CERTIFICATE OF COMPLIANCE

No. C13C064

Holder of Certificate: GREE Electric Appliances Inc. of zhuhai
Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P. R. China
Product: Air Conditioner
Model/Type: GTH48K3FI
GKH48K3FI
GFH48K3FI
GUHD48NK3FO

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
EN61000-3-11: 2000
EN61000-3-12: 2005

Report Number: GER13C064E

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: 2013-03-16

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	:	GTH48K3FI(indoor unit) GKH48K3FI(indoor unit) GFH48K3FI(indoor unit) GUHD48NK3FO（outdoor unit）
Serial No.	:	Pre-production model
Date of Receipt	:	2013.03.16
Test Period	:	2013.03.16
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
EN61000-3-11: 2000
EN61000-3-12: 2005

Tested by :	**Liujie**		2013-03-16
	Printed Name	*Signature*	*Date((YY-MM-DD)*
Reviewed by :	Li zhikun		2013-03-16
	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

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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

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 (GUHD48NK3FO), it can match three different model indoor units (GTH48K3FI,. GFH48K3FI and GKH48K3FI) 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

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4. Emission Test

4.1 Main and Additional Terminal Continuous Disturbance Voltage

Date of testing	:	2013.03.16
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: GUHD48NK3FO（outdoor 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	158 kHz	47.66	L1 gnd	-17.90
2 Average	162 kHz	42.16	L1 gnd	-16.00
2 Average	182 kHz	42.06	L1 gnd	-14.84
1 Quasi Peak	198 kHz	45.59	L1 gnd	-18.10
2 Average	442 kHz	42.24	L1 gnd	-5.08
1 Quasi Peak	462 kHz	46.95	L1 gnd	-9.70
1 Quasi Peak	1.466 MHz	41.53	L1 gnd	-14.46
2 Average	1.946 MHz	38.06	L1 gnd	-7.93
1 Quasi Peak	2.006 MHz	41.79	L1 gnd	-14.20
2 Average	2.006 MHz	37.34	L1 gnd	-8.65
1 Quasi Peak	3.506 MHz	41.36	L1 gnd	-14.63
2 Average	3.506 MHz	36.05	L1 gnd	-9.94

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Model: GUHD48NK3FO（outdoor 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	162 kHz	48.17	L1 gnd	-17.18
2	Average	162 kHz	42.32	L1 gnd	-15.84
2	Average	182 kHz	42.14	L1 gnd	-14.77
2	Average	442 kHz	42.31	L1 gnd	-5.01
1	Quasi Peak	502 kHz	46.96	L1 gnd	-9.03
2	Average	1.902 MHz	37.47	L1 gnd	-8.52
1	Quasi Peak	1.942 MHz	42.89	L1 gnd	-13.10
2	Average	1.946 MHz	38.34	L1 gnd	-7.66
2	Average	2.006 MHz	38.01	L1 gnd	-7.98
1	Quasi Peak	2.022 MHz	41.98	L1 gnd	-14.01
1	Quasi Peak	3.326 MHz	40.94	L1 gnd	-15.05
1	Quasi Peak	3.446 MHz	41.59	L1 gnd	-14.40

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Model: GUHD48NK3FO（outdoor 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	150 kHz	42.62	L1 gnd	-23.37
2	Average	162 kHz	41.39	L1 gnd	-16.77
2	Average	182 kHz	41.35	L1 gnd	-15.55
1	Quasi Peak	442 kHz	46.72	L1 gnd	-10.30
2	Average	442 kHz	41.80	L1 gnd	-5.53
1	Quasi Peak	1.422 MHz	42.61	L1 gnd	-13.38
1	Quasi Peak	1.946 MHz	43.16	L1 gnd	-12.84
2	Average	1.946 MHz	38.54	L1 gnd	-7.45
2	Average	1.986 MHz	38.21	L1 gnd	-7.78
2	Average	2.006 MHz	38.01	L1 gnd	-7.98
1	Quasi Peak	3.666 MHz	41.11	L1 gnd	-14.89
1	Quasi Peak	5.654 MHz	32.49	L1 gnd	-27.50

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Model: GUHD48NK3FO（outdoor 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	162 kHz	57.84	L1 gnd	-7.51
2 Average	162 kHz	47.92	L1 gnd	-10.24
2 Average	442 kHz	36.06	L1 gnd	-11.26
1 Quasi Peak	1.022 MHz	35.30	L1 gnd	-20.69
2 Average	2.662 MHz	34.61	L1 gnd	-11.38
1 Quasi Peak	2.722 MHz	42.02	L1 gnd	-13.97
1 Quasi Peak	4.75 MHz	39.56	L1 gnd	-16.43
2 Average	10.286 MHz	39.88	L1 gnd	-10.11
1 Quasi Peak	10.414 MHz	44.94	L1 gnd	-15.05
2 Average	10.906 MHz	39.08	L1 gnd	-10.91

