

National Science and Technology Development Agency, Ministry of Science and Technology



REPORT No. 10 / 61-95

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	TEST REPORT
EUT Number:	61-570
Equipment Under Test:	Air Conditioner
Trade Name:	Toshiba
Model:	RAS-5M34U2AVG-E (Outdoor) and RAS-B24PKVSG-E+ RAS-M13PKVPG-E+RAS-M13U2MUVG-E+RAS-B10U2FVG-E+ RAS-M07U2DVG-E (Indoor unit) is representative for testing. (Please see page 9 for product Information)
Serial Number:	-
Reference Number:	-
Manufactured by:	Toshiba Carrier (Thailand) Co., Ltd.
Customer:	Toshiba Carrier (Thailand) Co., Ltd.
Address:	144/9 Moo.5, Bangkadi Industrial Park,
	Tivanon Rd., T.Bangkadi, A.Muang, Pathumtani 12000
Receipt Date:	9 March 2018
Date of Test:	19, 22, 27 - 28 March 2018
Issued Date of Report:	4 April 2018

Approved by

NUSS

MR. Anake Meemoosor Operation Manager



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ELECTRICAL AND ELECTRONIC PRODUCTS TESTING CENTER

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1 SUMMARY OF TESTING

This product was tested and complied according to following specification standards: EN55014-1 Electromagnetic compatibility-Requirements for household appliances, electric tool and similar apparatus Part1: Emission.

EN55014-2 Electromagnetic compatibility-Requirements for household appliances, electric tool and similar apparatus Part2: Immunity-Product family standard.

EN 61000-3-12 Electromagnetic compatibility (EMC) - Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and 75 A per phase

EN61000-3-11 Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes,

voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current 75 A and subject to conditional connection

Test Item	Test Specification	Test Method	Result	
Conducted Emission	EN55014-1:2017	EN55014-1:2017	PASS	
Conducted Emission	Table 1 Column 2,3	LN33014-1.2017	FA00	
Disturbance Power	EN55014-1:2017	EN55014-1:2017	PASS	
Disturbance Fower	Table 2 Column 2,3	EN35014-1.2017	FA33	
Discontinuous disturbance	EN55014-1:2017	EN55014-1:2017	PASS	
	Table 1 Column 2	EN35014-1.2017	PA92	
Harmonic Emission			PASS	
Voltage Fluctuation			PASS	
	EN55014-2:2015,	IEC61000-4-2:2008	PASS	
Electrostatic Discharge	Table 1, 8kV air, 4kV contact, Criterion B	(Ed2.0)	PA33	
	EN55014-2:2015,			
Electrical Fast Transient	Table 4, 1kV 5/50ns 5kHz, Criterion B	IEC61000-4-4:2012	PASS	
	EN55014-2:2015,	(Ed2.0)	PA55	
	Table 2, 0.5kV 5/50ns 5kHz, Criterion B			
	EN55014-2:2015,	IEC61000-4-5:2014		
Surge	Table 12, 1.2/50us, 2kV CM,		PASS	
	1kV DM, Criterion B	(Ed2.0)		



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Test Item	Test Specification	Test Method	Result
	EN55014-2:2015,		
	Table 7, 0.15MHz to 230 MHz,		
	3V 1KHz 80% AM Criterion A	IEC61000-4-6:2013	DAGO
Conducted Immunity	EN55014-2:2015,	(Ed 3.0)	PASS
	Table 5, 0.15MHz to 230 MHz,		
	1V 1KHz 80% AM Criterion A		
	EN55014-2:2015,		
Voltage Dips	Table 13, Dip 60% 10P, Dip30% 25P,	IEC61000-4-11:2004	PASS
	Interrupt 0.5P, Criterion C	(Ed2.0)	

Note: -



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2 TEST PLAN AND DEVIATIONS FROM STANDARD

2.1 Test Plan

No.	Test Item	Rated voltage	Mode	Test Port	Test Specification
А	Conducted Enviroim	220-240 V			EN55014-1:2017
1	Conducted Emission	50 Hz	A,D	AC Main	Table 1 Column 2,3
2	Disturbance Power	220-240 V	A.D	AC Main	EN55014-1:2017
2	Disturbance Power	50 Hz	A,D	AC Main	Table 2 Column 2,3
3	Discontinuous	220-240 V	A.D	AC Main	EN55014-1:2017
3	disturbance	50 Hz	A,D	AC Main	Table 1 Column 2
		220-240 V			EN 01000 0 10:0010
4	Harmonic Emission	50 Hz	A	AC Main	EN 61000-3-12:2012
5	Voltage Eluctuation	220-240 V	С	AC Main	EN 61000-3-11:2001
5	Voltage Fluctuation	50 Hz	C	AC Main	EN 01000-3-11.2001
6		220-240 V	E	Enclosure	EN55014-2:2015,
0	Electrostatic Discharge	50 Hz		Enclosure	Table 1, 8kV air, 4kV contact, Criterion B
				AC Main	EN55014-2:2015,
7	Electrical Fast Transient	220-240 V	E		Table 4, 1kV 5/50ns 5kHz, Criterion B
'		50 Hz	E	Control Line.	EN55014-2:2015,
				Control Line.	Table 2, 0.5kV 5/50ns 5kHz, Criterion B
		220, 240 M			EN55014-2:2015,
8	Surge	220-240 V 50 Hz	Е	AC Main	Table 12, 1.2/50us, 2kV CM,
		50 HZ			1kV DM, Criterion B
					EN55014-2:2015,
				AC Main	Table 7, 0.15MHz to 230 MHz,
9	Conducted Immunity	220-240 V	F		3V 1KHz 80% AM Criterion A
Э	Conducted Immunity	50 Hz	E		EN55014-2:2015,
				Control line.	Table 5, 0.15MHz to 230 MHz,
					1V 1KHz 80% AM Criterion A
		220-240 V			EN55014-2:2015,
10	Voltage Dips	220-240 V 50 Hz	E	AC Main	Table 13, Dip 60% 10P, Dip30% 25P,
		2H UC			Interrupt 0.5P, Criterion C

2.2 Deviations from standard



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3 TEST CONDITIONS

3.1 Operation Mode

- A: Normal operation in cooling mode set temperature to 17°C and set fan speed to maximum.
- B: Normal operation in cooling mode set temperature to 17°C and change fan speed between low and high.
- C: The air temperature shall be controlled by changing the time interval every 10 minutes of operation of the Compressor motor (ON and OFF every 10 minutes).
- D: Normal operation in heating mode set temperature to 30°C and set fan speed to maximum.
- E: Normal operation in heating mode set temperature to 30°C and change fan speed between low and high.

Note: All of operation mode are following in clause 7.3.1.20 of EN55014-1:2017, annex C (C.12) of EN 61000-3-12:2012 and annex A (A.14) EN 61000-3-11:2001.

3.2 Uncertainty Application

3.2.1 Uncertainty application according to CISPR 16-4-2:2003 for Conducted Emission, Radiated Disturbance and Disturbance Power Testing.

Compliance or Non-Compliance with a disturbance limit was determined in the following manner

If U_{lab} is less than or equal to U_{cispr} in table 1, then:

- Compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.
- Non-Compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.
- If U_{lab} is greater than U_{cispr} in table 1, then:
 - Compliance is deemed to occur if no measured disturbance, increased by
 - $(U_{lab} U_{cispr})$, exceeds the disturbance limit.
 - Non-Compliance is deemed to occur if any measured disturbance, increased by
 - (U_{lab}-U_{cispr}), exceeds the disturbance limit.

Abbreviation	Testing system	Frequency range	U_{lab}	U_{cispr}	U_{lab} - U_{cispr}
CE	Conducted Emission	9 kHz - 150 kHz	2.88	4.00	-1.12
CE	Conducted Emission	150 kHz - 30 MHz	3.51	3.60	-0.09
RE	Radiated Disturbance	30 MHz – 1000 MHz	4.80	5.20	-0.40
PE	Disturbance Power	30 MHz – 300 MHz	2.42	4.50	-2.08

Table 1 – Values of U_{cispr}

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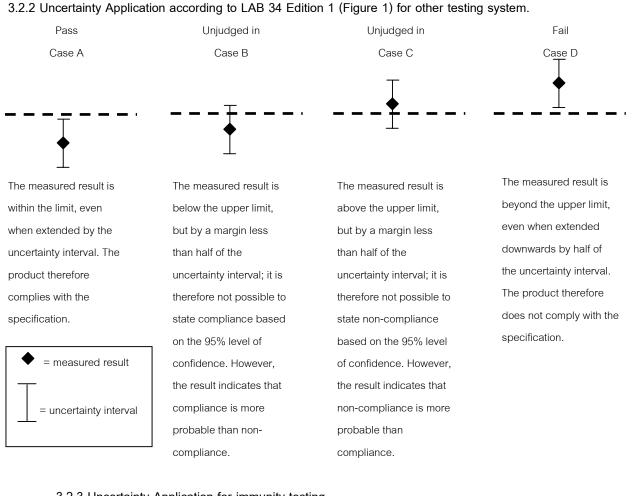


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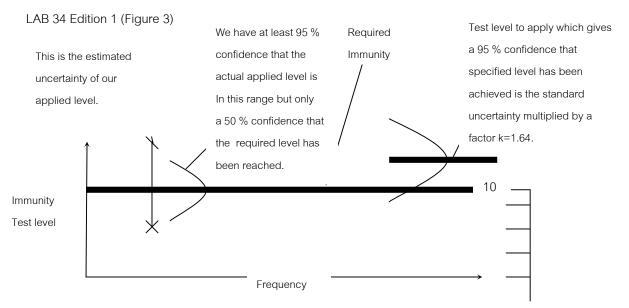
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3.2.3 Uncertainty Application for immunity testing.

Uncertainty of each test systems are applied for compliance with related standard according to



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3.3 Equipment Classifications

Class A for EN61000-3-12.

3.4 Protection Classifications

Class I.

3.5 Performance Criteria of Test Specification

Function	Criteria	During The Test	After The Test
	А	The fan speed can change.	The fan speed can change.
Fan speed	В	The fan speed can change delay.	The fan speed can change.
ran speed	С	The fan speed cannot change.	The fan speed cannot change. (before reset)
	U	The fait speed calling change.	The fan speed can change. (after reset)
	A The display can show latest statu		The display can show latest status.
	В	The display cannot show latest status	The display cannot show latest status but can
		(Such as LCD displays dimming,	self recover initial state.
Display		brightening, disappearing or flashing)	
	С	The display cannot show latest status	The display cannot show latest status but can
		(Such as LCD displays dimming,	recover initial state by resetting.
		brightening, disappearing or flashing)	

3.6 EUT Function Monitoring

The specific phenomena are monitored by display and fan speed.

4 TEST SYSTEM CONFIGURATION

- 4.1 EUT Exercise Software
 - -

4.2 EUT Modifications



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5 EUT DESCRIPTION

5.1 EUT Specification

Rated voltage	220-240 V / 50 Hz
Input Current/Power	≥16 A
Clock/Oscillator	-

- The appliance is a split type air conditioner consisting of indoor and outdoor part.
- It provides cooling / heating mode of operation.
- The refrigerant of R32 is used in this air conditioner.
- The main power is supplied by a single-phase, 3-pole power supple cable.
- Outdoor and indoor parts are connected by interconnection cable.
- The indoor part is equipped with an infrared wireless battery powered remote control unit and wired remote controller.

List of models:

Indoor Unit

Туре	New model Name (-E)	New Model (-TR)	Fan motor	PCB	Input
	RAS-M07U2DVG-E	RAS-M07U2DVG-TR			
	RAS-M10U2DVG-E	RAS-M10U2DVG-TR			80 W
Duct	RAS-M13U2DVG-E	RAS-M13U2DVG-TR	ICF-340WD94-	MCC-1643	
Duci	RAS-M16U2DVG-E	RAS-M16U2DVG-TR	3, -4	1000-1043	100 W
	RAS-M22U2DVG-E	RAS-M22U2DVG-TR			114 W
	RAS-M24U2DVG-E	RAS-M24U2DVG-TR		-	119 W
	RAS-B10U2FVG-E	RAS-B10U2FVG-TR			
Console	RAS-B13U2FVG-E	RAS-B13U2FVG-TR	ICF-340-41-1	MCC-5068	50 W
	RAS-B18U2FVG-E	RAS-B18U2FVG-TR			
Compact	RAS-M10U2MUVG-E	RAS-M10U2MUVG-TR			
4 Way	RAS-M13U2MUVG-E	RAS-M13U2MUVG-TR	ICF-340D60-1	MCC-1643	65 W
Cassette	RAS-M16U2MUVG-E	RAS-M16U2MUVG-TR			
Hi-wall	RAS-B22PKVSG-E	RAS-B22PKVSG-TR	ICF-340-30-6	WP-038	45 W
i i - Wall	RAS-B24PKVSG-E	RAS-B24PKVSG-TR	MF-340-30-1RT	VVF-U30	50 W



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Outdoor Unit							
	New model Name (-E)	New Model (-TR)	Fan motor	PCB	Input	Compressor	
	RAS-3M26U2AVG-E	RAS-3M26U2AVG-TR	ICF-280-	MCC-	3.80kW	DX220A2T-	
	RAS-4M27U2AVG-E	RAS-4M27U2AVG-TR	A60-1	1571	3.90kW	20L	
Outdoor			WDF-340-	&		DX270A2T-	
IMS 890H	RAS-5M34U2AVG-E	RAS-5M34U2AVG-TR	A100-1	WP-	4.40kW	20L	
	RAS-51015402AVG-E	RAS-SIVIS402AVG-TR		041	4.40677		

Note: The last suffix letters in model name shows export to Europe and turkey:

-E indicates for export to Europe and -TR indicates for export to turkey



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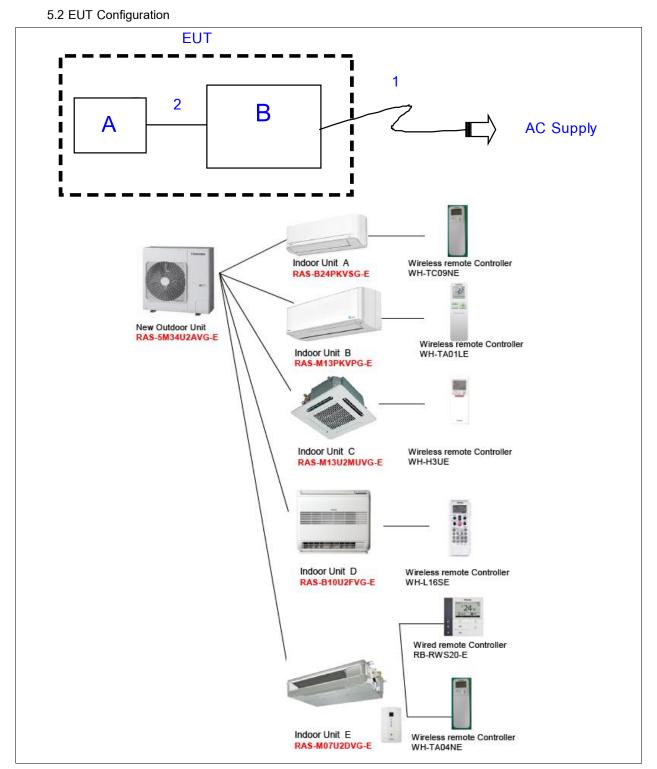


FIGURE 1 - EUT Configuration.



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5.3 Peripherals Description							
Diagram	Description	Trade Name	Model				
					RAS-B24PKVSG-E+RAS-M13U2MUVG-E+		
А	Indoor	-	RAS-B10U2FVG-E+RAS-M07U2DVG-E+				
			RAS-M13PKVPG-E				
В	Outdoor	-	RAS-5M34U2AVG-E				

5.4 Cables Description

F	Ref	Cable Type	Shield	Length (meters)	Ferrite	Connector	Connection Point 1	Connection Point 2
	1	AC Power line	No	1	No	AC	EUT	AC Supply
	2	AC Power line	No	5	No	AC	Indoor U.	Outdoor U.



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- 6 TEST SETUP AND RESULT
- 6.1 Test Item: Conducted Emission
- 6.1.1 Test Setup
 - N Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
EMI Test Receiver	Rohde & Schwarz	ESU26	100572	DKD	26-05-19
LISN	TESEQ	NNB52	36109	NIMT	01-02-19

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

N Test Uncertainty: ±3.51 dB

Ñ Test Location: SR 2

Ñ Test Environment

Cooling Mode Temperature: 30 ±5(°C)	27	Cooling Mode Humidity (%)	52
Heating Mode Temperature :15 ± 5(°C)	20	Heating Mode Humidity (%)	56

N Test Setup Description

The disturbance voltage at the main terminals testing measurements were performed with the EMI receiver to observe the emission characteristics and to identify the frequency of emission that had the highest amplitude related to the EUT configuration for the disturbance voltage at the main terminals testing.

The EUT was placed on an 10 cm from ground plane in the Shield room. The power line of the EUT was connected to the LISN, which was located in the Test area. The EMI receiver measured the noise signals from the EUT. The testing method and the EUT setup were performed according to EN55014-1:2017. The EUT configuration for the disturbance voltage at the main terminals testing is shown in FIGURE 2 and 3, respectively.

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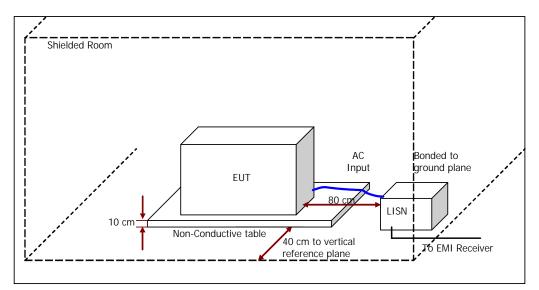


FIGURE 2 - The setup diagram.

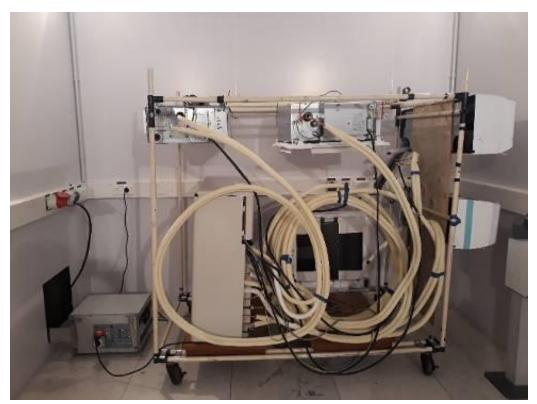


FIGURE 3 - The test setup picture



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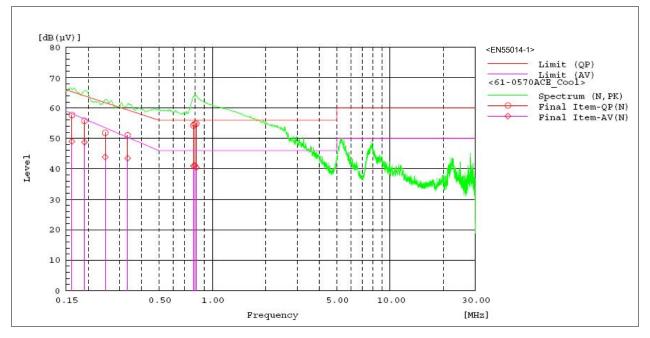


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• Test Result.			
Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Neutron.



