CERTIFICATE OF COMPLIANCE

No. C13H154

Holder of Certificate: GREE Electric Appliances Inc. of zhuhai
Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P. R. China
Product: Air Conditioner
Model/Type: GTH60K3FI
GKH60K3FI
GFH60K3FI
GUHD60NM3FO

Is complied with:

EMC Directive: 2004/108/EC

Test acc. To: EN55014-1: 2006+A1:2009+A2:2011
EN55014-2: 1997+A1: 2001+A2:2008
EN61000-3-2: 2006+A1:2009+A2:2009
EN61000-3-3: 2008

Report Number: GER13H154E

This certificate of conformity is based on the adequate technical documentation and the tests in Testing Laboratory of Gree Electric Appliances Inc. of Zhuhai. This declaration becomes invalid if technical or operational modifications are introduced without the manufacturer's consent.
Note: Testing Laboratory of Gree Electric Appliances Inc. of Zhuhai is accredited by TUV Rheinland, CNAS, VDE, etc.

(Authorized signature)
Name: Chen zhili
Date: 2013-08-17

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EMC TEST REPORT

Product Name	:	Split-type Room Air Conditioner
Product Model	:	GTH60K3FI(indoor unit) GFH60K3FI(indoor unit) GKH60K3FI(indoor unit) GUHD60NM3FO（outdoor unit）
Serial No.	:	Pre-production model
Date of Receipt	:	2013.08.17
Test Period	:	2013.08.17
Applicant	:	Gree Electric Appliances, Inc. of Zhuhai
Testing Location	:	Gree EMC Testing Lab.

Applicable The Following Selected Harmonized Standards:

EN55014-1: 2006+A1:2009+A2:2011
EN55014-2: 1997+A1: 2001+A2:2008
EN61000-3-2: 2006+A1:2009+A2:2009
EN61000-3-3: 2008

Tested by	:	**Liujie**	刘杰	2013-08-17
		Printed Name	*Signature*	*Date((YY-MM-DD)*
Reviewed by	:	Chen zhili	陈智力	2013-08-17
		Printed Name	*Signature*	*Date((YY-MM-DD)*

EMC LABORATORY OF GREE ELETRIC APPLIANCES INC. OF ZHUHAI

Address: Jinji West Road. Qianshan Zhuhai China Postcode: 519070
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Remark:

Principle of Configuration Selection of test set-up and operation mode

Emission: The Equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Immunity: The Equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

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1. Test Summary

4. EMISSION TESTS:

4.1 Mains and additional Terminal Continuous Disturbance Voltage

Test Result: Pass

4.2 Discontinuous Interference on AC Mains

Test Result: Pass

4.3 Disturbance Power

Test Result: Pass

4.4 Harmonics on AC Mains

Test Result: Pass

4.5 Voltage Fluctuation on AC Mains

Test Result: Pass

5. IMMUNITY TESTS:

5.1 Electrostatic Discharge (ESD)

Test Result: Pass

5.2 Electrical Fast Transient/Burst (EFT)

Test Result: Pass

5.3 Surge

Test Result: Pass

5.4 Immunity to conducted Disturbances, induced by RF fields

Test Result: Pass

5.5 Voltage Dips and Short interruptions

Test Result: Pass

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2. Products Description

Power Supply	:	AC 220-240V , 50Hz for indoor unit AC 380-415V 3N~，50Hz for outdoor unit
Power Cord	:	Unshielded
Interconnection Line	:	Unshielded
Additional Equipment	:	IR Remote Controller
Protection	:	Class Ⅰ
Operation Mode	:	Standby Fan Cool Heat Dry Auto
General Description	:	

For these current models, they are split-type models consisting of two parts, one indoor unit and one common outdoor unit, For the common outdoor unit (GUHD60NM3FO), it can match three different model indoor units (GTH60K3FI, GKH60K3FI and GFH60K3FI) to work, and the power are supplied from the indoor and outdoor units respectively ,all EMS test (Immunity item) are applied to the three different combination for indoor and outdoor units.

About the particular information of the modes, please refer to Technical Construction Document, user manual, etc.

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3. List of Test and Measurement Instruments

Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	R&S	ESCS30	100353	06/28/2014
L.I.S.N	R&S	ENV4200	100031	06/28/2014
Pulse limiter	R&S	ESH3-Z2	100066	06/28/2014
Absorbing Clamp	R&S	MDS-21	100194	08/17/2014
Voltage Probe	Schwarbeck	TK9420	9426-235	06/28/2014
Clicks Analyzer	Schaffner	DIA1512D	21534	06/28/2014
Harmonic/Flicker Testing system	CI	PACS-3	72823	03/28/2014
ESD Simulator System	TESTQ	NSG438	1198	08/13/2014
EFT/B Generator	Schaffner	NSG2025-4	1237	06/28/2014
Capacitive Coupling Clamp	Schaffner	CDN126	532	07/07/2014
RF-Generator	Schaffner	NSG2070	1022	03/28/2014
Coupling/Decoupling Network	Schaffner	CDN M316	15072	03/28/2014
EM clamp	Schaffner	KEMZ801	15792	06/28/2014
Voltage Swell/DIP/Interrupt Source	KeyTek ECAT	EP62	0512181	06/28/2014
Surge Generator-Combination Wave	KeyTek ECAT	510A	0512182	06/28/2014
Coupling/Decoupling Network	KeyTek ECAT	E4554A	0512183	06/28/2014

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4. Emission Test

4.1 Main and Additional Terminal Continuous Disturbance Voltage

Date of testing	:	2013.08.17
Temperature	:	26°C/18°C
Operational mode	:	Cool /Heat, High speed
Humidity	:	65%RH~67%RH
Test procedure	:	EN55014-1: 2006+A1:2009+A2:2011
Frequency range	:	0.15M - 30MHz
Kind of test site	:	Shielded room
Test result	:	Pass

1.Test Setup:

The EUT is on an insulating plane (height=80cm)
The distance between EUT and L.I.S.N is 80cm.
The distance between EUT and other metal conductors grounded is at least 80cm.

2.If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector has been omitted.
Disturbances other than those mentioned are small or not detectable.

Receiver setup:
Detector:Peak+Average; IF-BW: 9kHz; Step: 4.5kHz; M-Time: 20ms
The test data are as follows:

At main terminal: Pass

Model: GUHD60NM3FO（outdoor unit）

Cooling mode **Port: Power Cord- L1 line**

Cooling mode **Port: Power Cord- L2 line**

Model: GUHD60NM3FO（outdoor unit）

Cooling mode **Port: Power Cord- L3 line**

Cooling mode **Port: Power Cord- N line**

Model: GUHD60NM3FO（outdoor unit）

Heating mode **Port: Power Cord- L1 line**

Heating mode **Port: Power Cord- L2 line**

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Model: GUHD60NM3FO（outdoor unit）

Heating mode **Port: Power Cord- L3 line**

Heating mode **Port: Power Cord-N line**

Model: GTH60K3FI(indoor unit)

Cooling mode **Port: Power Cord- L line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15900	57.7	-7.8
0.46500	44.5	-12.0
1.07250	44.1	-11.8
1.94100	44.9	-11.0
3.74550	45.9	-10.0
4.18650	41.5	-14.4
11.53950	49.8	-10.1

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15900	48.9	-9.4
0.53700	36.7	-9.2
0.80250	39.6	-6.3
1.77000	40.4	-5.5
2.67900	39.3	-6.6
4.15500	36.0	-9.9
11.53950	44.9	-5.0

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Cooling mode **Port: Power Cord- N line**

Final measurement results

Frequency MHz	QP Level dB	Delta Limit dB
0.15900	57.9	-7.6
0.46950	42.7	-13.8
0.57300	44.7	-11.2
1.99050	44.1	-11.8
3.72300	45.5	-10.4
4.13700	42.8	-13.1
11.27400	48.2	-11.7
15.66150	26.8	-33.1

Frequency MHz	AV Level dB	Delta Limit dB
0.15900	49.8	-8.5
0.53700	37.3	-8.6
0.69900	39.2	-6.7
1.51800	37.0	-8.9
3.57900	39.4	-6.5
4.13250	37.2	-8.8
11.34600	43.0	-6.9

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Model: GTH60K3FI(indoor unit)

