Shenzhen CTL Testing Technology Co., Ltd.
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TEST REPORT

EN IEC 55014-1 / EN IEC 55014-2
Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus.
Part 1: Emission / Part 2: Immunity – Product family standard

Report Reference No..... :	**CTL2112102071-E**
Compiled by (position+printed name+signature).. :	File administrators Gyles
Supervised by (position+printed name+signature).. :	Technique principal Ivan Xie
Approved by (position+printed name+signature).. :	Manager Tracy Qi
Date of issue..... :	Dec. 16, 2021
Testing Laboratory Name..... :	**Shenzhen CTL Testing Technology Co., Ltd**
Address..... :	Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055
Web..... :	www.ctl-lab.com
Testing location/ procedure..... :	Full application of Harmonised standards ☒ Partial application of Harmonised standards ☐ Other standard testing methods ☐
Applicant's name..... :	**ShenZhen Jieshibo Technology CO., Ltd**
Address..... :	3Building, Xianyuxing Industrial Park, Fuhe Road Gonghe Community, Shajing Street, Baoan District, Shenzhen City, China
Test specification:	
Standard..... :	**EN IEC 55014-1: 2021** **EN IEC 55014-2: 2021**
Non-standard test method..... :	/
TRF Originator..... :	Shenzhen CTL Testing Technology Co., Ltd
Master TRF..... :	Dated 2011-01

Test item description.....:	**VPEN Disposable Vape Pen**
Trade Mark..... :	VPFIT®
Test voltage..... :	DC 3.7V
Result.....:	**Pass**

E M C -- T E S T R E P O R T

Test Report No. :	CTL2112102071-E	Dec. 16, 2021 Date of issue

Equipment under Test	:	VPEN Disposable Vape Pen
Type / Model	:	JY1305
Listed Models	:	N/A
Applicant	:	**ShenZhen Jieshibo Technology CO., Ltd**
Address	:	3Building, Xianyuxing Industrial Park, Fuhe Road Gonghe Community, Shajing Street, Baoan District, Shenzhen City, China
Manufacturer	:	**ShenZhen Jieshibo Technology CO., Ltd**
Address	:	3Building, Xianyuxing Industrial Park, Fuhe Road Gonghe Community, Shajing Street, Baoan District, Shenzhen City, China

Test Result	Pass

The test report merely corresponds to the test sample.

History of this test report

Report No.	Version	Description	Issued Date
CTL2112102071-E	V1.0	Initial Issued Report	Dec. 16, 2021

Contents

1 TEST STANDARDS

The tests were performed according to following standards:

EN IEC 55014-1: 2021 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission
EN IEC 55014-2: 2021 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus -- Part 2: Immunity - Product family standard

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample : Dec. 15, 2021

Sampling and Testing commenced on : Dec. 15, 2021

Testing concluded on : Dec. 16, 2021

2.2 Equipment Under Test

Power supply system utilised

Power supply voltage : o 230V / 50 Hz o 115V / 60Hz
■ 3.7 V DC o 24 V DC
o Other (specified in blank below)

2.3 Short description of the Equipment under Test (EUT)

The EUT is a VPEN Disposable Vape Pen

2.4 EUT operation mode

The EUT were tested under the following modes, the final worst mode was marked in bold face and recorded in this report.

EMISSION TEST:

Description of Test Mode	Test Voltage
WORKING	**DC 3.7V**

IMMUNITY TESTS:

Description of Test Mode	Test Voltage
WORKING	DC 3.7V

Emissions tests…….: According to EN IEC 55014-1, searching for the highest disturbance.

Immunity tests ……..: According to EN IEC 55014-2, searching for the highest susceptivity.

2.5 EUT configuration:

The following peripheral devices and interface cables were connected during the measurement:

■ - supplied by the manufacturer

o - supplied by the lab

2.6 Performance level

The test results shall be classified in terms of the loss of function or degradation of performance of the equipment under test, relative to a performance level defined by its manufacturer or the requestor of the test, or agreed between the manufacturer and the purchaser of the product.

