

TEST REPORT

Applicant	CE LINK LIMITED
Address	Building M, Li Cheng, Technology Industrial Zone, Gong He Village, Sha Jing Town, Shen Zhen, China

Manufacturer or Supplier	CE LINK LIMITED
Address	Building M, Li Cheng, Technology Industrial Zone, Gong He Village, Sha Jing Town, Shen Zhen, China
Product	Wireless Charger
Brand Name	NXT
Model	NX60457-US
Additional Model & Model Difference	NX60457-CC
Date of tests	Dec. 08, 2021 ~ Jan. 14, 2022

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: Jan. 25, 2022

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Test Report No.: RF2112WDG3076

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2112WDG3076	Original release	Jan. 25, 2022

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
MODEL NO.	NX60457-US
ADDITIONAL MODE	NX60457-CC
SAMPLE STATUS	Engineering sample
FCC ID	A4X-NX60457-US
POWER SUPPLY	Input: DC 5V/3A, DC 9V/2A Output: 5W, 7.5W, 10W
MODULATION TYPE	FSK
OPERATING FREQUENCY RANGE	111KHz ~ 205KHz
I/O PORTS	Coil Antenna
FIELD STRENGTH	71.72dBuV/m
MAXIMUM POWER OUTPUT FROM THE CHARGING COIL	Max Power is 10W
CABLE SUPPLIED	USB-C to USB-C Cable:1.5m, Unshielded, Non-detachable

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.: 2112WDG3076-1) for detailed product photo.
4. Additional model NX60457-US is identical with test model NX60457-CC except the appearance and model number for marketing purpose.
5. The EUT can be powered by adapter as list as attach:

ADAPTER	
BRAND:	CE-LINK
MODEL:	PD20x-1TNC
INPUT:	100-240V~, 50/60Hz, 0.6A Max
OUTPUT:	5V _{DC} , 3A; 9V _{DC} , 2.22A; 12V _{DC} , 1.67A Total: 20W Max

3.2 DESCRIPTION OF TEST MODES

The following test frequencies are provided to this EUT:

Operating Frequency Range(KHz)	Tested Frequency(KHz)	Mode
111-205	174.669	Standby
111-205	131.400	Wireless charging with iPhone 13 Pro

3.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE	APPLICABLE TO			DESCRIPTION
	RE<1G	PLC	20BW	
A	√	√	√	Standby
B	√	√	√	Wireless charging with iPhone 13 Pro

Where **RE<1G**: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

20BW: 20dB Bandwidth

Note:

1. The EUT is designed to be positioned on the **X-plane** only.

Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Operating Frequency Range(KHz)	Tested Frequency(KHz)	Modulation Type
A	111-205	174.669	FSK
B	111-205	131.400	FSK

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Operating Frequency Range(KHz)	Tested Frequency(KHz)	Modulation Type
A	111-205	174.669	FSK
B	111-205	131.400	FSK

20dB Bandwidth TEST:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Operating Frequency Range(KHz)	Tested Frequency(KHz)	Modulation Type
A	111-205	174.669	FSK
B	111-205	131.400	FSK

TEST CONDITION:

Applicable to	Environmental conditions	Input Power(Adapter)	Tested by
RE<1G	24 °C, 53% RH	120Vac, 60Hz	Ray/Rollins
PLC	25 °C, 58% RH	120Vac, 60Hz	Summer
20BW	25 °C, 57% RH	120Vac, 60Hz	Jeffery

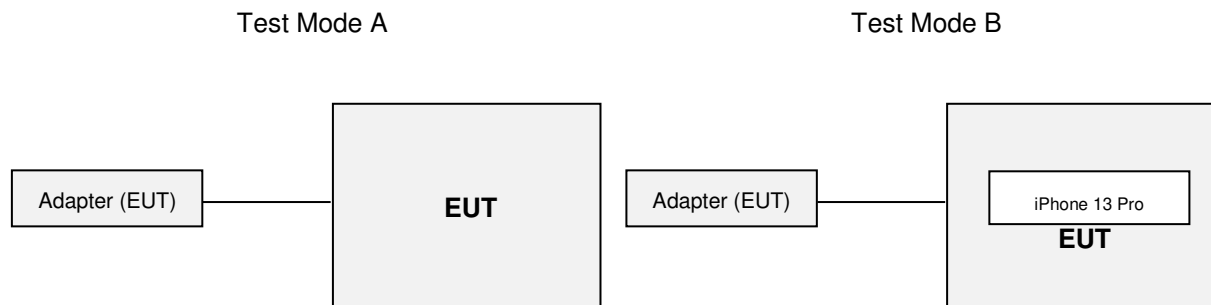
3.4 DESCRIPTION OF SUPPORT UNITS

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	iPhone 13 Pro	Apple	A2639	RWGKGR4X05	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

3.5 CONFIGURATION OF SYSTEM UNDER TEST



3.6 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 (15.207/15.209)

ANSI C63.10-2013

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

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	Aug. 05,22
Coaxial RF Cable	/	CE CABLE	C2310066DG	Jul. 27,22
Test software	ADT	ADT_Conc_V 7.3.7	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

- 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.

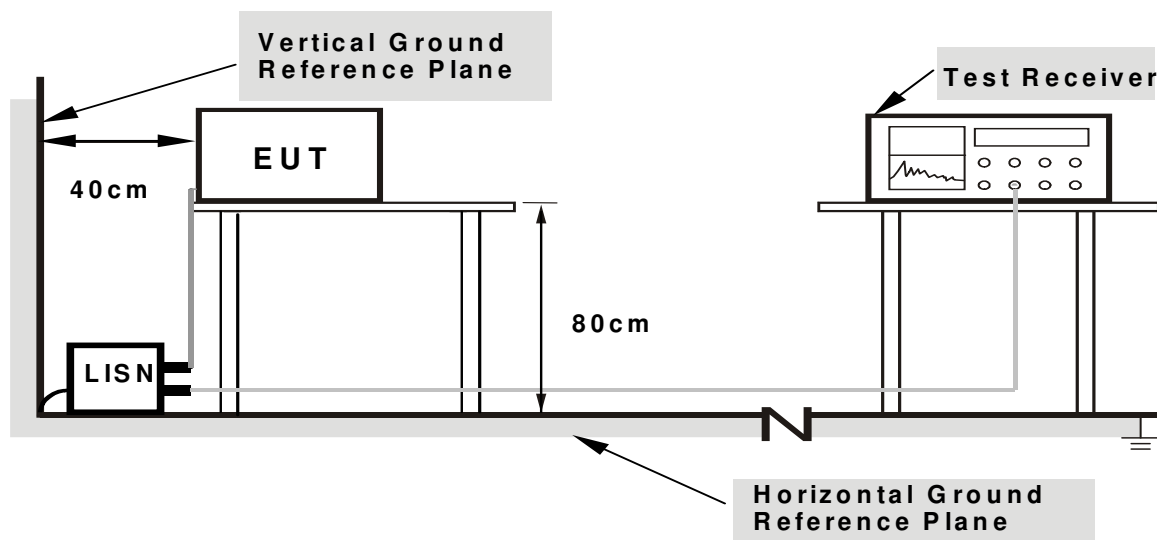
NOTES:

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

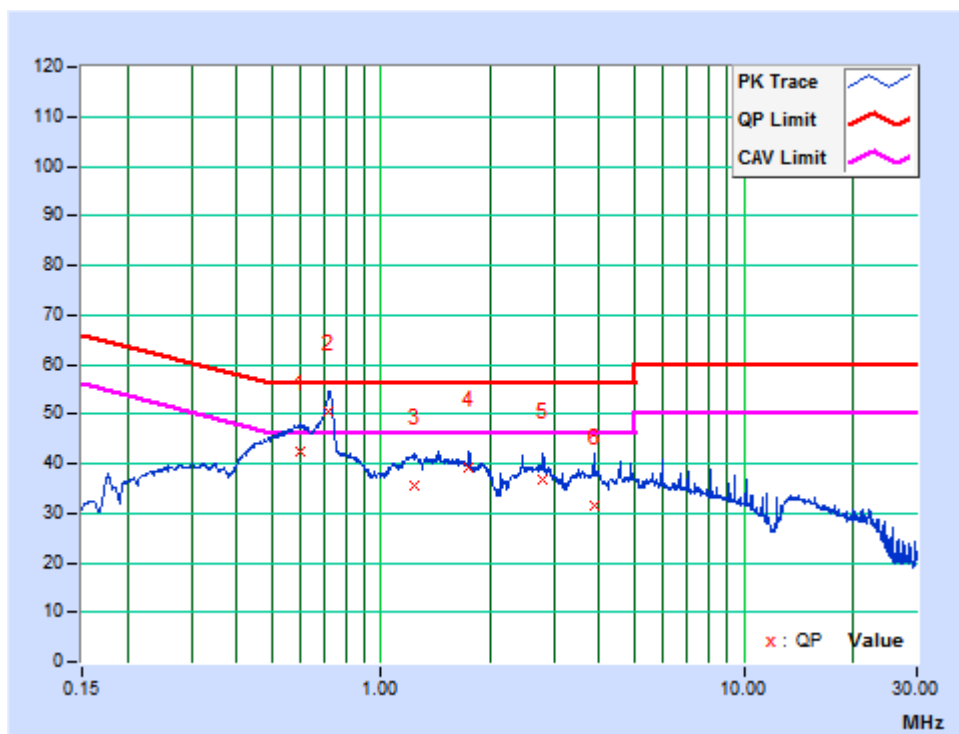
- a. Turn on the EUT.
- b. The EUT tested in charging mode and standby mode respectively.

