Test Report

Report No.: ET-FCC18120085

Date of issue: Jan. 04, 2019

Sample Description:	Pen Tablet
Model(s):	A15
Applicant:	Beijing Veikk E-commerce Co.,Ltd
Address:	602, Building A, Xinyuan Science Park, No 97 Changping Road, Shahe Town, Changping District, Beijing, China
Date of Test:	Dec.20,2018 to Jan.04,2019

Shenzhen ETR Standard Technology Co., Ltd.
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TEST REPORT

Applicant's name:	Beijing Veikk E-commerce Co.,Ltd
Address:	602, Building A, Xinyuan Science Park, No 97 Changping Road, Shahe Town, Changping District, Beijing, China
Manufacture's Name:	Shenzhen Hezon Lito Technology Co.,Ltd.
Address:	Floor 2，Building 2，Shasi 3rd industrial zone,Shajing Street,Baoan District, Shenzhen
Product name:	Pen Tablet
Trademark:	N/A
Model name:	A15
Standards:	FCC Part 15 Subpart B
Test methods	ANSI C63.4-2014

This device described above has been tested by Shenzhen ETR Standard Technology Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by: Jim Chen

Jim Chen Jan. 04, 2019

Reviewed by: Blue.zh

Blue Zheng Jan. 04, 2019

Approved by: Jackwang

Jack Wang Jan. 04, 2019

1 General description

1.1 Description of EUT

Product name:	Pen Tablet
Main test model:	A15
Power source:	DC5V,0.15A
Model difference:	All the models above are identical in interior structure, electrical circuits and components; just the model name is different. The model M7 has been tested for the worst case.

1.2 Test mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test mode	Description
Mode 1	Charging+FM+earphone
Mode 2	Charging+TF playing+earphone
Mode 3	Loading data

NOTE: The test modes were carried out for all operation modes. The final test mode of the EUT was the worst test mode for EMI, and its test data was showed.

1.3 EUT test setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary equipment

Equipment	Model	S/N	Manufacturer
/	/	/	/

2 Summary of Test Result

Item	Description of Test	Result
FCC Part 15 Subpart B		
1	Conducted emission	Pass
2	Radiated emission	Pass

N/A: Mean not applicable.

3 Test Facilities and Accreditations

3.1 Test laboratory

Test Site	Shenzhen ETR Standard Technology Co., Ltd.
Test Site Location	2/F, Runzhen Business Building, No.22 Fuhai Road, Fuyong StreetBao'an District, Shenzhen, China.
Telephone:	(86-755)85259392
Fax:	(86-755)27219460

3.2 Environmental conditions

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

Temperature:	20ºC~30ºC
Humidity	30%~70%(30%~60% for ESD)
Atmospheric pressure	98kPa~101kPa

3.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y)

Conducted emission(150kHz~30MHz)	± 2.5 dB
Radiated emission(30MHz~1GHz)	± 4.2 dB
Radiated emission (above 1GHz)	± 4.3 dB
Temperature	±1 degree
Humidity	± 5 %

3.4 Test software

Software name	Manufacturer	Model	Version
EMI Measurement Software	Farad	EZ-EMC	V1.1.4.2

4 List of test equipment

Radiation emission							
Item	Equipment name	Equipment No.	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	ETR-E004	Rohde&schwarz	ESPI	1000314	2018/11/04	2019/11/03
2	Broadband antenna	ETR-E006	schwarabeck	VULB9163	872	2018/11/04	2019/11/03
3	Horn antenna	ETR-E007	schwarabeck	BBHA9120 D	1201	2018/11/04	2019/11/03
4	amplifier	ETR-E014	America	8447D	3113A06150	2018/11/04	2019/11/03
5	amplifier	ETR-E034	Agilent	8449B	3008A02400	2018/11/04	2019/11/03
6	18-40GHz amplifier	ETR-E052	Chengdu step Micro Technology	ZLNA-18-40G-21	1608001	2018/11/04	2019/11/03
7	spectrum analyzer	ETR-E049	Rohde&schwarz	FSP-38	100019	2018/11/04	2019/11/03
8	15-40G Antenna	ETR-E053	Schwarzbeek	BBHA9170	BBHA9170582	2018/11/04	2019/11/03
9	Active Loop Antenna 9kHz - 30MHz	ETR-E051	Schwarzbeck	FMZB 1519 B	00044	2018/11/04	2019/11/03

