Test Report

FCC Part15 Subpart E

Product Name : AC1900 Smart Wi-Fi Router

Model No. : K3C

FCC ID : YJYK3C

Applicant : Phicomm (Shanghai) Co., Ltd.

Address : NO.3666,Sixian Rd.,Songjiang District,Shanghai,P.R.China

Date of Receipt : Feb. 21, 2017

Test Date : Feb. 21, 2017~ Jun. 19, 2017

Issued Date : July. 07, 2017

Report No. : 1722077R-RF-US-P09V02

Report Version : V1.0

Test Report Certification

Issued Date : July. 07, 2017
Report No. : 1722077R-RF-US-P09V02

Product Name	:	AC1900 Smart Wi-Fi Router
Applicant	:	Phicomm (Shanghai) Co., Ltd.
Address	:	NO.3666,Sixian Rd.,Songjiang District,Shanghai,P.R.China
Manufacturer	:	Phicomm (Shanghai) Co., Ltd.
Address	:	NO.3666,Sixian Rd.,Songjiang District,Shanghai,P.R.China
Model No.	:	K3C
FCC ID	:	YJYK3C
EUT Voltage	:	DC 12V
Test Voltage		AC 120V/60Hz
Brand Name	:	PHICOMM
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 v01r04 KDB 662911 D01 Multiple Transmitter Output v02r01
Test Result	:	Complied
Performed Location	:	DEKRA Testing and Certification (Suzhou) Co., Ltd. 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 : Kitty Li

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Reviewed By : Jack Zhang

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Approved By : Harry Zhao

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TABLE OF CONTENTS

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1722077R-RF-US-P09V02	V1.0	Initial Issued Report	July. 07, 2017

1. General Information

1.1. EUT Description

Product Name	AC1900 Smart Wi-Fi Router						
Brand Name	PHICOMM						
Model No.	K3C						
EUT Voltage	DC 12V						
Test Voltage	AC 120V/60Hz						
Type of Modulation	OFDM						
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps						
	802.11n: up to 450Mbps						
	802.11ac: up to 1.3Gbps						
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 AP			
			☒	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 manufacturer	VICTORY GIANT TECHNOLOGY（HUI ZHOU）CO.，LTD.					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☒	3*TX+3*RX
Antenna technology	☒	SISO for 802.11a				
	☒	MIMO for 802.11n/ac	☐	Basic		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☐	Spatial Multiplexing		
			☒	CDD		
			☒	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
	☒	Internal	☐	PIFA		
			☒	PCB		
			☐	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
			☐	Cross-polarize Antenna		
Antenna Gain #0	6dBi					
Antenna Gain #1	6dBi					
Antenna Gain #2	6dBi					
Directional Gain	Power: 6dBi					
	PSD : 10.77dBi					
Beam-forming Gain	4.77dBi					
Directional Gain	10.77dBi					

1.3. Working Frequency of Each Channel:

802.11a/n/ac(20MHz) 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
802.11n/ac(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz	159	5795 MHz
802.11ac(80MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	155	5775 MHz	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
Mode 2: Transmit by 802.11n(20MHz)
Mode 3: Transmit by 802.11n(40MHz)
Mode 4: Transmit by 802.11ac(20MHz)
Mode 5: Transmit by 802.11ac(40MHz)
Mode 6: Transmit by 802.11ac(80MHz)
Mode 7: Transmit by 802.11n(20MHz) with Beamforming
Mode 8: Transmit by 802.11n(40MHz) with Beamforming
Mode 9: Transmit by 802.11ac(20MHz) with Beamforming
Mode 10: Transmit by 802.11ac(40MHz) with Beamforming
Mode 11: Transmit by 802.11ac(80MHz) with Beamforming

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.

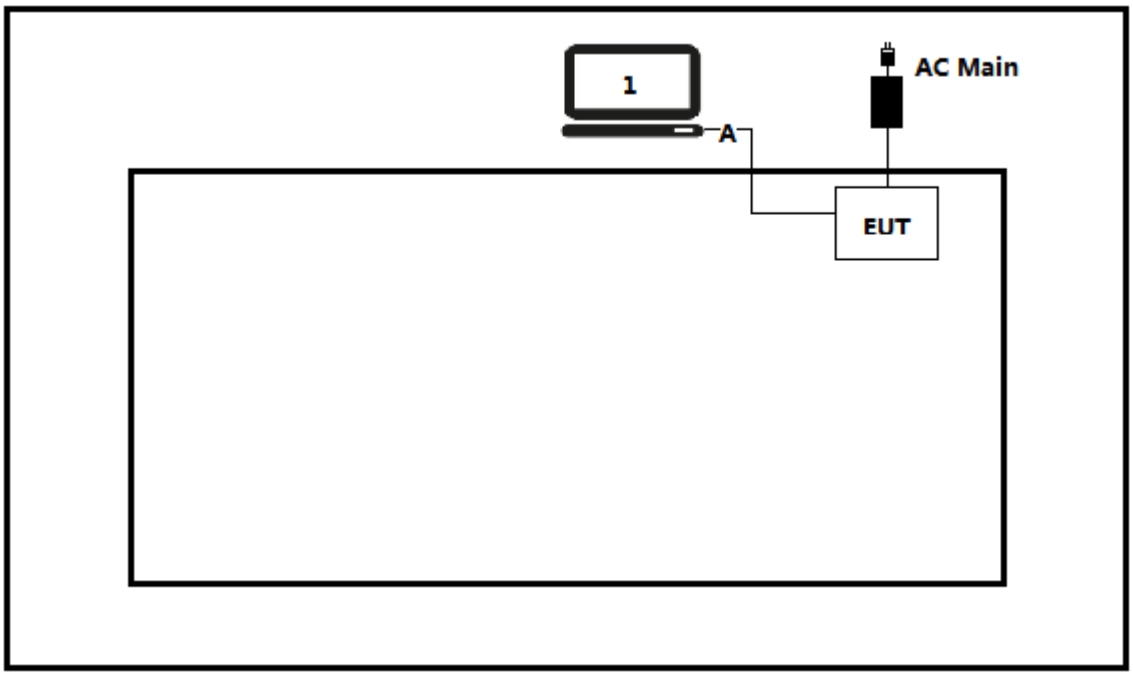
1.5. Tested System Details

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

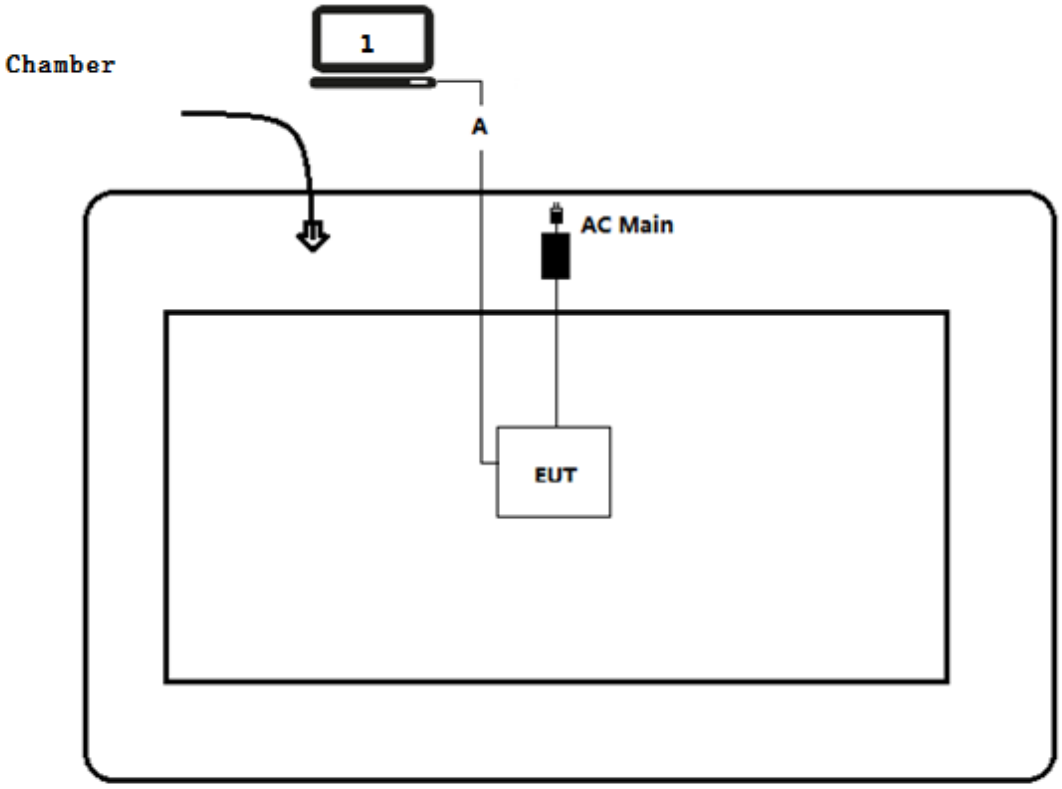
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded
2	Notebook	Asus	N80V	8BN0AS226971468	None-shielded
3	POE	N/A	N/A	N/A	Power by adapter

1.6. Configuration of Tested System

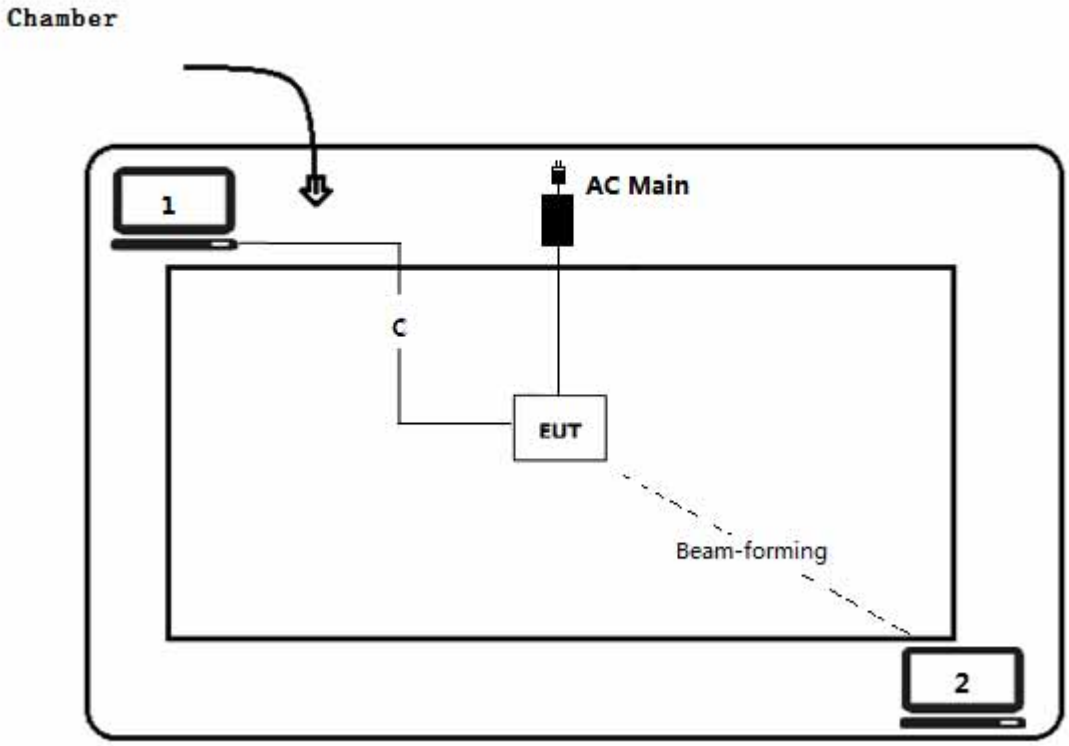
Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



Test setup Diagram- Radiated Emission



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

1.7. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Run the software（Lantiq DUT）, and set the test mode and channel, then start to continue transmit or receive.

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/n(20MHz) /ac(20MHz)	36	5180MHz	44	5220MHz	48	5240MHz
	149	5745MHz	157	5785MHz	165	5825MHz
802.11n(40MHz)/ ac(40MHz)	38	5190MHz	46	5230MHz	N/A	N/A
	151	5755MHz	159	5795MHz	N/A	N/A
802.11ac(80MHz)	42	5210MHz	155	5775MHz	N/A	N/A

2.3. Power Parameter Value of the test software

Test Mode	Frequency	Power Setting			
		Ant 1	Ant 2	Ant 3	Ant 1+2+3
802.11a	5180	24	24	24	-
	5220	24	24	24	-
	5240	24	24	24	-
	5745	24.5	24.5	24.5	-
	5785	25	25	25	-
	5825	25	25	25	-
802.11n(20MHz)	5180	-	-	-	17
	5220	-	-	-	17
	5240	-	-	-	17
	5745	-	-	-	25
	5785	-	-	-	24.5
	5825	-	-	-	24.5
802.11n(40MHz)	5190	-	-	-	17
	5230	-	-	-	17
	5755	-	-	-	23.5
	5795	-	-	-	24.5
802.11ac(20MHz)	5180	-	-	-	17
	5220	-	-	-	17
	5240	-	-	-	17
	5745	-	-	-	24.5
	5785	-	-	-	24.5
	5825	-	-	-	24.5
802.11ac(40MHz)	5190	-	-	-	17
	5230	-	-	-	17
	5755	-	-	-	23
	5795	-	-	-	24
802.11ac(80MHz)	5210	-	-	-	24
	5775	-	-	-	19
802.11n(20MHz) with Beamforming	5180	-	-	-	Auto
	5220	-	-	-	Auto
	5240	-	-	-	Auto
	5745	-	-	-	Auto

	5785	-	-	-	Auto
	5825	-	-	-	Auto
802.11n(40MHz) with Beamforming	5190	-	-	-	Auto
	5230	-	-	-	Auto
	5755	-	-	-	Auto
	5795	-	-	-	Auto
802.11ac(20MHz) with Beamforming	5180	-	-	-	Auto
	5220	-	-	-	Auto
	5240	-	-	-	Auto
	5745	-	-	-	Auto
	5785	-	-	-	Auto
	5825	-	-	-	Auto
802.11ac(40MHz) with Beamforming	5190	-	-	-	Auto
	5230	-	-	-	Auto
	5755	-	-	-	Auto
	5795	-	-	-	Auto
802.11ac(80MHz) with Beamforming	5210	-	-	-	Auto
	5775	-	-	-	Auto

2.4. Transmit description

Modulation Mode	Ant 1	Ant 2	Ant 3	Ant 1+2+3
802.11a	√	√	√	×
802.11n/ac(20MHz)	×	×	×	√
802.11n/ac(40MHz)	×	×	×	√
802.11ac(80MHz)	×	×	×	√

2.5. Power vs Data Rate

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)						
		802.11b	802.11g	802.11a	20MHz Bandwidth		40MHz Bandwidth	
					800ns GI	400ns GI	800ns GI	400ns GI
0	1	---	---	6	6.5	7.2	13.5	15.0
1	1	---	---	9	13.0	14.4	27.0	30.0
2	1	---	---	12	19.5	21.7	40.5	45.0
3	1	---	---	18	26.0	28.9	54.0	60.0
4	1	---	---	24	39.0	43.3	81.0	90.0
5	1	---	---	36	52.0	57.8	108.0	120.0
6	1	---	---	48	58.5	65.0	121.5	135.0
7	1	---	---	54	65.0	72.2	135.0	150.0
8	2	---	---	---	13	14.4	27	30
9	2	---	---	---	26	28.8	54	60
10	2	---	---	---	39	43.4	81	90
11	2	---	---	---	52	57.8	108	120
12	2	---	---	---	78	86.6	162	180
13	2	---	---	---	104	115.6	216	240
14	2	---	---	---	117	130	243	270
15	2	---	---	---	130	144.4	270	300
16	3	---	---	---	19.5	21.6	40.5	45
17	3	---	---	---	39	43.2	81	90
18	3	---	---	---	58.5	65.1	121.5	135
19	3	---	---	---	78	86.7	162	180
20	3	---	---	---	117	129.9	243	270
21	3	---	---	---	156	173.4	324	360
22	3	---	---	---	175.5	195	364.5	405
23	3	---	---	---	195	216.6	405	450

Note 1 : The blue form is the maximum power data rate.

Spatial Streams (Note1)	MCS Index	Modulation type	Coding rate	Data Rate(Mb/s)					
				20MHz		40MHz		80MHz	
				Guard Interval		Guard Interval		Guard Interval	
				800ns	400ns	800ns	400ns	800ns	400ns
1	0	BPSK	1/2	6.5	7.2	13.5	15	29.3	32.5
	1	QPSK	1/2	13	14.4	27	30	58.5	65
	2	QPSK	3/4	19.5	21.7	40.5	45	87.8	97.5
	3	16-QAM	1/2	26	28.9	54	60	117	130
	4	16-QAM	3/4	39	43.3	81	90	175.5	195
	5	64-QAM	2/3	52	57.8	108	120	234	260
	6	64-QAM	3/4	58.5	65	121.5	135	263.3	292.5
	7	64-QAM	5/6	65	72.2	135	150	292.5	325
	8	256-QAM	3/4	78	86.7	162	180	351	390
	9	256-QAM	5/6	N/A	N/A	180	200	390	433.3
2	10	BPSK	1/2	13	14.4	27	30	58.6	65
	11	QPSK	1/2	26	28.8	54	60	117	130
	12	QPSK	3/4	39	43.4	81	90	175.6	195
	13	16-QAM	1/2	52	57.8	108	120	234	260
	14	16-QAM	3/4	78	86.6	162	180	351	390
	15	64-QAM	2/3	104	115.6	216	240	468	520
	16	64-QAM	3/4	117	130	243	270	526.6	585
	17	64-QAM	5/6	130	144.4	270	300	585	650
	18	256-QAM	3/4	156	173.4	324	360	702	780
	19	256-QAM	5/6	N/A	N/A	360	400	780	866.6
3	20	BPSK	1/2	19.5	21.6	40.5	45	87.9	97.5
	21	QPSK	1/2	39	43.2	81	90	175.5	195
	22	QPSK	3/4	58.5	65.1	121.5	135	263.4	292.5
	23	16-QAM	1/2	78	86.7	162	180	351	390
	24	16-QAM	3/4	117	129.9	243	270	526.5	585
	25	64-QAM	2/3	156	173.4	324	360	702	780
	26	64-QAM	3/4	175.5	195	364.5	405	789.9	877.5
	27	64-QAM	5/6	195	216.6	405	450	877.5	975
	28	256-QAM	3/4	234	260.1	486	540	1053	1170
	29	256-QAM	5/6	N/A	N/A	540	600	1170	1299.9

Note 1 : The blue form is the maximum power data rate.