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Model: GTH48K3FI(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	154 kHz	59.24	L1 gnd	-6.53
2	Average	322 kHz	40.20	L1 gnd	-10.54
1	Quasi Peak	418 kHz	50.01	L1 gnd	-7.47
2	Average	418 kHz	43.59	L1 gnd	-4.33
1	Quasi Peak	1.042 MHz	38.15	L1 gnd	-17.84
2	Average	1.162 MHz	33.04	L1 gnd	-12.95
2	Average	3.446 MHz	31.26	L1 gnd	-14.74
1	Quasi Peak	3.526 MHz	36.83	L1 gnd	-19.16
1	Quasi Peak	12.342 MHz	34.84	L1 gnd	-25.15
2	Average	12.362 MHz	29.37	L1 gnd	-20.62
1	Quasi Peak	19.126 MHz	50.36	L1 gnd	-9.63
2	Average	19.45 MHz	44.23	L1 gnd	-5.76

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Model: GTH48K3FI(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	150 kHz	60.12	L1 gnd	-5.87
2	Average	362 kHz	39.54	L1 gnd	-9.94
1	Quasi Peak	418 kHz	48.71	L1 gnd	-8.76
2	Average	418 kHz	43.99	L1 gnd	-3.93
1	Quasi Peak	1.006 MHz	37.05	L1 gnd	-18.94
2	Average	1.102 MHz	33.01	L1 gnd	-12.98
1	Quasi Peak	3.486 MHz	36.75	L1 gnd	-19.24
2	Average	3.506 MHz	30.53	L1 gnd	-15.47
1	Quasi Peak	7.198 MHz	34.49	L1 gnd	-25.50
2	Average	12.298 MHz	31.20	L1 gnd	-18.80
1	Quasi Peak	19.326 MHz	50.98	L1 gnd	-9.01
2	Average	19.366 MHz	44.26	L1 gnd	-5.73

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Model: GTH48K3FI(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	154 kHz	59.80	L1 gnd	-5.97
2	Average	342 kHz	39.21	L1 gnd	-10.88
1	Quasi Peak	418 kHz	49.90	L1 gnd	-7.58
2	Average	438 kHz	41.95	L1 gnd	-5.47
1	Quasi Peak	1.042 MHz	37.78	L1 gnd	-18.21
2	Average	1.042 MHz	31.81	L1 gnd	-14.19
1	Quasi Peak	3.366 MHz	37.03	L1 gnd	-18.96
2	Average	3.446 MHz	31.45	L1 gnd	-14.54
2	Average	5.31 MHz	27.92	L1 gnd	-22.07
1	Quasi Peak	12.362 MHz	35.52	L1 gnd	-24.47
2	Average	19.286 MHz	44.47	L1 gnd	-5.52
1	Quasi Peak	19.306 MHz	49.57	L1 gnd	-10.42

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Model: GTH48K3FI(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	150 kHz	60.67	L1 gnd	-5.32
2	Average	342 kHz	38.25	L1 gnd	-11.84
1	Quasi Peak	418 kHz	49.63	L1 gnd	-7.85
2	Average	438 kHz	42.14	L1 gnd	-5.28
1	Quasi Peak	1.042 MHz	39.28	L1 gnd	-16.71
2	Average	1.046 MHz	32.86	L1 gnd	-13.13
1	Quasi Peak	3.406 MHz	36.63	L1 gnd	-19.36
2	Average	3.526 MHz	31.37	L1 gnd	-14.62
2	Average	5.33 MHz	28.84	L1 gnd	-21.15
1	Quasi Peak	12.398 MHz	32.62	L1 gnd	-27.37
1	Quasi Peak	19.294 MHz	49.04	L1 gnd	-10.96
2	Average	19.294 MHz	43.64	L1 gnd	-6.35

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Model: GKH48K3FI(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	50.89	L1 gnd	-14.26
2	Average	362 kHz	36.07	L1 gnd	-13.40
2	Average	470 kHz	39.61	L1 gnd	-7.05
1	Quasi Peak	502 kHz	44.23	L1 gnd	-11.76
2	Average	1.198 MHz	36.86	L1 gnd	-9.13
1	Quasi Peak	1.202 MHz	45.30	L1 gnd	-10.69
2	Average	3.33 MHz	40.77	L1 gnd	-5.23
1	Quasi Peak	3.346 MHz	47.87	L1 gnd	-8.12
1	Quasi Peak	8.702 MHz	39.93	L1 gnd	-20.06
2	Average	8.702 MHz	34.68	L1 gnd	-15.31
2	Average	15.018 MHz	34.51	L1 gnd	-15.48
1	Quasi Peak	15.03 MHz	39.33	L1 gnd	-20.66

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Model: GKH48K3FI(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	150 kHz	55.40	L1 gnd	-10.59
2 Average	362 kHz	35.93	L1 gnd	-13.55
2 Average	470 kHz	39.43	L1 gnd	-7.23
1 Quasi Peak	722 kHz	41.66	L1 gnd	-14.33
1 Quasi Peak	1.262 MHz	44.13	L1 gnd	-11.86
2 Average	1.286 MHz	36.42	L1 gnd	-9.57
1 Quasi Peak	3.266 MHz	47.42	L1 gnd	-8.57
2 Average	3.346 MHz	41.09	L1 gnd	-4.90
2 Average	8.078 MHz	34.99	L1 gnd	-15.00
1 Quasi Peak	8.146 MHz	40.31	L1 gnd	-19.68
2 Average	15.034 MHz	33.04	L1 gnd	-16.95
1 Quasi Peak	15.294 MHz	37.18	L1 gnd	-22.81