Conduction emission							
Item	Equipment name	Equipment No.	Manufacturer	Model	Serial No.	Calibration date	Due date
1	Artificial power network	ETR-E037	Schwarzbeck	NSLK8127	NSLK8127#841	2018/11/04	2019/11/03
2	EMI Test Receiver	ETR-E003	Rohde&schwarz	ESCI	101368	2018/11/04	2019/11/03
3	LISN	ETR-E027	Laplace	LISN-16A	003420	2018/11/04	2019/11/03

Note: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

5 Test Results

5.1 Conducted emission

5.1.1 Limits

Frequency (MHz)	Class A (dBμV)		Class B (dBμV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79	66	66 - 56 *	56 - 46 *
0.5 -5	73	60	56	46
5 -30	73	60	60	50

Note 1: the tighter limit applies at the band edges.
Note 2: the limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

5.1.2 Test Procedures

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

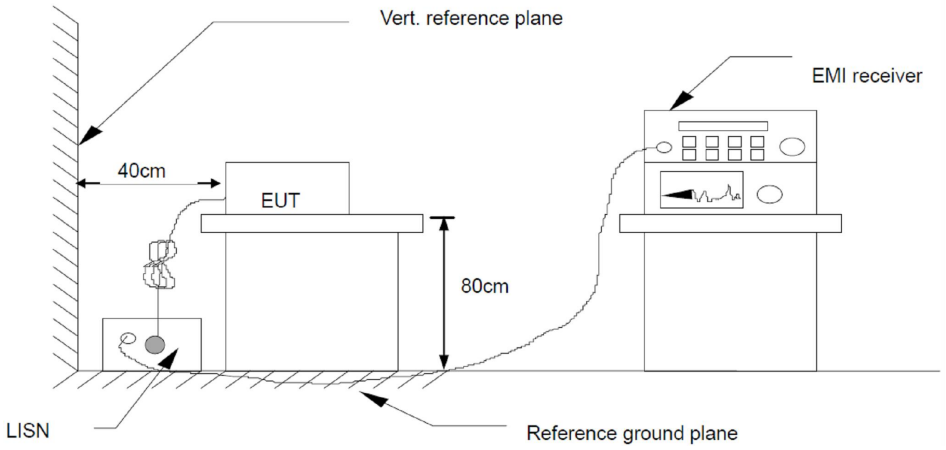
Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

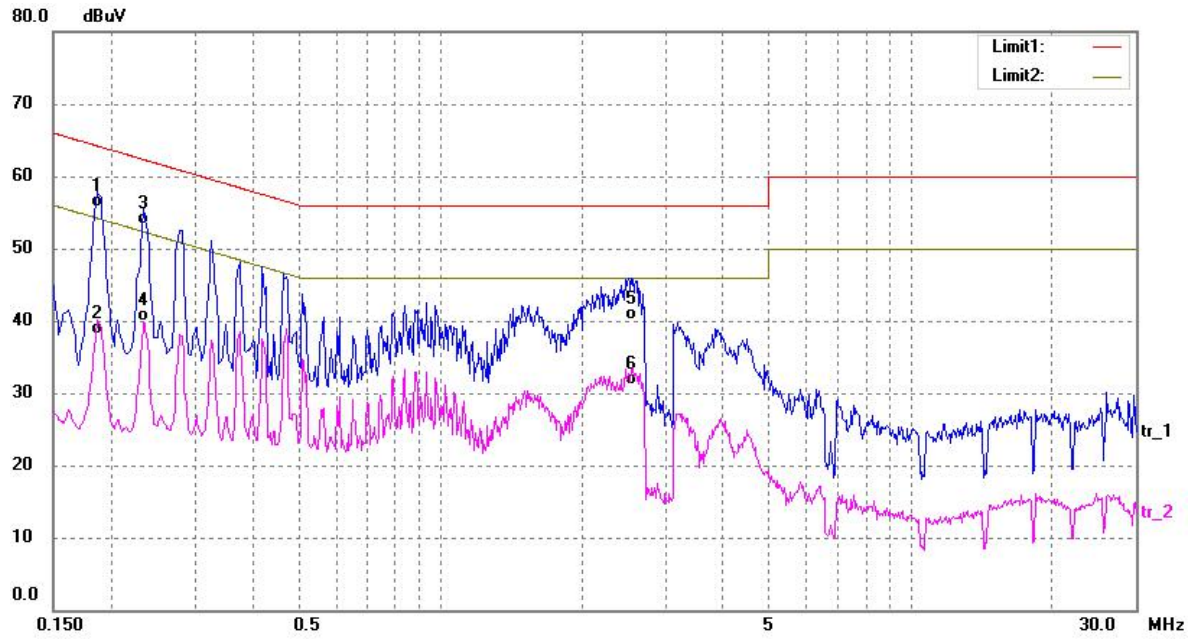
For the actual test configuration, please refer to the related Item – photographs of the test setup.