Measurement Result of Quasi-Peak and Average Detector.

--- N Phase ---Reading Reading No. Frequency c.f Result Result Limit Limit Margin Margin QP CAV CAV QP AV QP CAV QP [MHz] [dB(µV)] [dB(µV)] [dB] [dB (µV)] [dB(µV)] [dB(µV)] $[dB(\mu V)]$ [dB] [dB] 1 0.16194 47.6 39.0 10.1 57.7 49.1 65.4 58.2 7.7 9.1 2 0.19074 45.7 38.7 10.1 55.8 48.8 64.0 56.4 8.2 7.6 3 0.24966 41.8 33.8 10.1 51.9 43.9 61.8 53.5 9.9 9.6 4 0.3335 40.9 33.4 10.1 51.0 43.5 59.4 50.4 8.4 6.9 0.78319 0.79606 46.0 1.7 5 44.2 30.9 10.1 54.3 41.0 56.0 5.0 6 56.0 44.6 31.0 54.7 41.1 46.0 1.3 10.1 4.9 7 0.81196 54.9 56.0 1.1 5.5 44.8 30.4 10.1 40.5 46.0

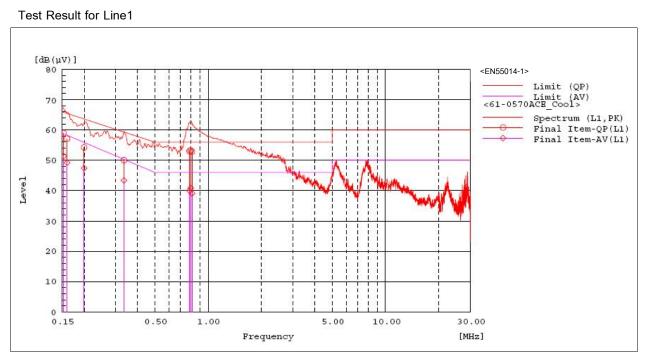


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Measurement Result of Quasi-Peak and Average Detector.

--- L1 Phase ---Reading Reading Margin Margin No. Frequency c.f Result Result Limit Limit CAV CAV AV CAV OP OP OP QP [dB (µV)] [dB(µV)] [dB] [MHz] [dB(µV)] [dB(µV)] [dB] [dB(µV)] [dB(µV)] [dB] 1 0.15335 48.8 41.2 10.1 58.9 51.3 65.8 58.8 6.9 7.5 2 0.16015 47.0 39.1 10.1 57.1 49.2 65.5 58.3 8.4 9.1 3 0.1998 44.1 37.3 10.1 54.2 47.4 63.6 55.9 9.4 8.5 4 0.3353 40.0 33.3 10.1 50.1 43.4 59.3 50.3 9.2 6.9 56 0.78561 43.0 29.9 10.1 53.1 40.0 56.0 46.0 2.9 6.0 0.79856 43.2 30.8 10.1 53.3 40.9 56.0 46.0 2.7 5.1 7 0.8107 42.8 29.0 10.1 52.9 39.1 56.0 46.0 3.1 6.9

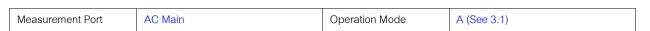


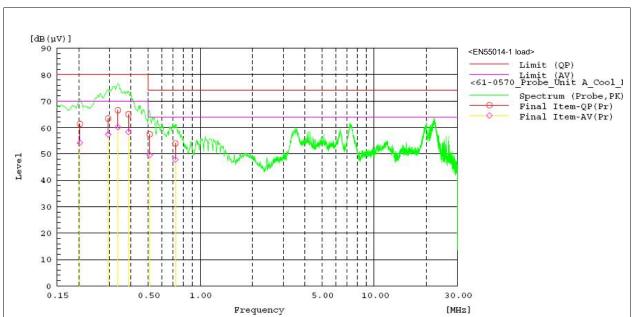
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Test Result for Probe Unit A No. 1

Measurement Result of Quasi-Peak and Average Detector.

No.	Probe Phase Frequency [MHz]	Reading QP [dB(µV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(µV)]	Result CAV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin CAV [dB]
	500 C C C C C C C C C C C C C C C C C C			2017 CON 01170		SI (C. 1947) (C. 1977) (C. 1977)	전화 나는 것을 같은 것 같아요. 것을 가지?			1073148314743
1	0.2034	31.0	23.9	30.3	61.3	54.2	80.0	70.0	18.7	15.8
2	0.29564	33.1	27.0	30.3	63.4	57.3	80.0	70.0	16.6	12.7
3	0.33605	36.2	29.8	30.3	66.5	60.1	80.0	70.0	13.5	9.9
4	0.38691	34.7	28.0	30.3	65.0	58.3	80.0	70.0	15.0	11.7
5	0.51236	27.1	19.2	30.3	57.4	49.5	74.0	64.0	16.6	14.5
6	0.71993	23.6	17.5	30.3	53.9	47.8	74.0	64.0	20.1	16.2

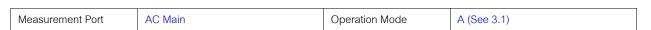


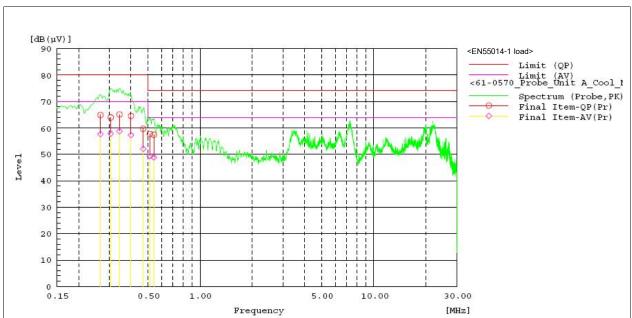
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Test Result for Probe Unit A No. 2

Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin OP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.26731	34.5	27.3	30.3	64.8	57.6	80.0	70.0	15.2	12.4
2	0.30631	33.6	27.5	30.3	63.9	57.8	80.0	70.0	16.1	12.2
з	0.34408	34.8	28.4	30.3	65.1	58.7	80.0	70.0	14.9	11.3
4	0.40044	34.2	27.0	30.3	64.5	57.3	80.0	70.0	15.5	12.7
5	0.47116	29.4	21.8	30.3	59.7	52.1	80.0	70.0	20.3	17.9
6	0.51463	27.4	19.0	30.3	57.7	49.3	74.0	64.0	16.3	14.7
7	0.54264	27.1	18.6	30.3	57.4	48.9	74.0	64.0	16.6	15.1



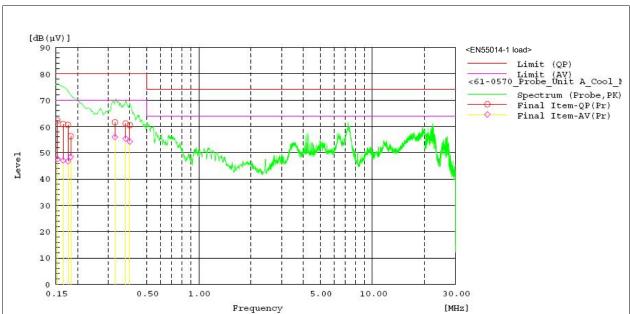
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Test Result for Probe Unit A No. 3

Measurement Result of Quasi-Peak and Average Detector.

	Probe Phase									
No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.15335	31.9	17.3	30.3	62.2	47.6	80.0	70.0	17.8	22.4
2	0.1654	30.6	16.8	30.3	60.9	47.1	80.0	70.0	19.1	22.9
3	0.17611	30.3	16.5	30.3	60.6	46.8	80.0	70.0	19.4	23.2
4	0.18291	26.0	18.1	30.3	56.3	48.4	80.0	70.0	23.7	21.6
5	0.3284	31.2	25.6	30.3	61.5	55.9	80.0	70.0	18.5	14.1
6	0.3788	30.8	25.1	30.3	61.1	55.4	80.0	70.0	18.9	14.6
7	0.40042	30.1	24.0	30.3	60.4	54.3	80.0	70.0	19.6	15.7



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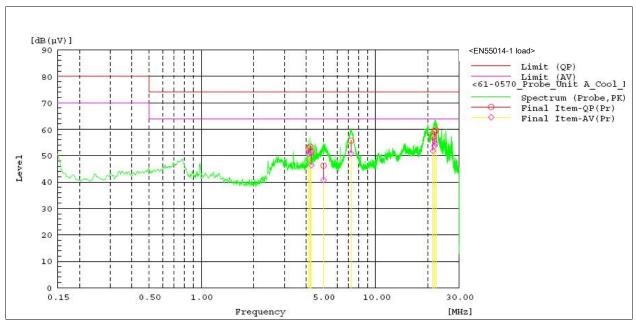


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Test Result for Probe Unit A No. G

Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin OP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	4.12545	22.5	20.3	30.3	52.8	50.6	74.0	64.0	21.2	13.4
2	4.20046	23.0	20.9	30.3	53.3	51.2	74.0	64.0	20.7	12.8
3	4.27628	21.1	16.1	30.3	51.4	46.4	74.0	64.0	22.6	17.6
4	5.02409	15.9	10.5	30.3	46.2	40.8	74.0	64.0	27.8	23.2
5	7.23437	25.4	20.5	30.3	55.7	50.8	74.0	64.0	18.3	13.2
6	21.35735	26.6	21.3	30.4	57.0	51.7	74.0	64.0	17.0	12.3
7	21.74741	28.8	23.4	30.4	59.2	53.8	74.0	64.0	14.8	10.2
8	22.13736	29.2	24.2	30.4	59.6	54.6	74.0	64.0	14.4	9.4



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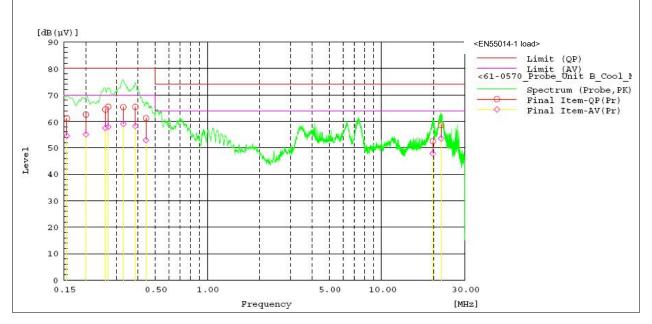


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Measurement Port	AC Main	Operation Mode	A (See 3.1)
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Test Result for Probe Unit B No. 1



Measurement Result of Quasi-Peak and Average Detector.

0.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.15618	30.8	24.2	30.3	61.1	54.5	80.0	70.0	18.9	15.5
2	0.20094	32.3	24.8	30.3	62.6	55.1	80.0	70.0	17.4	14.9
з	0.25965	34.1	27.2	30.3	64.4	57.5	80.0	70.0	15.6	12.5
4	0.26949	35.2	27.6	30.3	65.5	57.9	80.0	70.0	14.5	12.1
5	0.32893	35.0	28.7	30.3	65.3	59.0	80.0	70.0	14.7	11.0
6	0.38562	35.2	27.9	30.3	65.5	58.2	80.0	70.0	14.5	11.8
7	0.44406	30.9	22.6	30.3	61.2	52.9	80.0	70.0	18.8	17.1
8	19.69863	22.1	17.4	30.4	52.5	47.8	74.0	64.0	21.5	16.2
9	21.98967	28.2	23.2	30.4	58.6	53.6	74.0	64.0	15.4	10.4



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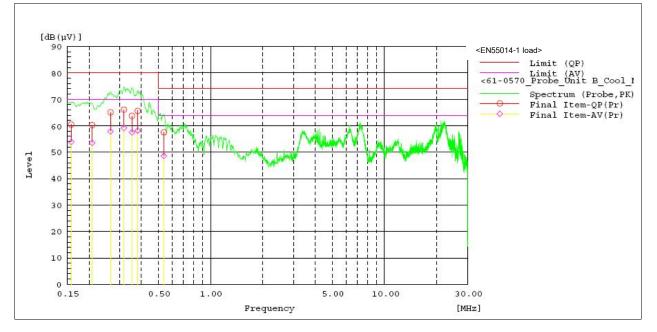


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Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit B No. 2



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.31756	35.8	28.8	30.3	66.1	59.1	80.0	70.0	13.9	10.9
2	0.35287	33.4	27.2	30.3	63.7	57.5	80.0	70.0	16.3	12.5
3	0.26588	34.8	27.5	30.3	65.1	57.8	80.0	70.0	14.9	12.2
4	0.38175	35.3	27.9	30.3	65.6	58.2	80.0	70.0	14.4	11.8
5	0.15788	30.1	23.6	30.3	60.4	53.9	80.0	70.0	19.6	16.1
6	0.20873	29.9	23.3	30.3	60.2	53.6	80.0	70.0	19.8	16.4
7	0.53826	27.2	18.3	30.3	57.5	48.6	74.0	64.0	16.5	15.4



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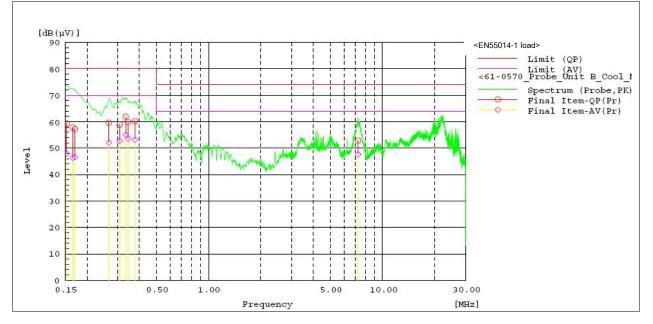
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Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit B No. 3



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result CAV	Limit	Limit	Margin	Margin
	[MHz]	QP [dB (µV)]	CAV [dB(µV)]	[dB]	QP [dB(µV)]	[dB(µV)]	QP [dB(µV)]	AV [dB(µV)]	QP [dB]	CAV [dB]
223										
1	0.15305	28.9	17.6	30.3	59.2	47.9	80.0	70.0	20.8	22.1
2	0.16534	27.5	16.0	30.3	57.8	46.3	80.0	70.0	22.2	23.7
3	0.17074	26.9	16.3	30.3	57.2	46.6	80.0	70.0	22.8	23.4
4	0.26718	29.3	21.8	30.3	59.6	52.1	80.0	70.0	20.4	17.9
5	0.33416	31.6	24.8	30.3	61.9	55.1	80.0	70.0	18.1	14.9
6	0.34483	29.6	23.3	30.3	59.9	53.6	80.0	70.0	20.1	16.4
7	0.37778	29.9	22.8	30.3	60.2	53.1	80.0	70.0	19.8	16.9
8	0.30867	28.6	22.4	30.3	58.9	52.7	80.0	70.0	21.1	17.3
9	7.24289	22.6	17.3	30.3	52.9	47.6	74.0	64.0	21.1	16.4



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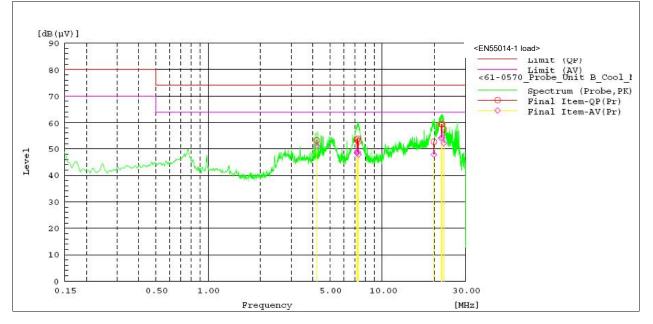


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REPORT No. 10 / 61-95

Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit B No. G



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	4.20167	22.9	20.9	30.3	53.2	51.2	74.0	64.0	20.8	12.8
2	7.15127	23.0	18.2	30.3	53.3	48.5	74.0	64.0	20.7	15.5
3	7.23541	23.6	18.5	30.3	53.9	48.8	74.0	64.0	20.1	15.2
4	7.3102	22.5	17.5	30.3	52.8	47.8	74.0	64.0	21.2	16.2
5	19.8138	22.3	17.4	30.4	52.7	47.8	74.0	64.0	21.3	16.2
6	21.77839	28.9	23.6	30.4	59.3	54.0	74.0	64.0	14.7	10.0
7	22.0551	29.0	24.0	30.4	59.4	54.4	74.0	64.0	14.6	9.6
8	22.57495	27.0	21.8	30.4	57.4	52.2	74.0	64.0	16.6	11.8



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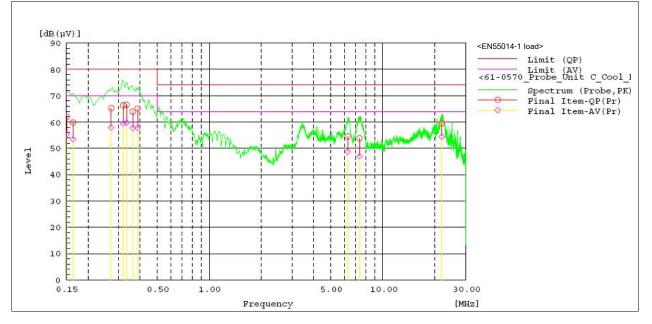


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Measurement Port AC M	Main	Operation Mode	A (See 3.1)
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Test Result for Probe Unit C No. 1



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading CAV	c.f	Result	Result CAV	Limit	Limit	Margin	Margin
	F	QP			QP		QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	$[dB(\mu V)]$	[dB]	[dB]
1	0.15109	31.7	25.1	30.3	62.0	55.4	80.0	70.0	18.0	14.6
2	0.16434	29.5	23.1	30.3	59.8	53.4	80.0	70.0	20.2	16.6
3	0.27288	35.0	27.6	30.3	65.3	57.9	80.0	70.0	14.7	12.1
4	0.320	36.0	29.0	30.3	66.3	59.3	80.0	70.0	13.7	10.7
5	0.3345	36.2	29.4	30.3	66.5	59.7	80.0	70.0	13.5	10.3
6	0.36249	33.6	27.4	30.3	63.9	57.7	80.0	70.0	16.1	12.3
7	0.38675	34.8	27.4	30.3	65.1	57.7	80.0	70.0	14.9	12.3
8	6.2804	24.2	18.4	30.3	54.5	48.7	74.0	64.0	19.5	15.3
9	7.3453	23.5	16.7	30.3	53.8	47.0	74.0	64.0	20.2	17.0
10	21.86015	29.1	24.0	30.4	59.5	54.4	74.0	64.0	14.5	9.6



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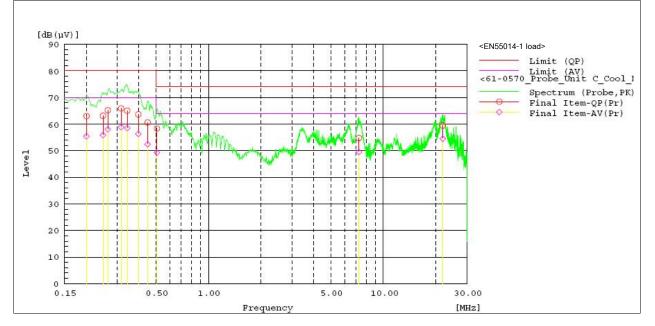


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Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit C No. 2



