FCC EMC Test Report

Applicant:	Realsee(Beijing) Technology Co., Ltd.
Address of Applicant:	Room 7-261, 7th Floor, Building 1, No. 158, Xisihuan North Road, Haidian District, Beijing City, P. R. China
Equipment Under Test (EUT)	
Product Name:	3D SMART CAMERA
Model No.:	RS42050, RS42025
Trade Mark:	REALSEE
FCC ID:	2A67J-RS42050
Applicable Standards:	FCC CFR Title 47 Part 15B
Date of Sample Receipt:	16 Mar., 2023
Date of Test:	17 Mar., to 27 Mar., 2023
Date of report Issued:	28 Mar., 2023
Test Result:	PASS

Tested by:	Mike.ou ***Test Engineer***	***Date:***	*28 Mar., 2023*
Reviewed by:	Vivien Zhang ***Project Engineer***	***Date:***	*28 Mar., 2023*
Approved by:	Eric Zhang ***Manager***	***Date:***	*28 Mar., 2023*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

1 Version

Version No.	Date	Description
00	*28 Mar., 2023*	*Original*

2 Contents

3 General Information

3.1 Client Information

Applicant:	Realsee(Beijing) Technology Co., Ltd.
Address:	Room 7-261, 7th Floor, Building 1, No. 158, Xisihuan North Road, Haidian District, Beijing City, P. R. China
Manufacturer:	Realsee(Beijing) Technology Co., Ltd.
Address:	Room 7-261, 7th Floor, Building 1, No. 158, Xisihuan North Road, Haidian District, Beijing City, P. R. China
Factory:	Hong Fu Tai Precision Electrons (Yantai) Co., Ltd.
Address:	No. 8 Jiaxing Road, Yantai Economic & Technological Development Area, Shandong, P.R. China

3.2 General Description of E.U.T.

Product Name:	3D SMART CAMERA
Model No.:	RS42050, RS42025
Power Supply:	Rechargeable Li-ion Battery DC14.4V, 6400mAh
AC Adapter:	Model: ADP-65SD B Input: AC100-240V, 50/60Hz, 1.5A Output: DC 20V ⎓ 3.25A or 15V⎓ 3A or 9V⎓ 3A or 5V⎓ 3A
Remark:	Model No.: RS42050, RS42025 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being the detection range of LIDAR.
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

3.3 Test Mode

Operating Mode	Detail Description
Charging & Working mode	Keep the EUT in Charging & Working mode(Worst case)
The sample was placed 0.8m above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.	

3.4 Description of Test Auxiliary Equipment

Manufacturer	Description	Model	S/N	FCC ID/DoC
Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.				

3.5 Description of Cable Used

Cable Type	Description	Length	From	To
N/A	N/A	N/A	N/A	N/A

3.6 Measurement Uncertainty

Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.

3.7 Additions to, Deviations, or Exclusions from the Method

No

3.8 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

3.9 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://jyt.lets.com

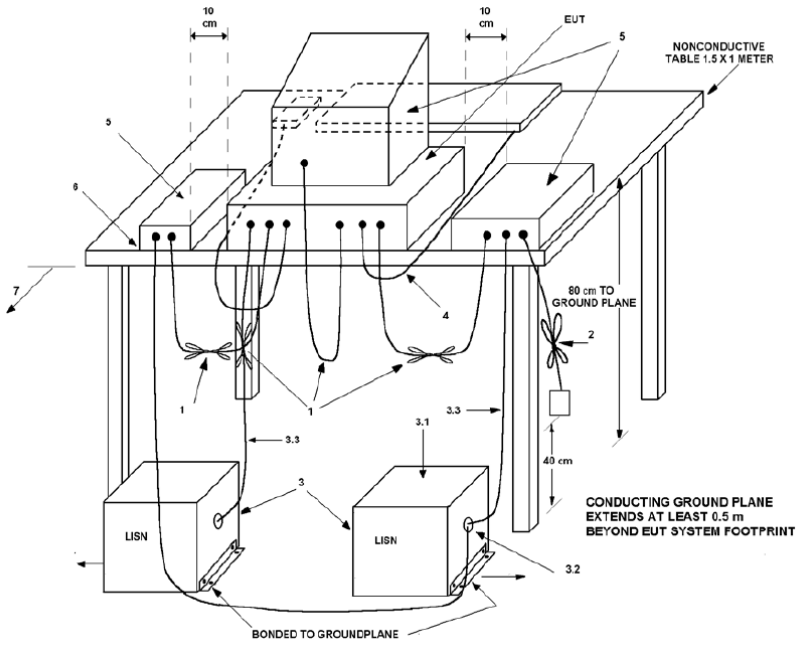
3.10 Test Instruments List

Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.