5.1.3 Test Setup



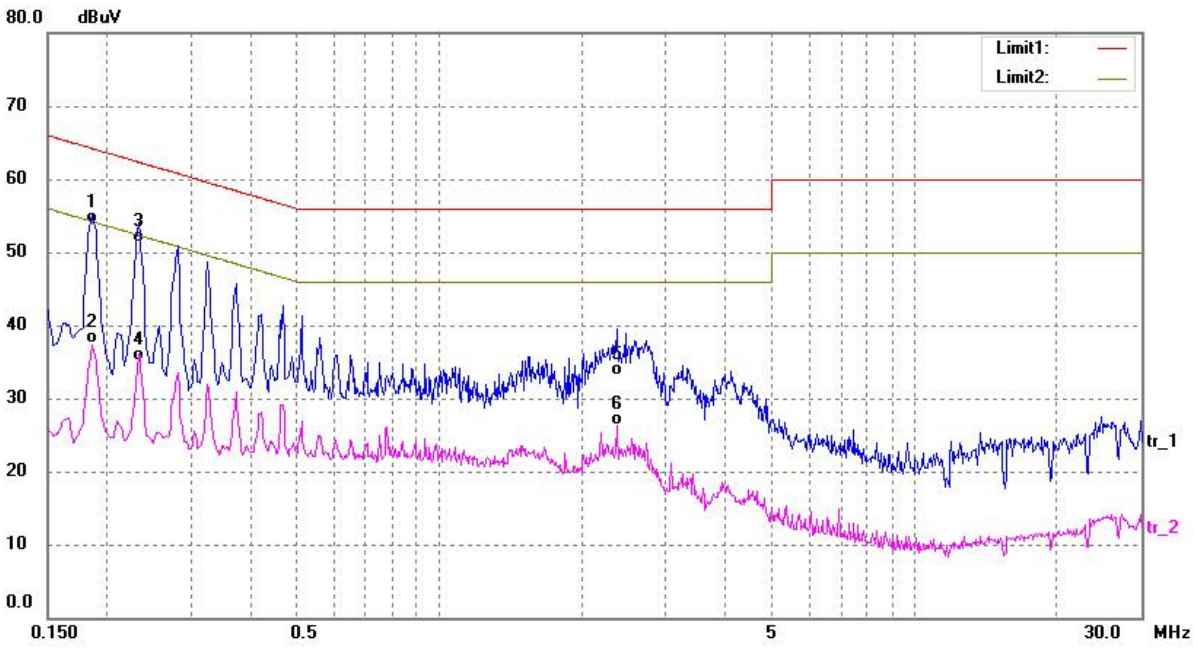
5.1.4 Test Result

Temperature:	24℃	Relative Humidity:	48%
Pressure:	101kPa	Phase:	L
Test voltage:	AC 230V 60Hz	Test mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1860	43.26	12.50	55.76	64.21	-8.45	QP
2	0.1860	25.61	12.50	38.11	54.21	-16.10	AVG
3	0.2340	40.86	12.50	53.36	62.31	-8.95	QP
4	0.2340	27.35	12.50	39.85	52.31	-12.46	AVG
5	2.5460	27.16	13.00	40.16	56.00	-15.84	QP
6	2.5460	18.14	13.00	31.14	46.00	-14.86	AVG

Temperature:	24℃	Relative Humidity:	48%
Pressure:	101kPa	Phase:	N
Test voltage:	AC 230V 50Hz	Test mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1860	41.50	12.50	54.00	64.21	-10.21	QP
2	0.1860	24.92	12.50	37.42	54.21	-16.79	AVG
3	0.2340	38.78	12.50	51.28	62.30	-11.02	QP
4	0.2340	22.69	12.50	35.19	52.30	-17.11	AVG
5	2.3699	20.03	13.00	33.03	56.00	-22.97	QP
6	2.3700	13.37	13.00	26.37	46.00	-19.63	AVG