4.1.7 TEST RESULTS

TEST MODE	A	PHASE	Line(L)
TEST VOLTAGE	AC 120V/60Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Summer	

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.59778	10.24	32.19	17.87	42.43	28.11	56.00	46.00	-13.57	-17.89
2	0.71913	10.25	40.43	28.04	50.68	38.29	56.00	46.00	-5.32	-7.71
3	1.23675	10.34	25.31	11.45	35.65	21.79	56.00	46.00	-20.35	-24.21
4	1.75080	10.39	28.79	17.02	39.18	27.41	56.00	46.00	-16.82	-18.59
5	2.80500	10.44	26.41	13.36	36.85	23.80	56.00	46.00	-19.15	-22.20
6	3.85563	10.48	21.19	6.65	31.67	17.13	56.00	46.00	-24.33	-28.87

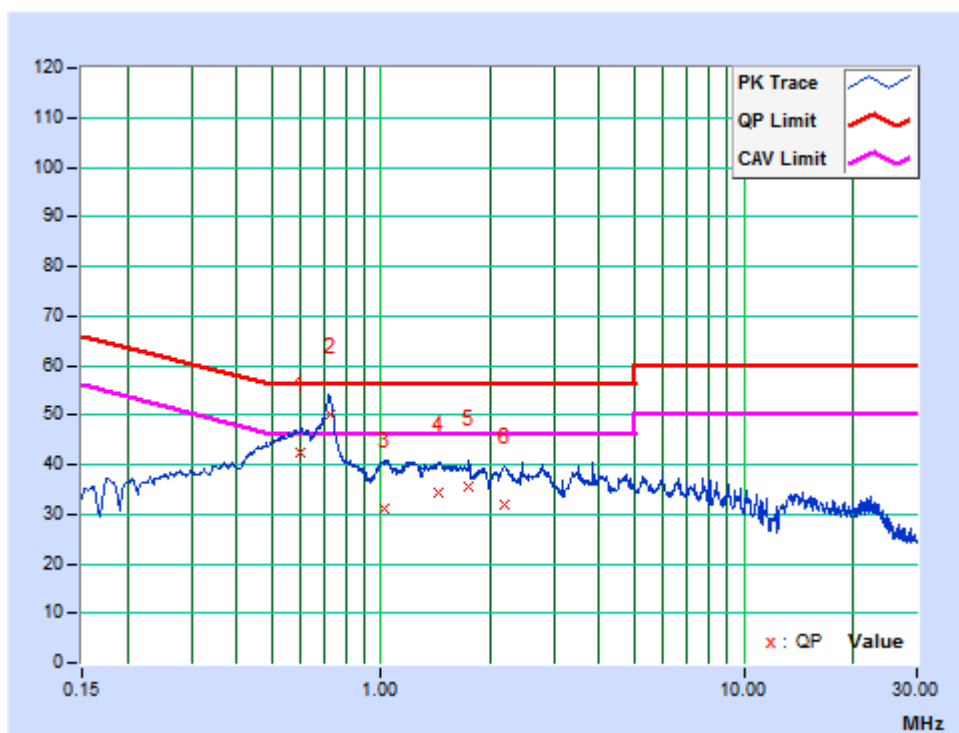
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	A	PHASE	Neutral (N)
TEST VOLTAGE	AC 120V/60Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Summer	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.60253	10.14	32.19	19.07	42.33	29.21	56.00	46.00	-13.67	-16.79
2	0.72103	10.11	39.90	28.71	50.01	38.82	56.00	46.00	-5.99	-7.18
3	1.02525	10.26	20.69	7.40	30.95	17.66	56.00	46.00	-25.05	-28.34
4	1.44150	10.26	24.13	11.43	34.39	21.69	56.00	46.00	-21.61	-24.31
5	1.75080	10.27	25.30	16.44	35.57	26.71	56.00	46.00	-20.43	-19.29
6	2.19711	10.27	21.58	10.21	31.85	20.48	56.00	46.00	-24.15	-25.52

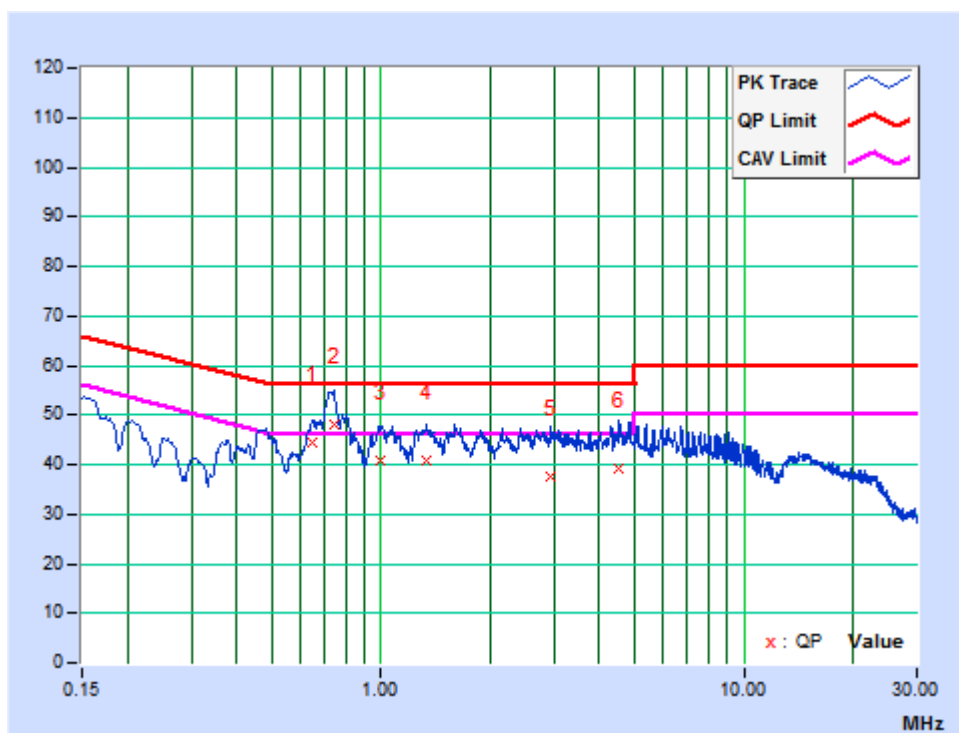
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	B	PHASE	Line(L)
TEST VOLTAGE	AC 120V/60Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Summer	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.64535	10.24	34.10	23.80	44.34	34.04	56.00	46.00	-11.66	-11.96
2	0.73950	10.25	37.68	29.30	47.93	39.55	56.00	46.00	-8.07	-6.45
3	0.98982	10.32	30.49	21.25	40.81	31.57	56.00	46.00	-15.19	-14.43
4	1.34098	10.35	30.29	20.77	40.64	31.12	56.00	46.00	-15.36	-14.88
5	2.93756	10.45	26.94	18.13	37.39	28.58	56.00	46.00	-18.61	-17.42
6	4.54200	10.51	28.56	18.46	39.07	28.97	56.00	46.00	-16.93	-17.03

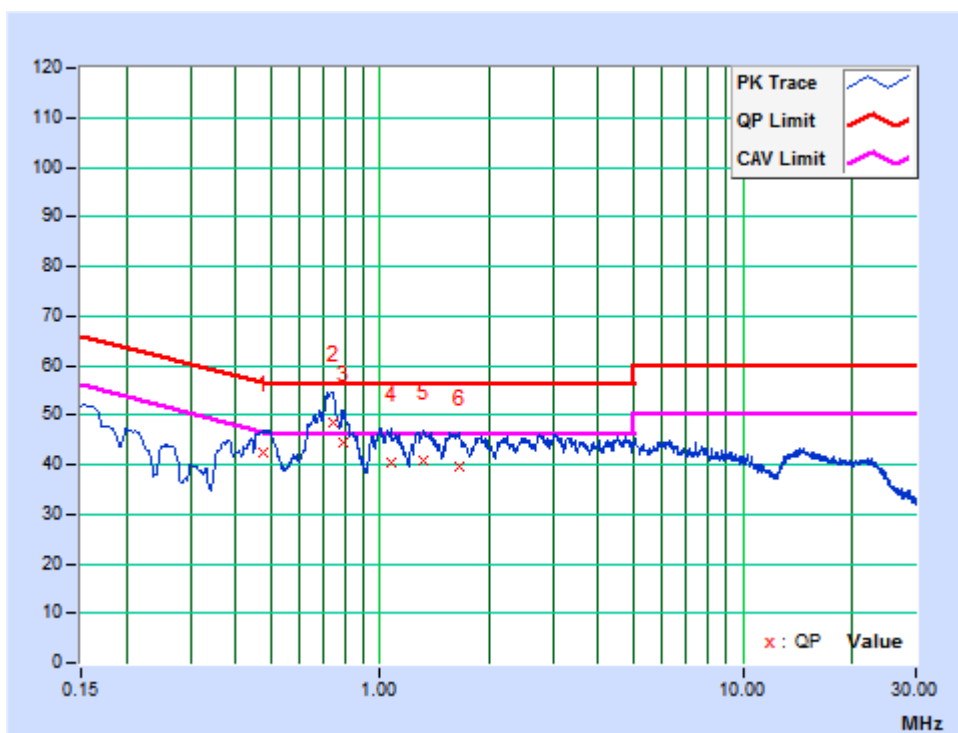
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	B	PHASE	Neutral (N)
TEST VOLTAGE	AC 120V/60Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 58% RH	TESTED BY: Summer	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.47384	10.18	32.06	24.79	42.24	34.97	56.45	46.45	-14.21	-11.48
2	0.73950	10.12	38.20	30.90	48.32	41.02	56.00	46.00	-7.68	-4.98
3	0.78875	10.15	34.32	26.17	44.47	36.32	56.00	46.00	-11.53	-9.68
4	1.07025	10.26	30.11	23.07	40.37	33.33	56.00	46.00	-15.63	-12.67
5	1.31295	10.26	30.55	21.65	40.81	31.91	56.00	46.00	-15.19	-14.09
6	1.65975	10.27	29.17	21.16	39.44	31.43	56.00	46.00	-16.56	-14.57

REMARKS: 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 21,22
Amplifier	Burgeon	BPA-530	100210	Mar. 13,22
Coaxial RF Cable	/	/	/	Aug. 03,22
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	ESU8	100372	Jul. 04, 22
Bilog Antenna	Sunol Sciences	JB1	A112017	Sep. 29, 22
Pre-Amplifier	HP	8447E	100220	Mar. 10, 22
3m Semi-anechoic Chamber	Burgeon	9m*6m*6m	NSEMC003	Oct. 15, 22
Coaxial RF Cable(3m Below 1G)	/	/	/	Aug. 30, 22
Test software	ADT	ADT_Radiated_V 7.6.15.9.2	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:

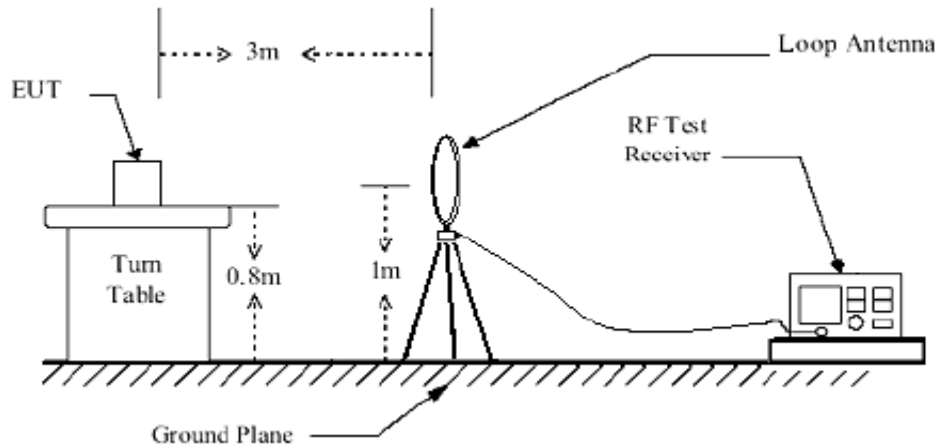
1. The resolution bandwidth of test receiver/spectrum analyzer is 200Hz for Quasi-peak detection (QP/AV) at fundamental frequency 9K-150KHz;
2. The resolution bandwidth of test receiver/spectrum analyzer is 9KHz for Quasi-peak detection (QP/AV) at fundamental frequency 150K-30MHz;
3. The resolution bandwidth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

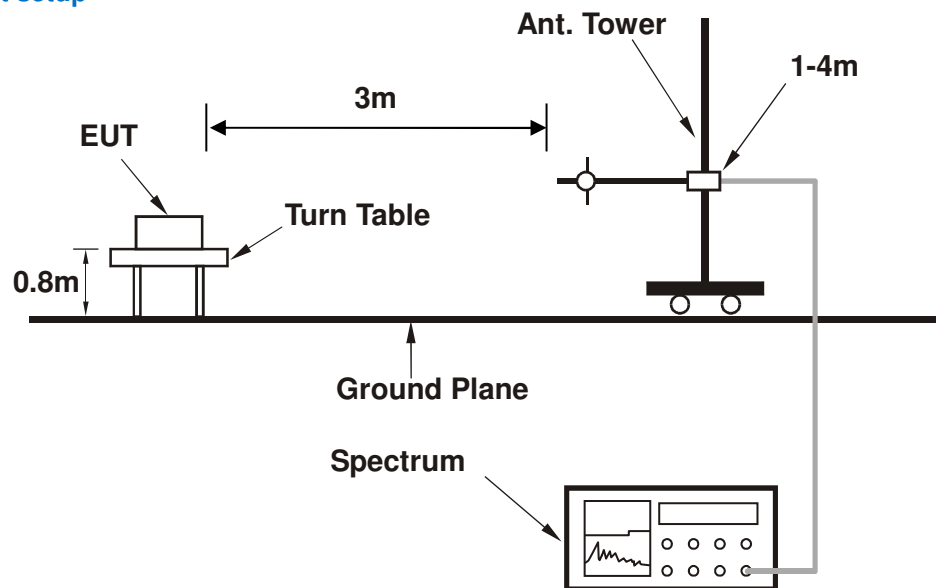
No deviation.

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

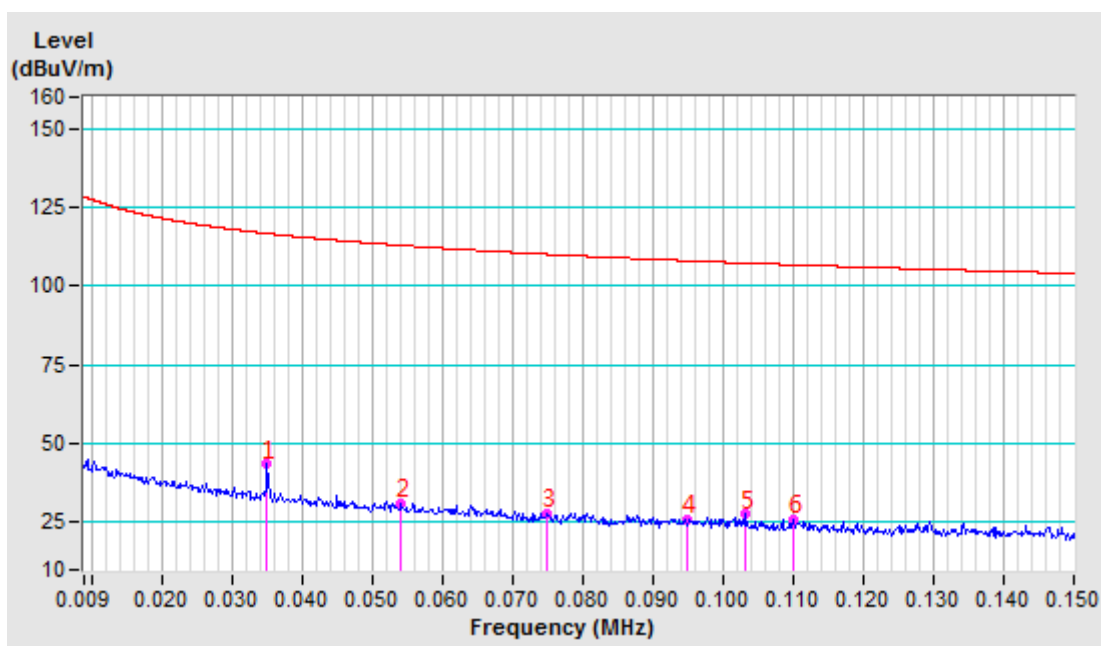
- Turn on the EUT.
- The EUT tested in charging mode and standby mode respectively.

4.2.7 TEST RESULTS

Standby Mode

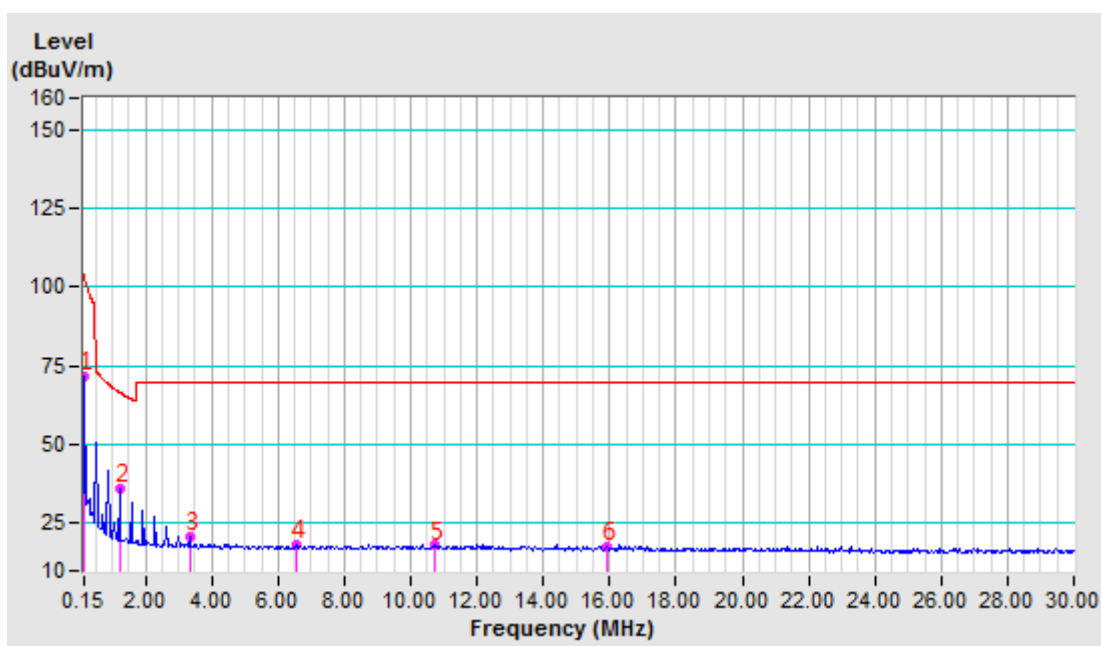
Test Mode	A	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA 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	0.03510 AV	-10.83	54.27	43.44	116.70	-73.26	100	27
2	0.05410 AV	-10.87	42.03	31.16	112.94	-81.78	100	38
3	0.07500 AV	-10.86	38.97	28.11	110.10	-81.99	100	25
4	0.09480 QP	-10.82	36.86	26.04	108.07	-82.03	100	38
5	0.10320 QP	-10.81	38.29	27.48	107.33	-79.85	100	88
6	0.11000 AV	-10.82	36.80	25.98	106.77	-80.79	100	38



