CERTIFICATE OF COMPLIANCE

No. C13E093

Holder of Certificate: GREE Electric Appliances Inc. of zhuhai
Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P. R. China
Product: Air Conditioner
Model/Type:
GTH09K3FI
GFH09K3FI
GUHD09NK3FO

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: GER13E093E

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: 2013-05-01

Jinji West Road, Qianshan, Zhuhai, Guangdong 519070 P.R.China
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EMC TEST REPORT

Product Name	:	Split-type Room Air Conditioner
Product Model	:	GTH09K3FI(indoor unit) GFH09K3FI(indoor unit) GUHD09NK3FO（outdoor unit）
Serial No.	:	Pre-production model
Date of Receipt	:	2013.05.01
Test Period	:	2013.05.01
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	2013-05-01
		Printed Name	*Signature*	*Date((YY-MM-DD)*
Reviewed by	:	Li zhikun	李志坤	2013-05-01
		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

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 (GUHD09NK3FO), it can match two different model indoor units (GTH09K3FI， GFH09K3FI) to work, and the power are supplied from the indoor and outdoor units respectively, all EMS test (Immunity item) are applied to the two 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	03/23/2013
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	07/07/2013
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	:	2013.05.01
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: GUHD09NK3FO（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	40.50 L1 gnd	-25.06
2 Average	358 kHz	26.70 L1 gnd	-22.90
2 Average	530 kHz	25.78 L1 gnd	-20.21
1 Quasi Peak	594 kHz	32.12 L1 gnd	-23.87
2 Average	1.318 MHz	34.71 L1 gnd	-11.28
1 Quasi Peak	1.338 MHz	39.51 L1 gnd	-16.48
2 Average	2.734 MHz	41.27 L1 gnd	-4.72
1 Quasi Peak	4.63 MHz	48.08 L1 gnd	-7.91
2 Average	5.13 MHz	40.78 L1 gnd	-9.21
1 Quasi Peak	5.25 MHz	46.32 L1 gnd	-13.67
1 Quasi Peak	18.918 MHz	42.72 L1 gnd	-17.27
2 Average	24.05 MHz	36.82 L1 gnd	-13.17

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Model: GUHD09NK3FO（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
2 Average	162 kHz	36.57 L1 gnd	-21.59
1 Quasi Peak	222 kHz	33.93 L1 gnd	-28.81
1 Quasi Peak	478 kHz	27.93 L1 gnd	-28.43
2 Average	818 kHz	25.27 L1 gnd	-20.72
2 Average	2.058 MHz	36.55 L1 gnd	-9.44
1 Quasi Peak	2.118 MHz	42.09 L1 gnd	-13.90
1 Quasi Peak	4.134 MHz	46.46 L1 gnd	-9.53
2 Average	4.274 MHz	40.92 L1 gnd	-5.08
1 Quasi Peak	5.194 MHz	42.24 L1 gnd	-17.75
2 Average	5.214 MHz	37.07 L1 gnd	-12.92
1 Quasi Peak	16.038 MHz	47.86 L1 gnd	-12.13
2 Average	16.178 MHz	40.16 L1 gnd	-9.83

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Model: GUHD09NK3FO（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	40.21	L1 gnd	-25.78
2 Average	162 kHz	37.06	L1 gnd	-21.10
1 Quasi Peak	654 kHz	35.75	L1 gnd	-20.24
2 Average	838 kHz	27.30	L1 gnd	-18.69
1 Quasi Peak	2.094 MHz	43.29	L1 gnd	-12.70
2 Average	2.114 MHz	38.21	L1 gnd	-7.78
2 Average	3.91 MHz	41.97	L1 gnd	-4.02
1 Quasi Peak	4.09 MHz	47.51	L1 gnd	-8.48
1 Quasi Peak	5.166 MHz	44.60	L1 gnd	-15.39
2 Average	5.166 MHz	39.22	L1 gnd	-10.77
1 Quasi Peak	23.802 MHz	46.16	L1 gnd	-13.83
2 Average	24.006 MHz	37.98	L1 gnd	-12.01

