

# FCC Report

**Applicant:** FLYSKY RC MODEL TECHNOLOGY CO., LTD

**Address of Applicant:** West building3, Huangjianyuan Ind, Park QIAOLI North Gate Changping Town, Dongguan, China

**Manufacturer:** Dynamic Model Design Limited

**Address of Manufacturer:** Flat/Rm B1,20/F.,MG Tower,133 Hoi Bun Road,Kwun Tong,Hong Kong

**Factory:** FLYSKY RC MODEL TECHNOLOGY CO., LTD

**Address of Factory:** West building3, Huangjianyuan Ind, Park QIAOLI North Gate Changping Town, Dongguan, China

**Equipment Under Test (EUT)**

Product Name: Digital proportional Radio Control System

Model No.: HK-MT6B

**FCC ID:** N4ZMT6B00

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.247

**Date of sample receipt:** October 17, 2018

**Date of Test:** October 20-December 19, 2018

**Date of report issued:** December 20, 2018

**Test Result :** PASS \*

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

Authorized Signature:

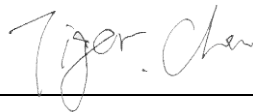
Robinson Lo  
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

## 2 Version

Version No.	Date	Description
00	December 20, 2018	Original

Prepared By:



Date:

December 20, 2018

Project Engineer

Check By:



Date:

December 20, 2018

Reviewer

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## 4 Test Summary

Test Item	Section	Result
Antenna Requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(1)	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Pass
Hopping Channel Number	15.247 (a)(1)	Pass
Dwell Time	15.247 (a)(1)	Pass
Pseudorandom Frequency Hopping Sequence	15.247(b)(4)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass

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

*Remark : Test according to ANSI C63.10:2013.*

### 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)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(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:	Digital proportional Radio Control System
Model No.:	HK-MT6B
Serial No.:	18FWBLM12000001
Test sample(s) ID:	GTS201810000060-1
Sample(s) Status	Engineer sample
Operation Frequency:	2408MHz~2475.0MHz
Channel numbers:	135
Channel separation:	500kHz
Modulation technology:	GFSK
Antenna Type:	Integral Antenna
Antenna gain:	2dBi
Power supply:	DC 3.7V, 650mAh, 2.4Wh battery

Remark: The system works in the frequency range of 2408MHz to 2475MHz. This band has been divided to 135 independent channels. Each radio system uses 16 different channels; the minimum channel separation is  $\geq 2.5$ MHz. By using various switch-on times, hopping scheme and channel frequencies, the system can guarantee a jamming free radio transmission. The channel list is below.

Two antennas can't transmit at the same time. While the Left ANT transmitting, the Right ANT act as a receiver antenna and vice versa.

Operation Frequency each of channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	----	36	2423.00	71	2440.50	106	2458.00
2	----	37	2423.50	72	2441.00	107	2458.50
3	----	38	2424.00	73	2441.50	108	2459.00
4	----	39	2424.50	74	2442.00	109	2459.50
5	----	40	2425.00	75	2442.50	110	2460.00
6	2408.00	41	2425.50	76	2443.00	111	2460.50
7	2408.50	42	2426.00	77	2443.50	112	2461.00
8	2409.00	43	2426.50	78	2444.00	113	2461.50
9	2409.50	44	2427.00	79	2444.50	114	2462.00
10	2410.00	45	2427.50	80	2445.00	115	2462.50
11	2410.50	46	2428.00	81	2445.50	116	2463.00
12	2411.00	47	2428.50	82	2446.00	117	2463.50
13	2411.50	48	2429.00	83	2446.50	118	2464.00
14	2412.00	49	2429.50	84	2447.00	119	2464.50
15	2412.50	50	2430.00	85	2447.50	120	2465.00
16	2413.00	51	2430.50	86	2448.00	121	2465.50
17	2413.50	52	2431.00	87	2448.50	122	2466.00
18	2414.00	53	2431.50	88	2449.00	123	2466.50
19	2414.50	54	2432.00	89	2449.50	124	2467.00
20	2415.00	55	2432.50	90	2450.00	125	2467.50
21	2415.50	56	2433.00	91	2450.50	126	2468.00
22	2416.00	57	2433.50	92	2451.00	127	2468.50
23	2416.50	58	2434.00	93	2451.50	128	2469.00
24	2417.00	59	2434.50	94	2452.00	129	2469.50
25	2417.50	60	2435.00	95	2452.50	130	2470.00
26	2418.00	61	2435.50	96	2453.00	131	2470.50
27	2418.50	62	2436.00	97	2453.50	132	2471.00
28	2419.00	63	2436.50	98	2454.00	133	2471.50
29	2419.50	64	2437.00	99	2454.50	134	2472.00
30	2420.00	65	2437.50	100	2455.00	135	2472.50
31	2420.50	66	2438.00	101	2455.50	136	2473.00
32	2421.00	67	2438.50	102	2456.00	137	2473.50
33	2421.50	68	2439.00	103	2456.50	138	2474.00
34	2422.00	69	2439.50	104	2457.00	139	2474.50
35	2422.50	70	2440.00	105	2457.50	140	2475.00

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	2408.0MHz/2413MHz
The middle channel	2440.0MHz
The Highest channel	2475.0MHz/2473MHz

## 5.2 Test mode

Transmitting mode	Keep the EUT in transmitting mode.
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## 5.3 Test Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> <li>• <b>FCC —Registration No.: 381383</b> Global United Technology Services 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 files. Registration No.: 381383, January 08, 2018.</li> <li>• <b>Industry Canada (IC) —Registration No.: 9079A-2</b> 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.</li> </ul>
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## 5.4 Test Location

All other tests were performed at:
<p>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</p>

## 5.5 Other Information Requested by the Customer

None.
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## 5.6 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC Approval
DELTA	ADAPTER	ADP-60ADT	N/A	DELTA

## 5.7 Additional Instructions

EUT Software Settings:

Mode	Special test firmware was pre-built-in by manufacturer		
Mode	Channel	Frequency (MHz)	Level Set
GFSK	CH01	2408	TX level : default
	CH70	2440	
	CH140	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 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 27 2018	June. 26 2019
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 27 2018	June. 26 2019
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 27 2018	June. 26 2019
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 27 2018	June. 26 2019
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 27 2018	June. 26 2019
9	Coaxial Cable	GTS	N/A	GTS211	June. 27 2018	June. 26 2019
10	Coaxial cable	GTS	N/A	GTS210	June. 27 2018	June. 26 2019
11	Coaxial Cable	GTS	N/A	GTS212	June. 27 2018	June. 26 2019
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 27 2018	June. 26 2019
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 27 2018	June. 26 2019
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 27 2018	June. 26 2019
15	Band filter	Amindeon	82346	GTS219	June. 27 2018	June. 26 2019
16	Power Meter	Anritsu	ML2495A	GTS540	June. 27 2018	June. 26 2019
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 27 2018	June. 26 2019
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 27 2018	June. 26 2019
19	Splitter	Agilent	11636B	GTS237	June. 27 2018	June. 26 2019
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 27 2018	June. 26 2019

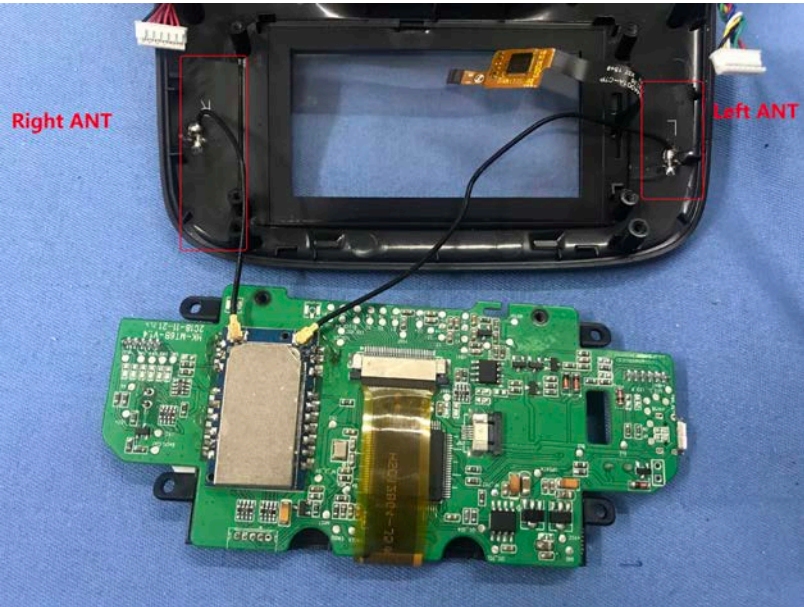
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 27 2018	June. 26 2019
2	Barometer	ChangChun	DYM3	GTS255	June. 27 2018	June. 26 2019

<b>Conducted Emission</b>						
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. 27 2018	June. 26 2019
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 27 2018	June. 26 2019
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 27 2018	June. 26 2019
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. 27 2018	June. 26 2019
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 27 2018	June. 26 2019

<b>RF Conducted Test:</b>						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 27 2018	June. 26 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 27 2018	June. 26 2019
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 27 2018	June. 26 2019
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 27 2018	June. 26 2019
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 27 2018	June. 26 2019
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 27 2018	June. 26 2019
8	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
9	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 27 2018	June. 26 2019

## 7 Test results and Measurement Data

### 7.1 Antenna requirement

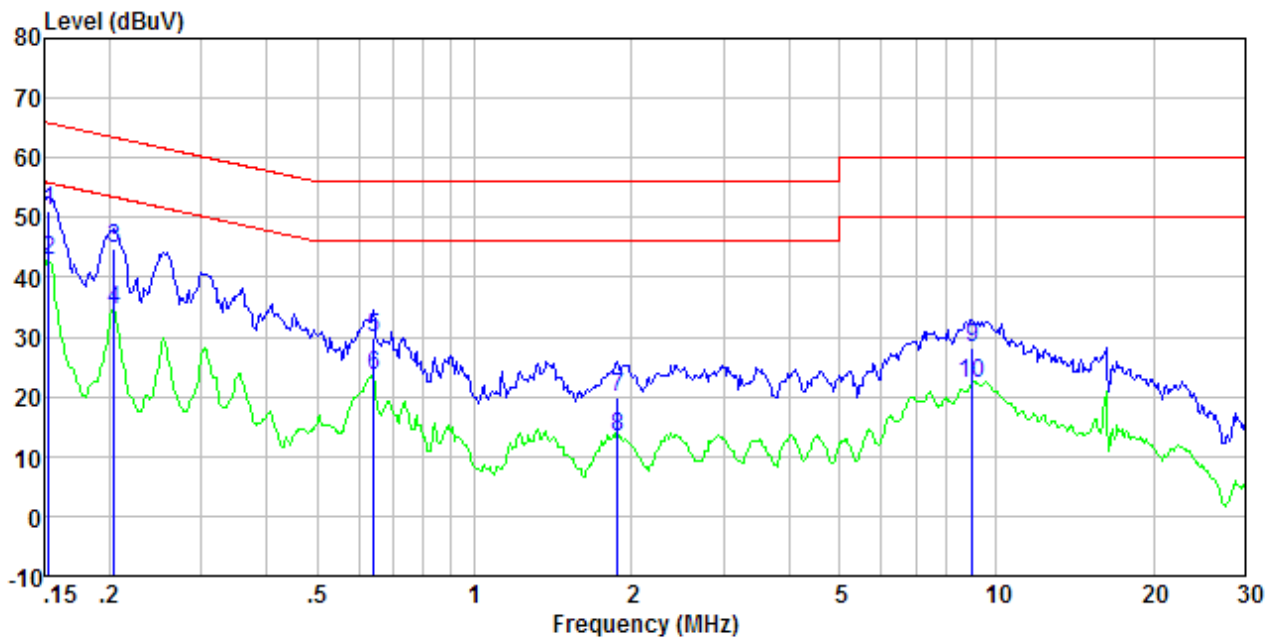
<b>Standard requirement:</b>	FCC Part15 C Section 15.203 /247(c)
<p><b>15.203 requirement:</b></p> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an 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.</p> <p><b>15.247(c) (1)(i) requirement:</b></p> <p>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.</p>	
<b>EUT Antenna:</b>	
<p><i>The antenna is integral Antenna, the best case gain of the antenna is 2dBi</i></p> <p>Two antennas can't transmit at the same time. While the Left ANT transmitting, the Right ANT act as a receiver antenna and vice versa.</p>	
	

## 7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207					
Test Method:	ANSI C63.10:2013					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:						
	<p><i>Remark</i>  E.U.T: Equipment Under Test  LISN: Line Impedance Stabilization Network  Test table height=0.8m</p>					
Test procedure:	<ol style="list-style-type: none"> <li>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>3. Both sides of A.C. line are checked for maximum conducted interference. 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.</li> </ol>					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1 012mbar
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					

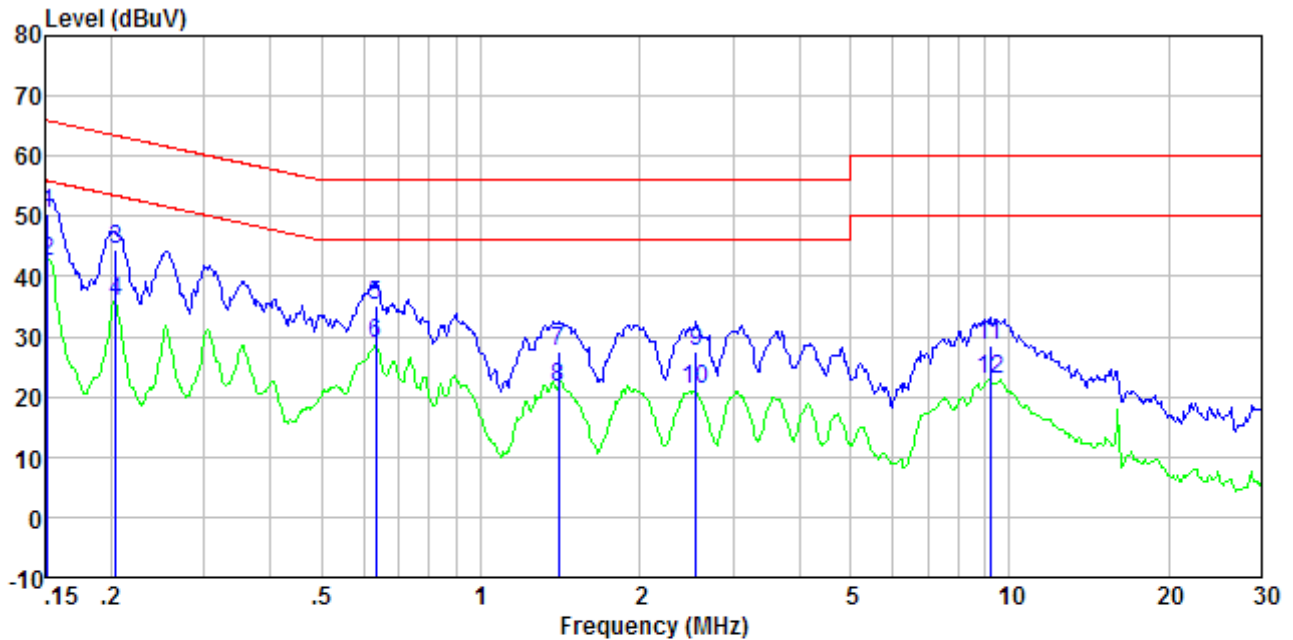
**Measurement data:**

Test mode:	Transmitting mode	Phase Polarity:	Line
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Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.15	50.60	0.40	0.07	51.07	65.82	-14.75	QP
0.15	42.22	0.40	0.07	42.69	55.82	-13.13	Average
0.20	44.41	0.40	0.11	44.92	63.45	-18.53	QP
0.20	33.96	0.40	0.11	34.47	53.45	-18.98	Average
0.64	29.55	0.27	0.12	29.94	56.00	-26.06	QP
0.64	23.23	0.27	0.12	23.62	46.00	-22.38	Average
1.88	19.68	0.20	0.17	20.05	56.00	-35.95	QP
1.88	12.73	0.20	0.17	13.10	46.00	-32.90	Average
9.01	27.88	0.20	0.20	28.28	60.00	-31.72	QP
9.01	21.68	0.20	0.20	22.08	50.00	-27.92	Average

Test mode:	Transmitting mode	Phase Polarity:	Neutral
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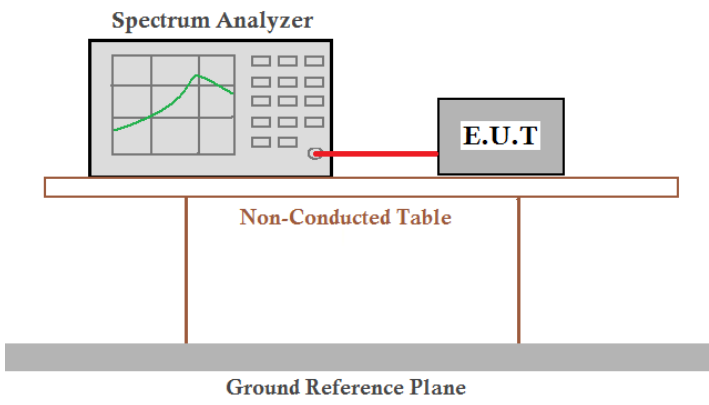


Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.15	50.00	0.40	0.07	50.47	65.91	-15.44	QP
0.15	42.02	0.40	0.07	42.49	55.91	-13.42	Average
0.20	44.05	0.40	0.11	44.56	63.45	-18.89	QP
0.20	35.28	0.40	0.11	35.79	53.45	-17.66	Average
0.63	34.61	0.28	0.12	35.01	56.00	-20.99	QP
0.63	28.58	0.28	0.12	28.98	46.00	-17.02	Average
1.40	27.21	0.20	0.16	27.57	56.00	-28.43	QP
1.40	21.14	0.20	0.16	21.50	46.00	-24.50	Average
2.55	27.03	0.20	0.18	27.41	56.00	-28.59	QP
2.55	20.70	0.20	0.18	21.08	46.00	-24.92	Average
9.20	28.10	0.20	0.20	28.50	60.00	-31.50	QP
9.20	22.53	0.20	0.20	22.93	50.00	-27.07	Average

**Notes:**

1. An initial pre-scan reading was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss

## 7.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013
Limit:	20.97dBm
Test setup:	 <p>The diagram shows a Spectrum Analyzer on the left and an E.U.T. on the right, connected by a red cable. They are both on a table labeled 'Non-Conducted Table'. Below the table is a 'Ground Reference Plane'.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

