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SAR Evaluation Report

Report No. :	CQASZ171101533EW-02
Applicant:	Shenzhen HCY Electrics and Technology Co., Ltd
Address of Applicant:	The 1st building, No 2 Gangbei Road, Bogang Village Shajing Town, Baoan, Shenzhen, China
Manufacturer:	Shenzhen HCY Electrics and Technology Co., Ltd
Address of Manufacturer:	The 1st building, No 2 Gangbei Road, Bogang Village Shajing Town, Baoan, Shenzhen, China
Factory:	Shenzhen HCY Electrics and Technology Co., Ltd
Address of Factory:	The 1st building, No 2 Gangbei Road, Bogang Village Shajing Town, Baoan, Shenzhen, China
Equipment Under Test (EUT):	
Product:	Air Mouse
Model No.:	HCY-57B
Brand Name:	N/A
FCC ID:	2AOBUHCY-57B
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2017-11-10 to 2017-11-16
Date of Issue:	2017-11-16
Test Result :	**PASS***

Tested By： Aaron Ma

(Aaron Ma)

Reviewed By: Owen Zhou

(Owen Zhou)

Approved By:

(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO.,LTD CQA 华夏准测 APPROVED

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

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ171101533EW-02	Rev.01	Initial report	2017-11-16

3 Contents

4 General Information

4.1 Client Information

Applicant:	Shenzhen HCY Electrics and Technology Co., Ltd
Address of Applicant:	The 1st building, No 2 Gangbei Road, Bogang Village Shajing Town, Baoan, Shenzhen, China
Manufacturer:	Shenzhen HCY Electrics and Technology Co., Ltd
Address of Manufacturer:	The 1st building, No 2 Gangbei Road, Bogang Village Shajing Town, Baoan, Shenzhen, China
Factory:	Shenzhen HCY Electrics and Technology Co., Ltd
Address of Factory:	The 1st building, No 2 Gangbei Road, Bogang Village Shajing Town, Baoan, Shenzhen, China

4.2 General Description of EUT

Product Name:	Air Mouse
Model No.:	HCY-57B
Trade Mark:	N/A
Hardware Version:	V1.0
Software Version:	V14
Operation Frequency:	2406 MHz
Modulation Type:	GFSK
Number of Channel:	1 (declared by the client)
Sample Type:	Portable production
Test Software of EUT:	Press R & F key at the same time (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power Supply:	Rechargeable battery : Model:403030 DC3.7V 300mAh Charge by DC 5V

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)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 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[17]
The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 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

eirp = pt x gt = $(E \times d)^2/30$

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, ---$10^{((dB\mu V/m)/20)}/10^6$,

d = measurement distance in meters (m)---3m,

So pt = $(E \times d)^2/30$ / gt

The worst case (refer to report CQASZ171101533EW-01) is below:

For 2.4G wireless:

Field strength = 93.60dBμV/m @3m

Ant. gain 0dBi; so Ant numeric gain=1.0

So pt={[$10^{(93.6/20)}/10^6$x3]^2/30 /1.0}x1000mW =0.687mW

So (0.687mW/5mm)x √2.406GHz = 0.213,

0.213<3.0 for 1-g SAR

So the SAR report is not required.