Certificate # 3939.01

EMC TEST REPORT

Applicant:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
Address:	Section 304-305, Building No. 4, # 222, Meiyue Road, China (Shanghai) Pilot Free Trade Zone

Manufacturer or Supplier:	Lenovo PC HK Limited
Address:	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
Product:	Portable Tablet Computer
Brand Name:	Lenovo
Model Name:	801LV
FCC ID:	O57TAB801LV
Date of tests:	Apr. 10, 2019 ~ May 09, 2019

The submitted sample of the above equipment has been tested for according to the requirements of the following standards:

☒ **FCC Part 15, Subpart B, Class B**
☒ **ANSI C63.4:2014**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Issued by Alex Chen Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Alex Date: May 16, 2019	Luke Lu Date: May 16, 2019

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FV190409W003	Original release	May 16, 2019

1 GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Portable Tablet Computer	
BRAND NAME	Lenovo	
MODEL NAME	801LV	
NOMINAL VOLTAGE	5.0Vdc (adapter or host equipment) 3.85Vdc (Li-ion)	
MODULATION TYPE	**WLAN**	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	BT_LE	BT-LE(GFSK) for DTS
	Bluetooth	GFSK, π/4-DQPSK, 8DPSK
	GPS/ GLONASS	C/A code
	LTE	QPSK/16QAM
OPERATING FREQUENCY	**WLAN**	2412 ~ 2462MHz for 11b/g/n(HT20) 5180 ~ 5240MHz, 5260 ~ 5320 MHz, 5470 ~ 5700MHz for 11a/ n(HT20)/ n(HT40) / ac(VHT80)
	Bluetooth/BT_LE	2402MHz ~ 2480MHz
	GPS	1575.42MHz
	GLONASS	1602MHz
	LTE	2498.5MHz ~ 2687.5MHz (FOR LTE Band41)
HW VERSION	Lenovo Tablet 801LV	
SW VERSION	801LV_RF01_20190320	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable: shielded, detachable, 1.0meter	
ACCESSORY DEVICES	Refer to note as below	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. There were Sample 1, 2 for this project, the difference is as below:

SAMPLE	EUT CONFIGURATION INFORMATION
1	LCD Panel 1+Photo Camera 1+Photo Camera 3+CPU1+EMMC1+DDR1+speaker 1+motor1+Main Broad 1+BT/WLAN Module+ Battery 1
2	LCD Panel 2+Photo Camera 2+Photo Camera 4+CPU 1+EMMC2+DDR2+speaker 1+motor2+Main Broad 2+BT/WLAN Module+ Battery 1

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

List of Accessories:

ACCESSORIES	BRAND	MODEL	SPECIFICATION
AC Adapter 1	Salom	SC-41	I/P:100-240Vac, 0.3A O/P: 5Vdc, 2A
AC Adapter 2	AcBel	SC-41	I/P:100-240Vac, 0.3A O/P: 5Vdc, 2A
Battery 1	SCUD	L16D2P31	Rating: 3.85Vdc, 7000mAh
USB Cable 1	LiQi	L27B-052000100-TCCS	1.0m shielded cable w/o core
USB Cable 2	SaiBao	S27B-052000100-TCCS	1.0m shielded cable w/o core
LCD Panel1	BOE	TV101WUM-LL4	10.1 "
LCD Panel2	BOE	TV101WUM-LL5	10.1 "
EMMC1+DDR1	SAMSUNG	KMGD6001BM-B421 (3+32)	32G
EMMC2+DDR2	HYNIX	H9TQ27ADFTMCUR-KUM (3+32)	32G
Speaker 1	Xichun	KFSC1712SBC-S-B232-20J-GT	-
Speaker 2	Xichun	KFSC1712SBC-S-B233-20J-W	-
Speaker 1	Haosheng	HB171219B08-13-B1F-RH	-
Speaker 2	Haosheng	XHB171219B08-14-B1F-RH	-
motor1	Hongzhifa	HZF-Z04BE-RL67B25-90	-
Motor2	Kunwang	CY0408L-021HB-064	-
Photo Camera 1	O-film	L4H7A00	8M AF
Photo Camera 2	Q-tech	F4H7YAZ	8M AF
Photo Camera 3	Q-tech	F4H7YAV	5M FF
Photo Camera 4	O-film	L4H7F90	5M FF
CPU	Qualcomm	SDA-450-A-792NSP-TR-01-0-AA	-
Main Broad 1	Hongban	Aae_MB_PCB_V3	-
Main Broad 2	Huashen	Aae_MB_PCB_V3	-
BT/WLAN Module	Qualcomm	WCN-3680B-0-79BWLNSP-TR-05-1	-

