

TEST REPORT

Applicant	TTS-Group Ltd.
Address	Unit 1, Park Lane Business Park Park Lane, Kirkby in Ashfield, NG179GU, United Kingdom

Manufacturer or Supplier	TTS-Group Ltd.
Address	Unit 1, Park Lane Business Park Park Lane, Kirkby in Ashfield, NG179GU, United Kingdom
Product	Light Up Twist & Turn Spinning Tops
Brand Name	N/A
Model	EY10972
Additional Model & Model Difference	N/A
Date of tests	Nov. 17, 2020 ~ Jan. 05, 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: Jan. 15, 2021

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Test Report No.: RF2011WDG0188

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2011WDG0188	Original release	Jan. 15, 2021

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

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

2 MEASUREMENT UNCERTAINTY

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

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

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



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Light Up Twist & Turn Spinning Tops
MODEL NO.	EY10972
ADDITIONAL MODEL	N/A
FCC ID	2ADRE-EY10972
POWER SUPPLY	DC 5V from USB Host Unit;
MODULATION TYPE	ASK
OPERATING FREQUENCY	520KHz ~ 572KHz
ANTENNA TYPE	Coil Antenna
CABLE SUPPLIED	USB Line: Unshielded, Detachable, 100cm

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.: 2011WDG0188) for detailed product photo.
4. Spinning Tops as a wireless charge load and is also part of the EUT. The normal working for spinning tops was tested in the FCC Part 15B(sDOC) report.(report no.: FS 2011WDG0188)

DESCRIPTION	POWER SUPPLY
Spinning Tops	DC 3.7V from Li-ion Battery or DC 5V from Charging base

3.2 DESCRIPTION OF TEST MODES

The EUT was tested under the following modes the final worst mode was marked in boldface and recorded in this report.

TEST FREQUENCY	TEST MODE	TEST VOLTAGE
551.3KHz	wireless charging	DC 5V from Adapter
544.7KHz	Standby	

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as 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.	FCC ID
1	Adapter	Apple	A1299	090471-11	N/A
2	Adapter	N/A	5V/2A	N/A	N/A

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

4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

- NOTES:** (1) The lower limit shall apply at the transition frequencies.
 (2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

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

The basic test procedure was in accordance with ANSI C63.4:2014 (section 7).

- 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.

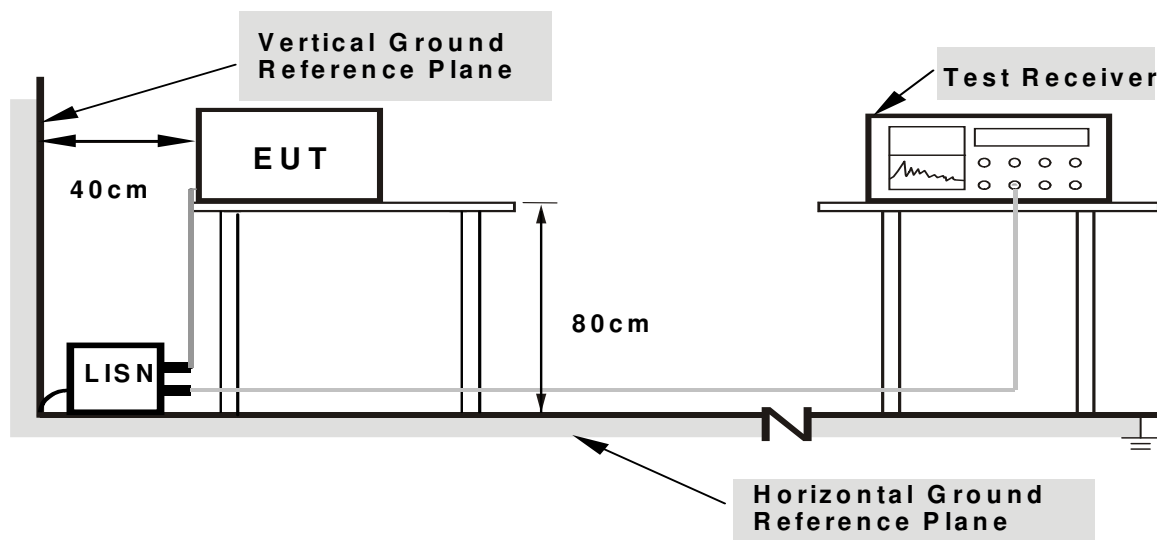
NOTES:

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

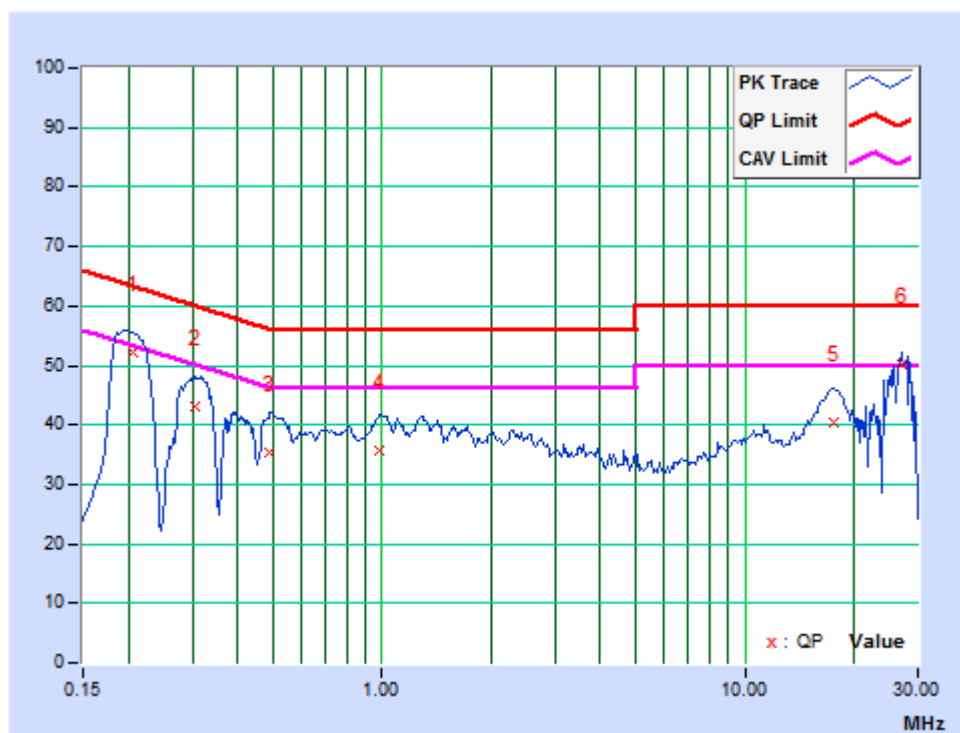
- Turned on the power of all equipment.
- EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

4.1.7 TEST RESULTS

TEST MODE	See section 3.2	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	See section 3.2	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 55% RH	TESTED BY	Ming Bai

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	0.20625	9.78	42.26	28.91	52.04	38.69	63.35	53.35	-11.31	-14.66
2	0.30525	9.82	33.27	20.19	43.09	30.01	60.10	50.10	-17.01	-20.09
3	0.48661	9.86	25.52	9.67	35.38	19.53	56.23	46.23	-20.85	-26.70
4	0.97875	9.82	25.74	12.25	35.56	22.07	56.00	46.00	-20.44	-23.93
5	17.55675	10.21	30.04	21.84	40.25	32.05	60.00	50.00	-19.75	-17.95
6	27.00450	10.47	39.58	33.16	50.05	43.63	60.00	50.00	-9.95	-6.37

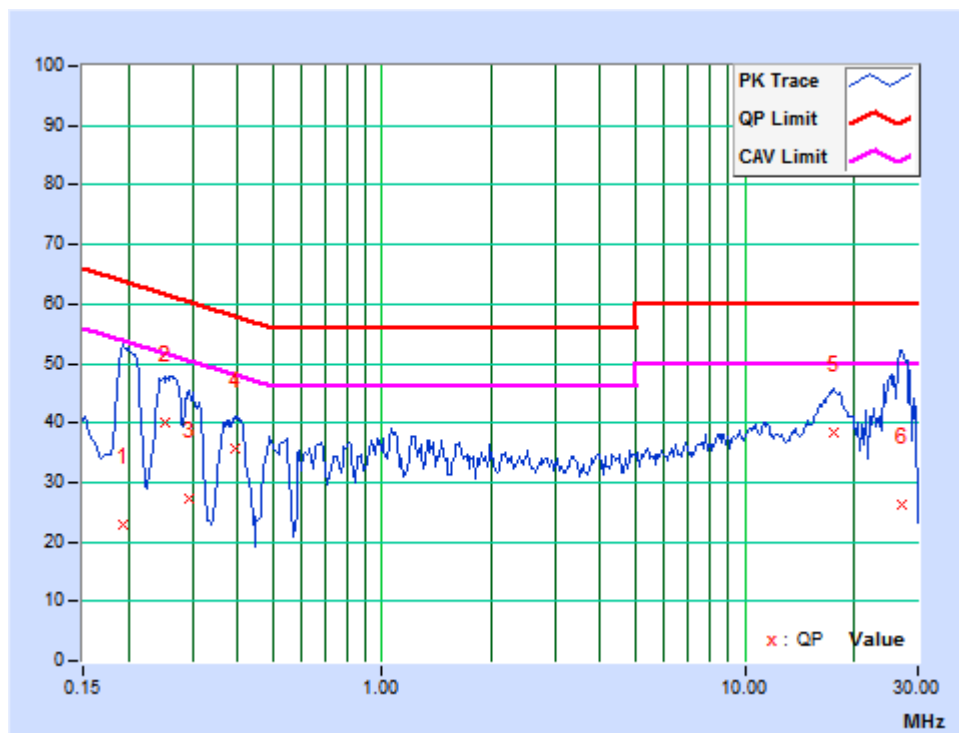
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	See section 3.2	6DB BANDWIDTH	9 kHz
TEST VOLTAGE	See section 3.2	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 55% RH	TESTED BY	Ming Bai