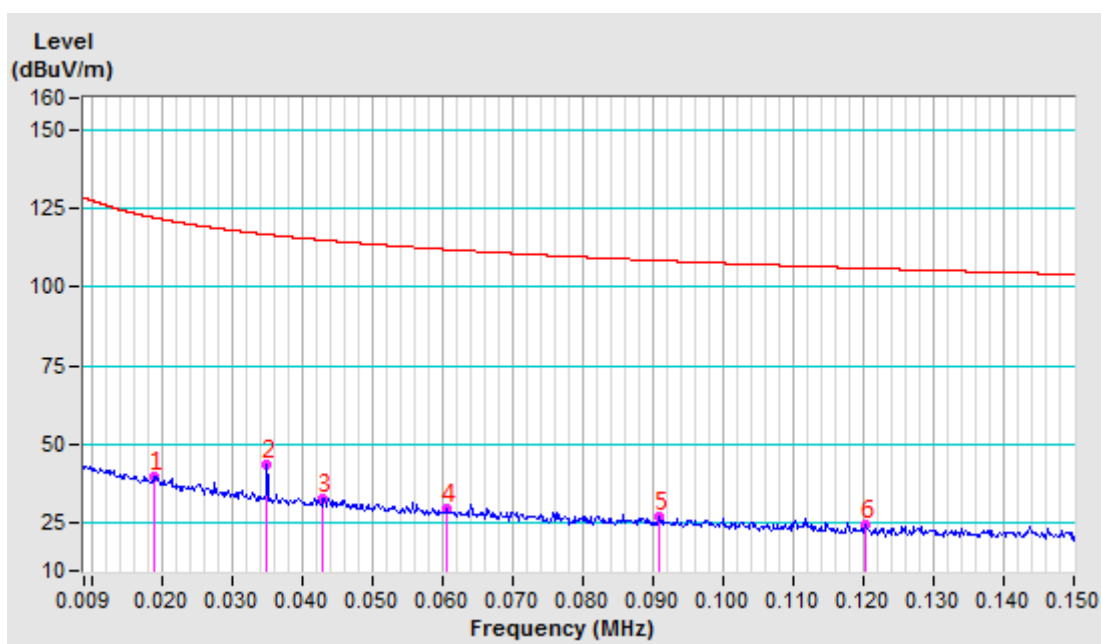
Test Mode	A	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA 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	0.17390 AV	-10.89	82.55	71.66	102.80	-31.14	100	189
2	1.22760 QP	-11.17	47.29	36.12	66.56	-30.44	100	189
3	3.33370 QP	-11.22	31.86	20.64	69.54	-48.90	100	232
4	6.55310 QP	-11.28	29.49	18.21	69.54	-51.33	100	158
5	10.75030 QP	-11.16	29.15	17.99	69.54	-51.55	100	358
6	15.93700 QP	-11.09	28.53	17.44	69.54	-52.10	100	155



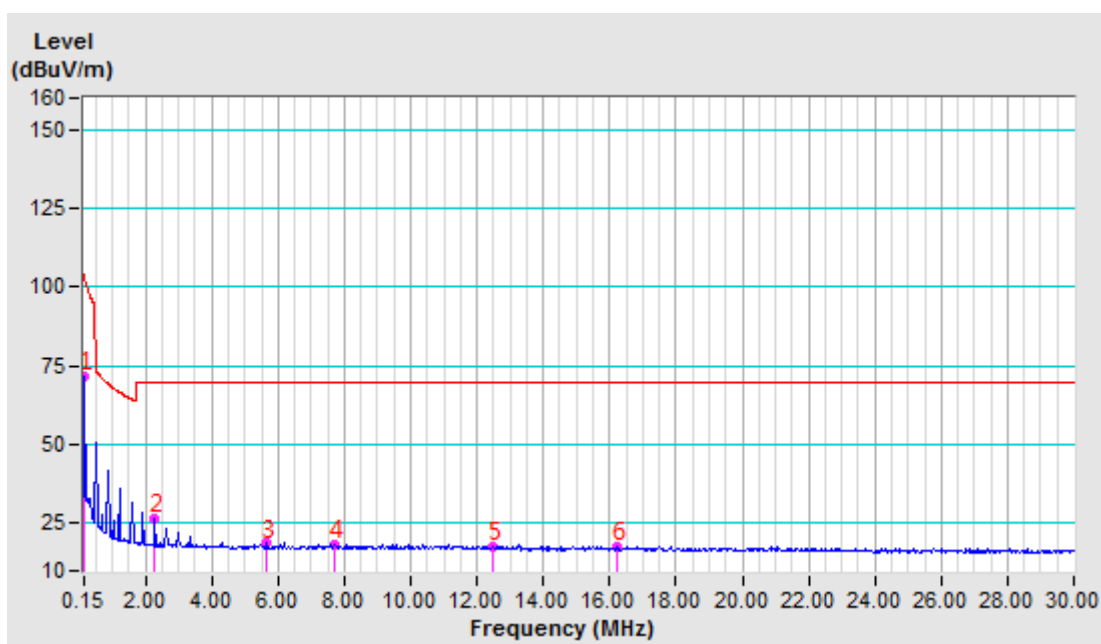
Test Mode	A	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PERPENDICULAR 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	0.01910 AV	-10.31	50.12	39.81	121.98	-82.17	100	321
2	0.03510 AV	-10.83	54.42	43.59	116.70	-73.11	100	100
3	0.04310 AV	-10.85	43.93	33.08	114.91	-81.83	100	95
4	0.06070 AV	-10.89	40.50	29.61	111.94	-82.33	100	47
5	0.09080 QP	-10.82	38.07	27.25	108.44	-81.19	100	69
6	0.12030 AV	-10.85	35.42	24.57	106.00	-81.43	100	4



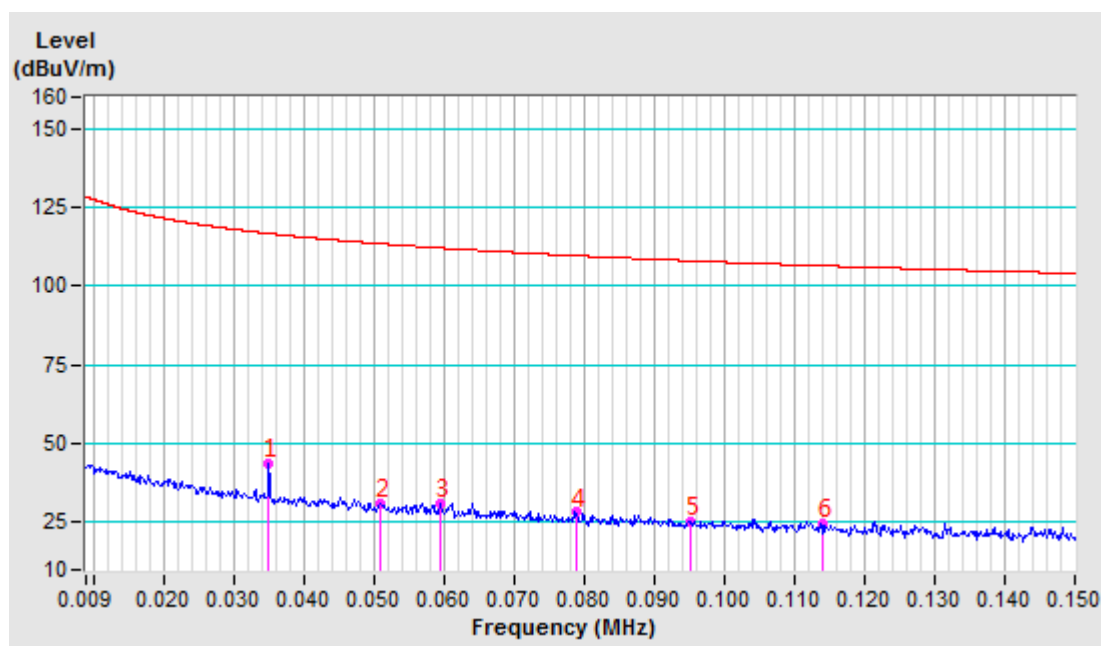
Test Mode	A	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PERPENDICULAR AT 3m								
No	Freq. (MHz)	Correctio n Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.17390 AV	-10.89	82.59	71.70	102.80	-31.10	100	206
2	2.27840 QP	-11.20	38.01	26.81	69.54	-42.73	100	184
3	5.62920 QP	-11.32	29.92	18.60	69.54	-50.94	100	343
4	7.70840 QP	-11.21	29.76	18.55	69.54	-50.99	100	72
5	12.46820 QP	-11.10	29.01	17.91	69.54	-51.63	100	103
6	16.19820 QP	-11.09	28.68	17.59	69.54	-51.95	100	185



Test Mode	A	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-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	0.03510 AV	-10.83	54.33	43.50	116.70	-73.20	100	360
2	0.05100 AV	-10.86	41.84	30.98	113.45	-82.47	100	1
3	0.05960 AV	-10.89	42.01	31.12	112.10	-80.98	100	38
4	0.07880 AV	-10.84	38.96	28.12	109.67	-81.55	100	2
5	0.09510 QP	-10.81	36.36	25.55	108.04	-82.49	100	3
6	0.11390 AV	-10.83	35.28	24.45	106.47	-82.02	100	25



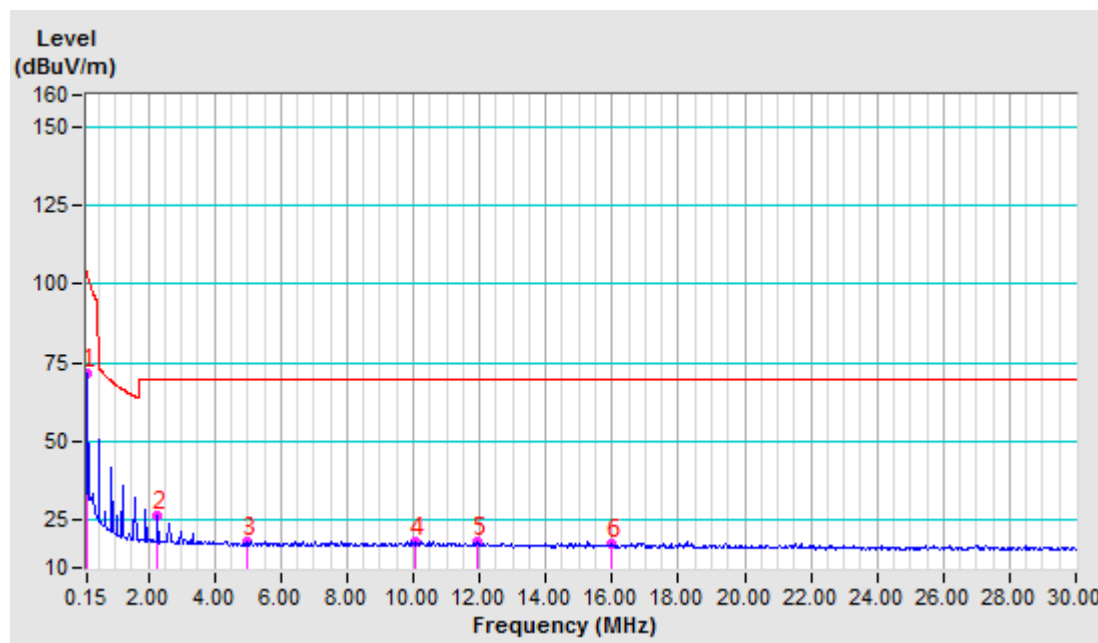


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Test Report No.: RF2112WDG3076

