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, P.R.China
Product	Wireless Charging Dock for Lenovo Smart Clocks
Brand Name	Lenovo
Model	Lenovo SE-A61UW
Additional Model & Model Difference	N/A
Date of tests	May 14, 2021 ~ Jun. 10, 2021

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

☒ **FCC Part 15, Subpart C**

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

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Jun. 16, 2021

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2104WDG0474	Original release	Jun. 16, 2021

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
§15.203	Antenna Requirement	PASS	No antenna connector is used.
§15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit.
§15.209	Radiated Emission	PASS	Meet the requirement of limit.
§15.215 (c)	20dB Bandwidth	PASS	Meet the requirement of limit.

2 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:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	3.05dB
Radiated emissions	9KHz ~ 30MHz	2.16dB
	30MHz ~ 1GMHz	3.82dB

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

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless Charging Dock for Lenovo Smart Clocks
MODEL NO.	Lenovo SE-A61UW
ADDITIONAL MODEL	N/A
SAMPLE STATUS	Engineering sample
FCC ID	O57SEA61UW
POWER SUPPLY	Power by Lenovo Smart Clock 2 (Wireless Charging Output: 10W, Max.; USB-A Output: (DC 5V 2A, Max.); Wireless Charging Output (5W) + USB-A Output: (DC 5V 0.5A))
MODULATION TYPE	ASK
OPERATING FREQUENCY	111KHz ~ 150KHz
ANTENNA TYPE	Coil Antenna
FIELD STRENGTH	73.88dBuV/m
CABLE SUPPLIED	N/A

NOTES:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 2104WDG0474-1) for detailed product photo.
4. The product is matched with two types of Smart Clock (see below list) for all the tests, but only the worst case (1# Smart Clock) was showed in test report.

Differentia (Smart Clock)	1# Smart Clock	2# Smart Clock
DDR Chips	M15T4G16256A BRAND: ESMT	MT41K256M16TW BRAND: Micron
Adapters	Made by Chenyang Electronics	Made by ACBEL ELECTRICAL

3.2 DESCRIPTION OF TEST MODES

The following test frequencies are provided to this EUT:

Operating Frequency Range(KHz)	Tested Frequency(KHz)	Mode
111-150	127.0 KHz	Operating
111-150	127.0 KHz	Standby

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as a dependent 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	1# Smart Clock	Lenovo	Lenovo CD-24502F	N/A	N/A
2	2# Smart Clock	Lenovo	Lenovo CD-24502F	N/A	N/A
3	ADAPTER 1	Lenovo (chenyang)	AD18W2002	N/A	N/A
4	ADAPTER 2	Lenovo (Acbel)	AD18W2002	N/A	N/A
5	iPhone 12 Pro	Apple	A2408	N/A	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1-2	N/A
3-4	Unshielded, Non-detachable, 150cm
5	N/A

4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTES: (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 0.50 MHz.
(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.

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Mar. 07,22
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 07,22
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Mar. 07,22
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Sep. 17,21
Test software	ADT	ADT_Cond_V7.3.7	N/A	N/A

NOTES: 1. 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. The test was performed in shielding room 553.

4.1.3 TEST PROCEDURE

The basic test procedure was in accordance with ANSI C63.4:2014 amended as per ANSI C63.4a:2017.

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 30 MHz was searched. Emission levels under (Limit – 20dB) were not recorded.

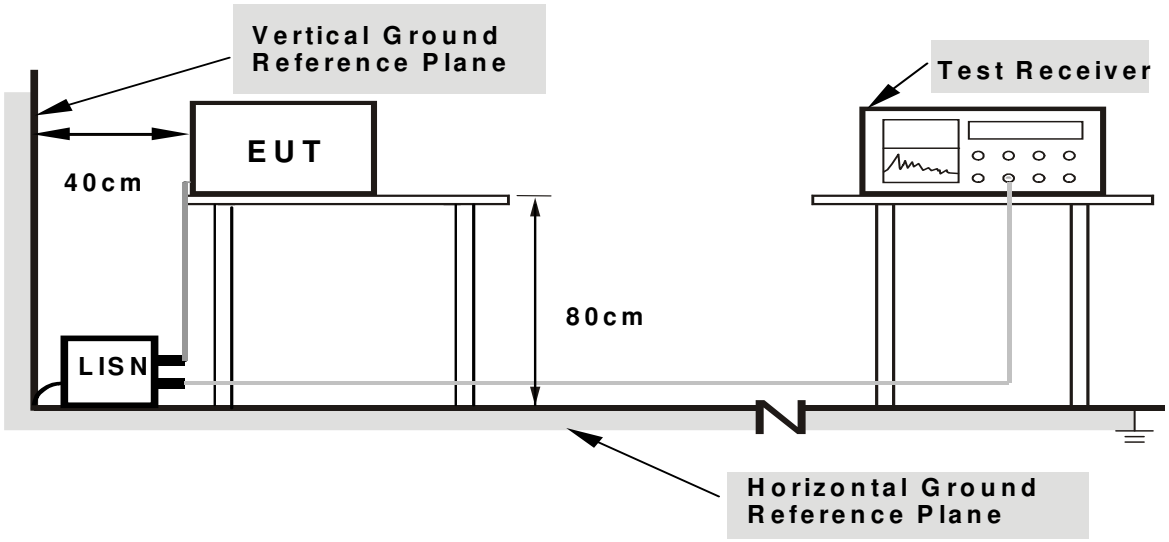
NOTES:

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. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

a. Turned on the power of all equipment.

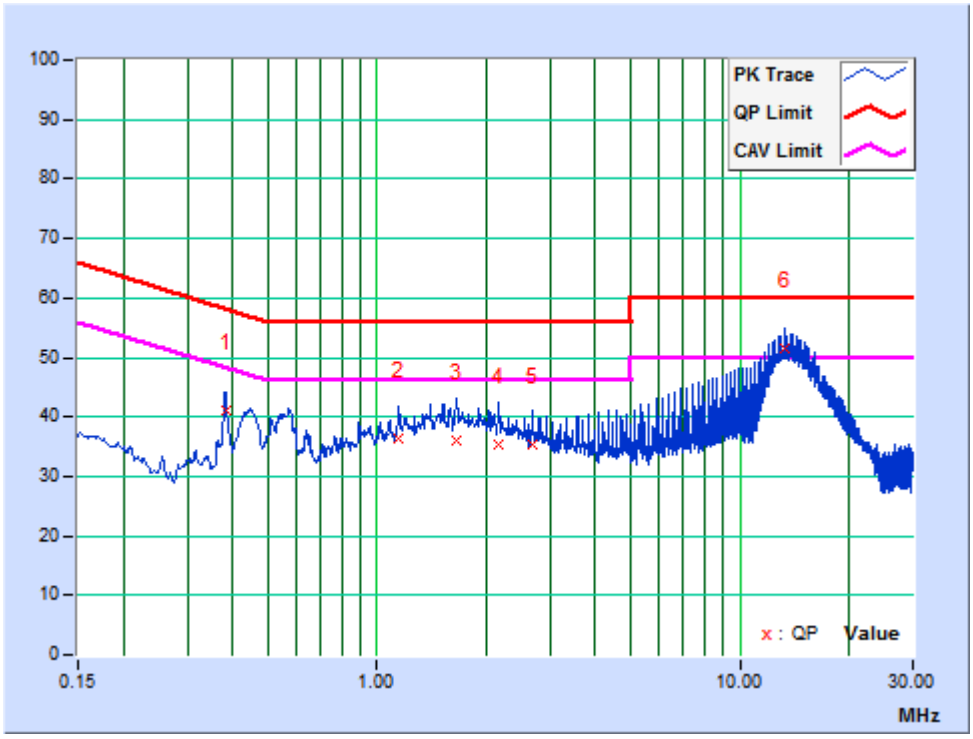
b. EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

4.1.7 TEST RESULTS

TEST MODE	Operating	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 64% RH	TESTED BY	Wink Wang