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.20094	32.7	25.1	30.3	63.0	55.4	80.0	70.0	17.0	14.6
2	0.24919	32.8	25.6	30.3	63.1	55.9	80.0	70.0	16.9	14.1
з	0.26552	34.9	27.7	30.3	65.2	58.0	80.0	70.0	14.8	12.0
4	0.31651	35.6	28.5	30.3	65.9	58.8	80.0	70.0	14.1	11.2
5	0.34323	34.7	28.2	30.3	65.0	58.5	80.0	70.0	15.0	11.5
6	0.39695	33.3	26.0	30.3	63.6	56.3	80.0	70.0	16.4	13.7
7	0.44907	30.3	22.2	30.3	60.6	52.5	80.0	70.0	19.4	17.5
8	0.50722	28.0	18.9	30.3	58.3	49.2	74.0	64.0	15.7	14.8
9	7.24688	24.4	19.2	30.3	54.7	49.5	74.0	64.0	19.3	14.5
10	21.8606	29.1	24.1	30.4	59.5	54.5	74.0	64.0	14.5	9.5



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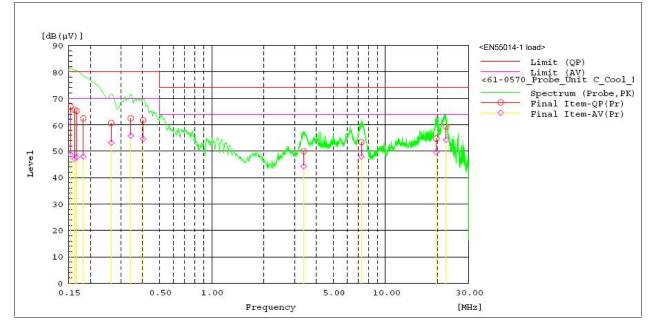


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Measurement Port AC M	Main	Operation Mode	A (See 3.1)
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Test Result for Probe Unit C No. 3



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	$[dB(\mu V)]$	$[dB(\mu V)]$	[dB]	[dB]
1	0.15392	36.6	18.4	30.3	66.9	48.7	80.0	70.0	13.1	21.3
2	0.16229	35.3	16.8	30.3	65.6	47.1	80.0	70.0	14.4	22.9
3	0.16695	34.8	17.4	30.3	65.1	47.7	80.0	70.0	14.9	22.3
4	0.18234	32.1	17.7	30.3	62.4	48.0	80.0	70.0	17.6	22.0
5	0.26439	30.3	22.9	30.3	60.6	53.2	80.0	70.0	19.4	16.8
6	0.342	32.1	25.5	30.3	62.4	55.8	80.0	70.0	17.6	14.2
7	0.40237	31.4	24.3	30.3	61.7	54.6	80.0	70.0	18.3	15.4
8	3.38109	19.6	14.0	30.3	49.9	44.3	74.0	64.0	24.1	19.7
9	7.26557	23.1	17.6	30.3	53.4	47.9	74.0	64.0	20.6	16.1
10	19.60087	24.3	19.2	30.4	54.7	49.6	74.0	64.0	19.3	14.4
11	22.34869	28.8	23.9	30.4	59.2	54.3	74.0	64.0	14.8	9.7



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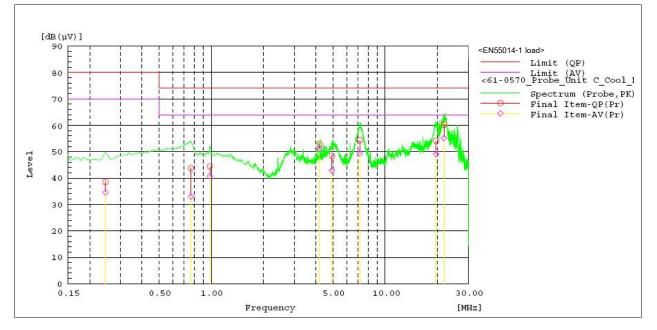


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Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit C No. G



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.24671	8.2	4.3	30.3	38.5	34.6	80.0	70.0	41.5	35.4
2	0.76471	13.5	2.7	30.3	43.8	33.0	74.0	64.0	30.2	31.0
з	0.98102	14.1	10.4	30.3	44.4	40.7	74.0	64.0	29.6	23.3
4	4.19507	22.5	20.7	30.3	52.8	51.0	74.0	64.0	21.2	13.0
5	4.945	18.1	12.7	30.3	48.4	43.0	74.0	64.0	25.6	21.0
6	7.15155	24.0	19.1	30.3	54.3	49.4	74.0	64.0	19.7	14.6
7	19.63445	23.6	18.7	30.4	54.0	49.1	74.0	64.0	20.0	14.9
8	21.77962	29.8	24.8	30.4	60.2	55.2	74.0	64.0	13.8	8.8



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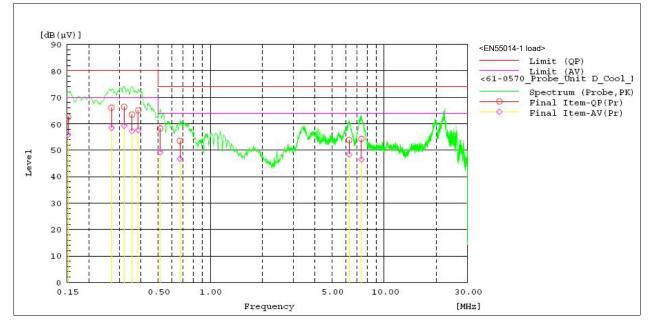


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	1		
Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit D No. 1



Measurement Result of Quasi-Peak and Average Detector.

١o.	Frequency	Reading	Reading CAV	c.f	Result OP	Result CAV	Limit	Limit AV	Margin	Margin CAV
	[MHz]	QΡ [dB(μV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	Q₽ [dB(µV)]	[dB(µV)]	QP [dB]	[dB]
1	0.15222	32.2	25.6	30.3	62.5	55.9	80.0	70.0	17.5	14.1
2	0.27062	35.7	28.1	30.3	66.0	58.4	80.0	70.0	14.0	11.6
3	0.31984	36.0	28.9	30.3	66.3	59.2	80.0	70.0	13.7	10.8
4	0.35511	33.2	26.9	30.3	63.5	57.2	80.0	70.0	16.5	12.8
5	0.38562	34.7	27.3	30.3	65.0	57.6	80.0	70.0	15.0	12.4
6	0.5145	27.9	18.9	30.3	58.2	49.2	74.0	64.0	15.8	14.8
7	0.66838	23.2	16.5	30.3	53.5	46.8	74.0	64.0	20.5	17.2
8	6.28493	23.5	18.1	30.3	53.8	48.4	74.0	64.0	20.2	15.6
9	7.39653	24.0	16.1	30.3	54.3	46.4	74.0	64.0	19.7	17.6



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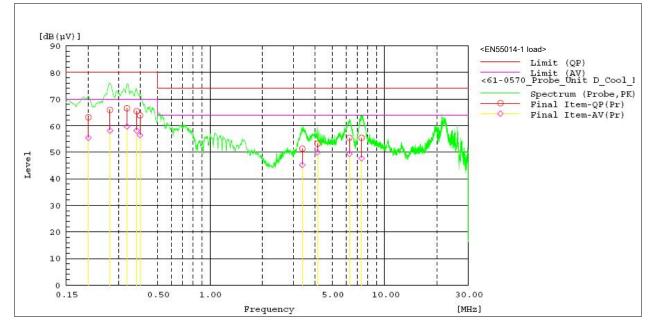


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Measurement Port	AC Main	Operation Mode	A (See 3.1)
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Test Result for Probe Unit D No. 2



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	$[dB(\mu V)]$	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	$[dB(\mu V)]$	[dB]	[dB]
1	0.2015	32.8	25.1	30.3	63.1	55.4	80.0	70.0	16.9	14.6
2	0.26795	35.6	27.8	30.3	65.9	58.1	80.0	70.0	14.1	11.9
3	0.33463	36.2	29.4	30.3	66.5	59.7	80.0	70.0	13.5	10.3
4	0.38062	35.1	27.8	30.3	65.4	58.1	80.0	70.0	14.6	11.9
5	0.39761	33.6	26.1	30.3	63.9	56.4	80.0	70.0	16.1	13.6
6	3.38022	21.0	14.9	30.3	51.3	45.2	74.0	64.0	22.7	18.8
7	4.12399	22.9	19.7	30.3	53.2	50.0	74.0	64.0	20.8	14.0
8	6.28017	25.1	19.0	30.3	55.4	49.3	74.0	64.0	18.6	14.7
9	7.38055	25.1	17.4	30.3	55.4	47.7	74.0	64.0	18.6	16.3



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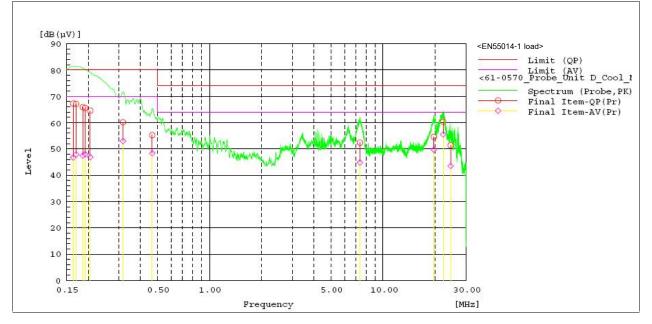


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Measurement Port AC M	Main	Operation Mode	A (See 3.1)
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Test Result for Probe Unit D No. 3



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.16404	36.9	16.4	30.3	67.2	46.7	80.0	70.0	12.8	23.3
2	0.17035	36.8	17.6	30.3	67.1	47.9	80.0	70.0	12.9	22.1
3	0.1863	35.5	17.1	30.3	65.8	47.4	80.0	70.0	14.2	22.6
4	0.19192	35.3	17.6	30.3	65.6	47.9	80.0	70.0	14.4	22.1
5	0.20557	34.2	16.6	30.3	64.5	46.9	80.0	70.0	15.5	23.1
6	0.31698	29.8	22.7	30.3	60.1	53.0	80.0	70.0	19.9	17.0
7	0.46776	24.9	18.0	30.3	55.2	48.3	80.0	70.0	24.8	21.7
8	7.35642	22.0	14.5	30.3	52.3	44.8	74.0	64.0	21.7	19.2
9	19.60109	24.2	19.4	30.4	54.6	49.8	74.0	64.0	19.4	14.2
10	22.20304	29.9	25.1	30.4	60.3	55.5	74.0	64.0	13.7	8.5
11	24.478	21.0	13.1	30.4	51.4	43.5	74.0	64.0	22.6	20.5



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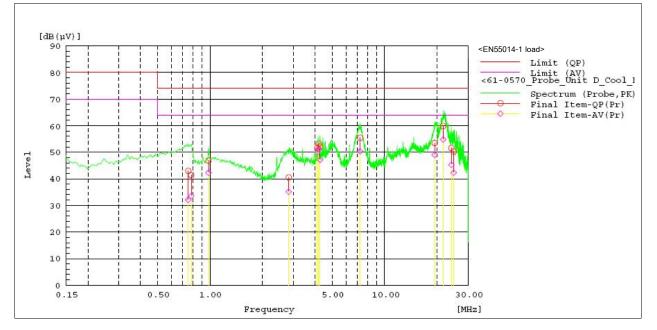


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Measurement Port AC Main Operation Mode A (See 3.1)

Test Result for Probe Unit D No. G



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.750	12.7	1.8	30.3	43.0	32.1	74.0	64.0	31.0	31.9
2	0.78207	11.1	3.2	30.3	41.4	33.5	74.0	64.0	32.6	30.5
з	0.98119	16.5	11.9	30.3	46.8	42.2	74.0	64.0	27.2	21.8
4	2.82527	10.2	4.8	30.3	40.5	35.1	74.0	64.0	33.5	28.9
5	4.12193	21.4	19.7	30.3	51.7	50.0	74.0	64.0	22.3	14.0
6	4.19699	22.9	20.9	30.3	53.2	51.2	74.0	64.0	20.8	12.8
7	4.27148	21.8	16.8	30.3	52.1	47.1	74.0	64.0	21.9	16.9
8	7.25008	25.2	20.0	30.3	55.5	50.3	74.0	64.0	18.5	13.7
9	19.34063	23.1	18.6	30.4	53.5	49.0	74.0	64.0	20.5	15.0
10	21.60219	29.5	24.4	30.4	59.9	54.8	74.0	64.0	14.1	9.2
11	24.08708	21.2	14.8	30.4	51.6	45.2	74.0	64.0	22.4	18.8
12	24.88457	19.9	11.9	30.4	50.3	42.3	74.0	64.0	23.7	21.7



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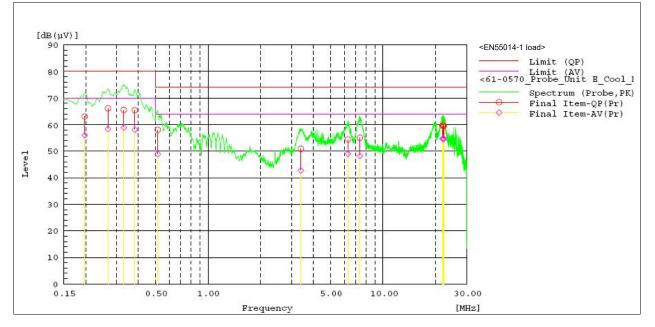


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Measurement Port	AC Main	Operation Mode	A (See 3.1)
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Test Result for Probe Unit E No. 1



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	$[dB(\mu V)]$	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.19787	32.7	25.7	30.3	63.0	56.0	80.0	70.0	17.0	14.0
2	0.26835	35.0	28.0	30.3	66.1	58.3	80.0	70.0	13.9	11.7
3	0.3302	35.2	28.6	30.3	65.5	58.9	80.0	70.0	14.5	11.1
4	0.38192	35.1	27.7	30.3	65.4	58.0	80.0	70.0	14.6	12.0
5	0.51632	27.7	18.6	30.3	58.0	48.9	74.0	64.0	16.0	15.1
6	3.38963	20.6	12.4	30.3	50.9	42.7	74.0	64.0	23.1	21.3
7	6.28208	24.1	18.7	30.3	54.4	49.0	74.0	64.0	19.6	15.0
8	7.3633	24.7	17.9	30.3	55.0	48.2	74.0	64.0	19.0	15.8
9	21.84482	29.2	24.2	30.4	59.6	54.6	74.0	64.0	14.4	9.4
10	22.05537	29.3	24.4	30.4	59.7	54.8	74.0	64.0	14.3	9.2
11	22.21883	29.1	24.2	30.4	59.5	54.6	74.0	64.0	14.5	9.4



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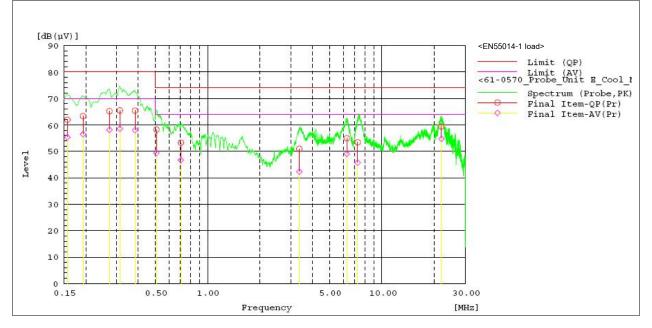


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Test Result for Probe Unit E No. 2



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.15688	31.6	25.0	30.3	61.9	55.3	80.0	70.0	18.1	14.7
2	0.1931	33.0	26.2	30.3	63.3	56.5	80.0	70.0	16.7	13.5
3	0.27389	34.9	27.8	30.3	65.2	58.1	80.0	70.0	14.8	11.9
4	0.31423	35.1	28.3	30.3	65.4	58.6	80.0	70.0	14.6	11.4
5	0.38345	35.1	27.7	30.3	65.4	58.0	80.0	70.0	14.6	12.0
6	0.50883	27.9	19.0	30.3	58.2	49.3	74.0	64.0	15.0	14.7
7	0.7032	23.0	16.4	30.3	53.3	46.7	74.0	64.0	20.7	17.3
8	3.35511	20.7	12.0	30.3	51.0	42.3	74.0	64.0	23.0	21.7
9	6.28381	24.6	18.7	30.3	54.9	49.0	74.0	64.0	19.1	15.0
10	7.25725	23.1	15.4	30.3	53.4	45.7	74.0	64.0	20.6	18.3
11	21.92732	29.0	24.3	30.4	59.4	54.7	74.0	64.0	14.6	9.3



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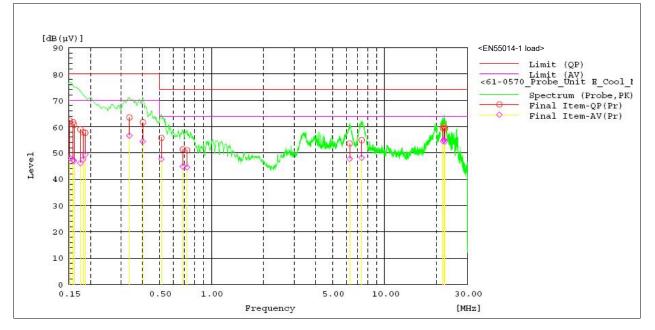


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Test Result for Probe Unit E No. 3



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.1519	32.0	17.8	30.3	62.3	48.1	80.0	70.0	17.7	21.9
2	0.15911	31.3	17.0	30.3	61.6	47.3	80.0	70.0	18.4	22.7
3	0.16072	30.4	16.6	30.3	60.7	46.9	80.0	70.0	19.3	23.1
4	0.17497	28.6	15.8	30.3	58.9	46.1	80.0	70.0	21.1	23.9
5	0.18121	27.5	17.2	30.3	57.B	47.5	80.0	70.0	22.2	22.5
6	0.18687	27.3	19.1	30.3	57.6	49.4	80.0	70.0	22.4	20.6
7	0.33586	33.2	26.3	30.3	63.5	56.6	80.0	70.0	16.5	13.4
8	0.40158	31.3	24.1	30.3	61.6	54.4	80.0	70.0	18.4	15.6
9	0.51369	25.4	17.3	30.3	55.7	47.6	74.0	64.0	18.3	16.4
10	0.68378	21.0	14.5	30.3	51.3	44.8	74.0	64.0	22.7	19.2
11	0.72307	20.7	14.3	30.3	51.0	44.6	74.0	64.0	23.0	19.4
12	6.2799	23.3	17.5	30.3	53.6	47.8	74.0	64.0	20.4	16.2
13	7.36147	24.5	17.9	30.3	54.8	48.2	74.0	64.0	19.2	15.8
14	21.74752	29.0	24.0	30.4	59.4	54.4	74.0	64.0	14.6	9.6
15	22.05561	29.6	24.7	30.4	60.0	55.1	74.0	64.0	14.0	8.9
16	22.2988	28.9	24.0	30.4	59.3	54.4	74.0	64.0	14.7	9.6



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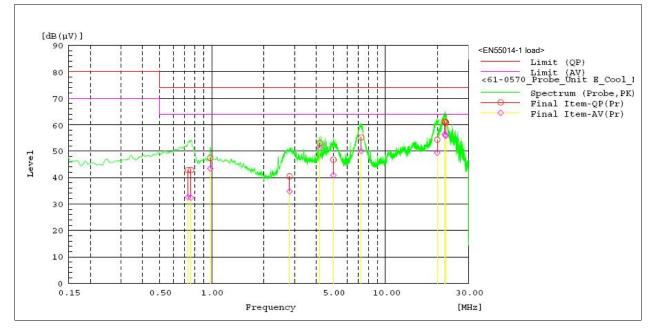


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Measurement Port	AC Main	Operation Mode	A (See 3.1)

Test Result for Probe Unit E No. G



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.72991	12.5	2.3	30.3	42.8	32.6	74.0	64.0	31.2	31.4
2	0.75985	12.5	2.1	30.3	42.8	32.4	74.0	64.0	31.2	31.6
з	0.98079	17.2	13.1	30.3	47.5	43.4	74.0	64.0	26.5	20.6
4	2.80768	10.1	4.5	30.3	40.4	34.8	74.0	64.0	33.6	29.2
5	4.19852	22.7	20.9	30.3	53.0	51.2	74.0	64.0	21.0	12.8
6	5.01993	16.4	10.6	30.3	46.7	40.9	74.0	64.0	27.3	23.1
7	7.25088	24.9	19.8	30.3	55.2	50.1	74.0	64.0	18.8	13.9
8	19.8779	23.9	19.0	30.4	54.3	49.4	74.0	64.0	19.7	14.6
9	21.87719	30.8	26.0	30.4	61.2	56.4	74.0	64.0	12.8	7.6
10	22.1379	30.4	25.6	30.4	60.8	56.0	74.0	64.0	13.2	8.0
11	22.26736	30.5	25.4	30.4	60.9	55.8	74.0	64.0	13.1	8.2



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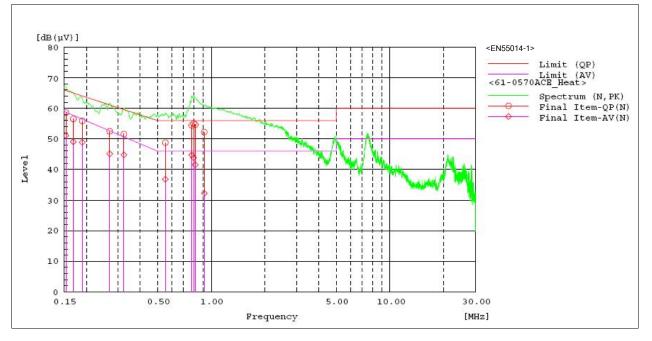


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Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Neutron.