Test Mode	A	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

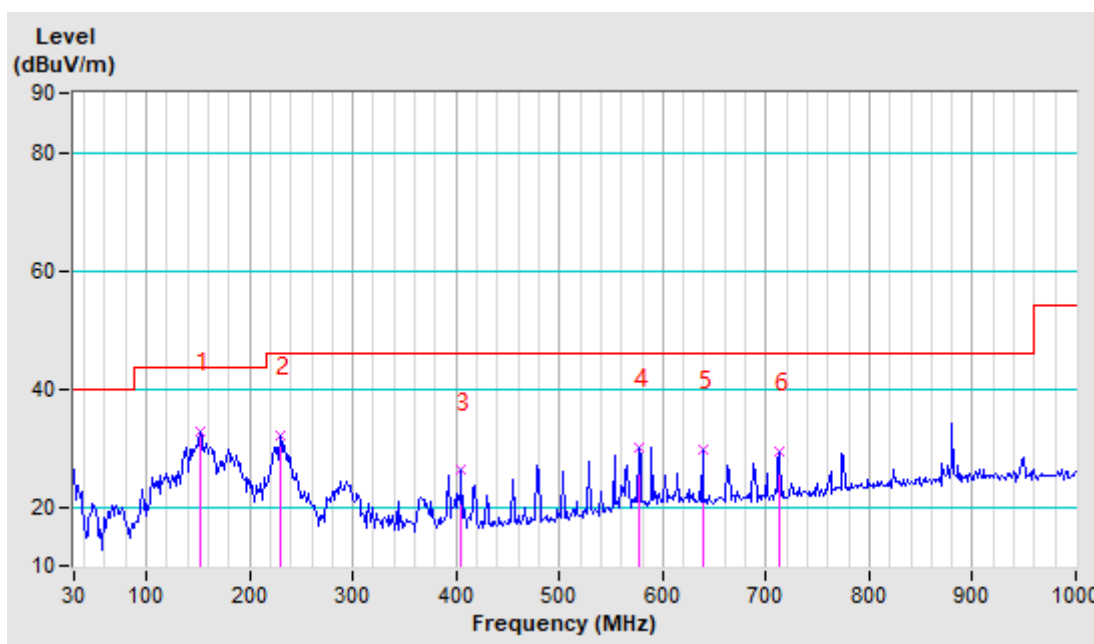
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m								
No	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.17390 AV	-10.89	82.61	71.72	102.80	-31.08	100	206
2	2.27840 QP	-11.20	37.90	26.70	69.54	-42.84	100	188
3	4.97400 QP	-11.32	29.74	18.42	69.54	-51.12	100	80
4	10.06970 QP	-11.20	29.54	18.34	69.54	-51.20	100	215
5	11.91900 QP	-11.10	29.44	18.34	69.54	-51.20	100	270
6	16.01010 QP	-11.09	28.59	17.50	69.54	-52.04	100	360



Test Mode	A	Frequency Range	30MHz ~ 1000MHz
Test Voltage	AC 120V/60Hz	Detector Function	Quasi-Peak (QP)
Environmental Conditions	25deg. C, 58% RH	Tested By	Rollins

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	152.30	-13.63	46.30	32.67	43.50	-10.83	100	108
2	229.62	-15.04	47.20	32.16	46.00	-13.84	100	123
3	405.35	-10.62	36.77	26.15	46.00	-19.85	100	119
4	576.86	-7.19	37.20	30.01	46.00	-15.99	100	114
5	638.71	-6.10	35.79	29.69	46.00	-16.31	100	128
6	713.22	-5.10	34.53	29.43	46.00	-16.57	100	135

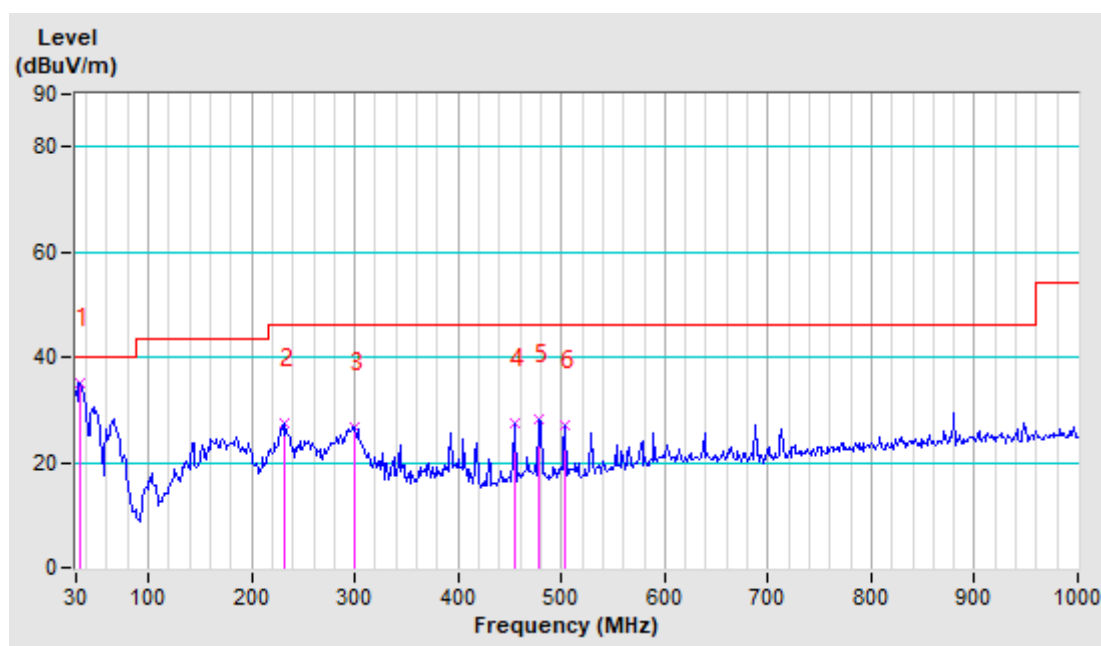
- REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30-1000MHz.
4. Only emissions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



Test Mode	A	Frequency Range	30MHz ~ 1000MHz
Test Voltage	AC 120V/60Hz	Detector Function	Quasi-Peak (QP)
Environmental Conditions	25deg. C, 58% RH	Tested By	Rollins

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	34.22	-15.74	50.65	34.91	40.00	-5.09	100	0
2	232.43	-14.91	42.24	27.33	46.00	-18.67	100	0
3	299.91	-12.53	39.15	26.62	46.00	-19.38	100	0
4	454.55	-9.82	37.21	27.39	46.00	-18.61	100	0
5	478.45	-9.46	37.67	28.21	46.00	-17.79	100	0
6	503.75	-9.04	36.04	27.00	46.00	-19.00	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: 30-1000MHz.
4. Only emissions significantly above equipment noise floor are reported.

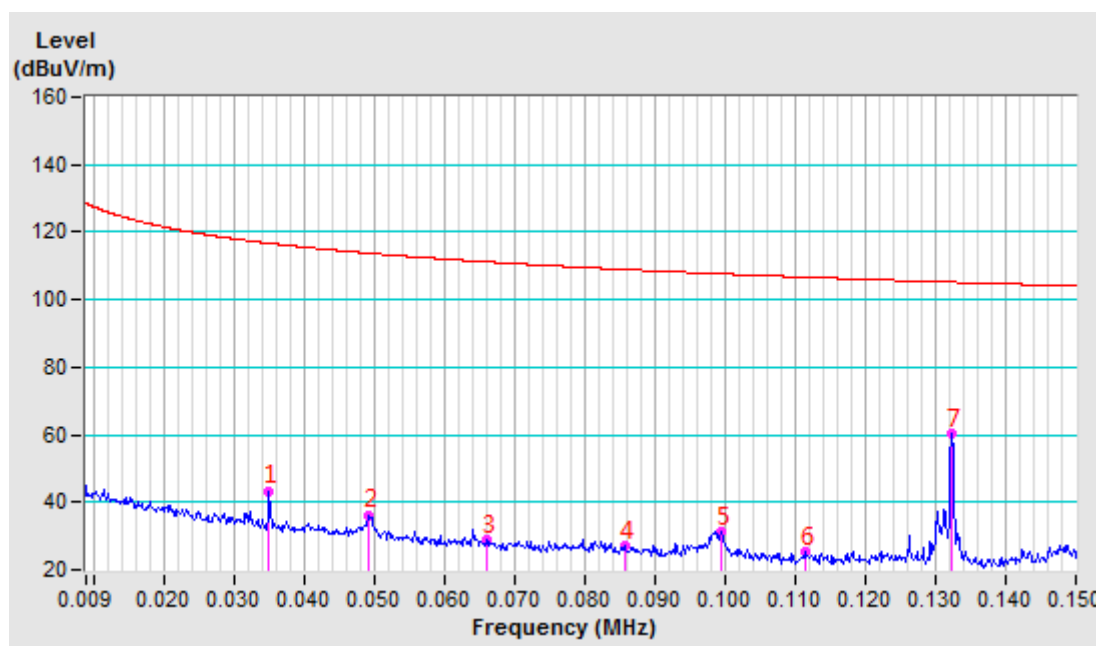


Charging Mode

Test Mode	B	Frequency Range	30MHz ~ 1000MHz
Test Voltage	AC 120V/60Hz	Detector Function	Quasi-Peak (QP)
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA 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	0.03510 AV	-10.83	54.19	43.36	116.70	-73.34	100	27
2	0.04930 AV	-10.86	47.16	36.30	113.75	-77.45	100	77
3	0.06600 AV	-10.88	39.71	28.83	111.21	-82.38	100	77
4	0.08570 AV	-10.83	37.74	26.91	108.94	-82.03	100	56
5	0.09950 QP	-10.81	42.00	31.19	107.65	-76.46	100	98
6	0.11160 AV	-10.83	36.03	25.20	106.65	-81.45	100	17
7	0.13230 AV	-10.87	71.25	60.38	105.17	-44.79	100	4

