



Test Report No.: RF2312WDG0065



TEST REPORT



Applicant	Shanghai Power Station Co., Ltd.
Address	18th Building, No. 4916 South Hongmei Road, Minhang District, Shanghai, China

Manufacturer or Supplier	Shanghai Power Station Co., Ltd.
Address	18th Building, No. 4916 South Hongmei Road, Minhang District, Shanghai, China
Product	JUMP STARTER
Brand Name	N/A
Model	GL056WA
Additional Model & Model Difference	N/A
Date of tests	Dec. 18, 2023 ~ Jan. 09, 2024

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. 18, 2024

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Test Report No.: RF2312WDG0065

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2312WDG0065	Original release	Jan. 18, 2024

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	N/A	Powered by Battery
§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	3.36dB
Radiated emissions	9KHz ~ 30MHz	4.65dB
	30MHz ~ 1GMHz	5.01dB

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	JUMP STARTER
MODEL NO.	GL056WA
ADDITIONAL MODELS	N/A
FCC ID	2BEG5-GL056WA
POWER SUPPLY	Input: DC 13V From Adapter Output: DC 11.1V From Li-ion Battery
MODULATION TYPE	ASK
OPERATING FREQUENCY	112KHz ~ 148KHz
ANTENNA TYPE	Coil Antenna
FIELD STRENGTH	80.56 dBuV/m
MAXIMUM POWER OUTPUT FROM THE CHARGING COIL	Max Power is 10W
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.: 2312WDG0065-1) for detailed product photo.
4. When the EUT in charging that the wireless charging can’t working.
5. The EUT was powered by the following adapter:

ADAPTER1	
BRAND:	N/A
MODEL:	WJ-Y301301000W
INPUT:	AC 100-240V, 50/60Hz
OUTPUT:	DC 13V, 1.0A
DC CABLE:	Unshielded, Non-detachable, 150cm

3.2 DESCRIPTION OF TEST MODES

The EUT was tested under the following modes the below modes were marked in boldface and recorded in this report.

TEST FREQUENCY	TEST MODE	TEST VOLTAGE
128.3KHz	Standby	DC 11.1V From Li-ion Battery
137.7KHz	Operation	

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 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	Remark
1	Wireless Charing Receiving Load	N/A	Max. 15W	N/A	Provide by Client
2	Wireless Charing Receiving Load	N/A	Max. 15W	N/A	Provide by Lab

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



4 EMISSION TEST

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 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

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. 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)



4.1.2 TEST INSTRUMENTS

FREQUENCY 9KHz-30MHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Jan. 02, 25
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	1519B-045	May. 09, 24
Amplifier	Burgeon	BPA-530	100220	Mar. 06, 24
Coaxial RF Cable	/	/	/	Jul. 06, 24
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	Jan. 02, 25
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Dec. 25, 25
Pre-Amplifier	Burgeon	BPA-530	100220	Mar. 06, 24
3m Semi-anechoic Chamber	Burgeon	9m*6m*6m	NSEMC003	May. 20, 24
Coaxial RF Cable (3m Below 1G)	/	/	/	Jul. 03, 24
Test software	ADT	ADT_Radiated_V7.6.1 5.9.2	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.



4.1.3 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 1.3 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.

NOTE:

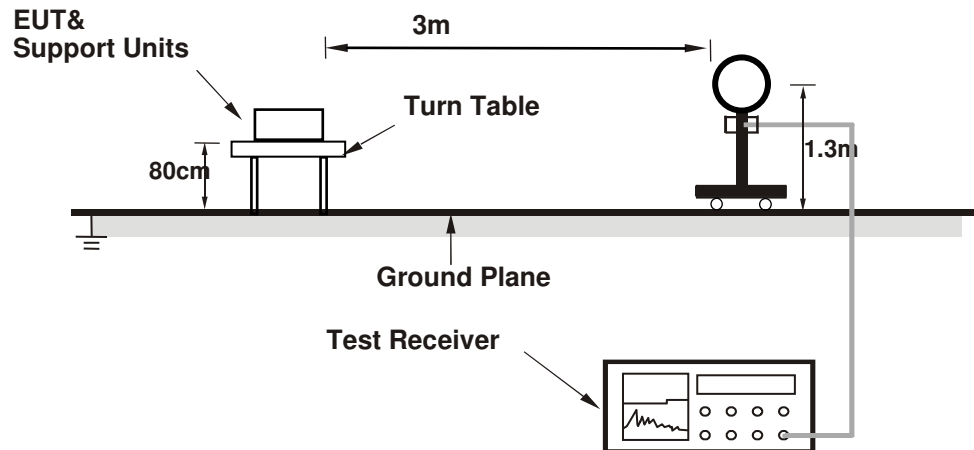
1. The resolution bandwidth of test receiver/spectrum analyzer is 200Hz for Quasi-peak detection (QP) at fundamental frequency 9K-150KHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 9KHz for Quasi-peak detection (QP) at fundamental frequency 150K-30MHz.
3. The resolution bandwidth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

4.1.4 DEVIATION FROM TEST STANDARD

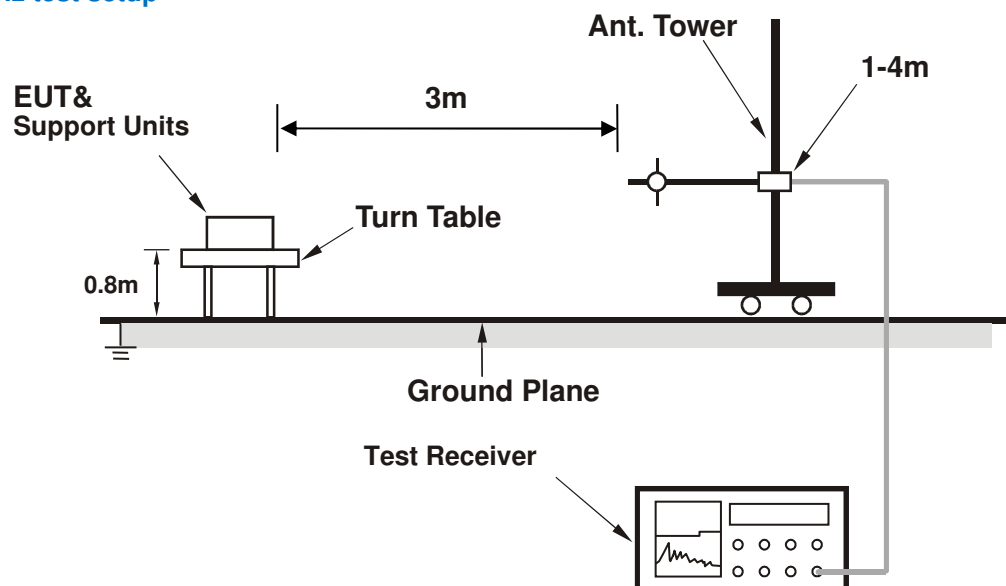
No deviation.

4.1.5 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).

4.1.6 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.

