



Report No.: SZEM190701610005

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# **SAR Evaluation Report**

Application No.: SZEM1907016100CR

Applicant: PayClip Inc

Address of Applicant: 2120 University Ave. Floor 3, Berkeley 94704, UNITED STATES

Manufacturer: PayClip Inc

**Address of Manufacturer:** 2120 University Ave. Floor 3, Berkeley 94704, UNITED STATES **Factory:** SHENZHEN WINSTAR PRECISION ELECTRONICS CO., LTD.

Address of Factory: The East Side of the Floor 6, Floor 5, Building 28, Shancheng Industrial Park,

Shixin Community, Langxin Community, Shiyan Street, Bao'an District,

Shenzhen City, Guangdong Province, P.R.China

**Equipment Under Test (EUT):** 

EUT Name: ClipPlus Model No.: ClipPlus

FCC ID: 2AT3H-CLIPPLUS
Standards: 47 CFR Part 1.1307

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

**Date of Receipt:** 2019-07-09

**Date of Test:** 2019-07-09 to 2019-08-30

**Date of Issue:** 2019-09-03

Test Result : PASS\*

Keny Xu EMC Laboratory Manager

Ceny. Ku



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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## 2 Version

	Revision Record				
Version	Chapter	Date	Modifier	Remark	
01		2019-09-03		Original	

Authorized for issue by:		
	Calvin Weng	
	Calvin Weng /Project Engineer	-
	EvicFu	
	Eric Fu /Reviewer	-



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### **General Information**

## 4.1 General Description of EUT

Power supply:	DC 3.7V by rechargeable battery	
,	Recharged input: DC5V by power adapter	
For BT:		
Operation Frequency:	2402MHz to 2480MHz	
Bluetooth Version:	4.1	
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)	
Modulation Type:	GFSK, π/4DQPSK, 8DPSK	
Number of Channels:	79	
Channel Spacing:	1MHz	
Antenna Type:	PCB antenna	
Antenna Gain:	-6.66dBi	
For BLE:		
Operation Frequency:	2402MHz to 2480MHz	
Bluetooth Version:	4.1	
Modulation Type:	GFSK	
Number of Channels:	40	
Channel Spacing:	2MHz	
Antenna Type:	PCB antenna	
Antenna Gain:	-6.66dBi	
For NFC:		
Operation Frequency:	13.56MHz	
Modulation Type:	ASK	
Antenna Type:	Loop antenna	
Antenna Gain:	0	



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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:

#### • CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### 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.



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#### 4.4 Deviation from Standards

None.

#### 4.5 Abnormalities from Standard Conditions

None.

### 4.6 Other Information Requested by the Customer

None.



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### 5 SAR Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]  $\cdot [\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq$  50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion



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#### 5.1.3 EUT RF Exposure

#### For BT:

The Max. power (including tune-up tolerance) is -1.71 dBm on the middle channel 2.441 GHz (\*) -1.71 dBm logarithmic terms convert to numeric result is nearly 0.67 mW According to the formula. calculate the test exclusion thresholds:

General RF Exposure = 
$$\frac{(\text{Max.Power of channel, including tune -up tolerance, } mW) * \sqrt{f (GHz)}}{(\text{min.test separation distance,mm})}$$
General RF Exposure =  $(0.67 \text{ mW / 5 mm}) \times \sqrt{2.441 \text{ GHz}} = 0.21$  (1) SAR requirement:
$$S = 3.0$$
 (2) (1) < (2)

So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM190701610002

#### For BLE:

The Max. power (including tune-up tolerance) is -0.24 dBm on the middle channel 2.44 GHz (\*) -0.24 dBm logarithmic terms convert to numeric result is nearly 0.95 mW According to the formula. calculate the test exclusion thresholds:

General RF Exposure = 
$$\frac{(\text{Max. Power of channel, including tune -up tolerance, } mW) * \sqrt{f (GHz)}}{(\text{min. test separation distance, } mm)}$$
General RF Exposure =  $(0.95 \text{ mW / 5 mm}) \times \sqrt{2.44 \text{ GHz}} = 0.30$  (1)
SAR requirement:
$$S = 3.0$$
 (2)
$$(1) < (2)$$
So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM190701610003

- End of the Report -



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