

TEST REPORT

Applicant	Belkin International, Inc.
Address	12045 East Waterfront Drive, Playa Vista, CA 90094 USA

Manufacturer or Supplier	Belkin International, Inc.
Address	12045 East Waterfront Drive, Playa Vista, CA 90094 USA
Product	BOOST↑CHARGE™ Magnetic Wireless Car Charger
Brand Name	belkin
Model	WIC004
Additional Model & Model Difference	N/A
Date of tests	May 05, 2021 ~ Jul. 26, 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: Aug. 12, 2021

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Test Report No.: RF2104WDG0462

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2104WDG0462	Original release	Aug. 12, 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	N/A	DC Supply
§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
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	BOOST↑CHARGE™ Magnetic Wireless Car Charger
MODEL NO.	WIC004
ADDITIONAL MODE	N/A
SAMPLE STATUS	Engineering sample
FCC ID	K7SWIC004
POWER SUPPLY	DC 12V or 24V
MODULATION TYPE	FSK
OPERATING FREQUENCY RANGE	111KHz ~ 200KHz
I/O PORTS	Coil Antenna
FIELD STRENGTH	84.50dBuV/m
MAXIMUM POWER OUTPUT FROM THE CHARGING COIL	Max Power is 10W
CABLE SUPPLIED	USB-C cable: Shielded, detachable 1.2m

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.: 2104WDG0462-1) for detailed product photo.

3.2 DESCRIPTION OF TEST MODES

The following test frequencies are provided to this EUT:

Operating Frequency Range(KHz)	Tested Frequency(KHz)	Mode
111-200	127.7	Standby
111-200	127.7	Receiving Load Operating

3.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE	APPLICABLE TO			DESCRIPTION
	RE<1G	PLC	20BW	
A	√	-	√	Standby
B	√	-	√	Receiving Load Operating

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

PLC: Power Line Conducted Emission

20BW: 20dB Bandwidth

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	111-200	127.7	FSK
B	111-200	127.7	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	111-200	127.7	FSK
B	111-200	127.7	FSK

TEST CONDITION:

Applicable to	Environmental conditions	Input Power	Tested by
RE<1G	25 °C, 56% RH/27 °C, 58% RH	DC 24V from Battery	Albert/Jelly
PLC	-	-	-
20BW	24 °C, 58% RH	DC 24V from DC source	Jeffery

3.4 DESCRIPTION OF SUPPORT UNITS

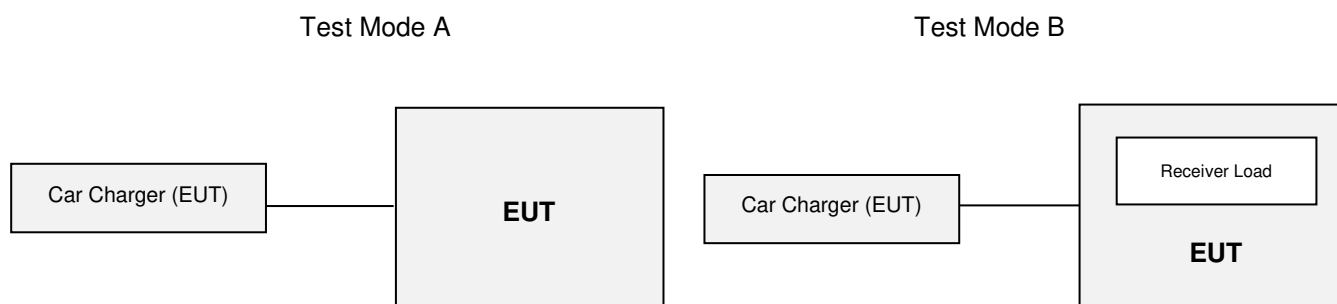
The EUT has been tested as a dependent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Receiver Load	N/A	N/A	N/A	N/A
2	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	DC Line: Unshielded, Detachable 1.0m

NOTE: All power cords of the above support units are non-shielded (1.8m).

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 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

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)

4.1.2 TEST INSTRUMENTS

FREQUENCY 9KHz-30MHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101564	Mar. 17,22
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,22
Amplifier	Burgeon	BPA-530	100210	Mar. 14,22
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. 17,22
Bilog Antenna	Teseq	CBL 6111D	30643	May 29,22
Amplifier	Burgeon	BPA-530	100220	Mar. 14,22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 22,22
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.

4.1.3 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 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:

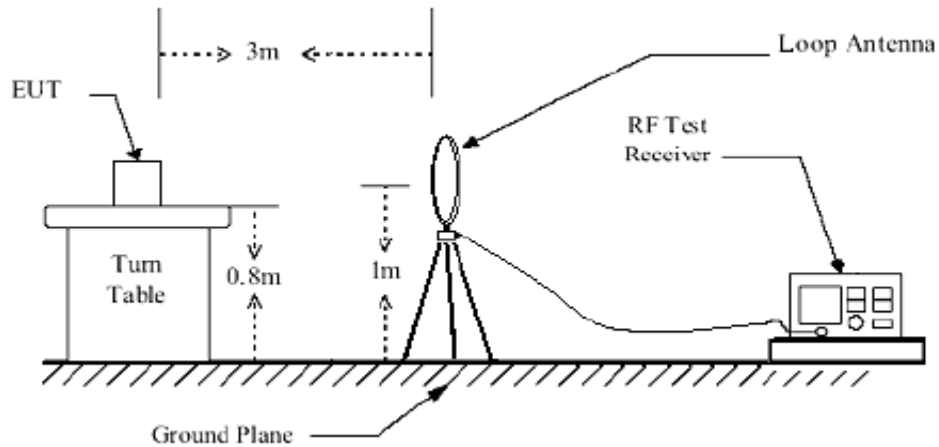
1. The resolution bandwidth of test receiver/spectrum analyzer is 200Hz for Quasi-peak detection (QP/AV) at fundamental frequency 9K-150KHz;
2. The resolution bandwidth of test receiver/spectrum analyzer is 9KHz for Quasi-peak detection (QP/AV) at fundamental frequency 150K-30MHz;
3. The resolution bandwidth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

4.1.4 DEVIATION FROM TEST STANDARD

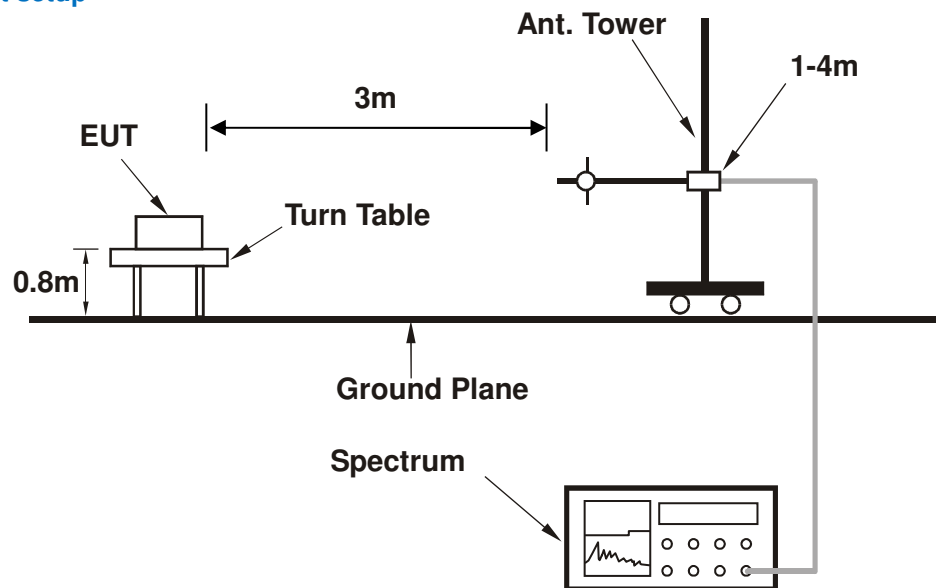
No deviation.