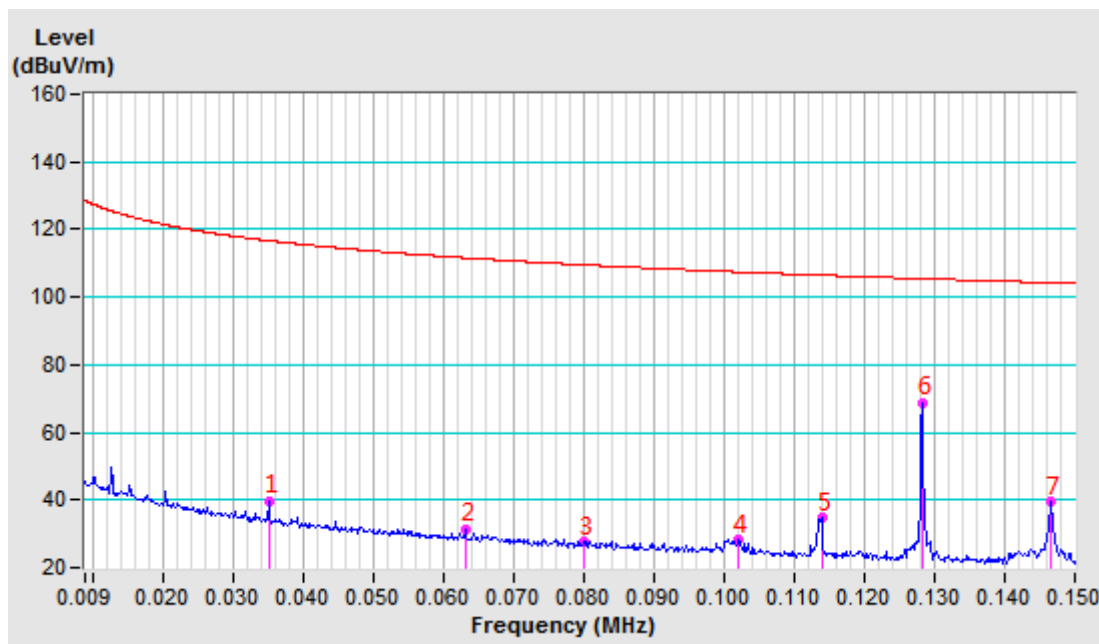


4.1.7 TEST RESULTS

TEST MODE	Standby	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 200Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 57% RH	TESTED BY: Alex	

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	0.03530	-11.53	51.33	39.80	116.65	-76.85	100	25
2	0.06320	-11.73	43.13	31.40	111.59	-80.19	100	66
3	0.08020	-11.72	39.31	27.59	109.52	-81.93	100	79
4	0.10210	-11.73	40.06	28.33	107.42	-79.09	100	138
5	0.11390	-11.74	46.31	34.57	106.47	-71.90	100	225
6	0.12820	-11.76	80.66	68.90	105.44	-36.54	100	67
7	0.14650	-11.77	51.30	39.53	104.29	-64.76	100	205

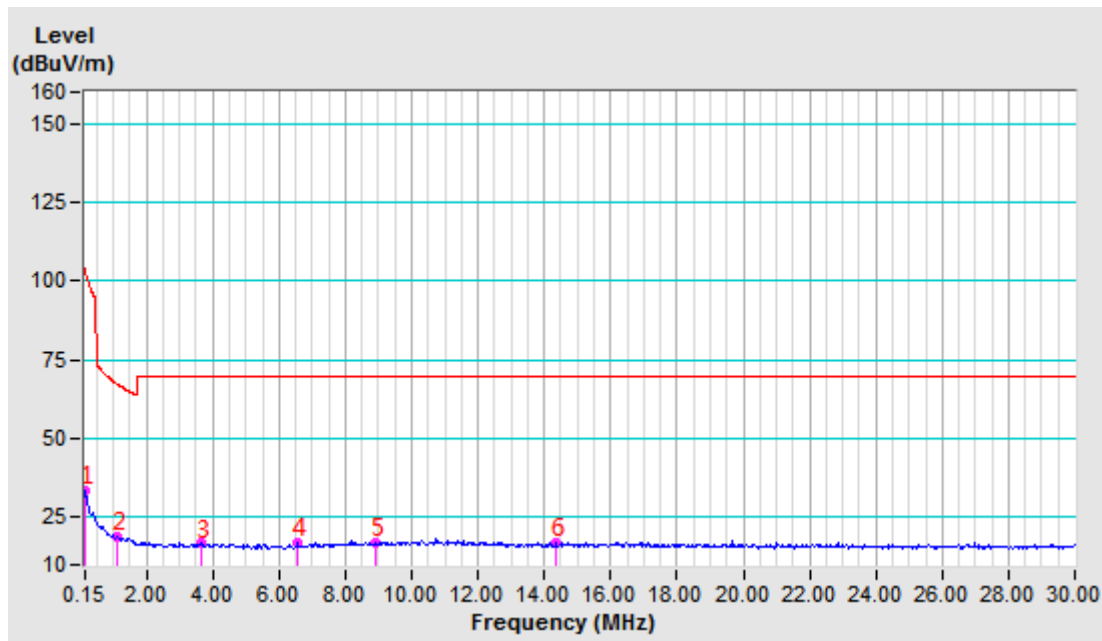
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	Standby	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 9KHz
ENVIRONMENTAL CONDITIONS	22deg. C, 57% RH	TESTED BY: Alex	

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	0.16640	-11.78	45.27	33.49	103.18	-69.69	100	154
2	1.12470	-11.86	30.81	18.95	67.25	-48.30	100	341
3	3.65160	-11.75	28.49	16.74	69.54	-52.80	100	53
4	6.57110	-11.54	28.34	16.80	69.54	-52.74	100	92
5	8.88450	-11.27	28.48	17.21	69.54	-52.33	100	282
6	14.36380	-10.99	28.26	17.27	69.54	-52.27	100	306

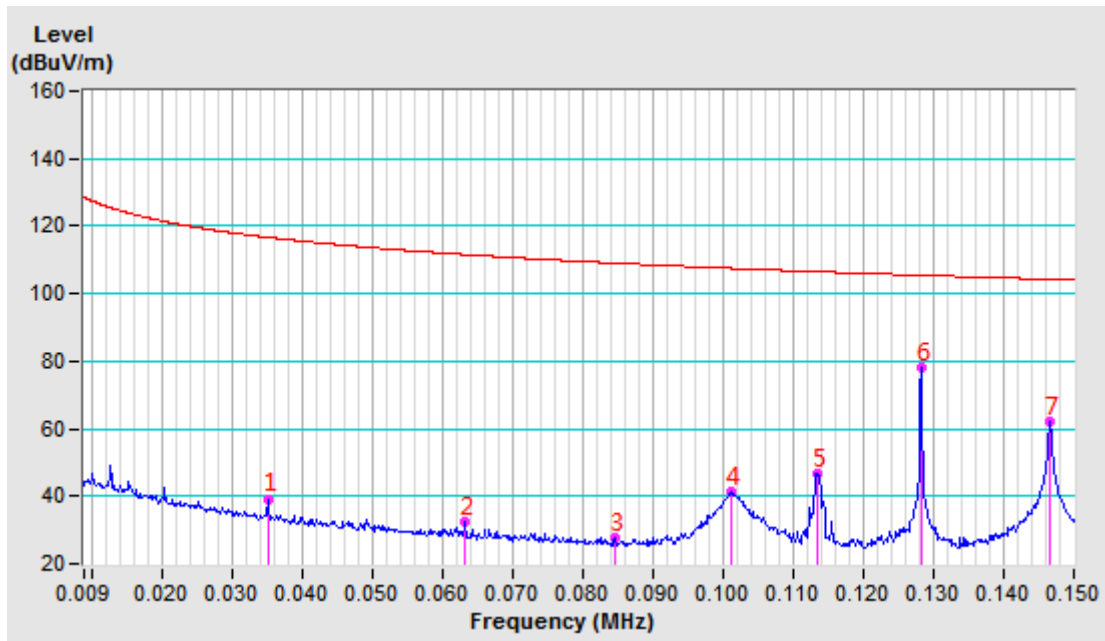
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz.
 4. Only emissions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



