CERTIFICATE OF COMPLIANCE

No. C13E094

Holder of Certificate: GREE Electric Appliances Inc. of zhuhai
Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P. R. China
Product: Air Conditioner
Model/Type:
GTH12K3FI
GFH12K3FI
GKH12K3FI
GUHD12NK3FO

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: GER13E094E

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: Li zhikun
Date: 2013-05-02

Jinji West Road, Qianshan, Zhuhai, Guangdong 519070 P.R.China
Tel:+86 756 8614883; Fax:+86 756 8614998

EMC TEST REPORT

Product Name	:	Split-type Room Air Conditioner
Product Model	:	GTH12K3FI(indoor unit) GFH12K3FI(indoor unit) GKH12K3FI(indoor unit) GUHD12NK3FO（outdoor unit）
Serial No.	:	Pre-production model
Date of Receipt	:	2013.05.02
Test Period	:	2013.05.02
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**		2013-05-02
		Printed Name	*Signature*	*Date((YY-MM-DD)*
Reviewed by	:	Li zhikun		2013-05-02
		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
Tel:（0756）8668624 Fax:（0756）8614998

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

Contents

CONTENTS **2**

1. TEST SUMMARY **3**

2. PRODUCTS DESCRIPTION **4**

3. LIST OF TEST AND MEASUREMENT INSTRUMENTS **5**

4. EMISSION TEST **6**

4.1 Main and Additional Terminal Continuous Disturbance Voltage 6

4.2 Discontinuous Interference on AC Mains 27

4.3 Disturbance Power 29

4.4 Harmonics on AC Mains 43

4.5 Voltage Fluctuation on AC Mains 46

5. IMMUNITY TESTS **47**

5.1 Electrostatic Discharge (ESD) 47

5.2 Electrical Fast Transient/Burst (EFT) 49

5.3 Surge 50

5.4 Immunity to conducted Disturbances, induced by RF fields 51

5.5 Voltage Dips and Short interruptions 52

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.

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

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

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

2. Products Description

Power Supply : AC 220-240V , 50Hz

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 (GUHD12NK3FO), it can match three different model indoor units (GTH12K3FI，GFH12K3FI and GKH12K3FI) 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.

Electric wiring between indoor and outdoor units

3. List of Test and Measurement Instruments

Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	R&S	ESCS30	100353	07/07/2013
L.I.S.N	R&S	ENV4200	100031	07/07/2013
Pulse limiter	R&S	ESH3-Z2	100066	07/07/2013
Absorbing Clamp	R&S	MDS-21	100194	07/07/2013
Voltage Probe	Schwarbeck	TK9420	9426-235	07/07/2013
Clicks Analyzer	Schaffner	DIA1512D	21534	07/07/2013
Harmonic/Flicker Testing system	CI	PACS-3	72823	03/28/2014
ESD Simulator System	TESTQ	NSG438	1198	08/13/2013
EFT/B Generator	Schaffner	NSG2025-4	1237	07/07/2013
Capacitive Coupling Clamp	Schaffner	CDN126	532	07/07/2013
RF-Generator	Schaffner	NSG2070	1022	03/28/2014
Coupling/Decoupling Network	Schaffner	CDN M316	15072	07/07/2013
EM clamp	Schaffner	KEMZ801	15792	07/07/2013
Voltage Swell/DIP/Interrupt Source	KeyTek ECAT	EP62	0512181	11/30/2013
Surge Generator-Combination Wave	KeyTek ECAT	510A	0512182	11/30/2013
Coupling/Decoupling Network	KeyTek ECAT	E4554A	0512183	11/30/2013

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

4. Emission Test

4.1 Main and Additional Terminal Continuous Disturbance Voltage

Date of testing	:	2013.05.02
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: GUHD12NK3FO（outdoor unit）

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dB	Delta Limit dB
0.16350	39.9	-25.3
0.55500	24.3	-31.6
0.60000	26.4	-29.5
2.06250	37.1	-18.8
3.81750	43.7	-12.2
4.33950	43.4	-12.5
9.81600	36.0	-23.9
24.58050	44.7	-15.2

Frequency MHz	AV Level dB	Delta Limit dB
0.15900	35.9	-22.5
1.07700	23.6	-22.3
2.05800	33.2	-12.7
3.85800	38.2	-7.7
4.13700	38.1	-7.8
9.46050	29.3	-20.6
24.43650	33.5	-16.4