5.2 Radiated emission

5.2.1 Limits

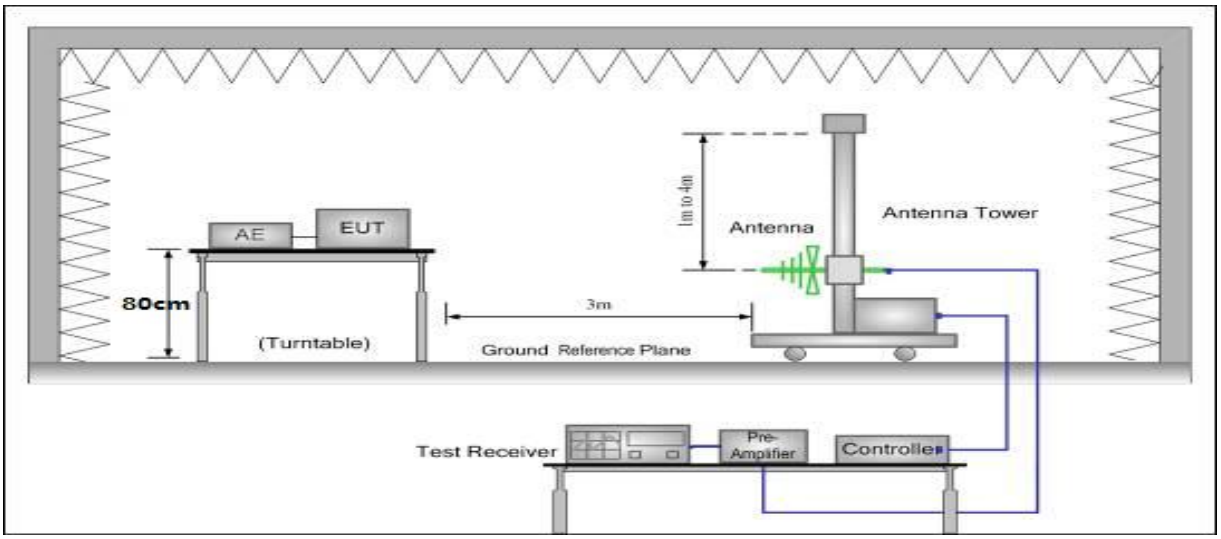
Limits of radiated emission measurement

Frequency (MHz)	Class B device (at 3m) dBμV/m	Class A device (at 3m) dBμV/m	Detector
30-88	40	49	QP
88-216	43.5	53.5	QP
216-960	46	56.4	QP
960-1000	54	59.5	QP
Above 1000	54	59.5	AV
Above 1000	74	79.5	PK

5.2.2 Test Procedures

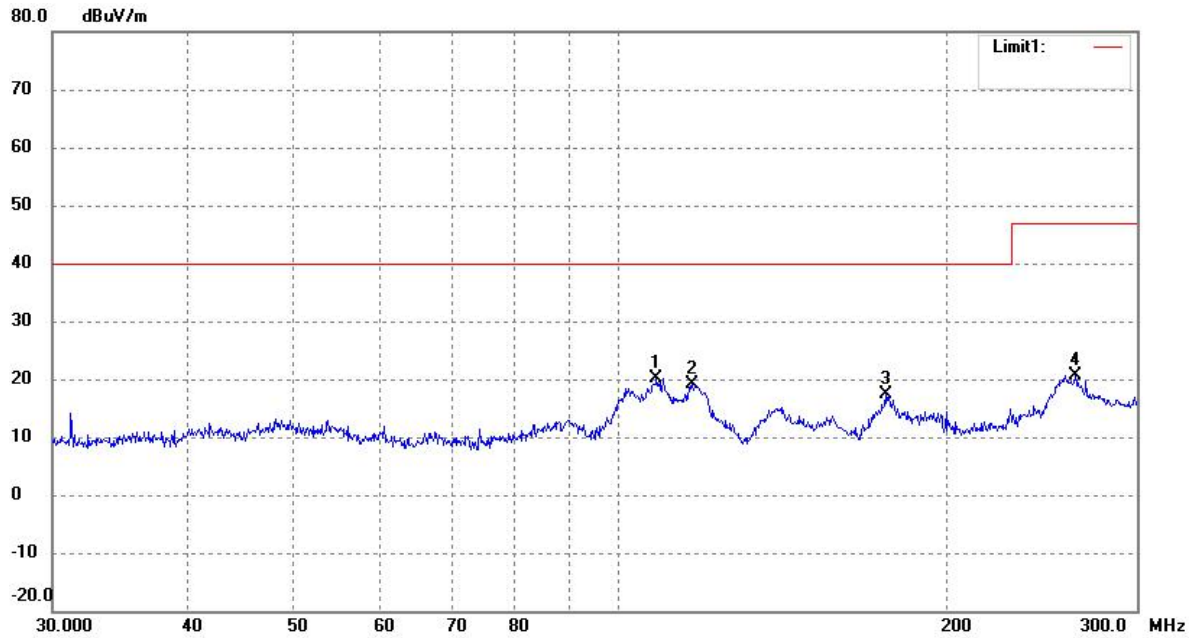
The radiated emission tests were performed in the 3 meters.
The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
The height of the test antenna shall vary between 1m to 4m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
If the peak mode measured value compliance with and lower than quasi peak mode limit, the EUT shall be deemed to meet QP limits and then no additional QP mode measurement performed.
If the peak mode measured value compliance with and lower than average mode limit, the EUT shall be deemed to meet average limits and then no additional average mode measurement performed.
For the actual test configuration, please refer to the related item – EUT test photos.