TEST MODE	Standby	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 200Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 57% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.03530	-11.53	50.67	39.14	116.65	-77.51	100	23
2	0.06320	-11.73	44.18	32.45	111.59	-79.14	100	25
3	0.08470	-11.72	39.19	27.47	109.04	-81.57	100	31
4	0.10130	-11.73	52.82	41.09	107.49	-66.40	100	4
5	0.11360	-11.74	58.44	46.70	106.49	-59.79	100	64
6	0.12830	-11.76	89.81	78.05	105.44	-27.39	100	78
7	0.14660	-11.77	73.81	62.04	104.28	-42.24	100	94

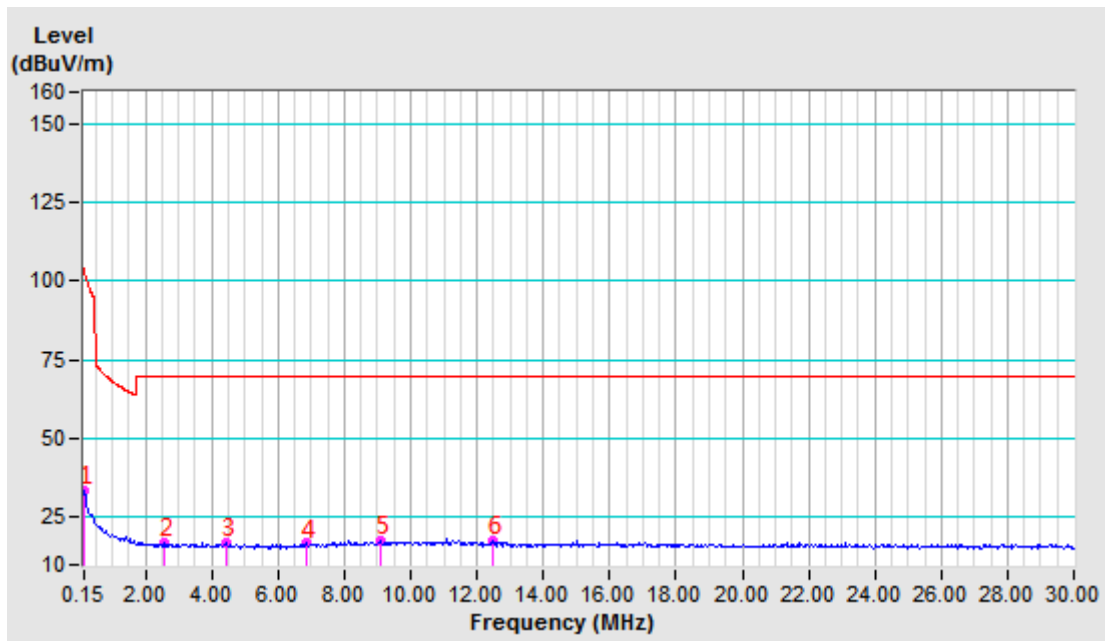
- REMARKS:**
1. Peak detector quick scan is shown on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	Standby	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 9KHz
ENVIRONMENTAL CONDITIONS	22deg. C, 57% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.16340	-11.78	45.49	33.71	103.34	-69.63	100	360
2	2.55750	-11.80	28.60	16.80	69.54	-52.74	100	312
3	4.45010	-11.73	28.55	16.82	69.54	-52.72	100	360
4	6.85460	-11.50	28.20	16.70	69.54	-52.84	100	139
5	9.06510	-11.25	28.80	17.55	69.54	-51.99	100	35
6	12.47570	-11.11	28.53	17.42	69.54	-52.12	100	179

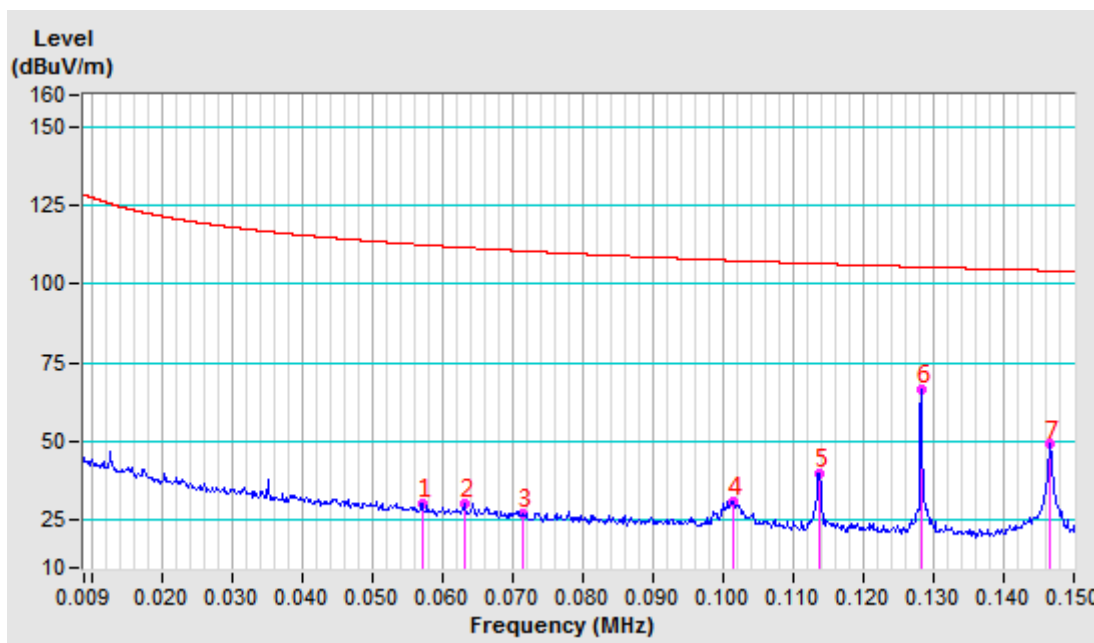
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz
 4. Only emissions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



TEST MODE	Standby	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 200Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 57% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.05710	-11.72	42.14	30.42	112.47	-82.05	130	67
2	0.06310	-11.73	42.06	30.33	111.60	-81.27	130	266
3	0.07160	-11.74	39.19	27.45	110.50	-83.05	130	94
4	0.10150	-11.73	42.99	31.26	107.47	-76.21	130	214
5	0.11380	-11.74	51.65	39.91	106.48	-66.57	130	325
6	0.12830	-11.76	78.34	66.58	105.44	-38.86	130	52
7	0.14660	-11.77	60.88	49.11	104.28	-55.17	130	67

