



FCC Supplier's Declaration of Conformity (SDoC) Test Report

For

DexForce Technology Co., Ltd.

DexSense 3D industrial camera

Test Model: SPARROW-D-1001

Additional Models : SPARROW-D-1100, SPARROW-D-1200, SPARROW-D-1300,

SPARROW-D-1400, SPARROW-D-1500

Prepared for : DexForce Technology Co., Ltd.
Room 511, Building 4, Software Industry Base, No. 19, 17, 18,
Address : Haitian First Road, Binhai Community, Yuehai Street, Nanshan District, Shenzhen

Prepared by : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : September 22, 2024
Number of tested samples : 1
Serial number : Prototype
Date of Test : September 22, 2024 - September 26, 2024
Date of Report : September 26, 2024



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**FCC SDoC TEST REPORT****CFR47 FCC Part 15 Subpart B**

Radio Frequency Devices - Unintentional Radiators

Report Number..... : LCSB09024167E

Date of Issue..... : September 26, 2024

Testing Laboratory Name..... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Address..... : 101-201, No.39 Building,Xialang Industrial Zone, Heshuikou Community, Matian Street,Guangming District, Shenzhen, China.

Testing Procedure..... : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐**Applicant's Name..... : DexForce Technology Co., Ltd.**

Address..... : Room 511, Building 4, Software Industry Base, No. 19, 17, 18, Haitian First Road, Binhai Community, Yuehai Street, Nanshan District, Shenzhen

Test Specification:Standard..... : CFR47 FCC Part 15 Subpart B
ANSI C63.4-2014

Test Report Form No..... : TRF-4-E-014 Ver. A/0

TRF Originator..... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Master TRF..... : Dated 2016-08

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Equipment Under Test..... : DexSense 3D industrial cameraTrademark..... :  跨维智能
DEXFORCE

Test Model/Type..... : SPARROW-D-1001

Rating..... : DC12V, 5A

Results : PASS**Compiled by:**

Aimee Yang / Engineer

Supervised by:

Kris Mai / Technique Director

Approved by:

Dm Gu / Manager



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FCC SDoC - TEST REPORT

Test Report No.....: LCSB09024167E

Applicant.....: DexForce Technology Co., Ltd.

**Address.....: Room 511, Building 4, Software Industry Base, No. 19, 17, 18,
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Telephone.....: /

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Manufacturer.....: DexForce Technology Co., Ltd.

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Factory.....: DexForce Technology Co., Ltd.

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Telephone.....: /

Fax.....: /

The applicant and manufacturer information, product name, model, trademark and other information in this report are all provided by the applicant, and this laboratory is not responsible for verifying its authenticity.

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



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ENVIRONMENTAL CONDITIONS

The climatic conditions during the test are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. the climatic conditions during the test were in the following Limits:

Ambient temperature	10°C - 40°C
Relative Humidity air	10% - 90%

Climate values will be recorded and recorded separately if specifically required in the base standard or application product/product series standard.

POSSIBLE TEST CASE VERDICTS

Test cases does not apply to test object	N/A
Test object does meet requirement	P(Pass) / PASS
Test object does not meet requirement	F(Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

☒ Indicate that the conditions, standards or equipment listed is applicable to this report / test / EUT.
☐ Indicate that the conditions, standards or equipment listed is not applicable to this report / test / EUT.

REVISION HISTORY

Revision	Issue Date	Revision Content	Revised by
000	September 26, 2024	Initial Issue	-

Remark:
000) : “---”





TABLE OF CONTENTS

1. GENERAL INFORMATION	6
1.1. General Description of The Item(s)	6
1.2. Operating Mode(s) Used of Tests	7
1.3. Support / Auxiliary Equipment For The EUT	7
1.4. Description of Test Facility	7
2. STATEMENT OF THE MEASUREMENT UNCERTAINTY	8
3. MEASURING DEVICES AND TEST EQUIPMENT	9
4. VERDICT SUMMARY SECTION	10
4.1. Standard(s)	10
4.2. Overview of Results	10
5. EMISSION TESTS	11
5.1. Conducted Disturbance	11
5.2. Radiated Disturbance	12
ANNEX A - TEST RESULTS	14
ANNEX B - TEST PHOTOS	18
ANNEX C - EXTERNAL AND INTERNAL PHOTOS OF THE EUT	19





1. GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF THE ITEM(S)

Equipment Under Test	DexSense 3D industrial camera
Test Model/Type	SPARROW-D-1001
Additional Models/Type	SPARROW-D-1100, SPARROW-D-1200, SPARROW-D-1300, SPARROW-D-1400, SPARROW-D-1500
Description of Model difference	Only the appearance color or shape is different, the circuit scheme (principle, PCB) are the same
Rating	DC12V, 5A
Classification of device	☐ Class A ☒ Class B





1.2. OPERATING MODE(S) USED OF TESTS

During the tests, the following operating mode(s) has(have) been used.