Model: GUHD12NK3FO（outdoor unit）

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

Final measurement results

Frequency MHz	QP Level dBuV	Delta Limit dB
0.28500	37.8	-22.9
0.38400	37.5	-20.7
0.61800	35.0	-20.9
1.95900	42.7	-13.3
3.65550	45.8	-10.1
4.27650	45.5	-10.5
11.82750	38.5	-21.4
24.11250	47.8	-12.2

Frequency MHz	AV Level dBuV	Delta Limit dB
0.28500	32.2	-19.9
0.49650	30.0	-16.0
1.05900	31.0	-14.9
2.11650	37.0	-8.9
3.91650	40.2	-5.7
4.11450	39.8	-6.1
11.86800	30.1	-19.8
24.21600	40.6	-9.3

Model: GUHD12NK3FO（outdoor unit）

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15000	37.8	-28.1
0.55950	23.7	-32.2
0.58200	23.7	-32.2
2.12100	37.8	-18.1
3.65550	43.4	-12.5
4.27650	43.5	-12.4
9.59100	35.4	-24.5
25.66050	43.1	-16.8

Frequency MHz	AV Level dBuV	Delta Limit dB
0.15900	37.0	-21.3
0.68100	22.8	-23.1
2.09850	33.0	-12.9
3.81750	38.2	-7.7
4.33500	38.0	-7.9
9.56850	29.2	-20.7
25.81800	35.2	-14.7

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

Model: GUHD12NK3FO（outdoor unit）

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dBuV	Delta Limit dB
0.28050	36.8	-23.9
0.51450	34.9	-21.0
1.00050	35.4	-20.5
2.07600	42.3	-13.6
3.93450	45.7	-10.2
4.57800	44.3	-11.6
13.06950	33.6	-26.3
24.30150	45.8	-14.1

Frequency MHz	AV Level dBuV	Delta Limit dB
0.28500	32.2	-19.9
0.40200	31.7	-16.7
1.05900	31.0	-14.9
2.09850	37.2	-8.7
3.87600	40.3	-5.6
4.15500	40.2	-5.7
11.79150	29.3	-20.6
24.40050	38.3	-11.6

Model: GTH12K3FI(indoor unit)

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16800	37.4	-27.6
0.55050	36.1	-19.8
0.59100	33.5	-22.4
1.09950	39.4	-16.5
4.06950	29.9	-26.0
4.50600	23.9	-32.0
13.29450	36.2	-23.7
21.79500	37.6	-22.3

Frequency MHz	AV Level dBuV	Delta Limit dB
0.51000	29.8	-16.1
1.06350	35.2	-10.7
1.09950	35.1	-10.8
4.06050	24.7	-21.2
7.15650	30.1	-19.8
9.51000	32.4	-17.5
22.43850	32.5	-17.4

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

Model: GTH12K3FI(indoor unit)

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15000	37.5	-28.4
0.47850	37.3	-19.1
0.57750	32.5	-23.4
1.12200	38.1	-17.9
4.08300	29.5	-26.4
7.93500	35.0	-24.9
9.83400	33.6	-26.3
21.48000	39.2	-20.7

Frequency MHz	AV Level dBuV	Delta Limit dB
0.47850	30.7	-15.8
1.08150	34.3	-11.6
1.13550	34.6	-11.3
4.02900	24.0	-21.9
7.91700	30.3	-19.6
12.99750	31.7	-18.2
21.48450	34.3	-15.6

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

Model: GTH12K3FI(indoor unit)

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dBuV	Delta Limit dB
0.16800	37.3	-27.7
0.53700	35.5	-20.4
0.58200	33.9	-22.0
1.13550	39.6	-16.3
4.06050	29.9	-26.0
7.84050	34.5	-25.4
12.04800	40.0	-19.9
21.83100	37.1	-22.8

Frequency MHz	AV Level dBuV	Delta Limit dB
0.47850	33.1	-13.3
1.04550	34.5	-11.4
1.13550	35.3	-10.6
4.09650	25.1	-20.8
7.20150	30.2	-19.7
11.89050	31.8	-18.1
21.56100	33.5	-16.4

Model: GTH12K3FI(indoor unit)

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

Final measurement results

Final Measurement Results:

Frequency MHz	QP Level dBuV	Delta Limit dB
0.15000	37.3	-28.6
0.50100	32.7	-23.2
0.58650	33.7	-22.2
1.13550	39.1	-16.8
4.04700	29.4	-26.5
7.89450	34.9	-25.0
9.46500	35.6	-24.3
21.66900	40.0	-19.9

