FCC REPORT

Applicant:	Stadlbauer Marketing + Vertrieb GmbH
Address of Applicant:	Rennbahn Allee 1, 5412 Puch Salzburg Austria
Equipment Under Test (EUT)	
Product Name:	Short Range Device - Radio Controlled Toy Transmitter (2.4GHz)
Model No.:	370900053
FCC ID:	YFA370900053
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249:2017
Date of sample receipt:	January 17, 2018
Date of Test:	January 17-26, 2018
Date of report issued:	January 26, 2018
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*January 26, 2018*	*Original*

Prepared By: Franco . Chen ***Date:*** *January 26, 2018*

Project Engineer

Check By: Andy . Wu ***Date:*** *January 26, 2018*

Reviewer

3 Contents

Page

4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

Pass: The EUT complies with the essential requirements in the standard.

Remark: Test according to ANSI C63.10: 2013 and ANSI C63.4: 2014.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Short Range Device - Radio Controlled Toy Transmitter (2.4GHz)
Model No.:	370900053
Test sample(s) ID:	GTS201801000106-1
Sample(s) Status	Engineer sample
Operation Frequency:	2403MHz~2475MHz
Channel numbers:	73
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	Integral antenna
Antenna gain:	0 dBi(declare by Applicant)
Power supply:	Battery: DC3.0 V

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
19	2421MHz	39	2441MHz	59	2461MHz	73	2475MHz
20	2422MHz	40	2442MHz	60	2462MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2403MHz
The middle channel	2442MHz
The Highest channel	2475MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: During the test, the dutycycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	81.34	82.98	80.67

5.3 Test Facility

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

● **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, January 08, 2018.

● **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016

5.4 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

5.5 Other Information Requested by the Customer

None.

5.6 Additional instructions

Mode	Channel	Frequency (MHz)	Soft Set
GFSK	CH1	2403	TX LEVEL: Default
	CH40	2442	
	CH73	2475	

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July 03 2017	July 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June 28 2017	June 27 2018
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 28 2017	June 27 2018
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June 28 2017	June 27 2018
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 28 2017	June 27 2018
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 28 2017	June 27 2018
8	Loop Antenna	ZHINAN	ZN30900A	GTS534	June 28 2017	June 27 2018
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS213	June 28 2017	June 27 2018
11	Coaxial Cable	GTS	N/A	GTS211	June 28 2017	June 27 2018
12	Coaxial cable	GTS	N/A	GTS210	June 28 2017	June 27 2018
13	Coaxial Cable	GTS	N/A	GTS212	June 28 2017	June 27 2018
14	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June 28 2017	June 27 2018
15	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June 28 2017	June 27 2018
16	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 28 2017	June 27 2018
17	Band filter	Amindeon	82346	GTS219	June 28 2017	June 27 2018
18	Power Meter	Anritsu	ML2495A	GTS540	June 28 2017	June 27 2018
19	Power Sensor	Anritsu	MA2411B	GTS541	June 28 2017	June 27 2018

Conducted Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June 28 2017	June 27 2018
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 28 2017	June 27 2018
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June 28 2017	June 27 2018
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June 28 2017	June 27 2018

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	ChangChun	DYM3	GTS257	June 28 2017	June 27 2018

7 Test results and Measurement Data

7.1 Antenna requirement

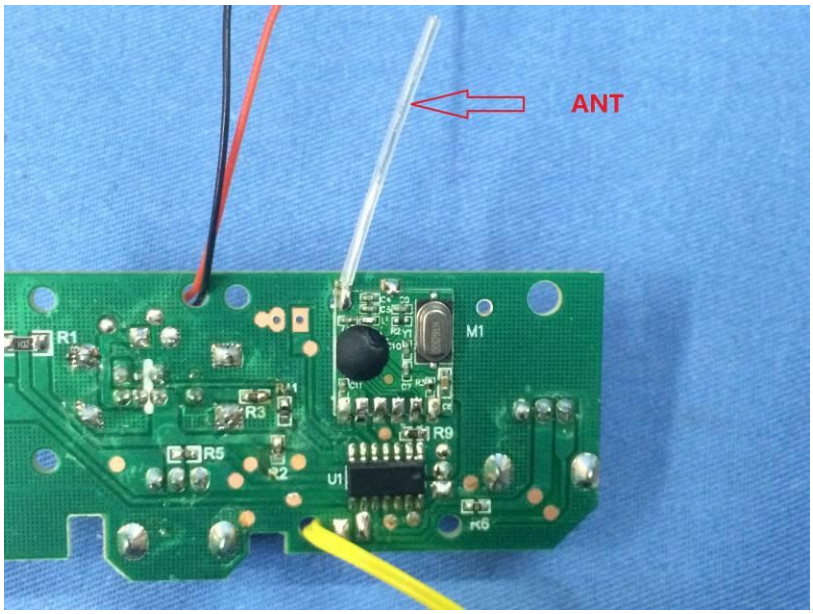
Standard requirement:	FCC Part15 C Section 15.203

15.203 requirement:

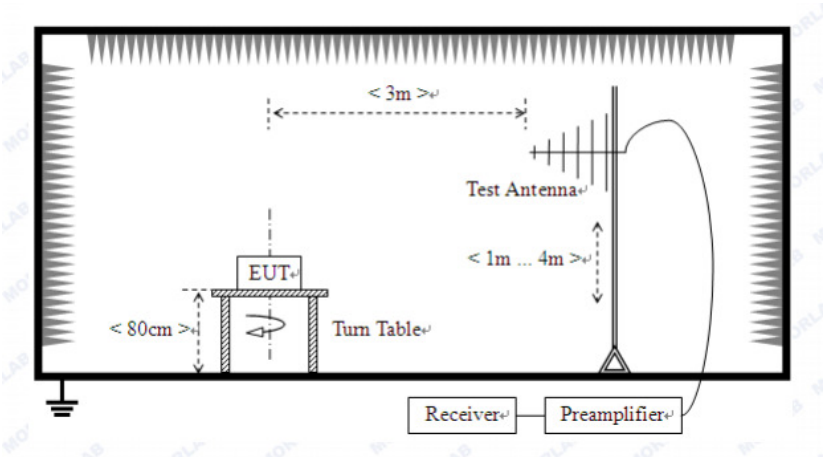
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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:

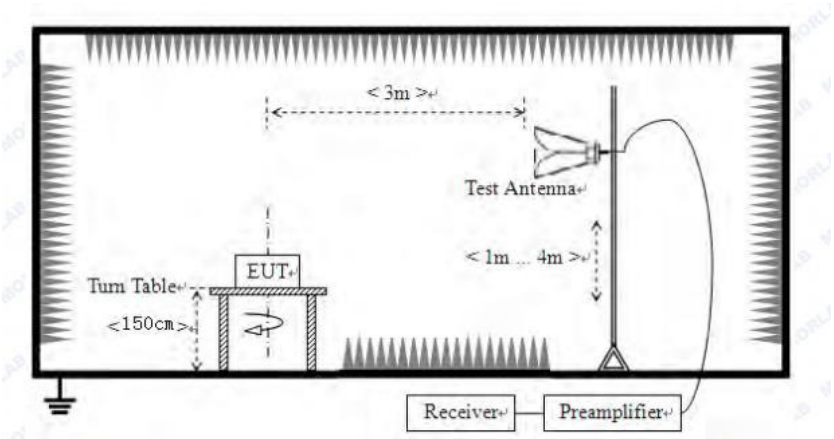
The antenna is Integral antenna, the best case gain of the antenna is 0dBi



7.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Field strength of the fundamental signal)</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>2400MHz-2483.5MHz</td><td>94.00</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.00</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.50</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.00</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.00</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.00</td><td>Average Value</td></tr>
<tr><td>74.00</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(band edge)</td><td>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.</td></tr>
<tr><td>Test setup:</td><td>Below 1GHz
 

Above 1GHz</td></tr>
</table>

	
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. 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. 4. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. 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.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement data:

7.2.1 Field Strength of The Fundamental Signal

Peak value:

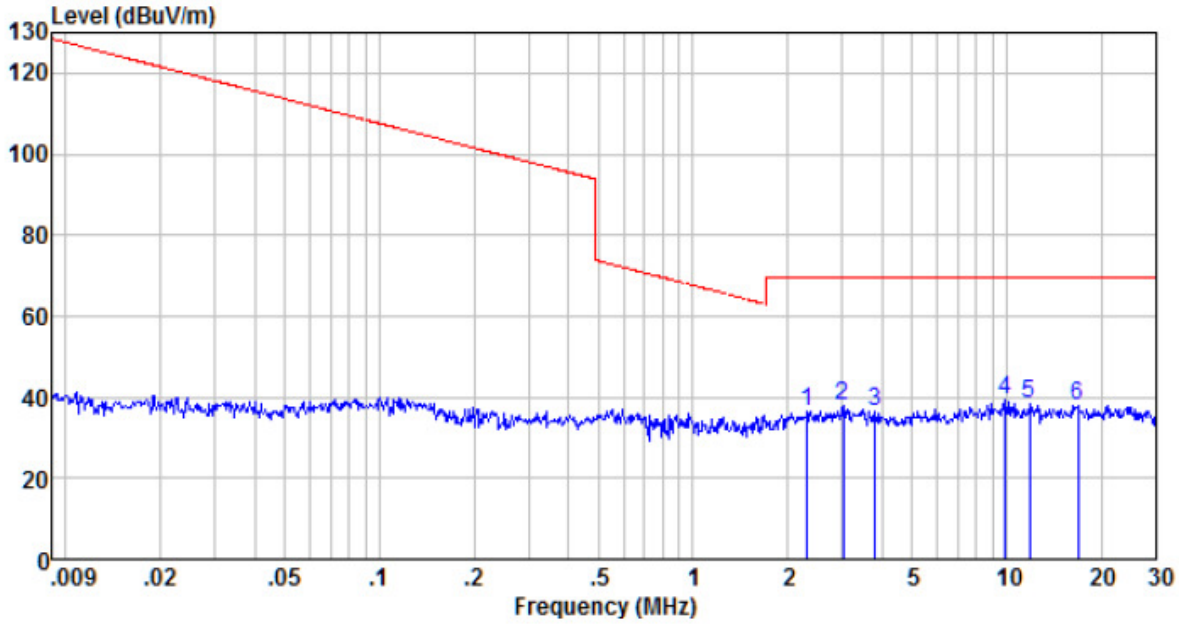
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2403.00	85.68	27.58	2.93	36.86	79.33	114.00	-34.67	Vertical
2403.00	89.33	27.58	2.93	36.86	82.98	114.00	-31.02	Horizontal
2442.00	85.36	27.48	2.96	36.89	78.91	114.00	-35.09	Vertical
2442.00	86.41	27.48	2.96	36.89	79.96	114.00	-34.04	Horizontal
2475.00	80.80	27.48	2.96	37.76	73.48	114.00	-40.52	Vertical
2475.00	81.27	27.48	2.96	37.76	73.95	114.00	-40.05	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2403.00	77.39	27.58	2.93	36.86	71.04	94.00	-22.96	Vertical
2403.00	79.98	27.58	2.93	36.86	73.63	94.00	-20.37	Horizontal
2442.00	74.83	27.48	2.96	36.89	68.38	94.00	-25.62	Vertical
2442.00	76.93	27.48	2.96	36.89	70.48	94.00	-23.52	Horizontal
2475.00	70.34	27.48	2.96	37.76	63.02	94.00	-30.98	Vertical
2475.00	79.52	27.48	2.96	37.76	72.2	94.00	-21.80	Horizontal

