CE TEST REPORT

Report Number	:	ETLE090217.08.1	Report issue date :	September 28, 2009

Model / Serial No.	:	HYAP-202 / NONE
Multiple Model Name	:	HYAP-201
Product Type	:	AIR CLEANER
Brand Name	:	HYUNDAI
Applicant	:	HYUNDAI Wacor Tec Co., Ltd.
Address	:	684-49, Gongreung-dong, Nowon-gu, Seoul, Korea
Manufacturer	:	HYUNDAI Wacor Tec Co., Ltd.
Address	:	684-49, Gongreung-dong, Nowon-gu, Seoul, Korea
Test Standard(s)	:	EN 55014-1: 2006 EN 55014-2/ A1: 2001 EN 61000-3-2: 2006 EN 61000-3-3/ A2: 2005
Test Result	:	■ **Positive**
Total pages including Attachments	:	76

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REVIEWED
2009. OCT. 01
By Kang-Min Rhee

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Prepared by:	Reviewed by:
Jae Young, Kwon (Test Engineer)	Yo Han, Park (Chief Engineer)
September 28, 2009	September 28, 2009

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Tel : 82-2-858-0786 Fax : 82-2-858-0788

DIRECTORY

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

EMC TEST STANDARD(S)

The emc tests were performed according to the following standards:

■ EMC - Directive 2004/108/EC and its amendments

■ EN 55014-1: 2006

■ - Household appliances and similar
☐ - Portable tools
☐ - Semiconductor devices

■ EN 55014-2/ A1: 2001

☐ - Category - Ⅰ ■ - Category - Ⅱ
☐ - Category - Ⅲ ☐ - Category - Ⅳ

■ IEC 61000-4-2/ A2: 2000
☐ IEC 61000-4-3/ A1: 2007
■ IEC 61000-4-4: 2004
■ IEC 61000-4-5: 2005
■ IEC 61000-4-6/ A1: 2000
■ IEC 61000-4-11: 2004

■ EN 61000-3-2: 2006

■ EN 61000-3-3/ A2: 2005

Note: *For undated references, the latest edition of the publication at the time of testing (including amendments) was applied.*

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ADDRESS OF THE TEST LABORATORY

■ **Seoul EMC Laboratory**

#371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea

☐ **Hwaseong Open Area Test Site**

#499-1, Sagot-ri, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 445-882, Korea

ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

Temperature	:	15 °C - 35 °C
Humidity	:	30 %R.H. - 60 %R.H.
Atmospheric Pressure	:	86 kPa - 106 kPa

POWER SUPPLY SYSTEM UTILIZED

Power supply system ■ AC 220 V – 240 V; 50 Hz; 75 W

Voltage Range Test

Preliminary test has been performed with voltage conditions of from 220 V (50 Hz) to 240 V (50 Hz) at the frequencies of 160 kHz and 50 MHz to determine maximum disturbance voltage condition.
A test at about 160 kHz and at about 50 MHz shall be made over a range of 0.9 to 1.1 times the rated voltage in order to check whether the level of disturbance varies considerably with the supply voltage.
The frequencies of 160 kHz measurement result is maximum disturbance voltage condition.
But the frequencies of 50 MHz measurement result is no maximum disturbance voltage condition .So conducted emissions test condition is AC 240 V, 50 Hz. And discontinuous disturbance emissions test condition is normal AC 240 V, 50 Hz.

SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT)

Number of received / tested samples: **2 / 2**

Serial Number: none

DEFINITIONS FOR SYMBOLS USED IN THIS TEST REPORT

■ The black square indicates that the listed condition, standard or equipment is applicable for this report.

☐ Blank box indicates that the listed condition, standard or equipment was not applicable for this report.

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Conducted Emission (Interference Voltage) Test

Conducted emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz on the 240 V AC power and return leads of the EUT according to the methods defined in EN 55014-1.
The EUT was placed upon 0.4 m from a vertical ground plane which is connected to the horizontal metal ground plane.

☐ **Test not applicable**

■ Test area - shielded room
☐ Anechoic chamber
☐ Full compact chamber

Used test instruments and test accessories please see Attachment B.

Type	Frequency Range (MHz)	Quasi-Peak limit (dBμV)	Average limit (dBμV)
Mains terminals	0.15 to 0.5	66 to 56	59 to 46
	0.5 to 5	56	46
	5 to 30	60	50

■ **Pass** ☐ **Fail**

Minimum limit margin	4.70	dB	at	0.615	MHz
Maximum limit exceeding		dB	at		MHz

Remarks: Please refer to the test data and graph in Attachment A.
This test was applied to two types of front design (refer to general remarks) the worst result were investigated and reported.

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Disturbance Power Emissions Test

Disturbance power emissions form 30 MHz to 300 MHz were measured with a bandwidth of 120 kHz according to the methods defines in EN55014-1.

The EUT was placed on a nonmetallic stand in a shielded room 0.8 m above the ground plane.

☐ **Test not applicable**

■ Test area - compact chamber

Used test instruments and test accessories please see Attachment B.

Type	Frequency Range (MHz)	Quasi-Peak limit (dBpW)	Average limit (dBpW)
Household	30 - 300	45 - 55	35 - 45

■ **Pass** ☐ **Fail**

Minimum limit margin	9.38	dB	at	32.13	MHz
Maximum limit exceeding		dB	at		MHz

Remarks: Please refer to the test data and graph in Attachment A.
This test was applied to two types of front design (refer to general remarks) the worst result were investigated and reported.

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Discontinuous Disturbance Emissions Test

Discontinuous disturbance emissions form 148.5 kHz to 30 MHz were measured with a bandwidth of 9 kHz according to the methods defines in EN55014-1.

☐ **Test not applicable**

■ Test area - shielded room

Used test instruments and test accessories please see Attachment B.

■ **Pass** ☐ **Fail**

Remarks: Please refer to the test data and graph in Attachment A.
This test was applied to two types of front design (refer to general remarks) the worst result were investigated and reported.

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Harmonic Current Emissions and Flicker

Power Frequency Harmonics Tests: The measured values of the harmonics components of the input current, including line current and neutral current, shall be compared with the limits given in EN 61000-3-2.
Flicker Emission Tests: The total impedance of the test circuit, excluding the appliance under test, but including the internal impedance of the supply source, shall be equal to the reference impedance.

☐ **Test not applicable**

■ Test area - ETL Harmonics test room
☐ Anechoic chamber
☐ Full compact chamber

Used test instruments and test accessories please see Attachment B.

■ **Pass** ☐ **Fail**

Remarks: Please refer to the test data and graph in Attachment A.
This test was applied to two types of front design (refer to general remarks) the worst result were investigated and reported.

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Electrostatic Discharge (ESD) Immunity Test

Tests were conducted in accordance with IEC 61000-4-2.
The test programs and software shall be chosen so as to exercise all normal modes of operation of the EUT. The use of special exercising software is encouraged, but permitted only where it can be shown that the EUT is being comprehensively exercised.

☐ **Test not applicable**

■ ETL test room

Used test instruments and test accessories please see Attachment B.

Test specifications:

Discharge Voltage (Air):	■ 2.0 kV	■ 4.0 kV
	■ 6.0 kV	■ 8.0 kV
Discharge Voltage (Contact):	■ 2.0 kV	■ 4.0 kV
Discharge Impedance:	■ 330 Ω / 150 pF	
Discharge Repetition Rate:	■ 1 s	
Number of Discharges:	■ 10 at all locations	
Kind of Discharges:	■ Air discharge	
	■ Contact discharge	
Polarity:	■ Positive	■ Negative
Location of Discharge:	■ See Photograph (ESD Point map)	
	■ Each location on the surface touchable by hand	
	☐ HCP	■ VCP

Required performance criterion: **B**

Test results: **PASS (Met criterion A)**

Remarks: No false or other malfunctions were observed during and after the test.

Please refer to the test point map in next page.

This test was applied to two types of front design (refer to general remarks).

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Test data

Test Point	Discharge Type	Discharge voltage [± kV]	Result
Front design type 1			
VCP	Indirect	2 / 4	Met criterion A
1. Display	Air	2 / 4 / 6 / 8	Met criterion A
2. OSD keypad	Air	2 / 4 / 6 / 8	Met criterion A
3. A chink in case	Air	2 / 4 / 6 / 8	Met criterion A
4. Screw point	Contact	2 / 4	Met criterion A
Front design type 2			
VCP	Indirect	2 / 4	Met criterion A
1. Display	Air	2 / 4 / 6 / 8	Met criterion A
2. OSD keypad	Air	2 / 4 / 6 / 8	Met criterion A
3. A chink in case	Air	2 / 4 / 6 / 8	Met criterion A
4. Screw point	Contact	2 / 4	Met criterion A

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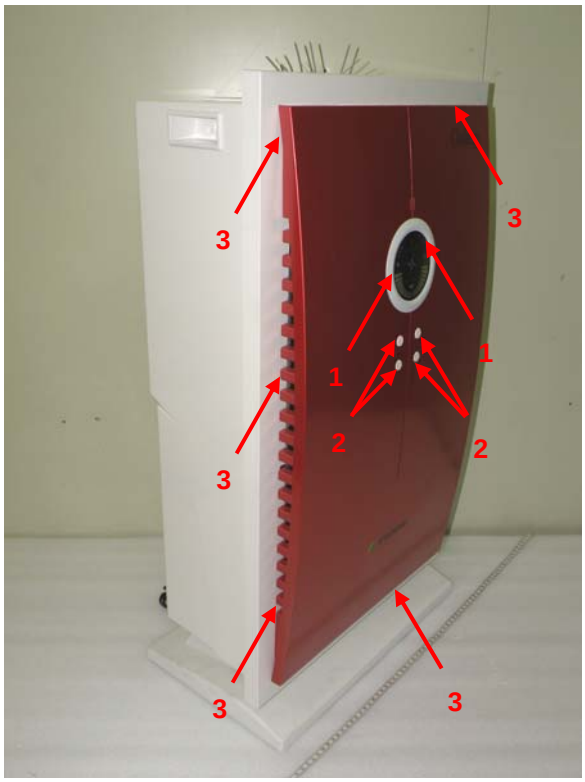
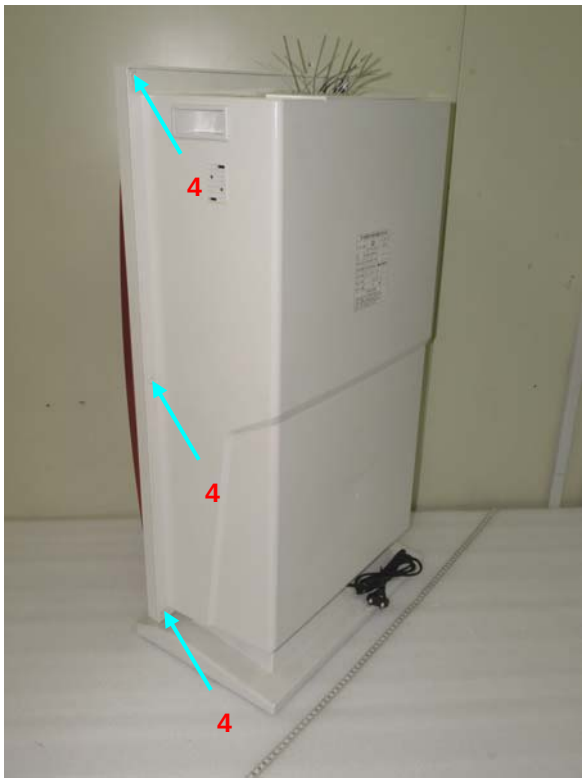
<Front design type 1>

CONTACT ——→ AIR ——→





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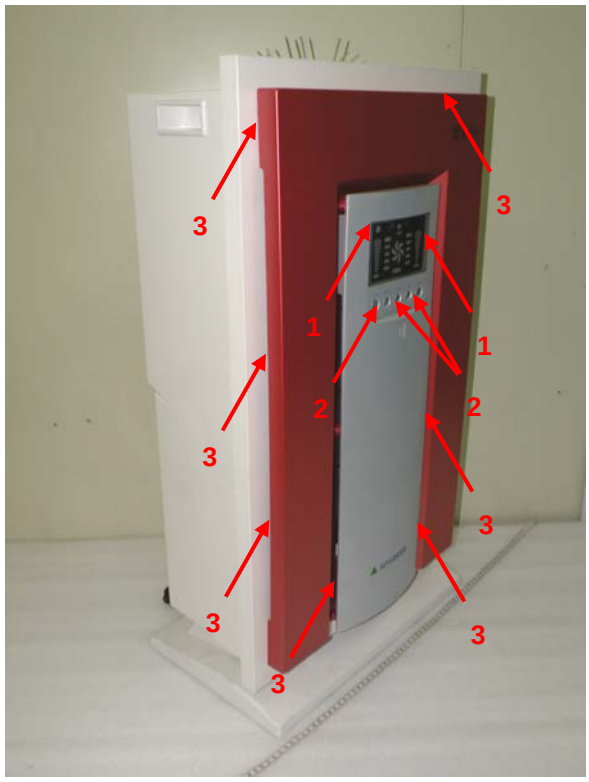
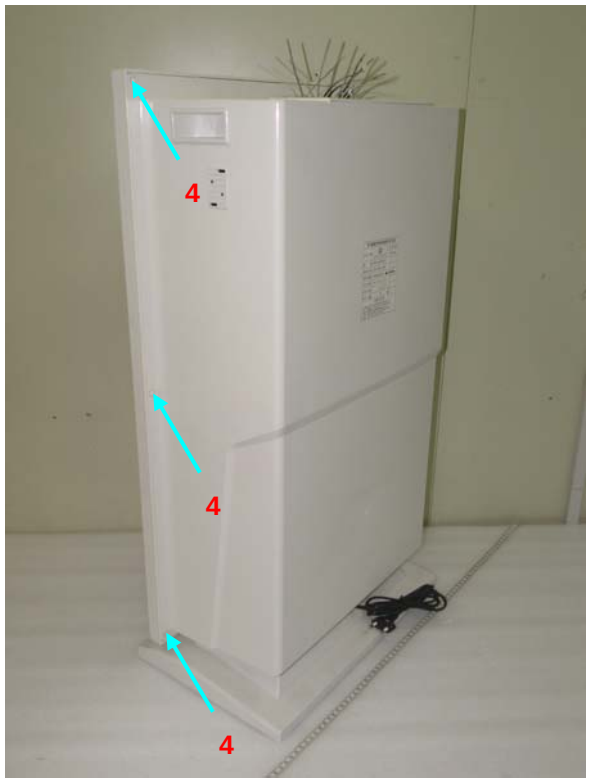
<Front design type 2>

CONTACT ——→ AIR ——→





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EFT/Burst Immunity Test

Tests were conducted in accordance with IEC 61000-4-4.

☐ **Test not applicable**

■ ETL test room

Used test instruments and test accessories please see Attachment B.

Test specifications:

Pulse Amplitude - AC Power Port:	■ 1.0 kV
Pulse Amplitude - DC Power Port:	☐ 0.5 kV
Signal Port:	☐ 0.5 kV
Burst Frequency:	■ 5.0 kHz
Time of Coupling:	■ 120 s
Polarity:	■ Positive ■ Negative

Location of Coupling

	Name of lines	Type	Length	Remarks
■	AC Power line	2-pins	0.5 m	

Required performance criterion: **B**

Test result: **PASS (Met criterion A)**

Test data

Line	Line for test	Test level (± kV)	Coupling Method	Result
AC-mains	L+N	1	CDN	Met criterion A

Remarks: No false or other malfunctions were observed during and after the test.

