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MPE TEST REPORT

Report No:STS1812199H01

Issued for

Hangzhou Freevision Intelligent Technology Co., Ltd.

5th Floor, Building 2, No. 368 Jinpeng Street, Sandun Town,
Westlake District, Hangzhou City, China

Product Name:	Handle Gimble
Brand Name:	Freevision
Model Name:	VT21
Series Model:	VT20
FCC ID:	2ALQU-VT20
Test Standard:	FCC CFR 47 part 1, 1.1310

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**TEST RESULT CERTIFICATION**

Applicant's name: Hangzhou Freevision Intelligent Technology Co., Ltd.
Address: 5th Floor, Building 2, No. 368 Jinpeng Street, Sandun Town,
Westlake District, Hangzhou City, China
Manufacture's Name: Hangzhou Freevision Intelligent Technology Co., Ltd.
Address: 5th Floor, Building 2, No. 368 Jinpeng Street, Sandun Town,
Westlake District, Hangzhou City, China

Product description

Product Name: Handle Gimble
Brand Name: Freevision
Model Name: VT21
Series Model: VT20
Standards : FCC CFR 47 part 1, 1.1310
Test Procedure : 680106 D01 RF Exposure Wireless Charging Apps v03

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date of performance of tests: 13 Dec.2018 ~20 Dec.2018
Date of Issue : 27 Dec.2018
Test Result : **Pass**

Testing Engineer :

(Chris chen)

Technical Manager :

(Sunday Hu)

Authorized Signatory :

(Vita Li)





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**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	27 Dec.2018	STS1812199H01	ALL	Initial Issue



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03

FCC CFR 47			
Standard Section	Test Item	Judgment	Remark
FCC CFR 47 part1, 1.1310 KDB680106 D01v03	Electric Field Strength (E) (V/m)	PASS	
	Magnetic Field Strength (H) (A/m)	PASS	

1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.

Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

FCC Registration No.: 625569

IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainly
1	All emissions,radiated 30-200MHz	$\pm 3.43\text{dB}$
2	All emissions,radiated 200MHz-1GHz	$\pm 3.57\text{dB}$
3	All emissions,radiated(<30M)(9KHz-30MHz)	$\pm 2.45\text{dB}$
4	Conducted Emission(150KHz-30MHz)	$\pm 2.70\text{dB}$



1.3 GENERAL DESCRIPTION OF EUT

Product Name	Handle Gimble
Trade Name	Freevision
Model Name	VT21
Series Model	VT20
Model Difference	Only different in marketing.
Equipemnt Category	Non-ISM frequency
Operating frequency	110.5-205KHZ
Modulation Type	MPE
Adapter	Battery(rating): Rated Voltage: 7.4V Charge Limit: 8.4V Capacity: 2000mAh
Power Rating:	Input:5V/2A Output:5V/1A(Wired charging and wireless charging)
Hardware version number	V1.0
Software version number	V02.00.00.21

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	NOTE
1	Freevision	VT21	Coil	NA	Antenna

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.



1.4 EQUIPMENTS LIST FOR ALL TEST ITEMS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMF Meter	NARDA	ELT-400	N-0342	2018.10.22	2019.10.21
EMF probe	NARDA	B-Field Probe	M-0779	2018.10.22	2019.10.21
Broadband field meter NARDA NBM	550	Broadband field meter NARDA NBM	E-1275	2018.10.22	2019.10.21
Broadband field probe NARDA EF	0391	Broadband field probe NARDA EF	D-0894	2018.10.22	2019.10.21



