



TEST REPORT

REPORT NO.: ABUV-ESH-P20100632B-4-A7

MODEL NO.: AS18PDAHRA (Indoor unit)+1U18MEGFRA (Outdoor unit), AS50PDAHRA (Indoor unit)+1U50MEGFRA (Outdoor unit), AS18TDDHRA (Indoor unit) +1U18MEGFRA (Outdoor unit), AS50TDMHRA-C (Indoor unit) +1U50MEMFRA-C (Outdoor unit), AS50TDDHRA-CLC (Indoor unit)+1U50MEGFRA (Outdoor unit), FP-18HT/21 (Indoor unit)+FP-18HTD/21 (Outdoor unit), AS18NDDHRA (Indoor unit)+1U18MEGFRA (Outdoor unit), AS50TDDHRA-TU (Indoor unit)+1U50MEMFRA-TU (Outdoor unit), AS50PDAHRA-TU (Indoor unit)+1U50MEGFRA-TU (Outdoor unit), AS24TDRHRA (Indoor unit)+1U24MRAFRA (Outdoor unit), AS24PDAHRA (Indoor unit) +1U24WEGFRA (Outdoor unit), AS68PDAHRA (Indoor unit)+1U68WEGFRA (Outdoor unit), TRK24INVDMEI (Indoor unit) with TRK24INVDMEO (Outdoor unit), OLE-24DIH (Indoor unit) with OLE-24DIH (Outdoor unit), AS24PDAHRA (Indoor unit) with 1U24MRAFRA (Outdoor unit), AS68PDAHRA (Indoor unit) with 1U68MRAFRA (Outdoor unit), AS68RDAHRA (Indoor unit) with 1U68MRAFRA (Outdoor unit), AS24TDRHRA (Indoor unit) with 1U24WEGFRA (Outdoor unit), AS68TDRHRA (Indoor unit) with 1U68WEGFRA (Outdoor unit), AS68TDRHRA-C (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), AS68TDRHRA-CLC (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), AS68TDRHRA-THC (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), SGM18INVDHDI (Indoor unit) with SGM18INVDHDO (Outdoor unit), ESA1518A100 (Indoor unit) with ESB1518A100 (Outdoor unit), ESA1418A100 (Indoor unit) with ESB1418A100 (Outdoor unit), Vitoclima 200-S/HE W2050MDH3 (Indoor unit) with Vitoclima 200-S/HE OSW2050MDH3 (Outdoor unit), SGM24INVDHDI (Indoor unit) with SGM24INVDHDO (Outdoor unit), ESA1524A100 (Indoor unit) with ESB1524A100 (Outdoor unit), Vitoclima 200-S/HE W2068MDH3 (Indoor unit) with Vitoclima 200-S/HE OSW2068MDH3 (Outdoor unit), AS68RDAHRA-TU (Indoor unit) with 1U68MRAFRA-TU (Outdoor unit)

RECEIVED: May. 10, 2022

ISSUED: Apr. 03, 2023

APPLICANT: Qingdao Haier Air Conditioner General Corp. Ltd

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1. Test program

PRODUCT: Split type air conditioner

MODEL NO.: AS18PDAHRA (Indoor unit)+1U18MEGFRA (Outdoor unit), AS50PDAHRA (Indoor unit)+1U50MEGFRA (Outdoor unit), AS18TDDHRA (Indoor unit) +1U18MEGFRA (Outdoor unit), AS50TDMHRA-C (Indoor unit) +1U50MEMFRA-C (Outdoor unit), AS50TDDHRA-CLC (Indoor unit)+1U50MEGFRA (Outdoor unit), FP-18HT/21 (Indoor unit)+FP-18HTD/21 (Outdoor unit), AS18NDDHRA (Indoor unit)+1U18MEGFRA (Outdoor unit), AS50TDDHRA-TU (Indoor unit)+1U50MEMFRA-TU (Outdoor unit), AS50PDAHRA-TU (Indoor unit)+1U50MEGFRA-TU (Outdoor unit), AS24TDRHRA (Indoor unit)+1U24MRAFRA (Outdoor unit), AS24PDAHRA (Indoor unit) +1U24WEGFRA (Outdoor unit), AS68PDAHRA (Indoor unit)+1U68WEGFRA (Outdoor unit), TRK24INVDMEI (Indoor unit) with TRK24INVDMEO (Outdoor unit), OLE-24DIH (Indoor unit) with OLE-24DIH (Outdoor unit), AS24PDAHRA (Indoor unit) with 1U24MRAFRA (Outdoor unit), AS68PDAHRA (Indoor unit) with 1U68MRAFRA (Outdoor unit), AS68RDAHRA (Indoor unit) with 1U68MRAFRA (Outdoor unit), AS24TDRHRA (Indoor unit) with 1U24WEGFRA (Outdoor unit), AS68TDRHRA (Indoor unit) with 1U68WEGFRA (Outdoor unit), AS68TDRHRA-C (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), AS68TDRHRA-CLC (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), AS68TDRHRA-THC (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), SGM18INVDHDI (Indoor unit) with SGM18INVDHDO (Outdoor unit), ESA1518A100 (Indoor unit) with ESB1518A100 (Outdoor unit), ESA1418A100 (Indoor unit) with ESB1418A100 (Outdoor unit), Vitoclima 200-S/HE W2050MDH3 (Indoor unit) with Vitoclima 200-S/HE OSW2050MDH3 (Outdoor unit), SGM24INVDHDI (Indoor unit) with SGM24INVDHDO (Outdoor unit), ESA1524A100 (Indoor unit) with ESB1524A100 (Outdoor unit), Vitoclima 200-S/HE W2068MDH3 (Indoor unit) with Vitoclima 200-S/HE OSW2068MDH3 (Outdoor unit), AS68RDAHRA-TU (Indoor unit) with 1U68MRAFRA-TU (Outdoor unit)