Heating mode **Port: Power Cord- L line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16350	56.0	-9.3
0.48300	42.6	-13.6
0.76650	45.0	-10.9
1.96800	43.7	-12.2
3.32250	45.8	-10.1
4.20000	40.2	-15.7
10.87350	48.7	-11.2

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15900	49.0	-9.4
0.55500	38.7	-7.2
0.76650	41.6	-4.3
1.51800	39.2	-6.7
2.48100	40.4	-5.5
4.11450	35.9	-10.0
10.87800	43.8	-6.1

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Model: GTH60K3FI(indoor unit)

Heating mode **Port: Power Cord- N line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16350	57.0	-8.2
0.55500	45.5	-10.5
0.62700	45.5	-10.4
2.05800	45.6	-10.3
3.59700	45.4	-10.5
4.13700	42.0	-14.0
11.41800	48.7	-11.2
15.55350	27.5	-32.4

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15900	49.7	-8.6
0.55500	40.8	-5.1
0.91050	38.2	-7.7
1.16250	39.7	-6.2
2.46750	39.7	-6.3
4.17750	35.9	-10.0
11.41800	44.2	-5.7

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Model: GKH60K3FI(indoor unit)

Cooling mode **Port: Power Cord- L line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16350	49.3	-15.9
0.46050	38.8	-17.9
0.95100	34.9	-21.0
1.14450	30.6	-25.3
3.41250	33.5	-22.4
4.79400	29.9	-26.0
10.64850	38.3	-21.6
22.45650	41.3	-18.7

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15000	39.4	-19.5
0.47400	35.3	-11.4
0.73950	31.5	-14.4
1.11750	26.6	-19.3
3.79050	28.7	-17.2
4.75800	25.0	-21.0
10.60350	33.4	-16.5
22.32150	35.5	-14.4

Model: GKH60K3FI(indoor unit)

Cooling mode **Port: Power Cord- N line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15000	51.7	-14.2
0.46500	39.0	-17.6
0.96900	33.8	-22.1
1.09950	31.1	-24.8
3.75900	34.2	-21.7
4.11450	31.3	-24.6
11.33700	38.4	-21.5
22.80300	41.3	-18.6

Frequency MHz	AV Level dBuV	Delta Limit dB
0.16350	36.1	-21.9
0.47400	33.5	-13.1
0.73950	29.4	-16.5
1.17150	26.2	-19.7
3.71400	29.3	-16.6
4.11900	26.5	-19.4
10.63950	33.6	-16.3
22.94700	36.5	-13.4

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Model: GKH60K3FI(indoor unit)

Heating mode **Port: Power Cord- L line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16350	49.3	-15.9
0.46950	39.3	-17.2
0.96900	34.2	-21.7
1.11300	31.6	-24.3
3.80400	33.8	-22.1
4.57800	30.1	-25.8
10.05450	38.1	-21.8
22.45650	41.0	-19.0

Frequency MHz	AV Level dBuV	Delta Limit dB
0.16350	35.4	-22.7
0.47400	35.4	-11.2
0.77100	30.7	-15.2
1.14450	26.6	-19.4
3.80400	28.9	-17.0
4.11450	26.1	-19.8
10.56300	33.6	-16.3
22.83450	35.1	-14.8

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Model: GKH60K3FI(indoor unit)

Heating mode **Port: Power Cord- N line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16350	50.1	-15.2
0.46950	39.0	-17.4
1.00050	34.2	-21.7
1.09500	30.6	-25.3
3.43050	34.2	-21.7
4.16850	30.6	-25.3
10.81500	38.3	-21.6
22.45650	41.8	-18.1

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15000	39.8	-19.1
0.47400	35.2	-11.4
0.73950	28.6	-17.3
1.14450	26.7	-19.2
3.49350	29.2	-16.7
4.72200	26.3	-19.7
10.59000	33.8	-16.1
22.97850	36.7	-13.2

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Model: GFH60K3FI(indoor unit)

Cooling mode **Port: Power Cord- L line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15450	58.7	-7.0
0.32100	38.2	-21.5
0.57300	33.3	-22.6
1.93200	37.4	-18.5
2.93550	35.3	-20.7
6.89100	38.5	-21.4
8.52450	40.6	-19.3

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15450	44.9	-13.7
0.46050	37.0	-9.9
1.04100	32.8	-13.1
1.91400	34.1	-11.8
2.53050	33.7	-12.2
4.98300	32.1	-13.8
8.05650	36.3	-13.6

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Model: GFH60K3FI(indoor unit)

Cooling mode **Port: Power Cord- N line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15450	57.5	-8.2
0.46950	41.8	-14.7
1.04550	35.1	-20.8
1.96800	37.3	-18.6
2.38200	37.1	-18.8
4.96950	34.1	-21.8
9.12300	38.0	-21.9

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15450	43.1	-15.6
0.45150	38.0	-9.0
1.04100	32.1	-13.8
1.18050	30.9	-15.1
2.53050	32.7	-13.2
4.96950	29.0	-16.9
8.30850	34.1	-15.8

Model: GFH60K3FI(indoor unit)

Heating mode **Port: Power Cord- L line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15450	60.3	-5.4
0.45600	43.2	-13.6
1.05000	35.9	-20.0
2.05800	38.5	-17.4
2.27400	38.1	-17.8
7.96650	40.8	-19.1
8.01150	41.2	-18.7

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15450	46.1	-12.6
0.46050	36.9	-10.0
1.01400	32.9	-13.0
2.05800	33.3	-12.6
2.59800	33.2	-12.7
7.56600	36.3	-13.6
8.30400	37.5	-12.4

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Model: GFH60K3FI(indoor unit)

Heating mode **Port: Power Cord- N line**

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15450	59.9	-5.8
0.46500	43.1	-13.4
0.74400	28.1	-27.8
1.18950	35.4	-20.6
2.73300	36.8	-19.1
4.27650	32.8	-23.1
8.71350	39.4	-20.6

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15450	45.9	-12.7
0.45150	38.4	-8.6
1.06800	33.3	-12.6
1.99950	31.6	-14.3
2.56200	33.3	-12.6
5.02350	30.6	-15.3
8.11950	35.9	-14.1

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According to EN55014.1, for terminal disturbance voltage, the test start frequency shall be obtained per the formula: f start=60/L (MHz), so, here, the f start=60/10 =6MHz. Where, the length of interconnection line is 10 meters.

Cooling mode **Port:** Interconnection line at indoor unit

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	TV-QP			
Trace2:	TV-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	6.076 MHz	60.91	L1 gnd	-13.08
2 Average	6.096 MHz	55.48	L1 gnd	-8.51
2 Average	8.508 MHz	51.42	L1 gnd	-12.57
1 Quasi Peak	8.524 MHz	58.04	L1 gnd	-15.95
1 Quasi Peak	10.276 MHz	47.74	L1 gnd	-26.26
2 Average	10.284 MHz	42.89	L1 gnd	-21.11
2 Average	15.86 MHz	44.92	L1 gnd	-19.08
1 Quasi Peak	15.98 MHz	51.37	L1 gnd	-22.62
1 Quasi Peak	20.012 MHz	55.19	L1 gnd	-18.80
2 Average	20.028 MHz	47.42	L1 gnd	-16.57
1 Quasi Peak	28.716 MHz	47.81	L1 gnd	-26.18
2 Average	28.716 MHz	41.51	L1 gnd	-22.48

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Additional terminal:

Cooling mode **Port:** Interconnection line at outdoor unit

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	TV-QP			
Trace2:	TV-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	6 MHz	57.64	L1 gnd	-16.35
2 Average	6.26 MHz	51.71	L1 gnd	-12.28
1 Quasi Peak	7.856 MHz	54.45	L1 gnd	-19.55
2 Average	7.888 MHz	48.54	L1 gnd	-15.45
1 Quasi Peak	10.66 MHz	48.28	L1 gnd	-25.72
2 Average	10.712 MHz	42.98	L1 gnd	-21.01
1 Quasi Peak	19.876 MHz	51.27	L1 gnd	-22.72
2 Average	19.928 MHz	43.72	L1 gnd	-20.27

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Additional terminal:

Heating mode **Port: Interconnection line at indoor unit**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	TV-QP			
Trace2:	TV-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	6.004 MHz	57.98	L1 gnd	-16.01
2 Average	6.004 MHz	52.77	L1 gnd	-11.22
2 Average	8.528 MHz	51.84	L1 gnd	-12.15
1 Quasi Peak	8.564 MHz	58.99	L1 gnd	-15.00
1 Quasi Peak	10.624 MHz	47.80	L1 gnd	-26.19
2 Average	10.624 MHz	42.33	L1 gnd	-21.66
1 Quasi Peak	15.64 MHz	51.12	L1 gnd	-22.87
2 Average	15.7 MHz	45.01	L1 gnd	-18.98
1 Quasi Peak	19.932 MHz	54.98	L1 gnd	-19.01
2 Average	20.012 MHz	48.26	L1 gnd	-15.73
2 Average	28.736 MHz	40.13	L1 gnd	-23.86
1 Quasi Peak	28.796 MHz	48.12	L1 gnd	-25.88

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Additional terminal:

Heating mode **Port: Interconnection line at outdoor unit**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)					
Trace1:	TV-QP				
Trace2:	TV-AV				
Trace3:	---				
TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	6.016 MHz	56.32	L1 gnd	-17.67
2	Average	6.056 MHz	51.17	L1 gnd	-12.82
1	Quasi Peak	7.92 MHz	55.34	L1 gnd	-18.65
2	Average	7.92 MHz	48.74	L1 gnd	-15.25
1	Quasi Peak	10.656 MHz	47.86	L1 gnd	-26.13
2	Average	10.768 MHz	42.43	L1 gnd	-21.56
1	Quasi Peak	19.836 MHz	48.40	L1 gnd	-25.59
2	Average	19.912 MHz	42.84	L1 gnd	-21.15

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4.2 Discontinuous Interference on AC Mains

Date of testing	:	2013.08.17
Temperature	:	24°C~26°C
Humidity	:	66%RH~67%RH
Test procedure	:	EN55014-1: 2006+A1:2009+A2:2011
Frequency range	:	0.15M – 30MHz
Kind of test site	:	Shielded room
Operational mode	:	Dry
Test result	:	Pass

1.Test Setup

The EUT is on an insulating plane (height=80cm)
The distance between EUT and L.I.S.N is 80cm.
The distance between EUT and other metal conductors grounded is at least 80cm.

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2. Test results.

Model: GUHD60NM3FO（outdoor unit）					
Run A (Observation time=120Mins0Sec)					
Frequency (MHz)		0.15	0.5	1.4	30
Limit value (L)(**dB**μV)		66	56	56	60
Amount of clicks >L	Short (n1)	3	2	1	0
	Long (n2)	0	0	0	0
Total (n=n1+n2)		3	2	1	0
Click Rate (N=n/T)		0. 03	0. 02	0. 01	0.00
Continuous(s)		0	0	0	0
Switching operations		---			
f factor		N/A			
Result		PASS			
Model: GFH60K3FI(indoor unit)					
Run A (Observation time=120Mins0Sec)					
Frequency (MHz)		0.15	0.5	1.4	30
Limit value (L)(**dB**μV)		66	56	56	60
Amount of clicks >L	Short (n1)	32	24	11	0
	Long (n2)	0	0	0	0
Total (n=n1+n2)		32	24	11	0
Click Rate (N=n/T)		0. 27	0. 20	0. 09	0.00
Continuous(s)		0	0	0	0
Switching operations		---			
f factor		N/A			
Result		PASS			
Model: GTH60K3FI(indoor unit)					
Run A (Observation time=120Mins0Sec)					
Frequency (MHz)		0.15	0.5	1.4	30
Limit value (L)(**dB**μV)		66	56	56	60
Amount of clicks >L	Short (n1)	31	23	10	0
	Long (n2)	0	0	0	0
Total (n=n1+n2)		31	23	10	0
Click Rate (N=n/T)		0. 26	0. 19	0. 08	0.00
Continuous(s)		0	0	0	0
Switching operations		---			
f factor		N/A			
Result		PASS			

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Model: GKH60K3FI(indoor unit)					
Run A (Observation time=120Mins0Sec)					
Frequency (MHz)		0.15	0.5	1.4	30
Limit value (L)(**dB**μV)		66	56	56	60
Amount of clicks >L	Short (n1)	31	23	10	0
	Long (n2)	0	0	0	0
Total (n=n1+n2)		31	23	10	0
Click Rate (N=n/T)		0. 26	0. 19	0. 08	0.00
Continuous(s)		0	0	0	0
Switching operations		---			
f factor		N/A			
Result		PASS			

4.3 Disturbance Power

Date of testing	:	2013.08.17
Temperature	:	25°C/18°C
Operational mode	:	Cool /Heat, High speed
Humidity	:	65%RH~67%RH
Test procedure	:	EN55014-1: 2006+A1:2009+A2:2011
Frequency range	:	30M - 300MHz
Kind of test site	:	Shielded room
Test ports	:	AC Mains/ Interconnection line
Test result	:	Pass

1.Test Setup:

EUT and absorbing clamp are placed on an insulating plane (height=80cm). The distance between the absorbing clamp and other metal conductors grounded is 40cm above. EUT is connected to A.C power through an extended cord(≧6m). The absorbing clamp clamps the power line and moves along the power line to measure the maximum disturbance power emitted from the line. If EUT has an indoors unit and an outdoors unit, its interconnection lines and signal lines(or controlling lines) should be also measured ,too.

2.If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector has been omitted.

The power cord and interconnection line had been extended to a length of 6m and routed through an absorbing clamp. The clamp was moved along the cable to find the maximal emission.

Disturbances other than those mentioned are small or not detectable.

Receiver setup:

Detector:Peak+Average, IF-BW: 120kHz, Step: 60kHz, M-Time: 10ms.

The frequency spectra are as follows:

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Model: GUHD60NM3FO（outdoor unit）

Cooling mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	34 MHz	37.43	-7.71
2 Average	34.16 MHz	23.49	-11.65
1 Quasi Peak	53.2 MHz	37.71	-8.14
2 Average	53.24 MHz	20.54	-15.31
1 Quasi Peak	67.24 MHz	29.29	-17.08
1 Quasi Peak	101.96 MHz	34.92	-12.73
1 Quasi Peak	102.24 MHz	34.58	-13.09

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Model: GUHD60NM3FO（outdoor unit）

Heating mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
2 Average	33.96 MHz	24.49	-10.65
1 Quasi Peak	42 MHz	35.03	-10.41
2 Average	56.48 MHz	20.82	-15.15
1 Quasi Peak	59.8 MHz	32.43	-13.66
1 Quasi Peak	66.2 MHz	29.09	-17.24
1 Quasi Peak	101.96 MHz	35.86	-11.79
1 Quasi Peak	103.44 MHz	34.50	-13.21

THIS TEST REPORT IS RESPONSIBLE FOR THE SAMPLE TESTED ONLY AND SHOULD NOT BE DUPLICATED IN PART WITHOUT PERMISSION OF THE TEST LAB

Model: GUHD60NM3FO（outdoor unit）

Cooling mode **Port: Interconnection line, at indoor unit.**

Heating mode **Port: Interconnection line, at indoor unit.**

Model: GUHD60NM3FO（outdoor unit）

Cooling mode **Port: Interconnection line, at outdoor unit.**

Heating mode **Port: Interconnection line, at outdoor unit.**

Model: GTH60K3FI(indoor unit)

Cooling mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	40.36 MHz	38.13	-7.24
2 Average	41.44 MHz	24.93	-10.48
1 Quasi Peak	97.56 MHz	25.84	-21.65
1 Quasi Peak	121.76 MHz	22.83	-25.56

Model: GTH60K3FI(indoor unit)

Heating mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	41.08 MHz	36.56	-8.84
2 Average	41.08 MHz	22.81	-12.59
1 Quasi Peak	89.48 MHz	24.85	-22.34
1 Quasi Peak	129.6 MHz	22.38	-26.30

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Model: GFH60K3FI(indoor unit)

Cooling mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	37.72 MHz	37.05	-8.23
2 Average	37.84 MHz	25.67	-9.61
1 Quasi Peak	53.2 MHz	32.61	-13.24
1 Quasi Peak	75.84 MHz	32.85	-13.84
2 Average	75.84 MHz	26.13	-10.56
1 Quasi Peak	101.16 MHz	30.90	-16.73
2 Average	101.16 MHz	25.12	-12.50
1 Quasi Peak	102.68 MHz	26.18	-21.50
1 Quasi Peak	122.72 MHz	24.59	-23.83

