

FCC 47 CFR PART 15 SUBPART E

Product Type : Mobile Hotspot
Applicant : Netgear Inc.
Address : 350 East Plumeria Drive, San Jose, CA 95134
Trade Name : NETGEAR
Model Number : AC810S-300
Test Specification : FCC 47 CFR PART 15 SUBPART E
ANSI C63.10:2013
Application Purpose : Original
Receive Date : Jul. 13, 2015
Test Period : Aug. 10 ~ Nov. 04, 2015
Issue Date : Nov. 24, 2015

Issue by

A Test Lab Techno Corp.
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Taoyuan County 334, Taiwan R.O.C.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Nov. 23, 2015	Initial Issue	
01	Nov. 24, 2015	Revised report information.	Joyce Liao

Verification of Compliance

Issued Date: 11/24/2015

Product Type : Mobile Hotspot
Applicant : Netgear Inc.
Address : 350 East Plumeria Drive, San Jose, CA 95134
Trade Name : NETGEAR
Model Number : AC810S-300
FCC ID : PY3AC810S
EUT Rated Voltage : DC 5V, 1A
Test Voltage : 120 Vac / 60 Hz, DC 3.50 / DC 3.80 / DC 4.35
Applicable Standard : FCC 47 CFR PART 15 SUBPART E
ANSI C63.10:2013

Test Result : Complied
Application Purpose : Original
Performing Lab. : A Test Lab Techno Corp.

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<http://www.atl-lab.com.tw/e-index.htm>



A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Fly Lu
(Manager) (Fly Lu)

Reviewed By : Eric Ou Yang
(Testing Engineer) (Eric Ou Yang)

TABLE OF CONTENTS

1	General Information.....	6
	1.1. Summary of Test Result.....	6
	1.2. Measurement Uncertainty.....	6
2	EUT Description	7
3	Test Methodology	9
	3.1. Mode of Operation	9
	3.2. EUT Exercise Software.....	13
	3.3. Configuration of Test System Details	14
	3.4. Test Site Environment.....	15
4	AC Power Conducted Emission Measurement.....	16
	4.1. Limit	16
	4.2. Test Instruments.....	16
	4.3. Test Setup	16
	4.4. Test Procedure.....	17
	4.5. Test Result	18
5	Radiated Emission Measurement	22
	5.1. Limit	22
	5.2. Test Instruments.....	22
	5.3. Setup.....	23
	5.4. Test Procedure.....	25
	5.5. Test Result	27
6	Maximum Conducted Output Power Measurement	46
	6.1. Limit	46
	6.2. Test Setup.....	46
	6.3. Test Instruments.....	46
	6.4. Test Procedure.....	46
	6.5. Test Result	47
7	26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement.....	50
	7.1. Limit	50
	7.2. Test Setup.....	50
	7.3. Test Instruments.....	50
	7.4. Test Procedure.....	50
	7.5. Test Result	51
	7.6. Test Graphs.....	53

8	6dB RF Bandwidth Measurement.....	59
8.1.	Limit	59
8.2.	Test Setup	59
8.3.	Test Instruments.....	59
8.4.	Test Procedure.....	59
8.5.	Test Result	60
8.6.	Test Graphs.....	62
9	Peak Power Spectral Density Measurement	70
9.1.	Limit	70
9.2.	Test Setup	70
9.3.	Test Instruments.....	70
9.4.	Test Procedure.....	70
9.5.	Test Result	71
9.6.	Test Graphs.....	74
10	Frequency Stability Measurement	88
10.1.	Limit	88
10.2.	Test Setup	88
10.3.	Test Instruments.....	88
10.4.	Test Procedure.....	89
10.5.	Test Result	90
11	Antenna Requirement.....	91
11.1.	Limit	91
11.2.	Antenna Connector Construction.....	91

