中国认可
国际互认
检测
TESTING
CNAS L4595

EMC TEST REPORT

For

Little Array Technology (Shenzhen) Co., Ltd.

USB HID To Serial Data Converter Module

Test Model: Zport Series USB-HID_IND

Prepared for	:	Little Array Technology (Shenzhen) Co., Ltd.
Address	:	Unit 215, 2F, A1, Fuhai Industrial Zone B2, Fuyong Street, Baoan District, Shenzhen, Guangdong, China
Telephone	:	+86-755-89990959
Fax	:	+86-755-89990959-Ext.1003
Web	:	www.LittleArray.com
Mail	:	Info@LittleArray.com

Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Tel	:	+(86) 0755-82591330
Fax	:	+(86) 0755-82591332
Web	:	www.lcs-cert.com
Mail	:	webmaster@lcs-cert.com

Date of receipt of test sample	:	August 17, 2023
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	August 17, 2023 to August 23, 2023
Date of Report	:	August 23, 2023

TEST REPORT

Report No.	:	**LCSA08163001E**
Date of Issue	:	August 23, 2023
Testing Laboratory Name	:	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	:	**Little Array Technology (Shenzhen) Co., Ltd.**
Address	:	Unit 215, 2F, A1, Fuhai Industrial Zone B2, Fuyong Street, Baoan District, Shenzhen, Guangdong, China
Test Specification		
Standard	:	EN 55032:2015/A1:2020 EN 55035:2017/A11:2020
Test Report Form No.	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.	:	**USB HID To Serial Data Converter Module**
Trade Mark	:	ZPORT
Test Model	:	Zport Series USB-HID_IND
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Cindy Nie	Baron Wen	
Cindy Nie / File Administrator	Baron Wen / Technique principal	Gavin Liang / Manager

TEST REPORT

Test Report No.: LCSA08163001E	August 23, 2023 Date of issue

Test Model	:	**Zport Series USB-HID_IND**
EUT	:	USB HID To Serial Data Converter Module
Applicant	:	**Little Array Technology (Shenzhen) Co., Ltd.**
Address	:	Unit 215, 2F, A1, Fuhai Industrial Zone B2, Fuyong Street, Baoan District, Shenzhen, Guangdong, China
Telephone	:	+86-755-89990959
Fax	:	+86-755-89990959-Ext.1003
Web	:	www.LittleArray.com
Mail	:	Info@LittleArray.com
Manufacturer	:	**Little Array Technology (Shenzhen) Co., Ltd.**
Address	:	Unit 215, 2F, A1, Fuhai Industrial Zone B2, Fuyong Street, Baoan District, Shenzhen, Guangdong, China
Telephone	:	+86-755-89990959
Fax	:	+86-755-89990959-Ext.1003
Web	:	www.LittleArray.com
Mail	:	Info@LittleArray.com
Factory	:	**Shenzhen Maikesi Technology Co., Ltd.**
Address	:	Room 206, Building B, Wanhefeng Industrial Park, No.7 Yumiao Road, Keyuan Community, Buji Street, Longgang District, Shenzhen, Guangdong, China
Telephone	:	/
Fax	:	/

Test Result	Positive

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.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	August 23, 2023	Initial Issue	/

TABLE OF CONTENTS

Test Report Description Page

1. TEST STANDARDS

The tests were performed according to following standards:

EN 55032:2015/A1:2020: Electromagnetic compatibility of multimedia equipment - Emission requirements

EN 55035:2017/A11:2020: Electromagnetic compatibility of multimedia equipment - Immunity requirements.

2. SUMMARY OF STANDARDS AND RESULTS

2.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Standard	Limits	Result
Radiated emissions (30MHz-1GHz)	EN 55032:2015/A1:2020	Class B	Pass
Electrostatic discharges	EN 55035:2017/A11:2020	Contact Discharge: +/- 4kV Air Discharge: +/- 8kV	Pass
RF electromagnetic field disturbances	EN 55035:2017/A11:2020	3V/m, 80%, 1kHz Amp. Mod.	Pass

2.2 Description of Test Modes

No	Title	Description
TM1	Working(DC)	Record

2.3 Description of Performance Criteria

General Performance Criteria

Performance Criteria A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended.

The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance Criteria B

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.