THIS TEST REPORT IS RESPONSIBLE FOR THE SAMPLE TESTED ONLY AND SHOULD NOT BE DUPLICATED IN PART WITHOUT PERMISSION OF THE TEST LAB

Model: GFH60K3FI(indoor unit)

Heating mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	36.76 MHz	34.53	-10.71
2 Average	38.24 MHz	23.41	-11.89
1 Quasi Peak	53.24 MHz	30.42	-15.44
1 Quasi Peak	66.04 MHz	30.89	-15.44
2 Average	75.84 MHz	25.33	-11.36
1 Quasi Peak	87.64 MHz	29.86	-17.26
1 Quasi Peak	119.44 MHz	22.78	-25.52
1 Quasi Peak	124.84 MHz	25.68	-22.83

THIS TEST REPORT IS RESPONSIBLE FOR THE SAMPLE TESTED ONLY AND SHOULD NOT BE DUPLICATED IN PART WITHOUT PERMISSION OF THE TEST LAB

Model: GKH60K3FI(indoor unit)

Cooling mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	30.28 MHz	33.00	-12.00
2 Average	30.28 MHz	22.77	-12.23
1 Quasi Peak	60.68 MHz	40.60	-5.53
2 Average	60.84 MHz	28.26	-7.87
1 Quasi Peak	78.68 MHz	28.85	-17.95
1 Quasi Peak	86.64 MHz	32.84	-14.25
2 Average	95.12 MHz	23.02	-14.39
1 Quasi Peak	102.56 MHz	29.70	-17.98
1 Quasi Peak	125.56 MHz	28.81	-19.72

THIS TEST REPORT IS RESPONSIBLE FOR THE SAMPLE TESTED ONLY AND SHOULD NOT BE DUPLICATED IN PART WITHOUT PERMISSION OF THE TEST LAB

Model: GKH60K3FI(indoor unit)

Heating mode **Port: Power Cord**

Final measurement results

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	P14-QP		
Trace2:	P14-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBpW	DELTA LIMIT dB
1 Quasi Peak	30.16 MHz	33.66	-11.34
2 Average	30.16 MHz	23.54	-11.46
2 Average	60.4 MHz	27.28	-8.84
1 Quasi Peak	60.64 MHz	39.87	-6.25
1 Quasi Peak	78.92 MHz	29.52	-17.28
2 Average	87.04 MHz	22.18	-14.93
1 Quasi Peak	99.08 MHz	28.95	-18.60
1 Quasi Peak	110.36 MHz	31.25	-16.71
1 Quasi Peak	123.2 MHz	30.26	-18.19

THIS TEST REPORT IS RESPONSIBLE FOR THE SAMPLE TESTED ONLY AND SHOULD NOT BE DUPLICATED IN PART WITHOUT PERMISSION OF THE TEST LAB

Model: wired controller

Cooling mode **Port: Interconnection line, Near wired controller**

Heating mode **Port: Interconnection line, Near wired controller**

Model: wired controller

Cooling mode **Port: Interconnection line, Away from wired controller**

Heating mode **Port: Interconnection line, Away from wired controller**

4.4 Harmonics on AC Mains

Date of testing	:	2013.08.17
Temperature	:	25°C/18°C
Humidity	:	66%RH~67%RH
Test procedure	:	EN61000-3-2: 2006+A1:2009+A2:2009
Harmonics order	:	2 – 40
Equipment Class	:	A
Operational mode	:	Cool /Heat, High speed
Test result	:	Pass

1.Test Setup:

2. Test result.

The test results are shown as follows:

.

Model: GUHD60NM3FO（outdoor unit）

Cooling mode

Phase A

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

THC(A): 0.20 **I-THD(%): 3.10** **POHC(A): 0.065** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	**220.16**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**10.363**	**I_RMS (Amps):**	**6.620**
I_Fund (Amps):	**6.601**	**Crest Factor:**	**1.569**
Power (Watts):	**1453**	**Power Factor:**	**0.999**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.066	1.080	6.1	0.067	1.620	4.16	Pass
3	0.053	2.300	2.3	0.055	3.450	1.60	Pass
4	0.017	0.430	3.8	0.018	0.645	2.86	Pass
5	0.095	1.140	8.4	0.099	1.710	5.79	Pass
6	0.035	0.300	11.8	0.036	0.450	8.09	Pass
7	0.083	0.770	10.8	0.085	1.155	7.40	Pass
8	0.031	0.230	13.3	0.033	0.345	9.47	Pass
9	0.057	0.400	14.2	0.058	0.600	9.74	Pass
10	0.026	0.184	14.2	0.028	0.276	10.16	Pass
11	0.064	0.330	19.5	0.066	0.495	13.32	Pass
12	0.024	0.153	15.9	0.027	0.230	11.59	Pass
13	0.022	0.210	10.7	0.025	0.315	7.95	Pass
14	0.019	0.131	14.2	0.020	0.197	10.11	Pass
15	0.025	0.150	16.9	0.027	0.225	11.80	Pass
16	0.016	0.115	14.2	0.018	0.173	10.32	Pass
17	0.013	0.132	9.9	0.014	0.199	7.28	Pass
18	0.014	0.102	14.0	0.016	0.153	10.14	Pass
19	0.011	0.118	9.4	0.012	0.178	6.69	Pass
20	0.009	0.092	10.1	0.010	0.138	7.24	Pass
21	0.011	0.107	9.9	0.012	0.161	7.16	Pass
22	0.008	0.084	9.9	0.009	0.125	7.06	Pass
23	0.028	0.098	28.7	0.029	0.147	19.67	Pass
24	0.009	0.077	11.5	0.010	0.115	8.33	Pass
25	0.007	0.090	8.1	0.008	0.135	5.86	Pass
26	0.006	0.071	9.1	0.007	0.106	6.59	Pass
27	0.007	0.083	8.1	0.007	0.125	5.98	Pass
28	0.008	0.066	11.5	0.008	0.099	8.24	Pass
29	0.009	0.078	12.0	0.010	0.116	8.50	Pass
30	0.005	0.061	8.9	0.006	0.092	6.44	Pass
31	0.028	0.073	38.7	0.029	0.109	26.63	Pass
32	0.007	0.058	12.6	0.008	0.086	9.44	Pass
33	0.006	0.068	9.0	0.007	0.102	6.67	Pass
34	0.007	0.054	12.5	0.007	0.081	9.02	Pass
35	0.031	0.064	48.5	0.032	0.096	33.29	Pass
36	0.010	0.051	20.2	0.011	0.077	14.83	Pass
37	0.036	0.061	58.7	0.036	0.091	39.91	Pass
38	0.011	0.048	22.4	0.012	0.073	16.33	Pass
39	0.009	0.058	16.3	0.011	0.087	12.54	Pass
40	0.019	0.046	41.4	0.021	0.069	30.12	Pass

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Model: GUHD60NM3FO（outdoor unit）