1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
FCC			
15.407(b)(6) 15.207	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	Transmitter Radiated Emissions	PASS	---
15.407(a)	Maximum Conducted Output Power	PASS	---
15.407(a)	26dB RF Bandwidth	Reference	---
15.407(a)	6dB RF Bandwidth	PASS	----
15.407(a)	Peak Power Spectral Density	PASS	---
15.407(g)	Frequency Stability	PASS	---
15.407(a) 15.203	Antenna Requirement	PASS	---

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2. Measurement Uncertainty

Measurement Item	Frequency Range	Uncertainty (dB)	
Conducted Emission	9kHz ~ 30MHz	± 2.020	
Radiated Emission	30MHz ~ 1000MHz	Horizontal	± 3.960
		Vertical	± 3.570
	1000MHz ~ 18000MHz	Horizontal	± 3.072
		Vertical	± 3.028
	18000MHz ~ 40000MHz	Horizontal	± 3.622
		Vertical	± 3.506

2 EUT Description

Applicant	Netgear Inc. 350 East Plumeria Drive, San Jose, CA 95134				
Manufacturer	Netgear Inc. 350 East Plumeria Drive, San Jose, CA 95134				
Product Type	Mobile Hotspot				
Trade Name	NETGEAR				
Model No.	AC810S-300				
IMEI No.	351639070006457				
Hardware Version	DV3.2				
Software Version	11.02.00.00				
FCC ID	PY3AC810S				
Frequency Range	Frequency Range (MHz)	Band	Channel Bandwidth	Number of Channels	Data Rate 400GI (ns)
IEEE 802.11a	5180 – 5240	U-NII Band I	20MHz	4	Up to 54Mbps
	5745 – 5825	U-NII Band III		5	
IEEE 802.11n 20 MHz	5180 – 5240	U-NII Band I	20MHz	4	Up to 144.4Mbps
	5745 – 5825	U-NII Band III		5	
IEEE 802.11n 40 MHz	5190 – 5230	U-NII Band I	40MHz	2	Up to 300Mbps
	5755 – 5795	U-NII Band III			
IEEE 802.11ac 80 MHz	5210	U-NII Band I	80MHz	1	Up to 866.6Mbps
	5775	U-NII Band III		1	
Modulation Type	OFDM				
Antenna Type	chip antennas				
Antenna Max. Gain	3 dBi				
Antenna Delivery	2TX + 2RX				
RF Output Power	IEEE 802.11a	U-NII Band I:	0.013 W /	10.97 dBm	
	IEEE 802.11a	U-NII Band III:	0.013 W /	11.19 dBm	
	IEEE 802.11n 20 MHz	U-NII Band I:	0.014 W /	11.32 dBm	
	IEEE 802.11n 20 MHz	U-NII Band III:	0.013 W /	11.22 dBm	
	IEEE 802.11n 40 MHz	U-NII Band I:	0.014 W /	11.34 dBm	
	IEEE 802.11n 40 MHz	U-NII Band III:	0.014 W /	11.51 dBm	
	IEEE 802.11ac 80 MHz	U-NII Band I:	0.012 W /	10.88 dBm	
	IEEE 802.11ac 80 MHz	U-NII Band III:	0.014 W /	11.37 dBm	
Frequency stability specification	± 20 ppm				

Power adapter List				
Power adapter (1)	Trade Name	NETGEAR	Model Number	MU05BT050100-A1
	I/P: 100-240VAC, 50/60Hz, 0.15A O/P: 5VDC, 1A			
Power adapter (2)	Trade Name	NETGEAR	Model Number	AD2038F20
	I/P: 100-240VAC, 50/60Hz, 0.13A O/P: 5.0VDC, 1.0A			

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL 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: Normal Operation Mode
Mode 2: IEEE 802.11a Link Mode
Mode 3: IEEE 802.11n 20MHz Link Mode
Mode 4: IEEE 802.11n 40MHz Link Mode
Mode 5: IEEE 802.11ac 80MHz Link Mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