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

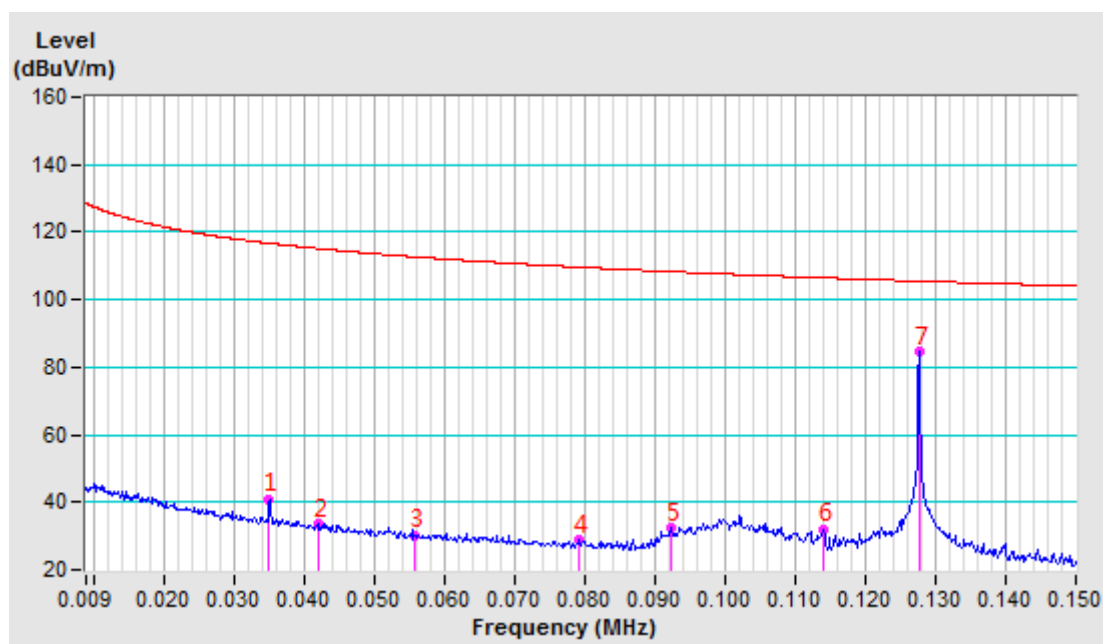
- Turn on the EUT.
- The EUT tested in charging mode and standby mode respectively.

4.1.7 TEST RESULTS

Standby Mode

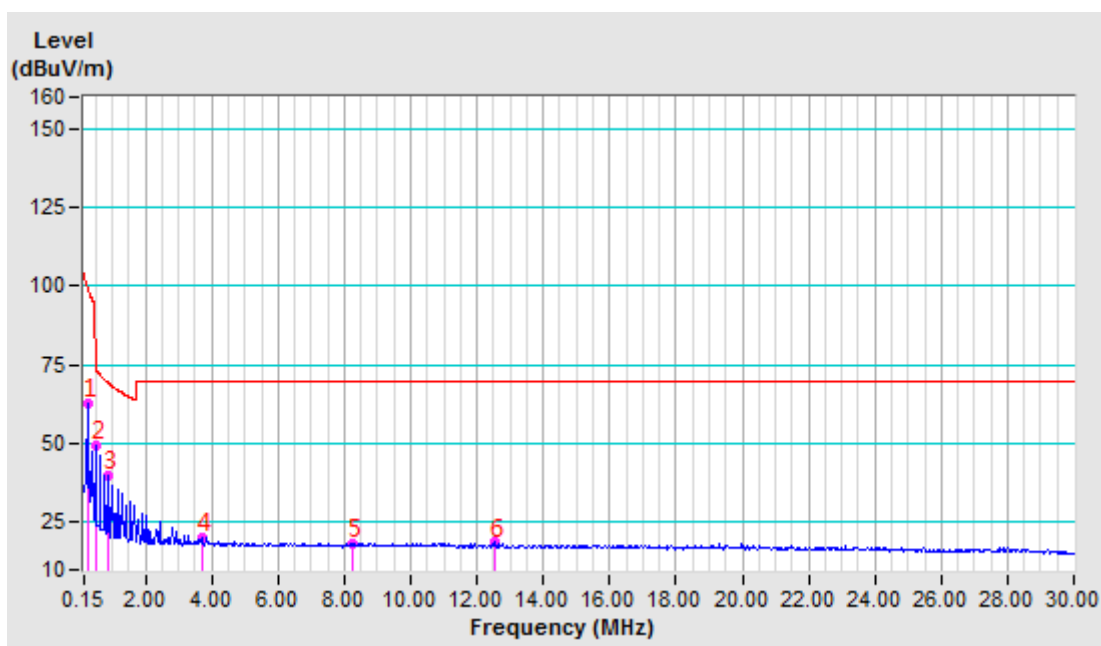
Test Mode	A	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	-11.25	52.19	40.94	116.70	-75.76	100	24
2	0.04200 AV	-11.35	44.97	33.62	115.14	-81.52	100	2
3	0.05590 AV	-11.48	41.83	30.35	112.65	-82.30	100	3
4	0.07930 AV	-11.58	40.47	28.89	109.62	-80.73	100	235
5	0.09240 QP	-11.65	43.96	32.31	108.29	-75.98	100	21
6	0.11410 AV	-11.71	43.73	32.02	106.46	-74.44	100	234
7	0.12770 AV	-11.75	96.20	84.45	105.48	-21.03	100	44



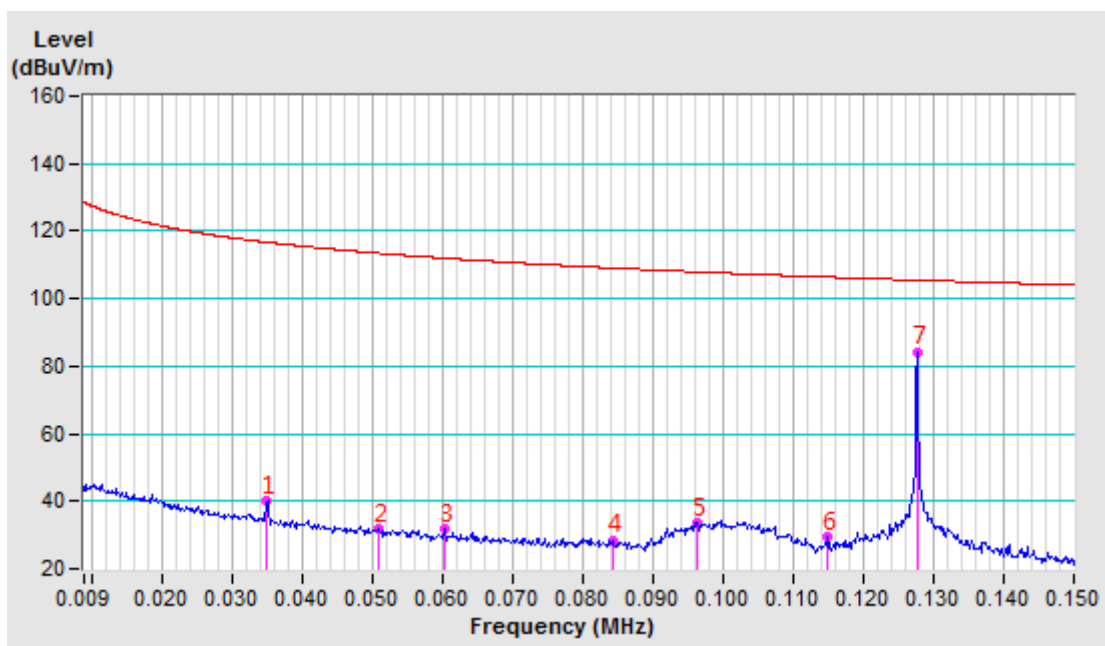
Test Mode	A	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.25450 AV	-11.99	74.79	62.80	99.49	-36.69	100	145
2	0.50970 QP	-11.86	61.11	49.25	73.49	-24.24	100	62
3	0.89330 QP	-11.89	51.74	39.85	69.07	-29.22	100	253
4	3.70230 QP	-11.86	32.09	20.23	69.54	-49.31	100	98
5	8.24870 QP	-11.76	30.23	18.47	69.54	-51.07	100	303
6	12.54730 QP	-11.62	30.25	18.63	69.54	-50.91	100	236