Frequency MHz	AV Level dBuV	Delta Limit dB
0.47850	31.2	-15.3
1.08150	33.7	-12.2
1.11750	32.7	-13.2
4.04700	24.5	-21.4
7.89900	30.4	-19.5
12.24600	31.2	-18.7
21.43050	34.1	-15.8

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

Model: GFH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	14-QP			
Trace2:	14-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	286 kHz	36.31	L1 gnd	-24.32
2 Average	314 kHz	30.92	L1 gnd	-20.09
2 Average	366 kHz	28.40	L1 gnd	-20.96
1 Quasi Peak	530 kHz	31.78	L1 gnd	-24.21
2 Average	934 kHz	22.17	L1 gnd	-23.82
1 Quasi Peak	1.618 MHz	26.21	L1 gnd	-29.78
1 Quasi Peak	4.97 MHz	37.80	L1 gnd	-18.19
2 Average	4.978 MHz	33.16	L1 gnd	-12.83
1 Quasi Peak	6.01 MHz	47.47	L1 gnd	-12.53
2 Average	6.054 MHz	41.71	L1 gnd	-8.28
2 Average	12.586 MHz	29.41	L1 gnd	-20.58
1 Quasi Peak	12.822 MHz	35.68	L1 gnd	-24.31

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

Model: GFH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	14-QP			
Trace2:	14-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	266 kHz	38.94	L1 gnd	-22.29
2 Average	266 kHz	33.62	L1 gnd	-19.18
2 Average	518 kHz	24.57	L1 gnd	-21.43
1 Quasi Peak	522 kHz	31.98	L1 gnd	-24.01
2 Average	918 kHz	22.17	L1 gnd	-23.82
1 Quasi Peak	1.866 MHz	25.28	L1 gnd	-30.71
2 Average	4.954 MHz	31.01	L1 gnd	-14.98
1 Quasi Peak	4.998 MHz	37.55	L1 gnd	-18.44
2 Average	6.014 MHz	39.09	L1 gnd	-10.90
1 Quasi Peak	6.054 MHz	46.49	L1 gnd	-13.51
2 Average	15.366 MHz	26.05	L1 gnd	-23.94
1 Quasi Peak	16.406 MHz	31.13	L1 gnd	-28.86

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

Model: GFH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	14-QP			
Trace2:	14-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	286 kHz	35.97	L1 gnd	-24.67
2 Average	306 kHz	31.30	L1 gnd	-19.99
2 Average	366 kHz	28.74	L1 gnd	-20.62
1 Quasi Peak	522 kHz	32.14	L1 gnd	-23.85
2 Average	902 kHz	21.26	L1 gnd	-24.73
1 Quasi Peak	938 kHz	27.03	L1 gnd	-28.96
1 Quasi Peak	4.998 MHz	39.63	L1 gnd	-16.37
2 Average	4.998 MHz	33.13	L1 gnd	-12.86
1 Quasi Peak	5.998 MHz	48.26	L1 gnd	-11.73
2 Average	6.054 MHz	41.82	L1 gnd	-8.17
2 Average	12.846 MHz	30.19	L1 gnd	-19.80
1 Quasi Peak	13.69 MHz	36.33	L1 gnd	-23.66

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

Model: GFH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	14-QP			
Trace2:	14-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	262 kHz	38.87	L1 gnd	-22.49
2 Average	266 kHz	33.34	L1 gnd	-19.46
1 Quasi Peak	518 kHz	32.25	L1 gnd	-23.74
2 Average	522 kHz	24.12	L1 gnd	-21.87
2 Average	946 kHz	21.25	L1 gnd	-24.74
1 Quasi Peak	1.718 MHz	26.31	L1 gnd	-29.68
1 Quasi Peak	4.918 MHz	39.09	L1 gnd	-16.90
2 Average	4.998 MHz	33.25	L1 gnd	-12.74
2 Average	6.218 MHz	41.31	L1 gnd	-8.68
1 Quasi Peak	6.394 MHz	47.69	L1 gnd	-12.30
2 Average	12.698 MHz	26.73	L1 gnd	-23.26
1 Quasi Peak	15.49 MHz	32.56	L1 gnd	-27.43

