Shenzhen Huaxia Testing Technology Co., Ltd

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640
Fax: +86-755-26648637
Website: www.cqa-cert.com

Report Template Version: V03
Report Template Revision Date: Mar.1st, 2017

FCC/IC Test Report

Report No. :	CQSZ20180500203EW-03
Applicant:	Hangzhou Great Star Industrial Co., Ltd.
Address of Applicant:	No.35, Jiuhuan Road, Jiubao Town, Jianggan District, Hangzhou 310019, China
Manufacturer:	Hangzhou Great Star Industrial Co., Ltd.
Address of Manufacturer:	No.35, Jiuhuan Road, Jiubao Town, Jianggan District, Hangzhou 310019, China
Equipment Under Test (EUT):	
Product:	Iris Wi-Fi smart Hub
Model No.:	IH300
Brand Name:	iris
FCC ID:	2AMI2IH300
IC ID:	22853-IH300
Standards:	47 CFR Part 15, Subpart C
	RSS-210 Issue 9 August 2016
	RSS-Gen Issue 5 Nov 2018
Date of Test:	2018-05-20 to 2018-06-25
Date of Issue:	2018-06-25
Test Result :	**PASS***

Tested By: Aaron Ma

(Aaron Ma)

Reviewed By: Owen Zhou

(Owen Zhou)

Approved By:

(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO.,LTD 华夏准测 APPROVED

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

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQSZ20180500203EW-03	Rev.01	Initial report	2018-06-25

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203, RSS-Gen Issue 5	ANSI C63.10 (2013)	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207, RSS-Gen Issue 5	ANSI C63.10 (2013)	PASS
Field Strength of the Fundamental Signal	47 CFR Part 15, Subpart C Section 15.249 (a), RSS-Gen Issue 5	ANSI C63.10 (2013)	PASS
Spurious Emissions	47 CFR Part 15, Subpart C Section 15.249 (a)/15.209, RSS-Gen Issue 5	ANSI C63.10 (2013)	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15, Subpart C Section 15.249(a)/15.205, RSS-Gen Issue 5	ANSI C63.10 (2013)	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.215 (c) ,	ANSI C63.10 (2013)	PASS
99% Occupied Bandwidth	RSS-Gen Issue 5	RSS-Gen Issue 5	PASS

4 Contents

5 General Information

5.1 Client Information

Applicant:	Hangzhou Great Star Industrial Co., Ltd.
Address of Applicant:	No.35, Jiuhuan Road, Jiubao Town, Jianggan District, Hangzhou 310019, China
Manufacturer:	Hangzhou Great Star Industrial Co., Ltd.
Address of Manufacturer:	No.35, Jiuhuan Road, Jiubao Town, Jianggan District, Hangzhou 310019, China

5.2 General Description of EUT

Name:	Iris Wi-Fi smart Hub
Model No.:	IH300
Trade Mark :	iris
Hardware Version:	IH300-003V-IMX-D-iMagic
Software Version:	Linux iMagic 4.1.15-HW
Frequency Range:	908.4MHz ~ 916MHz
Modulation Type:	FSK
Number of Channels:	3
Sample Type:	Mobile production
Test Software of EUT:	Secure CRT (manufacturer declare)
Antenna Type:	Integral antenna
Antenna Gain:	2.0dBi
Power Supply:	Adapter: Model:RD1201500-C55-81MG Input:100-240V~50/60Hz 0.6A Output:DC12V 1.5A Battery: ICR18650 2600mAh, 3.7V

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	908.4MHz	2	908.42 MHz	3	916MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 1 MHz and less than 10MHz, the Lowest frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	908.4MHz
The Middle channel	908.42MHz
The Highest channel	916MHz

5.3 Test Environment and Mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1008 mbar
Test Mode:	Use test software (Secure CRT) to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.

5.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Remark	FCC certification
PC	Lenovo	ThinkPad E450c	Provide by lab	ID
AC/DC Adapter	Lenovo	PA-1450-55LN	Provide by lab	DOC

5.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for **CQA** laboratory is reported:

Test	Range	Uncertainty	Notes
Radiated Emission	Below 1GHz	±5.12dB	(1)
Radiated Emission	Above 1GHz	±4.60dB	(1)
Conducted Disturbance	0.15~30MHz	±3.34dB	(1)

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

5.6 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.,

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

5.7 Test Facility

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

- **CNAS (No. CNAS L5785)**

CNAS has accredited Shenzhen Huaxia Testing Technology Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 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.

- **ISED Registration No.: 22984-1**

The 3m Semi-anechoic chamber of Shenzhen Huaxia Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

- **A2LA (Certificate No. 4742.01)**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

- **FCC Registration No.: 522263**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

5.8 Deviation from Standards

None.

5.9 Abnormalities from Standard Conditions

None.

5.10 Other Information Requested by the Customer

None.

5.11 Equipment List

Item	Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Due Date
1	EMI Test Receiver	R&S	ESR7	CQA-005	2018/9/24
2	Spectrum analyzer	R&S	FSU26	CQA-038	2018/9/24
3	Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2018/9/24
4	Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2018/9/24
5	Loop antenna	ZHINAN	ZN30900A	CQA-087	2019/3/21
6	Bilog Antenna	R&S	HL562	CQA-011	2018/9/24
7	Horn Antenna	R&S	HF906	CQA-012	2018/9/24
8	Horn Antenna	R&S	BBHA 9170	CQA-088	2018/9/24
9	Coax cable (9KHz~40GHz)	CQA	RE-low-01	CQA-077	2018/9/24
10	Coax cable (9KHz~40GHz)	CQA	RE-high-02	CQA-078	2018/9/24
11	Antenna Connector	CQA	RFC-01	CQA-080	2018/9/24
12	RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2018/9/24
13	EMI Test Receiver	R&S	ESPI3	CQA-005	2018/9/24
14	LISN	R&S	ENV216	CQA-003	2018/9/24
15	Coaxial cable (9KHz~300MHz)	CQA	N/A	CQA-C009	2018/10/17
16	Power divider	CQA	PWD-2533-02-SMA-79	CQA-067	2018/9/29

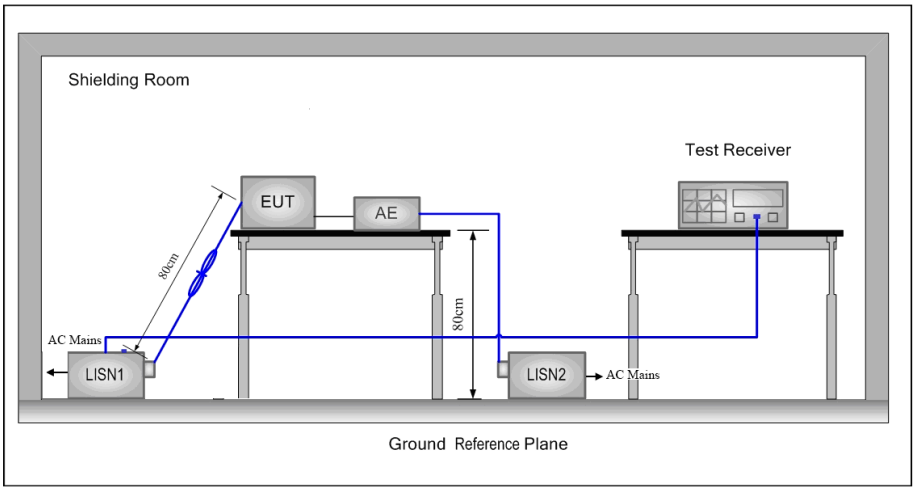
6 Test results and Measurement Data

6.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203, RSS-Gen Issue 5
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 2.0dBi.	