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Surge Immunity Test

Tests were conducted in accordance with IEC 61000-4-5.

☐ **Test not applicable**

■ ETL test room

Used test instruments and test accessories please see Attachment B.

Test specifications:

Pulse Amplitude - AC Power Port:	■ 1.0 kV	
Pulse Amplitude - DC Power Port:	☐ 0.5 kV	
Signal Port:	☐ 0.5 kV	
Source Impedance:	■ 2 Ω + 18 μF	☐ 12 Ω + 9 μF
	☐ 42 Ω + 0.1 μF	
Number of Surges:	■ 5 surges/angle	
Angle:	■ 0 °	■ 90 °
	■ 180 °	■ 270 °
Repetition Rate:	■ 60 s	
Polarity:	■ Positive	■ Negative

Location of Coupling

	Name of lines	Type	Length	Remarks
■	AC Power line	2-pins	0.5 m	

Required performance criterion: **B**

Test result: **PASS (Met criterion A)**

Test data

Line	Line for test	Test level (± kV)	Coupling Method	Result
AC-mains	L - N	1	CDN	Met criterion A

Remarks: No false or other malfunctions were observed during and after the test.

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Conducted Disturbance Immunity Test

Tests were conducted in accordance with IEC 61000-4-6 over the frequency range of 0.15 MHz to 230 MHz.

☐ **Test not applicable**

■ ETL test room

Used test instruments and test accessories please see Attachment B.

Test specifications:

Frequency Range:	■ 0.15 MHz - 230 MHz
Voltage Level (EMF):	■ 3 V
Modulation:	■ AM 1 kHz at 80 %
	☐ Pulse 1 Hz
Step/Dwell Time:	■ 1 % / 3 s

Location of Coupling

	Name of lines	Type	Length	Remarks
■	AC Power line	2-pins	0.3 m	

Required performance criterion: **A**

Test result: **PASS (Met criterion A)**

Test data

Frequency Range (MHz)	Line for test	Test level (V)	Coupling Method	Result
0.15 – 230	AC-mains	3	CDN	Met criterion A

Remarks: No false or other malfunctions were observed during and after the test.

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Voltage Dips, Interruptions & Variations Immunity Test

Voltage variations tests were conducted in accordance with IEC 61000-4-11.

☐ **Test not applicable**

■ ETL test room

Used test instruments and test accessories please see Attachment B.

Test specifications:

Nominal Mains Voltage (V_{NOM}):	■ 230 Vac	
Level of Reduction (dip):	■ 10 Period at 60 % of V_{NOM}	
	■ 50 Period at 30 % of V_{NOM}	
Duration of Interruption:	■ 0.5 Period at 100 % of V_{NOM}	
Voltage Fluctuation:	☐ V_{NOM} + 10 %	☐ V_{NOM} – 10 %
Required performance criterion:	10 Period at 60 % of V_{NOM}	**C**(Voltage dips)
	50 Period at 30 % of V_{NOM}	**C**(Voltage dips)
	0.5 Period at 100 % of V_{NOM}	**C**(Voltage interruptions)
Test result:	**PASS (Met criterion A)**	

Test data

Test	Test Level (% of V_{NOM})	Period	Result
Voltage dips	60	10	Met criterion A
Voltage dips	30	50	Met criterion A
Voltage interruption	100	0.5	Met criterion A

Remarks: No false or other malfunctions were observed during and after the test.

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Equipment Under Test (EUT) Test Operation Mode:

The equipment under test was operated under the following conditions during emissions testing:

■ Normal operating mode (Air cleaning mode)

Configuration of the equipment under test:

■ See constructional data form in Attachment D - Page D2

☐ See product information form(s) in Attachment D - Page D3

The following devices and interface cables were connected during the testing:

Peripheral devices

	Type	Model	Serial No.	Manufacturer
☐	-	-	-	-

Type of Cables Used

Device from	Device to	Type of Cable(Port)	Length(m)	Type of shield
EUT	Power socket	AC Input	1.2	Unshielded

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GENERAL REMARKS:

The Equipment Under Test (EUT) is the AIR CLEANER (model: HYAP-202).

The model HYAP-202 and HYAP-201 was tested.

The multi model HYAP-201 is identical to basic model HYAP-202, except for model designation and front design.

Model name	HYAP-202	HYAP-201
Front design photo	Front design type 1 	Front design type 2 

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SUMMARY:

All tests according to the regulations cited on page 3 were

■ Performed

☐ **Not** Performed

Criterion description

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

Criterion B : The apparatus shall continue to operate as intended after test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however, no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

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

The Equipment Under Test

■ **Fulfills** the general approval requirements cited on page 3.

☐ **Does not** fulfill the general approval requirements cited on page 3.

Date of receipt of test sample: February 17, 2009

Test start date: July 06, 2009

Test end date: July 10, 2009

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Photograph of test setup: Conducted emissions 150 kHz - 30 MHz

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Photograph of test setup: Disturbance Power

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Photograph of test setup: Discontinuous Disturbance

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Photograph of test setup: Harmonic current/ flicker

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Photograph of test setup: Electrostatic discharge (ESD)

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Photograph of test setup: Fast transients (EFT/Burst)

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Photograph of test setup: Surge

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Photograph of test setup: Conducted disturbance

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Photograph of test setup: Voltage dips, interruptions & Variations

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Attachment A

Test Data

and

Test Setup Drawing(s)

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Conducted Emissions Measurement

EUT	AIR CLEANER / HYAP-202 (S/N: N/A)
Limit apply to	EN 55014-1
Test Date	July 06, 2009
Operating Condition	Air cleaning mode
Operating Spec.	240 V, 50 Hz
Front design type	Front design type 1
Result	Passed by 4.70 dB

Conducted Emission Test Data

The following table shows the highest levels of conducted emissions on both polarizations of hot and neutral line.
Detector mode: CISPR Quasi – Peak mode (6dB Bandwidth: 9 kHz)

Frequency [MHz]	Result [dBμV]		Phase (*H/**N)	Limit [dBμV]		Margin [dB]	
	Quasi-peak	Average		Quasi-peak	Average	Quasi-peak	Average
0.269	49.50	34.40	H	61.20	52.70	11.70	18.30
0.430	37.30	28.00	N	57.30	47.60	20.00	19.60
0.483	37.10	28.50	N	56.30	46.40	19.20	17.90
0.615	51.30	28.70	N	56.00	46.00	4.70	17.30
0.621	51.00	28.80	N	56.00	46.00	5.00	17.20
0.667	44.10	27.40	N	56.00	46.00	11.90	18.60
0.986	35.60	30.30	N	56.00	46.00	20.40	15.70
1.111	38.70	31.90	N	56.00	46.00	17.30	14.10
24.069	41.90	41.10	H	60.00	50.00	18.10	8.90

NOTES:

1. *** H : HOT Line , **N : Neutral Line**
2. **Margin value = Limit – Result**
3. **All conditions were investigated and the worst-case emissions are reported.**
4. **If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.**

Jae Young, Kwon
Test Engineer

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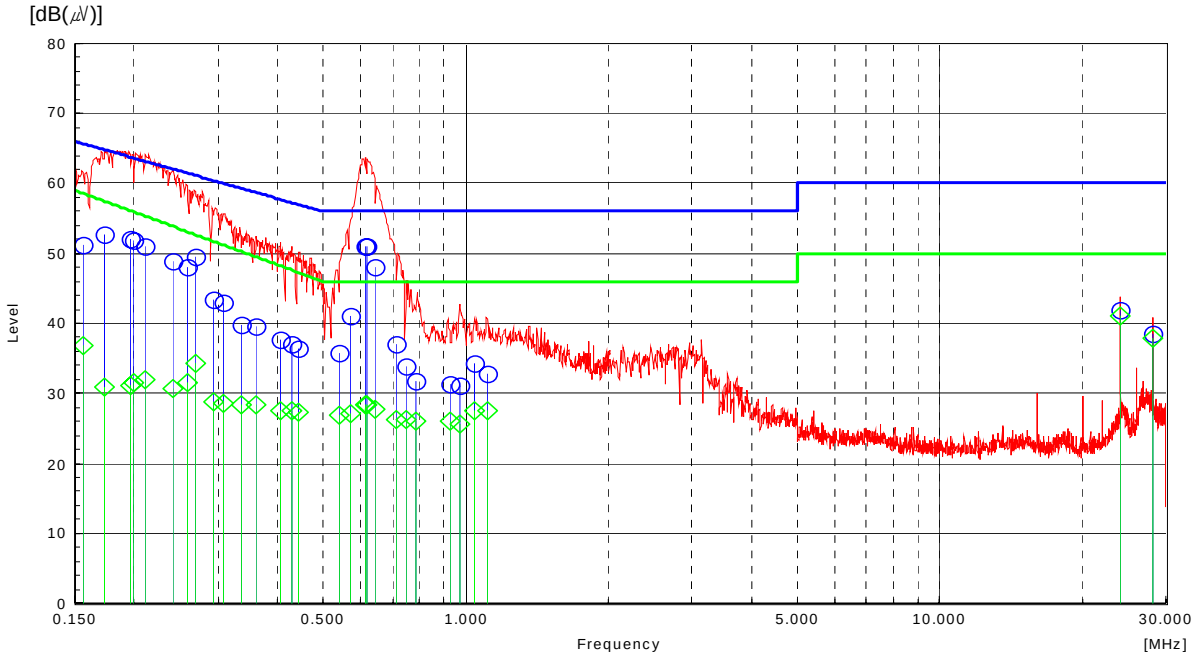
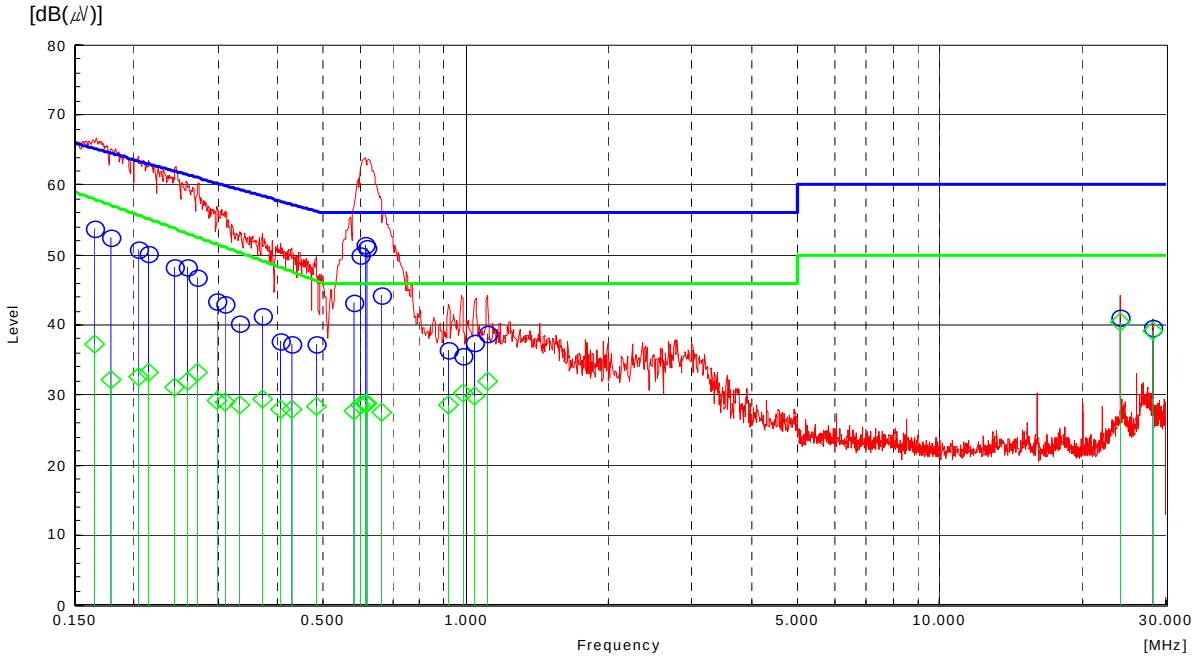
Conducted Emission

Limit : Quasi-peak
Average

Line : Hot



Line : Neutral



Quasi-peak Average

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EUT	AIR CLEANER / HYAP-201 (S/N: N/A)
Limit apply to	EN 55014-1
Test Date	July 06, 2009
Operating Condition	Air cleaning mode
Operating Spec.	240 V, 50 Hz
Front design type	Front design type 2
Result	Passed by 4.80 dB

Conducted Emission Test Data

The following table shows the highest levels of conducted emissions on both polarizations of hot and neutral line.
Detector mode: CISPR Quasi – Peak mode (6dB Bandwidth: 9 kHz)

Frequency [MHz]	Result [dBμV]		Phase (*H/**N)	Limit [dBμV]		Margin [dB]	
	Quasi-peak	Average		Quasi-peak	Average	Quasi-peak	Average
0.451	36.40	27.40	H	56.90	47.10	20.50	19.70
0.487	35.70	28.80	H	56.20	46.30	20.50	17.50
0.592	47.10	28.20	N	56.00	46.00	8.90	17.80
0.617	51.20	28.70	N	56.00	46.00	4.80	17.30
0.642	48.20	27.90	N	56.00	46.00	7.80	18.10
0.979	37.70	31.60	N	56.00	46.00	18.30	14.40
1.111	37.80	30.70	N	56.00	46.00	18.20	15.30
24.067	42.50	41.80	N	60.00	50.00	17.50	8.20

NOTES:

1. *** H : HOT Line , **N : Neutral Line**
2. **Margin value = Limit – Result**
3. **All conditions were investigated and the worst-case emissions are reported.**
4. **If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.**

