ATTESTATION OF CONFORMITY

Issued to:	Xiamen Ampace Technology Limited No.600 Hongtang Road, Tongxiang High-tech Zone, Torch High-tech District, Xiamen City, Fujian Province, China
For the product:	Rechargeable Lithium Ion Polymer Battery
Trade name:	Skydio
Type/Model:	SBR47V1
Ratings:	18.6V, 8560mAh
Manufactured by:	Xiamen Ampace Technology Limited No.600 Hongtang Road, Tongxiang High-tech Zone, Torch High-tech District, Xiamen City, Fujian Province, China
Requirements:	EN 55032:2015 + A11:2020 + A1:2020 EN 55035:2017 + A11:2020

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no 4910229.50.

This Attestation implies that the examined types are in accordance with the standards designated under the Electromagnetic Compatibility Directive (EMC) 2014/30/EU.

The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

The CE marking may be affixed on the product if all relevant and effective EC directives are complied with.

Arnhem, 12 October 2023

Number: 4910229.01AOC

CE

DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch

W7V

Miranda Zhou Certification Manager

 $\ensuremath{\mathbb{C}}$ Integral publication of this attestation and adjoining reports is allowed

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Test report No:4910229.50			
TEST REPORT			
Electromagnetic Co	mpatibility (EMC)		
Identification of item tested	Rechargeable Lithium Ion Polymer Battery		
Trademark	Skydio		
Model and /or type reference	SBR47V1		
Features	18.6V, 8560mAh		
Applicant's name / address	Xiamen Ampace Technology Limited No.600 Hongtang Road, Tongxiang High-tech Zone, Torch High-tech District, Xiamen City, Fujian Province, PRC.		
Test method requested, standard	EN 55032:2015+A11:2020+A1:2020;		
	EN 55035:2017+A11:2020;		
	BS EN 55032:2015+A1:2020;		
	BS EN 55032:2015+A11:2020;		
	BS EN 55035:2017+A11:2020;		
Verdict Summary	COMPLIANCE		
Tested by (name & signature)	Kerma Kuang Kerma Kuang		
Approved by (name & signature)	Tim Yan		
Date of issue	2023-10-11		
Report template No	TRF_EMC 2017-01 – others		



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GENERAL CONDITIONS

- 1. This report is only referred to the item that has undergone the test.
- 2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
- 3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
- 4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.
- 5. This report will not be used for social proof function in China market.

UNCERTAINTY

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in EN 55016-4-2 (CISPR 16-4-2), EN/IEC 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. Refer to the Annex 1 for further information.



ENVIRONMENTAL CONDITIONS

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

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case 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

Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.					
Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.					
Decimal separator used in this report 🛛 Comma (,) 🔲 Point (.)					

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	:	Equipment Under Test
QP	:	Quasi-Peak
CAV	:	CISPR Average
AV	:	Average
CDN	:	Coupling Decoupling Network
SAC	:	Semi-Anechoic Chamber
OATS	:	Open Area Test Site
BW	:	Bandwidth
AM	:	Amplitude Modulation
PM	:	Pulse Modulation
HCP	:	Horizontal Coupling Plane
VCP	:	Vertical Coupling Plane
$U_{\rm N}$:	Nominal voltage
N/A	:	Not Applicable
N/M	:	Not Measured



DOCUMENT HISTORY

Report nr.	Date	Description
4910229.50	2023-10-11	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the requirements of the stated standard(s)/test(s).

This report is based on report 4907522.50. In this update,

1, the rating was changed to 18.6VDC, 8560mAh.

After technical reivew, no additional test was added.



1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item:	Rechargeable Lithium Ion Polymer Battery			
Trademark	Skydio			
Model / Type number:	SBR47V1			
Rating:	18.6V, 8560mAh			
Classification of the EUT:	Class A			
	Class B			
Manufacturer:	Xiamen Ampace Technology Limited			
	No.600 Hongtang Road, Tongxiang High-tech Zone, Torch High-tech			
	District, Xiamen City, Fujian Province, PRC.			
Factory:	Xiamen Ampack Technology Limited			
	No.600-1 Hongtang Road, Tongxiang High-tech Zone, Torch High-tech			
	District, Xiamen City, Fujian Province, PRC.			

Intended use of the Equipment Under Test (EUT)

The apparatus as supplied for the test is Rechargeable Lithium Ion Polymer Battery which intended for residential, commercial and light-industrial environments use.

Model SBR47V1 was chosen for full test.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Not provided.