Measurement Result of Quasi-Peak and Average Detector.

 N	Phase	

NO.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB (µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.15362	48.5	41.0	10.1	58.6	51.1	65.8	58.7	7.2	7.6
2	0.16885	46.4	39.0	10.1	56.5	49.1	65.0	57.7	8.5	8.6
3	0.1897	45.8	38.8	10.1	55.9	48.9	64.0	56.5	8.1	7.6
4	0.27015	42.4	35.0	10.1	52.5	45.1	61.1	52.6	8.6	7.5
5	0.32432	41.5	34.7	10.1	51.6	44.8	59.6	50.7	8.0	5.9
6	0.5533	38.7	26.7	10.1	48.8	36.8	56.0	46.0	7.2	9.2
7	0.77744	44.3	34.6	10.1	54.4	44.7	56.0	46.0	1.6	1.3
8	0.7962	44.9	33.8	10.1	55.0	43.9	56.0	46.0	1.0	2.1
9	0.81398	44.6	31.4	10.1	54.7	41.5	56.0	46.0	1.3	4.5
10	0.91267	42.1	22.1	10.1	52.2	32.2	56.0	46.0	3.8	13.8

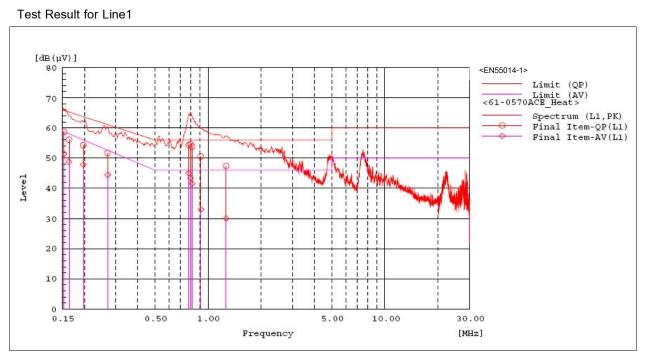


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Measurement Result of Quasi-Peak and Average Detector.

NO.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.15335	48.6	41.3	10.1	58.7	51.4	65.8	58.8	7.1	7.4
2	0.16355	46.0	38.7	10.1	56.1	48.8	65.3	58.1	9.2	9.3
3	0.19697	44.2	37.8	10.1	54.3	47.9	63.7	56.1	9.4	8.2
4	0.27062	41.6	34.3	10.1	51.7	44.4	61.1	52.6	9.4	8.2
5	0.77795	44.1	34.9	10.1	54.2	45.0	56.0	46.0	1.8	1.0
6	0.79765	44.5	33.3	10.1	54.6	43.4	56.0	46.0	1.4	2.6
7	0.81232	43.7	31.4	10.1	53.8	41.5	56.0	46.0	2.2	4.5
8	0.91088	40.4	22.9	10.1	50.5	33.0	56.0	46.0	5.5	13.0
9	1.26664	37.3	19.9	10.1	47.4	30.0	56.0	46.0	8.6	16.0

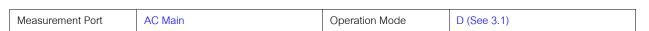


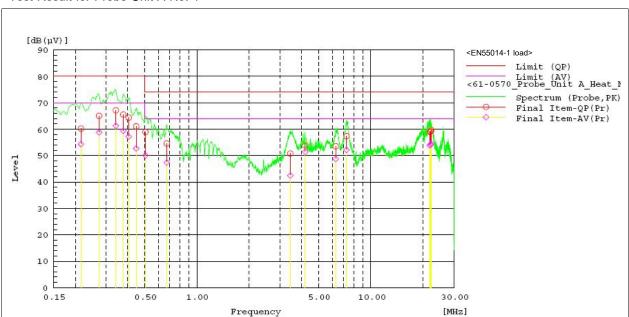
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Test Result for Probe Unit A No. 1

Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.21567	29.9	24.0	30.3	60.2	54.3	80.0	70.0	19.8	15.7
2	0.27411	34.7	28.5	30.3	65.0	58.8	80.0	70.0	15.0	11.2
3	0.34209	36.8	30.9	30.3	67.1	61.2	80.0	70.0	12.9	8.8
4	0.37765	35.2	29.0	30.3	65.5	59.3	80.0	70.0	14.5	10.7
5	0.40601	34.1	26.9	30.3	64.4	57.2	80.0	70.0	15.6	12.8
6	0.44793	30.8	22.4	30.3	61.1	52.7	80.0	70.0	18.9	17.3
7	0.50641	28.6	19.7	30.3	58.9	50.0	74.0	64.0	15.1	14.0
8	0.67105	24.2	17.1	30.3	54.5	47.4	74.0	64.0	19.5	16.6
9	3.44239	20.5	12.1	30.3	50.8	42.4	74.0	64.0	23.2	21.6
10	4.19801	23.5	21.1	30.3	53.8	51.4	74.0	64.0	20.2	12.6
11	6.28109	23.2	18.4	30.3	53.5	48.7	74.0	64.0	20.5	15.3
12	7.24968	27.1	21.8	30.3	57.4	52.1	74.0	64.0	16.6	11.9
13	21.81261	28.6	23.4	30.4	59.0	53.8	74.0	64.0	15.0	10.2
14	22.07227	28.7	23.7	30.4	59.1	54.1	74.0	64.0	14.9	9.9
15	22.29944	29.1	24.1	30.4	59.5	54.5	74.0	64.0	14.5	9.5



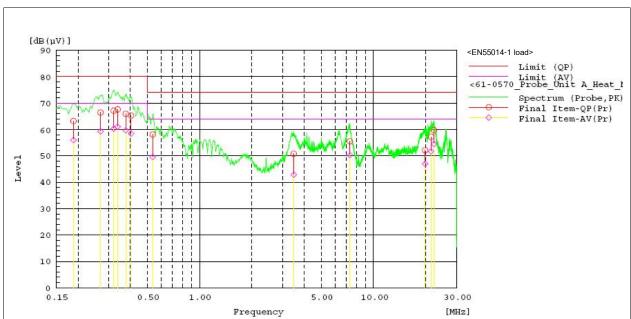
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Test Result for Probe Unit A No. 2

Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
	[MHz]	QP [dB(µV)]	CAV [dB(µV)]	[dB]	QP [dB(µV)]	CAV [dB(µV)]	QP [dB(uV)]	AV [dB(µV)]	QP [dB]	CAV [dB]
		54 Y 15 1		2013 C		5.50 State 6 State 5			0.000 0.000000	
1	0.18842	32.9	25.7	30.3	63.2	56.0	80.0	70.0	16.8	14.0
2	0.26949	36.1	29.0	30.3	66.4	59.3	80.0	70.0	13.6	10.7
3	0.32104	36.8	29.9	30.3	67.1	60.2	80.0	70.0	12.9	9.8
4	0.33803	37.3	30.8	30.3	67.6	61.1	80.0	70.0	12.4	8.9
5	0.37655	35.6	29.4	30.3	65.9	59.7	80.0	70.0	14.1	10.3
6	0.40358	35.0	28.1	30.3	65.3	58.4	80.0	70.0	14.7	11.6
7	0.53797	27.8	19.3	30.3	58.1	49.6	74.0	64.0	15.9	14.4
8	3.47859	20.4	12.6	30.3	50.7	42.9	74.0	64.0	23.3	21.1
9	7.3133	25.2	20.0	30.3	55.5	50.3	74.0	64.0	18.5	13.7
10	19.79855	21.7	16.6	30.4	52.1	47.0	74.0	64.0	21.9	17.0
11	21.42278	26.8	21.3	30.4	57.2	51.7	74.0	64.0	16.8	12.3
12	22,25101	29.4	24.1	30.4	59.8	54.5	74.0	64.0	14.2	9.5

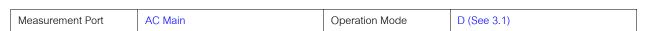


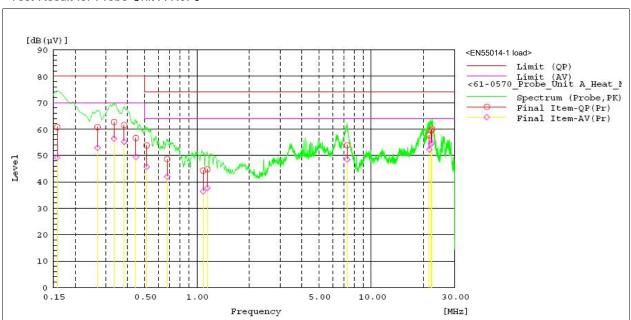
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Test Result for Probe Unit A No. 3

Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.15795	30.4	18.9	30.3	60.7	49.2	80.0	70.0	19.3	20.8
2	0.26901	30.4	22.6	30.3	60.7	52.9	80.0	70.0	19.3	17.1
з	0.33473	32.4	26.0	30.3	62.7	56.3	80.0	70.0	17.3	13.7
4	0.38288	31.2	24.9	30.3	61.5	55.2	80.0	70.0	18.5	14.8
5	0.44633	26.3	19.1	30.3	56.6	49.4	80.0	70.0	23.4	20.6
6	0.51458	23.5	15.4	30.3	53.8	45.7	74.0	64.0	20.2	18.3
7	0.6755	18.3	11.6	30.3	48.6	41.9	74.0	64.0	25.4	22.1
8	1.08471	14.0	6.1	30.3	44.3	36.4	74.0	64.0	29.7	27.6
9	1.14629	14.5	7.4	30.3	44.B	37.7	74.0	64.0	29.2	26.3
10	7.26765	23.6	18.2	30.3	53.9	48.5	74.0	64.0	20.1	15.5
11	21.51982	27.3	21.9	30.4	57.7	52.3	74.0	64.0	16.3	11.7
12	22.00828	29.0	24.0	30.4	59.4	54.4	74.0	64.0	14.6	9.6
13	22.34927	29.5	24.4	30.4	59.9	54.8	74.0	64.0	14.1	9.2

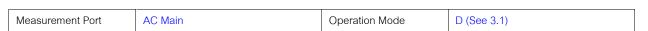


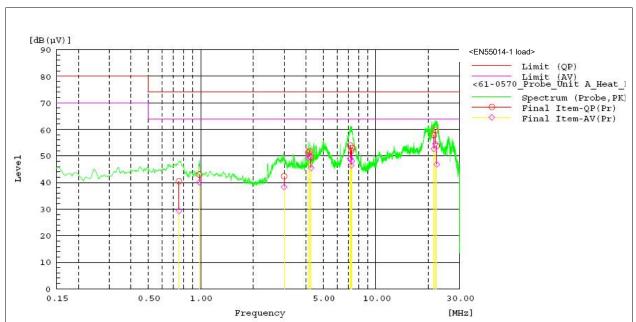
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Test Result for Probe Unit A No. G

Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
	_	QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	$[dB(\mu V)]$	[dB]	$[dB(\mu V)]$	$[dB(\mu V)]$	$[dB(\mu V)]$	$[dB(\mu V)]$	[dB]	[dB]
1	0.75221	10.2	-1.0	30.3	40.5	29.3	74.0	64.0	33.5	34.7
2	0.98087	12.7	9.7	30.3	43.0	40.0	74.0	64.0	31.0	24.0
з	2.99465	12.0	в.0	30.3	42.3	38.3	74.0	64.0	31.7	25.7
4	4.11955	21.0	19.0	30.3	51.3	49.3	74.0	64.0	22.7	14.7
5	4.19558	21.5	19.3	30.3	51.8	49.6	74.0	64.0	22.2	14.4
6	4.27065	19.2	15.1	30.3	49.5	45.4	74.0	64.0	24.5	18.6
7	7.15179	23.6	18.7	30.3	53.9	49.0	74.0	64.0	20.1	15.0
8	7.23921	21.7	16.1	30.3	52.0	46.4	74.0	64.0	22.0	17.6
9	7.3139	22.7	17.8	30.3	53.0	48.1	74.0	64.0	21.0	15.9
10	21.48713	27.5	22.2	30.4	57.9	52.6	74.0	64.0	16.1	11.4
11	21.90943	29.3	24.2	30.4	59.7	54.6	74.0	64.0	14.3	9.4
12	22.26659	23.4	16.4	30.4	53.8	46.8	74.0	64.0	20.2	17.2



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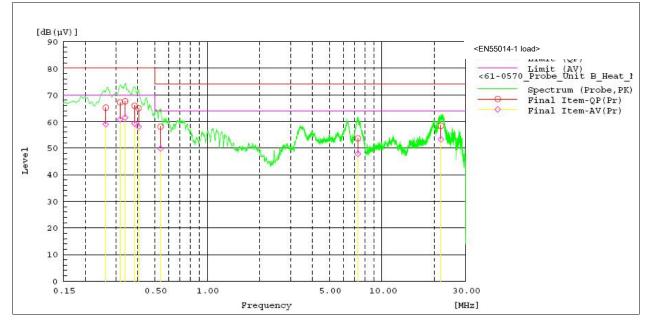


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit B No. 1



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.26269	34.9	28.6	30.3	65.2	58.9	80.0	70.0	14.8	11.1
2	0.3166	36.8	30.5	30.3	67.1	60.8	80.0	70.0	12.9	9.2
з	0.3386	37.3	31.2	30.3	67.6	61.5	80.0	70.0	12.4	8.5
4	0.38392	35.6	28.9	30.3	65.9	59.2	80.0	70.0	14.1	10.8
5	0.40465	34.6	27.7	30.3	64.9	58.0	80.0	70.0	15.1	12.0
6	0.54053	27.7	19.5	30.3	58.0	49.8	74.0	64.0	16.0	14.2
7	7.28128	23.3	17.6	30.3	53.6	47.9	74.0	64.0	20.4	16.1
8	21.73245	28.0	22.9	30.4	58.4	53.3	74.0	64.0	15.6	10.7



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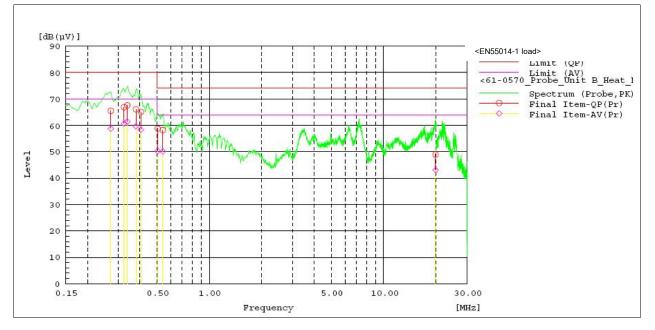


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit B No. 2



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result OP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.27252	35.2	28.4	30.3	65.5	58.7	80.0	70.0	14.5	11.3
2	0.32397	36.5	30.3	30.3	66.8	60.6	80.0	70.0	13.2	9.4
з	0.3386	37.3	31.1	30.3	67.6	61.4	80.0	70.0	12.4	8.6
4	0.37939	35.8	29.3	30.3	66.1	59.6	80.0	70.0	13.9	10.4
5	0.40488	34.8	28.0	30.3	65.1	58.3	80.0	70.0	14.9	11.7
6	0.50641	28.4	19.9	30.3	58.7	50.2	74.0	64.0	15.3	13.8
7	0.54113	27.9	19.8	30.3	58.2	50.1	74.0	64.0	15.8	13.9
8	19.82935	18.5	12.6	30.4	48.9	43.0	74.0	64.0	25.1	21.0



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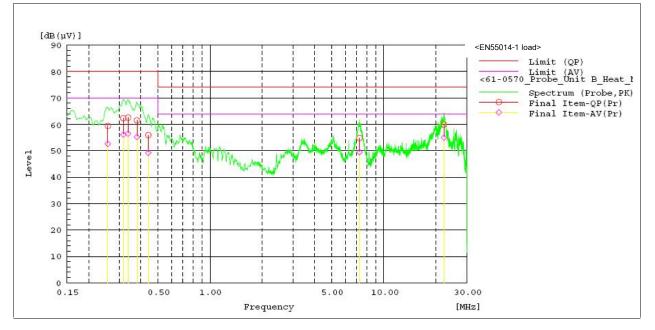


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit B No. 3



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.25825	29.1	22.3	30.3	59.4	52.6	80.0	70.0	20.6	17.4
2	0.3166	32.0	25.8	30.3	62.3	56.1	80.0	70.0	17.7	13.9
3	0.33747	32.3	26.2	30.3	62.6	56.5	80.0	70.0	17.4	13.5
4	0.37931	31.2	24.9	30.3	61.5	55.2	80.0	70.0	18.5	14.8
5	0.44123	25.6	19.0	30.3	55.9	49.3	80.0	70.0	24.1	20.7
6	7.24736	24.5	19.2	30.3	54.8	49.5	74.0	64.0	19.2	14.5
7	22.18693	29.5	24.6	30.4	59.9	55.0	74.0	64.0	14.1	9.0



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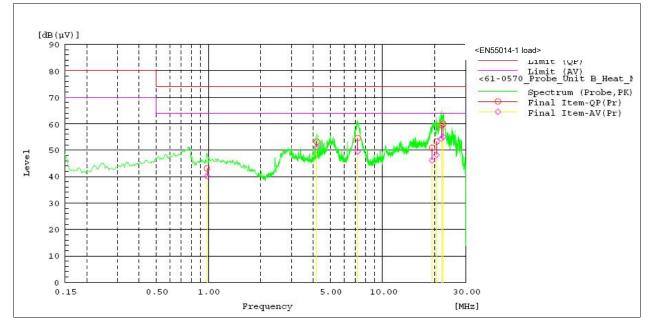