Operating Mode	Operating Mode description	Used for testing
1	Lighting on mode	☒
2	Bluetooth	☐
3	HDMI	☐
4	Full load	☐

1.3. SUPPORT / AUXILIARY EQUIPMENT FOR THE EUT

EUT has been tested using the following auxiliary equipment :

Auxeq	Model/Type	Manufacturer	Supplied by
Portable Computer	ThinkBook 14 G3 ITL	Lenovo	Lab
Power source	EDR-75-12	MW	Applicant

1.4. DESCRIPTION OF TEST FACILITY

Test Location	Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building,Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China. CNAS Registration Number is L10160.
Date of receipt of test item	September 22, 2024
Date(s) of performance of test	September 22, 2024 - September 26, 2024





2. STATEMENT OF THE MEASUREMENT UNCERTAINTY

The data and results referenced in this document are true and accurate. the reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. the measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods - Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. the manufacturer has the sole responsibility of continued compliance of the device.

Measurement	Uncertainty (U_{lab})	Uncertainty (U_{cisp})
Conducted disturbance (150kHz - 30MHz)	± 2.80 dB	± 3.6 dB
Radiated disturbance (30MHz - 200MHz)	± 4.66 dB	± 5.2 dB
Radiated disturbance (200MHz - 1GHz)	± 4.64 dB	± 5.0 dB

Supplementary information:

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.





3. MEASURING DEVICES AND TEST EQUIPMENT

CONDUCTED DISTURBANCE						
Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	No. 1 shielded Room	CHENGYU	843	/	2023-04-26	2026-04-25
2	EMI Test Receiver	R&S	ESCI	101142	2024-04-24	2025-04-23
3	10dB Attenuator	SCHWARZBECK	VTSD9561-F	9561-F159	2024-04-24	2025-04-23
4	Artificial Mains Network	SCHWARZBECK	NSLK 8127	8127716	2024-04-24	2025-04-23
5	Artificial Mains Network	SCHWARZBECK	NSLK 8163	00043	2024-04-24	2025-04-23
6	Voltage Probe	SCHWARZBECK	KT 9420	9420401	2024-04-24	2025-04-23
7	EMI Test Software	EZ	EZ_EMG	N/A	/	/

RADIATED DISTURBANCE						
Item	Test equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2024-04-28	2027-04-27
2	EMI Test Receiver	R&S	ESCI3	101010	2024-04-24	2025-04-23
3	Log-periodic Antenna	SCHWARZBECK	VULB9163	5094	2024-04-29	2025-04-28
4	EMI Test Software	EZ	EZ_EMG	N/A	/	/
5	Controller system	SKET	SKC1000	N/A	/	/





4. VERDICT SUMMARY SECTION

This chapter present an overview of the standards and results. Refer the next chapter for details of measured test results and applied test levels.

4.1. STANDARD(S)

CFR47 FCC Part 15 Subpart B - Radio frequency devices Subpart B - Unintentional radiators.

ANSI C63.4-2014 - American national standard for methods of measurement of radio noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

4.2. OVERVIEW OF RESULTS

EMISSION TESTS - CFR47 FCC Part 15 Subpart B		
Requirement - Test case	Limit	Verdict
Conducted Disturbance	Clause 15.107	PASS
Radiated Disturbance	Clause 15.109	PASS

Supplementary information : ---





5. EMISSION TESTS

5.1. CONDUCTED DISTURBANCE

Standard	CFR47 FCC Part 15 Subpart B
Referenced Standard(s)	ANSI C63.4-2014

Disturbance voltage limits at AC power ports of Class B equipment

Frequency range [MHz]	Limit: Quasi-peak [dB(μV)]	Limit: Average[dB(μV)]	IF BW
0,15 - 0,5	66 - 56	56 - 46	9 kHz
0,5 - 5,0	56	46	
5,0 - 30	60	50	

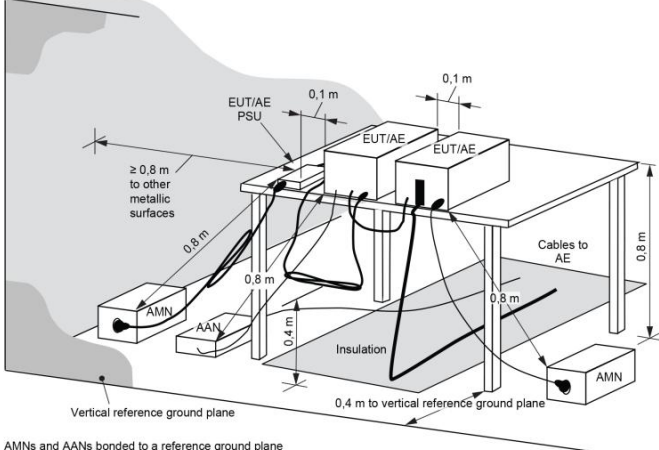
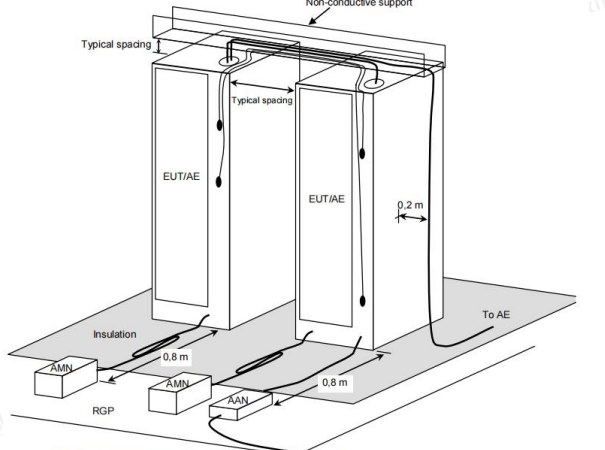
1) At the transition frequency, the lower limit applies.