Model: GKH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)					
Trace1:		14-QP			
Trace2:		14-AV			
Trace3:		---			
TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	166 kHz	42.75	L1 gnd	-22.40
2	Average	362 kHz	32.27	L1 gnd	-17.21
1	Quasi Peak	470 kHz	46.73	L1 gnd	-9.77
2	Average	498 kHz	39.03	L1 gnd	-7.01
1	Quasi Peak	1.026 MHz	37.89	L1 gnd	-18.10
2	Average	1.134 MHz	34.64	L1 gnd	-11.35
1	Quasi Peak	3.586 MHz	30.56	L1 gnd	-25.43
2	Average	3.958 MHz	34.94	L1 gnd	-11.05
2	Average	6.258 MHz	33.53	L1 gnd	-16.46
1	Quasi Peak	8.362 MHz	36.80	L1 gnd	-23.19
1	Quasi Peak	12.414 MHz	32.18	L1 gnd	-27.81
2	Average	17.09 MHz	25.43	L1 gnd	-24.56

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

Model: GKH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)					
Trace1:		14-QP			
Trace2:		14-AV			
Trace3:		---			
TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	166 kHz	42.21	L1 gnd	-22.94
2	Average	330 kHz	29.40	L1 gnd	-21.07
2	Average	498 kHz	38.62	L1 gnd	-7.42
1	Quasi Peak	546 kHz	35.83	L1 gnd	-20.17
1	Quasi Peak	1.11 MHz	35.07	L1 gnd	-20.92
2	Average	1.134 MHz	34.21	L1 gnd	-11.78
1	Quasi Peak	3.898 MHz	40.00	L1 gnd	-15.99
2	Average	3.898 MHz	36.01	L1 gnd	-9.98
2	Average	8.454 MHz	34.62	L1 gnd	-15.37
1	Quasi Peak	9.162 MHz	40.24	L1 gnd	-19.75
2	Average	17.118 MHz	29.97	L1 gnd	-20.02
1	Quasi Peak	18.106 MHz	35.61	L1 gnd	-24.38

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

Model: GKH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)					
Trace1:		14-QP			
Trace2:		14-AV			
Trace3:		---			
TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	166 kHz	42.90	L1 gnd	-22.24
2	Average	362 kHz	31.86	L1 gnd	-17.62
2	Average	498 kHz	39.01	L1 gnd	-7.03
1	Quasi Peak	550 kHz	36.37	L1 gnd	-19.62
1	Quasi Peak	1.022 MHz	38.76	L1 gnd	-17.23
2	Average	1.134 MHz	34.39	L1 gnd	-11.60
1	Quasi Peak	3.574 MHz	30.74	L1 gnd	-25.25
2	Average	4.01 MHz	34.44	L1 gnd	-11.55
2	Average	9.198 MHz	32.72	L1 gnd	-17.27
1	Quasi Peak	9.218 MHz	37.99	L1 gnd	-22.01
2	Average	12.47 MHz	26.49	L1 gnd	-23.50
1	Quasi Peak	12.574 MHz	34.09	L1 gnd	-25.90

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

Model: GKH12K3FI(indoor unit)

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

Final measurement results

EDIT PEAK LIST (Final Measurement Results)					
Trace1:	14-QP				
Trace2:	14-AV				
Trace3:	---				
TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	162 kHz	44.45	L1 gnd	-20.90
2	Average	362 kHz	29.61	L1 gnd	-19.87
2	Average	498 kHz	38.78	L1 gnd	-7.26
1	Quasi Peak	558 kHz	35.89	L1 gnd	-20.10
1	Quasi Peak	1.05 MHz	39.04	L1 gnd	-16.96
2	Average	1.078 MHz	35.38	L1 gnd	-10.61
1	Quasi Peak	3.606 MHz	32.01	L1 gnd	-23.98
2	Average	3.982 MHz	35.18	L1 gnd	-10.81
2	Average	9.162 MHz	35.10	L1 gnd	-14.90
1	Quasi Peak	9.23 MHz	40.32	L1 gnd	-19.67
1	Quasi Peak	17.55 MHz	37.64	L1 gnd	-22.35
2	Average	18.126 MHz	29.63	L1 gnd	-20.36

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

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=60/8.0 =7.5 MHz. Where, the length of interconnection line is 8.0 meters.

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

Final measurement results

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	7.564 MHz	61.29	L1 gnd	-12.70
2	Average	7.608 MHz	55.81	L1 gnd	-8.18
1	Quasi Peak	11.268 MHz	53.80	L1 gnd	-20.19
2	Average	11.508 MHz	48.65	L1 gnd	-15.34
2	Average	12.936 MHz	47.07	L1 gnd	-16.92
1	Quasi Peak	13.52 MHz	53.82	L1 gnd	-20.17
2	Average	18.592 MHz	47.10	L1 gnd	-16.89
1	Quasi Peak	18.744 MHz	54.26	L1 gnd	-19.74
1	Quasi Peak	21.796 MHz	60.18	L1 gnd	-13.81
2	Average	22.104 MHz	55.14	L1 gnd	-8.85
2	Average	24.18 MHz	49.77	L1 gnd	-14.22
1	Quasi Peak	25.324 MHz	53.39	L1 gnd	-20.60