### Measurement Data

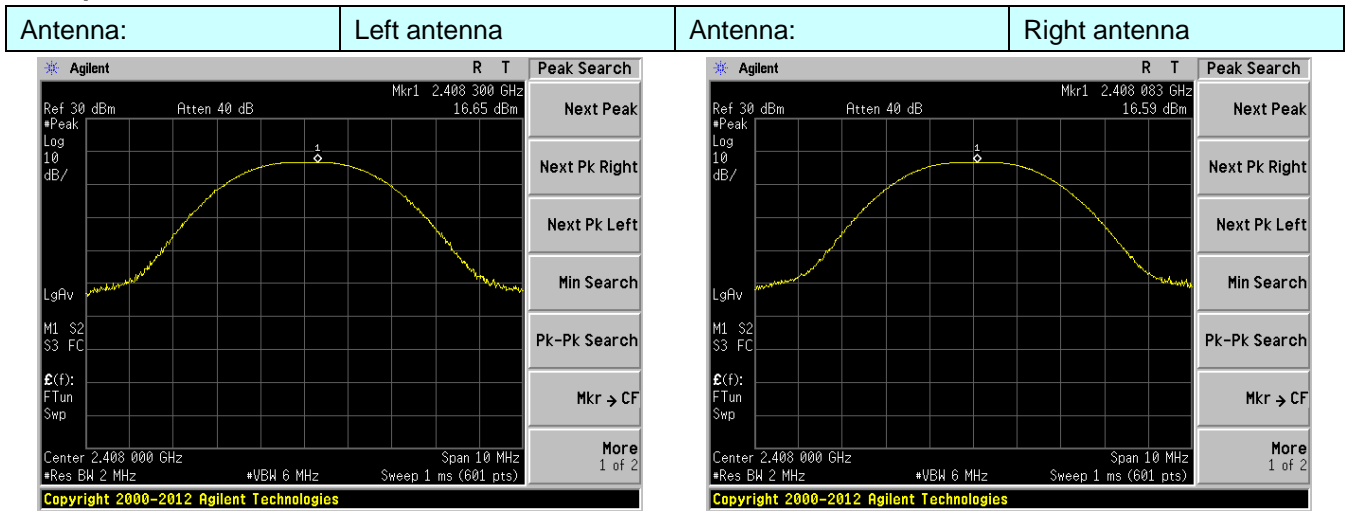
#### Left antenna:

Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	16.65	20.97	Pass
Middle	16.81		
Highest	17.39		

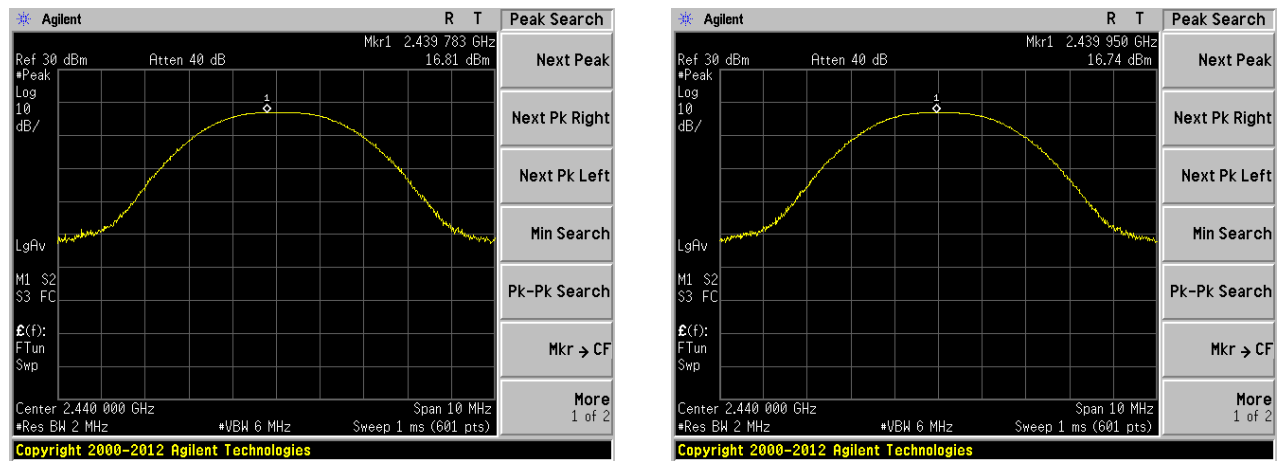
#### Right antenna:

Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	16.59	20.97	Pass
Middle	16.74		
Highest	17.24		

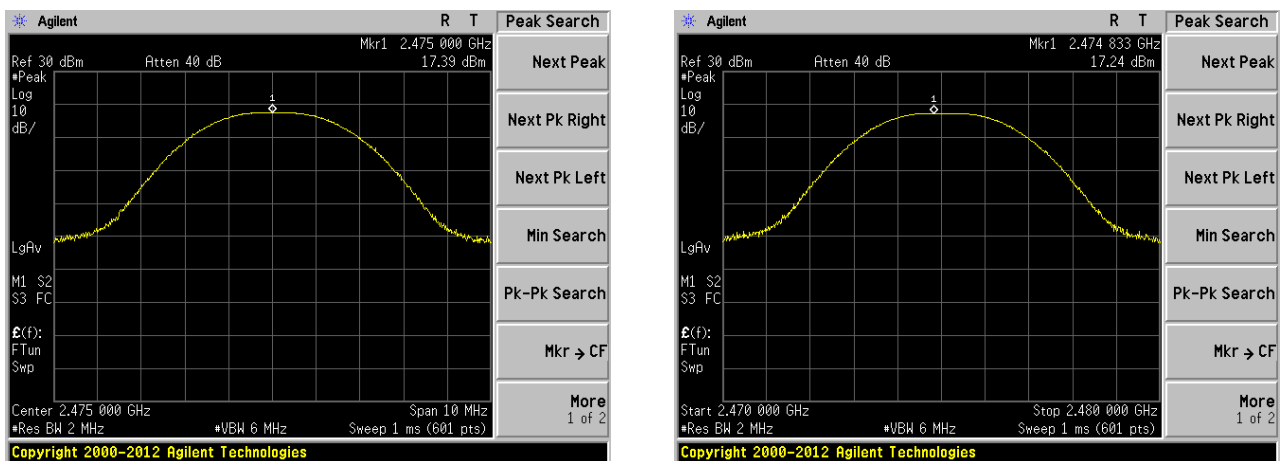
Test plot as follows:



Lowest channel



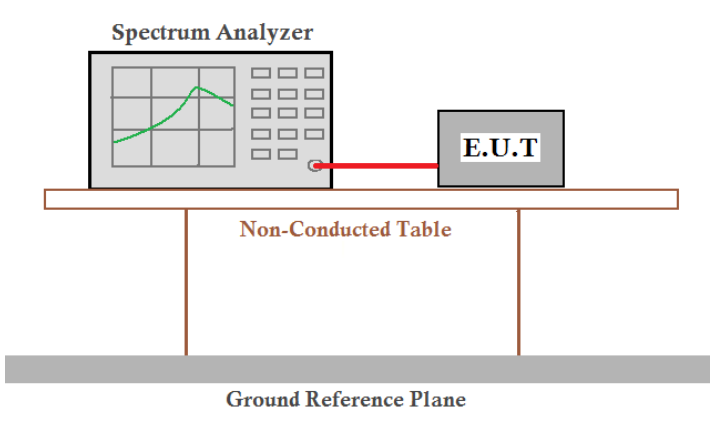
Middle channel



Highest channel



## 7.4 20dB Emission Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013
Limit:	N/A
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by two legs. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

### Measurement Data

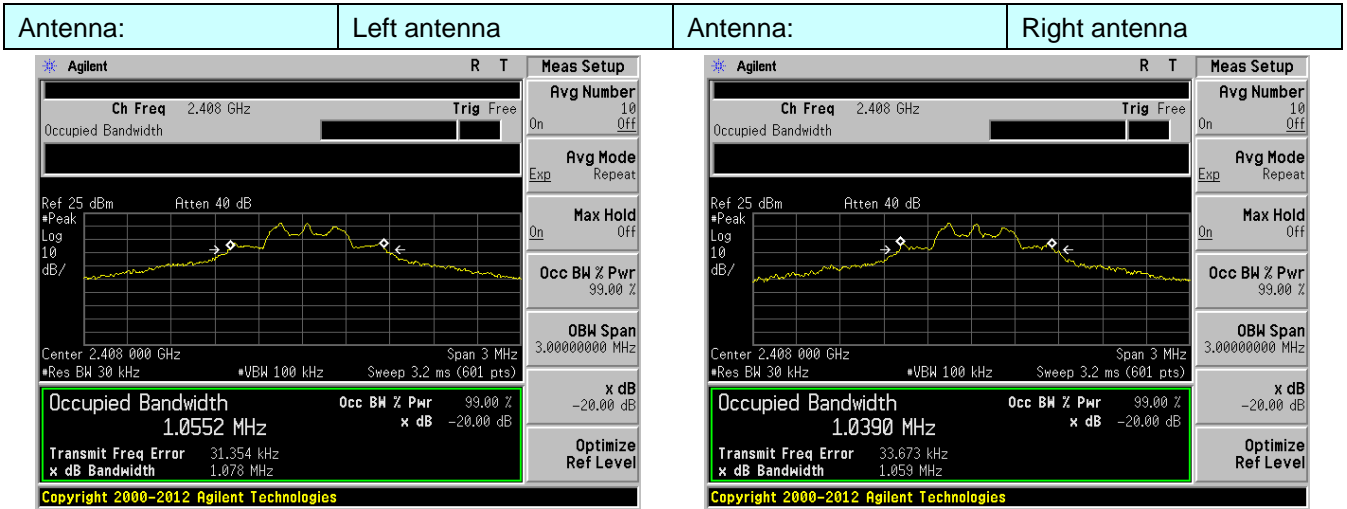
#### Left antenna:

Test channel	20dB Emission Bandwidth (MHz)	Result
Lowest	1.078	Pass
Middle	1.059	
Highest	1.056	

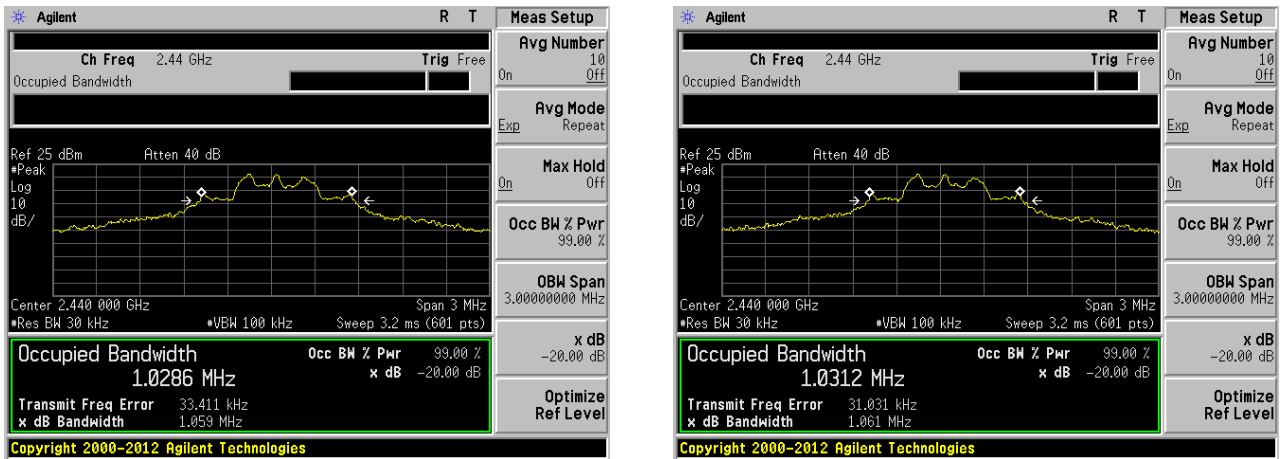
#### Right antenna:

Test channel	20dB Emission Bandwidth (MHz)	Result
Lowest	1.059	Pass
Middle	1.061	
Highest	1.049	

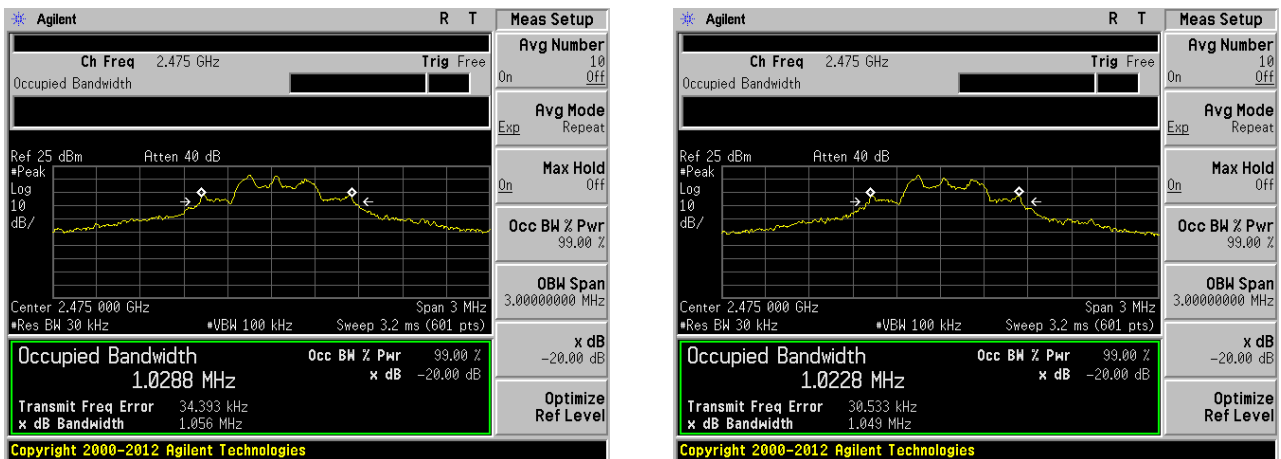
Test plot as follows:



Lowest channel

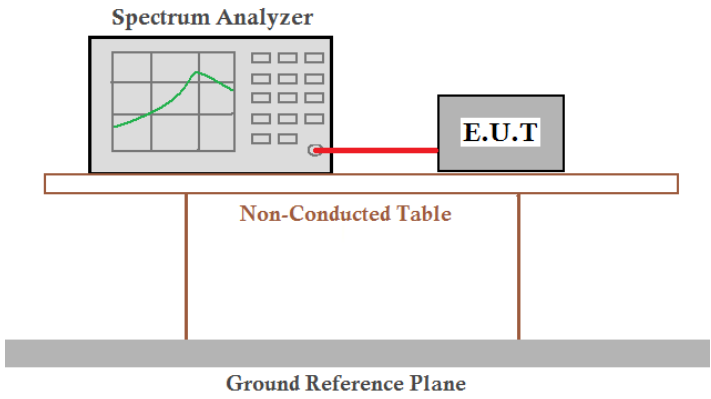


Middle channel



Highest channel

## 7.5 Carrier Frequencies Separation

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100KHz, VBW=300KHz, detector=Peak
Limit:	0.025MHz or 2/3 of the 20dB bandwidth (whichever is greater)
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

**Measurement Data**

**Left antenna:**

Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result
Lowest	1005	704	Pass
Middle	1005	704	Pass
Highest	1005	704	Pass

*Note: According to section 7.4*

Mode	20dB bandwidth (kHz) (worse case)	Limit (kHz) (Carrier Frequencies Separation)
GFSK	1078	704

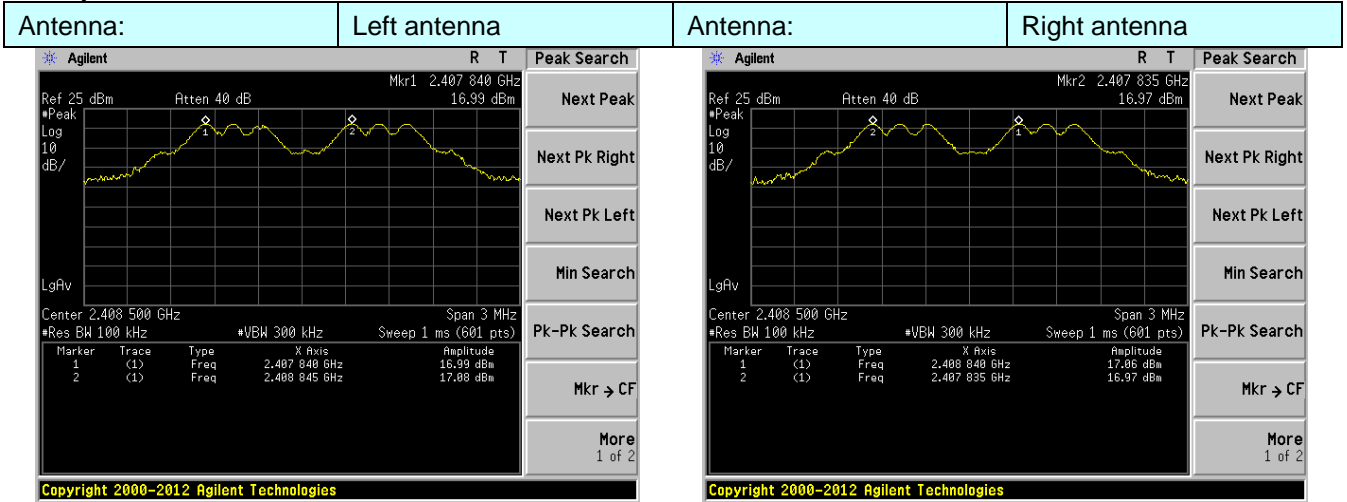
**Right antenna:**

Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result
Lowest	1005	703	Pass
Middle	1000	703	Pass
Highest	1005	703	Pass

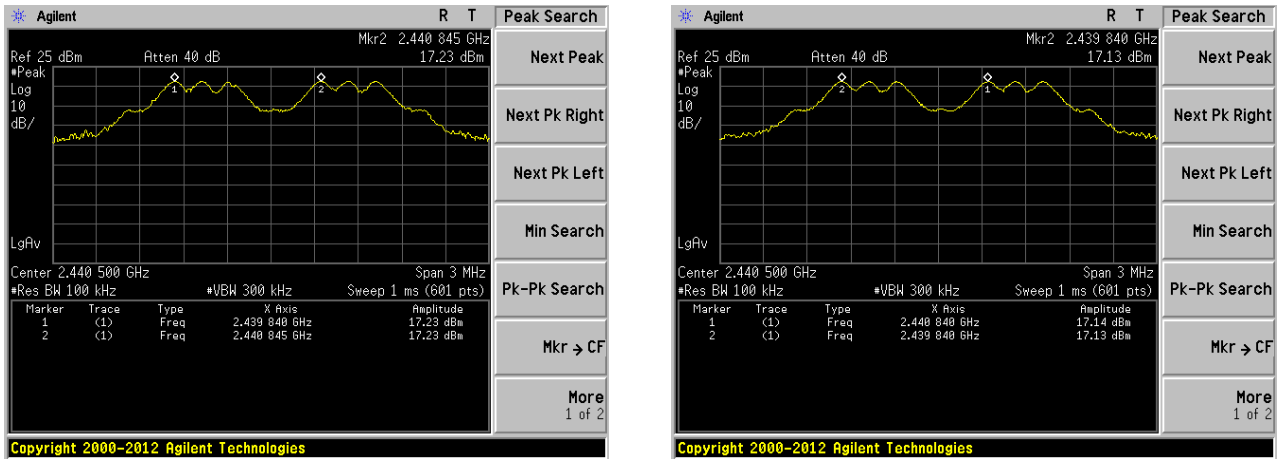
*Note: According to section 7.4*

Mode	20dB bandwidth (kHz) (worse case)	Limit (kHz) (Carrier Frequencies Separation)
GFSK	1061	703