After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended.

The performance level may be replaced by a permissible loss of performance.

If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance Criteria C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

3. GENERAL INFORMATION

3.1 Description of Device (EUT)

EUT : USB HID To Serial Data Converter Module
Test Model : Zport Series USB-HID_IND
Power Supply : DC24V, 300mA, Max 8W
Highest Internal Frequency : f ≤ 108MHz
Classification of Equipment : Class B

3.2 Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Lenovo	PC	Lenovo E41-55	MP23YTFQ	/

3.3 Description of Test Facility

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.

NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.

3.4 Measurement Uncertainty

Test Item	**Measurement Uncertainty**
Radiated Emission (30MHz to 1000MHz)	± 3.48 dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

4. MEASURING DEVICES AND TEST EQUIPMENT

Radiated emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
EMI Test Software	AUDIX	E3	/	/	/
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-09-12	2024-09-11
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-09-05	2024-09-04
EMI Test Receiver	R&S	ESR3	102311	2023-08-15	2024-08-14
Broadband Preamplifier	/	BP-01M18G	P190501	2023-06-09	2024-06-08

Electrostatic discharges					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
ESD Simulator	SCHLODER	SESD 230	604035	2023-07-17	2024-07-16

RF electromagnetic field disturbances					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
MXG Vector Signal Generator	Agilent	E4438C	MY42081396(6G)	2023-06-09	2024-06-08
RF POWER AMPLIFIER	SKET	HAP_0306G-50W	/	2023-06-09	2024-06-08
RF POWER AMPLIFIER	OPHIR	5225R	1052	2023-06-09	2024-06-08
RF POWER AMPLIFIER	OPHIR	5273F	1019	2023-06-09	2024-06-08
Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	/	/
Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-484	/	/
RS Electric field probe	narda	EP601	611WX80208	2023-06-09	2024-06-08

5. EMISSION TEST RESULTS (EMI)

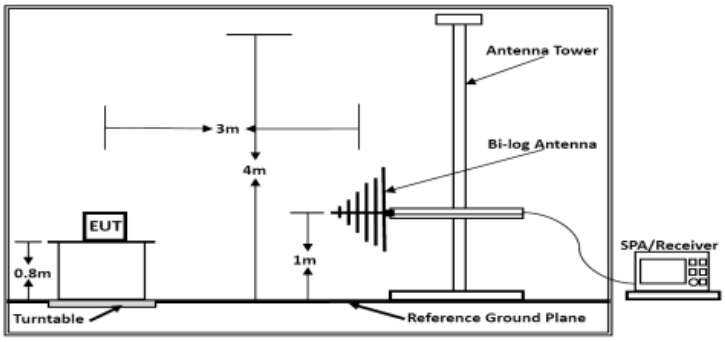
5.1 Radiated emissions (30MHz-1GHz)

Test Requirement:	Class B
Test Limit:	**Frequency (MHz)** / **Limit [dB(uV/m) at 10m]** / **Limit [dB(uV/m) at 3m]** 30 to 230 / 30 / 40 230 to 1000 / 37 / 47 Detector: / Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz
Test Method:	Clause 7.3 of CISPR 16-2-3:2016
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

5.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.3 °C	Humidity:	53 %	Atmospheric Pressure:	102 kPa
Pre test mode:	TM1				
Final test mode:	TM1				

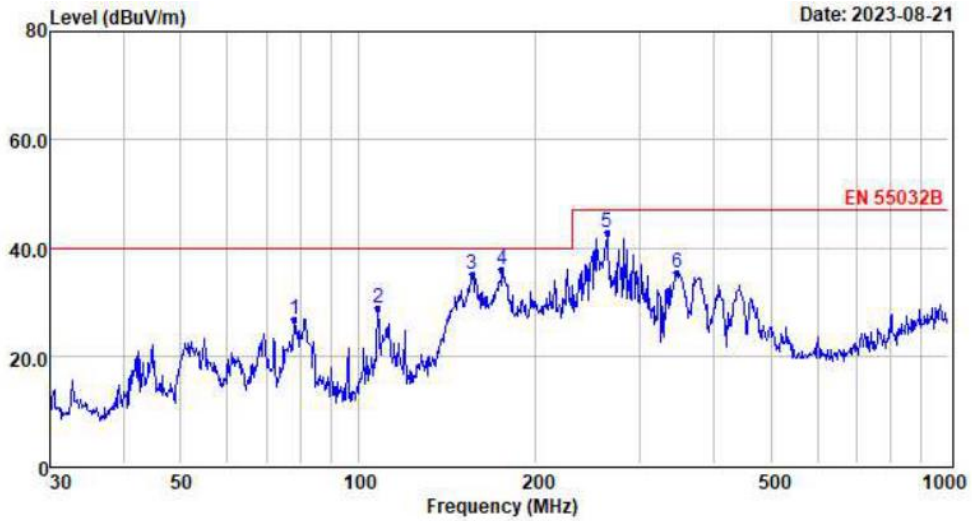
5.1.2 Test Setup Diagram:



Below 1GHz

5.1.3 Test Data:

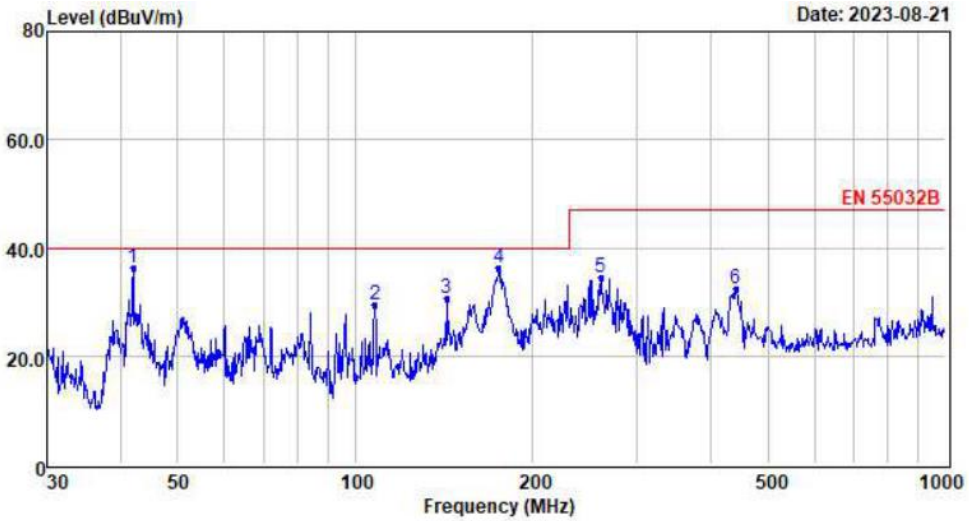
TM1 / Polarization: Horizontal



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	77.87	16.24	0.73	9.88	26.85	40.00	-13.15	QP
2	107.89	16.83	0.84	11.26	28.93	40.00	-11.07	QP
3	155.91	25.12	1.06	9.00	35.18	40.00	-4.82	QP
4	175.04	25.18	1.12	9.75	36.05	40.00	-3.95	QP
5	263.82	28.69	1.28	12.85	42.82	47.00	-4.18	QP
6	346.81	19.24	1.36	14.73	35.33	47.00	-11.67	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

TM1 / Polarization: Vertical



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	42.01	24.29	0.53	11.46	36.28	40.00	-3.72	QP
2	107.89	17.29	0.84	11.26	29.39	40.00	-10.61	QP
3	142.82	21.05	1.01	8.56	30.62	40.00	-9.38	QP
4	175.04	25.48	1.12	9.75	36.35	40.00	-3.65	QP
5	261.06	20.45	1.28	12.76	34.49	47.00	-12.51	QP
6	441.74	15.36	1.44	15.67	32.47	47.00	-14.53	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

