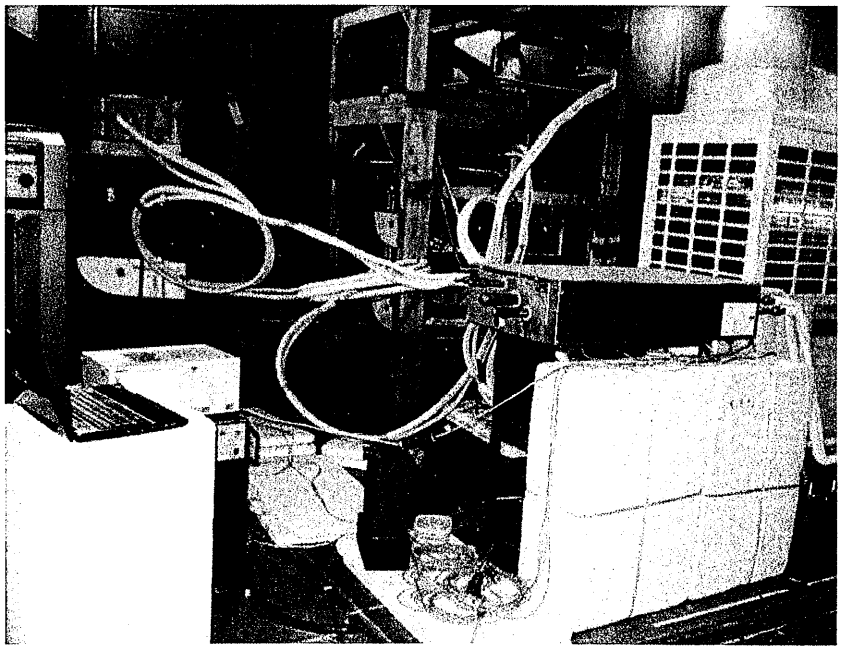
Pass

3.6.1.2 Test Detail

Tested Port	Minimum limit margin	Note
AC Power cable for FS Unit (Mark C2-7)	See Measurement Data	