No.	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.38175	9.85	31.24	25.50	41.09	35.35	58.24	48.24	-17.15	-12.89
2	1.14900	9.83	26.44	17.77	36.27	27.60	56.00	46.00	-19.73	-18.40
3	1.65750	9.84	26.08	15.34	35.92	25.18	56.00	46.00	-20.08	-20.82
4	2.17050	9.85	25.42	16.33	35.27	26.18	56.00	46.00	-20.73	-19.82
5	2.67900	9.86	25.57	17.88	35.43	27.74	56.00	46.00	-20.57	-18.26
6	13.27200	10.08	41.50	35.35	51.58	45.43	60.00	50.00	-8.42	-4.57

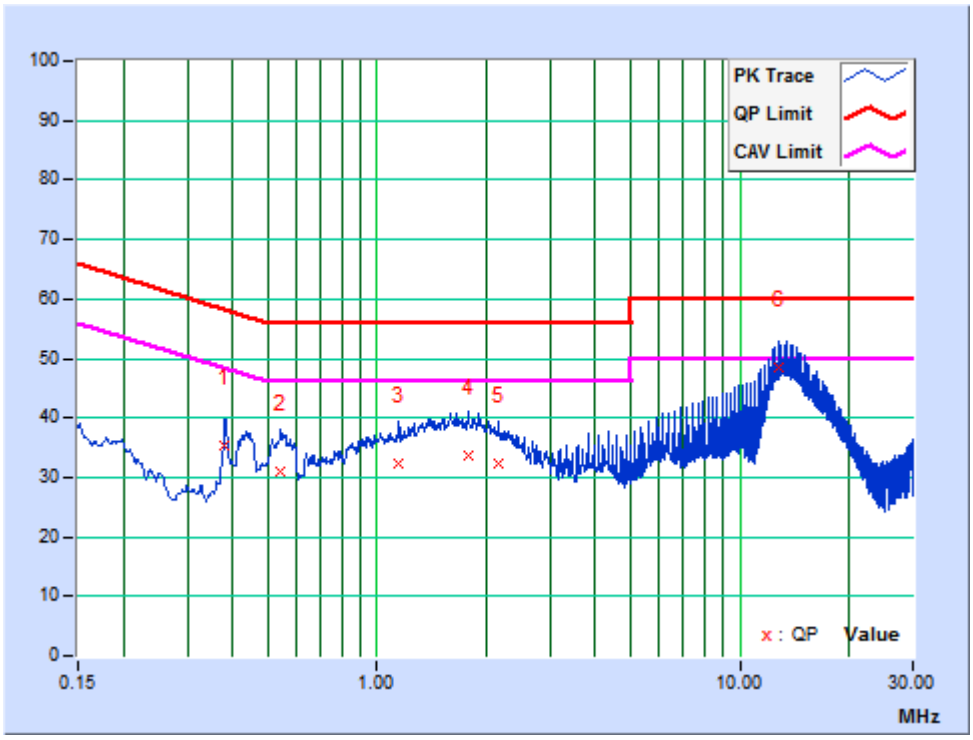
REMARK: The emission levels of other frequencies were very low against the limit.



TEST MODE	Operating	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 64% RH	TESTED BY	Wink Wang

No.	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.38159	9.79	25.67	20.89	35.46	30.68	58.24	48.24	-22.79	-17.57
2	0.54071	9.80	21.33	14.30	31.13	24.10	56.00	46.00	-24.87	-21.90
3	1.15058	9.80	22.69	13.99	32.49	23.79	56.00	46.00	-23.51	-22.21
4	1.78575	9.81	23.77	14.68	33.58	24.49	56.00	46.00	-22.42	-21.51
5	2.16830	9.81	22.61	13.92	32.42	23.73	56.00	46.00	-23.58	-22.27
6	12.76125	10.06	38.59	32.49	48.65	42.55	60.00	50.00	-11.35	-7.45

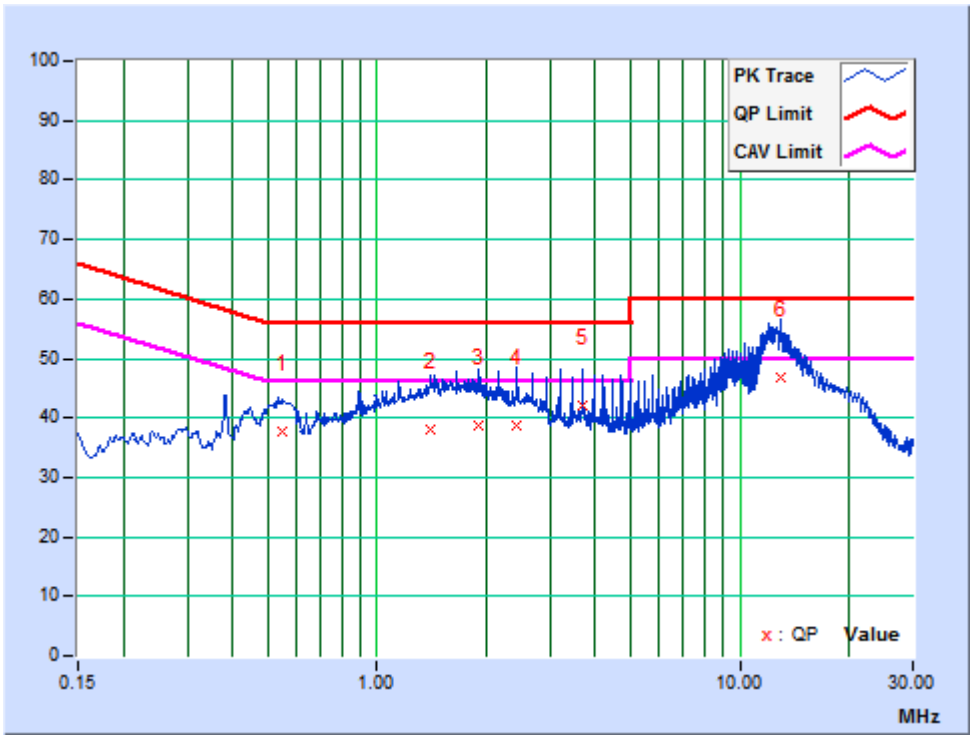
REMARK: The emission levels of other frequencies were very low against the limit.



TEST MODE	Standby	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 64% RH	TESTED BY	Wink Wang

No.	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.55080	9.85	27.93	15.98	37.78	25.83	56.00	46.00	-18.22	-20.17
2	1.40254	9.84	28.36	16.89	38.20	26.73	56.00	46.00	-17.80	-19.27
3	1.91400	9.85	28.91	17.54	38.76	27.39	56.00	46.00	-17.24	-18.61
4	2.42475	9.85	28.94	20.99	38.79	30.84	56.00	46.00	-17.21	-15.16
5	3.70050	9.86	32.12	24.71	41.98	34.57	56.00	46.00	-14.02	-11.43
6	13.01775	10.07	36.83	28.59	46.90	38.66	60.00	50.00	-13.10	-11.34

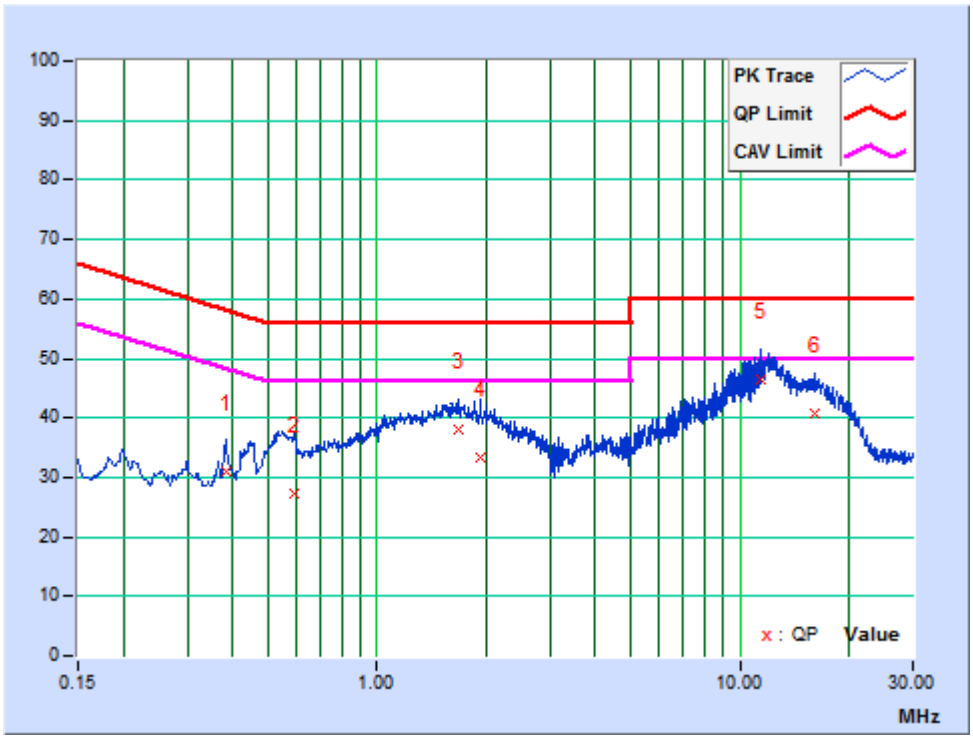
REMARK: The emission levels of other frequencies were very low against the limit.