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

Additional terminal:

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

Final measurement results

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
2	Average	7.5 MHz	53.78	L1 gnd	-10.21
1	Quasi Peak	7.668 MHz	59.63	L1 gnd	-14.36
1	Quasi Peak	9.644 MHz	54.87	L1 gnd	-19.12
2	Average	9.744 MHz	49.44	L1 gnd	-14.55
2	Average	11.984 MHz	47.06	L1 gnd	-16.93
1	Quasi Peak	13.212 MHz	50.37	L1 gnd	-23.62
2	Average	18.464 MHz	47.40	L1 gnd	-16.59
1	Quasi Peak	18.888 MHz	53.13	L1 gnd	-20.86
1	Quasi Peak	20.18 MHz	51.86	L1 gnd	-22.14
2	Average	21.52 MHz	48.97	L1 gnd	-15.02
2	Average	29.952 MHz	43.47	L1 gnd	-20.52
1	Quasi Peak	29.956 MHz	48.67	L1 gnd	-25.32

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

Additional terminal:

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

Final measurement results

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	7.5 MHz	59.60	L1 gnd	-14.39
2	Average	7.5 MHz	54.17	L1 gnd	-9.82
2	Average	9.72 MHz	48.33	L1 gnd	-15.66
1	Quasi Peak	9.748 MHz	53.10	L1 gnd	-20.89
2	Average	12 MHz	46.36	L1 gnd	-17.63
1	Quasi Peak	12.048 MHz	51.32	L1 gnd	-22.67
1	Quasi Peak	18.364 MHz	53.22	L1 gnd	-20.77
2	Average	18.664 MHz	47.41	L1 gnd	-16.58
2	Average	19.024 MHz	46.20	L1 gnd	-17.79
1	Quasi Peak	20.064 MHz	51.52	L1 gnd	-22.47
1	Quasi Peak	29.868 MHz	46.92	L1 gnd	-27.07
2	Average	29.956 MHz	40.92	L1 gnd	-23.07

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

Additional terminal:

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

Final measurement results

	TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	7.54 MHz	57.81	L1 gnd	-16.18
2	Average	7.616 MHz	52.21	L1 gnd	-11.78
2	Average	11.416 MHz	47.72	L1 gnd	-16.28
1	Quasi Peak	11.448 MHz	52.50	L1 gnd	-21.49
2	Average	11.908 MHz	46.81	L1 gnd	-17.18
1	Quasi Peak	11.94 MHz	51.70	L1 gnd	-22.29
1	Quasi Peak	18.392 MHz	53.83	L1 gnd	-20.16
2	Average	18.66 MHz	48.80	L1 gnd	-15.19
1	Quasi Peak	21.924 MHz	59.88	L1 gnd	-14.11
2	Average	21.948 MHz	53.28	L1 gnd	-10.71
1	Quasi Peak	29.256 MHz	52.75	L1 gnd	-21.24
2	Average	29.26 MHz	45.60	L1 gnd	-18.39

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

4.2 Discontinuous Interference on AC Mains

Date of testing	:	2013.05.02
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.

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

2. Test results.

Model: GUHD12NK3FO（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: GFH12K3FI(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: GTH12K3FI(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			

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

4.3 Disturbance Power

Date of testing	:	2013.05.02
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:

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

Model: GUHD12NK3FO（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	32.72 MHz	33.05	-12.04
2 Average	33.88 MHz	21.49	-13.64
1 Quasi Peak	53.96 MHz	29.63	-16.24
2 Average	55.84 MHz	21.51	-14.44
1 Quasi Peak	68.2 MHz	26.45	-19.96
1 Quasi Peak	87.8 MHz	29.62	-17.51
1 Quasi Peak	113.44 MHz	32.65	-15.43
1 Quasi Peak	123.2 MHz	29.79	-18.66
1 Quasi Peak	155.96 MHz	29.96	-19.69
1 Quasi Peak	157.24 MHz	30.67	-19.04

Model: GUHD12NK3FO（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	40 MHz	25.76	-9.60
1 Quasi Peak	47.44 MHz	33.56	-12.07
2 Average	51.8 MHz	23.93	-11.87
1 Quasi Peak	52.24 MHz	33.57	-12.24
1 Quasi Peak	67.08 MHz	22.52	-23.84
1 Quasi Peak	115 MHz	22.78	-25.36