2.6. Duty Cycle

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11a	1.386	0.033	750Hz	1.419	97.67%
802.11 n(20MHz)	1.296	0.036	820Hz	1.332	97.30%
802.11n(40MHz)	0.612	0.06	1.8KHz	0.672	91.07%
802.11ac(20MHz)	1.308	0.033	820Hz	1.341	97.54%
802.11ac(40MHz)	0.621	0.06	1.8KHz	0.681	91.19%
802.11ac(80MHz)	0.324	0.025	3.3KHz	0.349	92.84%
802.11n(20MHz) with Beamforming	4.530	0.080	240Hz	4.610	98.26%
802.11n(40MHz) with Beamforming	2.864	0.088	360Hz	2.952	97.02%
802.11ac(20MHz) with Beamforming	4.480	0.096	240Hz	4.576	97.90%
802.11ac(40MHz) with Beamforming	3.312	0.112	330Hz	3.424	96.73%
802.11ac(80MHz) with Beamforming	2.095	0.100	510Hz	2.195	95.44%

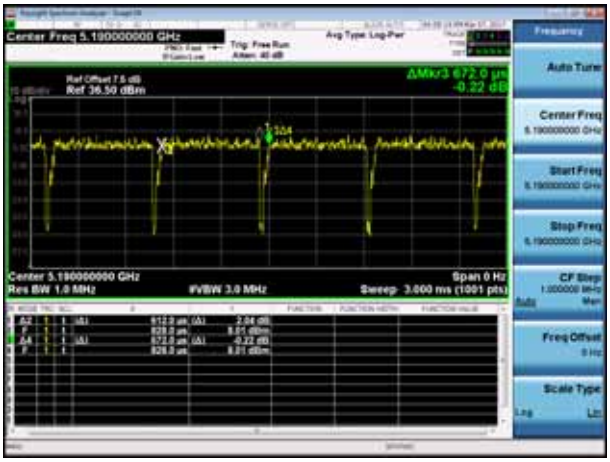
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

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

802.11a

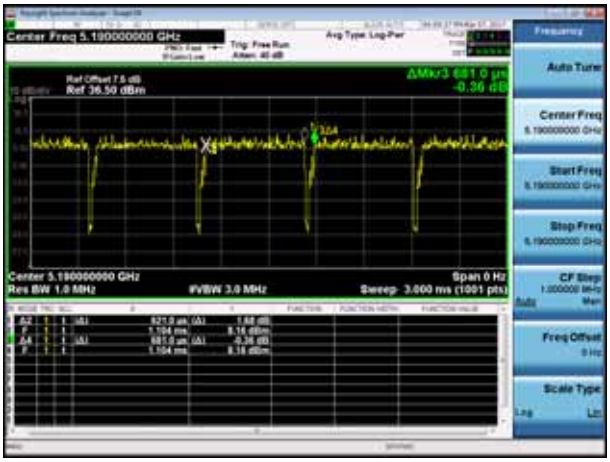
802.11n(20MHz)

802.11n(40MHz)



802.11ac(20MHz)

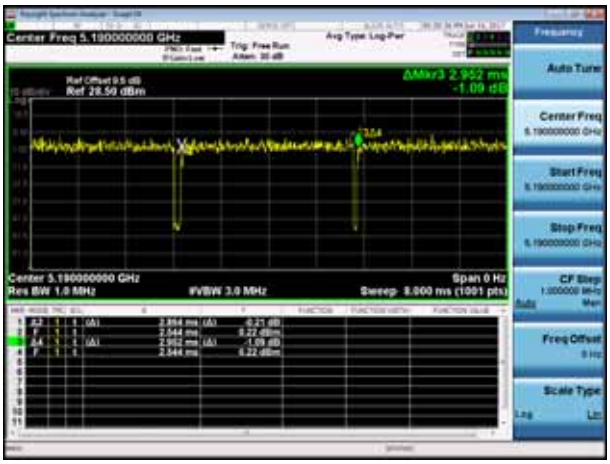
802.11ac(40MHz)



802.11ac(80MHz)

802.11n(20MHz) with Beamforming

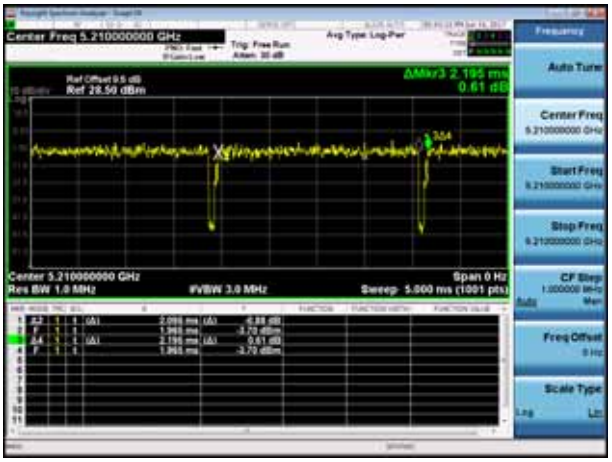
802.11n(40MHz)with Beamforming



802.11ac(20MHz)8 with Beamforming

02.11ac(40MHz) with Beamforming

802.11ac(80MHz) with Beamforming



2.7. 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

2.8. Uncertainty

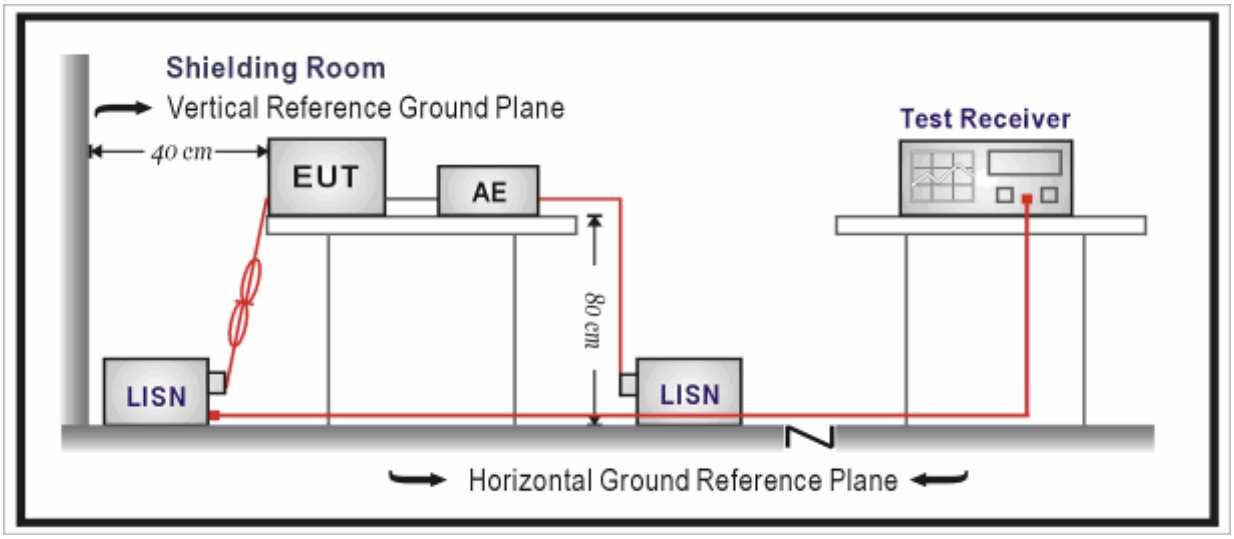
Test Items	Uncertainty
AC Power Line Conducted Emission	±2.02dB
Radiated Emission	Below 1GHz ±3.8 dB
	Above 1GHz ±3.9 dB
RF Antenna Port Conducted Emission	±1.27dB
Radiated Emission Band Edge	±3.9dB
Occupied Bandwidth	±1kHz
Power Spectral Density	±1.27dB
Frequency Stability	±100 Hz

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	2017.03.05	2018.03.04
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

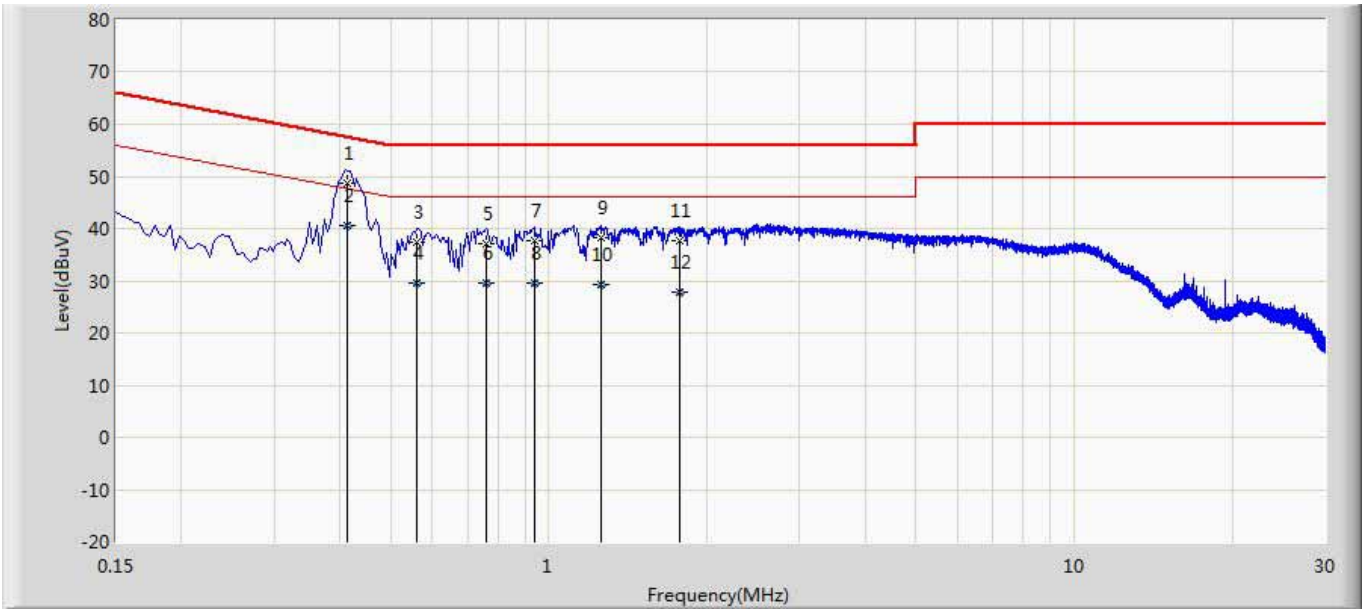
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 – 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

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

Site: TR1	Time: 2017/05/26
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-L1	Polarity: Line
EUT: AC1900 Dual Band Gigabit WiFi Router	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5180MHz by 802.11a with Adapter #1	

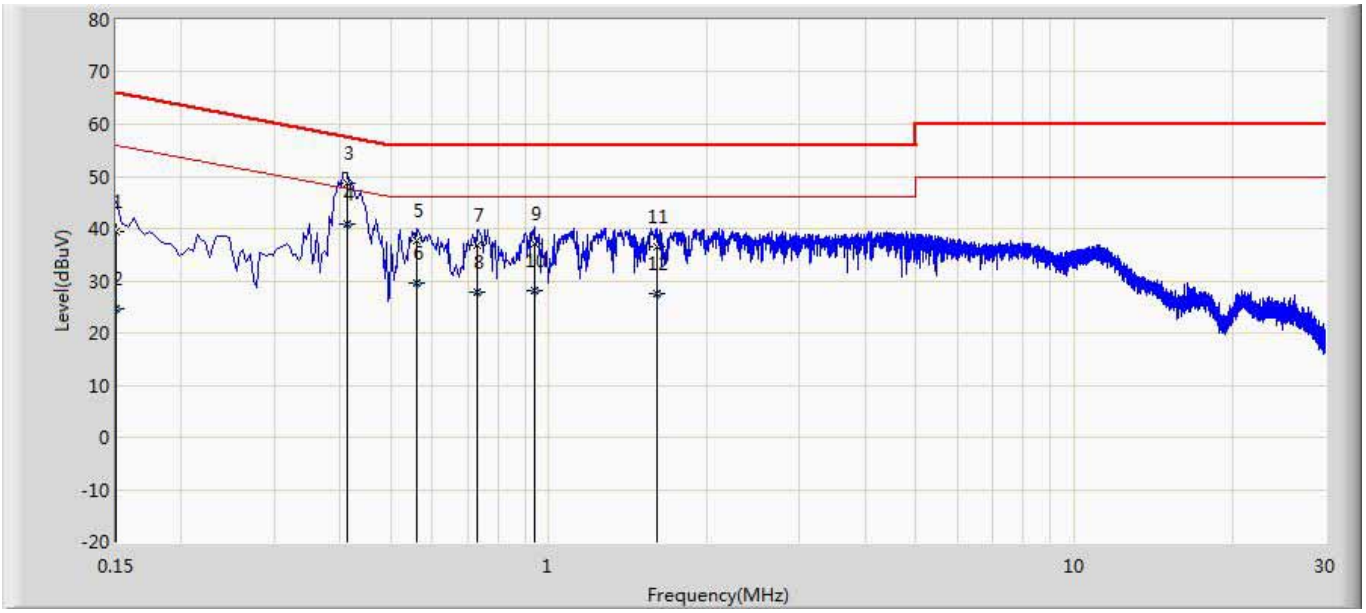


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.414	48.577	38.938	-8.991	57.568	9.600	0.039	0.000	QP
2	*	0.414	40.718	31.079	-6.850	47.568	9.600	0.039	0.000	AV
3		0.562	37.517	27.871	-18.483	56.000	9.600	0.045	0.000	QP
4		0.562	29.468	19.823	-16.532	46.000	9.600	0.045	0.000	AV
5		0.762	37.237	27.583	-18.763	56.000	9.602	0.052	0.000	QP
6		0.762	29.458	19.804	-16.542	46.000	9.602	0.052	0.000	AV
7		0.938	37.581	27.916	-18.419	56.000	9.608	0.056	0.000	QP
8		0.938	29.655	19.990	-16.345	46.000	9.608	0.056	0.000	AV
9		1.258	38.247	28.573	-17.753	56.000	9.610	0.064	0.000	QP
10		1.258	29.355	19.681	-16.645	46.000	9.610	0.064	0.000	AV
11		1.774	37.791	28.097	-18.209	56.000	9.610	0.084	0.000	QP
12		1.774	27.860	18.166	-18.140	46.000	9.610	0.084	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: TR1	Time: 2017/05/26
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-N	Polarity: Neutral
EUT: AC1900 Dual Band Gigabit WiFi Router	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5180MHz by 802.11a with Adapter #1	

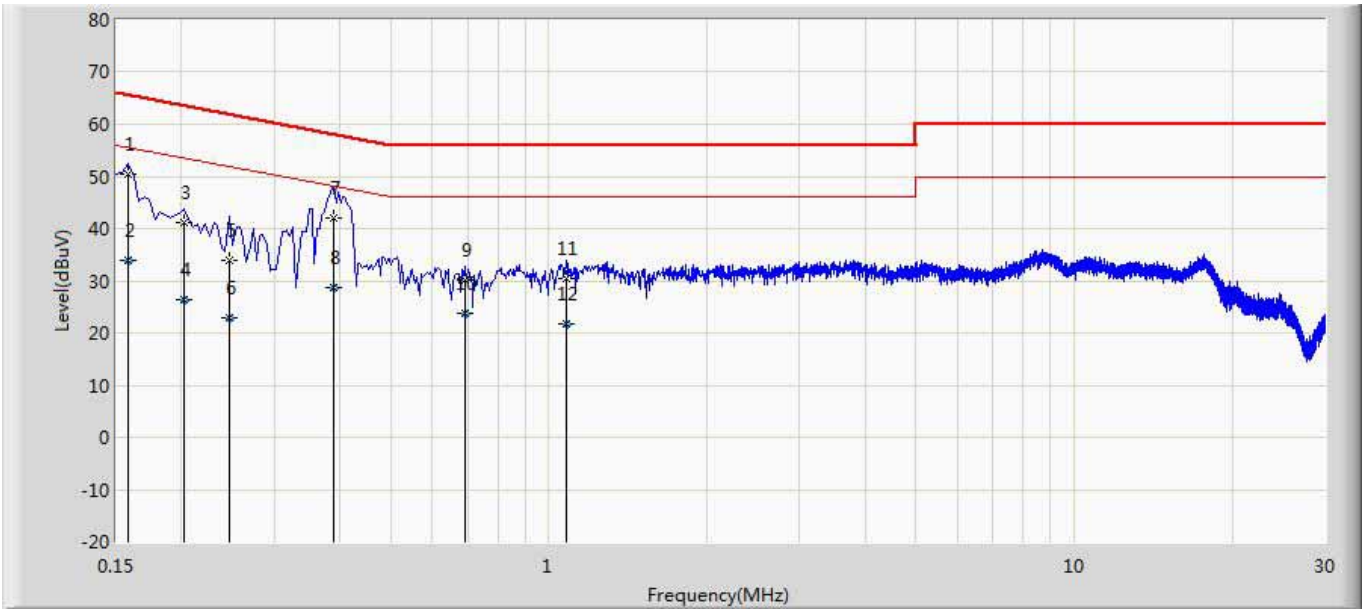


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	39.490	29.876	-26.510	66.000	9.594	0.021	0.000	QP
2		0.150	24.749	15.135	-31.251	56.000	9.594	0.021	0.000	AV
3		0.414	48.790	39.158	-8.778	57.568	9.592	0.039	0.000	QP
4	*	0.414	40.927	31.296	-6.640	47.568	9.592	0.039	0.000	AV
5		0.562	37.629	27.994	-18.371	56.000	9.590	0.045	0.000	QP
6		0.562	29.690	20.055	-16.310	46.000	9.590	0.045	0.000	AV
7		0.730	36.777	27.135	-19.223	56.000	9.590	0.052	0.000	QP
8		0.730	27.720	18.078	-18.280	46.000	9.590	0.052	0.000	AV
9		0.942	37.229	27.581	-18.771	56.000	9.590	0.058	0.000	QP
10		0.942	28.260	18.612	-17.740	46.000	9.590	0.058	0.000	AV
11		1.602	36.525	26.842	-19.475	56.000	9.602	0.080	0.000	QP
12		1.602	27.554	17.872	-18.446	46.000	9.602	0.080	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: TR1	Time: 2017/05/22
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-L1	Polarity: Line
EUT: AC1900 Dual Band Gigabit WiFi Router	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5180MHz by 802.11a with Adapter #2	