3.6.2 Test Setup Photographs

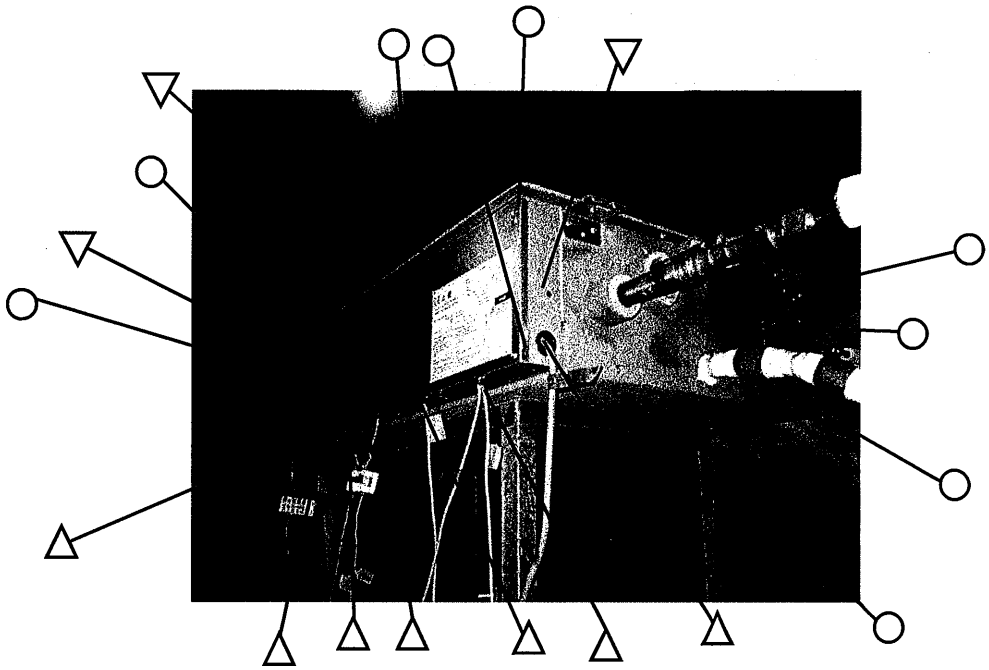


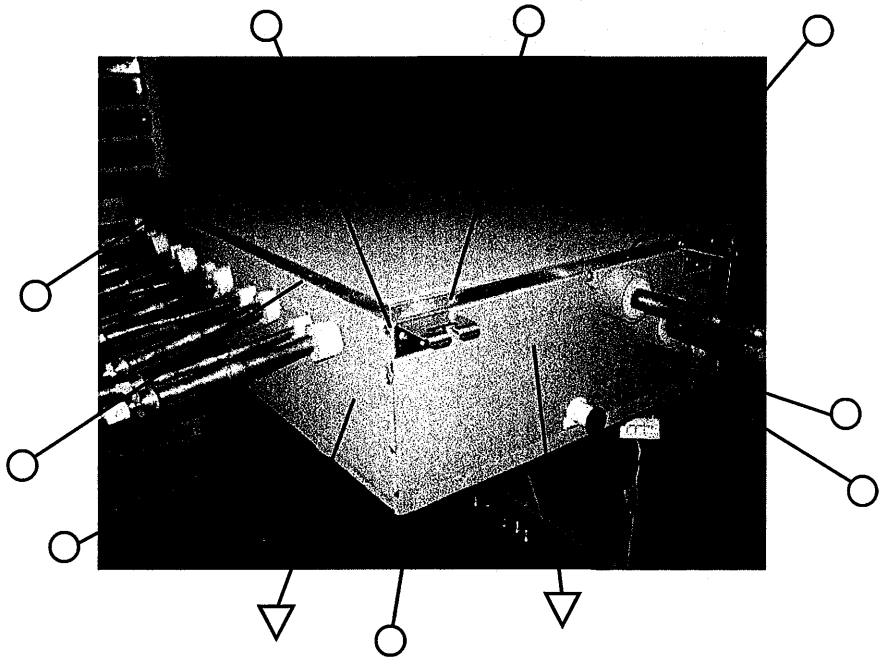


3.7.2 Test Point

Description of Mark
○ : Contact Discharge (10 times)
△ : Air Discharge (10 times)
▽: Setting Position of VCP (10 times)

3.7.2.1 Cooling mode





3.8 RF Electromagnetic Field Immunity

3.8.1 Test Specification

Standard	EN55014-2:1997+A1:2001+A2:2008 (Category IV)
Basic Standard	EN61000-4-3:2006+A1:2008+A2:2010
Test Level	3 V/m
Frequency Range	80 MHz to 1 000 MHz
Modulation	80 % AM (1 kHz)
Sweep Rate	
(Frequency Step)	1 %
(Dwell Time)	2.9 seconds
Test Surface	Front, Rear, Right, Left
Polarization	Vertical and Horizontal
Performance Criterion	A
Test Date	26 January, 2016
Test Location	Kamikuishiki Laboratory Anechoic chamber No.1
Test Engineer	Tetsuya Sasamoto
Temperature	30 °C
Humidity	37 % RH
Pressure	939 hPa
Power Supply	230 V ac, 50 Hz
Operation Mode Name	Cooling mode

3.8.1.1 Test Result

Pass

3.8.1.2 Test Detail

Frequency Range	Test Level	Modulation	Polarization	Surface	Result	Note
80 MHz to 1 000 MHz	3 V/m	80 % AM (1 kHz)	Vertical and Horizontal	Front	A	1

Note:1 Tests for other sides (Rear, Right and Left) were omitted according to the test plan.

3.9 Electrical Fast Transient/Burst Immunity

3.9.1 Test Specification

Standard	EN55014-2:1997+A1:2001+A2:2008 (Category IV)
Basic Standard	EN61000-4-4:2012
Test Level	1 kV (AC Power) 0.5 kV (Signal/ Control)
Polarity	Positive and Negative
Repetition Frequency	5 kHz
Test Duration	2 minutes
Performance Criterion	B
Test Date	28 January, 2016
Test Location	Kamikuishiki Laboratory Anechoic chamber No.1
Test Engineer	Tetsuya Sasamoto
Temperature	31 °C
Humidity	36 % RH
Pressure	942 hPa
Power Supply	230 V ac, 50 Hz
Operation Mode Name	Cooling mode

3.9.1.1 Test Result

Pass

3.9.1.2 Test Detail

Tested Port	Test Level	Polarity	Coupling	Serial Number	Result	Note
AC Power cable for FS Unit (Mark C2-7)	1 kV	+ / -	CDN	911	A	
Signal Cable between Indoor Unit and FS Unit (Mark C3-5)	0.5 kV	+ / -	Coupling Clamp	256	A	
Signal Cable between Indoor Unit and FS Unit (Mark C3-7)	0.5 kV	+ / -	Coupling Clamp	256	A	
Signal Cable between Indoor Unit and FS Unit (Mark C3-11)	0.5 kV	+ / -	Coupling Clamp	256	A	
Float Switch Cable (Mark C7)	0.5 kV	+ / -	Coupling Clamp	256	A	

Remarks: Tests of other ports were omitted according to the test plan.