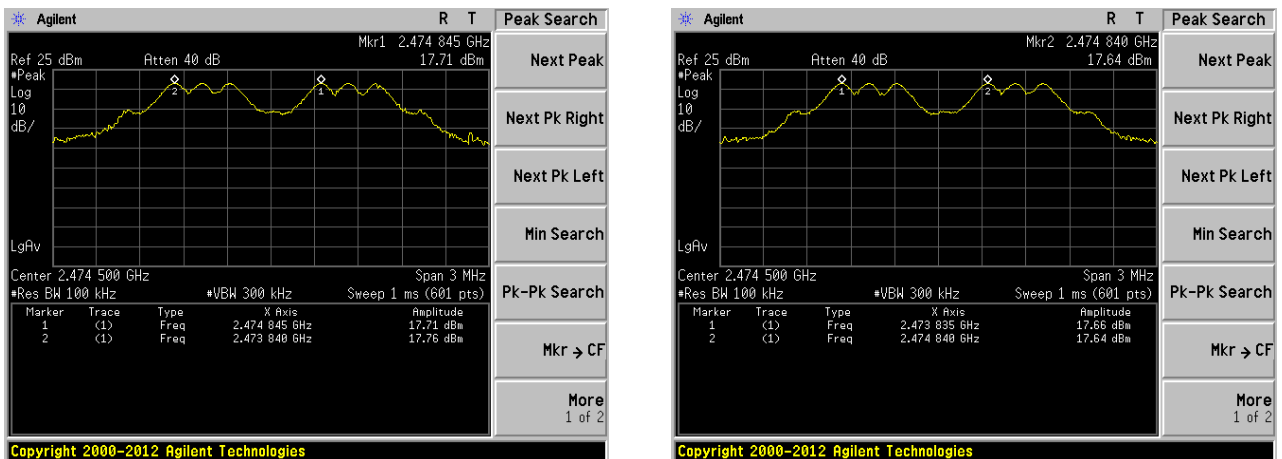
Test plot as follows:



Lowest channel

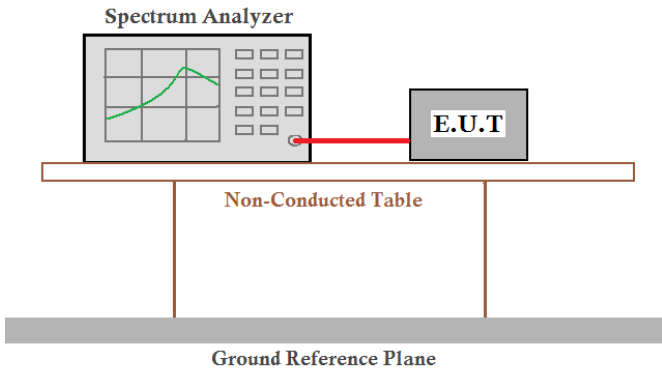


Middle channel



Highest channel

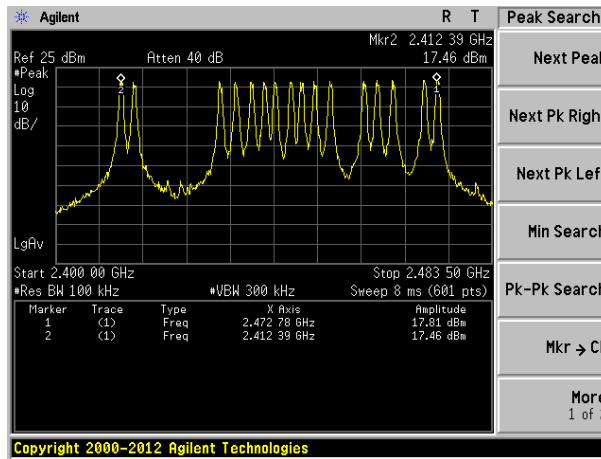
## 7.6 Hopping Channel Number

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100kHz, VBW=300kHz, Frequency range=2400MHz-2483.5MHz, Detector=Peak
Limit:	15 channels
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

**Measurement Data:**

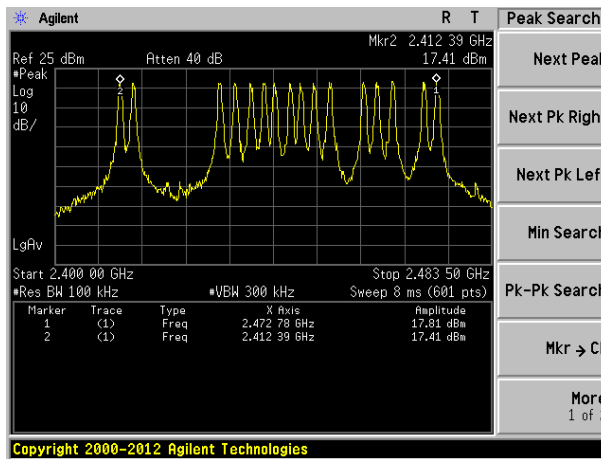
**Left antenna:**

Hopping channel numbers	Limit	Result
16	15	Pass

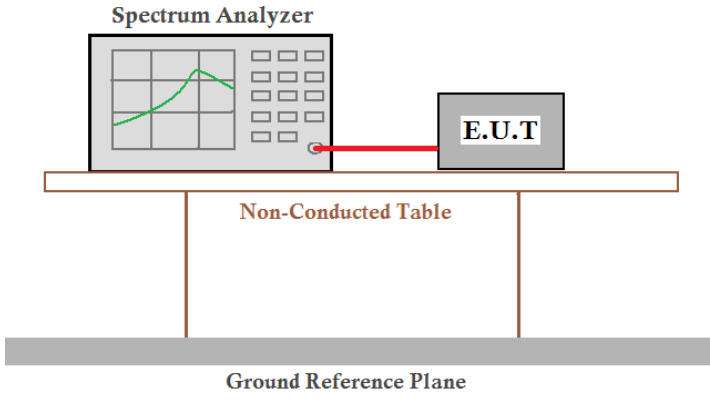


**Right antenna:**

Hopping channel numbers	Limit	Result
16	15	Pass



## 7.7 Dwell Time

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=1MHz, VBW=1MHz, Span=0Hz, Detector=Peak
Limit:	0.4 Second
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by two legs. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass



**Measurement Data****Left antenna:**

Channel	Ton (ms)	Dwell time(ms)	Limit(ms)	Result
Lowest	1.325	67.84	400	Pass
Middle	1.333	68.25	400	Pass
Highest	1.325	67.84	400	Pass

The formula as below:

Lowest: Dwell time = Ton \* Ton times in 1s \* 0.4s \* channel numbers=1.325ms\*8\*0.4\*16=67.84ms

Middle: Dwell time = Ton \* Ton times in 1s \* 0.4s \* channel numbers=1.305ms\*8\*0.4\*16=68.25ms

Highest: Dwell time = Ton \* Ton times in 1s \* 0.4s \* channel numbers=1.325ms\*8\*0.4\*16=67.84ms

**Right antenna:**

Channel	Ton (ms)	Dwell time(ms)	Limit(ms)	Result
Lowest	1.325	67.84	400	Pass
Middle	1.342	68.71	400	Pass
Highest	1.325	67.84	400	Pass

The formula as below:

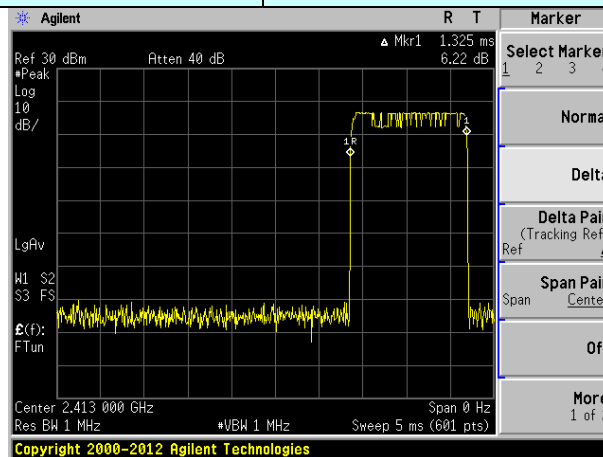
Lowest: Dwell time = Ton \* Ton times in 1s \* 0.4s \* channel numbers=1.325ms\*8\*0.4\*16=67.84ms

Middle: Dwell time = Ton \* Ton times in 1s \* 0.4s \* channel numbers=1.342ms\*8\*0.4\*16=68.71ms

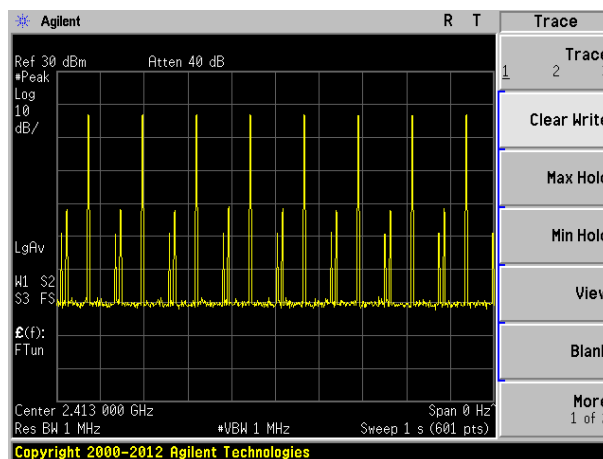
Highest: Dwell time = Ton \* Ton times in 1s \* 0.4s \* channel numbers=1.325ms\*8\*0.4\*16=67.84ms

**Test plot as follows:**

Channel	Lowest	Antenna:	Left antenna
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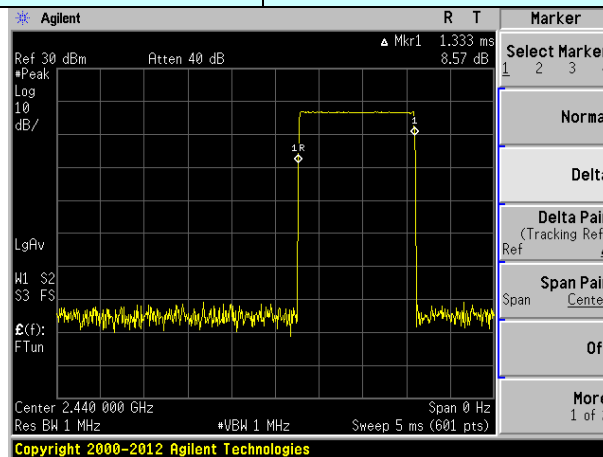


Ton

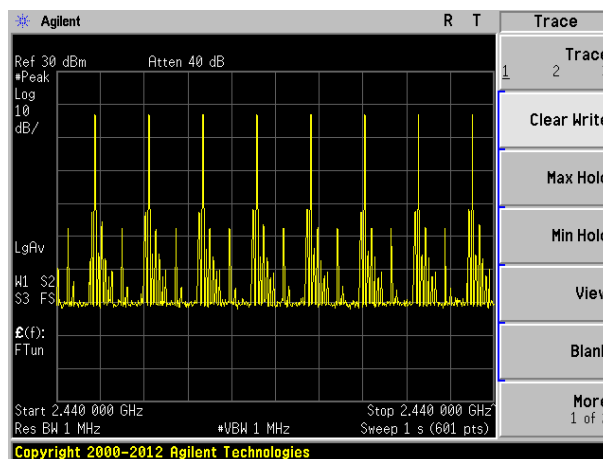


Ton times in 1s

Channel	Middle	Antenna:	Left antenna
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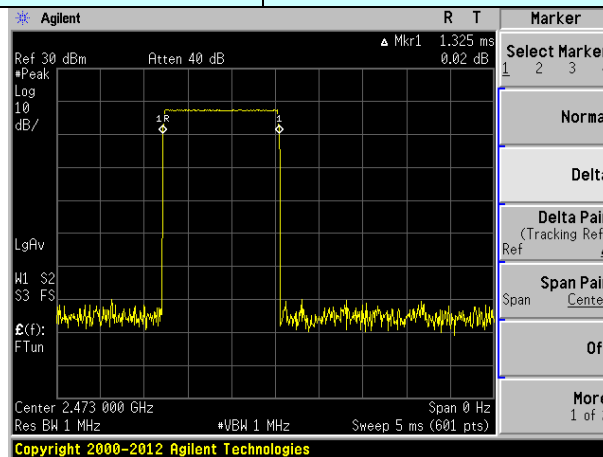


Ton

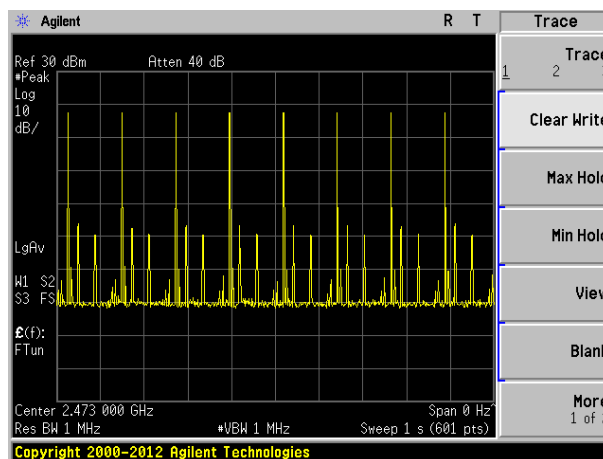


Ton times in 1s

Channel	Highest	Antenna:	Left antenna
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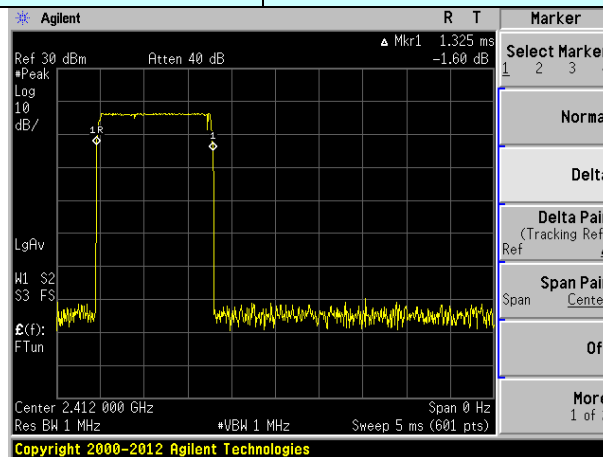


Ton

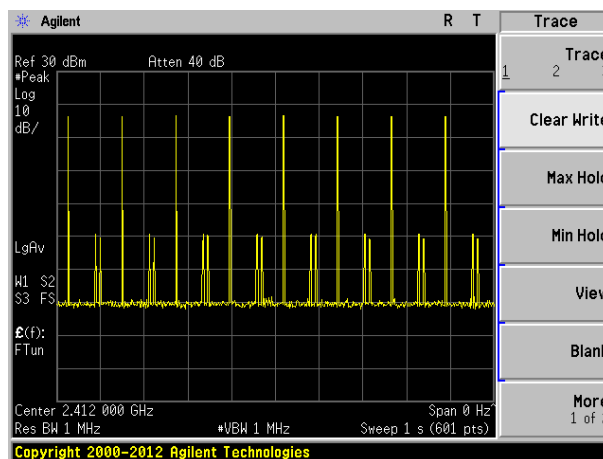


Ton times in 1s

Channel	Lowest	Antenna:	Right antenna
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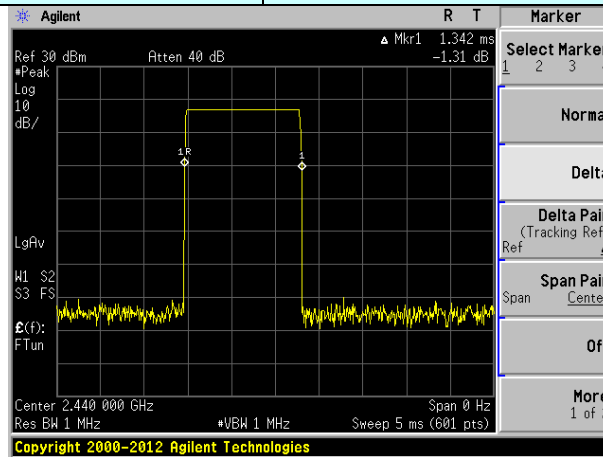


Ton

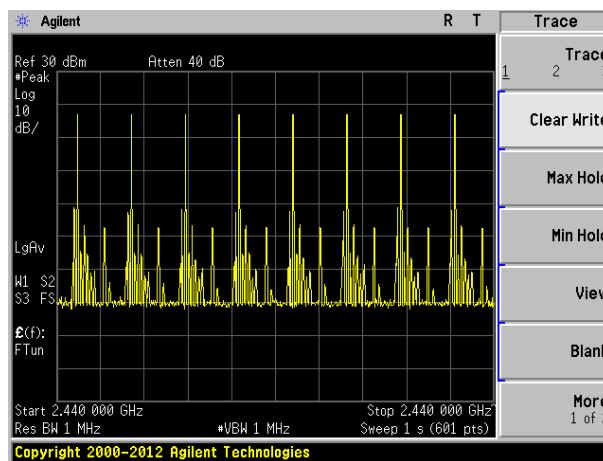


Ton times in 1s

Channel	Middle	Antenna:	Right antenna
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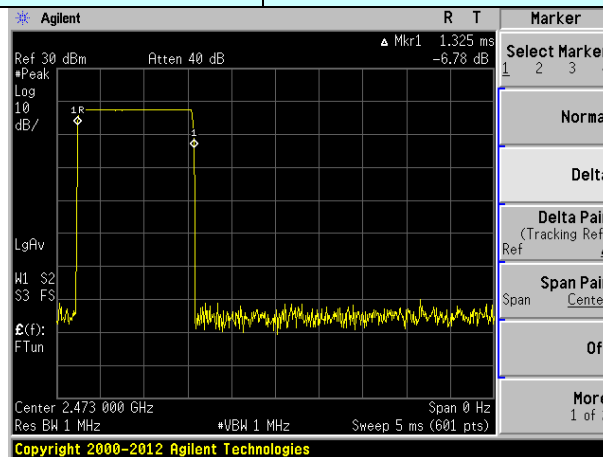