6. IMMUNITY TEST RESULTS (EMS)

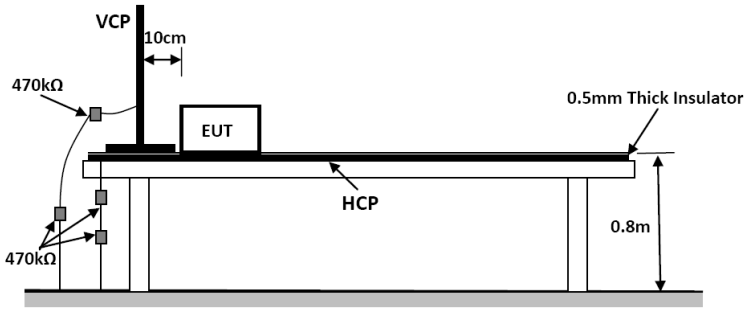
6.1 Electrostatic discharges

Test Requirement:	Contact Discharge: +/- 4kV Air Discharge: +/- 8kV
Test Method:	EN 61000-4-2: 2009
Procedure:	Discharge Impedance: 330Ω/150pF Number of Discharge: Minimum 10 times at each test point Discharge Mode: Single Discharge Discharge Period: 1 second minimum
Performance Criteria:	B

6.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.4 °C	Humidity:	46.9 %	Atmospheric Pressure:	102 kPa
Pre test mode:	TM1				
Final test mode:	TM1				

6.1.2 Test Setup Diagram:



6.1.3 Test Data:

Discharge type	Volt (kV)	Polarity	Test Point	Result/ Observations
Air discharge	2,4,8	+	10	B
Air discharge	2,4,8	-	10	B
Contact discharge	4	+	10	B
Contact discharge	4	-	10	B
Horizontal Coupling	4	+	10	B
Horizontal Coupling	4	-	10	B
Vertical Coupling	4	+	10	B
Vertical Coupling	4	-	10	B

A: No degradation in the performance of the EUT was observed.

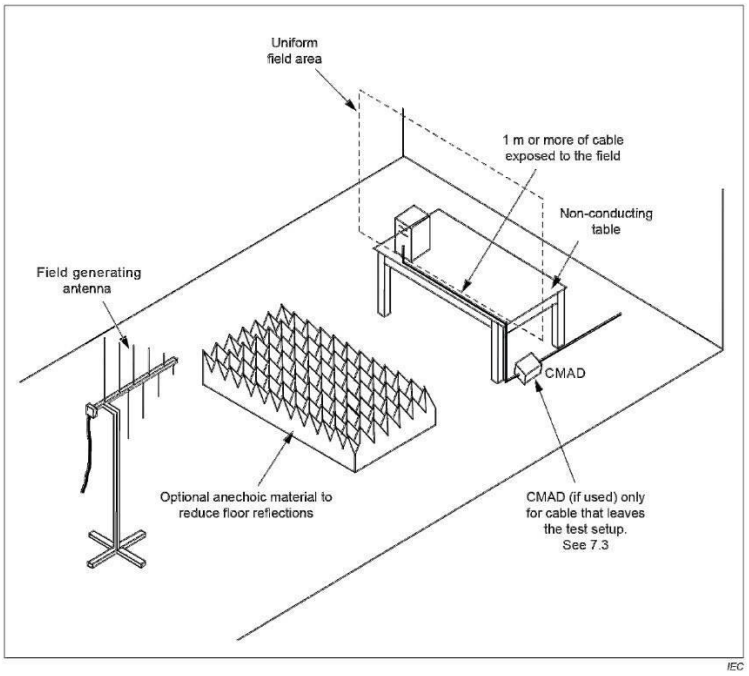
6.2 RF electromagnetic field disturbances

Test Requirement:	3V/m, 80%, 1kHz Amp. Mod.
Test Method:	EN IEC 61000-4-3: 2020
Procedure:	Frequency Range: 80MHz to 1GHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz Antenna Polarisation: Vertical and Horizontal Modulation: 1kHz,80% Amp. Mod,1% increment
Performance Criteria:	A

6.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.4 °C	Humidity:	46.9 %	Atmospheric Pressure:	102 kPa
Pre test mode:	TM1				
Final test mode:	TM1				