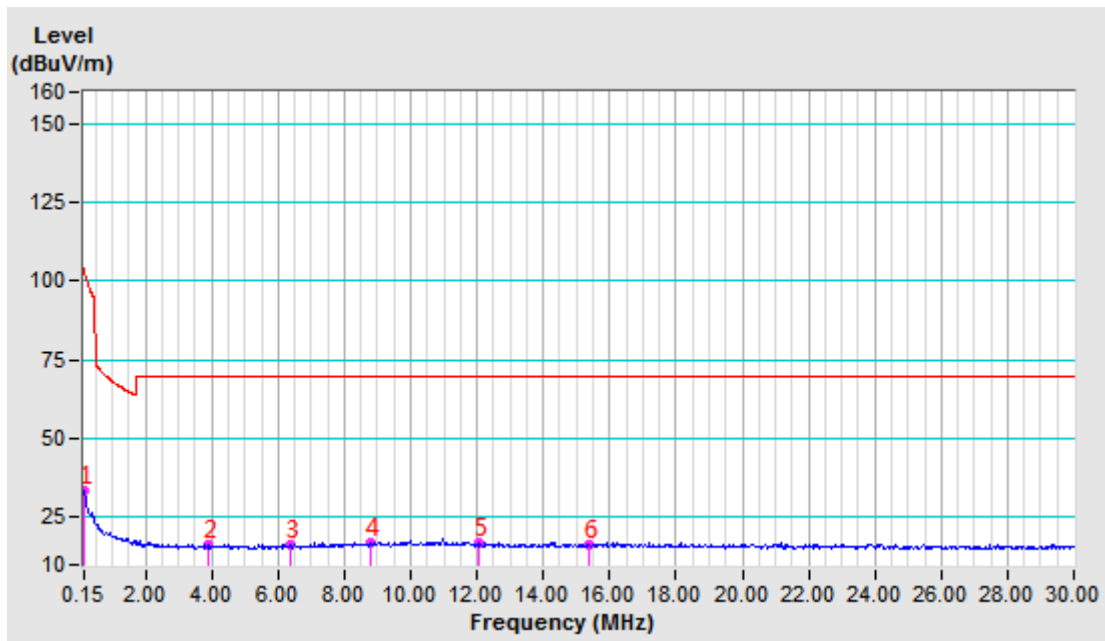
- REMARKS:**
1. Peak detector quick scan is shown on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	Standby	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 9KHz
ENVIRONMENTAL CONDITIONS	22deg. C, 57% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.16340	-11.78	45.19	33.41	103.34	-69.93	130	360
2	3.92320	-11.75	28.22	16.47	69.54	-53.07	130	212
3	6.37700	-11.57	27.78	16.21	69.54	-53.33	130	132
4	8.80540	-11.28	28.13	16.85	69.54	-52.69	130	358
5	12.05180	-11.14	28.27	17.13	69.54	-52.41	130	360
6	15.39660	-10.91	27.41	16.50	69.54	-53.04	130	323

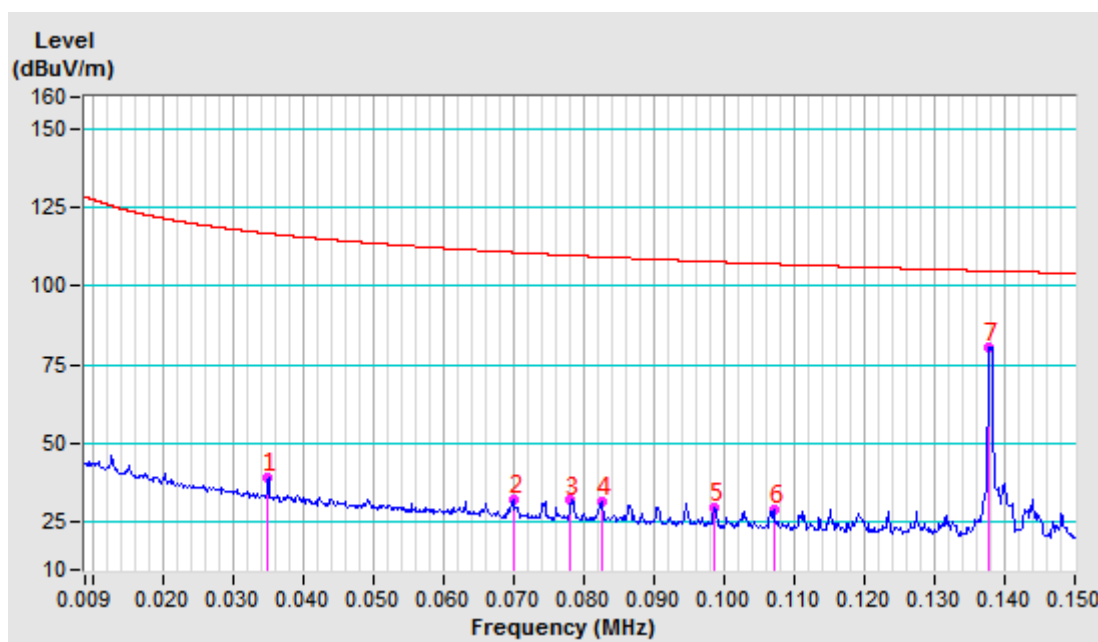
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz
 4. Only emissions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



TEST MODE	Operation	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	TESTED BY: Alex	

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	0.03510	-11.53	51.03	39.50	116.70	-77.20	100	311
2	0.07010	-11.74	43.97	32.23	110.69	-78.46	100	258
3	0.07820	-11.73	43.74	32.01	109.74	-77.73	100	64
4	0.08270	-11.72	43.21	31.49	109.25	-77.76	100	94
5	0.09850	-11.73	41.35	29.62	107.73	-78.11	100	55
6	0.10710	-11.73	40.66	28.93	107.01	-78.08	100	47
7	0.13770	-11.77	92.33	80.56	104.82	-24.26	100	113

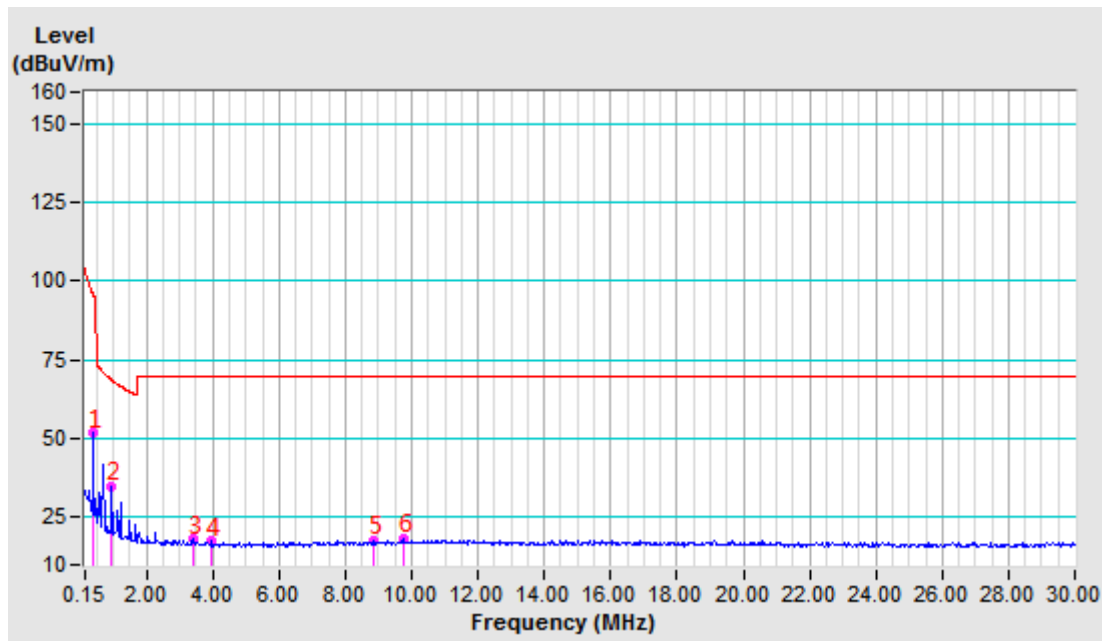
- REMARKS:**
1. Peak detector quick scan is shown on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	Operation	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 9KHz
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	TESTED BY: Alex	