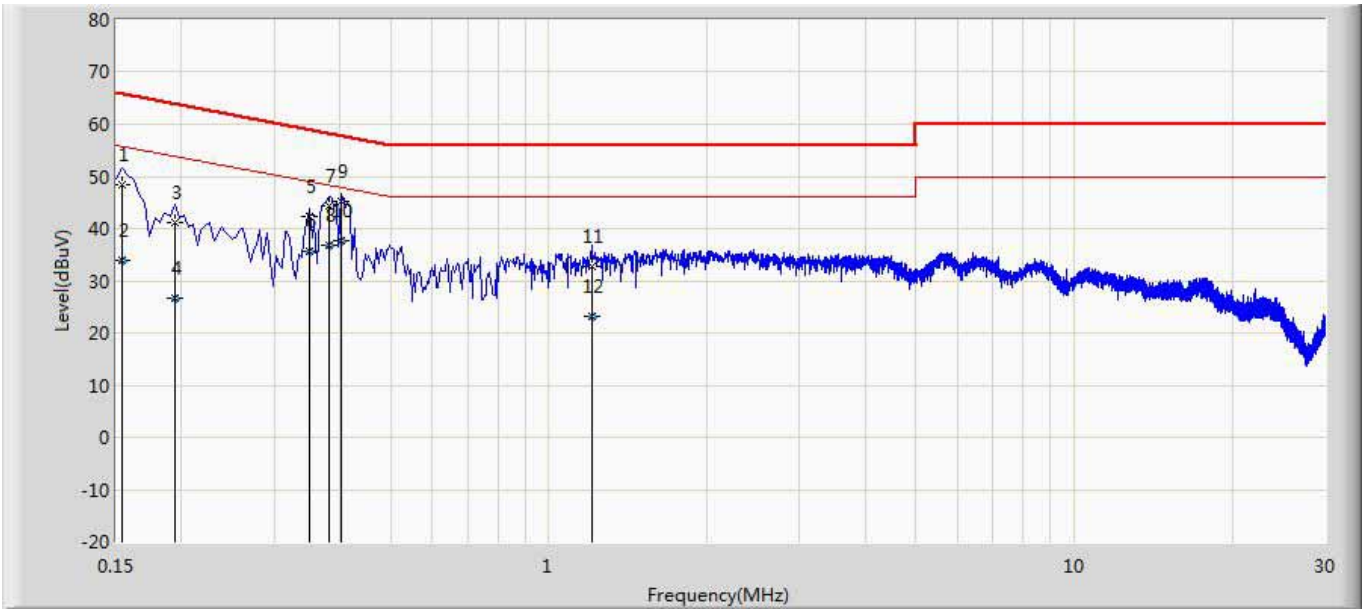


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.158	50.345	40.614	-15.223	65.568	9.671	0.060	0.000	QP
2		0.158	33.946	24.215	-21.622	55.568	9.671	0.060	0.000	AV
3		0.202	41.168	31.458	-22.360	63.528	9.650	0.060	0.000	QP
4		0.202	26.278	16.568	-27.250	53.528	9.650	0.060	0.000	AV
5		0.246	33.891	24.181	-28.000	61.891	9.650	0.060	0.000	QP
6		0.246	22.863	13.153	-29.028	51.891	9.650	0.060	0.000	AV
7		0.390	42.110	32.410	-15.954	58.064	9.640	0.060	0.000	QP
8		0.390	28.740	19.040	-19.324	48.064	9.640	0.060	0.000	AV
9		0.694	30.025	20.335	-25.975	56.000	9.620	0.070	0.000	QP
10		0.694	23.739	14.049	-22.261	46.000	9.620	0.070	0.000	AV
11		1.082	30.491	20.781	-25.509	56.000	9.630	0.080	0.000	QP
12		1.082	21.629	11.919	-24.371	46.000	9.630	0.080	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: TR1	Time: 2017/05/22
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-N	Polarity: Neutral
EUT: AC1900 Dual Band Gigabit WiFi Router	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5180MHz by 802.11a with Adapter #2	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.154	48.432	38.699	-17.349	65.781	9.673	0.060	0.000	QP
2		0.154	33.875	24.142	-21.906	55.781	9.673	0.060	0.000	AV
3		0.194	41.055	31.335	-22.809	63.864	9.660	0.060	0.000	QP
4		0.194	26.660	16.940	-27.204	53.864	9.660	0.060	0.000	AV
5		0.350	42.190	32.484	-16.772	58.962	9.646	0.060	0.000	QP
6		0.350	35.691	25.985	-13.271	48.962	9.646	0.060	0.000	AV
7		0.382	44.385	34.685	-13.851	58.236	9.640	0.060	0.000	QP
8		0.382	36.839	27.139	-11.397	48.236	9.640	0.060	0.000	AV
9		0.402	45.354	35.650	-12.458	57.812	9.640	0.064	0.000	QP
10	*	0.402	37.814	28.110	-9.998	47.812	9.640	0.064	0.000	AV
11		1.206	32.737	23.027	-23.263	56.000	9.630	0.080	0.000	QP
12		1.206	23.086	13.376	-22.914	46.000	9.630	0.080	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4. Radiated Emission

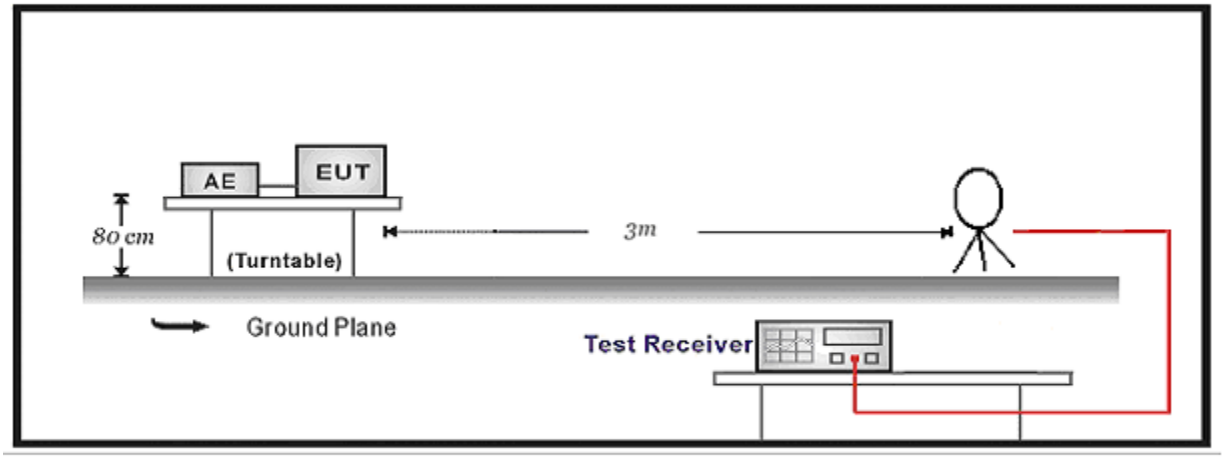
4.1. Test Equipment

Radiated Emission / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2017.03.29	2018.03.28
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	2017.03.02	2018.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2017.01.03	2018.01.02

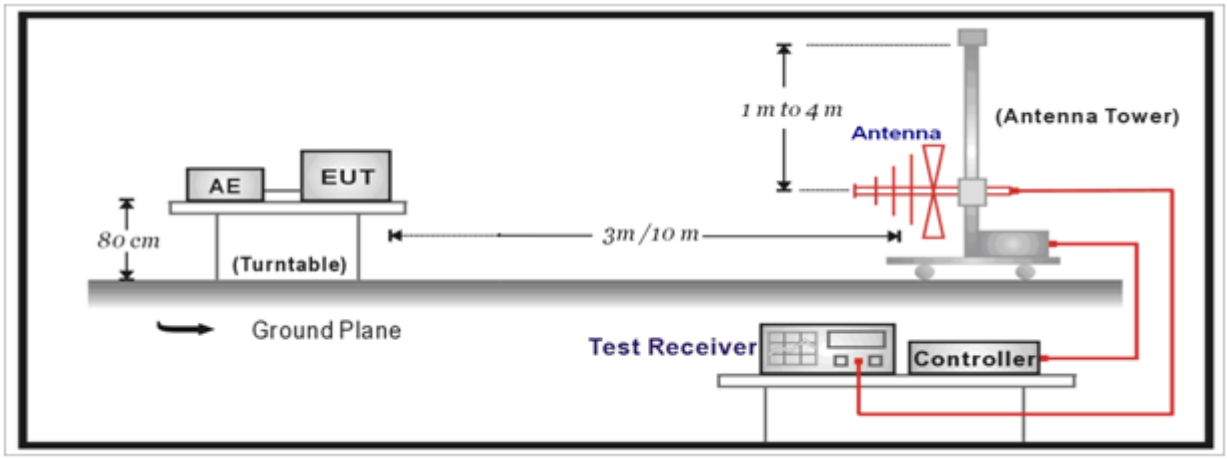
Radiated Emission / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	DEKRA Testing and Certification (Suzhou) Co., Ltd.	AP-040G	CHM-0906001	2017.05.06	2018.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2017.01.22	2018.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.11.25	2017.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2017.03.02	2018.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2017.06.10	2018.06.09
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

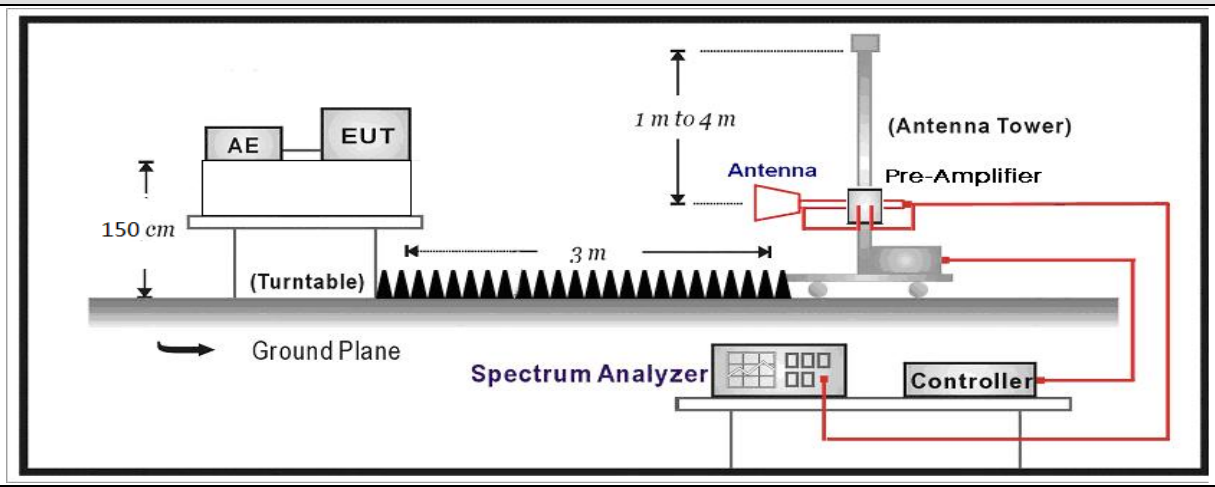
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

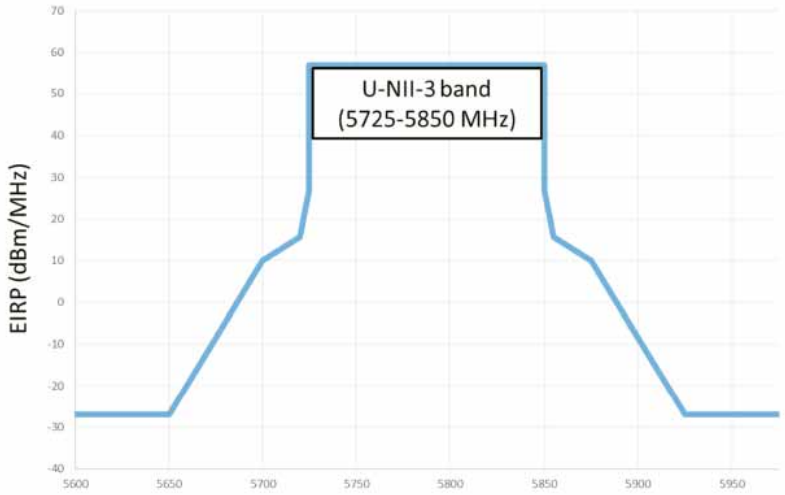
FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)		
Frequency (MHz)	Distance (m)	Level (dB μV/m)
0.009-0.490	300	2400/F(kHz)
0.490-1.705	30	24000/F(kHz)
1.705-30.0	30	30
30-88	3	100**
88-216	3	150**
216-960	3	200**
Above 960	3	500

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			

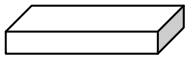
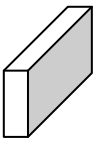
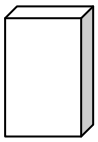
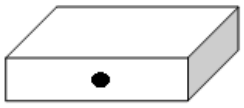
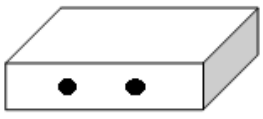
FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB μ V/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3

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 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 1-11</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	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Model No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 1: Transmit by 802.11a	Test Date	:	2017.04.25

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	H	10360	36.5	12.3	48.8	54(Note3)	-5.2	PK
		H	15540	35.9	17.1	53.0	54(Note3)	-1.0	PK
		V	10360	38.5	12.2	50.7	54(Note3)	-3.3	PK
		V	15540	35.5	17.1	52.6	54(Note3)	-1.4	PK
	44	H	10440	35.3	12.8	48.1	54(Note3)	-5.9	PK
		H	15660	32.8	17.5	50.3	54(Note3)	-3.7	PK
		V	10440	37.3	12.8	50.1	54(Note3)	-3.9	PK
		V	15660	33.5	17.5	51.0	54(Note3)	-3.0	PK
	48	H	10480	35.9	12.5	48.4	54(Note3)	-5.6	PK
		H	15720	32.8	18.4	51.2	54(Note3)	-2.8	PK
		V	10480	37.0	12.6	49.6	54(Note3)	-4.4	PK
		V	15720	33.7	18.4	52.1	54(Note3)	-1.9	PK
	149	H	11490	39.5	14.3	53.8	54(Note3)	-0.2	PK
		H	17235	31.5	18.1	49.6	54(Note3)	-4.4	PK
		V	11489	45.8	14.3	60.1	74	-13.9	PK
		V	11491	34.8	14.3	49.1	54	-4.9	AV
		V	17235	32.8	18.1	50.9	54(Note3)	-3.1	PK
	157	H	11565.5	40.6	15.4	56.0	54(Note3)	2.0	PK
		H	11572.5	35.2	15.3	50.5	54(Note3)	-3.5	PK
		H	17355.0	31.8	18.7	50.5	54(Note3)	-3.5	PK
		V	11565.5	46.6	15.3	61.9	74	-12.1	PK
		V	11567.1	35.5	15.3	50.8	54	-3.2	AV
		V	17355.0	31.8	18.7	50.5	54(Note3)	-3.5	PK
	165	H	11645.8	33.2	15.6	48.8	54	-5.2	PK
		H	11650.5	41.9	15.6	57.5	74	-16.5	PK
		H	17475.0	35.5	18.9	54.4	74	-19.6	PK
		H	17475.0	26.6	18.8	45.4	54	-8.6	AV
		V	11645.0	34.6	15.6	50.2	54	-3.8	AV
		V	11659.0	44.5	15.6	60.1	74	-13.9	PK

		V	17457.0	33.0	18.6	51.6	54(Note3)	-2.4	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.
4. We have evaluated three antennas, shown in the report is the worst data.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Model No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz)	Test Date	:	2017.04.25