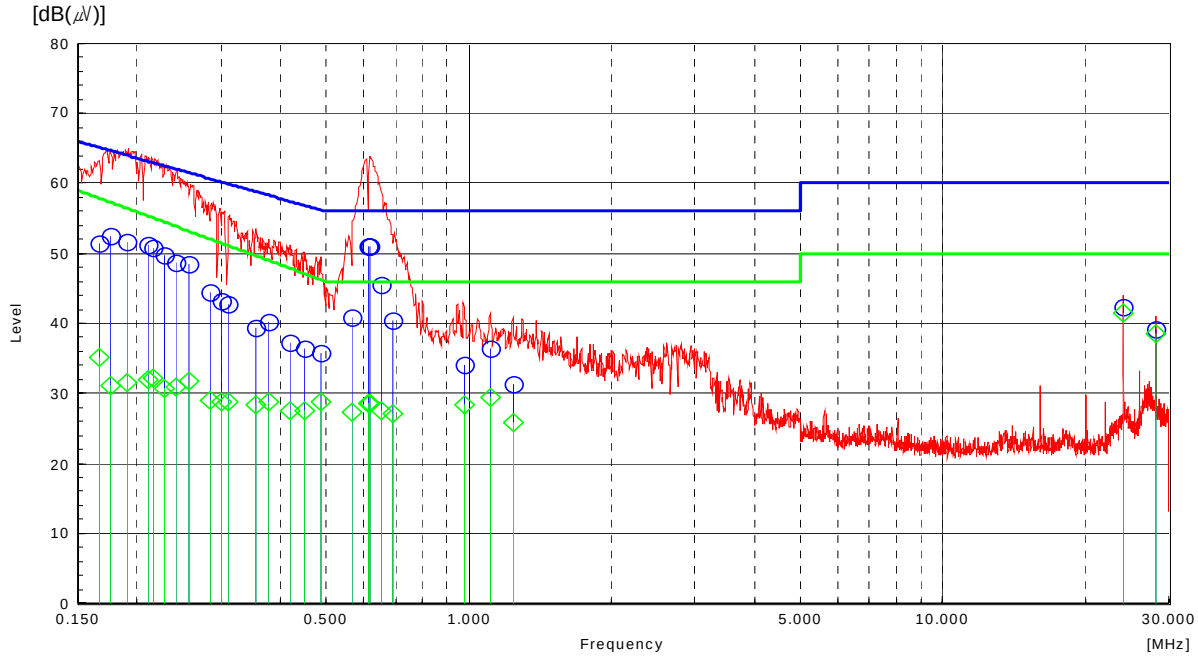
Jae Young, Kwon
Test Engineer

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

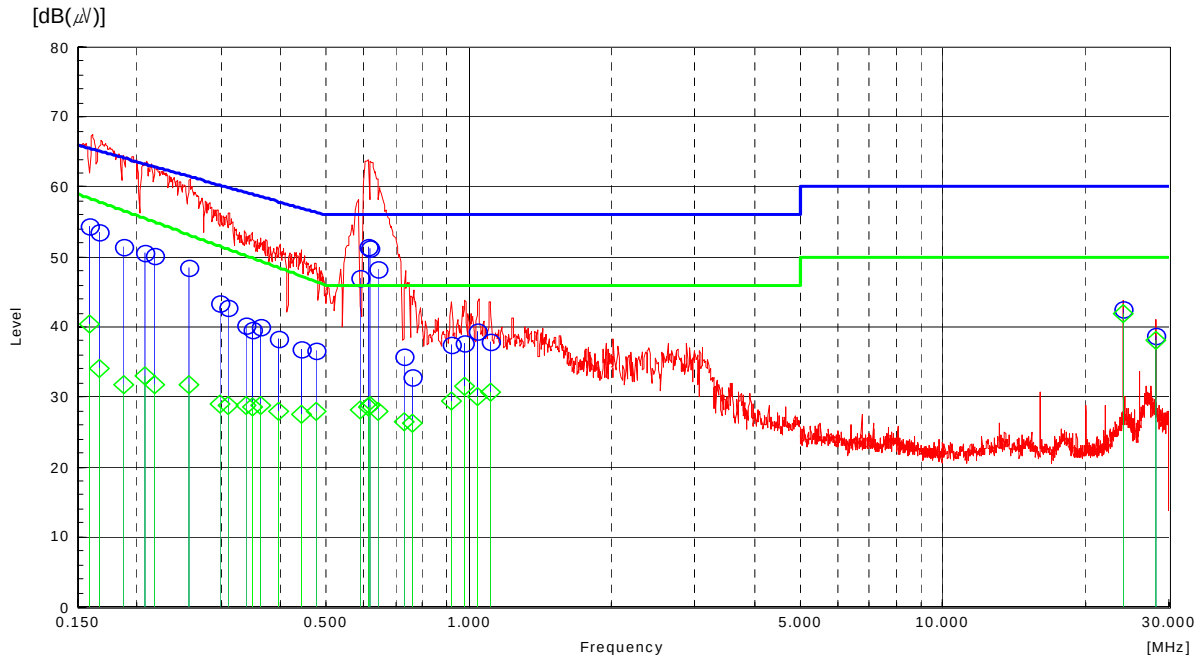
Conducted Emission

Limit : Quasi-peak
Average

Line : Hot



Line : Neutral



Quasi-peak Average

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Disturbance Power Measurement

EUT	AIR CLEANER / HYAP-202 (S/N: N/A)
Limit apply to	EN 55014-1
Test Date	July 10, 2009
Operating Condition	Air cleaning mode
Operating Spec.	240 V, 50 Hz
Front design type	Front design type 1
Result	Passed by 9.38 dB

Disturbance Power Test Data

Frequency [MHz]	Result [dBpW]		Limit [dBpW]		Margin [dB]	
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
32.13	29.69	25.69	45.07	35.07	15.38	9.38
40.15	25.71	19.75	45.37	35.37	19.66	15.62
48.18	24.15	17.40	45.67	35.67	21.52	18.27

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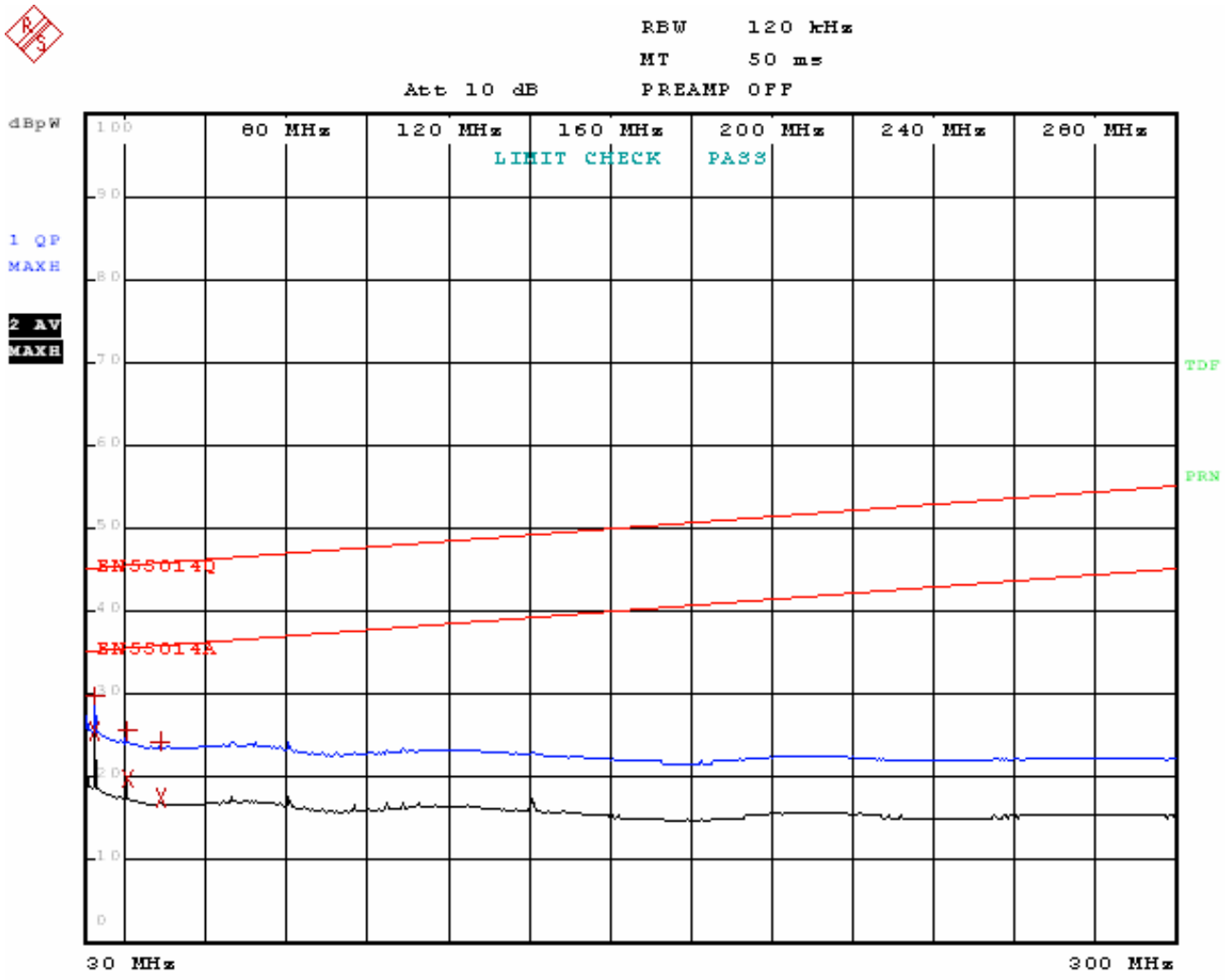

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EUT	AIR CLEANER / HYAP-201 (S/N: N/A)
Limit apply to	EN 55014-1
Test Date	July 10, 2009
Operating Condition	Air cleaning mode
Operating Spec.	240 V, 50 Hz
Front design type	Front design type 2
Result	Passed by 9.42 dB

Disturbance Power Test Data

Frequency [MHz]	Result [dBpW]		Limit [dBpW]		Margin [dB]	
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
32.14	29.62	25.65	45.07	35.07	15.45	9.42
40.16	25.73	19.69	45.36	35.36	19.63	15.67
48.18	24.21	17.55	45.66	35.66	21.45	18.11

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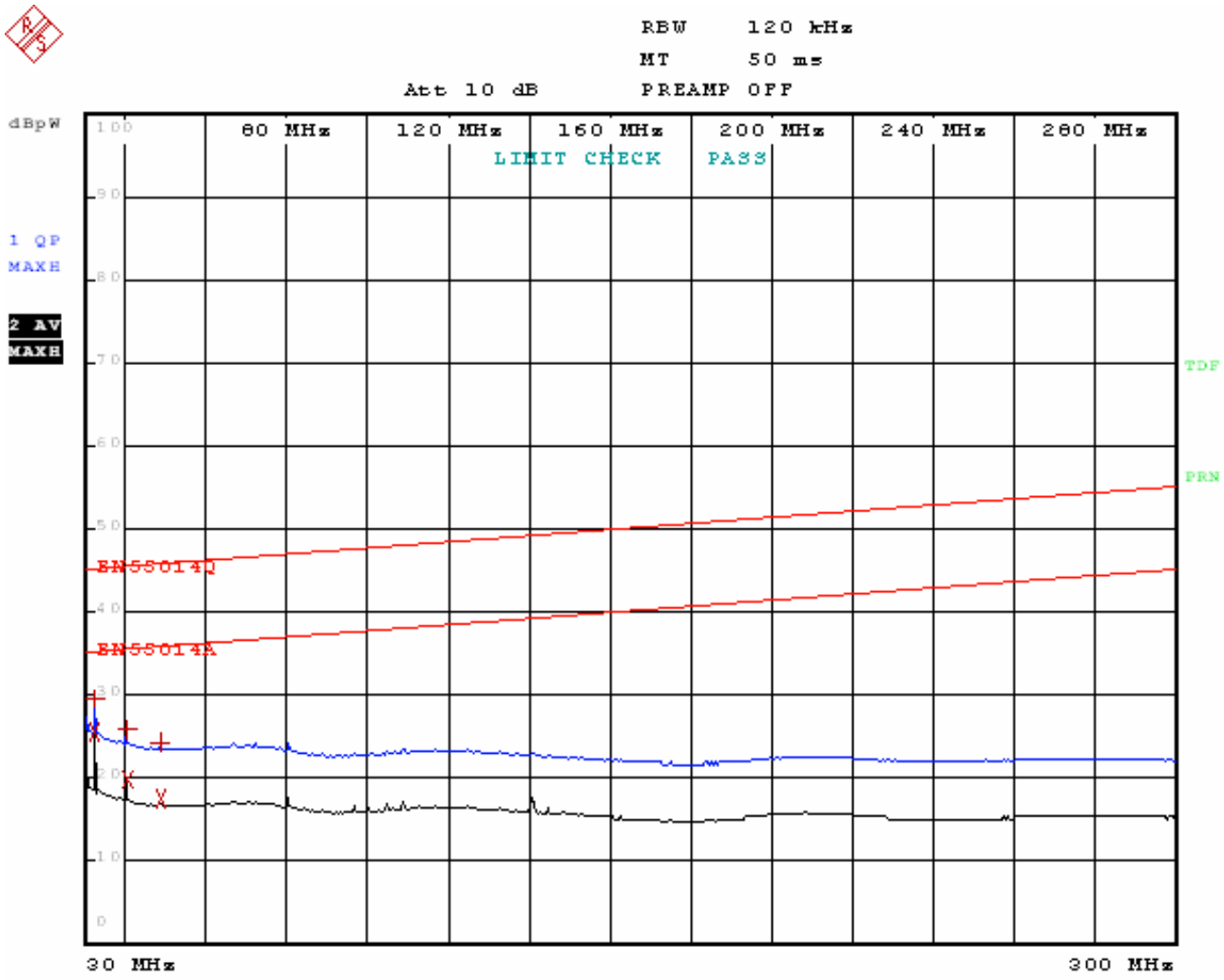

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Discontinuous Disturbance Measurement

EUT	AIR CLEANER / HYAP-202 (S/N: N/A)
Test Date	July 06, 2009
Operating Condition	Air cleaning mode
Operating Spec.	240 V, 50 Hz
Front design type	Front design type 1
Result	Passed

Phase : Hot(dB㎶)

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0

Lc = 20 log (30/N) =
N = Click / min
Click = 10 ms < C time < 200 ms
(Industry machine + 10 dB)
Measurement Relay Time; 5 min

N < 0.2	**(5min)**	**+ 44 dB**
0.2 < N < 30		**+ Lc**
N > 30	**(2sec)**	**+ 0 dB**

Click Frequency	150 kHz	500 kHz	1.4 MHz	30 MHz
Contin.Limit L st	66	56	56	60
Click Rate	0	0	0	0
Click level Lc	44	44	44	44
L = Lc + Lst	110	100	100	104
Number of Click	0	0	0	0
Numer over limit	0	0	0	0
Passed	PASS	PASS	PASS	PASS

REMARKS:

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Phase : Neutral(dB㎶)

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0

Lc = 20log (30/N) =
N = Click / min
Click = 10ms < C time < 200ms
(Industry machine + 10㏈)
Measurement Relay Time; 5 min

N < 0.2 (5min) + 44㏈
0.2 < N < 30 + Lc
N > 30 (2sec) + 0㏈

Click Frequency	150 kHz	500 kHz	1.4 MHz	30 MHz
Contin.Limit L st	66	56	56	60
Click Rate	0	0	0	0
Click level Lc	44	44	44	44
L = Lc + Lst	110	100	100	104
Number of Click	0	0	0	0
Numer over limit	0	0	0	0
Passed	PASS	PASS	PASS	PASS

REMARKS:

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EUT	AIR CLEANER / HYAP-201 (S/N: N/A)
Test Date	July 06, 2009
Operating Condition	Air cleaning mode
Operating Spec.	240 V, 50 Hz
Front design type	Front design type 2
Result	Passed

Phase : Hot(dB㎶)

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0

Lc = 20 log (30/N) =
N = Click / min
Click = 10 ms < C time < 200 ms
(Industry machine + 10 dB)
Measurement Relay Time; 5 min

N < 0.2	**(5min)**	**+ 44 dB**
0.2 < N < 30		**+ Lc**
N > 30	**(2sec)**	**+ 0 dB**

Click Frequency	150 kHz	500 kHz	1.4 MHz	30 MHz
Contin.Limit L st	66	56	56	60
Click Rate	0	0	0	0
Click level Lc	44	44	44	44
L = Lc + Lst	110	100	100	104
Number of Click	0	0	0	0
Numer over limit	0	0	0	0
Passed	PASS	PASS	PASS	PASS

REMARKS:

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Phase : Neutral(dB㎶)

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0

Click	150 kHz	500 kHz	1.4 MHz	30 MHz
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0

Lc = 20log (30/N) =
N = Click / min
Click = 10ms < C time < 200ms
(Industry machine + 10㏈)
Measurement Relay Time; 5 min

N < 0.2 (5min) + 44㏈
0.2 < N < 30 + Lc
N > 30 (2sec) + 0㏈

Click Frequency	150 kHz	500 kHz	1.4 MHz	30 MHz
Contin.Limit L st	66	56	56	60
Click Rate	0	0	0	0
Click level Lc	44	44	44	44
L = Lc + Lst	110	100	100	104
Number of Click	0	0	0	0
Numer over limit	0	0	0	0
Passed	PASS	PASS	PASS	PASS