1.2 The environment(s) in which the EUT is intended to be used

The equipment under test (EUT) is intended to be used in the following environment(s):

\boxtimes	Residential (domestic) environment.
\boxtimes	Commercial and light-industrial environment.
	Industrial environment.

1.3 Test data

Test Location 1	DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China	
Date of receipt of test item	2023-08-01	
Date (s) of performance of tests	2023-08-01 to 2023-08-14	



2 DESCRIPTION OF TEST SETUP

2.1 **Operating mode(s) used for tests**

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

Operating mode	Operating mode description	Used for testing			
mode	Operating mode description	Emission	Immunity		
1	Discharging	\boxtimes	\boxtimes		
2					
3					
Supplemen	Supplemental information:				

2.2 **Port(s) of the EUT**

	Connected to /	Cable			
Port name and description	Termination	Length used Attached		Shielded	
		during test [m]	during test	Shielded	
DC port	Charger or loading	/	\boxtimes		
Supplemental information:					

2.3 **Support / Auxiliary equipment / unit / software for the EUT**

The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment / unit / software	Type / Version	Manufacturer	Supplied by
Supplemental information:			

2.4 Test Configuration / Block diagram used for tests

Refer to Annex 3.



3 VERDICT SUMMARY SECTION

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

3.1 Standards

Standard	Year	Description	
EN 55032	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	
+A11	2020		
+A1	2020		
BS EN 55032	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	
+A11	2020		
BS EN 55032	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	
+A1	2020		
EN 55016-2-1	2014	Methods of measurement of disturbances and immunity - Conducted	
		disturbance measurements.	
EN 55016-2-3	2017	Methods of measurement of disturbances and immunity - Radiated disturbance	
+A1	2019	measurements.	
EN 55035	2017	Electromagnetic compatibility of multimedia equipment - Immunity requirements	
+A11	2020		
BS EN 55035	2017	Electromagnetic compatibility of multimedia equipment - Immunity requirements	
+A11	2020		
EN 61000-4-2	2009	Electrostatic discharge immunity test.	
EN 61000-4-3	2006	Radiated, radio-frequency, electromagnetic field immunity test.	
+A1	2008		
+A2	2010		
EN 61000-4-4	2012	Electrical fast transient/burst immunity test.	
EN 61000-4-5	2014	Surge immunity test.	
EN 61000-4-6	2014	Immunity to conducted disturbances, induced by radio-frequency fields.	
EN 61000-4-8	2010	Power frequency magnetic field immunity test.	
EN 61000-4-11	2004	Voltage dips, short interruptions and voltage variations immunity tests.	



3.2 **Overview of results**

EMISSION TESTS – EN 55032, BS EN 55032						
Requirement – Test case	Basic Standard(s)	Verdict	Remark			
Conducted disturbance voltage at mains terminals (150 KHz – 30 MHz)	EN 55016-2-1	N/A	See 1)			
Conducted disturbance voltage at load terminals (150 KHz – 30 MHz)	EN 55016-2-1	N/A	See 2)			
Conducted disturbance voltage at control terminals (150 KHz – 30 MHz)	EN 55016-2-1	N/A	See 2)			
Radiated electromagnetic disturbances (30 - 1000 MHz)	EN 55032	PASS				
Radiated electromagnetic disturbances (above 1 GHz)	EN 55016-2-3	N/A	See 3)			
Supplementary information:	•					
1) The EUT cannot be connected to AC mains power network.						

2) The EUT does not have such terminal.

3) The highest internal frequency of the EUT is less than 108 MHz.

Requirement – Test case Basic Standard(s) Verdict Remark								
Requirement – Test case	Basic Standard(s)	verdict	Remark					
Electrostatic discharge	EN 61000-4-2	PASS						
Radio-frequency electromagnetic fields	EN 61000-4-3	PASS						
Fast transients	EN 61000-4-4	N/A	See 1)					
Surge transient	EN 61000-4-5	N/A	See 1)					
Injected currents (radio-frequency common mode)	EN 61000-4-6	N/A	See 1)					
Power frequency magnetic fields	EN 61000-4-8	N/A	See 2)					
Voltage dips and short interruptions	EN 61000-4-11	N/A	See 1)					
Broadband impulse noise disturbances, repetitive	EN 61000-4-6	N/A	See 1)					
Broadband impulse noise disturbances, isolated	EN 61000-4-6	N/A	See 1)					

1) The EUT cannot be connected to AC mains power network and the cable is less than 3 meters.

