TEST REPORT

Application No.:	KSCR2109000076AT
FCC ID:	VMIBUTTON
IC:	12494A-BUTTON
Applicant:	Swann Communications Pty Ltd.
Address of Applicant:	Unit 5B,706 Lorimer Street Port Melbourne,Vic 3207,Australia
Manufacturer:	Ningbo Changrong Lighting&Electronics Technology Co.,Ltd
Address of Manufacturer:	NO.72,WUSHI ROAD,XIDIAN TOWN,NINGHAI NINGBO 315600 CHINA
Factory:	Ningbo Changrong Lighting&Electronics Technology Co.,Ltd
Address of Factory:	NO.72,WUSHI ROAD,XIDIAN TOWN,NINGHAI NINGBO 315600 CHINA
Equipment Under Test (EUT):	
EUT Name:	Doorbell
Model No.:	SWALPH-BUTTON
Standard(s) :	47 CFR Part 15, Subpart C 15.231 RSS-210 Issue 10 December 2019 RSS-Gen Issue5 Amendment 2(February 2021)
Date of Receipt:	2021-09-13
Date of Test:	2021-09-13 to 2021-10-14
Date of Issue:	2021-10-27
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Eric Lin
Laboratory Manage

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2021-10-27	/

Authorized for issue by:				
		Damon zhou		
		Damon Zhou / Project Engineer		
		Eric Lin		
		Eric Lin / Reviewer		

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2 Test Summary

Radio Spectrum Technical Requirement				
Item	**FCC Requirement**	**IC Requirement**	**Method**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart C 15.203	RSS-Gen Section 8.1.3	N/A	Pass

N/A: Not applicable

Radio Spectrum Matter Part				
Item	**FCC Requirement**	**IC Requirement**	**Method**	**Result**
20dB Bandwidth	47 CFR Part 15, Subpart C 15.231	RSS-210 A1.3	ANSI C63.10 (2013) Section 6.9	Pass
Dwell Time	47 CFR Part 15, Subpart C 15.231(a)	RSS-210 A1.1	ANSI C63.10 (2013) Section 7.8.4	Pass
Field Strength of the Fundamental Signal	47 CFR Part 15, Subpart C 15.231(b)	RSS-210 A1.2	ANSI C63.10 (2013) Section 6.5	Pass
Radiated Emissions	47 CFR Part 15, Subpart C 15.231	RSS-210 A1.2	ANSI C63.10 (2013) Section 6.4&6.5&6.6	Pass
99% Bandwidth	N/A	RSS-210 A1.3	RSS-Gen Section 6.7	Pass
Frequency Stability	N/A	RSS-Gen Section 8.11	RSS-Gen Section 6.11	Note 1

Note 1: Frequency stability requested in RSS GEN S8.11 has been complied since the result of occupied bandwidth can demonstrate.

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3 Contents

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3V
Test voltage:	DC 3V
Antenna Type:	PCB antenna
Modulation Type:	ASK
Number of Channels:	1
Operation Frequency:	433.92MHz
S/N	1330711210001
Firmware Version:	CR-18002K-Rev00_20210721HY

4.2 Description of Support Units

The EUT has been tested independently

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	±8.4 x 10-8
2	Timeout	±2s
3	Duty cycle	±0.37%
4	Occupied Bandwidth	±3%
5	RF conducted power	±0.6dB
6	RF power density	±2.84dB
7	Conducted Spurious emissions	±0.75dB
8	RF Radiated power	±4.6dB (Below 1GHz)
		±4.1dB (Above 1GHz)
9	Radiated Spurious emission test	±4.2dB (Below 30MHz)
		±4.4dB (30MHz-1GHz)
		±4.8dB (1GHz-18GHz)
		±5.2dB (Above 18GHz)
10	Temperature test	±1°C
11	Humidity test	±3%
12	Supply voltages	±1.5%
13	Time	±3%

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

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4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory.

Designation Number: CN1172.

- **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

CAB Identifier: CN0072.