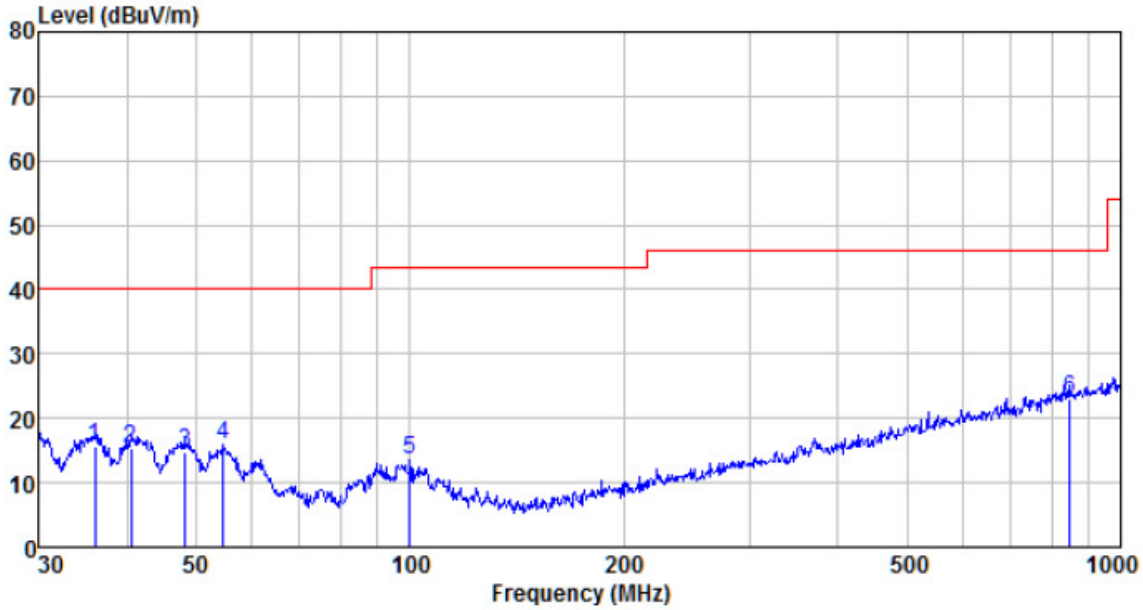
7.2.2 Spurious emissions

■ Below 1GHz



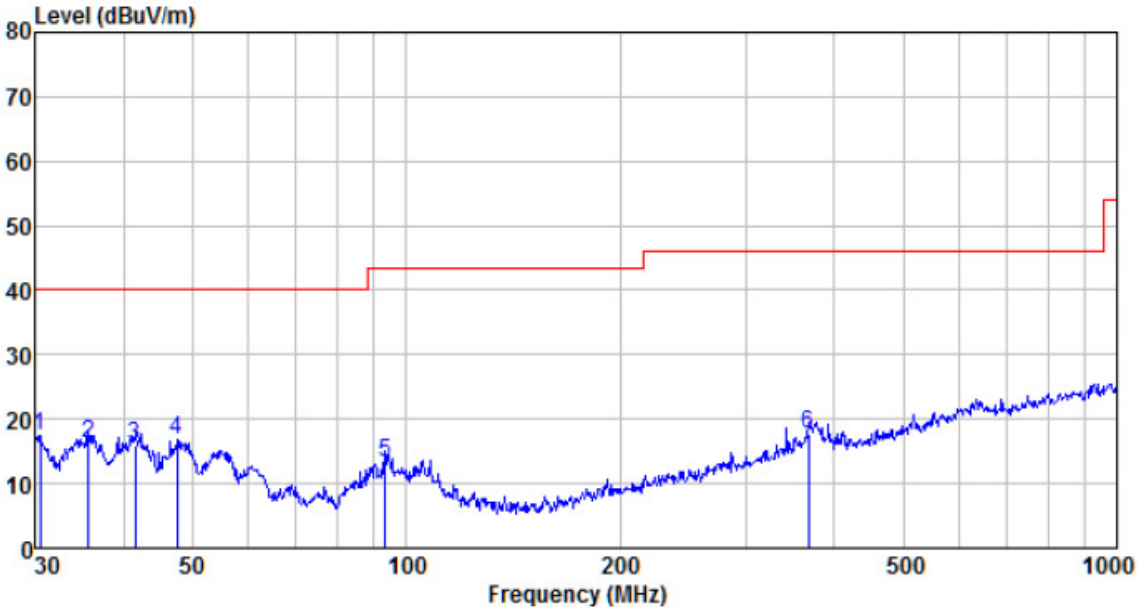
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2.311	29.71	25.46	0.38	19.15	36.40	69.54	-33.14	QP
3.021	30.91	25.60	0.40	19.06	37.85	69.54	-31.69	QP
3.822	29.52	25.76	0.42	19.02	36.68	69.54	-32.86	QP
9.874	33.21	26.20	0.48	20.40	39.49	69.54	-30.05	QP
11.803	32.83	25.45	0.50	20.31	38.47	69.54	-31.07	QP
16.865	33.32	23.88	0.52	19.77	37.95	69.54	-31.59	QP

Horizontal :



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
36.001	39.36	11.20	0.62	35.42	15.76	40.00	-24.24	QP
40.559	38.19	12.27	0.67	35.70	15.43	40.00	-24.57	QP
48.332	37.93	12.23	0.75	36.10	14.81	40.00	-25.19	QP
54.643	46.97	0.00	0.81	31.95	15.83	40.00	-24.17	QP
99.878	44.27	0.00	1.19	31.76	13.70	43.50	-29.80	QP
848.056	34.39	21.72	4.65	37.61	23.15	46.00	-22.85	QP

Vertical :

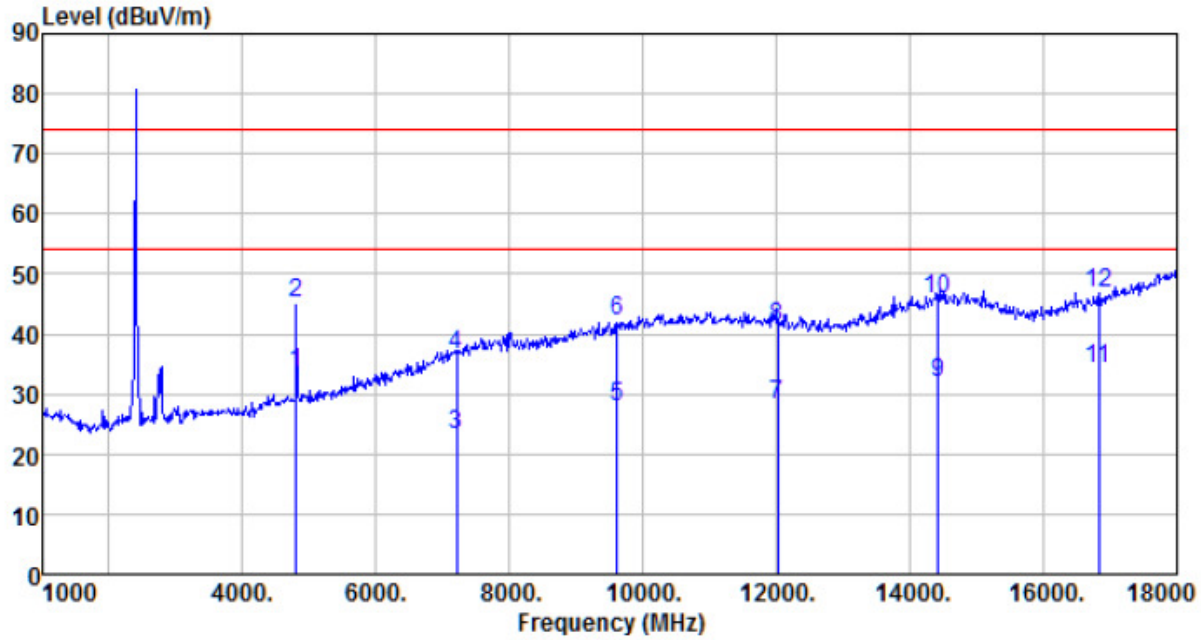


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
30.531	48.83	0.00	0.56	32.06	17.33	40.00	-22.67	QP
35.749	39.89	11.20	0.62	35.41	16.30	40.00	-23.70	QP
41.567	38.67	12.27	0.68	35.75	15.87	40.00	-24.13	QP
47.492	47.97	0.00	0.74	31.98	16.73	40.00	-23.27	QP
93.440	37.70	10.98	1.14	36.67	13.15	43.50	-30.35	QP
368.112	37.54	14.85	2.71	37.49	17.61	46.00	-28.39	QP