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Model: GKH48K3FI(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	150 kHz	55.17	L1 gnd	-10.82
2	Average	362 kHz	35.74	L1 gnd	-13.74
1	Quasi Peak	502 kHz	43.88	L1 gnd	-12.12
2	Average	662 kHz	36.97	L1 gnd	-9.02
1	Quasi Peak	1.222 MHz	44.26	L1 gnd	-11.73
2	Average	1.222 MHz	36.24	L1 gnd	-9.75
1	Quasi Peak	3.286 MHz	45.82	L1 gnd	-10.17
2	Average	3.286 MHz	40.17	L1 gnd	-5.82
2	Average	8.09 MHz	34.31	L1 gnd	-15.68
1	Quasi Peak	9.594 MHz	38.76	L1 gnd	-21.23
1	Quasi Peak	14.894 MHz	38.63	L1 gnd	-21.36
2	Average	15.066 MHz	34.68	L1 gnd	-15.32

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Model: GKH48K3FI(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	162 kHz	56.26	L1 gnd	-9.09
2	Average	162 kHz	51.10	L1 gnd	-7.06
1	Quasi Peak	818 kHz	30.44	L1 gnd	-25.55
2	Average	818 kHz	25.59	L1 gnd	-20.40
1	Quasi Peak	1.43 MHz	45.72	L1 gnd	-10.27
2	Average	1.502 MHz	39.35	L1 gnd	-6.64
1	Quasi Peak	3.122 MHz	46.15	L1 gnd	-9.85
2	Average	3.222 MHz	41.18	L1 gnd	-4.81
1	Quasi Peak	12.394 MHz	43.23	L1 gnd	-16.76
2	Average	12.394 MHz	36.97	L1 gnd	-13.02
2	Average	19.622 MHz	35.88	L1 gnd	-14.11
1	Quasi Peak	21.97 MHz	41.24	L1 gnd	-18.75

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Model: GFH48K3FI(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
2 Average	338 kHz	45.98	L1 gnd	-4.24
1 Quasi Peak	362 kHz	48.51	L1 gnd	-10.17
1 Quasi Peak	422 kHz	44.32	L1 gnd	-13.08
2 Average	542 kHz	38.87	L1 gnd	-7.12
1 Quasi Peak	1.402 MHz	43.21	L1 gnd	-12.78
2 Average	1.942 MHz	38.22	L1 gnd	-7.77
1 Quasi Peak	4.858 MHz	45.30	L1 gnd	-10.69
2 Average	4.978 MHz	39.88	L1 gnd	-6.11
2 Average	6.038 MHz	42.39	L1 gnd	-7.60
1 Quasi Peak	6.122 MHz	47.20	L1 gnd	-12.79
2 Average	17.054 MHz	33.57	L1 gnd	-16.42
1 Quasi Peak	19.946 MHz	37.42	L1 gnd	-22.57

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Model: GFH48K3FI(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	338 kHz	49.96	L1 gnd	-9.28
2	Average	338 kHz	45.85	L1 gnd	-4.37
1	Quasi Peak	434 kHz	45.93	L1 gnd	-11.23
2	Average	458 kHz	39.25	L1 gnd	-7.69
2	Average	1.362 MHz	38.32	L1 gnd	-7.67
1	Quasi Peak	1.446 MHz	42.57	L1 gnd	-13.42
1	Quasi Peak	4.578 MHz	44.86	L1 gnd	-11.13
2	Average	4.93 MHz	40.04	L1 gnd	-5.95
2	Average	5.69 MHz	41.73	L1 gnd	-8.26
1	Quasi Peak	6.23 MHz	47.48	L1 gnd	-12.51
1	Quasi Peak	12.45 MHz	40.65	L1 gnd	-19.35
2	Average	12.618 MHz	34.23	L1 gnd	-15.76

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

Model: GFH48K3FI(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
2 Average	338 kHz	45.78	L1 gnd	-4.43
1 Quasi Peak	350 kHz	49.03	L1 gnd	-9.93
1 Quasi Peak	434 kHz	45.80	L1 gnd	-11.36
2 Average	434 kHz	39.41	L1 gnd	-8.11
1 Quasi Peak	1.858 MHz	43.06	L1 gnd	-12.93
2 Average	1.966 MHz	38.96	L1 gnd	-7.03
1 Quasi Peak	4.778 MHz	44.45	L1 gnd	-11.54
2 Average	4.906 MHz	39.93	L1 gnd	-6.07
1 Quasi Peak	5.586 MHz	46.94	L1 gnd	-13.05
2 Average	5.878 MHz	41.79	L1 gnd	-8.20
1 Quasi Peak	13.166 MHz	40.03	L1 gnd	-19.96
2 Average	17.146 MHz	34.10	L1 gnd	-15.89