Cooling mode

Phase B

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

THC(A): 1.121 **I-THD(%): 14.687** **POHC(A): 0.067** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	**219.88**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**13.745**	**I_RMS (Amps):**	**7.771**
I_Fund (Amps):	**7.652**	**Crest Factor:**	**1.778**
Power (Watts):	**1682**	**Power Factor:**	**0.990**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.067	1.080	6.2	0.073	1.620	4.48	Pass
3	0.900	2.300	39.1	0.908	3.450	26.33	Pass
4	0.017	0.430	3.9	0.018	0.645	2.83	Pass
5	0.596	1.140	52.3	0.599	1.710	35.05	Pass
6	0.020	0.300	6.8	0.021	0.450	4.77	Pass
7	0.229	0.770	29.8	0.231	1.155	20.02	Pass
8	0.019	0.230	8.1	0.020	0.345	5.84	Pass
9	0.112	0.400	28.1	0.114	0.600	18.95	Pass
10	0.018	0.184	9.6	0.019	0.276	7.02	Pass
11	0.095	0.330	28.8	0.097	0.495	19.53	Pass
12	0.015	0.153	10.0	0.017	0.230	7.19	Pass
13	0.051	0.210	24.3	0.053	0.315	16.87	Pass
14	0.012	0.131	9.5	0.014	0.197	6.88	Pass
15	0.036	0.150	23.8	0.037	0.225	16.41	Pass
16	0.012	0.115	10.5	0.013	0.173	7.38	Pass
17	0.033	0.132	25.2	0.034	0.199	17.25	Pass
18	0.010	0.102	9.5	0.011	0.153	6.94	Pass
19	0.026	0.118	21.9	0.027	0.178	15.03	Pass
20	0.007	0.092	7.8	0.008	0.138	5.58	Pass
21	0.021	0.107	19.9	0.022	0.161	13.66	Pass
22	0.006	0.084	7.7	0.007	0.125	5.52	Pass
23	0.024	0.098	24.4	0.025	0.147	16.73	Pass
24	0.006	0.077	8.3	0.007	0.115	6.03	Pass
25	0.018	0.090	20.3	0.019	0.135	13.94	Pass
26	0.005	0.071	7.0	0.006	0.106	5.21	Pass
27	0.015	0.083	17.7	0.015	0.125	12.36	Pass
28	0.005	0.066	7.9	0.006	0.099	5.65	Pass
29	0.013	0.078	16.9	0.014	0.116	11.86	Pass
30	0.004	0.061	0.0	0.005	0.092	5.09	Pass
31	0.024	0.073	32.8	0.024	0.109	22.31	Pass
32	0.006	0.058	9.8	0.006	0.086	7.16	Pass
33	0.011	0.068	16.5	0.012	0.102	11.56	Pass
34	0.006	0.054	10.9	0.006	0.081	7.83	Pass
35	0.034	0.064	53.6	0.035	0.096	36.70	Pass
36	0.010	0.051	19.5	0.011	0.077	14.81	Pass
37	0.028	0.061	45.6	0.028	0.091	31.19	Pass
38	0.010	0.048	19.7	0.010	0.073	14.01	Pass
39	0.011	0.058	18.6	0.011	0.087	12.95	Pass
40	0.019	0.046	40.5	0.022	0.069	31.97	Pass

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Model: GUHD60NM3FO（outdoor unit）

Cooling mode

Phase C

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

THC(A): 0.161 **I-THD(%): 2.429** **POHC(A): 0.034** **POHC Limit(A): 0.267**

Highest parameter values during test:

V_RMS (Volts):	**220.13**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**10.642**	**I_RMS (Amps):**	**6.675**
I_Fund (Amps):	**6.652**	**Crest Factor:**	**1.604**
Power (Watts):	**1463**	**Power Factor:**	**0.999**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.072	1.080	6.6	0.075	1.620	4.64	Pass
3	0.044	2.300	1.9	0.046	3.450	1.33	Pass
4	0.011	0.430	2.6	0.013	0.645	1.99	Pass
5	0.083	1.140	7.3	0.085	1.710	4.94	Pass
6	0.020	0.300	6.7	0.022	0.450	4.78	Pass
7	0.070	0.770	9.1	0.072	1.155	6.19	Pass
8	0.020	0.230	8.6	0.022	0.345	6.28	Pass
9	0.033	0.400	8.1	0.034	0.600	5.59	Pass
10	0.015	0.184	8.2	0.017	0.276	6.00	Pass
11	0.038	0.330	11.7	0.040	0.495	8.04	Pass
12	0.014	0.153	9.2	0.015	0.230	6.71	Pass
13	0.026	0.210	12.3	0.027	0.315	8.57	Pass
14	0.011	0.131	8.3	0.012	0.197	6.09	Pass
15	0.014	0.150	9.0	0.014	0.225	6.37	Pass
16	0.009	0.115	7.5	0.009	0.173	5.26	Pass
17	0.009	0.132	7.1	0.010	0.199	5.03	Pass
18	0.008	0.102	8.2	0.009	0.153	6.06	Pass
19	0.007	0.118	5.8	0.008	0.178	4.29	Pass
20	0.007	0.092	7.4	0.007	0.138	5.27	Pass
21	0.006	0.107	5.6	0.007	0.161	4.06	Pass
22	0.005	0.084	6.4	0.006	0.125	4.77	Pass
23	0.014	0.098	14.0	0.014	0.147	9.53	Pass
24	0.005	0.077	6.4	0.005	0.115	4.73	Pass
25	0.005	0.090	5.1	0.005	0.135	3.74	Pass
26	0.004	0.071	0.0	0.005	0.106	4.62	Pass
27	0.005	0.083	5.6	0.005	0.125	4.31	Pass
28	0.005	0.066	0.0	0.005	0.099	5.00	Pass
29	0.006	0.078	7.2	0.006	0.116	5.18	Pass
30	0.004	0.061	0.0	0.004	0.092	4.49	Pass
31	0.015	0.073	21.2	0.016	0.109	14.48	Pass
32	0.005	0.058	9.4	0.006	0.086	7.47	Pass
33	0.005	0.068	6.6	0.005	0.102	4.91	Pass
34	0.006	0.054	10.3	0.006	0.081	7.47	Pass
35	0.015	0.064	23.7	0.016	0.096	16.41	Pass
36	0.007	0.051	13.4	0.007	0.077	9.33	Pass
37	0.019	0.061	32.0	0.020	0.091	21.84	Pass
38	0.009	0.048	18.0	0.010	0.073	13.19	Pass
39	0.010	0.058	16.7	0.011	0.087	12.08	Pass
40	0.023	0.046	49.3	0.024	0.069	35.32	Pass

THIS TEST REPORT IS RESPONSIBLE FOR THE SAMPLE TESTED ONLY AND SHOULD NOT BE DUPLICATED IN PART WITHOUT PERMISSION OF THE TEST LAB

Model: GUHD60NM3FO（outdoor unit）

Heating mode

Phase A

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

THC(A): 0.21 **I-THD(%): 2.97** **POHC(A): 0.067** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	**220.19**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**10.997**	**I_RMS (Amps):**	**7.108**
I_Fund (Amps):	**7.088**	**Crest Factor:**	**1.558**
Power (Watts):	**1560**	**Power Factor:**	**0.999**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.070	1.080	6.5	0.078	1.620	4.83	Pass
3	0.054	2.300	2.3	0.057	3.450	1.66	Pass
4	0.027	0.430	6.2	0.029	0.645	4.48	Pass
5	0.099	1.140	8.7	0.101	1.710	5.90	Pass
6	0.036	0.300	12.0	0.038	0.450	8.40	Pass
7	0.084	0.770	10.9	0.086	1.155	7.48	Pass
8	0.029	0.230	12.7	0.032	0.345	9.16	Pass
9	0.059	0.400	14.8	0.062	0.600	10.32	Pass
10	0.025	0.184	13.7	0.027	0.276	9.86	Pass
11	0.063	0.330	19.0	0.065	0.495	13.04	Pass
12	0.025	0.153	16.5	0.027	0.230	11.94	Pass
13	0.032	0.210	15.0	0.033	0.315	10.42	Pass
14	0.022	0.131	16.8	0.024	0.197	12.10	Pass
15	0.019	0.150	12.9	0.021	0.225	9.22	Pass
16	0.014	0.115	11.8	0.015	0.173	8.63	Pass
17	0.013	0.132	10.1	0.015	0.199	7.31	Pass
18	0.012	0.102	11.4	0.013	0.153	8.66	Pass
19	0.011	0.118	9.2	0.012	0.178	6.73	Pass
20	0.010	0.092	10.3	0.010	0.138	7.39	Pass
21	0.009	0.107	8.5	0.010	0.161	6.25	Pass
22	0.009	0.084	10.7	0.010	0.125	7.86	Pass
23	0.033	0.098	33.6	0.034	0.147	22.92	Pass
24	0.010	0.077	12.7	0.011	0.115	9.18	Pass
25	0.008	0.090	8.7	0.009	0.135	6.40	Pass
26	0.007	0.071	9.8	0.007	0.106	6.97	Pass
27	0.007	0.083	8.4	0.008	0.125	6.02	Pass
28	0.006	0.066	9.0	0.007	0.099	6.64	Pass
29	0.009	0.078	11.6	0.009	0.116	8.18	Pass
30	0.005	0.061	8.5	0.006	0.092	6.20	Pass
31	0.028	0.073	39.0	0.029	0.109	26.67	Pass
32	0.008	0.058	14.5	0.010	0.086	11.15	Pass
33	0.007	0.068	9.8	0.007	0.102	7.04	Pass
34	0.007	0.054	12.5	0.007	0.081	8.94	Pass
35	0.031	0.064	48.1	0.032	0.096	32.94	Pass
36	0.010	0.051	19.5	0.011	0.077	14.05	Pass
37	0.036	0.061	58.8	0.037	0.091	40.22	Pass
38	0.013	0.048	26.5	0.014	0.073	19.14	Pass
39	0.008	0.058	13.2	0.009	0.087	10.59	Pass
40	0.012	0.046	25.0	0.015	0.069	22.43	Pass