Ton

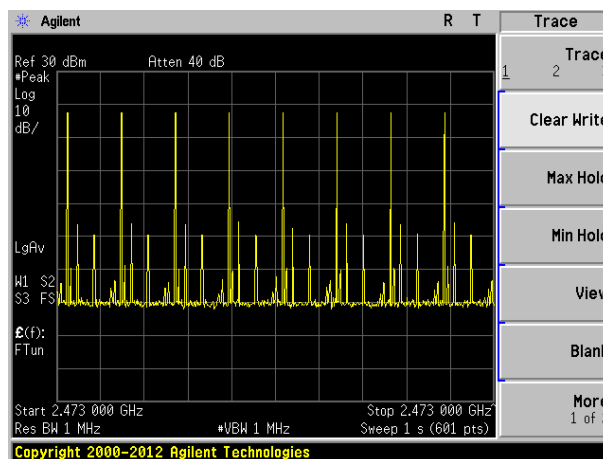


Ton times in 1s

Channel	Highest	Antenna:	Right antenna
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Ton



Ton times in 1s

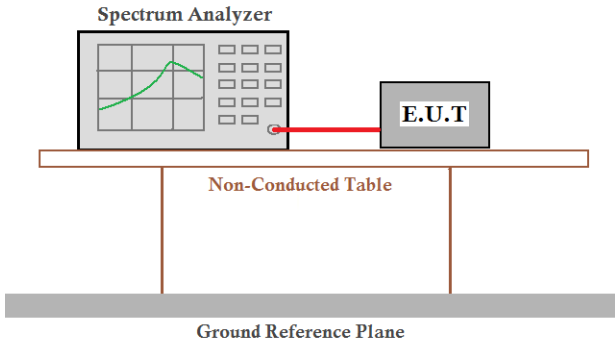
## 7.8 Pseudorandom Frequency Hopping Sequence

Test Requirement:	FCC Part15 C Section 15.247 (a)(1) requirement:
	<p><i>a(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.</i></p> <p><i>Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.</i></p> <p><i>(g) Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.</i></p> <p><i>(h) The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.</i></p>
	<p><b>EUT Pseudorandom Frequency Hopping Sequence</b></p>
	<p><i>Each frequency used equally on the average by each transmitter.</i></p> <p><i>The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.</i></p> <p><i>it permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted.</i></p>



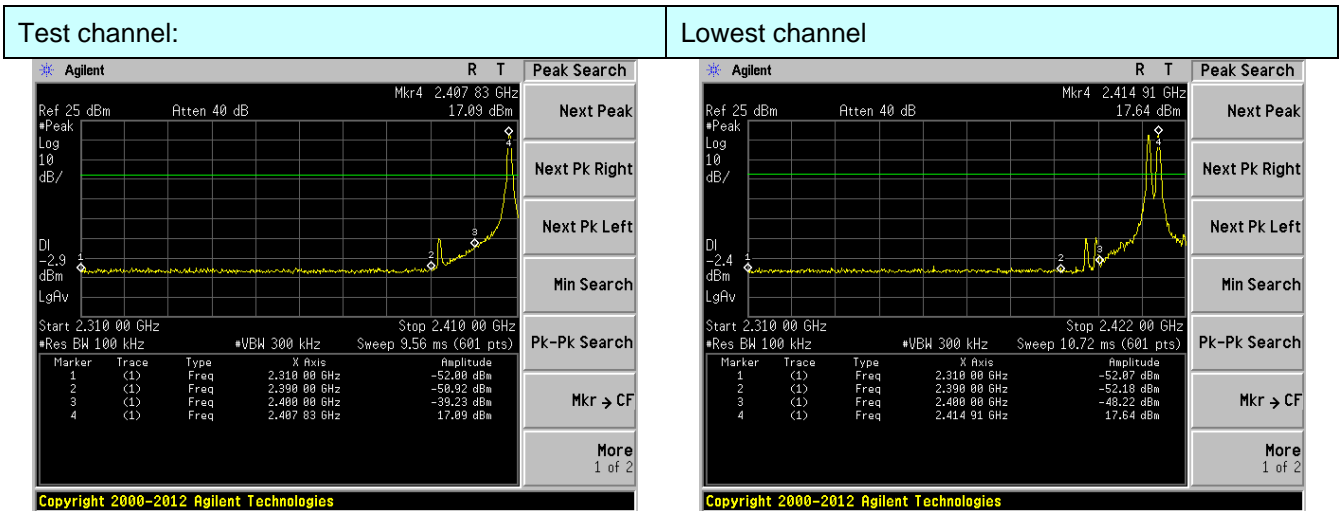
## 7.9 Band Edge

### 7.9.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100kHz, VBW=300kHz, Detector=Peak
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

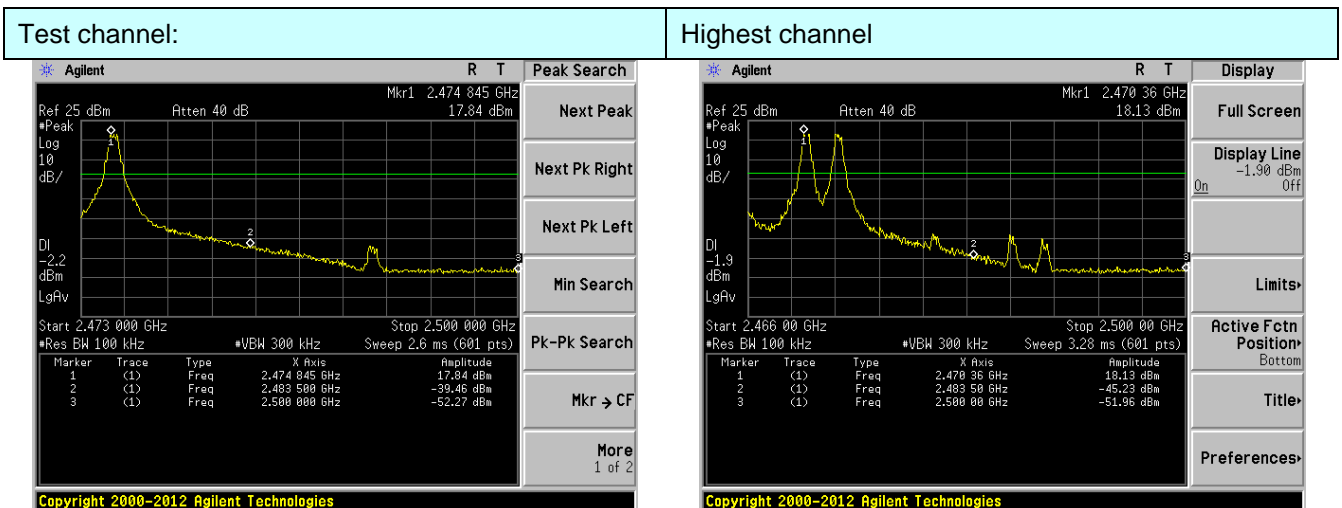
**Test plot as follows:**

Left antenna:



No-hopping mode

Hopping mode

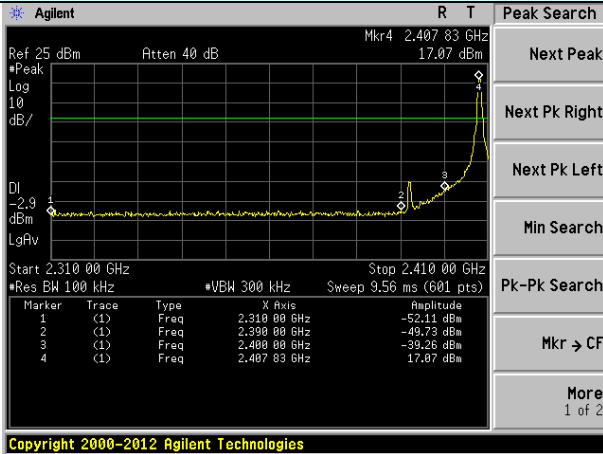


No-hopping mode

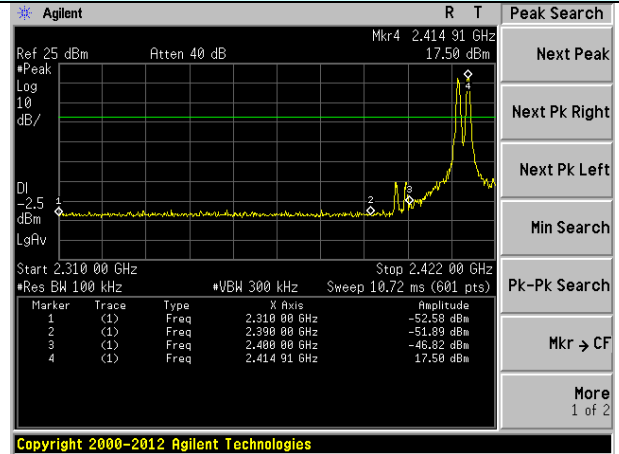
Hopping mode

**Right antenna:**

Test channel: Lowest channel

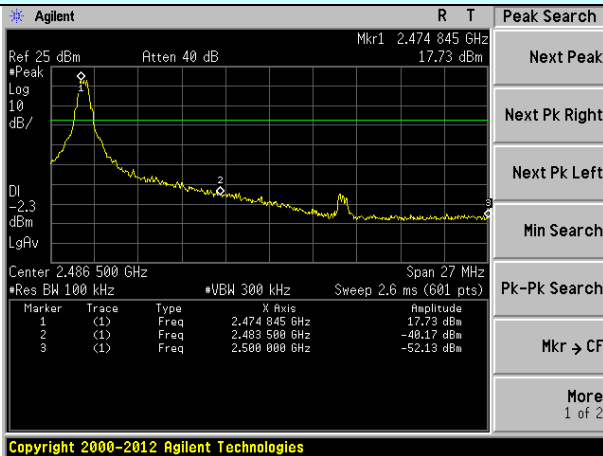


No-hopping mode

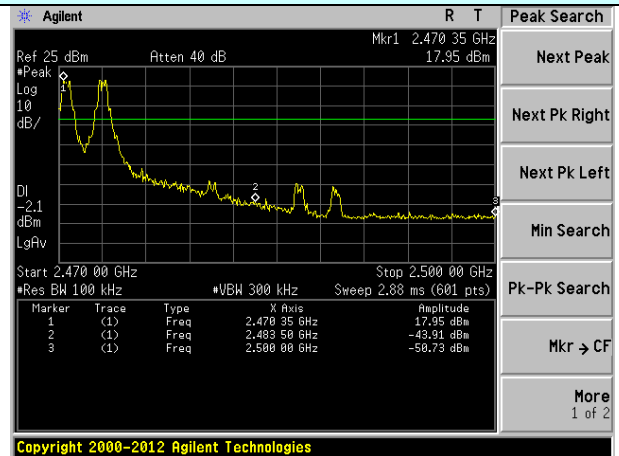


Hopping mode

Test channel: Highest channel



No-hopping mode



Hopping mode

## 7.9.2 Radiated Emission Method

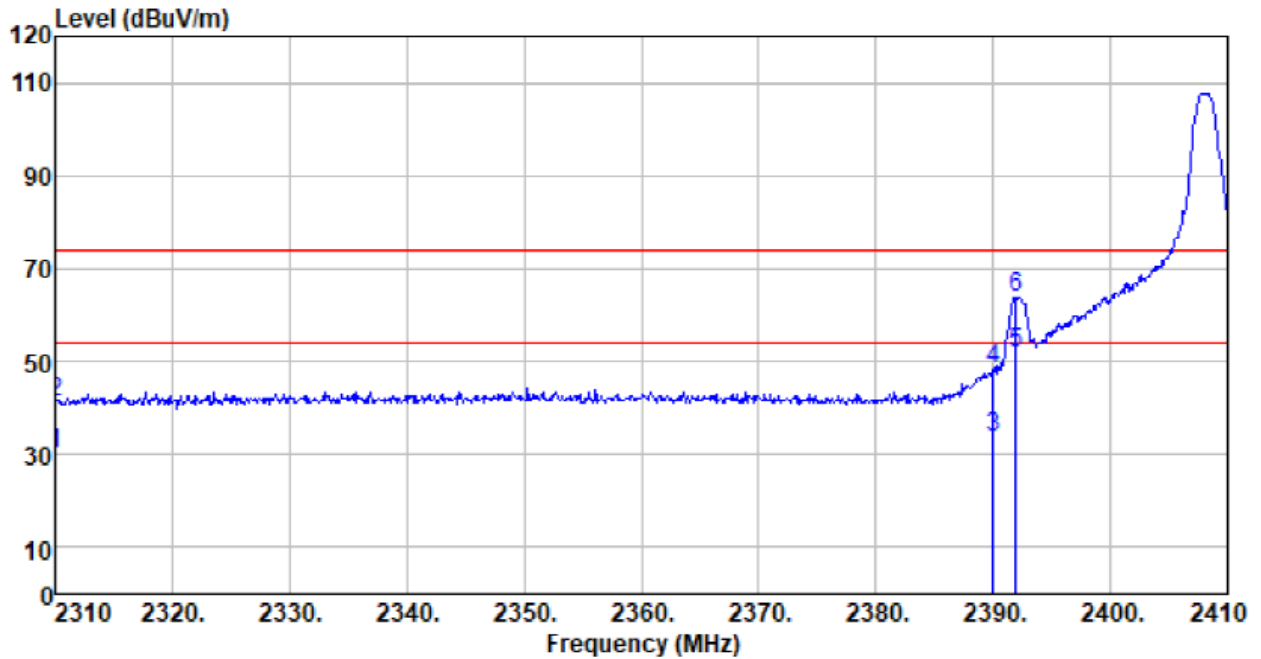
Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	All restriction band have been tested, and 2.3GHz to 2.5GHz band is the worse case				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	Above 1GHz		54.00		Average Value
			74.00		Peak Value
Test setup:					
Test Procedure:	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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.</li> </ol>				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Temp. / Hum.	Temp.:	25 °C	Humid.:	52%	Press.: 1 012mbar
Test results:	Pass				

Remark:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

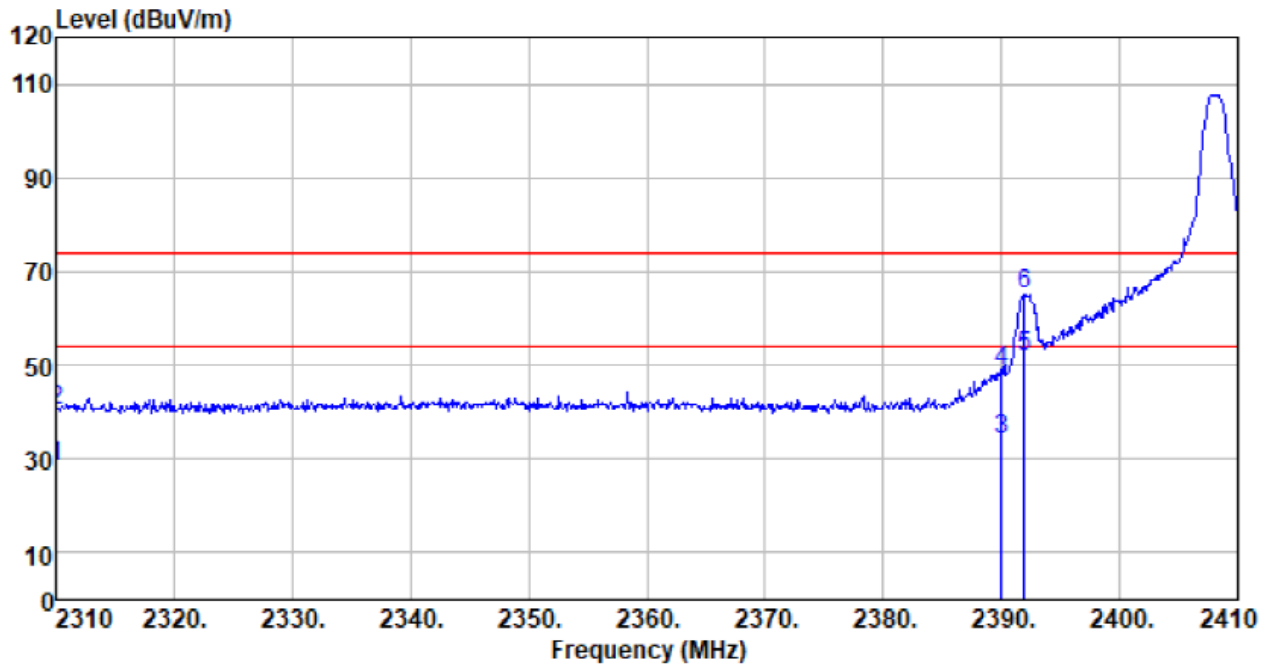
Left antenna:

Test channel:	Lowest	Polarization:	Vertical
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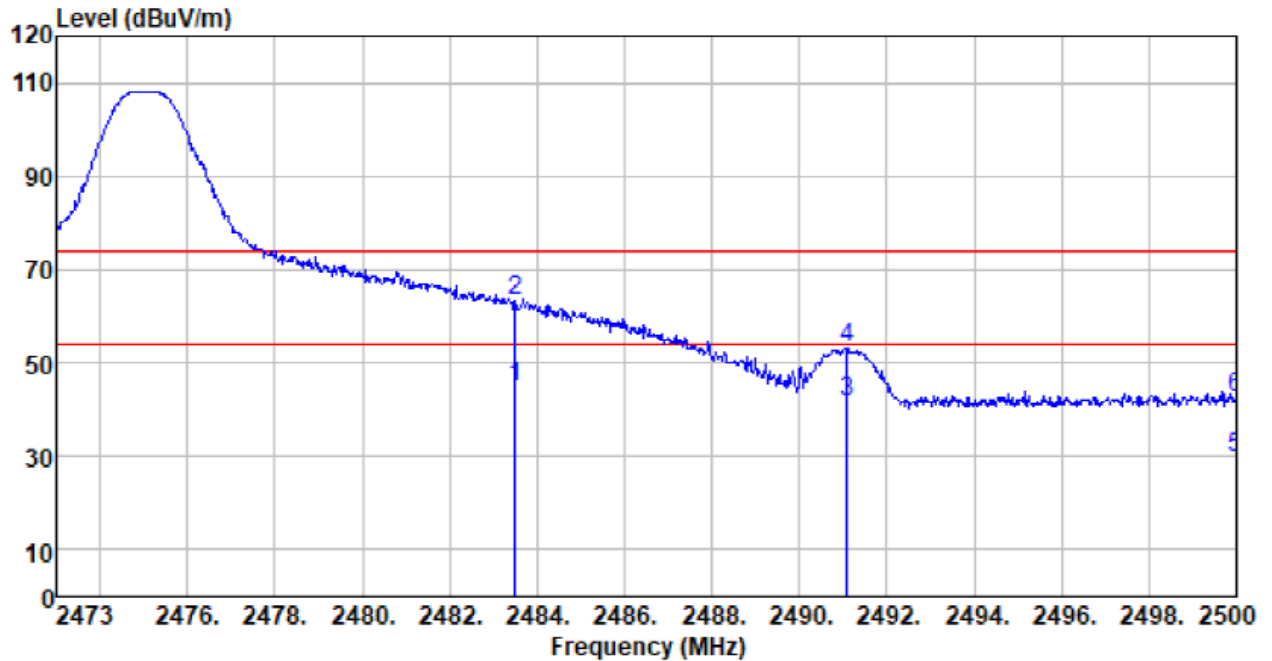
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	33.49	27.21	6.19	36.95	29.94	54.00	-24.06	Average
2310.000	44.90	27.21	6.19	36.95	41.35	74.00	-32.65	Peak
2390.000	37.05	27.41	6.31	37.01	33.76	54.00	-20.24	Average
2390.000	51.51	27.41	6.31	37.01	48.22	74.00	-25.78	Peak
2391.900	55.04	27.42	6.32	37.01	51.77	54.00	-2.23	Average
2391.900	67.15	27.42	6.32	37.01	63.88	74.00	-10.12	Peak