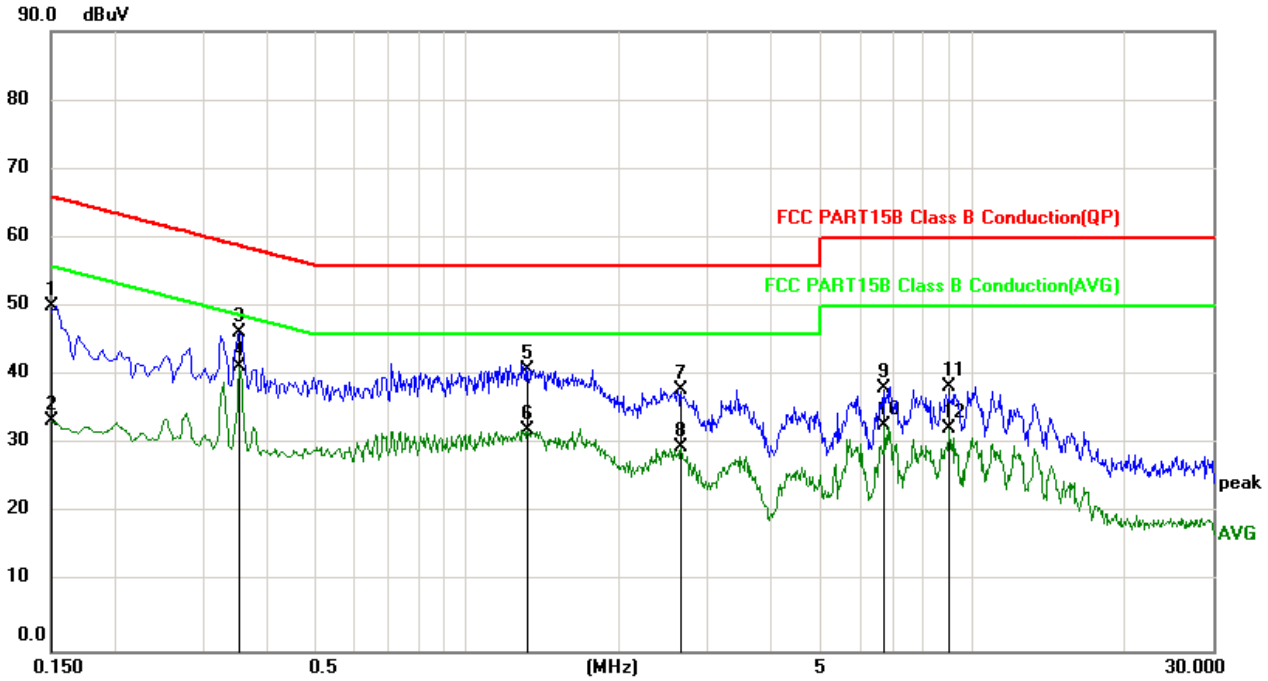
6.2 Conducted Emissions

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15C Section 15.207,
RSS-Gen Issue 5</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150kHz to 30MHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr>
<tr><th>Quasi-peak</th><th>Average</th></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test Procedure:</td><td>1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</td></tr>
</table>

Test Setup:	
Exploratory Test Mode:	Transmitting with FSK at lowest, middle and highest channel.
Final Test Mode:	Through Pre-scan, find at lowest channel is the worst case. Only the worst case is recorded in the report.
Test Voltage:	AC120V/60Hz
Test Results:	Pass

Measurement Data

Live Line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1500	40.35	9.73	50.08	66.00	-15.92	QP
2		0.1500	23.68	9.73	33.41	56.00	-22.59	AVG
3		0.3540	36.50	9.74	46.24	58.87	-12.63	QP
4	*	0.3540	31.45	9.74	41.19	48.87	-7.68	AVG
5		1.3220	31.11	9.75	40.86	56.00	-15.14	QP
6		1.3220	22.37	9.75	32.12	46.00	-13.88	AVG
7		2.6619	28.13	9.77	37.90	56.00	-18.10	QP
8		2.6619	19.84	9.77	29.61	46.00	-16.39	AVG
9		6.7300	28.45	9.80	38.25	60.00	-21.75	QP
10		6.7300	22.85	9.80	32.65	50.00	-17.35	AVG
11		9.0580	28.48	9.81	38.29	60.00	-21.71	QP
12		9.0580	22.57	9.81	32.38	50.00	-17.62	AVG

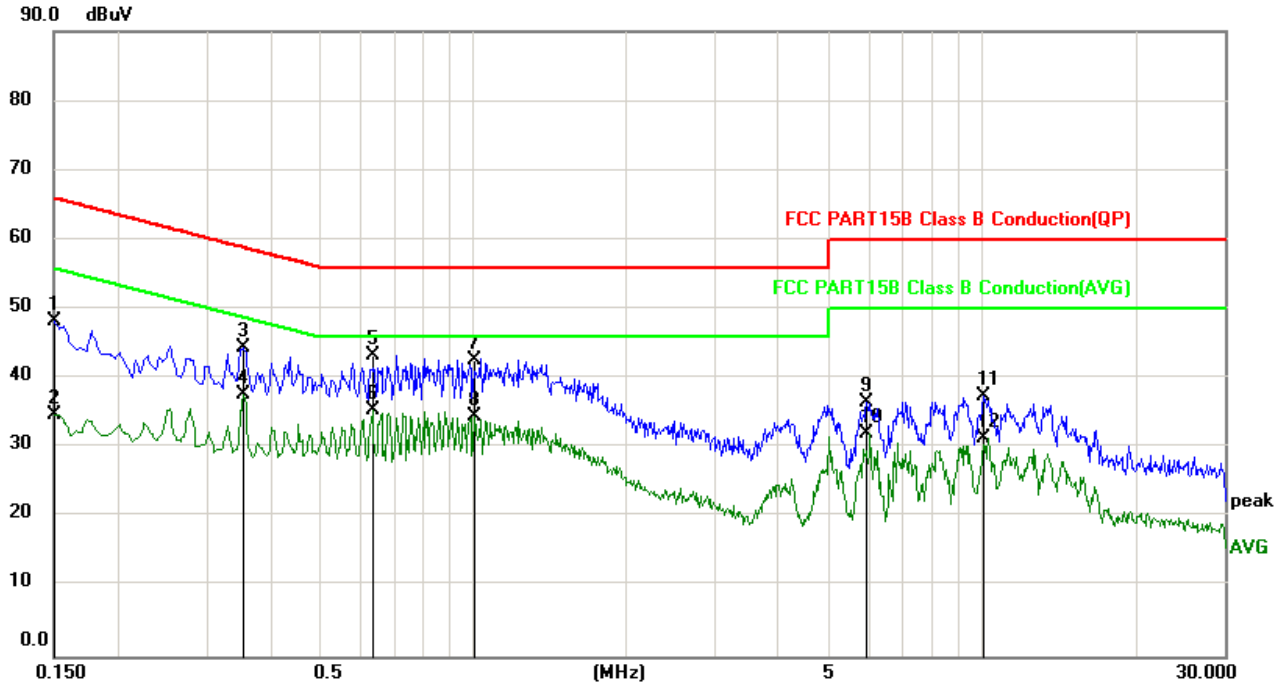
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral Line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1500	38.44	9.79	48.23	66.00	-17.77	QP
2		0.1500	24.96	9.79	34.75	56.00	-21.25	AVG
3		0.3540	34.56	9.80	44.36	58.87	-14.51	QP
4		0.3540	27.90	9.80	37.70	48.87	-11.17	AVG
5		0.6340	33.48	9.80	43.28	56.00	-12.72	QP
6	*	0.6340	25.55	9.80	35.35	46.00	-10.65	AVG
7		1.0100	32.79	9.81	42.60	56.00	-13.40	QP
8		1.0100	24.75	9.81	34.56	46.00	-11.44	AVG
9		5.9380	26.78	9.84	36.62	60.00	-23.38	QP
10		5.9380	22.28	9.84	32.12	50.00	-17.88	AVG
11		10.0940	27.51	9.88	37.39	60.00	-22.61	QP
12		10.0940	21.50	9.88	31.38	50.00	-18.62	AVG

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

6.3 Radiated Emission

Test Requirement:	47 CFR Part 15C Section 15.249 and 15.209 and 15.205, RSS-Gen Issue 5
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30KHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30KHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30KHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30KHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30KHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100 kHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Note: For fundamental frequency, RBW=5MHz, VBW=5MHz, Peak detector is for PK value, RMS detector is for Average value.

Limit:
(Spurious Emissions and band edge)

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	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

Note: 1) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

2) 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.

Limit:
(Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
902MHz916MHz	94.0	Average Value
	114.0	Peak Value

Test Setup:	