1.2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart B				
Standard Section	**Test Item**	**Result**	**Remark**	**Test Lab***
FCC Part 15, Subpart B, Class B ANSI C63.4:2014	Conducted Test	PASS	Meets limits minimum passing margin is -11.41dB at 0.604000MHz.	A
	Radiated Emission Test (30MHz ~ 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -10.95dB at 475.8363MHz	B
	Radiated Emission Test (Above 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -14.09dB at 5061MHz	A

***Test Lab Information Reference**

Lab A:

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

Lab Address:

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Accredited Test Lab Cert 3939.01

Lab B:

Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch.

Lab Address:

No. 34, Chenwulu Section, Guantai Rd., Houjie Town, Dongguan City, Guangdong 523942, China

Accredited Test Lab Cert 2951.01

1.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz ~ 30MHz	+/-2.66dB
Radiated emissions	30MHz ~ 1GHz	+/-3.26dB
	1GHz ~ 18GHz	+/-4.48dB

1.4 DESCRIPTION OF TEST MODES

Test Mode	Test Condition
Radiated emission test	
1	Sample 1# + LTE B41 Idle + Adapter(1#) + USB Cable 1# + Earphone + BT Idle + WIFI 2.4G Idle + GPS Rx + Front Camera On
2	Sample 1# + LTE B41 Idle + Adapter(2#) + USB Cable 2# + Earphone + BT Idle + WIFI 5G Idle + Glonass Rx + Back Camera On
3	Sample 1# + LTE B41 Idle + Adapter(1#) + USB Cable 1# + Earphone + BT Idle + WIFI 2.4G Idle + GPS Rx + MPG4
4	Sample 1# + LTE B41 Idle + Adapter(2#) + USB Cable 2# + Earphone + BT Idle + WIFI 5G Idle + Glonass Rx + DVT RX
5	Sample 2# + Worst Case Of(1-4)
6	Sample 1# + LTE B41 Idle + Usb Cable 1# + Data Transmission + PC To EUT + Earphone + BT Idle + Usb Link + GPS Rx + WIFI 2.4G Idle
7	Sample 1# + LTE B41 Idle + USB Cable 1# + Data Transmission + PC To SD + Earphone + BT Idle + USB Link + Glonass Rx + WIFI 5G Idle
8	Usb Cable 2# + Worst Case Of(6-7)
9	Sample 2# + Worst Case Of(6-8)
Conducted emission test	
1	Sample 1# + LTE B41 Idle + Adapter(1#) + USB Cable 1# + Earphone + BT Idle + WIFI 2.4G Idle + GPS Rx + Front Camera On
2	Sample 1# + LTE B41 Idle + Adapter(2#) + USB Cable 2# + Earphone + BT Idle + WIFI 5G Idle + Glonass Rx + Back Camera On
3	Sample 1# + LTE B41 Idle + Adapter(1#) + USB Cable 1# + Earphone + BT Idle + WIFI 2.4G Idle + GPS Rx + MPG4
4	Sample 1# + LTE B41 Idle + Adapter(2#) + USB Cable 2# + Earphone + BT Idle + WIFI 5G Idle + Glonass Rx + DVT RX
5	Sample 2# + Worst Case Of(1-4)
6	Sample 1# + LTE B41 Idle + Usb Cable 1# + Data Transmission + PC To EUT + Earphone + BT Idle + Usb Link + GPS Rx + WIFI 2.4G Idle
7	Sample 1# + LTE B41 Idle + USB Cable 1# + Data Transmission + PC To SD + Earphone + BT Idle + USB Link + Glonass Rx + WIFI 5G Idle
8	Usb Cable 2# + Worst Case Of(6-7)
9	Sample 2# + Worst Case Of(6-8)

NOTE:

1. For conducted emission test, test mode 1 was the worst case and only this mode was presented in this report.
2. For radiated emission test, test mode 9 was the worst case and only this mode was presented in this report.