Test channel:	Lowest	Polarization:	Horizontal
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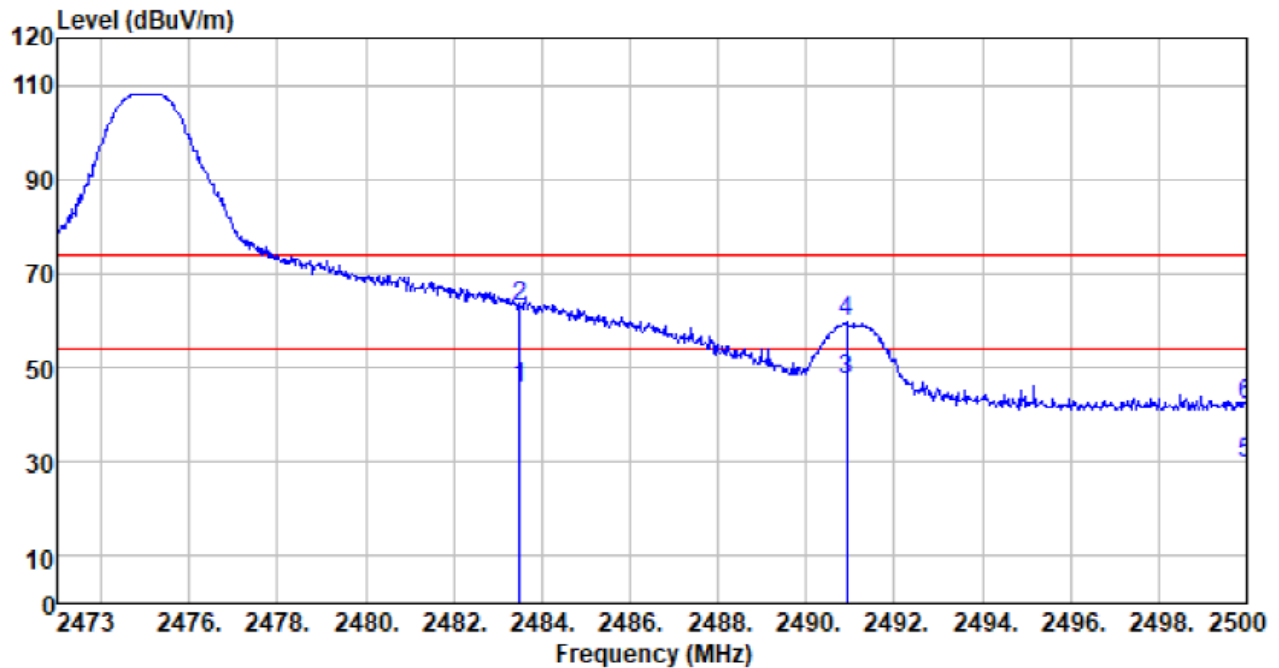
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	32.09	27.21	6.19	36.95	28.54	54.00	-25.46	Average
2310.000	43.63	27.21	6.19	36.95	40.08	74.00	-33.92	Peak
2390.000	37.41	27.41	6.31	37.01	34.12	54.00	-19.88	Average
2390.000	52.17	27.41	6.31	37.01	48.88	74.00	-25.12	Peak
2391.900	55.28	27.42	6.32	37.01	52.01	54.00	-1.99	Average
2391.900	68.57	27.42	6.32	37.01	65.30	74.00	-8.70	Peak

Test channel:	Highest	Polarization:	Vertical
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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	47.49	27.66	6.45	37.07	44.53	54.00	-9.47	Average
2483.500	66.42	27.66	6.45	37.07	63.46	74.00	-10.54	Peak
2491.090	44.50	27.68	6.46	37.08	41.56	54.00	-12.44	Average
2491.090	56.19	27.68	6.46	37.08	53.25	74.00	-20.75	Peak
2500.000	32.50	27.70	6.47	37.09	29.58	54.00	-24.42	Average
2500.000	45.28	27.70	6.47	37.09	42.36	74.00	-31.64	Peak

Test channel:	Highest	Polarization:	Horizontal
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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	48.49	27.66	6.45	37.07	45.53	54.00	-8.47	Average
2483.500	65.73	27.66	6.45	37.07	62.77	74.00	-11.23	Peak
2490.928	50.49	27.68	6.46	37.08	47.55	54.00	-6.45	Average
2490.928	62.52	27.68	6.46	37.08	59.58	74.00	-14.42	Peak
2500.000	32.50	27.70	6.47	37.09	29.58	54.00	-24.42	Average
2500.000	44.79	27.70	6.47	37.09	41.87	74.00	-32.13	Peak

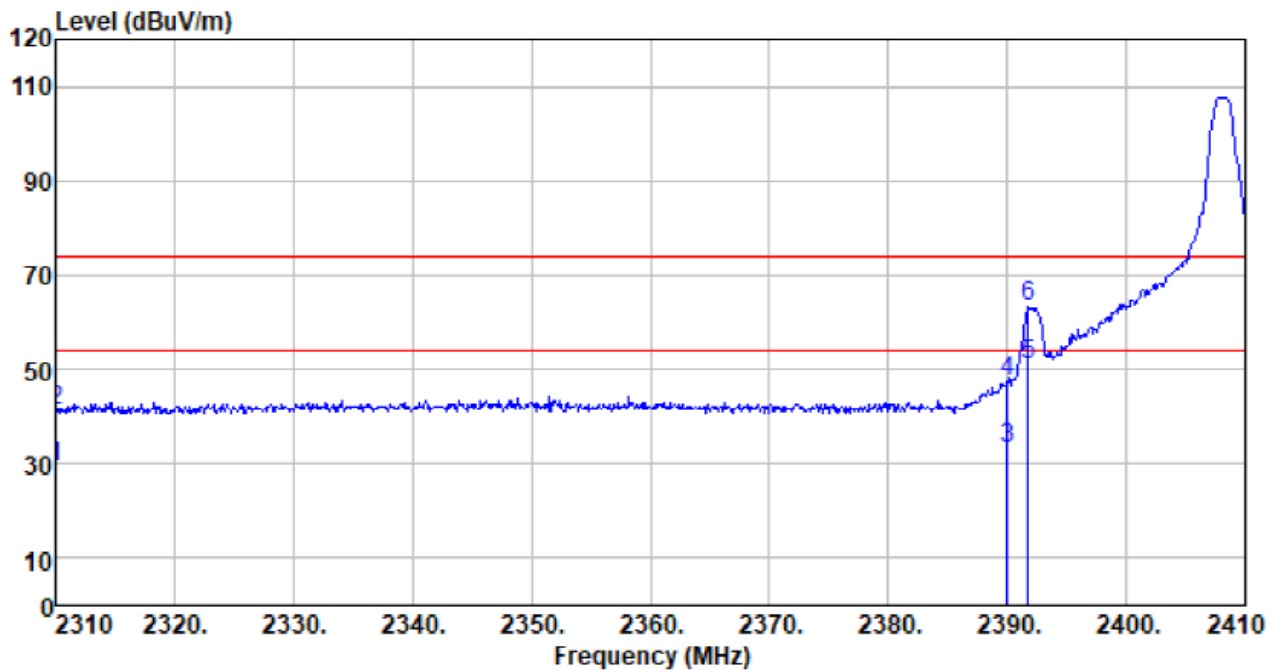
**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.



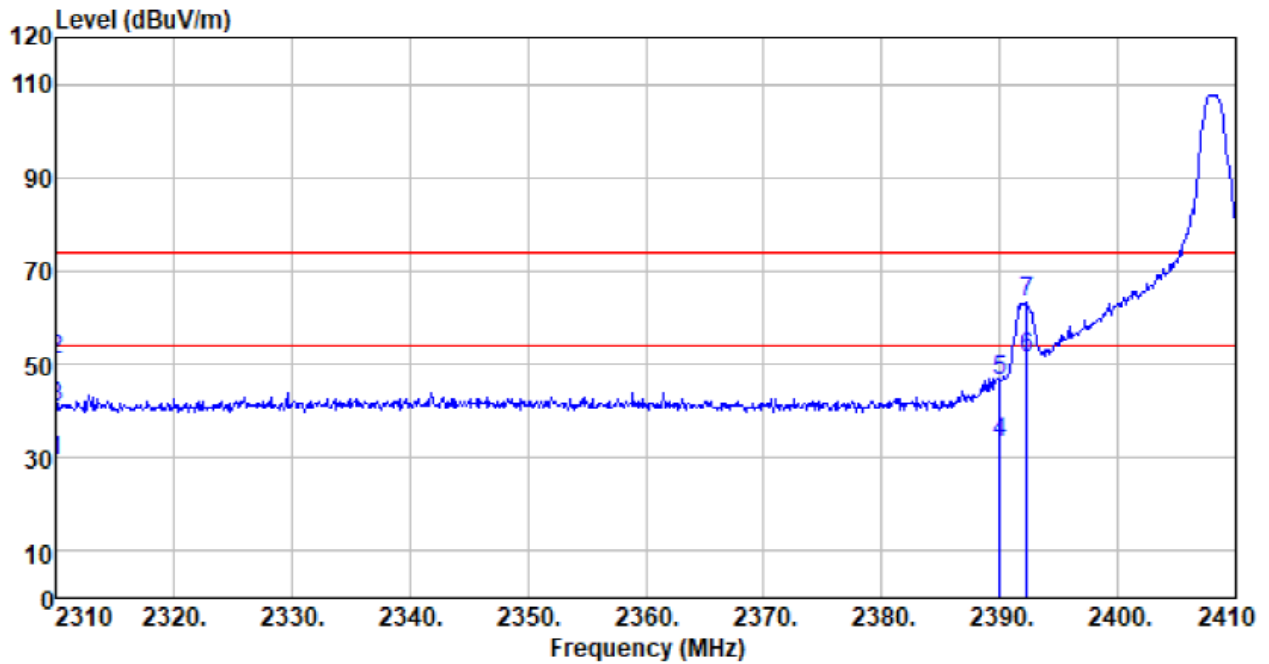
Right antenna:

Test channel:	Lowest	Polarization:	Vertical
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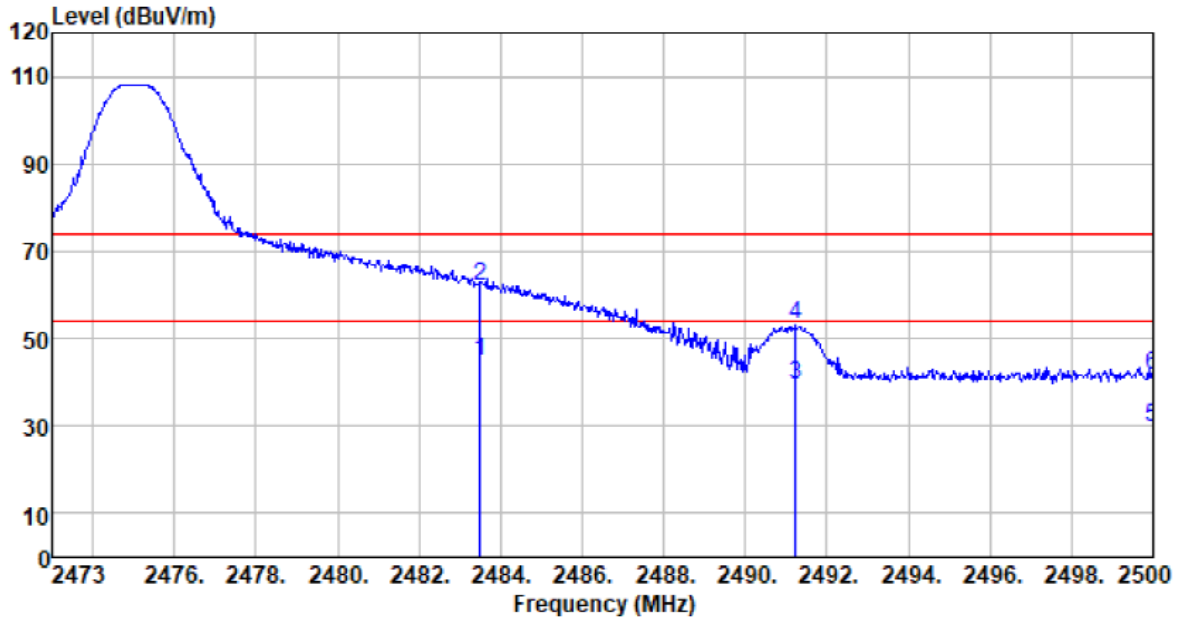
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	32.59	27.21	6.19	36.95	29.04	54.00	-24.96	Average
2310.000	44.83	27.21	6.19	36.95	41.28	74.00	-32.72	Peak
2390.000	36.51	27.41	6.31	37.01	33.22	54.00	-20.78	Average
2390.000	50.51	27.41	6.31	37.01	47.22	74.00	-26.78	Peak
2391.800	54.40	27.42	6.32	37.01	51.13	54.00	-2.87	Average
2391.800	66.80	27.42	6.32	37.01	63.53	74.00	-10.47	Peak

Test channel:	Lowest	Polarization:	Horizontal
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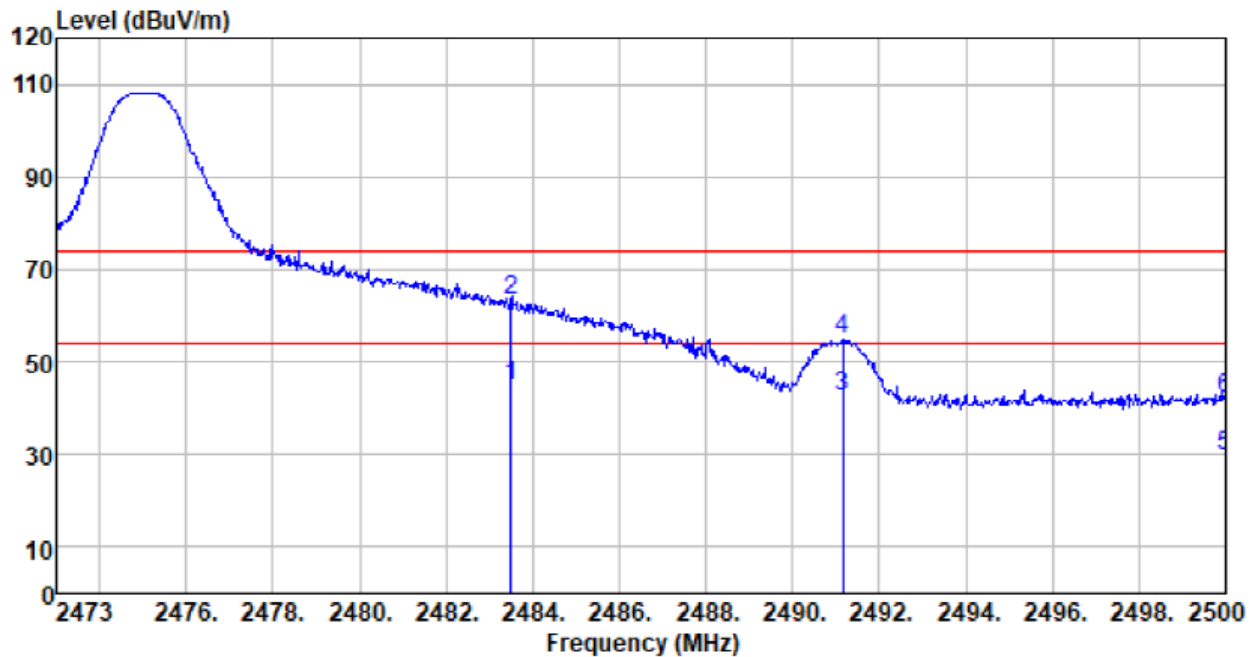
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	32.85	27.21	6.19	36.95	29.30	54.00	-24.70	Average
2310.000	54.49	27.21	6.19	36.95	50.94	54.00	-3.06	Average
2310.000	44.28	27.21	6.19	36.95	40.73	74.00	-33.27	Peak
2390.000	36.41	27.41	6.31	37.01	33.12	54.00	-20.88	Average
2390.000	49.84	27.41	6.31	37.01	46.55	74.00	-27.45	Peak
2392.300	54.62	27.42	6.32	37.01	51.35	54.00	-2.65	Average
2392.300	66.70	27.42	6.32	37.01	63.43	74.00	-10.57	Peak

Test channel:	Highest	Polarization:	Vertical
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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	47.49	27.66	6.45	37.07	44.53	54.00	-9.47	Average
2483.500	64.85	27.66	6.45	37.07	61.89	74.00	-12.11	Peak
2491.225	42.50	27.68	6.46	37.08	39.56	54.00	-14.44	Average
2491.225	55.87	27.68	6.46	37.08	52.93	74.00	-21.07	Peak
2500.000	32.50	27.70	6.47	37.09	29.58	54.00	-24.42	Average
2500.000	44.58	27.70	6.47	37.09	41.66	74.00	-32.34	Peak

Test channel:	Highest	Polarization:	Horizontal
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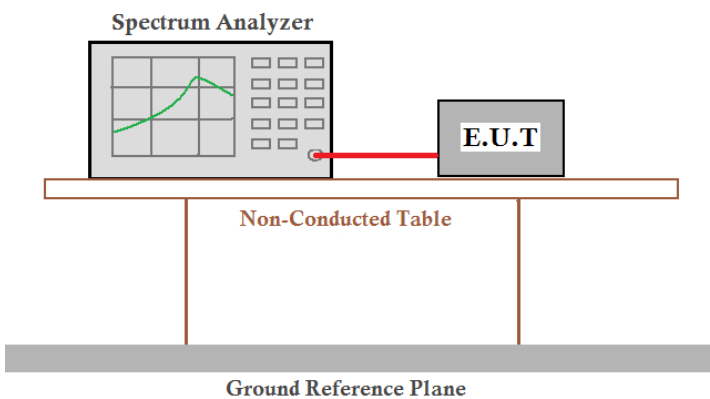
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.500	47.49	27.66	6.45	37.07	44.53	54.00	-9.47	Average
2483.500	66.39	27.66	6.45	37.07	63.43	74.00	-10.57	Peak
2491.171	45.50	27.68	6.46	37.08	42.56	54.00	-11.44	Average
2491.171	57.81	27.68	6.46	37.08	54.87	74.00	-19.13	Peak
2500.000	32.50	27.70	6.47	37.09	29.58	54.00	-24.42	Average
2500.000	44.88	27.70	6.47	37.09	41.96	74.00	-32.04	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