REMARKS:

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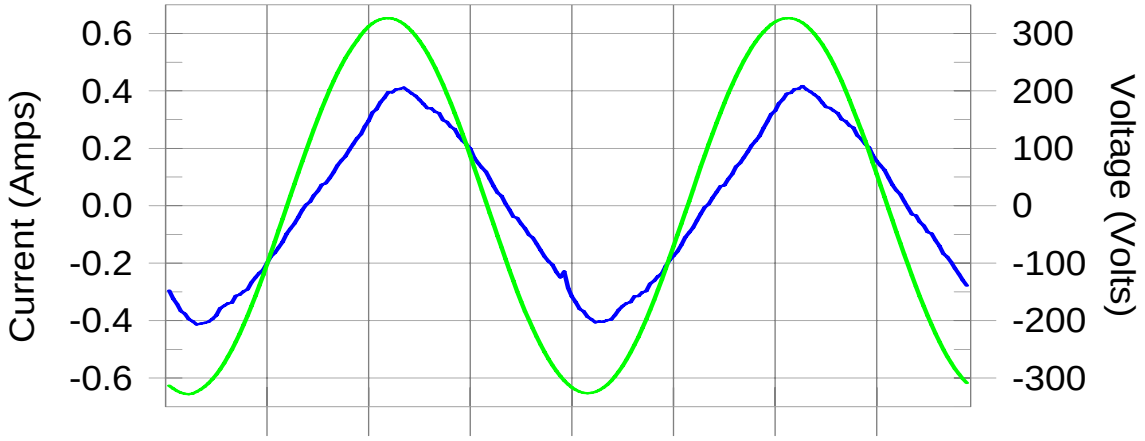
Harmonics – Class-A

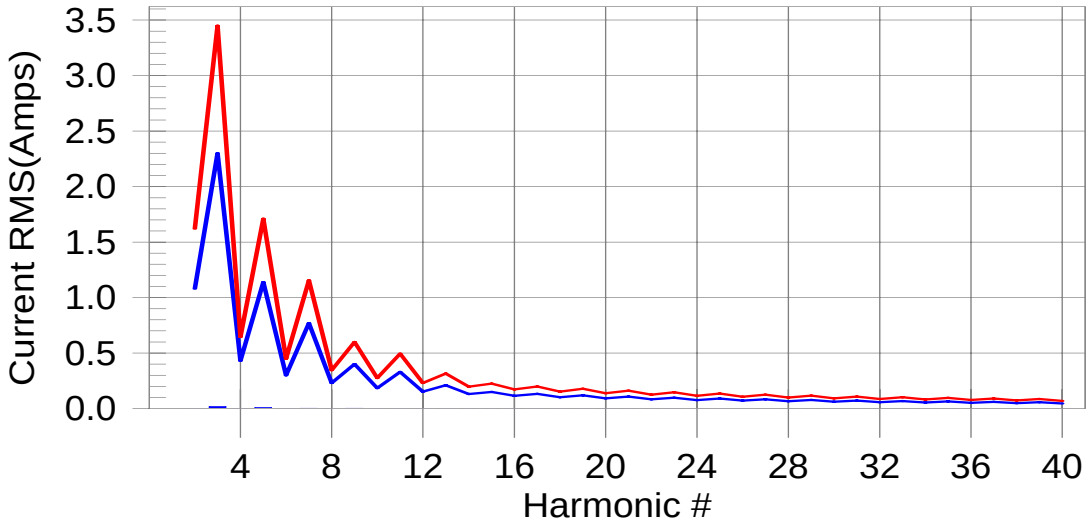
EUT: HYAP-202 **Tested by: Jae Young, Kwon**
Test category: Class-A **Test Margin: 100**
Test date: 2009-07-07 **Start time: 11:15:54** **End time: 11:26:15**
Test duration (min): 10 **Data file name: H-000500.cts_data**
Comment: Front design type 1
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass Worst harmonic was #5 with 0.86% of the limit.

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Current Test Result Summary

EUT: HYAP-202 **Tested by: Jae Young, Kwon**
Test category: Class-A **Test Margin: 100**
Test date: 2009-07-07 **Start time: 11:15:54** **End time: 11:26:15**
Test duration (min): 10 **Data file name: H-000500.cts_data**
Comment: Front design type 1
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Source qualification: Normal**
THC(A): 0.02 **I-THD(%): 7.91** **POHC(A): 0.000** **POHC Limit(A): 0.320**
Highest parameter values during test:

V_RMS (Volts):	231.14	Frequency(Hz):	50.00
I_Peak (Amps):	0.457	I_RMS (Amps):	0.269
I_Fund (Amps):	0.266	Crest Factor:	1.742
Power (Watts):	58.6	Power Factor:	0.951

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.000	1.080	0.0	0.002	1.620	0.11	Pass
3	0.018	2.300	0.8	0.018	3.450	0.53	Pass
4	0.000	0.430	0.0	0.001	0.645	0.14	Pass
5	0.010	1.140	0.9	0.010	1.710	0.58	Pass
6	0.000	0.300	0.0	0.001	0.450	0.13	Pass
7	0.000	0.770	0.0	0.003	1.155	0.23	Pass
8	0.000	0.230	0.0	0.000	0.345	0.13	Pass
9	0.000	0.400	0.0	0.002	0.600	0.36	Pass
10	0.000	0.184	0.0	0.000	0.276	0.16	Pass
11	0.000	0.330	0.0	0.001	0.495	0.24	Pass
12	0.000	0.153	0.0	0.001	0.230	0.22	Pass
13	0.000	0.210	0.0	0.001	0.315	0.39	Pass
14	0.000	0.131	0.0	0.000	0.197	0.19	Pass
15	0.000	0.150	0.0	0.000	0.225	0.17	Pass
16	0.000	0.115	0.0	0.000	0.173	0.20	Pass
17	0.000	0.132	0.0	0.001	0.199	0.36	Pass
18	0.000	0.102	0.0	0.000	0.153	0.25	Pass
19	0.000	0.118	0.0	0.000	0.178	0.26	Pass
20	0.000	0.092	0.0	0.000	0.138	0.25	Pass
21	0.000	0.107	0.0	0.001	0.161	0.34	Pass
22	0.000	0.084	0.0	0.000	0.125	0.26	Pass
23	0.000	0.098	0.0	0.000	0.147	0.32	Pass
24	0.000	0.077	0.0	0.000	0.115	0.31	Pass
25	0.000	0.090	0.0	0.001	0.135	0.38	Pass
26	0.000	0.071	0.0	0.000	0.106	0.30	Pass
27	0.000	0.083	0.0	0.000	0.125	0.31	Pass
28	0.000	0.066	0.0	0.000	0.099	0.32	Pass
29	0.000	0.078	0.0	0.000	0.116	0.38	Pass
30	0.000	0.061	0.0	0.000	0.092	0.38	Pass
31	0.000	0.073	0.0	0.000	0.109	0.32	Pass
32	0.000	0.058	0.0	0.000	0.086	0.37	Pass
33	0.000	0.068	0.0	0.000	0.102	0.35	Pass
34	0.000	0.054	0.0	0.000	0.081	0.37	Pass
35	0.000	0.064	0.0	0.000	0.096	0.35	Pass
36	0.000	0.051	0.0	0.000	0.077	0.43	Pass
37	0.000	0.061	0.0	0.000	0.091	0.36	Pass
38	0.000	0.048	0.0	0.000	0.073	0.42	Pass
39	0.000	0.058	0.0	0.000	0.087	0.36	Pass
40	0.000	0.046	0.0	0.000	0.069	0.39	Pass

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Voltage Source Verification Data

EUT: HYAP-202 **Tested by: Jae Young, Kwon**
Test category: Class-A **Test Margin: 100**
Test date: 2009-07-07 **Start time: 11:15:54** **End time: 11:26:15**
Test duration (min): 10 **Data file name: H-000500.cts_data**
Comment: Front design type 1
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Source qualification: Normal**

Highest parameter values during test:

Voltage (Vrms):	**231.14**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.457**	**I_RMS (Amps):**	**0.269**
I_Fund (Amps):	**0.266**	**Crest Factor:**	**1.742**
Power (Watts):	**58.6**	**Power Factor:**	**0.951**

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.077	0.462	16.58	OK
3	0.529	2.080	25.43	OK
4	0.053	0.462	11.50	OK
5	0.030	0.924	3.22	OK
6	0.020	0.462	4.41	OK
7	0.019	0.693	2.67	OK
8	0.025	0.462	5.39	OK
9	0.025	0.462	5.43	OK
10	0.017	0.462	3.77	OK
11	0.017	0.231	7.41	OK
12	0.126	0.231	54.37	OK
13	0.018	0.231	7.79	OK
14	0.014	0.231	5.96	OK
15	0.010	0.231	4.44	OK
16	0.019	0.231	8.10	OK
17	0.014	0.231	5.98	OK
18	0.019	0.231	8.24	OK
19	0.009	0.231	3.94	OK
20	0.022	0.231	9.71	OK
21	0.008	0.231	3.48	OK
22	0.009	0.231	4.06	OK
23	0.008	0.231	3.56	OK
24	0.035	0.231	15.00	OK
25	0.009	0.231	3.78	OK
26	0.009	0.231	4.03	OK
27	0.005	0.231	2.29	OK
28	0.009	0.231	3.89	OK
29	0.006	0.231	2.76	OK
30	0.007	0.231	3.06	OK
31	0.005	0.231	2.04	OK
32	0.007	0.231	2.89	OK
33	0.005	0.231	2.01	OK
34	0.003	0.231	1.50	OK
35	0.004	0.231	1.67	OK
36	0.013	0.231	5.82	OK
37	0.005	0.231	2.08	OK
38	0.003	0.231	1.30	OK
39	0.003	0.231	1.31	OK
40	0.018	0.231	7.70	OK

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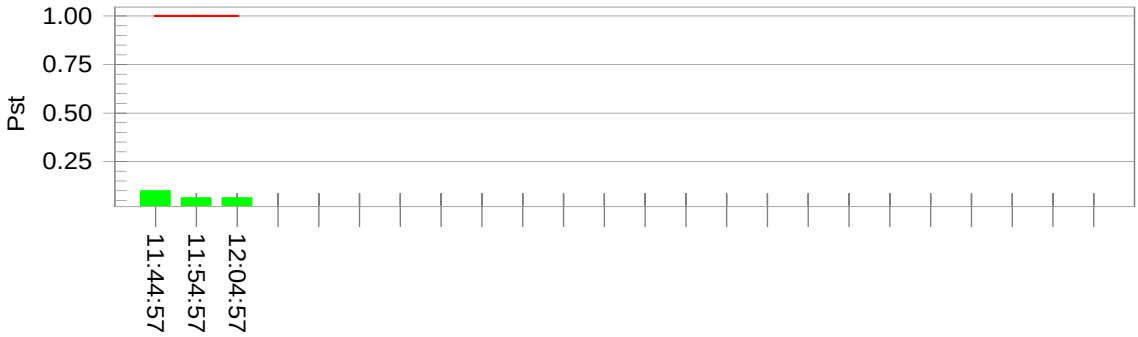
Flicker Test Summary

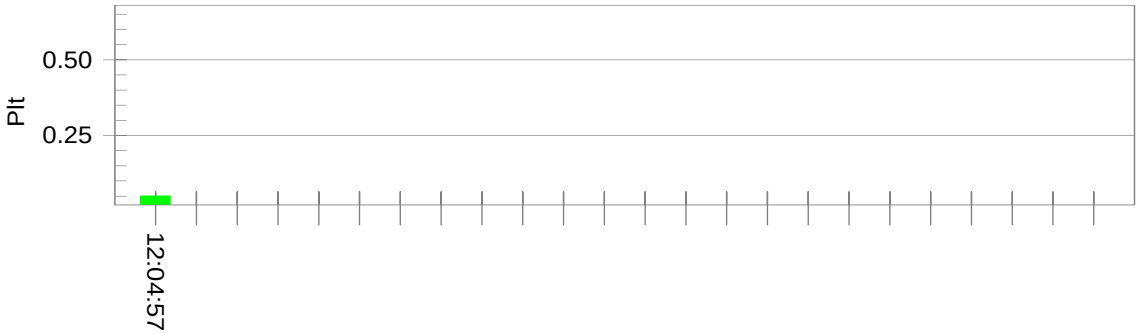
EUT: HYAP-202 **Tested by: Jae Young, Kwon**
Test category: All parameters **Test Margin: 100**
Test date: 2009-07-07 **Start time: 11:34:37** **End time: 12:04:57**
Test duration (min): 30 **Data file name: F-000502.cts_data**
Comment: Front design type 1
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**230.95**			
Highest dt (%):	**0.32**	**Test limit (%):**	**3.30**	**Pass**
Time(mS) > dt:	**0.0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.36**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.101**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.051**	**Test limit:**	**0.650**	**Pass**

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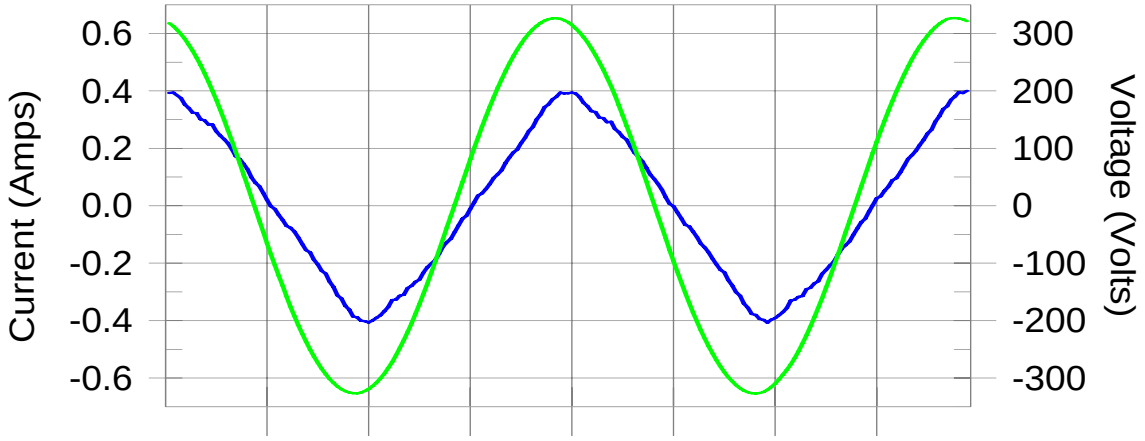
Harmonics – Class-A

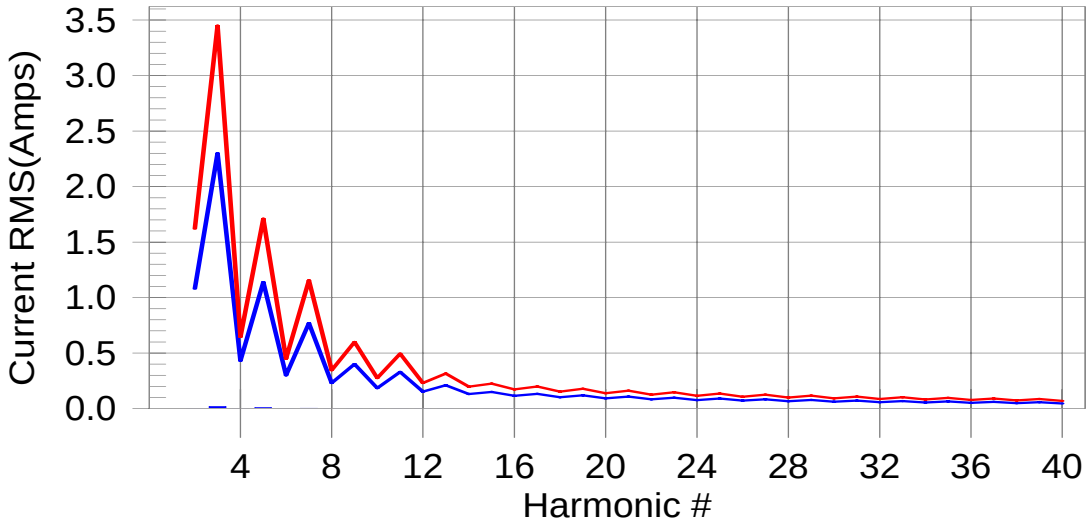
EUT: HYAP-201 **Tested by: Jae Young, Kwon**
Test category: Class-A **Test Margin: 100**
Test date: 2009-07-07 **Start time: 14:45:14** **End time: 14:55:34**
Test duration (min): 10 **Data file name: H-000504.cts_data**
Comment: Front design type 2
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass Worst harmonic was #5 with 0.81% of the limit.