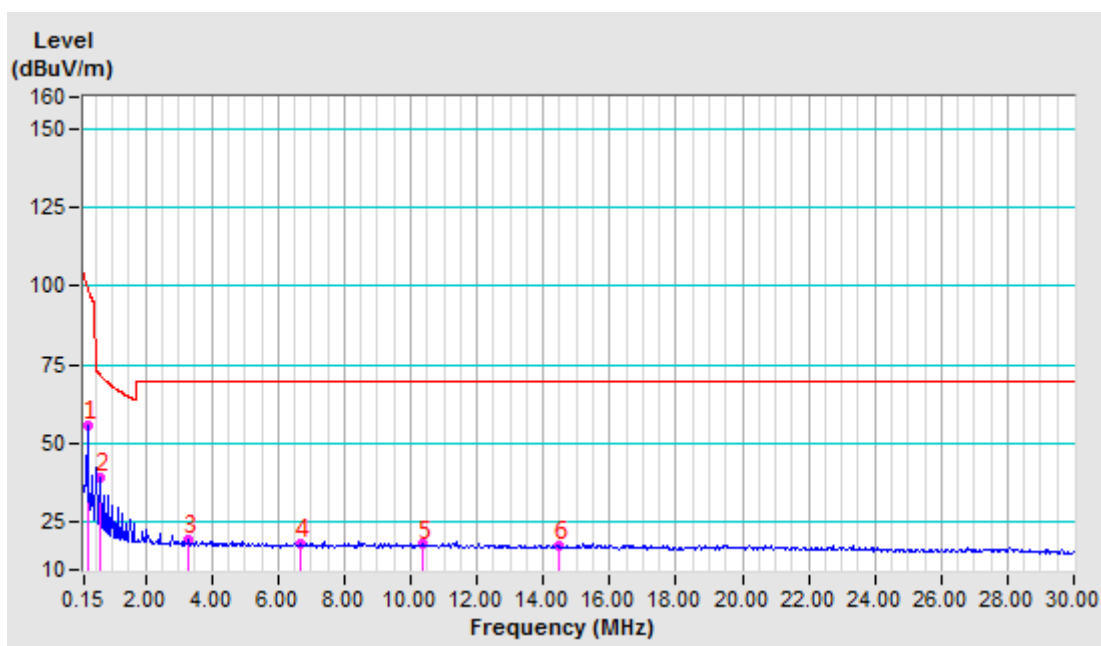
Test Mode	A	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	-11.25	51.30	40.05	116.70	-76.65	100	25
2	0.05100 AV	-11.47	43.11	31.64	113.45	-81.81	100	124
3	0.06030 AV	-11.49	43.10	31.61	112.00	-80.39	100	36
4	0.08440 AV	-11.60	40.01	28.41	109.08	-80.67	100	29
5	0.09620 QP	-11.67	45.16	33.49	107.94	-74.45	100	254
6	0.11480 AV	-11.71	41.00	29.29	106.40	-77.11	100	23
7	0.12770 AV	-11.75	96.10	84.35	105.48	-21.13	100	2



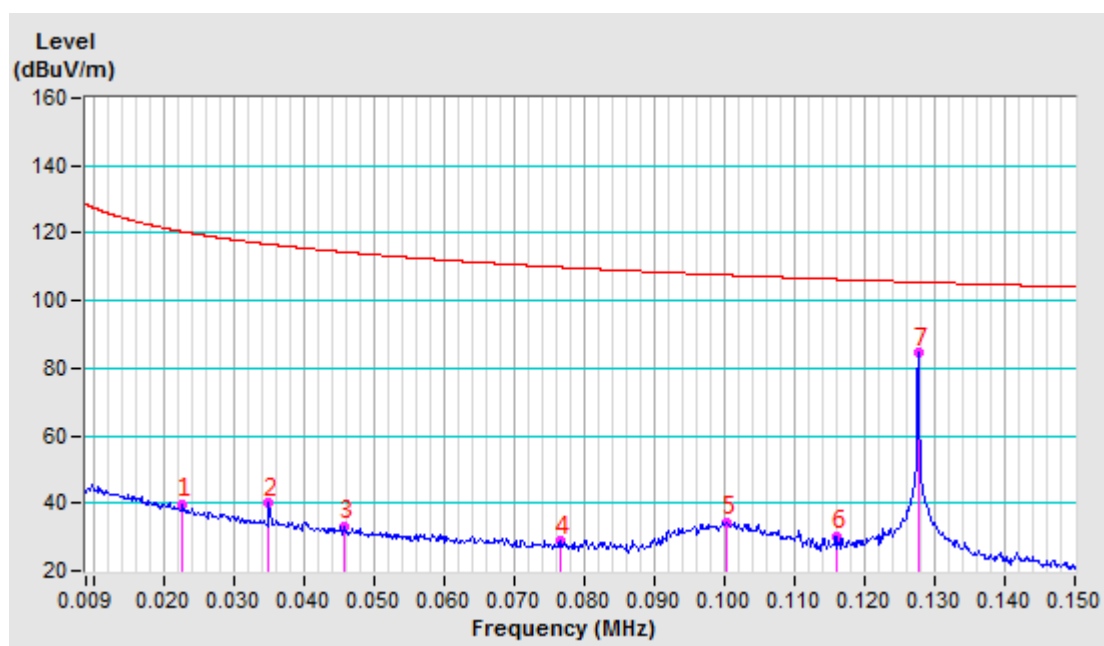
Test Mode	A	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.25450 AV	-11.99	67.61	55.62	99.49	-43.87	100	153
2	0.63810 QP	-11.86	51.23	39.37	71.72	-32.35	100	299
3	3.31870 QP	-11.89	31.49	19.60	69.54	-49.94	100	127
4	6.65310 QP	-11.85	30.07	18.22	69.54	-51.32	100	196
5	10.34280 QP	-11.66	29.65	17.99	69.54	-51.55	100	253
6	14.46230 QP	-11.48	29.38	17.90	69.54	-51.64	100	26



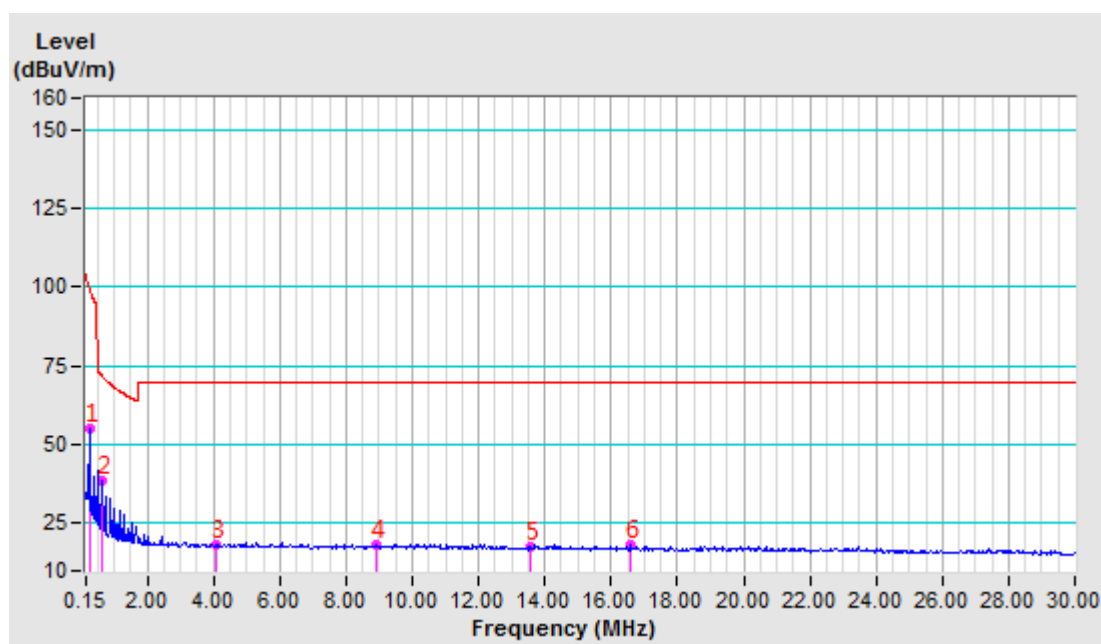
Test Mode	A	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.02280 AV	-10.72	50.34	39.62	120.45	-80.83	100	25
2	0.03510 AV	-11.25	51.32	40.07	116.70	-76.63	100	33
3	0.04580 AV	-11.41	44.68	33.27	114.39	-81.12	100	225
4	0.07660 AV	-11.57	40.30	28.73	109.92	-81.19	100	2
5	0.10020 QP	-11.69	46.03	34.34	107.58	-73.24	100	44
6	0.11590 AV	-11.71	42.00	30.29	106.32	-76.03	100	225
7	0.12770 AV	-11.75	96.25	84.50	105.48	-20.98	100	32