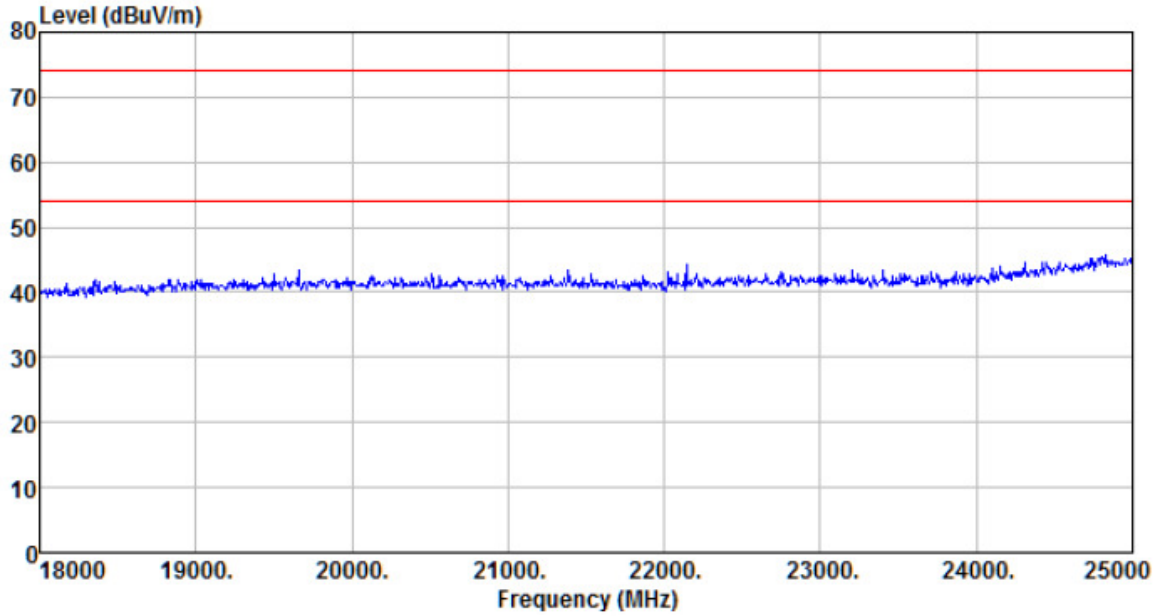
■ Above 1GHz

Test channel:	Lowest channel

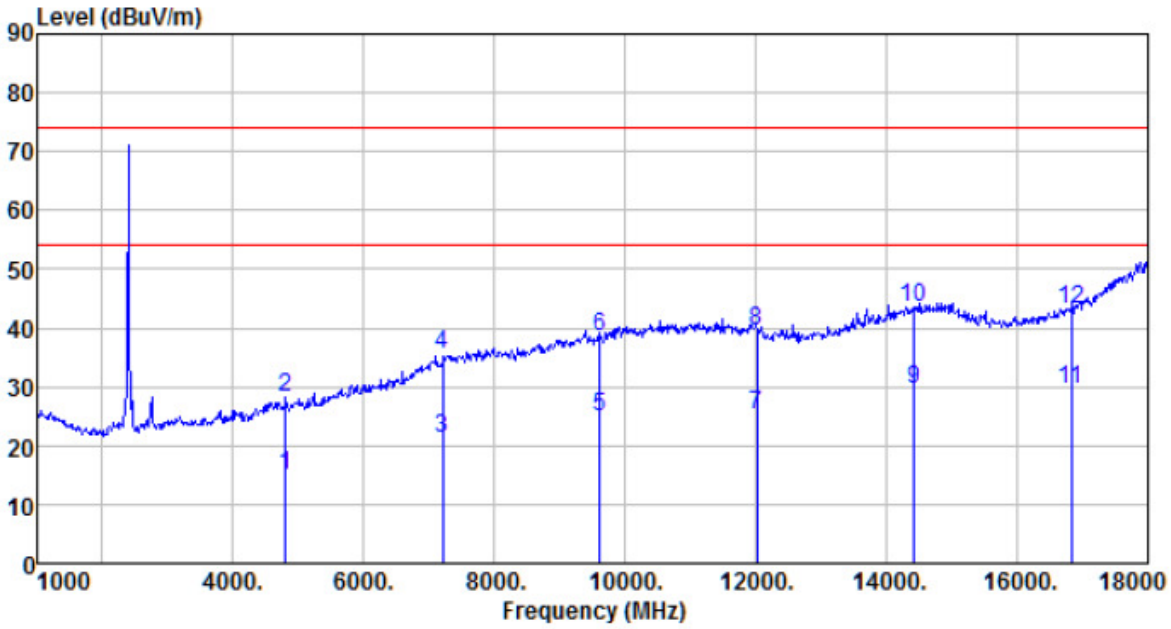
Horizontal :



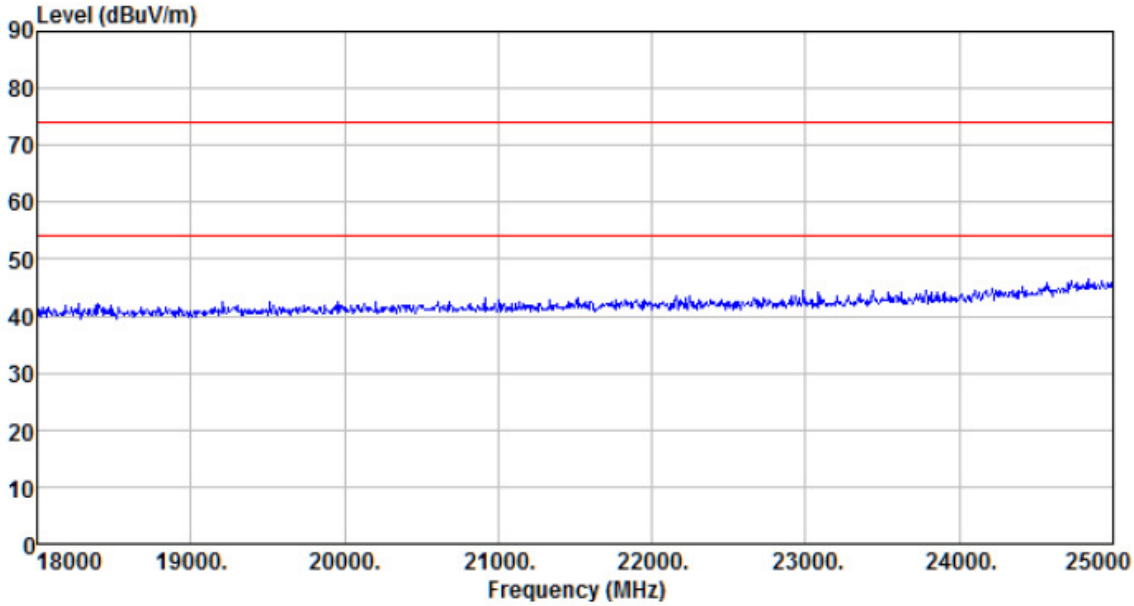
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4806.600	34.73	31.78	4.61	37.73	33.39	54.00	-20.61	Average
4806.600	46.37	31.78	4.61	37.73	45.03	74.00	-28.97	Peak
7209.900	16.33	36.15	6.48	35.63	23.33	54.00	-30.67	Average
7209.900	29.55	36.15	6.48	35.63	36.55	74.00	-37.45	Peak
9613.200	16.84	38.01	7.98	34.94	27.89	54.00	-26.11	Average
9613.200	31.23	38.01	7.98	34.94	42.28	74.00	-31.72	Peak
12016.500	16.34	39.08	8.94	36.20	28.16	54.00	-25.84	Average
12016.500	29.50	39.08	8.94	36.20	41.32	74.00	-32.68	Peak
14419.800	15.82	42.46	9.83	36.12	31.99	54.00	-22.01	Average
14419.800	29.70	42.46	9.83	36.12	45.87	74.00	-28.13	Peak
16823.100	17.34	41.78	11.13	36.17	34.08	54.00	-19.92	Average
16823.100	30.06	41.78	11.13	36.17	46.80	74.00	-27.20	Peak


Level (dBuV/m)
80
70
60
50
40
30
20
10
0
18000
19000.
20000.
21000.
22000.
23000.
24000.
25000
Frequency (MHz)

Vertical :

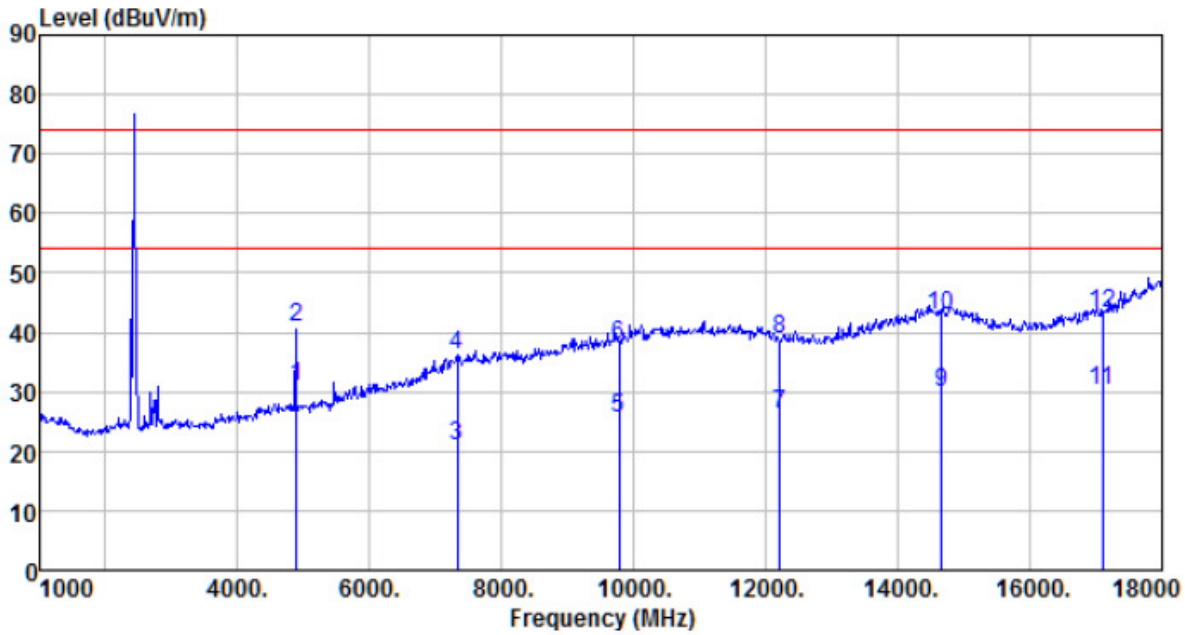


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4806.600	16.34	31.78	4.61	37.73	15.00	54.00	-39.00	Average
4806.600	29.60	31.78	4.61	37.73	28.26	74.00	-45.74	Peak
7209.900	14.30	36.15	6.48	35.63	21.30	54.00	-32.70	Average
7209.900	28.70	36.15	6.48	35.63	35.70	74.00	-38.30	Peak
9613.200	13.97	38.01	7.98	34.94	25.02	54.00	-28.98	Average
9613.200	27.47	38.01	7.98	34.94	38.52	74.00	-35.48	Peak
12016.500	13.46	39.08	8.94	36.20	25.28	54.00	-28.72	Average
12016.500	27.61	39.08	8.94	36.20	39.43	74.00	-34.57	Peak
14419.800	13.52	42.46	9.83	36.12	29.69	54.00	-24.31	Average
14419.800	27.33	42.46	9.83	36.12	43.50	74.00	-30.50	Peak
16823.100	12.72	41.78	11.13	36.17	29.46	54.00	-24.54	Average
16823.100	26.28	41.78	11.13	36.17	43.02	74.00	-30.98	Peak