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Model: GUHD60NM3FO（outdoor unit）

Heating mode

Phase B

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

THC(A): 1.121 **I-THD(%): 13.814** **POHC(A): 0.068** **POHC Limit(A): 0.251**

Highest parameter values during test:

V_RMS (Volts):	**219.87**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**14.364**	**I_RMS (Amps):**	**8.239**
I_Fund (Amps):	**8.129**	**Crest Factor:**	**1.754**
Power (Watts):	**1787**	**Power Factor:**	**0.991**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.072	1.080	6.7	0.077	1.620	4.74	Pass
3	0.899	2.300	39.1	0.905	3.450	26.22	Pass
4	0.019	0.430	4.5	0.021	0.645	3.26	Pass
5	0.599	1.140	52.5	0.602	1.710	35.19	Pass
6	0.021	0.300	6.9	0.022	0.450	4.90	Pass
7	0.227	0.770	29.5	0.229	1.155	19.81	Pass
8	0.018	0.230	7.7	0.019	0.345	5.52	Pass
9	0.112	0.400	28.1	0.114	0.600	19.07	Pass
10	0.017	0.184	9.2	0.019	0.276	6.75	Pass
11	0.091	0.330	27.7	0.093	0.495	18.77	Pass
12	0.016	0.153	10.4	0.017	0.230	7.31	Pass
13	0.052	0.210	24.6	0.053	0.315	16.70	Pass
14	0.015	0.131	11.2	0.016	0.197	8.30	Pass
15	0.034	0.150	22.8	0.036	0.225	15.90	Pass
16	0.010	0.115	8.8	0.011	0.173	6.43	Pass
17	0.032	0.132	24.3	0.033	0.199	16.62	Pass
18	0.008	0.102	8.3	0.009	0.153	5.96	Pass
19	0.024	0.118	20.2	0.025	0.178	13.93	Pass
20	0.007	0.092	7.8	0.008	0.138	5.59	Pass
21	0.021	0.107	19.6	0.021	0.161	13.32	Pass
22	0.007	0.084	8.0	0.007	0.125	5.69	Pass
23	0.026	0.098	26.5	0.026	0.147	17.96	Pass
24	0.007	0.077	8.5	0.007	0.115	6.16	Pass
25	0.018	0.090	19.5	0.018	0.135	13.43	Pass
26	0.005	0.071	7.6	0.006	0.106	5.42	Pass
27	0.015	0.083	17.6	0.015	0.125	12.00	Pass
28	0.005	0.066	0.0	0.005	0.099	5.03	Pass
29	0.014	0.078	17.8	0.014	0.116	12.34	Pass
30	0.005	0.061	8.1	0.005	0.092	5.89	Pass
31	0.024	0.073	33.0	0.024	0.109	22.45	Pass
32	0.006	0.058	10.1	0.006	0.086	7.47	Pass
33	0.012	0.068	17.0	0.012	0.102	11.85	Pass
34	0.006	0.054	10.9	0.006	0.081	7.65	Pass
35	0.034	0.064	53.5	0.035	0.096	36.83	Pass
36	0.010	0.051	18.9	0.010	0.077	13.57	Pass
37	0.027	0.061	45.0	0.028	0.091	30.97	Pass
38	0.011	0.048	22.8	0.012	0.073	17.05	Pass
39	0.010	0.058	17.8	0.011	0.087	12.79	Pass
40	0.011	0.046	23.9	0.015	0.069	21.29	Pass

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Model: GUHD60NM3FO（outdoor unit）

Heating mode

Phase C

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

THC(A): 0.164 **I-THD(%): 2.297** **POHC(A): 0.034** **POHC Limit(A): 0.275**

Highest parameter values during test:

V_RMS (Volts): 220.13 **Frequency(Hz): 50.00**

I_Peak (Amps): 11.077 **I_RMS (Amps): 7.158**

I_Fund (Amps): 7.138 **Crest Factor: 1.553**

Power (Watts): 1571 **Power Factor: 0.999**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.073	1.080	6.8	0.078	1.620	4.81	Pass
3	0.048	2.300	2.1	0.051	3.450	1.49	Pass
4	0.017	0.430	3.9	0.018	0.645	2.77	Pass
5	0.084	1.140	7.4	0.086	1.710	5.02	Pass
6	0.019	0.300	6.2	0.020	0.450	4.40	Pass
7	0.071	0.770	9.2	0.072	1.155	6.26	Pass
8	0.018	0.230	7.8	0.019	0.345	5.53	Pass
9	0.034	0.400	8.6	0.036	0.600	6.00	Pass
10	0.014	0.184	7.8	0.015	0.276	5.56	Pass
11	0.041	0.330	12.3	0.042	0.495	8.43	Pass
12	0.014	0.153	9.2	0.015	0.230	6.63	Pass
13	0.028	0.210	13.2	0.029	0.315	9.07	Pass
14	0.013	0.131	9.7	0.013	0.197	6.81	Pass
15	0.011	0.150	7.1	0.011	0.225	5.09	Pass
16	0.008	0.115	6.8	0.009	0.173	5.00	Pass
17	0.011	0.132	8.6	0.012	0.199	6.14	Pass
18	0.007	0.102	7.3	0.008	0.153	5.18	Pass
19	0.007	0.118	6.1	0.008	0.178	4.35	Pass
20	0.007	0.092	7.5	0.008	0.138	5.50	Pass
21	0.005	0.107	4.8	0.005	0.161	3.38	Pass
22	0.006	0.084	6.7	0.006	0.125	4.81	Pass
23	0.016	0.098	16.3	0.017	0.147	11.28	Pass
24	0.005	0.077	6.8	0.006	0.115	4.96	Pass
25	0.005	0.090	5.4	0.005	0.135	3.84	Pass
26	0.004	0.071	0.0	0.005	0.106	4.48	Pass
27	0.004	0.083	0.0	0.005	0.125	3.89	Pass
28	0.004	0.066	0.0	0.004	0.099	4.28	Pass
29	0.005	0.078	6.7	0.006	0.116	4.84	Pass
30	0.004	0.061	0.0	0.004	0.092	4.32	Pass
31	0.016	0.073	21.5	0.016	0.109	14.59	Pass
32	0.005	0.058	8.9	0.006	0.086	6.45	Pass
33	0.004	0.068	0.0	0.005	0.102	4.75	Pass
34	0.005	0.054	8.9	0.005	0.081	6.51	Pass
35	0.015	0.064	23.6	0.016	0.096	16.16	Pass
36	0.007	0.051	13.9	0.008	0.077	9.78	Pass
37	0.019	0.061	31.8	0.020	0.091	21.67	Pass
38	0.007	0.048	15.1	0.008	0.073	10.85	Pass
39	0.006	0.058	10.0	0.007	0.087	7.95	Pass
40	0.012	0.046	26.3	0.017	0.069	24.08	Pass

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Model: GKH60K3FI(indoor unit)

fan mode

Test Result: Pass **Source qualification: Normal**
THC(A): 0.45 **I-THD(%): 18.88** **POHC(A): 0.014** **POHC Limit(A): 0.283**
Highest parameter values during test:

V_RMS (Volts):	230.10	Frequency(Hz):	50.00
I_Peak (Amps):	1.118	I_RMS (Amps):	0.694
I_Fund (Amps):	0.634	Crest Factor:	1.748
Power (Watts):	152.1	Power Factor:	0.977