TEST MODE	Standby	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 64% RH	TESTED BY	Wink Wang

No.	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.38400	9.79	21.20	12.76	30.99	22.55	58.19	48.19	-27.21	-25.65
2	0.59325	9.79	17.45	2.46	27.24	12.25	56.00	46.00	-28.76	-33.75
3	1.67100	9.81	28.09	16.94	37.90	26.75	56.00	46.00	-18.10	-19.25
4	1.92525	9.82	23.47	11.91	33.29	21.73	56.00	46.00	-22.71	-24.27
5	11.48550	10.03	36.38	25.26	46.41	35.29	60.00	50.00	-13.59	-14.71
6	16.07775	10.15	30.57	24.03	40.72	34.18	60.00	50.00	-19.28	-15.82

REMARK: The emission levels of other frequencies were very low against the limit.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart C, Section 15.209

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

NOTES:

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. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

4.2.2 TEST INSTRUMENTS

FREQUENCY 9KHz-30MHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101564	Mar. 07,22
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,22
Amplifier	Burgeon	BPA-530	100210	Mar. 13,22
Test Software	ADT	ADT_Radiated_V8.7.07	N/A	N/A

NOTES: 1. The test was performed in 10m Chamber.
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.
3. The FCC Site Registration No. is 749762.

FREQUENCY 30MHz-1GHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Mar. 07,22
Bilog Antenna	Teseq	CBL 6111D	30643	May 29,22
Amplifier	Burgeon	BPA-530	100220	Mar. 13,22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 22,22
Test software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A

NOTES: 1. The test was performed in 966 Chamber
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.
3. The FCC Site Registration No. is 749762.

4.2.3 TEST PROCEDURE

< Below 30MHz >

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meters Semi-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.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter 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 1 GHz.

<30MHz~1GHz >

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. 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 antenna is a broadband antenna, and its height 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.
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 Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTES:

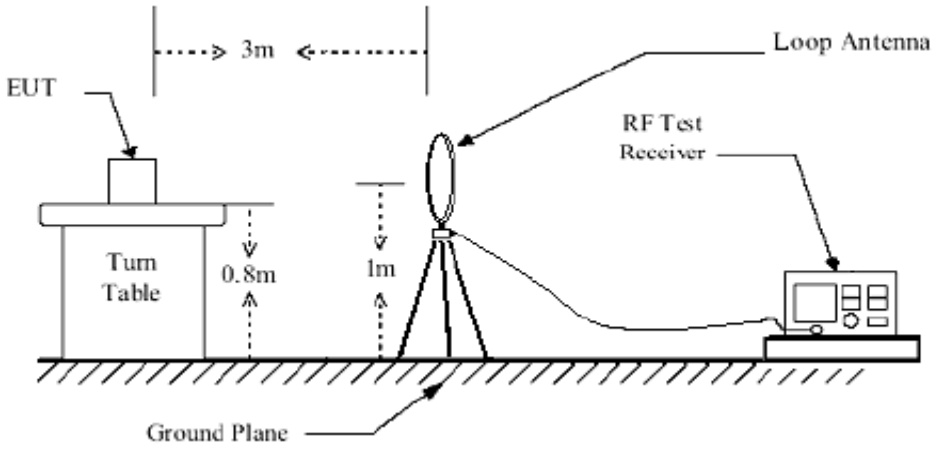
1. The resolution bandwidth of test receiver/spectrum analyzer is 200Hz for Quasi-peak detection (QP) at fundamental frequency 9K-150KHz;
2. The resolution bandwidth of test receiver/spectrum analyzer is 9KHz for Quasi-peak detection (QP) at fundamental frequency 150K-30MHz;
3. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at radiated spurious emission frequency 30MHz-1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

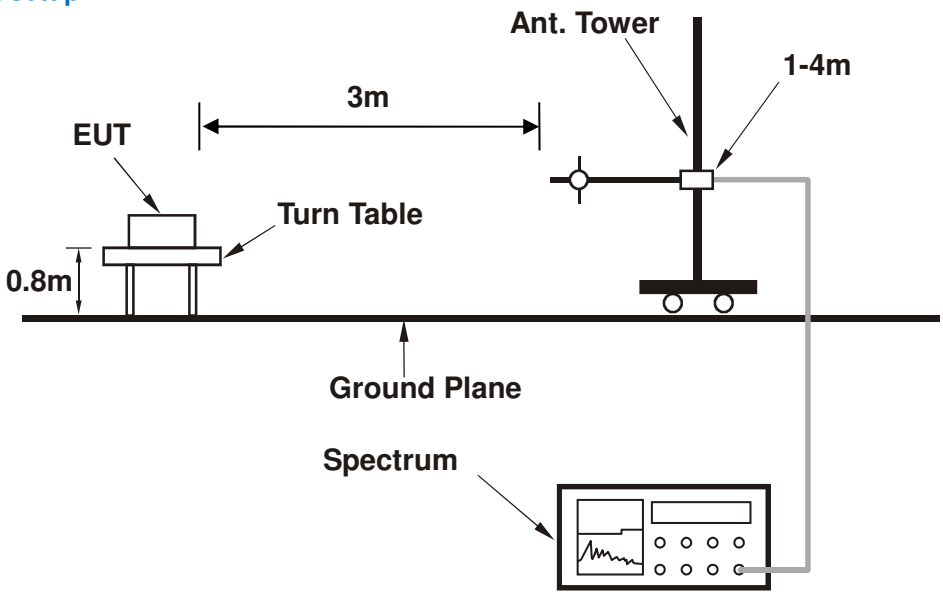
No deviation.

4.2.5 TEST SETUP

Below 30MHz test setup



Below 1GHz test setup



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

4.2.6 EUT OPERATING CONDITIONS

a. Turn on the power supply of the EUT.

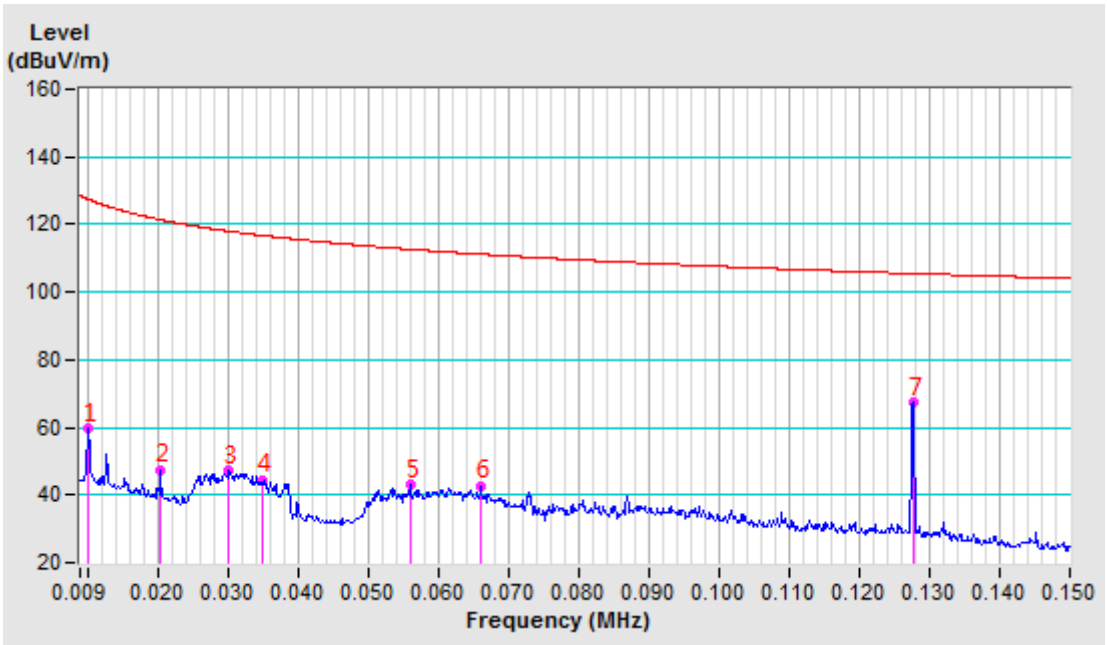
b. EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