4 Measurement Setup and Procedure

4.1 Test Setup

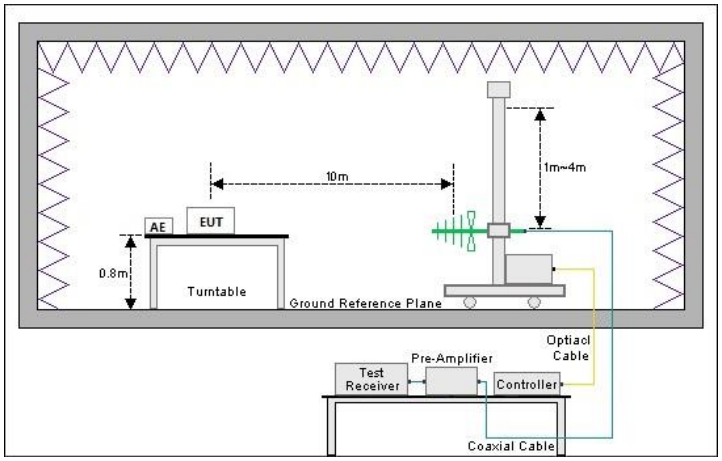
1) Conducted emission measurement:



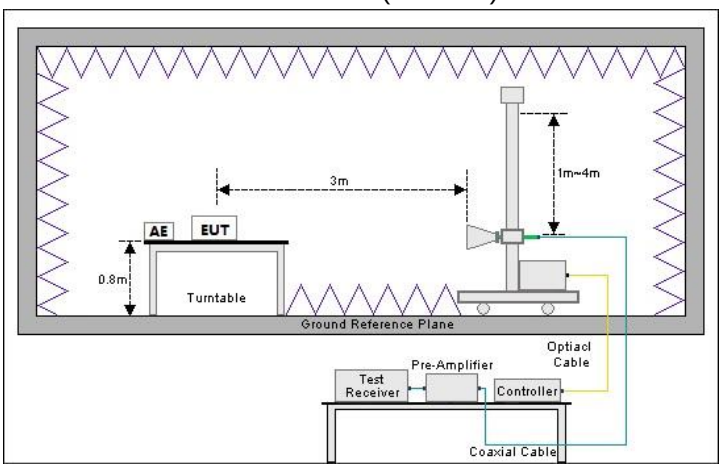
Note: The detailed descriptions please refer to Figure 8 of ANSI C63.4:2014.

2) Radiated emission measurement:

Below 1GHz (10m SAC)



Above 1GHz (3m SAC)



4.2 Test Procedure

Test method	Test step
Conducted emission	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4 on conducted measurement.
Radiated emission	**For below 1GHz:** 1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 10 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 10 m. 2. EUT works in each mode of operation that needs to be tested，and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. **For above 1GHz:** 1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m. 2. EUT works in each mode of operation that needs to be tested，and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.

5 Test Results

5.1 Summary

5.1.1 Clause and data summary

This report is revised according to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103 issued by JianYan Testing Group Shenzhen Co., Ltd, follow the Change ID allow change principle. Differences: Update addresses of applicant and applicant, and update addresses of manufacturer and manufacturer, update product name and model and FCC ID, so no need to retest.

Test items	Standard clause	Test data	Result
Conducted Emission	Part 15.107	Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.	Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.
Radiated Emission	Part 15.109	Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.	Please refer to FCC ID: 2A26V-RS41010, report No.: JYTSZ-R01-2300103.
Remark: *1. The EUT is a **Class B** digital device.* *2. Please refer to report JYTSZ-R01-2300103, FCC ID: 2A26V-RS41010 issue by JianYan Testing Group Shenzhen Co., Ltd.* *3. N/A: Not Applicable.*			
Test Method:	*ANSI C63.4:2014*		

5.1.2 Test Limit

Test items	Limit
Conducted Emission	
Radiated Emission	

Frequency (MHz)	Class A Limit (dBµV)		Class B Limit (dBµV)	
	Quasi-Peak	Average	Quasi-Peak	Average
0.15 – 0.5	79	66	66 to 56 Note 1	56 to 46 Note 1
0.5 – 5	73	60	56	46
5 – 30	73	60	60	50
Note 1: The limit level in dBµV decreases linearly with the logarithm of frequency. **Note 2:** The more stringent limit applies at transition frequencies.				

Frequency (MHz)	Class A Limit (dBµV/m)		Class B Limit (dBµV/m)	
	Quasi-Peak @ 3m	Quasi-Peak @ 10m	Quasi-Peak @ 3m	Quasi-Peak @ 10m
30 – 88	49.0	39.0	40.0	30.0
88 – 216	53.5	43.5	43.5	33.5
216 – 960	56.0	46.0	46.0	36.0
960 – 1000	60.0	50.0	54.0	44.0
Note: The more stringent limit applies at transition frequencies.				
Frequency	**Class A Limit (dBµV/m) @ 3m**		**Class B Limit (dBµV/m) @ 3m**	
	Average	**Peake**	**Average**	**Peake**
Above 1 GHz	60.0	80.0	54.0	74.0
Note: The measurement bandwidth shall be 1 MHz or greater.				

------End of report------