- **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Item	Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal.Due Date
Conducted Emission at Mains Terminals (150kHz-30MHz)						
1	EMI Test Receive	R&S	ESCI	100781	02/01/2021	01/31/2022
2	LISN	R&S	ENV216	101604	10/19/2020	10/18/2021
3	LISN	Schwarzbeck	NNLK 8129	8129-143	10/19/2020	10/18/2021
4	Pulse Limiter	R&S	ESH3-Z2	100609	02/01/2021	01/31/2022
5	CE test Cable	Thermax	/	14	10/17/2020	10/16/2021
6	Test Software	Farad	EZ-EMC	CCS-03A1	N.C.R	N.C.R
RF Conducted Test						
1	Spectrum Analyzer	Agilent	E4446A	MY44020154	04/16/2021	04/15/2022
2	Spectrum Analyzer	Keysight	N9020A	MY55370209	12/02/2020	12/01/2021
3	Spectrum Analyzer	Keysight	N9010A	MY56480443	02/01/2021	01/31/2022
4	Signal Generator	Agilent	N5182A	MY50142015	08/27/2021	08/26/2022
5	Radio Communication Test Station	Anritsu	MT8000A	6262012849	N/A	N/A
6	Radio Communication Analyzer	Anritsu	MT8821C	6201692222	N/A	N/A
7	Universal Radio Communication Tester	R&S	CMW500	159275	10/19/2020	10/18/2021
8	Universal Radio Communication Tester	R&S	CMW500	167239	04/16/2021	04/15/2022
9	Power Meter	Anritsu	ML2495A	1445010	04/15/2021	04/14/2022
10	Switcher	CCSRF	FY562	KUS2001M001-3	10/19/2020	10/18/2021
11	AC Power Source	EXTECH	6605	1570106	N.C.R	N.C.R
12	DC Power Supply	Aglient	E3632A	MY50340053	N.C.R	N.C.R
13	6dB Attenuator	Mini-Circuits	NAT-6-2W	15542-1	N.C.R	N.C.R
14	Power Divider	AISI	IOWOPE2068	PE2068	N.C.R	N.C.R
15	Filter	MICRO-TRONICS	BRM50701	5	N.C.R	N.C.R
16	Conducted test cable	/	RF01-RF04	/	04/15/2021	04/14/2022
17	Software	BST	TST-PASS	N/A	N/A	N/A
18	Temp. / Humidity Chamber	TERCHY	MHK-120AK	X30109	04/15/2021	04/14/2022
19	Thermometer	Anymetre	TH603	CCS007	10/16/2020	10/15/2021
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	101493	10/19/2020	10/18/2021
2	Signal Generator	Agilent	E8257C	MY43321570	10/19/2020	10/18/2021
3	Loop Antenna	Schwarzbeck	HXYZ9170	9170-108	02/22/2021	02/21/2022
4	Bilog Antenna	TESEQ	CBL 6112D	35403	06/21/2021	06/20/2023
5	Bilog Antenna	SCHWARZBECK	VULB9160	9160-3342	04/13/2021	04/12/2023
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	267	10/26/2020	10/25/2022
7	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	00143290	02/22/2021	02/21/2023
8	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	BBHA9170171	02/22/2021	02/21/2022
9	Pre-Amplifier(30MHz~18GHz)	LNA	/	/	04/15/2021	04/14/2022
10	Amplifier(18~40GHz)	COM-POWER	PAM-840A	461332	10/23/2020	10/22/2021
11	Low Pass Filter	MICRO-TRONICS	VLFX-950	RV142900829	N.C.R	N.C.R
12	High Pass Filter	Mini-Circuits	VHF-1200	15542	N.C.R	N.C.R
13	Filter (5450MHz～5770 MHz)	MICRO-TRONICS	BRC50704-01	2	N.C.R	N.C.R
14	Filter (5690 MHz～5930 MHz)	MICRO-TRONICS	BRC50705-01	4	N.C.R	N.C.R

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15	Filter (5150 MHz～5350 MHz)	MICRO-TRONICS	BRC50703-01	2	N.C.R	N.C.R
16	Filter (885 MHz～915 MHz)	MICRO-TRONICS	BRM14698	1	N.C.R	N.C.R
17	Filter (815 MHz～860 MHz)	MICRO-TRONICS	BRM14697	1	N.C.R	N.C.R
18	Filter (1745 MHz～1910 MHz)	MICRO-TRONICS	BRM14700	1	N.C.R	N.C.R
19	Filter (1922 MHz～1977 MHz)	MICRO-TRONICS	BRM50715	1	N.C.R	N.C.R
20	Filter (2550 MHz)	MICRO-TRONICS	HPM13362	5	N.C.R	N.C.R
21	Filter (1532 MHz～1845 MHz)	MICRO-TRONICS	BRM50713	1	N.C.R	N.C.R
22	Filter (2.4GHz)	MICRO-TRONICS	BRM50701	5	N.C.R	N.C.R
23	RE test cable	/	RE01-RE04	/	04/15/2021	04/14/2022
24	Software	Faratronic	EZ_EMC-v 3A1	N/A	N/A	N/A

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is PCB antenna and no consideration of replacement.

Antenna location: Refer to Appendix (Internal Photos)

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7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.231(c)

Test Method: ANSI C63.10 (2013) Section 6.9

Limit:

Frequency range(MHz)	Limit
70-900	No wider than 0.25% of the center frequency
Above 900	No wider than 0.5% of the center frequency

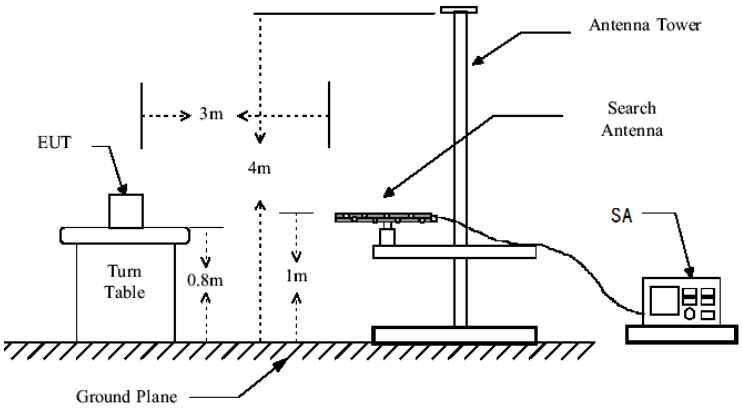
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 49 % RH Atmospheric Pressure: 1007 mbar

Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

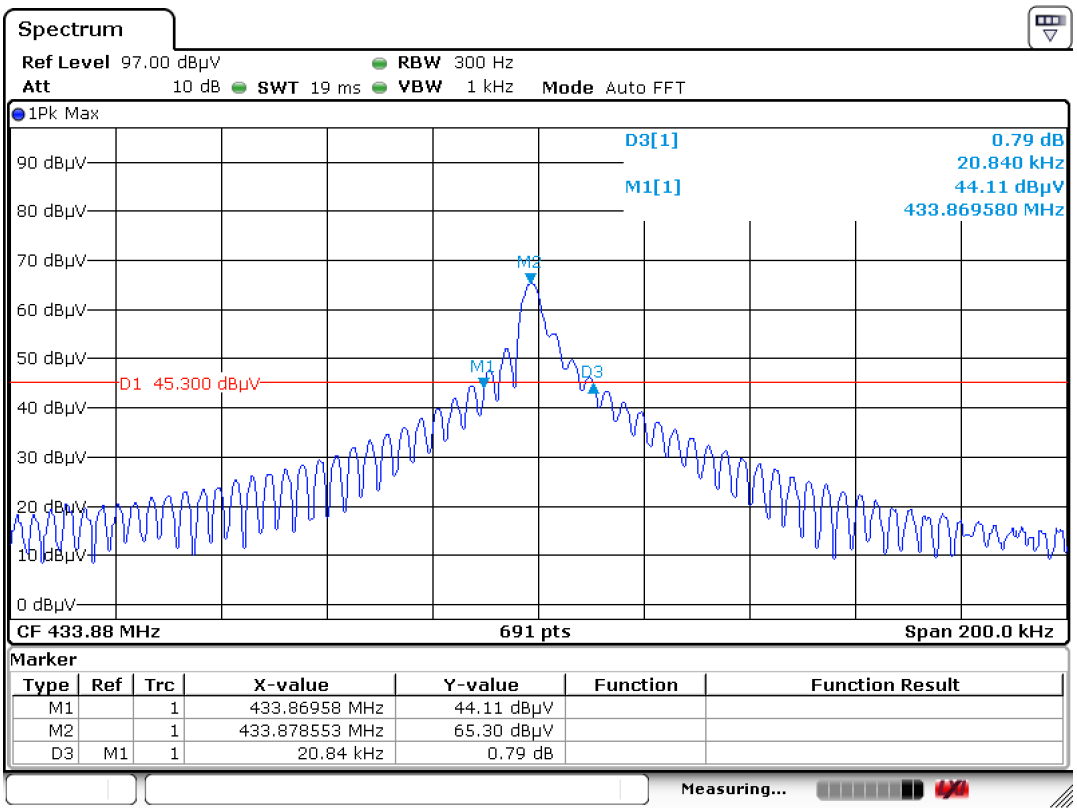
7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

Frequency(MHz)	20dB bandwidth (KHz)	Limit (KHz)	Results
433.92	20.84	1085	Pass

Test plot as follows:



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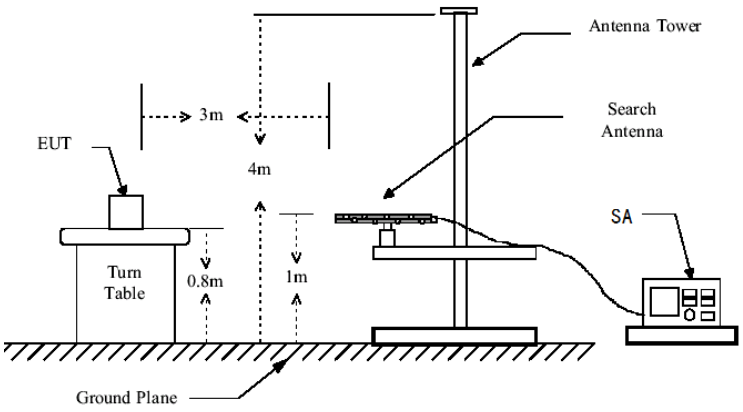
7.2 Dwell Time

Test Requirement 47 CFR Part 15, Subpart C 15.231(a)
Test Method: ANSI C63.10 (2013) Section 7.8.4
Limit: 15.231 (a): Not more than 5 seconds

7.2.1 E.U.T. Operation

Operating Environment:
Temperature: 25 °C Humidity: 50 % RH Atmospheric Pressure: 1007 mbar
Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