4.2.7 TEST RESULTS

TEST MODE	Operating	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PARALLEL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.01020AV	-9.96	69.49	59.53	127.43	-67.90	100	36
2	0.02040AV	-10.57	57.95	47.38	121.41	-74.03	100	17
3	0.03020AV	-11.16	58.42	47.26	118.00	-70.74	100	215
4	0.03510AV	-11.25	55.80	44.55	116.70	-72.15	100	254
5	0.05610AV	-11.48	54.61	43.13	112.62	-69.49	100	288
6	0.06600AV	-11.52	54.33	42.81	111.21	-68.40	100	200
7	0.12760AV	-11.75	79.01	67.26	105.48	-38.22	100	13

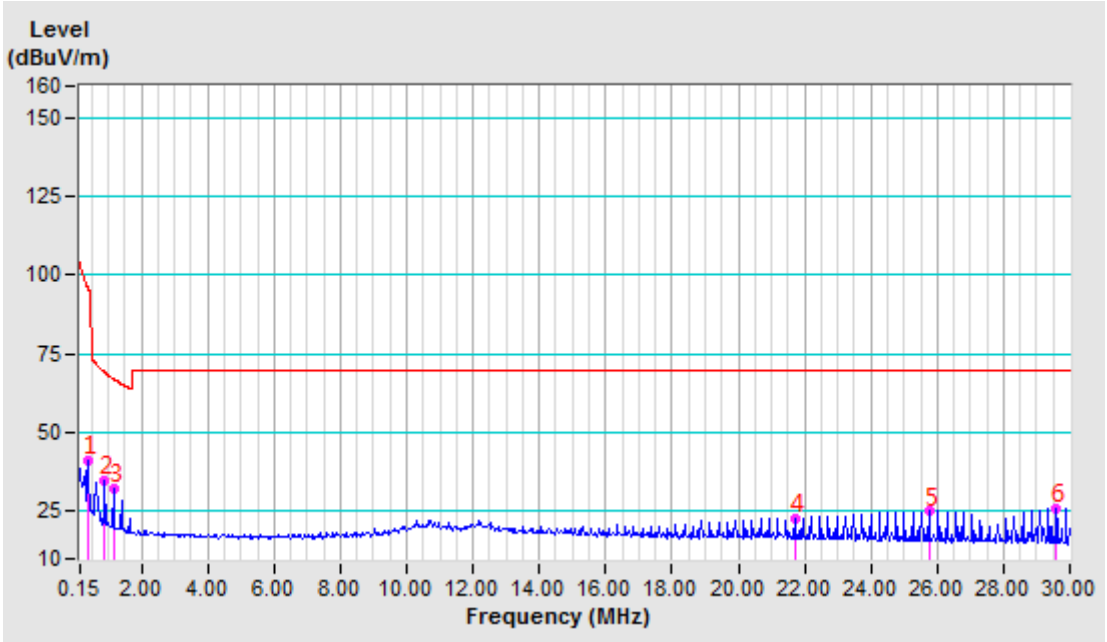
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.009-0.15MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Operating	**FREQUENCY RANGE**	150KHz-30MHz
TEST VOLTAGE	AC 120V 60Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PARALLEL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.38280AV	-12.01	53.21	41.20	95.94	-54.74	100	163
2	0.89180QP	-11.89	46.56	34.67	69.08	-34.41	100	317
3	1.14850QP	-11.92	44.22	32.30	67.08	-34.78	100	330
4	21.69380QP	-11.48	34.30	22.82	69.54	-46.72	100	17
5	25.77900QP	-11.80	36.81	25.01	69.54	-44.53	100	306
6	29.60600QP	-12.24	38.18	25.94	69.54	-43.60	100	318

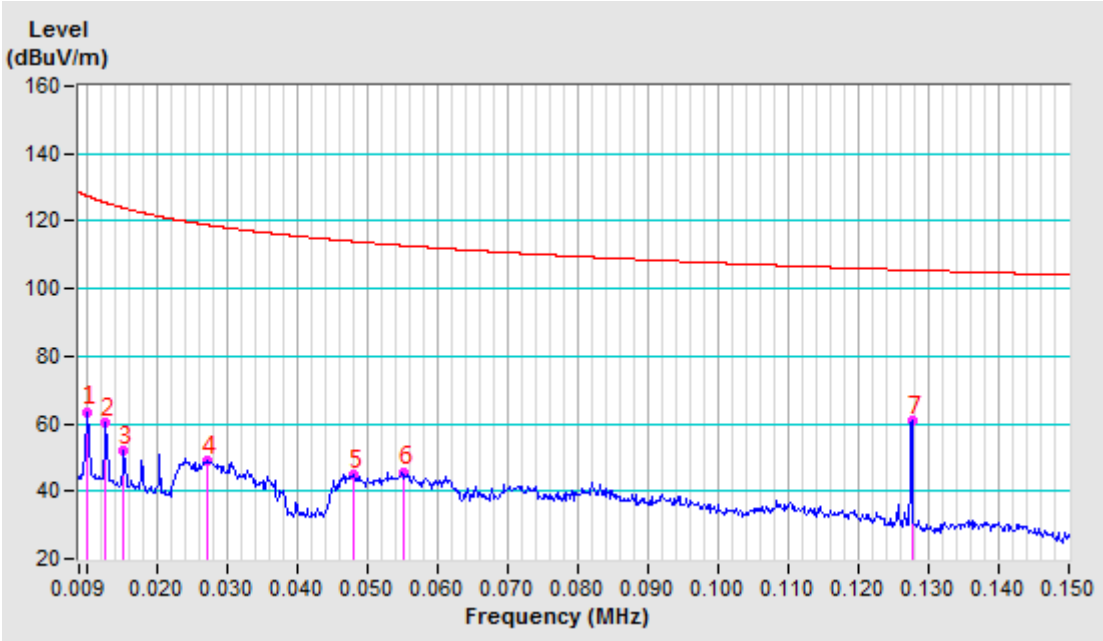
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.15-30MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Operating	**FREQUENCY RANGE**	9 -150KHz
TEST VOLTAGE	AC 120V 60Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PERPENDICYLARL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.01020AV	-9.96	73.45	63.49	127.43	-63.94	100	19
2	0.01280AV	-10.12	70.20	60.08	125.46	-65.38	100	35
3	0.01540AV	-10.27	62.12	51.85	123.85	-72.00	100	127
4	0.02740AV	-10.99	60.04	49.05	118.85	-69.80	100	14
5	0.04800AV	-11.44	56.37	44.93	113.98	-69.05	100	133
6	0.05510AV	-11.48	57.15	45.67	112.78	-67.11	100	211
7	0.12760AV	-11.75	72.63	60.88	105.48	-44.60	100	167