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	36	H	10360.0	38.6	12.3	50.9	54(Note3)	-3.1	PK
		H	15540.0	34.9	17.1	52.0	54(Note3)	-2.0	PK
		V	10360.0	38.8	12.3	51.1	54(Note3)	-2.9	PK
		V	15540.0	35.0	17.1	52.1	54(Note3)	-1.9	PK
	44	H	10440.0	36.2	12.9	49.1	54(Note3)	-4.9	PK
		H	15660.0	32.2	17.5	49.7	54(Note3)	-4.3	PK
		V	10440.0	37.0	12.9	49.9	54(Note3)	-4.1	PK
		V	15660.0	32.7	17.5	50.2	54(Note3)	-3.8	PK
	48	H	10480.0	35.7	12.5	48.2	54(Note3)	-5.8	PK
		H	15720.0	33.6	18.4	52.0	54(Note3)	-2.0	PK
		V	10480.0	36.8	12.6	49.4	54(Note3)	-4.6	PK
		V	15720.0	32.5	18.5	51.0	54(Note3)	-3.0	PK
	149	H	11496.0	33.6	14.6	48.2	54	-5.8	AV
		H	11497.5	42.1	14.6	56.7	74	-17.3	PK
		H	17235.0	31.6	18.1	49.7	54(Note3)	-4.3	PK
		V	11496.0	34.2	14.6	48.8	54	-5.2	AV
		V	11497.5	45.5	14.5	60.0	74	-14.0	PK
		V	17235.0	31.9	18.1	50.0	54(Note3)	-4.0	PK
	157	H	11565.0	33.7	15.3	49.0	54	-5.0	AV
		H	11565.5	40.4	15.3	55.7	74	-18.3	PK
		H	17355.0	32.2	18.7	50.9	54(Note3)	-3.1	PK
		V	11568.0	34.6	15.3	49.9	54	-4.1	AV
		V	11574.0	44.7	15.3	60.0	74	-14.0	PK
		V	17355.0	32.2	18.7	50.9	54(Note3)	-3.1	PK
	165	H	11642.0	41.7	15.6	57.3	74	-16.7	PK
		H	11642.0	34.0	15.6	49.6	54	-4.4	AV
		H	17475.0	33.2	18.8	52.0	54(Note3)	-2.0	PK
		V	11647.0	34.2	15.6	49.8	54	-4.2	AV
		V	11650.5	45.0	15.5	60.5	74	-13.5	PK
		V	17475.0	33.8	18.8	52.6	54(Note3)	-1.4	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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Model No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz)	Test Date	:	2017.04.26

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	38	H	10380.0	35.5	12.5	48.0	54(Note3)	-6.0	PK
		H	15570.0	34.1	18.0	52.1	54(Note3)	-1.9	PK
		V	10380.0	36.0	12.5	48.5	54(Note3)	-5.5	PK
		V	15570.0	34.3	18.0	52.3	54(Note3)	-1.7	PK
	46	H	10460.0	36.7	12.7	49.4	54(Note3)	-4.6	PK
		H	15690.0	32.5	18.7	51.2	54(Note3)	-2.8	PK
		V	10460.0	35.6	12.7	48.3	54(Note3)	-5.7	PK
		V	15690.0	32.5	18.6	51.1	54(Note3)	-2.9	PK
	151	H	11510.0	37.7	14.7	52.4	54(Note3)	-1.6	PK
		H	17265.0	31.8	19.4	51.2	54(Note3)	-2.8	PK
		V	11506.0	40.5	14.9	55.4	74	-18.6	PK
		V	11510.0	33.4	14.7	48.1	54	-5.9	AV
		V	17265.0	31.6	19.4	51.0	54(Note3)	-3.0	PK
	159	H	11591.0	38.1	15.6	53.7	54(Note3)	-0.3	PK
		H	17385.0	32.4	18.9	51.3	54(Note3)	-2.7	PK
		V	11590.0	33.7	15.6	49.3	54	-4.7	AV
		V	11591.0	41.0	15.5	56.5	74	-17.5	PK
		V	17385.0	32.6	18.9	51.5	54(Note3)	-2.5	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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Model No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 4: Transmit by 802.11ac(20MHz)	Test Date	:	2017.04.26

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	36	H	10360.0	37.1	12.3	49.4	54(Note3)	-4.6	PK
		H	15540.0	35.2	17.1	52.3	54(Note3)	-1.7	PK
		V	10360.0	38.7	12.2	50.9	54(Note3)	-3.1	PK
		V	15540.0	34.8	17.1	51.9	54(Note3)	-2.1	PK
	44	H	10440.0	36.6	12.9	49.5	54(Note3)	-4.5	PK
		H	15660.0	33.7	17.5	51.2	54(Note3)	-2.8	PK
		V	10440.0	37.6	12.9	50.5	54(Note3)	-3.5	PK
		V	15660.0	32.5	17.5	50.0	54(Note3)	-4.0	PK
	48	H	10480.0	36.2	12.6	48.8	54(Note3)	-5.2	PK
		H	15720.0	32.6	18.4	51.0	54(Note3)	-3.0	PK
		V	10480.0	38.0	12.5	50.5	54(Note3)	-3.5	PK
		V	15720.0	33.2	18.4	51.6	54(Note3)	-2.4	PK
	149	H	11489.0	42.0	14.3	56.3	74	-17.7	PK
		H	11491.0	33.9	14.3	48.2	54	-5.8	AV
		H	17235.0	32.6	18.1	50.7	54(Note3)	-3.3	PK
		V	11480.5	45.1	14.7	59.8	74	-14.2	PK
		V	11491.0	34.3	14.4	48.7	54	-5.3	AV
		V	17235.0	33.7	18.2	51.9	54(Note3)	-2.1	PK
	157	H	11574.0	41.7	15.3	57.0	74	-17.0	PK
		H	11576.0	33.5	15.4	48.9	54	-5.1	AV
		H	17355.0	32.6	18.8	51.4	54(Note3)	-2.6	PK
		V	11564.0	34.7	15.3	50.0	54	-4.0	AV
		V	11565.5	44.8	15.4	60.2	74	-13.8	PK
		V	17355.0	32.9	18.8	51.7	54(Note3)	-2.3	PK
	165	H	11656.0	33.3	15.6	48.9	54	-5.1	PK
		H	11659.0	39.6	15.6	55.2	74	-18.8	PK
		H	17475.0	33.2	18.9	52.1	54(Note3)	-1.9	PK
		V	11650.0	34.6	15.6	50.2	54	-3.8	AV
		V	11650.5	44.2	15.5	59.7	74	-14.3	PK
		V	17475.0	33.3	18.8	52.1	54(Note3)	-1.9	PK

1. Measure 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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Model No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 5: Transmit by 802.11ac(40MHz)	Test Date	:	2017.04.26

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	38	H	10380.0	36.4	12.5	48.9	54(Note3)	-5.1	PK
		H	15570.0	33.2	18.0	51.2	54(Note3)	-2.8	PK
		V	10380.0	36.4	12.5	48.9	54(Note3)	-5.1	PK
		V	15570.0	33.7	18.0	51.7	54(Note3)	-2.3	PK
	46	H	10460.0	36.1	12.7	48.8	54(Note3)	-5.2	PK
		H	15690.0	32.0	18.6	50.6	54(Note3)	-3.4	PK
		V	10460.0	34.8	12.6	47.4	54(Note3)	-6.6	PK
		V	15042.0	36.9	17.3	54.2	74	-19.8	PK
		V	15042.0	33.2	17.3	50.5	54	-3.5	AV
	151	H	11506.0	38.6	14.9	53.5	54(Note3)	-0.5	PK
		H	17265.0	31.7	19.4	51.1	54(Note3)	-2.9	PK
		V	11506.0	41.6	14.9	56.5	74	-17.5	PK
		V	11506.0	33.5	14.8	48.3	54	-5.7	AV
		V	17265.0	31.8	19.4	51.2	54(Note3)	-2.8	PK
	159	H	11599.5	38.0	15.3	53.3	54(Note3)	-0.7	PK
		H	17385.0	32.0	18.9	50.9	54(Note3)	-3.1	PK
		V	11591.0	41.0	15.5	56.5	74	-17.5	PK
		V	11591.0	33.4	15.5	48.9	54	-5.1	AV
		V	17385.0	32.4	19.0	51.4	54(Note3)	-2.6	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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Model No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 6: Transmit by 802.11ac(80MHz)	Test Date	:	2017.04.26

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	42	H	10420.0	34.2	12.5	46.7	54(Note3)	-7.3	PK
		H	15630.0	32.4	18.0	50.4	54(Note3)	-3.6	PK
		V	10420.0	33.4	12.4	45.8	54(Note3)	-8.2	PK
		V	15630.0	32.3	18.0	50.3	54(Note3)	-3.7	PK
	155	H	11550.0	35.8	14.9	50.7	54(Note3)	-3.3	PK
		H	17325.0	31.3	19.5	50.8	54(Note3)	-3.2	PK
		V	11550.0	36.5	14.9	51.4	54(Note3)	-2.6	PK
		V	17325.0	32.5	19.5	52.0	54(Note3)	-2.0	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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Module No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 7: Transmit by 802.11n(20MHz) with Beamforming	Test Date	:	2017.04.26

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	36	H	11550.0	36.5	14.9	51.4	54(Note3)	-2.6	PK
		H	17325.0	32.5	19.5	52.0	54(Note3)	-2.0	PK
		V	10360.0	31.4	11.8	43.2	54(Note3)	-10.8	PK
		V	15540.0	30.4	17.6	48.0	54(Note3)	-6.0	PK
	44	H	10440.0	32.1	12.1	44.2	54(Note3)	-9.8	PK
		H	15660.0	29.4	18.2	47.6	54(Note3)	-6.4	PK
		V	10440.0	31.0	12.1	43.1	54(Note3)	-10.9	PK
		V	15660.0	28.3	18.1	46.4	54(Note3)	-7.6	PK
	48	H	10480.0	31.2	11.7	42.9	54(Note3)	-11.1	PK
		H	15720.0	28.5	18.3	46.8	54(Note3)	-7.2	PK
		V	10480.0	30.8	11.7	42.5	54(Note3)	-11.5	PK
		V	15720.0	29.1	18.4	47.5	54(Note3)	-6.5	PK
	149	H	11490.0	30.8	13.2	44.0	54(Note3)	-10.0	PK
		H	17235.0	29.5	19.9	49.4	54(Note3)	-4.6	PK
		V	11490.0	29.3	13.2	42.5	54(Note3)	-11.5	PK
		V	17235.0	26.9	19.9	46.8	54(Note3)	-7.2	PK
	157	H	11570.0	29.3	13.5	42.8	54(Note3)	-11.2	PK
		H	17355.0	26.6	19.9	46.5	54(Note3)	-7.5	PK
		V	11570.0	29.9	13.6	43.5	54(Note3)	-10.5	PK
		V	17355.0	28.0	19.9	47.9	54(Note3)	-6.1	PK
	165	H	11650.0	29.8	13.9	43.7	54(Note3)	-10.3	PK
		H	17475.0	29.0	20.0	49.0	54(Note3)	-5.0	PK
		V	11650.0	29.0	13.8	42.8	54(Note3)	-11.2	PK
		V	17475.0	28.1	19.9	48.0	54(Note3)	-6.0	PK

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 26dB 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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Module No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 8: Transmit by 802.11n(40MHz) with Beamforming	Test Date	:	2017.04.27

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	38	H	10380	-36.1	12.5	48.6	54(Note3)	-5.4	PK
		H	15570	-32.4	18	50.4	54(Note3)	-3.6	PK
		V	10380	-35.7	12.5	48.2	54(Note3)	-5.8	PK
		V	15570	-33.1	18	51.1	54(Note3)	-2.9	PK
	46	H	10460	-36.0	12.7	48.7	54(Note3)	-5.3	PK
		H	15690	-32.3	18.6	50.9	54(Note3)	-3.1	PK
		V	10460	-35.3	12.6	47.9	54(Note3)	-6.1	PK
		V	15690	-33.6	17.3	50.9	54(Note3)	-3.1	PK
	151	H	11490	-33.3	14.9	48.2	54(Note3)	-5.8	PK
		H	17235	-31.4	19.4	50.8	54(Note3)	-3.2	PK
		V	11490	-33.3	14.9	48.2	54(Note3)	-5.8	PK
		V	17235	-31.5	19.4	50.9	54(Note3)	-3.1	PK
	159	H	11590	-33.2	15.3	48.5	54(Note3)	-5.5	PK
		H	17385	-31.5	18.9	50.4	54(Note3)	-3.6	PK
		V	11590	-33.0	15.5	48.5	54(Note3)	-5.5	PK
		V	17385	-31.8	19	50.8	54(Note3)	-3.2	PK

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 26dB 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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Module No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 9: Transmit by 802.11ac20(MHz) with Beamforming	Test Date	:	2017.04.27

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	36	H	10360	35.6	14.9	50.5	54(Note3)	-9.2	PK
		H	15540	32.2	19.5	51.7	54(Note3)	-15.7	PK
		V	10360	30.7	11.8	42.5	54(Note3)	-9.8	PK
		V	15540	29.7	17.6	47.3	54(Note3)	-16.4	PK
	44	H	10440	31.5	12.1	43.6	54(Note3)	-9.4	PK
		H	15660	28.6	18.2	46.8	54(Note3)	-10.6	PK
		V	10440	30.3	12.1	42.4	54(Note3)	-4.2	PK
		V	15660	27.4	18.1	45.5	54(Note3)	-10.5	PK
	48	H	10480	30.9	11.7	42.6	54(Note3)	-10.6	PK
		H	15720	27.9	18.3	46.2	54(Note3)	-11.3	PK
		V	10480	30.7	11.7	42.4	54(Note3)	-4.4	PK
		V	15720	28.5	18.4	46.9	54(Note3)	-11.9	PK
	149	H	11490	30.3	13.2	43.5	54(Note3)	-1.4	PK
		H	17235	29.1	19.9	49.0	54(Note3)	-1.4	PK
		V	11490	28.9	13.2	42.1	54(Note3)	-2.8	PK
		V	17235	26.6	19.9	46.5	54(Note3)	-5.0	PK
	157	H	11570	29.1	13.5	42.6	54(Note3)	-0.7	PK
		H	17355	26.5	19.9	46.4	54(Note3)	-3.0	PK
		V	11570	29.4	13.6	43.0	54(Note3)	-1.2	PK
		V	17355	27.1	19.9	47.0	54(Note3)	-1.6	PK
	165	H	11650	29.4	13.9	43.3	54(Note3)	-0.9	PK
		H	17475	28.3	20.0	48.3	54(Note3)	-1.0	PK
		V	11650	28.2	13.8	42.0	54(Note3)	-1.2	PK
		V	17475	28.0	19.9	47.9	54(Note3)	-1.5	PK

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 26dB 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.

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Module No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 10: Transmit by 802.11ac(40MHz) with Beamforming	Test Date	:	2017.04.28

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	38	H	10380	35.6	12.5	48.1	54(Note3)	-5.9	PK
		H	15570	32.3	18	50.3	54(Note3)	-3.7	PK
		V	10380	35.2	12.5	47.7	54(Note3)	-6.3	PK
		V	15570	32.4	18	50.4	54(Note3)	-3.6	PK
	46	H	10460	35.7	12.7	48.4	54(Note3)	-5.6	PK
		H	15690	31.5	18.6	50.1	54(Note3)	-3.9	PK
		V	10460	35.1	12.6	47.7	54(Note3)	-6.3	PK
		V	15690	32.8	17.3	50.1	54(Note3)	-3.9	PK
	151	H	11510	32.3	14.9	47.2	54(Note3)	-6.8	PK
		H	17265	30.7	19.4	50.1	54(Note3)	-3.9	PK
		V	11510	32.5	14.9	47.4	54(Note3)	-6.6	PK
		V	17265	31.1	19.4	50.5	54(Note3)	-3.5	PK
	159	H	11590	32.6	15.3	47.9	54(Note3)	-6.1	PK
		H	17385	31.0	18.9	49.9	54(Note3)	-4.1	PK
		V	11590	32.5	15.5	48.0	54(Note3)	-6.0	PK
		V	17385	31.2	19	50.2	54(Note3)	-3.8	PK

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 26dB 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.

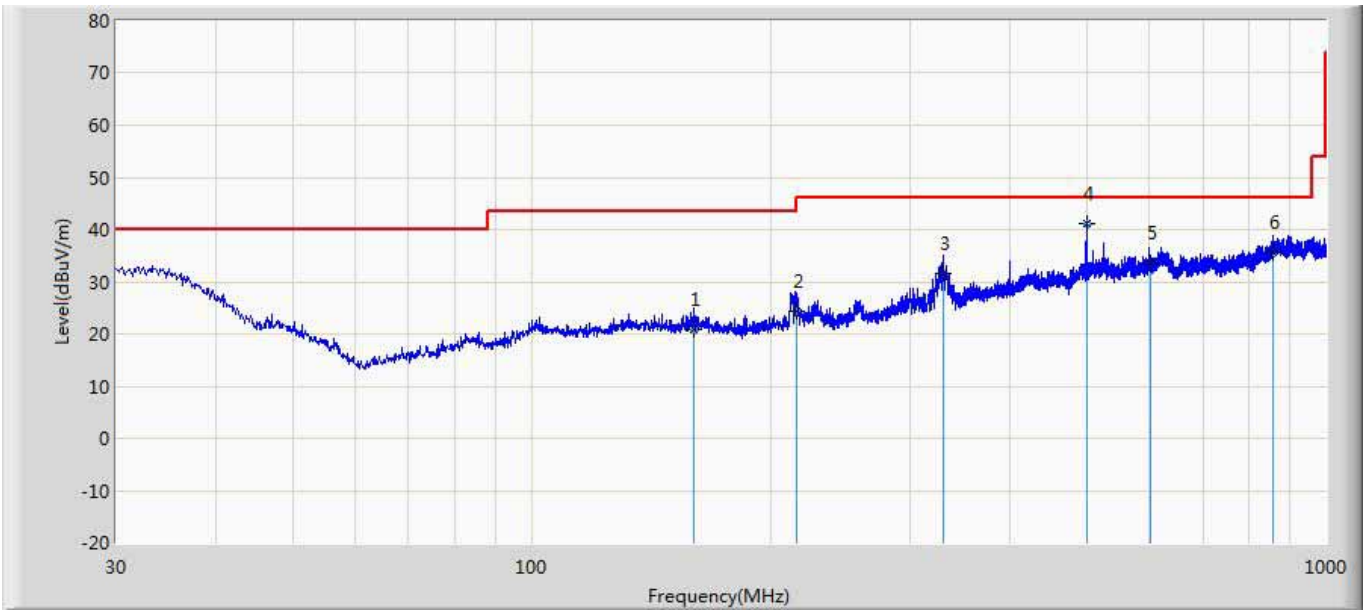
Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	120V/60Hz
Module No.	:	K3C	Test Site	:	AC-5
Test Mode	:	Mode 11: Transmit by 802.11ac(80MHz) with Beamforming	Test Date	:	2017.04.28

Chain	CH	Antenna Polarity	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
Ant 1+2+3	42	H	10420	34.2	12.5	46.1	54(Note3)	-7.9	PK
		H	15630	32.4	18	49.7	54(Note3)	-4.3	PK
		V	10420	33.4	12.4	45.2	54(Note3)	-8.8	PK
		V	15630	32.3	18	49.9	54(Note3)	-4.1	PK
	155	H	11550	35.8	14.9	50.4	54(Note3)	-3.6	PK
		H	17325	31.3	19.5	50.6	54(Note3)	-3.4	PK
		V	11550	36.5	14.9	51.2	54(Note3)	-2.8	PK
		V	17325	32.5	19.5	51.2	54(Note3)	-2.8	PK

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 26dB 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.