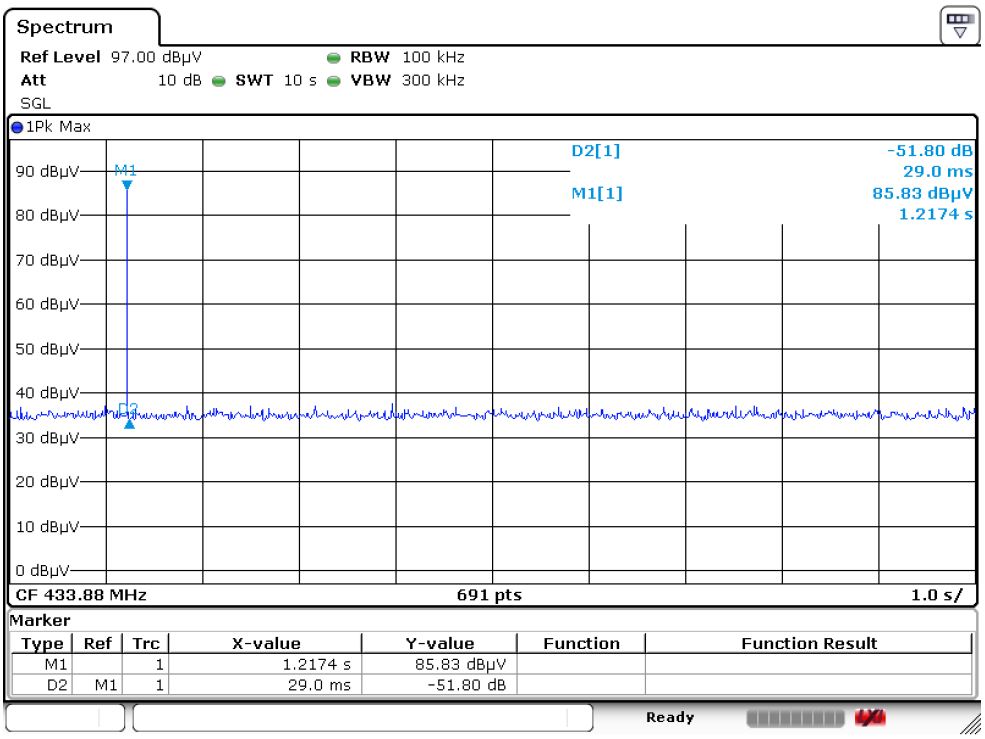
7.2.2 Test Setup Diagram

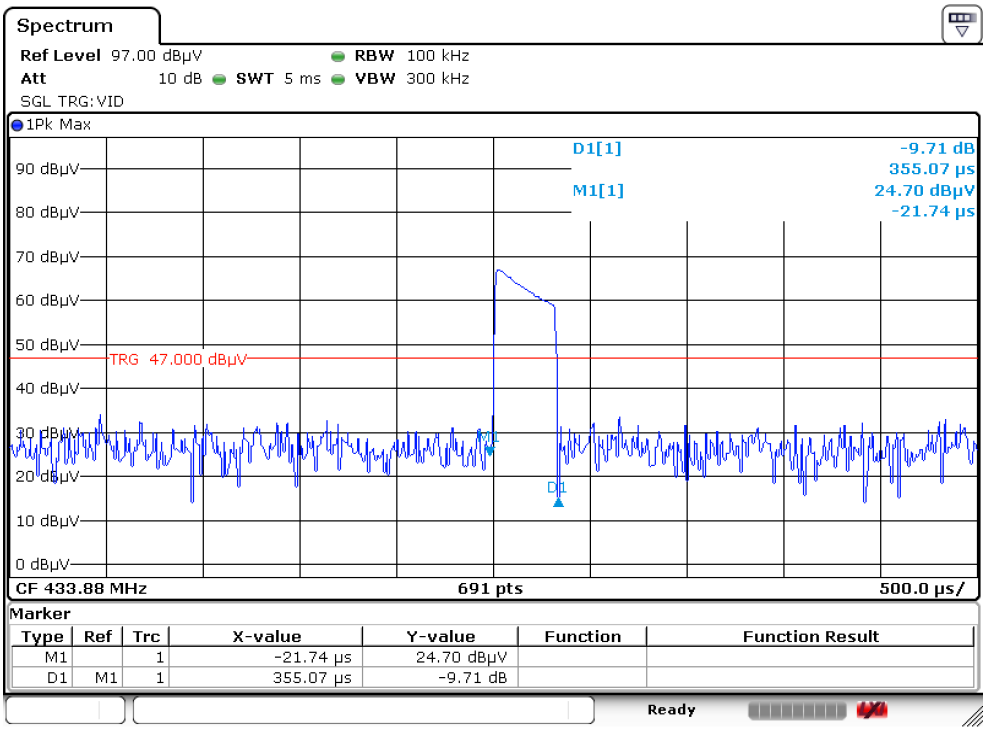


7.2.3 Measurement Procedure and Data

Test item	Limit (s)	Results
Transmission Duration	⩽5s	Pass

Test plot as follows:





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7.3 Field Strength of the Fundamental Signal (15.231(b))

Test Requirement 47 CFR Part 15, Subpart C 15.231(b)

Test Method: ANSI C63.10 (2013) Section 6.5

Limit:

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.015MHz	Quasi-peak	200Hz	1KHz	Quasi-peak
0.015MHz-30MHz	Quasi-peak	9kHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120 kHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:
(Spurious Emissions)

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	Quasi-peak	300
0.490MHz-1.705MHz	24000/F(kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	-	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3
		74.0	Peak	3

Limit:
(Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
433.09 - 434.61MHz	80.83	Average Value
	100.83	Peak Value

Test Procedure:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. 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 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. The radiation measurements are performed in X, Y, Z axis positioning. And found the Z axis positioning which it is worse case, only the test worst case mode is recorded in the report.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

7.3.2 Test Setup Diagram

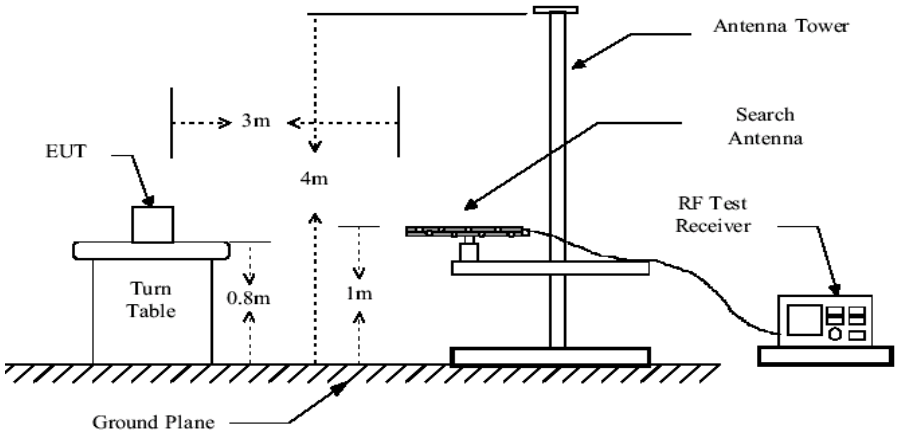

Figure1. 30MHz to 1GHz radiated emissions test configuration

7.3.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna 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.