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Current Test Result Summary

EUT: HYAP-201 **Tested by: Jae Young, Kwon**
Test category: Class-A **Test Margin: 100**
Test date: 2009-07-07 **Start time: 14:45:14** **End time: 14:55:34**
Test duration (min): 10 **Data file name: H-000504.cts_data**
Comment: Front design type 2
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Source qualification: Normal**
THC(A): 0.02 **I-THD(%): 8.04** **POHC(A): 0.000** **POHC Limit(A): 0.320**
Highest parameter values during test:

V_RMS (Volts):	231.10	Frequency(Hz):	50.00
I_Peak (Amps):	0.414	I_RMS (Amps):	0.255
I_Fund (Amps):	0.253	Crest Factor:	1.628
Power (Watts):	56.3	Power Factor:	0.956

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.000	1.080	0.0	0.001	1.620	0.09	Pass
3	0.018	2.300	0.8	0.018	3.450	0.53	Pass
4	0.000	0.430	0.0	0.001	0.645	0.13	Pass
5	0.009	1.140	0.8	0.009	1.710	0.54	Pass
6	0.000	0.300	0.0	0.000	0.450	0.11	Pass
7	0.000	0.770	0.0	0.003	1.155	0.24	Pass
8	0.000	0.230	0.0	0.000	0.345	0.09	Pass
9	0.000	0.400	0.0	0.002	0.600	0.31	Pass
10	0.000	0.184	0.0	0.000	0.276	0.10	Pass
11	0.000	0.330	0.0	0.001	0.495	0.25	Pass
12	0.000	0.153	0.0	0.000	0.230	0.17	Pass
13	0.000	0.210	0.0	0.001	0.315	0.35	Pass
14	0.000	0.131	0.0	0.000	0.197	0.11	Pass
15	0.000	0.150	0.0	0.000	0.225	0.12	Pass
16	0.000	0.115	0.0	0.000	0.173	0.10	Pass
17	0.000	0.132	0.0	0.001	0.199	0.27	Pass
18	0.000	0.102	0.0	0.000	0.153	0.16	Pass
19	0.000	0.118	0.0	0.000	0.178	0.17	Pass
20	0.000	0.092	0.0	0.000	0.138	0.14	Pass
21	0.000	0.107	0.0	0.000	0.161	0.24	Pass
22	0.000	0.084	0.0	0.000	0.125	0.12	Pass
23	0.000	0.098	0.0	0.000	0.147	0.21	Pass
24	0.000	0.077	0.0	0.000	0.115	0.17	Pass
25	0.000	0.090	0.0	0.000	0.135	0.25	Pass
26	0.000	0.071	0.0	0.000	0.106	0.16	Pass
27	0.000	0.083	0.0	0.000	0.125	0.23	Pass
28	0.000	0.066	0.0	0.000	0.099	0.13	Pass
29	0.000	0.078	0.0	0.000	0.116	0.27	Pass
30	0.000	0.061	0.0	0.000	0.092	0.21	Pass
31	0.000	0.073	0.0	0.000	0.109	0.22	Pass
32	0.000	0.058	0.0	0.000	0.086	0.22	Pass
33	0.000	0.068	0.0	0.000	0.102	0.19	Pass
34	0.000	0.054	0.0	0.000	0.081	0.16	Pass
35	0.000	0.064	0.0	0.000	0.096	0.18	Pass
36	0.000	0.051	0.0	0.000	0.077	0.22	Pass
37	0.000	0.061	0.0	0.000	0.091	0.19	Pass
38	0.000	0.048	0.0	0.000	0.073	0.24	Pass
39	0.000	0.058	0.0	0.000	0.087	0.21	Pass
40	0.000	0.046	0.0	0.000	0.069	0.24	Pass

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Voltage Source Verification Data

EUT: HYAP-201 **Tested by: Jae Young, Kwon**
Test category: Class-A **Test Margin: 100**
Test date: 2009-07-07 **Start time: 14:45:14** **End time: 14:55:34**
Test duration (min): 10 **Data file name: H-000504.cts_data**
Comment: Front design type 2
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Source qualification: Normal**

Highest parameter values during test:

Voltage (Vrms):	**231.10**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.414**	**I_RMS (Amps):**	**0.255**
I_Fund (Amps):	**0.253**	**Crest Factor:**	**1.628**
Power (Watts):	**56.3**	**Power Factor:**	**0.956**

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.074	0.462	16.09	OK
3	0.531	2.080	25.52	OK
4	0.034	0.462	7.25	OK
5	0.028	0.924	2.98	OK
6	0.021	0.462	4.55	OK
7	0.017	0.693	2.46	OK
8	0.022	0.462	4.84	OK
9	0.025	0.462	5.45	OK
10	0.017	0.462	3.63	OK
11	0.015	0.231	6.61	OK
12	0.105	0.231	45.23	OK
13	0.015	0.231	6.66	OK
14	0.013	0.231	5.78	OK
15	0.010	0.231	4.48	OK
16	0.018	0.231	7.91	OK
17	0.018	0.231	7.84	OK
18	0.019	0.231	8.09	OK
19	0.009	0.231	3.87	OK
20	0.022	0.231	9.55	OK
21	0.008	0.231	3.53	OK
22	0.009	0.231	3.80	OK
23	0.008	0.231	3.27	OK
24	0.026	0.231	11.34	OK
25	0.008	0.231	3.42	OK
26	0.009	0.231	3.90	OK
27	0.005	0.231	2.25	OK
28	0.007	0.231	3.20	OK
29	0.007	0.231	2.95	OK
30	0.007	0.231	3.24	OK
31	0.004	0.231	1.92	OK
32	0.006	0.231	2.45	OK
33	0.004	0.231	1.94	OK
34	0.003	0.231	1.27	OK
35	0.004	0.231	1.68	OK
36	0.012	0.231	5.13	OK
37	0.004	0.231	1.93	OK
38	0.003	0.231	1.23	OK
39	0.003	0.231	1.17	OK
40	0.017	0.231	7.15	OK

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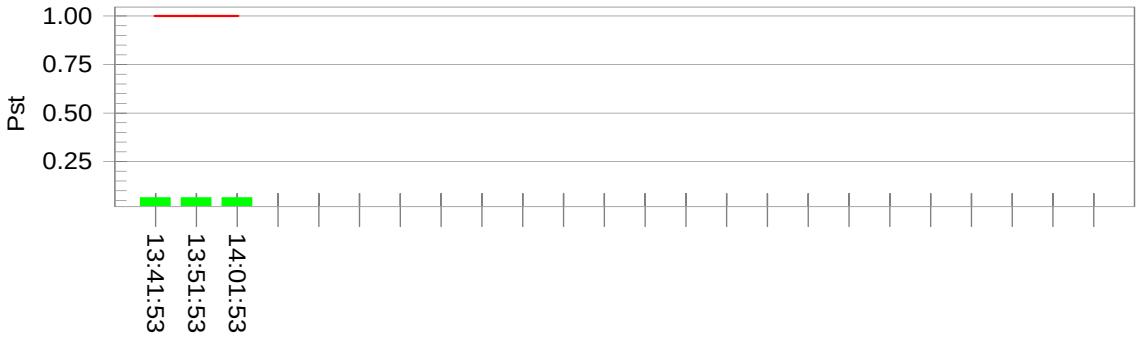
Flicker Test Summary

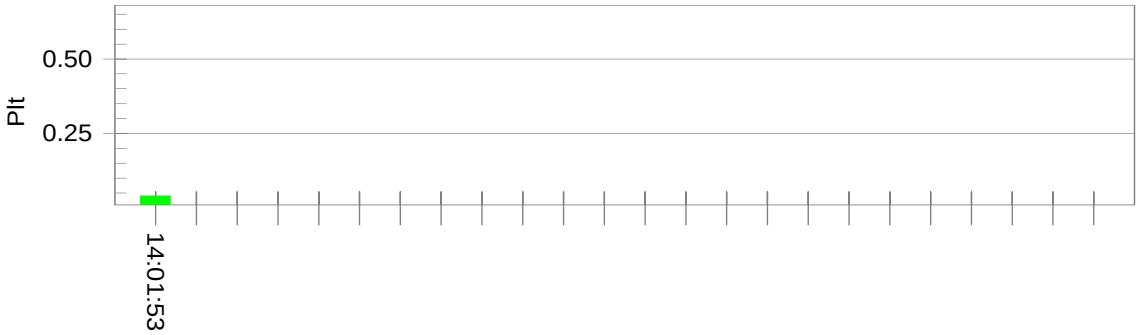
EUT: HYAP-201 **Tested by: Jae Young, Kwon**
Test category: All parameters **Test Margin: 100**
Test date: 2009-07-07 **Start time: 13:31:33** **End time: 14:01:53**
Test duration (min): 30 **Data file name: F-000503.cts_data**
Comment: Front design type 2
Customer: HYUNDAI Wacor Tec Co., Ltd.

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**230.94**			
Highest dt (%):	**0.22**	**Test limit (%):**	**3.30**	**Pass**
Time(mS) > dt:	**0.0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**-0.17**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.064**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.040**	**Test limit:**	**0.650**	**Pass**

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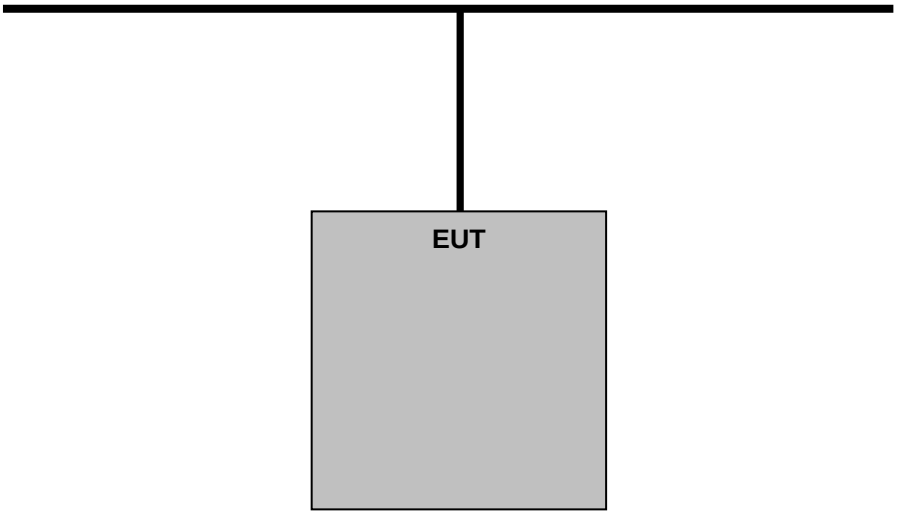
The setup drawing(s)



: Data Line

: Power Line

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Attachment B

List of Test Equipment

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

EMC Test Equipments

	Description	Model Number	Manufacturer	Serial Number	Cal Due Date
■	EMI TEST Receiver	ESPI3	R & S	100478	09.10.02
■	LISN	3825/2	EMCO	9208-1995	09.10.01
■	Absorbing Clamp	MDS-21	R & S	831676/013	10.03.30
■	Filcker Meter	CCN1000-1LR1	Schaffner	X71836	N/A
■	AC Power Source	ProfLine 2105-400	Schaffner	HK53887	09.10.02
■	Electrostatic Discharge Simulator & ESD Gun	ESS-2002 & TC-815R	NOISEKEN	ESS0827924 & SS0827983	09.10.04
■	EMC Generator	BEST EMC	SCHAFFNER	200021-003SC	10.04.02
■	Signal Generator	2025	IFR	202301/933	10.04.02
■	Amplifier	AR75A250	Amplifier Research	27568	N/A
■	RF Power Meter	4232A	Boonton	420001	10.04.02
■	Power Sensors	51011	Boonton	31619 / 31620	10.04.02
■	Dual Directional Coupler	C3653	Werlatone	7825	10.04.02
■	CDN	FCC-801-M2-25A	FCC	2011	10.04.02
■	Attenuator	72-6-34	Weinschel	PC001	10.04.02

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Attachment C

Constructional Photographs

of

Equipment Under Test (EUT)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

View of front (Front design type 1)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

View of rear (Front design type 1)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

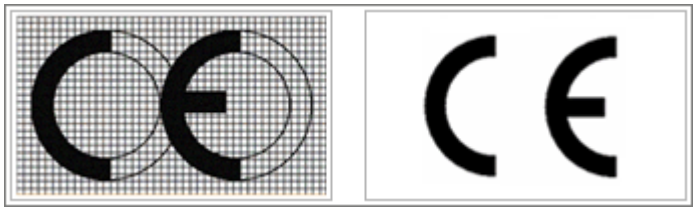
View of front (Front design type 2)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

View of rear (Front design type 2)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

CE Marking Information



Note. The 'CE' marking must have a height of at least 5 mm. If the 'CE' marking is reduced or enlarged the proportions given in the above graduated drawing must be respected.