The worst case of Radiated Emission below 1GHz:

Site: AC2	Time: 2017/05/19
Limit: FCC_Part15.209_RE(3m)_ClassB	Margin: 0
Probe: AC2_CBL6112_0726	Polarity: Horizontal
EUT: AC1900 dual band gigabit wifi router	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5180MHz by 802.11a with Adapter #2	

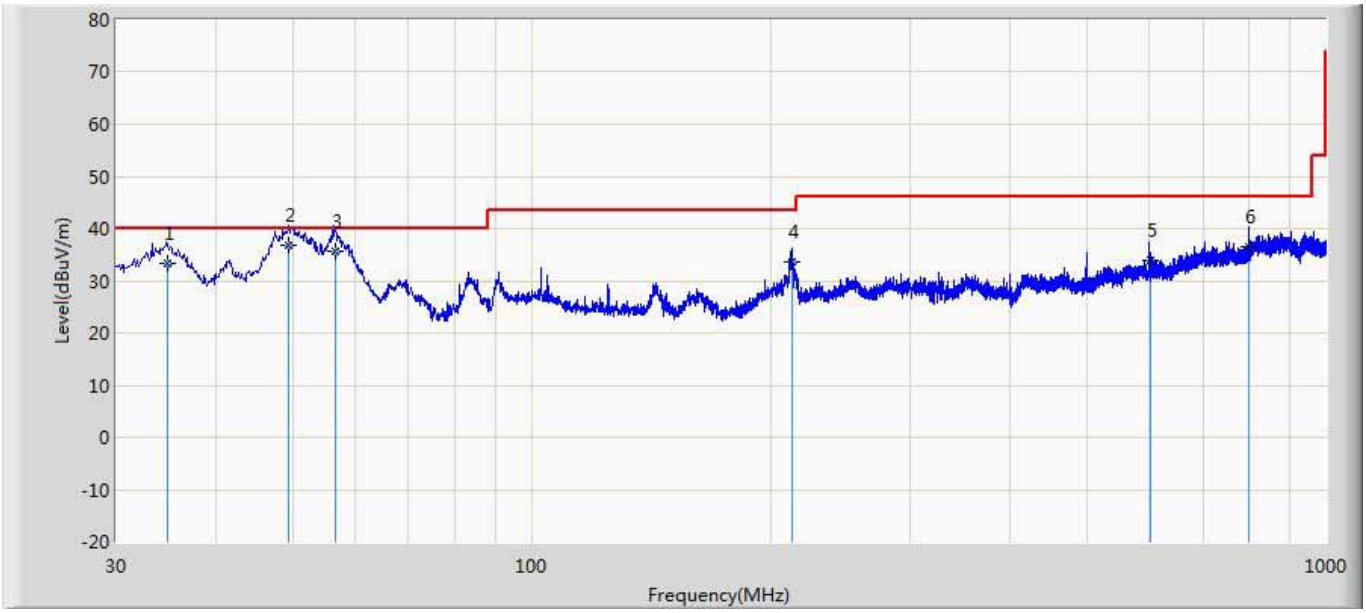


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		160.126	20.735	32.500	-22.765	43.500	9.897	1.370	23.032	100	160	QP
2		215.264	24.369	36.746	-19.131	43.500	9.253	1.590	23.220	200	245	QP
3		329.543	31.622	38.446	-14.378	46.000	14.168	1.968	22.960	100	347	QP
4	*	499.957	41.109	43.648	-4.891	46.000	17.801	2.420	22.760	100	76	QP
5		600.126	33.733	34.845	-12.267	46.000	19.000	2.678	22.790	100	210	QP
6		858.783	35.628	34.556	-10.372	46.000	20.418	3.224	22.570	100	120	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: AC2	Time: 2017/05/19
Limit: FCC_Part15.209_RE(3m)_ClassB	Margin: 0
Probe: AC2_CBL6112_0726	Polarity: Vertical
EUT: AC1900 dual band gigabit wifi router	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5180MHz by 802.11a with Adapter #2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		34.754	33.435	39.921	-6.565	40.000	16.043	0.639	23.168	200	245	QP
2	*	49.408	36.685	50.557	-3.315	40.000	8.438	0.770	23.080	100	359	QP
3		56.653	35.717	50.863	-4.283	40.000	7.069	0.815	23.030	100	58	QP
4		212.911	33.529	45.940	-9.971	43.500	9.229	1.580	23.220	100	116	QP
5		600.126	33.978	35.090	-12.022	46.000	19.000	2.678	22.790	100	211	QP
6		799.872	36.536	35.746	-9.464	46.000	20.000	3.110	22.320	100	360	QP

Note:

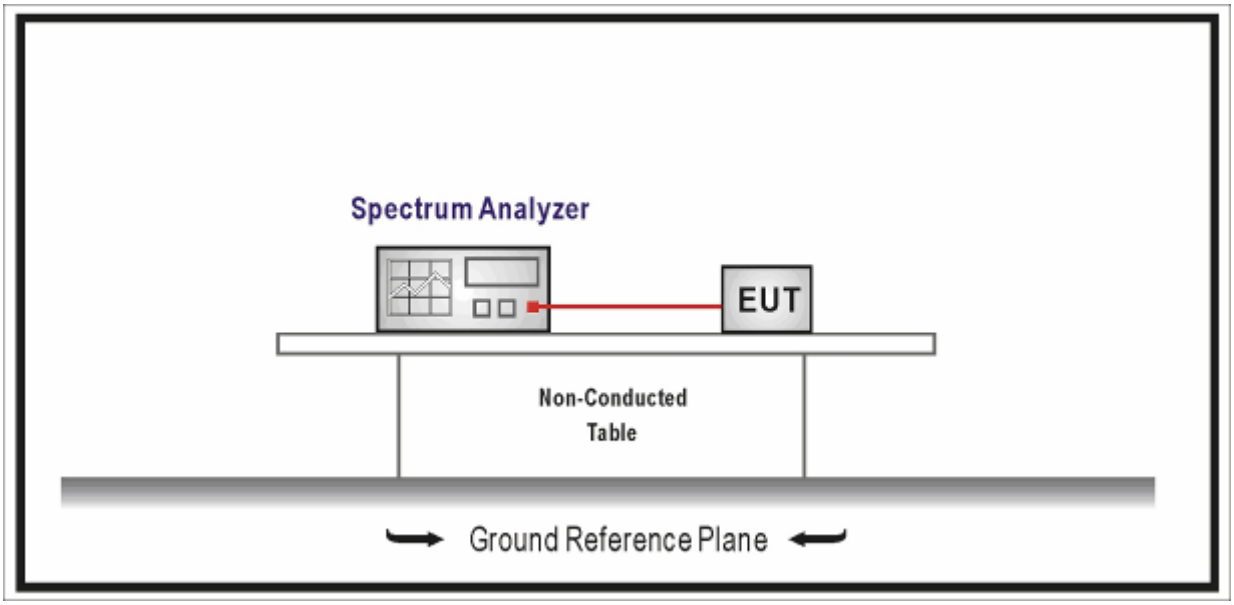
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

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	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.10
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup



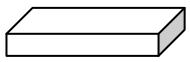
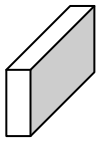
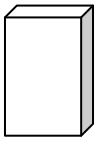
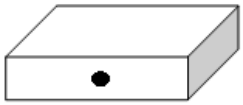
5.3. Limit

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	C	Bandwidth Measurement
	☒ FCC KDB 789033	C.1	Emission Bandwidth (26dB)
	☐ FCC KDB 789033	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☒	FCC KDB 789033	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 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 1-11</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>
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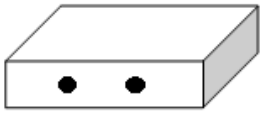
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

5.6. Test Result

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	AC 120V/60Hz
Test Site	:	TR8	Test Date	:	2017.05.12
Test Mode	:	Mode 1~11			

Mode 1: Transmit by 802.11a					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
36	5180	21.16	16.505	5171.748	Pass
44	5220	20.81	16.520	N/A	Pass
48	5240	20.77	16.499	5248.25	Pass
Mode 2: Transmit by 802.11n(20MHz)					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
36	5180	22.04	17.684	5171.158	Pass
44	5220	22.50	17.683	N/A	Pass
48	5240	21.75	17.698	5248.849	Pass
Mode 3: Transmit by 802.11n(40MHz)					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
38	5190	42.27	36.170	5171.915	Pass
46	5230	43.02	36.149	5248.075	Pass
Mode 4: Transmit by 802.11ac(20MHz)					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
36	5180	21.65	17.677	5171.162	Pass
44	5220	22.18	17.677	N/A	Pass
48	5240	22.05	17.686	5248.843	Pass

Mode 5: Transmit by 802.11ac(40MHz)					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
38	5190	42.62	36.126	5171.937	Pass
46	5230	42.67	36.098	5248.049	Pass

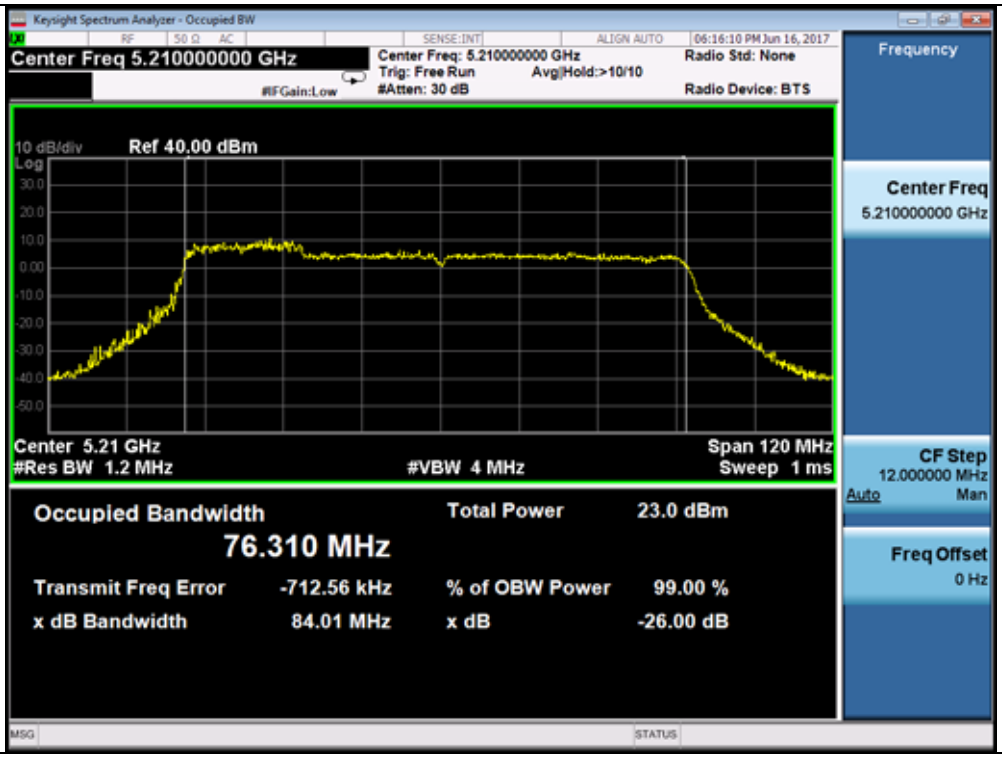
Mode 6: Transmit by 802.11ac(80MHz)					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
42	5210	83.60	75.014	5172.493/5247.507	Pass

Mode 7: Transmit by 802.11n(20MHz) with Beamforming					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
36	5180	22.92	17.872	5171.064	Pass
44	5220	22.91	17.760	N/A	Pass
48	5240	23.69	17.877	5248.939	Pass

Mode 8: Transmit by 802.11n(40MHz) with Beamforming					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
38	5190	43.66	36.345	5208.173	Pass
46	5230	44.96	36.311	5248.156	Pass

Mode 9: Transmit by 802.11ac(20MHz) with Beamforming					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
36	5180	23.08	17.864	5171.068	Pass
44	5220	22.19	17.823	N/A	Pass
48	5240	22.95	17.759	5248.880	Pass

Mode 10: Transmit by 802.11ac(40MHz) with Beamforming					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
38	5190	44.64	36.402	5171.799	Pass
46	5230	43.74	36.392	5248.196	Pass
Mode 11: Transmit by 802.11ac(80MHz) with Beamforming					
Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
		Ant0(Worst Data)	Ant0(Worst Data)	Ant0(Worst Data)	
42	5210	84.01	76.310	5172.845/5248.155	Pass
The worst case of Occupied Bandwidth as below:					
Mode 11: CH42 (5210MHz) Ant 0					

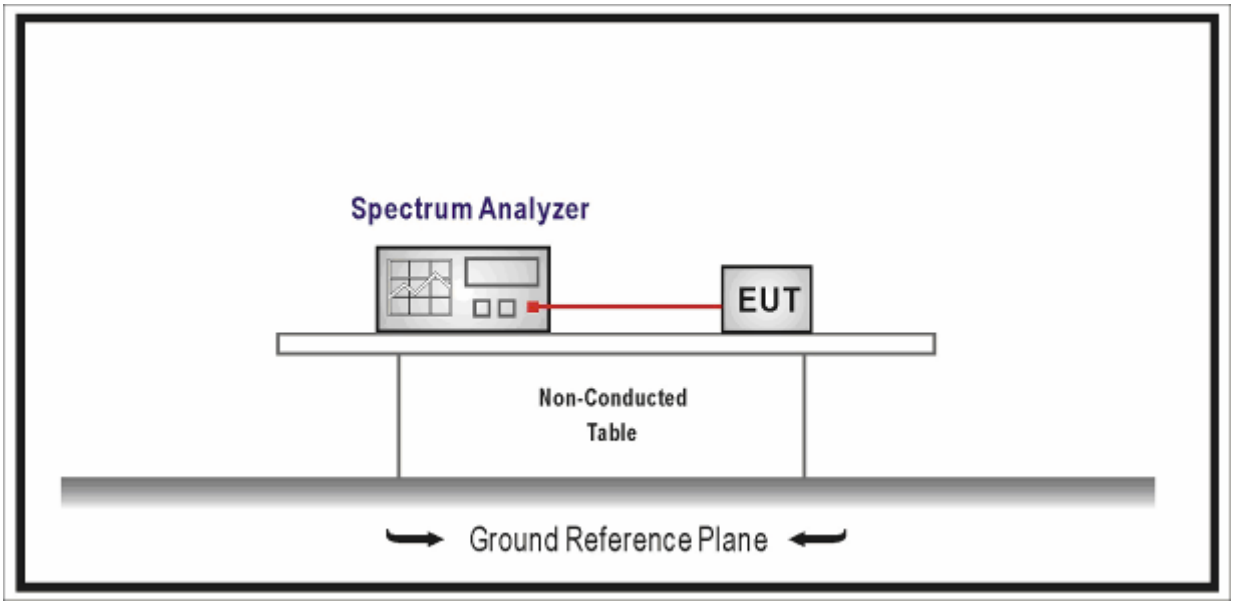


6. 6dB bandwidth

6.1. 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	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
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 D02v01r04	C	Bandwidth Measurement
	☐ FCC KDB 789033 D02v01r04	C.1	Emission Bandwidth (26dB)
	☒ FCC KDB 789033 D02v01r04	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☐	FCC KDB 789033 D02v01r04	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 AP</td></tr>
<tr><td>☒</td><td colspan="3">Indoor AP</td></tr>
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<tr><td>☐</td><td colspan="3">Outdoor fixed point-to-multipoint AP</td></tr>
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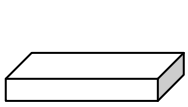
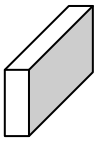
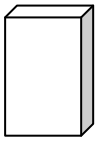
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
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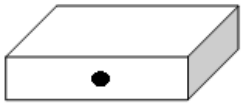
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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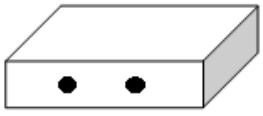
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

6.6. Test Result

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	AC 120V/60Hz
Test Site	:	TR8	Test Date	:	2017.05.12
Test Mode	:	Mode 1~11			

Mode 1: Transmit by 802.11a				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
149	5745	16.49	>500	Pass
157	5785	16.51		Pass
165	5825	16.50		Pass
Mode 2: Transmit by 802.11n(20MHz)				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
149	5745	17.75	>500	Pass
157	5785	17.75		Pass
165	5825	17.76		Pass
Mode 3: Transmit by 802.11n(40MHz)				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
151	5755	36.44	>500	Pass
159	5795	36.46		Pass
Mode 4: Transmit by 802.11ac(20MHz)				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
149	5745	17.78	>500	Pass
157	5785	17.76		Pass
165	5825	17.73		Pass