Disturbance voltage limits at AC power ports of Class A equipment

Frequency range [MHz]	Limit: Quasi-peak [dB(μV)]	Limit: Average[dB(μV)]	IF BW
0,15 - 0,5	79	66	9 kHz
0,5 - 30	73	60	

1) At the transition frequency, the lower limit applies.

Test configuration

Test Setup for table-top	Test Setup for Floor standing
	

Test Procedure Description

For Table-top, EUT shall be placed at $(0,8 \pm 0,05)$ m above the reference plane of the test site selected for measurement. for Floor standing, EUT shall be placed at $(0,12 \pm 0,04)$ m above the reference plane of the test site selected for measurement. and connected to the AC mains through artificial mains network (LISN). EUT is powered by V-type artificial power network, and the distance from LISN or is 0,8m. the part of the EUT power cord exceeding 0,8m folds in parallel to form a 0,3-0,4 m eights harness.

Test Results refer to Annex A.1



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5.2. RADIATED DISTURBANCE

Standard	CFR47 FCC Part 15 Subpart B
Referenced Standard(s)	ANSI C63.4-2014
Test method	Semi Anechoic Chamber (SAC)

SAC Radiated disturbance limit for Class B equipment (3 m distance)

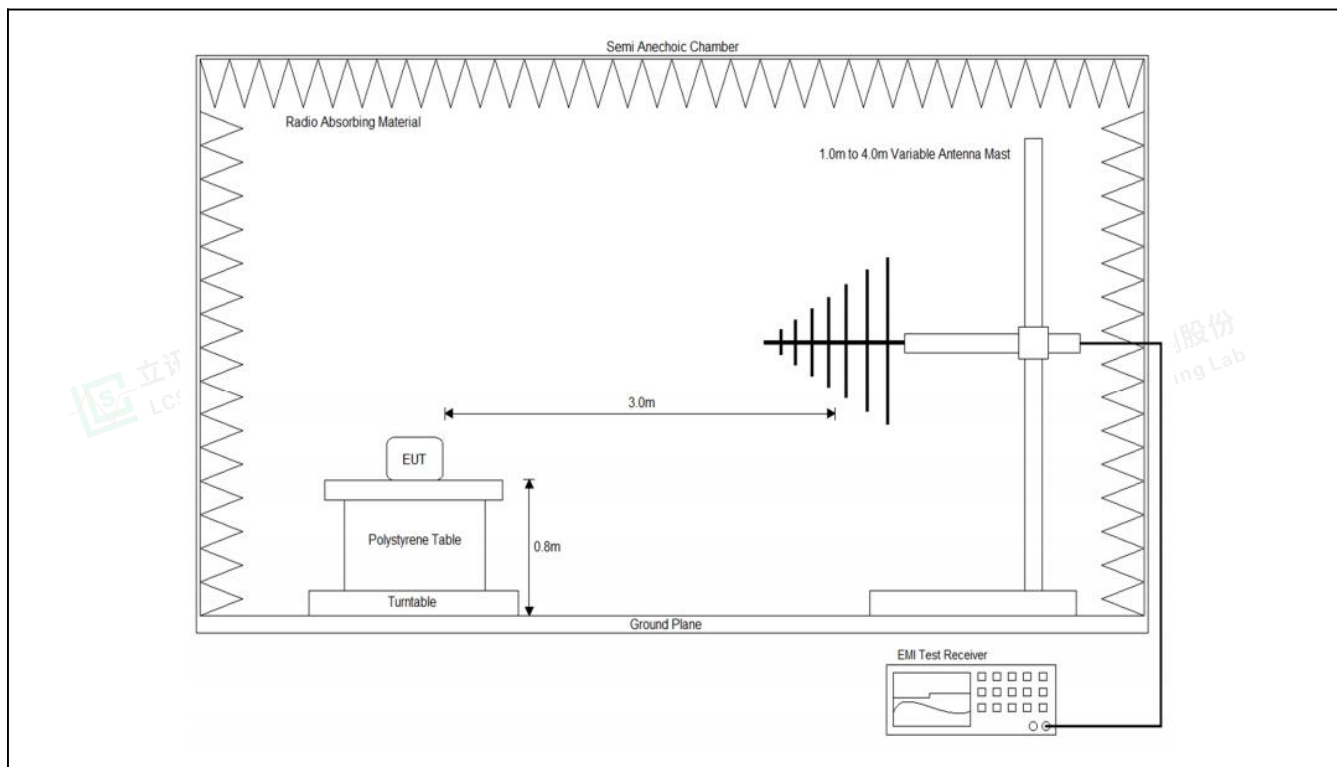
Frequency range [MHz]	Limit: Quasi-peak		IF BW
	[$\mu\text{V/m}$]	[dB($\mu\text{V/m}$)]	
30 - 88	100	40	120 KHz
88 - 216	150	43.5	
216 - 960	200	46	
960 - 1000	500	54	