Model: GUHD12NK3FO（outdoor unit）

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

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	40 MHz	25.56	-9.80
1 Quasi Peak	47.52 MHz	32.82	-12.82
1 Quasi Peak	50.76 MHz	33.54	-12.22
2 Average	51.04 MHz	23.82	-11.95
1 Quasi Peak	69.84 MHz	24.53	-21.93
1 Quasi Peak	86.68 MHz	22.29	-24.80
1 Quasi Peak	112.04 MHz	23.01	-25.01
1 Quasi Peak	261.68 MHz	14.18	-39.40

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

Model: GUHD12NK3FO（outdoor unit）

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

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	30.48 MHz	23.89	-11.12
1 Quasi Peak	46.6 MHz	35.28	-10.32
2 Average	50.32 MHz	26.33	-9.41
1 Quasi Peak	50.8 MHz	37.09	-8.67
1 Quasi Peak	100.32 MHz	33.19	-14.41
1 Quasi Peak	107.88 MHz	35.29	-12.58
1 Quasi Peak	131.68 MHz	29.13	-19.63
1 Quasi Peak	166.76 MHz	26.46	-23.60

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

Model: GUHD12NK3FO（outdoor unit）

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

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	30.68 MHz	24.23	-10.79
1 Quasi Peak	31.16 MHz	35.01	-10.03
1 Quasi Peak	48.64 MHz	38.03	-7.65
2 Average	50.28 MHz	26.42	-9.32
1 Quasi Peak	96.6 MHz	23.17	-24.29
1 Quasi Peak	111.12 MHz	24.67	-23.33
1 Quasi Peak	124.96 MHz	26.96	-21.54
1 Quasi Peak	166.64 MHz	30.63	-19.42
1 Quasi Peak	230.36 MHz	14.22	-38.20

Model: GUHD12NK3FO（outdoor unit）

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

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	30.64 MHz	27.84	-7.17
1 Quasi Peak	30.68 MHz	38.95	-6.07
1 Quasi Peak	49.08 MHz	28.89	-16.80
2 Average	50.28 MHz	21.01	-14.73
1 Quasi Peak	113.72 MHz	32.89	-15.20
1 Quasi Peak	137 MHz	35.65	-13.31
2 Average	155.72 MHz	24.38	-15.26
1 Quasi Peak	155.88 MHz	41.76	-7.89
2 Average	156.92 MHz	24.78	-14.91
1 Quasi Peak	163.28 MHz	41.13	-8.80
1 Quasi Peak	174.08 MHz	31.96	-18.36

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

Model: GTH12K3FI(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	30.68 MHz	33.14	-11.88
2 Average	33.52 MHz	21.59	-13.53
1 Quasi Peak	57.08 MHz	31.63	-14.37
2 Average	57.08 MHz	23.78	-12.22
1 Quasi Peak	67.92 MHz	28.09	-18.30
1 Quasi Peak	95.2 MHz	30.72	-16.68
1 Quasi Peak	112.84 MHz	38.22	-9.84
1 Quasi Peak	137.4 MHz	38.15	-10.82
1 Quasi Peak	155.96 MHz	40.68	-8.98
1 Quasi Peak	157.64 MHz	41.82	-7.89
1 Quasi Peak	174.04 MHz	30.88	-19.44

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

Model: GTH12K3FI(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	31.28 MHz	39.12	-5.91
2 Average	31.28 MHz	27.90	-7.14
1 Quasi Peak	48.92 MHz	29.17	-16.52
2 Average	50.28 MHz	20.40	-15.34
1 Quasi Peak	94.56 MHz	25.76	-21.63
1 Quasi Peak	114.12 MHz	33.37	-14.74
1 Quasi Peak	136.52 MHz	37.33	-11.61
1 Quasi Peak	155.96 MHz	42.93	-6.73
2 Average	155.96 MHz	25.38	-14.28
1 Quasi Peak	156.28 MHz	43.03	-6.64
2 Average	156.52 MHz	25.63	-14.04
1 Quasi Peak	174.44 MHz	32.01	-18.33

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

Model: GFH12K3FI(indoor unit)

Cooling mode **Port: Power Cord**

Heating mode **Port: Power Cord**

Model: GKH12K3FI(indoor unit)