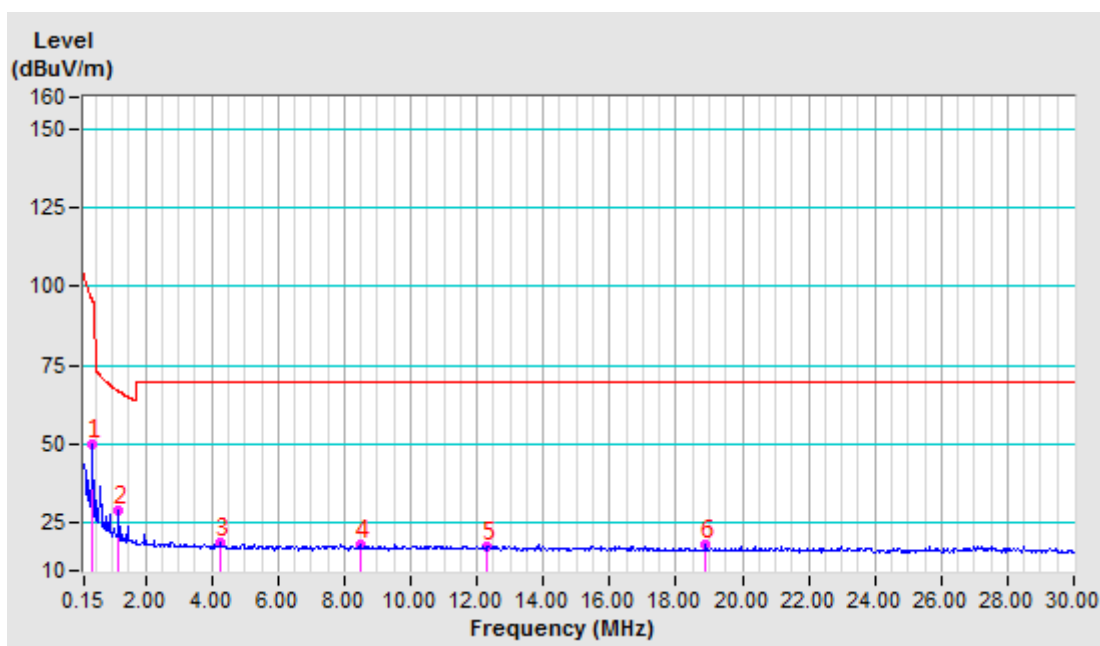
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30-1000MHz.
4. Only emissions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



Test Mode	B	Frequency Range	30MHz ~ 1000MHz
Test Voltage	AC 120V/60Hz	Detector Function	Quasi-Peak (QP)
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

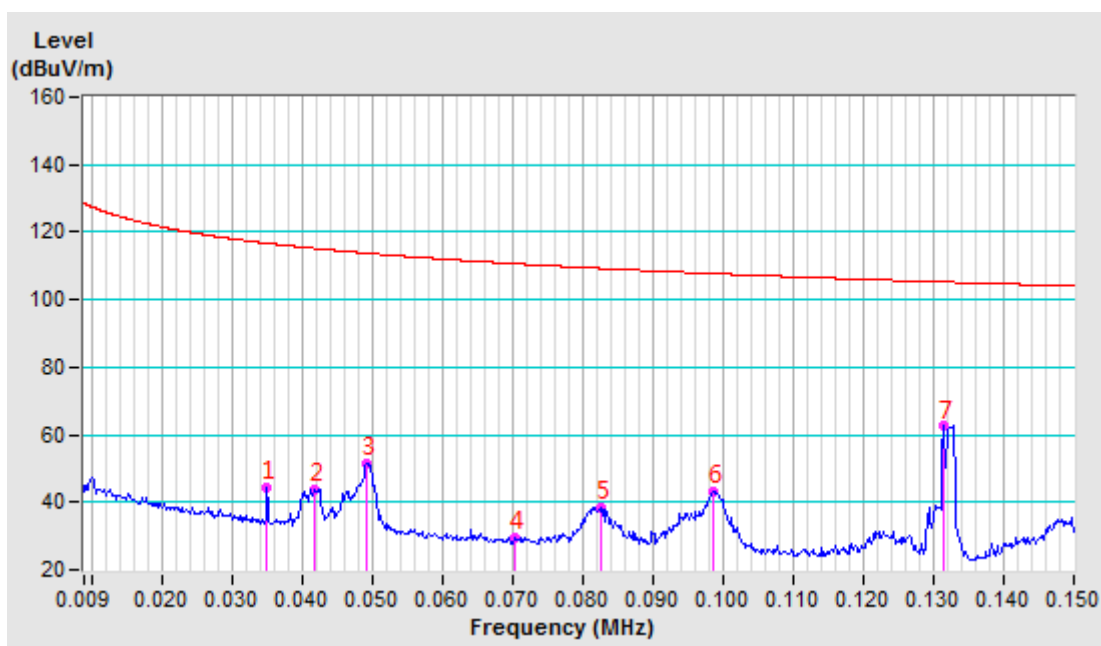
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PARALLEL AT 3m								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.39630 AV	-10.98	60.85	49.87	95.64	-45.77	100	246
2	1.19180 QP	-11.17	40.05	28.88	66.79	-37.91	100	258
3	4.27250 QP	-11.26	30.03	18.77	69.54	-50.77	100	59
4	8.46360 QP	-11.20	29.33	18.13	69.54	-51.41	100	121
5	12.30700 QP	-11.10	28.93	17.83	69.54	-51.71	100	318
6	18.90720 QP	-11.11	29.34	18.23	69.54	-51.31	100	108

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: 30-1000MHz.
4. Only emissions significantly above equipment noise floor are reported.



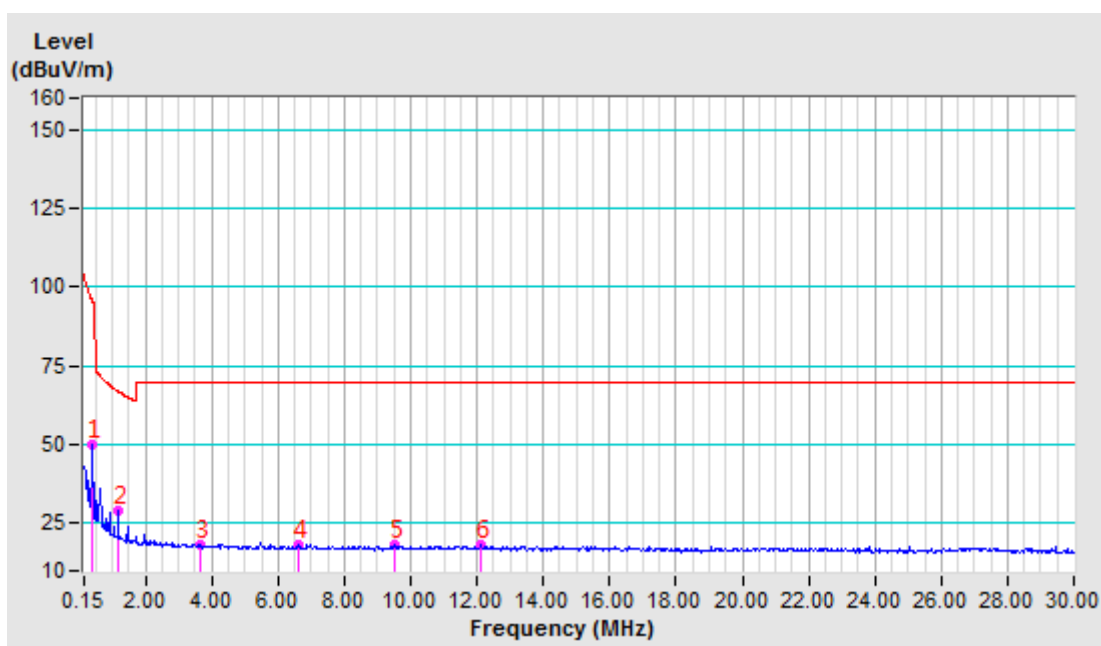
Test Mode	B	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PERPENDICULAR 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	0.03510 AV	-10.83	55.27	44.44	116.70	-72.26	100	47
2	0.04190 AV	-10.84	54.69	43.85	115.16	-71.31	100	74
3	0.04920 AV	-10.86	62.37	51.51	113.76	-62.25	100	38
4	0.07050 AV	-10.87	40.48	29.61	110.64	-81.03	100	33
5	0.08250 AV	-10.83	49.48	38.65	109.27	-70.62	100	25
6	0.09850 QP	-10.81	53.99	43.18	107.73	-64.55	100	77
7	0.13140 AV	-10.87	73.54	62.67	105.23	-42.56	100	2