SAC Radiated disturbance limit for Class A equipment (10 m distance)

Frequency range [MHz]	Limit: Quasi-peak		IF BW
	[$\mu\text{V/m}$]	[dB($\mu\text{V/m}$)]	
30 - 88	90	39	120 KHz
88 - 216	150	43.5	
216 - 960	210	46.5	
960 - 1000	300	49.5	

- 1) At the transition frequency, the lower limit applies.
- 2) Emission level (dB) μV = 20 log Emission level $\mu\text{V/m}$.

Test configuration





Test Procedure Description

Radiated Emissions were measured 3 metres away from the EUT in the Semi Anechoic Chamber facility, which is an ANSI C63.4 compliant semi-anechoic chamber with ground plane. The EUT was placed on a non-conductive table, at a height of 0.8m above the ground plane. the turntable can rotate 360 degrees to determine the position of the maximum emission level. the EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. the antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Log-periodic antenna or horn antenna is used as a receiving antenna. both horizontal and vertical polarization of the antenna is set on test.

Test Results refer to Annex A.2



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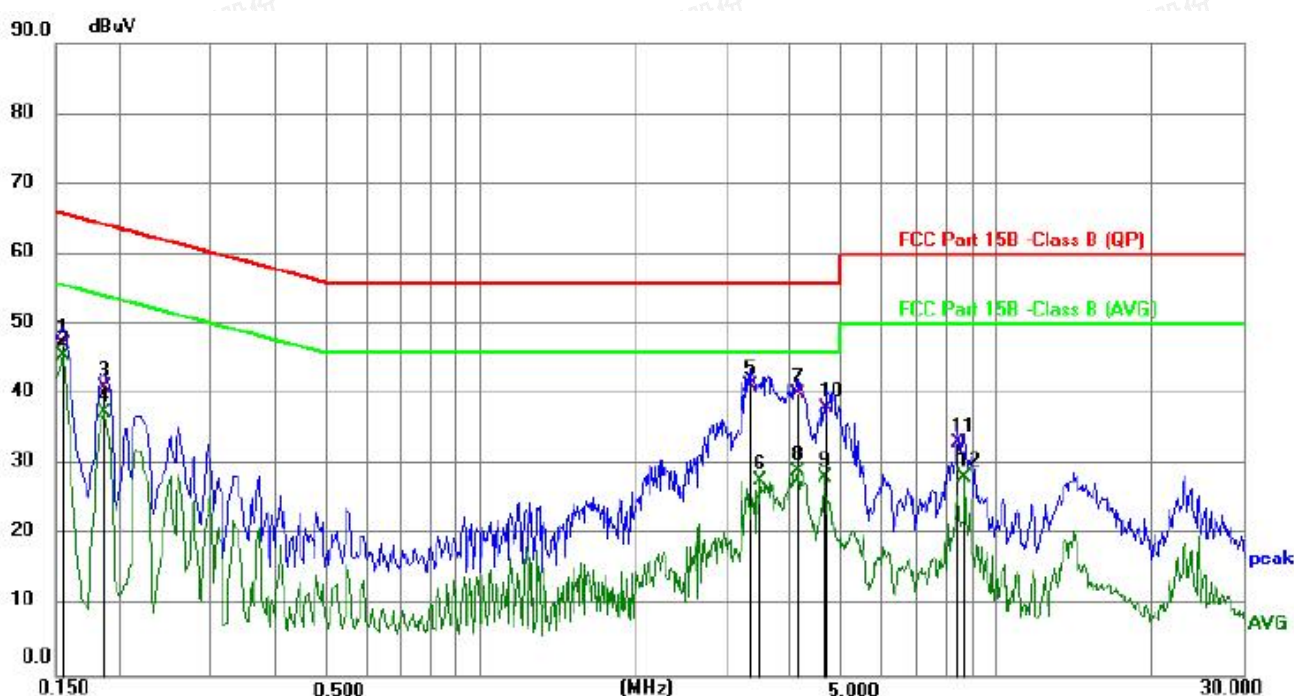
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ANNEX A - TEST RESULTS

A.1. CONDUCTED DISTURBANCE TEST RESULTS

Environmental Conditions	25.9°C, 58% RH
Model	SPARROW-D-1001
Operating mode	Mode 1 (worst case)
Test voltage	DC12V
Test engineer	Aru Yang
Pol	Line