6.2.2 Test Setup Diagram:

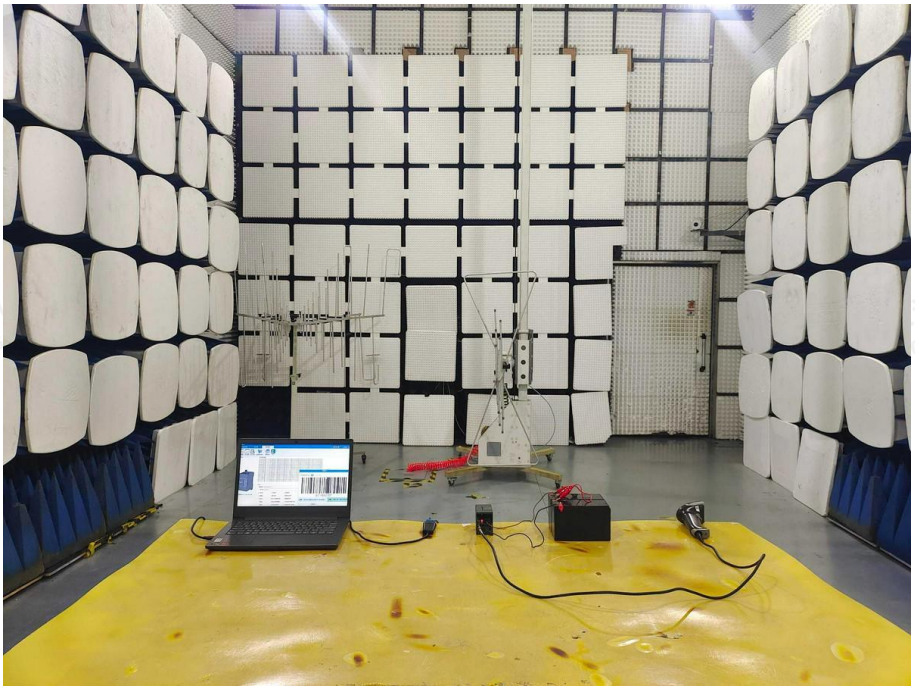


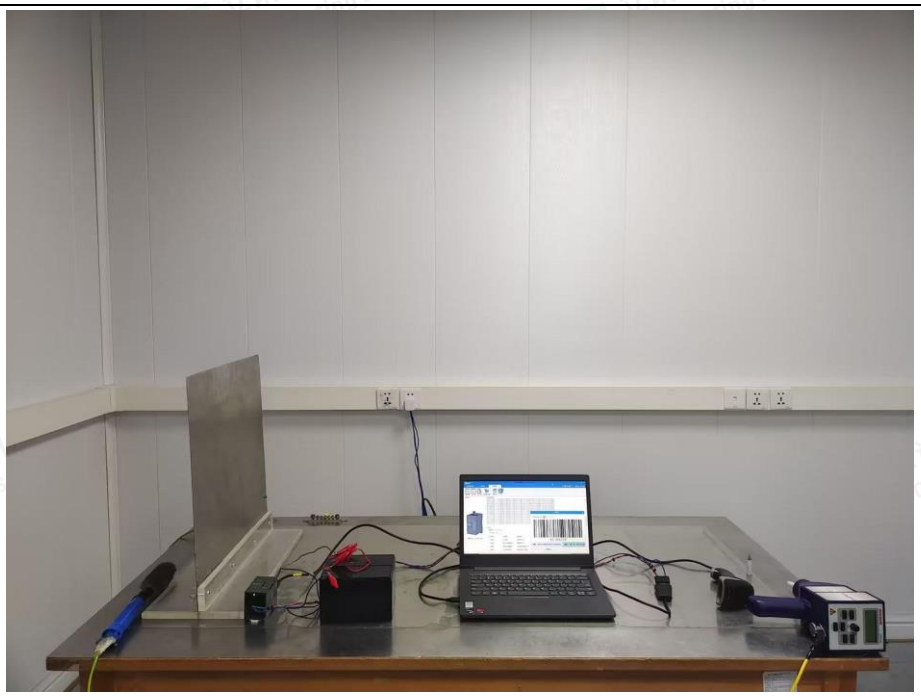
6.2.3 Test Data:

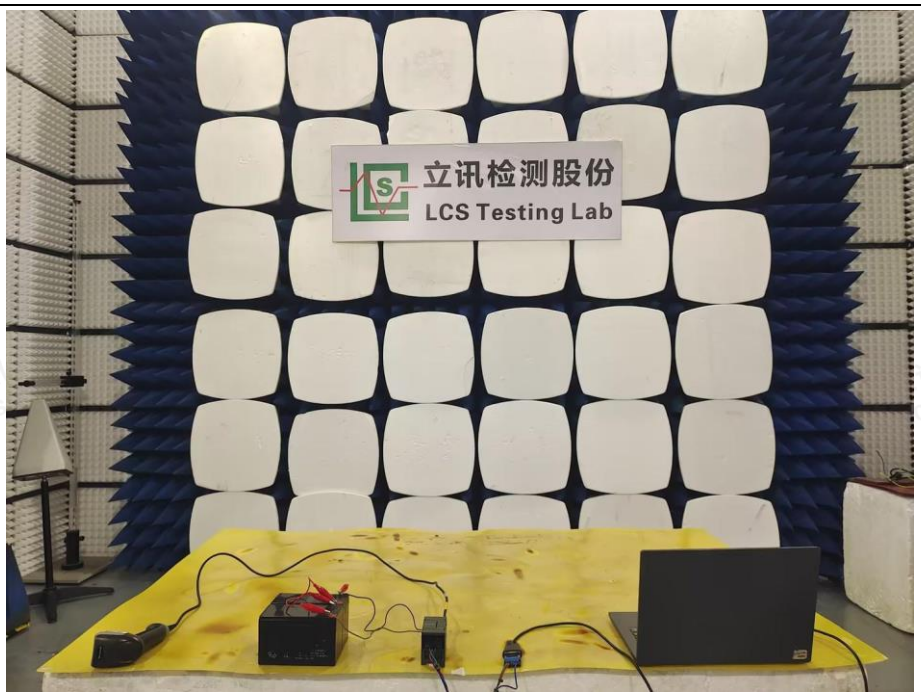
Frequency	Field Strength (V/m)	EUT face	Dwell time	Result/ Observations
80MHz-1GHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
1800MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
2600MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
3500MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A
5000MHz	3	Front, Back, Left, Right, Top, Bottom	3s	A

A: No degradation in the performance of the EUT was observed.