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	0.19275	9.71	13.31	-2.78	23.02	6.93	63.92	53.92	-40.90	-46.99
2	0.25125	9.74	30.23	10.69	39.97	20.43	61.72	51.72	-21.75	-31.29
3	0.29400	9.76	17.60	-0.15	27.36	9.61	60.41	50.41	-33.05	-40.80
4	0.39300	9.79	25.87	9.98	35.66	19.77	58.00	48.00	-22.34	-28.23
5	17.59275	10.18	28.07	19.67	38.25	29.85	60.00	50.00	-21.75	-20.15
6	27.09900	10.69	15.60	14.97	26.29	25.66	60.00	50.00	-33.71	-24.34

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. 17,21
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,21
Amplifier	Burgeon	BPA-530	100210	Mar. 14,21
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. 17,21
Bilog Antenna	Teseq	CBL 6111D	30643	May 29,21
Amplifier	Burgeon	BPA-530	100220	Mar. 14,21
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 22,21
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.

NOTE:

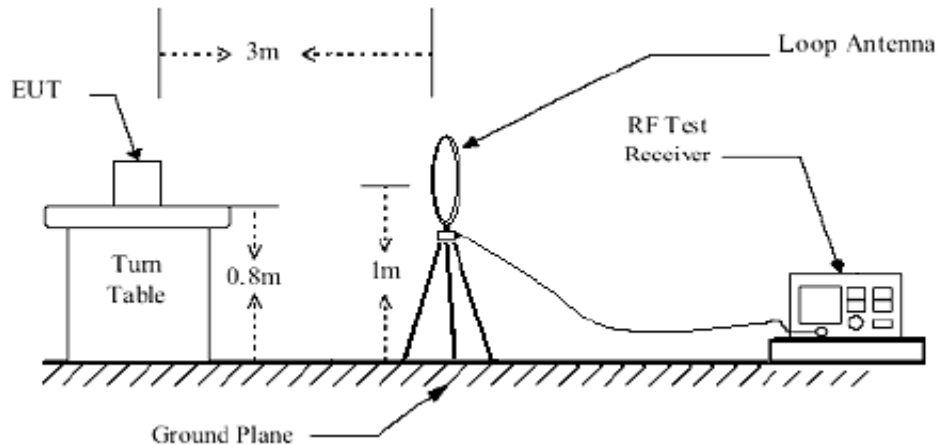
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Margin value = Emission level – Limit value.

4.2.4 DEVIATION FROM TEST STANDARD

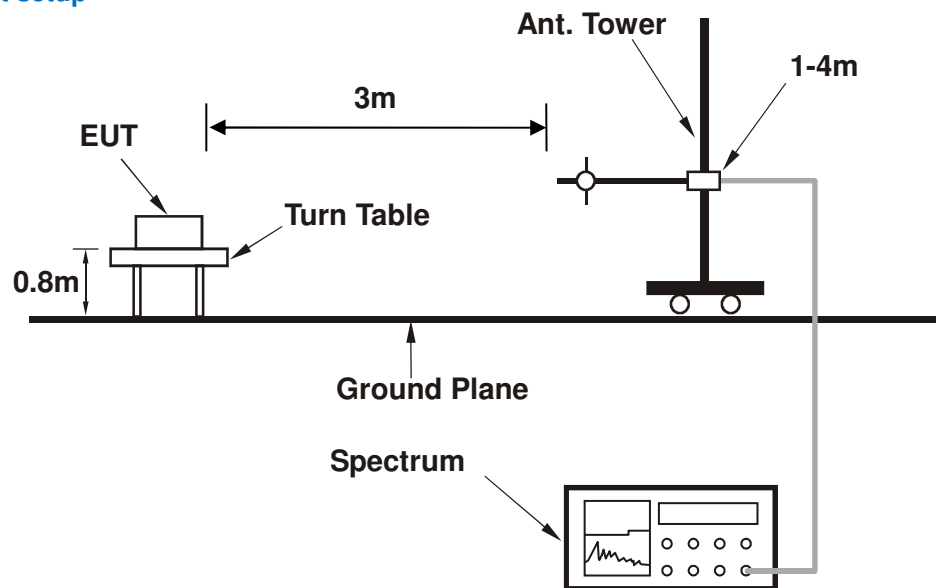
No deviation.