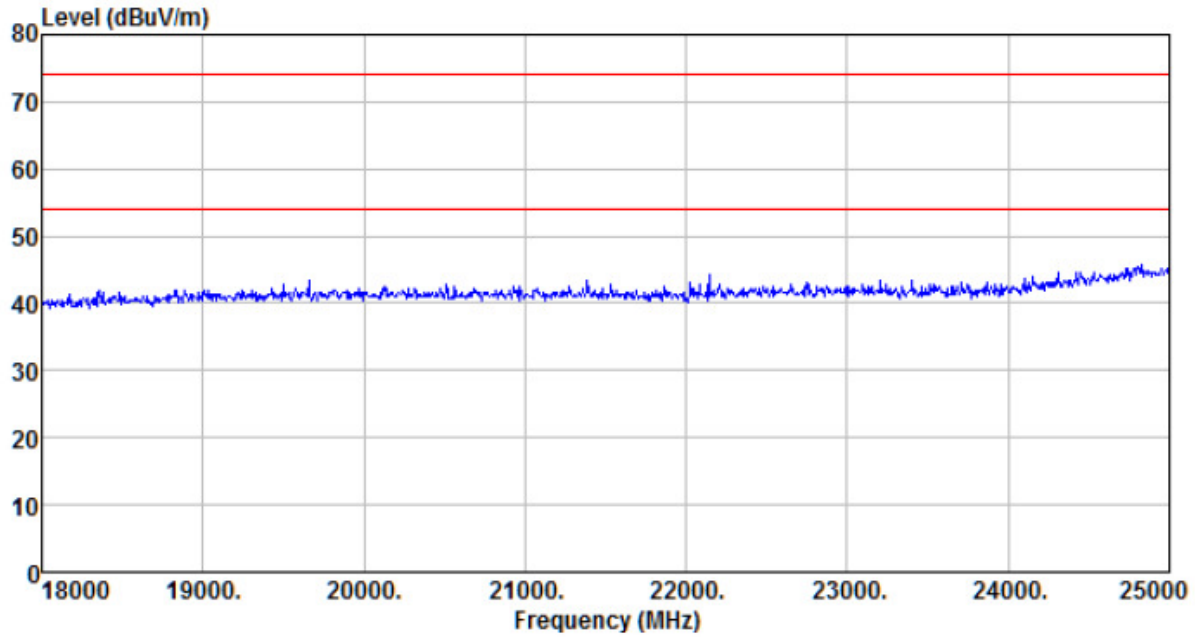

Level (dBuV/m)
90
80
70
60
50
40
30
20
10
0
18000
19000.
20000.
21000.
22000.
23000.
24000.
25000
Frequency (MHz)

Test channel:	Middle

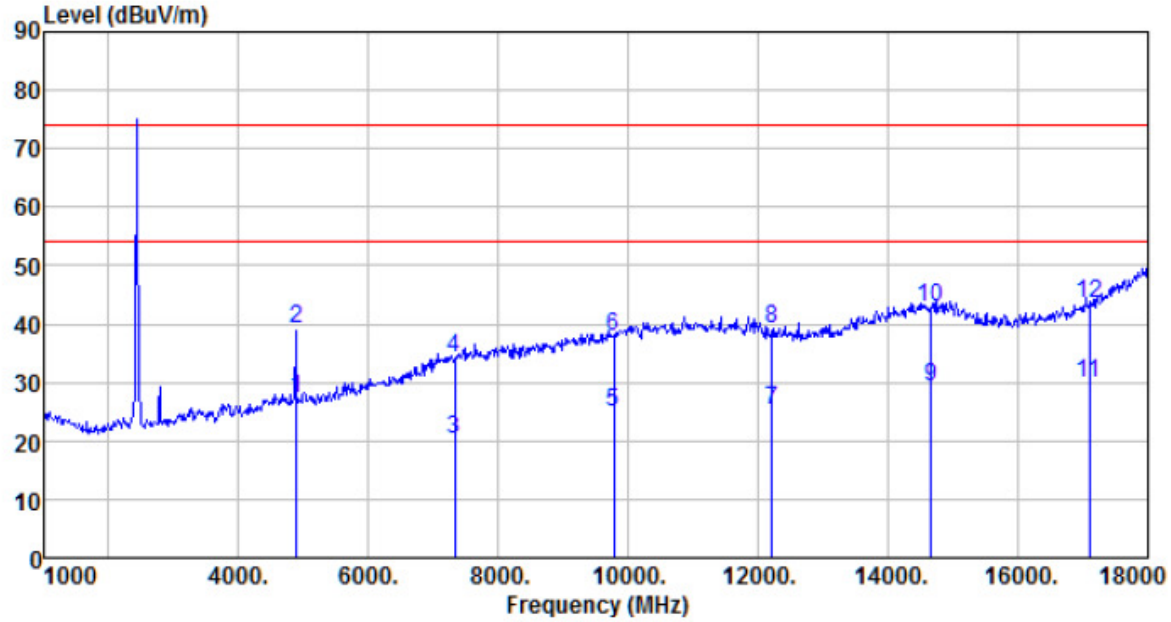
Horizontal :



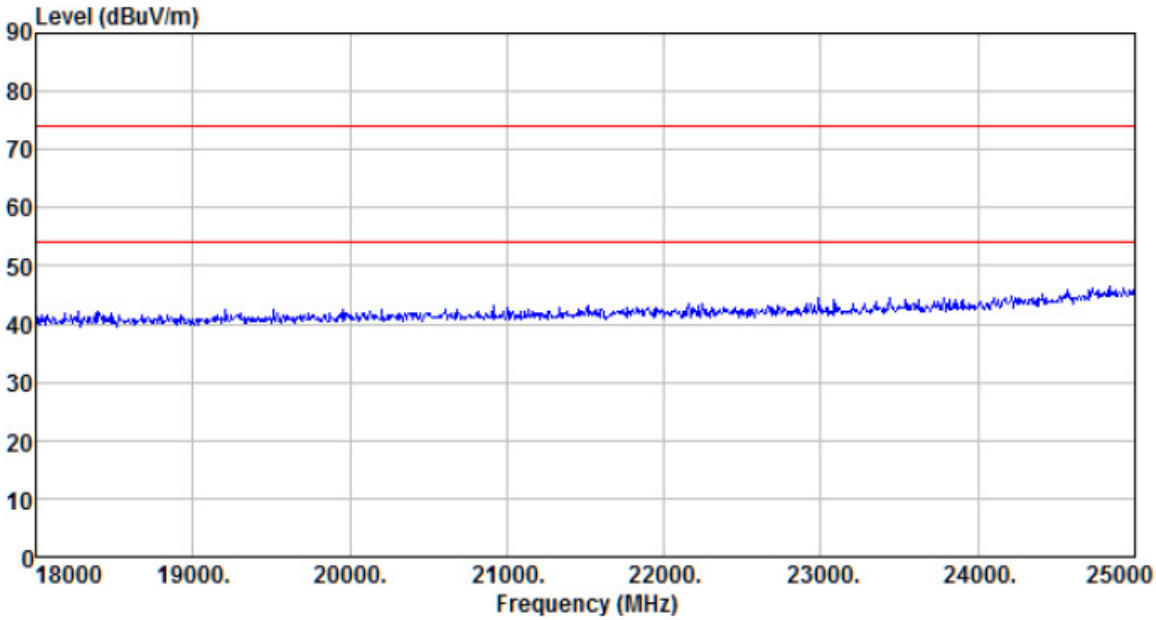
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4884.600	32.15	31.86	4.71	37.76	30.96	54.00	-23.04	Average
4884.600	42.04	31.86	4.71	37.76	40.85	74.00	-33.15	Peak
7326.900	13.57	36.41	6.63	35.60	21.01	54.00	-32.99	Average
7326.900	28.72	36.41	6.63	35.60	36.16	74.00	-37.84	Peak
9769.200	14.12	38.35	8.03	35.05	25.45	54.00	-28.55	Average
9769.200	26.54	38.35	8.03	35.05	37.87	74.00	-36.13	Peak
12211.500	14.61	38.89	8.96	36.33	26.13	54.00	-27.87	Average
12211.500	27.24	38.89	8.96	36.33	38.76	74.00	-35.24	Peak
14653.800	13.57	42.21	9.95	35.77	29.96	54.00	-24.04	Average
14653.800	26.58	42.21	9.95	35.77	42.97	74.00	-31.03	Peak
17096.100	10.86	44.30	11.26	36.29	30.13	54.00	-23.87	Average
17096.100	24.02	44.30	11.26	36.29	43.29	74.00	-30.71	Peak


Level (dBuV/m)
80
70
60
50
40
30
20
10
0
18000
19000.
20000.
21000.
22000.
23000.
24000.
25000
Frequency (MHz)

Vertical :