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

Model: GFH48K3FI(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
2	Average	338 kHz	45.61	L1 gnd	-4.61
1	Quasi Peak	362 kHz	48.22	L1 gnd	-10.45
1	Quasi Peak	386 kHz	45.73	L1 gnd	-12.41
2	Average	458 kHz	39.21	L1 gnd	-7.73
1	Quasi Peak	1.402 MHz	42.46	L1 gnd	-13.53
2	Average	1.402 MHz	37.02	L1 gnd	-8.97
1	Quasi Peak	4.986 MHz	45.38	L1 gnd	-10.61
2	Average	4.994 MHz	39.53	L1 gnd	-6.46
2	Average	6.018 MHz	41.72	L1 gnd	-8.27
1	Quasi Peak	6.222 MHz	47.18	L1 gnd	-12.81
1	Quasi Peak	12.794 MHz	38.34	L1 gnd	-21.65
2	Average	17.15 MHz	33.38	L1 gnd	-16.61

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=60/10.0 =6 MHz. Where, the length of interconnection line is 10.0 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 MHz	63.30	L1 gnd	-10.69
2 Average	6.528 MHz	56.65	L1 gnd	-7.34
2 Average	8.012 MHz	54.02	L1 gnd	-9.97
1 Quasi Peak	8.164 MHz	58.98	L1 gnd	-15.01
1 Quasi Peak	13.284 MHz	54.70	L1 gnd	-19.29
2 Average	13.336 MHz	49.93	L1 gnd	-14.06
1 Quasi Peak	13.452 MHz	55.88	L1 gnd	-18.11
2 Average	14.16 MHz	49.89	L1 gnd	-14.10
2 Average	20.836 MHz	46.89	L1 gnd	-17.10
1 Quasi Peak	21.236 MHz	51.26	L1 gnd	-22.73
2 Average	23.908 MHz	43.57	L1 gnd	-20.42
1 Quasi Peak	24.088 MHz	49.12	L1 gnd	-24.87

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	6.016 MHz	63.14	L1 gnd	-10.85
2 Average	6.524 MHz	56.77	L1 gnd	-7.23
1 Quasi Peak	8.012 MHz	59.41	L1 gnd	-14.58
2 Average	8.012 MHz	53.87	L1 gnd	-10.12
2 Average	13.268 MHz	49.40	L1 gnd	-14.60
1 Quasi Peak	13.332 MHz	54.85	L1 gnd	-19.14
1 Quasi Peak	13.6 MHz	55.33	L1 gnd	-18.66
2 Average	13.996 MHz	49.94	L1 gnd	-14.05
1 Quasi Peak	20.824 MHz	51.49	L1 gnd	-22.50
2 Average	21.048 MHz	46.79	L1 gnd	-17.20
2 Average	23.864 MHz	43.77	L1 gnd	-20.22
1 Quasi Peak	24.112 MHz	49.17	L1 gnd	-24.82

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

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	TV-QP			
Trace2:	TV-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1 Quasi Peak	6.012 MHz	63.16	L1 gnd	-10.83
2 Average	6.02 MHz	57.36	L1 gnd	-6.63
1 Quasi Peak	8.008 MHz	59.65	L1 gnd	-14.34
2 Average	8.012 MHz	54.23	L1 gnd	-9.76
1 Quasi Peak	13.224 MHz	54.25	L1 gnd	-19.75
2 Average	13.304 MHz	50.16	L1 gnd	-13.83
2 Average	13.564 MHz	50.12	L1 gnd	-13.87
1 Quasi Peak	13.58 MHz	55.43	L1 gnd	-18.57
1 Quasi Peak	20.568 MHz	51.53	L1 gnd	-22.46
2 Average	21.28 MHz	46.67	L1 gnd	-17.32
1 Quasi Peak	23.332 MHz	48.31	L1 gnd	-25.68
2 Average	23.396 MHz	42.90	L1 gnd	-21.09

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 MHz	64.73	L1 gnd	-9.26
2	Average	6.548 MHz	58.47	L1 gnd	-5.52
2	Average	8.736 MHz	54.04	L1 gnd	-9.95
1	Quasi Peak	8.976 MHz	59.83	L1 gnd	-14.16
2	Average	10.328 MHz	47.91	L1 gnd	-16.08
1	Quasi Peak	13.372 MHz	55.07	L1 gnd	-18.92
2	Average	13.5 MHz	50.24	L1 gnd	-13.75
1	Quasi Peak	14.02 MHz	54.28	L1 gnd	-19.71
1	Quasi Peak	20.624 MHz	52.06	L1 gnd	-21.93
2	Average	21.084 MHz	46.90	L1 gnd	-17.10
2	Average	23.952 MHz	44.29	L1 gnd	-19.70
1	Quasi Peak	24.116 MHz	49.29	L1 gnd	-24.70

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	:	2013.03.16
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: GUHD48NK3FO（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: GKH48K3FI(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: GTH48K3FI(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