2) The apparatus does not contain any components susceptible to this low-frequency magnetic fields.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result.



4 EMISSION TEST RESULTS

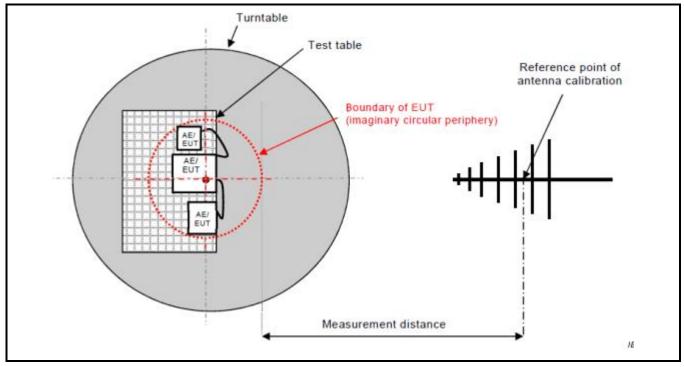
4.1 Radiated electromagnetic disturbances (30 – 1000 MHz) VERDICT: PASS

Standard	EN 55032
Basic standard(s)	EN 55016-2-3
Test method	Antenna method

Limits

Frequency	L	IF BW	Detector				
[MHz]	@3 m.	@5 m.		Detector			
30 - 230	40	36	30	120 KHz	QP		
230 - 1000	30 - 1000 47 43 37						
¹⁾ At the transition frequency, the lower limit applies.							

Test configuration





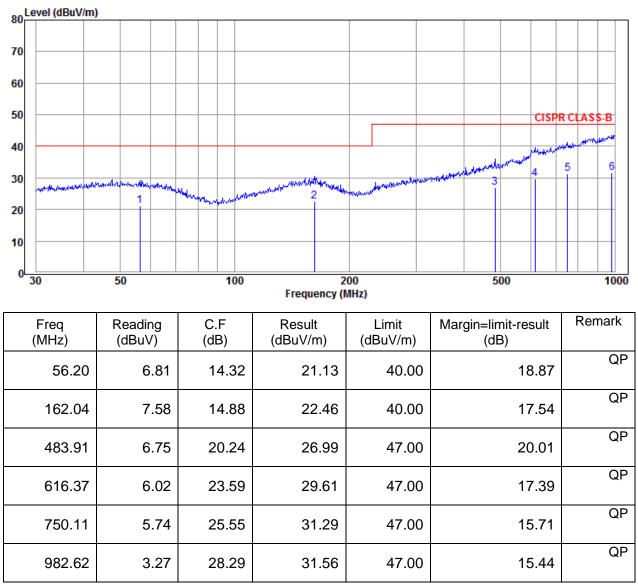
Performed measurements

Port under test	Enclosure	
Test method applied	OATS or SAC with measurement distance [m]: 3 m.	
	OATS or SAC with measurement distance [m]: 5 m.	
	OATS or SAC with measurement distance [m]: 10 m.	
Test setup	Equipment on a table of 80 cm height	
	Equipment on the floor (insulated from ground plane)	
	Other:	
	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Envirment condition (temperature; humidiry)	23,0 °C; 45,0 %	
Remark		



Model	SBR47V1
Port	Enclosure
Operation mode	Mode 1

Results Horizontal



Margin=limit-result

Remarks:

1) C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

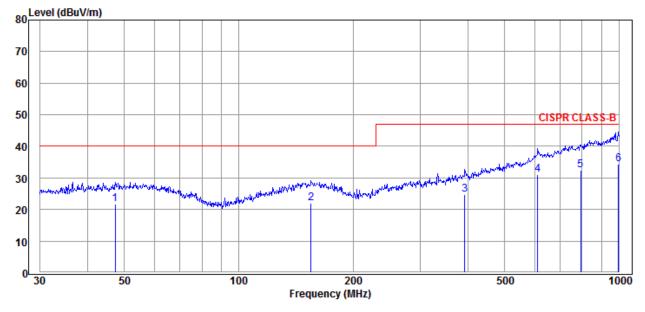
2) Result = Reading + C.F (Correction Factor)

No other significant emissions were recorded employing the QP detector at the frequency range of interest.