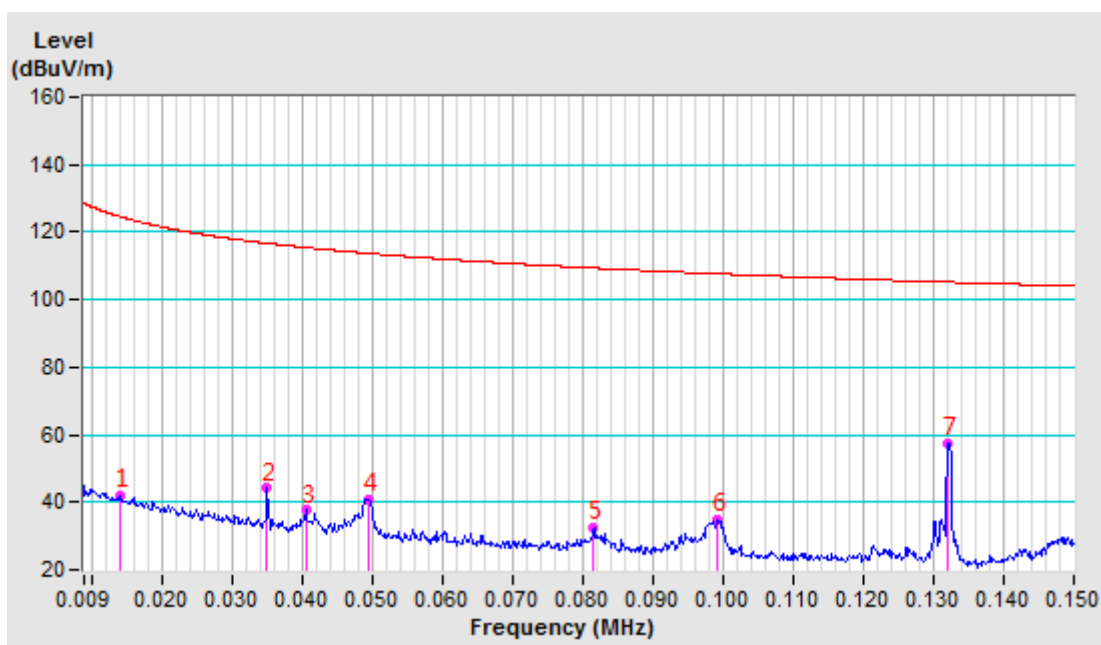
Test Mode	B	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PERPENDICULAR 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	0.39480 AV	-10.98	60.94	49.96	95.68	-45.72	100	250
2	1.18730 QP	-11.17	40.09	28.92	66.82	-37.90	100	248
3	3.68290 QP	-11.24	29.57	18.33	69.54	-51.21	100	183
4	6.59640 QP	-11.27	29.39	18.12	69.54	-51.42	100	148
5	9.49800 QP	-11.20	29.24	18.04	69.54	-51.50	100	254
6	12.13690 QP	-11.09	29.12	18.03	69.54	-51.51	100	310



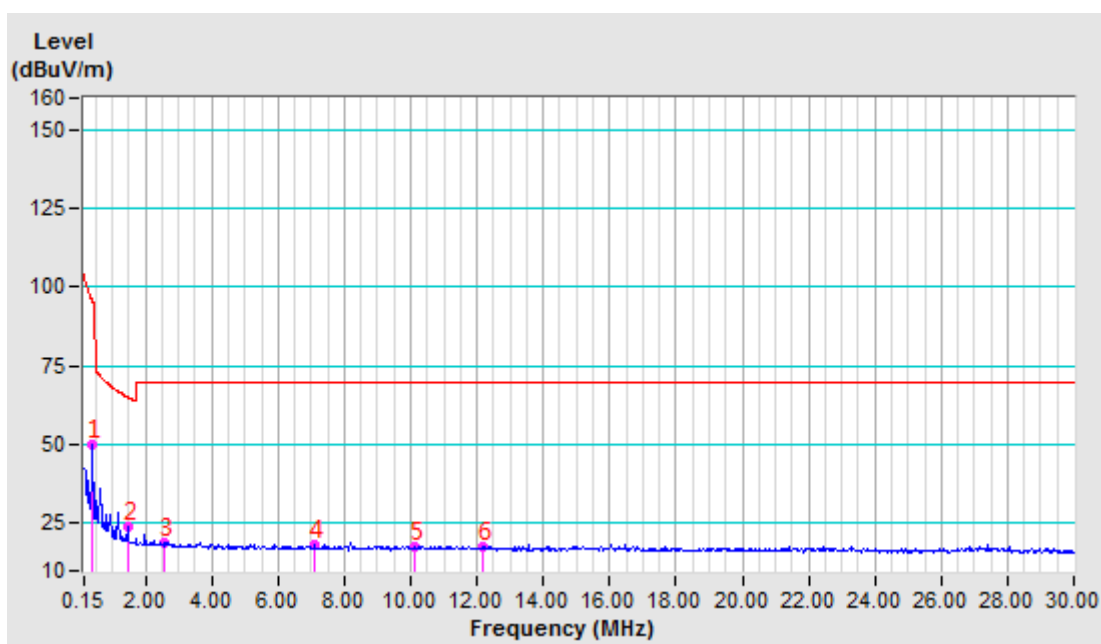
Test Mode	B	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PERPENDICULAR 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	0.01400 AV	-10.07	52.11	42.04	124.68	-82.64	100	274
2	0.03510 AV	-10.83	54.94	44.11	116.70	-72.59	100	14
3	0.04060 AV	-10.84	48.43	37.59	115.43	-77.84	100	74
4	0.04960 AV	-10.86	51.89	41.03	113.69	-72.66	100	37
5	0.08160 AV	-10.84	43.50	32.66	109.37	-76.71	100	225
6	0.09920 QP	-10.81	45.79	34.98	107.67	-72.69	100	38
7	0.13210 AV	-10.87	68.29	57.42	105.18	-47.76	100	3



Test Mode	B	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	AC 120V/60Hz	Detector Function	QP&AV
Environmental Conditions	24deg. C, 53% RH	Tested By	Ray

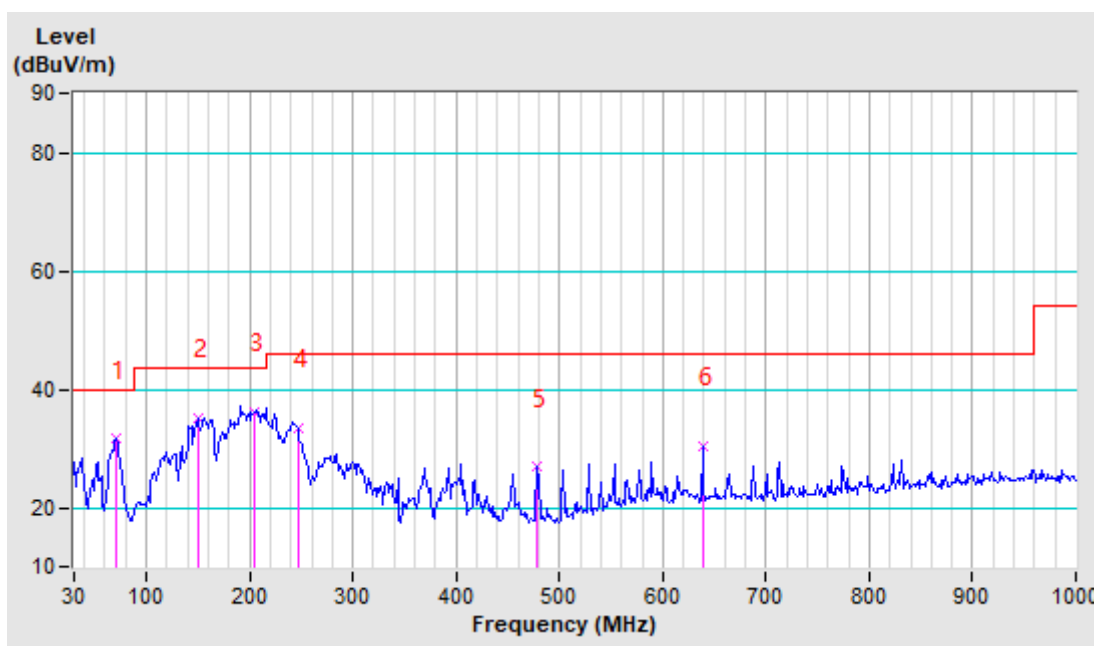
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA PERPENDICULAR AT 3m								
No	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.39480 AV	-10.98	60.95	49.97	95.68	-45.71	100	247
2	1.45000 QP	-11.17	35.07	23.90	65.25	-41.35	100	254
3	2.56350 QP	-11.21	29.93	18.72	69.54	-50.82	100	128
4	7.11880 QP	-11.25	29.60	18.35	69.54	-51.19	100	122
5	10.14280 QP	-11.19	28.87	17.68	69.54	-51.86	100	159
6	12.18160 QP	-11.09	28.84	17.75	69.54	-51.79	100	34



Test Mode	B	Frequency Range	30MHz ~ 1000MHz
Test Voltage	AC 120V/60Hz	Detector Function	QP
Environmental Conditions	25deg. C, 58% RH	Tested By	Rollins

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	70.77	-15.56	47.09	31.53	40.00	-8.47	100	85
2	149.49	-13.69	48.85	35.16	43.50	-8.34	100	31
3	204.32	-16.20	52.36	36.16	43.50	-7.34	100	66
4	246.49	-14.35	47.87	33.52	46.00	-12.48	100	21
5	478.45	-9.46	36.29	26.83	46.00	-19.17	100	56
6	638.71	-6.10	36.55	30.45	46.00	-15.55	100	56

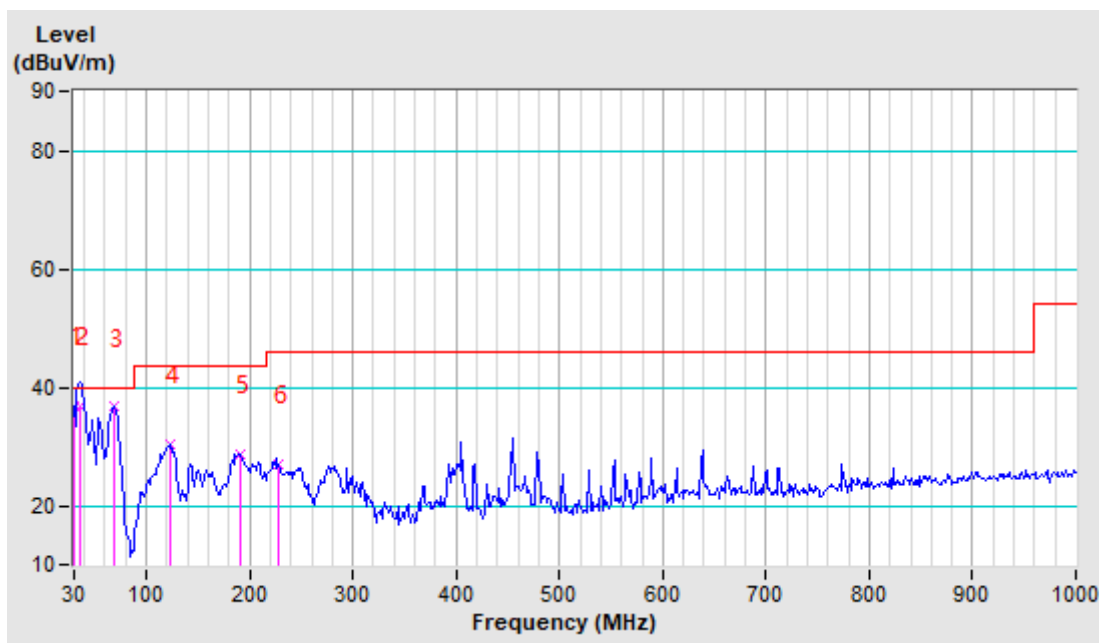
- REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30-1000MHz.
4. Only emissions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