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Model: GUHD09NK3FO（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	42.40 L1 gnd	-22.95
2 Average	162 kHz	37.02 L1 gnd	-21.14
1 Quasi Peak	458 kHz	27.94 L1 gnd	-28.78
2 Average	678 kHz	25.87 L1 gnd	-20.13
2 Average	2.034 MHz	37.03 L1 gnd	-8.96
1 Quasi Peak	2.114 MHz	42.76 L1 gnd	-13.23
1 Quasi Peak	4.07 MHz	47.36 L1 gnd	-8.63
2 Average	4.09 MHz	41.88 L1 gnd	-4.11
1 Quasi Peak	5.286 MHz	45.27 L1 gnd	-14.72
2 Average	5.286 MHz	39.64 L1 gnd	-10.35
1 Quasi Peak	15.958 MHz	48.03 L1 gnd	-11.96
2 Average	16.058 MHz	40.60 L1 gnd	-9.39

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Model: GTH09K3FI(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	326 kHz	27.94	L1 gnd	-22.67
1 Quasi Peak	330 kHz	33.49	L1 gnd	-25.95
2 Average	470 kHz	32.96	L1 gnd	-13.70
1 Quasi Peak	546 kHz	36.08	L1 gnd	-19.91
2 Average	1.09 MHz	29.62	L1 gnd	-16.37
1 Quasi Peak	1.106 MHz	35.14	L1 gnd	-20.86
1 Quasi Peak	4.022 MHz	36.51	L1 gnd	-19.48
2 Average	4.086 MHz	31.21	L1 gnd	-14.78
1 Quasi Peak	12.354 MHz	34.50	L1 gnd	-25.49
2 Average	12.394 MHz	27.96	L1 gnd	-22.03
1 Quasi Peak	21.65 MHz	40.53	L1 gnd	-19.46
2 Average	22.418 MHz	35.78	L1 gnd	-14.21

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Model: GTH09K3FI(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	354 kHz	33.19	L1 gnd	-25.67
2	Average	354 kHz	28.44	L1 gnd	-21.28
2	Average	474 kHz	32.17	L1 gnd	-14.40
1	Quasi Peak	566 kHz	36.69	L1 gnd	-19.30
1	Quasi Peak	1.102 MHz	35.20	L1 gnd	-20.79
2	Average	1.118 MHz	30.73	L1 gnd	-15.26
1	Quasi Peak	3.958 MHz	36.08	L1 gnd	-19.91
2	Average	4.042 MHz	31.09	L1 gnd	-14.90
2	Average	12.342 MHz	29.87	L1 gnd	-20.12
1	Quasi Peak	12.362 MHz	36.63	L1 gnd	-23.36
1	Quasi Peak	21.178 MHz	38.29	L1 gnd	-21.70
2	Average	25.39 MHz	34.96	L1 gnd	-15.03

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Model: GTH09K3FI(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	350 kHz	32.75	L1 gnd	-26.21
2 Average	354 kHz	27.95	L1 gnd	-21.76
2 Average	470 kHz	32.73	L1 gnd	-13.93
1 Quasi Peak	562 kHz	36.28	L1 gnd	-19.71
1 Quasi Peak	982 kHz	33.43	L1 gnd	-22.56
2 Average	1.118 MHz	30.54	L1 gnd	-15.45
1 Quasi Peak	4.026 MHz	36.23	L1 gnd	-19.76
2 Average	4.042 MHz	30.82	L1 gnd	-15.17
1 Quasi Peak	12.39 MHz	34.88	L1 gnd	-25.11
2 Average	12.394 MHz	29.42	L1 gnd	-20.57
2 Average	21.586 MHz	35.56	L1 gnd	-14.43
1 Quasi Peak	21.958 MHz	39.72	L1 gnd	-20.27

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Model: GTH09K3FI(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	362 kHz	32.91	L1 gnd	-25.77
2	Average	362 kHz	25.78	L1 gnd	-23.69
2	Average	470 kHz	32.82	L1 gnd	-13.84
1	Quasi Peak	534 kHz	37.03	L1 gnd	-18.96
1	Quasi Peak	1.17 MHz	34.32	L1 gnd	-21.67
2	Average	1.174 MHz	30.01	L1 gnd	-15.98
1	Quasi Peak	3.858 MHz	33.67	L1 gnd	-22.32
2	Average	4.078 MHz	31.42	L1 gnd	-14.57
2	Average	12.346 MHz	29.65	L1 gnd	-20.34
1	Quasi Peak	12.39 MHz	37.17	L1 gnd	-22.82
1	Quasi Peak	25.386 MHz	40.64	L1 gnd	-19.35
2	Average	25.446 MHz	34.86	L1 gnd	-15.14