1.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

FOR EMISSION TESTS

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	GPS Simulator +Antenna	TOJOIN	GNSS-5000A	E1-010-010119	N/A
2	Wireless AP	ABOCOM	WR224GR	060500749P	N/A
3	Printer	HP	Hp LaserJet 1300	CNSJF75989	N/A
4	Earphone	N/A	N/A	N/A	N/A
5	Notebook	Lenovo	Thnikpad X520	SL10H14859JS	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	N/A
3	N/A
4	N/A
5	N/A

2 EMISSION TEST

2.1 CONDUCTED EMISSION MEASUREMENT

2.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.107)

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1.The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

2.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Feb. 26,19	Feb. 25, 20
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Feb. 26,19	Feb. 25, 20

NOTE: 1. The test was performed in CE shielded room.

2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

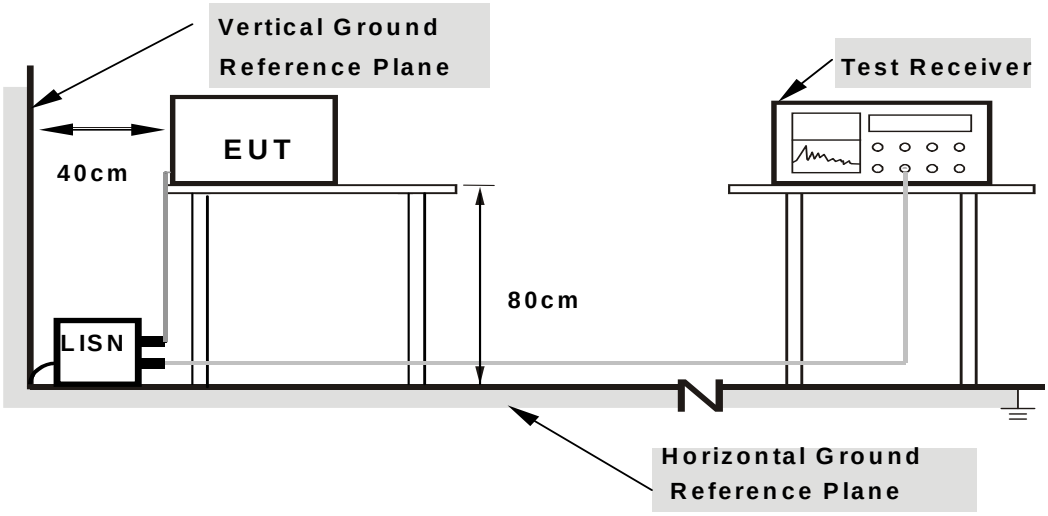
c. The frequency range from 150 kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

2.1.4 DEVIATION FROM TEST STANDARD

No deviation.

2.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

2.1.6 EUT OPERATING CONDITIONS

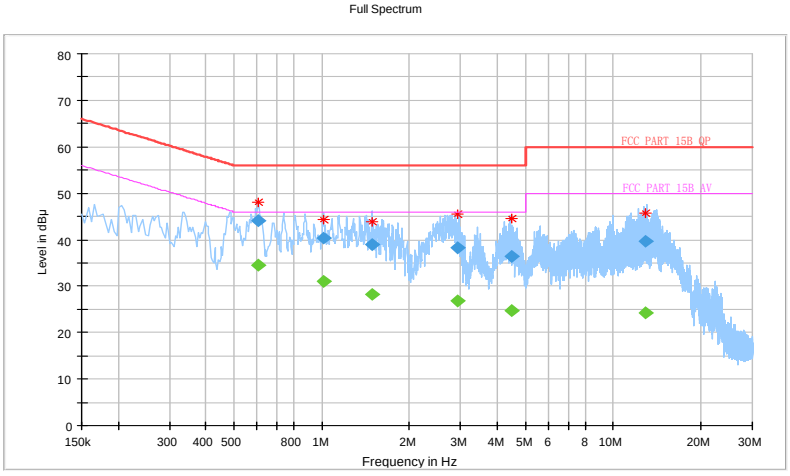
a. Turned on the power and connected of all equipment.
b. EUT was operated according to the use type described in the manufacturer's specifications or the user's manual.