Test Mode	A	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

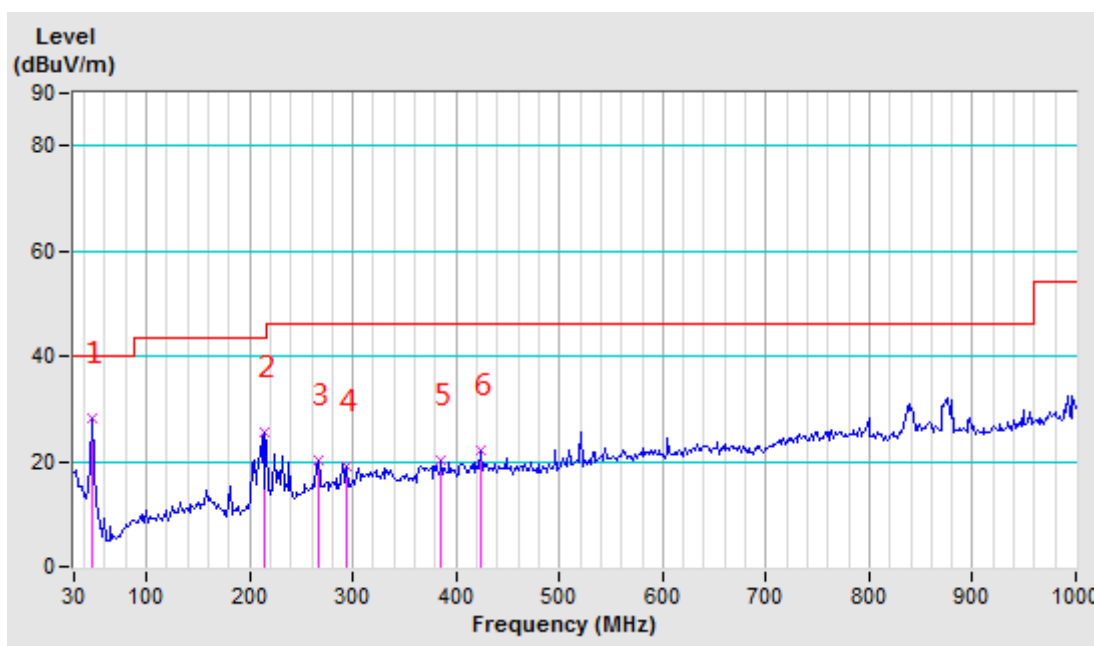
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m								
No	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.25450 AV	-11.99	67.43	55.44	99.49	-44.05	100	153
2	0.63810 QP	-11.86	50.63	38.77	71.72	-32.95	100	137
3	4.09790 QP	-11.84	30.35	18.51	69.54	-51.03	100	149
4	8.88450 QP	-11.73	29.92	18.19	69.54	-51.35	100	158
5	13.58910 QP	-11.51	29.17	17.66	69.54	-51.88	100	161
6	16.56090 QP	-11.48	29.52	18.04	69.54	-51.50	100	156



Test Mode	A	Frequency Range	30MHz ~ 1000MHz
Test Voltage	DC 24V from DC source	Detector Function	Quasi-Peak (QP)
Environmental Conditions	27deg. C, 58% RH	Tested By	Jelly

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	47.10	-19.45	47.55	28.10	40.00	-11.90	100	317
2	214.98	-19.61	45.04	25.43	43.50	-18.07	100	344
3	266.28	-15.58	35.87	20.29	46.00	-25.71	100	0
4	294.26	-14.45	33.49	19.04	46.00	-26.96	100	0
5	385.98	-11.74	32.04	20.30	46.00	-25.70	100	0
6	423.29	-10.87	32.81	21.94	46.00	-24.06	100	0

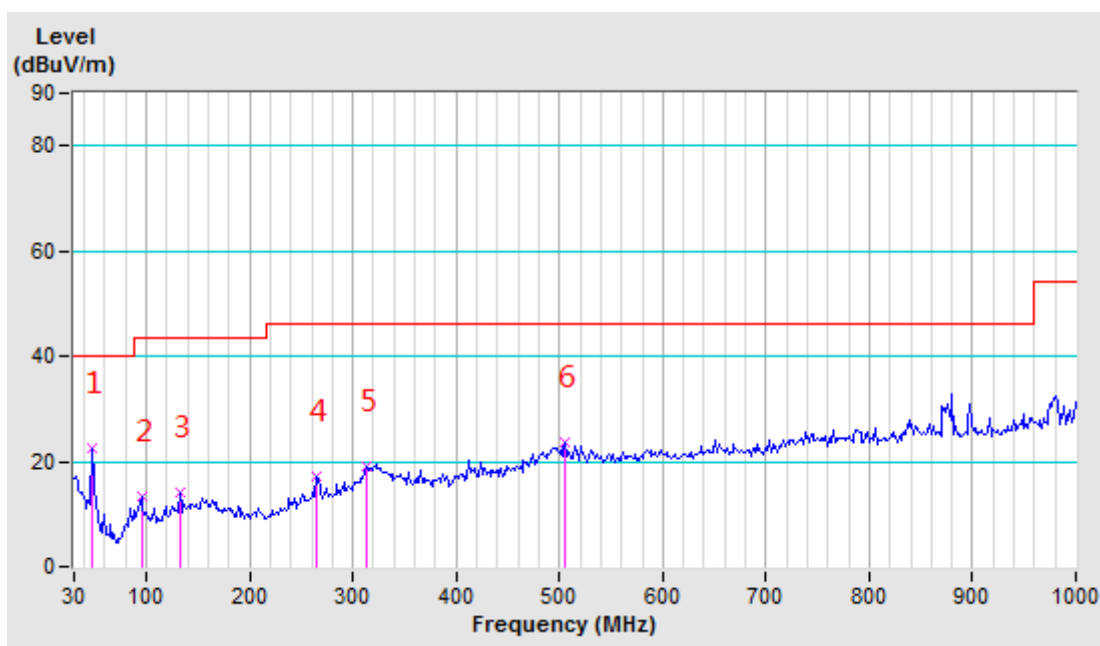
- REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30-1000MHz.
4. Only emissions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



Test Mode	A	Frequency Range	30MHz ~ 1000MHz
Test Voltage	DC 24V from DC source	Detector Function	Quasi-Peak (QP)
Environmental Conditions	27deg. C, 58% RH	Tested By	Jelly

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	47.10	-19.45	41.83	22.38	40.00	-17.62	100	156
2	95.29	-20.5	33.83	13.33	43.50	-30.17	100	145
3	132.60	-18.84	32.91	14.07	43.50	-29.43	100	128
4	264.73	-15.62	32.78	17.16	46.00	-28.84	100	110
5	312.92	-13.75	32.74	18.99	46.00	-27.01	100	100
6	505.67	-9.14	32.76	23.62	46.00	-22.38	100	82

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.