e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

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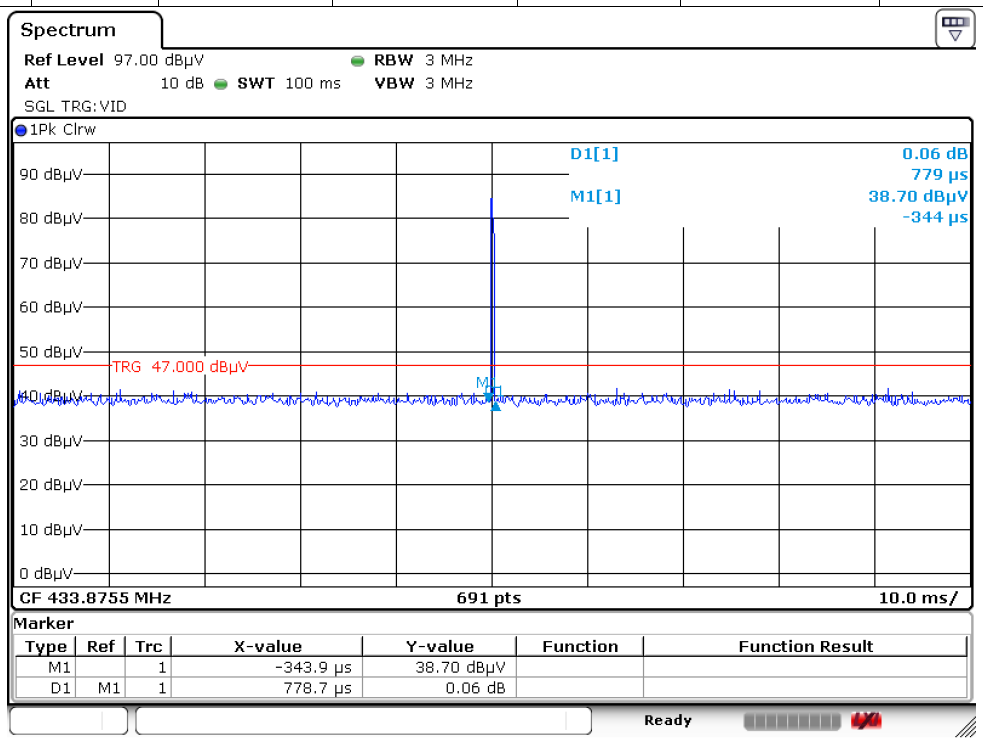
Test channel	Freq. (MHz)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
Channel 1	433.92	92.89	100.83	-7.94	Peak	Vertical
		90.03	100.83	-10.8	Peak	Horizontal
		44.65	80.83	-36.18	AVG	Vertical
		41.79	80.83	-39.04	AVG	Horizontal



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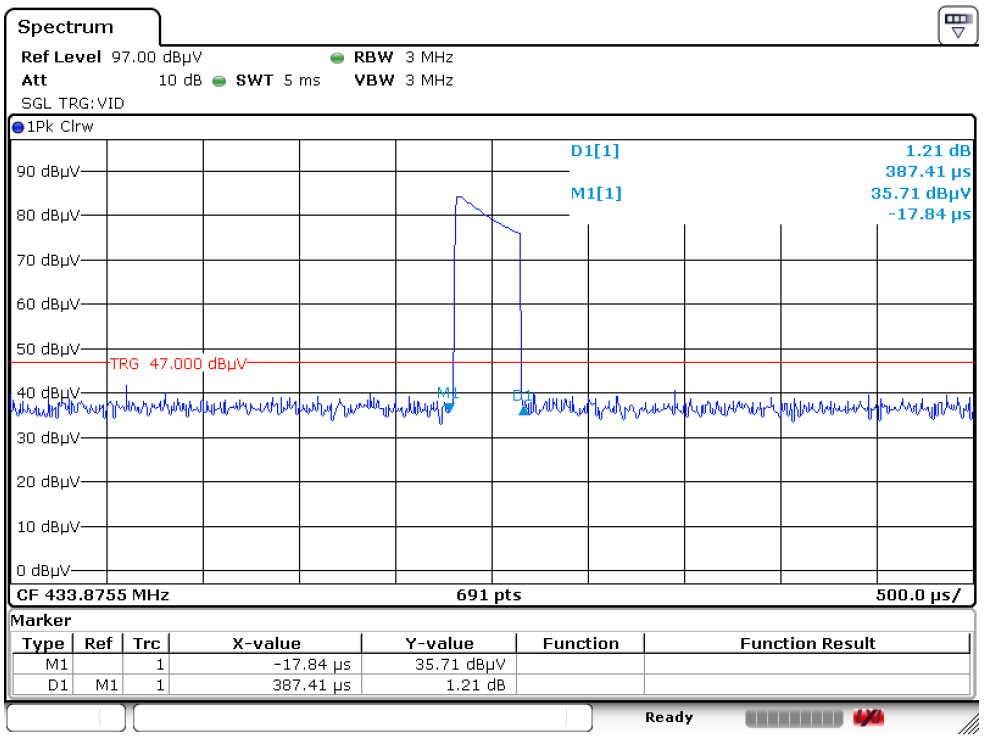

Remark:

If the Peak value below the AV Limit, the AV test doesn't perform for this submission.