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

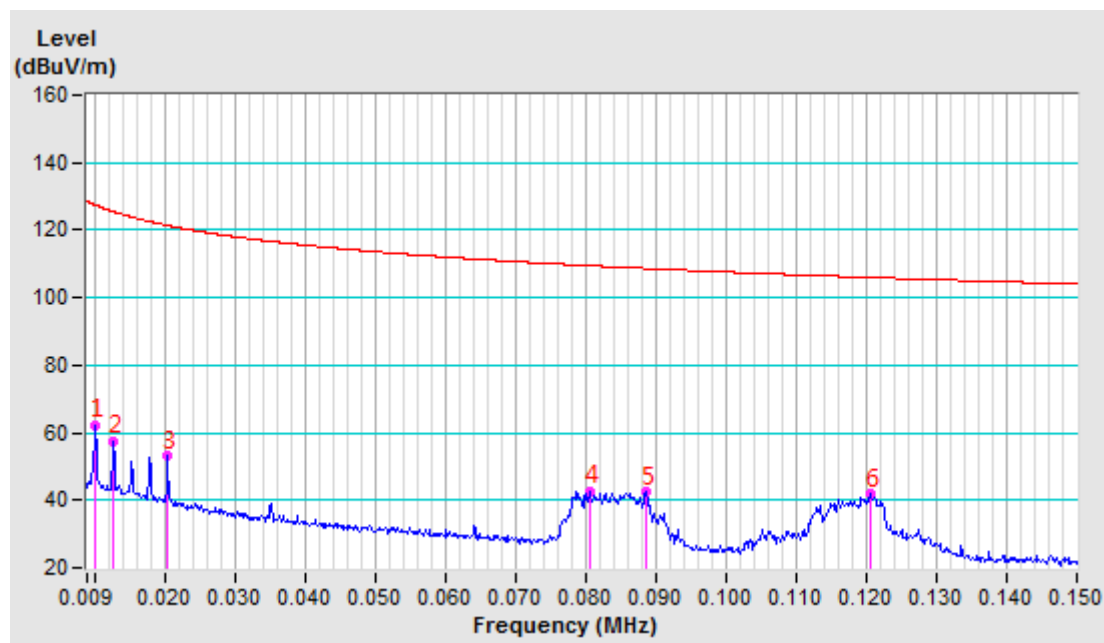
- Turn on the power supply of the EUT.
- EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

4.2.7 TEST RESULTS

TEST MODE	See section 3.2	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	See section 3.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 53% RH	TESTED BY: Ray	

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	0.01020	-10.05	72.26	62.21	127.40	-65.19	100	256
2	0.01280	-10.21	67.76	57.55	125.47	-67.92	100	220
3	0.02050	-10.67	63.84	53.17	121.39	-68.22	100	329
4	0.08070	-11.67	54.42	42.75	109.46	-66.71	100	202
5	0.08860	-11.72	54.02	42.30	108.65	-66.35	100	207
6	0.12050	-11.82	53.75	41.93	105.98	-64.05	100	195

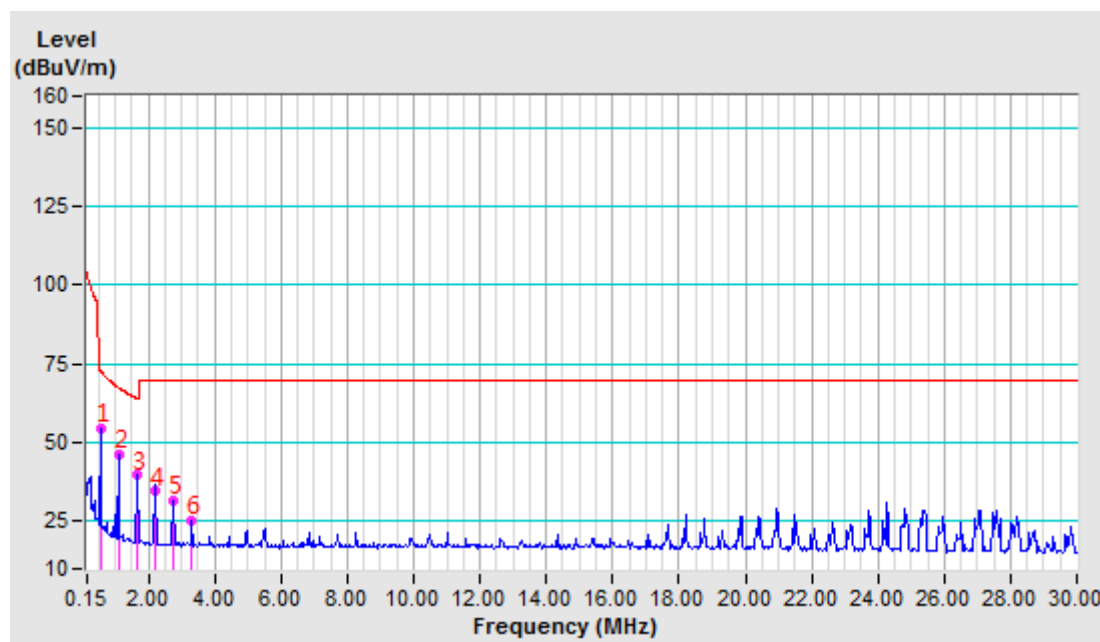
- REMARKS:** 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.009-0.15MHz.
4. Only emissions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