3.10 Surge Immunity

3.10.1 Test Specification

Standard	EN55014-2:1997+A1:2001+A2:2008 (Category IV)
Basic Standard	EN61000-4-5:2006
Test Level	1 kV (Line to Line / AC Power) 2 kV (Line to Earth / AC Power)
Polarity	Positive and Negative
Combination Wave	1.2/50 micro seconds - 8/20 micro seconds
Phase Angle	0 degree, 90 degree, 180 degree, 270 degree
Number of Test	5 surges / phase angle
Time Between Pulse	30 seconds
Surge Protection	-
Performance Criterion	B
Test Date	28 January, 2016
Test Location	Kamikuishiki Laboratory Anechoic chamber No.1
Test Engineer	Tetsuya Sasamoto
Temperature	31 °C
Humidity	36 % RH
Pressure	942 hPa
Power Supply	230 V ac, 50 Hz
Operation Mode Name	Cooling mode

3.10.1.1 Test Result

Pass

3.10.1.2 Test Detail

Tested Port AC Power cable for FS Unit (Mark C2-7)

Injection Point	Test Level	Polarity	Impedance	Result	Note
Line to Line	1 kV	+ / -	2Ω + 18μF	A	
Line to Earth	2 kV	+ / -	12Ω + 9μF	A	

3.11 RF Conducted Immunity

3.11.1 Test Specification

Standard	EN55014-2:1997+A1:2001+A2:2008 (Category IV)
Basic Standard	EN61000-4-6:2009
Test Level	3 V e.m.f. (AC Power) 1 V e.m.f. (Signal/ Control)
Frequency Range	0.15 MHz to 80 MHz
Modulation	80 % AM (1 kHz)
Sweep Rate	
(Frequency Step)	1 %
(Dwell Time)	2.9 seconds
Performance Criterion	A
Test Date	27 January, 2016
Test Location	Kamikuishiki Laboratory Anechoic chamber No.1
Test Engineer	Tetsuya Sasamoto
Temperature	31 °C
Humidity	37 % RH
Pressure	940 hPa
Power Supply	230 V ac, 50 Hz
Operation Mode Name	Cooling mode

3.11.1.1 Test Result

Pass

3.11.1.2 Test Detail

Tested Port	Test Level (e.m.f.)	Injection Device	Serial Number	Result	Note
AC Power cable for FS Unit (Mark C2-7)	3 V	CDN-M3	902	A	
Signal Cable between Indoor Unit and FS Unit (Mark C3-5)	3 V	EM Clamp	95	A	1
Signal Cable between Indoor Unit and FS Unit (Mark C3-7)	3 V	EM Clamp	95	A	1
Signal Cable between Indoor Unit and FS Unit (Mark C3-11)	3 V	EM Clamp	95	A	1
Float Switch Cable (Mark C7)	3 V	EM Clamp	95	A	1

Remarks: Tests of other ports were omitted according to the test plan.

Note:1 Higher test level was applied according to the test plan.

3.12 Voltage Dips, Short Interruptions Immunity

3.12.1 Test Specification

Standard	EN55014-2:1997+A1:2001+A2:2008 (Category IV)
Basic Standard	EN61000-4-11:2004
Phase Angle	0 degree, 180 degree
Number of Test	3
Test Intervals	10 seconds
Performance Criterion	C (60 % voltage dips, 10 periods) C (30 % voltage dips, 25 periods) C (100 % voltage dips, 0.5 period)
Test Date	28 January, 2016
Test Location	Kamikuishiki Laboratory Anechoic chamber No.1
Test Engineer	Tetsuya Sasamoto
Temperature	31 °C
Humidity	36 % RH
Pressure	942 hPa
Power Supply	220 V ac, 50 Hz
Operation Mode Name	Cooling mode

3.12.1.1 Test Result

Pass

3.12.1.2 Test Detail

Tested Port AC Power cable for FS Unit (Mark C2-7)

Test Level	Duration	Result	Note
60 % voltage dips	10 periods	A	
30 % voltage dips	25 periods	A	
100 % voltage dips	0.5 period	A	

