Test Report

FCC Part15 Subpart E

Product Name	:	Radio Controller
Model No.	:	YKQ02FM
FCC ID	:	2AG53YKQ02FM

Applicant	:	BEIJING FIMI TECHNOLOGY LIMITED
Address	:	No.348,Floor3,1#Complex Building,Yongtaiyuan Jia,Qinghe,Haidian District,Beijing,China

Date of Receipt	:	Feb. 13, 2017
Test Date	:	Feb. 13, 2017~ Feb. 23, 2017
Issued Date	:	Feb. 27, 2017
Report No.	:	1722040R-RF-US-P09V02
Report Version	:	V1.0

Test Report Certification

Issued Date : Feb. 27, 2017
Report No. : 1722040R-RF-US-P09V02

Product Name	:	Radio Controller
Applicant	:	BEIJING FIMI TECHNOLOGY LIMITED
Address	:	No.348,Floor3,1#Complex Building,Yongtaiyuan Jia,Qinghe,Haidian District,Beijing,China
Manufacturer	:	BEIJING FIMI TECHNOLOGY LIMITED
Address	:	No.348,Floor3,1#Complex Building,Yongtaiyuan Jia,Qinghe,Haidian District,Beijing,China
Model No.	:	YKQ02FM
FCC ID	:	2AG53YKQ02FM
EUT Voltage	:	DC 3V~4.2V
Test Voltage	:	120V/60Hz
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart E ANSI C63.4:2014; ANSI C63.10:2013; 789033 D02 General UNII Test Procedures New Rules v01r03
Test Result	:	Complied
Performed Location	:	DEKRA Testing and Certification (Suzhou) Co., Ltd. Corporation - Suzhou EMC Laboratory No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392;

Documented By : Kathy Feng
(Adm. Specialist: Kathy Feng)

Reviewed By : Jack Zhang
(Senior Engineer: Jack Zhang)

Approved By : Harry Zhao
(Engineering Manager: Harry Zhao)

TABLE OF CONTENTS

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1722040R-RF-US-P09V02	V1.0	Initial Issued Report	Feb. 27, 2017

1. General Information

1.1. EUT Description

Product Name	Radio Controller						
Model No.	YKQ02FM						
EUT Voltage	DC 3V~4.2V						
Test Voltage	120V/60Hz						
Type of Modulation	OFDM						
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps						
Channel Control	Auto						
Transmit modes	☒	802.11a	☐	802.11n(20MHz)	☐	802.11n(40MHz)	
	☐	802.11ac(20MHz)	☐	802.11ac(40MHz)	☐	802.11ac(80MHz)	
Support Bands	☒	5150MHz~5250MHz	☒	Outdoor			
			☐	Indoor AP			
			☐	Fixed point-to-point AP			
			☐	Fixed point-to-Multi point AP			
			☐	Mobile and Portable Client			
	☐	5250MHz~5350MHz					
	☐	5470MHz~5725MHz	☐	With TDWR Channels			
			☐	Without TDWR Channels			
	☒	5725MHz~5850MHz					

1.2. Antenna information

Antenna Model	N/A					
Antenna Manufacturer	N/A					
Antenna Delivery	☐	1*TX+1*RX	☒	1*TX+2*RX	☐	3*TX+3*RX
Antenna Technology	☒	SISO				
	☐	MIMO	☐	Basic methodology with NANT transmit antennas		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☐	Spatial Multiplexing		
			☐	Cyclic Delay Diversity (CDD)		
Antenna Type	Dipole Antenna					

Antenna Information				
No.				Ant Gain/ Directional Gain (dBi)
☒	SISO	☒	Antenna 0	4
		☒	Antenna 1	4
		☐	Antenna 2	N/A

1.3. Working Frequency of Each Channel:

802.11a Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825MHz	N/A	N/A	N/A	N/A	N/A	N/A

1.4. Mode of Operation

DEKRA Testing and Certification (Suzhou) Co., Ltd. has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11a

Note 1: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

Note 2: For portable device, radiated tests was verified over X, Y, Z axis, and shown the worst case on this report.

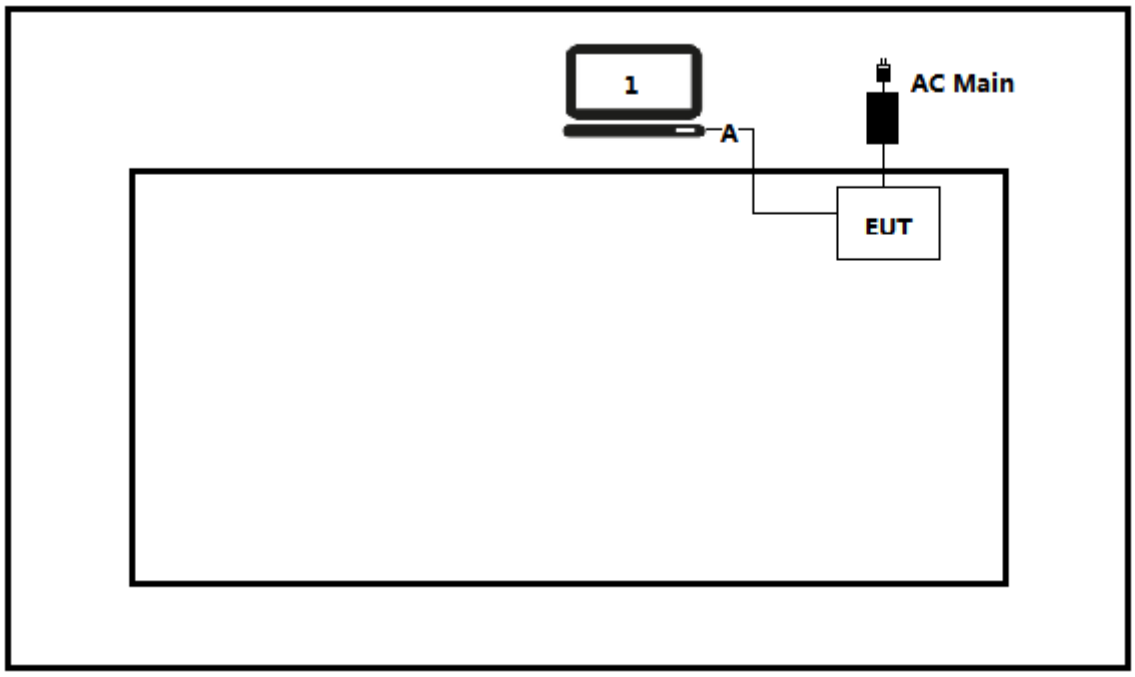
1.5. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

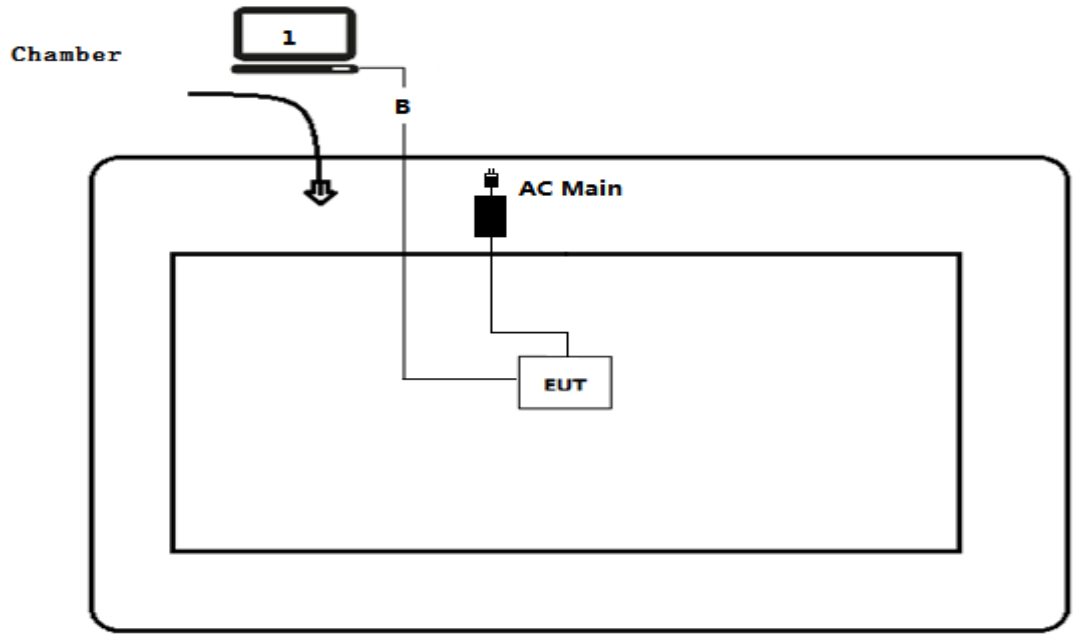
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded

1.6. Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, 1.5m
B	LAN Cable	Non-shielded, 15m

1.7. EUT Exercise Software

1	Setup the EUT and Client as shown on above.
2	Turn on the power of equipment.
3	Configure the client and connect the EUT.
4	Run the software[ART 2], and set the test mode and channel, then traffic and test.

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Performed Test Item	Normative References	Limit	Result
Conducted Emission	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.207	FCC 15.207	PASS
Radiated Emission	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.209	FCC 15.209	PASS
Emission bandwidth and occupied bandwidth	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(e)	PASS
6dB Emission Bandwidth	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(e)	PASS
Power Output	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(a)	PASS
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(a)	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.205, 15.407(b)	FCC 15.407(b)	PASS
Frequency Stability	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(g)	Within the band	PASS
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.203	FCC 15.203	PASS

2.2. Test Frequency configuration:

Modulation Mode	Channel	Frequency	Channel	Frequency	Channel	Frequency
802.11a	36	5180MHz	44	5220MHz	48	5240MHz
	149	5745MHz	157	5785MHz	165	5825MHz

2.3. Power Parameter Value of the test software

Test Mode	Frequency	Power Setting		
		Ant 0	Ant 1	Ant 0+1
802.11a	5180	29.5	19.5	-
	5220	30.5	20.5	-
	5240	26.5	23	-
	5745	21	17	-
	5785	21	17	-
	5825	20	17	-

2.4. Power vs Data Rate

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)
		802.11a
0	1	6
1	1	9
2	1	12
3	1	18
4	1	24
5	1	36
6	1	48
7	1	54
Note 1 : The blue form is the maximum power data rate.		

2.5. Duty Cycle

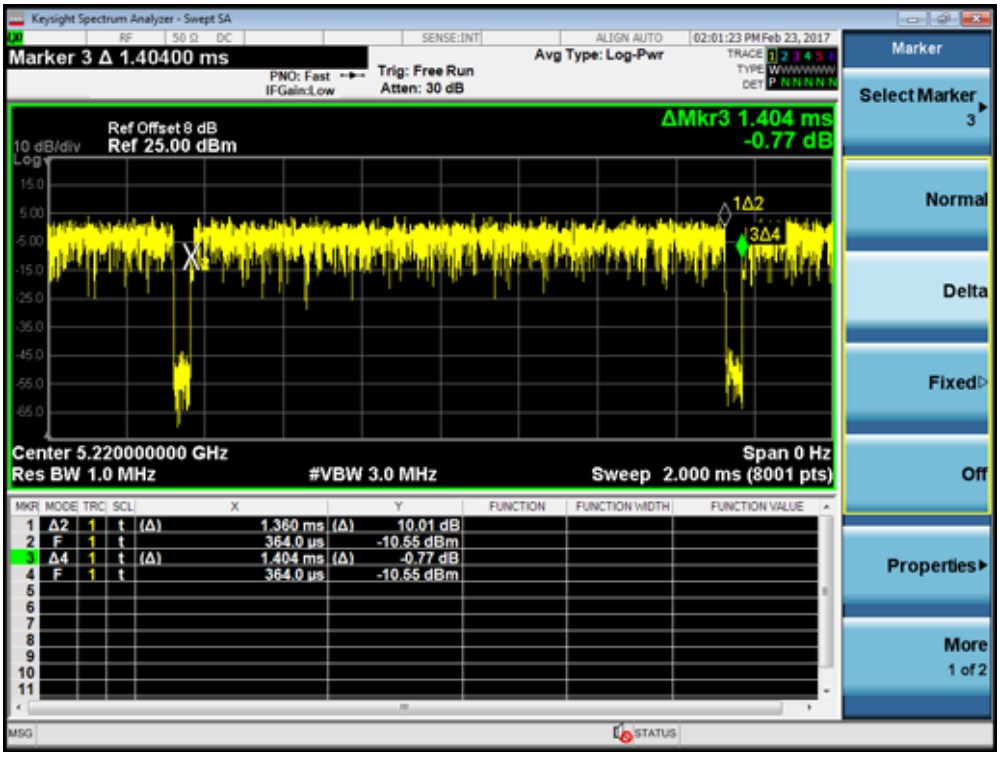
Ant 0:

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11a	1.360	0.044	750Hz	1.404	96.87%

Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Note 2: According to KDB 789033, when test for Radiated Emission Band Edge and Radiated Emission, VBW ≥ 1/T will be used.

802.11a



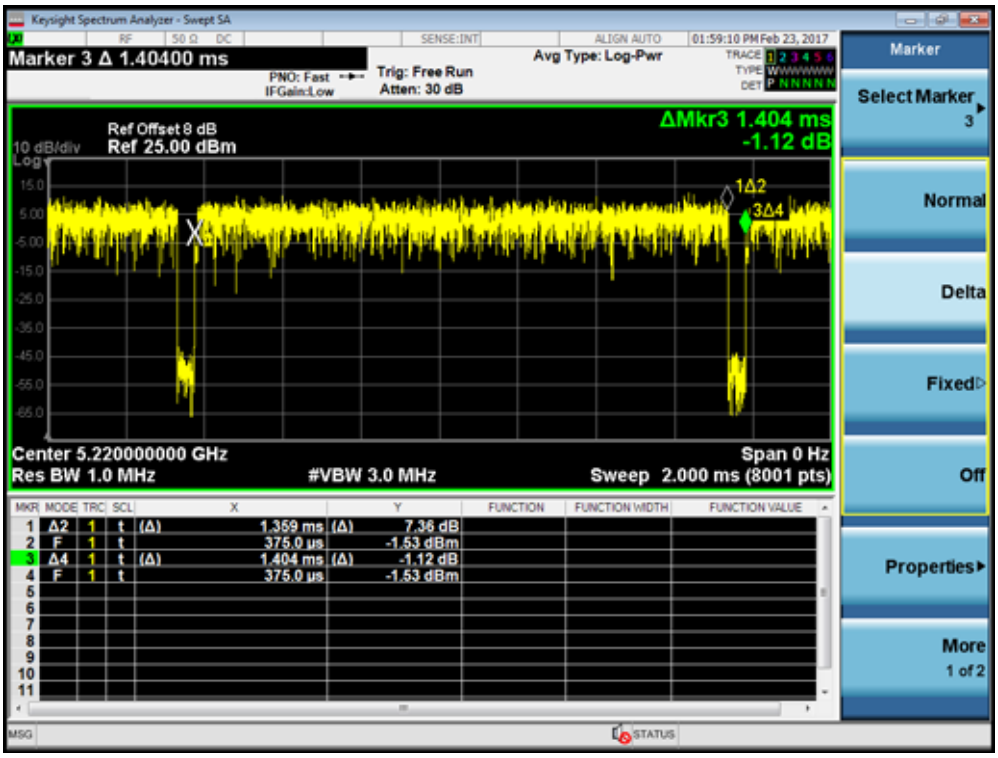
Ant 1:

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11a	1.359	0.045	750Hz	1.404	96.79%

Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Note 2: According to KDB 789033, when test for Radiated Emission Band Edge and Radiated Emission, VBW ≥ 1/T will be used.