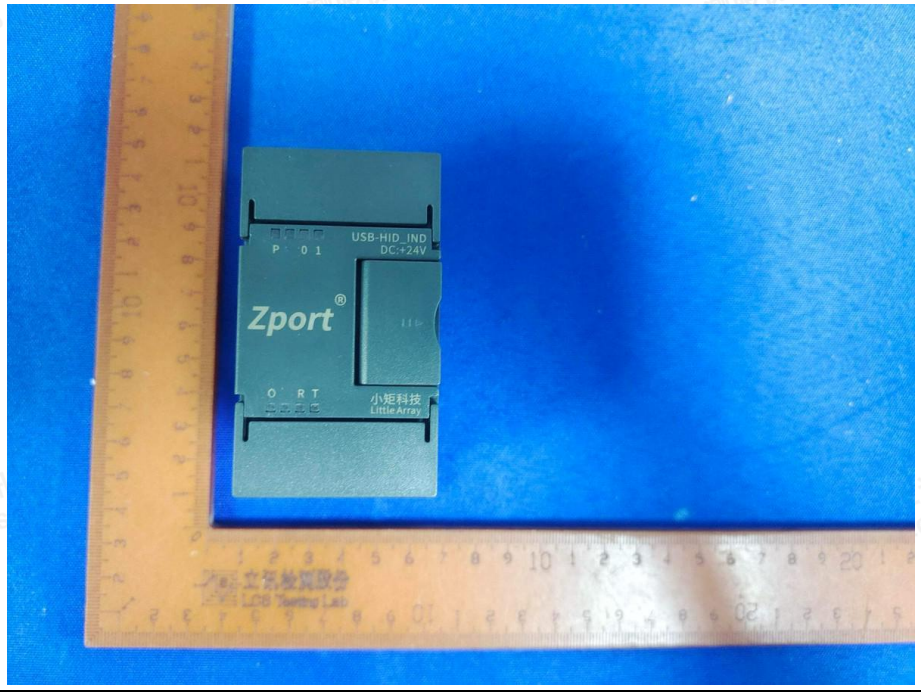
7. TEST SETUP PHOTOS

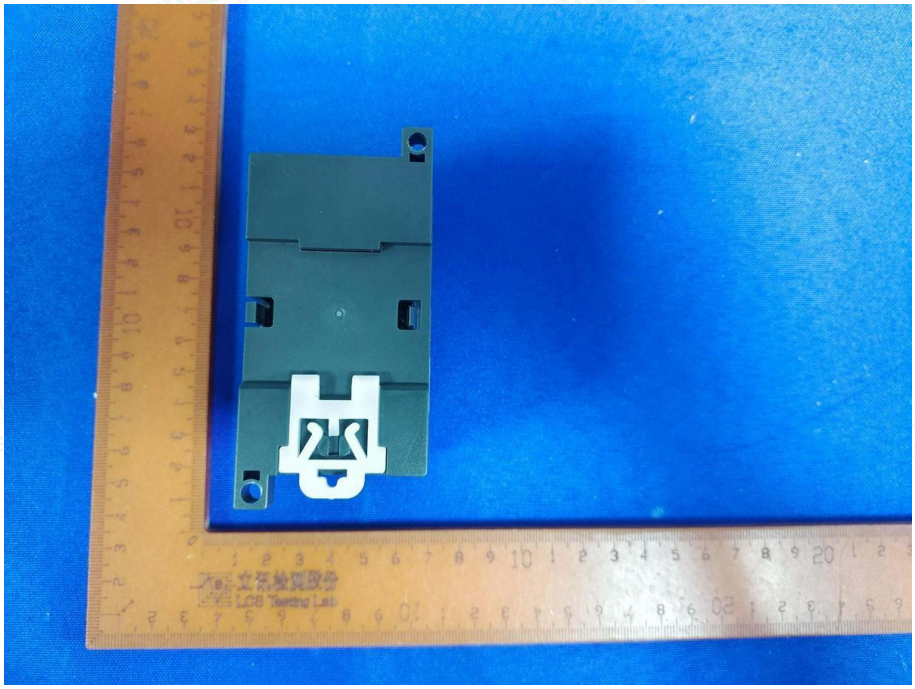
Radiated emissions (30MHz-1GHz)