APPLICANT: Qingdao Haier Air Conditioner General Corp. Ltd

TESTED: /

STANDARDS: EN 62311:2008 & EN 50665:2017

We, LCIE China Company Limited, declare that the equipment above has been tested and found compliance with the requirement limits of applicable standards. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate under the standards herein specified.



PREPARED BY : Tony Mao
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DATE: Apr. 03, 2023

APPROVED BY : Daniel SUN
Daniel SUN
Product Line Manager

DATE: Apr. 03, 2023



2. General information

2.1 General description of EUT

Product	Split type air conditioner
Brand	Haier, FUJITSU, Tronic, OLEFINI, SIGMA, E.C.A., VIESMANN
Model	AS18PDAHRA (Indoor unit)+1U18MEGFRA (Outdoor unit), AS50PDAHRA (Indoor unit)+1U50MEGFRA (Outdoor unit), AS18TDDHRA (Indoor unit) +1U18MEGFRA (Outdoor unit), AS50TDMHRA-C (Indoor unit) +1U50MEMFRA-C (Outdoor unit), AS50TDDHRA-CLC (Indoor unit)+1U50MEGFRA (Outdoor unit), FP-18HT/21 (Indoor unit)+FP-18HTD/21 (Outdoor unit), AS18NDDHRA (Indoor unit)+1U18MEGFRA (Outdoor unit), AS50TDDHRA-TU (Indoor unit)+1U50MEMFRA-TU (Outdoor unit), AS50PDAHRA-TU (Indoor unit)+1U50MEGFRA-TU (Outdoor unit), AS24TDRHRA (Indoor unit)+1U24MRAFRA (Outdoor unit), AS24PDAHRA (Indoor unit) +1U24WEGFRA (Outdoor unit), AS68PDAHRA (Indoor unit)+1U68WEGFRA (Outdoor unit), TRK24INVDMEI (Indoor unit) with TRK24INVDMEO (Outdoor unit), OLE-24DIH (Indoor unit) with OLE-24DIH (Outdoor unit), AS24PDAHRA (Indoor unit) with 1U24MRAFRA (Outdoor unit), AS68PDAHRA (Indoor unit) with 1U68MRAFRA (Outdoor unit), AS68RDAHRA (Indoor unit) with 1U68MRAFRA (Outdoor unit), AS24TDRHRA (Indoor unit) with 1U24WEGFRA (Outdoor unit), AS68TDRHRA (Indoor unit) with 1U68WEGFRA (Outdoor unit), AS68TDRHRA-C (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), AS68TDRHRA-CLC (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), AS68TDRHRA-THC (Indoor unit) with 1U68WEGFRA-C (Outdoor unit), SGM18INVDHDI (Indoor unit) with SGM18INVDHDO (Outdoor unit), ESA1518A100 (Indoor unit) with ESB1518A100 (Outdoor unit), ESA1418A100 (Indoor unit) with ESB1418A100 (Outdoor unit), Vitoclima 200-S/HE W2050MDH3 (Indoor unit) with Vitoclima 200-S/HE OSW2050MDH3 (Outdoor unit), SGM24INVDHDI (Indoor unit) with SGM24INVDHDO (Outdoor unit), ESA1524A100 (Indoor unit) with ESB1524A100 (Outdoor unit), Vitoclima 200-S/HE W2068MDH3 (Indoor unit) with Vitoclima 200-S/HE OSW2068MDH3 (Outdoor unit), AS68RDAHRA-TU (Indoor unit) with 1U68MRAFRA-TU (Outdoor unit)
Model Difference	different power and appearance
Nominal Voltage	AC 220-240V, 50Hz
Temperature Operating Range	-20deg.c to +60deg.c
Modulation Type	CCK DSSS, OFDM
Modulation Technology	802.11b, 802.11g and 802.11n(HT20) for module MK-QTWIFI-08; 802.11b, 802.11g and 802.11n(HT20) and 802.11n(HT40) for module HEWRQU1; 802.11b, 802.11g and 802.11n(HT20) for module ESP32-for-Haier.



