TEST REPORT

Application No.:	HKEM2001000024HS
Applicant:	Kingtronics International Trading Co., Ltd
Address of Applicant:	Units 1203, 05, 07 & Penthouse, Century Centre, 44-46 Hung To Road, Kwun Tong, Kowloon, HongKong
Manufacturer:	CELIOS CORPORATION
Address of Manufacturer:	401 Edgewater Pl, Suite 190, Wakefield, MA, 01880, USA
Factory:	KINGTRONICS CORPORATION OF ELEC.&MECH. TECHNOLOGY (ZHANGZHOU)CO., LTD
Address of Factory:	NO.20 Longchi Road, Longchi Industrial Park, Zhangzhou Taiwanese Investment Zone
Equipment Under Test (EUT):	
EUT Name:	G200 Advanced Air Purifier
Model No.:	G200¤
FCC ID	2AVYPG200-CR-01
Trade Mark:	celios®
Standard(s) :	47 CFR Part 1.1307, Part 1.1310
Date of Receipt:	2020-03-20
Date of Test:	2020-03-24 to 2020-04-05
Date of Issue:	2020-04-11
Test Result:	**Pass***

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

Law Man Kit
EMC Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		*2020-04-11*		*Original*

Authorized for issue by:				
				
		Leo Xu **/Project Engineer**		Date: 2020-04-11
				
		Law Man Kit **/Reviewer**		Date: 2020-04-11

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
RF Exposure	47 CFR Part 1.1307, Part 1.1310	CFR 47 Part 1.1310	CFR 47 Part 1.1310	PASS

Declaration of EUT Family Grouping:
None

Abbreviation:

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

N/A: In this whole report not application.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	Adaptor model: YHY-15004000 Input: 100-240VAC, 50/60Hz, 1.5A Max Output: 15V, 4.0A
Battery:	Model: CB3200 Rated capacity: 3180mAh, 34.34Wh Voltage: 10.8VDC
Test voltage:	110VAC
Cable:	100cm 3pin unscreened AC cable
Antenna Gain:	0.5dBi
Antenna Type:	Chip Antenna

4.2 Description of Support Units

The EUT has been tested with corresponding accessories as below:

Supplied by client

Description	Manufacturer	Model No.	SN/Certificate NO
I2C/SPI Test Interface	TOTAL PHASE	N/A	N/A
MCHPRT 2 Test Software	N/A	Version 1.0	N/A

Supplied by SGS:

Description	Manufacturer	Model No.	SN/Certificate NO
NoteBook (EMC4)	Dell	P75F	N/A

4.3 Test Location

All tests were performed at:

SGS IECC Limited (Member of the SGS Group (SGS SA))

Unit 2 and 3, G/F, Block A, Po Lung Centre,

11 Wang Chiu Road, Kowloon Bay, Kowloon, Hong Kong

Tel: +852 2305 2570 Fax: +852 2756 4480

No tests were sub-contracted.

4.4 Test Facility

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

- **HOKLAS (Lab Code: 125)**

SGS IECC Limited has been accepted by HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a HOKLAS Accredited Laboratory, this laboratory meets the requirements of ISO/IEC 17025:2005 an it has been accredited for performing specific test as listed in the scope of accreditation within the test category of Electrical and Electronic Products.

- **FCC Recognized Accredited Test Firm(CAB Registration No.: 446297)**

SGS IECC Limited has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: HK0010, Test Firm Registration Number: 446297.

- **Industry Canada (Site Registration No.: 5193A; CAB Identifier No.: HK0001)**

SGS IECC Limited has been recognized by Department of Innovation, Science and Economic Development (ISED) Canada as a wireless testing laboratory. The acceptance letter from the ISED is maintained in our files. CAB Identifier No: HK0001, Site Registration Number: 5193A-2.

4.5 Deviation from Standards

None

4.6 Abnormalities from Standard Conditions

None

5 Radio Spectrum Technical Requirement

5.1 RF Exposure

5.1.1 Test Requirement:

CFR 47 Part 1.1310

Limit:

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 Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm^2)
P = the net power delivered to the antenna (mW)
G = gain of the antenna in linear scale
d = distance between observation point and center of the radiator (cm)

5.1.1 EUT RF Exposure Evaluation

Antenna Gain: 0.5dBi

The maximum Gain measured in fully anechoic chamber is 1.12 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Core:

BT:

Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm2)	Limit	MPE Ratios	Result
Low	2402	3.8	2.399	0.00054	1	0.00054	PASS
Middle	2442	4.0	2.512	0.00056	1	0.00056	PASS
High	2480	4.0	2.512	0.00056	1	0.00056	PASS

WiFi:

Operation mode	Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm2)	Limit	MPE Ratios	Result
802.11b	Low	2412	16.5	44.668	0.00997	1	0.00997	PASS
802.11b	Middle	2442	16.1	40.738	0.00909	1	0.00909	PASS
802.11b	High	2462	16.3	42.658	0.00952	1	0.00952	PASS
802.11g	Low	2412	12.9	19.498	0.00435	1	0.00435	PASS
802.11g	Middle	2442	12.5	17.783	0.00397	1	0.00397	PASS
802.11g	High	2462	12.9	19.498	0.00435	1	0.00435	PASS
802.11n20	Low	2412	13.1	20.417	0.00456	1	0.00054	PASS
802.11n20	Middle	2442	12.6	18.197	0.00406	1	0.00056	PASS
802.11n20	High	2462	12.8	19.055	0.00425	1	0.00056	PASS

Note: 1. Refer to report No. HKEM200100002402 and . HKEM200100002404 for EUT test conducted power value. The distancer (5th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

2. The EUT cannot transmit BT and WiFi signal simultaneously.

6 Photographs

Remark: Photos refer to Appendix A, Appendix B and Appendix C of HKEM200100002402.

- End of the Report -