4. Test facility

4.1 Test Instruments

4.1.1 Conducted Emissions

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
Spectrum Analyzer	Hewlett Packard	8567A	2816A16138	2015/08/19	2016/08/31
Receiver	Rohde&Schwarz	ESCI	100485	2015/07/27	2016/07/31
LISN	Schwarzbeck	NNLK8121	8121390	2015/01/28	2016/01/31
LISN	Rohde&Schwarz	ENV216	100035	2015/10/28	2016/10/31
Hi Impedance Probe	Kyoritsu	KNW-410	8-775-10	2015/02/26	2016/02/29
Attenuator	e-OHTAMA, LTD.	None	None	2015/09/17	2016/09/30
Sheath Current Absorber	e-OHTAMA, LTD.	None	None	2015/10/26	2016/10/31
RF Switch System	e-OHTAMA, LTD.	#2 RF Switch System	None	2015/06/13	2016/06/30
Soft Ware	e-OHTAMA, LTD.	emission measurement program	toemc02-1.4	-	-

4.1.2 Radiated Electric-Field Emissions

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
Spectrum Analyzer	Hewlett Packard	8567A	2816A16138	2015/08/19	2016/08/31
Receiver	Rohde&Schwarz	ESCI	100485	2015/07/27	2016/07/31
Pre-Amplifier	Hewlett Packard	8447D	1937A02531	2015/07/02	2016/07/31
Attenuator	Tamagawa	CFA-01	None	2015/06/13	2016/06/30
Bilog Antenna	Schwarzbeck	VULB9160	9160-3223	2015/07/09	2016/07/31
RF Switch System	e-OHTAMA, LTD.	#2 RF Switch System	None	2015/06/13	2016/06/30
Soft Ware	e-OHTAMA, LTD.	emission measurement program	toemc02-1.4	-	-

4.1.3 Disturbance Power

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
Spectrum Analyzer	Hewlett Packard	8567A	2816A16138	2015/08/19	2016/08/31
Receiver	Rohde&Schwarz	ESCI	100485	2015/07/27	2016/07/31
Clamp	Rohde&Schwarz	MDS-21	3010404/010	2015/11/02	2016/11/30
RF Switch System	e-OHTAMA, LTD.	#2 RF Switch System	None	2015/06/13	2016/06/30
Soft Ware	e-OHTAMA, LTD.	emission measurement program	toemc02-1.4	-	-

4.1.8 Electrical Fast Transient/Burst Immunity

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
Capacitive Coupling Clamp	Schaffner	CDN126	256	2015/09/30	2016/09/30
EMC Tester	EMC-PARTNER	TRANSIENT 2000	911	2015/06/29	2016/06/30

4.1.9 Surge Immunity

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
EMC Tester	EMC-PARTNER	TRANSIENT 2000	911	2015/06/29	2016/06/30

4.1.10 RF Conducted Immunity

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
Signal Generator	Rohde&Schwarz	SMY01	838592/024	2015/10/02	2016/10/31
Voltage Meter	Rohde&Schwarz	NRVS	843209/043	2016/01/06	2017/01/31
Insertion Unit	Rohde&Schwarz	URV5-Z4	61450206	2016/01/06	2017/01/31
Amplifier	AR KALMUS	122FC/1-60-489-003	8708-1	2016/01/06	2017/01/31
CDN	Luthi	L-801 M3 16A	902	2016/01/19	2017/01/31
EM Clamp	FCC	F-203I	95	2016/01/06	2017/01/31
Soft Ware	TSJ	TEPTO-RS/BCI	Version 4.8.10	-	-

4.1.11 Voltage Dips, Short Interruptions Immunity

Product Name	Manufacturer	Model Number	Serial Number	Calibration Date	Due Date
EMC Tester	EMC-PARTNER	TRANSIENT 2000	911	2015/06/29	2016/06/30

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.

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.

B.2 Radiated Electric-Field Emissions (30 MHz to 1 000 MHz)

EUT is placed on a turn-table in a test site, on a wooden table 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.

B.6 Electrostatic Discharge Immunity

Table-top EUT is placed on a horizontal coupling plane (HCP), insulated from the HCP with a thin insulating sheet.
The HCP is placed on a wooden table of 0.8 m height, and the HCP is connected to the ground plane via a cable with a 470 k ohms resistor located at each end.
Floor-standing EUT is placed on the ground plane, insulated from the ground plane with an insulating support about 0.1 m thick.
Unless otherwise specified in the standards, direct discharges are applied to the points and surfaces which are accessible during normal operation.
For conductive points and surfaces, contact discharges are applied by making the sharp discharge tip of the ESD generator touched with the test points and then operating the discharge switch of the generator.
For non-conductive points and surfaces, air discharges are applied by making the round discharge tip of the ESD generator approached to touch the EUT after operating the discharge switch of the generator.
Discharges would also be applied to the vertical coupling plane (VCP), placed parallel to, and positioned at a distance of 0.1 m from, the EUT.
The VCP is a metal sheet of dimensions 0.5 m x 0.5 m, and is connected to the ground plane in the same manner as the HCP.
For table-top EUT, discharges would also be applied to the HCP under the EUT.
Actual test will be carried out according to the appropriate edition of IEC/EN 61000-4-2 and/or other standards whichever applicable.