Model: GFH48K3FI(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	:	2013.03.16
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: GUHD48NK3FO（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
2 Average	35.56 MHz	20.90	-14.30
1 Quasi Peak	37.04 MHz	28.08	-17.17
1 Quasi Peak	48.08 MHz	23.30	-22.36

Model: GUHD48NK3FO（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	35.6 MHz	20.24	-14.96
1 Quasi Peak	36.68 MHz	27.33	-17.91
1 Quasi Peak	60.12 MHz	26.72	-19.39
1 Quasi Peak	69.04 MHz	19.57	-26.87
1 Quasi Peak	115.56 MHz	19.53	-28.63

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

Model: GUHD48NK3FO（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	34.76 MHz	21.08	-14.09
1 Quasi Peak	39.96 MHz	29.50	-15.86
1 Quasi Peak	60.36 MHz	24.24	-21.88
1 Quasi Peak	67.92 MHz	22.56	-23.84
1 Quasi Peak	124.08 MHz	16.82	-31.66
1 Quasi Peak	207.48 MHz	14.55	-37.02

Model: GUHD48NK3FO（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	34.56 MHz	20.38	-14.78
1 Quasi Peak	39.52 MHz	29.28	-16.07
1 Quasi Peak	61.56 MHz	26.48	-19.68
1 Quasi Peak	86.24 MHz	15.79	-31.28
1 Quasi Peak	168.72 MHz	14.19	-35.94

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

Model: GUHD48NK3FO（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
1 Quasi Peak	47.6 MHz	29.20	-16.44
2 Average	47.84 MHz	18.17	-17.48
1 Quasi Peak	48 MHz	33.07	-12.59
2 Average	48.68 MHz	17.62	-18.07
1 Quasi Peak	72.16 MHz	22.67	-23.88
1 Quasi Peak	93.76 MHz	23.64	-23.72
1 Quasi Peak	119.64 MHz	18.49	-29.82
1 Quasi Peak	125.12 MHz	21.10	-27.41
1 Quasi Peak	141.2 MHz	19.20	-29.90
1 Quasi Peak	158.32 MHz	17.63	-32.12

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

Model: GUHD48NK3FO（outdoor unit）

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

Model: GTH48K3FI(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	35.28 MHz	34.30	-10.88
2 Average	36.32 MHz	24.97	-10.25
1 Quasi Peak	50.36 MHz	27.86	-17.89
1 Quasi Peak	70.52 MHz	26.64	-19.85
2 Average	75.4 MHz	23.37	-13.30
1 Quasi Peak	91.84 MHz	20.25	-27.03
1 Quasi Peak	117.24 MHz	22.43	-25.79
1 Quasi Peak	130.32 MHz	18.82	-29.89

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

Model: GTH48K3FI(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	36.04 MHz	35.29	-9.92
2 Average	36.4 MHz	26.25	-8.97
1 Quasi Peak	49.36 MHz	29.10	-16.61
1 Quasi Peak	70.92 MHz	27.00	-19.51
2 Average	75.44 MHz	22.00	-14.67
1 Quasi Peak	92.56 MHz	21.87	-25.43
1 Quasi Peak	116.96 MHz	21.80	-26.41
1 Quasi Peak	127 MHz	20.57	-28.02
1 Quasi Peak	156.08 MHz	19.32	-30.34

Model: GKH48K3FI(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
2 Average	32.36 MHz	21.21	-13.87
1 Quasi Peak	44.16 MHz	24.38	-21.14
1 Quasi Peak	48.4 MHz	29.74	-15.93
2 Average	83.08 MHz	24.93	-12.03
1 Quasi Peak	83.72 MHz	34.69	-12.29
1 Quasi Peak	85.16 MHz	35.18	-11.86
2 Average	87.2 MHz	28.74	-8.37
1 Quasi Peak	115.2 MHz	29.92	-18.23
1 Quasi Peak	132.88 MHz	35.90	-12.90
2 Average	132.88 MHz	28.30	-10.50
1 Quasi Peak	138.6 MHz	29.23	-19.78

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

Model: GKH48K3FI(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	34 MHz	32.66	-12.48
2 Average	34.96 MHz	23.65	-11.52
1 Quasi Peak	85.48 MHz	35.25	-11.79
2 Average	87.2 MHz	28.83	-8.28
1 Quasi Peak	132.88 MHz	36.36	-12.44
2 Average	132.88 MHz	28.55	-10.25

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

Model: GFH48K3FI(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
2 Average	30.04 MHz	30.47	-4.52
1 Quasi Peak	30.28 MHz	37.76	-7.24
1 Quasi Peak	48 MHz	31.08	-14.58

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

Model: GFH48K3FI(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
2 Average	30.08 MHz	29.69	-5.30
1 Quasi Peak	30.52 MHz	38.86	-6.15
1 Quasi Peak	48.12 MHz	30.26	-15.40

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

Model: wired controller

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**

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

4.4 Harmonics on AC Mains

Date of testing	:	2013.03.16
Temperature	:	25°C/18°C
Humidity	:	66%RH~67%RH
Test procedure	:	EN61000-3-2: 2006+A1:2009+A2:2009 EN61000-3-12: 2005
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:

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Model: GUHD48NK3FO（outdoor unit）
Cooling mode/ Standard used:EN/IEC 61000-3-12 Ed.2 Short cyclic,Rsce= 33 (Not balanced Tab. 2)

Hn	Ieff [A]	Ieff [%]	Limit [%]	Result
2	46.150E-3	0.268	8.00	PASS
3	675.277E-3	3.922	21.60	PASS
4	65.105E-3	0.378	4.00	PASS
5	314.636E-3	1.827	10.70	PASS
6	65.558E-3	0.381	2.67	PASS
7	483.897E-3	2.811	7.20	PASS
8	64.349E-3	0.374	2.00	PASS
9	216.168E-3	1.256	3.80	PASS
10	70.408E-3	0.409	1.60	PASS
11	322.282E-3	1.872	3.10	PASS
12	73.316E-3	0.426	1.33	PASS
13	178.731E-3	1.038	2.00	PASS
14	81.431E-3	0.473		PASS
15	87.504E-3	0.508		PASS
16	91.804E-3	0.533		PASS
17	149.317E-3	0.867		PASS
18	95.167E-3	0.553		PASS
19	137.748E-3	0.800		PASS
20	101.916E-3	0.592		PASS
21	118.704E-3	0.689		PASS
22	102.577E-3	0.596		PASS
23	145.920E-3	0.848		PASS
24	86.475E-3	0.502		PASS
25	98.714E-3	0.573		PASS
26	75.857E-3	0.441		PASS
27	71.067E-3	0.413		PASS
28	64.727E-3	0.376		PASS
29	82.410E-3	0.479		PASS
30	56.981E-3	0.331		PASS
31	56.359E-3	0.327		PASS
32	49.717E-3	0.289		PASS
33	45.609E-3	0.265		PASS
34	42.816E-3	0.249		PASS
35	48.382E-3	0.281		PASS
36	38.741E-3	0.225		PASS
37	36.692E-3	0.213		PASS
38	33.664E-3	0.196		PASS
39	35.222E-3	0.205		PASS
40	29.466E-3	0.171		PASS

Model: GUHD48NK3FO（outdoor unit）

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

Heating mode/ Standard used:EN/IEC 61000-3-12 Ed.2 Short cyclic,Rsce= 33 (Not balanced Tab. 2)

Hn	Ieff [A]	Ieff [%]	Limit [%]	Result
2	45.680E-3	0.264	8.00	PASS
3	673.079E-3	3.884	21.60	PASS
4	64.029E-3	0.369	4.00	PASS
5	311.238E-3	1.796	10.70	PASS
6	64.699E-3	0.373	2.67	PASS
7	489.592E-3	2.825	7.20	PASS
8	64.333E-3	0.371	2.00	PASS
9	218.417E-3	1.260	3.80	PASS
10	68.872E-3	0.397	1.60	PASS
11	322.232E-3	1.859	3.10	PASS
12	73.931E-3	0.427	1.33	PASS
13	187.733E-3	1.083	2.00	PASS
14	79.984E-3	0.462		PASS
15	85.490E-3	0.493		PASS
16	88.550E-3	0.511		PASS
17	147.643E-3	0.852		PASS
18	94.900E-3	0.548		PASS
19	137.418E-3	0.793		PASS
20	97.653E-3	0.563		PASS
21	114.395E-3	0.660		PASS
22	98.687E-3	0.569		PASS
23	141.691E-3	0.818		PASS
24	84.743E-3	0.489		PASS
25	97.470E-3	0.562		PASS
26	72.462E-3	0.418		PASS
27	69.749E-3	0.402		PASS
28	63.643E-3	0.367		PASS
29	80.149E-3	0.462		PASS
30	55.816E-3	0.322		PASS
31	54.243E-3	0.313		PASS
32	48.302E-3	0.279		PASS
33	45.805E-3	0.264		PASS
34	43.080E-3	0.249		PASS
35	47.109E-3	0.272		PASS
36	38.182E-3	0.220		PASS
37	36.591E-3	0.211		PASS
38	33.349E-3	0.192		PASS
39	35.142E-3	0.203		PASS
40	29.483E-3	0.170		PASS

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Model: GTH48K3FI(indoor unit)

fan mode

Test Result: Pass **Source qualification: Normal**
THC(A): 0.55 **I-THD(pk%): 12.17** **POHC(A): 0.003** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	230.10	Frequency(Hz):	50.00
I_Peak (Amps):	0.844	I_RMS (Amps):	0.523
I_Fund (Amps):	0.518	Crest Factor:	1.640
Power (Watts):	120	Power Factor:	0.980

