



Report No.: SZEM190901881504

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## **SAR Evaluation Report**

**Application No.**: SZEM1909018815CR **Applicant:** A&H Design Group, Ltd.

Address of Applicant: Suite 608, Tower One Harbour Centre1 Hok Cheung Street, Hung Hom,

Kowloon, Hong Kong

Manufacturer: A&H Design Group, Ltd.

Address of Manufacturer: Suite 608, Tower One Harbour Centre1 Hok Cheung Street, Hung Hom,

Kowloon, Hong Kong

**Equipment Under Test (EUT):** 

**EUT Name:** Untangled Pro Bluetooth Wireless Headphone

Model No.: Untangled Pro (LGUT-01-WH, LGUT-02-BK, LGUT-03-BE, LGUT-04-PK,

LGUT-05-PU, LGUT-06-GR, LGUT-07-SC, LGUT-08-DC, LGUT-09-RC,

LGUT-10-FD) \*

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Trade mark: lilgadgets

FCC ID: 2AD2G-UNTANGLEDPRO

**Standards:** 47 CFR Part 1.1307

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

**Date of Receipt:** 2019-09-24

**Date of Test:** 2019-09-26 to 2019-11-01

**Date of Issue:** 2019-11-06

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		2019-11-06		Original			

Authorized for issue by:	
	Ceo. Ci
	Leo Li /Project Engineer
	EvicFu
	Eric Fu /Reviewer



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## **General Information**

## 4.1 General Description of EUT

Power supply:	Lithium Ion Battery: DC 3.7V 400mAh rechargeable battery which charged by USB port
Bluetooth Version:	V5.0
Operation Frequency:	2402MHz to 2480MHz
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:	0dBi

#### Remark:

Model No.: Untangled Pro (LGUT-01-WH, LGUT-02-BK, LGUT-03-BE, LGUT-04-PK, LGUT-05-PU, LGUT-06-GR, LGUT-07-SC, LGUT-08-DC, LGUT-09-RC, LGUT-10-FD)

Only the model LGUT-05-PU was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on color.



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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.



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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

#### 5.1.3 EUT RF Exposure

The Max. power (including tune-up tolerance) is 4.63 dBm on the lowest channel 2.402 GHz (\*) 4.63 dBm logarithmic terms convert to numeric result is nearly 2.90 mW According to the formula. calculate the test exclusion thresholds:

General RF Exposure = 
$$\frac{(\text{Max.Power of channel,including tune-up tolerance,mW})*\sqrt{f(\text{GHz})}}{(\text{min.test separation distance,mm})}$$

General RF Exposure =  $(2.90 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.90$  (1) SAR requirement:

$$S = 3.0 \tag{2}$$

(1) < (2) So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM190901881502

- End of the Report -



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