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Report Template Version: V04
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RF Exposure Evaluation Report

Report No.:	CQASZ20200800831E-02
Applicant:	Aidios Limited.
Address of Applicant:	D41, 14/F., Blk D, Wah Lok Center, 31-35 Shan Mei St., FoTan, Shatin, N.T., HongKong
Equipment Under Test (EUT):	
EUT Name:	2.4GHz Wireless Monitoring System
Model No.:	M1C and the series
Test Model No.:	M1C
Brand Name:	aidios
FCC ID:	2AS8PAIDIOSM1C
Standards:	47 CFR Part 1.1307
	47 CFR Part 1.1310
	KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2020-08-12
Date of Test:	2020-08-12 to 2020-12-03
Date of Issue:	2020-12-03
Test Result:	**PASS***

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

Tested By: Jun Li

(Jun Li)

Reviewed By: Sheek.Luo

(Sheek Luo)

Approved By:

(Jack Ai)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20200800831E-02	Rev.01	Initial report	2020-12-03

2 Contents

3 General Information

3.1 Client Information

Applicant:	Aidios Limited.
Address of Applicant:	D41, 14/F., Blk D, Wah Lok Center, 31-35 Shan Mei St., FoTan, Shatin, N.T., HongKong
Manufacturer:	Aidios Limited.
Address of Manufacturer:	D41, 14/F., Blk D, Wah Lok Center, 31-35 Shan Mei St., FoTan, Shatin, N.T., HongKong
Factory:	Exvision Industries Ltd,
Factory of Manufacturer:	3/F., No. 65 Longyan 6th Road, Humen, Dongguan, China, ZIP 523925

3.2 General Description of EUT

Product Name:	2.4GHz Wireless Monitoring System
Model No.:	M1C and the series
Test Model No.:	M1C
Trade Mark:	aidios
Hardware Version:	M1C : V9, Pan-tilt docking (Model M1P) : V6
Software Version:	V1.0
Operation Frequency:	2406-2475MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	FSK/GFSK
Transfer Rate:	4Mbps
Number of Channel:	24
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Test Software of EUT:	RF Test (manufacturer declare)
Antenna Type:	Dipole Antenna
Antenna Gain:	2 dBi
Power Supply:	DC5.0V by adapter
Adapter:	Model: K05B050100U Input: 100-240V 50/60Hz 0.2A Output: DC 5V 1A

Model No.: M1C and the series
Only the model M1C was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance, pack and model name.

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 2.4G

Antenna Gain: 2dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.58 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(2406MHz)	16.15	15.5±1	16.5	44.668
Middle(2442MHz)	16.23	16.0±1	17.0	50.119
Highest(2475MHz)	16.24	16.0±1	17.0	50.119

The worst case:

Maximum tune-up Power (mW)	**Antenna Gain (dBi)**	**Power Density at R = 20 cm (mW/cm^2)**	**Limit**	**Result**
50.119	2	0.0158	1.0	PASS

Note: 1) Refer to report No. CQASZ20200800831E-01 for EUT test Max Conducted Peak Output Power value.

2) $Pd = (Pout*G)/(4* Pi * R^2)=(50.119*1.58)/(4*3.1416*20^2)=0.0158$