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Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China Tel +86 20 6661 2000 Fax +86 20 6661 2001 www.dekra-certification.com





Freq (MHz)	Reading (dBuV)	C.F (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin=limit-result (dB)	Remark
47.33	7.29	14.42	21.71	40.00	18.29	QP
154.82	7.13	14.87	22.00	40.00	18.00	QP
393.47	6.87	17.85	24.72	47.00	22.28	QP
612.06	7.56	23.63	31.19	47.00	15.81	QP
793.40	6.92	25.49	32.41	47.00	14.59	QP
996.50	6.03	28.45	34.48	47.00	12.52	QP

Margin=limit-result

Remarks:

1) C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

2) Result = Reading + C.F (Correction Factor)

No other significant emissions were recorded employing the QP detector at the frequency range of interest.

DEKRA



5 **IMMUNITY TEST RESULTS**

5.1 **Performance (Compliance) criteria**

<u>Performance criteria A</u>: During the test no change of the luminous intensity shall be observed and the requlating control, if any, shall operate during the test as intended. The luminous intensity shall be deemed to be unchanged if the measured intensities do not deviate by more than 15 %.

<u>Performance criteria B</u>: During the test the luminous intensity may change to any value. After the test the luminous intensity shall be restored to its initial value within 1 min. Regulating controls need not function during the test, but after the test the mode of the control shall be the same as before the test provided that during the test no mode changing commands were given.

<u>Performance criteria C :</u> During and after the test any change of luminous intensity is allowed and the lamp(s) may be extinguished. After the test, within 30 min, all functions shall return to normal if necessary by temporary interruption of the mains supply and/or operating the regulating control.

5.1.1 Manufacturer defined performance criteria

Not provided.



5.2 **Monitored – Checked Functions / Parameters**

During the immunity tests the following functions of the EUT has/have been monitored/checked.

	Motor speed		Display data		
	Switching		Data storage		
	Standby mode		Sensor functions		
	Temperature		Audible signals		
\square	Power consumption	\boxtimes	Others : output voltage and current		
	AC mains input current		Others :		
	Timing		Others :		
	Illumination		Others :		
<u>Supp</u>	Supplementary information :				

Immunity test	Monitored - Checked function(s)/parameter(s) during / after the test	Method
Electrostatic discharge	Mode 1	Visual
Radio-frequency electromagnetic fields	Mode 1	Visual
Supplementary information :		



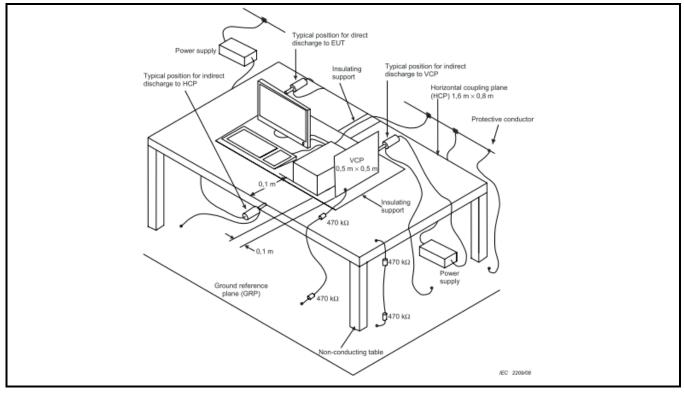
5.3 Electrostatic discharge immunity VERDICT: PASS

Electrostatic discharges (ESD) are the result of persons or objects that accumulate static electricity due to for instance walking on synthetic carpets. The ESD can influence the operation of equipment or damage its electronics, either by a direct discharge or indirectly by coupling or radiation. Both effects are simulated during the tests.

Requirements

Standard	EN 5	EN 55035							
Basic standard	EN 6	EN 61000-4-2							
Port under test	Enclo	Enclosure							
Air discharges		±2 kV	\square	±4 kV	\boxtimes	±8 kV		kV	
Contact discharges		□ ±2 kV							
Number of discharges	≥ 10	10 per polarity with \geq 1 sec interval.							

Test configuration





Performed tests

Set-up	⊠ Table-top		Floor standing				
Operating mode(s) used	Mode 1	 Mode 1					
Ambient temperature [°C]	21,0	P1,0 Relative Humidity air [%] 57,0					
Atmospheric pressure	101 kPa						

Test Point (Location of discharge, see also photo)		Test Voltage [kV] & Polarity	Coupling type	# of applied discharges / polarity	Discharge interval [s]		
	Points on con indicated in the	ductive surface as picture below.	±4	Contact	10	1	
	Points on non-conductive surface as indicated in the picture below.		±2/ ±4/ ±8	Air	10	1	
\square	HCP		±4	Contact	10	1	
VCP		±4	Contact	10	1		
Observation(s) During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance or data was observed. Supplementary information:							



5.4 Radio-frequency electromagnetic fields immunity VERDICT: PASS

During the test it is verified if the equipment under test (EUT) has sufficient immunity against radiated electromagnetic fields. Industrial electromagnetic sources, walkie-talkies, radio transmitters, television transmitters and telecommunication equipment including cellular telephones and other emitting devices can generate these fields.