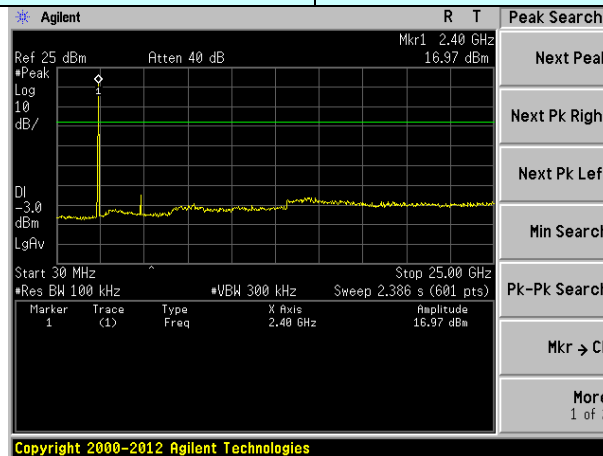
## 7.10 Spurious Emission

### 7.10.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 Meas Guidance V04
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by two legs. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

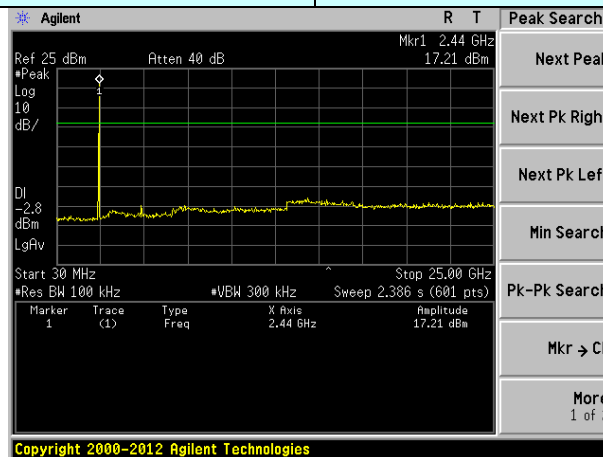
**Left antenna:**

Test channel:	Lowest channel
---------------	----------------



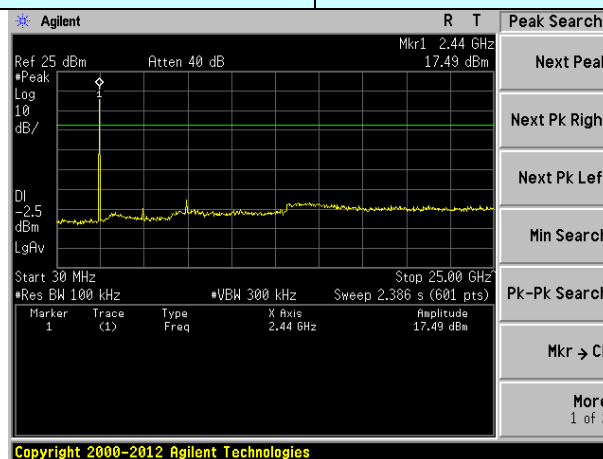
30MHz~25GHz

Test channel:	Middle channel
---------------	----------------



30MHz~25GHz

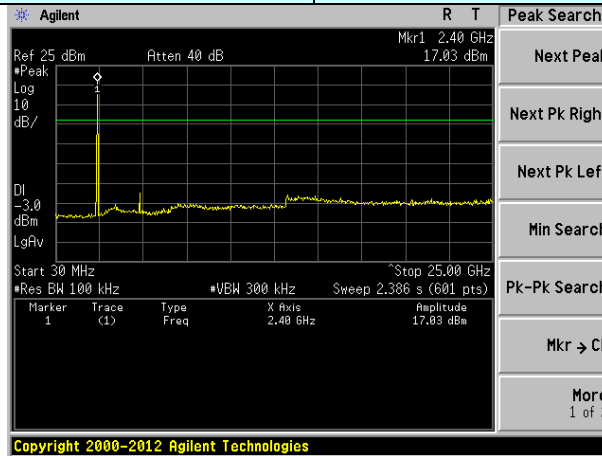
Test channel:	Highest channel
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30MHz~25GHz

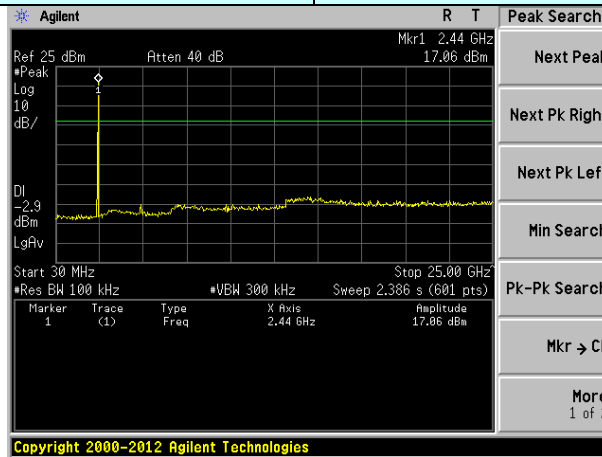
**Right antenna:**

Test channel:	Lowest channel
---------------	----------------



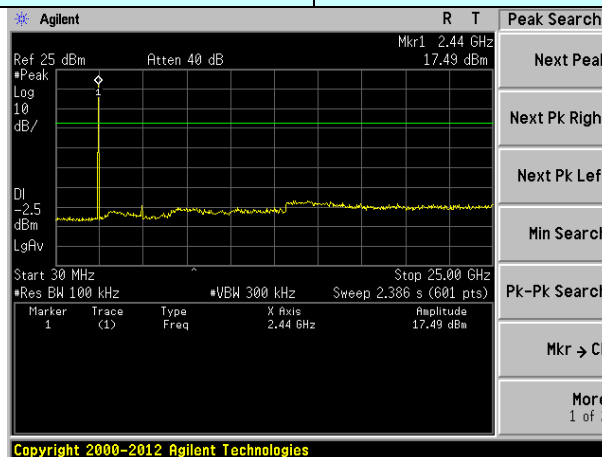
30MHz~25GHz

Test channel:	Middle channel
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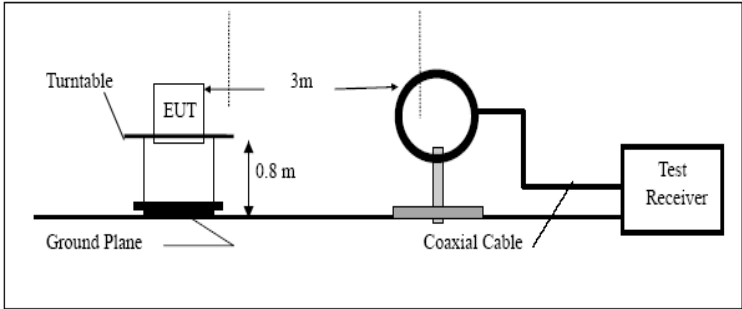
30MHz~25GHz

Test channel:	Highest channel
---------------	-----------------

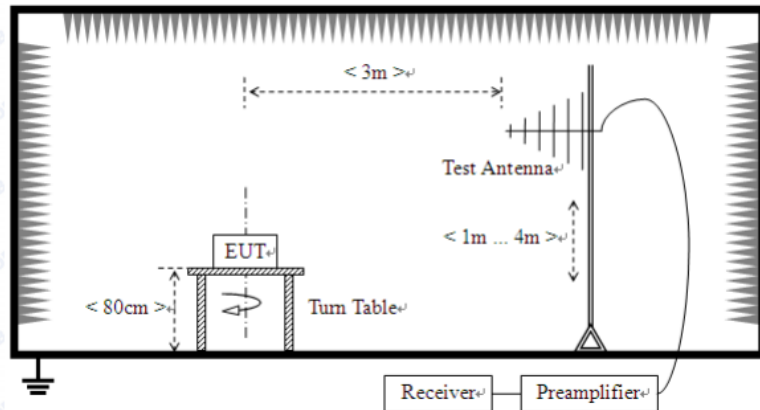


30MHz~25GHz

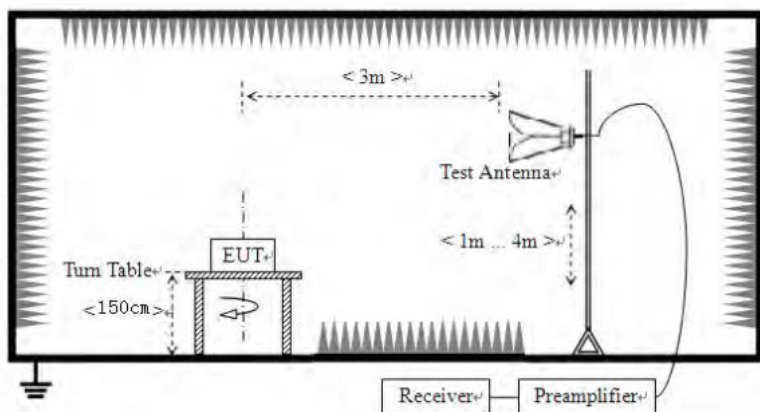
## 7.10.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
Limit: (Spurious Emissions)	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	300m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
5000		Peak			
Test setup:	Below 30MHz				
					
Below 1GHz					





Above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table (0.8 meters for below 1GHz and 1.5meters 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 5.8 for details					
Test mode:	Refer to section 5.2 for details					
Temp. / Hum.	Temp.:	25 °C	Humid.:	52%	Press.:	1 012mbar
Test results:	Pass					

**Remark:**

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.
2. The measured filed strength at frequencies below 30MHz are lower than the limit over 30dB. So the data isn't reported.

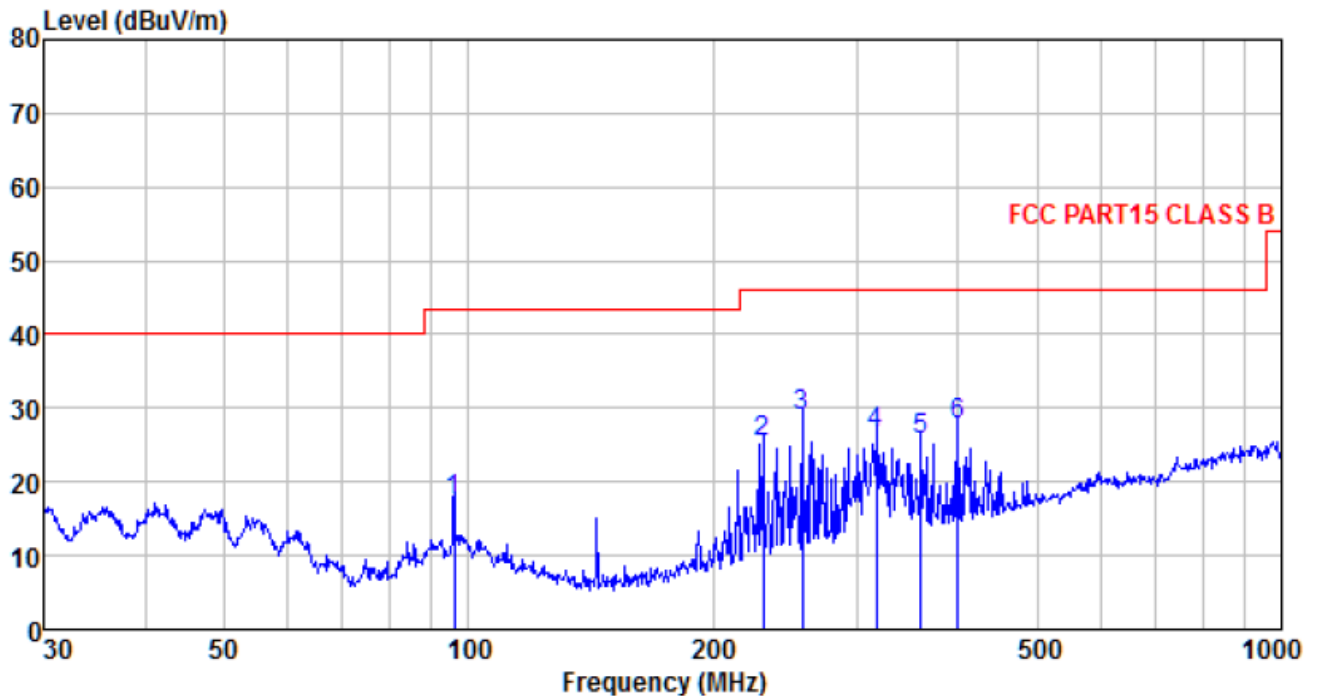
**Measurement data:**

■ **Below 30MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

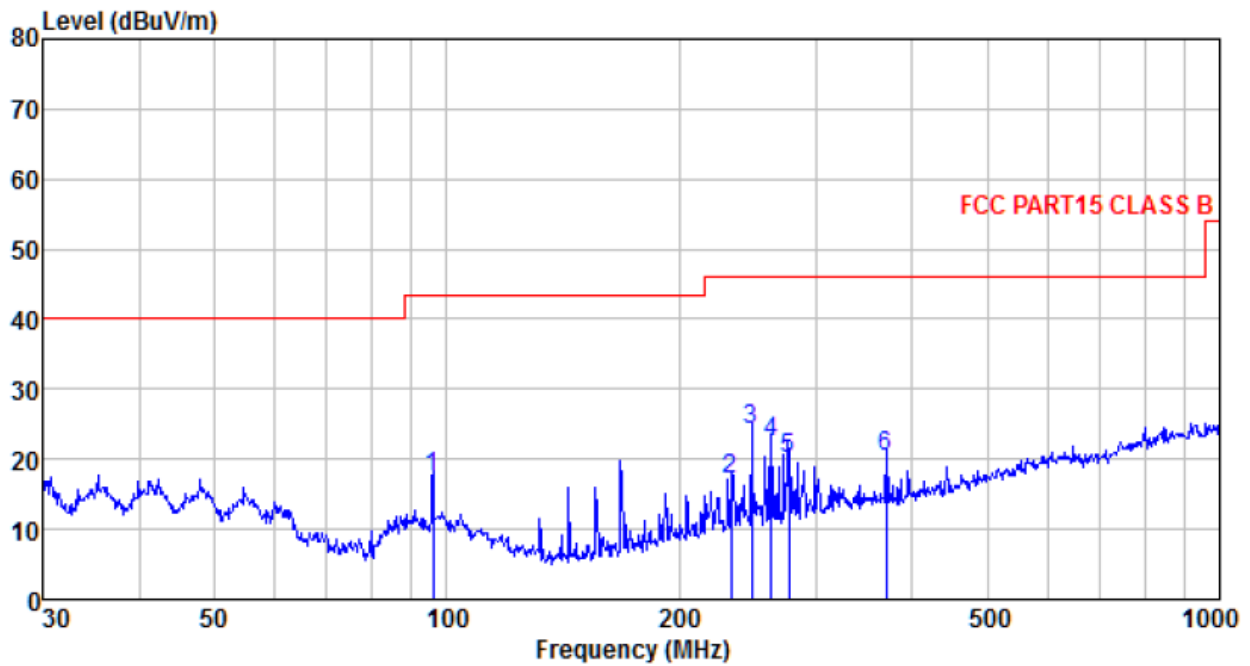
■ 30MHz ~ 1GHz

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
96.099	41.44	11.65	1.16	36.69	17.56	43.50	-25.94	QP
230.099	49.22	11.49	2.02	37.36	25.37	46.00	-20.63	QP
257.422	51.78	12.40	2.16	37.39	28.95	46.00	-17.05	QP
317.701	47.70	13.93	2.45	37.44	26.64	46.00	-19.36	QP
360.448	45.91	14.70	2.67	37.48	25.80	46.00	-20.20	QP
400.432	47.20	15.34	2.85	37.52	27.87	46.00	-18.13	QP

Vertical:

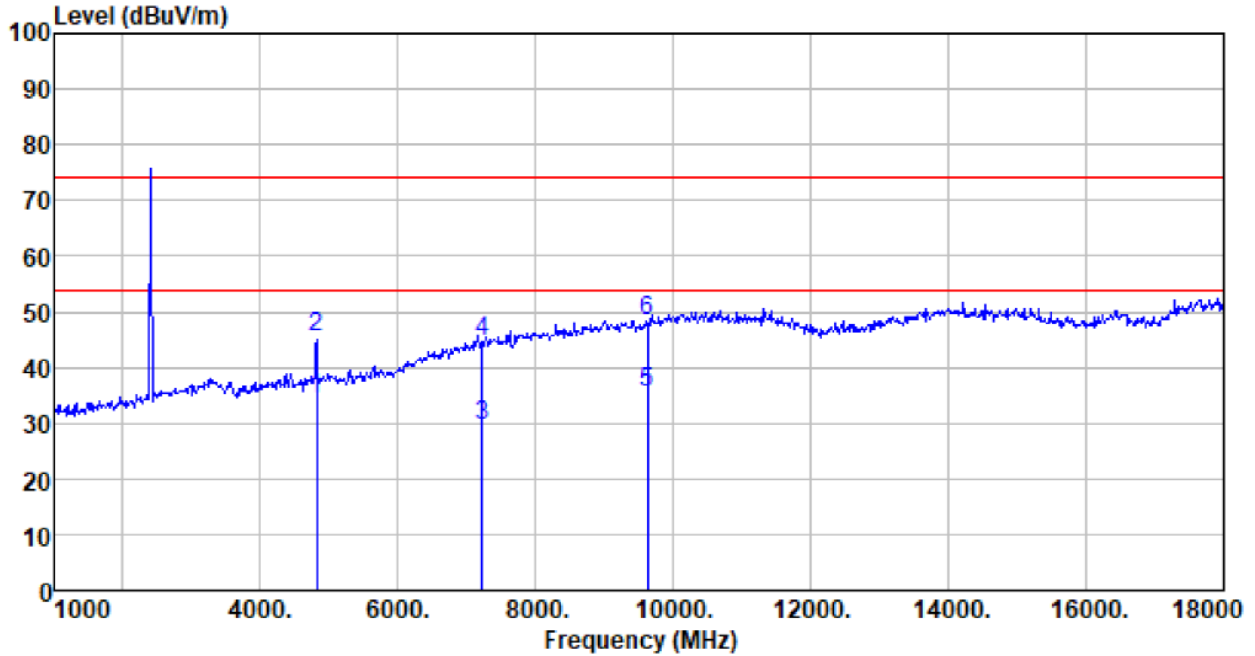


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
96.099	41.27	11.65	1.16	36.69	17.39	43.50	-26.11	QP
233.349	40.75	11.60	2.04	37.36	17.03	46.00	-28.97	QP
247.682	47.33	12.07	2.11	37.38	24.13	46.00	-21.87	QP
262.896	45.18	12.55	2.19	37.39	22.53	46.00	-23.47	QP
277.094	42.36	12.98	2.25	37.40	20.19	46.00	-25.81	QP
370.702	40.34	14.86	2.72	37.49	20.43	46.00	-25.57	QP

