Report No.: SZEM201101122004
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RF Exposure Evaluation Report

Application No.:	SZEM2011011220CR
Applicant:	SZ DJI TECHNOLOGY CO., LTD.
Address of Applicant:	14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan District, Shenzhen, Guangdong, China
Manufacturer:	SZ DJI TECHNOLOGY CO., LTD.
Address of Manufacturer:	14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan District, Shenzhen, Guangdong, China
Equipment Under Test (EUT):	
Product Name:	DJI AIR 2S
Model No.:	DA2SUE1
Trade mark:	DJI
FCC ID:	SS3-DA2SUE12011
Standards:	47 CFR Part 1.1307
	47 CFR Part 1.1310
	47 CFR Part 2.1091
Date of Receipt:	2020-11-06
Date of Test:	2020-11-10 to 2020-12-03
Date of Issue:	2020-12-08
Test Result :	**PASS***

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

Keny Xu
EMC Laboratory Manager

2 Version

Version	Chapter	Date	Modifier	Remark
01		2020-12-08		Original

Authorized for issue by:				
				
		Harry Wu/Project Engineer		
				
		Eric Fu/Reviewer		

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3 Contents

4 General Information

4.1 General Description of EUT

Power adapter:	Model: P2C38 Input: AC100-240V,50-60Hz,1.3A Output: DC13.2V,2.82A(Main),DC5.0V,2.0A
Battery:	DC11.55V lithium-ion Polymer battery(3500mAh)
For 2.4G:	
Operation Frequency:	1.4MHz BW:2403.5MHz-2469.5MHz; 1.4MHz BW CA:2405.12MHz-2471.12MHz; 3MHz BW:2408.5MHz-2465.5MHz; 3MHz BW CA:2411.2MHz-2468.2MHz; 10MHz BW:2407.5MHz-2467.5MHz; 20MHz BW:2412.5MHz-2462.5MHz; 40MHz BW:2422.5MHz-2452.5MHz
Modulation Type:	OFDM
Number of Channels:	1.4MHz BW:34; 1.4MHz BW CA:34; 3MHz BW:20; 3MHz BW CA:20; 10MHz BW:61; 20MHz BW:51; 40MHz BW:31
Channel Spacing:	1.4MHz BW:2MHz; 1.4MHz BW CA:2MHz; 3MHz BW:3MHz; 3MHz BW CA:3MHz; 10MHz BW:1MHz; 20MHz BW:1MHz; 40MHz BW:1MHz
Antenna Type:	FPC Antenna
Antenna Gain:	Antenna 1&2: 2.5dBi, Antenna 3&4: 1.5dBi
Antenna Combination:	Antenna 1+Antenna 2, Antenna 1+Antenna 4, Antenna 2+Antenna 3, Antenna 3+Antenna 4

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For 5.8G:	
Operation Frequency:	1.4MHz BW:5728.5MHz-5846.5MHz; 1.4MHz BW CA:5730.12MHz-5848.12MHz; 3MHz BW:5730.5MHz-5844.5MHz; 3MHz BW CA:5733.2MHz-5847.2MHz; 10MHz BW:5730.5MHz-5844.5MHz; 20MHz BW:5735.5MHz-5839.5MHz; 40MHz BW:5745.5MHz-5829.5MHz
Moudulation Type:	OFDM
Number of Channels:	1.4MHz BW:60; 1.4MHz BW CA:60; 3MHz BW:39; 3MHz BW CA:39; 10MHz BW:115; 20MHz BW:105; 40MHz BW:85
Channel Spacing:	1.4MHz BW:2MHz; 1.4MHz BW CA:2MHz; 3MHz BW:3MHz; 3MHz BW CA:3MHz; 10MHz BW:1MHz; 20MHz BW:1MHz; 40MHz BW:1MHz
Antenna Type:	FPC Antenna
Antenna Gain:	Antenna 1&2: 4.5dBi, Antenna 3&4: 2dBi
Antenna Combination:	Antenna 1+Antenna 2, Antenna 1+Antenna 4, Antenna 2+Antenna 3, Antenna 3+Antenna 4

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4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.3 Test Facility

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

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 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

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.

5.1.2 Test Procedure

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

4.1.3 EUT RF Exposure Evaluation

For 2.4G:

Antenna Gain: Antenna 1&2: 2.5dBi, Antenna 3&4: 1.5dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.41 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

SISO:

Frequency (MHz)	Antenna	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
2467.5	4	23.88	244.34	0.069	1.0	PASS

MIMO:

Frequency (MHz)	Antenna	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
2437.5	1+2	26.59	456.037	0.161	1.0	PASS

Note: Refer to report No. SZEM201101122002 for EUT test Max Conducted Peak Output Power value. The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

Declared By Applicant:

EIRP (dBm)	EIRP (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
30	1000	0.199	1.0	PASS

For 5G:

Antenna Gain: Antenna 1&2: 4.5dBi, Antenna 3&4: 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:

SISO:

Frequency (MHz)	Antenna	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
5844.5	4	24.47	279.898	0.088	1.0	PASS

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MIMO:

Frequency (MHz)	Antenna	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
5844.5	1+2	25.02	317.687	0.178	1.0	PASS

Note: Refer to report No. SZEM201101122003 for EUT test Max Conducted Peak Output Power value. The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

Declared By Applicant:

EIRP (dBm)	EIRP (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
30	1000	0.199	1.0	PASS

- End of the Report -

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