802.11a



2.6. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

2.7. Uncertainty

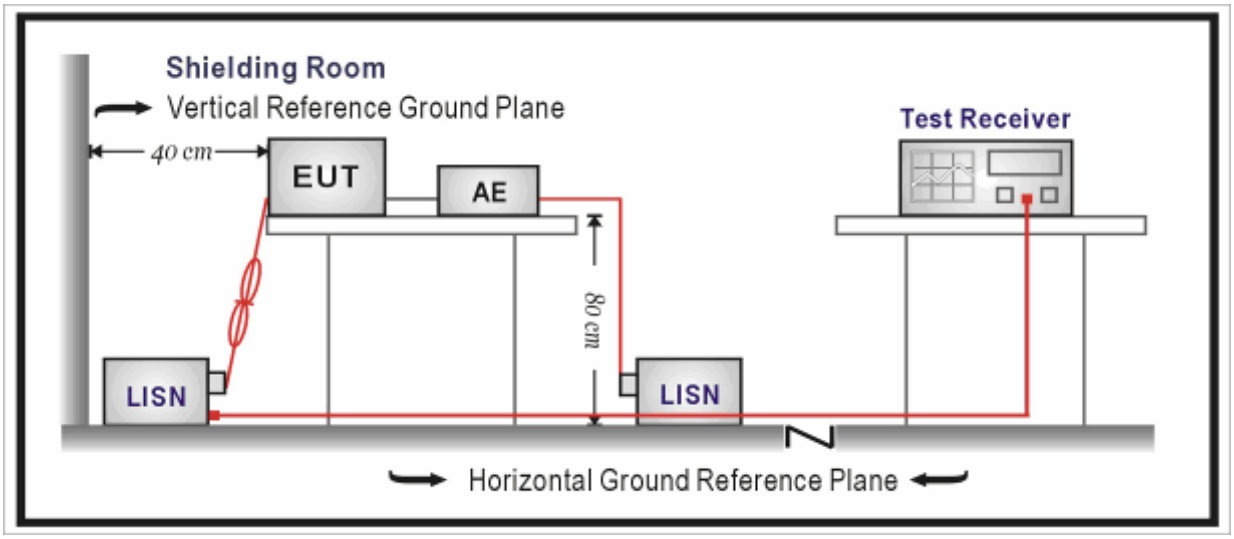
Test Items	Uncertainty
AC Power Line Conducted Emission	±2.02dB
Radiated Emission	Below 1GHz ±3.8 dB
	Above 1GHz ±3.9 dB
RF Antenna Port Conducted Emission	±1.27dB
Radiated Emission Band Edge	±3.9dB
Occupied Bandwidth	±1kHz
Power Spectral Density	±1.27dB
Frequency Stability	±100 Hz

3. Conducted Emission

3.1. Test Equipment

Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100906	2016.03.05	2017.03.04
Two-Line V-Network	R&S	ENV 216	101189	2016.06.16	2017.07.15
Two-Line V-Network	R&S	ENV 216	101044	2016.09.16	2017.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2016.09.16	2017.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

3.2. Test Setup



3.3. Limit

Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 – 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

3.4. Test Procedure

Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
☒	ANSI C63.4-2014	7	AC power-line conducted emission measurements

3.5. Test Result

The device was powered by battery, so the test is not applied.

4. Radiated Emission

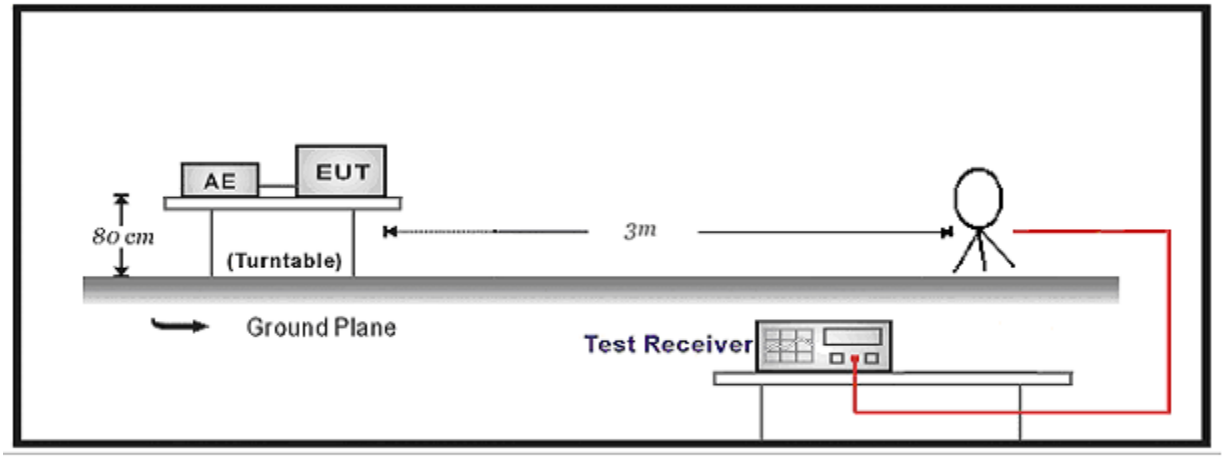
4.1. Test Equipment

Radiated Emission / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.29	2017.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2016.11.16	2017.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2016.10.16	2017.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.02	2017.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2017.01.03	2018.01.02

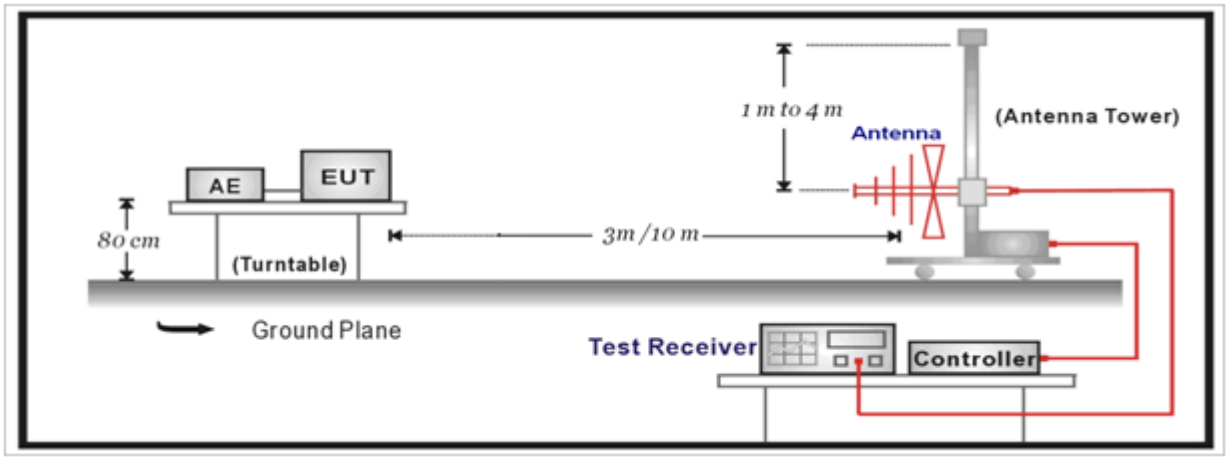
Radiated Emission / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	DEKRA Testing and Certification (Suzhou) Co., Ltd.	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2017.01.22	2018.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.11.25	2017.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.10	2017.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2017.01.03	2018.01.02
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

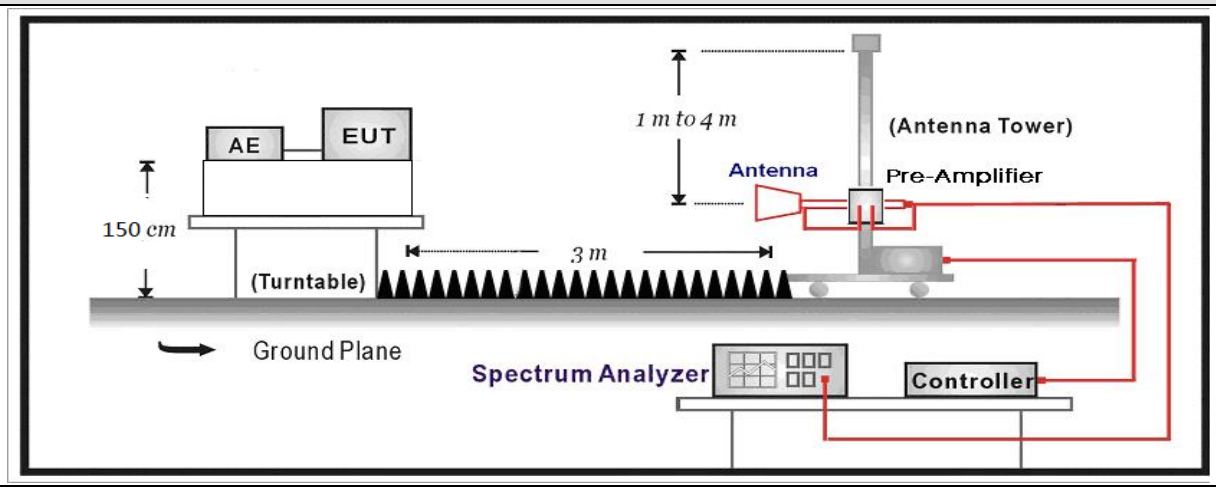
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

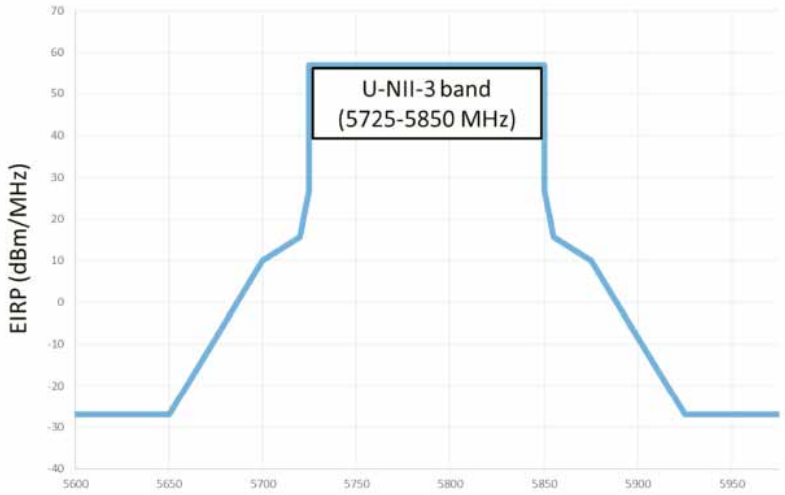
FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)		
Frequency (MHz)	Distance (m)	Level (dB μV/m)
0.009-0.490	300	2400/F(kHz)
0.490-1.705	30	24000/F(kHz)
1.705-30.0	30	30
30-88	3	100**
88-216	3	150**
216-960	3	200**
Above 960	3	500

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

FCC Part 15 Subpart C Paragraph 15.205 (Restricted Band)			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 –16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

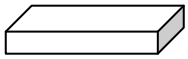
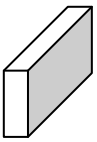
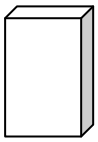
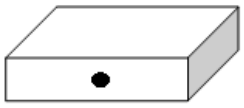
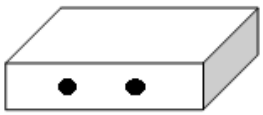
FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB μ V/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3

FCC 16-24-A1	
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)
5725 - 5825	

4.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		12.7.3	Emissions in non-restricted frequency bands
☒	ANSI C63.10		12.7.2	Emissions in restricted frequency bands
	☒	ANSI C63.10	12.7.5	Radiated emission measurements
	☒	ANSI C63.10	12.7.6	Procedure for peak unwanted emissions measurements above 1000 MHz
	☒	ANSI C63.10	12.7.7	Procedures for average unwanted emissions measurements above 1000 MHz
		☐ ANSI C63.10	12.7.7.2	Method AD (average detection)—primary method
		☒ ANSI C63.10	12.7.7.3	Method VB-A (Alternative)
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
☐	FCC KDB 789033 D02v01r03		G.2	Unwanted Emissions that fall Outside of the Restricted Bands
☐	FCC KDB 789033 D02v01r03		G.1	Unwanted Emissions in the Restricted Bands
	☐	FCC KDB 789033 D02v01r03	G.4	Procedure for Unwanted Emissions Measurements below 1000 MHz
	☐	FCC KDB 789033 D02v01r03	G.5	Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz
	☐	FCC KDB 789033 D02v01r03	G.6	Procedures for Average Unwanted Emissions Measurements above 1000 MHz
		☐ FCC KDB 789033 D02v01r03	G.6.c	Method AD (Average detection)—primary method
		☐ FCC KDB 789033 D02v01r03	G.6.d	Method VB (Averaging using reduced video bandwidth): Alternative method.

4.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Radiated Emission</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="11">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

4.6. Test Result

Product Name	:	Radio Controller	Power	:	120V/60Hz
Model No.	:	YKQ02FM	Test Site	:	AC-5
Test Mode	:	Mode 1: Transmit by 802.11a	Test Date	:	2017.02.21

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 0	36	V	10358.500	53.748	0.372	54.121	74	-19.879	PK
		V	10359.370	39.640	0.404	40.044	54	-13.956	AV
		V	15535.000	60.562	6.186	66.748	74	-7.252	PK
		V	15543.660	47.390	6.222	53.612	54	-0.388	AV
		H	10358.500	51.185	0.372	51.558	54(Note3)	-2.442	PK
		H	15532.664	43.020	6.177	49.196	54	-4.804	AV
		H	15535.000	55.497	6.186	61.683	74	-12.317	PK
	44	V	10435.000	53.183	0.736	53.919	54(Note3)	-0.081	PK
		V	15661.515	47.77	6.041	53.811	54	-0.189	AV
		V	15662.500	57.285	6.041	63.326	74	-10.674	PK
		H	10435.000	51.392	0.736	52.128	54(Note3)	-1.872	PK
		H	15654.000	57.139	6.307	63.446	74	-10.554	PK
		H	15658.256	45.02	6.041	51.061	54	-2.939	AV
	48	V	10477.500	51.717	0.385	52.102	54(Note3)	-1.898	PK
		V	15722.000	58.108	7.377	65.485	74	-8.515	PK
		V	15725.775	46.4	7.191	53.591	54	-0.409	AV
		H	10477.500	49.795	0.385	50.18	54(Note3)	-3.82	PK
		H	15720.466	43.14	7.402	50.542	54	-3.458	AV
		H	15722.000	55.952	7.377	63.329	74	-10.671	PK
	149	V	11489.000	50.864	0.568	51.432	54(Note3)	-2.568	PK
		V	17235.307	46.81	6.661	53.47	54	-0.53	AV
		V	17243.500	58.652	7.083	65.734	74	-8.266	PK
		H	11480.500	48.6	1.197	49.797	54(Note3)	-4.203	PK
		H	17243.500	56.14	7.083	63.222	74	-10.778	PK
		H	17244.772	43.02	7.148	50.168	54	-3.832	AV
	157	V	11565.500	50.028	1.354	51.383	54(Note3)	-2.617	PK
		V	17351.91	45.71	7.729	53.44	54	-0.56	AV
		V	17354.000	59.98	7.771	67.751	74	-6.249	PK
		H	11574.000	51.03	1.079	52.109	54(Note3)	-1.891	PK

		H	17345.500	58.57	7.724	66.294	74	-7.706	PK
		H	17352.366	44.71	7.739	52.449	54	-1.551	AV
	165	V	11659.000	52.167	1.234	53.401	54(Note3)	-0.599	PK
		V	17475.885	45.54	8.156	53.696	54	-0.304	AV
		V	17481.500	57.17	7.987	65.158	74	-8.842	PK
		H	11642.000	50.753	1.508	52.261	54(Note3)	-1.739	PK
		H	17476.160	43.08	8.147	51.227	54	-2.773	AV
		H	17481.500	57.689	7.987	65.677	74	-8.323	PK

1. Measured Level = Reading Level + Factor.

2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.

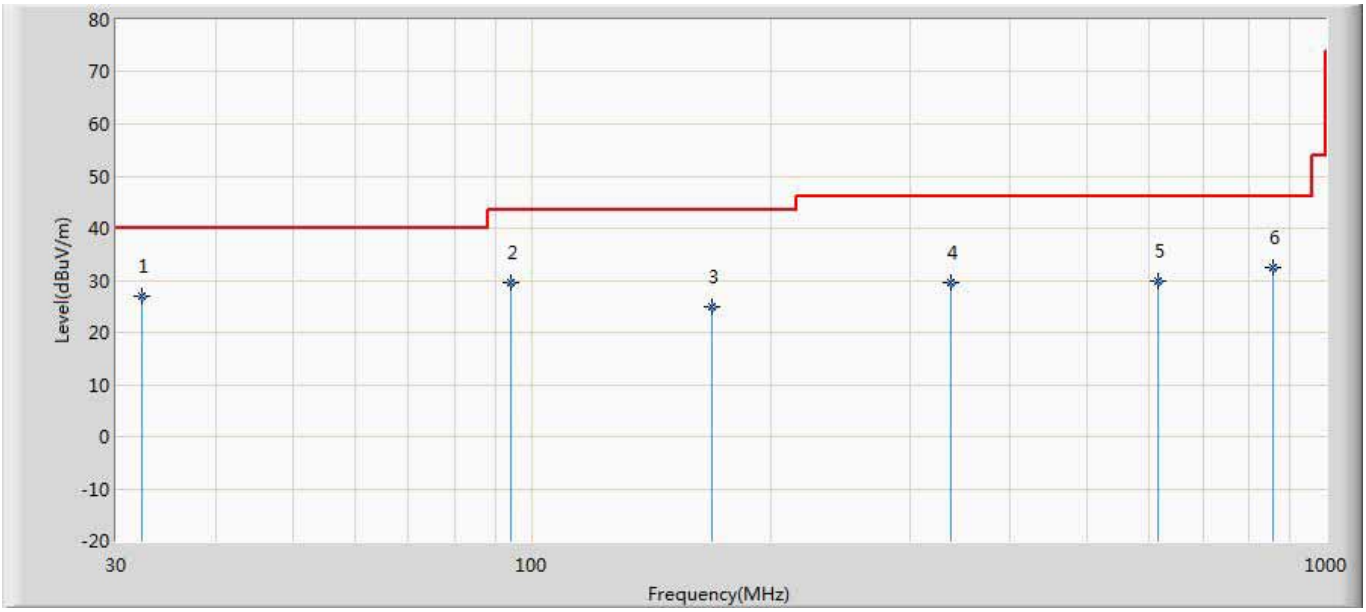
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn’t be performed.