2. MAXIMUM PERMISSIBLE EXPOSURE

2.1 MAXIMUM PERMISSIBLE EXPOSURE

Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

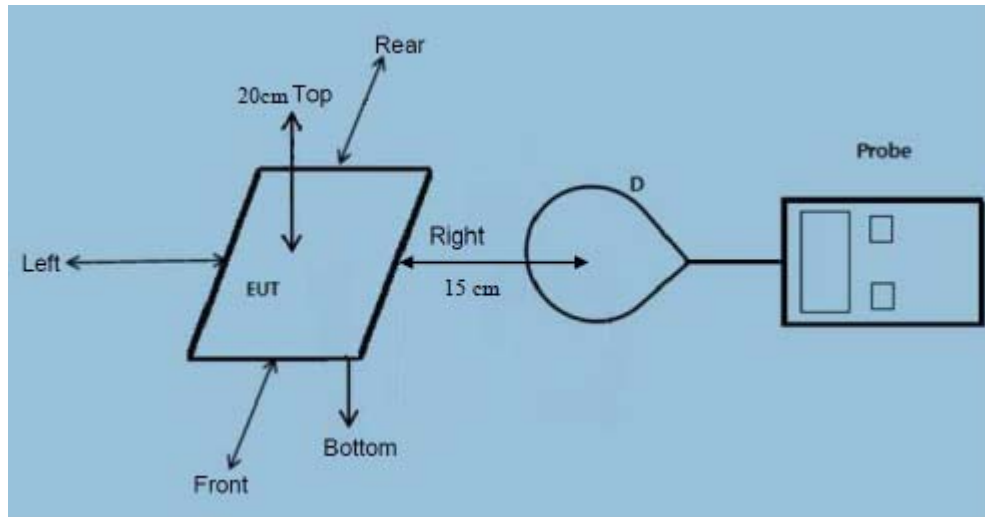
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit .

2.2 TEST PROCEDURE

- a. For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm(Top) and 15cm(Edge). E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20 cm(Top) and 15cm(Edge) measured from the center of the probe(s) to the edge of the device.

2.3 TEST SETUP



2.4 TEST RESULTS

The EUT does comply with item 5 KDB680106 D01 v03.

- (1) Power transfer frequency is less than 1 MHz.
(Conform)
- (2) Output power from each primary coil is less than or equal to 15 watts.
(Conform)
- (3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
(Conform)
- (4) Client device is placed directly in contact with the transmitter.
(Conform)
- (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
(Conform, distance between wireless charger part and handle position is >20cm)
- (6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
(Conform)



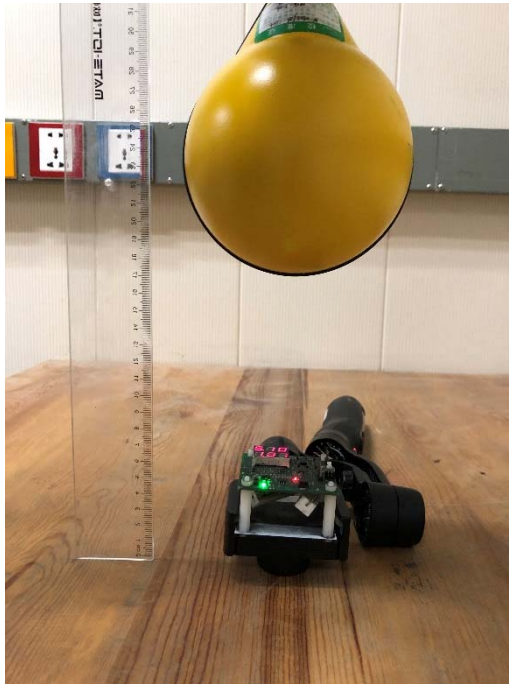
2.5 MAXIMUM PERMISSIBLE EXPOSURE

Maximum Permissible Exposure				
Charging	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
< 1% Battery	15cm	Front	0.455	0.115
< 1% Battery	15cm	Rear	0.437	0.115
< 1% Battery	15cm	Left	0.439	0.124
< 1% Battery	15cm	Right	0.452	0.111
< 1% Battery	20cm	Top	0.467	0.141
Limit			614	1.63
Margin Limit (%)			0.08%	8.65%

Maximum Permissible Exposure				
Charging	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
50% Battery	15cm	Front	0.438	0.119
50% Battery	15cm	Rear	0.423	0.104
50% Battery	15cm	Left	0.437	0.128
50% Battery	15cm	Right	0.448	0.122
50% Battery	20cm	Top	0.466	0.135
Limit			614	1.63
Margin Limit (%)			0.08%	8.28%

Maximum Permissible Exposure				
Charging	Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
>99% Battery	15cm	Front	0.462	0.11
>99% Battery	15cm	Rear	0.422	0.11
>99% Battery	15cm	Left	0.427	0.118
>99% Battery	15cm	Right	0.452	0.112
>99% Battery	20cm	Top	0.466	0.13
Limit			614	1.63
Margin Limit (%)			0.08%	7.98%

MPE SETUP PHOTO



※※※※※END OF THE REPORT※※※※※