5.2.3 Test Setup



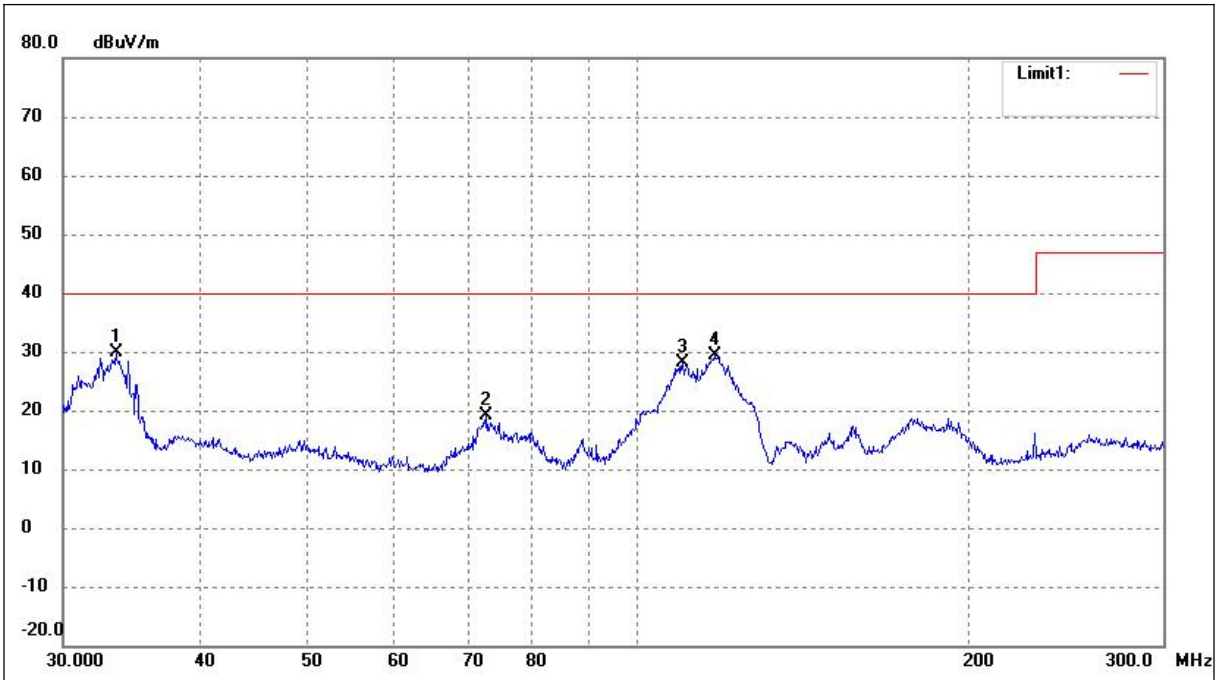
5.2.4 Test Result

Temperature:	25℃	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Horizontal
Test voltage:	AC 230V 50Hz	Test mode:	Mode 1