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1	36	V	10356.955	45.32	0.317	45.637	54	-8.363	AV
		V	10358.500	58.945	0.372	59.318	74	-14.682	PK
		V	15534.705	39.12	6.185	45.305	54	-8.695	AV
		V	15552.000	51.518	6.323	57.841	74	-16.159	PK
		H	10367.000	50.700	0.680	51.380	54(Note3)	-2.620	PK
		H	15532.203	35.050	6.174	41.225	54	-12.775	AV
		H	15535.000	48.388	6.186	54.574	74	-19.426	PK
	44	V	10435.000	61.856	0.736	62.592	74	-11.408	PK
		V	10438.200	44.980	0.584	45.564	54	-8.436	AV
		V	15663.735	37.210	6.041	43.251	54	-10.749	AV
		V	15671.000	51.357	6.041	57.398	74	-16.602	PK
		H	10443.500	52.712	0.341	53.053	74	-0.947	PK
		H	15645.500	49.122	6.738	55.861	74	-18.139	AV
		H	15657.080	36.350	6.059	42.409	54	-11.591	AV
	48	V	10477.500	57.183	0.385	57.568	74	-16.432	PK
		V	10480.450	44.670	0.428	45.099	54	-8.901	AV
		V	15705.000	50.272	7.599	57.871	74	-16.129	PK
		V	15725.730	39.990	7.193	47.182	54	-6.818	AV
		H	10477.500	61.141	0.385	61.526	74	-12.474	PK
		H	10482.175	44.360	0.454	44.814	54	-9.186	AV
		H	15725.445	39.530	7.205	46.735	54	-7.265	AV
		H	15739.000	52.631	6.886	59.517	74	-14.483	PK
	149	V	11479.627	42.910	1.257	44.168	54	-9.832	AV
		V	11480.500	54.253	1.197	55.450	74	-18.550	PK
		V	17235.000	57.410	6.644	64.054	74	-9.946	PK
		V	17235.750	46.800	6.683	53.483	54	-0.517	AV
		H	11489.000	51.548	0.568	52.116	54(Note3)	-1.884	PK
		H	17226.500	55.974	7.190	63.164	74	-10.836	PK
		H	17235.270	44.200	6.658	50.858	54	-3.142	AV
	157	V	11569.235	46.500	1.254	47.754	54	-6.246	AV
		V	17351.340	46.060	7.718	53.779	54	-0.221	AV
		V	17362.500	55.246	7.907	63.153	74	-10.847	PK
		H	11565.500	51.990	1.354	53.345	54(Note3)	-0.655	PK
		H	17350.890	42.120	7.710	49.830	54	-4.170	AV

		H	17362.500	53.055	7.907	60.962	74	-13.038	PK
	165	V	11649.730	48.260	1.451	49.711	54	-4.289	AV
		V	11650.500	60.042	1.446	61.488	74	-12.512	PK
		V	17475.450	45.180	8.169	53.349	54	-0.651	AV
		V	17481.500	56.096	7.987	64.084	74	-9.916	PK
		H	11649.542	43.400	1.453	44.853	54	-9.147	AV
		H	11650.500	54.064	1.446	55.510	74	-18.490	PK
		H	17473.000	53.066	8.242	61.308	74	-12.692	PK
		H	17474.330	42.580	8.203	50.782	54	-3.218	AV
1. Measured Level = Reading Level + Factor. 2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.									

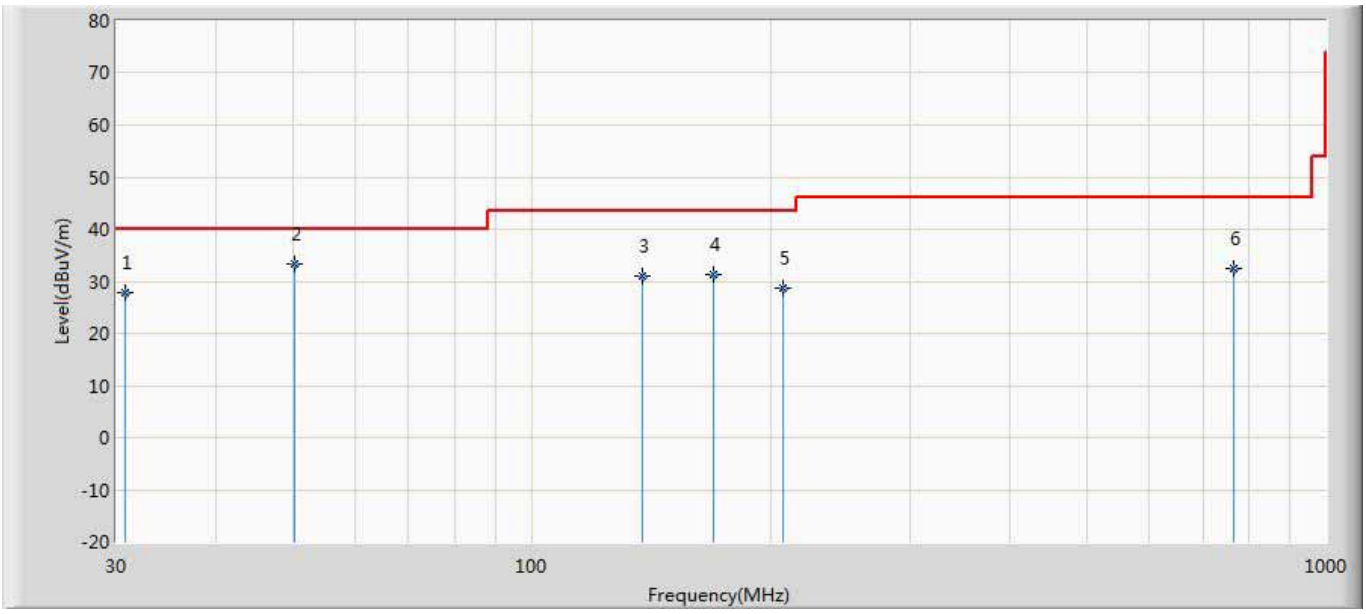
The worst case of Radiated Emission below 1GHz:

Engineer: Johnson	
Site: AC3	Time: 2017/02/23 - 14:52
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5240MHz by 802.11a with Ant 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	32.304	26.856	0.200	-13.144	40.000	26.657	QP
2		94.262	29.612	15.600	-13.888	43.500	14.012	QP
3		169.074	24.997	7.700	-18.503	43.500	17.297	QP
4		336.884	29.654	6.600	-16.346	46.000	23.054	QP
5		613.940	29.828	1.100	-16.172	46.000	28.728	QP
6		858.622	32.414	1.000	-13.586	46.000	31.415	QP

Engineer: Johnson	
Site: AC3	Time: 2017/02/23 - 14:52
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5240MHz by 802.11a with Ant 1	



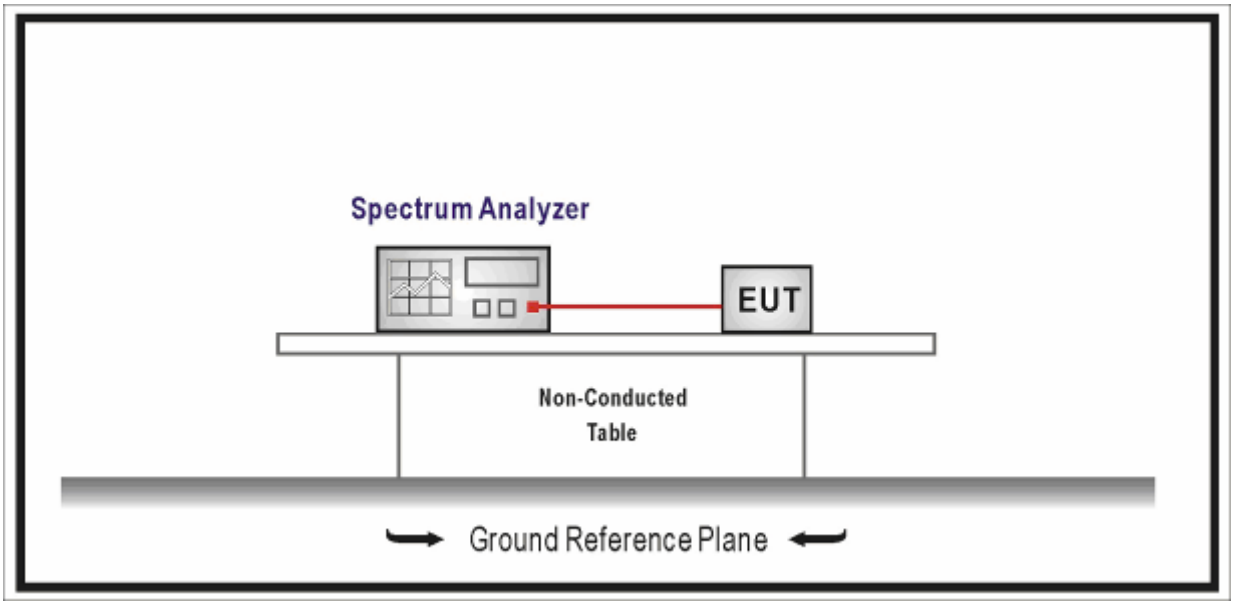
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		30.849	27.932	4.100	-12.068	40.000	23.832	QP
2	*	50.330	33.251	15.100	-6.749	40.000	18.151	QP
3		138.034	31.141	11.300	-12.359	43.500	19.841	QP
4		169.801	31.237	13.200	-12.263	43.500	18.037	QP
5		207.146	28.710	5.500	-14.790	43.500	23.210	QP
6		763.926	32.410	0.300	-13.590	46.000	32.110	QP

5. Emission bandwidth and occupied bandwidth

5.1. Test Equipment

Emission bandwidth and occupied bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.01.15
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.09
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.09
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup



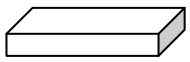
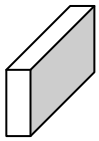
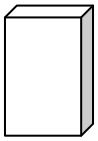
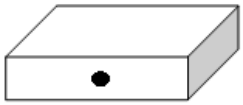
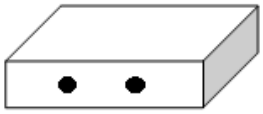
5.3. Limit

N/A

5.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
☐	ANSI C63.10	12.4	Emission bandwidth and occupied bandwidth
	☐ ANSI C63.10	12.4.1	Emission bandwidth (26dB)
	☐ ANSI C63.10	12.4.2	Occupied bandwidth (99%)
☒	FCC KDB 789033 D02v01r03	C	Bandwidth Measurement
	☒ FCC KDB 789033 D02v01r03	C.1	Emission Bandwidth (26dB)
	☐ FCC KDB 789033 D02v01r03	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☒	FCC KDB 789033 D02v01r03	D	99 Percent Occupied Bandwidth

5.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Occupied bandwidth</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

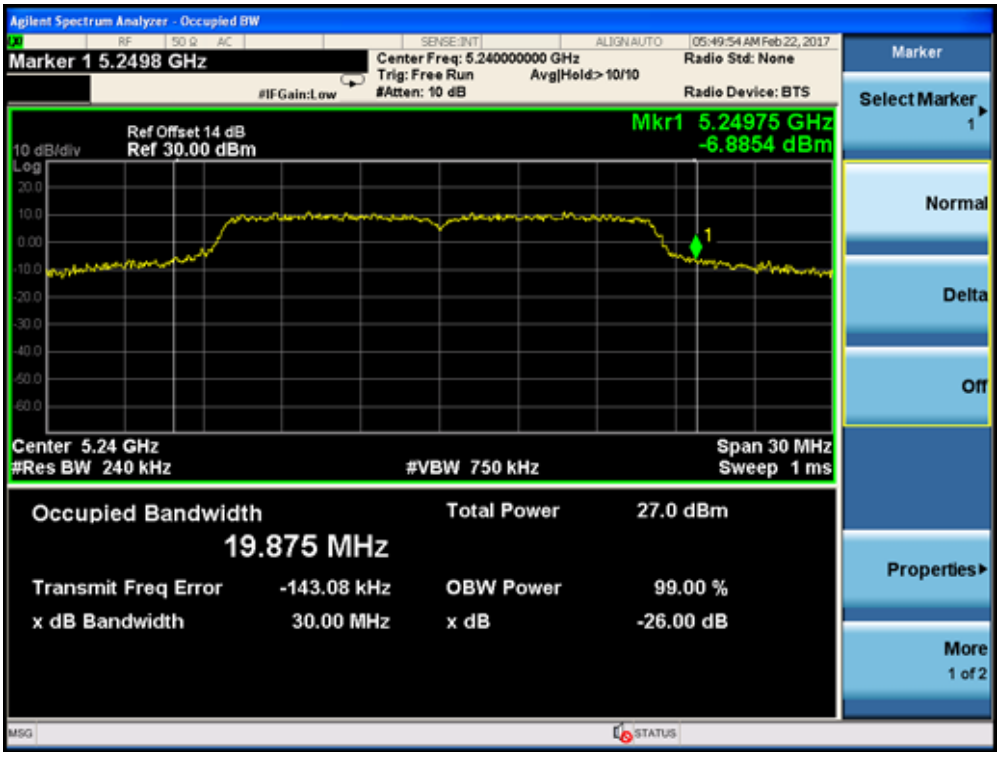
5.6. Test Result

Product Name	:	Radio Controller	Power	:	120V/60Hz
Model No.	:	YKQ02FM	Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11a	Test Date	:	2017.02.22

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)		99% Occupied Bandwidth (MHz)		Lower/Higher Frequency (MHz)		Result
		Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
36	5180	30.00	26.62	22.475	16.731	5168.76	5171.21	Pass
44	5220	30.00	27.11	24.317	16.735	N/A	N/A	Pass
48	5240	30.00	30.00	19.875	19.731	5249.75	5249.72	Pass

The worst case of Occupied Bandwidth as below:

CH44 (5240MHz) Ant 0

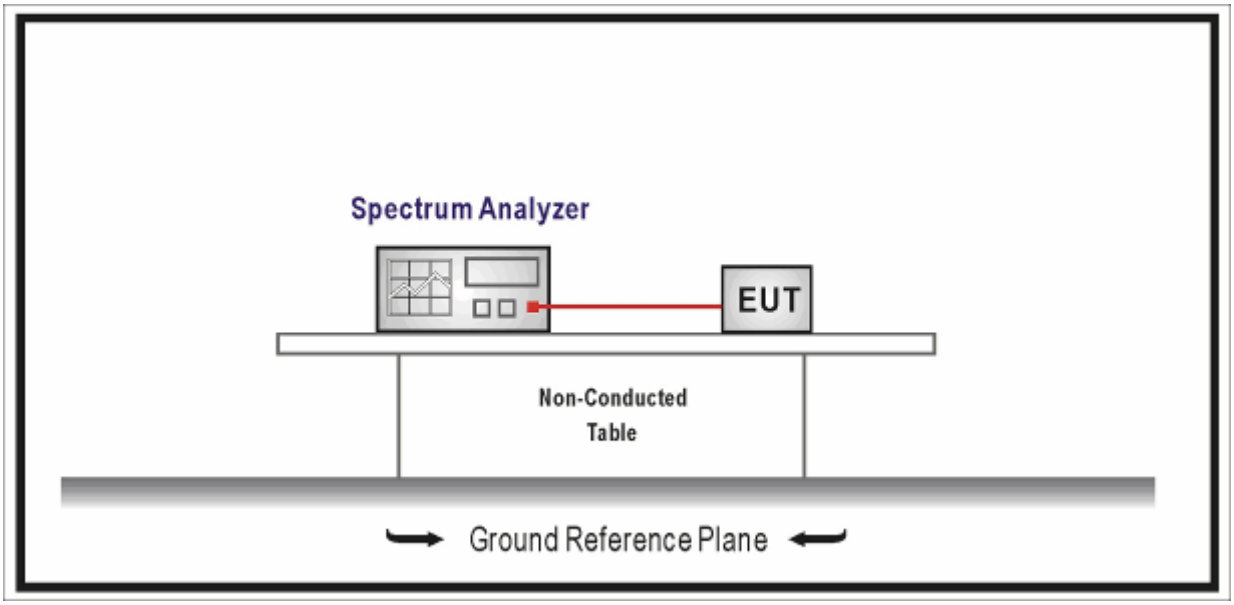


6. 6dB bandwidth

6.1. Test Equipment

6dB bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.02.04	2018.01.15
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup



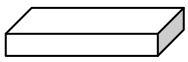
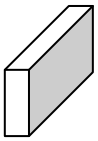
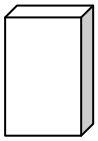
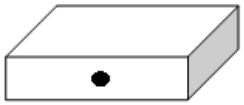
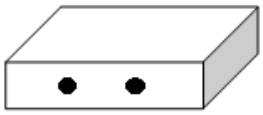
6.3. Limit

>500kHz

6.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
☐	ANSI C63.10	12.4	Emission bandwidth and occupied bandwidth
	☐ ANSI C63.10	12.4.1	Emission bandwidth (26dB)
	☐ ANSI C63.10	12.4.2	Occupied bandwidth (99%)
☒	FCC KDB 789033 D02v01r03	C	Bandwidth Measurement
	☐ FCC KDB 789033 D02v01r03	C.1	Emission Bandwidth (26dB)
	☒ FCC KDB 789033 D02v01r03	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☐	FCC KDB 789033 D02v01r03	D	99 Percent Occupied Bandwidth

6.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">6dB bandwidth</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

6.6. Test Result

Product Name	:	Radio Controller	Power	:	120V/60Hz
Model No.	:	YKQ02FM	Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11a	Test Date	:	2017.02.22

Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (kHz)	Result
		Ant0	Ant1		
149	5745	16.36	16.41	>500	Pass
157	5785	16.38	16.39		Pass
165	5825	16.40	16.33		Pass

The worst case of Occupied Bandwidth as below:

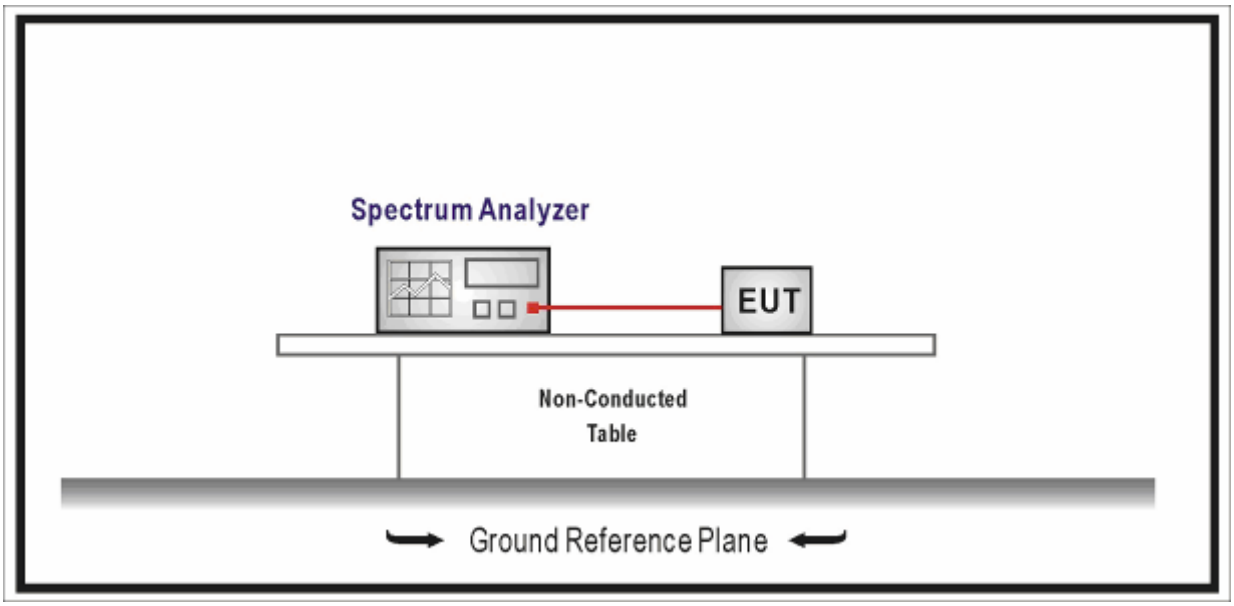
Mode 1 CH165 (5825MHz) Ant 1

7. Power Output

7.1. Test Equipment

Power Output / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2017.01.03	2018.01.02
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.01.15
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2016.10.14	2017.10.13
Power Sensor	Anritsu	MA2411B	0846014	2016.10.14	2017.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup



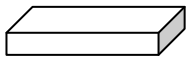
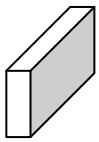
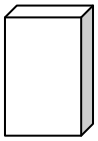
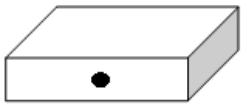
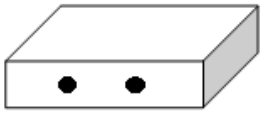
7.3. Limit

Fundamental emission output power Limit		
☒	For the band 5.15-5.25 GHz	
	☒	Outdoor Radio Controller: the maximum conducted output power shall not exceed 1 W. If G_{TX}＞6dBi, then Pout≤30 - (G_{TX} - 6) and ≤125mW at any angle above 30 degrees
	☐	Indoor Radio Controller: the maximum conducted output power shall not exceed 1 W. If G_{TX}＞6dBi, then Pout≤30 - (G_{TX} - 6)
	☐	Fixed point-to-point Radio Controllers: the maximum conducted output power shall not exceed 1 W. If G_{TX}＞23dBi, then Pout≤30 - (G_{TX} - 23)
	☐	Mobile and portable client devices: the maximum conducted output power shall not exceed 250mW. If G_{TX}＞6dBi, then Pout≤24 - (G_{TX} - 6)
☐	For the band 5.25-5.35 GHz:	
	☐	the maximum conducted output power shall not exceed 250mW or 11dBm+10 Log B, where B is the 26dB emission bandwidth in MHz. If G_{TX} ＞ 6dBi, then Pout ≤ (The lesser of 24 or 11dBm+10 Log B) - (GTX - 6)
☐	For the 5.47-5.725 GHz:	
	☐	the maximum conducted output power shall not exceed 250mW or 11dBm+10 Log B, where B is the 26dB emission bandwidth in MHz. If G_{TX}＞6dBi, then Pout ≤ (The lesser of 24 or 11dBm+10 Log B) - (G_{TX} - 6)
☒	For the band 5.725-5.85 GHz:	
	☐	Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)
	☒	Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .		

7.4. Test Procedure

Fundamental emission output power Test Method					
	References Rule			Chapter	Description
☒	ANSI C63.10			12.3	Maximum conducted output power
	☐	ANSI C63.10		12.3.2	Maximum conducted output power measurement using a spectrum analyzer (SA) or EMI receiver
		☐	ANSI C63.10	12.3.2.2	Method SA-1
		☐	ANSI C63.10	12.3.2.3	Method SA-1A (alternative)
		☐	ANSI C63.10	12.3.2.4	Method SA-2
		☐	ANSI C63.10	12.3.2.5	Method SA-2A (alternative)
		☐	ANSI C63.10	12.3.2.6	Method SA-3
		☐	ANSI C63.10	12.3.2.7	Method SA-3A (alternative)
	☒	ANSI C63.10		12.3.3	Maximum conducted output power using a power meter
		☐	ANSI C63.10	12.3.3.1	Method PM
		☒	ANSI C63.10	12.3.3.2	Method PM-G
☐	KDB 789033			H	Measurement of emission at elevation angle higher than 30° from horizon
	☐	KDB 789033		1	For fixed infrastructure, not electrically or mechanically steerable beam antenna
		☐	KDB 789033	a)	elevation plane radiation pattern is available:
		☐	KDB 789033	b)	elevation plane radiation pattern is not available
	☐	KDB 789033		2	For All Other Types of Antenna

7.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Power Output</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

7.6. Test Result

Product Name	:	Radio Controller	Power	:	120V/60Hz
Model No.	:	YKQ02FM	Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11a	Test Date	:	2017.02.22

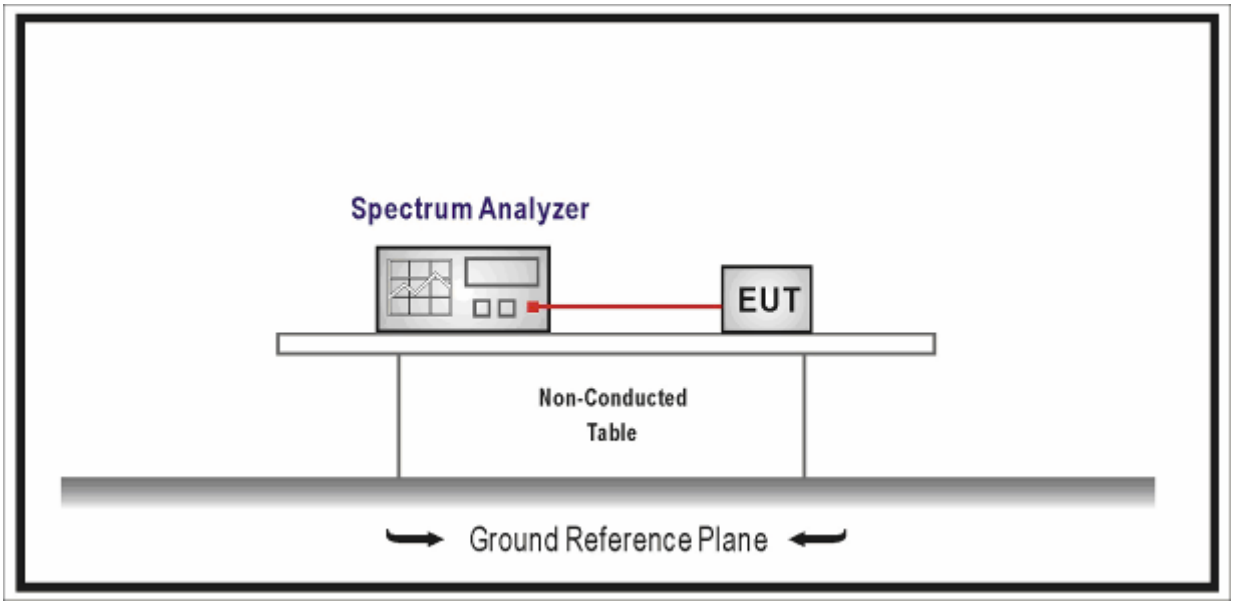
Channel No.	Frequency (MHz)	Measurement Power		Limit (dBm)	Result
		Ant0	Ant1		
CH36	5180	18.96	22.04	30.0	Pass
CH42	5220	19.54	23.27	30.0	Pass
CH48	5240	17.52	24.54	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power		Limit (dBm)	Result
		Ant0	Ant1		
CH149	5745	13.54	15.86	30.0	Pass
CH157	5785	13.63	15.98	30.0	Pass
CH165	5825	12.79	15.38	30.0	Pass

8. Peak Power Spectral Density

8.1. Test Equipment

Peak Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.01.15
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup



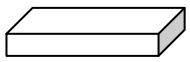
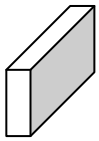
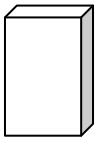
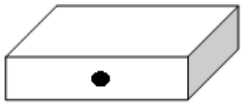
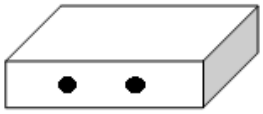
8.3. Limit

Fundamental emission output power Limit		
☒	For the band 5.15-5.25 GHz	
	☒	Outdoor Radio Controller: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞6dBi, then Pout≤17 - (G_{TX} - 6)
	☐	Indoor Radio Controller: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞6dBi, then Pout≤17 - (G_{TX} - 6)
	☐	Fixed point-to-point Radio Controllers: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞23dBi, then Pout≤17 - (G_{TX} - 23)
	☐	Mobile and portable client devices: the maximum power spectral density shall not exceed 11 dBm/MHz. If G_{TX}＞6dBi, then Pout≤11 - (G_{TX} - 6)
☐	For the 5.25-5.35 GHz:	
	☐	the maximum power spectral density shall not exceed 11 dBm/MHz. If G_{TX}＞6dBi, then Pout≤11 - (G_{TX} - 6)
☐	For the 5.47-5.725 GHz:	
	☐	the maximum power spectral density shall not exceed 11 dBm/MHz.If G_{TX}＞6dBi, then Pout≤11 - (G_{TX} - 6)
☒	For the band 5.725-5.85 GHz:	
	☒	the maximum power spectral density shall not exceed 30 dBm/500KHz. If G_{TX}＞6dBi, then Pout≤30 - (G_{TX} - 6)
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .		

8.4. Test Procedure

Fundamental emission output power Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	12.5	Peak power spectral density
☒	FCC KDB 789033 D02v01r03	F	Maximum Power Spectral Density (PSD)

8.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Peak power spectral density</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

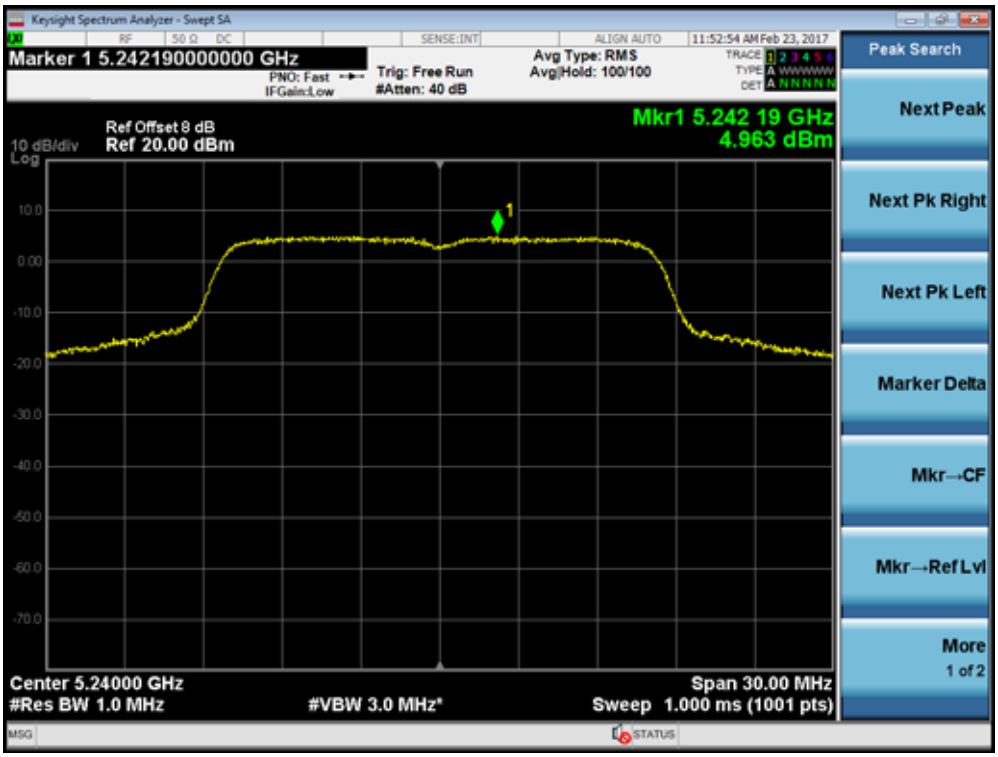
8.6. Test Result

Product Name	:	Radio Controller	Power	:	120V/60Hz
Model No.	:	YKQ02FM	Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11a	Test Date	:	2017.02.22

Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)		Limit (dBm/MHz)	Result
		Ant0	Ant1		
CH36	5180	3.047	3.603	17.0	Pass
CH44	5220	2.724	3.938	17.0	Pass
CH48	5240	0.922	4.963	17.0	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)		Limit (dBm/500KHz)	Result
		Ant0	Ant1		
CH149	5745	-7.477	0.008	30.0	Pass
CH157	5785	-6.730	0.174	30.0	Pass
CH165	5825	-7.736	-0.021	30.0	Pass

The worst case of 6dB Bandwidth as below:

Mode 1 CH48 (5240MHz) Ant 1

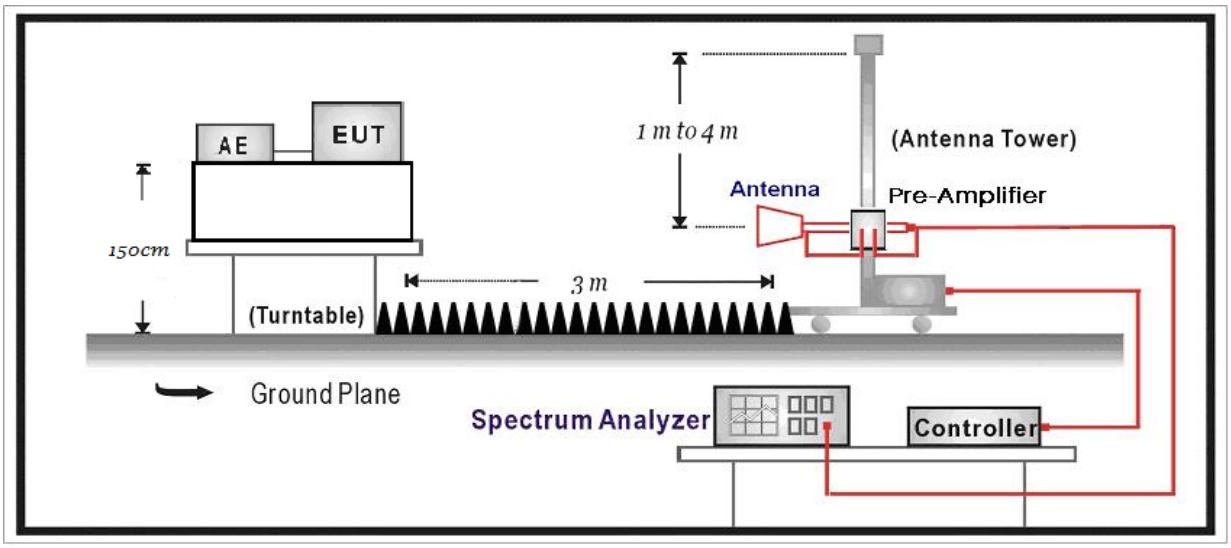


9. Radiated Emission Band Edge

9.1. Test Equipment

Radiated Emission Band Edge / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Receiver	Agilent	N9038A	MY51210196	2016.07.16	2017.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2016.05.03	2017.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2016.07.12	2017.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.12.12	2017.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.02.28	2017.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.02.28	2017.02.27
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