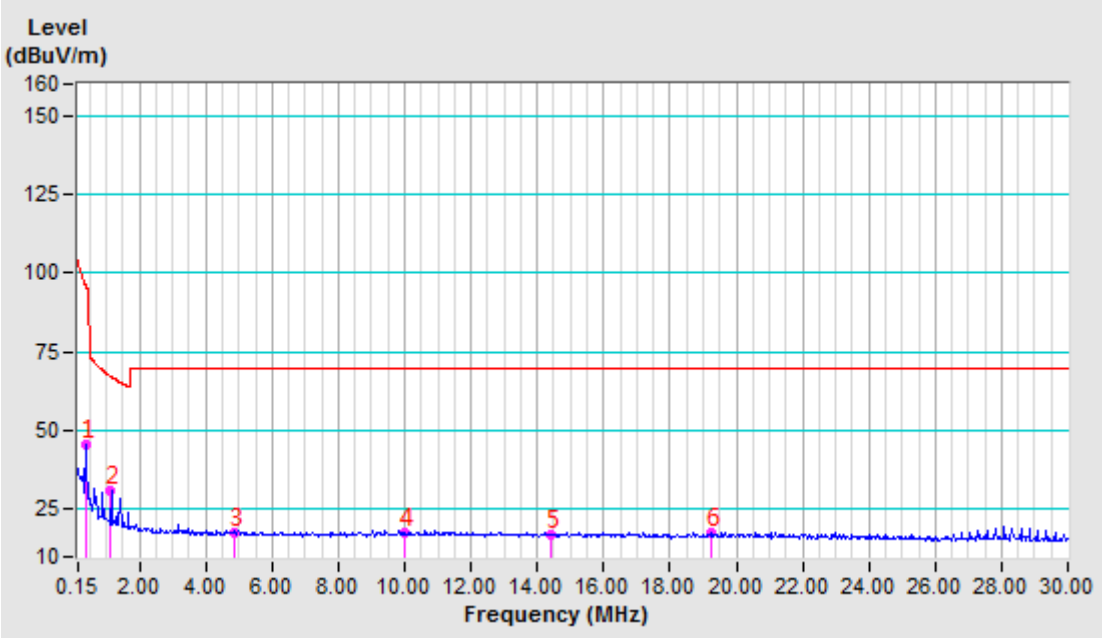
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.009-0.15MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Operating	**FREQUENCY RANGE**	150KHz-30MHz
TEST VOLTAGE	AC 120V 60Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PERPENDICYLARL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.38280AV	-12.01	57.48	45.47	95.94	-50.47	100	16
2	1.14700QP	-11.92	43.06	31.14	67.10	-35.96	100	133
3	4.84860QP	-11.87	29.73	17.86	69.54	-51.68	100	147
4	9.99650QP	-11.66	29.36	17.70	69.54	-51.84	100	186
5	14.39210QP	-11.48	28.76	17.28	69.54	-52.26	100	188
6	19.25350QP	-11.34	28.89	17.55	69.54	-51.99	100	314

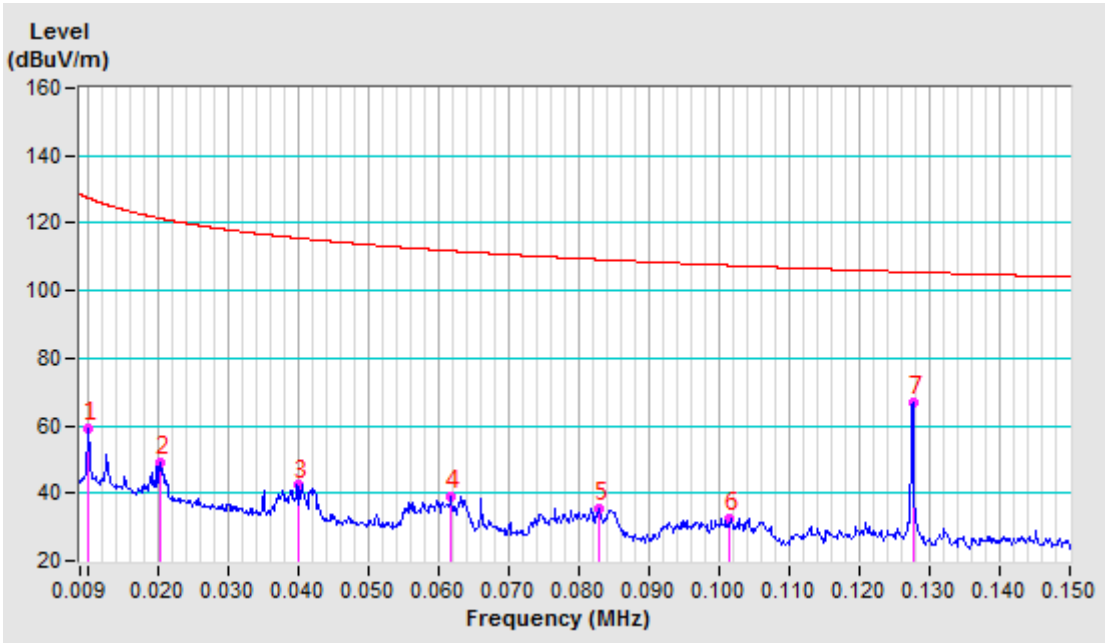
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.15-30MHz
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Standby	**FREQUENCY RANGE**	9 -150KHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PARALLEL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.01020AV	-9.96	69.33	59.37	127.43	-68.06	100	147
2	0.02040AV	-10.57	59.74	49.17	121.41	-72.24	100	204
3	0.04000AV	-11.32	53.80	42.48	115.56	-73.08	100	355
4	0.06180AV	-11.50	50.53	39.03	111.78	-72.75	100	305
5	0.08300AV	-11.60	47.08	35.48	109.22	-73.74	100	68
6	0.10160QP	-11.69	44.33	32.64	107.46	-74.82	100	17
7	0.12760AV	-11.75	78.72	66.97	105.48	-38.51	100	34

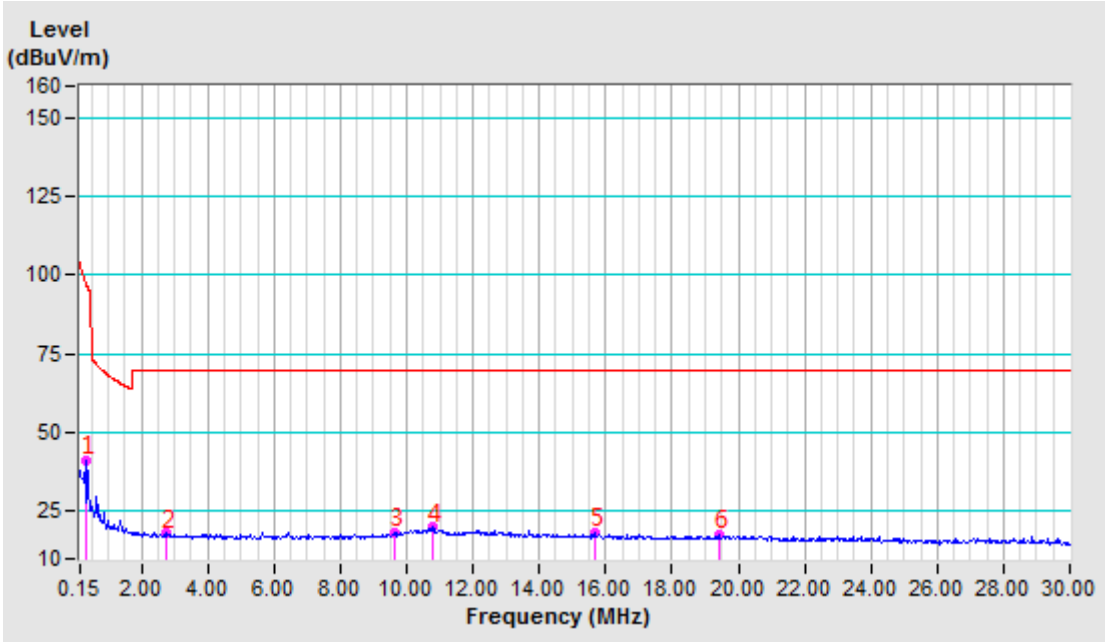
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.009-0.15MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Standby	**FREQUENCY RANGE**	150KHz-30MHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PARALLEL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.30970AV	-12.08	53.01	40.93	97.78	-56.85	100	77
2	2.72470QP	-11.92	29.89	17.97	69.54	-51.57	100	183
3	9.62640QP	-11.68	29.93	18.25	69.54	-51.29	100	34
4	10.76220QP	-11.67	31.55	19.88	69.54	-49.66	100	322
5	15.67580QP	-11.47	29.50	18.03	69.54	-51.51	100	24
6	19.39820QP	-11.32	28.84	17.52	69.54	-52.02	100	8