Operating Frequency	802.11b, 802.11g and 802.11n (HT20):2400MHz~2483.5MHz for modules MK-QTWIFI-08; 802.11b, 802.11g and 802.11n (HT20) and 802.11n (HT40):2400MHz~2483.5MHz for modules HEWRQU1; 802.11b/g/n(HT20):2412MHz-2472MHz for modules ESP32-for-Haier.
Number of Channel	Modules MK-QTWIFI-08:802.11b, 802.11g and 802.11n (HT20):13 Modules HEWRQU1:802.11 b/g/n(HT20):13, 802.11 b/g/n(HT40):9 Modules ESP32-for-Haier:802.11 b/g/n(HT20):13
Adaptive/Non-Adaptive	☐ non-adaptive Equipment ☒ adaptive Equipment without the possibility to switch to a non-adaptive mode ☐ adaptive Equipment which can also operate in a non-adaptive mode
EIRP Power (Measured Max. Average)	18.1dBm for module MK-QTWIFI-08; 17.22dBm for module HEWRQU1; 15.62dBm for module ESP32-for-Haier
Antenna Type	PCB antenna
Antenna Gain	3dBi for modules MK-QTWIFI-08; 2dBi for modules HEWRQU1; 3dBi for modules ESP32-for-Haier
Data Cable Supplied	NA

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
2. The EIRP Power is refer to test report number of 64.920.19.06297.01R, 4842020233500B and SHEM200500402605.

3. EN 62311 Requirement

3.1 Human exposure to the electromagnetic fields

LIMIT

The electronic and electro-technical apparatus shall comply with the basic restriction as specified in Annex II of Council Recommendation 1999/519/EC.

The reference levels in the Council Recommendation 1999/519/EC on public exposure to electromagnetic fields are derived from the basic restrictions using worst-case assumptions about exposure.

According to EN62311, the reference level listed in the following table 2 shall be used to evaluate the environment impact of human exposure human exposure to electromagnetic fields (0 Hz - 300 GHz) as specified in 1999/519/EC. Council Recommendation 1999/519/EC of 12 July 1999

Table 2

Reference levels for electric, magnetic and electromagnetic fields(0 Hz to 300 GHz, unperturbed rms values)

Frequency Range	E-field Strength (V/m)	H-field Strength (A/m)	B-field (μ T)	Equivalent plane wave power density Seq (W/m ²)
0-1 Hz	–	3.2×10^4	4×10^4	–
1-8 Hz	10000	$3.2 \times 10^4/f^2$	$4 \times 10^4/f^2$	–
8-25 Hz	10000	$4000/f$	$5000/f$	–
0.025-0.8 kHz	$250/f$	$4/f$	$5/f$	–
0.8-3 kHz	$250/f$	5	6.25	–
3-150 kHz	87	5	6.25	–
0.15-1 MHz	87	$0.73/f$	$0.92/f$	–
1-10 MHz	$87/f^{1/2}$	$0.73/f$	$0.92/f$	–
10-400 MHz	28	0.73	0.092	2
400-2000 MHz	$1.375 f^{1/2}$	$0.0037 f^{1/2}$	$0.0046 f^{1/2}$	$f/200$
2-300G Hz	61	0.16	0.20	10

Notes:

1. f as indicated in the frequency range column.
2. For frequencies between 100 kHz and 10 GHz, Seq, E₂, H₂, and B₂ are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, Seq, E₂, H₂, and B₂ are to be averaged over any $68/f^{1.05}$ -minute period (f in GHz).



4. No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

3.2 Assessment methods

Under normal use of condition, this device has a separation distance of at least 20cm between the antenna and the body of the user. A radiation exposure statement "this equipment should be installed and operated with minimum distance between the antenna and your body" is shown on the user manual, so human exposure to the electromagnetic field of this product is at far-field region under normal use.

Far-field region Calculation Formula:

P watts are radiated, from a point, uniformly over the surface of sphere of radius r.

In free space

$$E = \eta_0 H = [30 \cdot P \cdot G(\theta, \phi)]^{0.5} / r$$

Where

G = antenna gain relative to an isotropic antenna

θ, ϕ = elevation and azimuth angles to point of investigation

r = distance from observation point to the antenna (m)

η = characteristic impedance of free space

Safety Distance Calculation Formula:

The power flux:

$$S = \frac{P \cdot G_{(\theta, \phi)}}{4 \cdot \pi \cdot r^2}$$

So safety distance as following:

$$r = \sqrt{\frac{P \cdot G}{4 \cdot \pi \cdot S}}$$

P = input power of the antenna

G = antenna gain relative to an isotropic antenna

θ, ϕ = elevation and azimuth angles.

r = distance from the antenna to the point of investigation



3.3 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 25°C and 60% RH.



3.4 Test Result of RF Exposure Evaluation

Modules MK-QTWIFI-08

Max Power Operation Mode	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(W/m ²)	Power Density S(W/m ²)	Result
802.11b	2400MHz~2483.5MHz	18.1	10	0.17	Pass

Modules HEWRQU1

Max Power Operation Mode	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(W/m ²)	Power Density S(W/m ²)	Result
802.11b	2400MHz~2483.5MHz	17.5	10	0.17	Pass

Modules ESP32-for-Haier

Max Power Operation Mode	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(W/m ²)	Power Density S(W/m ²)	Result
802.11b	2412MHz~2472MHz	15.62	10	0.07	Pass

--END--