Average level=Peak level+Duty Cycle Factor

Duty Cycle Factor= 20log(Duty Cycle)= -48.24dB

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7.4 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.231(b)
Test Method: ANSI C63.10 (2013) Section 6.4&6.5&6.6
Limit:

Frequency(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
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

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7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25 °C Humidity: 50 % RH Atmospheric Pressure: 1006 mbar

Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

7.4.2 Test Setup Diagram

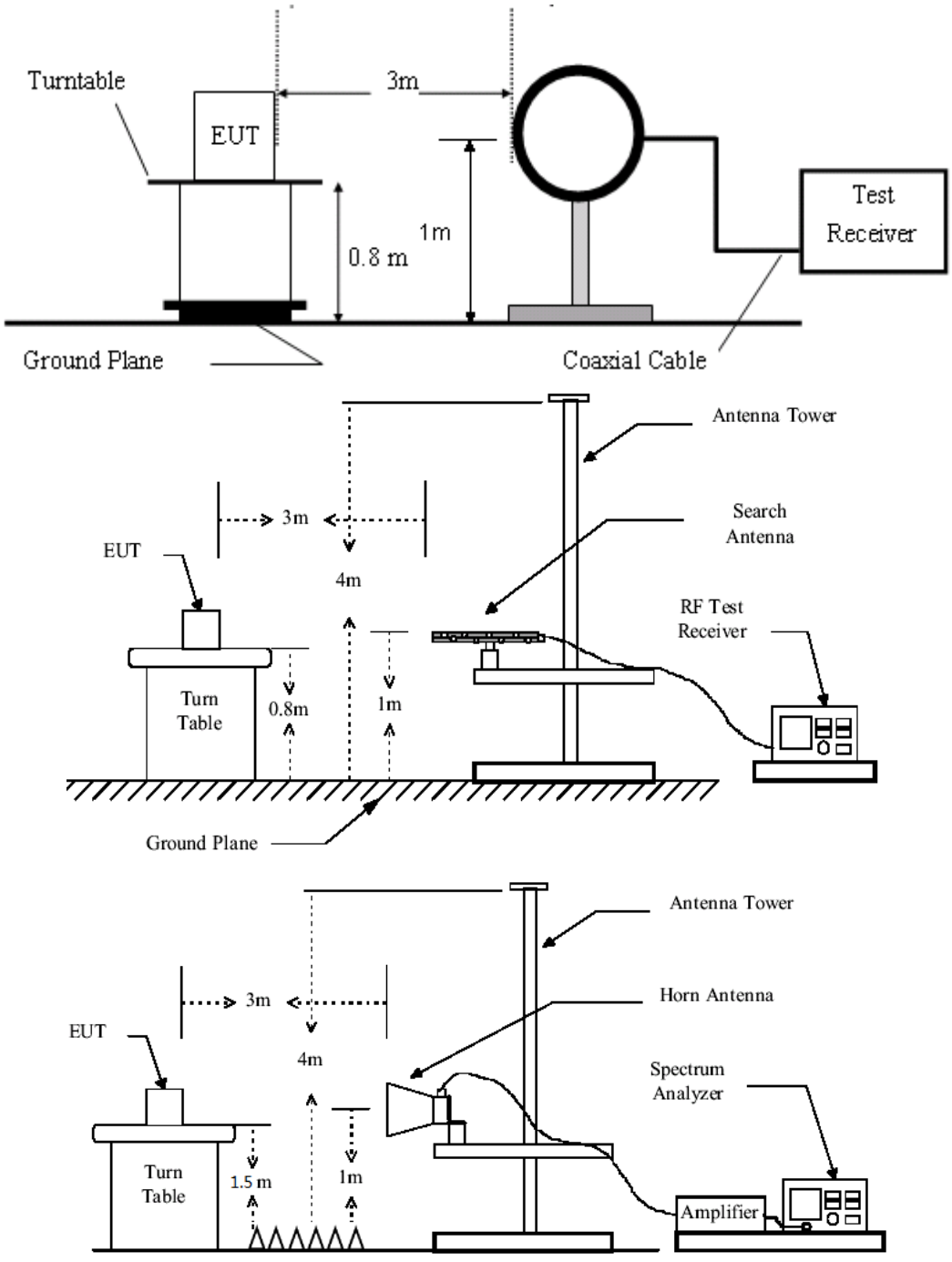

Figure3. Above 1GHz radiated emissions test configuration

7.4.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna 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.

e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark:

1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

3) Scan from 9kHz to 6GHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown.