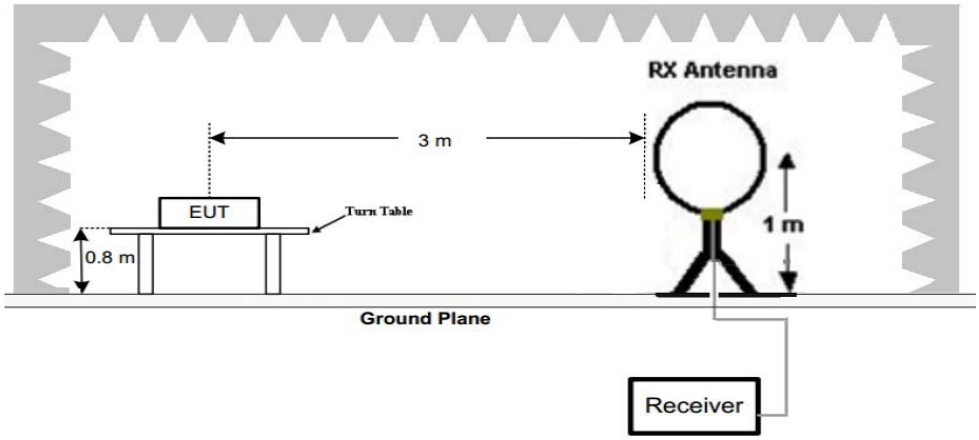


Figure 1. Below 30MHz

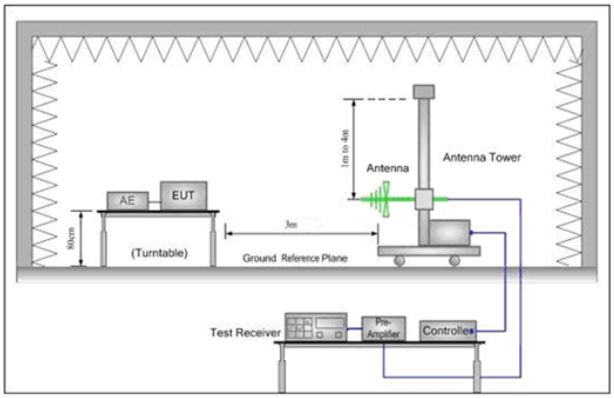


Figure 2. 30MHz to 1GHz

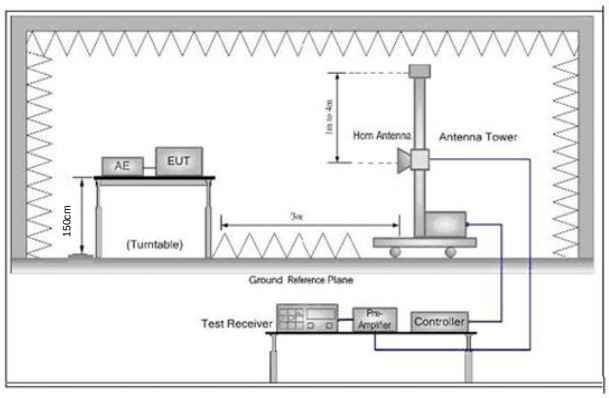


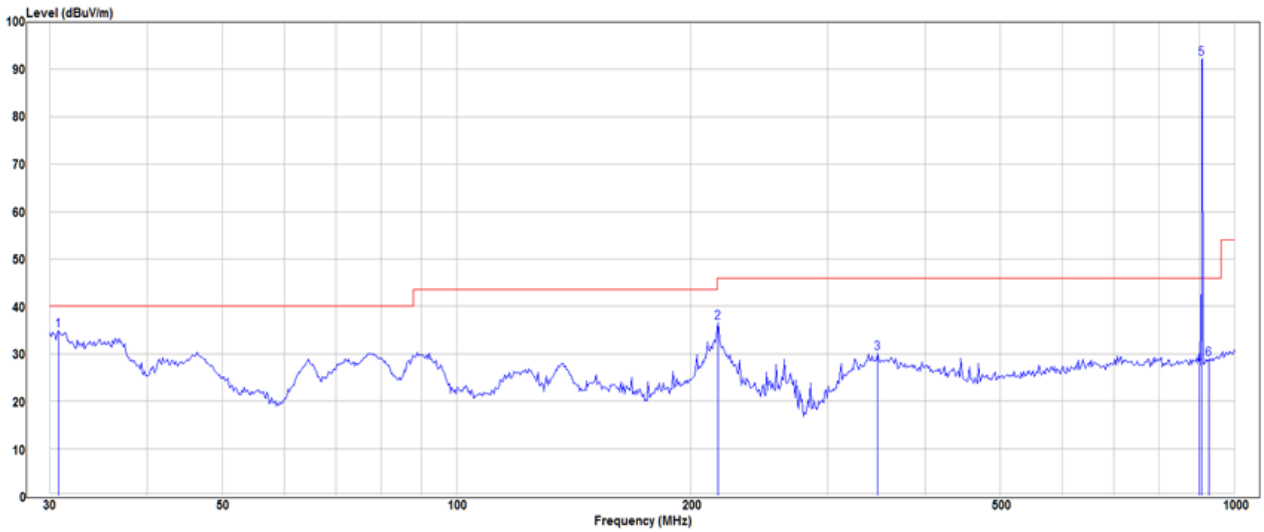
Figure 3. Above 1 GHz

Test Procedure:	a. 1) Below 1G: 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. 2) Above 1G: The EUT was placed on the top of a rotating table 1.5 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. Note: For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 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. Test the EUT in the lowest channel,the middle channel,the Highest channel h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case. i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting mode
Final Test Mode:	Pretest the EUT at Transmitting mode, Only the worst case is recorded in the report.
Test Voltage:	120V/60Hz
Test Results:	Pass

Measurement Data

30MHz~1GHz		
Test mode:	Transmitting (lowest channel)	Vertical



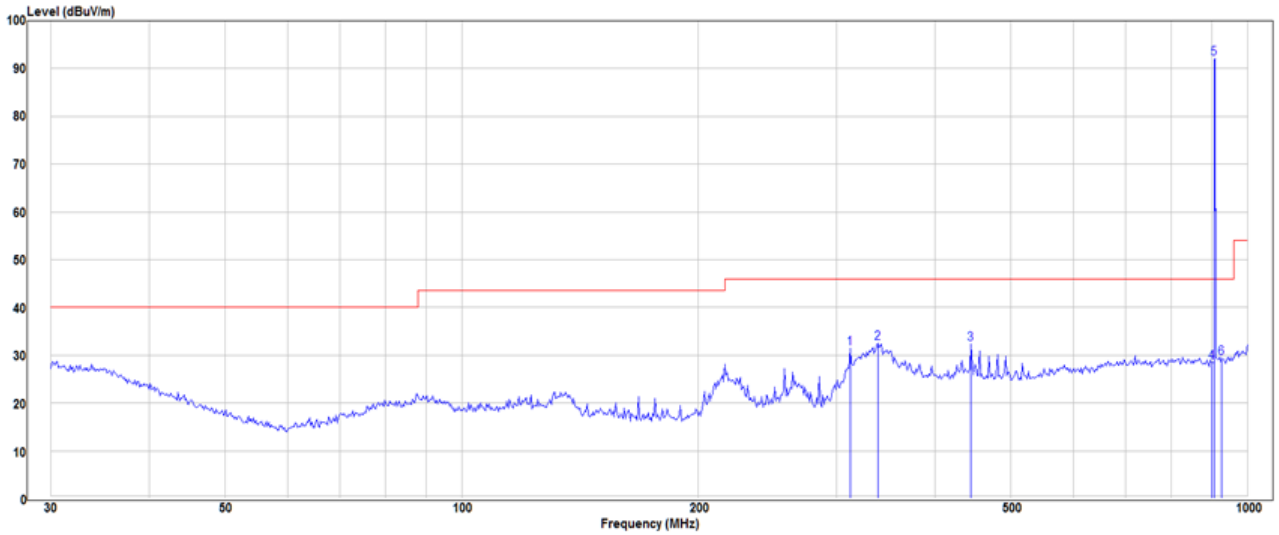
Freq (MHz)	Read_Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark
30.745	16.45	18.54	34.99	40	-5.01	Peak
216.783	27.26	9.26	36.52	46	-9.48	Peak
348.027	17.62	12.52	30.14	46	-15.86	Peak
902	8.62	18.93	27.55	46	-18.45	Peak
908.4	73.18	19.03	92.21	114	-21.79	Peak
928	9.59	19.35	28.94	46	-17.06	Peak

Remark:

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

Test mode:	Transmitting (lowest channel)	Horizontal



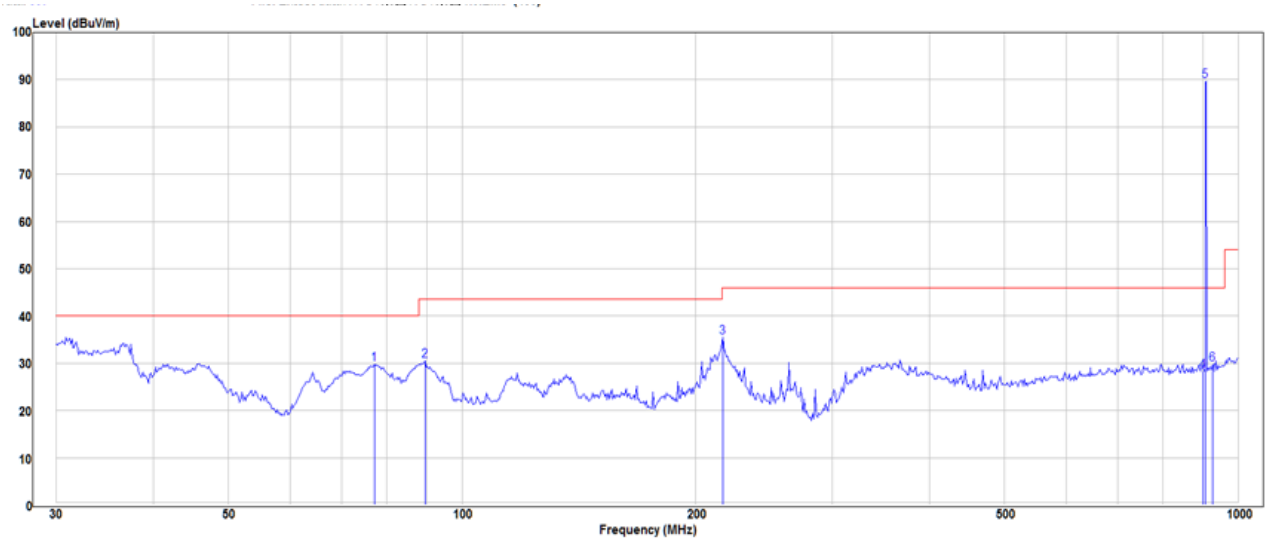
Freq (MHz)	Read_Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark
312.179	20.49	10.87	31.36	46	-14.64	Peak
338.4	20.91	11.66	32.57	46	-13.43	Peak
444.851	17.99	14.45	32.44	46	-13.56	Peak
902	9.51	18.93	28.44	46	-17.56	Peak
908.4	73.02	19.03	92.05	114	-21.95	Peak
928	10.01	19.35	29.36	46	-16.64	Peak