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Model: GFH09K3FI(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	342 kHz	39.04	L1 gnd	-20.11
2	Average	342 kHz	35.99	L1 gnd	-14.10
2	Average	454 kHz	41.28	L1 gnd	-5.75
1	Quasi Peak	518 kHz	36.33	L1 gnd	-19.66
1	Quasi Peak	1.054 MHz	39.30	L1 gnd	-16.69
2	Average	1.166 MHz	35.82	L1 gnd	-10.17
2	Average	4.75 MHz	34.11	L1 gnd	-11.88
1	Quasi Peak	4.778 MHz	39.32	L1 gnd	-16.67
2	Average	6.486 MHz	31.46	L1 gnd	-18.53
1	Quasi Peak	6.55 MHz	35.80	L1 gnd	-24.19
2	Average	13.898 MHz	30.03	L1 gnd	-19.96
1	Quasi Peak	16.83 MHz	34.90	L1 gnd	-25.10

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Model: GFH09K3FI(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	342 kHz	38.47	L1 gnd	-20.68
2	Average	342 kHz	35.48	L1 gnd	-14.61
2	Average	454 kHz	40.97	L1 gnd	-6.07
1	Quasi Peak	558 kHz	33.49	L1 gnd	-22.50
1	Quasi Peak	1.11 MHz	40.06	L1 gnd	-15.93
2	Average	1.138 MHz	35.97	L1 gnd	-10.02
1	Quasi Peak	4.75 MHz	40.75	L1 gnd	-15.24
2	Average	4.75 MHz	36.21	L1 gnd	-9.78
2	Average	6.402 MHz	32.53	L1 gnd	-17.46
1	Quasi Peak	8.658 MHz	34.47	L1 gnd	-25.52
2	Average	13.814 MHz	29.89	L1 gnd	-20.10
1	Quasi Peak	15.87 MHz	33.90	L1 gnd	-26.09

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Model: GFH09K3FI(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	342 kHz	39.12	L1 gnd	-20.03
2	Average	342 kHz	36.09	L1 gnd	-14.00
2	Average	454 kHz	41.26	L1 gnd	-5.78
1	Quasi Peak	522 kHz	32.44	L1 gnd	-23.55
1	Quasi Peak	1.11 MHz	39.03	L1 gnd	-16.96
2	Average	1.138 MHz	35.81	L1 gnd	-10.18
2	Average	4.694 MHz	34.96	L1 gnd	-11.03
1	Quasi Peak	4.71 MHz	36.74	L1 gnd	-19.25
2	Average	7.138 MHz	31.20	L1 gnd	-18.80
1	Quasi Peak	8.586 MHz	35.69	L1 gnd	-24.30
2	Average	13.834 MHz	30.31	L1 gnd	-19.68
1	Quasi Peak	14.45 MHz	34.66	L1 gnd	-25.33

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Model: GFH09K3FI(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	334 kHz	34.24	L1 gnd	-25.10
2	Average	342 kHz	35.44	L1 gnd	-14.65
2	Average	454 kHz	41.03	L1 gnd	-6.00
1	Quasi Peak	546 kHz	35.88	L1 gnd	-20.11
1	Quasi Peak	1.054 MHz	39.89	L1 gnd	-16.10
2	Average	1.138 MHz	36.12	L1 gnd	-9.87
2	Average	4.722 MHz	33.70	L1 gnd	-12.29
1	Quasi Peak	4.786 MHz	36.66	L1 gnd	-19.33
2	Average	5.69 MHz	30.76	L1 gnd	-19.23
1	Quasi Peak	8.714 MHz	35.20	L1 gnd	-24.79
1	Quasi Peak	13.93 MHz	35.32	L1 gnd	-24.68
2	Average	13.934 MHz	30.00	L1 gnd	-19.99

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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=60/8.0 =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

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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

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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

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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

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4.2 Discontinuous Interference on AC Mains