2.1.7 TEST RESULTS

TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 52RH	TESTED BY	John Wen

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.604000	**---**	**34.59**	**46.00**	**-11.41**	**L**	**ON**	**10.0**
0.604000	44.06	---	56.00	-11.94	L	ON	10.0
1.012000	---	31.06	46.00	-14.94	L	ON	10.1
1.012000	40.28	---	56.00	-15.72	L	ON	10.1
1.488000	---	28.22	46.00	-17.78	L	ON	10.1
1.488000	38.85	---	56.00	-17.15	L	ON	10.1
2.916000	---	26.79	46.00	-19.21	L	ON	10.2
2.916000	38.25	---	56.00	-17.75	L	ON	10.2
4.482000	---	24.71	46.00	-21.29	L	ON	10.2
4.482000	36.43	---	56.00	-19.57	L	ON	10.2
12.968000	---	24.25	50.00	-25.75	L	ON	10.5
12.968000	39.60	---	60.00	-20.40	L	ON	10.5

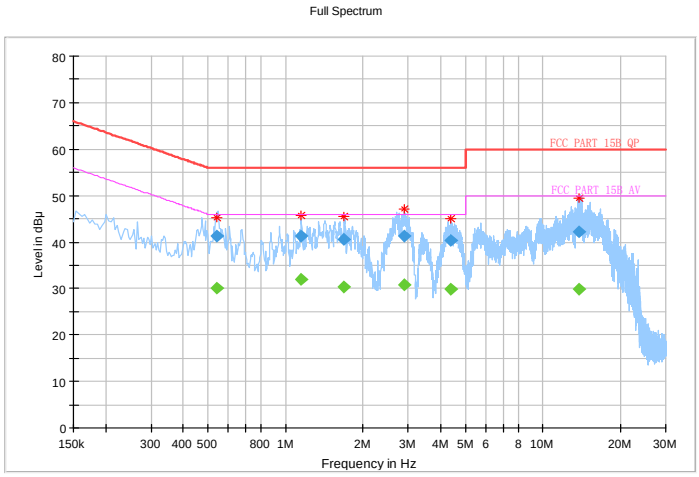
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 52RH	TESTED BY	John Wen

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.540000	---	30.10	46.00	-15.90	N	ON	9.9
0.540000	41.30	---	56.00	-14.70	N	ON	9.9
1.152000	---	31.89	46.00	-14.11	N	ON	10.0
1.152000	41.24	---	56.00	-14.76	N	ON	10.0
1.688000	---	30.21	46.00	-15.79	N	ON	10.0
1.688000	40.59	---	56.00	-15.41	N	ON	10.0
2.882000	---	30.75	46.00	-15.25	N	ON	10.1
2.882000	41.28	---	56.00	-14.72	N	ON	10.1
4.384000	---	29.78	46.00	-16.22	N	ON	10.1
4.384000	40.26	---	56.00	-15.74	N	ON	10.1
13.832000	---	29.94	50.00	-20.06	N	ON	10.4
13.832000	42.31	---	60.00	-17.69	N	ON	10.4

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



2.2 RADIATED EMISSION MEASUREMENT

2.2.1. LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.109)

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBμV/m)				
Frequencies (MHz)	**FCC 15B/ ICES-003, Class A**	**FCC 15B / ICES-003, Class B**	**CISPR 22, Class A**	**CISPR 22, Class B**
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960			47	37
960-1000	49.5	43.5		
1000-3000	Avg: 49.5 Peak: 69.5	Avg: 43.5 Peak: 63.5	Not defined	Not defined
3000+			Not defined	Not defined