TEST MODE	See section 3.2	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	See section 3.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 53% RH	TESTED BY:	Ray

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	0.54850	-11.95	66.46	54.51	72.91	-18.40	100	126
2	1.09930	-12.02	58.15	46.13	67.43	-21.30	100	109
3	1.65450	-12.05	51.64	39.59	64.21	-24.62	100	42
4	2.21420	-12.07	46.60	34.53	69.54	-35.01	100	49
5	2.74710	-12.03	43.69	31.66	69.54	-37.88	100	77
6	3.31280	-11.99	37.50	25.51	69.54	-44.03	100	76

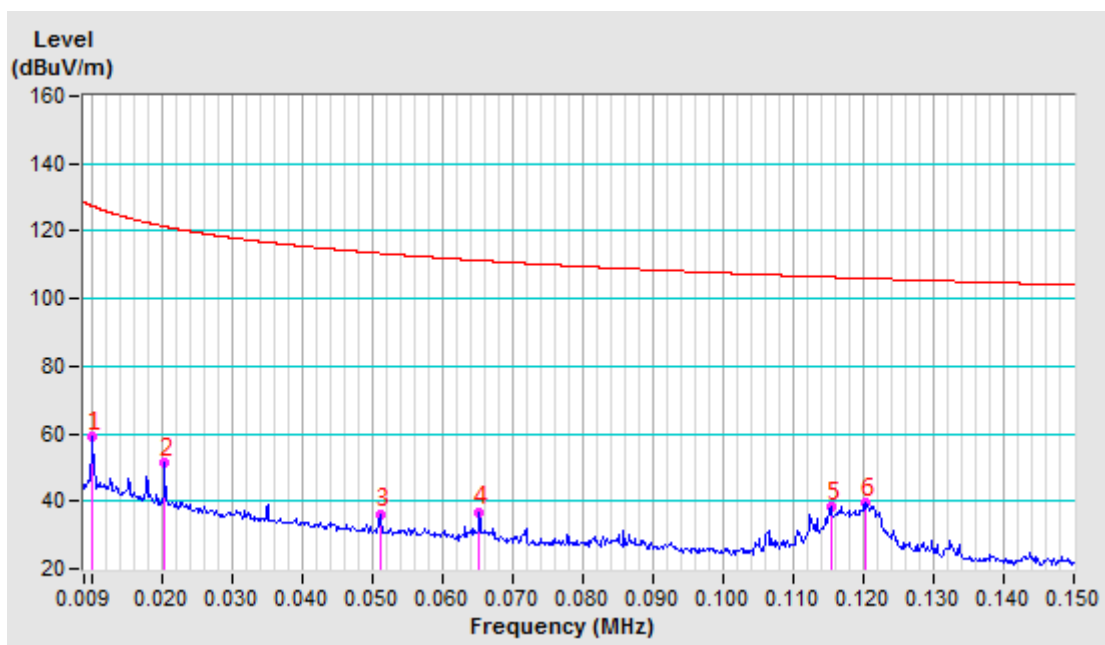
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.15-30MHz.
 4. Only emissions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



TEST MODE	See section 3.2	FREQUENCY RANGE	9 -150KHz
TEST VOLTAGE	See section 3.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 53% RH	TESTED BY: Ray	

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	0.01020	-10.05	68.99	58.94	127.41	-68.47	100	264
2	0.02050	-10.67	61.84	51.17	121.38	-70.21	100	55
3	0.05120	-11.56	47.75	36.19	113.42	-77.23	100	286
4	0.06530	-11.61	48.47	36.86	111.31	-74.45	100	102
5	0.11540	-11.80	50.09	38.29	106.36	-68.07	100	137
6	0.12020	-11.82	51.41	39.59	106.00	-66.41	100	137