Definition related to the performance level:

- ■ based on the used product standard
- o based on the declaration of the manufacturer, requestor or purchaser

Criterion A:
Definition: normal performance within limits specified by the manufacturer, requestor or purchaser:

The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. 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 from what the user may reasonably expect from the apparatus if used as intended.

Criterion B:
Definition: temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention:

The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however. No change of actual operating state or stored data is allowed. 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 from what the user may reasonably expect from the apparatus if used as intended.

Criterion C:
Definition: temporary loss of function or degradation of performance, the correction of which requires operator intervention:

Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd.
Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

3.2 Test Facility

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

IC Registration No.: 9618B

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration No.: 9618B on November 13, 2013.

FCC-Registration No.: 399832

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 399832, December 08, 2017.

Certificated by A2LA, USA
Registration No.:4343.01
Date of registration: December 27, 2017

3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.4 Test Description

Emission Measurement		
Radiation Emission(30~1000MHz)	EN IEC 55014-1: 2021	PASS
Immunity Measurement		
Electrostatic Discharge	EN IEC 55014-2: 2021 EN 61000-4-2:2009	PASS

Remark:
1. The test result PASS and /or FAIL has no relationship with the measurement uncertainty.

3.5 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 Shenzhen CTL Testing Technology Co., Ltd. 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.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission(chamber1)	30~1000MHz	±3.20dB	(1)
Radiated Emission(chamber2)	30~1000MHz	±3.53dB	(1)
Conducted Emission	0.15~30MHz	±2.66dB	(1)
Disturbance Power	30~300MHz	±2.90dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.6 Equipments Used during the Test

Radiated Emission(chamber 1)						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1	ULTRA-BROADBAND ANTENNA	Sunol Sciences Corp.	JB1 Antenna	A061713	2020/04/08	2023/04/07
2	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2021/05/10	2022/05/09
Software:						
Name of Software:			Version:			
EZ_EMC(Below 1GHz)			V1.1.4.2			

Electrostatic Discharge						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1	ESD Simulator	TESEQ AG	NSG 437	1058	2021/08/23	2022/08/22

4 TEST CONDITIONS AND RESULTS

4.1 Radiated Emission

For test instruments and accessories used see section 3.6.

4.1.1 Description of the test location

Test location: Radiation Lab

4.1.2 Limits of disturbance

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dBμV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

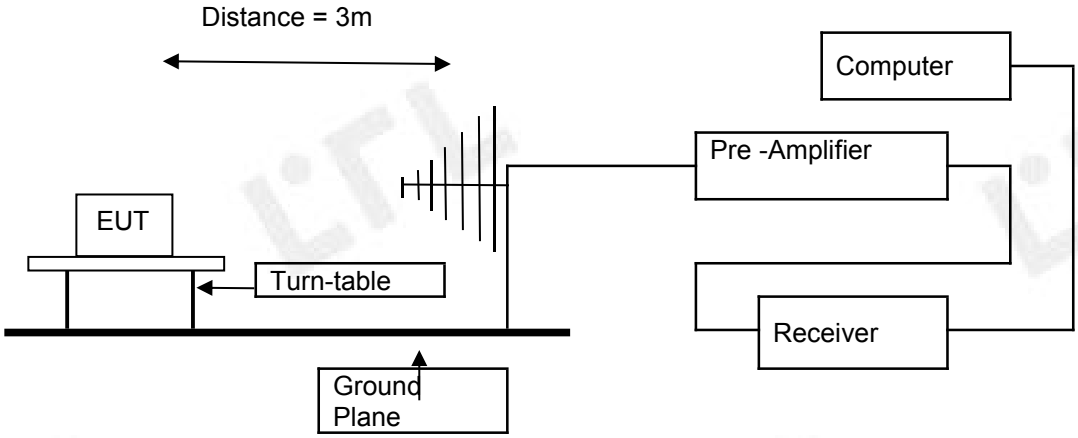
(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

4.1.3 Description of the test set-up

4.1.3.1 Operating Condition

The EUT is set to work shall be carried out with full load mode during the test, and the maximum emanating results are recorded.