Remark:

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

30MHz~1GHz		
Test mode:	Transmitting (middle channel)	Vertical



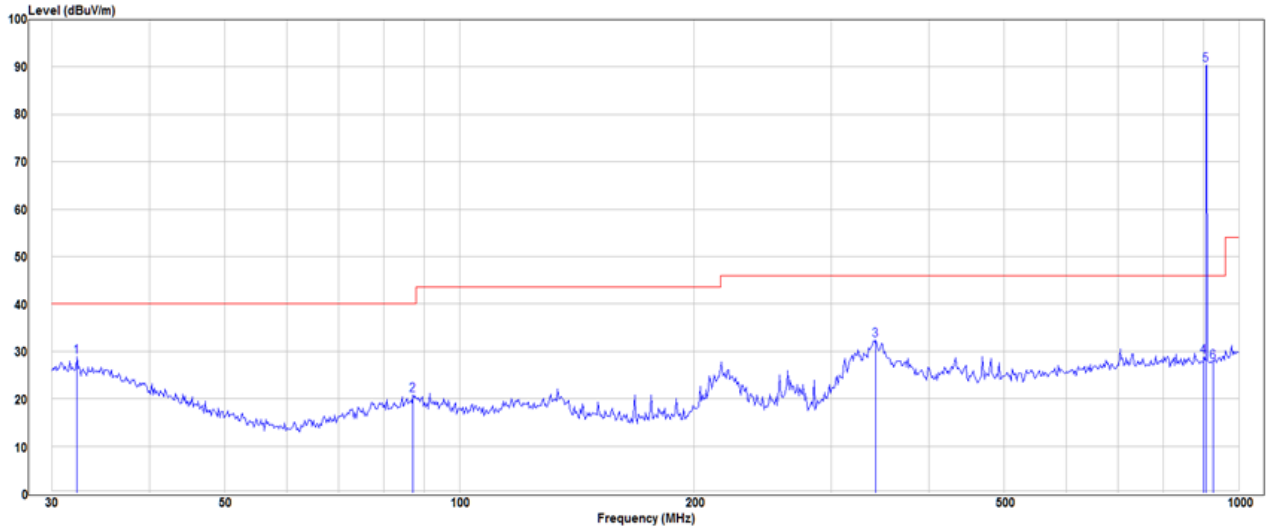
Freq (MHz)	Read_Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark
77.051	20.82	8.97	29.79	40	-10.21	Peak
89.59	20.81	9.69	30.5	43.5	-13	Peak
216.783	26.14	9.26	35.4	46	-10.6	Peak
902	9.36	18.93	28.29	46	-17.71	Peak
908.42	70.63	19.03	89.66	114	-24.34	Peak
928	10.35	19.35	29.7	46	-16.3	Peak

Remark:

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

Test mode:	Transmitting (middle channel)	Horizontal



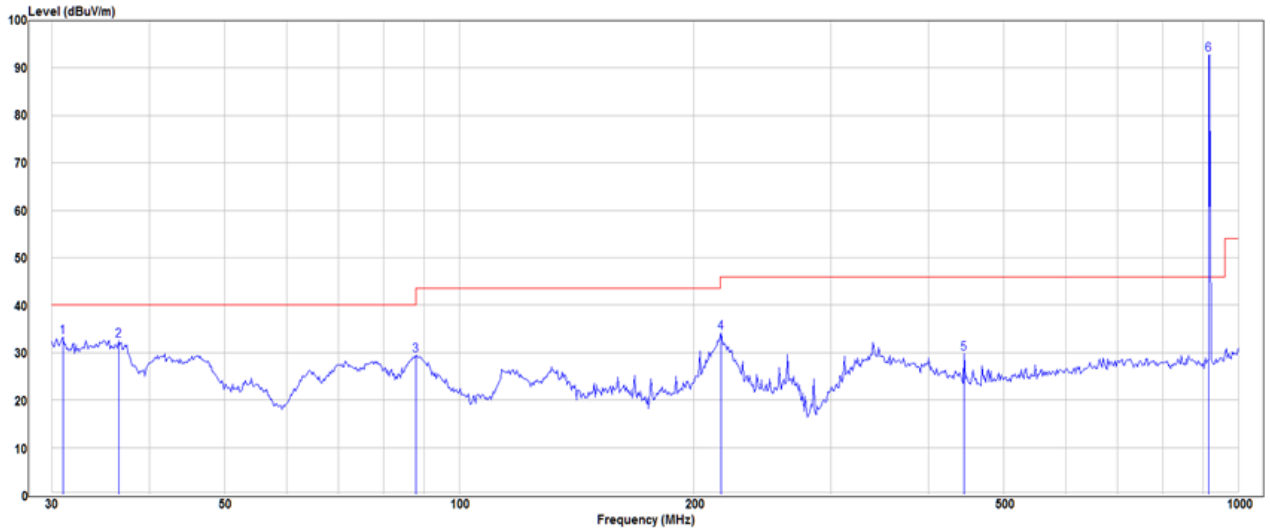
Freq (MHz)	Read_Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark
32.293	10.4	18.42	28.82	40	-11.18	Peak
87.112	11.06	9.64	20.7	40	-19.3	Peak
341.979	20.42	11.98	32.4	46	-13.6	Peak
902	9.96	18.93	28.89	46	-17.11	Peak
908.42	71.35	19.03	90.38	114	-23.62	Peak
928	8.43	19.35	27.78	46	-18.22	Peak

Remark:

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

Test mode:	Transmitting (high channel)	Vertical



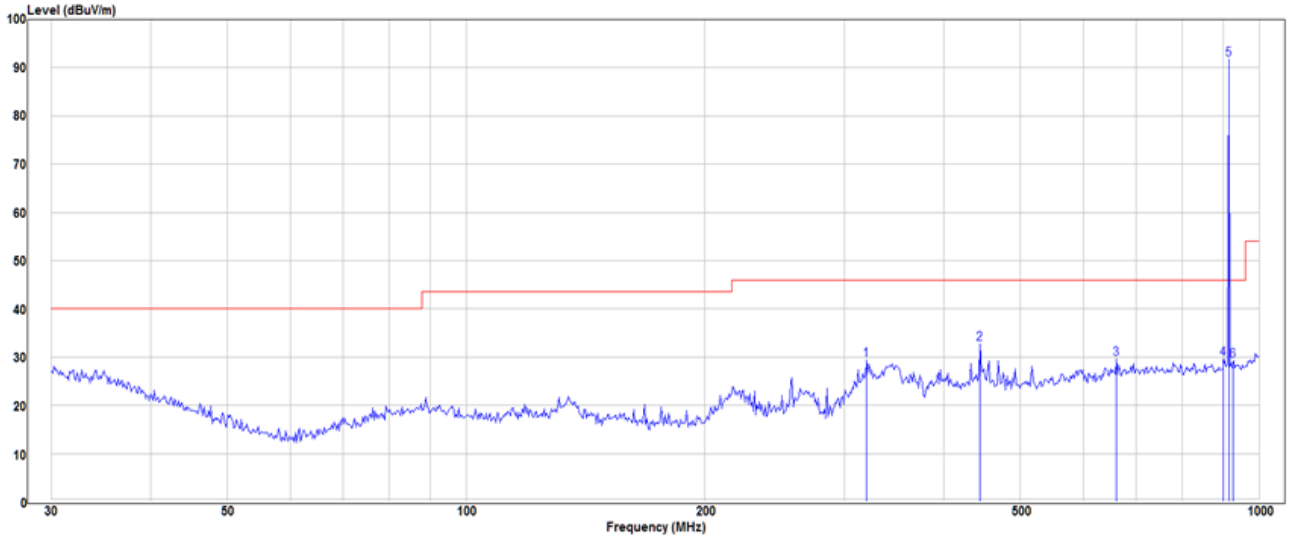
Freq (MHz)	Read_Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark
30.962	14.8	18.52	33.32	40	-6.68	Peak
36.509	15.45	17.14	32.59	40	-7.41	Peak
88.033	19.83	9.66	29.49	43.5	-14.01	Peak
216.783	24.92	9.26	34.18	46	-11.82	Peak
444.851	15.33	14.45	29.78	46	-16.22	Peak
916	73.73	19.16	92.89	114	-21.11	Peak

Remark:

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

Test mode:	Transmitting (high channel)	Horizontal



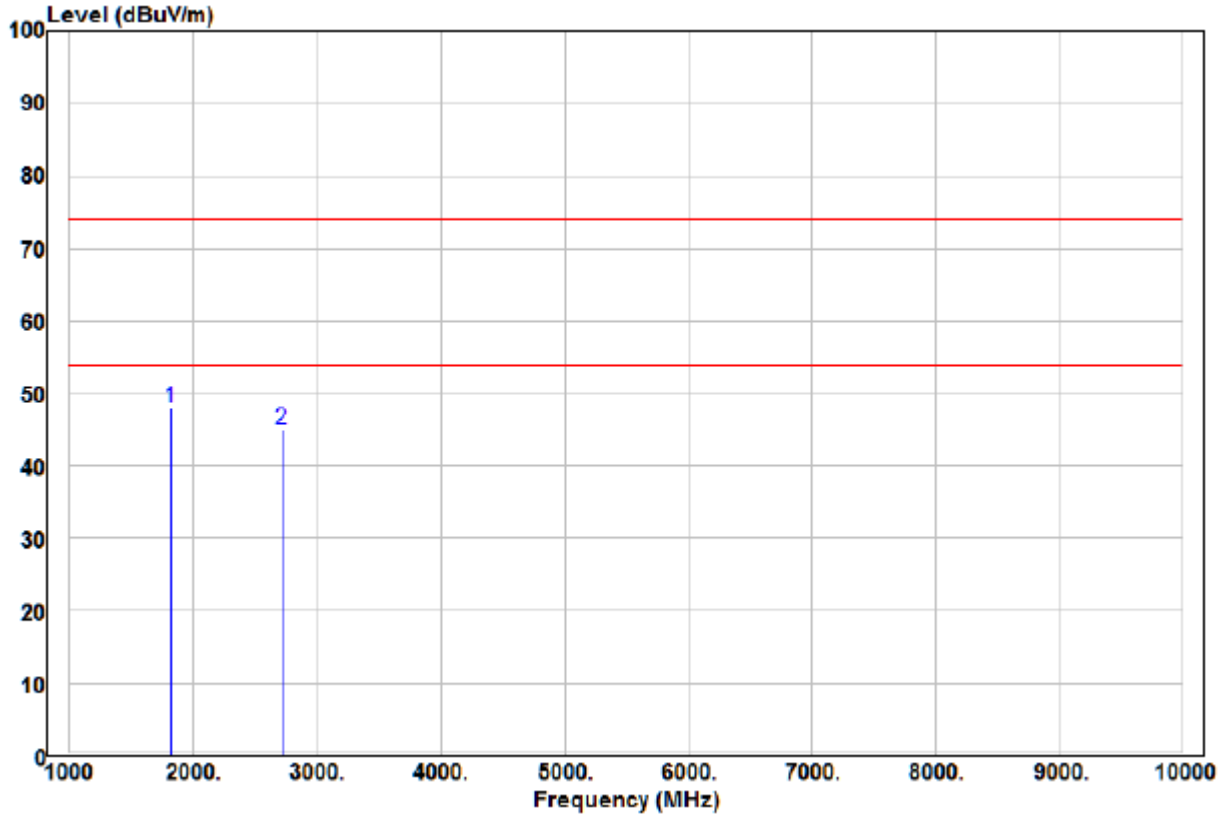
Freq (MHz)	Read_Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark
319.937	18.36	11.1	29.46	46	-16.54	Peak
444.851	18.32	14.45	32.77	46	-13.23	Peak
661.151	11.54	18.14	29.68	46	-16.32	Peak
902	10.59	18.93	29.52	46	-16.48	Peak
916	72.58	19.16	91.74	114	-22.26	Peak
928	9.8	19.35	29.15	46	-16.85	Peak

Remark:

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

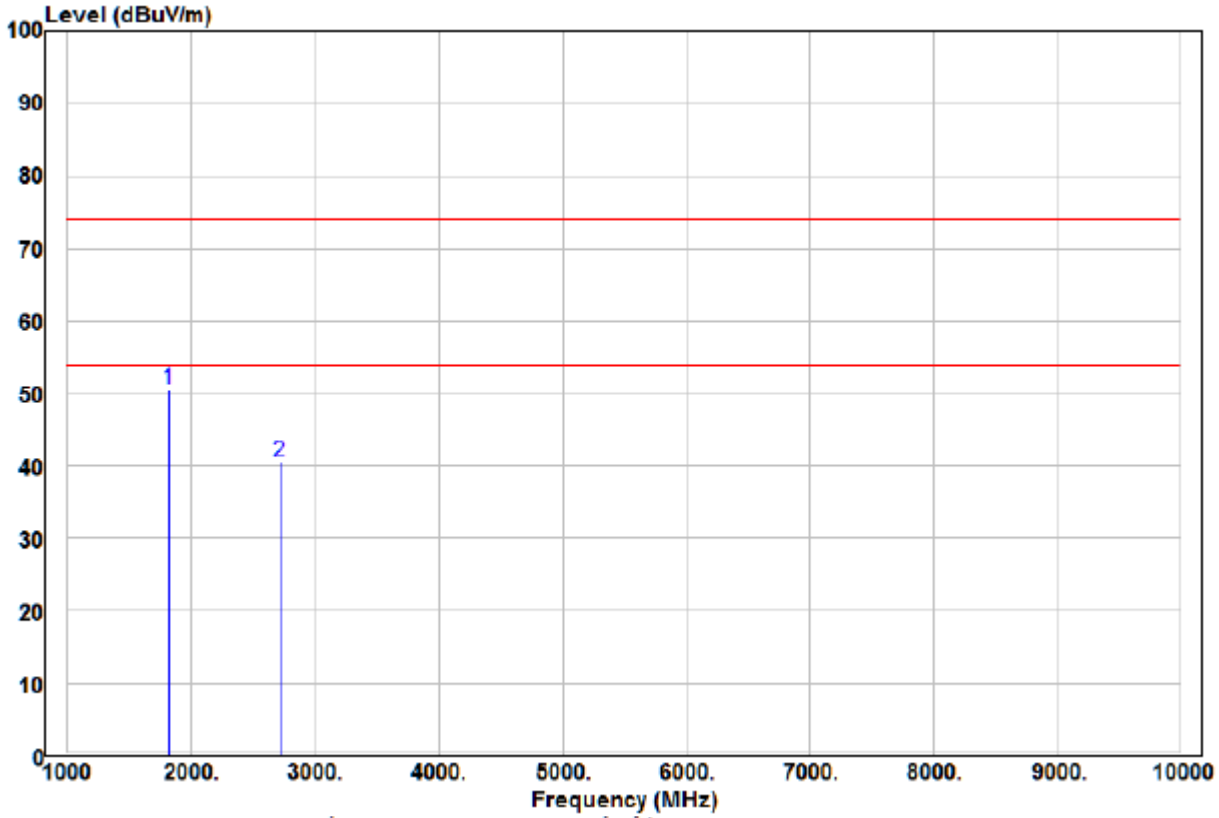
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

Above 1GHz		
Test mode:	Transmitting (lowest channel)	Vertical



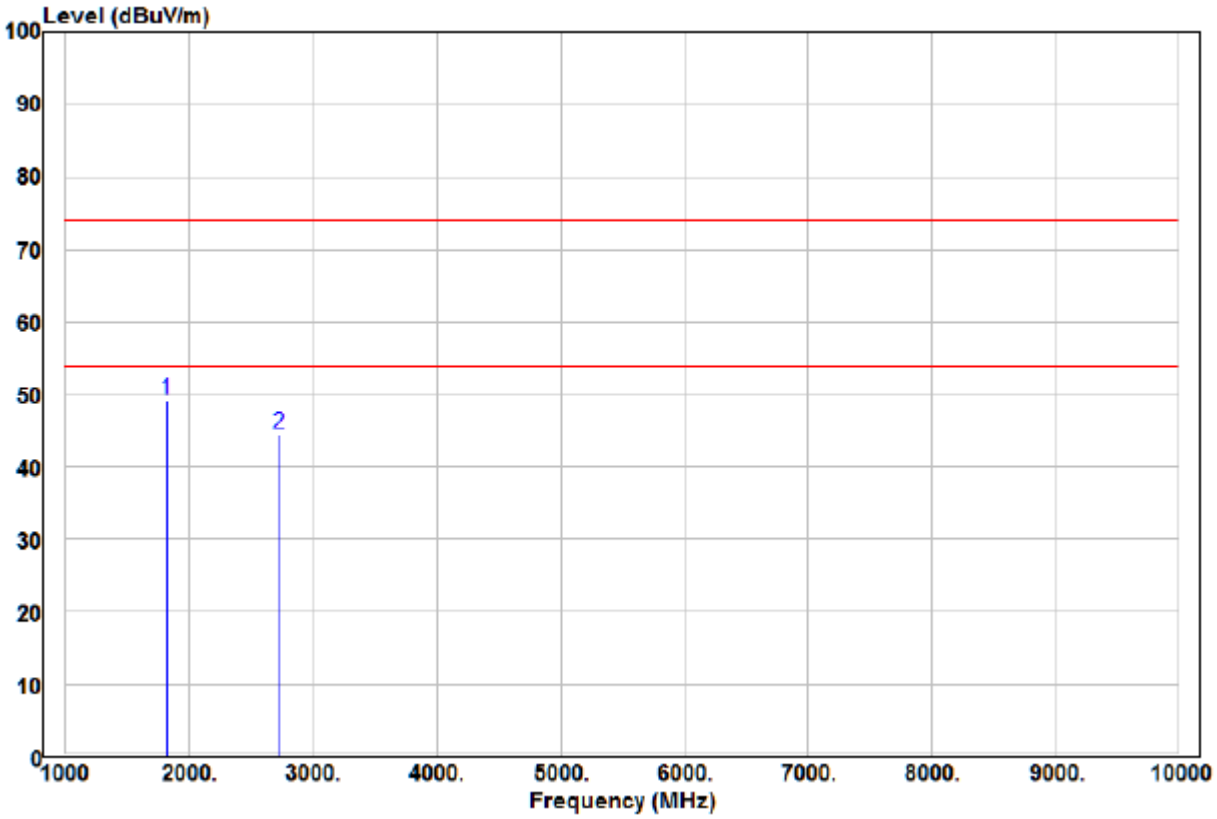
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1 pp	1816.80	61.47	-13.54	47.93	74.00	-26.07	Peak	VERTICAL
2	2725.20	56.97	-11.87	45.10	74.00	-28.90	Peak	VERTICAL