Radiated Emissions Limits at 3 meters (dBμV/m)				
Frequencies (MHz)	**FCC 15B / ICES-003, Class A**	**FCC 15B / ICES-003, Class B**	**CISPR 22, Class A**	**CISPR 22, Class B**
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960			57.5	47.5
960-1000	60	54		
1000-3000	Avg: 60 Peak: 80	Avg: 54 Peak: 74	Avg: 56 Peak: 76	Avg: 50 Peak: 70
3000+			Avg: 60 Peak: 80	Avg: 54 Peak: 74

Frequency Range (For unintentional radiators)

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40GHz, whichever is lower

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. QP detector shall be applied if not specified.

2.2.2. TEST INSTRUMENTS

Frequency range below1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI 3	101418	Dec. 27,18	Dec. 26,19
EMI Test Receiver	Rohde&Schwarz	ESR7	101564	Dec. 27,18	Dec. 26,19
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-555	Dec. 27,18	Dec. 26,19
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Dec. 27,18	Dec. 26,19
Preamplifier	EMCI	EMC1135	980378	Feb. 15,19	Feb. 14,20
Preamplifier	EMCI	EMC1135	980423	Feb. 15,19	Feb. 14,20
10m Semi-anechoic Chamber	CHANGLING	21.4m*12.1m*8.8m	NSEMC006	Feb. 15,19	Feb. 14,20
Test Software	ADT	ADT_Radiated_V8.7.07	N/A	N/A	N/A

NOTE: 1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in Dongguan 10m Semi-anechoic Chamber

Frequency range above 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	Feb. 26,19	Feb. 25,20
Horn Antenna	ETS-LINDGREN	3117	00168728	Feb. 26,19	Feb. 25,20
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 26,19	Feb. 25, 20
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jul. 09,18	Jul. 08,19

NOTE: 1. The test was performed in 3m chamber.
2. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
3. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

2.2.3. TEST PROCEDURE

<Frequency Range below 1GHz>

The basic test procedure was in accordance with ANSI C63.4:2014 (section 12).

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) (if the raw value not contains the amplifier);
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain(dB) (if the raw value contains the amplifier).
5. Margin value = Emission level – Limit value.

<Frequency Range above 1GHz>

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. The bore sight should be used during the test above 1GHz.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz

NOTE:

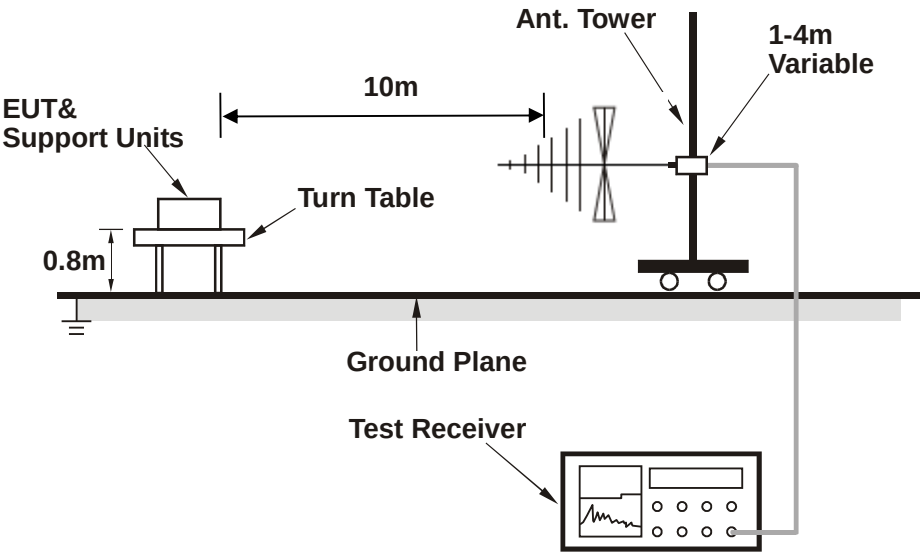
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth of test receiver/spectrum analyzer is 1Hz for Average detection (AV) at frequency above 1GHz.
3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the receiver antenna.
4. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
5. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) (if the raw value not contains the amplifier);
6. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain(dB) (if the raw value contains the amplifier)
7. Margin value = Emission level – Limit value.