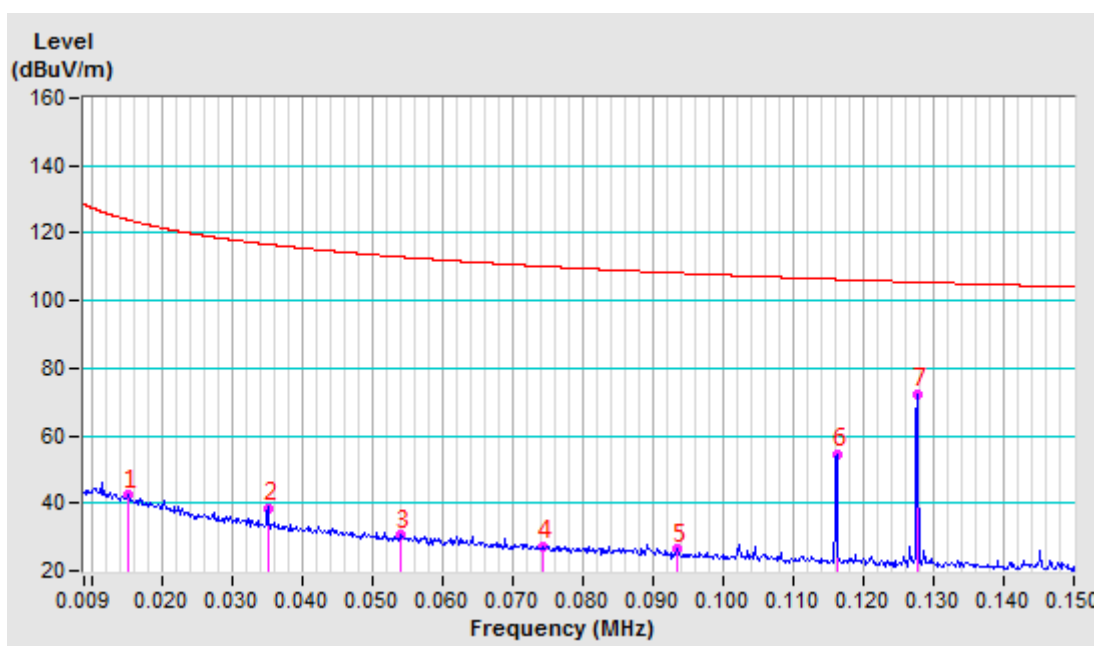
BUREAU
VERITAS

Test Report No.: RF2104WDG0462

Charging Mode

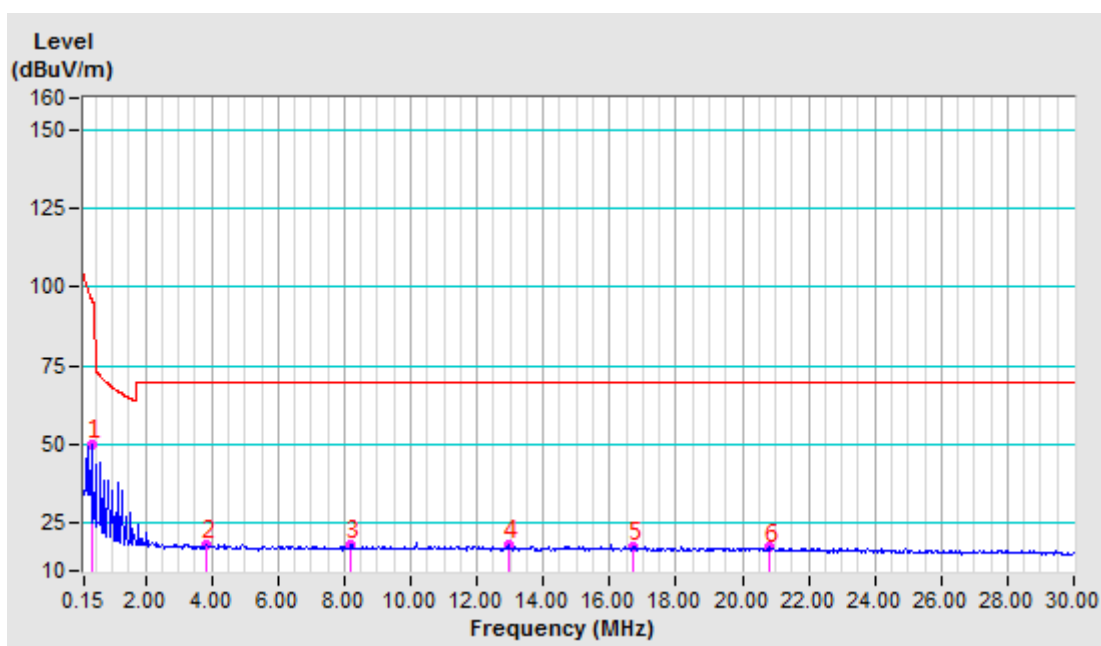
Test Mode	B	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.01540 AV	-10.27	52.74	42.47	123.85	-81.38	100	153
2	0.03520 AV	-11.25	49.69	38.44	116.67	-78.23	100	57
3	0.05420 AV	-11.48	42.14	30.66	112.92	-82.26	100	344
4	0.07430 AV	-11.55	38.83	27.28	110.18	-82.90	100	305
5	0.09350 QP	-11.66	38.03	26.37	108.19	-81.82	100	83
6	0.11620 AV	-11.71	66.25	54.54	106.30	-51.76	100	252
7	0.12770 AV	-11.75	84.03	72.28	105.48	-33.20	100	354



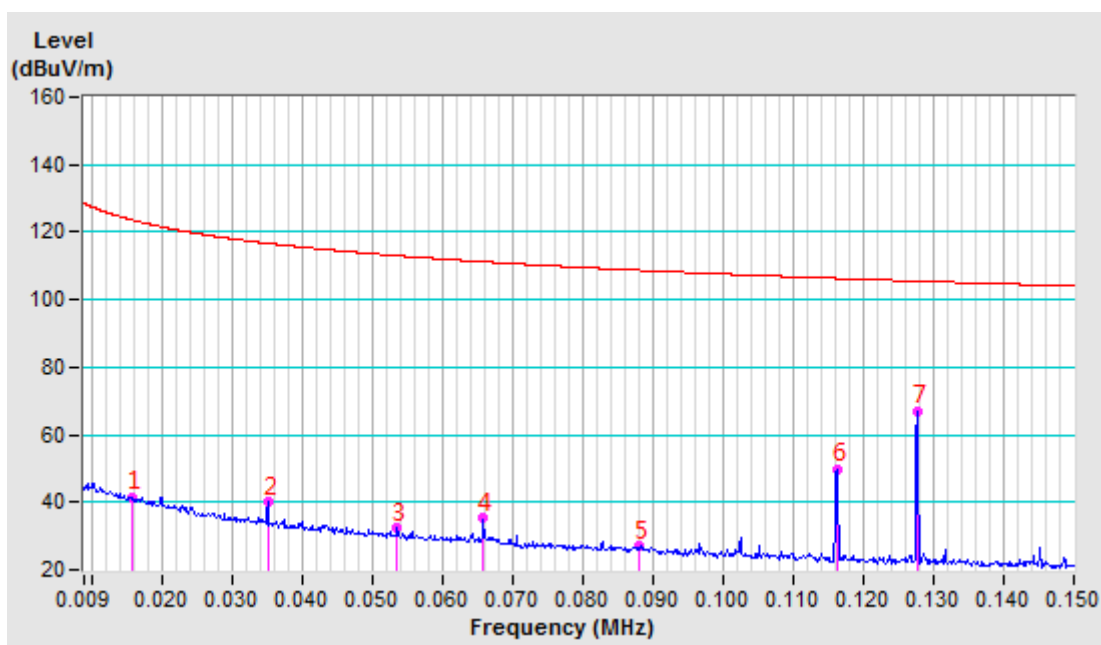
Test Mode	B	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.38280 AV	-12.01	62.29	50.28	95.94	-45.66	100	317
2	3.83070 QP	-11.85	30.04	18.19	69.54	-51.35	100	39
3	8.20090 QP	-11.76	29.97	18.21	69.54	-51.33	100	171
4	12.95180 QP	-11.57	29.71	18.14	69.54	-51.40	100	283
5	16.68470 QP	-11.48	29.17	17.69	69.54	-51.85	100	266
6	20.84310 QP	-11.37	28.72	17.35	69.54	-52.19	100	179