No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1		0.1545	36.31	10.94	47.25	65.75	-18.50	QP	
2	*	0.1545	34.63	10.94	45.57	55.75	-10.18	AVG	
3		0.1860	30.13	10.99	41.12	64.21	-23.09	QP	
4		0.1860	26.51	10.99	37.50	54.21	-16.71	AVG	
5		3.3450	30.21	11.04	41.25	56.00	-14.75	QP	
6		3.4890	16.81	11.05	27.86	46.00	-18.14	AVG	
7		4.1190	29.03	11.08	40.11	56.00	-15.89	QP	
8		4.1190	18.03	11.08	29.11	46.00	-16.89	AVG	
9		4.6410	17.05	11.10	28.15	46.00	-17.85	AVG	
10		4.6815	26.93	11.11	38.04	56.00	-17.96	QP	
11		8.3760	22.02	11.25	33.27	60.00	-26.73	QP	
12		8.6459	16.88	11.26	28.14	50.00	-21.86	AVG	



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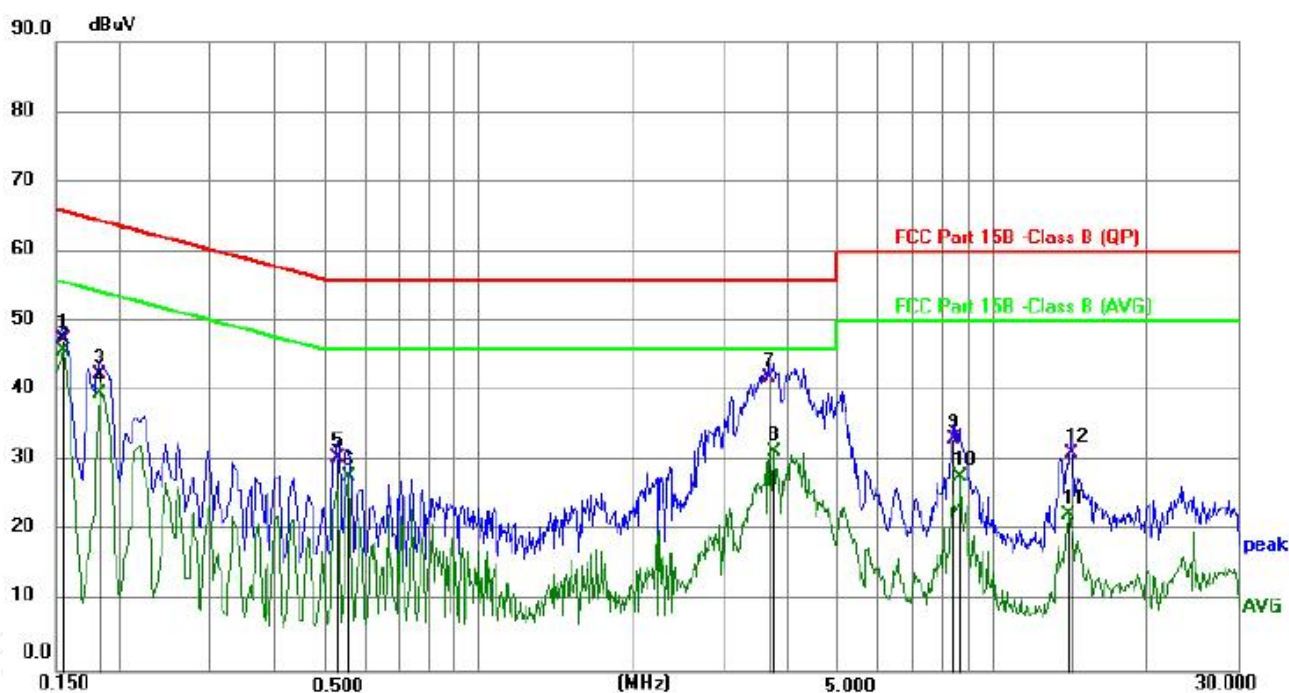
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Environmental Conditions	25.9℃, 58% RH
Model	SPARROW-D-1001
Operating mode	Mode 1 (worst case)
Test voltage	DC12V
Test engineer	Aru Yang
Pol	Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1545	36.60	10.84	47.44	65.75	-18.31	QP	
2	*	0.1545	34.92	10.84	45.76	55.75	-9.99	AVG	
3		0.1815	31.60	10.88	42.48	64.42	-21.94	QP	
4		0.1815	28.81	10.88	39.69	54.42	-14.73	AVG	
5		0.5280	19.54	10.87	30.41	56.00	-25.59	QP	
6		0.5550	16.93	10.87	27.80	46.00	-18.20	AVG	
7		3.6780	31.07	11.00	42.07	56.00	-13.93	QP	
8		3.7590	20.39	11.00	31.39	46.00	-14.61	AVG	
9		8.3760	21.89	11.22	33.11	60.00	-26.89	QP	
10		8.6459	16.49	11.23	27.72	50.00	-22.28	AVG	
11		14.1270	11.17	11.11	22.28	50.00	-27.72	AVG	
12		14.2395	20.14	11.11	31.25	60.00	-28.75	QP	