■ Above 1GHz

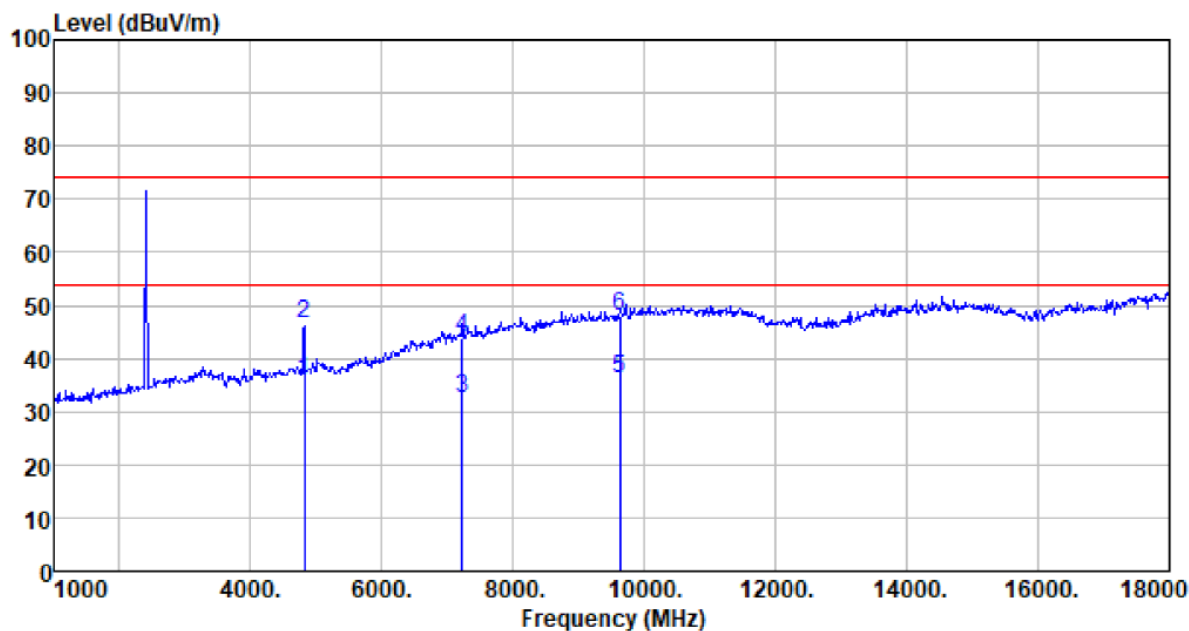
Left antenna:

Test channel:	Lowest	Polarization:	Vertical
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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
4816.000	31.32	31.37	9.37	37.58	34.48	54.00	-19.52	Average
4816.000	42.30	31.37	9.37	37.58	45.46	74.00	-28.54	Peak
7224.000	17.96	35.94	11.23	35.45	29.68	54.00	-24.32	Average
7224.000	32.88	35.94	11.23	35.45	44.60	74.00	-29.40	Peak
9632.000	19.78	37.79	12.92	34.98	35.51	54.00	-18.49	Average
9632.000	32.75	37.79	12.92	34.98	48.48	74.00	-25.52	Peak

Test channel:	Lowest	Polarization:	Horizontal
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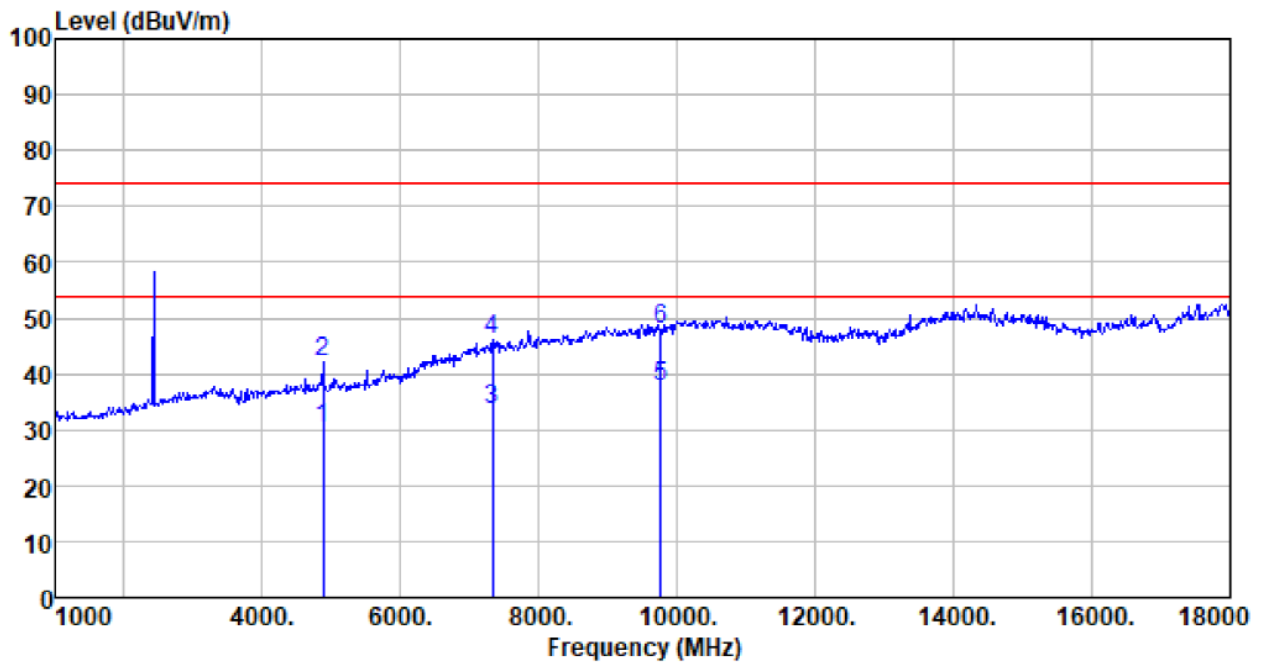


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4816.000	32.51	31.37	9.37	37.58	35.67	54.00	-18.33	Average
4816.000	43.48	31.37	9.37	37.58	46.64	74.00	-27.36	Peak
7224.000	20.92	35.94	11.23	35.45	32.64	54.00	-21.36	Average
7224.000	32.26	35.94	11.23	35.45	43.98	74.00	-30.02	Peak
9632.000	20.49	37.79	12.92	34.98	36.22	54.00	-17.78	Average
9632.000	32.42	37.79	12.92	34.98	48.15	74.00	-25.85	Peak

**Remark:**

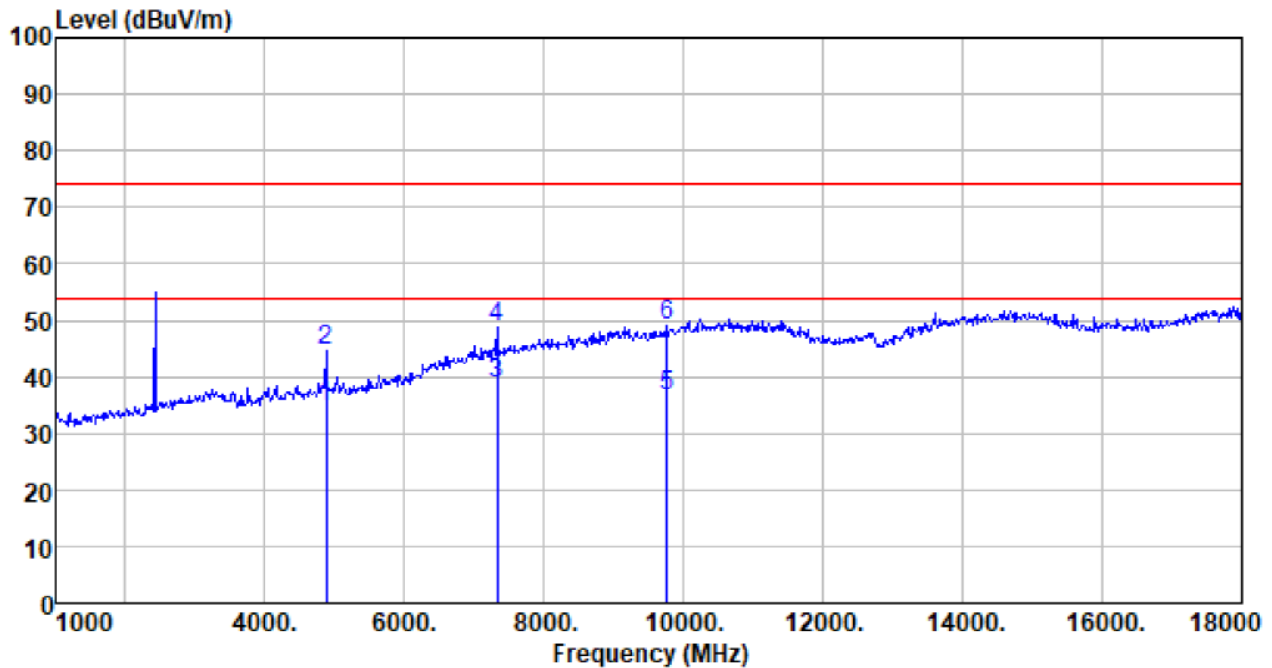
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test channel:	Middle	Polarization:	Vertical
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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
4880.000	26.79	31.48	9.42	37.59	30.10	54.00	-23.90	Average
4880.000	38.81	31.48	9.42	37.59	42.12	74.00	-31.88	Peak
7320.000	21.41	36.17	11.30	35.47	33.41	54.00	-20.59	Average
7320.000	34.23	36.17	11.30	35.47	46.23	74.00	-27.77	Peak
9760.000	21.70	38.07	13.01	35.09	37.69	54.00	-16.31	Average
9760.000	32.02	38.07	13.01	35.09	48.01	74.00	-25.99	Peak

Test channel:	Middle	Polarization:	Horizontal
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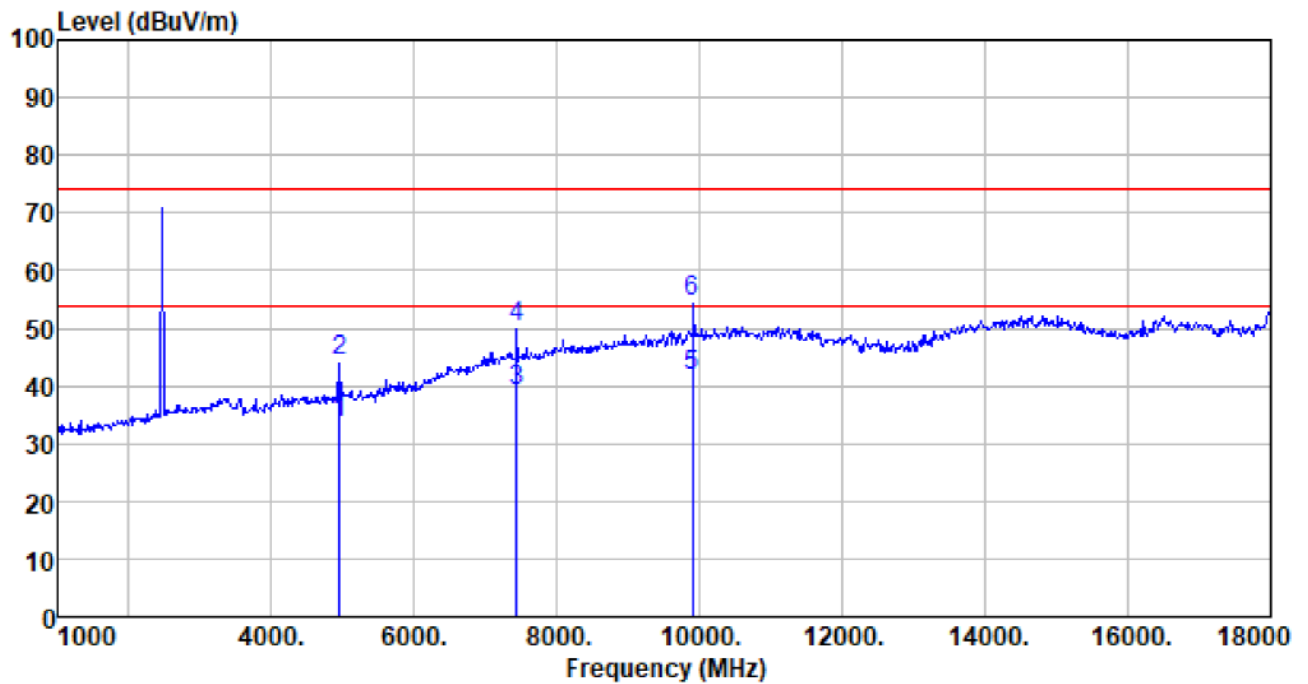
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4880.000	31.31	31.48	9.42	37.59	34.62	54.00	-19.38	Average
4880.000	41.34	31.48	9.42	37.59	44.65	74.00	-29.35	Peak
7320.000	26.67	36.17	11.30	35.47	38.67	54.00	-15.33	Average
7320.000	36.66	36.17	11.30	35.47	48.66	74.00	-25.34	Peak
9760.000	20.38	38.07	13.01	35.09	36.37	54.00	-17.63	Average
9760.000	32.94	38.07	13.01	35.09	48.93	74.00	-25.07	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

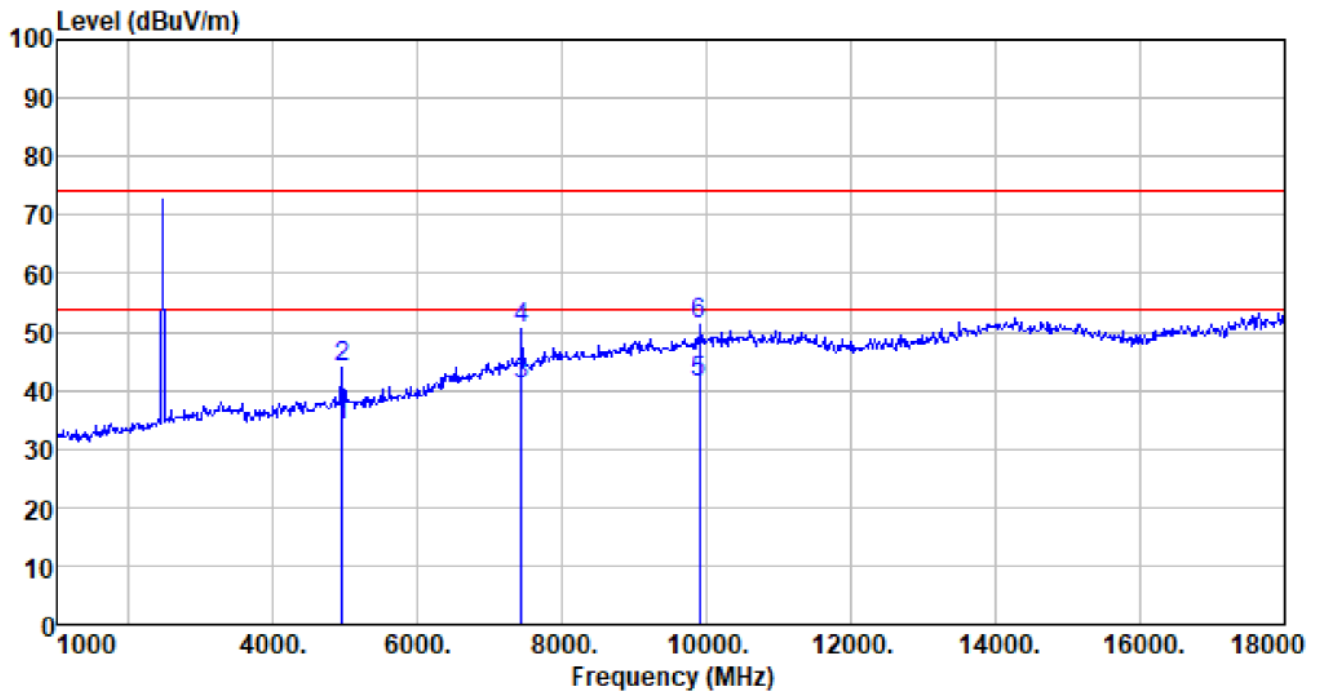


Test channel:	Highest	Polarization:	Vertical
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4950.000	29.94	31.61	9.47	37.60	33.42	54.00	-20.58	Average
4950.000	40.97	31.61	9.47	37.60	44.45	74.00	-29.55	Peak
7425.000	26.81	36.42	11.38	35.49	39.12	54.00	-14.88	Average
7425.000	37.85	36.42	11.38	35.49	50.16	74.00	-23.84	Peak
9900.000	25.49	38.38	13.11	35.21	41.77	54.00	-12.23	Average
9900.000	38.50	38.38	13.11	35.21	54.78	74.00	-19.22	Peak

Test channel:	Highest	Polarization:	Horizontal
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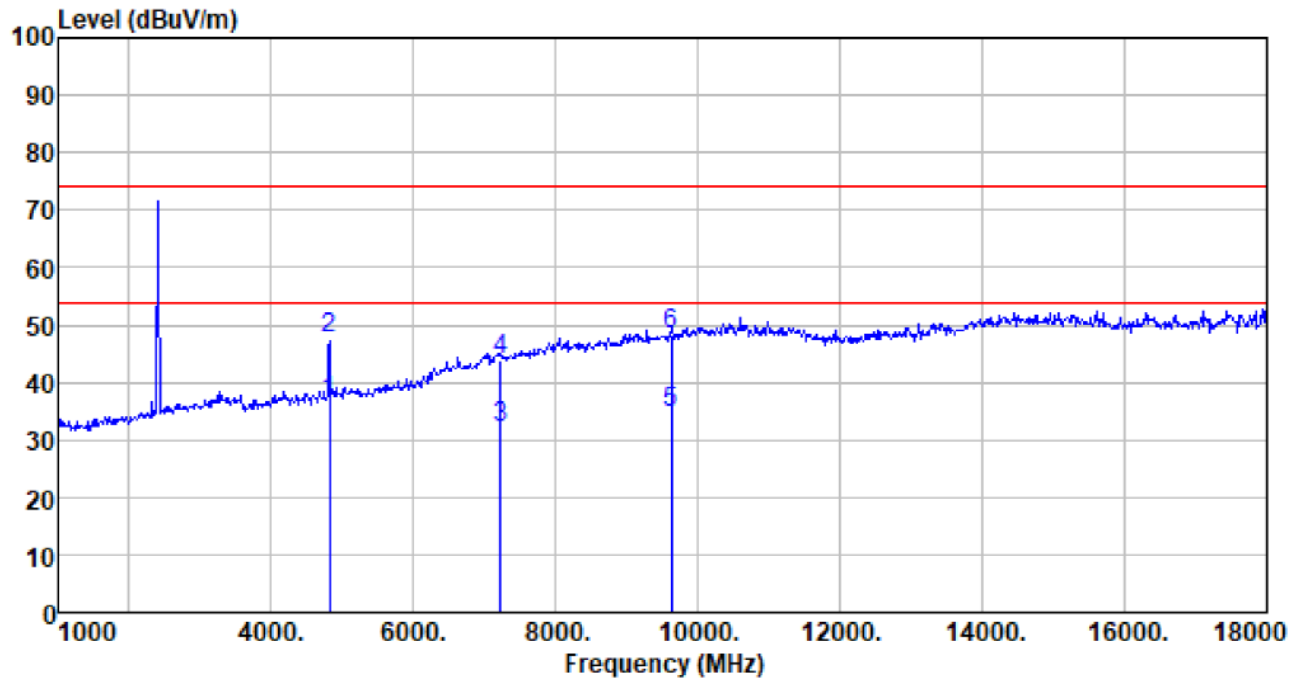
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4950.000	30.43	31.61	9.47	37.60	33.91	54.00	-20.09	Average
4950.000	40.40	31.61	9.47	37.60	43.88	74.00	-30.12	Peak
7425.000	28.48	36.42	11.38	35.49	40.79	54.00	-13.21	Average
7425.000	38.41	36.42	11.38	35.49	50.72	74.00	-23.28	Peak
9900.000	24.89	38.38	13.11	35.21	41.17	54.00	-12.83	Average
9900.000	34.93	38.38	13.11	35.21	51.21	74.00	-22.79	Peak