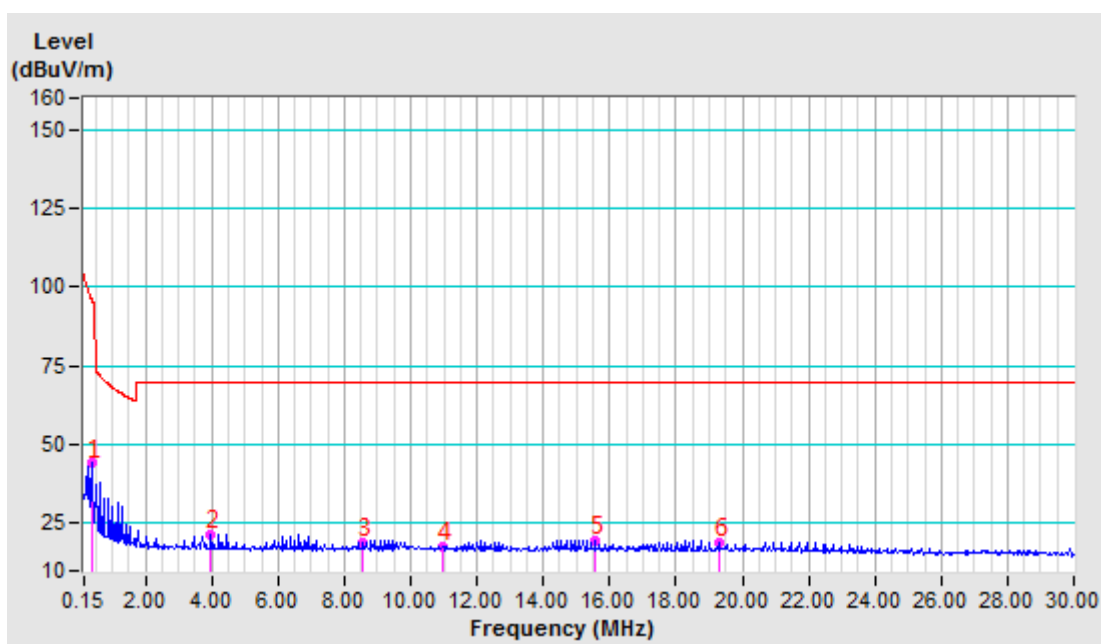
Test Mode	B	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.01590 AV	-10.30	51.76	41.46	123.58	-82.12	100	193
2	0.03520 AV	-11.25	51.15	39.90	116.67	-76.77	100	251
3	0.05360 AV	-11.48	43.70	32.22	113.02	-80.80	100	245
4	0.06580 AV	-11.52	46.65	35.13	111.24	-76.11	100	138
5	0.08820 AV	-11.63	38.48	26.85	108.69	-81.84	100	177
6	0.11620 AV	-11.71	61.43	49.72	106.30	-56.58	100	174
7	0.12770 AV	-11.75	78.70	66.95	105.48	-38.53	100	161



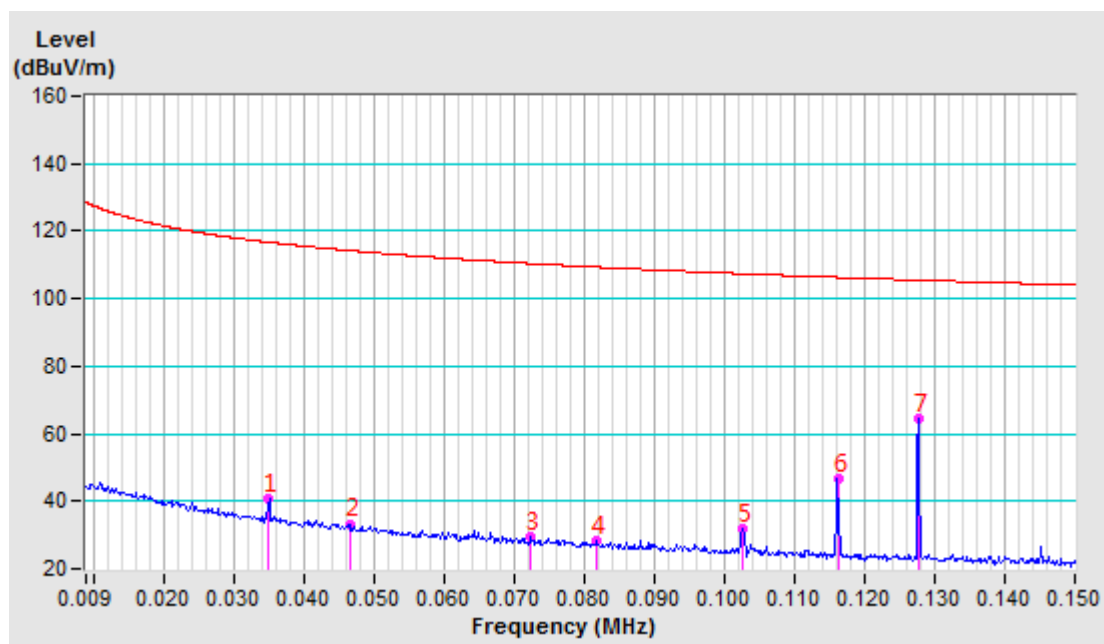
Test Mode	B	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	0.38280 AV	-12.01	56.04	44.03	95.94	-51.91	100	127
2	3.95760 QP	-11.84	33.30	21.46	69.54	-48.08	100	233
3	8.55470 QP	-11.74	30.78	19.04	69.54	-50.50	100	135
4	10.95330 QP	-11.66	29.41	17.75	69.54	-51.79	100	57
5	15.57870 QP	-11.48	30.82	19.34	69.54	-50.20	100	76
6	19.28330 QP	-11.34	30.21	18.87	69.54	-50.67	100	182



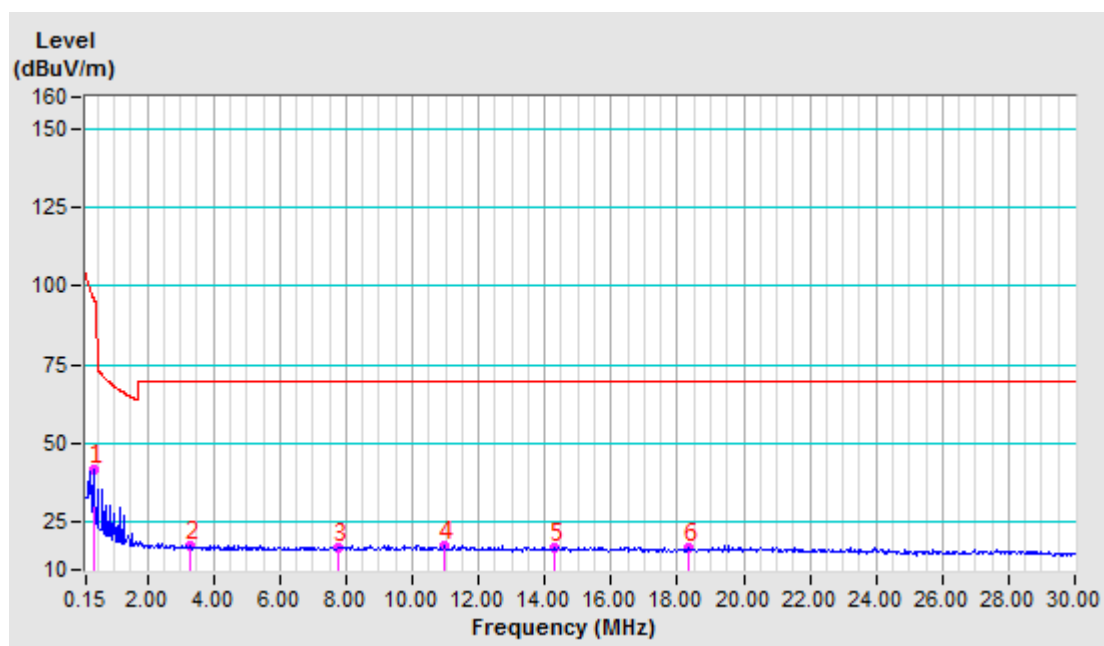
Test Mode	B	Frequency Range	9 kHz ~ 150 KHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