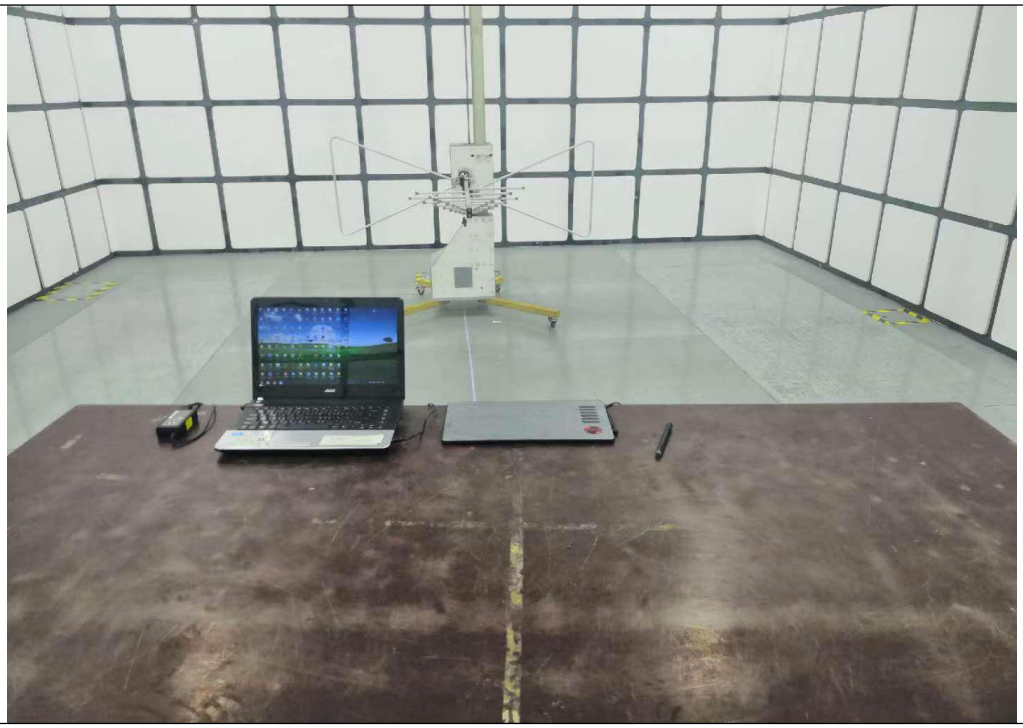
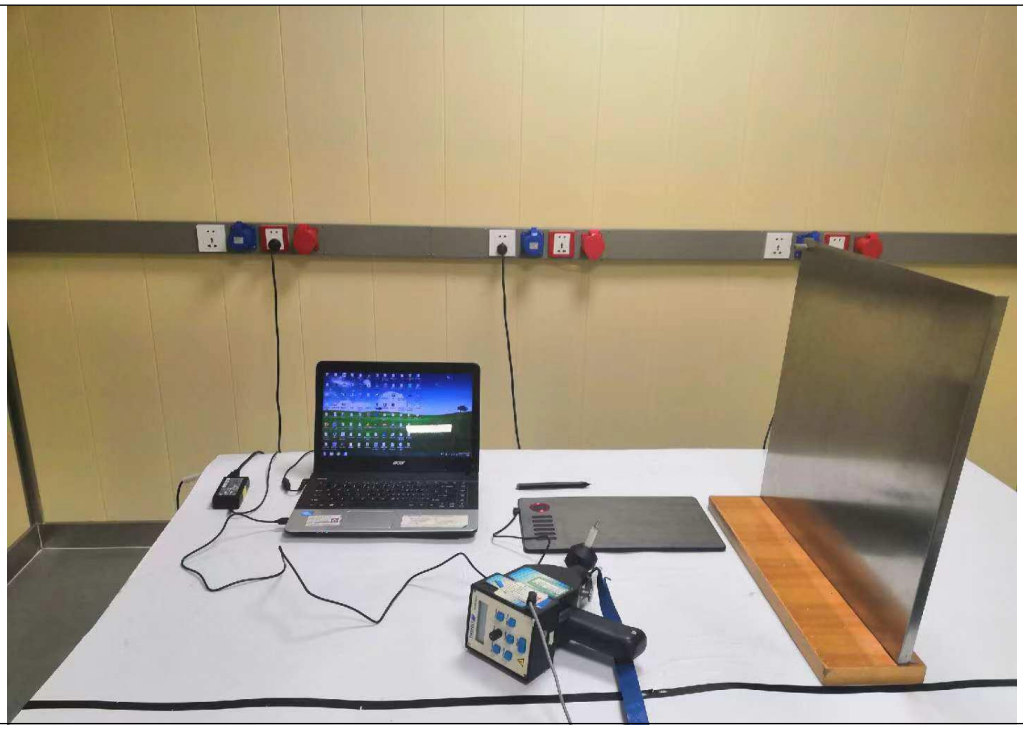
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	108.1736	31.37	-11.26	20.11	40.00	-19.89	100	100	peak
2	116.7135	31.28	-12.19	19.09	40.00	-20.91	100	100	peak
3	175.8414	30.43	-13.05	17.38	40.00	-22.62	100	100	peak
4	263.1002	29.88	-9.26	20.62	47.00	-26.38	100	100	peak