Cooling mode **Port: Power Cord**

Heating mode **Port: Power Cord**

Model: Control panel

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

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

Model: Control panel

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

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	45.16 MHz	21.44	-24.11
1 Quasi Peak	50.16 MHz	22.23	-23.51
1 Quasi Peak	119.64 MHz	35.09	-13.22
1 Quasi Peak	122.8 MHz	39.70	-8.72
2 Average	122.92 MHz	20.65	-17.78
1 Quasi Peak	150.88 MHz	29.67	-19.80
1 Quasi Peak	162.48 MHz	29.77	-20.12
1 Quasi Peak	174.12 MHz	28.82	-21.51
1 Quasi Peak	193.28 MHz	26.64	-24.40

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

Model: Control panel

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

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 MHz	22.68	-22.31
1 Quasi Peak	57.16 MHz	23.76	-22.24
1 Quasi Peak	119.04 MHz	36.39	-11.90
2 Average	119.04 MHz	16.55	-21.74
1 Quasi Peak	124.84 MHz	39.87	-8.63
2 Average	124.88 MHz	21.07	-17.44
1 Quasi Peak	155.52 MHz	29.33	-20.31
1 Quasi Peak	165.64 MHz	29.45	-20.56
1 Quasi Peak	174.28 MHz	28.66	-21.67

4.4 Harmonics on AC Mains

Date of testing	:	2013.05.02
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: GUHD12NK3FO（outdoor unit）

Cooling mode

Test Result: Pass **Source qualification: Normal**
THC(A): 1.03 **I-THD(%): 28.10** **POHC(A): 0.054** **POHC Limit(A): 0.271**
Highest parameter values during test:

V_RMS (Volts):	230.16	Frequency(Hz):	50.00
I_Peak (Amps):	11.338	I_RMS (Amps):	5.608
I_Fund (Amps):	5.353	Crest Factor:	5.162
Power (Watts):	1231.7	Power Factor:	0.973

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.024	1.080	2.2	0.067	1.620	4.11	Pass
3	0.914	2.300	39.7	1.246	3.450	36.12	Pass
4	0.025	0.430	5.8	0.051	0.645	7.96	Pass
5	0.174	1.140	15.3	0.320	1.710	18.70	Pass
6	0.031	0.300	10.2	0.050	0.450	11.14	Pass
7	0.295	0.770	38.3	0.330	1.155	28.54	Pass
8	0.039	0.230	17.1	0.058	0.345	16.69	Pass
9	0.189	0.400	47.4	0.234	0.600	38.96	Pass
10	0.037	0.184	19.9	0.052	0.276	18.87	Pass
11	0.121	0.330	36.8	0.187	0.495	37.68	Pass
12	0.043	0.153	28.4	0.064	0.230	28.02	Pass
13	0.154	0.210	73.2	0.171	0.315	54.36	Pass
14	0.038	0.131	29.2	0.057	0.197	28.68	Pass
15	0.078	0.150	52.2	0.112	0.225	49.79	Pass
16	0.023	0.115	19.8	0.030	0.173	17.61	Pass
17	0.071	0.132	53.6	0.084	0.199	42.07	Pass
18	0.015	0.102	14.8	0.018	0.153	12.00	Pass
19	0.059	0.118	49.8	0.069	0.178	38.68	Pass
20	0.013	0.092	13.8	0.015	0.138	11.13	Pass
21	0.029	0.107	27.4	0.048	0.161	29.64	Pass
22	0.011	0.084	13.2	0.013	0.125	10.29	Pass
23	0.035	0.098	35.3	0.040	0.147	26.94	Pass
24	0.009	0.077	12.2	0.011	0.115	9.58	Pass
25	0.020	0.090	22.6	0.030	0.135	21.94	Pass
26	0.008	0.071	11.0	0.010	0.106	9.26	Pass
27	0.015	0.083	18.1	0.023	0.125	18.08	Pass
28	0.006	0.066	9.7	0.009	0.099	8.76	Pass
29	0.014	0.078	18.6	0.017	0.116	14.44	Pass
30	0.005	0.061	9.0	0.008	0.092	8.47	Pass
31	0.006	0.073	8.4	0.012	0.109	10.95	Pass
32	0.004	0.058	7.1	0.006	0.086	6.95	Pass
33	0.006	0.068	9.6	0.009	0.102	8.38	Pass
34	0.003	0.054	0.0	0.005	0.081	5.95	Pass
35	0.003	0.064	5.0	0.006	0.096	6.75	Pass
36	0.002	0.051	0.0	0.004	0.077	5.60	Pass
37	0.004	0.061	6.7	0.005	0.091	5.71	Pass
38	0.002	0.048	0.0	0.003	0.073	4.71	Pass
39	0.004	0.058	8.7	0.006	0.087	7.31	Pass
40	0.001	0.046	0.0	0.003	0.069	3.93	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: GUHD12NK3FO（outdoor unit）

