



1 Cover Page

RF Exposure Evaluation Report

Application No.: SHEM2007005611CR
Applicant: Shanghai Neo.Tec Electron Co., Ltd
Address of Applicant: No.22, 4501 Hu qing ping Highway Shanghai China
Manufacturer: Shanghai Neo.Tec Electron Co., Ltd
Address of Manufacturer: No.22, 4501 Hu qing ping Highway Shanghai China
Factory: Shanghai Neo.Tec Electron Co., Ltd
Address of Factory: No.22, 4501 Hu qing ping Highway Shanghai China
Equipment Under Test (EUT):
EUT Name: Air Purifier
Model No.: AP-HC300B
Add Model No.: AP-HC300A, AP-HC300C, 0061AP01
Standard(s) : EN 62311:2008
Date of Receipt: 2020-07-08
Date of Test: 2020-07-10 to 2020-07-31
Date of Issue: 2020-08-03

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

parlan zhan

Parlam Zhan
E&E Section Manager



The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

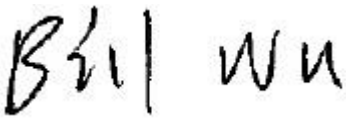

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center E&E

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Revision Record			
Version	Description	Date	Remark
00	Original	2020-08-03	/

Authorized for issue by:				
				
		Bill Wu / Project Engineer		
				
		Eddy Zong / Reviewer		



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3 General Information

3.1 General Description of E.U.T.

Power supply:	AC 220-240V~50Hz
Cable:	AC Cable 2m

3.2 Details of E.U.T.

Antenna Gain:	2.5dBi
Antenna Type:	PCB Antenna
Channel Spacing:	5MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20): 13
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2472MHz
Power Class:	>=10mW



3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (LAB CODE: 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

- **FCC (Designation Number: CN5033)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4 Test Standards and Limits

The evaluation has been performed on the EUT, pursuant to the relevant requirements of the following document(s) and the harmonized EN standard(s) covering essential requirements under article 3.1 of the RED Directive (2014/53/EU).

Identity	Document Title	Version
Council Recommendation of 12 July 1999(1999/519/EC)	On the limitation of exposure of the general public to electromagnetic fields (0Hz to 300GHz)	1999
EN 62311	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)	2008

Limit: According to EN 62311, the criteria listed in the below table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified table 2 of Council Recommendation 1999/519/EC.

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 (μT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4 000/f$	$5 000/f$	—
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	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Notes:

- f as indicated in the frequency range column.
- For frequencies between 100 kHz and 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any six-minute period.
- For frequencies exceeding 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any $68/f^{1.05}$ -minute period (f in GHz).
- 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.

Note: The limit of power density is 10W/m².

5 Calculation Formula and Test Result

5.1 Calculation Formula

$$P_d = (P_{out} \cdot G) / 4\pi R^2$$

Where:

P_d = Power density in W/m^2

P_{out} = Output power to antenna in W

G = Antenna Gain in linear scale

$\pi = 3.14$

R = distance to the center of radiation of antenna (in meter) = 0.2m

NOTE: P_d limit = $10W/m^2$.

5.2 Test Results

The EIRP Data is based on the RF Test Report 4842019325300C.

For Wi-Fi:

The max EIPR is P_G : 8.9 dBm = 0.0078 W;

$$\text{So, } S = \frac{P_G}{4R^2\pi} = 0.02 \text{ W/m}^2$$

Which is below the max permitted sending level of $10W/m^2$, and then the EUT is not need to conduct SAR measurement.

--The End of Report--