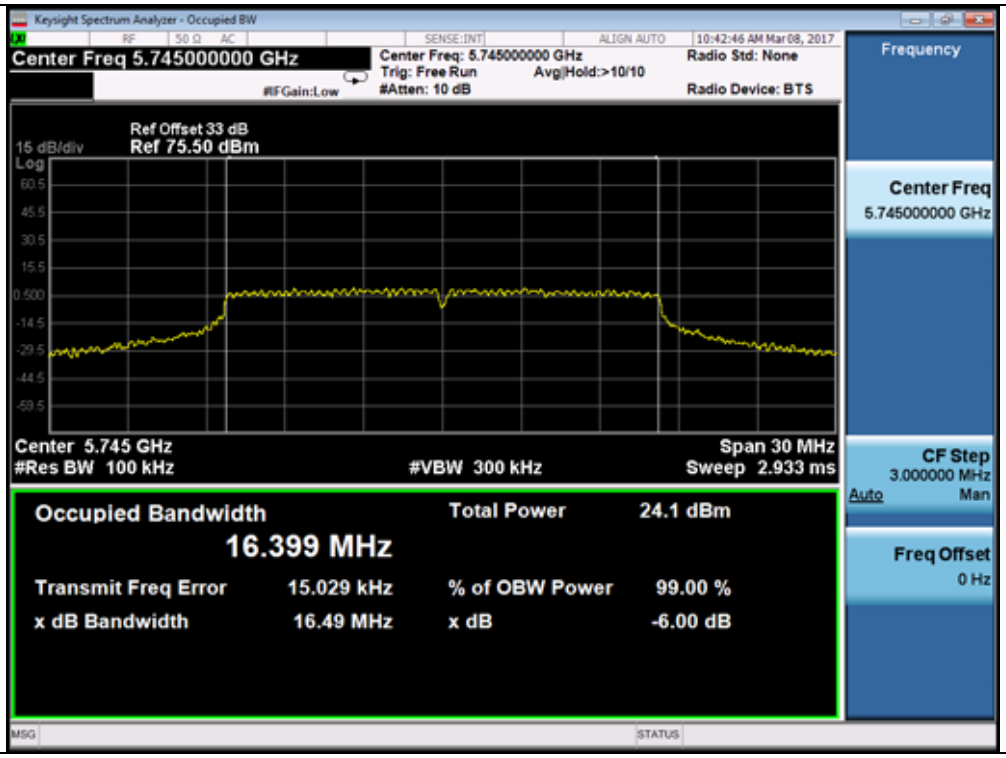
Mode 5: Transmit by 802.11ac(40MHz)				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
151	5755	36.46	>500	Pass
159	5795	36.47		Pass
Mode 6: Transmit by 802.11ac(80MHz)				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
155	5775	74.89	>500	Pass
Mode 7: Transmit by 802.11n(20MHz) with Beamforming				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
149	5745	17.67	>500	Pass
157	5785	17.77		Pass
165	5825	17.69		Pass
Mode 8: Transmit by 802.11n(40MHz) with Beamforming				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
151	5755	35.12	>500	Pass
159	5795	36.34		Pass
Mode 9: Transmit by 802.11ac(20MHz) with Beamforming				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
149	5745	17.73	>500	Pass
157	5785	17.70		Pass
165	5825	17.74		Pass

Mode 10: Transmit by 802.11ac(40MHz) with Beamforming				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
151	5755	35.68	>500	Pass
159	5795	36.40		Pass

Mode 11: Transmit by 802.11ac(80MHz) with Beamforming				
Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)	Result
		Ant0 (Worst Data)		
155	5775	74.85	>500	Pass

The worst case of 6dB Bandwidth as below:

Mode 1: CH149 (5745MHz) Ant 0

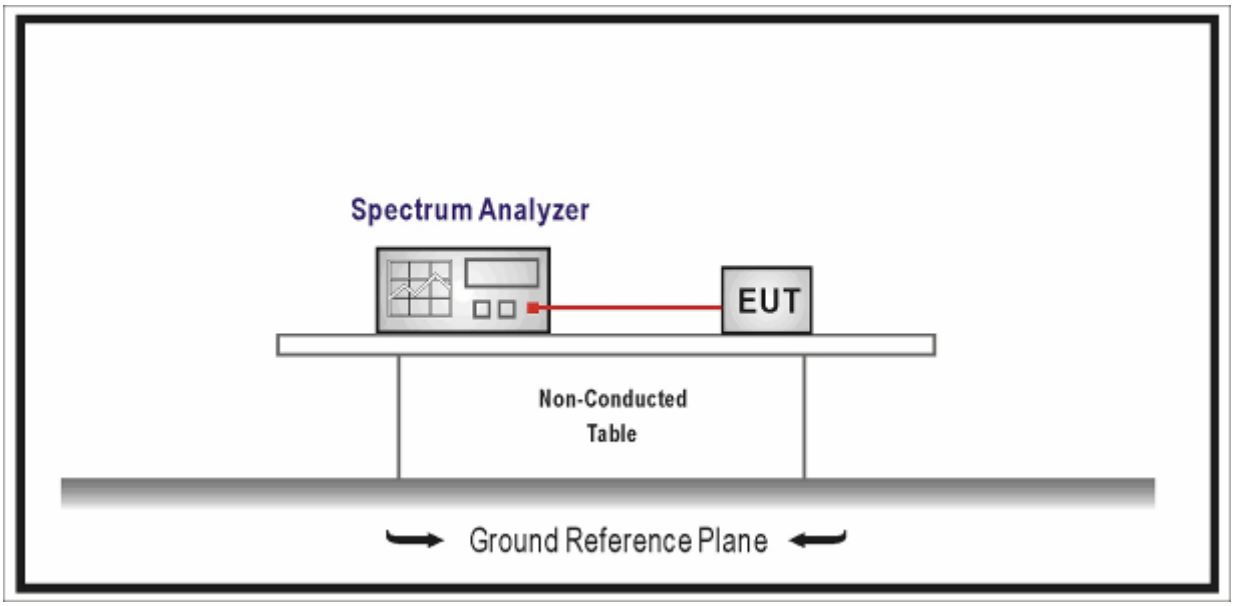


7. Power Output

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	2018.02.03
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	2017.04.10	2018.04.09
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

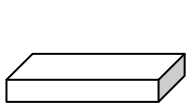
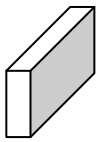
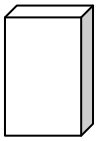
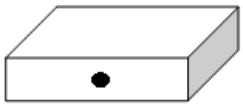
Fundamental emission output power Limit		
☒	For the band 5.15-5.25 GHz	
	☐	Outdoor access point: the maximum conducted output power shall not exceed 1 W. If G_{TX} > 6dBi, then Pout≤30 - (G_{TX} - 6) and ≤125mW at any angle above 30 degrees
	☒	Indoor access point: the maximum conducted output power shall not exceed 1 W. If G_{TX} > 6dBi, then Pout≤30 - (G_{TX} - 6)
	☐	Fixed point-to-point access points: 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

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology with NANT transmit antennas
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas with NANT = 2.
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)d)	Sectorized antenna systems.
	☐	KDB 662911	F2)d) (i)	transmit signals are correlated
	☐	KDB 662911	F2)d) (ii)	transmit signals are uncorrelated
☒	KDB 662911		F2)e)	Spatial Multiplexing
	☒	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☒	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with more than one spatial stream

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 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 1-11</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>
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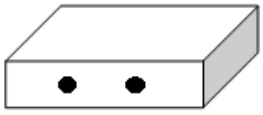
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

7.6. Test Result

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	AC 120V/60Hz
Test Site	:	TR8	Test Date	:	2017.05.12
Test Mode	:	Mode 1~11			

Mode 1: Transmit by 802.11a							
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH36	5180	24.85	24.58	24.97	29.57	30.0	Pass
CH42	5220	24.02	24.37	24.91	29.22	30.0	Pass
CH48	5240	24.65	24.36	24.68	29.34	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH149	5745	24.84	24.85	25.07	29.69	30.0	Pass
CH157	5785	25.05	24.85	25.65	29.97	30.0	Pass
CH165	5825	24.97	25.18	25.35	29.94	30.0	Pass
Mode 2: Transmit by 802.11n(20MHz)							
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH36	5180	17.43	17.43	17.84	22.34	30.0	Pass
CH42	5220	17.42	17.45	17.81	22.33	30.0	Pass
CH48	5240	17.61	17.37	17.63	22.31	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH149	5745	25.05	25.02	25.43	29.94	30.0	Pass
CH157	5785	24.68	24.75	25.13	29.63	30.0	Pass
CH165	5825	24.43	24.72	25.43	29.65	30.0	Pass

Mode 3: Transmit by 802.11n(40MHz)							
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
38	5190	17.11	17.62	17.02	22.03	30.0	Pass
46	5230	17.72	17.49	17.71	22.41	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
151	5755	23.58	23.73	24.43	28.70	30.0	Pass
159	5795	24.68	24.79	25.19	29.66	30.0	Pass
Mode 4: Transmit by 802.11ac(20MHz)							
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH36	5180	17.20	17.44	17.92	22.30	30.0	Pass
CH42	5220	17.51	17.13	17.43	22.13	30.0	Pass
CH48	5240	17.12	17.21	17.73	22.13	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH149	5745	24.58	24.61	25.08	29.53	30.0	Pass
CH157	5785	24.47	24.67	25.14	29.54	30.0	Pass
CH165	5825	24.54	24.67	25.17	29.57	30.0	Pass
Mode 5: Transmit by 802.11ac(40MHz)							
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
38	5190	17.81	17.13	17.81	22.37	30.0	Pass
46	5230	17.12	17.21	17.82	22.17	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
151	5755	23.32	23.41	23.97	28.35	30.0	Pass
159	5795	23.91	23.92	24.97	29.07	30.0	Pass

Mode 6: Transmit by 802.11ac(80MHz)							
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH42	5210	24.73	24.12	24.32	29.17	30.0	Pass
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH155	5775	19.72	19.67	20.52	24.76	30.0	Pass

Mode 7: Transmit by 802.11n(20MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH36	5180	18.78	18.23	18.34	23.23	25.23	Pass
CH42	5220	20.01	20.23	20.50	25.02	25.23	Pass
CH48	5240	20.10	20.19	19.71	24.78	25.23	Pass
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH149	5745	19.98	20.31	20.45	25.02	25.23	Pass
CH157	5785	20.03	20.26	20.61	25.08	25.23	Pass
CH165	5825	19.91	20.13	20.64	25.01	25.23	Pass

Mode 8: Transmit by 802.11n(40MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
38	5190	14.45	14.48	14.45	19.23	25.23	Pass
46	5230	19.98	20.25	20.62	25.06	25.23	Pass
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
151	5755	20.01	20.23	20.37	24.98	25.23	Pass
159	5795	20.17	20.17	20.42	25.03	25.23	Pass
Mode 9: Transmit by 802.11ac(20MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH36	5180	17.95	18.25	18.61	23.05	25.23	Pass
CH42	5220	20.26	20.18	20.24	25.00	25.23	Pass
CH48	5240	20.03	20.24	20.34	24.98	25.23	Pass
Channel No.	Frequency (MHz)	Measurement Power			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH149	5745	20.11	20.34	20.06	24.94	25.23	Pass
CH157	5785	20.16	20.26	20.65	25.13	25.23	Pass
CH165	5825	20.11	20.17	20.73	25.12	25.23	Pass
Mode 10: Transmit by 802.11ac(40MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
38	5190	14.23	13.78	14.48	18.94	25.23	Pass
46	5230	20.01	20.23	20.16	24.91	25.23	Pass
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
151	5755	20.01	20.07	20.36	24.92	25.23	Pass
159	5795	19.98	19.97	20.51	24.93	25.23	Pass

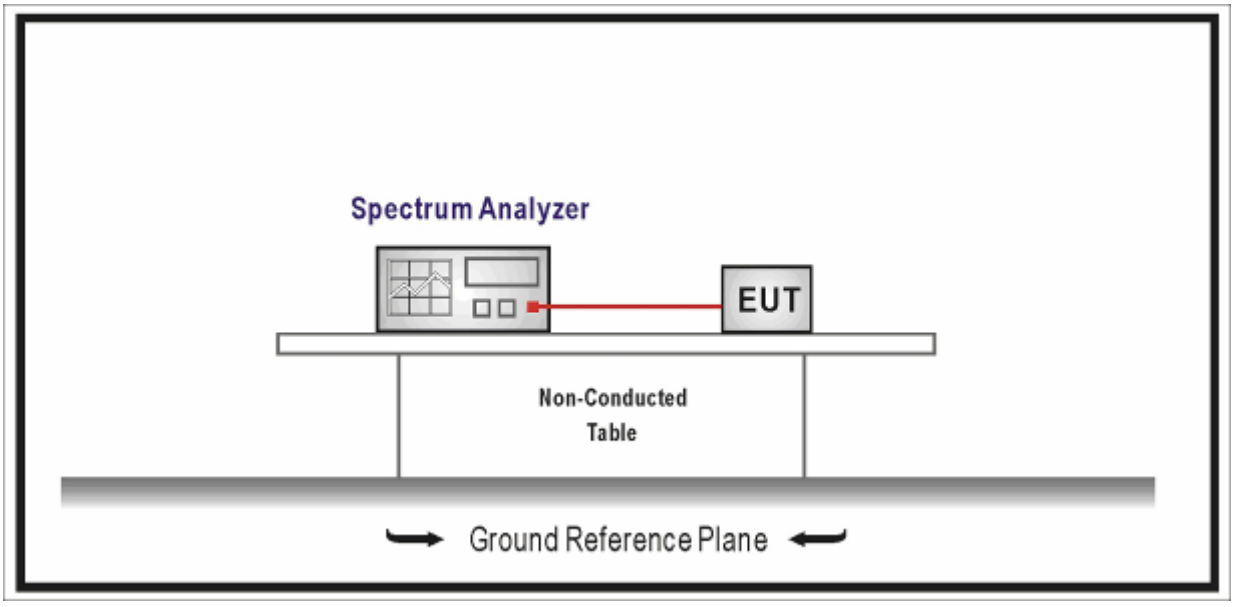
Mode 11: Transmit by 802.11ac(80MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH42	5210	13.57	13.59	13.36	18.28	25.23	Pass
Channel No.	Frequency (MHz)	Measurement Power (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2			
CH155	5775	18.73	18.98	19.81	23.97	25.23	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	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
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

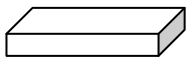
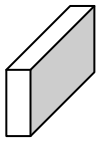
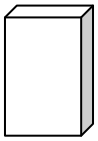
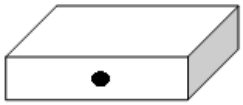
Fundamental emission output power Limit		
☒	For the band 5.15-5.25 GHz	
	☐	Outdoor access point: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞6dBi, then Pout≤17 - (G_{TX} - 6)
	☒	Indoor access point: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞6dBi, then Pout≤17 - (G_{TX} - 6)
	☐	Fixed point-to-point access points: 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 D02v01r04	F	Maximum Power Spectral Density (PSD)

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology with NANT transmit antennas
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas with NANT = 2.
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)d)	Sectorized antenna systems.
	☐	KDB 662911	F2)d) (i)	transmit signals are correlated
	☐	KDB 662911	F2)d) (ii)	transmit signals are uncorrelated
☒	KDB 662911		F2)e)	Spatial Multiplexing
	☒	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☒	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with more than one spatial stream

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 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 1-11</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>
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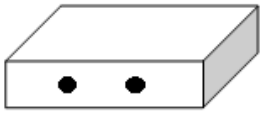
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

8.6. Test Result

Product Name	:	AC1900 Smart Wi-Fi Router	Power	:	AC 120V/60Hz
Test Site	:	TR8	Test Date	:	2017.05.12
Test Mode	:	Mode 1~11			

Mode 1: Transmit by 802.11a							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH36	5180	11.845	11.755	12.777	N/A	12.23	Pass
CH44	5220	12.204	11.808	12.499	N/A	12.23	Pass
CH48	5240	12.061	12.060	12.430	N/A	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH149	5745	8.089	8.486	9.450	13.48	25.23	Pass
CH157	5785	9.260	9.383	9.947	14.31	25.23	Pass
CH165	5825	9.197	9.147	9.858	14.18	25.23	Pass
Mode 2: Transmit by 802.11n(20MHz)							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH36	5180	7.229	6.904	7.004	11.82	12.23	Pass
CH44	5220	6.715	6.608	6.581	11.41	12.23	Pass
CH48	5240	6.674	6.775	6.834	11.53	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH149	5745	9.320	9.515	9.817	14.33	25.23	Pass
CH157	5785	8.339	8.862	9.353	13.64	25.23	Pass
CH165	5825	8.432	8.714	9.437	13.65	25.23	Pass

Mode 3: Transmit by 802.11n(40MHz)							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH38	5190	6.657	6.672	6.701	11.45	12.23	Pass
CH46	5230	6.656	6.856	6.774	11.53	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH151	5755	4.549	4.662	5.596	9.73	25.23	Pass
CH159	5795	5.468	5.773	6.341	10.65	25.23	Pass
Mode 4: Transmit by 802.11ac(20MHz)							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH36	5180	7.327	7.354	6.566	11.87	12.23	Pass
CH44	5220	6.671	6.830	6.725	11.51	12.23	Pass
CH48	5240	6.773	6.673	7.028	11.60	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH149	5745	8.206	8.423	8.845	13.27	25.23	Pass
CH157	5785	8.483	8.982	9.818	13.90	25.23	Pass
CH165	5825	8.639	8.434	9.324	13.59	25.23	Pass
Mode 5: Transmit by 802.11ac(40MHz)							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH38	5190	6.899	6.808	6.505	11.51	12.23	Pass
CH46	5230	6.804	6.886	6.998	11.67	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH151	5755	3.664	4.665	5.012	9.25	25.23	Pass
CH159	5795	4.938	5.326	5.522	10.04	25.23	Pass