Requirements

Standard	EN 55035								
Basic standard	EN 61000-4-3	EN 61000-4-3							
Port under test	Enclosure								
Frequency range	Test level	Modulation	Dwell time	Step size					
80 – 1000 MHz	3 V/m 80% AM (1kHz) ≥ 0,5 s ≤ 1%								
Supplementary information	Supplementary information:								

Standard	EN 55035										
Basic standard	EN 61000-4-3	EN 61000-4-3									
Port under test	Enclosure	Enclosure									
Frequency range	Test level	Modulation	Dwell time	Step size							
1800 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s								
2600 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s								
3500 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s								
5000 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s								
Supplementary information	<u>):</u>		·	Supplementary information:							



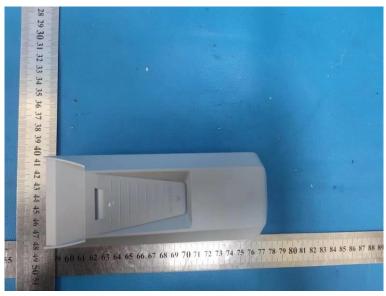
Performed tests

Test method	EN 61000-4-3					EN 61000-4-2	20		
Test set-up	\boxtimes	Equipment on the table (0,8 m height)							
(see annex 3 for photo)		Equipment standing on floor (0,05 – 0,15 m height)							
Operating mode(s) used	Mode	Mode 1							
Ambient temperature [°C]	24,0	24,0 Relative Humidity air 56,0							
Frequency range (applied)	Antenna Test level Polarization (applied)				odulation applied)	Dwell time (applied)		Remark	
80 – 1000 MHz (step size 1%),	l	H, V	3 V/m		80%	AM (1kHz)	1 s		
1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz		H, V	3 V/	m	80%	AM (1kHz)	1 s		
Exposed side of the EUT		Front (0 ^c	")		Right	(90°)		Тор	
	\square	Rear (18	80°)	\square	Left (2	270°)	Bottom		١
Observation(s)	During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance or data was observed.								
Supplementary information:									



6 **IDENTIFICATION OF THE EQUIPMENT UNDER TEST**

The photographs show the tested device.



Overall view



ANNEX 1 - MEASUREMENT UNCERTAINTIES

The table(s) below show(s) measurment uncertainties of the EMC test set-ups. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Measurement	Uncertainty
Radiated EM field emission (30 MHz– 300 MHz)	4,72 dB
Radiated EM field emission (300 MHz– 1000 MHz)	4,88 dB