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.374	1.080	34.7	0.460	1.620	28.37	Pass
3	0.218	2.300	9.5	0.269	3.450	7.80	Pass
4	0.020	0.430	4.7	0.029	0.645	4.53	Pass
5	0.088	1.140	7.7	0.116	1.710	6.77	Pass
6	0.044	0.300	14.8	0.054	0.450	11.96	Pass
7	0.022	0.770	2.9	0.037	1.155	3.21	Pass
8	0.027	0.230	11.7	0.035	0.345	10.16	Pass
9	0.010	0.400	2.6	0.013	0.600	2.11	Pass
10	0.006	0.184	3.1	0.014	0.276	4.91	Pass
11	0.004	0.330	1.1	0.005	0.495	1.09	Pass
12	0.004	0.153	2.4	0.006	0.230	2.74	Pass
13	0.003	0.210	1.3	0.003	0.315	1.10	Pass
14	0.002	0.131	1.2	0.003	0.197	1.54	Pass
15	0.002	0.150	1.0	0.003	0.225	1.22	Pass
16	0.001	0.115	1.2	0.002	0.173	1.21	Pass
17	0.001	0.132	1.1	0.002	0.199	1.21	Pass
18	0.001	0.102	1.3	0.002	0.153	1.56	Pass
19	0.001	0.118	1.0	0.002	0.178	1.14	Pass
20	0.001	0.092	1.4	0.002	0.138	1.71	Pass
21	0.001	0.107	1.0	0.002	0.161	1.20	Pass
22	0.001	0.084	1.2	0.002	0.125	1.56	Pass
23	0.001	0.098	1.0	0.002	0.147	1.29	Pass
24	0.001	0.077	1.2	0.002	0.115	1.49	Pass
25	0.001	0.090	1.1	0.002	0.135	1.17	Pass
26	0.001	0.071	1.3	0.002	0.106	1.51	Pass
27	0.001	0.083	1.0	0.001	0.125	1.17	Pass
28	0.001	0.066	1.3	0.002	0.099	1.57	Pass
29	0.001	0.078	1.2	0.002	0.116	1.52	Pass
30	0.001	0.061	1.4	0.002	0.092	2.01	Pass
31	0.001	0.073	1.1	0.001	0.109	1.35	Pass
32	0.001	0.058	1.4	0.002	0.086	1.84	Pass
33	0.001	0.068	1.0	0.001	0.102	1.16	Pass
34	0.001	0.054	1.1	0.001	0.081	1.47	Pass
35	0.001	0.064	1.0	0.001	0.096	1.14	Pass
36	0.001	0.051	1.1	0.001	0.077	1.47	Pass
37	0.001	0.061	0.9	0.001	0.091	1.17	Pass
38	0.001	0.048	1.1	0.001	0.073	1.42	Pass
39	0.001	0.058	0.9	0.001	0.087	1.24	Pass
40	0.001	0.046	1.1	0.001	0.069	1.43	Pass

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Model: GKH48K3FI(indoor unit)

fan mode

Test Result: Pass **Source qualification: Normal**
THC(A): 0.50 **I-THD(pk%): 10.21** **POHC(A): 0.004** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	229.97	Frequency(Hz):	50.00
I_Peak (Amps):	0.939	I_RMS (Amps):	0.584
I_Fund (Amps):	0.578	Crest Factor:	1.625
Power (Watts):	131	Power Factor:	0.981

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.362	1.080	33.5	0.407	1.620	25.12	Pass
3	0.281	2.300	12.2	0.296	3.450	8.59	Pass
4	0.023	0.430	5.3	0.031	0.645	4.88	Pass
5	0.109	1.140	9.6	0.112	1.710	6.53	Pass
6	0.018	0.300	6.0	0.030	0.450	6.57	Pass
7	0.027	0.770	3.5	0.032	1.155	2.76	Pass
8	0.025	0.230	10.9	0.034	0.345	9.72	Pass
9	0.009	0.400	2.3	0.010	0.600	1.66	Pass
10	0.012	0.184	6.5	0.013	0.276	4.78	Pass
11	0.006	0.330	1.8	0.008	0.495	1.58	Pass
12	0.006	0.153	3.8	0.007	0.230	3.03	Pass
13	0.004	0.210	1.7	0.005	0.315	1.50	Pass
14	0.002	0.131	1.8	0.003	0.197	1.56	Pass
15	0.003	0.150	1.7	0.003	0.225	1.37	Pass
16	0.002	0.115	1.5	0.002	0.173	1.25	Pass
17	0.002	0.132	1.7	0.003	0.199	1.38	Pass
18	0.002	0.102	1.6	0.002	0.153	1.33	Pass
19	0.002	0.118	1.4	0.002	0.178	1.17	Pass
20	0.002	0.092	1.8	0.002	0.138	1.61	Pass
21	0.002	0.107	1.4	0.002	0.161	1.25	Pass
22	0.001	0.084	1.8	0.002	0.125	1.65	Pass
23	0.001	0.098	1.4	0.002	0.147	1.21	Pass
24	0.001	0.077	1.8	0.002	0.115	1.58	Pass
25	0.001	0.090	1.4	0.002	0.135	1.27	Pass
26	0.001	0.071	1.9	0.002	0.106	1.62	Pass
27	0.001	0.083	1.4	0.002	0.125	1.29	Pass
28	0.001	0.066	1.8	0.002	0.099	1.55	Pass
29	0.001	0.078	1.6	0.002	0.116	1.45	Pass
30	0.001	0.061	1.9	0.002	0.092	1.83	Pass
31	0.001	0.073	1.6	0.002	0.109	1.51	Pass
32	0.001	0.058	1.9	0.001	0.086	1.62	Pass
33	0.001	0.068	1.5	0.001	0.102	1.36	Pass
34	0.001	0.054	1.8	0.001	0.081	1.49	Pass
35	0.001	0.064	1.4	0.001	0.096	1.25	Pass
36	0.001	0.051	1.7	0.001	0.077	1.46	Pass
37	0.001	0.061	1.4	0.001	0.091	1.23	Pass
38	0.001	0.048	1.7	0.001	0.073	1.47	Pass
39	0.001	0.058	1.4	0.001	0.087	1.23	Pass
40	0.001	0.046	1.7	0.001	0.069	1.58	Pass