4.1.3.2 Configuration of test setup



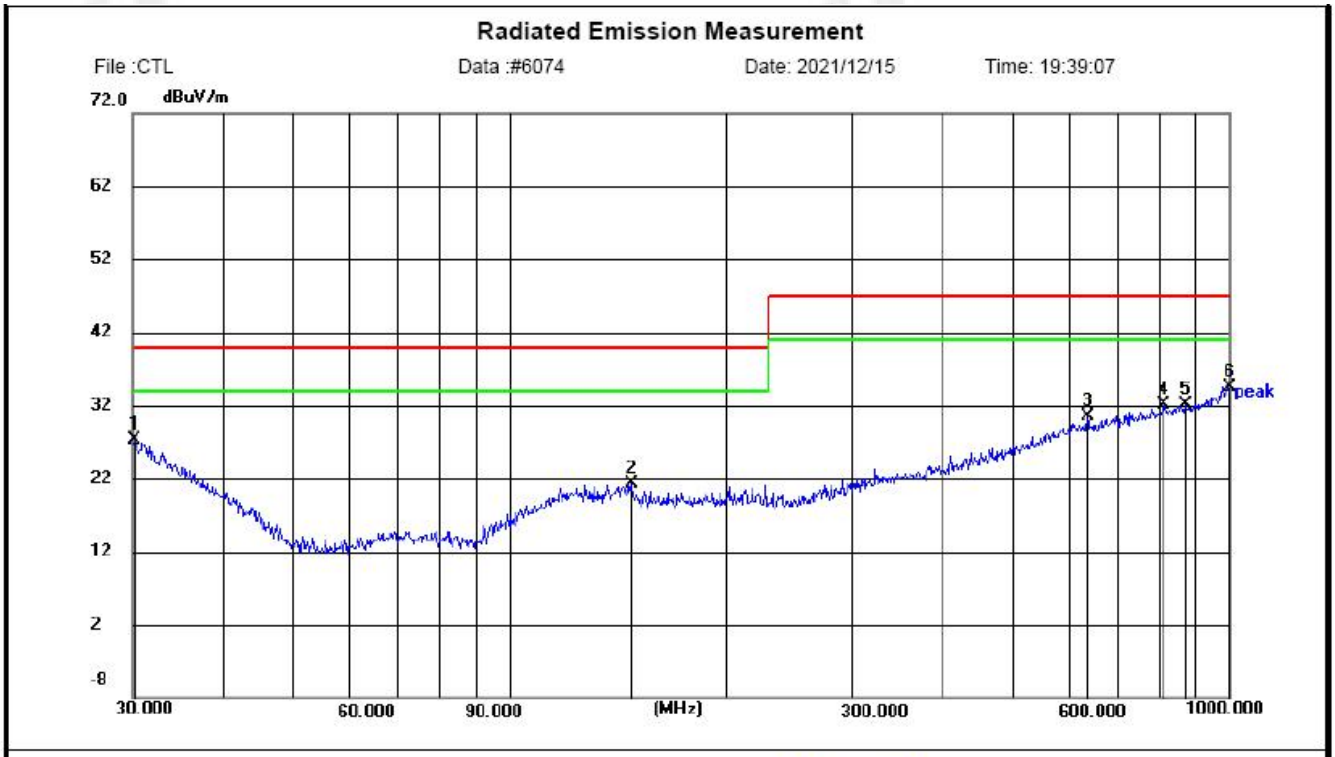
4.1.4 Test result

The requirements are **Fulfilled**

Band Width: 100KHz

Frequency Range: 30MHz to 1000MHz

Remarks: The limits are kept. For detailed results, please see the following page(s).