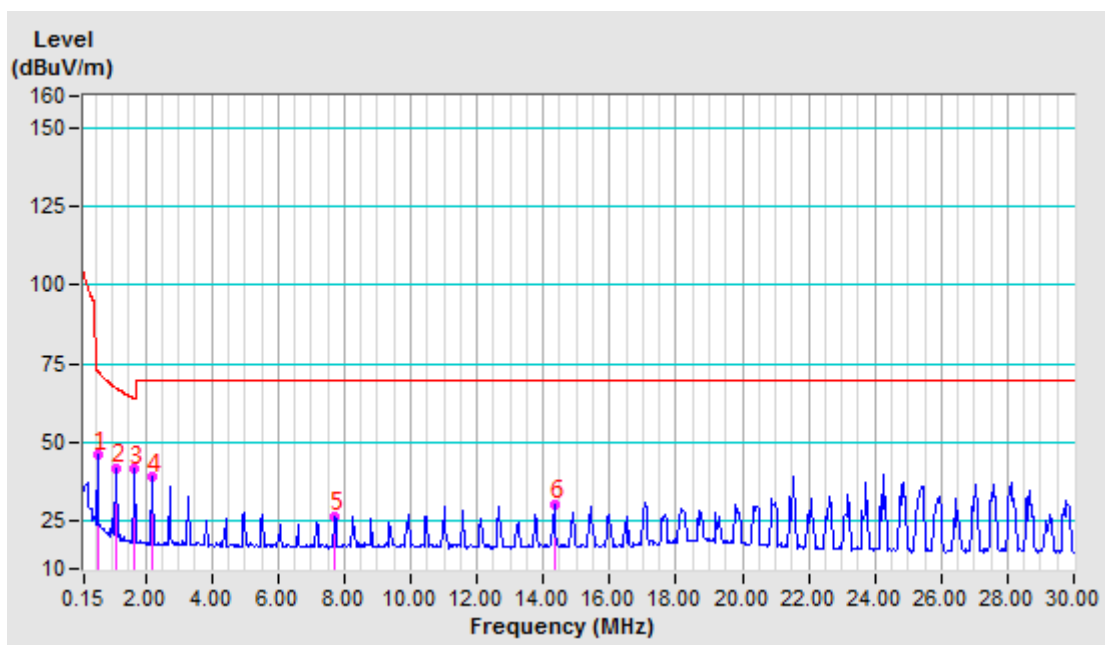
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 0.009-0.15MHz.
 4. Only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



TEST MODE	See section 3.2	FREQUENCY RANGE	150KHz-30MHz
TEST VOLTAGE	See section 3.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 200Hz
ENVIRONMENTAL CONDITIONS	26deg. C, 53% RH	TESTED BY: Ray	

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	0.55000	-11.95	57.93	45.98	72.89	-26.91	100	232
2	1.10080	-12.02	53.65	41.63	67.42	-25.79	100	184
3	1.64850	-12.05	53.52	41.47	64.24	-22.77	100	145
4	2.20530	-12.06	50.98	38.92	69.54	-30.62	100	165
5	7.72630	-11.89	38.4	26.51	69.54	-43.03	100	156
6	14.33990	-11.54	41.76	30.22	69.54	-39.32	100	7

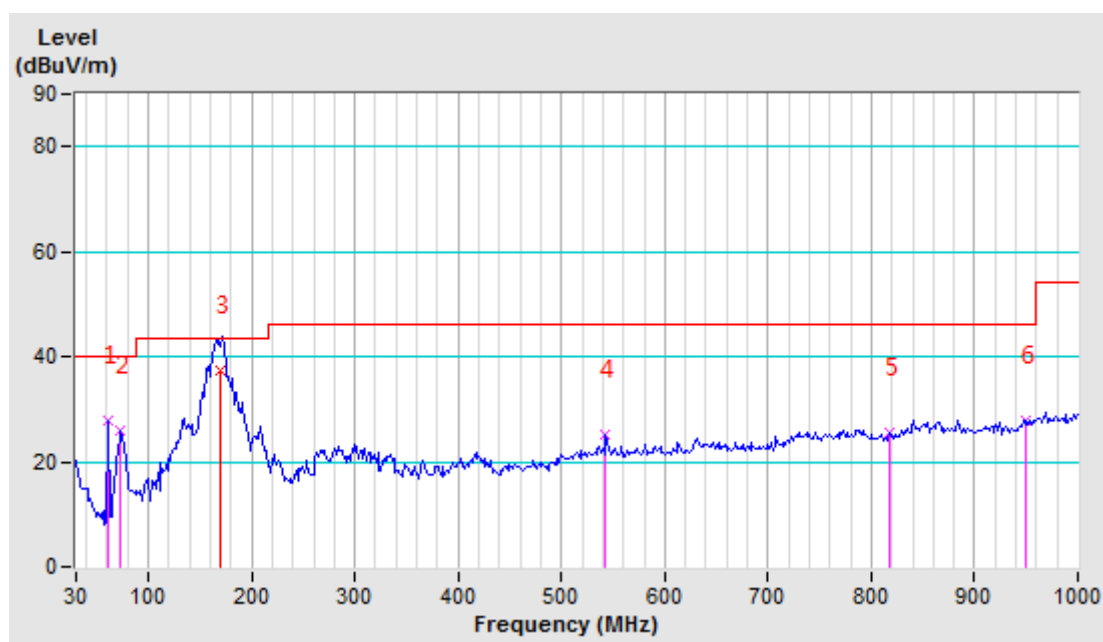
REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 0.15-30MHz
4. Only emissions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



TEST MODE	See section 3.2	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	See section 3.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 55% RH	TESTED BY: panda	