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Model: GFH48K3FI(indoor unit)

fan mode

Test Result: Pass **Source qualification: Normal**
THC(A): 0.88 **I-THD(pk%): 9.57** **POHC(A): 0.005** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	229.84	Frequency(Hz):	50.00
I_Peak (Amps):	1.632	I_RMS (Amps):	1.085
I_Fund (Amps):	1.081	Crest Factor:	1.531
Power (Watts):	247	Power Factor:	0.993

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.045	1.080	4.2	0.060	1.620	3.69	Pass
3	0.821	2.300	35.7	0.847	3.450	24.56	Pass
4	0.057	0.430	13.3	0.068	0.645	10.48	Pass
5	0.221	1.140	19.4	0.238	1.710	13.89	Pass
6	0.021	0.300	7.0	0.027	0.450	5.94	Pass
7	0.017	0.770	2.3	0.034	1.155	2.98	Pass
8	0.008	0.230	3.5	0.019	0.345	5.38	Pass
9	0.059	0.400	14.7	0.061	0.600	10.12	Pass
10	0.009	0.184	4.8	0.015	0.276	5.35	Pass
11	0.009	0.330	2.8	0.017	0.495	3.37	Pass
12	0.007	0.153	4.7	0.011	0.230	4.63	Pass
13	0.018	0.210	8.3	0.019	0.315	6.17	Pass
14	0.004	0.131	2.8	0.005	0.197	2.55	Pass
15	0.007	0.150	4.5	0.009	0.225	4.20	Pass
16	0.002	0.115	1.5	0.003	0.173	1.84	Pass
17	0.005	0.132	3.6	0.006	0.199	2.98	Pass
18	0.002	0.102	1.7	0.003	0.153	1.90	Pass
19	0.003	0.118	2.7	0.005	0.178	2.72	Pass
20	0.002	0.092	2.2	0.003	0.138	2.42	Pass
21	0.002	0.107	1.9	0.003	0.161	2.03	Pass
22	0.002	0.084	2.3	0.004	0.125	3.20	Pass
23	0.003	0.098	3.4	0.004	0.147	2.73	Pass
24	0.004	0.077	5.9	0.008	0.115	6.91	Pass
25	0.002	0.090	1.7	0.002	0.135	1.69	Pass
26	0.001	0.071	1.6	0.002	0.106	2.29	Pass
27	0.001	0.083	1.8	0.002	0.125	1.74	Pass
28	0.002	0.066	3.1	0.008	0.099	7.58	Pass
29	0.001	0.078	1.8	0.002	0.116	1.60	Pass
30	0.002	0.061	3.8	0.011	0.092	11.45	Pass
31	0.001	0.073	1.3	0.001	0.109	1.27	Pass
32	0.001	0.058	1.9	0.005	0.086	5.55	Pass
33	0.001	0.068	1.0	0.001	0.102	0.93	Pass
34	0.000	0.054	0.7	0.001	0.081	0.88	Pass
35	0.001	0.064	0.8	0.001	0.096	0.84	Pass
36	0.000	0.051	0.7	0.001	0.077	0.67	Pass
37	0.000	0.061	0.5	0.001	0.091	0.60	Pass
38	0.000	0.048	0.5	0.001	0.073	1.01	Pass
39	0.000	0.058	0.5	0.001	0.087	0.64	Pass
40	0.000	0.046	1.0	0.001	0.069	0.96	Pass

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4.5 Voltage Fluctuation on AC Mains

Date of testing	:	2013.03.16
Temperature	:	24°C~26°C
Humidity	:	66%RH~67%RH
Test procedure	:	EN61000-3-3: 2008 EN61000-3-11: 2000
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
GUHD48NK3FO（outdoor unit）	0.95	0.98	0.0	0.184	0.153
GKH48K3FI(indoor unit)	0.11	1.50	0.0	0.206	0.202
GTH48K3FI(indoor unit)	0.12	1.51	0.0	0.209	0.205
GFH48K3FI(indoor unit)	0.15	1.54	0.0	0.212	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	:	2013.03.16
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	:	2013.03.16
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	:	2013.03.16
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	:	2013.03.16
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	:	2013.03.16
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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