2.2.4. DEVIATION FROM TEST STANDARD

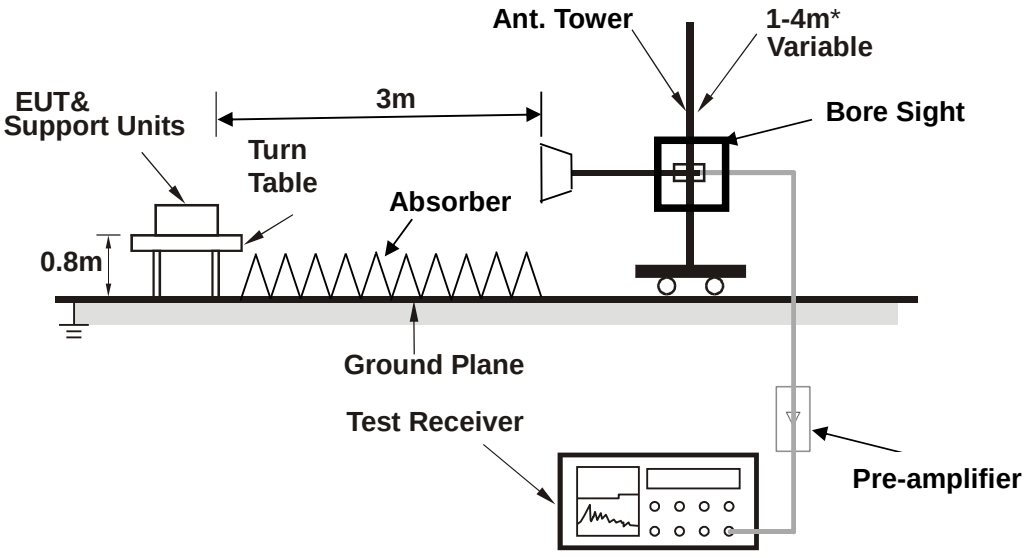
No deviation.

2.2.5. TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



***** : depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

2.2.6. EUT OPERATING CONDITIONS

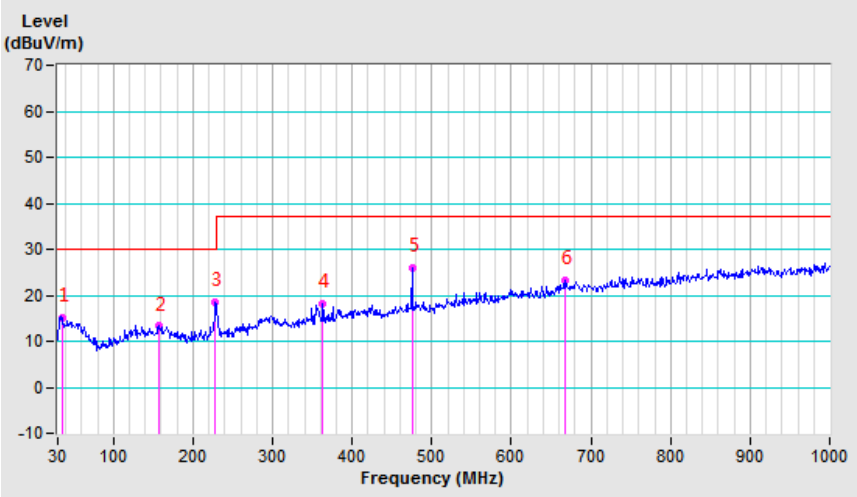
Same as item 2.1.6.