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Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Probe Unit B No. G



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.98146	12.8	9.8	30.3	43.1	40.1	74.0	64.0	30.9	23.9
2	4.1934	22.9	20.8	30.3	53.2	51.1	74.0	64.0	20.8	12.9
з	7.20094	24.3	19.2	30.3	54.6	49.5	74.0	64.0	19.4	14.5
4	19.25927	20.5	15.7	30.4	50.9	46.1	74.0	64.0	23.1	17.9
5	20.40001	22.9	17.8	30.4	53.3	48.2	74.0	64.0	20.7	15.8
6	21.78082	29.0	23.9	30.4	59.4	54.3	74.0	64.0	14.6	9.7
7	22.35007	29.5	24.6	30.4	59.9	55.0	74.0	64.0	14.1	9.0



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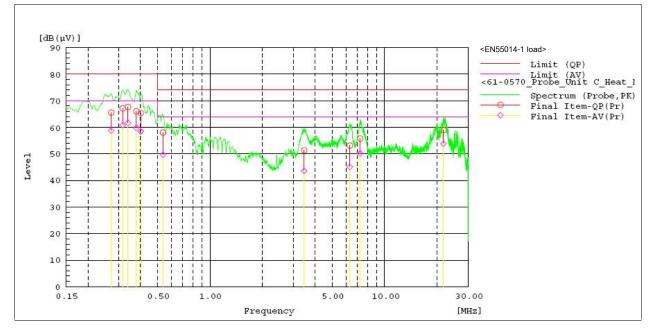


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit C No. 1



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	$[dB(\mu V)]$	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.27232	35.2	28.4	30.3	65.5	58.7	80.0	70.0	14.5	11.3
2	0.3166	36.8	30.5	30.3	67.1	60.8	80.0	70.0	12.9	9.2
3	0.33917	37.3	31.4	30.3	67.6	61.7	80.0	70.0	12.4	8.3
4	0.37892	35.7	29.5	30.3	66.0	59.8	80.0	70.0	14.0	10.2
5	0.40148	35.0	28.1	30.3	65.3	58.4	80.0	70.0	14.7	11.6
6	0.53879	27.7	19.4	30.3	58.0	49.7	74.0	64.0	16.0	14.3
7	3.46302	21.0	13.3	30.3	51.3	43.6	74.0	64.0	22.7	20.4
8	6.32286	22.8	14.8	30.3	53.1	45.1	74.0	64.0	20.9	18.9
9	7.24972	25.4	19.8	30.3	55.7	50.1	74.0	64.0	18.3	13.9
10	21.71565	28.5	23.4	30.4	58.9	53.8	74.0	64.0	15.1	10.2



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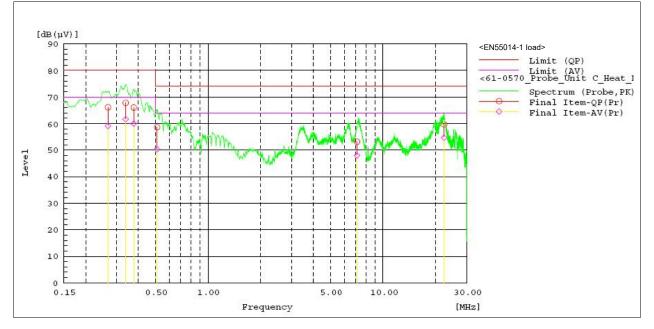


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Measurement Port AC Main Operation Mode D (See 3.1)

Test Result for Probe Unit C No. 2



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.2683	35.8	28.8	30.3	66.1	59.1	80.0	70.0	13.9	10.9
2	0.33869	37.4	31.3	30.3	67.7	61.6	80.0	70.0	12.3	8.4
3	0.37706	35.7	29.6	30.3	66.0	59.9	80.0	70.0	14.0	10.1
4	0.5126	28.3	20.0	30.3	58.6	50.3	74.0	64.0	15.4	13.7
5	7.10502	22.8	17.7	30.3	53.1	48.0	74.0	64.0	20.9	16.0
6	22.3497	29.2	24.3	30.4	59.6	54.7	74.0	64.0	14.4	9.3



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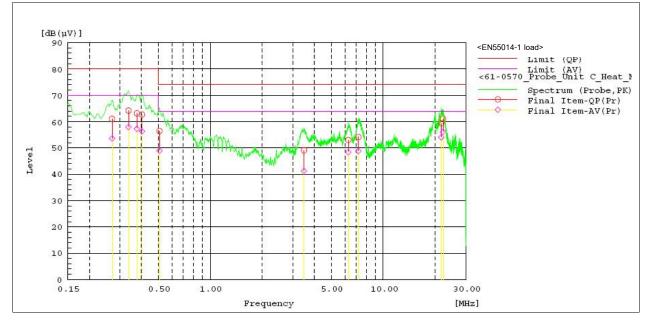


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	1		
Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Probe Unit C No. 3



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.27071	30.7	23.3	30.3	61.0	53.6	80.0	70.0	19.0	16.4
2	0.33677	33.9	27.6	30.3	64.2	57.9	80.0	70.0	15.8	12.1
з	0.37722	32.8	27.0	30.3	63.1	57.3	80.0	70.0	16.9	12.7
4	0.40288	32.4	26.0	30.3	62.7	56.3	80.0	70.0	17.3	13.7
5	0.50856	26.1	18.6	30.3	56.4	48.9	74.0	64.0	17.6	15.1
6	3.48257	18.8	11.0	30.3	49.1	41.3	74.0	64.0	24.9	22.7
7	6.28085	22.7	18.1	30.3	53.0	48.4	74.0	64.0	21.0	15.6
8	7.18544	23.8	18.5	30.3	54.1	48.8	74.0	64.0	19.9	15.2
9	21.63379	28.9	23.6	30.4	59.3	54.0	74.0	64.0	14.7	10.0
10	22.17011	30.7	25.7	30.4	61.1	56.1	74.0	64.0	12.9	7.9



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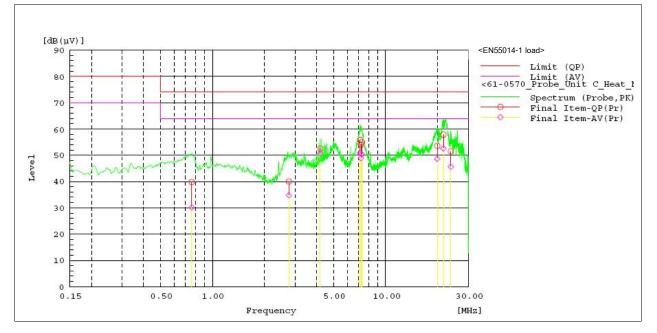


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit C No. G



Measurement Result of Quasi-Peak and Average Detector.

lo.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.75985	9.5	-0.2	30.3	39.8	30.1	74.0	64.0	34.2	33.9
2	2.76203	9.7	4.5	30.3	40.0	34.8	74.0	64.0	34.0	29.2
з	4.19603	22.3	20.4	30.3	52.6	50.7	74.0	64.0	21.4	13.3
4	7.11787	25.5	20.6	30.3	55.8	50.9	74.0	64.0	18.2	13.1
5	7.20284	23.7	18.6	30.3	54.0	48.9	74.0	64.0	20.0	15.1
6	7.2976	24.7	20.1	30.3	55.0	50.4	74.0	64.0	19.0	13.6
7	19.86201	23.2	18.3	30.4	53.6	48.7	74.0	64.0	20.4	15.3
8	21.55209	27.5	22.2	30.4	57.9	52.6	74.0	64.0	16.1	11.4
9	23.79665	21.1	15.3	30.4	51.5	45.7	74.0	64.0	22.5	18.3



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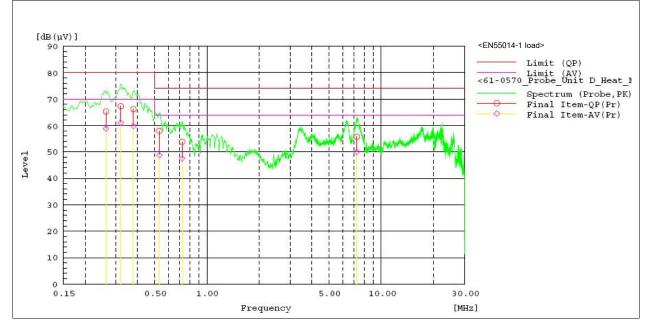


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit D No. 1



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin OP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.26392	35.0	28.5	30.3	65.3	58.8	80.0	70.0	14.7	11.2
2	0.32047	37.0	30.7	30.3	67.3	61.0	80.0	70.0	12.7	9.0
3	0.37892	35.8	29.5	30.3	66.1	59.8	80.0	70.0	13.9	10.2
4	0.53339	27.7	18.4	30.3	58.0	48.7	74.0	64.0	16.0	15.3
5	0.72087	23.5	17.2	30.3	53.8	47.5	74.0	64.0	20.2	16.5
6	7.2468	25.4	19.7	30.3	55.7	50.0	74.0	64.0	18.3	14.0



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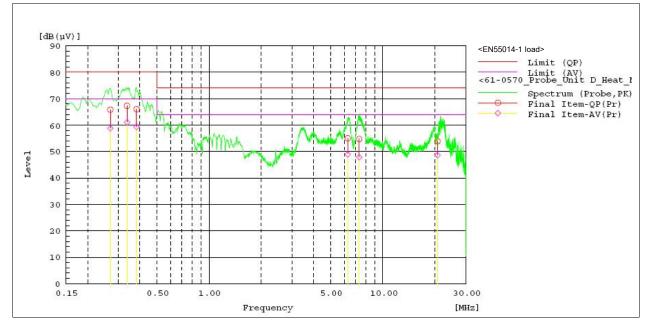


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit D No. 2



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.27051	35.5	28.4	30.3	65.8	58.7	80.0	70.0	14.2	11.3
2	0.33756	37.0	30.8	30.3	67.3	61.1	80.0	70.0	12.7	8.9
3	0.3827	35.7	29.0	30.3	66.0	59.3	80.0	70.0	14.0	10.7
4	6.28374	24.7	18.6	30.3	55.0	48.9	74.0	64.0	19.0	15.1
5	7.31401	24.4	17.5	30.3	54.7	47.8	74.0	64.0	19.3	16.2
6	20.65871	23.5	18.2	30.4	53.9	48.6	74.0	64.0	20.1	15.4



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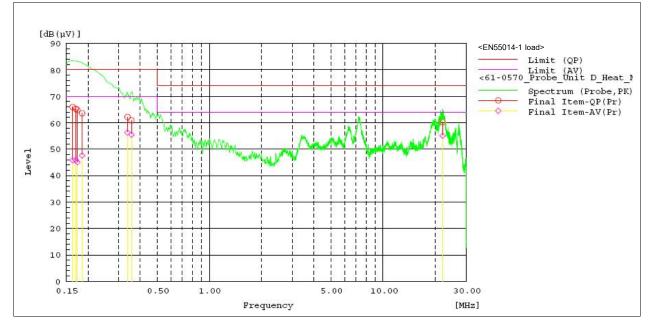


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	1		
Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Probe Unit D No. 3



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.16332	35.6	15.6	30.3	65.9	45.9	80.0	70.0	14.1	24.1
2	0.17044	34.9	15.5	30.3	65.2	45.8	80.0	70.0	14.8	24.2
з	0.17375	34.5	14.7	30.3	64.8	45.0	80.0	70.0	15.2	25.0
4	0.18517	33.2	17.3	30.3	63.5	47.6	80.0	70.0	16.5	22.4
5	0.33803	31.9	26.0	30.3	62.2	56.3	80.0	70.0	17.8	13.7
6	0.35616	30.6	25.2	30.3	60.9	55.5	80.0	70.0	19.1	14.5
7	22.00772	29.7	24.7	30.4	60.1	55.1	74.0	64.0	13.9	8.9



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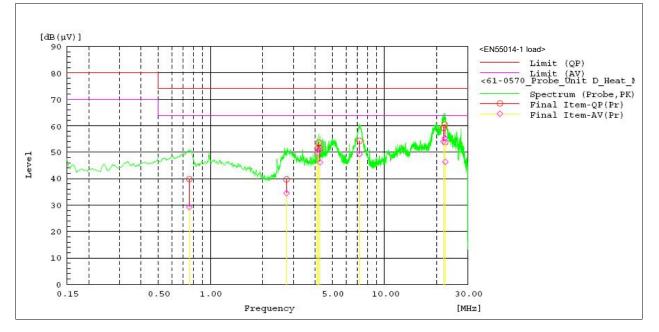


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Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Probe Unit D No. G



Measurement Result of Quasi-Peak and Average Detector.

ю.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.75729	9.5	-1.1	30.3	39.8	29.2	74.0	64.0	34.2	34.8
2	2.73542	9.4	4.2	30.3	39.7	34.5	74.0	64.0	34.3	29.5
з	4.19308	23.3	20.7	30.3	53.6	51.0	74.0	64.0	20.4	13.0
4	4.26853	21.1	15.9	30.3	51.4	46.2	74.0	64.0	22.6	17.8
5	4.11776	21.1	19.3	30.3	51.4	49.6	74.0	64.0	22.6	14.4
6	7.19926	24.0	19.0	30.3	54.3	49.3	74.0	64.0	19.7	14.7
7	22.17046	30.0	24.9	30.4	60.4	55.3	74.0	64.0	13.6	8.7
8	22.34927	23.4	15.9	30.4	53.8	46.3	74.0	64.0	20.2	17.7
9	21.81242	28.7	23.6	30.4	59.1	54.0	74.0	64.0	14.9	10.0



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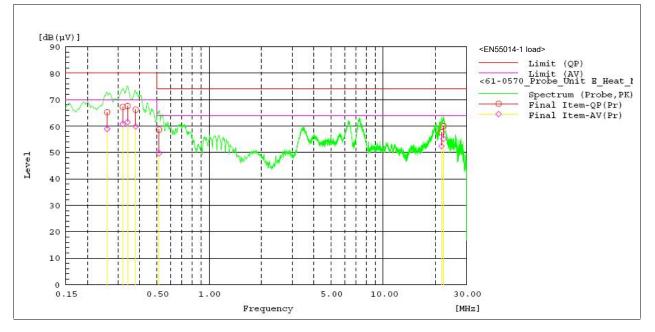


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Measurement Port	AC Main	Operation Mode	D (See 3.1)
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Test Result for Probe Unit E No. 1



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.25995	34.9	28.6	30.3	65.2	58.9	80.0	70.0	14.8	11.1
2	0.31934	36.9	30.5	30.3	67.2	60.8	80.0	70.0	12.8	9.2
3	0.34041	37.3	31.2	30.3	67.6	61.5	80.0	70.0	12.4	8.5
4	0.37892	35.9	29.5	30.3	66.2	59.8	80.0	70.0	13.8	10.2
5	0.51612	28.3	19.4	30.3	58.6	49.7	74.0	64.0	15.4	14.3
6	21.58526	27.3	22.0	30.4	57.7	52.4	74.0	64.0	16.3	11.6
7	22,20291	29.6	24.8	30.4	60.0	55.2	74.0	64.0	14.0	8.8



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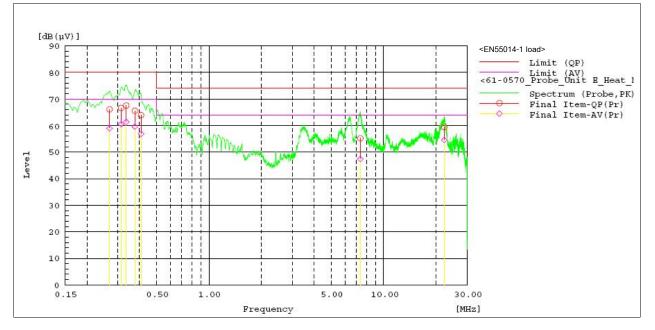


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Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Probe Unit E No. 2



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB(µV)]	[dB]	[dB]
1	0.26949	35.8	28.7	30.3	66.1	59.0	80.0	70.0	13.9	11.0
2	0.31418	36.3	30.2	30.3	66.6	60.5	80.0	70.0	13.4	9.5
з	0.33643	37.2	31.0	30.3	67.5	61.3	80.0	70.0	12.5	8.7
4	0.3765	35.3	29.3	30.3	65.6	59.6	80.0	70.0	14.4	10.4
5	0.40826	33.6	26.5	30.3	63.9	56.8	80.0	70.0	16.1	13.2
6	7.35673	24.8	17.1	30.3	55.1	47.4	74.0	64.0	18.9	16.6
7	22,23411	29.0	24.1	30.4	59.4	54.5	74.0	64.0	14.6	9.5



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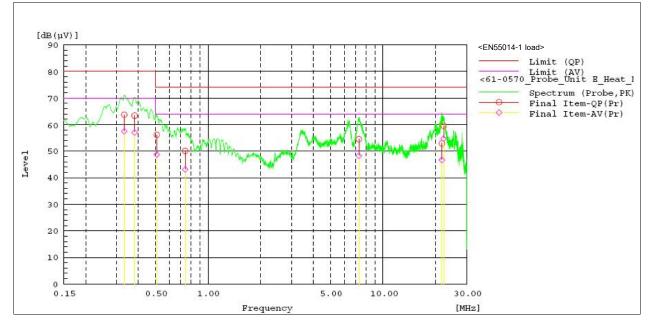


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Test Result for Probe Unit E No. 3



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading OP	Reading CAV	c.f	Result OP	Result CAV	Limit OP	Limit AV	Margin OP	Margin CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.33246	33.4	27.2	30.3	63.7	57.5	80.0	70.0	16.3	12.5
2	0.38109	33.0	26.7	30.3	63.3	57.0	80.0	70.0	16.7	13.0
з	0.50965	25.8	18.4	30.3	56.1	48.7	74.0	64.0	17.9	15.3
4	0.74029	19.7	12.8	30.3	50.0	43.1	74.0	64.0	24.0	20.9
5	7.26747	24.2	17.9	30.3	54.5	48.2	74.0	64.0	19.5	15.8
6	21.68374	22.5	16.2	30.4	52.9	46.6	74.0	64.0	21.1	17.4
7	22.15403	29.1	24.2	30.4	59.5	54.6	74.0	64.0	14.5	9.4



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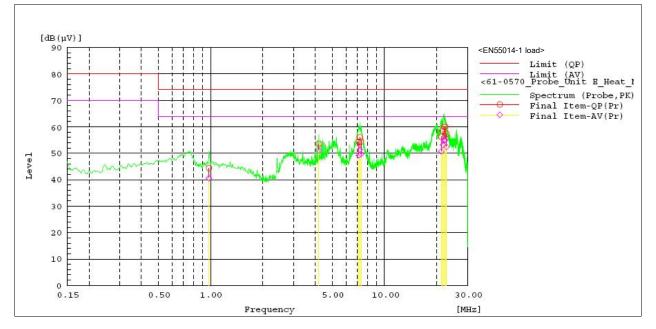


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Measurement Port	AC Main	Operation Mode	D (See 3.1)

Test Result for Probe Unit E No. G



Measurement Result of Quasi-Peak and Average Detector.

