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Report Template Version: V04
Report Template Revision Date: 2018-07-06

RF Exposure Evaluation Report

Report No.:	CQASZ20260601343E-03
Applicant:	DREO PTE. LTD.
Address of Applicant:	1 COLEMAN STREET, #05-05, THE ADELPHI, SINGAPORE 179803
Equipment Under Test (EUT):	
Product:	Air Purifier Fan
Model No.:	DR-HTF022S, DWTF22S
Test Model No.:	DR-HTF022S
Brand Name:	DREO, DREO HOME
FCC ID:	2BPBC-HTF022
Standards:	47 CFR Part 1.1307
	47 CFR Part 1.1310
	KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2026-06-25
Date of Test:	2026-06-25 to 2026-07-08
Date of Issue:	2026-07-09
Test Result:	**PASS***

***In the configuration tested, the EUT complied with the standards specified above**

Tested By: lewis zhou

(Lewis Zhou)

Reviewed By: Timo Lei

(Timo Lei)

Approved By:

(Jack Ai)

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can’t be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20260601343E-03	Rev.01	Initial report	2026-07-09

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3 General Information

3.1 Client Information

Applicant:	DREO PTE. LTD.
Address of Applicant:	1 COLEMAN STREET, #05-05, THE ADELPHI, SINGAPORE 179803
Manufacturer:	DREO PTE. LTD.
Address of Manufacturer:	1 COLEMAN STREET, #05-05, THE ADELPHI, SINGAPORE 179803

3.2 General Description of EUT

Product Name:	Air Purifier Fan
Model No.:	DR-HTF022S, DWTF22S
Test Model No.:	DR-HTF022S
Trade Mark:	DREO, DREO HOME
Software Version:	V1.0
Hardware Version:	IMB-068-V1.4
Power Supply:	Input:100-240V ~50/60Hz 1.8A Output:24.0V ⎓ 3.0A

3.3 General Description of BLE

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	Bluetooth Spec 5.3
Modulation Type:	GFSK
Number of Channel:	40
Transfer Rate:	1Mbps
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	FPC antenna
Antenna Gain:	6.64dBi

3.4 General Description of 2.4G WIFI Classic

Operation Frequency:	2412MHz~2462MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels
Channel Separation:	5MHz
Transfer Rate:	IEEE for 802.11b: 1Mbps/2Mbps/5.5Mbps/11Mbps IEEE for 802.11g : 6Mbps/9Mbps/12Mbps/18Mbps/24Mbps/36Mbps/48Mbps/54Mbps IEEE for 802.11n(HT20) : 6.5Mbps/13Mbps/19.5Mbps/26Mbps/39Mbps/52Mbps/58.5Mbps/65Mbps
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	FPC antenna
Antenna Gain:	6.64dBi

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4* Pi * R^2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2 . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

4.1.2 Test Procedure

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

4.2 1.1.3 EUT RF Exposure Evaluation

1) For BLE

Antenna Gain: 6.64dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 4.61 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	6.08	6.0±1	7.0	5.01
Middle(2440MHz)	7.10	7.5±1	8.5	7.08
Highest(2480MHz)	4.70	5.0±1	6.0	3.98

The worst case:

Maximum tune-up Power (mW)	**Antenna Gain (dBi)**	**Power Density at R = 20 cm (mW/cm^2)**	**Limit**	**Result**
7.08	6.64	0.006497243	1.0	PASS

Note: 1) Refer to report No. CQASZ20260601343E-01 for EUT test Max Conducted Peak Output Power value.

2) Pd = (Pout*G)/(4* Pi * R2)=(7.08*4.61)/(4*3.1416*20^2)=0.006497243

2) For 2.4G WIFI

Antenna Gain: 6.64dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 4.61 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data

802.11b mode				
Test channel	Conducted AV Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	14.22	14.5±1	15.5	35.48
Middle(2437MHz)	14.26	14.5±1	15.5	35.48
Highest(2462MHz)	13.48	14.0±1	15.0	31.62

The worst case:

Maximum tune-up Power (mW)	**Antenna Gain (dBi)**	**Power Density at R = 20 cm (mW/cm^2)**	**Limit**	**Result**
35.48	6.64	0.032563354	1.0	PASS

Note: 1) Refer to report No. CQASZ20260601343E-02 for EUT test Max Conducted AV Output Power value.

2) Pd = (Pout*G)/(4* Pi * R2)=(35.48*4.61)/(4*3.1416*20^2)=0.032563354