Date of testing	:	2013.05.01
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: GUHD09NK3FO（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: GFH09K3FI(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: GTH09K3FI(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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4.3 Disturbance Power

Date of testing	:	2013.05.01
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: GUHD09NK3FO（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: GUHD09NK3FO（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: GUHD09NK3FO（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

Model: GUHD09NK3FO（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

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Model: GUHD09NK3FO（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: GUHD09NK3FO（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

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Model: GTH09K3FI(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

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Model: GTH09K3FI(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

Model: GFH09K3FI(indoor unit)

Cooling mode **Port: Power Cord**

Heating mode **Port: Power Cord**

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**

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

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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

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4.4 Harmonics on AC Mains

Date of testing	:	2013.05.01
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: GUHD09NK3FO（outdoor unit）

Cooling mode

Test Result: Pass **Source qualification: Normal**
THC(A): 1.30 **I-THD(%): 25.17** **POHC(A): 0.064** **POHC Limit(A): 0.265**
Highest parameter values during test:

V_RMS (Volts):	230.17	Frequency(Hz):	50.00
I_Peak (Amps):	12.213	I_RMS (Amps):	6.087
I_Fund (Amps):	5.705	Crest Factor:	5.283
Power (Watts):	1311.8	Power Factor:	0.974

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.038	1.080	3.5	0.074	1.620	4.54	Pass
3	1.202	2.300	52.3	1.317	3.450	38.18	Pass
4	0.032	0.430	7.4	0.043	0.645	6.62	Pass
5	0.130	1.140	11.4	0.317	1.710	18.54	Pass
6	0.037	0.300	12.2	0.048	0.450	10.56	Pass
7	0.348	0.770	45.3	0.363	1.155	31.41	Pass
8	0.046	0.230	20.0	0.053	0.345	15.43	Pass
9	0.173	0.400	43.4	0.233	0.600	38.84	Pass
10	0.038	0.184	20.5	0.045	0.276	16.35	Pass
11	0.106	0.330	32.1	0.187	0.495	37.83	Pass
12	0.046	0.153	30.2	0.054	0.230	23.62	Pass
13	0.151	0.210	71.8	0.160	0.315	50.67	Pass
14	0.048	0.131	37.0	0.057	0.197	28.79	Pass
15	0.060	0.150	40.0	0.112	0.225	49.61	Pass
16	0.028	0.115	24.0	0.032	0.173	18.72	Pass
17	0.075	0.132	57.1	0.085	0.199	42.51	Pass
18	0.017	0.102	16.3	0.020	0.153	12.91	Pass
19	0.058	0.118	48.6	0.064	0.178	35.91	Pass
20	0.013	0.092	14.6	0.017	0.138	11.99	Pass
21	0.032	0.107	30.2	0.048	0.161	29.64	Pass
22	0.012	0.084	14.0	0.015	0.125	12.10	Pass
23	0.044	0.098	44.6	0.045	0.147	30.95	Pass
24	0.010	0.077	12.9	0.013	0.115	11.62	Pass
25	0.021	0.090	23.3	0.030	0.135	21.89	Pass
26	0.008	0.071	11.6	0.011	0.106	10.12	Pass
27	0.019	0.083	23.0	0.023	0.125	18.25	Pass
28	0.007	0.066	10.5	0.009	0.099	8.60	Pass
29	0.014	0.078	18.7	0.017	0.116	14.66	Pass
30	0.006	0.061	9.4	0.008	0.092	8.24	Pass
31	0.005	0.073	7.0	0.012	0.109	10.93	Pass
32	0.004	0.058	7.6	0.006	0.086	6.59	Pass
33	0.008	0.068	11.8	0.009	0.102	8.41	Pass
34	0.003	0.054	0.0	0.004	0.081	4.94	Pass
35	0.003	0.064	4.2	0.006	0.096	5.91	Pass
36	0.002	0.051	0.0	0.003	0.077	4.11	Pass
37	0.005	0.061	7.8	0.005	0.091	5.68	Pass
38	0.002	0.048	0.0	0.003	0.073	4.11	Pass
39	0.004	0.058	7.1	0.005	0.087	6.06	Pass
40	0.001	0.046	0.0	0.002	0.069	3.37	Pass

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Model: GUHD09NK3FO（outdoor unit）

