



RF Exposure Evaluation Report

Application No.: SZEM1911020636CR
Applicant: DigiLife Technologies Co., Ltd
Address of Applicant: 8F., NO. 51, Lane 258, Ruiguang Road, Neihu Distri., Taipei 114, Taiwan
Manufacturer: DigiLife Technologies Co., Ltd
Address of Manufacturer: 8F., NO. 51, Lane 258, Ruiguang Road, Neihu Distri., Taipei 114, Taiwan
Factory: Shenzhen Xinghuafeng Technogy Co., LTD.
Address of Factory: 201-301, building 2, Xintang Industrial Park, Baishixia Area, Fuyong Town, Bao'an, Shenzhen, China

Equipment Under Test (EUT):
EUT Name: Digital Video Recorder, Car Recorder, Car Camcorder, Drive Recorder, Driving Recorder
Model No.: f560x, f565x, SP19cGW-A ♣
 ♣ Please refer to section 4.1 of this report which indicates which model was actually tested and which were electrically identical.

FCC ID: 2ACFI19CWM
Trade mark: HP
Standards: 47 CFR Part 1.1310
 47 CFR Part 2.1091

Date of Receipt: 2019-11-27
Date of Test: 2019-12-11 to 2020-03-09
Date of Issue: 2020-03-11

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
 EMC Laboratory Manager



2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-03-11		Original

Authorized for issue by:			
			
		<hr/> Powell Bao /Project Engineer	
			
		<hr/> Eric Fu /Reviewer	



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4 General Information


4.1 General Description of EUT

Power Supply:	DC 3.7V rechargeable battery which charged from Car Charger Car charger information: Model: CP1102u-M2 Input: DC12/24V Max 1.5A Output:DC5V, 2.5A Total
Operation Frequency:	802.11g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11
Channel Spacing:	5MHz
Antenna Type:	Integral Antenna
Antenna Gain:	-3.63dBi

Declaration of EUT Family Grouping:

Model No.: f560x, f565x, SP19cGW-A

Only the model f560x was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model No., appearance and below details:

photo	Brand Name	Model No.	GPS or WiFi	Rear Camera
	No Brand	SP19cGW-A	With GPS & Wi-Fi	Support RC3p
	HP	f560x	With GPS & Wi-Fi	Support RC3p
	HP	f565x	With GPS & Wi-Fi	Support RC3p



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 is 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.



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4.1.3 EUT RF Exposure Evaluation

Antenna Gain: -3.63dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 0.43 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	2412	20.79	119.95	0.0103	1.0	PASS

Note: Refer to report No. SZEM191102063602 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.

- End of the Report -



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