B.7 RF Electromagnetic Field Immunity

Table-top EUT is placed on a wooden table of 0.8 m height, and floor-standing EUT is placed, as far as possible, on an insulating support about 10 cm thick on the floor.
The EUT is initially placed in front of a field generating antenna, with its one face coincident with the plane where the field strength of the disturbance was calibrated.
The EUT and the cables are then illuminated by the electromagnetic field of the required frequency, modulation and field strength, by injecting the power obtained from the calibration data into the field generating antenna.
The frequency ranges to be considered are swept with the step size not exceeding 1% of the preceding frequency, and with the dwell time no shorter than the value specified in the standard or by the applicant.
The tests are repeated to illuminate the faces to be tested (usually four or six faces of the EUT) to both horizontal and vertical polarizations, one by one.
Actual test will be carried out according to the appropriate edition of IEC/EN 61000-4-3 and/or other standards whichever applicable.

B.8 Electrical Fast Transient/Burst Immunity

EUT is placed on a insulating support of about 0.1 m or 0.8 m, as specified in the applicable standard, on a ground plane.
To inject the disturbance to the mains, mains to the EUT is supplied through a CDN and the disturbance voltage is applied between the ground plane and the power supply conductors (including N and PE, if any) either by one by one or by simultaneously depends to the applied standard.
Cables other than the mains are tested using a capacitive coupling clamp.
If capacitive coupling clamp is not appropriate, other methods specified in the standard may be used instead.
Actual test will be carried out according to the appropriate edition of IEC/EN 61000-4-4 and/or other standards whichever applicable.
Unless otherwise described,
Disturbances were applied to the cables in the order they are listed in the ``Test Data" section(s) of this report.

CONSTRUCTIONAL DATAFORM FOR EMC - TESTING

Applicant: Toshiba Carrier Corporation Fuji Factory and Engineering Center

Address: 336, Tadehara, Fuji-shi, Shizuoka-ken, 416-8521 Japan

Factory: Toshiba Carrier (Thailand) Co., Ltd.

Address: 144/9 Moo 5, Bangkadi Industrial Park, Tivanon Road, Tambol Bangkadi,
Amphur Muang, Pathumthani 12000, Thailand

Type: Super Modular Multi System Air Conditioner

Outdoor Unit Model: MMY-MAP2006FT8P-E **Serial No.:** 52700001
Outdoor Unit Model: MMY-MAP1406FT8P-E **Serial No.:** 52700005
Flow Selector Unit Model: RBM-Y1801F6PE **Serial No.:** 55100001

Rated input power:

Model:		
	MMY-MAP2006FT8P-E	32.2kW, 49.3A
	MMY-MAP1406FT8P-E	22.3kW, 35.8A
	RBM-Y1801F6PE	152W, 0.82A

Tested voltage : 380-415V, 3N~, 50Hz, 220-240V~, 50Hz

Protection class: Class I

Source of Interference: MMY-MAP2006FT8P-E & MMY-MAP1406FT8P-E = 14.7456MHz, 20MHz & internal frequencies (MCC-1673), 80MHz (MCC-1660, MCC-1659), 24MHz (MCC-1667),

RBM-Y1801F6PE : 14.7456MHz (MCC-1681)

Noise suppression components:
MMY-MAP2006FT8P-E : Reactor CH-65, 2.9mH, 30A, in E-parts box),
Clamp filter 1-1, 1-2, 1-10, 1-11 (ZCAT3035-1330), Clamp filter 1-3 to 1-9 (ZCAT2032-0930),
Noise filter PCB : MCC-1608A / MCC-1608B

MMY-MAP1406FT8P-E : Reactor CH-90, 2.9mH, 25A (in E-parts box) Ferrite core,
Clamp filter 2-1, 2-8 (ZCAT3035-1330), Clamp filter 2-2 to 2-7 (ZCAT2032-0930)
Noise filter PCB : MCC-1608A/ MCC-1608B

RBM-Y1801F6PE : Clamp filter ZCAT2032-0930 (TCS-sensor and PMV),
Clamp filter ZCAT2032-0930(External communication cable to Indoor Unit)

Measures for electromagnetic shielding: Connection cable C4-1,

Shizuoka, Japan
Place of issue

date 2016-February-10

Seiichi Amano

Seal and signature of applicant
Mr. Seiichi Amano / Group Manager
Technology Regulation Control
& Public Relations Group