Heating mode

Test Result: Pass **Source qualification: Normal**
THC(A): 1.22 **I-THD(%): 20.82** **POHC(A): 0.062** **POHC Limit(A): 0.271**
Highest parameter values during test:

V_RMS (Volts):	230.18	Frequency(Hz):	50.00
I_Peak (Amps):	12.623	I_RMS (Amps):	6.444
I_Fund (Amps):	6.313	Crest Factor:	2.066
Power (Watts):	1452.7	Power Factor:	0.982

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.028	1.080	2.6	0.036	1.620	2.23	Pass
3	1.114	2.300	48.4	1.136	3.450	32.93	Pass
4	0.029	0.430	6.8	0.034	0.645	5.28	Pass
5	0.143	1.140	12.6	0.159	1.710	9.29	Pass
6	0.038	0.300	12.5	0.042	0.450	9.24	Pass
7	0.367	0.770	47.6	0.386	1.155	33.45	Pass
8	0.050	0.230	21.8	0.055	0.345	16.05	Pass
9	0.130	0.400	32.5	0.153	0.600	25.52	Pass
10	0.050	0.184	27.1	0.054	0.276	19.57	Pass
11	0.140	0.330	42.4	0.155	0.495	31.40	Pass
12	0.059	0.153	38.6	0.064	0.230	27.81	Pass
13	0.151	0.210	71.8	0.161	0.315	51.18	Pass
14	0.053	0.131	40.2	0.057	0.197	29.17	Pass
15	0.065	0.150	43.4	0.069	0.225	30.66	Pass
16	0.029	0.115	24.9	0.031	0.173	18.09	Pass
17	0.089	0.132	67.4	0.092	0.199	46.12	Pass
18	0.016	0.102	15.7	0.019	0.153	12.41	Pass
19	0.040	0.118	34.2	0.053	0.178	29.72	Pass
20	0.013	0.092	14.6	0.016	0.138	11.39	Pass
21	0.041	0.107	38.0	0.048	0.161	29.75	Pass
22	0.012	0.084	14.2	0.014	0.125	11.23	Pass
23	0.035	0.098	35.9	0.039	0.147	26.61	Pass
24	0.010	0.077	12.8	0.011	0.115	9.93	Pass
25	0.014	0.090	15.7	0.016	0.135	11.91	Pass
26	0.008	0.071	11.6	0.010	0.106	9.15	Pass
27	0.024	0.083	29.0	0.026	0.125	20.43	Pass
28	0.007	0.066	10.8	0.008	0.099	8.29	Pass
29	0.008	0.078	10.9	0.012	0.116	10.44	Pass
30	0.005	0.061	9.0	0.007	0.092	7.11	Pass
31	0.008	0.073	11.3	0.012	0.109	10.69	Pass
32	0.004	0.058	0.0	0.005	0.086	5.37	Pass
33	0.006	0.068	9.7	0.009	0.102	8.54	Pass
34	0.003	0.054	0.0	0.003	0.081	4.23	Pass
35	0.004	0.064	0.0	0.004	0.096	4.19	Pass
36	0.002	0.051	0.0	0.003	0.077	3.43	Pass
37	0.005	0.061	9.0	0.006	0.091	6.38	Pass
38	0.002	0.048	0.0	0.002	0.073	3.04	Pass
39	0.003	0.058	0.0	0.004	0.087	5.02	Pass
40	0.001	0.046	0.0	0.002	0.069	2.51	Pass

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4.5 Voltage Fluctuation on AC Mains

Date of testing	:	2013.05.01
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:

Model	d_c [%]	d_{max} [%]	d (t)[ms]	Pst	Plt
GUHD09NK3FO（outdoor unit）	1.30	1.32	0.00	0.307	0.214
GFH09K3FI(indoor unit)	0.15	0.51	0.00	0.108	0.102
GTH09K3FI(indoor unit)	0.19	0.50	0.00	0.107	0.114
Limit	**3.30**	**6.00**	**500.0**	**1.000**	**0.650**

2. Test result.

Remark:

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5. Immunity Tests

5.1 Electrostatic Discharge (ESD)

Date of testing	:	2013.05.01
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	:	2013.05.01
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	:	2013.05.01
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	:	2013.05.01
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	:	2013.05.01
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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