Heating mode

Test Result: Pass **Source qualification: Normal**
THC(A): 1.34 **I-THD(%): 26.64** **POHC(A): 0.063** **POHC Limit(A): 0.261**
Highest parameter values during test:

V_RMS (Volts):	230.17	Frequency(Hz):	50.00
I_Peak (Amps):	11.437	I_RMS (Amps):	5.509
I_Fund (Amps):	5.325	Crest Factor:	2.165
Power (Watts):	1221.8	Power Factor:	0.970

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.042	1.080	3.8	0.064	1.620	3.92	Pass
3	1.256	2.300	54.6	1.273	3.450	36.91	Pass
4	0.029	0.430	6.8	0.039	0.645	5.98	Pass
5	0.077	1.140	6.8	0.098	1.710	5.74	Pass
6	0.030	0.300	9.9	0.043	0.450	9.63	Pass
7	0.329	0.770	42.7	0.343	1.155	29.66	Pass
8	0.031	0.230	13.6	0.053	0.345	15.39	Pass
9	0.197	0.400	49.2	0.218	0.600	36.27	Pass
10	0.029	0.184	15.6	0.044	0.276	15.91	Pass
11	0.093	0.330	28.2	0.099	0.495	19.97	Pass
12	0.030	0.153	19.5	0.052	0.230	22.77	Pass
13	0.151	0.210	72.1	0.157	0.315	49.71	Pass
14	0.029	0.131	22.3	0.055	0.197	27.78	Pass
15	0.064	0.150	42.8	0.073	0.225	32.44	Pass
16	0.021	0.115	18.7	0.032	0.173	18.24	Pass
17	0.063	0.132	47.5	0.070	0.199	35.01	Pass
18	0.017	0.102	16.4	0.019	0.153	12.63	Pass
19	0.069	0.118	58.4	0.075	0.178	42.29	Pass
20	0.014	0.092	15.1	0.016	0.138	11.50	Pass
21	0.032	0.107	29.5	0.036	0.161	22.66	Pass
22	0.012	0.084	14.3	0.014	0.125	11.55	Pass
23	0.041	0.098	42.0	0.045	0.147	30.40	Pass
24	0.010	0.077	13.3	0.012	0.115	10.68	Pass
25	0.026	0.090	29.4	0.030	0.135	22.38	Pass
26	0.008	0.071	11.9	0.010	0.106	9.79	Pass
27	0.015	0.083	17.9	0.017	0.125	13.46	Pass
28	0.007	0.066	10.6	0.008	0.099	8.18	Pass
29	0.016	0.078	20.2	0.017	0.116	14.28	Pass
30	0.006	0.061	9.2	0.006	0.092	6.93	Pass
31	0.006	0.073	8.3	0.007	0.109	6.48	Pass
32	0.004	0.058	0.0	0.005	0.086	5.62	Pass
33	0.005	0.068	6.8	0.007	0.102	6.97	Pass
34	0.003	0.054	0.0	0.004	0.081	4.48	Pass
35	0.004	0.064	9.3	0.007	0.096	7.24	Pass
36	0.002	0.051	0.0	0.003	0.077	3.48	Pass
37	0.004	0.061	0.0	0.005	0.091	4.98	Pass
38	0.002	0.048	0.0	0.002	0.073	3.21	Pass
39	0.006	0.058	10.1	0.006	0.087	7.45	Pass
40	0.001	0.046	0.0	0.002	0.069	2.79	Pass

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

4.5 Voltage Fluctuation on AC Mains

Date of testing	:	2013.05.02
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
GUHD12NK3FO（outdoor unit）	0.85	0.89	0	0.131	0.125
GTH12K3FI(indoor unit)	0.11	1.50	0	0.305	0.202
GFH12K3FI(indoor unit)	0.18	1.50	0	0.306	0.212
GKH12K3FI(indoor unit)	0.19	1.51	0	0.302	0.208
Limit	**3.30**	**6.00**	**500.0**	**1.000**	**0.650**

Remark:

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

5. Immunity Tests

5.1 Electrostatic Discharge (ESD)

Date of testing	:	2013.05.02
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.

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

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	:	2013.05.02
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	:	2013.05.02
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.					

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

5.4 Immunity to conducted Disturbances, induced by RF fields

Date of testing	:	2013.05.02
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.				

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

5.5 Voltage Dips and Short interruptions

Date of testing	:	2013.05.02
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.

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