9.3. Limit

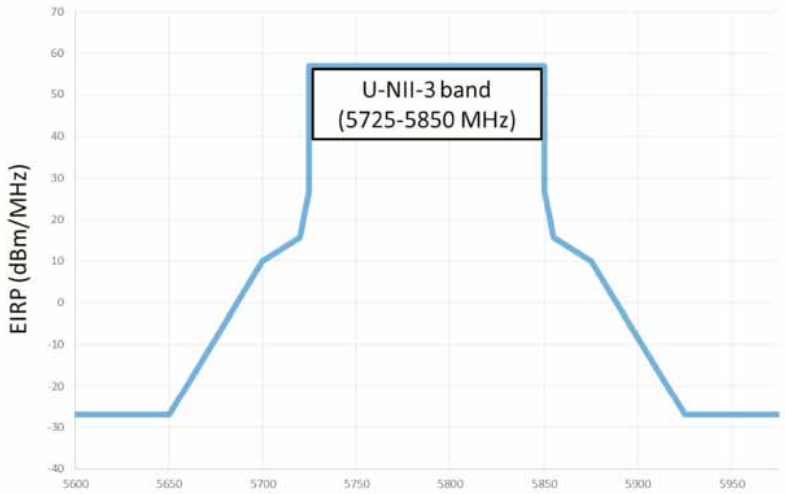
FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)		
Frequency (MHz)	Distance (m)	Level (dBµV/m)
0.009-0.490	300	2400/F(kHz)
0.490-1.705	30	24000/F(kHz)
1.705-30.0	30	30
30-88	3	100**
88-216	3	150**
216-960	3	200**
Above 960	3	500

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

FCC Part 15 Subpart C Paragraph 15.205 (Restricted Band)			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 –16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

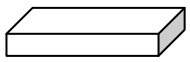
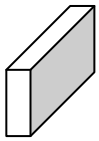
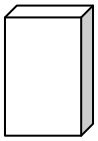
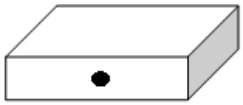
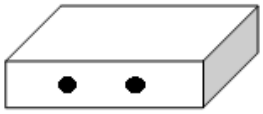
FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB μ V/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3

FCC 16-24-A1	
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)
5725 - 5825	

9.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		12.7.3	Emissions in non-restricted frequency bands
☒	ANSI C63.10		12.7.2	Emissions in restricted frequency bands
	☒	ANSI C63.10	12.7.5	Radiated emission measurements
	☒	ANSI C63.10	12.7.6	Procedure for peak unwanted emissions measurements above 1000 MHz
	☒	ANSI C63.10	12.7.7	Procedures for average unwanted emissions measurements above 1000 MHz
		☐ ANSI C63.10	12.7.7.2	Method AD (average detection)—primary method
		☒ ANSI C63.10	12.7.7.3	Method VB-A (Alternative)
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
☐	FCC KDB 789033 D02v01r03		G.2	Unwanted Emissions that fall Outside of the Restricted Bands
☐	FCC KDB 789033 D02v01r03		G.1	Unwanted Emissions in the Restricted Bands
	☐	FCC KDB 789033 D02v01r03	G.4	Procedure for Unwanted Emissions Measurements below 1000 MHz
	☐	FCC KDB 789033 D02v01r03	G.5	Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz
	☐	FCC KDB 789033 D02v01r03	G.6	Procedures for Average Unwanted Emissions Measurements above 1000 MHz
		☐ FCC KDB 789033 D02v01r03	G.6.c	Method AD (Average detection)—primary method
		☐ FCC KDB 789033 D02v01r03	G.6.d	Method VB (Averaging using reduced video bandwidth): Alternative method.

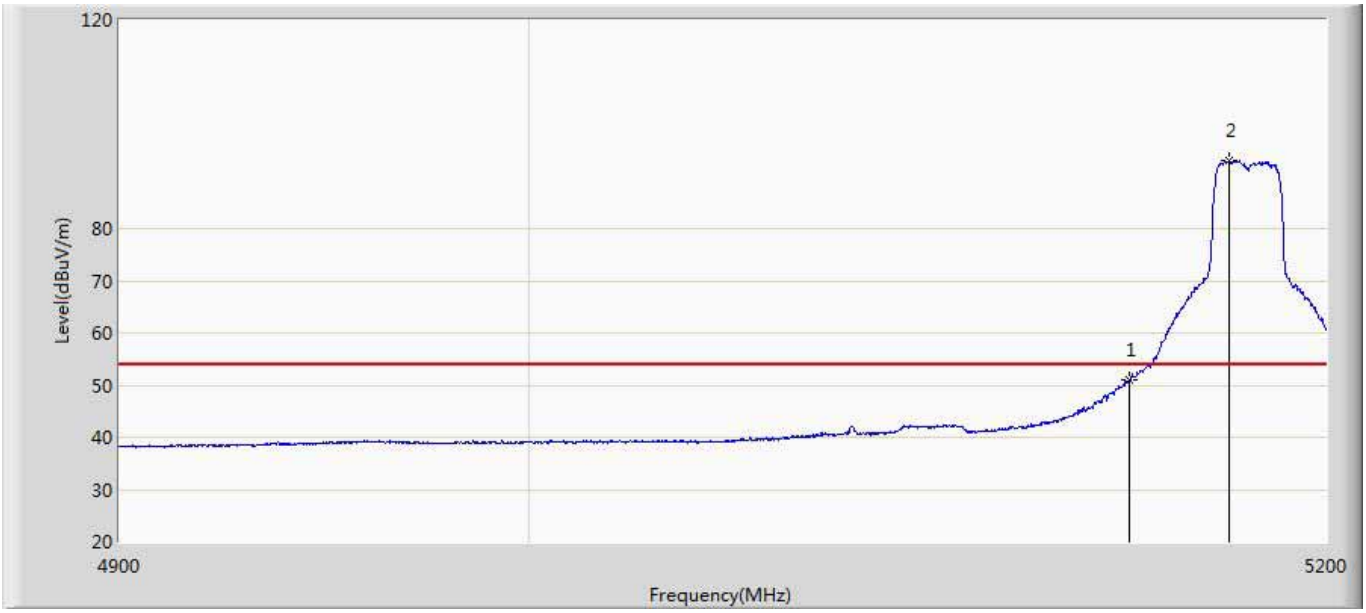
9.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Peak power spectral density</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="12">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

9.6. Test Result

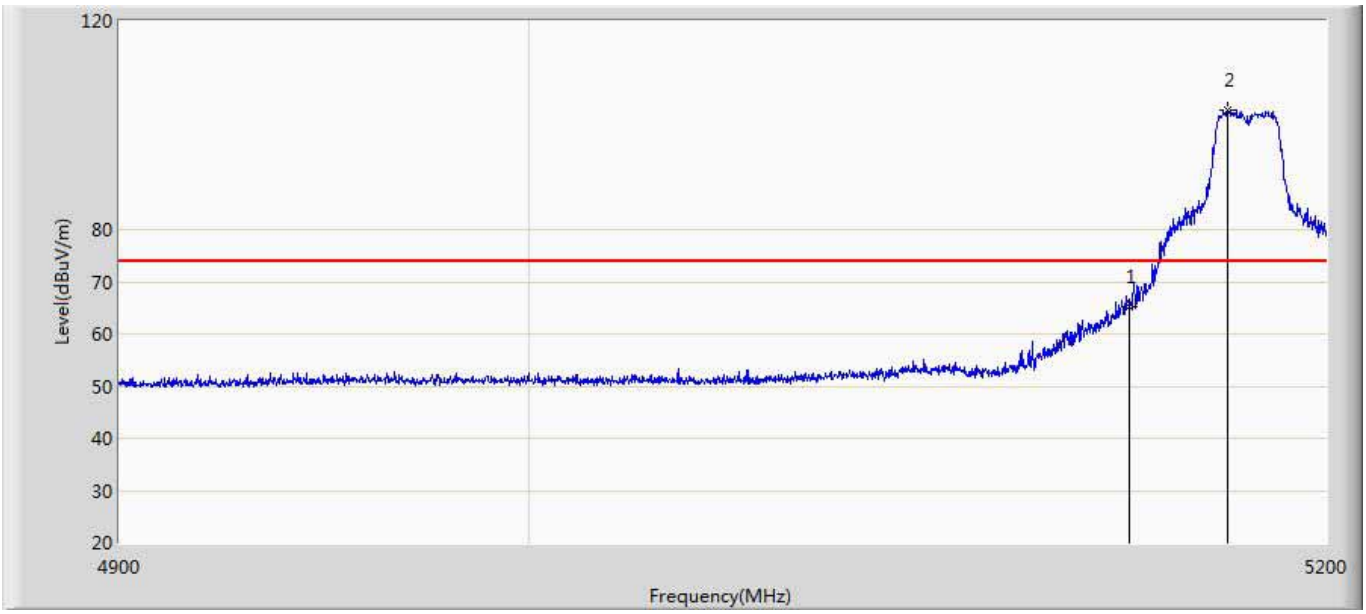
Ant 0:

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant0	



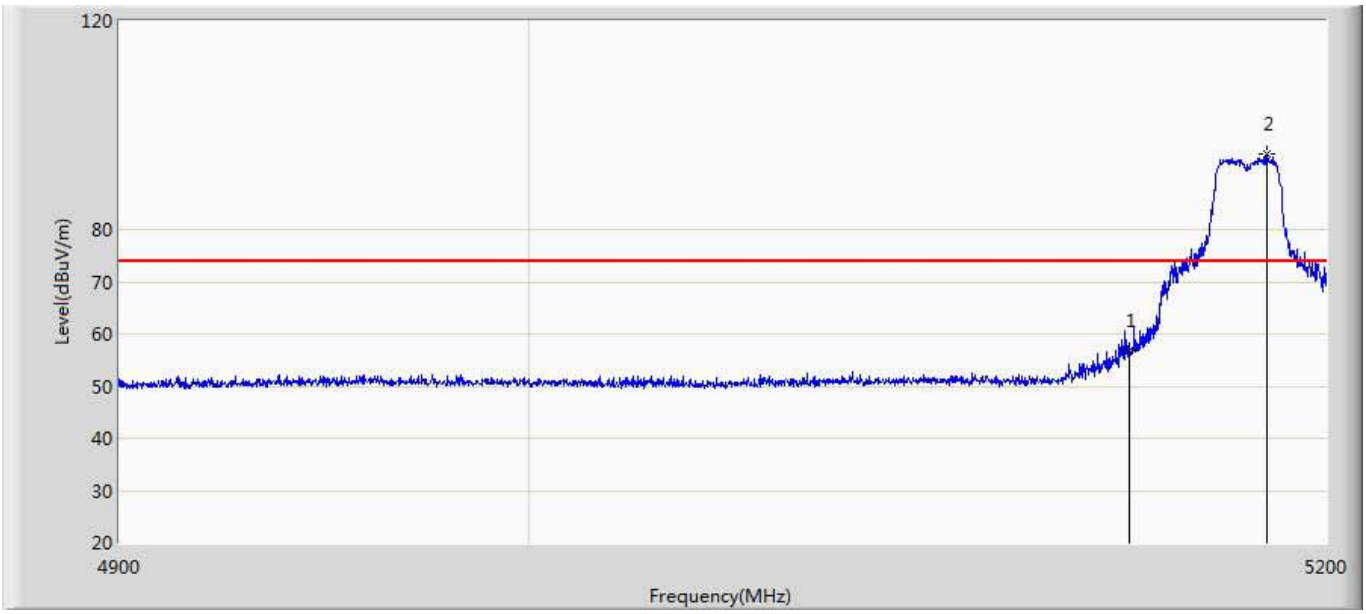
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	51.013	11.479	-2.987	54.000	39.534	AV
2	*	5175.400	92.901	53.296	38.901	54.000	39.605	AV

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant0	



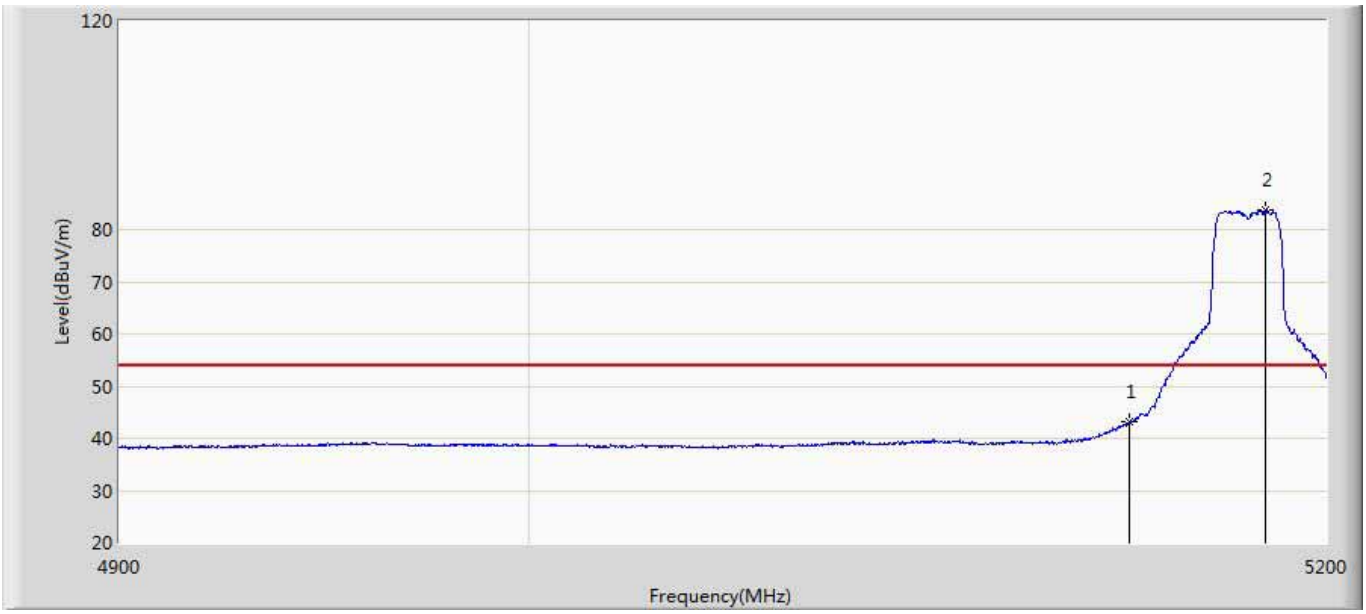
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	65.324	25.790	-8.676	74.000	39.534	PK
2	*	5174.800	102.930	63.320	28.930	74.000	39.610	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant0	