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	61.090	-24.91	52.84	27.93	40.00	-12.07	200	0
2	73.530	-23.79	49.65	25.86	40.00	-14.14	200	196
3	169.970	-18.03	55.43	37.40	43.50	-6.10	100	147
4	542.980	-8.02	33.06	25.04	46.00	-20.96	200	258
5	818.130	-3.85	29.31	25.46	46.00	-20.54	200	245
6	948.700	-1.58	29.39	27.81	46.00	-18.19	200	229

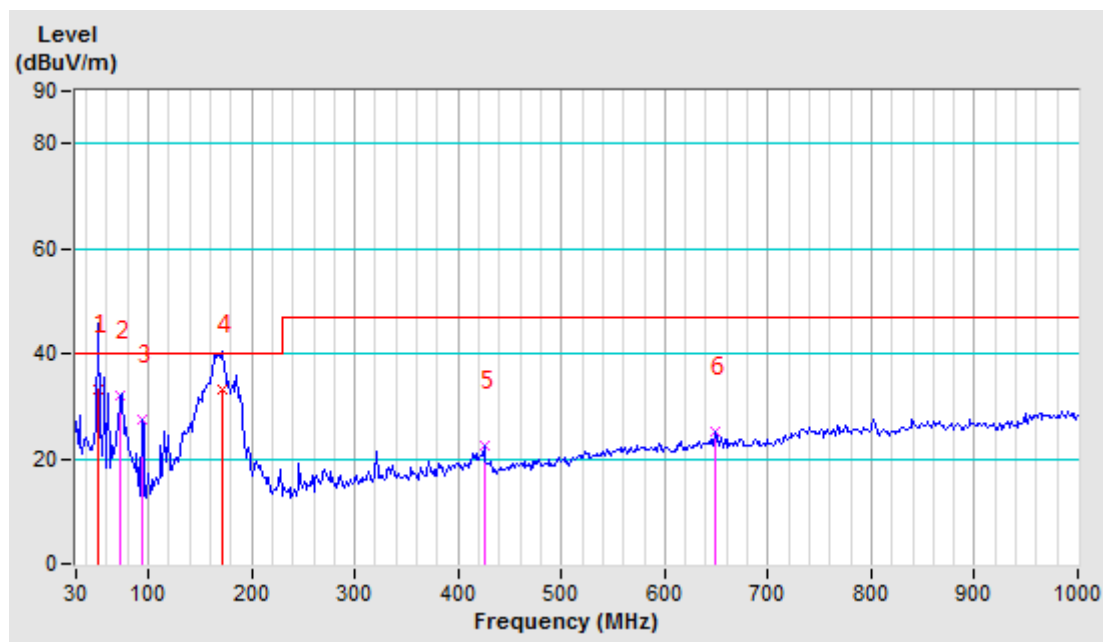
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to 1000MHz.
 4.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



TEST MODE	See section 3.2	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	See section 3.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 55% RH	TESTED BY: panda	

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	51.760	-21.77	55.01	33.24	40.00	-6.76	100	125
2	73.530	-23.79	55.82	32.03	40.00	-7.97	200	294
3	93.730	-20.62	47.94	27.32	40.00	-12.68	200	308
4	171.460	-18.18	51.43	33.25	40.00	-6.75	100	124
5	424.840	-10.99	33.40	22.41	47.00	-24.59	200	207
6	648.690	-5.82	30.87	25.05	47.00	-21.95	200	192

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



4.3. 20dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT

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

4.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	N/A
Power Sensor	Keysight	U2021XA	MY55060018	Jun. 03,21
Power Meter	Anritsu	ML2495A	1139001	Mar. 17,21
Power Sensor	Anritsu	MA2411B	1531155	Mar. 17,21
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. 17,21
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 test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

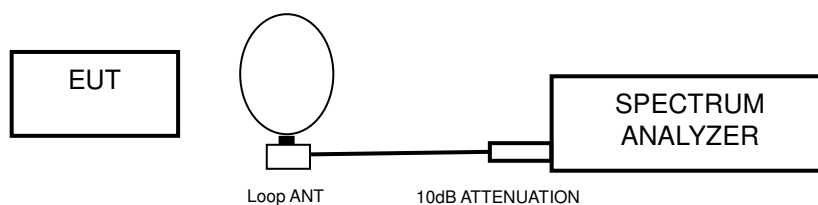
4.3.3 TEST PROCEDURE

- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT, then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- d. Repeat above procedures until all frequencies measured were complete.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITION

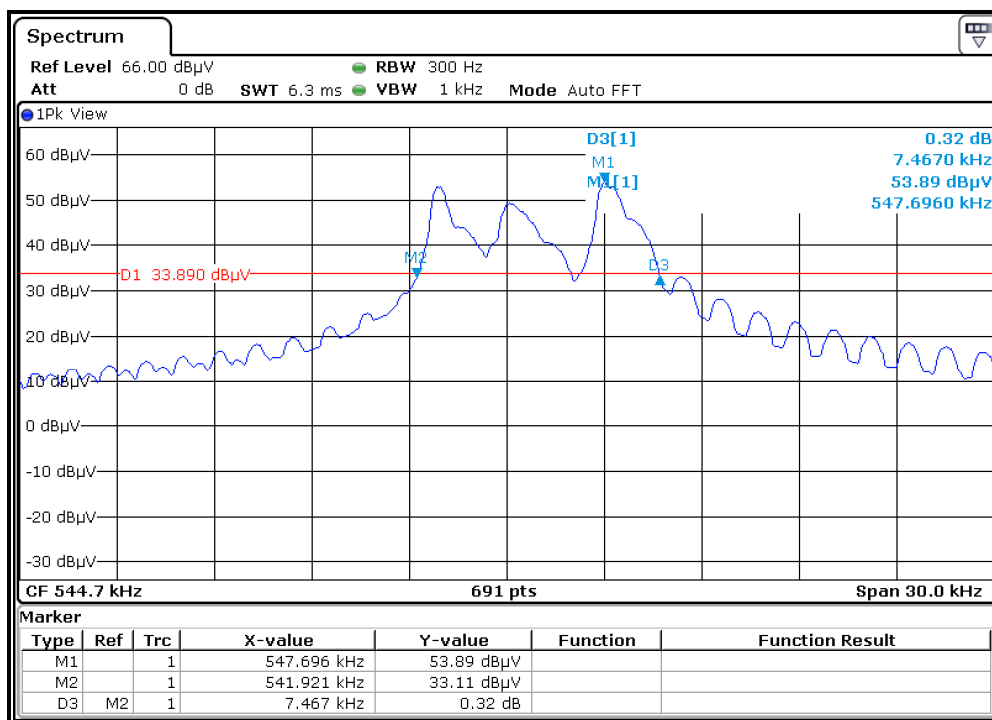
- a. Turn on the EUT.
- b. The EUT tested in charging mode and standby mode respectively.

4.3.7 TEST RESULTS

TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (KHz)
Standby	544.7	7.467

Lower & Upper Test Frequency Point (MHz)	Test Frequency (KHz)	P/F
Lower	541.921	PASS
Upper	549.388	PASS

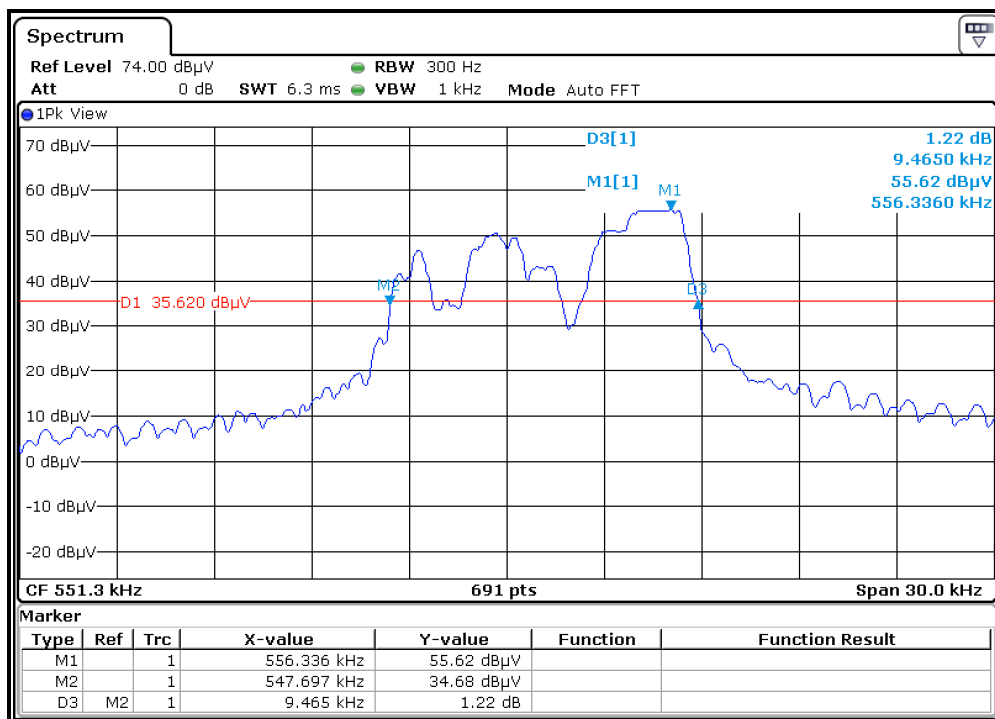
Test Data:



TEST MODE	CHANNEL FREQUENCY (KHz)	20dB BANDWIDTH (kHz)
Wireless Charging	551.3	9.465

Lower & Upper Test Frequency Point (MHz)	Test Frequency (KHz)	P/F
Lower	547.697	PASS
Upper	557.162	PASS

Test Data:





Test Report No.: RF2011WDG0188

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---