Mode 6: Transmit by 802.11ac(80MHz)							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH42	5210	5.616	5.284	6.300	10.53	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH155	5775	-2.649	-2.730	-2.140	2.27	25.23	Pass

Mode 7: Transmit by 802.11n(20MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH36	5180	6.080	6.705	6.040	11.06	12.23	Pass
CH44	5220	7.367	6.830	6.992	11.84	12.23	Pass
CH48	5240	7.504	7.103	7.298	12.08	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH149	5745	7.093	9.064	9.086	13.28	25.23	Pass
CH157	5785	8.972	9.229	8.802	13.78	25.23	Pass
CH165	5825	9.725	10.437	10.557	15.03	25.23	Pass

Mode 8: Transmit by 802.11n(40MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH38	5190	-1.855	0.466	2.066	5.28	12.23	Pass
CH46	5230	7.061	6.833	7.000	11.74	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH151	5755	6.611	6.434	6.798	11.39	25.23	Pass
CH159	5795	6.672	6.651	6.762	11.47	25.23	Pass

Mode 9: Transmit by 802.11ac(20MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH36	5180	6.463	7.583	6.982	11.80	12.23	Pass
CH44	5220	6.368	6.080	6.058	10.94	12.23	Pass
CH48	5240	7.410	6.525	7.227	11.84	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH149	5745	7.428	9.159	9.204	13.44	25.23	Pass
CH157	5785	9.224	8.490	9.390	13.82	25.23	Pass
CH165	5825	9.992	10.091	9.951	14.78	25.23	Pass
Mode 10: Transmit by 802.11ac(40MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH38	5190	-0.093	-1.730	0.384	4.38	12.23	Pass
CH46	5230	5.988	6.712	6.632	11.23	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH151	5755	6.115	3.034	2.845	9.04	25.23	Pass
CH159	5795	6.307	5.939	6.580	11.05	25.23	Pass
Mode 11: Transmit by 802.11ac(80MHz) with Beamforming							
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/MHz)			Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2			
CH42	5210	-3.889	-2.776	-2.366	1.81	12.23	Pass
Channel No.	Frequency (MHz)	Measurement Power Spectral Density (dBm/500KHz)			Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Result
		Ant0	Ant1	Ant2			
CH155	5775	-0.725	-0.095	-0.130	4.46	25.23	Pass

Mode 1 CH48 (5240MHz) Ant 0

Mode 1 CH48 (5240MHz) Ant 1

Mode 1 CH48 (5240MHz) Ant 2

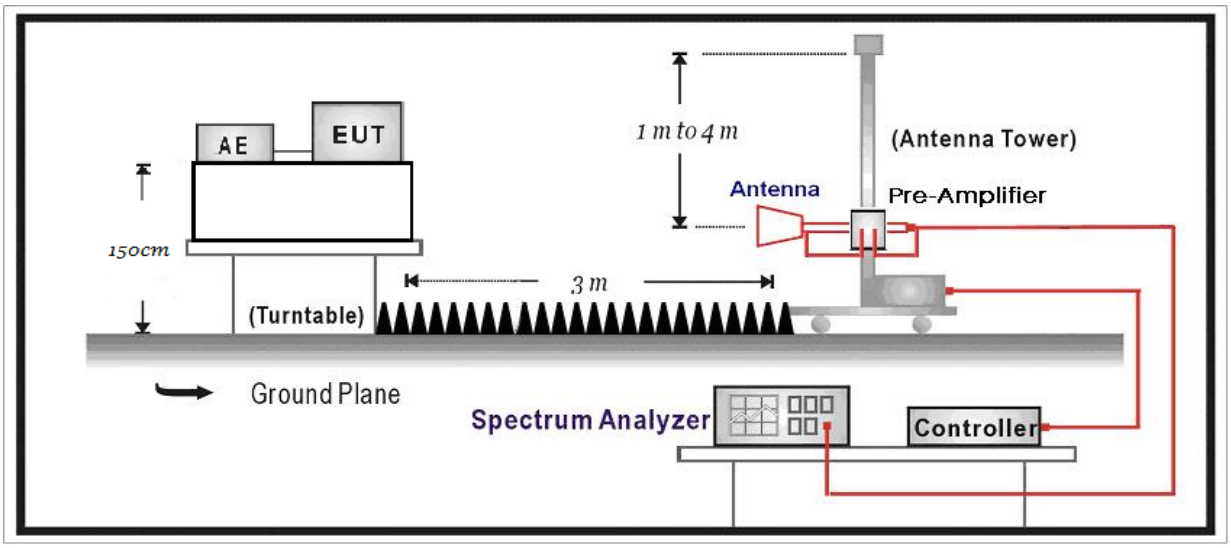

Center Freq 5.240000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 40 dB
Avg Type: RMS
Avg|Hold:>100/100
Ref Offset 7.5 dB
10 dB/div
Ref 36.50 dBm
Mkr1 5.238 62 GHz
12.430 dBm
Center 5.24000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 30.00 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.240000000 GHz
Start Freq
5.225000000 GHz
Stop Freq
5.255000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz
Scale Type
Log
Lin

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	2017.05.03	2018.05.02
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	2017.02.28	2018.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.02.28	2018.02.27
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

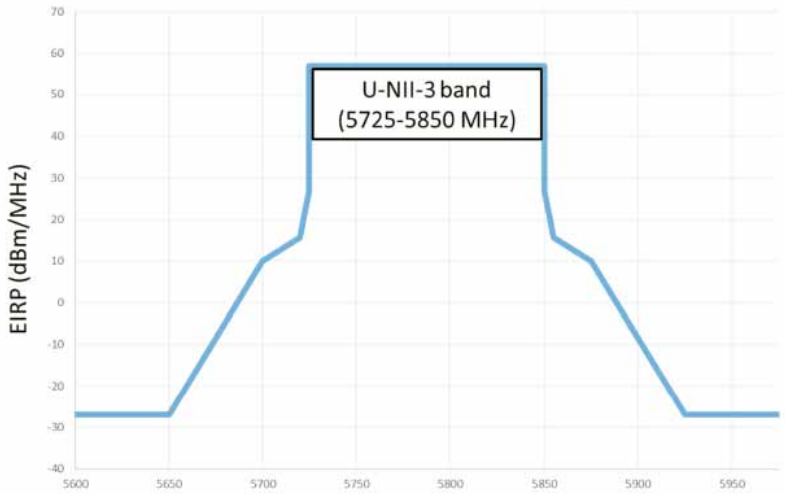
FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)		
Frequency (MHz)	Distance (m)	Level (dBµV/m)
0.009-0.490	300	2400/F(kHz)
0.490-1.705	30	24000/F(kHz)
1.705-30.0	30	30
30-88	3	100**
88-216	3	150**
216-960	3	200**
Above 960	3	500

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			

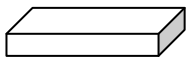
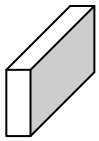
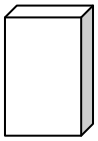
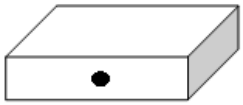
FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB μ V/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3

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 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 1-11</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>
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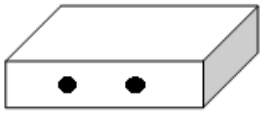
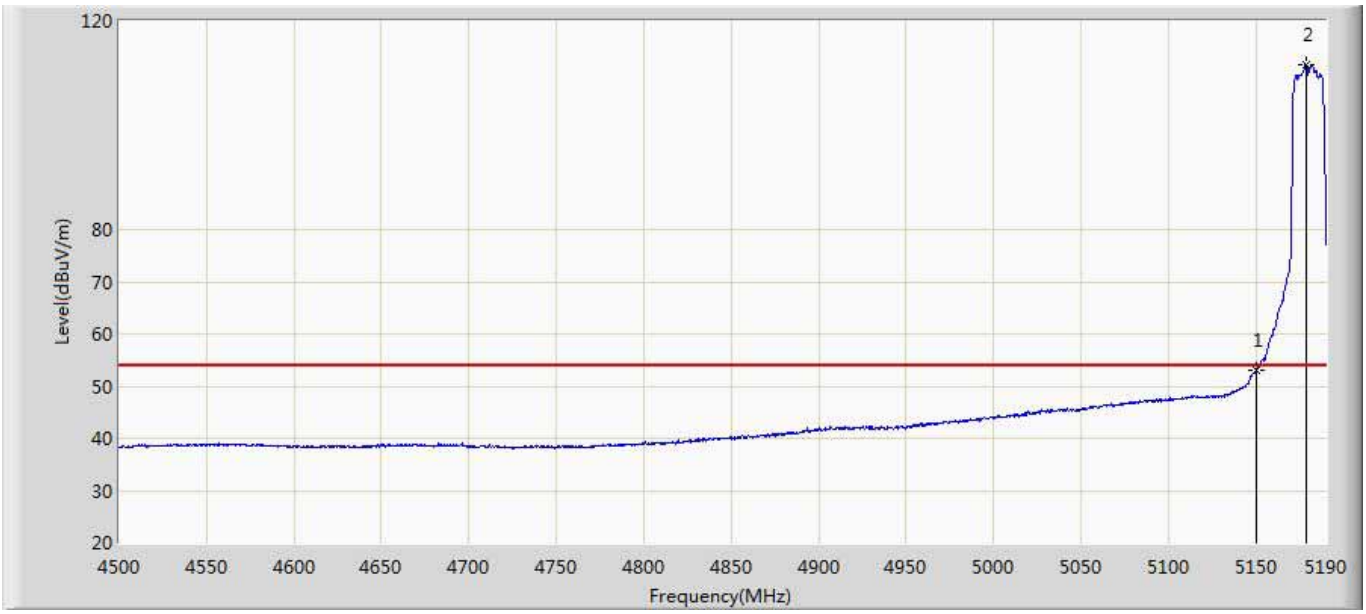
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

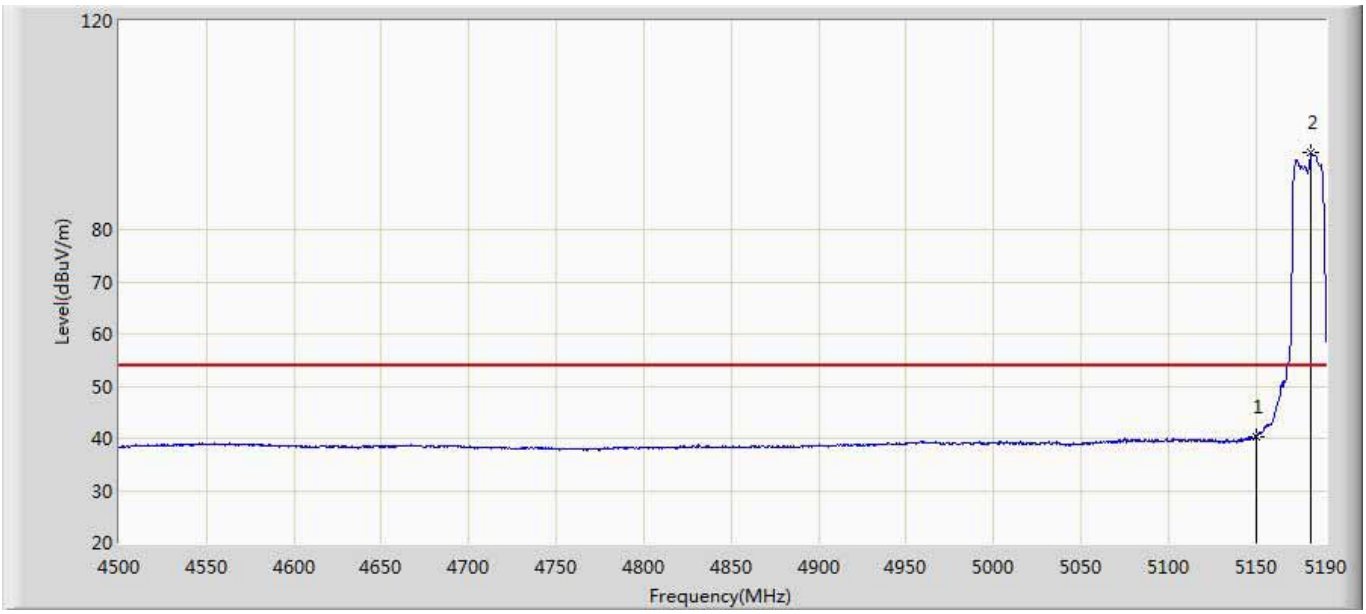
9.6. Test Result

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 20:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11A	



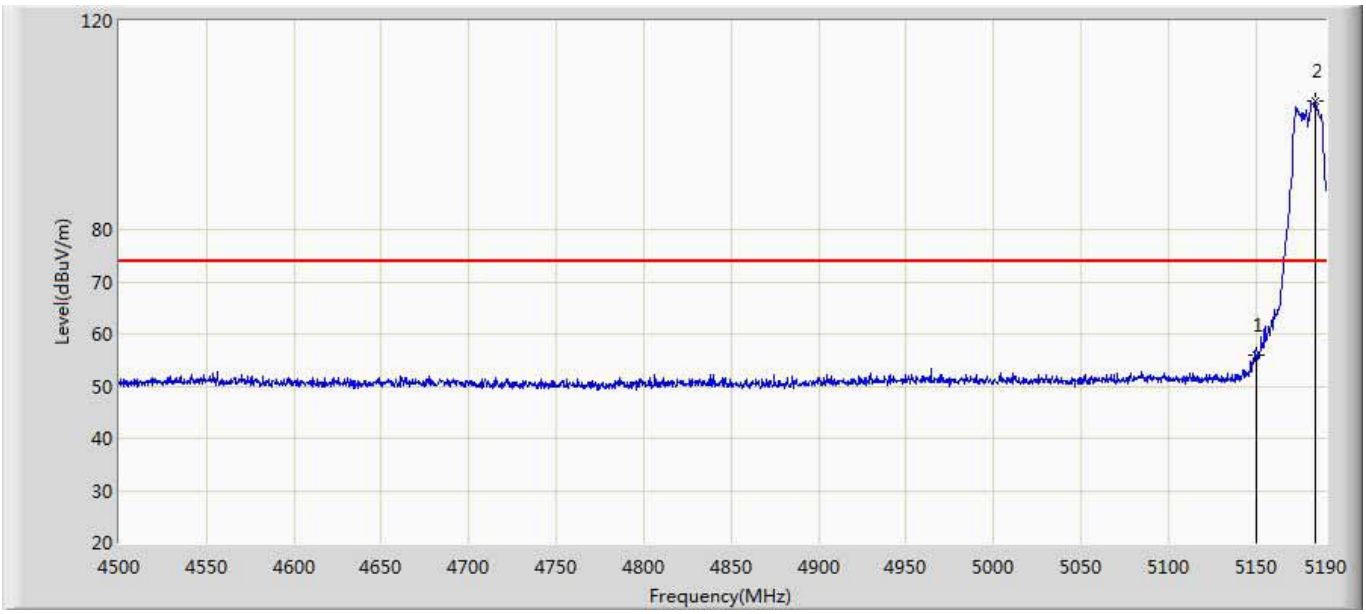
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	53.175	13.641	-0.825	54.000	39.534	AV
2	*	5178.960	111.623	72.046	57.623	54.000	39.577	AV

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11A	



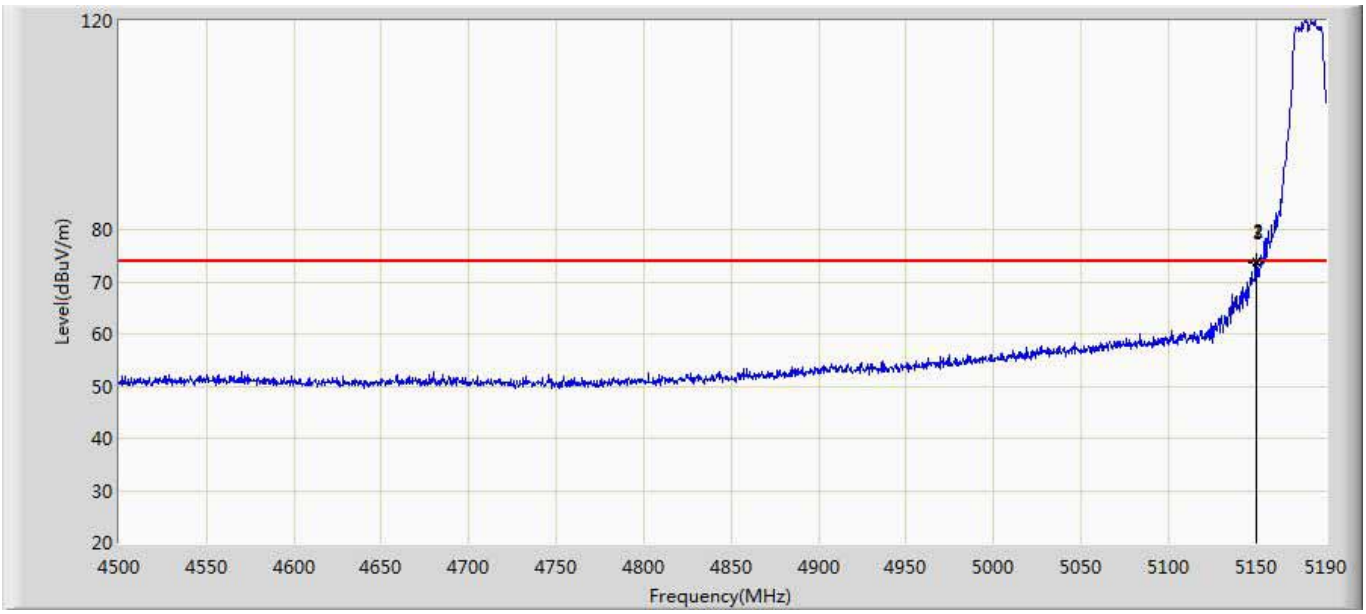
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	40.380	0.846	-13.620	54.000	39.534	AV
2	*	5181.375	94.700	55.141	40.700	54.000	39.558	AV