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	0.40820	-11.85	63.50	51.65	95.39	-43.74	100	102
2	0.95300	-11.88	46.91	35.03	68.56	-33.53	100	106
3	3.40680	-11.76	29.73	17.97	69.54	-51.57	100	113
4	3.96050	-11.74	29.11	17.37	69.54	-52.17	100	78
5	8.82340	-11.28	28.84	17.56	69.54	-51.98	100	169
6	9.78460	-11.17	29.20	18.03	69.54	-51.51	100	104

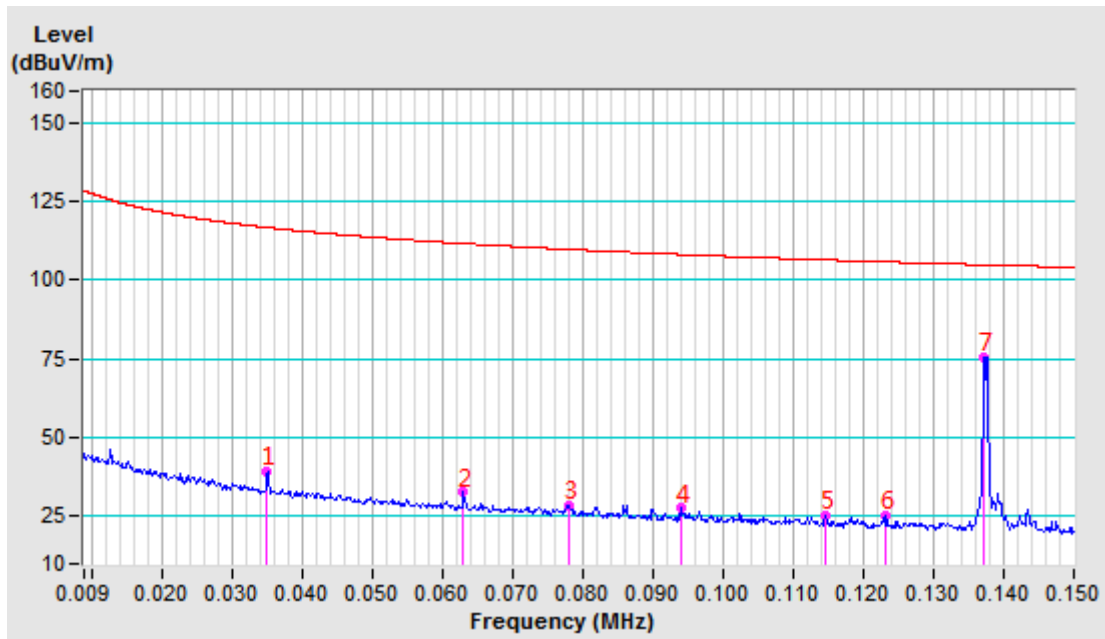
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz.
 4. Only emissions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



TEST MODE	Operation	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	-11.53	50.67	39.14	116.70	-77.56	100	333
2	0.06300	-11.73	44.30	32.57	111.62	-79.05	100	52
3	0.07810	-11.73	40.40	28.67	109.75	-81.08	100	76
4	0.09400	-11.72	39.24	27.52	108.14	-80.62	100	199
5	0.11460	-11.74	37.30	25.56	106.42	-80.86	100	134
6	0.12320	-11.75	37.07	25.32	105.79	-80.47	100	205
7	0.13720	-11.77	87.25	75.48	104.85	-29.37	100	66

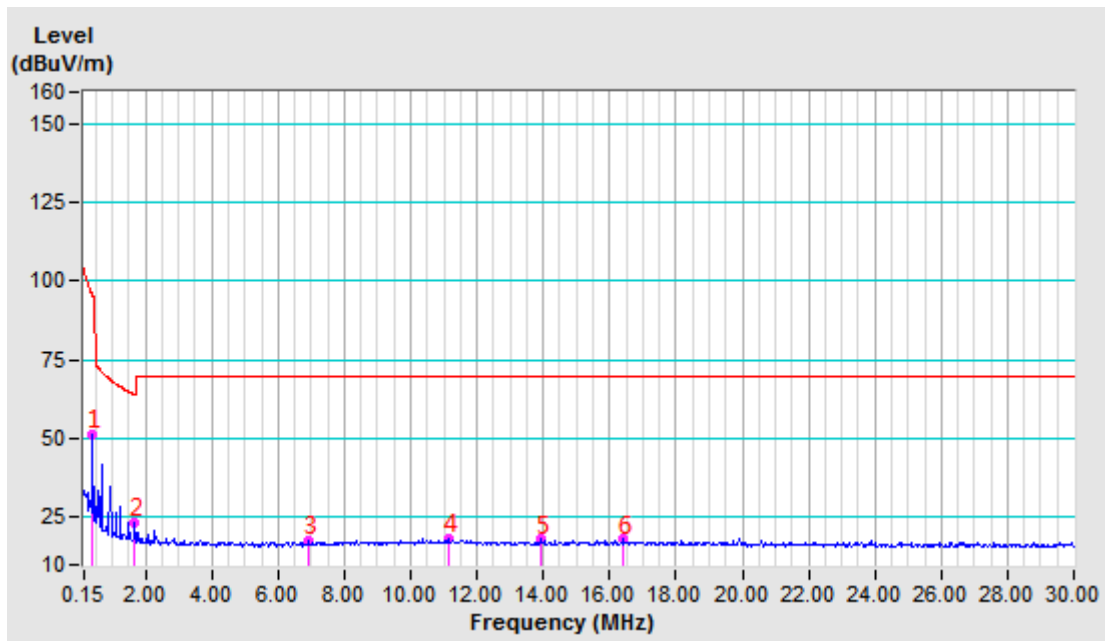
- REMARKS:**
1. Peak detector quick scan is shown on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	Operation	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 9KHz
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.40970	-11.85	63.46	51.61	95.35	-43.74	100	99
2	1.68140	-11.84	35.34	23.50	64.08	-40.58	100	256
3	6.93230	-11.51	29.22	17.71	69.54	-51.83	100	73
4	11.12490	-11.15	29.39	18.24	69.54	-51.30	100	230
5	13.91600	-11.02	29.03	18.01	69.54	-51.53	100	167
6	16.38920	-10.83	28.79	17.96	69.54	-51.58	100	360

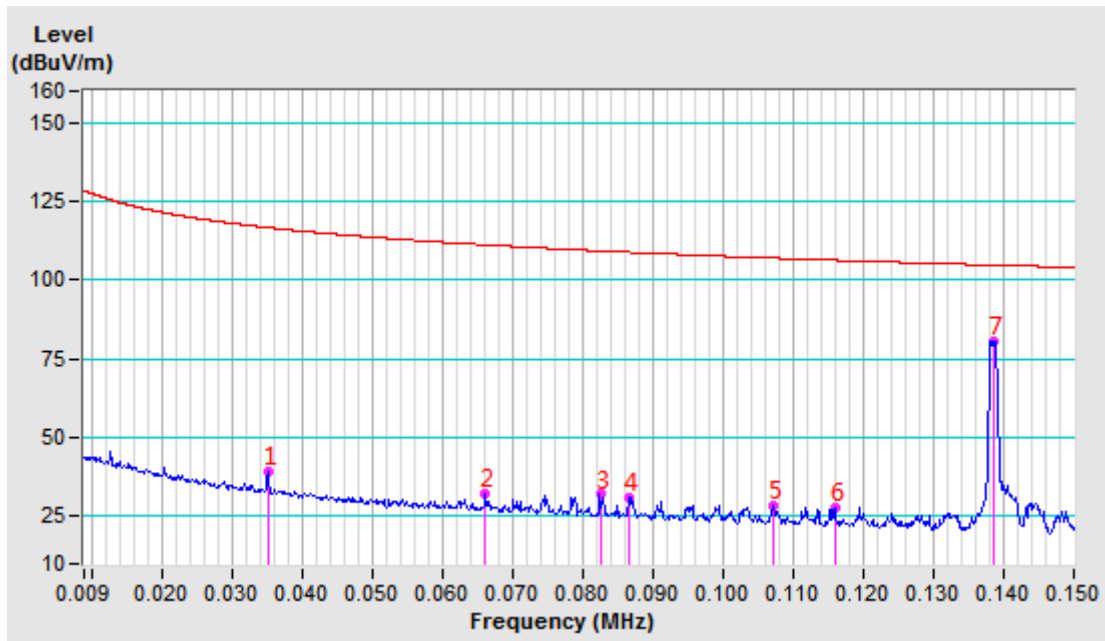
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz
 4. Only emissions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