A.2. RADIATED DISTURBANCE TEST RESULTS

Environmental Conditions	24.1℃, 54% RH
Model	SPARROW-D-1001
Operating mode	Mode 1 (worst case)
Test voltage	DC12V
Test engineer	Aru Yang
Pol	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		54.3562	11.48	14.72	26.20	40.00	-13.80	QP		
2		78.5509	17.57	10.03	27.60	40.00	-12.40	QP		
3	*	132.5106	21.10	10.90	32.00	43.50	-11.50	QP		
4		144.7148	20.85	10.35	31.20	43.50	-12.30	QP		
5		243.0573	11.43	12.77	24.20	46.00	-21.80	QP		
6		769.4223	9.79	22.31	32.10	46.00	-13.90	QP		





Environmental Conditions	24.1℃, 54% RH
Model	SPARROW-D-1001
Operating mode	Mode 1 (worst case)
Test voltage	DC12V
Test engineer	Aru Yang
Pol	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		73.0065	14.04	9.96	24.00	40.00	-16.00	QP		
2		101.8673	13.22	11.98	25.20	43.50	-18.30	QP		
3	*	131.3541	19.94	11.06	31.00	43.50	-12.50	QP		
4		217.3537	17.04	11.96	29.00	46.00	-17.00	QP		
5		272.3970	15.20	13.50	28.70	46.00	-17.30	QP		
6		797.9298	8.94	22.56	31.50	46.00	-14.50	QP		



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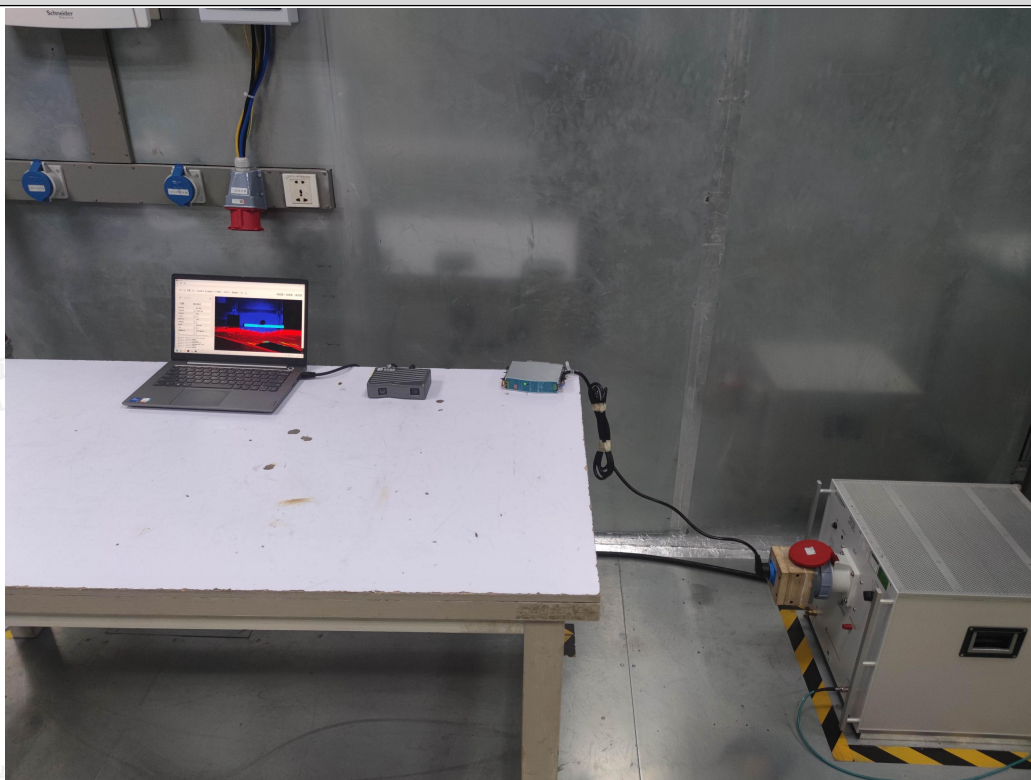
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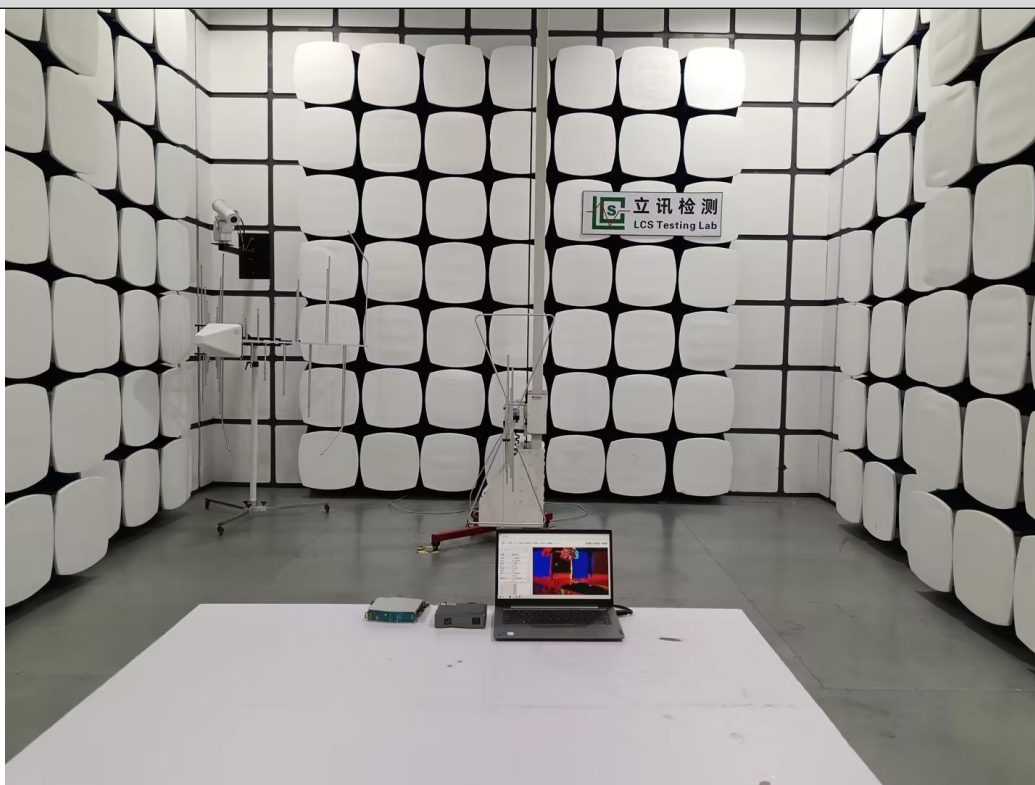