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View of inside #1 (Front design type 1)

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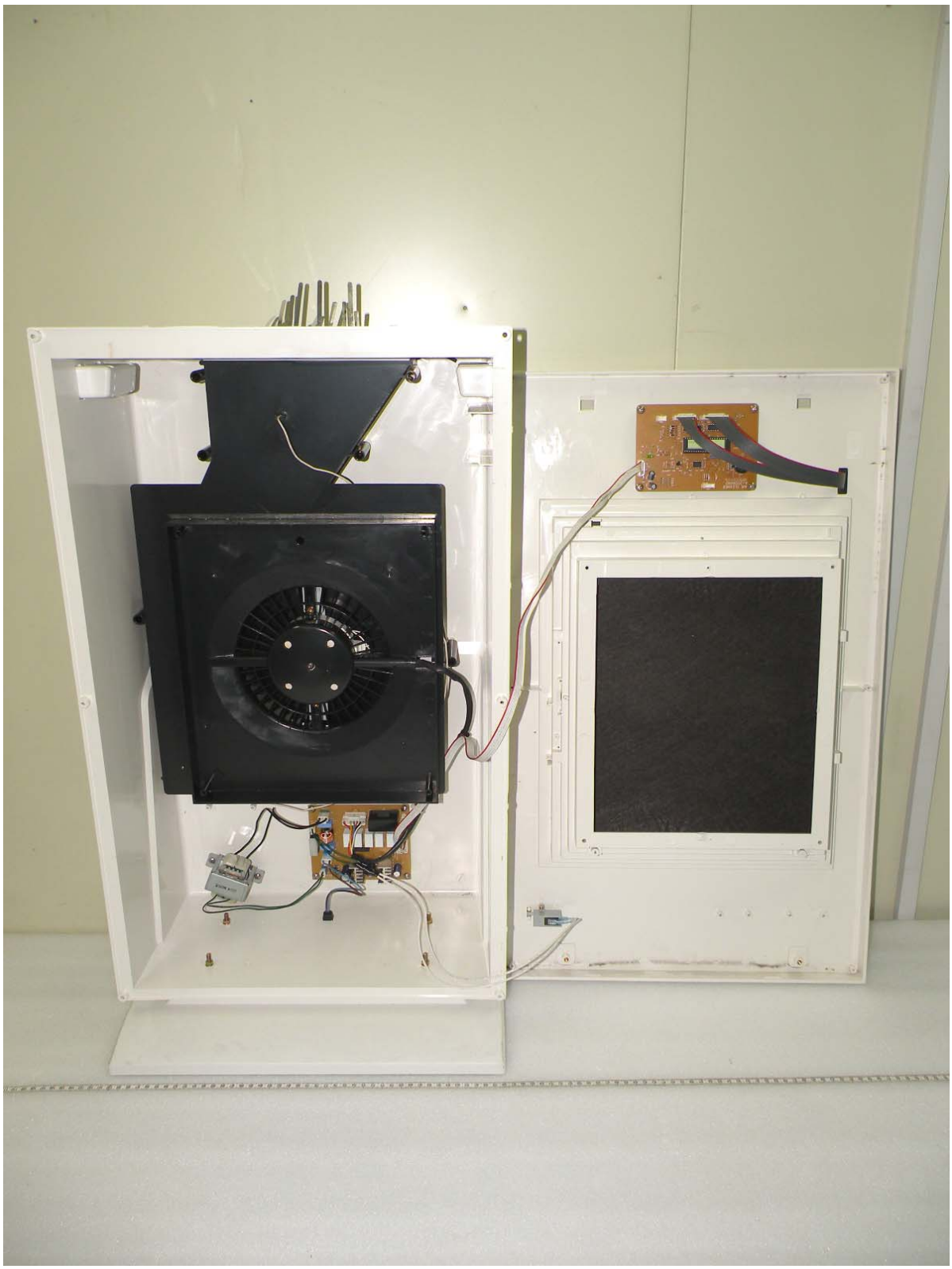
View of inside #2 (Front design type 1)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

View of inside #3 (Front design type 1)



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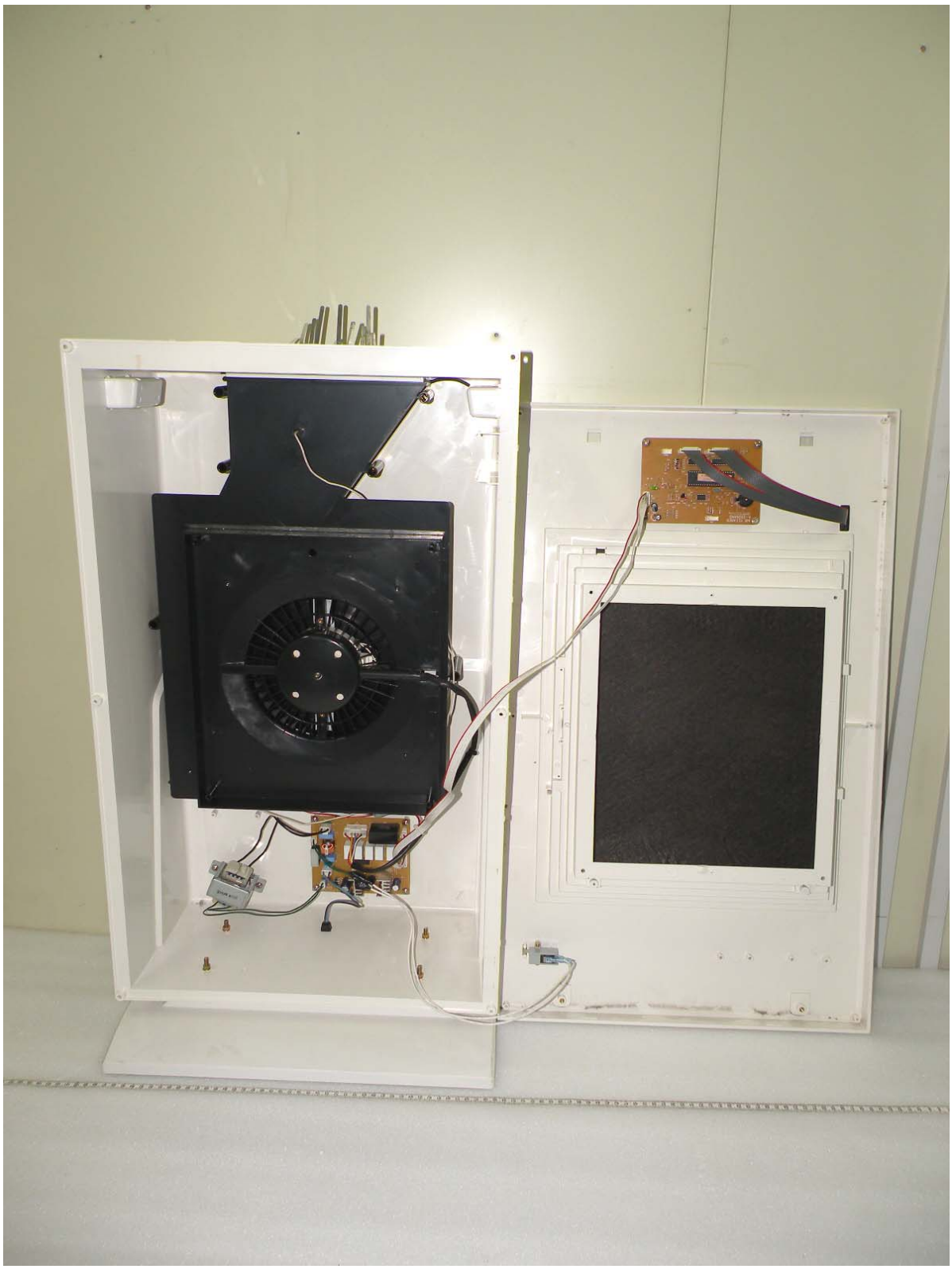
View of inside #1 (Front design type 2)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

View of inside #2 (Front design type 2)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

View of inside #3 (Front design type 2)



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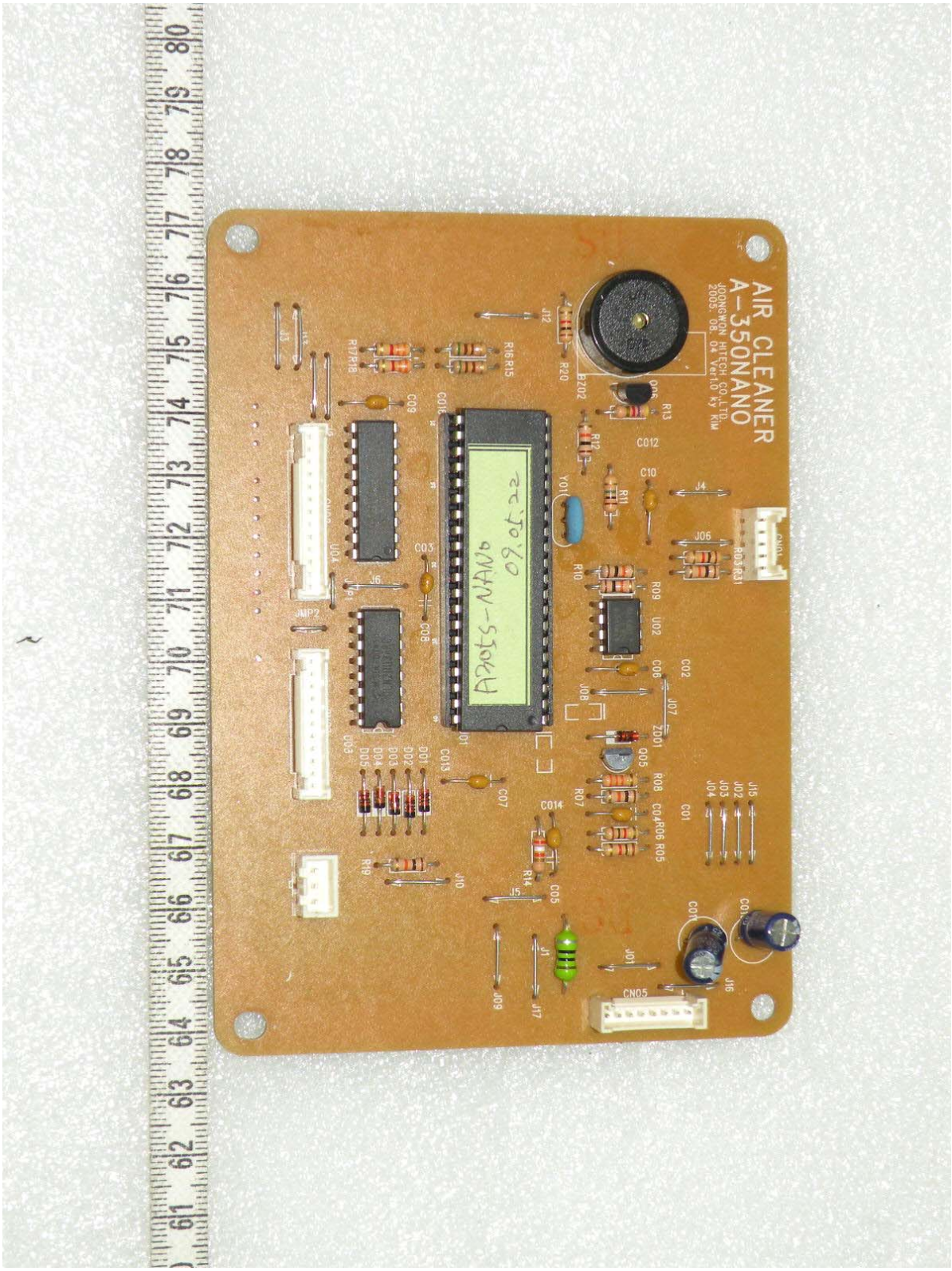
Top side view of main board (Front design type 1)



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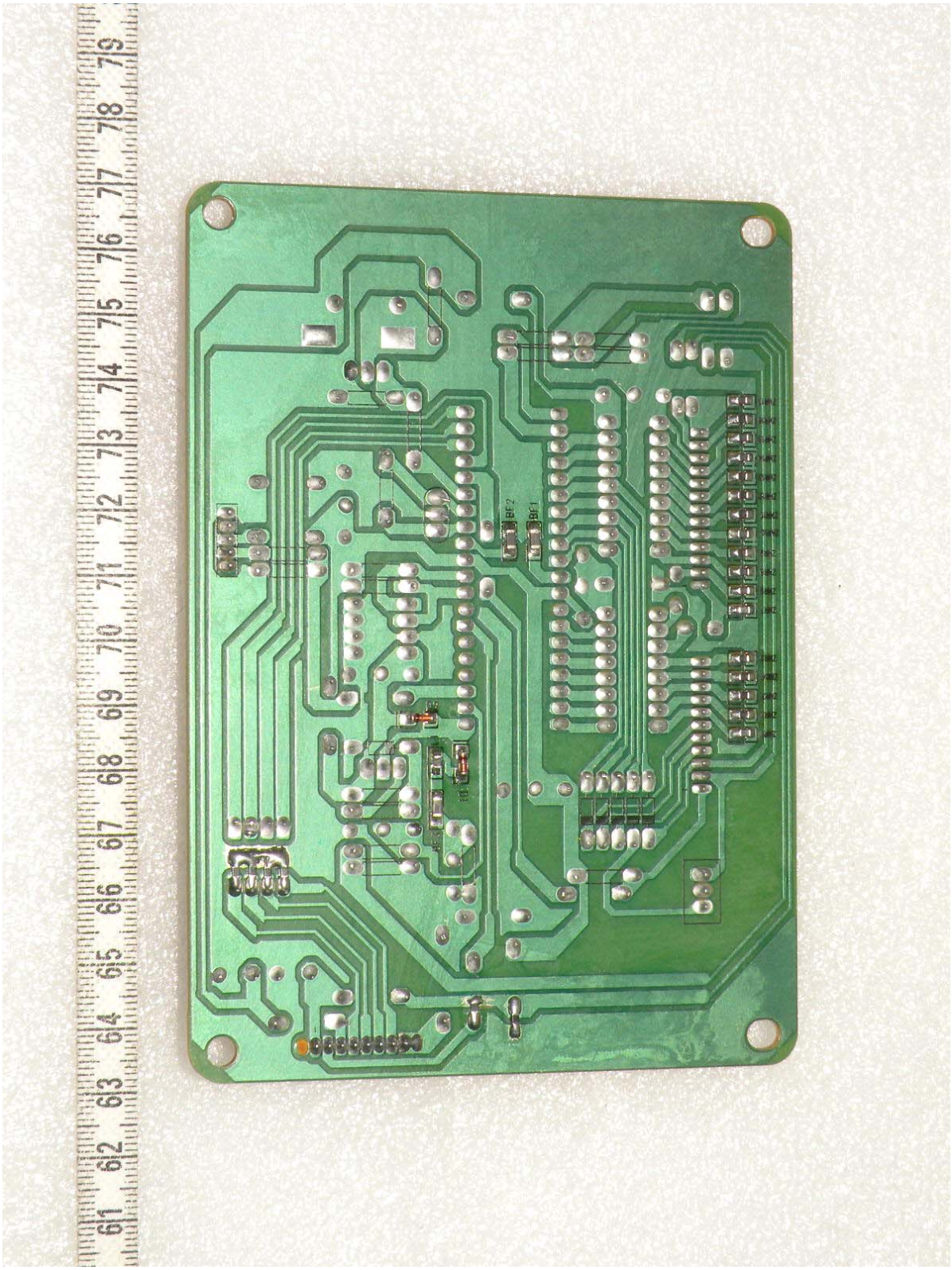
Bottom side view of main board (Front design type 1)