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	-11.25	51.91	40.66	116.70	-76.04	100	134
2	0.04660 AV	-11.42	44.56	33.14	114.24	-81.10	100	141
3	0.07240 AV	-11.54	40.80	29.26	110.41	-81.15	100	232
4	0.08190 AV	-11.59	39.83	28.24	109.34	-81.10	100	296
5	0.10270 QP	-11.69	43.54	31.85	107.37	-75.52	100	47
6	0.11620 AV	-11.71	58.26	46.55	106.30	-59.75	100	186
7	0.12770 AV	-11.75	76.02	64.27	105.48	-41.21	100	137



Test Mode	B	Frequency Range	150 kHz ~ 30 MHz
Test Voltage	DC 24V from DC source	Detector Function	QP&AV
Environmental Conditions	25deg. C, 56% R	Tested By	Albert

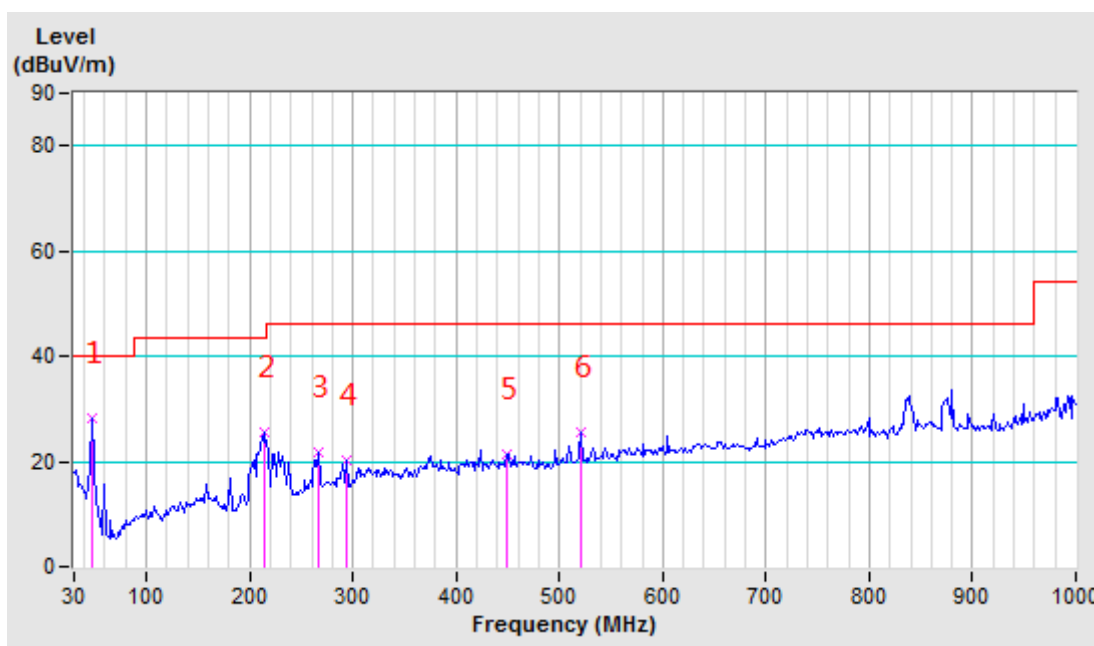
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m								
No	Freq. (MHz)	Correctio n Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	0.38280 AV	-12.01	53.89	41.88	95.94	-54.06	100	182
2	3.28290 QP	-11.89	29.75	17.86	69.54	-51.68	100	152
3	7.79350 QP	-11.78	28.90	17.12	69.54	-52.42	100	285
4	10.9577 QP	-11.66	29.24	17.58	69.54	-51.96	100	169
5	14.31600 QP	-11.48	28.63	17.15	69.54	-52.39	100	149
6	18.35050 QP	-11.42	28.71	17.29	69.54	-52.25	100	351



Test Mode	B	Frequency Range	30MHz ~ 1000MHz
Test Voltage	DC 24V from DC source	Detector Function	Quasi-Peak (QP)
Environmental Conditions	27deg. C, 58% RH	Tested By	Jelly

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	47.10	-19.45	47.55	28.10	40.00	-11.90	100	14
2	214.98	-19.61	45.04	25.43	43.50	-18.07	100	42
3	266.28	-15.58	37.22	21.64	46.00	-24.36	100	0
4	294.26	-14.45	34.60	20.15	46.00	-25.85	100	0
5	448.16	-10.51	31.97	21.46	46.00	-24.54	100	0
6	521.22	-8.85	34.32	25.47	46.00	-20.53	100	0

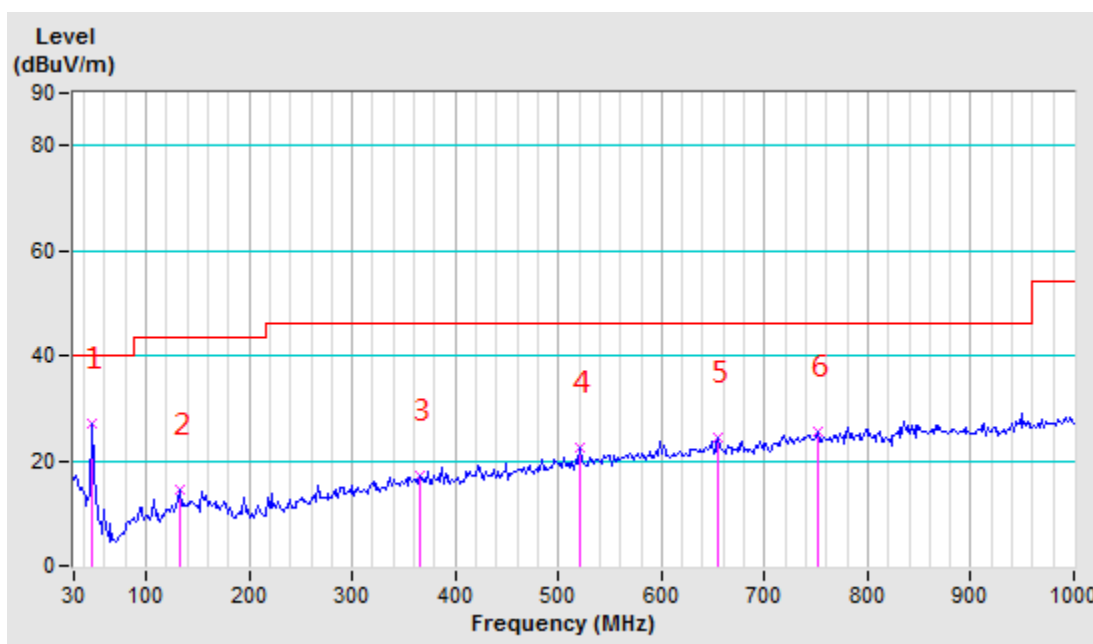
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 30-1000MHz.
4. Only emissions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



Test Mode	B	Frequency Range	30MHz ~ 1000MHz
Test Voltage	DC 24V from DC source	Detector Function	Quasi-Peak (QP)
Environmental Conditions	27deg. C, 58% RH	Tested By	Jelly

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	47.10	-19.45	46.46	27.01	40.00	-12.99	100	0
2	132.60	-18.84	33.40	14.56	43.50	-28.94	100	0
3	365.77	-12.15	29.42	17.27	46.00	-28.73	100	0
4	521.22	-8.85	31.20	22.35	46.00	-23.65	100	0
5	654.90	-5.74	30.11	24.37	46.00	-21.63	100	0
6	751.28	-3.42	28.80	25.38	46.00	-20.62	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.



4.2 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.
Power Sensor	Keysight	U2021XA	MY55060016	N/A
Power Sensor	Keysight	U2021XA	MY55060018	Jun. 03,22
Power Meter	Anritsu	ML2495A	1139001	Mar. 17,22
Power Sensor	Anritsu	MA2411B	1531155	Mar. 17,22
Digital Multimeter	FLUKE	15B	A1220010DG	N/A
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Oct. 30,21
Oscilloscope	Agilent	DSO9254A	MY51260160	Aug. 10,21
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Mar. 17,22
Signal Generator	Agilent	N5183A	MY50140980	Aug. 10,21
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Sep. 04,21
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
DC Source	Keysight	E3642A	MY56146098	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.