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.346	1.080	32.1	0.356	1.620	21.99	Pass
3	0.134	2.300	5.8	0.148	3.450	4.28	Pass
4	0.116	0.430	26.9	0.117	0.645	18.21	Pass
5	0.172	1.140	15.1	0.186	1.710	10.88	Pass
6	0.063	0.300	20.8	0.064	0.450	14.33	Pass
7	0.112	0.770	14.5	0.120	1.155	10.43	Pass
8	0.036	0.230	15.5	0.037	0.345	10.64	Pass
9	0.030	0.400	7.5	0.034	0.600	5.66	Pass
10	0.019	0.184	10.3	0.020	0.276	7.13	Pass
11	0.011	0.330	3.3	0.014	0.495	2.79	Pass
12	0.015	0.153	9.5	0.015	0.230	6.51	Pass
13	0.007	0.210	3.3	0.007	0.315	2.32	Pass
14	0.010	0.131	7.5	0.010	0.197	5.21	Pass
15	0.010	0.150	6.7	0.010	0.225	4.57	Pass
16	0.007	0.115	5.7	0.007	0.173	4.13	Pass
17	0.010	0.132	7.2	0.010	0.199	4.96	Pass
18	0.005	0.102	4.8	0.005	0.153	3.31	Pass
19	0.009	0.118	7.9	0.010	0.178	5.45	Pass
20	0.004	0.092	0.0	0.004	0.138	2.86	Pass
21	0.009	0.107	8.0	0.009	0.161	5.57	Pass
22	0.003	0.084	0.0	0.004	0.125	2.82	Pass
23	0.007	0.098	7.5	0.008	0.147	5.23	Pass
24	0.003	0.077	0.0	0.003	0.115	2.75	Pass
25	0.006	0.090	7.2	0.007	0.135	4.91	Pass
26	0.003	0.071	0.0	0.003	0.106	2.72	Pass
27	0.005	0.083	6.5	0.006	0.125	4.40	Pass
28	0.002	0.066	0.0	0.003	0.099	2.63	Pass
29	0.004	0.078	0.0	0.004	0.116	3.80	Pass
30	0.002	0.061	0.0	0.002	0.092	2.52	Pass
31	0.003	0.073	0.0	0.004	0.109	3.28	Pass
32	0.002	0.058	0.0	0.002	0.086	2.50	Pass
33	0.003	0.068	0.0	0.003	0.102	3.08	Pass
34	0.002	0.054	0.0	0.002	0.081	3.03	Pass
35	0.002	0.064	0.0	0.002	0.096	2.59	Pass
36	0.002	0.051	0.0	0.002	0.077	2.51	Pass
37	0.002	0.061	0.0	0.002	0.091	2.50	Pass
38	0.001	0.048	0.0	0.002	0.073	2.19	Pass
39	0.002	0.058	0.0	0.002	0.087	2.06	Pass
40	0.001	0.046	0.0	0.001	0.069	1.65	Pass

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Model: GTH60K3FI(indoor unit)

fan mode

Test Result: Pass **Source qualification: Normal**
THC(A): 0.48 **I-THD(%): 18.35** **POHC(A): 0.013** **POHC Limit(A): 0.283**
Highest parameter values during test:

V_RMS (Volts):	230.12	Frequency(Hz):	50.00
I_Peak (Amps):	1.404	I_RMS (Amps):	0.876
I_Fund (Amps):	0.811	Crest Factor:	1.719
Power (Watts):	193.2	Power Factor:	0.978

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.386	1.080	35.7	0.394	1.620	24.30	Pass
3	0.175	2.300	7.6	0.179	3.450	5.17	Pass
4	0.113	0.430	26.2	0.113	0.645	17.59	Pass
5	0.139	1.140	12.2	0.143	1.710	8.37	Pass
6	0.062	0.300	20.6	0.063	0.450	13.99	Pass
7	0.088	0.770	11.4	0.090	1.155	7.81	Pass
8	0.037	0.230	16.1	0.037	0.345	10.85	Pass
9	0.020	0.400	4.9	0.021	0.600	3.48	Pass
10	0.021	0.184	11.4	0.021	0.276	7.79	Pass
11	0.008	0.330	2.4	0.008	0.495	1.71	Pass
12	0.014	0.153	9.0	0.014	0.230	6.17	Pass
13	0.009	0.210	4.1	0.009	0.315	2.85	Pass
14	0.007	0.131	5.2	0.007	0.197	3.76	Pass
15	0.010	0.150	6.8	0.010	0.225	4.59	Pass
16	0.005	0.115	0.0	0.005	0.173	2.79	Pass
17	0.009	0.132	6.8	0.009	0.199	4.62	Pass
18	0.004	0.102	0.0	0.004	0.153	2.61	Pass
19	0.008	0.118	7.1	0.009	0.178	4.82	Pass
20	0.003	0.092	0.0	0.003	0.138	2.27	Pass
21	0.008	0.107	7.3	0.008	0.161	4.93	Pass
22	0.003	0.084	0.0	0.003	0.125	2.28	Pass
23	0.007	0.098	7.1	0.007	0.147	4.82	Pass
24	0.002	0.077	0.0	0.003	0.115	2.24	Pass
25	0.006	0.090	6.9	0.006	0.135	4.68	Pass
26	0.002	0.071	0.0	0.003	0.106	2.44	Pass
27	0.005	0.083	6.4	0.005	0.125	4.38	Pass
28	0.002	0.066	0.0	0.002	0.099	2.39	Pass
29	0.004	0.078	0.0	0.004	0.116	3.71	Pass
30	0.002	0.061	0.0	0.002	0.092	2.12	Pass
31	0.004	0.073	0.0	0.004	0.109	3.33	Pass
32	0.002	0.058	0.0	0.002	0.086	2.23	Pass
33	0.003	0.068	0.0	0.003	0.102	2.93	Pass
34	0.002	0.054	0.0	0.002	0.081	2.53	Pass
35	0.002	0.064	0.0	0.002	0.096	2.59	Pass
36	0.002	0.051	0.0	0.002	0.077	2.35	Pass
37	0.002	0.061	0.0	0.002	0.091	2.33	Pass
38	0.001	0.048	0.0	0.001	0.073	2.05	Pass
39	0.002	0.058	0.0	0.002	0.087	1.96	Pass
40	0.001	0.046	0.0	0.001	0.069	1.55	Pass

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Model: GFH60K3FI(indoor unit)

fan mode

Test Result: Pass **Source qualification: Normal**
THC(A): 0.49 **I-THD(%): 17.93** **POHC(A): 0.014** **POHC Limit(A): 0.283**
Highest parameter values during test:

V_RMS (Volts):	230.14	Frequency(Hz):	50.00
I_Peak (Amps):	2.643	I_RMS (Amps):	1.596
I_Fund (Amps):	1.529	Crest Factor:	1.722
Power (Watts):	354.2	Power Factor:	0.978

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.401	1.080	37.1	0.404	1.620	24.91	Pass
3	0.184	2.300	8.0	0.188	3.450	5.46	Pass
4	0.112	0.430	26.0	0.114	0.645	17.64	Pass
5	0.123	1.140	10.8	0.127	1.710	7.44	Pass
6	0.064	0.300	21.3	0.065	0.450	14.44	Pass
7	0.075	0.770	9.7	0.077	1.155	6.70	Pass
8	0.039	0.230	16.9	0.040	0.345	11.58	Pass
9	0.019	0.400	4.8	0.021	0.600	3.45	Pass
10	0.023	0.184	12.7	0.024	0.276	8.67	Pass
11	0.012	0.330	3.6	0.013	0.495	2.65	Pass
12	0.014	0.153	8.8	0.014	0.230	6.25	Pass
13	0.011	0.210	5.3	0.012	0.315	3.88	Pass
14	0.007	0.131	5.7	0.009	0.197	4.34	Pass
15	0.011	0.150	7.6	0.012	0.225	5.40	Pass
16	0.006	0.115	4.9	0.006	0.173	3.73	Pass
17	0.010	0.132	7.3	0.010	0.199	5.08	Pass
18	0.005	0.102	4.9	0.006	0.153	3.69	Pass
19	0.009	0.118	7.5	0.009	0.178	5.17	Pass
20	0.004	0.092	0.0	0.005	0.138	3.56	Pass
21	0.008	0.107	7.7	0.009	0.161	5.33	Pass
22	0.004	0.084	0.0	0.005	0.125	3.60	Pass
23	0.007	0.098	7.5	0.008	0.147	5.24	Pass
24	0.003	0.077	0.0	0.004	0.115	3.50	Pass
25	0.007	0.090	7.3	0.007	0.135	5.24	Pass
26	0.003	0.071	0.0	0.004	0.106	3.70	Pass
27	0.006	0.083	7.1	0.007	0.125	5.62	Pass
28	0.003	0.066	0.0	0.004	0.099	3.79	Pass
29	0.005	0.078	6.2	0.005	0.116	4.49	Pass
30	0.003	0.061	0.0	0.003	0.092	3.57	Pass
31	0.004	0.073	0.0	0.005	0.109	4.18	Pass
32	0.003	0.058	0.0	0.003	0.086	3.61	Pass
33	0.004	0.068	0.0	0.004	0.102	3.77	Pass
34	0.003	0.054	0.0	0.003	0.081	3.87	Pass
35	0.003	0.064	0.0	0.003	0.096	3.52	Pass
36	0.002	0.051	0.0	0.003	0.077	3.57	Pass
37	0.003	0.061	0.0	0.003	0.091	3.20	Pass
38	0.002	0.048	0.0	0.002	0.073	3.42	Pass
39	0.002	0.058	0.0	0.003	0.087	3.04	Pass
40	0.002	0.046	0.0	0.002	0.069	2.66	Pass