**Remark:**

1.  $Final\ Level = Receiver\ Read\ level + Antenna\ Factor + Cable\ Loss - Preamp\ lifier\ Factor$
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

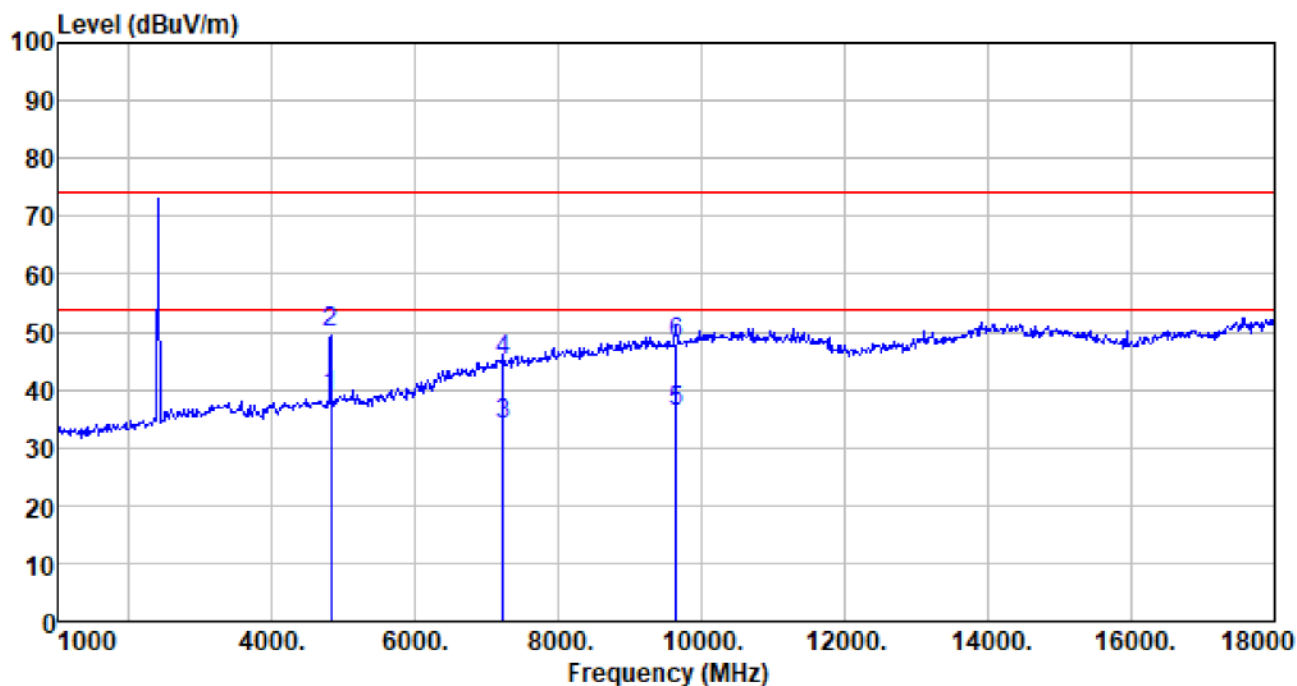
**Right antenna:**

Test channel:	Lowest	Polarization:	Vertical
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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
4816.000	33.42	31.37	9.37	37.58	36.58	54.00	-17.42	Average
4816.000	44.44	31.37	9.37	37.58	47.60	74.00	-26.40	Peak
7224.000	20.30	35.94	11.23	35.45	32.02	54.00	-21.98	Average
7224.000	32.03	35.94	11.23	35.45	43.75	74.00	-30.25	Peak
9632.000	18.82	37.79	12.92	34.98	34.55	54.00	-19.45	Average
9632.000	32.51	37.79	12.92	34.98	48.24	74.00	-25.76	Peak

Test channel:	Lowest	Polarization:	Horizontal
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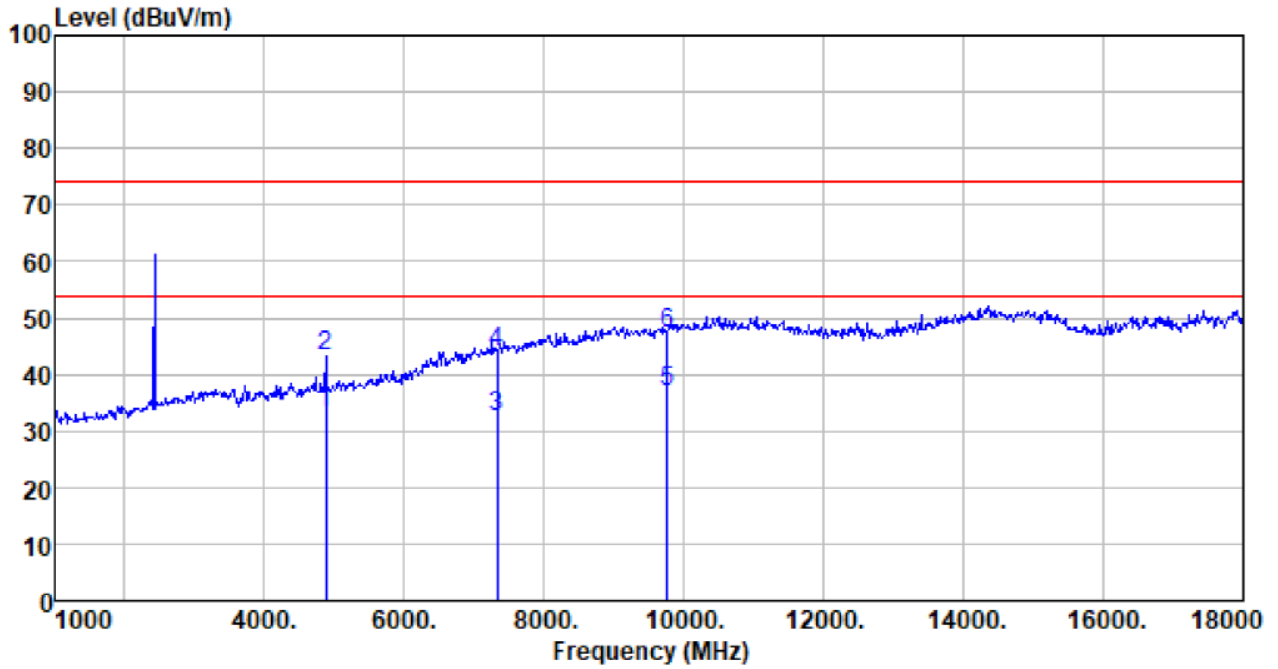


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4816.000	35.55	31.37	9.37	37.58	38.71	54.00	-15.29	Average
4816.000	46.84	31.37	9.37	37.58	50.00	74.00	-24.00	Peak
7222.000	22.39	35.93	11.23	35.45	34.10	54.00	-19.90	Average
7222.000	33.22	35.93	11.23	35.45	44.93	74.00	-29.07	Peak
9636.000	20.40	37.80	12.93	34.98	36.15	54.00	-17.85	Average
9636.000	32.16	37.80	12.93	34.98	47.91	74.00	-26.09	Peak

**Remark:**

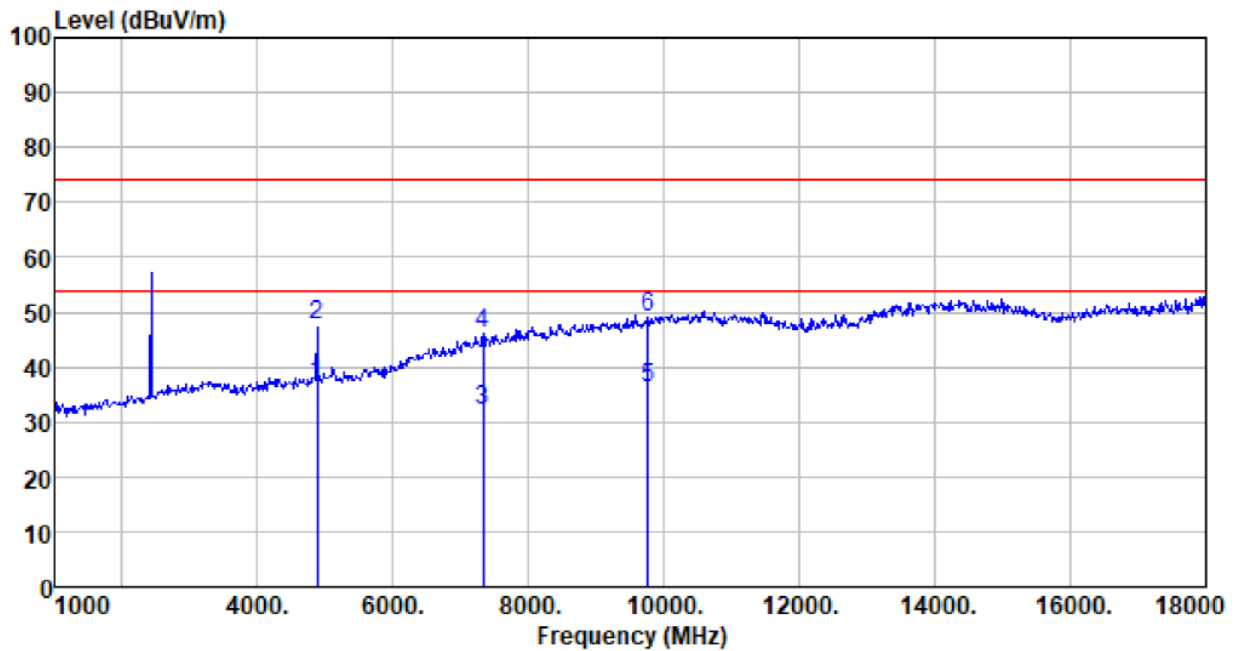
1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test channel:	Middle	Polarization:	Vertical
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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
4880.000	29.79	31.48	9.42	37.59	33.10	54.00	-20.90	Average
4880.000	39.82	31.48	9.42	37.59	43.13	74.00	-30.87	Peak
7320.000	20.60	36.17	11.30	35.47	32.60	54.00	-21.40	Average
7320.000	32.04	36.17	11.30	35.47	44.04	74.00	-29.96	Peak
9760.000	20.93	38.07	13.01	35.09	36.92	54.00	-17.08	Average
9760.000	31.17	38.07	13.01	35.09	47.16	74.00	-26.84	Peak

Test channel:	Middle	Polarization:	Horizontal
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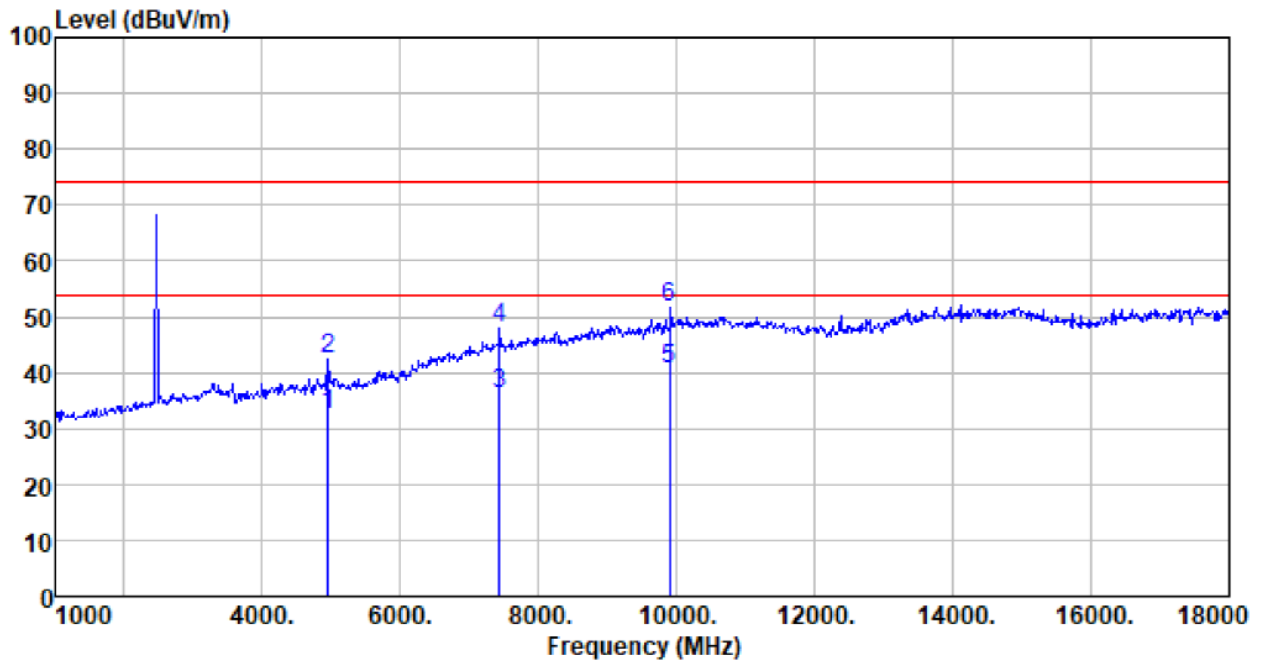


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4880.000	33.54	31.48	9.42	37.59	36.85	54.00	-17.15	Average
4880.000	44.45	31.48	9.42	37.59	47.76	74.00	-26.24	Peak
7320.000	20.02	36.17	11.30	35.47	32.02	54.00	-21.98	Average
7320.000	34.19	36.17	11.30	35.47	46.19	74.00	-27.81	Peak
9760.000	20.01	38.07	13.01	35.09	36.00	54.00	-18.00	Average
9760.000	32.98	38.07	13.01	35.09	48.97	74.00	-25.03	Peak

**Remark:**

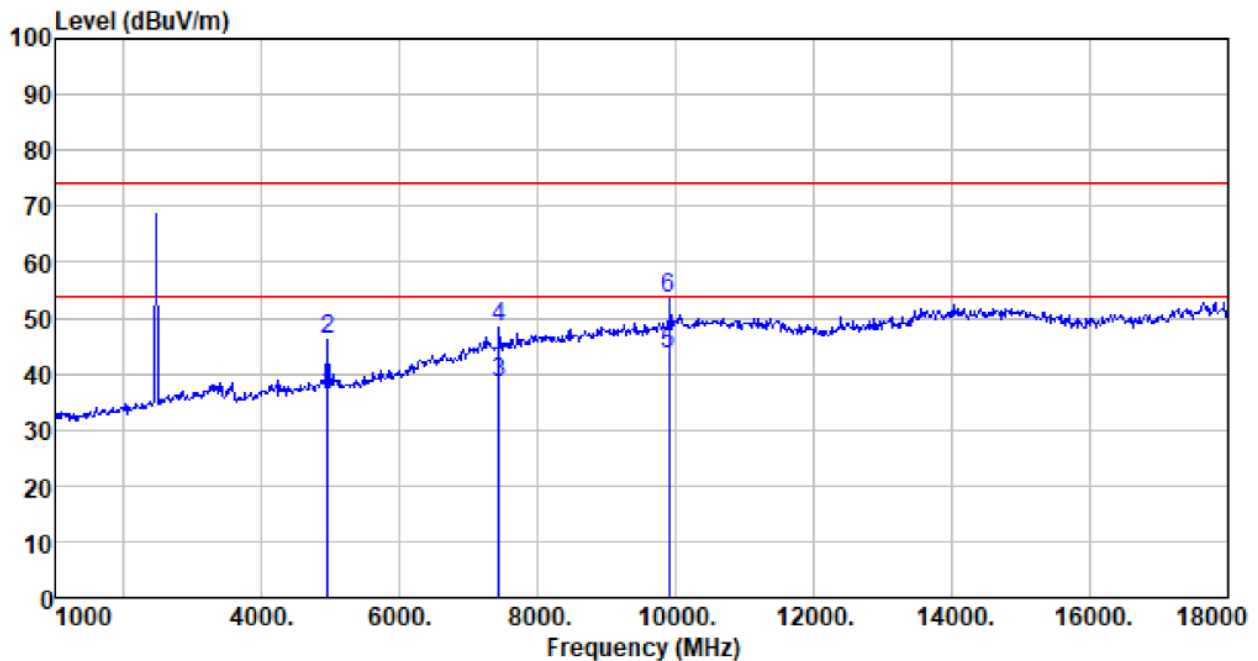
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test channel:	Highest	Polarization:	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
4950.000	29.12	31.61	9.47	37.60	32.60	54.00	-21.40	Average
4950.000	39.05	31.61	9.47	37.60	42.53	74.00	-31.47	Peak
7425.000	23.69	36.42	11.38	35.49	36.00	54.00	-18.00	Average
7425.000	35.71	36.42	11.38	35.49	48.02	74.00	-25.98	Peak
9900.000	24.33	38.38	13.11	35.21	40.61	54.00	-13.39	Average
9900.000	35.31	38.38	13.11	35.21	51.59	74.00	-22.41	Peak

Test channel:	Highest	Polarization:	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
4950.000	32.70	31.61	9.47	37.60	36.18	54.00	-17.82	Average
4950.000	42.71	31.61	9.47	37.60	46.19	74.00	-27.81	Peak
7425.000	25.89	36.42	11.38	35.49	38.20	54.00	-15.80	Average
7425.000	35.90	36.42	11.38	35.49	48.21	74.00	-25.79	Peak
9900.000	27.25	38.38	13.11	35.21	43.53	54.00	-10.47	Average
9900.000	37.23	38.38	13.11	35.21	53.51	74.00	-20.49	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.



## **8 Test Setup Photo**

Reference to the [appendix I](#) for details.

## **9 EUT Constructional Details**

Reference to the [appendix II](#) for details.

---End---