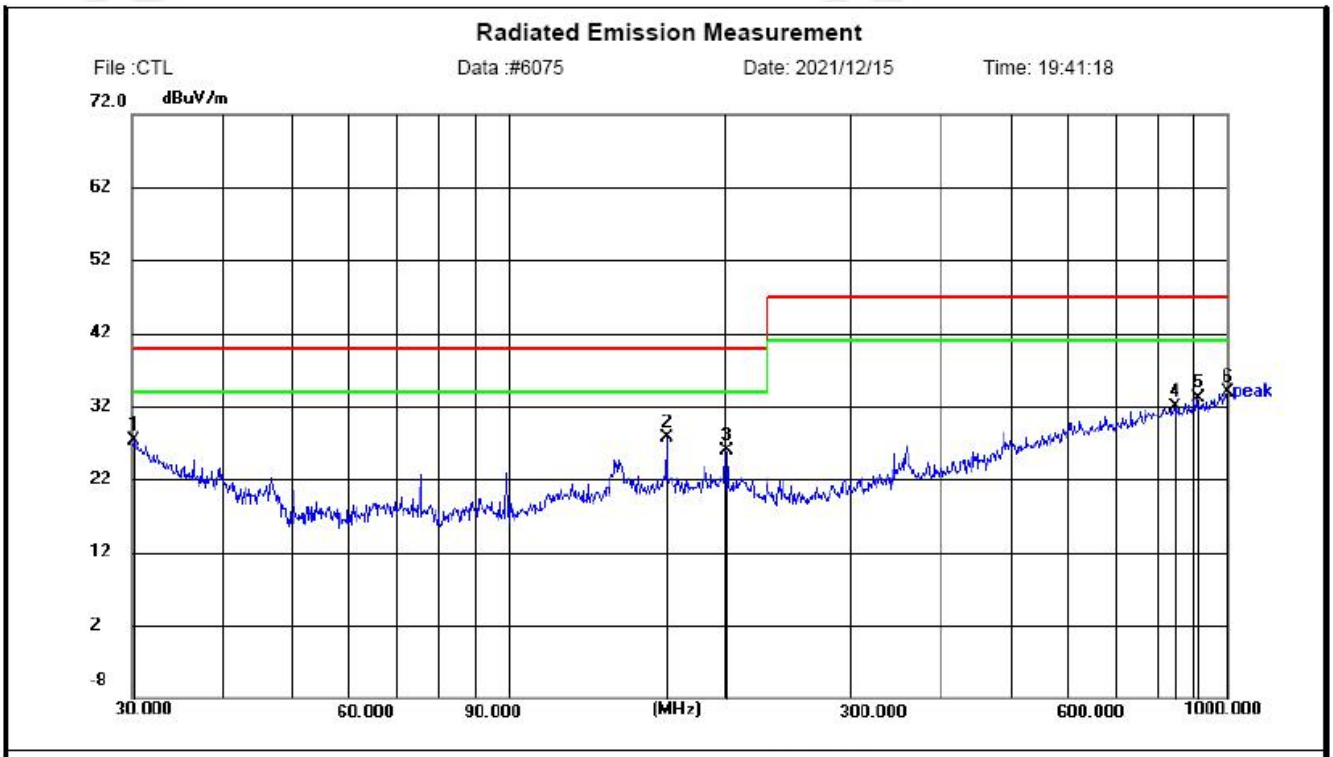


Site LAB Chamber 1
Limit: EN IEC 55014-1 RE
EUT: /
M/N: JY1305
Mode: WORKING
Note: /

Polarization: *Horizontal*
Power: DC 3.7V
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.2111	35.48	-8.18	27.30	40.00	12.70	peak	200	299	P	
2	147.9214	6.90	14.45	21.35	40.00	18.65	peak	200	255	P	
3	636.1340	7.04	23.47	30.51	47.00	16.49	peak	100	300	P	
4	810.2654	6.49	25.62	32.11	47.00	14.89	peak	200	177	P	
5	869.1302	6.12	26.07	32.19	47.00	14.81	peak	100	263	P	
6	996.4996	6.36	28.15	34.51	47.00	12.49	peak	100	10	P	



Site LAB Chamber 1
Limit: EN IEC 55014-1 RE
EUT: /
M/N: JY1305
Mode: WORKING
Note: /

Polarization: *Vertical*
Power: DC 3.7V
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.2111	35.40	-8.18	27.22	40.00	12.78	peak	100	327	P	
2	166.0680	13.17	14.47	27.64	40.00	12.36	peak	100	27	P	
3	200.6881	11.26	14.62	25.88	40.00	14.12	peak	100	160	P	
4	845.0878	5.96	25.89	31.85	47.00	15.15	peak	100	163	P	
5	909.6667	6.70	26.47	33.17	47.00	13.83	peak	100	167	P	
6	1000.0000	5.64	28.22	33.86	47.00	13.14	peak	100	30	P	

4.2 Electrostatic discharge

For test instruments and accessories used see section 3.6.