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4.5 Voltage Fluctuation on AC Mains

Date of testing	:	2013.08.17
Temperature	:	24°C~26°C
Humidity	:	66%RH~67%RH
Test procedure	:	EN61000-3-3: 2008
Frequency Range	:	0-2kHz
Test observation period	:	120min
Operational mode	:	Dry
Test result	:	Pass

1.Test Setup:

2. Test result.

Model		d_c [%]	d_{max} [%]	d (t)[ms]	Pst	Plt
GUHD60NM3FO（outdoor unit）	Phase L3	0.96	0.99	0.0	0.185	0.155
	Phase L2	0.95	0.98	0.0	0.184	0.154
	Phase L1	0.94	0.97	0.0	0.183	0.153
GFH60K3FI(indoor unit)		0.14	1.51	0.0	0.208	0.203
GTH60K3FI(indoor unit)		0.13	1.52	0.0	0.221	0.205
GKH60K3FI(indoor unit)		0.16	1.53	0.0	0.214	0.207
Limit		**3.30**	**6.00**	**500.0**	**1.000**	**0.650**

Remark:

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5. Immunity Tests

5.1 Electrostatic Discharge (ESD)

Date of testing	:	2013.08.17
Temperature	:	24°C~26°C
Humidity	:	56%RH
Test procedure	:	EN55014-2: 1997+A1: 2001+A2:2008
Basic Standard	:	IEC 61000-4-2:2008
Performance Criterion	:	B
Operational mode	:	Cool, High fan
Test result	:	Pass

1. Test setup

Note: HCP means Horizontal Coupling Plane,
VCP means Vertical Coupling Plane
GRP means Ground Reference Plane

The EUT was put on a 0.8m high wooden tabel/0.1m high for floor standing equipment standing on the ground reference plane(GRP) 3m by 2m in size, made by iron 1.0 mm thick.
A horizontal coupling plane(HCP) 1.6m by 0.8m in size was placed on the table, and the EUT with its cables were isolated from the HCP by an insulating support thick than 0.5mm. The VCP 0.5m by 0.5m in size & HCP were constructed from the same material type & thinness as that of the GRP, and connected to the GRP via a 470kΩ resistor at each end.
The distance between EUT and any of the other metallic surface excepted the GRP, HCP & VCP was greater than 1m.
The EUT was arranged and connected according to its functional requirements.

Direct static electricity discharges was applied only to those points and surface which are accessible to personnel during normal usage.

2. Test result

Location of Discharge	Type of Discharge	Level(kV)	Polarity	Number of Discharge	Result
Remote Receiver	Air	8.0	±	10	A
Display window	Air	8.0	±	10	A
Manual key	Air	8.0	±	10	A
Touchable screw	Contact	4.0	±	10	A
Remote Controller	Air	8.0	±	10	A
	HCP	4.0	±	10	A
	VCP	4.0	±	10	A

Remark:
The Air discharge could not occur and the EUT worked normally during the test, no degradation of function occurred.

Air -Air Discharge
Contact -Contact Discharge
HCP—Horizontal Coupling Plate,
VCP—Vertical Coupling Plate

5.2 Electrical Fast Transient/Burst (EFT)

Date of testing	:	2013.08.17
Temperature	:	24°C
Humidity	:	67%RH
Test procedure	:	EN55014-2: 1997+A1: 2001+A2:2008
Basic Standard	:	IEC 61000-4-4:2004
Repetition Frequency	:	5kHz
Performance Criterion	:	B
Operational mode	:	Cool, High fan
Test result	:	Pass

1.Test Setup

The EUT is placed on an insulating plane, it is 0.1m high for table model and 0.1m high for floor type above the grounded reference plane. EUT is at least 0.5m away from the wall of the EMC laboratory and other metal conductors grounded except the grounded reference plane., and its four borders are at least 0.1m away from the borders of the grounded reference plane. The cable between EUT and CDN is not more than 0.5m.

For signal lines and control lines, the burst signal is coupled by a capacitive coupling clamp.

2. Test result:

Location	Voltage (kV)	Duration (s)	Coupled by	Result
L +N+PE	±1	120	CDN	A
Interconnection line	±0.5	120	Capacitive Coupling Clamp	A
Remark: The EUT worked normally during the test, no degradation of function occurred.				

5.3 Surge

Date of testing	:	2013.08.17
Temperature	:	24°C
Humidity	:	67%RH
Test procedure	:	EN55014-2: 1997+A1: 2001+A2:2008
Basic Standard	:	IEC 61000-4-5:2005
Performance Criterion	:	B
Operational mode	:	Cool, High fan
Test result	:	Pass

1.Test Setup

The cable between EUT and CDN is not more than 1m..
No other special specifications.

2.Test result

Location	Polarity	Phase Angle	Number of test	Pulse Voltage (kV)	Result
L—N	±	0°	5	1	A
	±	90°	5	1	A
	±	180°	5	1	A
	±	270°	5	1	A
L-PE	±	0°	5	2	A
	±	90°	5	2	A
	±	180°	5	2	A
	±	270°	5	2	A
N-PE	±	0°	5	2	A
	±	90°	5	2	A
	±	180°	5	2	A
	±	270°	5	2	A
Remark: The EUT worked normally during the test, no degradation of function occurred.					

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5.4 Immunity to conducted Disturbances, induced by RF fields

Date of testing	:	2013.08.17
Temperature	:	24°C
Humidity	:	67%RH
Test procedure	:	EN55014-2: 1997+A1: 2001+A2:2008
Basic Standard	:	IEC 61000-4-6:2008
Frequency range	:	150k~230MHz
Modulation	:	80%AM, 1kHz sine-wave
Dwell time/Step size	:	3000ms / 1%
Performance Criterion	:	A
Operational mode	:	Cool, High fan
Test result	:	Pass

1. Test Setup

Frequency Range	Coupling Port	Strength	Coupling Method	Result
0.15MHz~80MHz	AC Mains	3V	CDN	A
80MHz~230MHz	AC Mains	3V	CDN	A
0.15MHz~80MHz	Interconnection wire	1V	Coupling/Decoupling Network	A
80MHz~230MHz	Interconnection wire	1V	Coupling/Decoupling Network	A
Remark: The EUT worked normally during the test, no degradation of function occurred.				

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5.5 Voltage Dips and Short interruptions

Date of testing	:	2013.08.17
Temperature	:	24°C
Humidity	:	67%RH
Test procedure	:	EN55014-2: 1997+A1: 2001+A2:2008
Basic Standard	:	IEC 61000-4-11:2004
Performance Criterion	:	C
Operational mode	:	Cool, High fan
Test result	:	Pass

1.Test Setup

No other special specifications.

2. Test result.

Severity Level		Test Level	Duration	Intervals	Phase Angle	Number of Test	Result
Short Interruption 100%		0%U_T	0.5P	3min	0°	3	A
					180°	3	A
Voltage Dips	60%	40%U_T	10P	3min	0°	3	B
					180°	3	B
	30%	70%U_T	25P	3min	0°	3	B
					180°	3	B

Remark:

1, U_T: Nominal Voltage of EUT.

2, During the test of 40%U_T, 70%U_T the EUT stopped, but it could recover the primal status. No degradation of function occurred.

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