ANNEX B - TEST PHOTOS

B.1. Conducted Disturbance



B.2. Radiated Disturbance



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ANNEX C - EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Photo.1

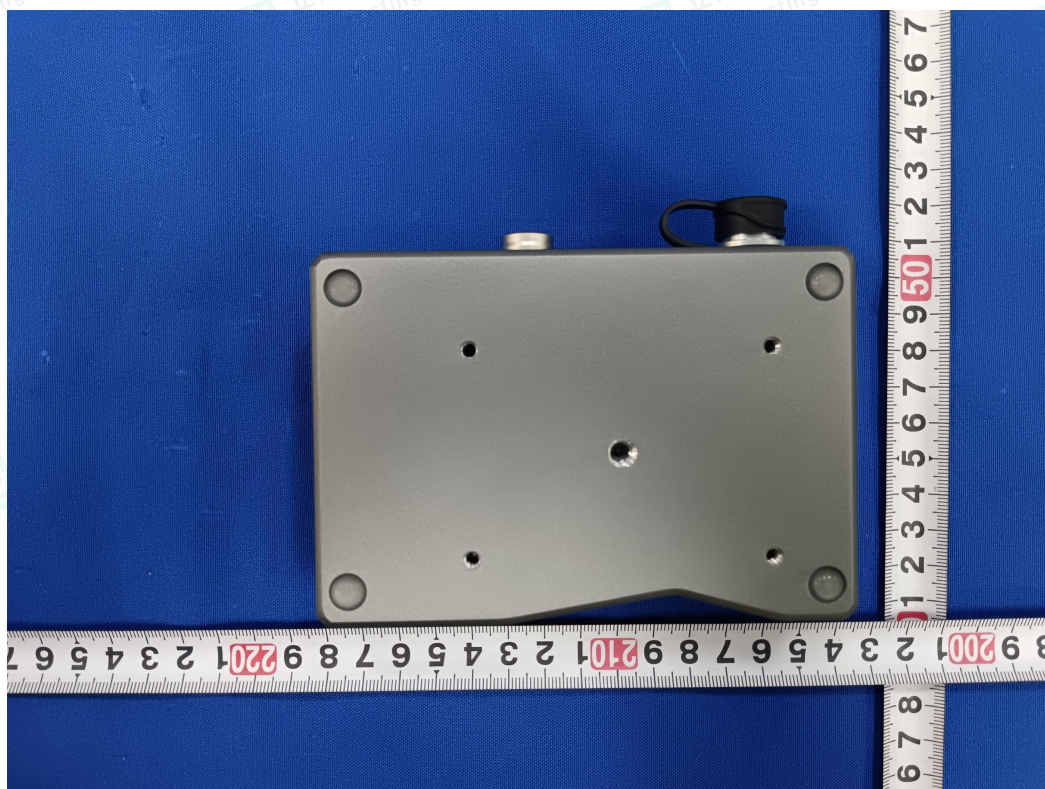