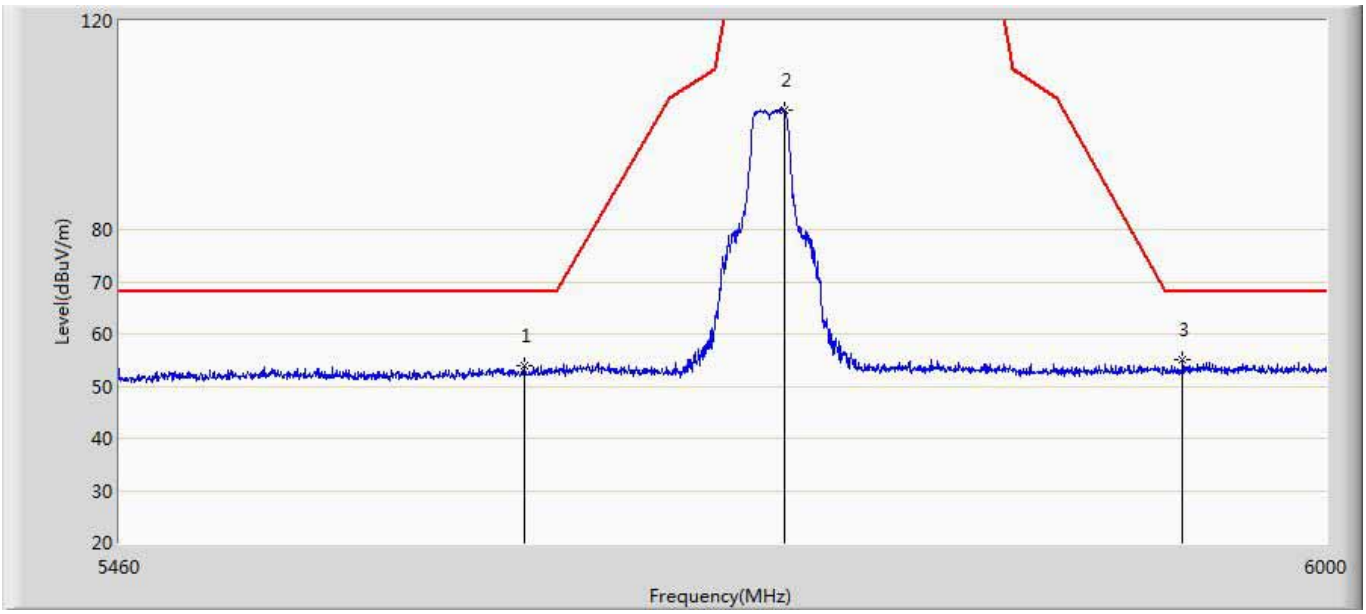
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	56.920	17.386	-17.080	74.000	39.534	PK
2	*	5185.000	94.393	54.812	20.393	74.000	39.581	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant0	



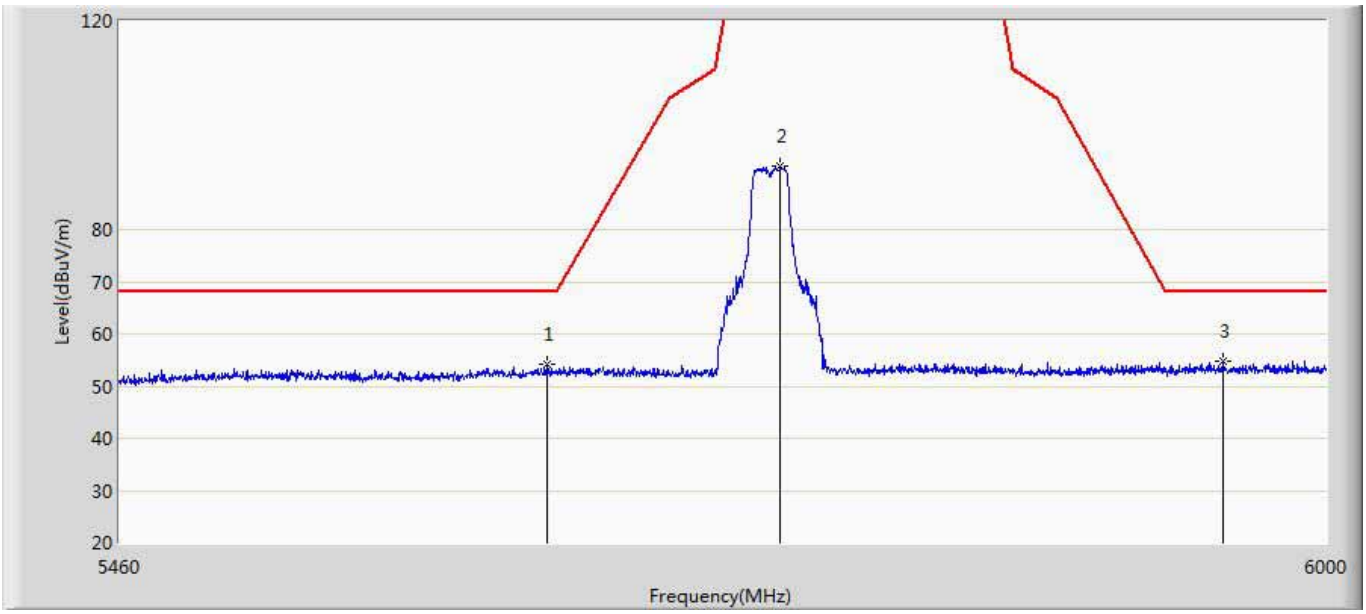
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	43.070	3.536	-10.930	54.000	39.534	AV
2	*	5184.700	83.841	44.263	29.841	54.000	39.579	AV

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:14
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5745MHz by 802.11a with ant0	



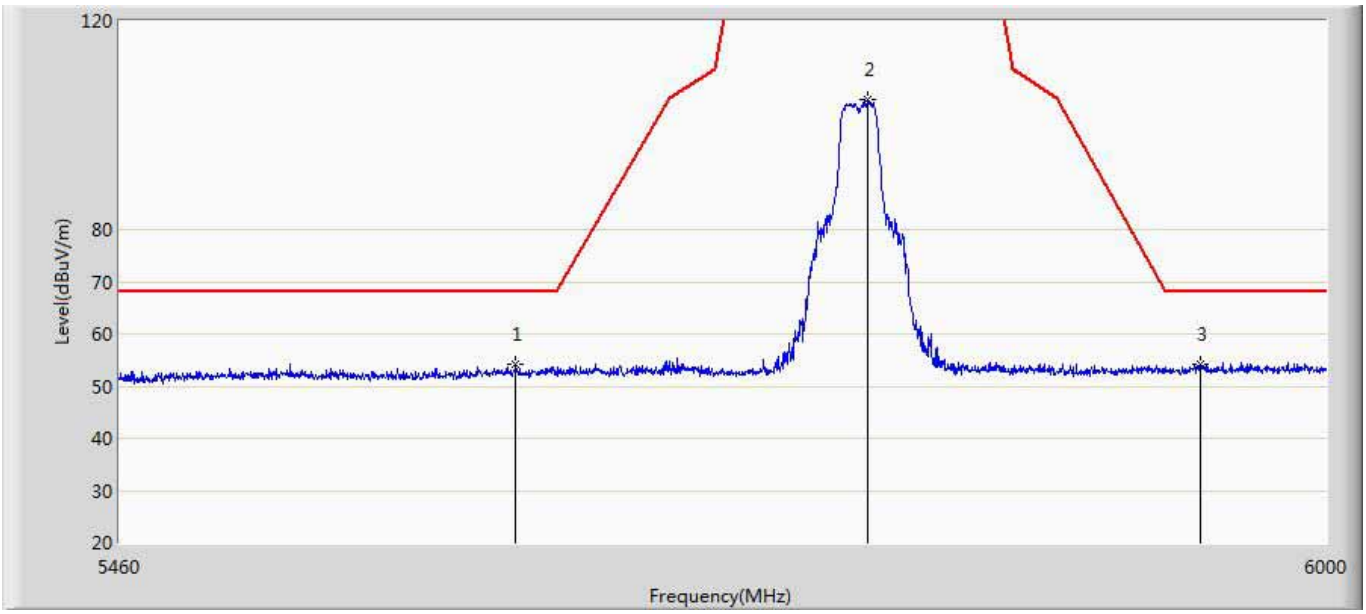
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5635.500	53.936	13.518	-14.264	68.200	40.418	PK
2		5751.330	103.005	62.404	-19.195	122.200	40.601	PK
3	*	5933.310	54.976	14.056	-13.224	68.200	40.920	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:20
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5745MHz by 802.11a with ant0	



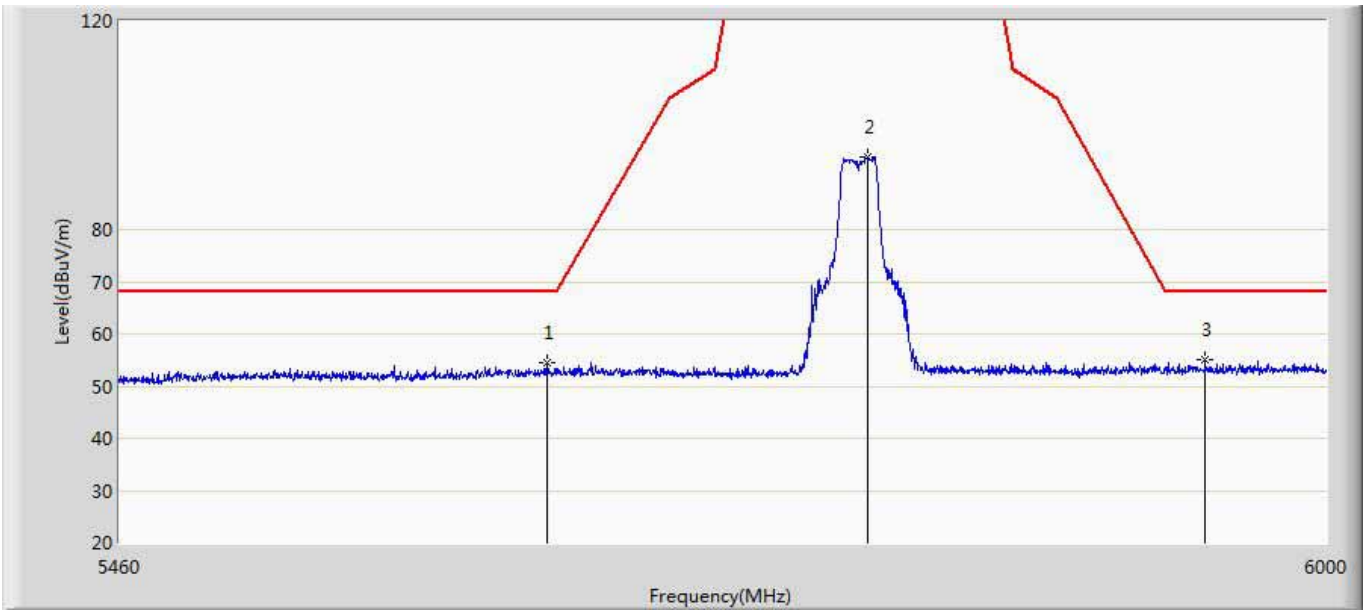
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5646.030	54.246	13.855	-13.954	68.200	40.391	PK
2		5749.440	92.089	51.492	-30.111	122.200	40.596	PK
3	*	5951.940	54.747	13.712	-13.453	68.200	41.035	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:21
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5785MHz by 802.11a with ant0	



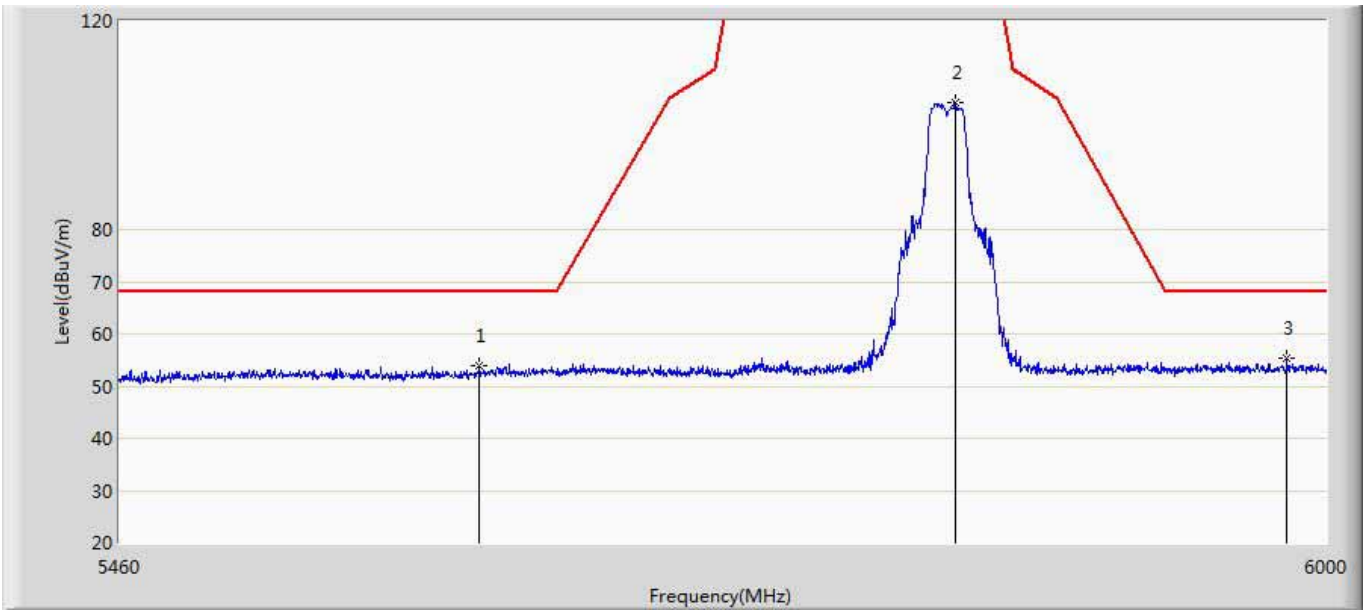
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5631.990	54.157	13.695	-14.043	68.200	40.462	PK
2		5789.130	104.852	64.118	-17.348	122.200	40.734	PK
3	*	5941.140	54.202	13.210	-13.998	68.200	40.992	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:23
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5785MHz by 802.11a with ant0	



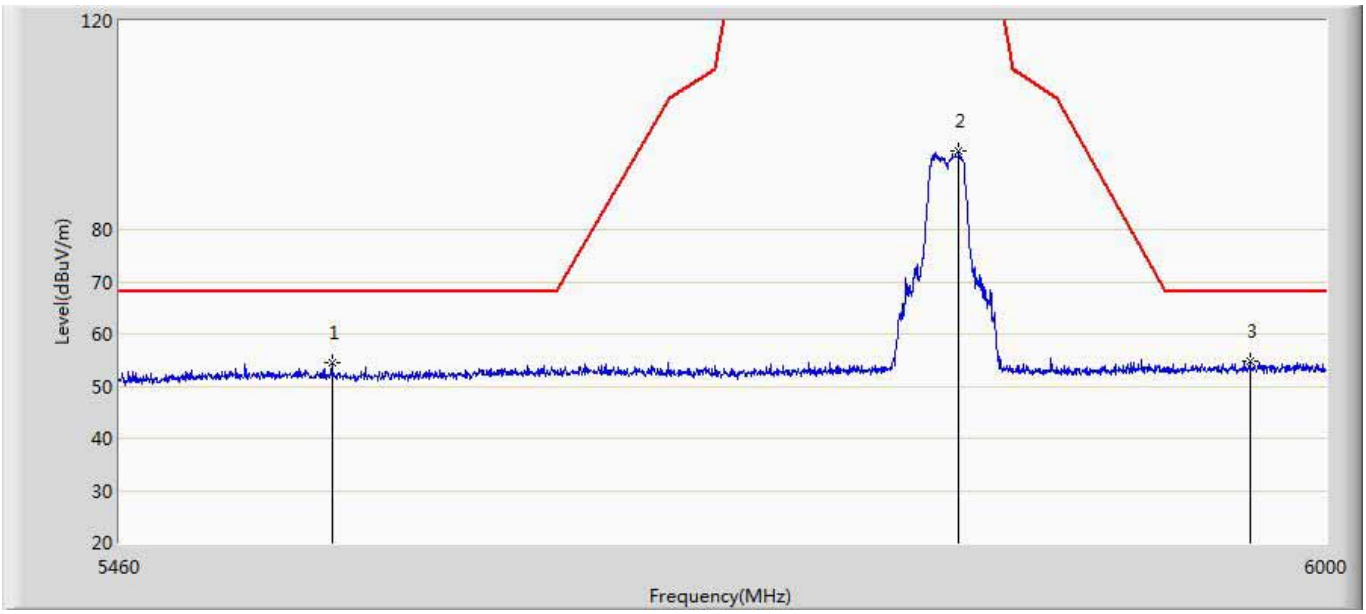
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5645.490	54.431	14.044	-13.769	68.200	40.386	PK
2		5789.130	93.997	53.263	-28.203	122.200	40.734	PK
3	*	5943.570	55.073	14.058	-13.127	68.200	41.014	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:24
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5825MHz by 802.11a with ant0	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5615.790	54.025	13.595	-14.175	68.200	40.430	PK
2		5829.090	104.359	63.637	-17.841	122.200	40.722	PK
3	*	5981.910	55.261	14.217	-12.939	68.200	41.044	PK

