

RF Exposure Evaluation Report

Product : Electrostatic Air Purifier
Trade mark : Nectar
Model/Type reference : HexaDuo Smart, AP360C, AP360CX
Serial Number : N/A
Report Number : EED32J00195902
FCC ID : LPV-HEXADUOSMART
Date of Issue : Sep. 26, 2017
47 CFR Part 1.1307
Test Standards : 47 CFR Part 1.1310
KDB 447498 D01v06
Test result : PASS

Prepared for:

Alford Industries Ltd.

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2 Version

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3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	4
4.4 TEST LOCATION.....	4
4.5 TEST FACILITY.....	5
4.6 DEVIATION FROM STANDARDS.....	5
4.7 ABNORMALITIES FROM STANDARD CONDITIONS.....	5
4.8 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	5
5 RF EXPOSURE EVALUATION.....	6
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	6
5.1.1 Limits.....	6
5.1.2 Test Procedure.....	6
5.1.3 EUT RF Exposure Evaluation.....	7
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	8

4 General Information

4.1 Client Information

Applicant:	Alford Industries Ltd.
Address of Applicant:	Unit 02, 6/F, Yen Sheng Centre, 64 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong
Manufacturer:	Alford Industries Ltd.
Address of Manufacturer:	Unit 02, 6/F, Yen Sheng Centre, 64 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong
Factory:	Foshan Shunde Alford Electronics Co., Ltd
Address of Factory:	Xinjiao Industrial Park, DaLiang, ShunDe, Foshan City, Guangdong Province, China

4.2 General Description of EUT

Product Name:	Electrostatic Air Purifier
Model No.:	HexaDuo Smart, AP360C, AP360CX
Test model No.:	HexaDuo Smart
Trade Mark:	Nectar
EUT Supports Radios application:	WiFi b/g/n(20M) , 2412MHz-2462MHz;
Power Supply:	AC 120V, 60Hz

4.3 Product Specification subjective to this standard

Modulation Type:	DSSS , OFDM
Antenna Type:	Integral antenna
Antenna Gain:	3dBi
Test Voltage:	AC 120V, 60Hz
Sample Received Date:	Sep. 14, 2017
Sample tested Date:	Sep. 14, 2017 to Sep. 26, 2017
The tested sample and the sample information are provided by the client. Model No.:HexaDuo Smart, AP360C, AP360CX Only the model HexaDuo Smart was tested, since their cosmetic design, electrical circuit design, components used and internal wiring are 100% identical.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax:+86 (0) 755 3368 3385

No tests were sub-contracted.

4.5 Test Facility

Test location

The test site a is located on *Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China.*

Test site at Centre Testing International Group Co., Ltd has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 06, 2014.

The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

FCC Designation No.: CN1164

FCC-Registration No.: 886427

Centre Testing International Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 886427.

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

4.8 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limits, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 3dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	2412	24.71	3	27.71	590.20	20	0.117	1.0	Pass

Note: Refer to report No. EED32J00195901 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32J00195901 for EUT external and internal photos.

*** End of Report ***

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