No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	CAV		QP	CAV	QP	AV	QP	CAV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	$[dB(\mu V)]$	[dB(µV)]	$[dB(\mu V)]$	[dB(µV)]	[dB]	[dB]
1	0.97984	14.1	10.3	30.3	44.4	40.6	74.0	64.0	29.6	23.4
2	4.19334	23.3	20.7	30.3	53.6	51.0	74.0	64.0	20.4	13.0
3	7.11908	24.0	18.9	30.3	54.3	49.2	74.0	64.0	19.7	14.8
4	7.21679	25.7	21.1	30.3	56.0	51.4	74.0	64.0	18.0	12.6
5	7.32896	24.2	19.3	30.3	54.5	49.6	74.0	64.0	19.5	14.4
6	21.21045	25.8	20.3	30.4	56.2	50.7	74.0	64.0	17.8	13.3
7	21.6496	28.0	22.7	30.4	58.4	53.1	74.0	64.0	15.6	10.9
8	22.05633	29.6	24.6	30.4	60.0	55.0	74.0	64.0	14.0	9.0
9	22.36559	29.6	24.5	30.4	60.0	54.9	74.0	64.0	14.0	9.1
10	22.70614	27.0	22.0	30.4	57.4	52.4	74.0	64.0	16.6	11.6

Result: Pass

Deele Dhee

Tested by: Marut Hninae



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- 6.2 Test Item: Disturbance Power
- 6.2.1 Test Setup
 - Test Specification

See 1 and 2.1

• Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
EMI Test Receiver	Rohde & Schwarz	ESU26	100572	DKD	26-05-19
Pre-Amplifier	HP	8447FGPTH64	3113A05499	NIMT	01-02-19
Absorbing Clamp	TESEQ	AMZ41A	38694	TESEQ	06-02-19

• Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

• Test Uncertainty: ±2.42 dB

• Test Location: SR 2

• Test Environment

Cooling Mode Temperature: 30 +5(°C)	26	Cooling Mode Humidity (%)	55
Heating Mode Temperature :15 \pm 5(°C)	20	Heating Mode Humidity (%)	52

• Test Setup Description

The disturbance power measurements were performed with the EMI receiver to measure the emission characteristics and to identify the frequency of emission that has the highest amplitude related to the EUT configuration for disturbance power testing. The EUT configuration, cable alignments, and EUT operation mode were determined for producing the maximum level of emissions.

The EUT was located at Shield room, which those closed to the absorbing slide bar. The power line of the EUT was fed through the absorbing clamp and ferrite clamp to the public main terminal AC as shown in FIGURE 4 and 5, respectively. The EMI receiver measured the noise signals from the EUT. The testing method and the EUT setup were performed according to EN55014-1:2017.



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• Test Picture

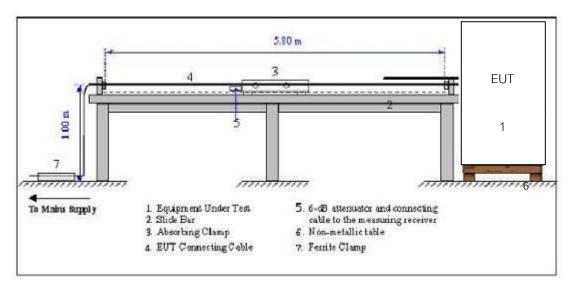


FIGURE 4 - The setup diagram.



FIGURE 5 - The test setup picture.

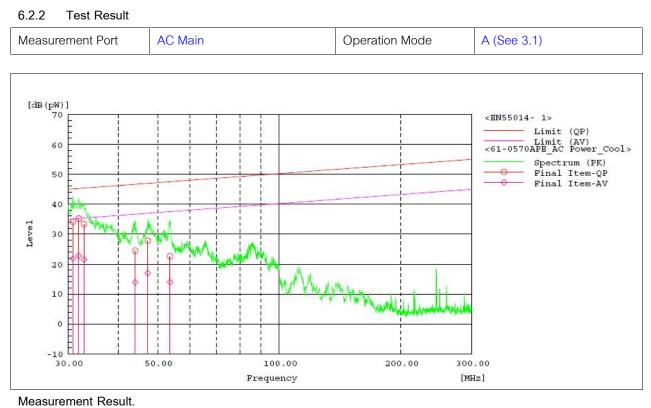


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No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(pW)]	Result AV [dB(pW)]	Limit QP [dB(pW)]	Limit AV [dB(pW)]	Margin QP [dB]	Margin AV [dB]
1	30.817	60.7	48.4	-26.6	34.1	21.8	45.1	35.1	11.0	13.3
2	31.867	61.9	49.5	-26.7	35.2	22.8	45.3	35.3	10.1	12.5
3	32.800	60.3	48.4	-26.9	33.4	21.5	45.4	35.4	12.0	13.9
4	44.000	53.3	42.7	-28.8	24.5	13.9	46.7	36.7	22.3	22.8
5	47.267	56.8	46.0	-29.0	27.8	17.0	47.0	37.0	19.2	20.0
6	53.683	51.9	43.3	-29.3	22.6	14.0	47.5	37.5	24.9	23.5

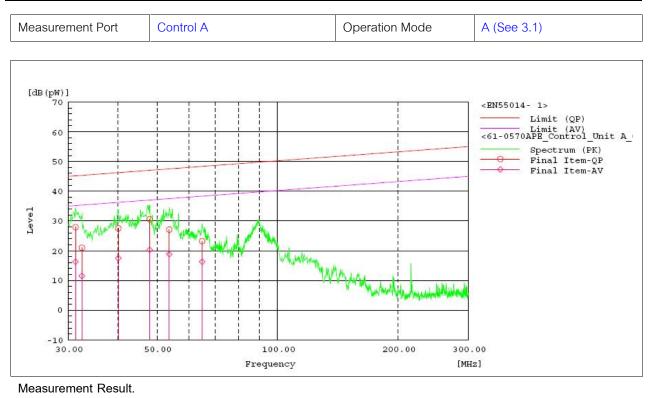


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No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(pW)]	Result AV [dB(pW)]	Limit QP [dB(pW)]	Limit AV [dB(pW)]	Margin QP [dB]	Margin AV [dB]
1	31.283	54.5	42.9	-26.6	27.9	16.3	45.2	35.2	17.3	18.9
2	32.450	47.8	38.3	-26.8	21.0	11.5	45.3	35.3	24.3	23.8
3	40.033	55.9	45.9	-28.4	27.5	17.5	46.3	36.3	18.8	18.8
4	47.967	59.7	49.4	-29.1	30.6	20.3	47.0	37.0	16.4	16.7
5	53.683	56.4	48.1	-29.3	27.1	18.9	47.5	37.5	20.4	18.7
6	64.883	52.7	45.8	-29.5	23.2	16.3	48.4	38.4	25.2	22.1



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Limit

35.4

35.6

36.7

37.0

37.5

38.2

AV [dB(pW)] Margin

QP [dB]

18.5

22.8

21.4

22.3

26.6

26.7

Margin

AV [dB]

18.1

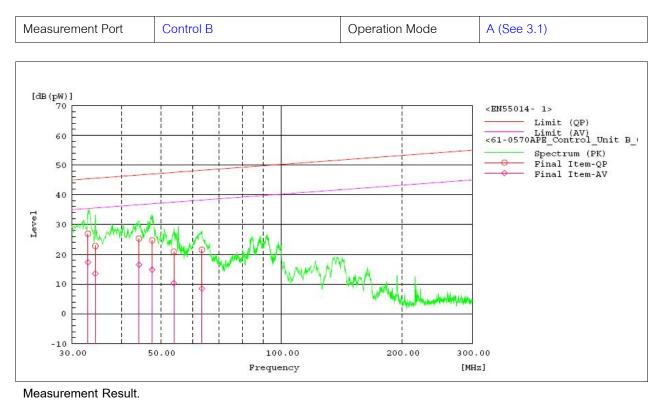
22.1

20.2

22.2

27.2

29.7



25.3

24.7

20.9

21.5

16.5

14.8

10.3

8.5

46.7

47.0

47.5

48.2

No.	Frequency	Reading OP	Reading AV	c.f	Result QP	Result AV	Limit OP
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]
1	32.917	53.8	44.2	-26.9	26.9	17.3	45.4
2	34.317	50.0	40.7	-27.2	22.8	13.5	45.6

-28.8

-29.0

-29.3

-29.4

45.3

43.8

39.6

37.9

This test report is test results from the EUT only, not the product's quality certificate. It shall not be reproduced except in full without the written approval of testing laboratory.

3

4

5

6

44.117

47.617

53.917

63.367

54.1

53.7

50.2

50.9

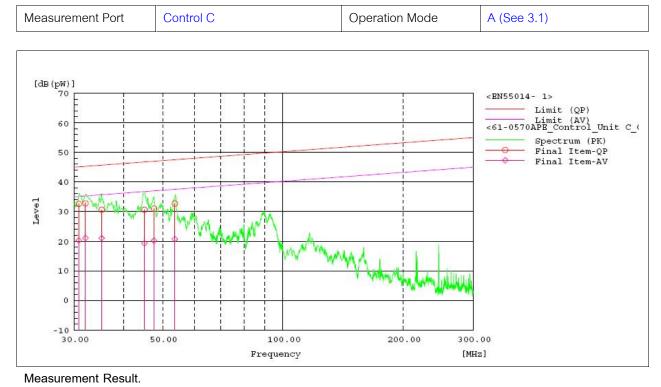


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No. Frequency Reading Reading c.f Result Result Limit Limit Margin Margin QP [dB(μV)] QP [dB(pW)] QP [dB(pW)] QP [dB] AV AV AV AV [dB(µV)] [dB(pW)] [dB(pW)] [MHz] [dB] [dB] 46.9 30.812 59.2 32.6 20.3 45.1 35.1 14.8 1 2 -26.6 12.5 32.029 47.9 21.1 12.5 59.6 -26.8 32.8 45.3 35.3 14.2 3 35.174 57.9 48.3 -27.3 30.6 21.0 45.7 35.7 15.1 14.7 45.014 59.5 48.2 30.6 19.3 46.8 16.2 17.5 4 -28.9 36.8 5 47.551 60.0 49.2 -29.0 31.0 20.2 47.0 37.0 16.0 16.8 6 53.638 62.0 50.0 -29.3 32.7 20.7 47.5 37.5 14.8 16.8

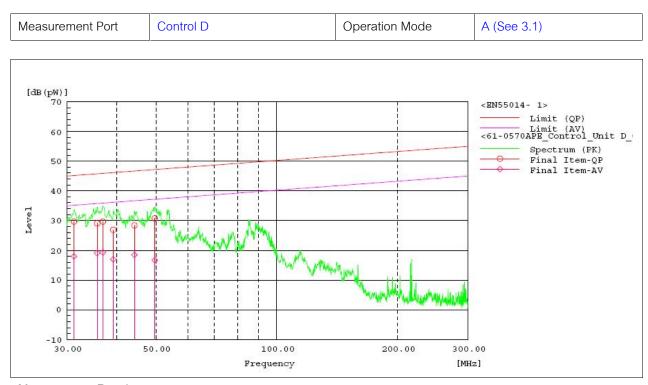


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Measurement Result.

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB]	[dB]
1	31.217	56.3	44.6	-26.6	29.7	18.0	45.2	35.2	15.5	17.2
2	35.681	56.6	46.6	-27.5	29.1	19.1	45.8	35.8	16.7	16.7
3	36.899	57.5	47.1	-27.8	29.7	19.3	45.9	35.9	16.2	16.6
4	39.130	55.2	45.3	-28.3	26.9	17.0	46.2	36.2	19.3	19.2
5	44.203	57.2	47.3	-28.8	28.4	18.5	46.7	36.7	18.3	18.2
6	49.681	60.0	45.9	-29.2	30.8	16.7	47.2	37.2	16.4	20.5

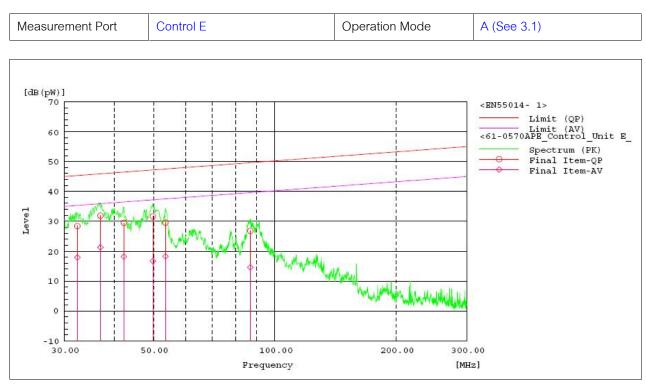


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Measurement Result.

No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(pW)]	Result AV [dB(pW)]	Limit QP [dB(pW)]	Limit AV [dB(pW)]	Margin QP [dB]	Margin AV [dB]
1	32.330	55.2	44.7	-26.8	28.4	17.9	45.3	35.3	16.9	17.4
2	36.899	59.7	49.1	-27.8	31.9	21.3	45.9	35.9	14.0	14.6
3	42.174	58.2	46.9	-28.7	29.5	18.2	46.5	36.5	17.0	18.3
4	49.783	60.9	45.9	-29.2	31.7	16.7	47.2	37.2	15.5	20.5
5	53.536	58.9	47.6	-29.3	29.6	18.3	47.5	37.5	17.9	19.2
6	87.014	55.9	43.7	-29.1	26.8	14.6	49.6	39.6	22.8	25.0

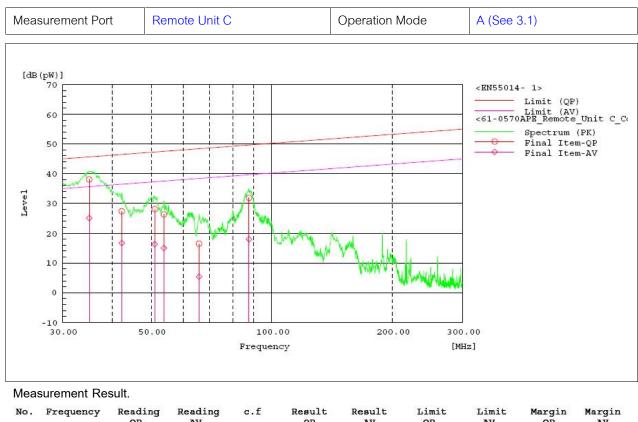


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NO.	Frequency	QP Reading	AV	C.I	QP	AV	OP	AV	Margin QP	Margin AV
	[MHz]	[dB (µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[d̃B]	[dB]
1	34.971	65.4	52.4	-27.3	38.1	25.1	45.7	35.7	7.6	10.6
2	42.174	56.1	45.4	-28.7	27.4	16.7	46.5	36.5	19.1	19.8
3	51.000	57.3	45.5	-29.2	28.1	16.3	47.3	37.3	19.2	21.0
4	53.739	55.6	44.3	-29.3	26.3	15.0	47.5	37.5	21.2	22.5
5	65.812	46.0	34.9	-29.5	16.5	5.4	48.4	38.4	31.9	33.0
6	87.826	61.0	47.1	-29.1	31.9	18.0	49.7	39.7	17.8	21.7

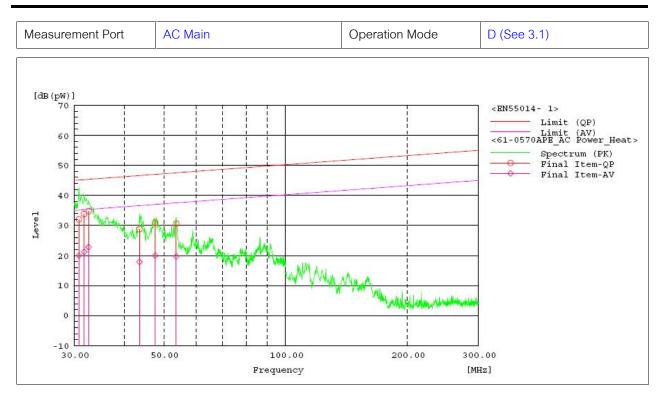


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Measurement Result.

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB]	[dB]
1	30.817	58.6	46.6	-26.6	32.0	20.0	45.1	35.1	13.1	15.1
2	31.750	60.5	47.9	-26.7	33.8	21.2	45.2	35.2	11.4	14.0
3	32.567	61.6	49.6	-26.8	34.8	22.8	45.4	35.4	10.6	12.6
4	43.533	57.6	46.7	-28.8	28.8	17.9	46.6	36.6	17.8	18.7
5	47.617	59.9	49.0	-29.0	30.9	20.0	47.0	37.0	16.1	17.0
6	53.683	59.9	49.0	-29.3	30.6	19.7	47.5	37.5	16.9	17.8

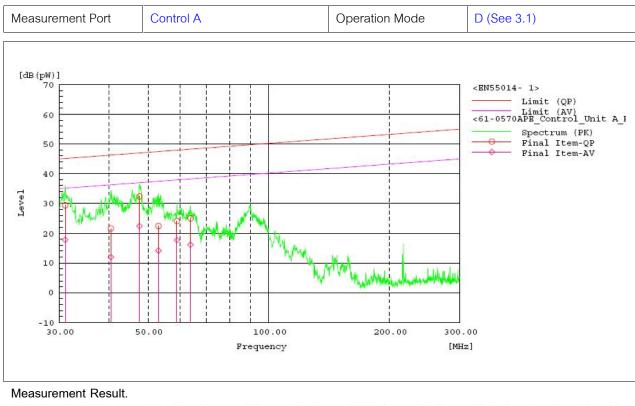


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No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(pW)]	Result AV [dB(pW)]	Limit QP [dB(pW)]	Limit AV [dB(pW)]	Margin QP [dB]	Margin AV [dB]
1	31.050	56.0	44.4	-26.6	29.4	17.8	45.1	35.1	15.7	17.3
2	40.383	50.1	40.5	-28.5	21.6	12.0	46.3	36.3	24.7	24.3
3	47.617	61.4	51.4	-29.0	32.4	22.4	47.0	37.0	14.6	14.6
4	53.100	51.7	43.5	-29.3	22.4	14.2	47.5	37.5	25.1	23.3
5	59.050	53.5	47.1	-29.4	24.1	17.7	47.9	37.9	23.8	20.2
6	63.833	54.5	45.6	-29.5	25.0	16.1	48.3	38.3	23.3	22.2

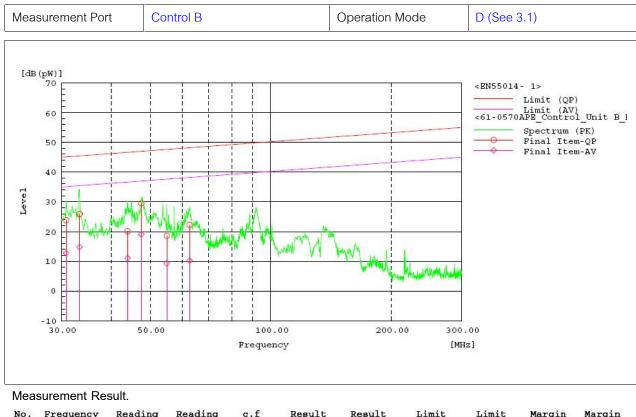


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No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB]	[dB]
1	30.817	50.4	39.4	-26.6	23.8	12.8	45.1	35.1	21.3	22.3
2	33.267	52.9	41.8	-27.0	25.9	14.8	45.4	35.4	19.5	20.6
3	43.883	48.9	39.9	-28.8	20.1	11.1	46.7	36.7	26.6	25.6
4	47.500	58.5	48.1	-29.0	29.5	19.1	47.0	37.0	17.5	17.9
5	54.967	47.9	38.6	-29.3	18.6	9.3	47.6	37.6	29.0	28.3
6	62.667	51.7	39.6	-29.4	22.3	10.2	48.2	38.2	25.9	28.0