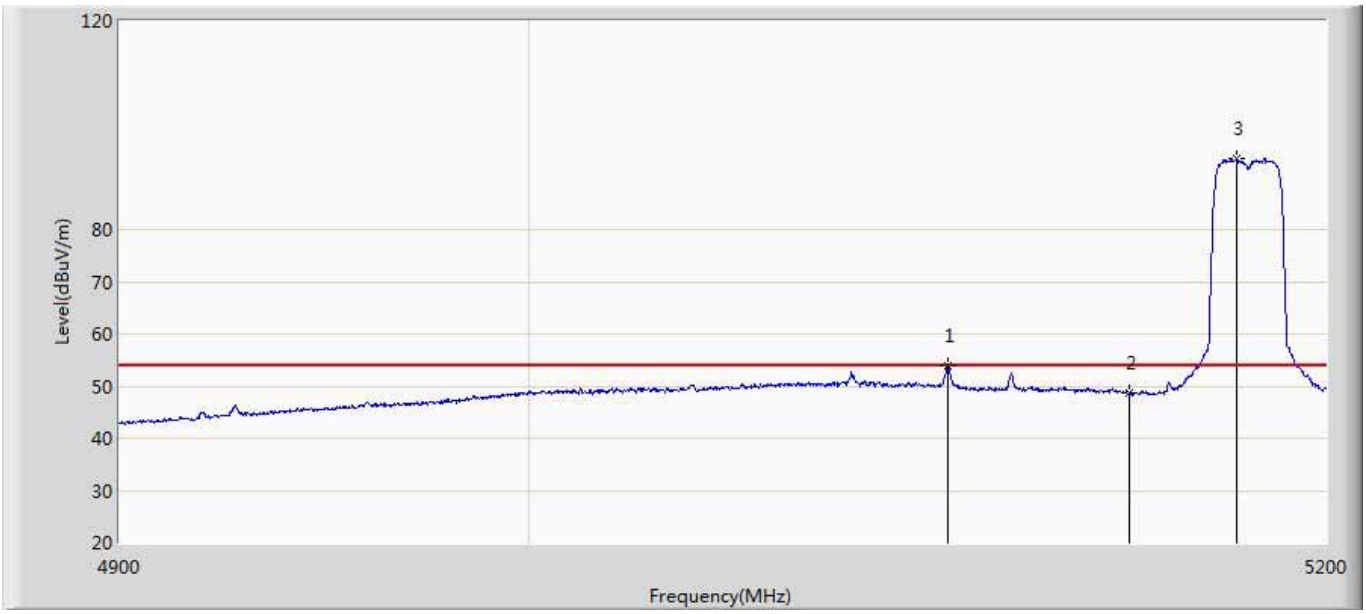
Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:27
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5825MHz by 802.11a with ant0	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5551.530	54.563	14.364	-13.637	68.200	40.199	PK
2		5830.440	94.998	54.266	-27.202	122.200	40.731	PK
3	*	5964.360	54.662	13.654	-13.538	68.200	41.008	PK

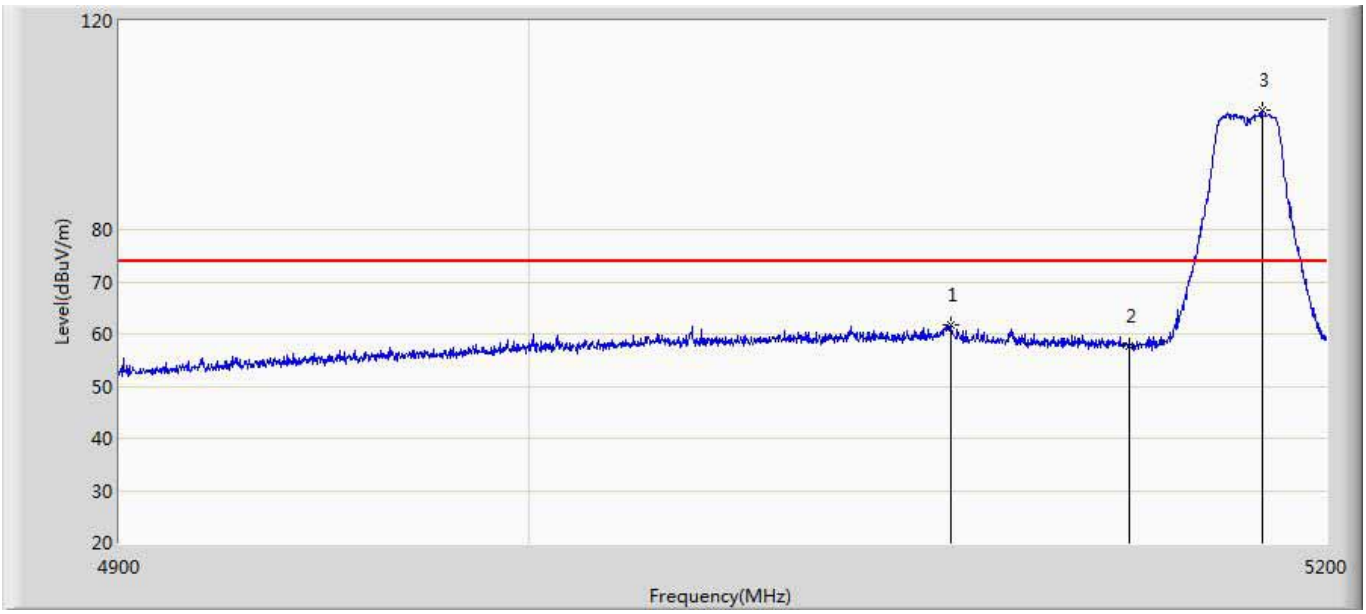
Ant 1:

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant1	



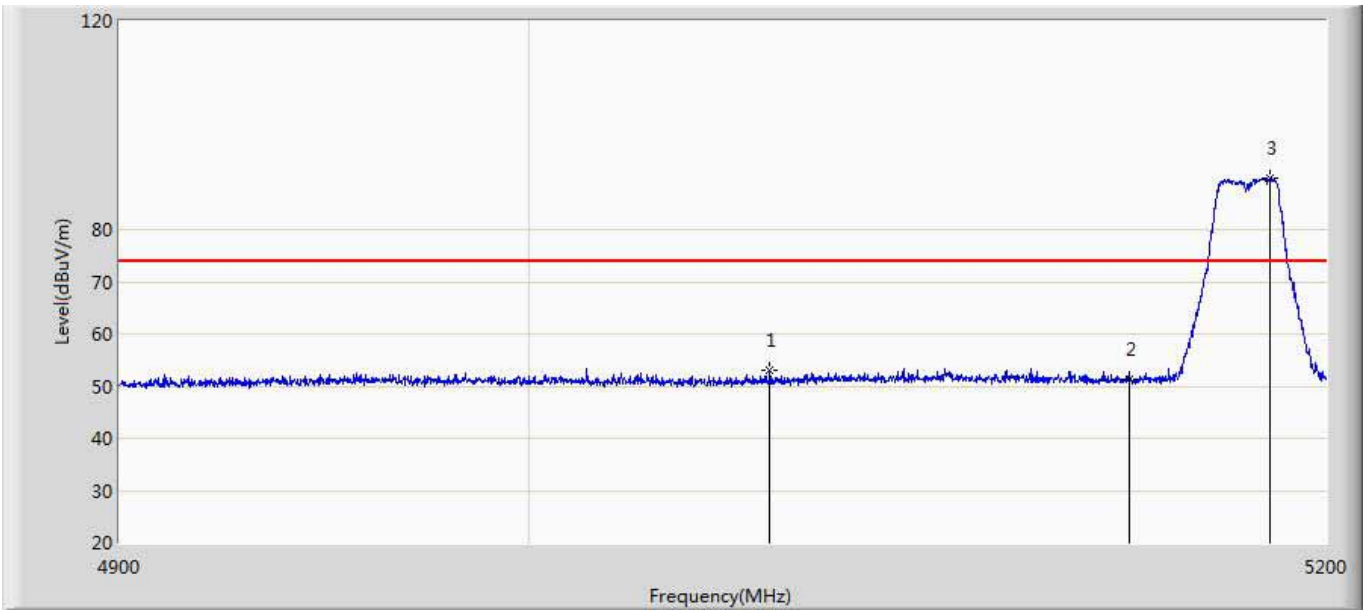
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5104.000	53.851	14.355	-0.149	54.000	39.496	AV
2		5150.000	48.623	9.089	-5.377	54.000	39.534	AV
3	*	5177.050	93.559	53.967	39.559	54.000	39.592	AV

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant1	



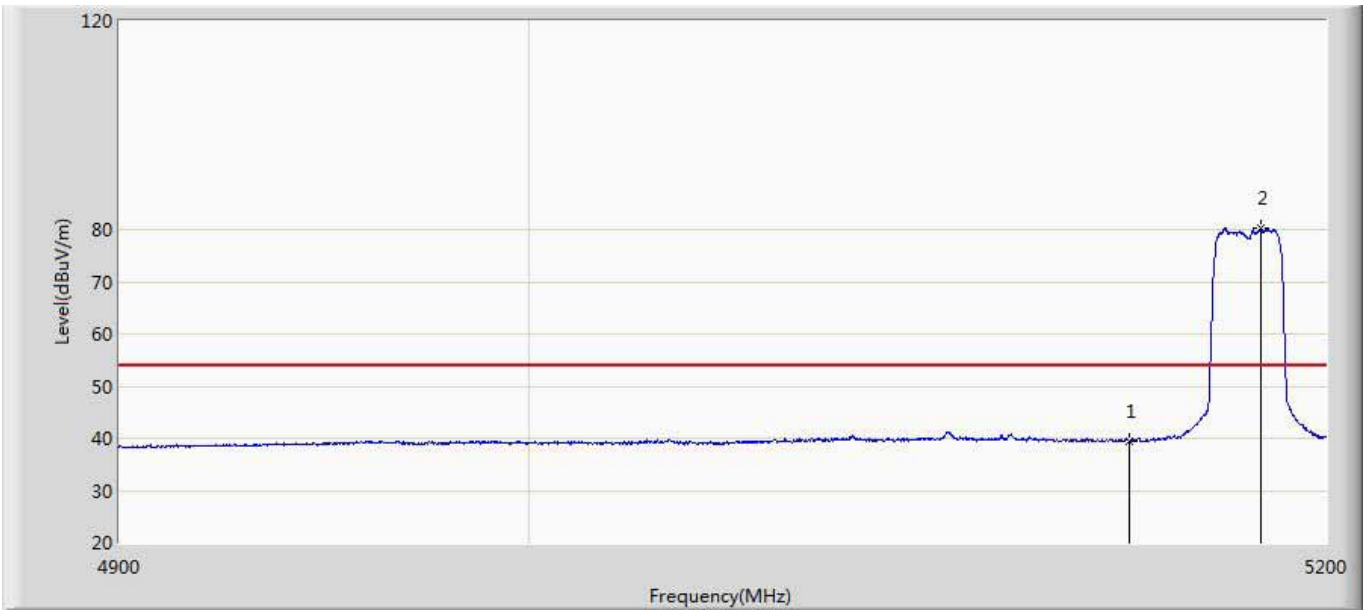
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5104.900	61.599	22.098	-12.401	74.000	39.501	PK
2		5150.000	57.782	18.248	-16.218	74.000	39.534	PK
3	*	5183.650	102.967	63.398	28.967	74.000	39.569	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant1	



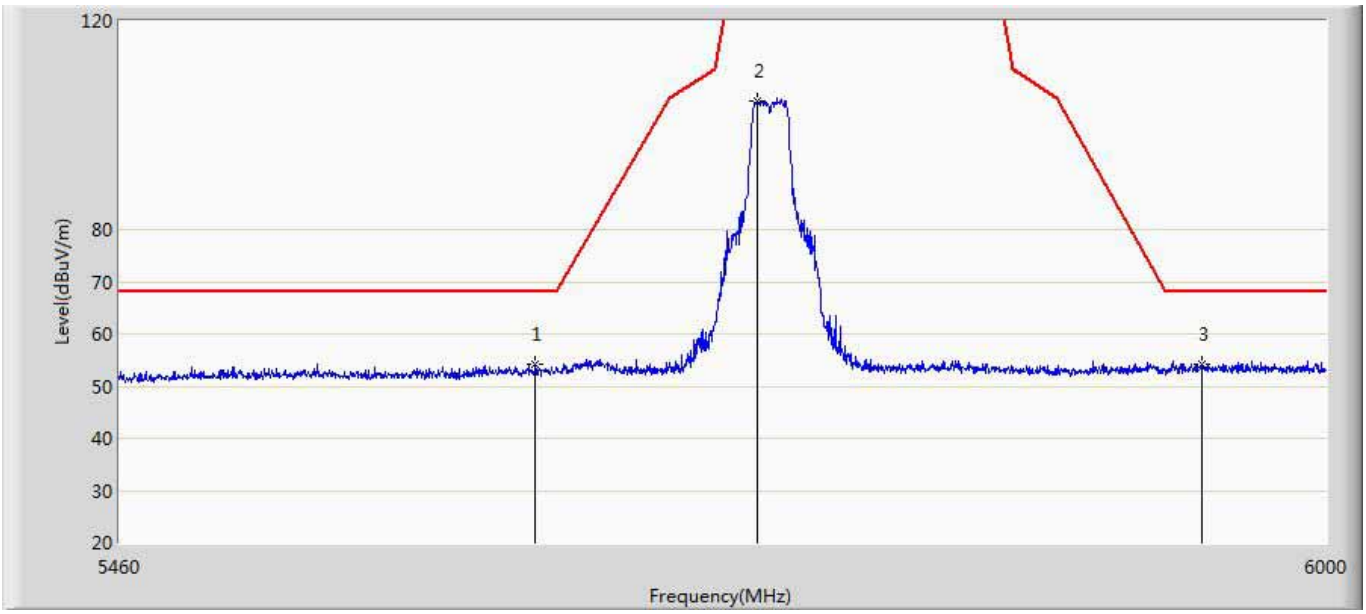
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5059.600	53.093	13.708	-20.907	74.000	39.386	PK
2		5150.000	51.341	11.807	-22.659	74.000	39.534	PK
3	*	5185.600	89.857	50.270	15.857	74.000	39.587	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 03:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11a with ant1	



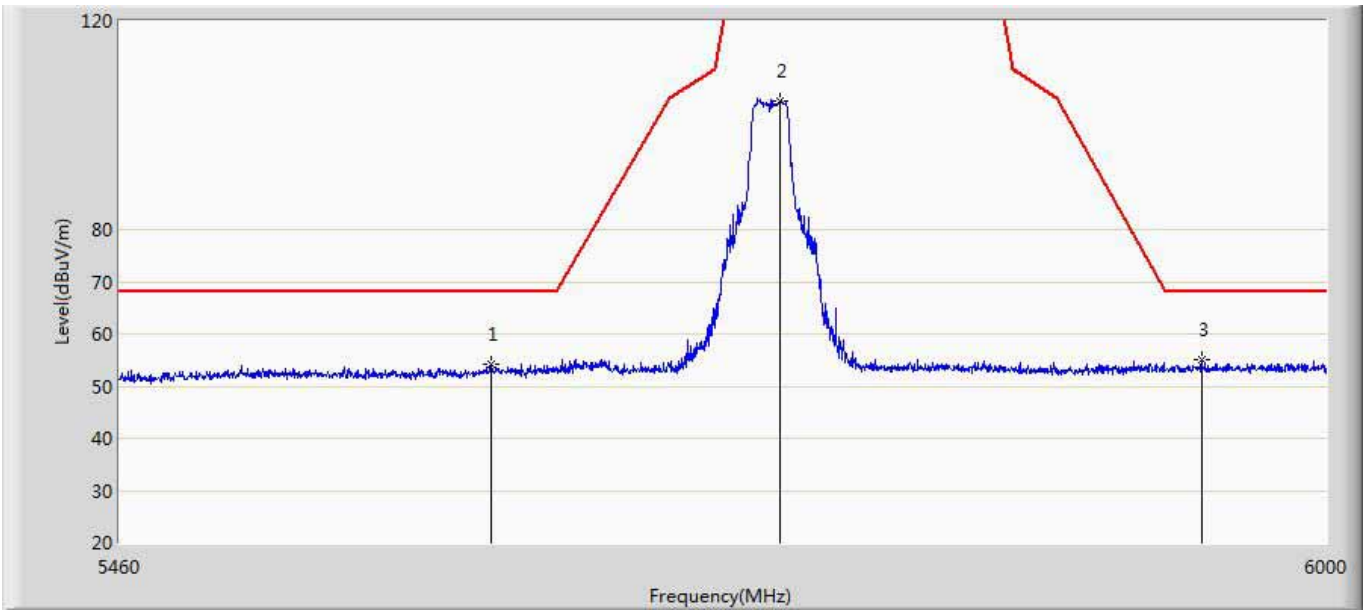
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	39.456	-0.078	-14.544	54.000	39.534	AV
2	*	5183.350	80.166	40.600	26.166	54.000	39.566	AV

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 04:16
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5745MHz by 802.11a with ant1	