Test mode:	Transmitting (lowest channel)	Horizontal



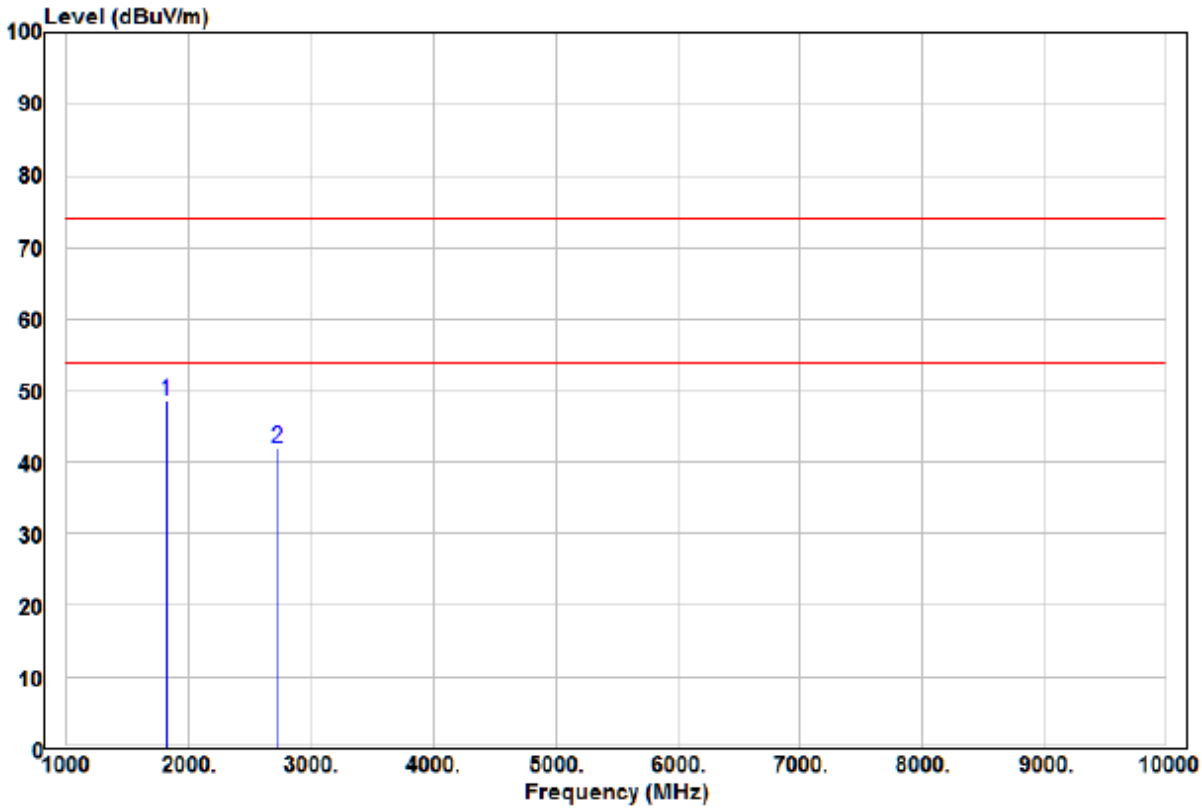
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1 pp	1816.80	64.11	-13.54	50.57	74.00	-23.43	Peak	HORIZONTAL
2	2725.20	52.44	-11.87	40.57	74.00	-33.43	Peak	HORIZONTAL

Test mode:	Transmitting (middle channel)	Vertical



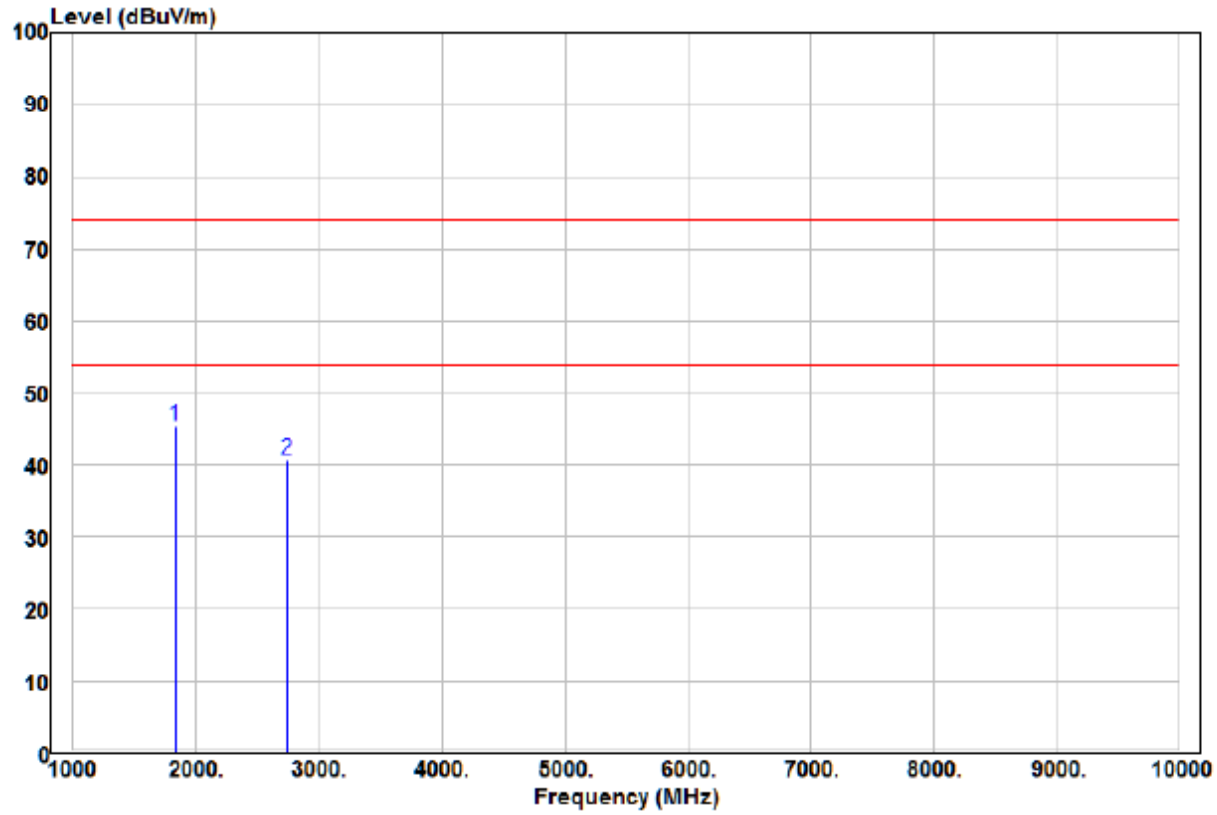
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1 pp	1816.84	62.88	-13.54	49.34	74.00	-24.66	Peak	VERTICAL
2	2725.26	56.39	-11.87	44.52	74.00	-29.48	Peak	VERTICAL