4.2.1 Description of the test location and date

Test location: 1# EMC Test Room

Date of test: Dec. 15, 2021

Operator: Gyles

4.2.2 Severity levels of electrostatic discharge

4.2.2.1 Severity level: Contact Discharge at ±4KV Air Discharge at±8KV

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1	2	2
2	4	4
3	6	8
4	8	15
X	Special	Special

4.2.2.2 Performance criterion: **B**

4.2.3 Description of the test set-up

4.2.3.1 Operating Condition

The EUT is on mode during the test, and the results of the maximum susceptivity are recorded.

4.2.3.2 Test Configuration and Procedure:

Air Discharge:

－This test is done on a non-conductive surfaces. The round discharge tip of the Electrostatic Discharge simulator shall be approached as fast as possible then to touch the EUT. After each discharge, the simulator shall be removed from the EUT. The simulator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

Contact Discharge**:**

－All the procedure shall be same as air discharge, except using the acute discharge tip. The top end of the Electrostatic Discharge simulator is touch the EUT all the time when the simulator is re-triggered for a new single discharge and repeated 10 times for each pre-selected test point.

Indirect Discharge:

－The vertical coupling plane(VCP) is placed 0.1m away from EUT. The top end of Electrostatic Discharge simulator should aim at the center of one border of the VCP for at least 10 times discharge.

－The top end of Electrostatic Discharge simulator should place at the point 0.1m away from EUT on the horizontal coupling plane(HCP). At least 10 times discharge should be done for every pre-selected point around EUT.

Record any performance degradation of the EUT during the test and judge the test result according to performance criterion.

4.2.4 Test specification:

Contact discharge voltage: ■ 2 kV ■ 4 kV

Air discharge voltage: ■ 2 kV ■ 4 kV ■ 8 kV

Events(every polarity) /per point: ■ 10

Time between events: ■ 1 s

Type of discharge: Direct discharge ■ Air discharge ■ Contact discharge

Indirect discharge ■ Contact discharge

Polarity: ■ Positive ■ Negative

Discharge location:

■ all external locations accessible by hand

■ horizontal coupling plane (HCP)

■ vertical coupling plane (VCP)

4.2.5 Test result

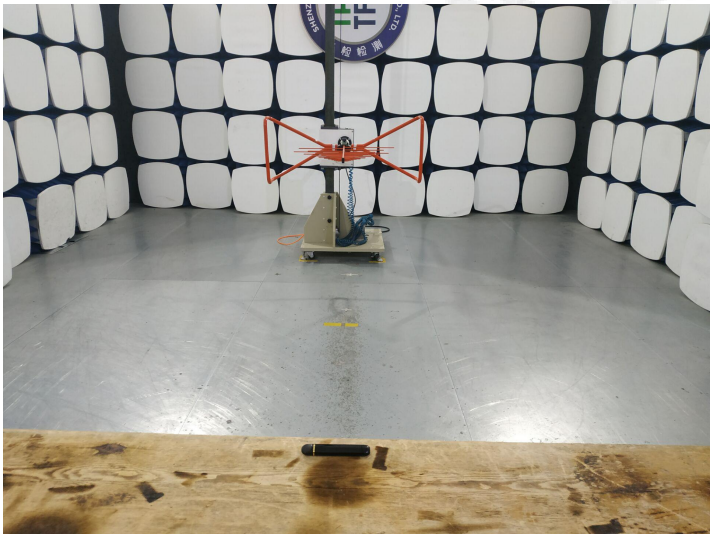
Environmental conditions	**Temperature**	25℃
	Humidity	55.0%RH

The requirements are **Fulfilled** Performance Criterion: **B**

Remarks: During the test no deviation was detected to the selected operation mode(s).