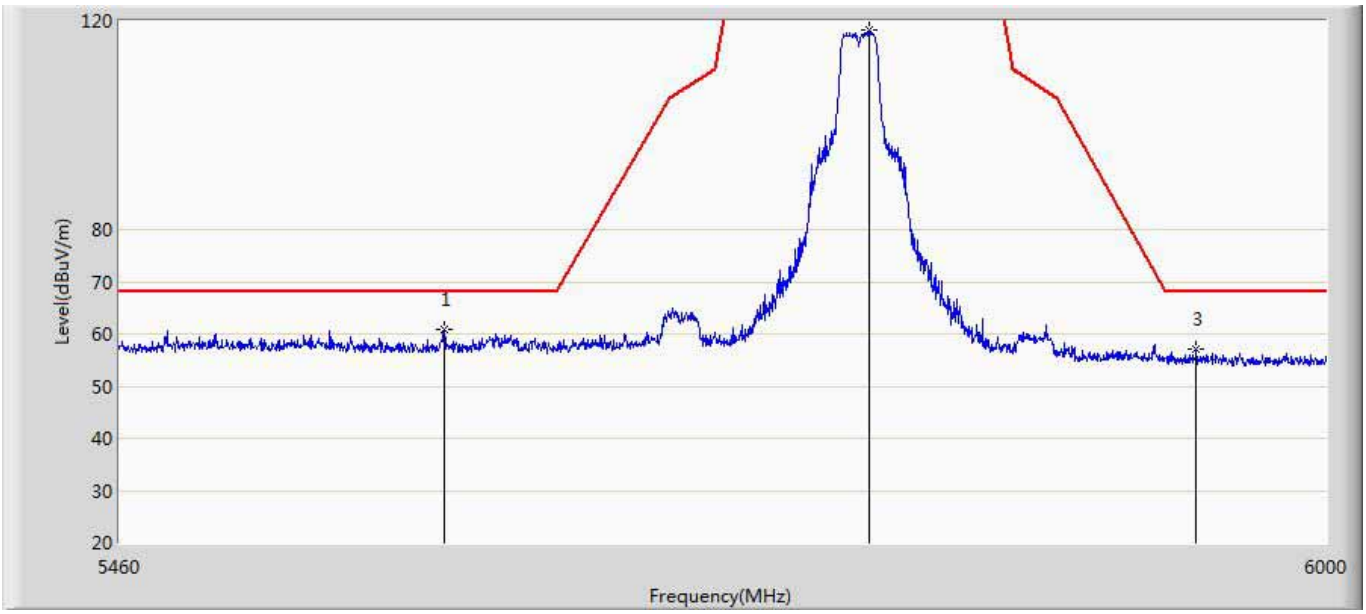
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5640.630	54.109	13.755	-14.091	68.200	40.353	PK
2		5738.910	104.698	64.134	-17.502	122.200	40.563	PK
3	*	5941.950	54.270	13.270	-13.930	68.200	41.000	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 04:18
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5745MHz by 802.11a with ant1	



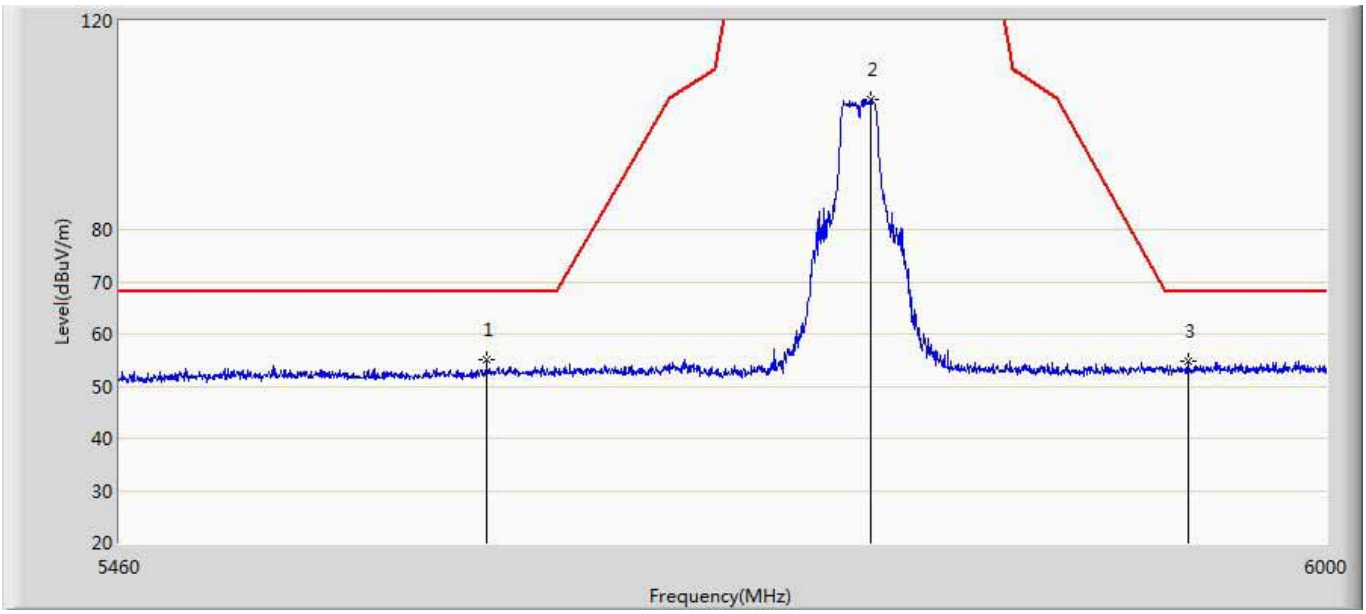
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5621.190	54.153	13.636	-14.047	68.200	40.517	PK
2		5749.710	104.672	64.075	-17.528	122.200	40.597	PK
3	*	5941.950	54.947	13.947	-13.253	68.200	41.000	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 04:20
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5785MHz by 802.11a with ant1	



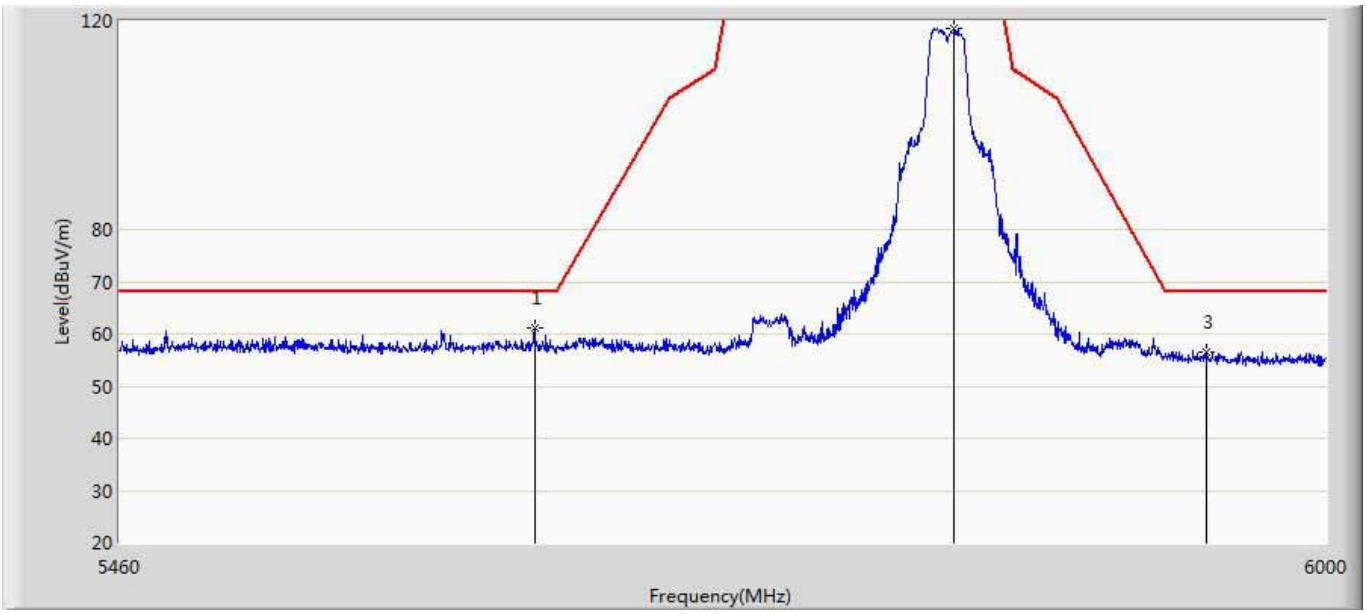
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5600.400	60.730	20.419	-7.470	68.200	40.311	PK
2	*	5789.940	118.264	77.525	-3.936	122.200	40.739	PK
3		5939.250	57.057	16.082	-11.143	68.200	40.975	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 04:22
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5785MHz by 802.11a with ant1	



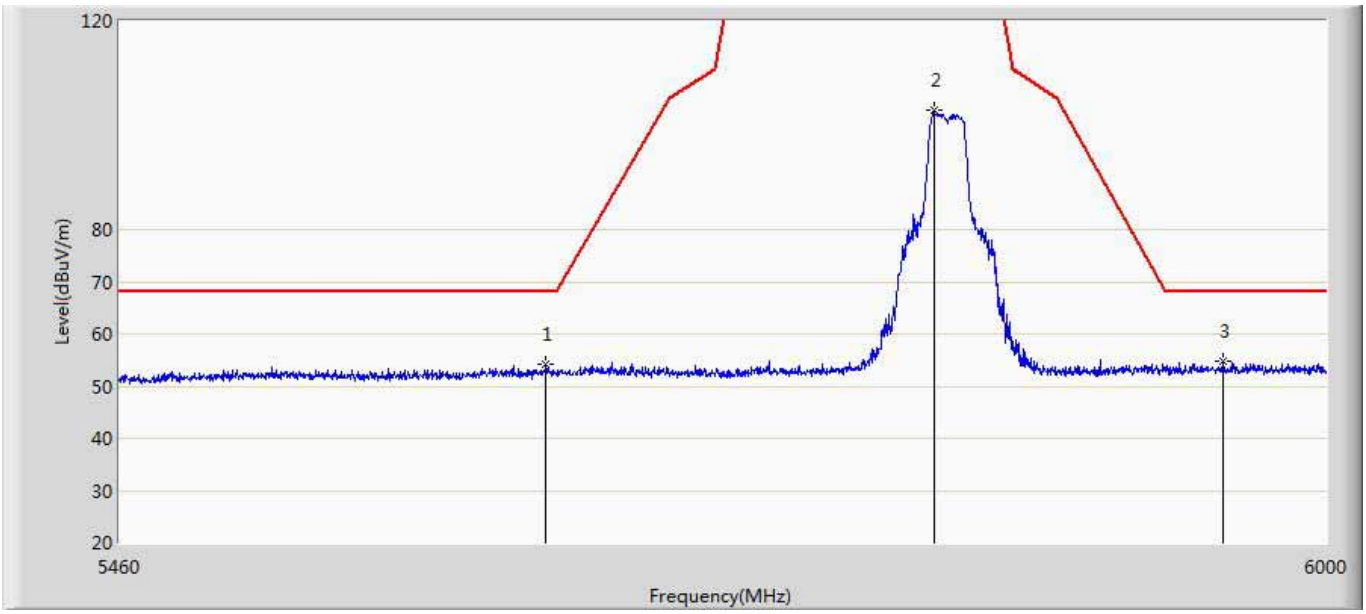
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5619.030	55.216	14.734	-12.984	68.200	40.482	PK
2		5790.480	104.945	64.202	-17.255	122.200	40.743	PK
3		5935.470	54.883	13.943	-13.317	68.200	40.940	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 04:24
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5825MHz by 802.11a with ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5640.360	61.247	20.890	-6.953	68.200	40.357	PK
2	*	5828.280	118.472	77.756	-3.728	122.200	40.715	PK
3		5944.110	56.651	15.631	-11.549	68.200	41.020	PK

Engineer: Scott	
Site: AC5	Time: 2017/02/22 - 04:26
Limit: FCC-15.407 new new	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Radio Controller	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5825MHz by 802.11a with ant1	



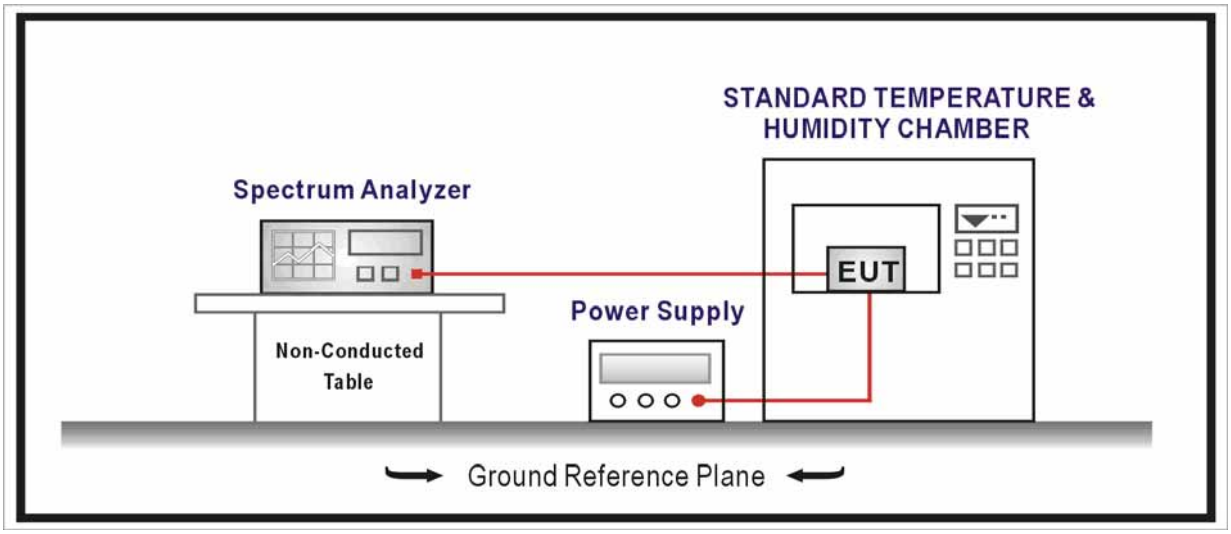
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5645.220	54.158	13.774	-14.042	68.200	40.384	PK
2		5818.830	102.904	62.158	-19.296	122.200	40.746	PK
3	*	5951.670	54.869	13.833	-13.331	68.200	41.036	PK

10. Frequency Stability

10.1. Test Equipment

Frequency Stability / TR-7					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.01.15
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.09
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.09
AC Power Supply	IDRC	CF-500TP	979422	2016.09.16	2017.09.16
DC Power Supply	IDRC	CD-035-020PR	977272	2016.09.16	2017.09.16
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2017.01.04	2018.01.03
Temperature/Humidity Meter	zhichen	ZC1-2	TR7-TH	2016.04.10	2017.04.10
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

10.2. Test Setup



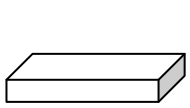
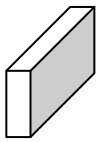
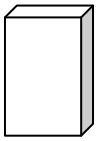
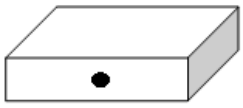
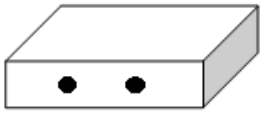
10.3. Limit

Frequency Stability Limit	
UNII Devices	
☒	In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
IEEE Std. 802.11n-2009	
☒	The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25ppm maximum for the 2.4 GHz band.

10.4. Test Procedure

Frequency Stability Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		6.8	Frequency stability tests
	☒	ANSI C63.10	6.8.1	Frequency stability with respect to ambient temperature
	☒	ANSI C63.10	6.8.2	Frequency stability when varying supply voltage

10.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Frequency Stability</td></tr>
<tr><td rowspan="5">Device Category</td><td>☒</td><td colspan="3">Outdoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Indoor AP</td></tr>
<tr><td>☐</td><td colspan="3">Fixed point-to-point AP</td></tr>
<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
<tr><td>☐</td><td colspan="3">Client</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

10.6. Test Result

Product Name	:	Radio Controller	Power	:	DC 3.7V
Model No.	:	YKQ02FM	Test Site	:	TR7
Test Mode	:	Carrier Wave	Test Date	:	2017.02.22

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
-30	5180.000	117	0.02	±20
-20	5180.000	-107	0.02	±20
-10	5180.000	-147	0.03	±20
0	5180.000	113	0.02	±20
10	5180.000	-92	0.02	±20
20	5180.000	-86	0.02	±20
30	5180.000	106	0.02	±20
40	5180.000	99	0.02	±20
50	5180.000	-121	0.02	±20
-30	5785.000	115	0.02	±20
-20	5785.000	152	0.03	±20
-10	5785.000	118	0.02	±20
0	5785.000	122	0.02	±20
10	5785.000	-83	0.01	±20
20	5785.000	-95	0.02	±20
30	5785.000	249	0.04	±20
40	5785.000	177	0.03	±20
50	5785.000	158	0.03	±20

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
3V	5180.000	118	0.02	±20
3.7V	5180.000	99	0.02	±20
4.2V	5180.000	109	0.02	±20
3V	5785.000	112	0.02	±20
3.7V	5785.000	116	0.02	±20
4.2V	5785.000	-151	0.03	±20

11. Antenna Requirement

11.1. Limit

Antenna Requirement Limit
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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

11.2. Antenna Connector Construction

Antenna Connector Construction	
☒	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	

The End