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11A	



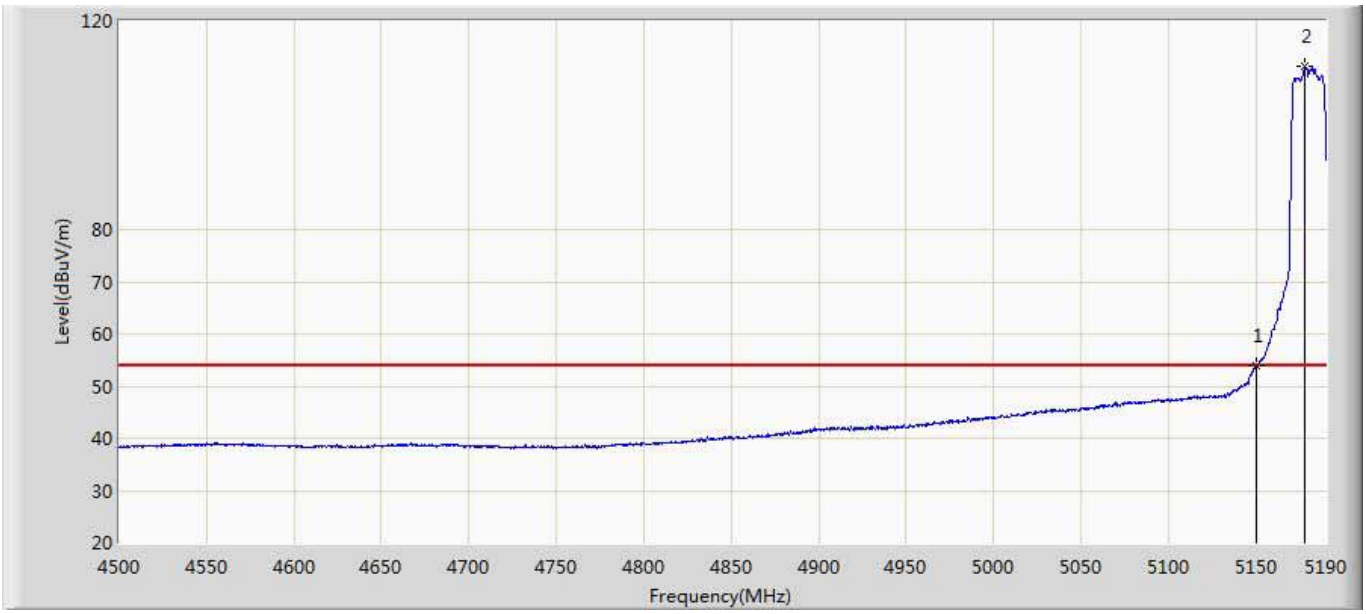
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	55.963	16.429	-18.037	74.000	39.534	PK
2	*	5184.135	104.718	65.145	30.718	74.000	39.573	PK

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 5180MHz by 802.11A	



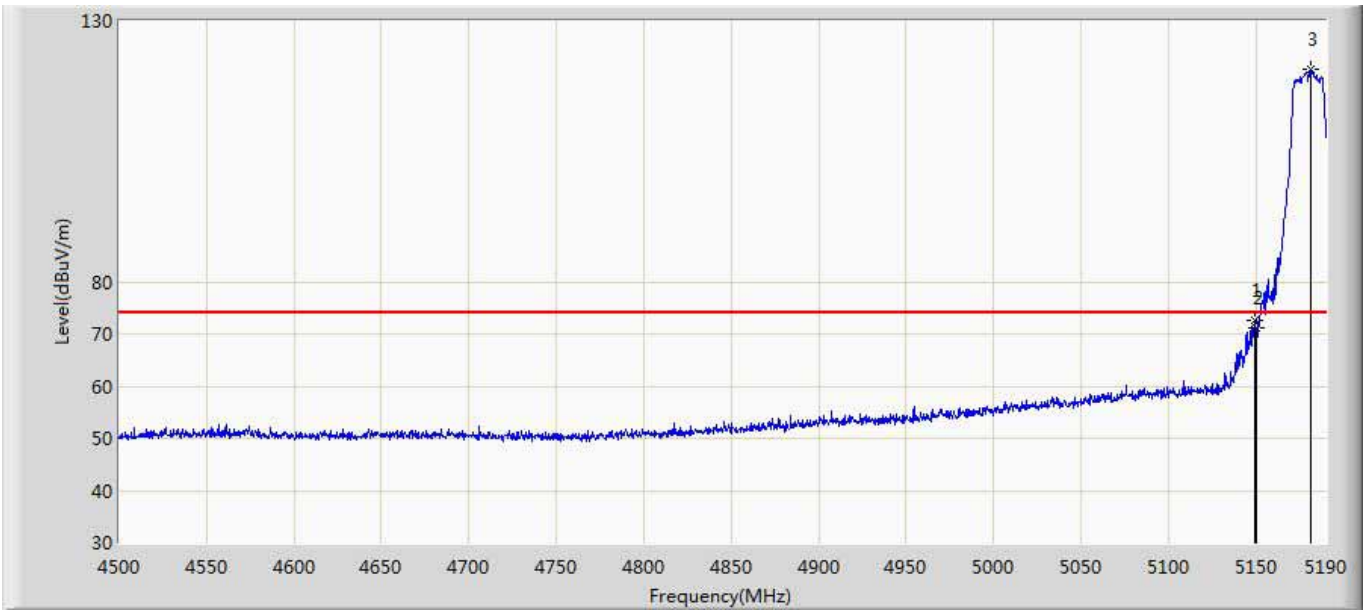
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5149.980	73.826	34.292	-0.174	74.000	39.534	PK
2		5149.980	73.826	34.292	-0.174	74.000	39.534	PK
3		5150.000	73.722	34.188	-0.278	74.000	39.534	PK

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 5180MHz by 802.11N20	



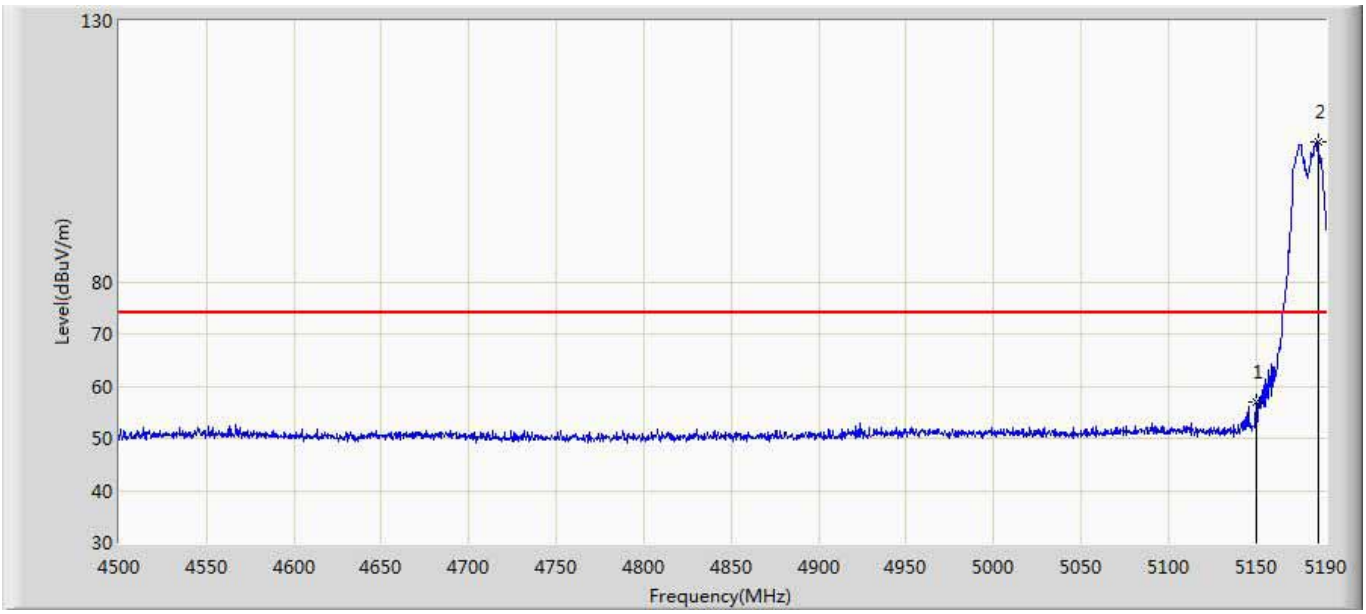
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	53.887	14.353	-0.113	54.000	39.534	AV
2	*	5177.925	111.241	71.656	57.241	54.000	39.585	AV

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 5180MHz by 802.11N20	



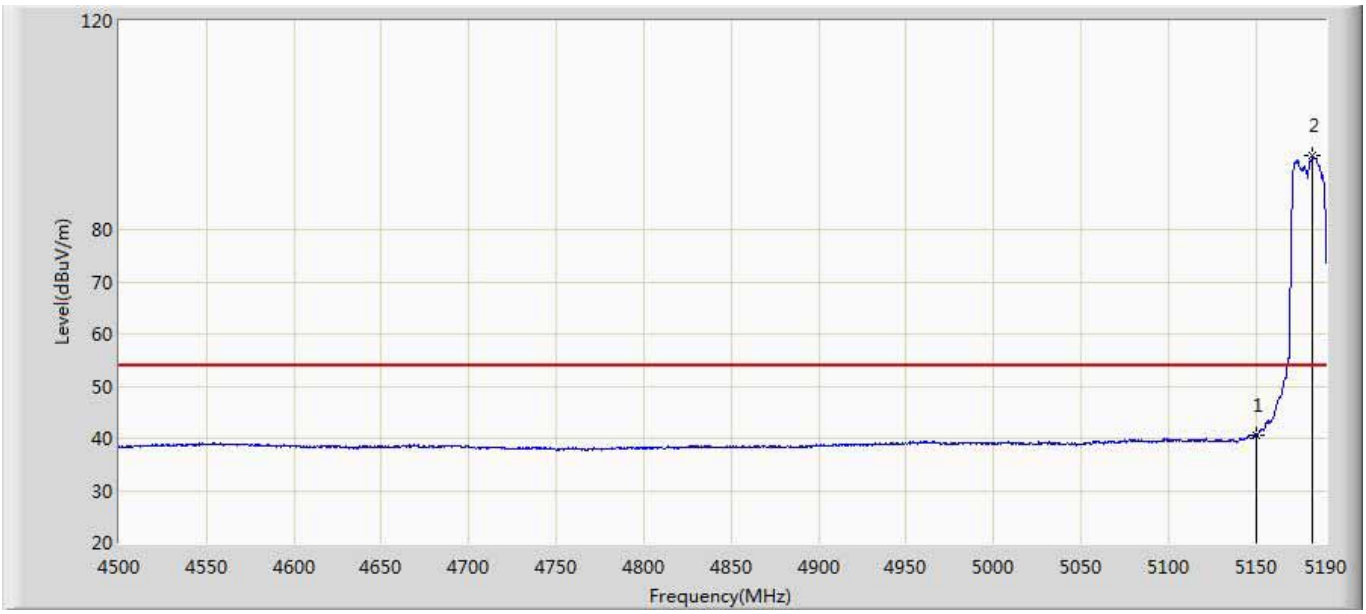
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5149.290	72.677	33.150	-1.323	74.000	39.527	PK
2		5150.000	71.158	31.624	-2.842	74.000	39.534	PK
3	*	5181.030	120.647	81.086	46.647	74.000	39.561	PK

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 5180MHz by 802.11N20	



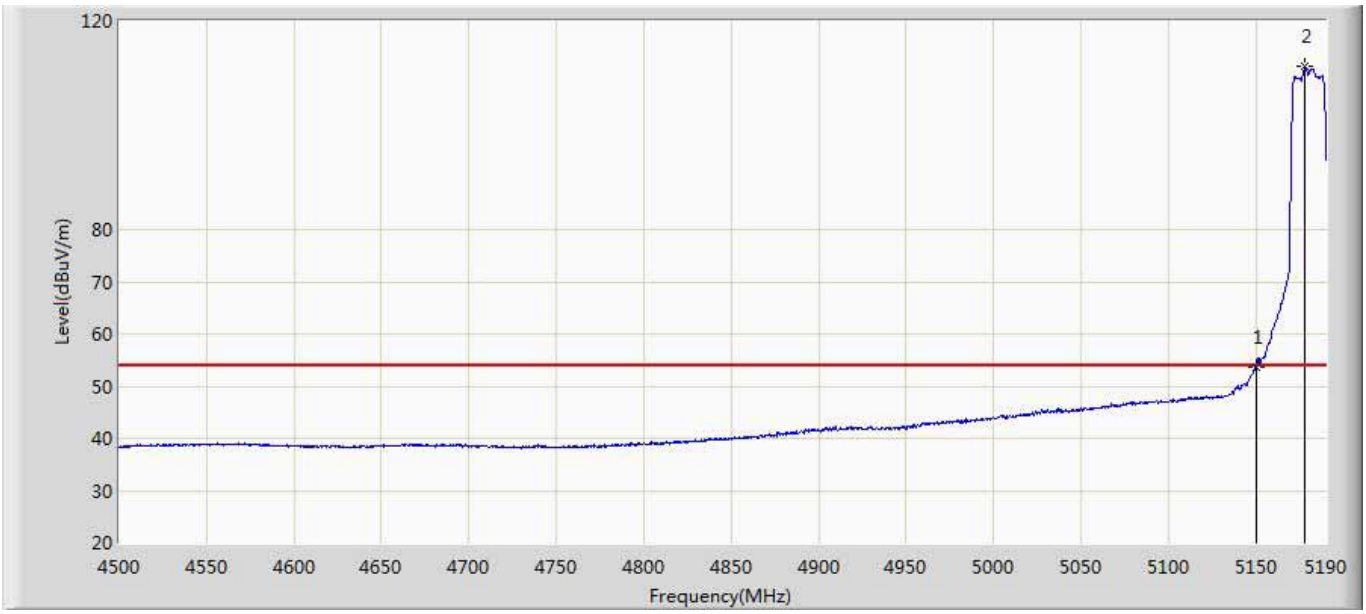
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	56.915	17.381	-17.085	74.000	39.534	PK
2	*	5185.515	106.898	67.312	32.898	74.000	39.586	PK

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 5180MHz by 802.11N20	



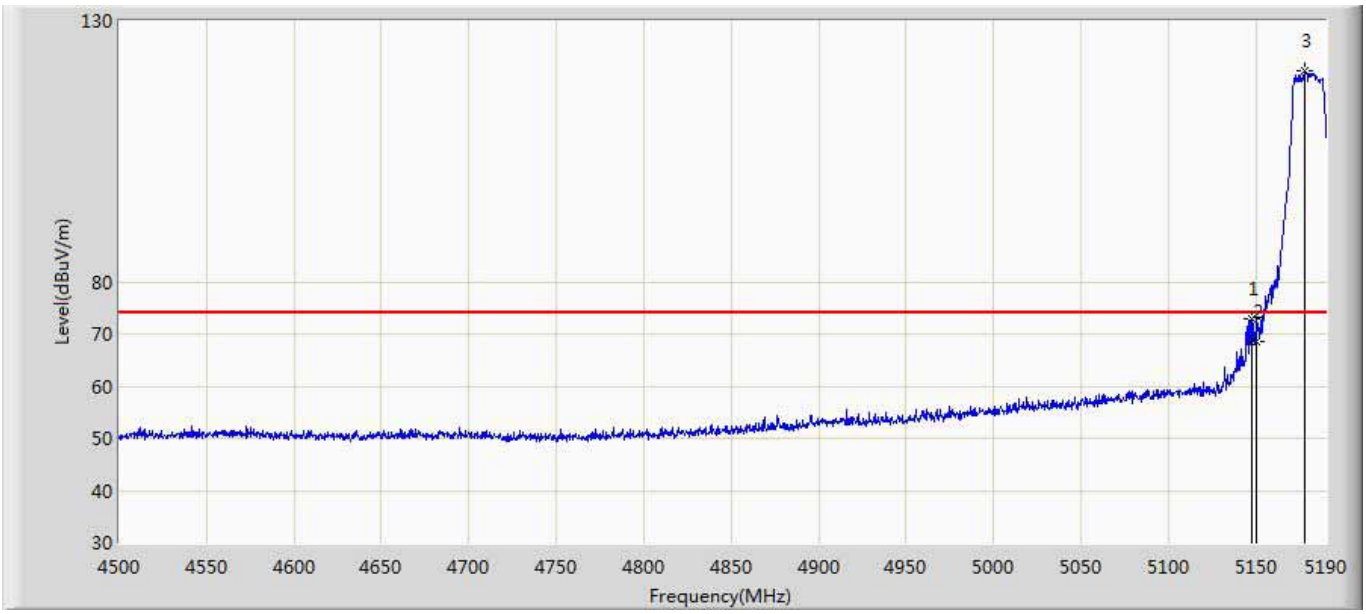
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	40.703	1.169	-13.297	54.000	39.534	AV
2	*	5182.410	94.098	54.540	40.098	54.000	39.557	AV

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 5180MHz by 802.11AC20	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	53.715	14.181	-0.285	54.000	39.534	AV
2	*	5177.925	111.274	71.689	57.274	54.000	39.585	AV

Engineer: Eric	
Site: AC5	Time: 2017/03/06 - 21:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AC1900 Smart Wi-Fi Router	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 5180MHz by 802.11AC20	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5147.910	72.878	33.364	-1.122	74.000	39.514	PK
2		5150.000	68.629	29.095	-5.371	74.000	39.534	PK
3	*	5178.270	120.414	80.831	46.414	74.000	39.582	PK