Photo.2



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Photo.3

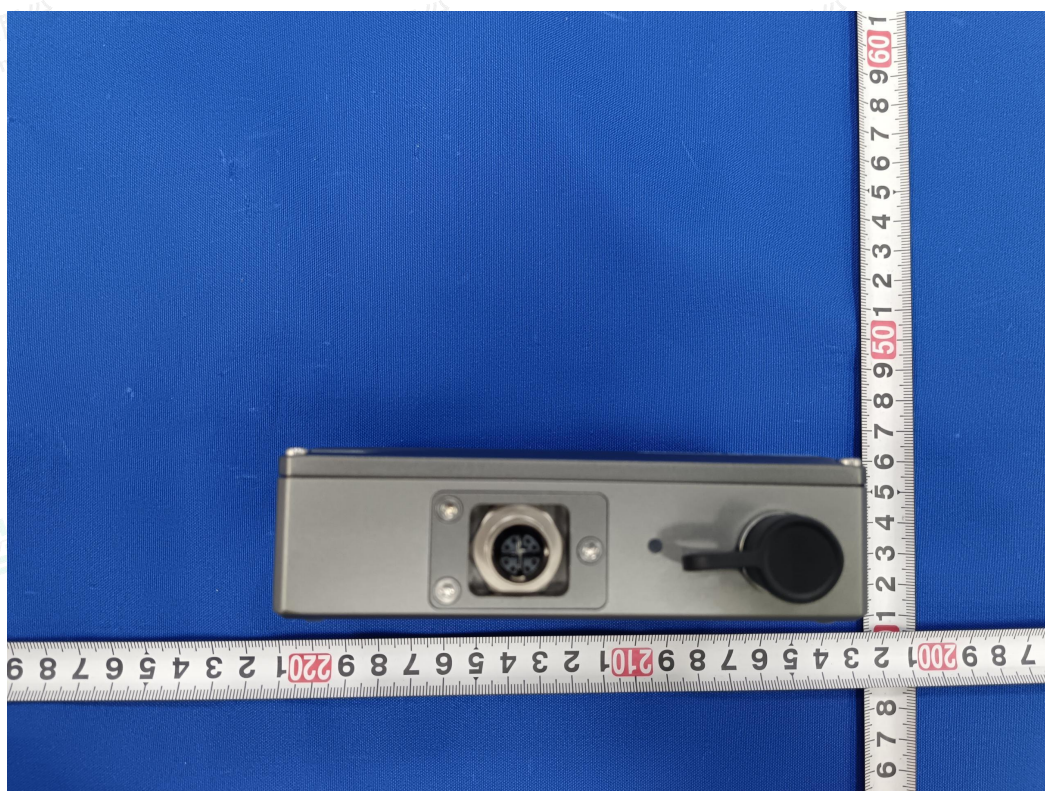


Photo.4



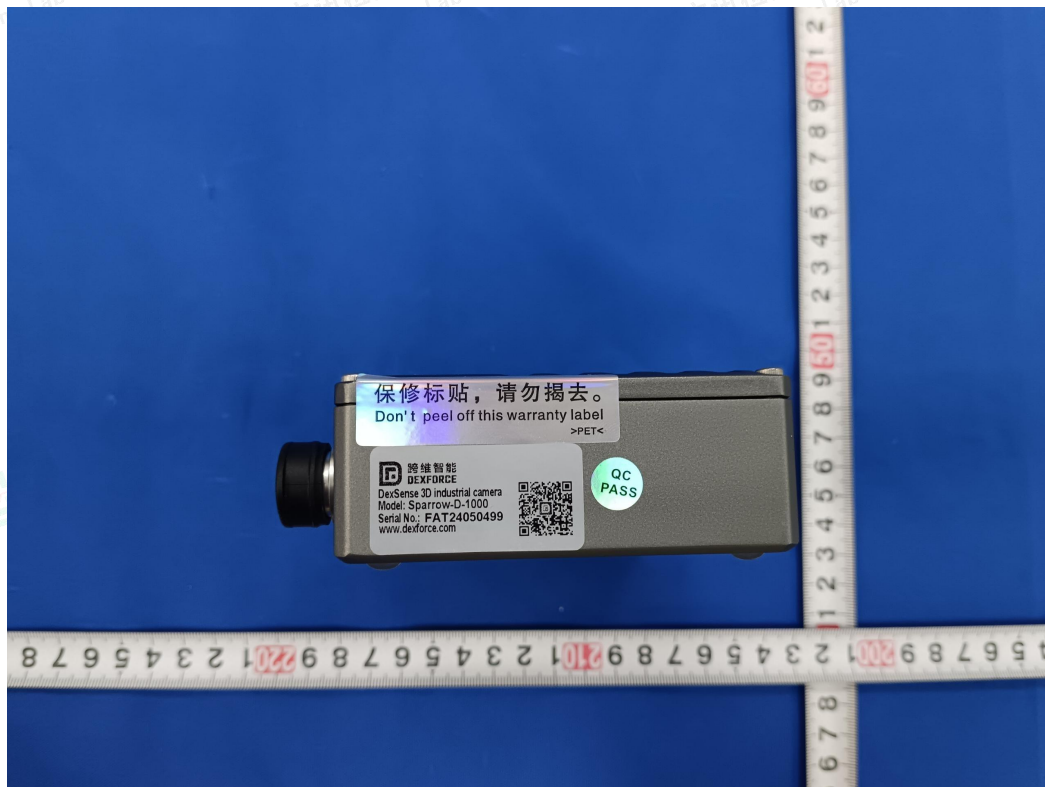


Photo.5

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