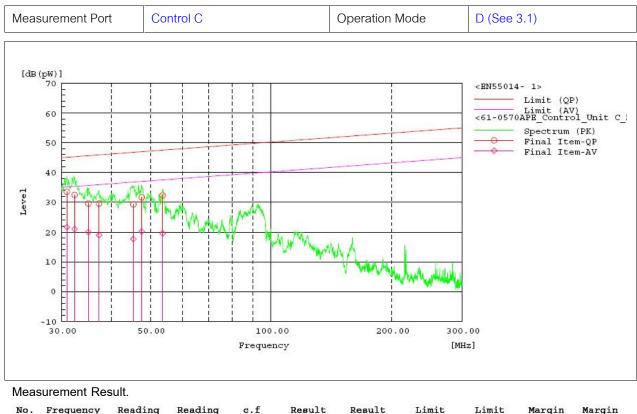


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No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV [dB]
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB(pW)]	QP [dB] 11.6 12.8 16.1 16.3 17.5	
1	30.913	60.1	48.3	-26.6	33.5	21.7	45.1	35.1	11.6	13.4
2	32.330	59.3	47.8	-26.8	32.5	21.0	45.3	35.3	12.8	14.3
3	34.971	56.9	47.3	-27.3	29.6	20.0	45.7	35.7	16.1	15.7
4	37.203	57.4	46.8	-27.8	29.6	19.0	45.9	35.9	16.3	16.9
5	45.319	58.2	46.6	-28.9	29.3	17.7	46.8	36.8	17.5	19.1
6	47.551	60.7	49.2	-29.0	31.7	20.2	47.0	37.0	15.3	16.8
7	53.638	61.6	48.9	-29.3	32.3	19.6	47.5	37.5	15.2	17.9

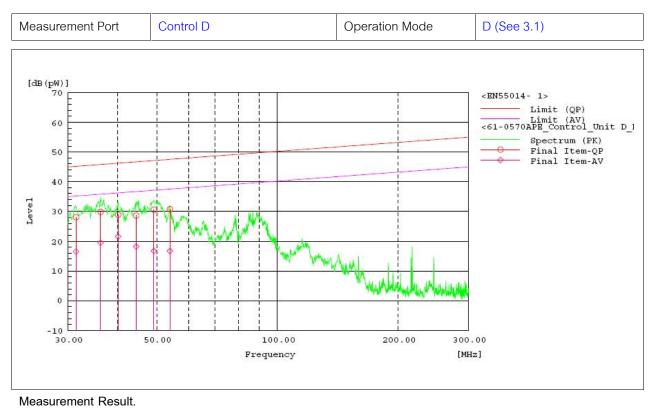


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No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(pW)]	Result AV [dB(pW)]	Limit QP [dB(pW)]	Limit AV [dB(pW)]	Margin QP [dB]	Margin AV [dB]
1	31.420	54.8	43.2	-26.7	28.1	16.5	45.2	35.2	17.1	18.7
2	36.188	57.5	47.1	-27.6	29.9	19.5	45.8	35.8	15.9	16.3
3	40.043	57.3	50.0	-28.4	28.9	21.6	46.3	36.3	17.4	14.7
4	44.406	57.4	47.0	-28.8	28.6	18.2	46.7	36.7	18.1	18.5
5	49.174	59.7	45.8	-29.1	30.6	16.7	47.1	37.1	16.5	20.4
6	53.942	60.1	46.0	-29.3	30.8	16.7	47.5	37.5	16.7	20.8

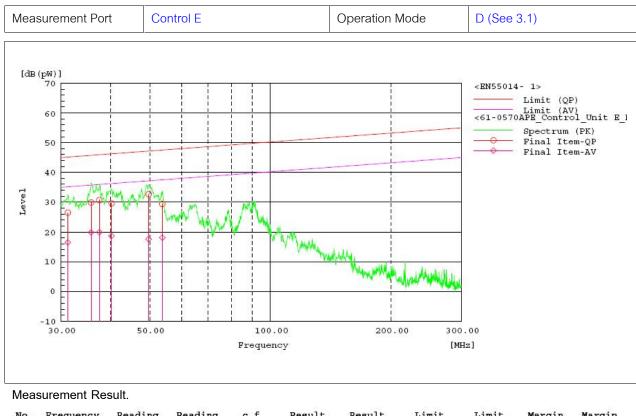


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No.	Frequency	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin
		QP	AV		QP	AV	QP	AV	QP	AV
	[MHz]	[dB(µV)]	[dB(µV)]	[dB]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB(pW)]	[dB]	[dB]
1	31.217	53.1	43.1	-26.6	26.5	16.5	45.2	35.2	18.7	18.7
2	35.681	57.4	47.3	-27.5	29.9	19.8	45.8	35.8	15.9	16.0
3	37.406	58.6	47.8	-27.9	30.7	19.9	46.0	36.0	15.3	16.1
4	40.145	58.1	47.2	-28.5	29.6	18.7	46.3	36.3	16.7	17.6
5	49.681	61.9	46.8	-29.2	32.7	17.6	47.2	37.2	14.5	19.6
6	53.739	58.7	47.4	-29.3	29.4	18.1	47.5	37.5	18.1	19.4

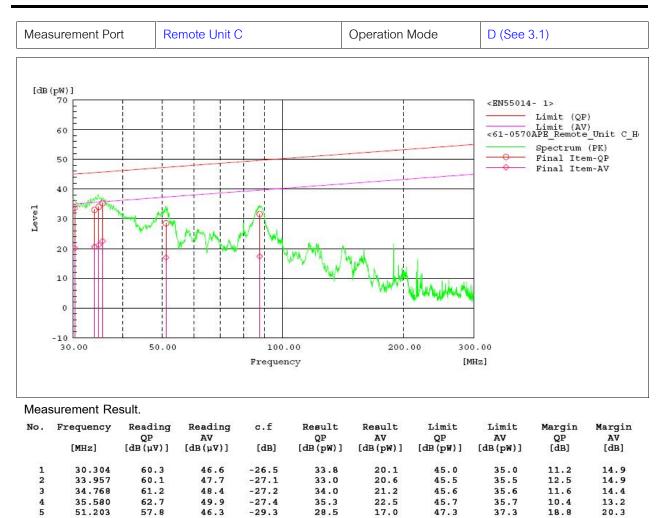


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31.6

17.4

49.7

Result: Pass

87.725

46.5

60.7

-29.1

6

Tested by: Marut Hninae

18.1

22.3

39.7



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- 6.3 Test Item: Discontinuous Disturbance
- 6.3.1 Test Setup

Ñ Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
Click Analyzer	AFJ	CL55C	55040019052	UKAS	10-09-18
LISN	TESEQ	NNB52	36109	NIMT	01-02-19

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

 \hat{N} Test Uncertainty: \pm 3.70 dB

Ñ Test Location: SR 2

Ñ Test Environment

Cooling Mode Temperature: 30 ±5(°C)	27	Cooling Mode Humidity (%)	52
Heating Mode Temperature :15 ± 5(°C)	20	Heating Mode Humidity (%)	56

N Test Setup Description

The discontinuous disturbance measurement was performed with CLICK Analyzer to measure the click noise. The EUT configuration setup is shown in FIGURE 6 and 7, respectively. The testing method and the EUT setup were performed according to EN55014-1:2017.

The end of the power cord was connected to LISN at 80 cm. from the EUT. The ground connector of the LISN was connected to the ground of manufacturer.



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Ñ Test Picture

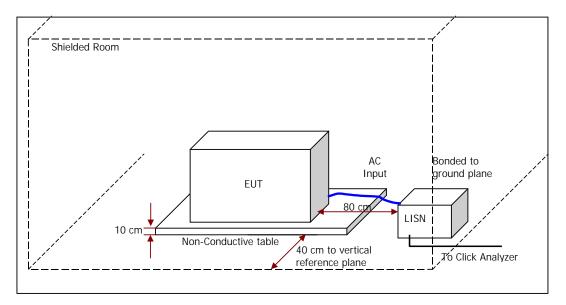


FIGURE 6 - The test setup diagram.

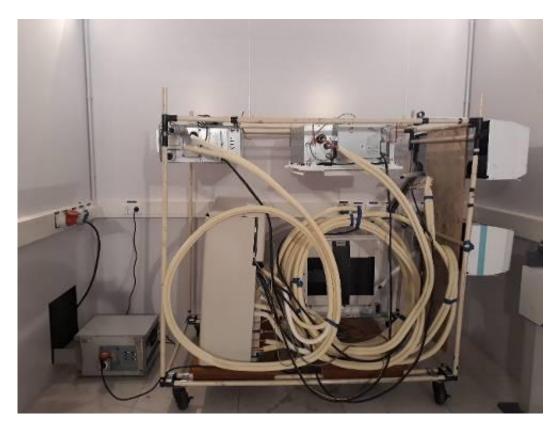


FIGURE 7 - The test setup picture.



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6.3.2 Test Result

Measurement Port	AC Main	Main		Operation Mode		A (See 3.1)		
	Rx1 1	50KHz	Rx2 500KHz	Rx3 1.4	MHz	Rx4 30MHz		
Short		0	0		0	0		
Long		0	0		0	0		
Fast Long (<020)		0	0		0	0		
Total Clicks		0	0		0	0		
Continuous Events		0	0		0	0		
Switch Op		0	0		0	0		
2 Click		0	0		0	0		
Continuous Time		0	0		0	0		
Limit dB μ V	5	5.9	55.9		55.9	55.9		
Ν	(0.0	0.0		0.0	0.0		
Offsets	50)dB	50dB	:	50dB	50dB		
Pass		0	0		0	0		
Duration of Test	20	:02.8	20:02.8	2	0:02.8	20:02.8		
Limit dB μ V	8	9.9	89.9		89.9	89.9		
Allowed Clicks		0	0		0	0		
Remote		NONE						
Input Att.		0						
Extern. Att.		10 dB						
Rx1 150KHz		No Clicks						
Rx2 500KHz				No Clicks				
Rx3 1.4MHz				No Clicks				
Rx4 30MHz		No Clicks						
Status		PASS						



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Measurement Port AC Main			Operation Mo	D (See 3.1)				
	ľ	Rx1 150KHz	Rx2 500KHz	Rx3 1.4MHz	Rx4 30MHz			
Short		0	0	0	0			
Long		0	0	0	0			
Fast Long (<020)		0	0	0	0			
Total Clicks		0	0	0	0			
Continuous Events		0	0	0	0			
Switch Op		0	0	0	0			
2 Click		0	0	0	0			
Continuous Time		0	0	0	0			
Limit dB μ V		55.9	55.9	55.9	55.9			
Ν		0.0	0.0	0.0	0.0			
Offsets		50dB	50dB	50dB	50dB			
Pass		0	0	0	0			
Duration of Test		20:02.8	20:02.8	20:02.8	20:02.8			
Limit dB μ V		89.9	89.9	89.9	89.9			
Allowed Clicks		0	0	0	0			
Remote		NONE						
Input Att.		0						
Extern. Att.		10 dB						
Rx1 150KHz		No Clicks						
Rx2 500KHz		No Clicks						
Rx3 1.4MHz		No Clicks						
Rx4 30MHz		No Clicks						
Status		PASS						



Pass

Tested by: Marut Hninae



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- 6.4 Test Item: Harmonic Emission
- 6.4.1 Test Setup

N Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
Signal Conditioning Unit	TESEQ	CCN1000-3	1347A01034	A2LA	20-02-19
AC-Power Source	TESEQ	NSG1007	1347A01034	-	20-02-19

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

Ñ Test Uncertainty: ±3.85 %

 \tilde{N} Test Location: SR 1

Ñ Test Environment

Cooling Mode Temperature: $30 \pm 2(^{\circ}C)$	30	Cooling Mode Humidity (%)	55
Heating Mode Temperature :15 ± 2(°C)	20	Heating Mode Humidity (%)	54

N Test Setup Description

The harmonic load currents were measured according to EN 61000-3-12:2012. The EUT was connected to AC power source, which was decoupled from the public mains connection. The analysis was performed with a measurement in a time domain of transient harmonic load currents. The data was transformed into a frequency range and assessed up to the 40th harmonic by using the Discrete Fourier Transforms. The EUT configuration for the harmonic current emission testing is shown in FIGURE 8 and 9, respectively.



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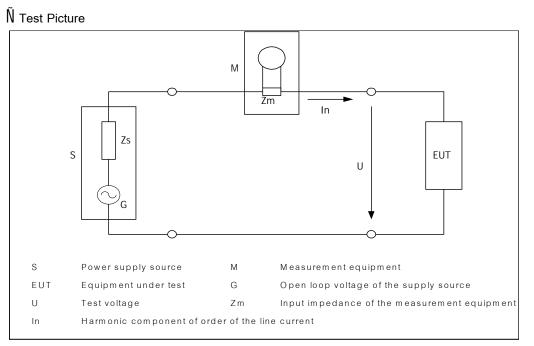


FIGURE 8 - The setup diagram.



FIGURE 9 - The test setup picture.



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• Te	st Result							
Measurement	Port	AC	Vlain		Operation Mod	e A	(See 3.1)	
THC/Iref (%): 22.0 Li		Lim	nit (%): 23.0 PWHC/Ire		f (%): 5.1 PWHC I		Limit (%): 23.0	
Harm#	Harms(a	avg)	100%Limit	%of Limit	Harms(max)	150%Limi	t %of Limit	Status
2	0.02	1	1.202	1.8	0.037	1.803	2.1	Pass
3	3.099	9	3.246	95.5	3.169	4.869	65.1	Pass
4	0.013	3	0.601	2.1	0.022	0.902	2.4	Pass
5	0.652	2	1.608	40.6	0.699	2.412	29.0	Pass
6	0.00	7	0.401	1.7	0.015	0.601	2.6	Pass
7	0.822	2	1.082	76.0	0.865	1.623	53.3	Pass
8	0.009	9	0.301	2.9	0.015	0.451	3.2	Pass
9	0.256	6	0.571	44.8	0.277	0.857	32.3	Pass
10	0.00	7	0.240	2.8	0.011	0.361	3.2	Pass
11	0.32	7	0.466	70.2	0.353	0.699	50.5	Pass
12	0.006	6	0.200	3.1	0.012	0.301	3.8	Pass
13	0.216	6	0.301	71.9	0.242	0.451	53.7	Pass
14	0.005		N/A	N/A	0.010	N/A	N/A	N/A
15	0.20		N/A	N/A	0.212	N/A	N/A	N/A
16	0.004		N/A	N/A	0.008	N/A	N/A	N/A
17	0.024	1	N/A	N/A	0.041	N/A	N/A	N/A
18	0.00	3	N/A	N/A	0.006	N/A	N/A	N/A
19	0.100)	N/A	N/A	0.120	N/A	N/A	N/A
20	0.003	3	N/A	N/A	0.006	N/A	N/A	N/A
21	0.082	2	N/A	N/A	0.111	N/A	N/A	N/A
22	0.003	3	N/A	N/A	0.005	N/A	N/A	N/A
23	0.06	7	N/A	N/A	0.081	N/A	N/A	N/A
24	0.003	3	N/A	N/A	0.005	N/A	N/A	N/A
25	0.056	5	N/A	N/A	0.070	N/A	N/A	N/A
26	0.003	3	N/A	N/A	0.006	N/A	N/A	N/A
27	0.04	7	N/A	N/A	0.056	N/A	N/A	N/A
28	0.003	3	N/A	N/A	0.006	N/A	N/A	N/A
29	0.04	7	N/A	N/A	0.056	N/A	N/A	N/A
30	0.003	3	N/A	N/A	0.007	N/A	N/A	N/A



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Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
31	0.090	N/A	N/A	0.107	N/A	N/A	N/A
32	0.005	N/A	N/A	0.010	N/A	N/A	N/A
33	0.117	N/A	N/A	0.135	N/A	N/A	N/A
34	0.005	N/A	N/A	0.010	N/A	N/A	N/A
35	0.087	N/A	N/A	0.104	N/A	N/A	N/A
36	0.004	N/A	N/A	0.009	N/A	N/A	N/A
37	0.088	N/A	N/A	0.106	N/A	N/A	N/A
38	0.004	N/A	N/A	0.008	N/A	N/A	N/A
39	0.091	N/A	N/A	0.117	N/A	N/A	N/A
40	0.005	N/A	N/A	0.009	N/A	N/A	N/A

Minimum Rsce required: Rsce = 31.604

Phase A = 95.8% of tested Rsce = 33.000, Rsce = 31.604



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Measurement	Port AC	Vlain		Operation Mod	e D (Se	ee 3.1)	
THC/Iref (%	5): 20.1 Lim	nit (%): 23.0	PWHC/Ire	ef (%): 4.2	PWHC Limit	(%): 23.0	
Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.023	1.329	1.8	0.045	1.994	2.2	Pass
3	3.115	3.588	86.8	3.164	5.383	58.8	Pass
4	0.013	0.665	2.0	0.026	0.997	2.6	Pass
5	0.746	1.778	42.0	0.773	2.666	29.0	Pass
6	0.007	0.443	1.6	0.016	0.665	2.4	Pass
7	0.758	1.196	63.4	0.776	1.794	43.3	Pass
8	0.009	0.332	2.7	0.014	0.498	2.8	Pass
9	0.285	0.631	45.1	0.304	0.947	32.1	Pass
10	0.006	0.266	2.2	0.011	0.399	2.7	Pass
11	0.395	0.515	76.6	0.416	0.773	53.9	Pass
12	0.006	0.222	2.5	0.010	0.332	3.1	Pass
13	0.184	0.332	55.4	0.232	0.498	46.5	Pass
14	0.005	N/A	N/A	0.008	N/A	N/A	N/A
15	0.190	N/A	N/A	0.203	N/A	N/A	N/A
16	0.004	N/A	N/A	0.009	N/A	N/A	N/A
17	0.048	N/A	N/A	0.061	N/A	N/A	N/A
18	0.003	N/A	N/A	0.007	N/A	N/A	N/A
19	0.105	N/A	N/A	0.117	N/A	N/A	N/A
20	0.003	N/A	N/A	0.005	N/A	N/A	N/A
21	0.074	N/A	N/A	0.115	N/A	N/A	N/A
22	0.002	N/A	N/A	0.006	N/A	N/A	N/A
23	0.081	N/A	N/A	0.092	N/A	N/A	N/A
24	0.002	N/A	N/A	0.005	N/A	N/A	N/A
25	0.075	N/A	N/A	0.100	N/A	N/A	N/A
26	0.002	N/A	N/A	0.005	N/A	N/A	N/A
27	0.061	N/A	N/A	0.070	N/A	N/A	N/A
28	0.003	N/A	N/A	0.006	N/A	N/A	N/A
29	0.067	N/A	N/A	0.074	N/A	N/A	N/A
30	0.003	N/A	N/A	0.007	N/A	N/A	N/A
31	0.127	N/A	N/A	0.139	N/A	N/A	N/A



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Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
32	0.004	N/A	N/A	0.008	N/A	N/A	N/A
33	0.131	N/A	N/A	0.146	N/A	N/A	N/A
34	0.004	N/A	N/A	0.008	N/A	N/A	N/A
35	0.104	N/A	N/A	0.126	N/A	N/A	N/A
36	0.004	N/A	N/A	0.009	N/A	N/A	N/A
37	0.088	N/A	N/A	0.099	N/A	N/A	N/A
38	0.004	N/A	N/A	0.009	N/A	N/A	N/A
39	0.115	N/A	N/A	0.133	N/A	N/A	N/A
40	0.004	N/A	N/A	0.008	N/A	N/A	N/A

Minimum Rsce required: Rsce = 28.805

Phase A = 87.3% of tested Rsce = 33.000, Rsce = 28.805

Result: Pass

Tested by: Marut Hninae



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- 6.5 Test Item: Voltage Fluctuation
- 6.5.1 Test Setup

Ñ Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
Signal Conditioning Unit	TESEQ	CCN1000-3	1347A01034	A2LA	20-02-19
Three Phase Impedance Network	TESEQ	INA2197	1347A01034	A2LA	20-02-19

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

N Test Uncertainty: ±2.46%

Ñ Test Location: SR 1

N Test Environment

Cooling Mode Temperature: 30 <u>+</u> 5(°C)	30	Cooling Mode Humidity (%)	55
---	----	---------------------------	----

N Test Setup Description

The Voltage fluctuation (flicker) was tested according to EN 61000-3-11:2001. The EUT was decoupled from the public main and connected to the reference impedance according to IEC 725. The voltage fluctuation testing was performed automatically with the Harmonic& Flicker Analyzer and the software. The EUT was operated continuously. The measurement was made after a steady state has been reached. The EUT configuration for the voltage fluctuation testing is shown in FIGURE 10 and 11, respectively.