2.2.7. TEST RESULTS

TEST VOLTAGE	Data Transmission Input 120 Vac, 60 Hz	**FREQUENCY RANGE**	30-1000 MHz
ENVIRONMENTAL CONDITIONS	22deg. C, 63 %RH	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
TESTED BY	Ming Bai		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M			

	No.	Frequency	Factor	Reading	Emission	Limit	Margin	Tower	Table
		MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	cm	deg
	1	36.4263	-17.62	32.75	15.13	30.00	-14.87	400	21
	2	156.3425	-16.76	30.01	13.25	30.00	-16.75	400	348
	3	228.1225	-18.00	36.58	18.58	30.00	-11.42	400	182
	4	362.7100	-14.17	32.46	18.29	37.00	-18.71	400	43
*	5	475.8363	-11.61	37.66	26.05	37.00	-10.95	200	208
	6	666.6838	-6.78	29.96	23.18	37.00	-13.82	200	347

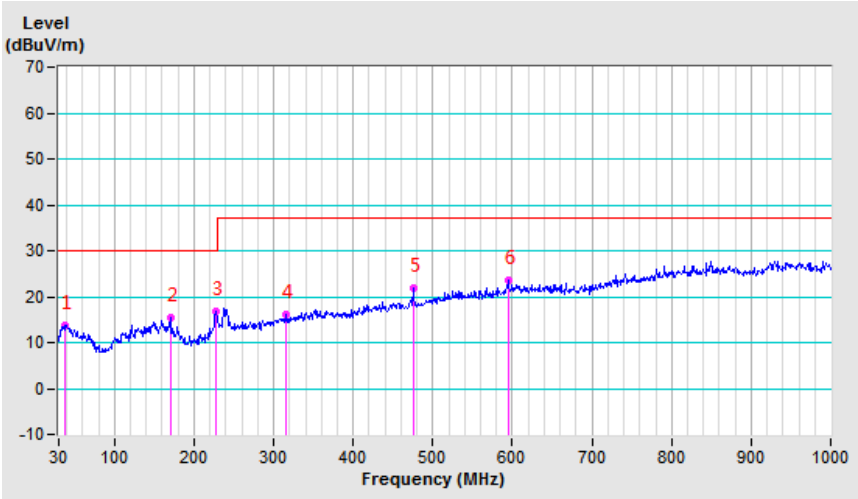
REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30MHz to 1000MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST VOLTAGE	Data Transmission Input 120 Vac, 60 Hz	**FREQUENCY RANGE**	30-1000 MHz
ENVIRONMENTAL CONDITIONS	22deg. C, 63 %RH	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
TESTED BY	Ming Bai		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M			

	No.	Frequency	Factor	Reading	Emission	Limit	Margin	Tower	Table
		MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	cm	deg
	1	37.2269	-17.45	31.31	13.86	30.00	-16.14	100	89
	2	170.2205	-16.29	31.79	15.50	30.00	-14.50	100	333
*	3	227.4534	-17.40	34.16	16.76	30.00	-13.24	300	358
	4	315.4853	-13.82	29.89	16.07	37.00	-20.93	100	76
	5	475.7858	-10.29	32.15	21.86	37.00	-15.14	300	185
	6	594.4712	-6.95	30.64	23.69	37.00	-13.31	100	302

REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30MHz to 1000MHz.
4. Only emissions significantly above equipment noise floor are reported.