Test Mode	B	Frequency Range	30MHz ~ 1000MHz
Test Voltage	AC 120V/60Hz	Detector Function	Quasi-Peak (QP)
Environmental Conditions	25deg. C, 58% RH	Tested By	Rollins

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	30.00	-16.72	53.55	36.83	40.00	-3.17	100	207
2	35.62	-15.50	52.25	36.75	40.00	-3.25	100	258
3	69.36	-15.31	51.94	36.63	40.00	-3.37	100	222
4	122.78	-16.39	46.74	30.35	43.50	-13.15	100	277
5	190.26	-15.65	44.28	28.63	43.50	-14.87	100	234
6	228.22	-15.10	42.17	27.07	46.00	-18.93	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: 30-1000MHz.
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.
Power Sensor	Keysight	U2021XA	MY55060016	N/A
Power Sensor	Keysight	U2021XA	MY55060018	May 09, 22
Power Meter	Anritsu	ML2495A	1139001	Feb. 24, 22
Power Sensor	Anritsu	MA2411B	1531155	Feb. 24, 22
Digital Multimeter	FLUKE	15B	A1220010DG	N/A
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Nov. 03, 22
Oscilloscope	Agilent	DSO9254A	MY51260160	Aug. 11, 22
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Feb. 24, 22
Signal Generator	Agilent	N5183A	MY50140980	Mar. 23, 22
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Sep. 14, 22
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
DC Source	Keysight	E3642A	MY56146098	N/A
Test software	ADT	ADT_RF Test Software V6.6.5.3	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 RF Oven room.

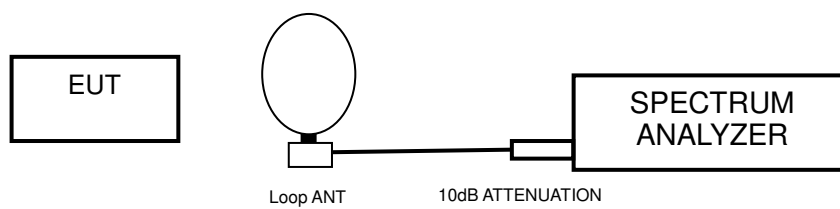
4.3.3 TEST PROCEDURE

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT and connect it to measurement instrument. 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.
- Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- Repeat above procedures until all frequencies measured were complete.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



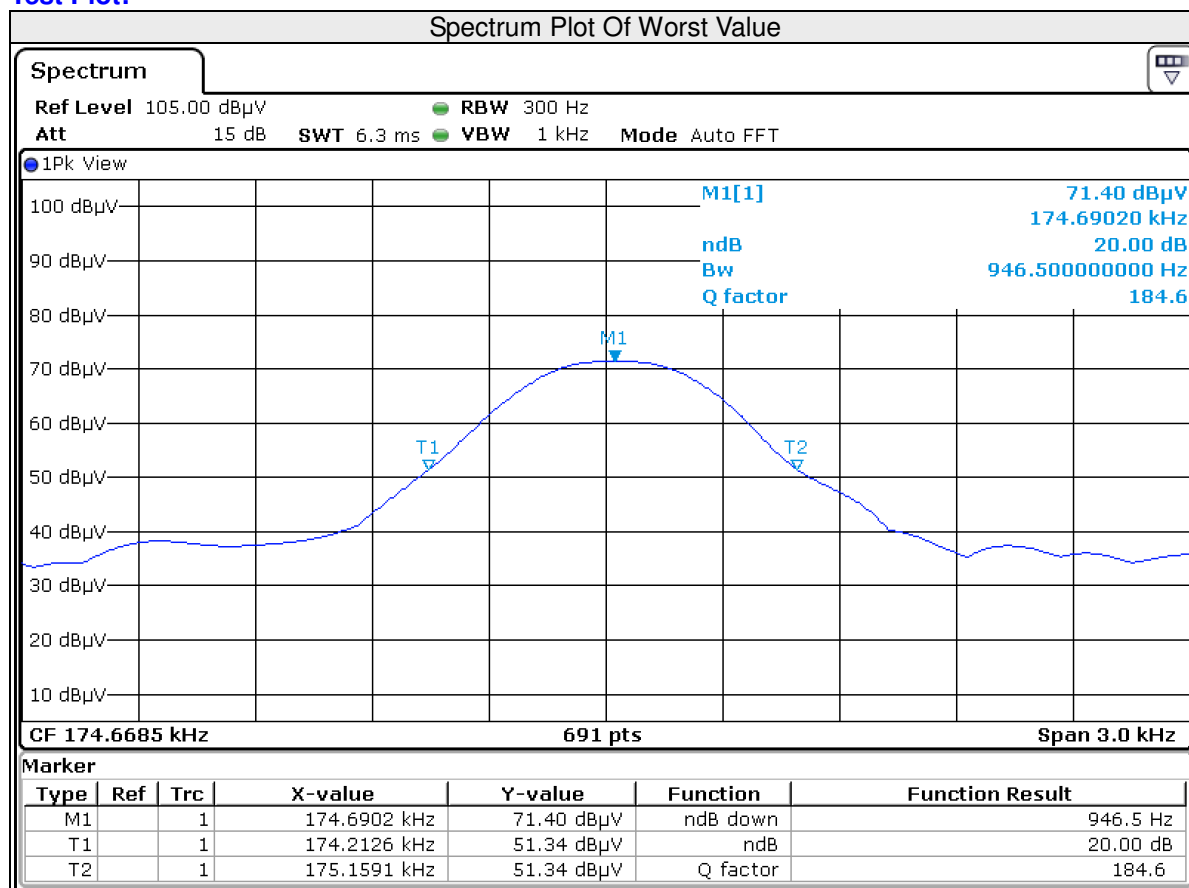
4.3.6 EUT OPERATING CONDITION

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

4.3.7 TEST RESULTS

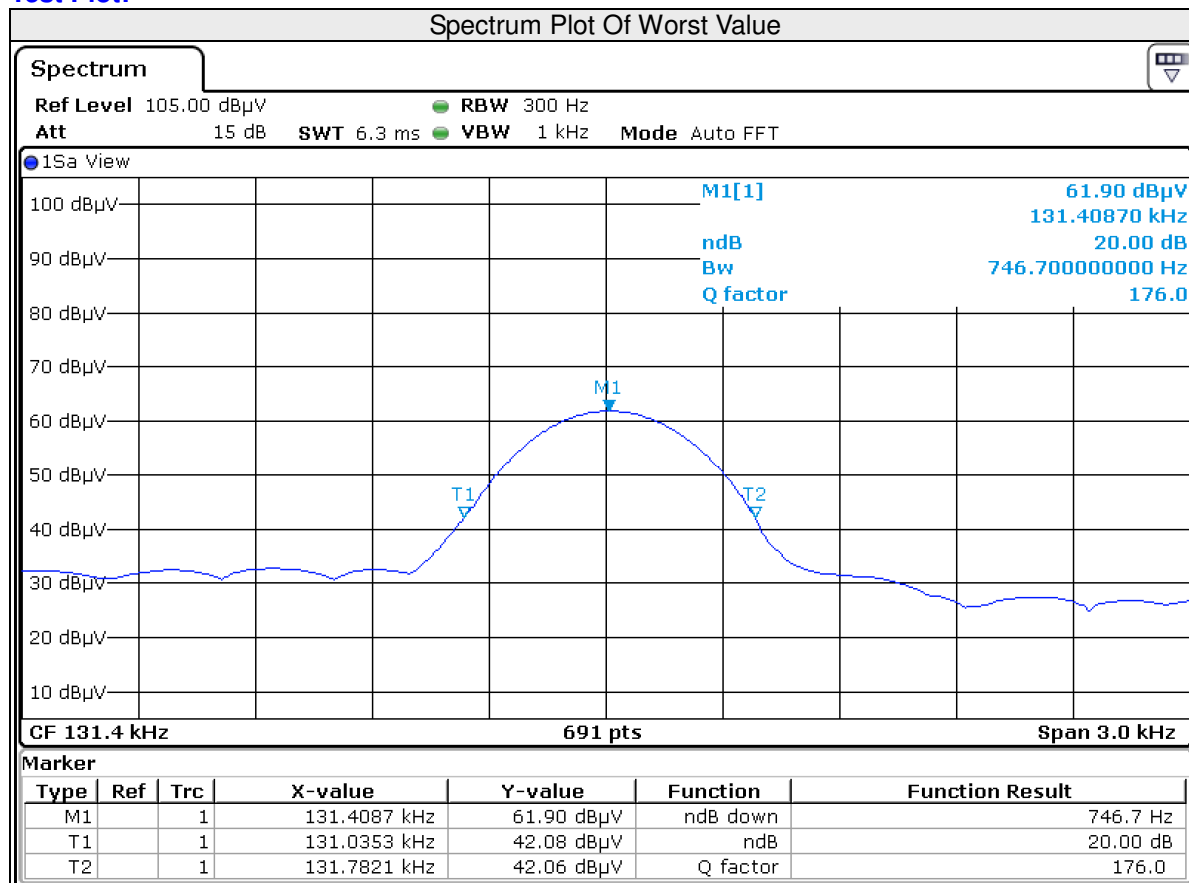
Test Mode	Frequency (kHz)	20dB Bandwidth (Hz)
A	174.669	946.5

Test Plot:



Test Mode	Frequency (kHz)	20dB Bandwidth (Hz)
B	131.400	746.7

Test Plot:





Test Report No.: RF2112WDG3076

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---