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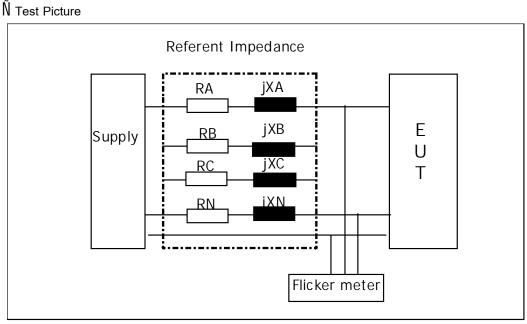


FIGURE 10 - The setup diagram.



FIGURE 11 - The test setup picture.



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6.5.1 Test Result

Measurement Port	AC Main	Operation Mode	C (See 3.1)
------------------	---------	----------------	-------------

Maximum Flicker Results

T-max (mS):	0.0	Test limit (mS):	500.0	Pass
Highest dc (%):	1.08	Test limit (%):	3.30	Pass
Highest dmax (%):	1.15	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.204	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.111	Test limit:	0.650	Pass

The maximum permissible system impedance Zsys:

Z = 4.354 Ohm + j 2.721 Ohm (4.354 Ohm + 8661 mH)

Result: Pass

Tested by: Marut Hninae



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- 6.6 Test Item: Electrostatic Discharge
- 6.6.1 Test Setup

N Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
ESD Generator	TESEQ	NSG438	1226	NIST	20-11-18

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

Ñ Test Uncertainty: ± 7.09 %

Ñ Test Location: SR 1

Ñ Test Environment

Heating Mode Temperature :15 <u>+</u> 5(°C)	16	Heating Mode Humidity (%)	55
---	----	---------------------------	----

N Test Setup Description

The ESD was executed at a few weak points which can be normally touched by an operator or customer. The repetition rate between the impulses was at least 1 sec. The test points are shown in Figure 12.

The EUT configuration and diagram for the electrostatic discharge testing are shown in FIGURE 13 and 14 respectively. The parameters of the ESD generator and the critical test point are shown in above Table.

Electrostatic Discharge Testing Description

No.	Test Points	Type of Testing	Test Voltage	Number of	Operation	Performance
		5	(KV)	Discharge per pol.	Mode (see3.1)	Criterion
1	A1-A5	Air	<u>+</u> 8	10	Е	В
2	C6-C10	Contact	<u>+</u> 4	10	E	В
3	VCP	Contact	<u>+</u> 4	10	E	В



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• Test Picture

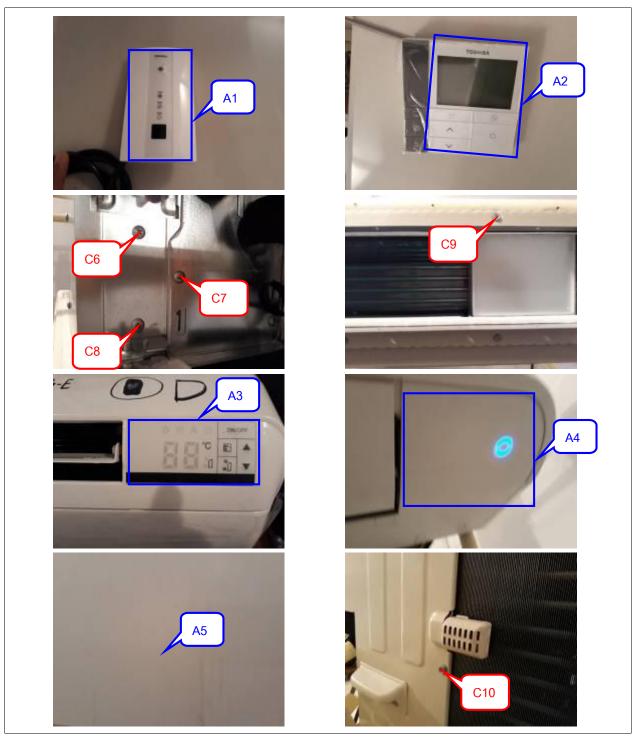


FIGURE 12 Test points.



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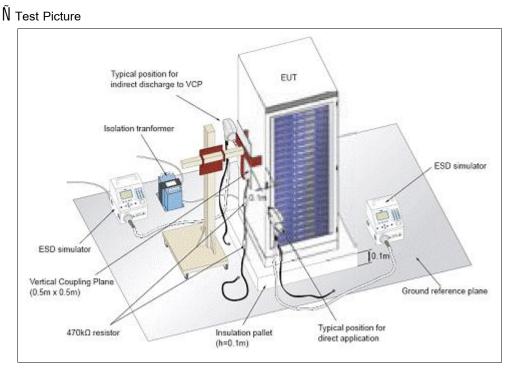


FIGURE 13 - The setup diagram.



FIGURE 14 - The test setup picture.



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6.6.2 Test Result.

(Heating mode)

Contact Discharge

		Test Execution							
Test Point		ESD Test Level (kV) / Number of Discharge (Times)							
	+ 2/10	- 2/10	+ 4/10	- 4/10	+ 8/10	- 8/10	+ 10/10	- 10/10	
C6	-	-	ND	ND	-	-	-	-	
C7	-	-	ND	ND	-	-	-	-	
C8	-	-	ND	ND	-	-	-	-	
C9	-	-	ND	ND	-	-	-	-	
C10	-	-	ND	ND	-	-	-	-	
VCP	-	-	NORM	NORM	-	-	-	-	
Note: "-" : Not Test	"ND" : No	ot Discharge	•	"NORM" :	Normal	"AB"	: Abnormal		

Air Discharge

		Test Execution							
Test Point		ESD Test Level (kV) / Number of Discharge (Times)							
	+ 2/10	- 2/10	+ 4/10	- 4/10	+ 8/10	- 8/10	+ 10/10	- 10/10	
A1	-	-	-	-	ND	ND	-	-	
A2	-	-	-	-	ND	ND	-	-	
A3	-	-	-	-	ND	ND	-	-	
A4	-	-	-	-	ND	ND	-	-	
A5	-	-	-	-	ND	ND	-	-	
Note: "-" : Not Test	"ND" : Not Dis	scharge		"NORM" :	Normal	"AB"	: Abnormal		

Phenomena Observed/Comments	
-	



Pass

Tested by: Poomares Pomsri



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- 6.7 Test Item: Electrical Fast Transient
- 6.7.1 Test Setup

N Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacturer	Model	S/N	Traceability	Due Date
		NSG 3040/			
EFT Simulator	TESEQ	CDN 3043/	1943/2026/419	NIST	20-11-18
		FTM 3425-40			
Capacitive Coupling Clamp	TESEQ	CDN 3425	1752	-	-

N Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

N Test Uncertainty: ± 5.03 %

Ñ Test Location: SR 1

Ñ Test Environment

Heating Mode Temperature :15 \pm 5(°C)	15	Heating Mode Humidity (%)	55

N Test Setup Description

The EUT was arranged and connected to the auxiliary equipment for operating. For the power line testing, the coupling decoupling network (CDN) was used for coupling the EFT signal to the EUT's power line. For the control line testing, the capacitive coupling clamp (CCL) was used for coupling the EFT signal to the EUT's control line. The EUT configuration for the electrical fast transient testing is shown in FIGURE 15 and 16 respectively.

Test Line	Test Line Voltage		Repetition Rate	During Time	Performance
		Port	(kHz)	(Sec/Polarity)	criteria
L-G	<u>+</u> 1 kV	AC	5	120	В
N-G	<u>+</u> 1 kV	AC	5	120	В
PE-G	<u>+</u> 1 kV	AC	5	120	В
L,N,PE-G	<u>+</u> 1 kV	AC	5	120	В
Control Line	<u>+</u> 0.5 kV	AC	5	120	В



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Ñ Test Picture

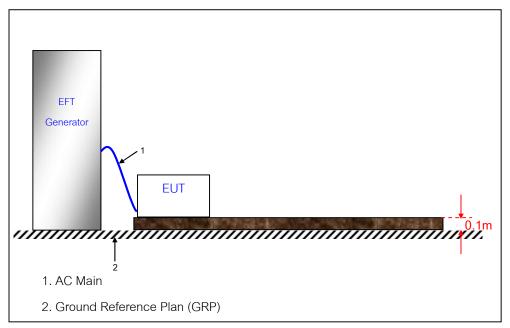


FIGURE 15 - The setup diagram.



FIGURE 16 - The test setup picture.



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6.7.2 Test Result (Heating mo	ode)						
Test Parameters	,						
Rise time :	5 ns		Period Time :		300 ms		
Impulse Duration :	50 ns	50 nsDuration of Burst :15 ms					
Positive Burst :	2 min		Negative Burst : 2 min				
Test Line	Voltage (kV)	Port			g Time ² olarity)	Result	
L-G	<u>+</u> 1 kV	AC	5	1	20	NORM	
N-G	<u>+</u> 1 kV	AC	5	1	20	NORM	
PE-G	<u>+</u> 1 kV	AC	5	1	20	NORM	
L,N,PE-G	<u>+</u> 1 kV	AC	5	1	20	NORM	
Control Line	<u>+</u> 0.5 kV	AC	5	1	20	NORM	

Note: "-": Not Test

"NORM": Normal

"AB": Abnormal

Phenomena Observed/Comments
-

<u>Result:</u>

Pass

Tested by: MR. Poomares Pomsri



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- 6.8 Test Item: Surge
- 6.8.1 Test Setup

N Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
		NSG3040/			
Surge Simulator	TESEQ	CDN 3043/	1943/2026/1093	NIST	20-11-18
		CWM 3450-40			

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

N Test Uncertainty: ± 6.78 %

Ñ Test Location: SR 1

Ñ Test Environment

Heating Mode Temperature :15 \pm 5(°C) 16	Heating Mode Humidity (%)	55
---	---------------------------	----

N Test Setup Description

The EUT was placed on the 10 cm height isolator above the ground reference plane. The EUT was arranged and connected to the auxiliary equipment for operating. The distance from the EUT to the other conductive materials was more than 1 m.

For the Surge testing of the power line, the CDN (coupling decoupling network) was used for coupling the surge to the EUT. The AC power cord between EUT and CDN was 1 m. The EUT configuration for the surge immunity testing is shown in FIGURE 17 and 18 respectively.

Voltage (kV)	Test Point	Port	Number of apply Per polarity	Phase angle	Performance criteria			
±1	L-N	AC	5	0°,90°, 270°	В			
± 2	L-PE, N-PE	AC	5	0°,90°, 270°	В			

Surge Testing Description



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Ñ Test Picture

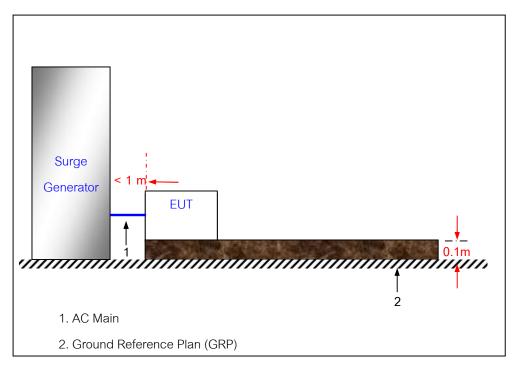


FIGURE 17 - The setup diagram.



FIGURE 18 - The test setup picture.



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6.8.2 Tes	t Result										
Test Paramet	ters										
Wave Form:	1.2/50µS	Gene	erator Source	e Impedance		2Ω		Surge Repe	tition Rate:	1Pul	se/min
Coupling Mode	Phase		+ 0.5 kV	- 0.5 kV	+	1 kV	- 1 k\	V + 2 kV	- 2 kV	+ 4 kV	- 4 kV
L-N	0°,90°, 270) ^o	-	-	Ν	ORM	NORM	- ۸	-	-	-
Note: "-": Not Test "N		"NORM": Normal "AB": Abnorn		nal	1						
Test Paramet	ers										
Wave Form:	1.2/50µS	Gene	erator Source	e Impedance	:	12 Ω		Surge Repe	etition Rate:	1Pul	se/min
Coupling Mode	Phase		+ 0.5 kV	- 0.5 kV	+	1 kV	- 1 k\	V + 2 kV	- 2 kV	+ 4 kV	- 4 kV

 Coupling Mode
 Phase
 + 0.5 kV
 - 0.5 kV
 + 1 kV
 - 1 kV
 + 2 kV
 - 2 kV
 + 4 kV
 - 4 kV

 L-PE
 0°,90°, 270°
 NORM
 NORM

 N-PE
 0°,90°, 270°
 NORM
 NORM

Note: "-": Not Test

"NORM": Normal

"AB": Abnormal

Phenomena Observed/Comments	

Result: Pass

Tested by: Poomares Pomsri



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- 6.9 Test Item: Conducted Immunity
- 6.9.1 Test Setup
 - N Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
EM clamp	TESEQ	KEMZ 801AS50	38662	TESEQ	14-05-18
Compact immunity test system	TESEQ	NSG 4070B-30	39604	DKD	04-05-18
Dual directional coupler	TESEQ	DCP 0100A	40093	TESEQ	04-05-18
Power Amplifier	TESEQ	CBA400M-110	T44431	TESEQ	20-05-18
Current injection probe	TESEQ	CIP 9136A	35442	TESEQ	15-05-18
Coupling/Decoupling network	TESEQ	CDN M332S	37751	TESEQ	14-05-18

Ñ Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

N Test Uncertainty: ± 2.09 dB

Ñ Test Location: SR 1

Ñ Test Environment

Heating Mode Temperature :15 ± 2(°C)	20	Heating Mode Humidity (%)	54
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Ñ Test Setup Description

The EUT was set up according to IEC61000-4-6:2013 (Ed 3.0). The conducted interference signal was connected to the 6 dB attenuator before connected to the CDN and the EM-Clamp for injecting the RF signal to the EUT at the power cord and the signal line respectively. The test setup diagram and the test setup picture are shown in the FIGURE 19 and 20.



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Ñ Test Picture

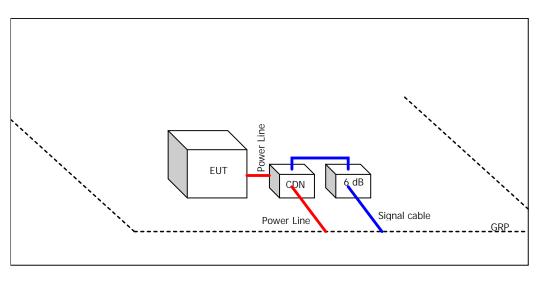


FIGURE 19 - The setup diagram.



FIGURE 20 - The test setup picture.



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6.9.2 Test Result

(Heating mode)

Test port	Test level	Frequency	Step frequency	Modulation	Dwell time	Result
AC	2.1/	150 KHz-230	10/ 1.00	AM 80% with	3 Sec	
Power Line	3 V	MHz	1% Log	1kHz	3 500	NORM
Control Line	1 V	150 KHz-230	10/ 1.00	AM 80% with	2 5 2 2	
Control Line 1		1% Log MHz		1kHz	3 Sec	NORM
Note: "-": Not Test		"NORM": Norma	al "AB":	Abnormal		

Phenomena Observed/Comments



Pass

Tested by: MR. Poomares Pomsri



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- 6.10 Test Item: Voltage Dips
- 6.10.1 Test Setup

Ñ Test Specification

See 1 and 2.1

Ñ Test Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
		NSG 3041/			
PQF Simulator	TESEQ	PQM 3403/	1943/1035/223	NIST	20-11-18
		INA 6501			

N Customer's Equipment

Equipment Name	Manufacture	Model	S/N	Traceability	Due date
-	-	-	-	-	-

Ñ Test Uncertainty: ± 3.17%

Ñ Test Location: SR 1

N Test Environment

Heating Mode Temperature :15 ±5(°C)	16	Heating Mode Humidity (%)	54
-------------------------------------	----	---------------------------	----

N Test Setup Description

The power cord of the EUT was connected to the voltage dip and the interruption generator. The EUT was arranged and connected to the auxiliary equipment for operating.

The EUT configuration for the voltage dip and the short interruption testing are shown in FIGURE 21 and 22 respectively.

Phenomena	Test Level in% (ut)	Cycle	Phase angle	Performance criteria
V. Dip	40	0.5	0°	С
V. Dip	70	10	0°	С
Interruption	100	25	0°	С

The voltage dip and the interruption testing descriptions



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$\tilde{\mathsf{N}}$ Test Picture

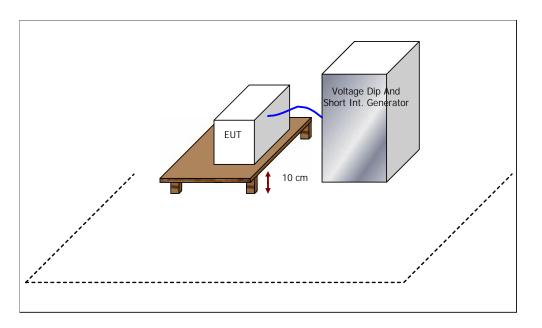


FIGURE 21 - The setup diagram.



FIGURE 22 - The test setup picture.



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6.10.2 Test Result

Test	Number	I/P Voltage /	Test Level	Phase angle	Cycle	Result
Phenomena	of Test	Frequency	in% (ut)	([°])		
V. Dip	3	230 V/50Hz	40	0°	0.5	NORM
V. Dip	3	230 V / 50Hz	70	0°	10	NORM
Interruption	3	230 V/ 50Hz	100	0°	25	NORM
			(1)000 M			

Note: "-" : Not Test

"NORM" : Normal

"AB" : Abnormal

Phenomena Observed/Comments						
-						

<u>Result:</u>

Pass

Tested by: Poomares Pomsri

----- End of Report -----