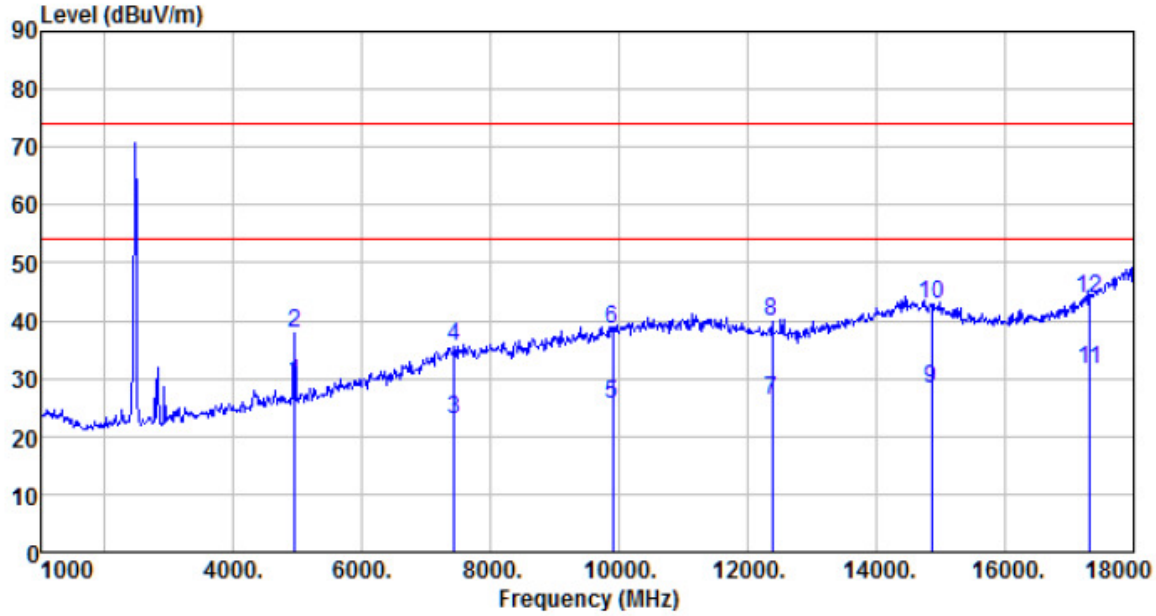


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4884.600	28.50	31.86	4.71	37.76	27.31	54.00	-26.69	Average
4884.600	40.26	31.86	4.71	37.76	39.07	74.00	-34.93	Peak
7326.900	12.67	36.41	6.63	35.60	20.11	54.00	-33.89	Average
7326.900	26.81	36.41	6.63	35.60	34.25	74.00	-39.75	Peak
9769.200	13.52	38.35	8.03	35.05	24.85	54.00	-29.15	Average
9769.200	26.44	38.35	8.03	35.05	37.77	74.00	-36.23	Peak
12211.500	13.83	38.89	8.96	36.33	25.35	54.00	-28.65	Average
12211.500	27.66	38.89	8.96	36.33	39.18	74.00	-34.82	Peak
14653.800	12.67	42.21	9.95	35.77	29.06	54.00	-24.94	Average
14653.800	26.30	42.21	9.95	35.77	42.69	74.00	-31.31	Peak
17096.100	10.67	44.30	11.26	36.29	29.94	54.00	-24.06	Average
17096.100	24.32	44.30	11.26	36.29	43.59	74.00	-30.41	Peak

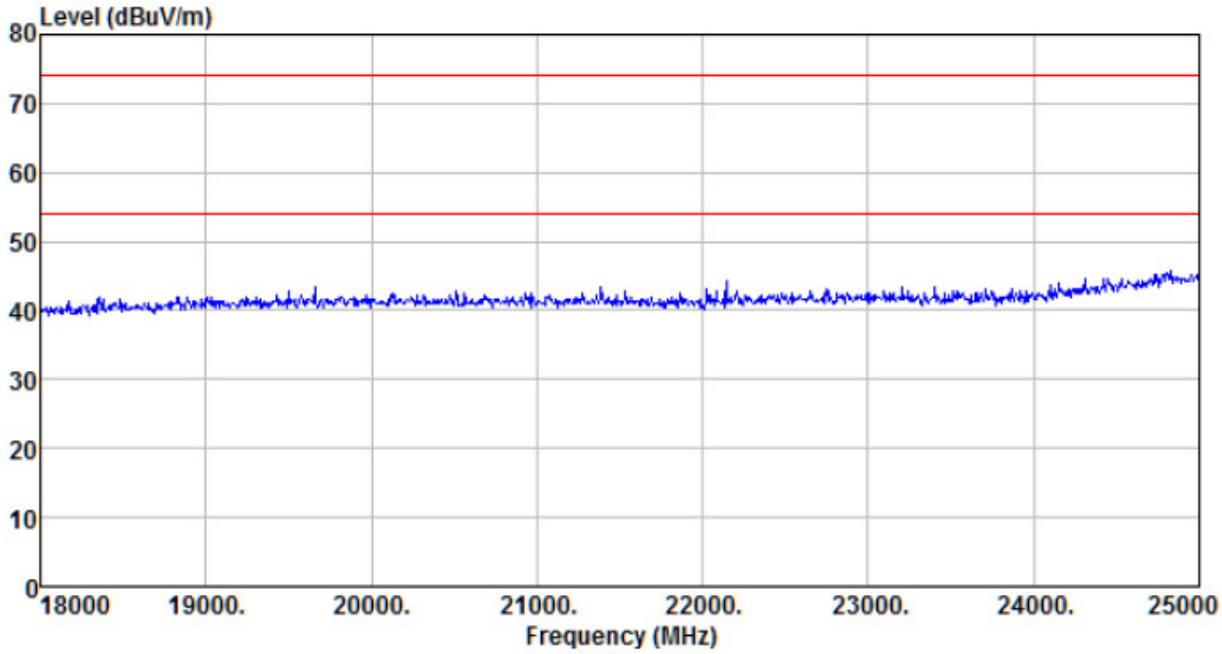

Level (dBuV/m)
90
80
70
60
50
40
30
20
10
0
18000
19000.
20000.
21000.
22000.
23000.
24000.
25000
Frequency (MHz)

Test channel:	Highest

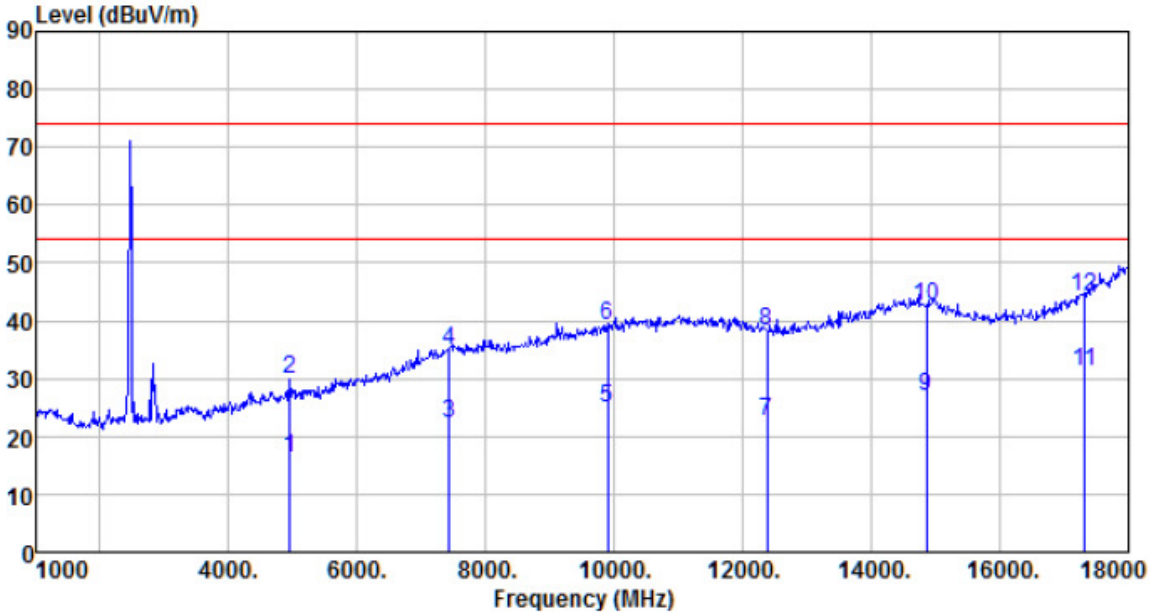
Horizontal :



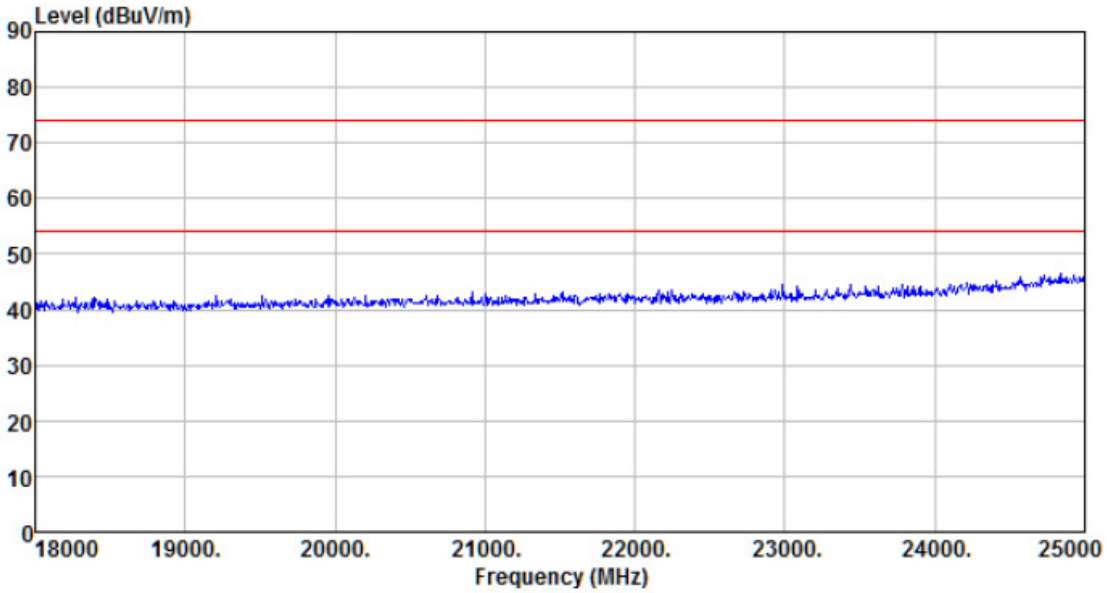
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4950.600	30.38	31.91	4.77	37.78	29.28	54.00	-24.72	Average
4950.600	39.00	31.91	4.77	37.78	37.90	74.00	-36.10	Peak
7425.900	15.11	36.56	6.75	35.56	22.86	54.00	-31.14	Average
7425.900	27.73	36.56	6.75	35.56	35.48	74.00	-38.52	Peak
9901.200	13.67	38.81	8.09	35.12	25.45	54.00	-28.55	Average
9901.200	26.85	38.81	8.09	35.12	38.63	74.00	-35.37	Peak
12376.500	14.89	38.78	8.97	36.42	26.22	54.00	-27.78	Average
12376.500	28.60	38.78	8.97	36.42	39.93	74.00	-34.07	Peak
14851.800	12.34	41.52	10.05	35.53	28.38	54.00	-25.62	Average
14851.800	26.65	41.52	10.05	35.53	42.69	74.00	-31.31	Peak
17327.100	10.11	46.19	11.45	36.26	31.49	54.00	-22.51	Average
17327.100	22.56	46.19	11.45	36.26	43.94	74.00	-30.06	Peak