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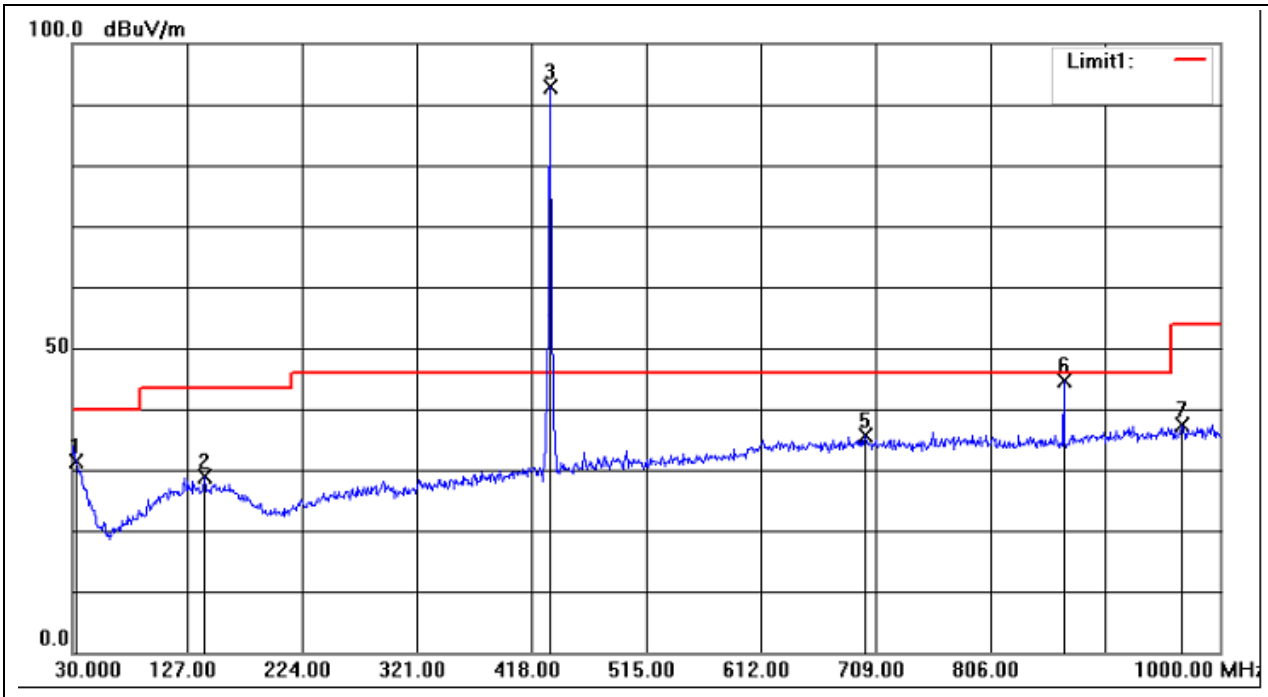
30MHz-1GHz
Vertical:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	32.9100	7.18	24.27	31.45	40.00	-8.55	QP
2	141.5500	8.97	19.86	28.83	43.50	-14.67	QP
3	433.5200	68.82	24.07	92.89	N/A	N/A	Peak
5	700.2700	8.02	27.50	35.52	46.00	-10.48	QP
6	868.0800	16.28	28.29	44.57	46.00	-1.43	QP
7	967.9900	8.00	29.26	37.26	54.00	-16.74	QP

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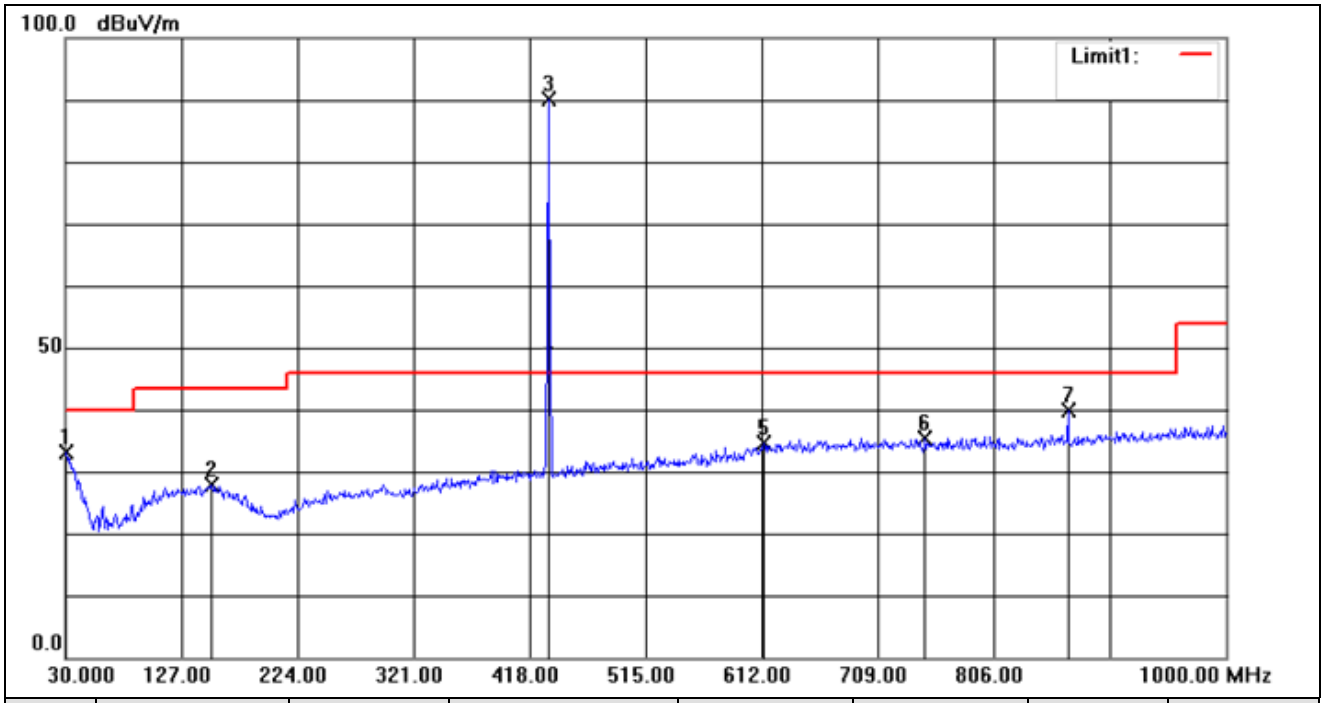
Horizontal:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.0000	7.31	25.93	33.24	40.00	-6.76	QP
2	152.2200	7.90	19.97	27.87	43.50	-15.63	QP
3	433.5200	65.96	24.07	90.03	N/A	N/A	Peak
5	613.9400	7.86	26.68	34.54	46.00	-11.46	QP
6	748.7700	7.80	27.48	35.28	46.00	-10.72	QP
7	868.0800	11.47	28.29	39.76	46.00	-6.24	QP