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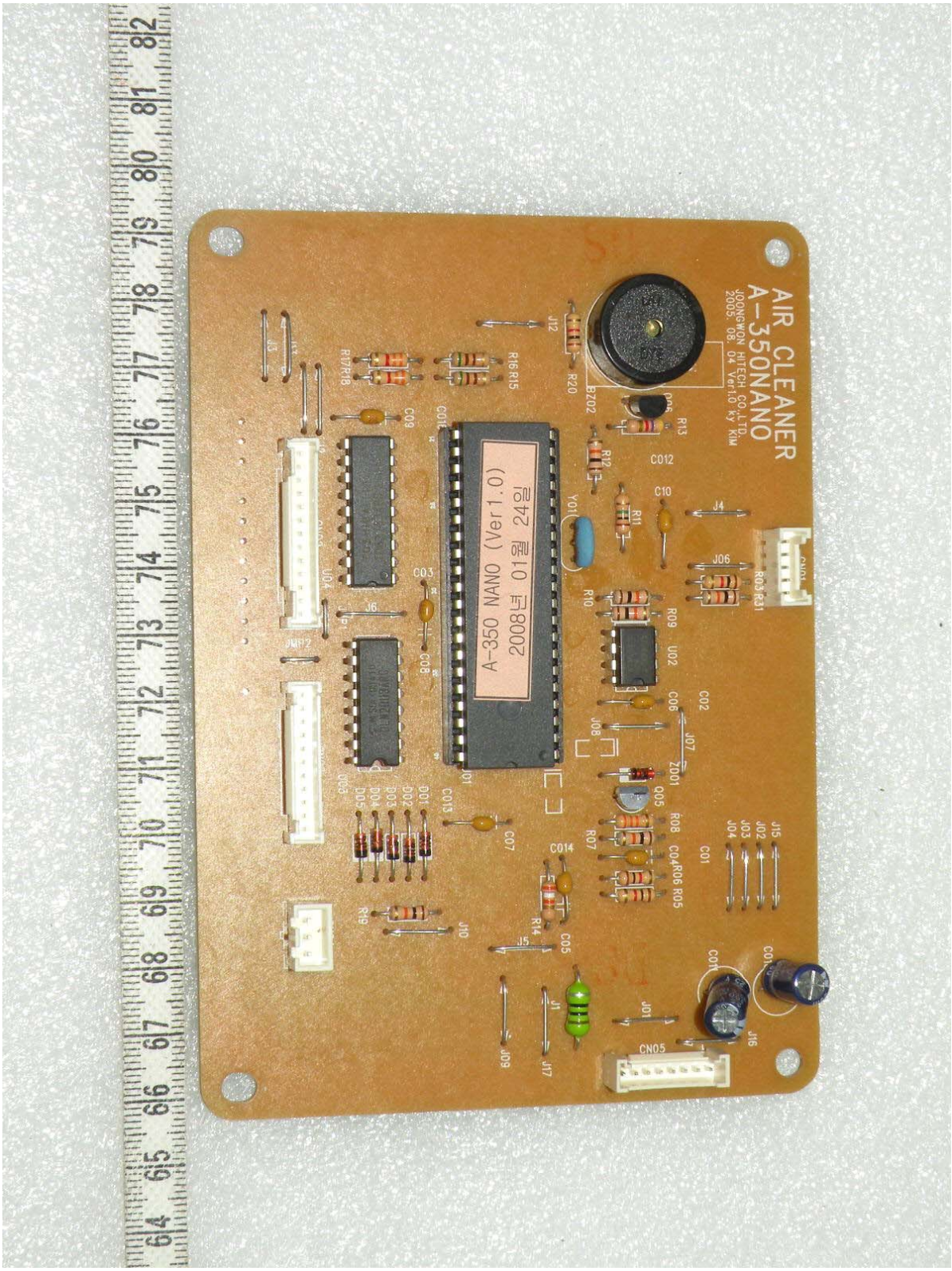
Top side view of main board (Front design type 2)



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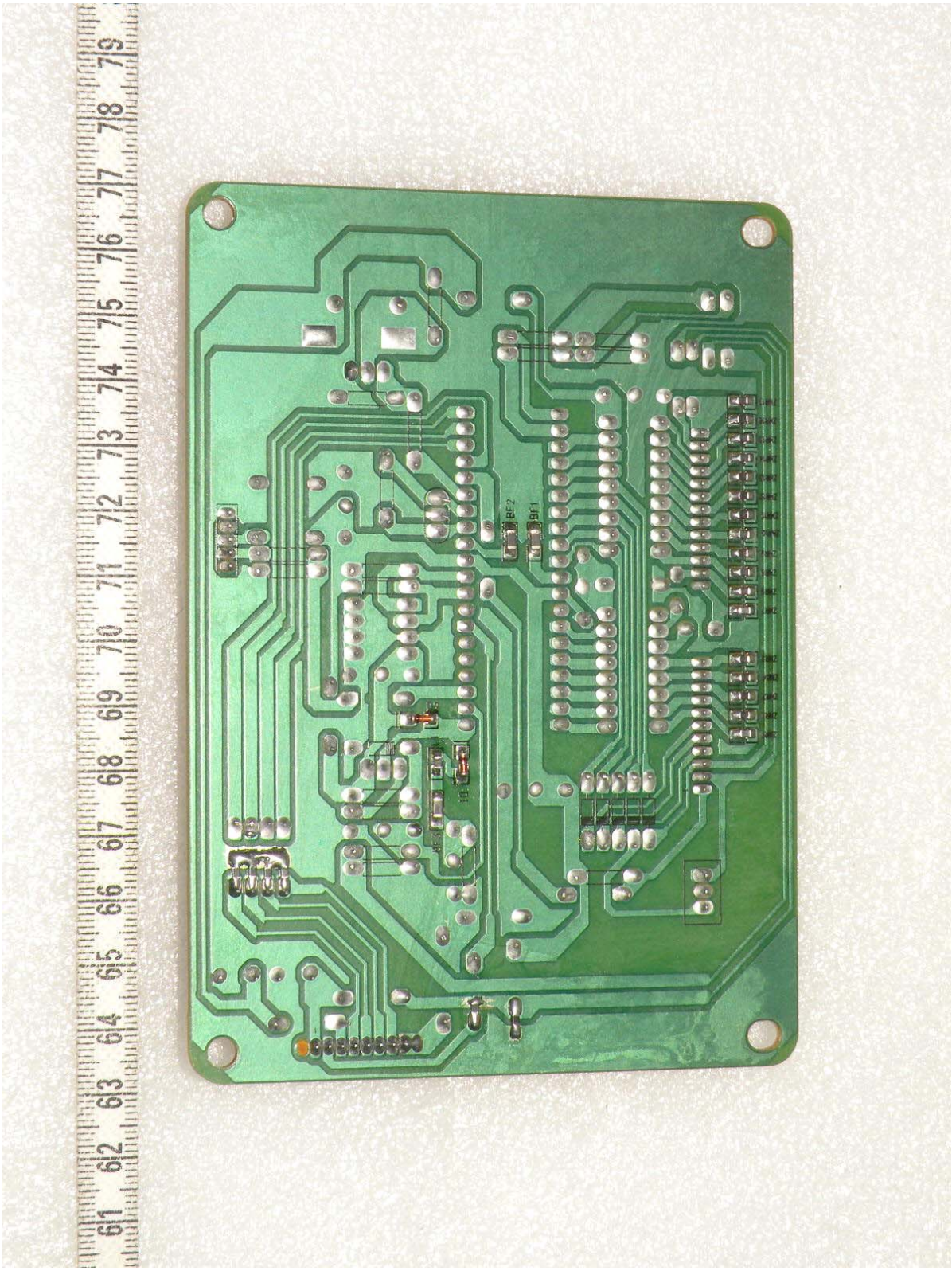
Bottom side view of main board (Front design type 2)



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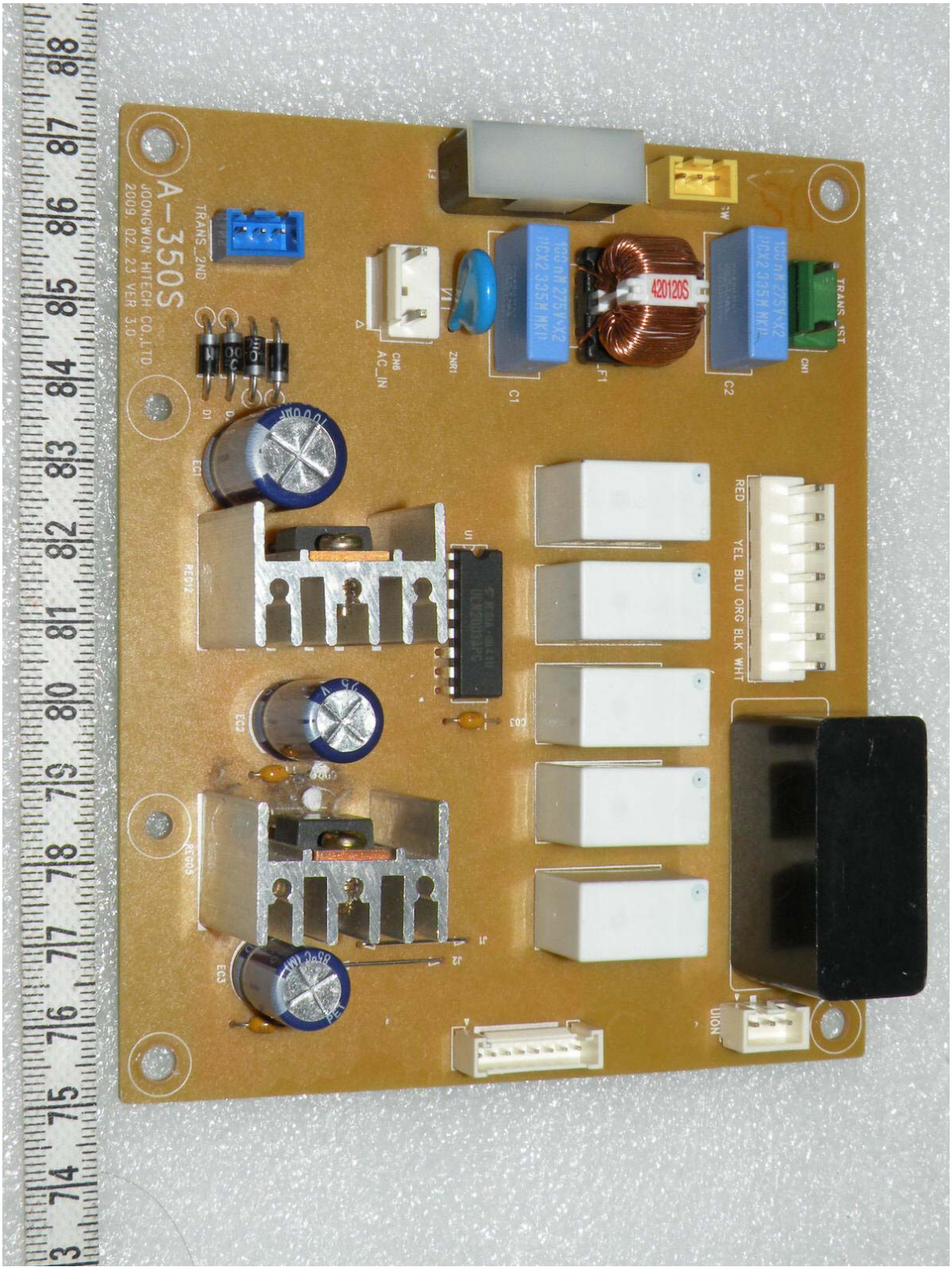
Top side view of power board (Front design type 1, 2)



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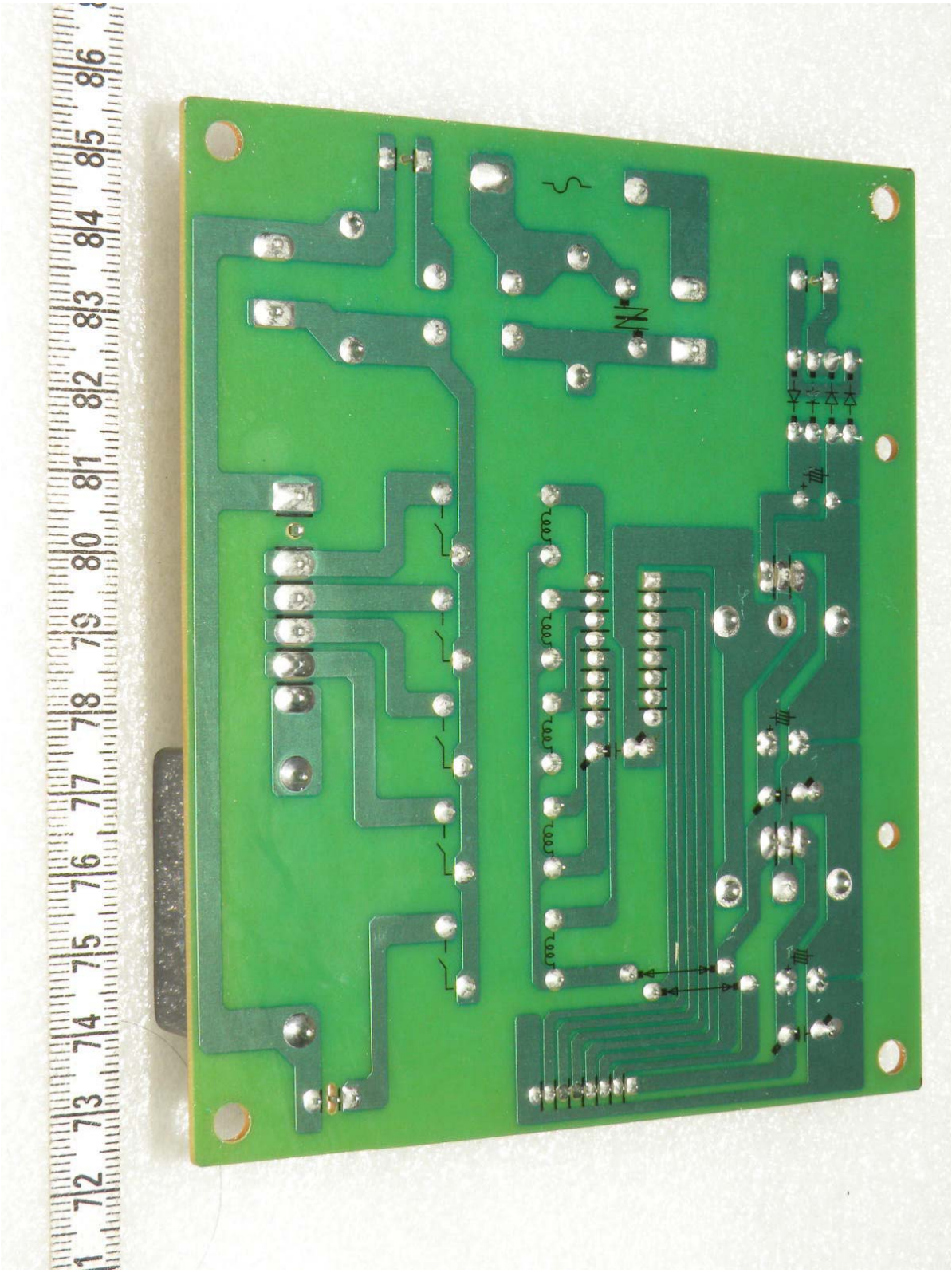
Bottom side view of power board (Front design type 1, 2)