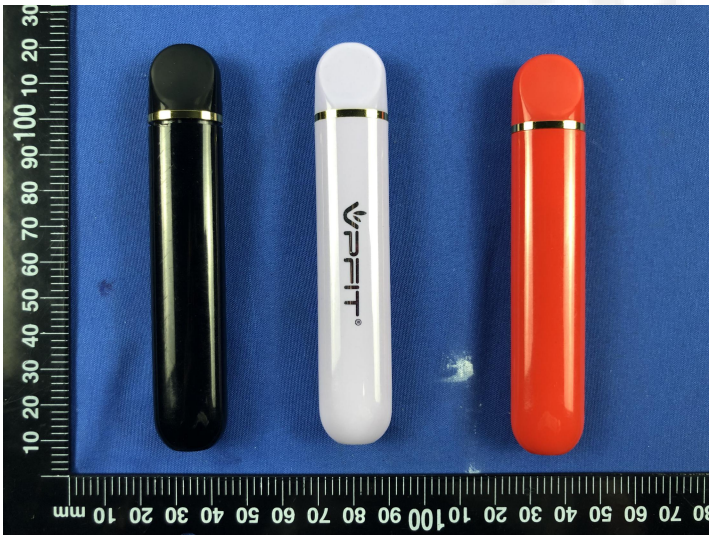
5 Test Setup Photos

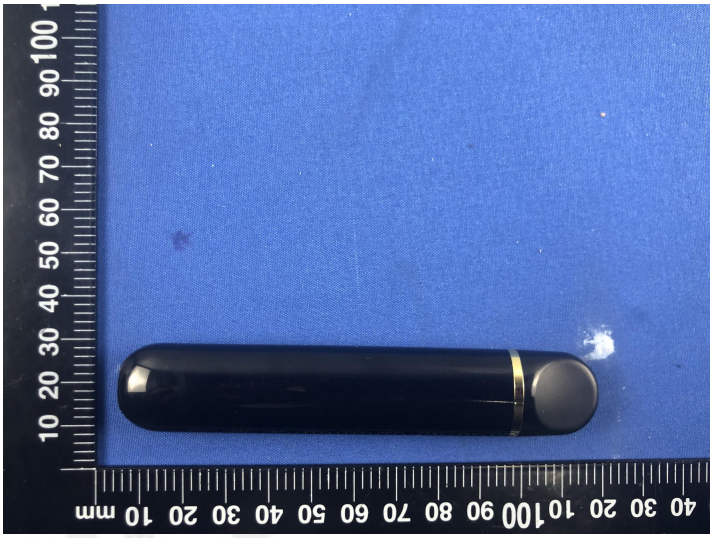
RADIATED EMISSION TEST

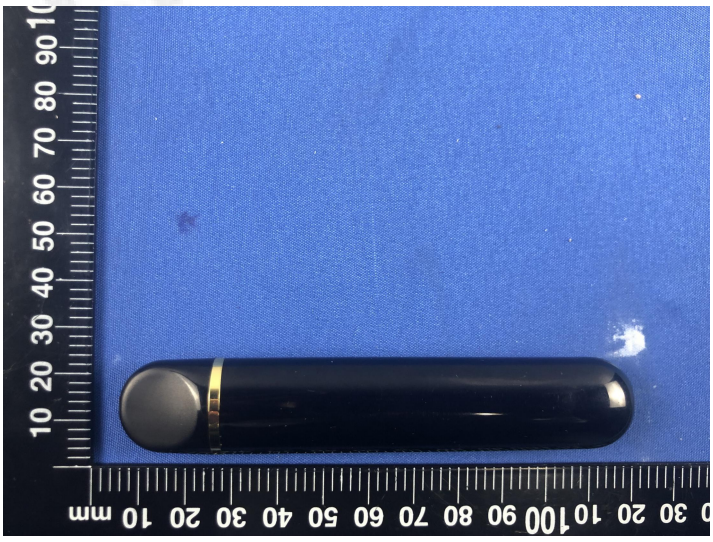