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Above 1GHz

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	polarization
1	1585.000	57.42	-17.41	40.01	54.00	-13.99	peak	Vertical
2	2070.000	55.41	-16.41	39.00	54.00	-15.00	peak	Vertical
3	2525.000	55.75	-14.55	41.20	54.00	-12.80	peak	Vertical
4	1615.000	56.41	-17.36	39.05	54.00	-14.95	peak	Horizontal
5	2090.000	56.89	-16.33	40.56	54.00	-13.44	peak	Horizontal
6	2630.000	55.26	-14.32	40.94	54.00	-13.06	peak	Horizontal

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

   Final Test Level =Receiver Reading Level +Antenna Factor + Cable Factor – Preamplifier Factor

2) If Peak Result comply with AV limit, AV Result is deemed to comply with QP limit

3) No any other emissions level which are attenuated less than 20dB below the limit. According to 15.31(o), the amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.

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7.5 99% Bandwidth

Test Requirement RSS-210 A1.3

Test Method: RSS-Gen Section 6.7

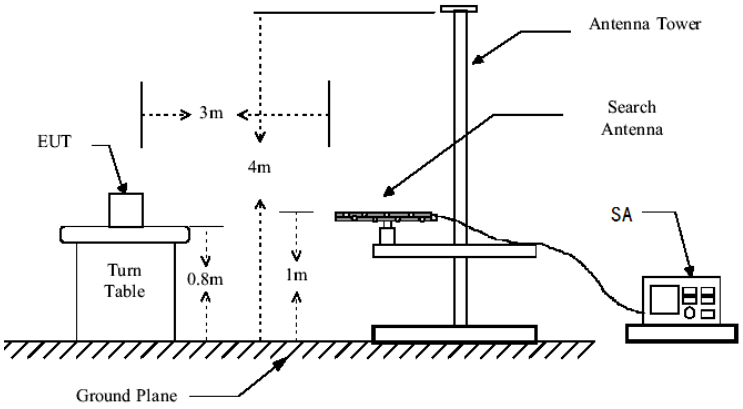
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 20 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

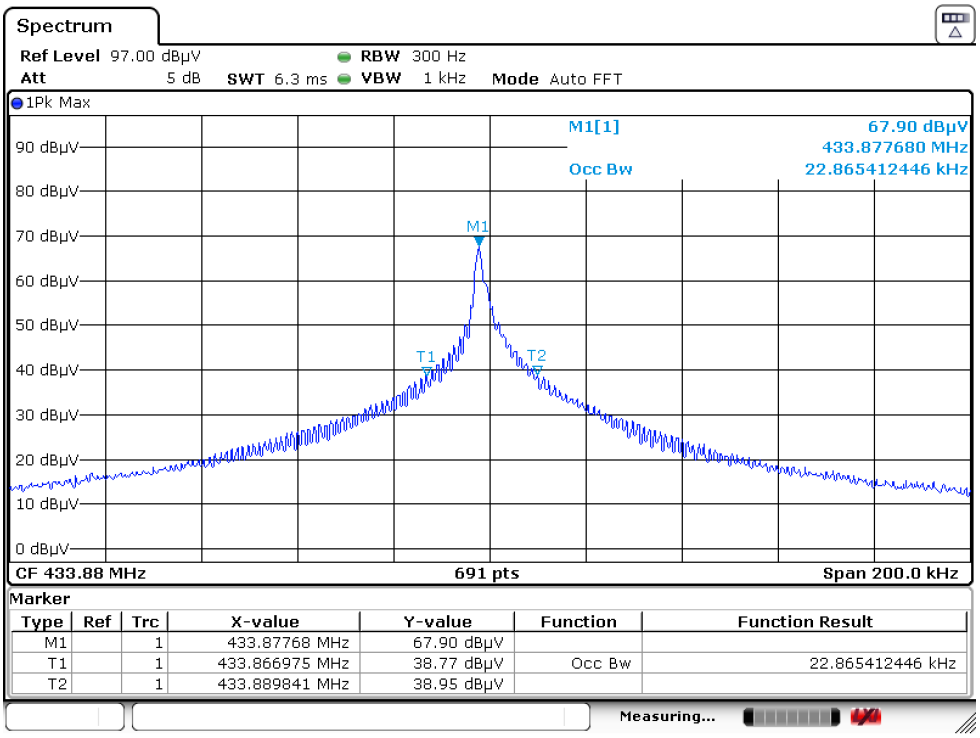
Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

7.5.2 Test Setup Diagram



7.5.3 Measurement Procedure and Data

Test mode	Frequency (MHz)	Bandwidth (MHz)	Limit(MHz)	Result
Mode a	433.92	0.0229	1.085	PASS



8 Test Setup Photographs

Refer to the < Test Setup photos-FCC>.

9 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

- End of the Report -

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