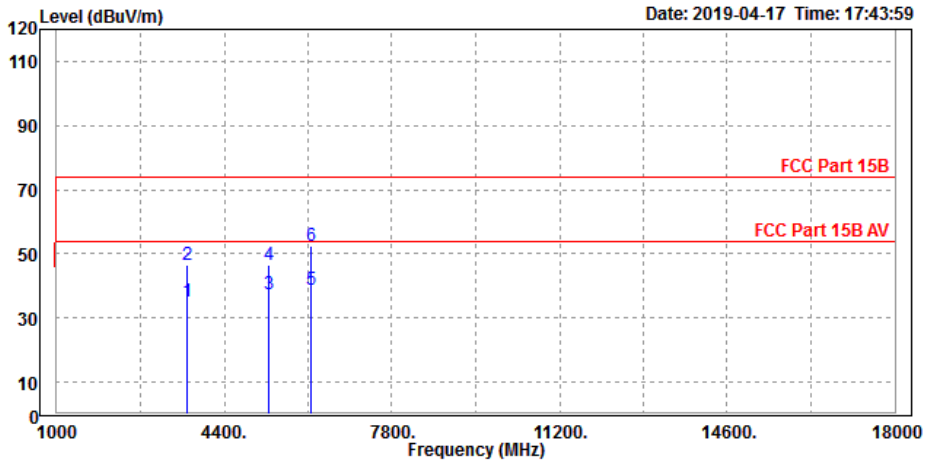


Note: Radiated Emission below 1GHz Test was performed in **Lab B.**

TEST VOLTAGE	Data Transmission Input 120 Vac, 60 Hz	**FREQUENCY RANGE**	1-18 GHz
ENVIRONMENTAL CONDITIONS	29deg. C, 60 %RH	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/Average, 1 MHz
TESTED BY	Star Le		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3654	35.31	40.17	54	-18.69	35.75	5.77	46.38	100	260	Average
3654	46.48	51.34	74	-27.52	35.75	5.77	46.38	100	260	Peak
5316	37.43	40.16	54	-16.57	36.12	7.46	46.31	100	289	Average
5316	46.43	49.16	74	-27.57	36.12	7.46	46.31	100	289	Peak
6166	38.97	40.65	54	-15.03	36.63	7.75	46.06	100	104	Average
6166	52.48	54.16	74	-21.52	36.63	7.75	46.06	100	104	Peak

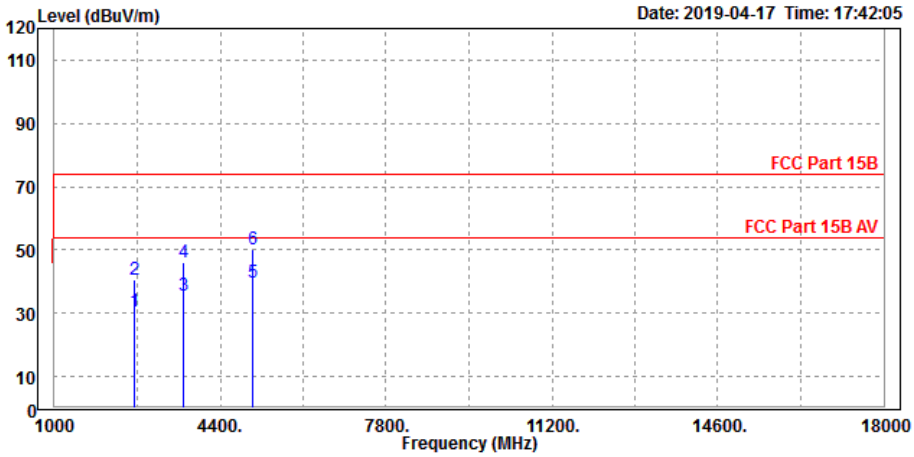
REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 1GHz to 18GHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST VOLTAGE	Data Transmission Input 120 Vac, 60 Hz	**FREQUENCY RANGE**	1-18 GHz
ENVIRONMENTAL CONDITIONS	29deg. C, 60 %RH	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/Average, 1 MHz
TESTED BY	Star Le		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2646	30.53	39.16	54	-23.47	32.59	5.15	46.37	100	126	Average
2646	40.53	49.16	74	-33.47	32.59	5.15	46.37	100	126	Peak
3645	35.8	42.16	54	-18.2	34.24	5.78	46.38	100	176	Average
3645	46.1	52.46	74	-27.9	34.24	5.78	46.38	100	176	Peak
5061	**39.91**	**42.65**	**54**	**-14.09**	**36.24**	**7.4**	**46.38**	**100**	**200**	**Average**
5061	50.37	53.11	74	-23.63	36.24	7.4	46.38	100	200	Peak

REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 1GHz to 18GHz.
4. Only emissions significantly above equipment noise floor are reported.



3 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications were made to the EUT by the lab during the test.

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