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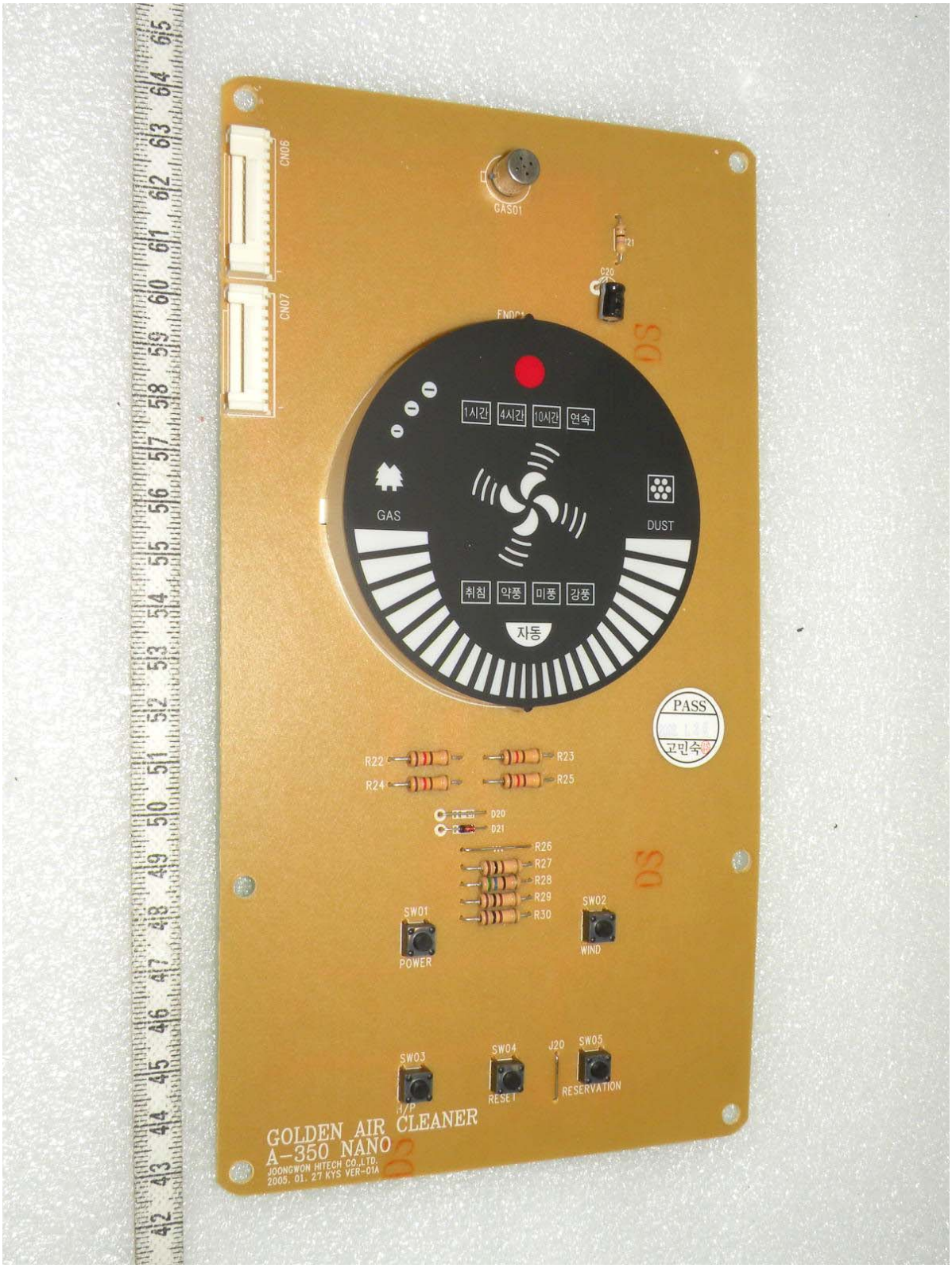
Top side view of OSD board (Front design type 1)



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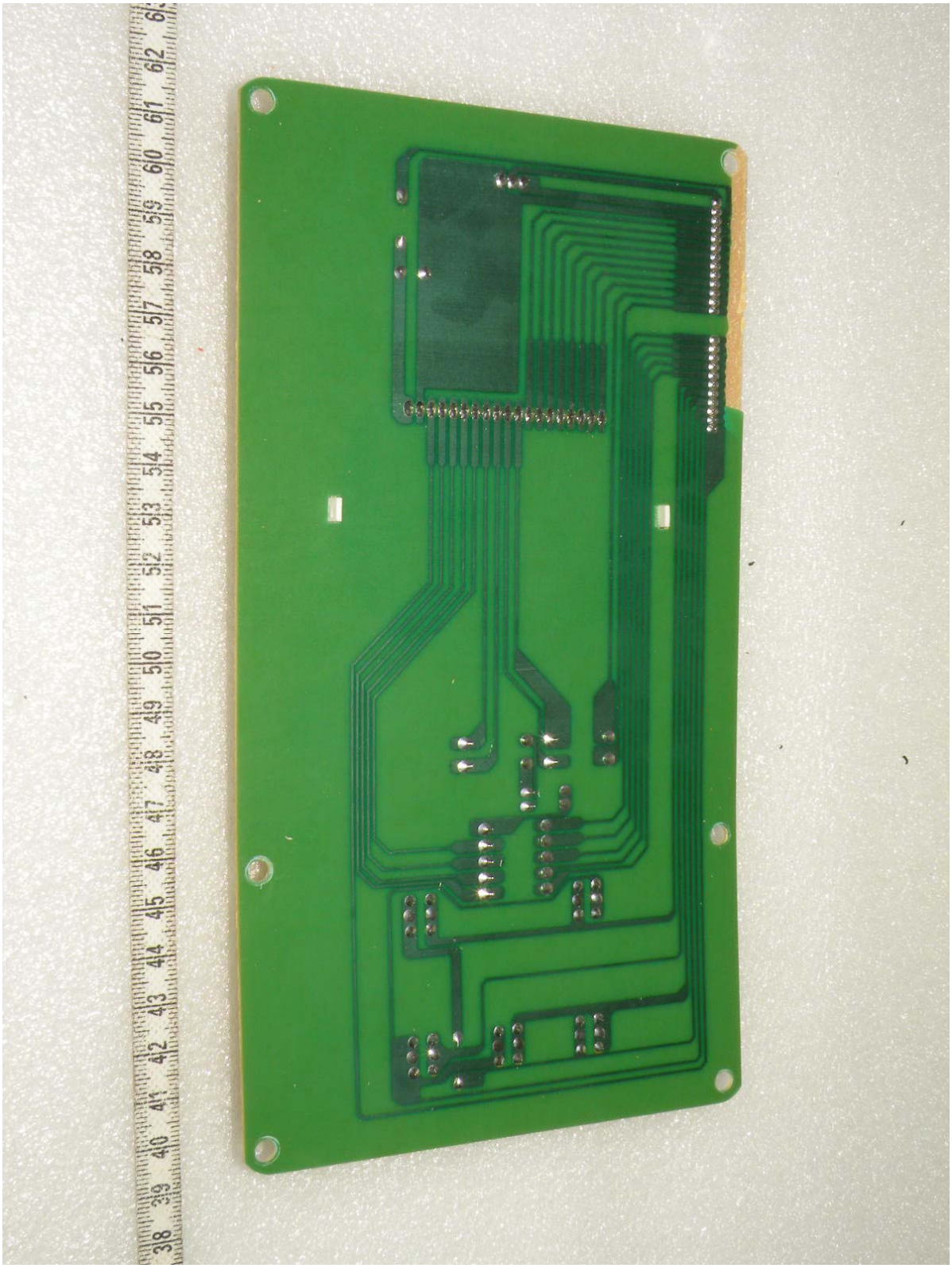
Bottom side view of OSD board (Front design type 1)



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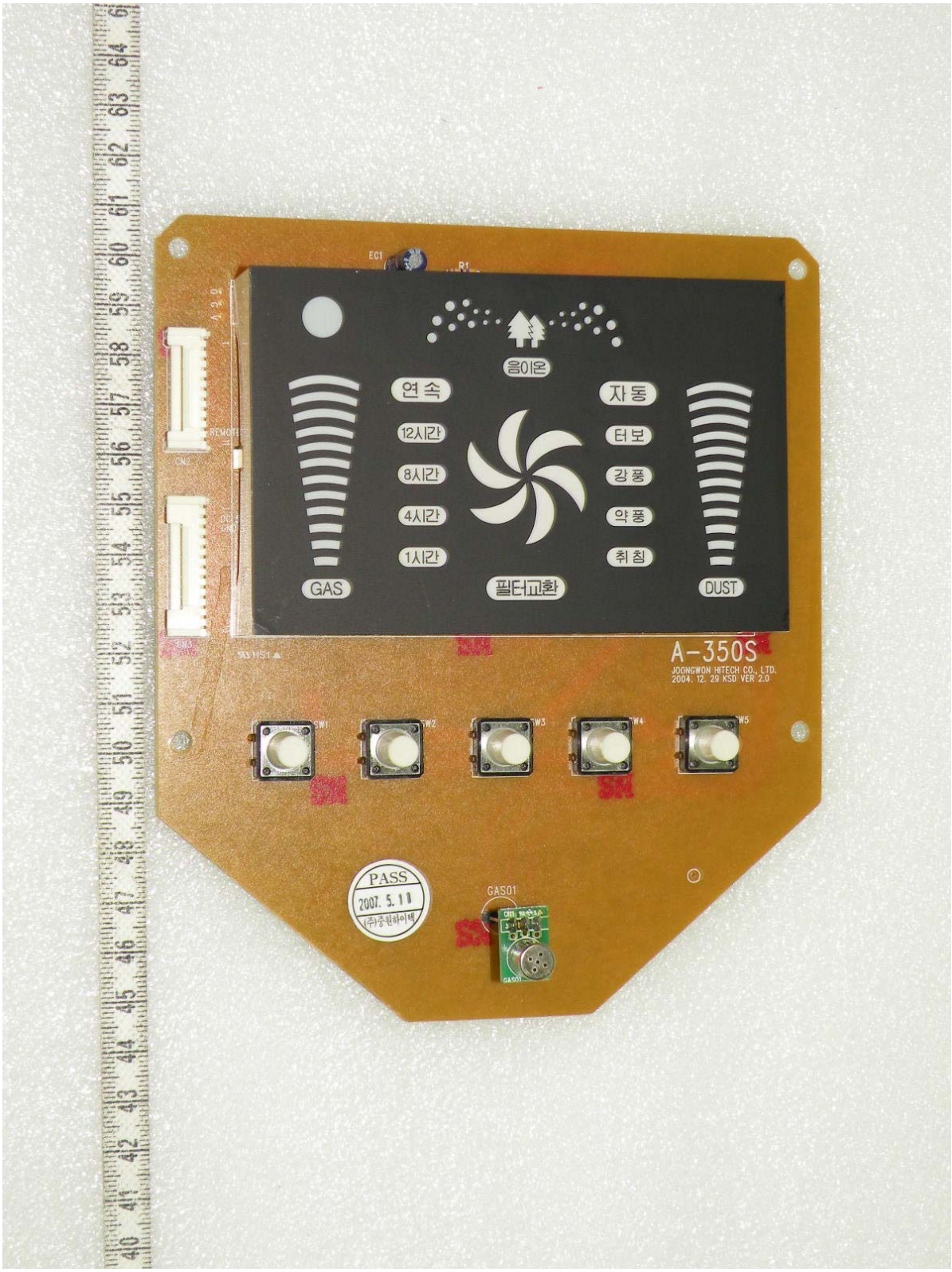
Top side view of OSD board (Front design type 2)



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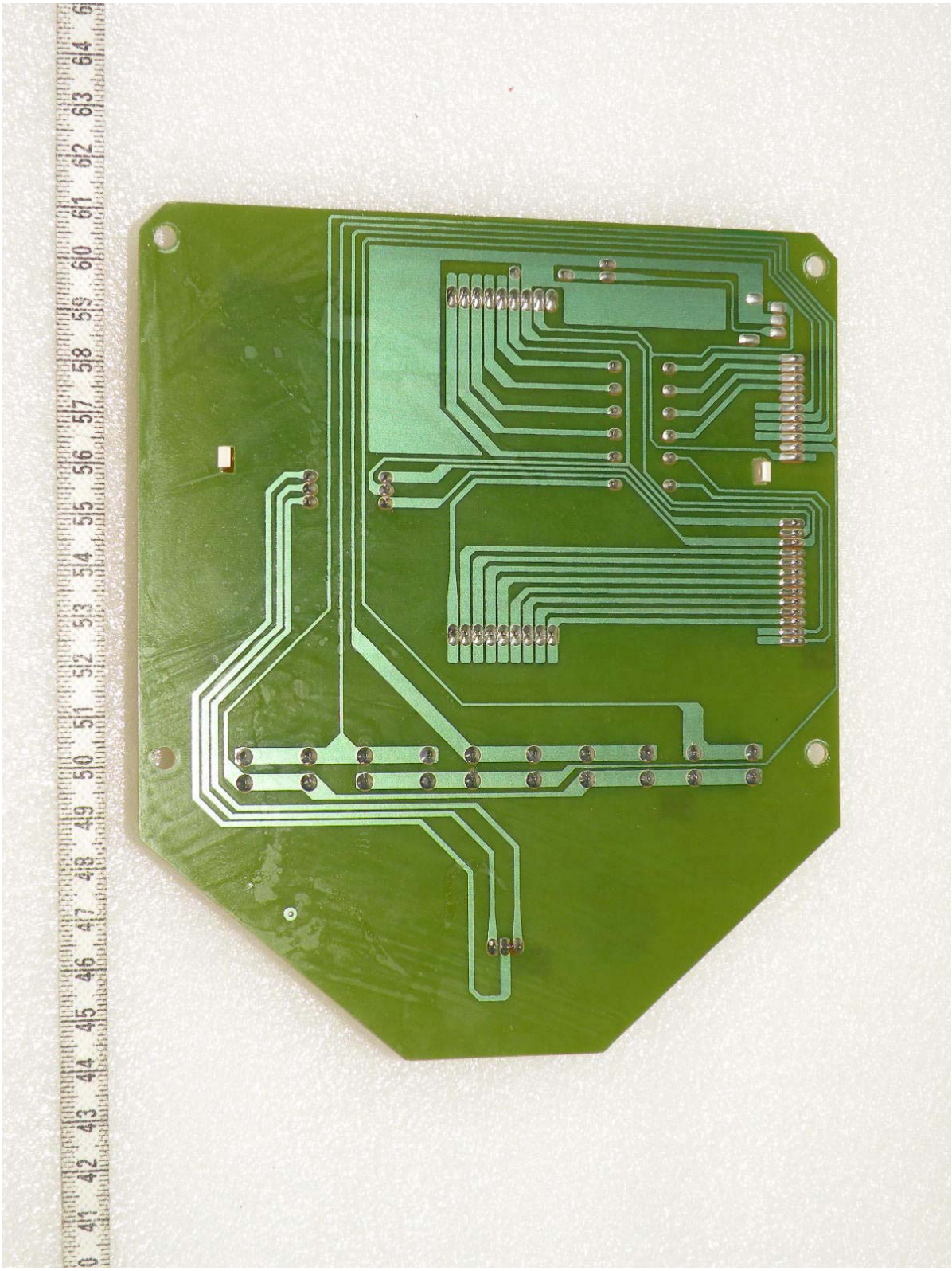
Bottom side view of OSD board (Front design type 2)



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Attachment D

Constructional Data Form

and

Product Information Form(s)

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788

CONSTRUCTION DATAFORM FOR EMC – TESTING

Applicant	: HYUNDAI Wacor Tec Co., Ltd.		
Address	: 684-49, Gongreung-dong, Nowon-gu, Seoul, Korea		
Factory	: HYUNDAI Wacor Tec Co., Ltd.		
Address	: 684-49, Gongreung-dong, Nowon-gu, Seoul, Korea		
Type	: AIR CLEANER	Rated voltage	: AC 220 V – 240 V; 50 Hz
Serial No.	: NONE	Rated input power	: 75 W
Protection type	:	Protection class	:

Configuration of equipment:

	Rev.	:
	Rev.	:
	Rev.	:
	Rev.	:

Source of interference	:
Internal frequency	:
Noise suppression components	:
Measures for electromagnetic shielding	:

Place of issue	date	Seal and signature of applicant

If applicable, if necessary complete overleaf

End of test report

Head Office: # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803, Korea Tel : 82-2-858-0786 Fax : 82-2-858-0788