TEST MODE	Operation	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 200Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.03520	-11.53	50.85	39.32	116.67	-77.35	130	16
2	0.06610	-11.73	43.77	32.04	111.20	-79.16	130	266
3	0.08250	-11.72	43.65	31.93	109.27	-77.34	130	247
4	0.08660	-11.72	42.79	31.07	108.85	-77.78	130	43
5	0.10720	-11.73	40.19	28.46	107.00	-78.54	130	117
6	0.11590	-11.74	39.71	27.97	106.32	-78.35	130	105
7	0.13860	-11.77	92.23	80.46	104.77	-24.31	130	311

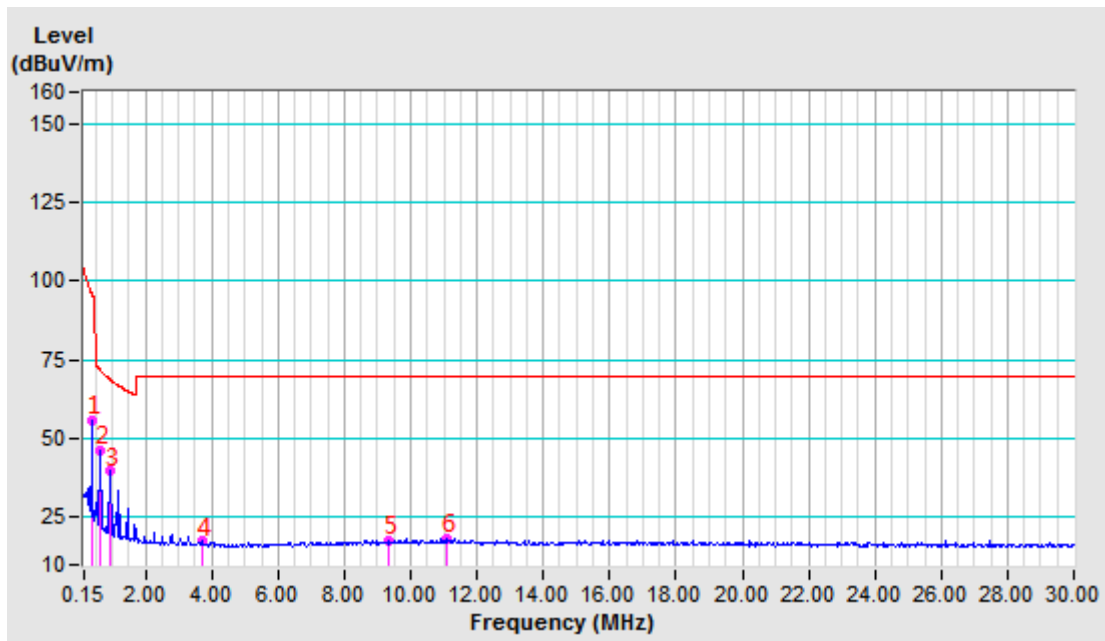
- REMARKS:**
1. Peak detector quick scan is shown on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	Operation	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	QP&AV, 9KHz
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	TESTED BY: Alex	

ANTENNA POLARITY & TEST DISTANCE: 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	0.16340	-11.78	45.19	33.41	103.34	-69.93	130	360
2	3.92320	-11.75	28.22	16.47	69.54	-53.07	130	212
3	6.37700	-11.57	27.78	16.21	69.54	-53.33	130	132
4	8.80540	-11.28	28.13	16.85	69.54	-52.69	130	358
5	12.05180	-11.14	28.27	17.13	69.54	-52.41	130	360
6	15.39660	-10.91	27.41	16.50	69.54	-53.04	130	323

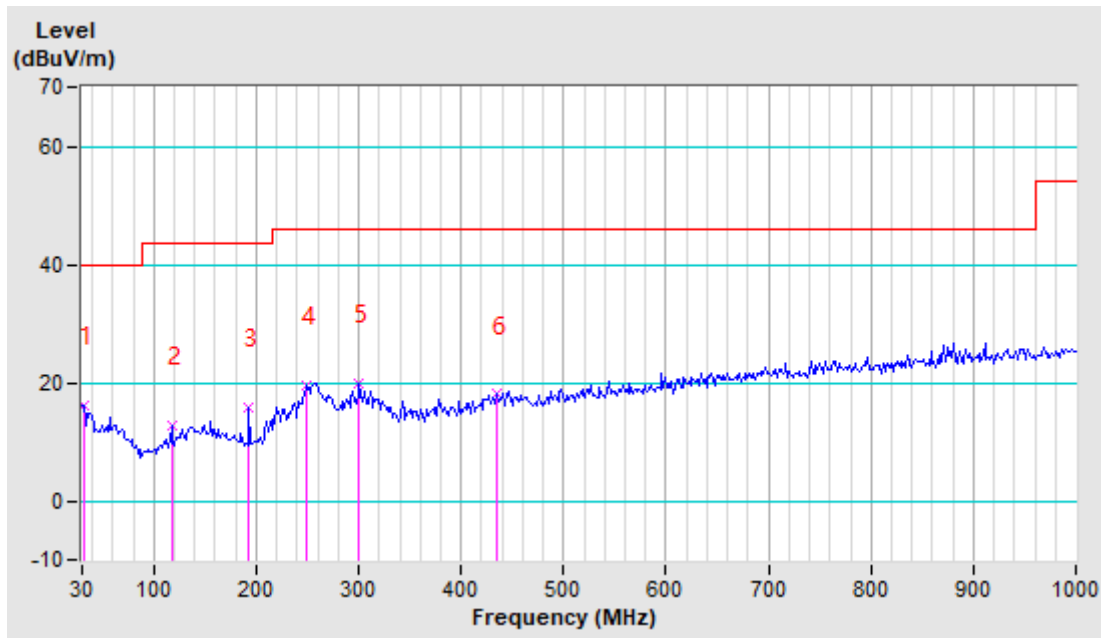
- REMARKS:**
1. Peak detector quick scan is shown on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz
 4. Only emissions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



TEST MODE	Standby	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	21deg. C, 51% RH	TESTED BY: Stalker	

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	31.55	-18.85	35.01	16.16	40.00	-23.84	242	147
2	117.05	-19.96	32.79	12.83	43.50	-30.67	227	133
3	193.22	-19.46	35.28	15.82	43.50	-27.68	212	118
4	249.18	-17.94	37.35	19.41	46.00	-26.59	274	179
5	300.48	-15.85	35.81	19.96	46.00	-26.04	259	165
6	435.72	-12.32	30.37	18.05	46.00	-27.95	196	102