Level (dBuV/m)
80
70
60
50
40
30
20
10
0
18000
19000.
20000.
21000.
22000.
23000.
24000.
25000
Frequency (MHz)

Vertical :



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4950.600	17.24	31.91	4.77	37.78	16.14	54.00	-37.86	Average
4950.600	30.88	31.91	4.77	37.78	29.78	74.00	-44.22	Peak
7425.900	14.66	36.56	6.75	35.56	22.41	54.00	-31.59	Average
7425.900	27.13	36.56	6.75	35.56	34.88	74.00	-39.12	Peak
9901.200	13.28	38.81	8.09	35.12	25.06	54.00	-28.94	Average
9901.200	27.39	38.81	8.09	35.12	39.17	74.00	-34.83	Peak
12376.500	11.38	38.78	8.97	36.42	22.71	54.00	-31.29	Average
12376.500	26.86	38.78	8.97	36.42	38.19	74.00	-35.81	Peak
14851.800	10.95	41.52	10.05	35.53	26.99	54.00	-27.01	Average
14851.800	26.45	41.52	10.05	35.53	42.49	74.00	-31.51	Peak
17327.100	9.86	46.19	11.45	36.26	31.24	54.00	-22.76	Average
17327.100	22.89	46.19	11.45	36.26	44.27	74.00	-29.73	Peak



Remark:

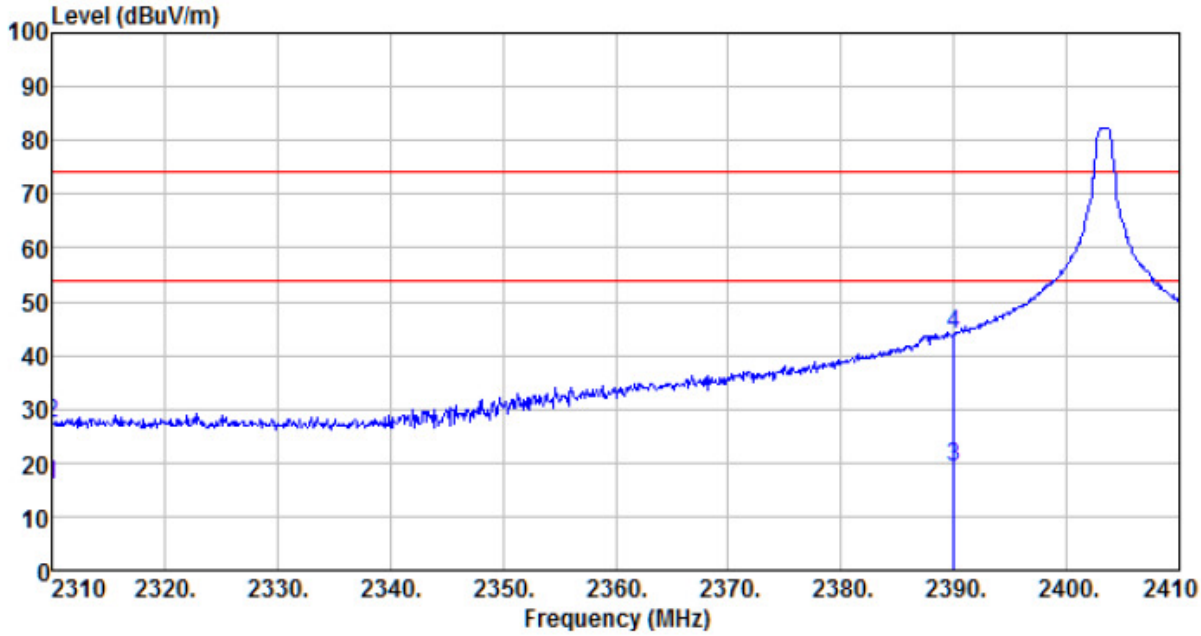
1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

7.2.3 Bandedge emissions

All of the restriction bands were tested, and only the data of worst case was exhibited.

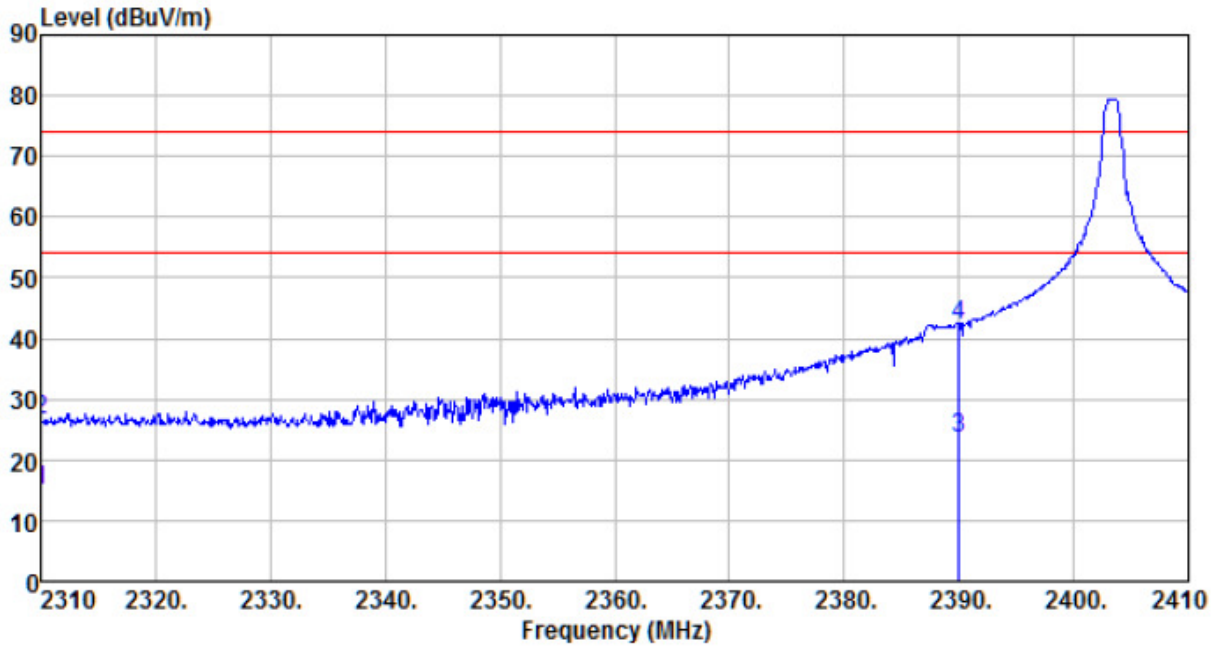
Test channel:	Lowest channel

Horizontal :



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	21.80	27.91	2.81	36.79	15.73	54.00	-38.27	Average
2310.000	33.50	27.91	2.81	36.79	27.43	74.00	-46.57	Peak
2390.000	25.49	27.59	2.91	36.85	19.14	54.00	-34.86	Average
2390.000	50.28	27.59	2.91	36.85	43.93	74.00	-30.07	Peak

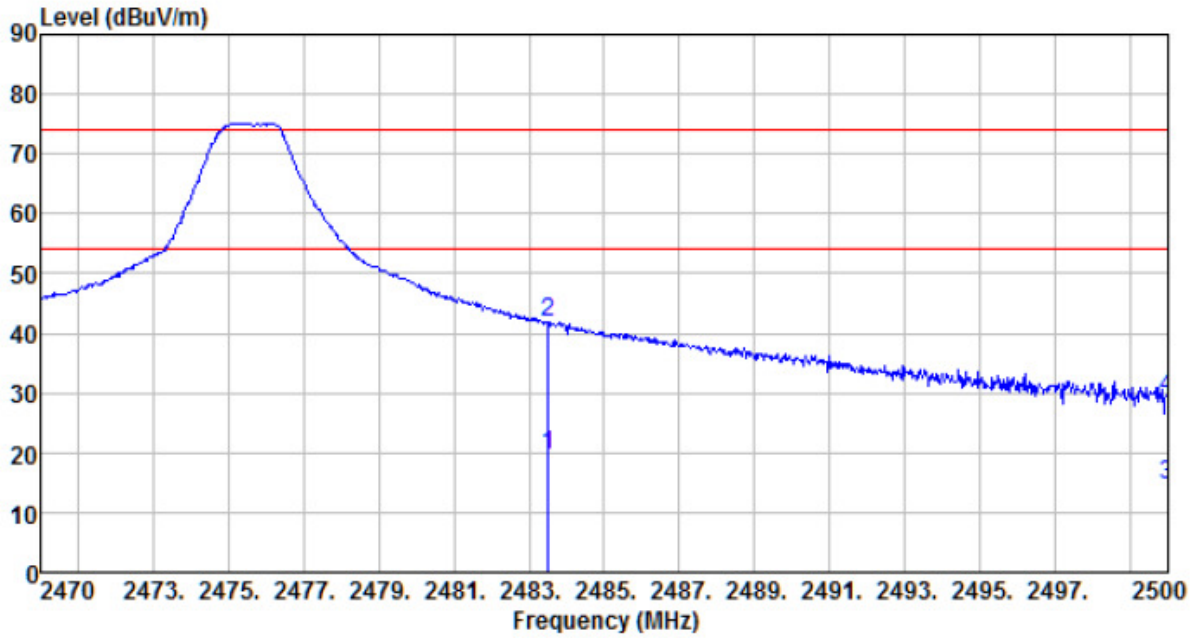
Vertical :



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2310.000	21.05	27.91	2.81	36.79	14.98	54.00	-39.02	Average
2310.000	32.61	27.91	2.81	36.79	26.54	74.00	-47.46	Peak
2390.000	30.08	27.59	2.91	36.85	23.73	54.00	-30.27	Average
2390.000	48.60	27.59	2.91	36.85	42.25	74.00	-31.75	Peak

