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RF Exposure Evaluation Report

Report No. :	CQASZ20210300302E-02
Applicant:	Shenzhen Teamgee Electronics Co.,Ltd
Address of Applicant:	No. 2807, Chuanghui Building, Wuhe Community, Bantian Street, Longgang District, Shenzhen, Guang Dong, China
Equipment Under Test (EUT):	
EUT Name:	Electric skateboard
All Model No.:	h5, h20, h20T, h20mini, h20pro, H20x, H9, H6, H8
Test Model No.:	H9
Brand Name:	N/A
FCC ID:	2AZCW-H9
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2021-3-17
Date of Test:	2021-3-17 to 2021-4-7
Date of Issue:	2021-4-7
Test Result :	**PASS***

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

Tested By:	Jun Li
	(Jun Li)
Reviewed By:	Ares Liu
	(Ares Liu)
Approved By:	Sheek Luo
	(Sheek luo)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210300302E-02	Rev.01	Initial report	2021-4-7

2 Contents

3 General Information

3.1 Client Information

Applicant:	Shenzhen Teamgee Electronics Co.,Ltd
Address of Applicant:	No. 2807, Chuanghui Building, Wuhe Community, Bantian Street, Longgang District, Shenzhen, Guang Dong, China
Manufacturer:	Shenzhen Teamgee Electronics Co.,Ltd
Address of Manufacturer:	No. 2807, Chuanghui Building, Wuhe Community, Bantian Street, Longgang District, Shenzhen, Guang Dong, China
Factory:	Shenzhen Teamgee Electronics Co.,Ltd
Address of Factory:	No. 2807, Chuanghui Building, Wuhe Community, Bantian Street, Longgang District, Shenzhen, Guang Dong, China

3.2 General Description of EUT

Product Name:	Electric skateboard
All Model No.:	h5, h20, h20T, h20mini, h20pro, H20x, H9, H6, H8
Test Model No.:	H9
Trade Mark:	N/A
Hardware Version:	2.0
Software Version:	2.0
Sample Type:	Portable production
Operation Frequency:	433.92MHz
Channel Numbers:	1
Modulation Type:	GFSK
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power Supply:	Battery Voltage/Capacity:3.7V/300MAH DC 5V 1-2A by Adapter

Note:

All model: h5, h20, h20T, h20mini, h20pro, H20x, H9, H6, H8

Only the model H9 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being appearance, product name, trademarks and models.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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.

4.1.2 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

4.1.3 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 CQASZ20210300302E-01) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.92	84.04	Peak
433.92	64.28	Average

Antenna polarization: Vertical		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.92	79.53	Peak
433.92	59.77	Average

For 433.92MHz wireless:
Field strength = 84.04dBμV/m @3m
Ant. gain 0dBi; so Ant numeric gain=1.0
So pt={[$10^{(84.04/20)}/10^6$x3]^2/30 /1.0}x1000mW =0.076mW
So (0.076mW/5mm)x √0.43392GHz = 0.01,

0.01<3.0 for 1-g SAR

So the SAR report is not required.