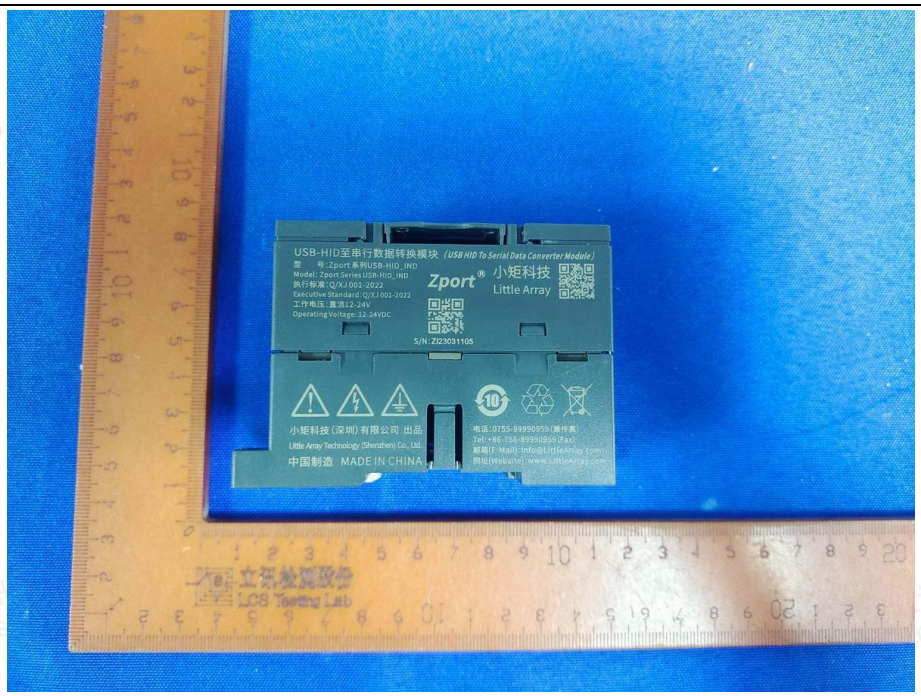
Electrostatic discharges


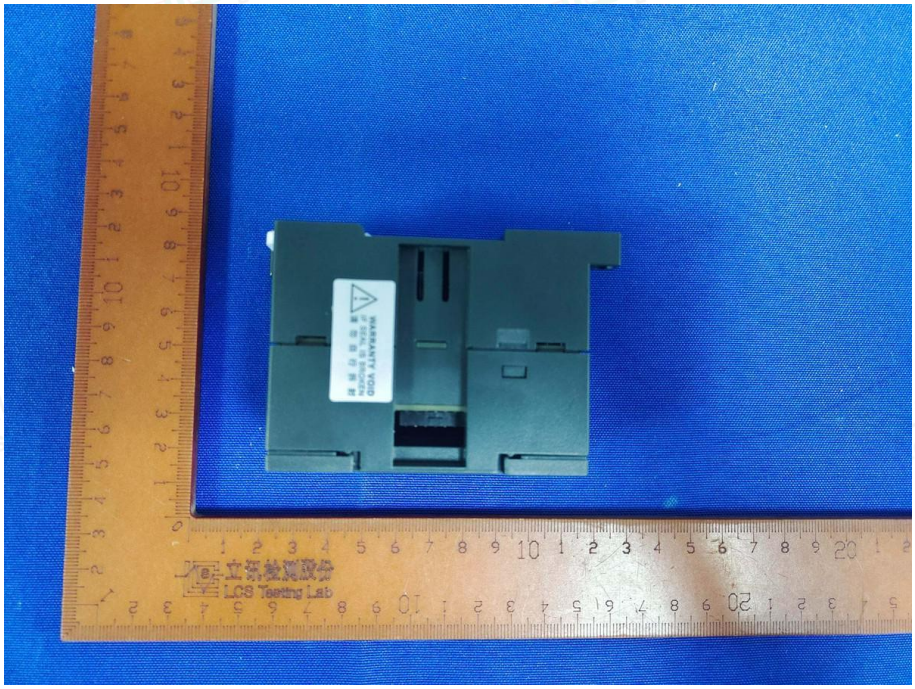
RF electromagnetic field disturbances


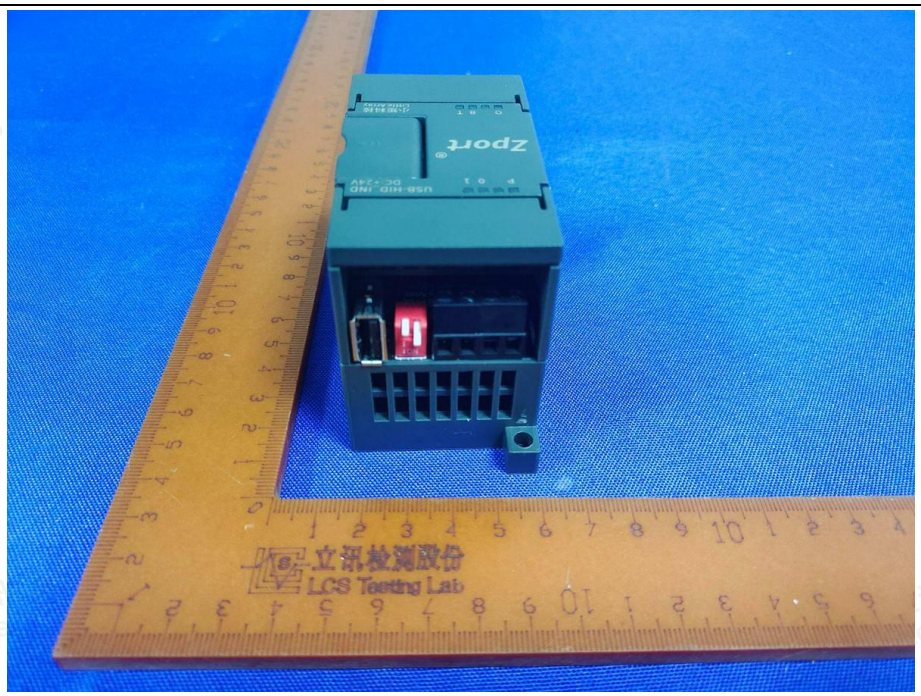
8. EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)






USB-HID至串行数据转换模块 (USB HID To Serial Data Converter Module)
Zport®
小矩科技
Little Array
S/N:ZI23031105
小矩科技(深圳)有限公司 出品
Little Array Technology (Shenzhen) Co., Ltd.
中国制造 MADE IN CHINA





--- End of Report ---