Test mode:	Transmitting (middle channel)	Horizontal



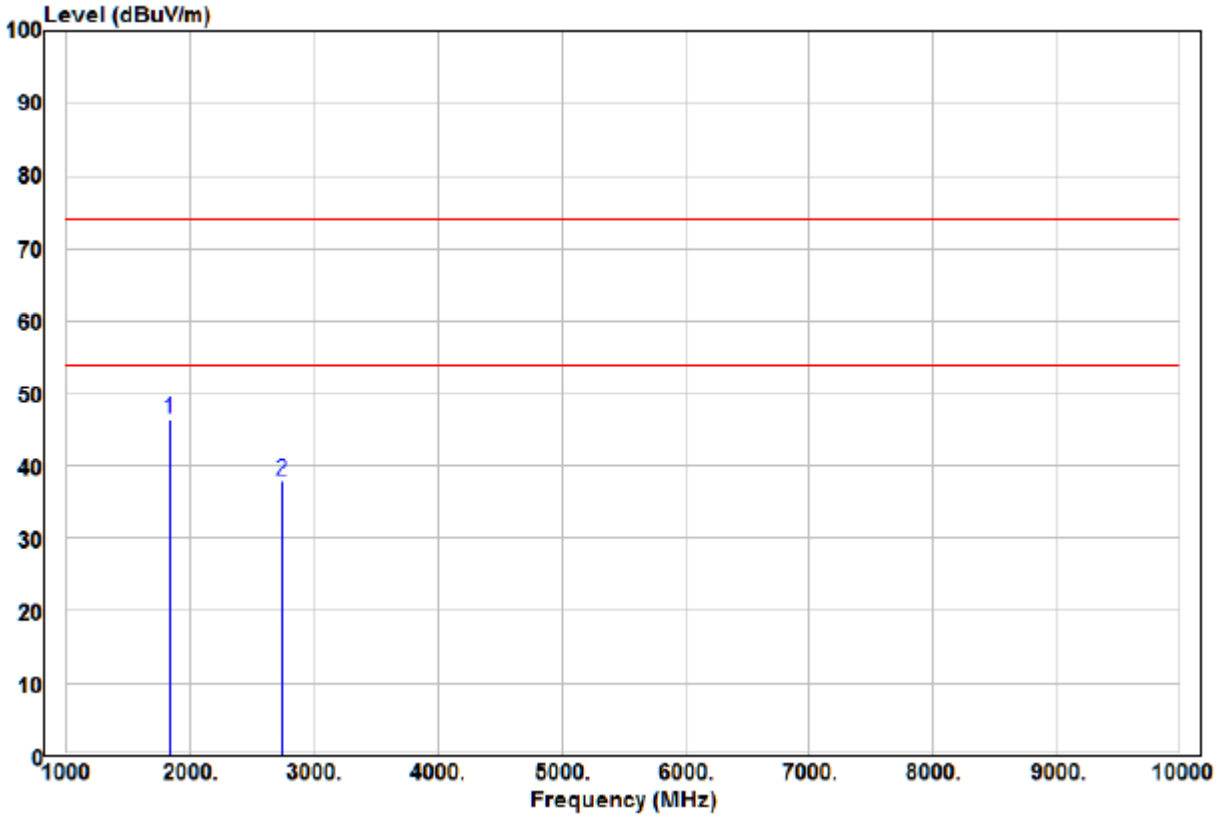
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1 pp	1816.84	62.17	-13.54	48.63	74.00	-25.37	Peak	HORIZONTAL
2	2725.26	53.87	-11.87	42.00	74.00	-32.00	Peak	HORIZONTAL

Test mode:	Transmitting (high channel)	Vertical



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1 pp	1832.00	58.73	-13.30	45.43	74.00	-28.57	Peak	VERTICAL
2	2748.00	52.66	-11.94	40.72	74.00	-33.28	Peak	VERTICAL

Test mode:	Transmitting (high channel)	Horizontal



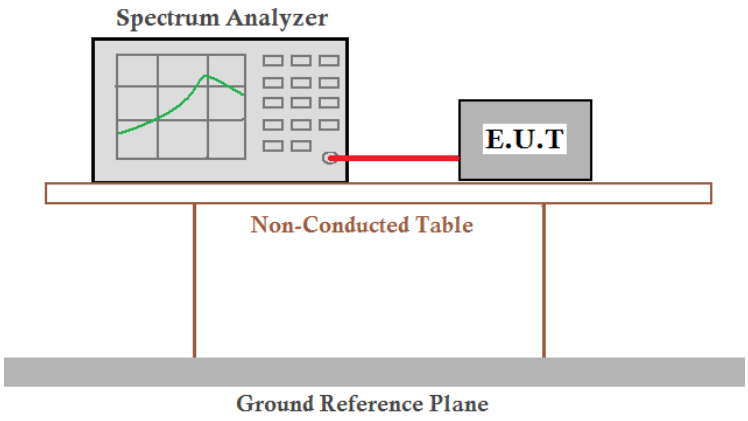
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1 pp	1832.00	59.74	-13.30	46.44	74.00	-27.56	Peak	HORIZONTAL
2	2748.00	50.00	-11.94	38.06	74.00	-35.94	Peak	HORIZONTAL

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 + Antenna Factor + Cable Factor – Preamplifier Factor

2) Scan from 9kHz to 10GHz,The disturbance above 5GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .

6.4 20dB Bandwidth

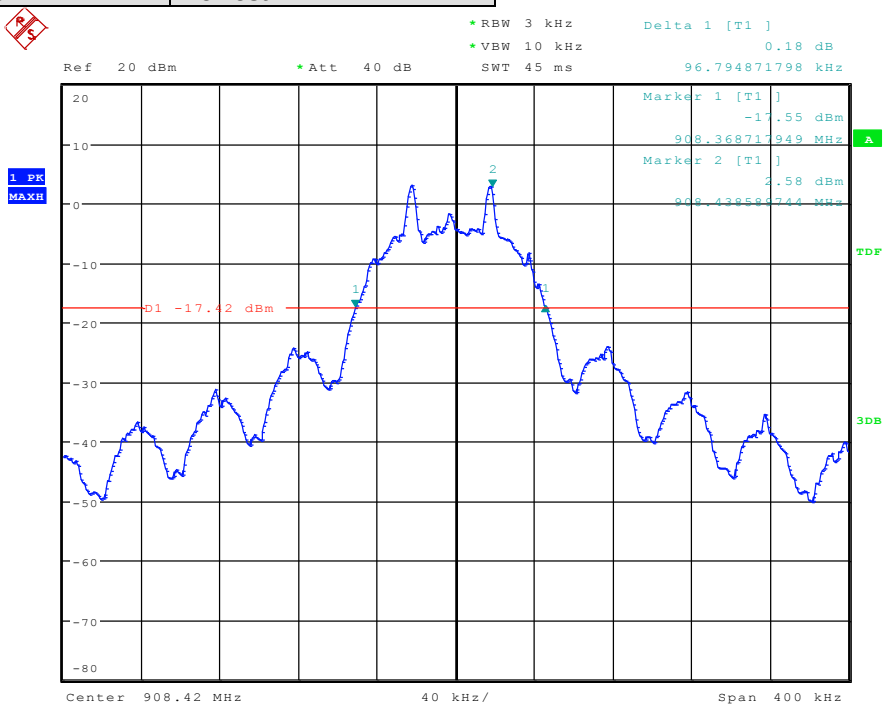
Test Requirement:	47 CFR Part 15C Section 15.215
Test Method:	ANSI C63.10:2013
Test Setup:	
Test Mode:	Transmitting with modulation.
Limit:	N/A
Test Results:	Pass

Measurement Data

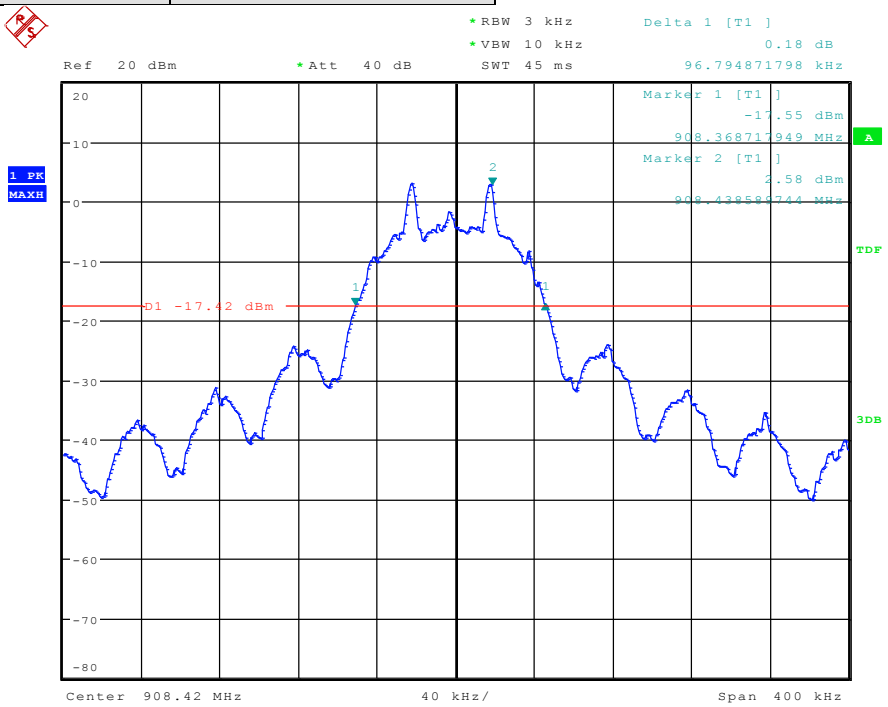
Test channel	20dB bandwidth (kHz)	Results
Lowest	96.795	Pass
Middle	96.795	Pass
Highest	93.590	Pass

Test plot as follows:

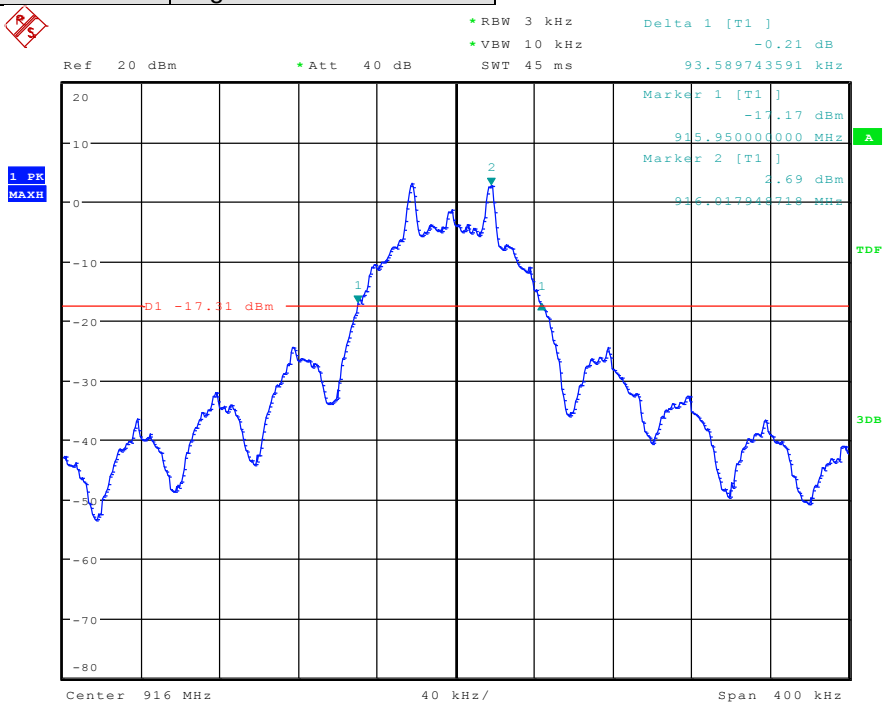
Test channel:	Lowest



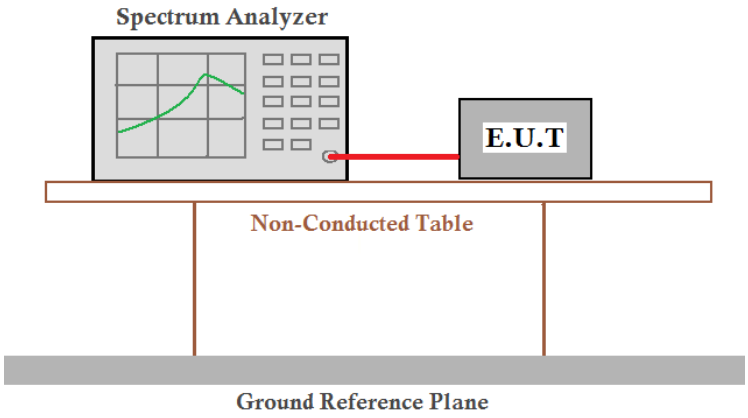
Test channel:	Middle



Test channel:	Highest



6.1 99% Bandwidth

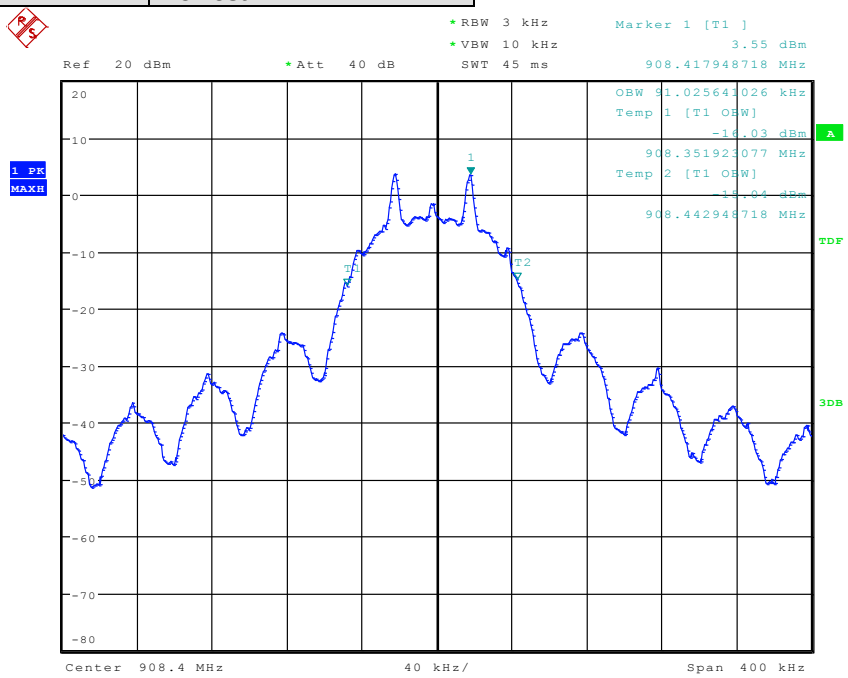
Test Requirement:	RSS-Gen Issue 5
Test Method:	RSS-Gen Issue 5
Test Setup:	
Test Mode:	Transmitting with modulation.
Limit:	N/A
Test Results:	Pass

Measurement Data

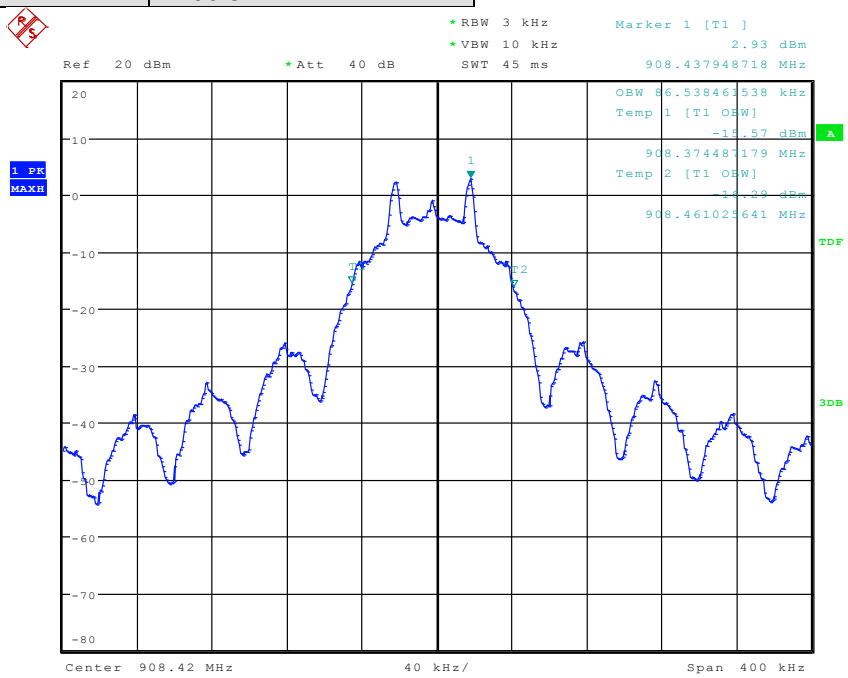
Test channel	99% bandwidth (kHz)	Results
Lowest	91.026	Pass
Middle	86.538	Pass
Highest	89.103	Pass

Test plot as follows:

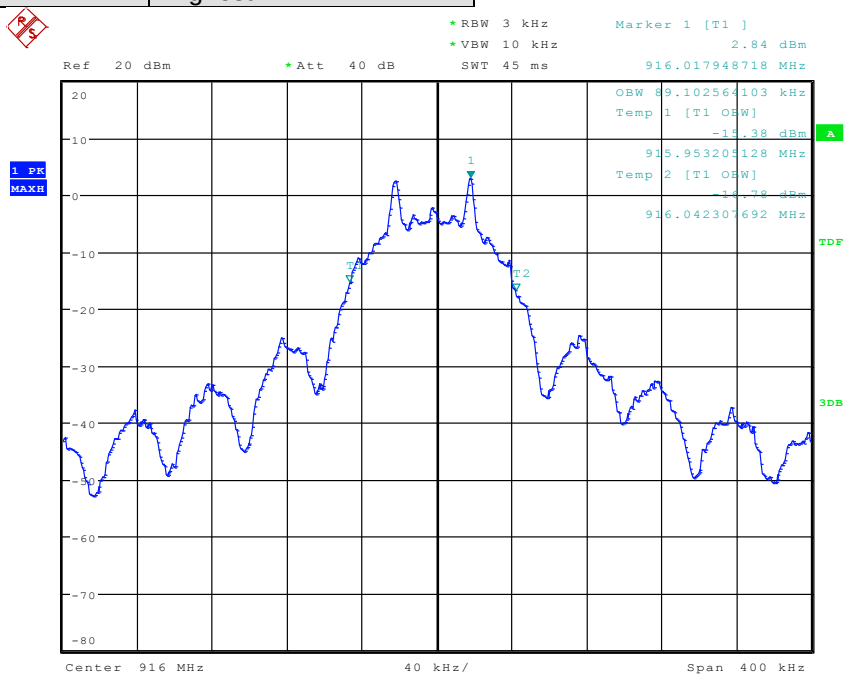
Test channel:	Lowest



Test channel:	middle



Test channel:	Highest



END OF THE REPORT