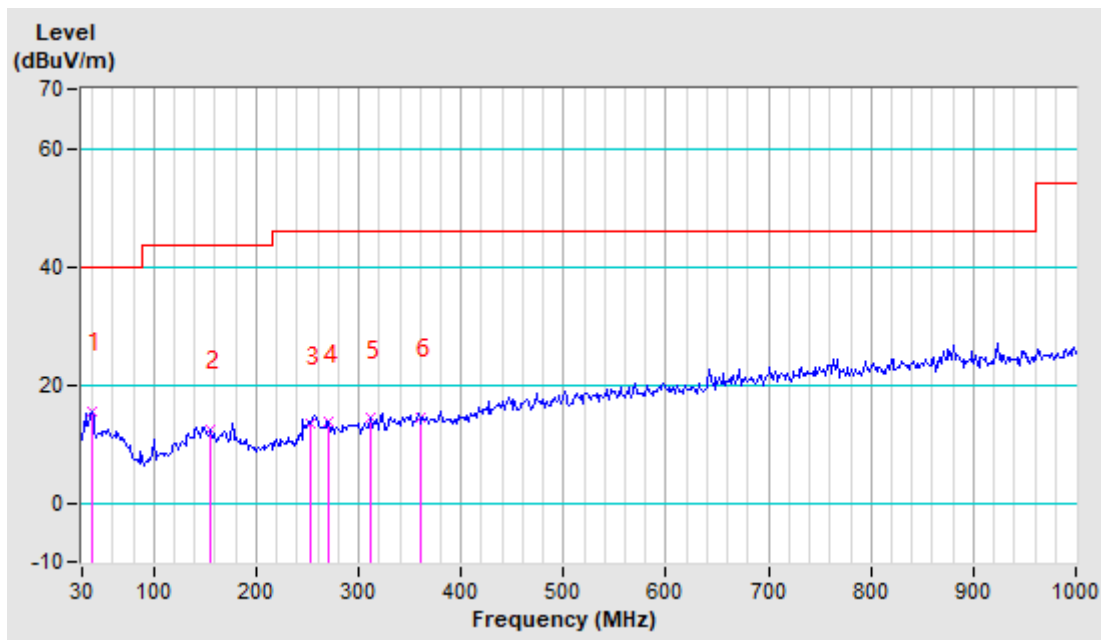
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to 1000MHz.
 4.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



TEST MODE	Standby	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	21deg. C, 51% RH	TESTED BY: Stalker	

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	39.33	-18.36	33.92	15.56	40.00	-24.44	204	154
2	155.91	-16.99	29.35	12.36	43.50	-31.14	218	168
3	253.85	-17.75	31.01	13.26	46.00	-32.74	247	198
4	270.95	-17.05	30.62	13.57	46.00	-32.43	232	182
5	311.36	-15.55	29.82	14.27	46.00	-31.73	250	211
6	359.55	-14.29	28.74	14.45	46.00	-31.55	250	228

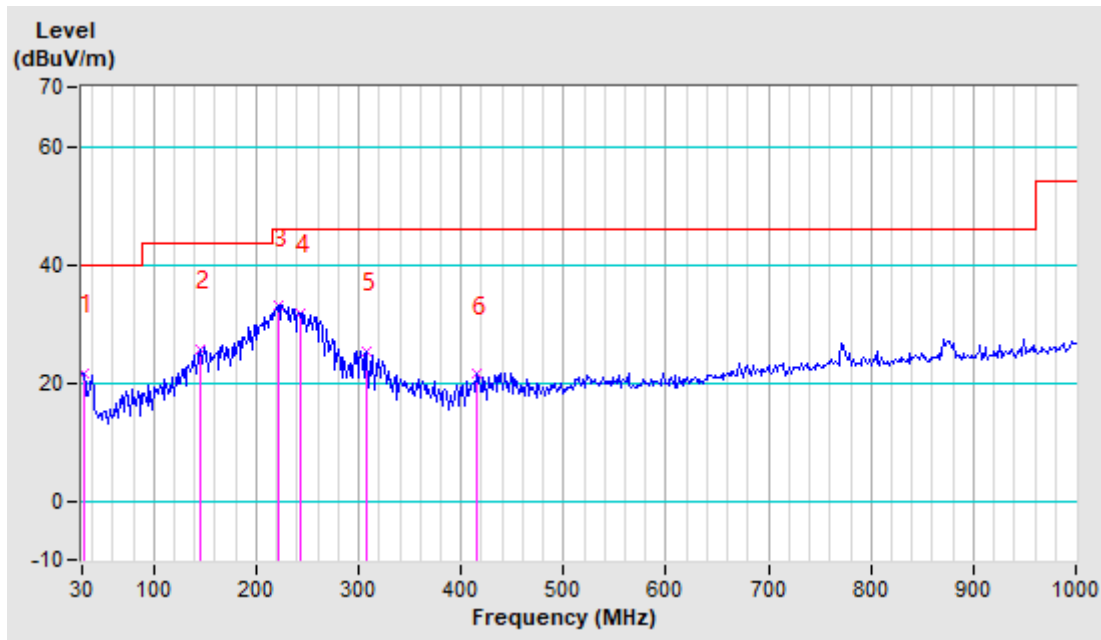
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to 1000MHz.
 4.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



TEST MODE	Operating	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	21deg. C, 51% RH	TESTED BY: Stalker	

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	31.55	-18.85	40.54	21.69	40.00	-18.31	250	342
2	145.03	-17.02	42.60	25.58	43.50	-17.92	250	0
3	221.20	-18.98	51.87	32.89	46.00	-13.11	250	324
4	242.96	-18.17	49.99	31.82	46.00	-14.18	250	357
5	308.25	-15.64	40.83	25.19	46.00	-20.81	250	0
6	415.51	-12.97	34.38	21.41	46.00	-24.59	250	0

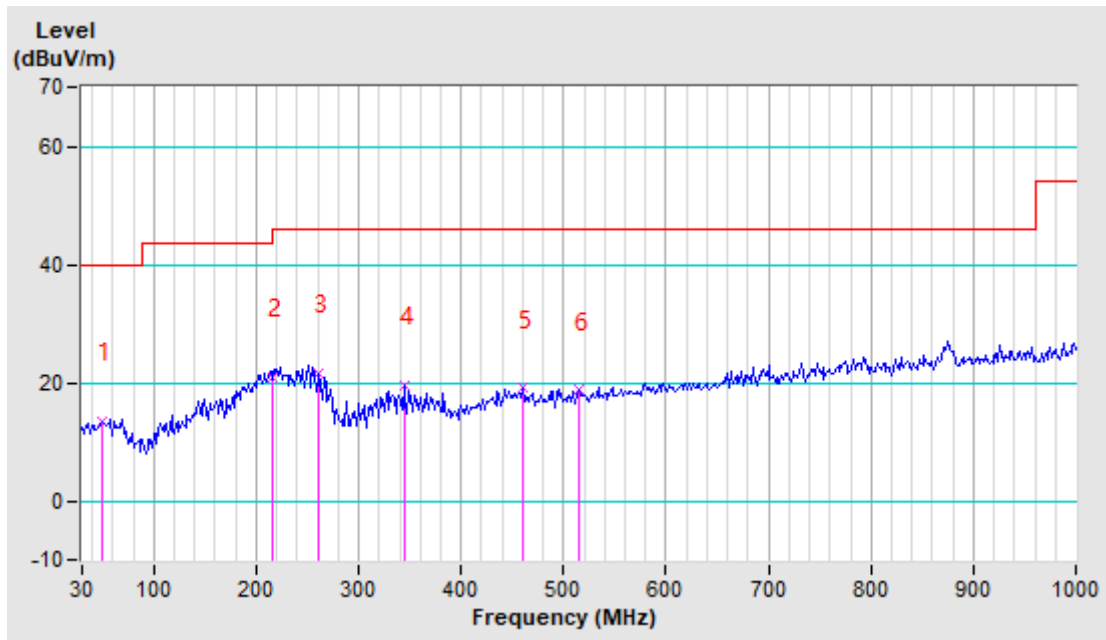
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to 1000MHz.
 4.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