Temperature:	25℃	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Vertical
Test voltage:	AC 230V 50Hz	Test mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	33.5059	41.29	-11.34	29.95	40.00	-10.05	100	100	peak
2	72.7983	32.22	-13.12	19.10	40.00	-20.90	100	100	peak
3	109.6784	39.14	-11.13	28.01	40.00	-11.99	100	100	peak
4	117.2523	41.58	-12.28	29.30	40.00	-10.70	100	100	peak

Photographs of the Test Setup

Radiated emission

Conducted emission


Photographs of the EUT

Photo 1 Appearance of EUT

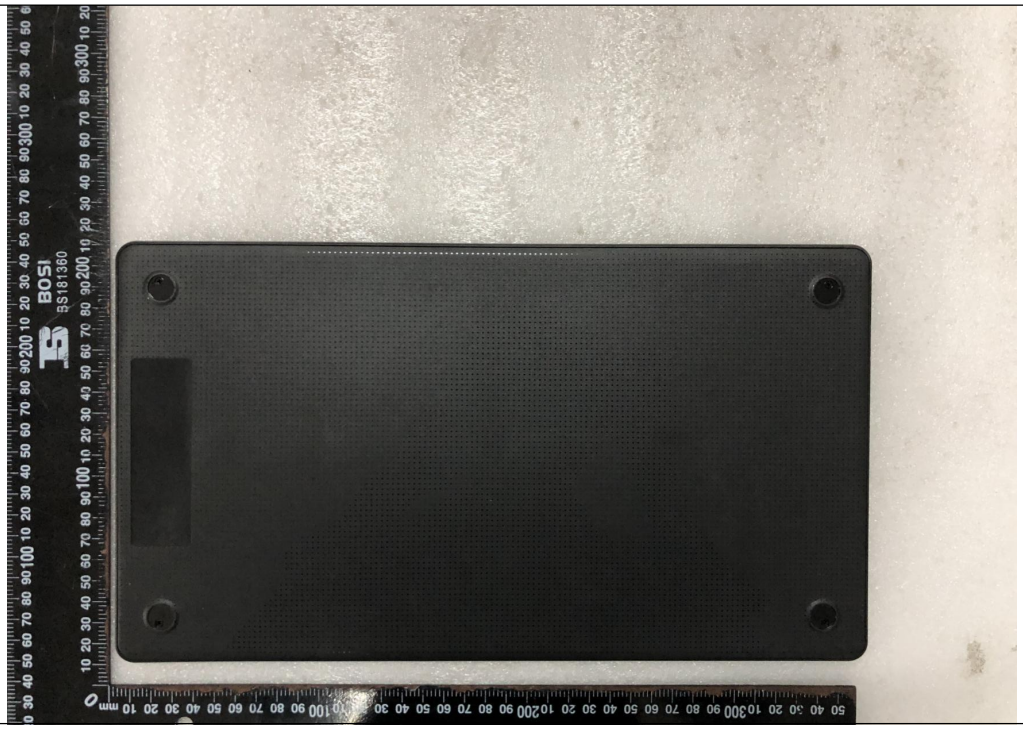
Photo 2 Appearance of EUT


Photo 3 Inside of EUT

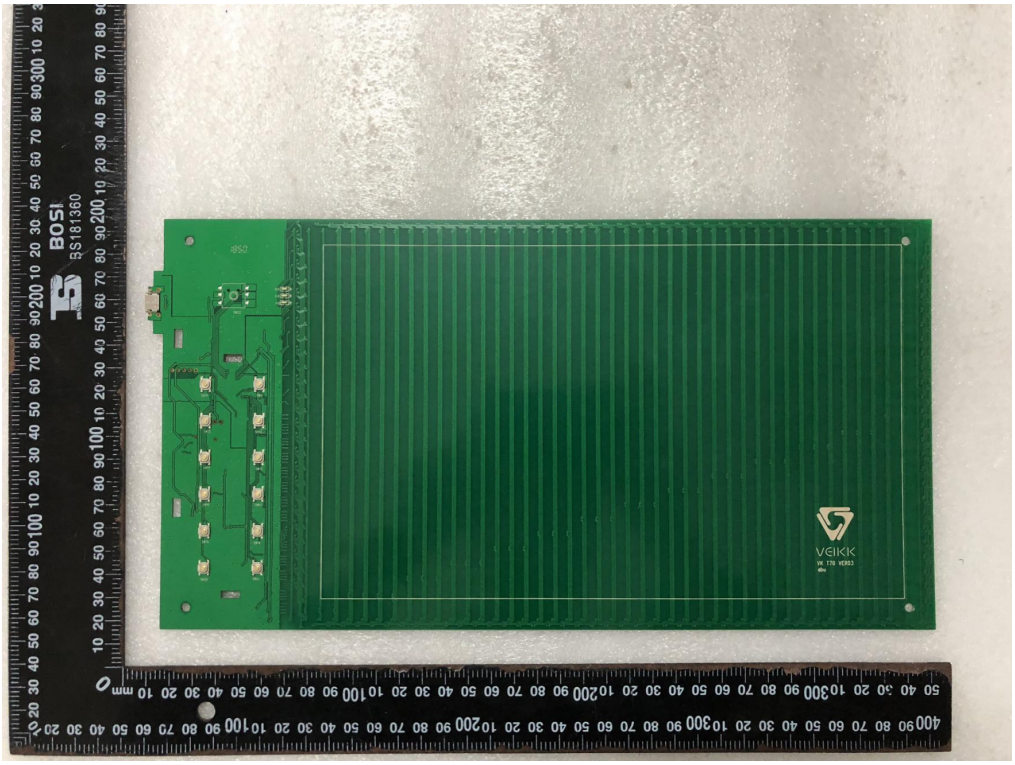
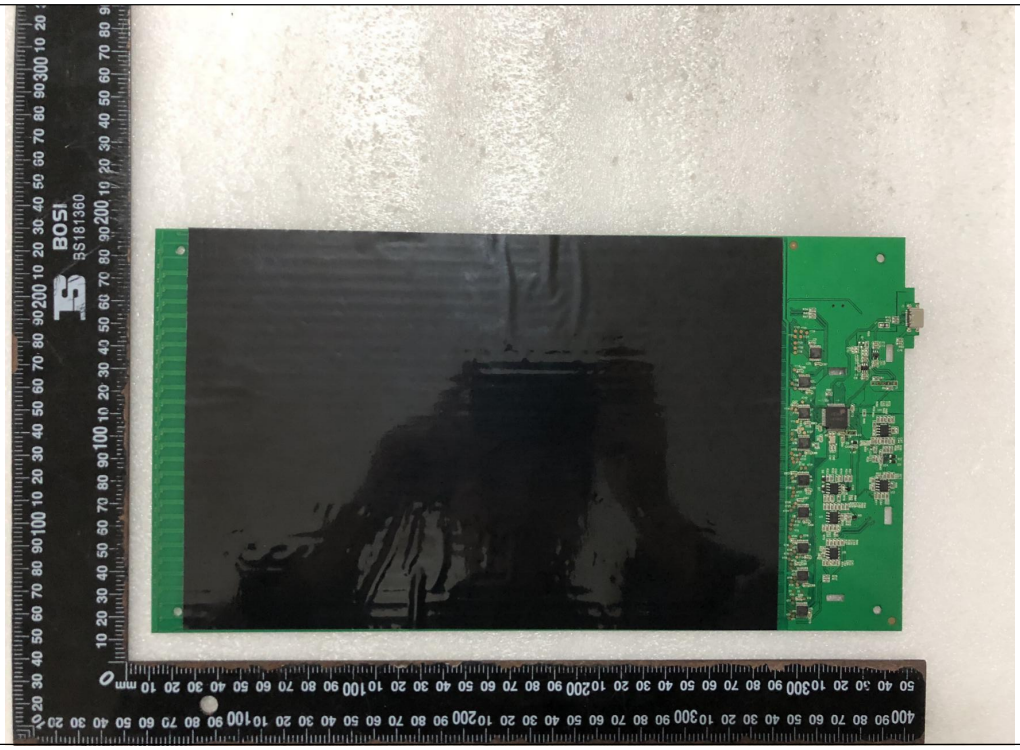
Photo 4 of PCB


Photo 5 of PCB


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