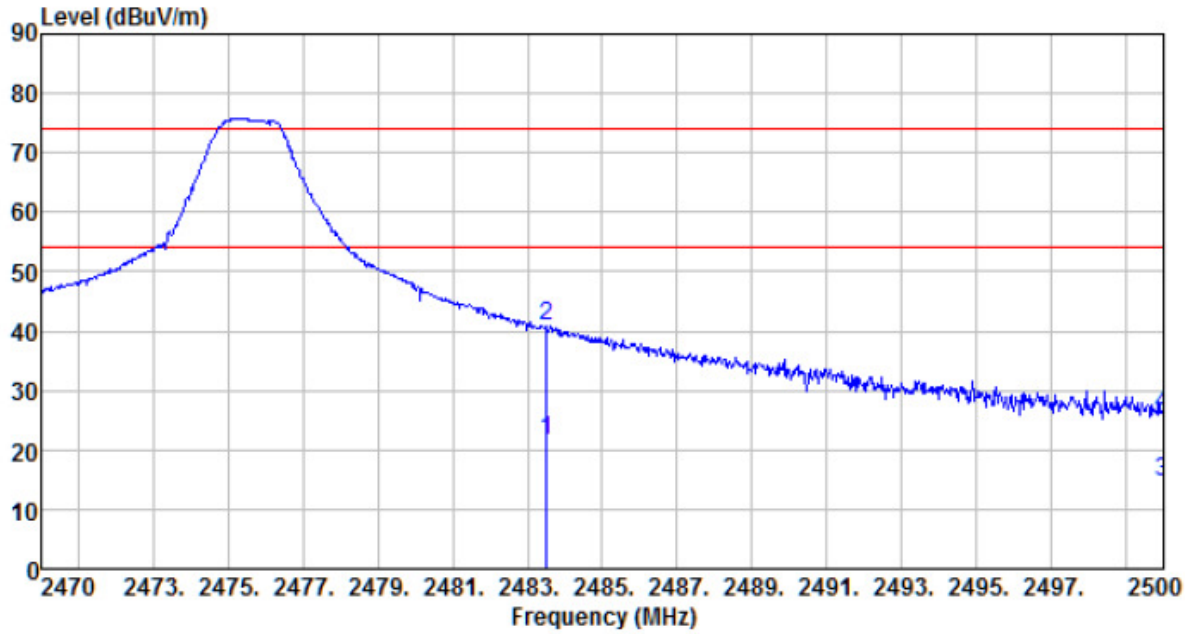
Test channel:	Highest channel

Horizontal :



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	26.14	27.53	2.99	36.93	19.73	54.00	-34.27	Average
2483.500	48.14	27.53	2.99	36.93	41.73	74.00	-32.27	Peak
2500.000	20.93	27.55	3.01	36.94	14.55	54.00	-39.45	Average
2500.000	35.74	27.55	3.01	36.94	29.36	74.00	-44.64	Peak

Vertical :

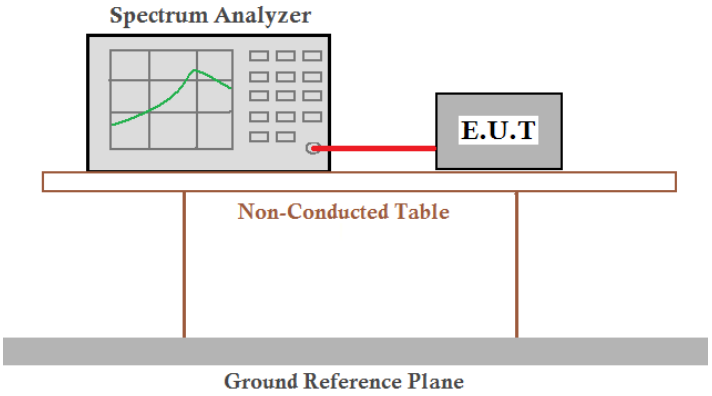


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.500	28.14	27.53	2.99	36.93	21.73	54.00	-32.27	Average
2483.500	47.12	27.53	2.99	36.93	40.71	74.00	-33.29	Peak
2500.000	20.94	27.55	3.01	36.94	14.56	54.00	-39.44	Average
2500.000	32.29	27.55	3.01	36.94	25.91	74.00	-48.09	Peak

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

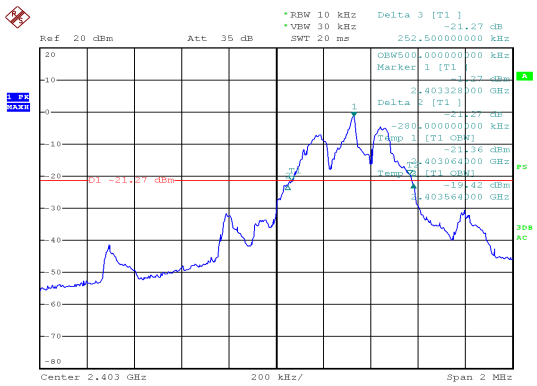
7.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2013
Limit:	Operation Frequency range 2400MHz~2483.5MHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

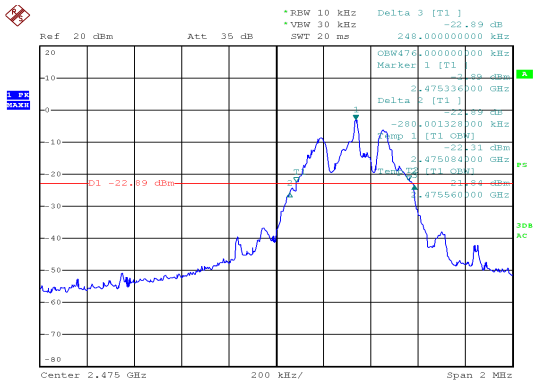
Test channel	20dB bandwidth(MHz)	Result
Lowest	0.533	Pass
Middle	0.522	Pass
Highest	0.528	Pass

Test plot as follows:



Lowest channel

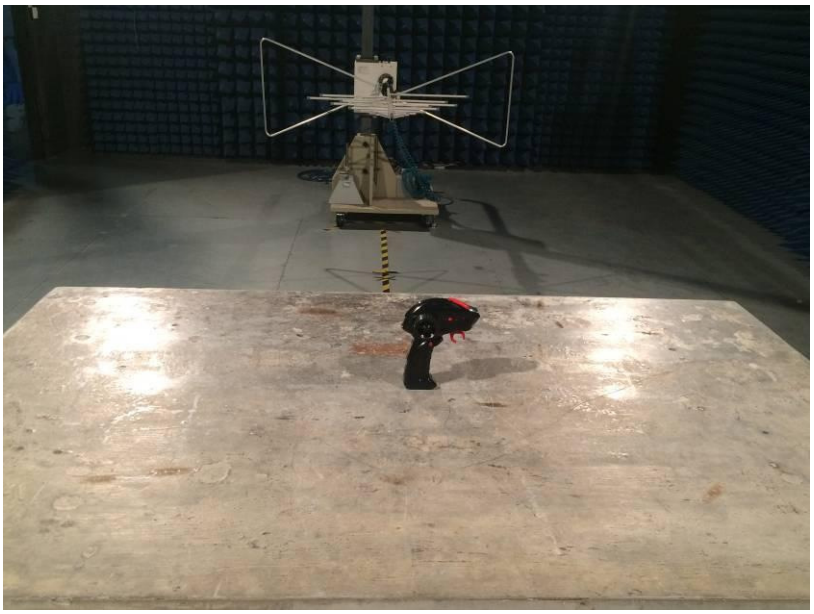
Middle channel

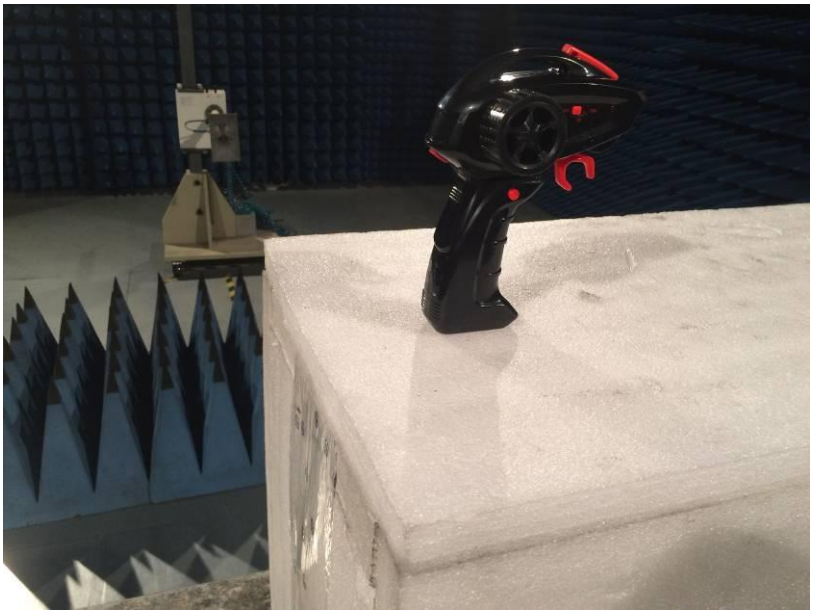


Highest channel

8 Test Setup Photo

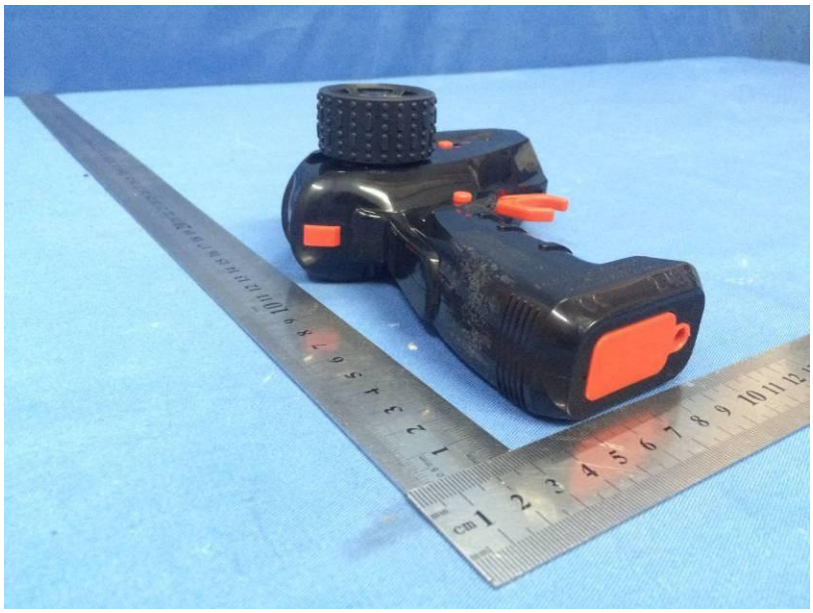
Radiated Emission

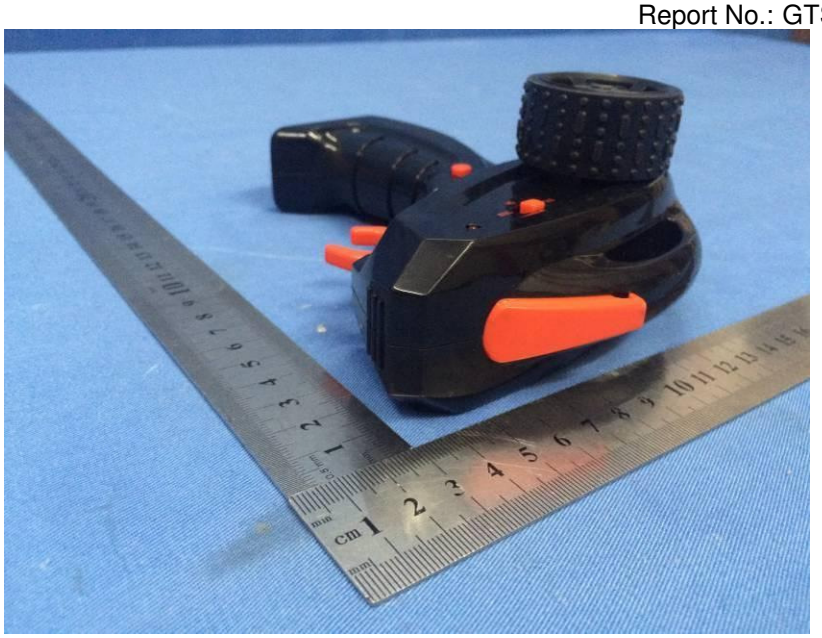


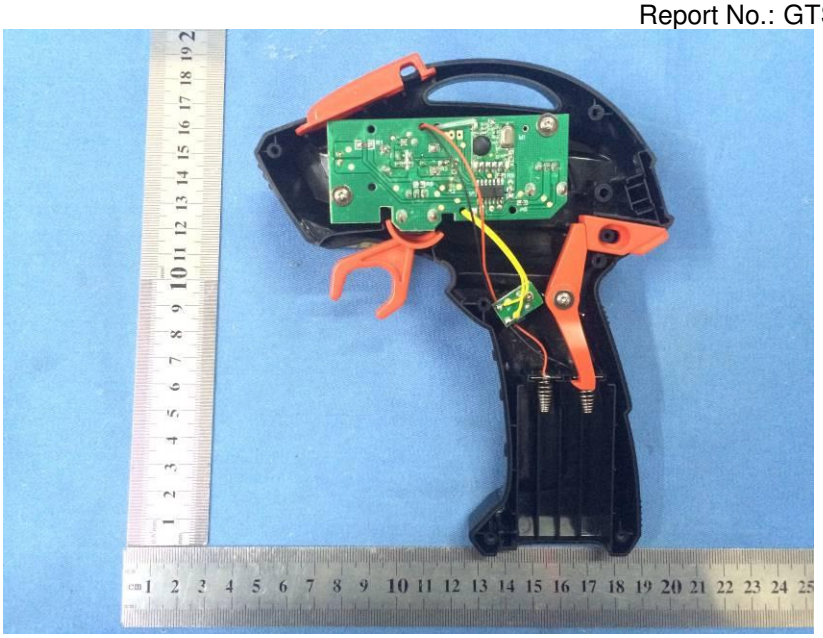


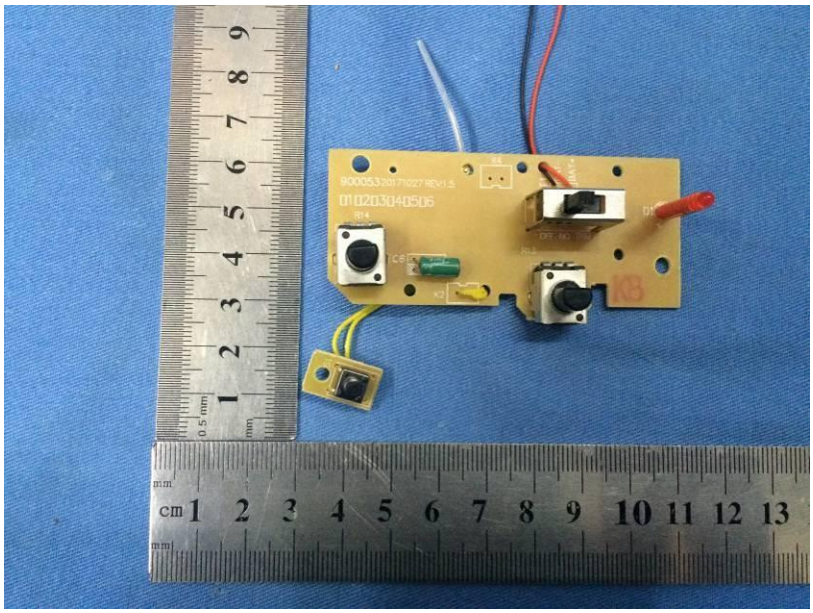
9 EUT Constructional Details

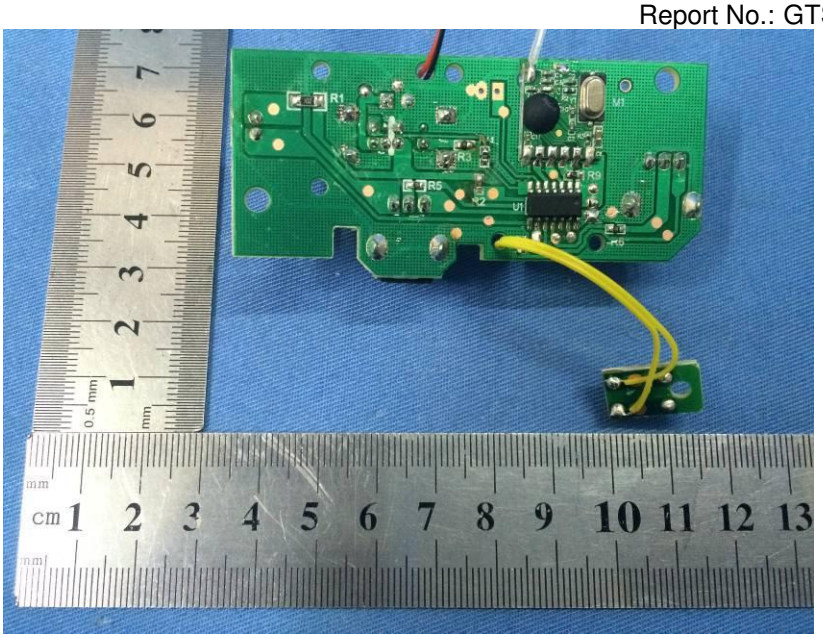

Carrera RC

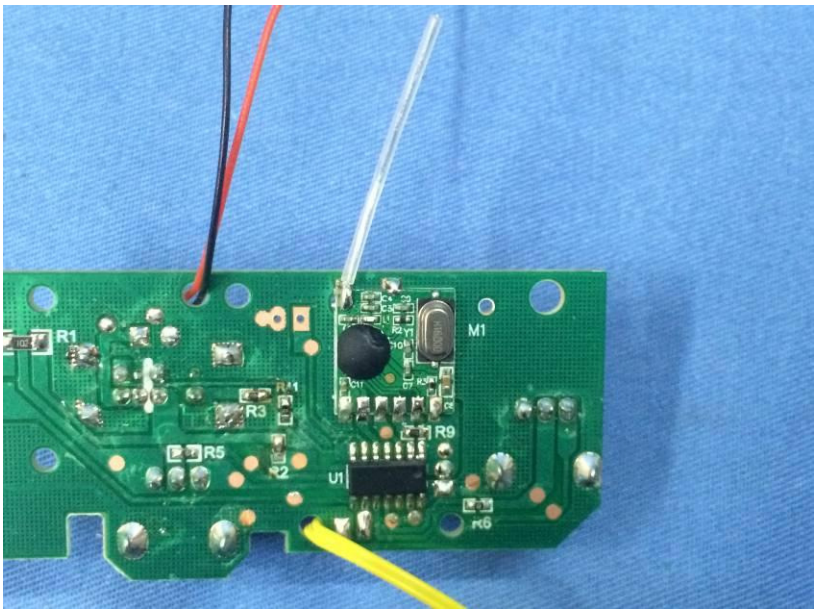


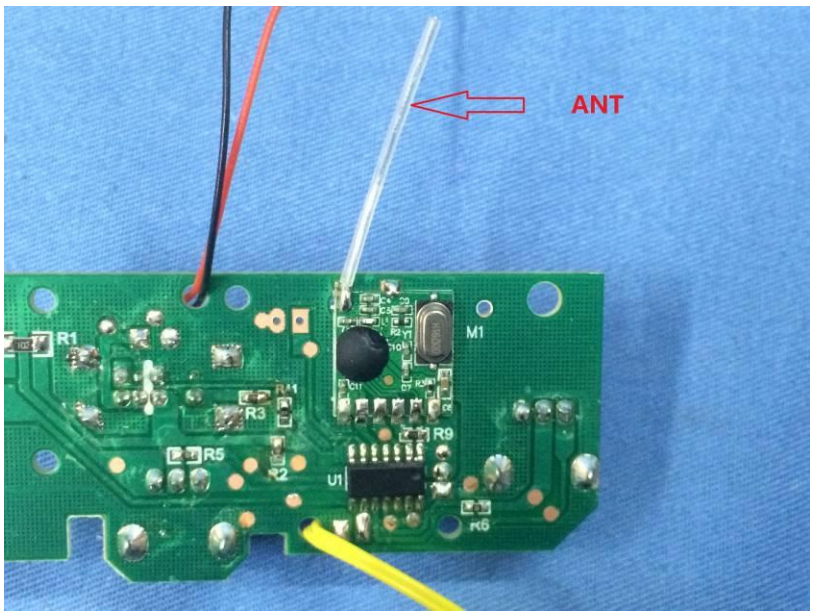







R1
R3
R5
R9
U1
M1
cm 1 2 3 4 5 6 7 8 9 10 11 12 13


R1
R3
R5
R9
U1
M1



------End------