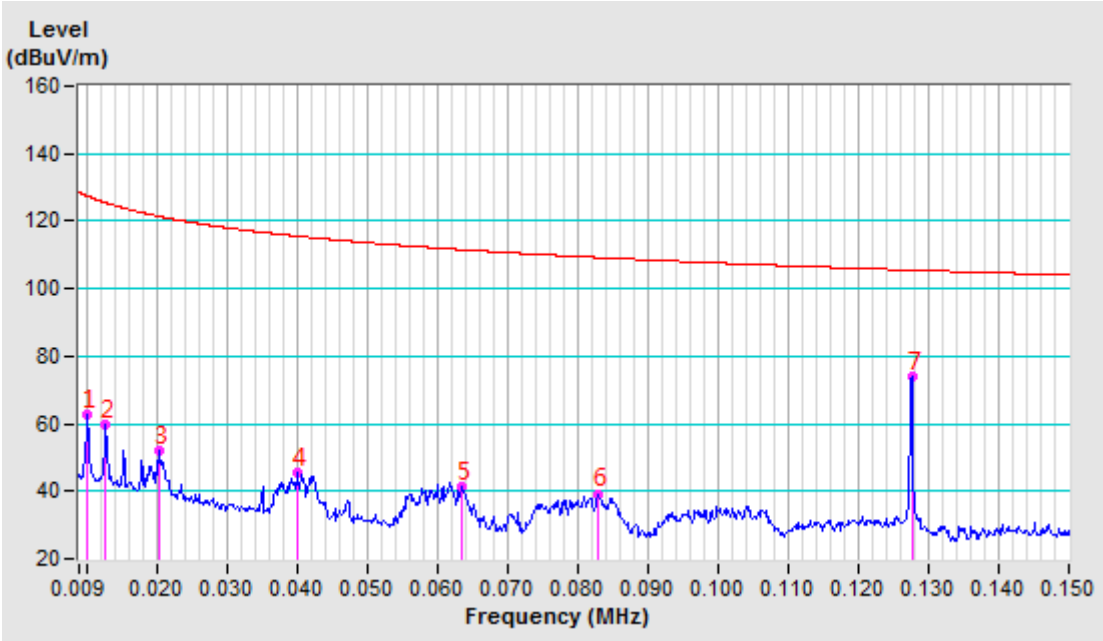
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.15-30MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Standby	**FREQUENCY RANGE**	9 -150KHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PERPENDICYLARL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.01020AV	-9.96	72.64	62.68	127.43	-64.75	100	336
2	0.01280AV	-10.12	69.59	59.47	125.46	-65.99	100	249
3	0.02050AV	-10.58	62.41	51.83	121.37	-69.54	100	107
4	0.04000AV	-11.32	56.80	45.48	115.56	-70.08	100	71
5	0.06340AV	-11.50	52.58	41.08	111.56	-70.48	100	182
6	0.08300AV	-11.60	50.76	39.16	109.22	-70.06	100	175
7	0.12760QP	-11.75	85.63	73.88	105.48	-31.60	100	125

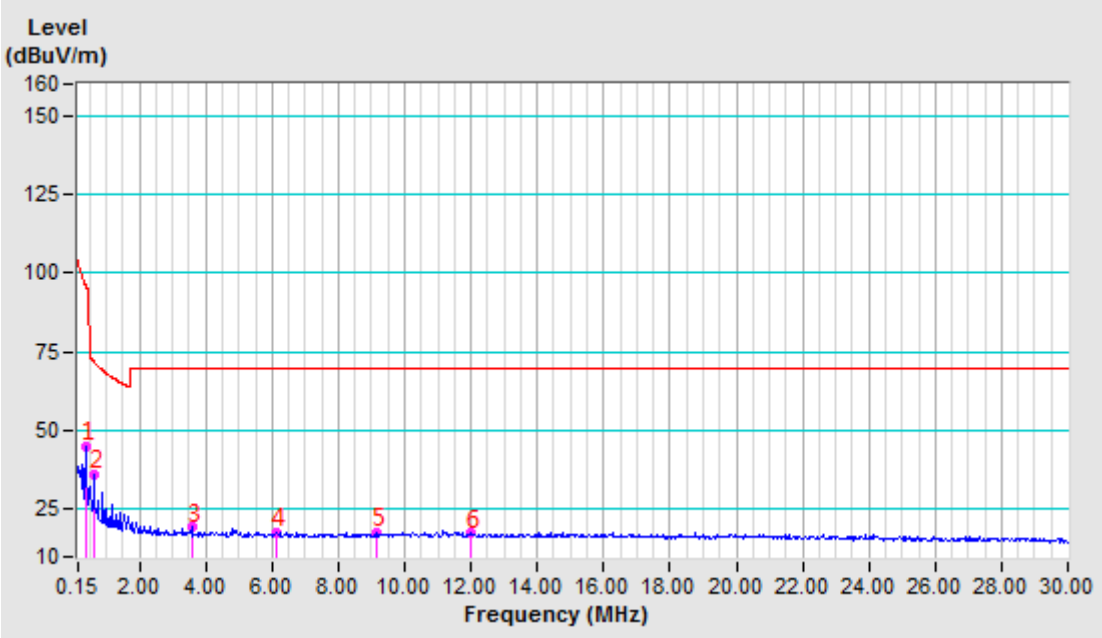
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.009-0.15MHz.
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Standby	**FREQUENCY RANGE**	150KHz-30MHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	**TESTED BY**: Bryant	

ANTENNA POLARITY & TEST DISTANCE: PERPENDICYLARL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.38130AV	-12.01	57.13	45.12	95.98	-50.86	100	122
2	0.63660QP	-11.86	48.11	36.25	71.74	-35.49	100	60
3	3.57250QP	-11.86	31.10	19.24	69.54	-50.30	100	28
4	6.14720QP	-11.87	29.72	17.85	69.54	-51.69	100	34
5	9.17110QP	-11.71	29.33	17.62	69.54	-51.92	100	81
6	12.01900QP	-11.67	29.05	17.38	69.54	-52.16	100	134

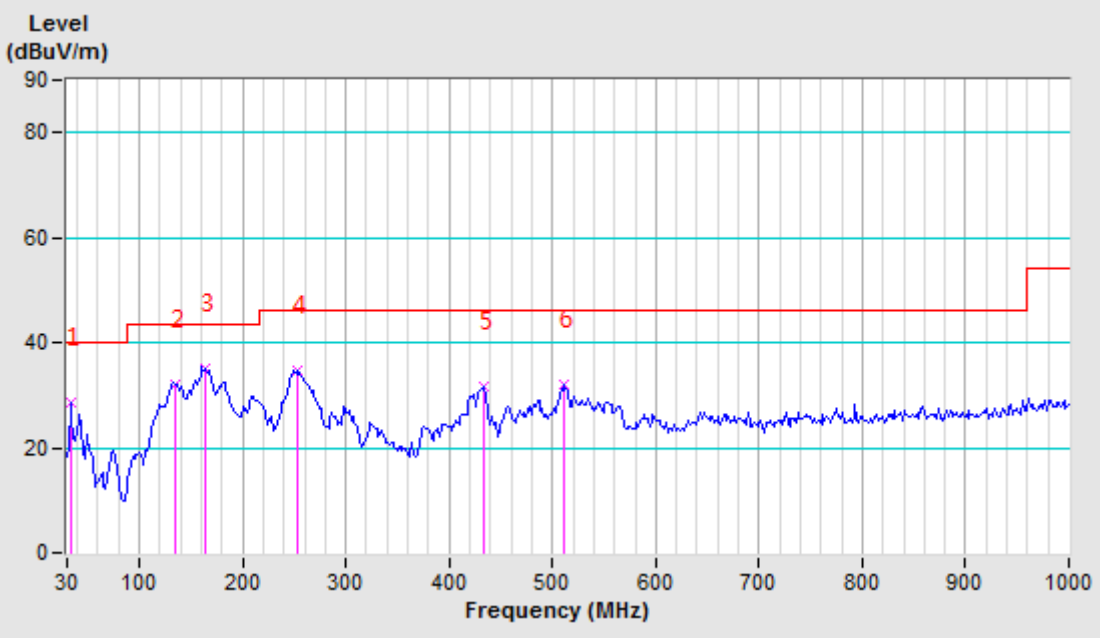
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.15-30MHz
4. Only emissions significantly above equipment noise floor are reported.