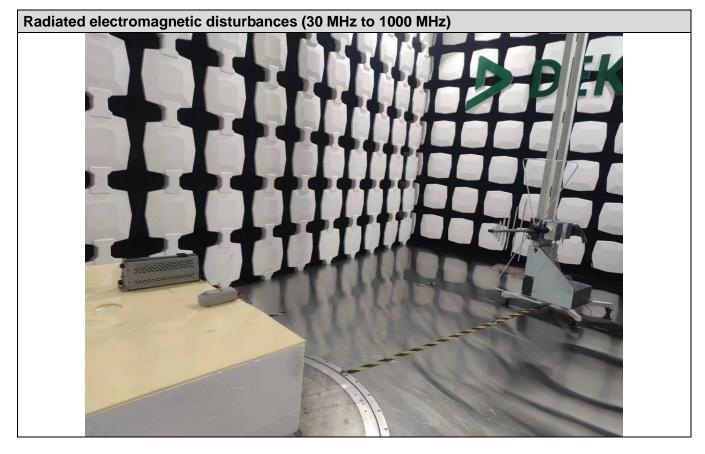
ANNEX 2 – USED EQUIPMENT

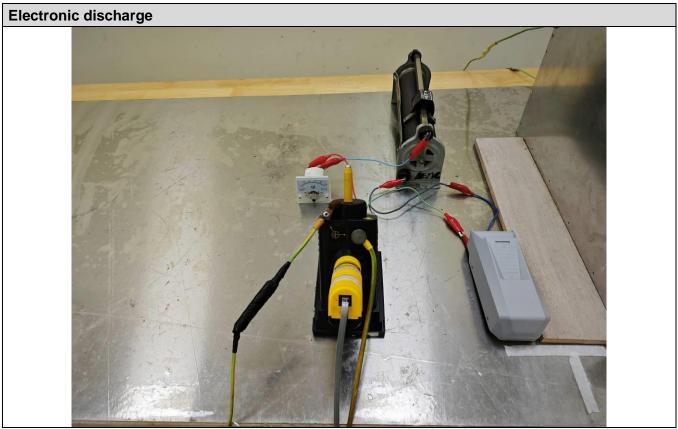
	DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch									
Item	Instrumentation	Manufacturer	Model No.	Serial No.	DEKRA No.	Cal. Due date				
1	Chamber	ETS	/	/	G/L856	2024/06/05				
2	EMI receiver	R&S	ESCI	101205	G/L857	2024/08/07				
3	Antenna (30MHz-3GHz)	SCHWARZBECK	VULB9168	01229	GZ2018	2024/01/25				
4	ESD Generator	TESEQ	NSG435	6513	G/L867	2024/07/23				

Instrumentation	Manufacturer	Model No.	Serial No.	DEKRA No.	Cal. Due date
Vector Signal Generator (8KHz-6GHz)	R&S	SMB100B	103742	GZ2263-1	2024/09/04
Power meter	R&S	NRX	103909	GZ2263-2	2024/09/04
Broadband Amplifier (80MHz-1GHz/ 250W)	R&S	BBA150- BC250	105265	GZ2263-3	2024/09/04
Broadband Amplifier (0,69 to 3,2GHz / 110W; 2,5 to 6GHz / 100W	R&S	BBA150- D110E100	105263	GZ2263-4	2024/09/04
Antenna (0,7-10,5GHz)	SCHWARZBECK	STLP 9149	00619	GZ2263-5	2024/09/04
Antenna (80-1500MHz)	SCHWARZBECK	STLP 9128E	01167	GZ2263-6	2024/09/04
Field Probe	LUMILOOP	LSPPORT 1.2	624	GZ2263-7	2024/09/04
Power Sensor	R&S	NRP6A	103818	GZ2263-8	2024/09/04
Power Sensor	R&S	NRP6A	103817	GZ2263-9	2024/09/04
OPS (Open Switch and Control Unit)	R&S	OPS200	1528	GZ2264-10	N/A
Test software	ELEKTRA	R&S	Version 4.50.1		



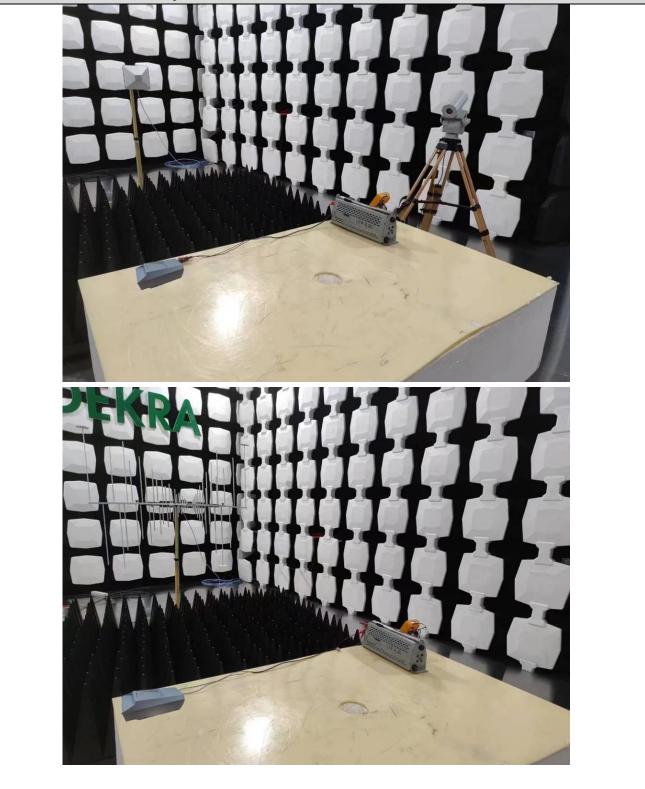
ANNEX 3 - TEST PHOTOS







Radiated EM Field Immunity



--- END ---