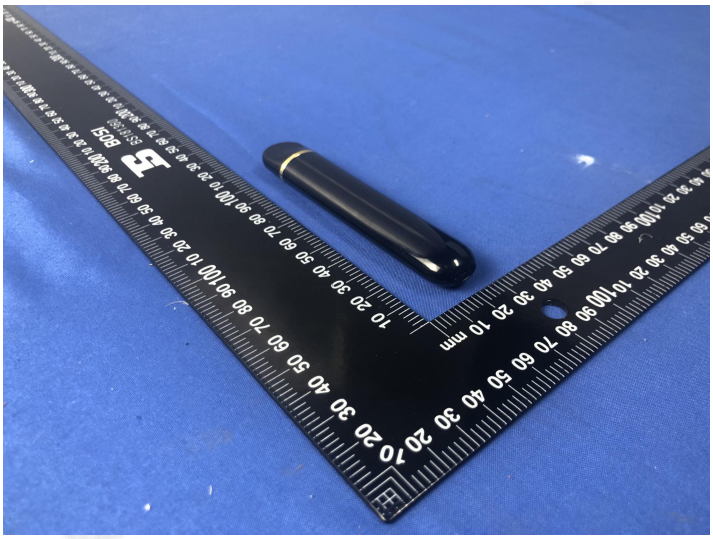
ESD TEST

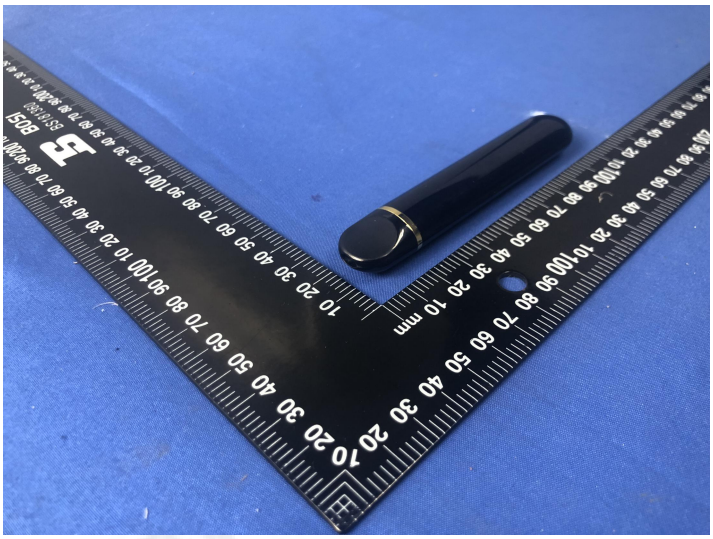
6 Photos of the EUT

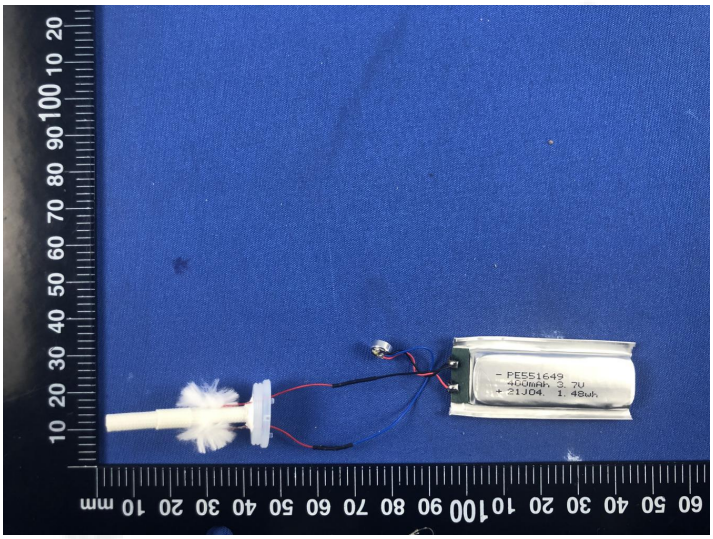












.....End of Report.....