TEST MODE	Operating	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Bryant	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	33.11	-13.22	41.96	28.74	40.00	-11.26	200	0
2	135.71	-18.62	50.79	32.17	43.50	-11.33	200	0
3	163.69	-17.30	52.43	35.13	43.50	-8.37	200	0
4	252.29	-16.36	50.99	34.63	46.00	-11.37	200	0
5	432.61	-10.83	42.38	31.55	46.00	-14.45	200	0
6	511.89	-9.04	40.95	31.91	46.00	-14.09	200	0

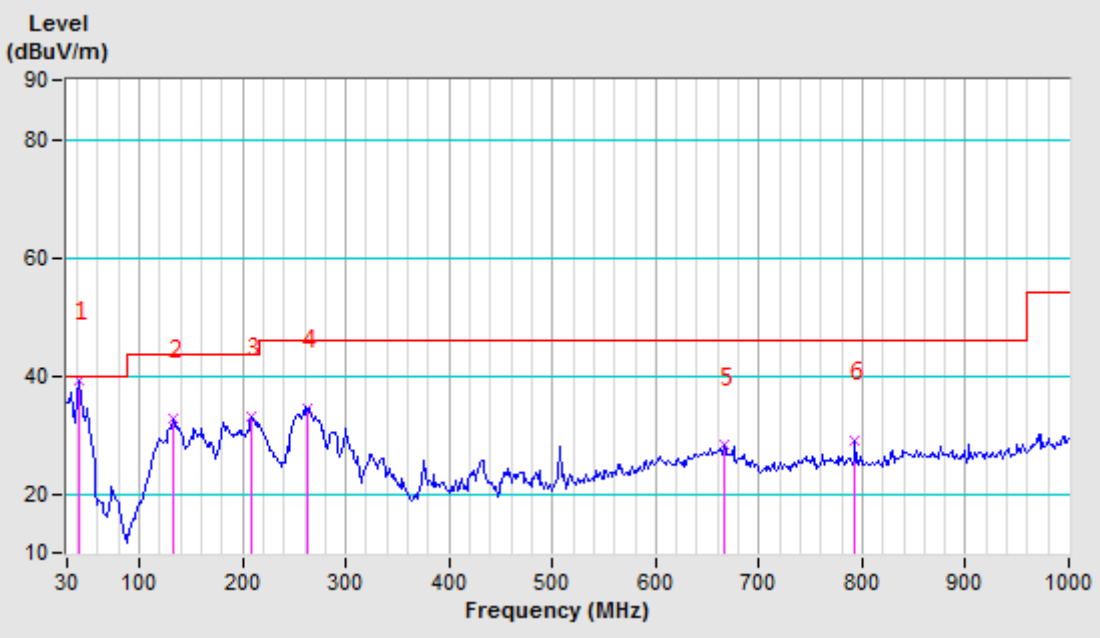
REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30MHz to 1000MHz.
4. Only emissions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



TEST MODE	Operating	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	Power by Lenovo Smart Clock 2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Bryant	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	40.88	-16.28	55.55	39.27	40.00	-0.73	100	0
2	132.60	-18.84	51.56	32.72	43.50	-10.78	100	0
3	208.77	-19.42	52.41	32.99	43.50	-10.51	100	0
4	263.17	-15.66	50.08	34.42	46.00	-11.58	100	0
5	665.79	-5.69	33.89	28.20	46.00	-17.80	100	0
6	793.25	-3.39	32.40	29.01	46.00	-16.99	100	0

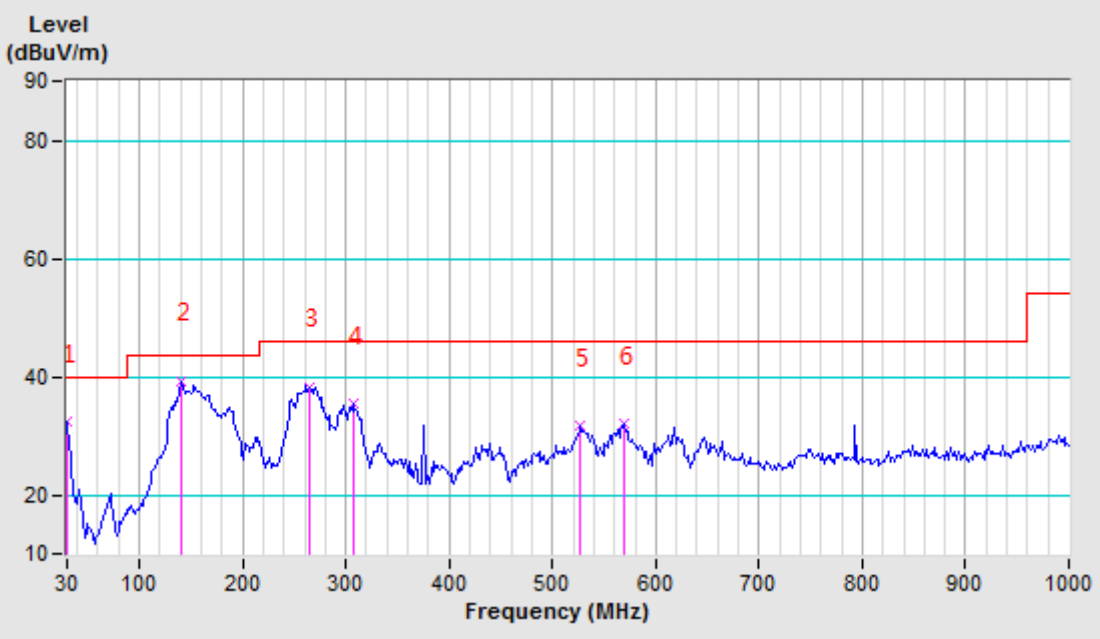
REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30MHz to 1000MHz.
4. Only emissions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



TEST MODE	Standby	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	AC 120V 60Hz	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Bryant	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	30.00	-12.06	44.33	32.27	40.00	-7.73	200	50
2	140.37	-18.31	57.41	39.10	43.50	-4.40	100	0
3	264.73	-15.62	53.69	38.07	46.00	-7.93	200	75
4	306.70	-13.93	49.25	35.32	46.00	-10.68	200	85
5	527.44	-8.57	40.17	31.60	46.00	-14.40	200	106
6	569.41	-7.16	39.08	31.92	46.00	-14.08	200	114

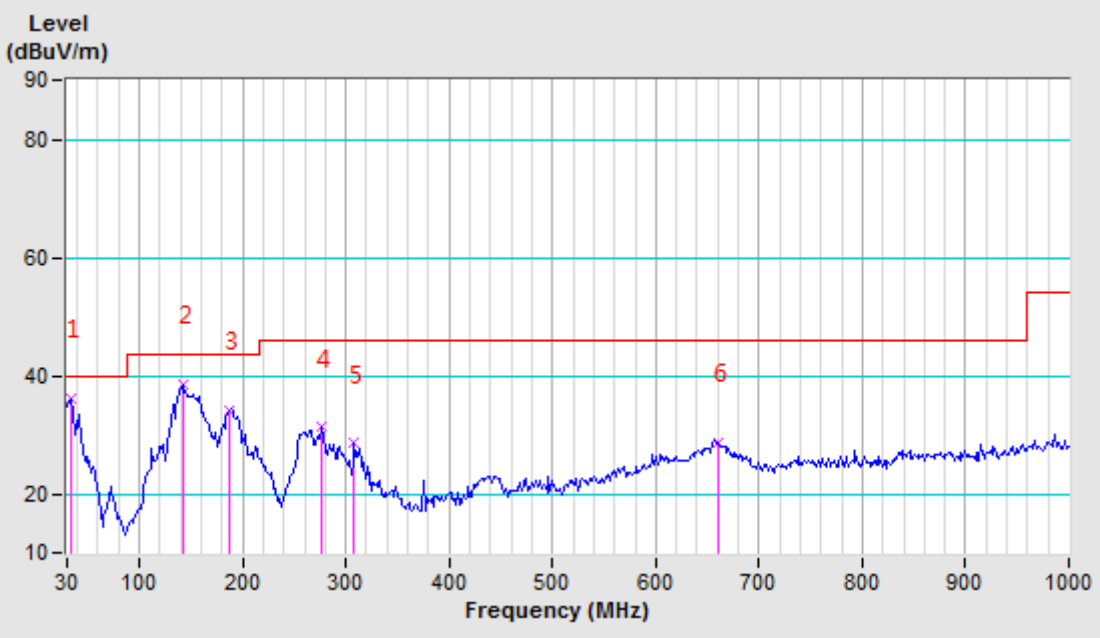
REMARKS:
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30MHz to 1000MHz.
4. Only emissions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