TEST MODE	Operating	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	DC 11.1V From Li-ion Battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	21deg. C, 51% RH	TESTED BY: Stalker	

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	48.65	-17.51	30.91	13.40	40.00	-26.60	132	228
2	216.00	-19.17	40.08	20.91	43.50	-22.59	152	249
3	261.62	-17.43	38.92	21.49	46.00	-24.51	116	213
4	344.01	-14.65	34.27	19.62	46.00	-26.38	104	199
5	460.59	-11.65	30.65	19.00	46.00	-27.00	100	168
6	515.00	-10.54	29.26	18.72	46.00	-27.28	100	185

- 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 is reported.



4.2 20dB BANDWIDTH MEASUREMENT

4.2.1 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.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Oct. 15, 24
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Jan. 01, 25
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	May. 09, 24
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Mar. 06, 24
Test Software	ADT	ADT_Radiated_V 7.6.15.9.2	N/A	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.

4.2.3 TEST PROCEDURE

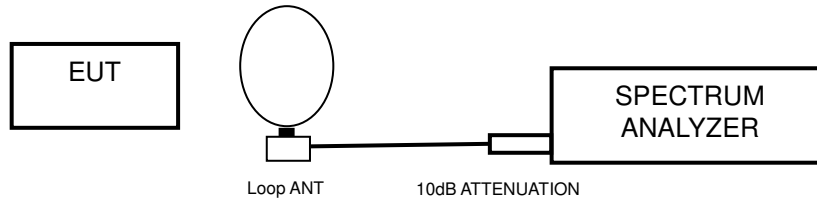
- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT, then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest 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.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.



4.2.5 TEST SETUP



4.2.6 EUT OPERATING CONDITION

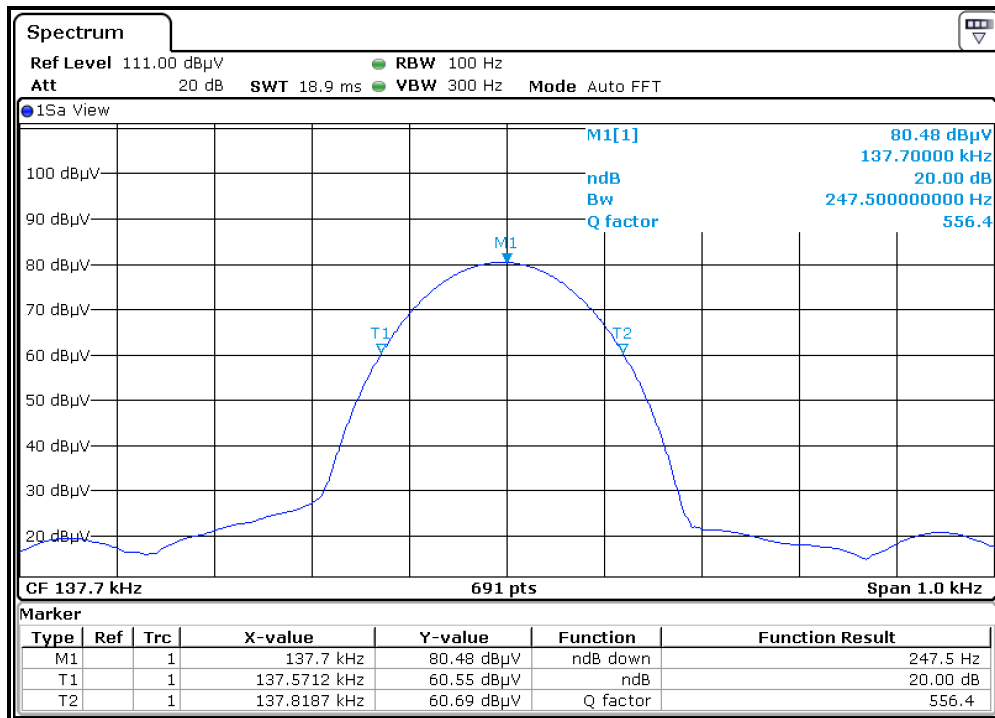
- a. Turn on the EUT.
- b. The EUT tested in charging mode and standby mode respectively.

4.2.7 TEST RESULTS

TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (Hz)
Operation	137.7	247.5

Lower & Upper Test Frequency Point	Test Frequency (KHz)	P/F
Lower	137.5712	PASS
Upper	137.8187	PASS

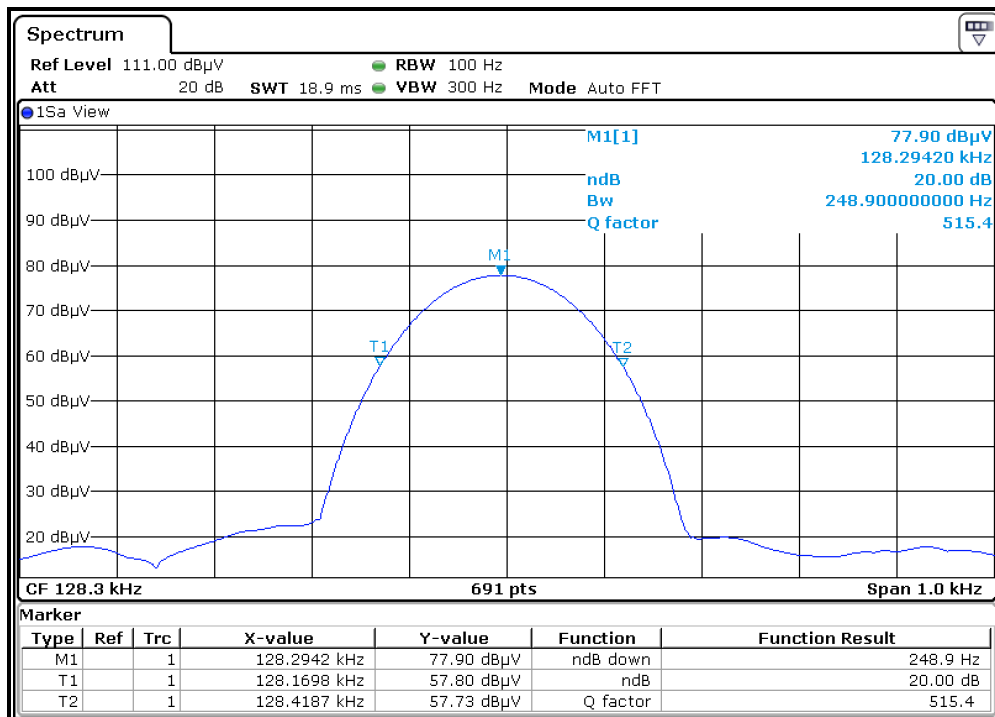
Test Data:



TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (Hz)
Standby	128.3	248.9

Lower & Upper Test Frequency Point	Test Frequency (KHz)	P/F
Lower	128.1698	PASS
Upper	128.4187	PASS

Test Data:





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Test Report No.: RF2312WDG0065

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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Test Report No.: RF2312WDG0065

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---