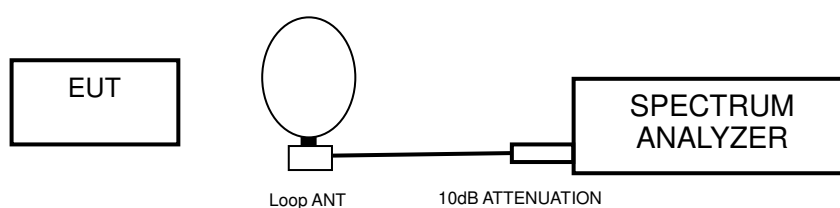
4.2.3 TEST PROCEDURE

- 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.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



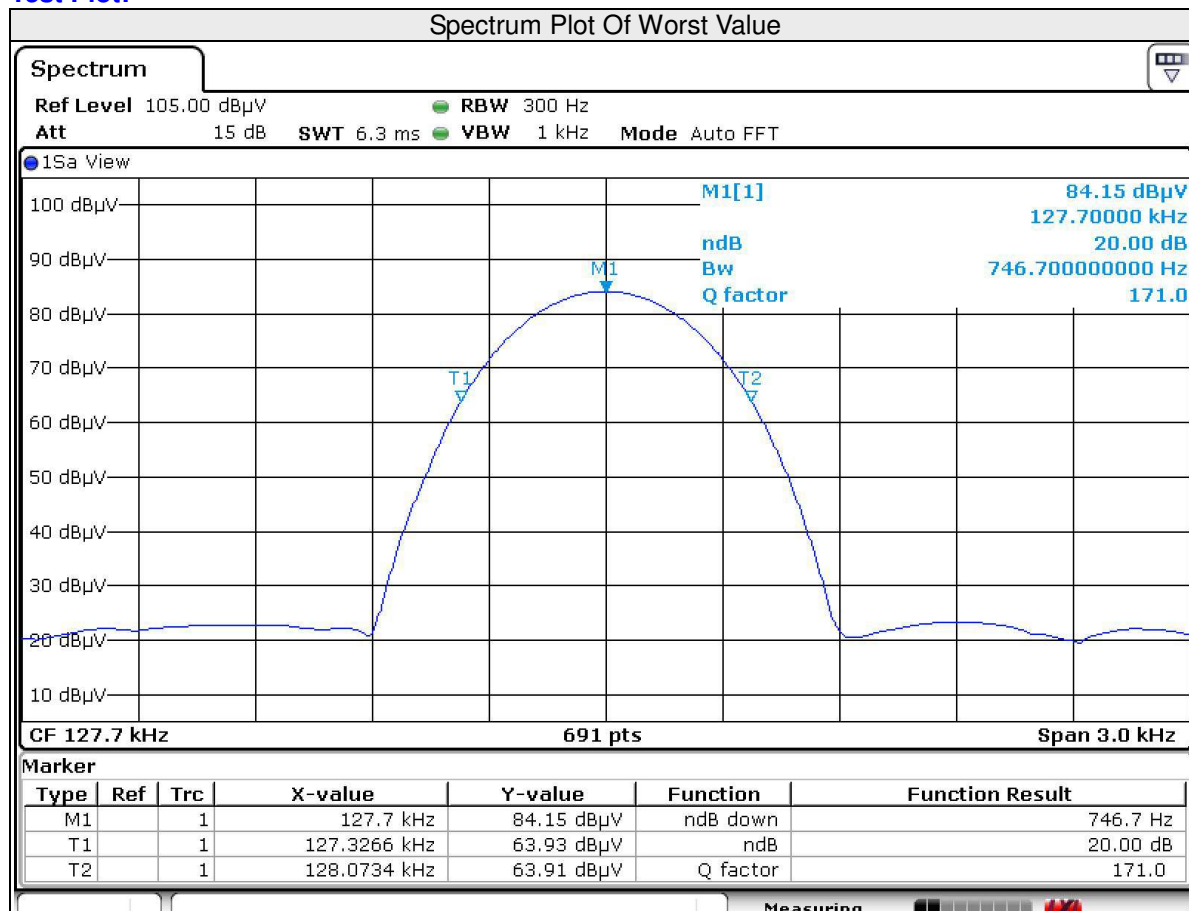
4.2.6 EUT OPERATING CONDITION

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

4.2.7 TEST RESULTS

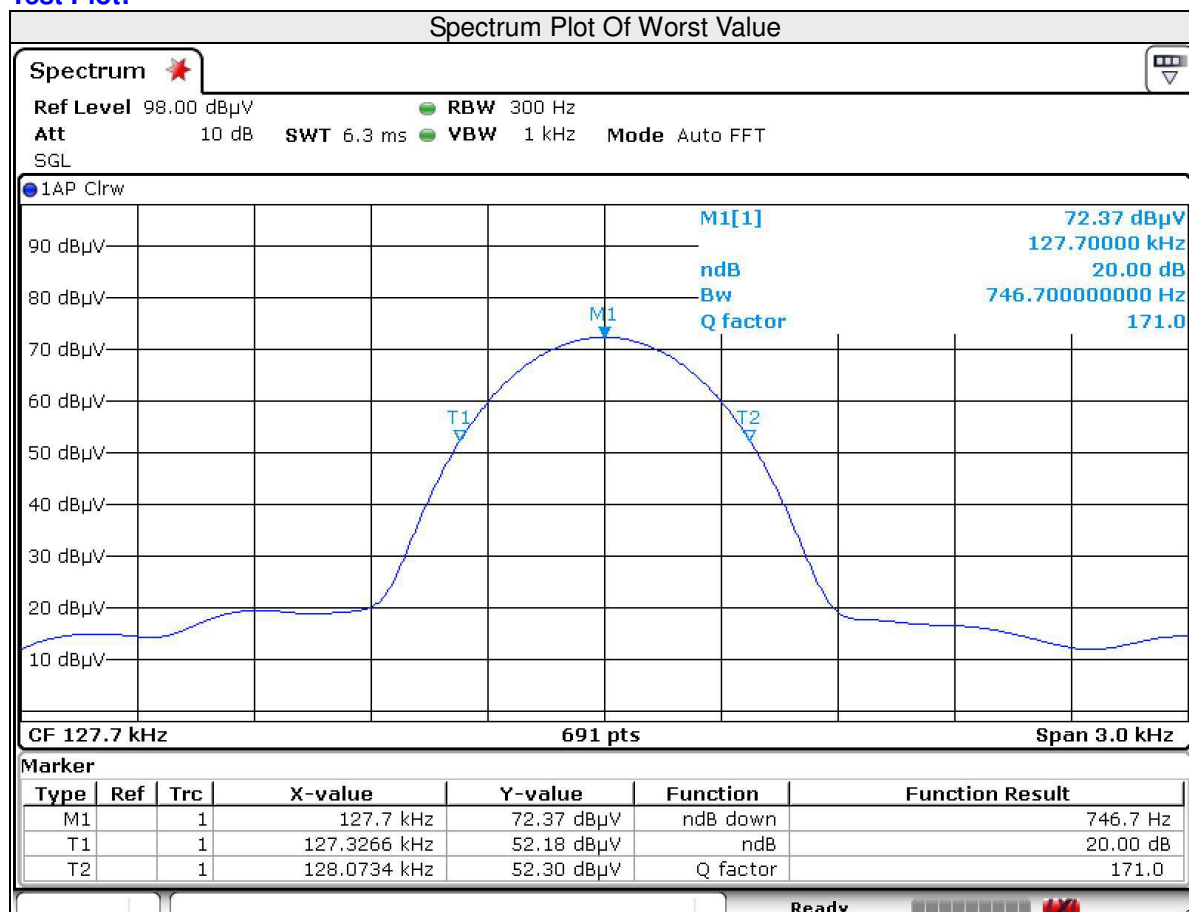
Test Mode	Frequency (kHz)	20dB Bandwidth (Hz)
A	127.7	746.7

Test Plot:



Test Mode	Frequency (kHz)	20dB Bandwidth (Hz)
B	127.7	746.7

Test Plot:





Test Report No.: RF2104WDG0462

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---