TEST MODE	Standby	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	DC 5V from Adapter input AC 120V 60Hz	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Bryant	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	33.11	-13.22	49.42	36.20	40.00	-3.80	100	273
2	141.92	-18.20	56.65	38.45	43.50	-5.05	100	0
3	187.00	-18.96	52.97	34.01	43.50	-9.49	100	0
4	277.16	-15.33	46.54	31.21	46.00	-14.79	100	0
5	308.25	-13.89	42.39	28.50	46.00	-17.50	100	0
6	659.57	-5.73	34.43	28.70	46.00	-17.30	100	0

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.



4.3. 20dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT

The field strength of any emissions appearing between the band edges and out of band shall be attenuated at least 20 dB below the level of the unmodulated carrier or to the general limits in Section 15.209.

4.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Mar. 17,22
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,22
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A

NOTES:

1. The test was performed in RF Oven 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.

4.3.3 TEST PROCEDURE

a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

b. Turn on the EUT, then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.

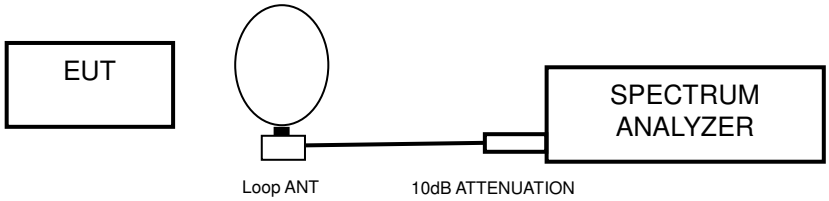
c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.

d. Repeat above procedures until all frequencies measured were complete.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITION

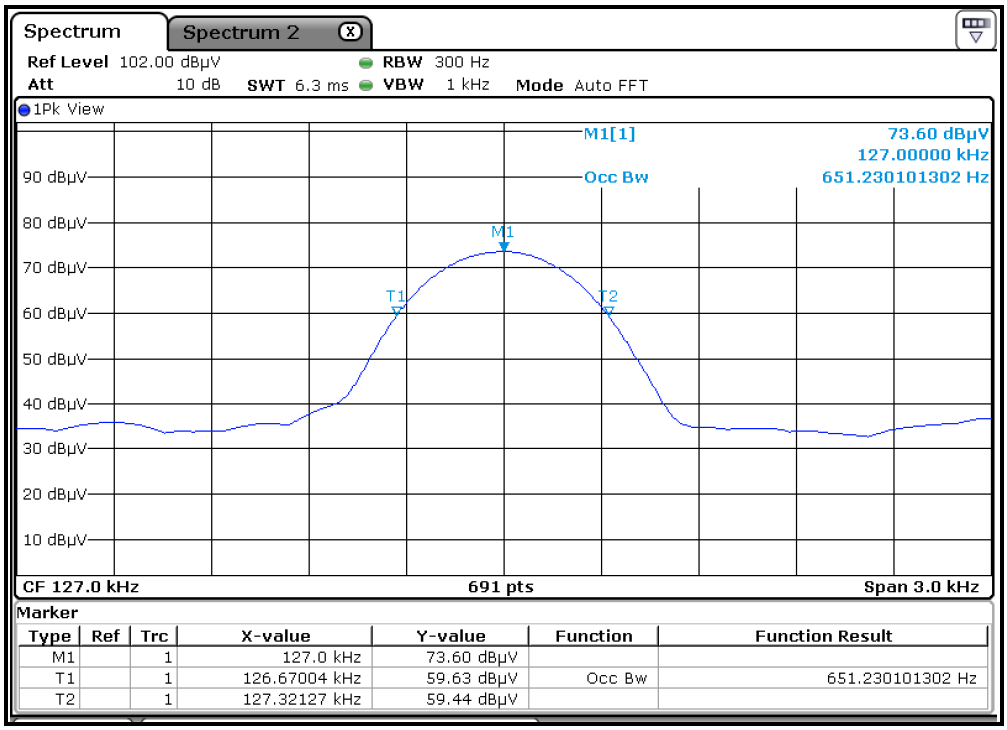
a. Turn on the EUT.
b. The EUT tested in charging mode and standby mode respectively.

4.3.7 TEST RESULTS

TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (Hz)
Operating	127.0	651.2301

Lower & Upper Test Frequency Point (MHz)	Test Frequency (KHz)	P/F
Lower	126.6700	PASS
Upper	127.3213	PASS

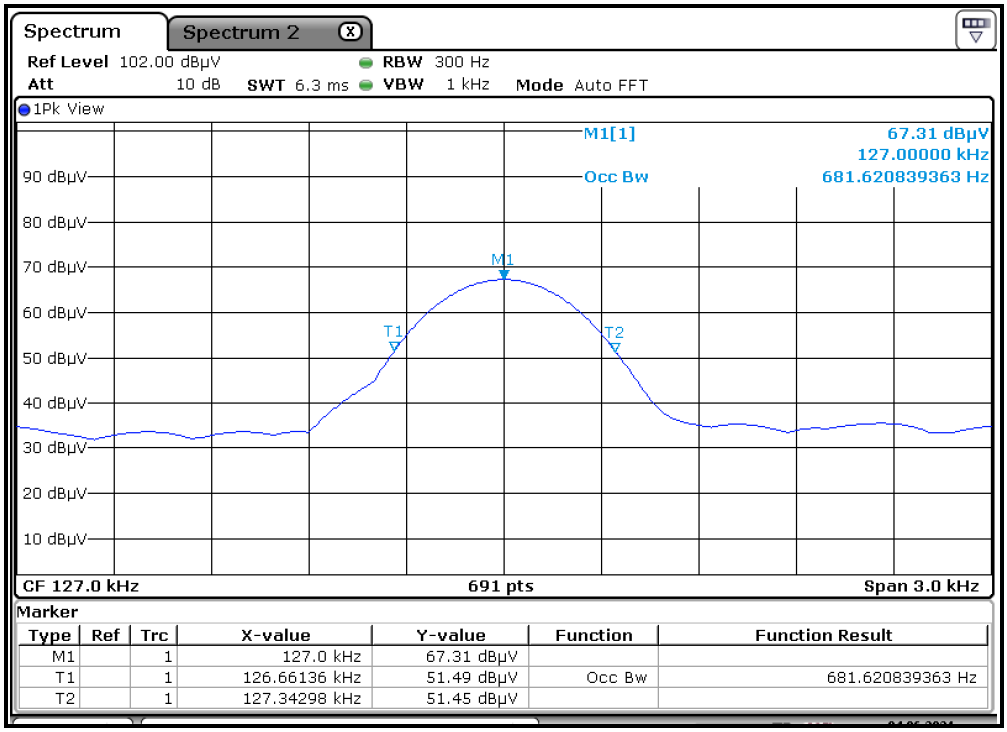
Test Data:



TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (kHz)
Standby	127.0	681.6208

Lower & Upper Test Frequency Point (MHz)	Test Frequency (KHz)	P/F
Lower	126.6614	PASS
Upper	127.3430	PASS

Test Data:



5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6 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.

---END---