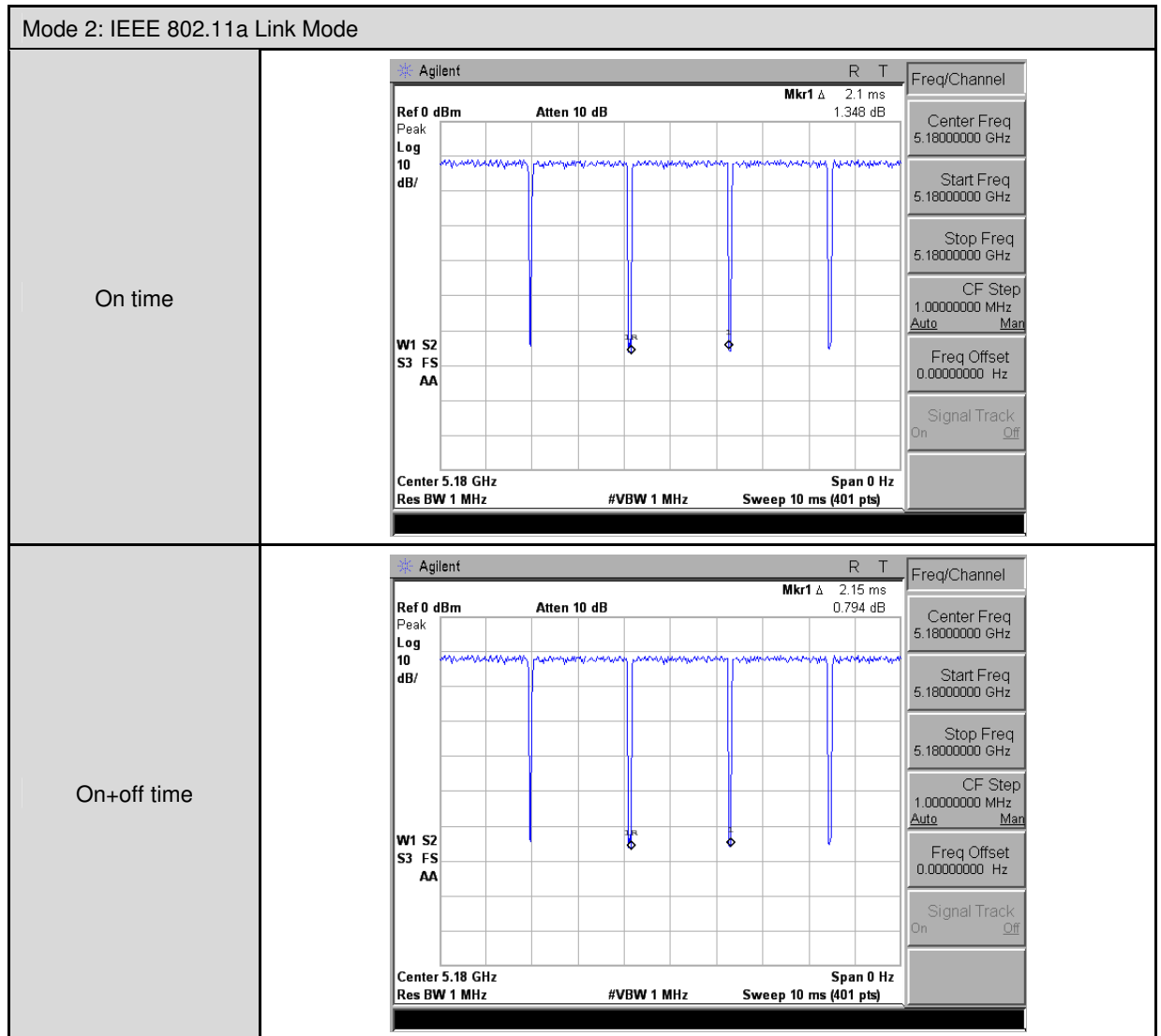
After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

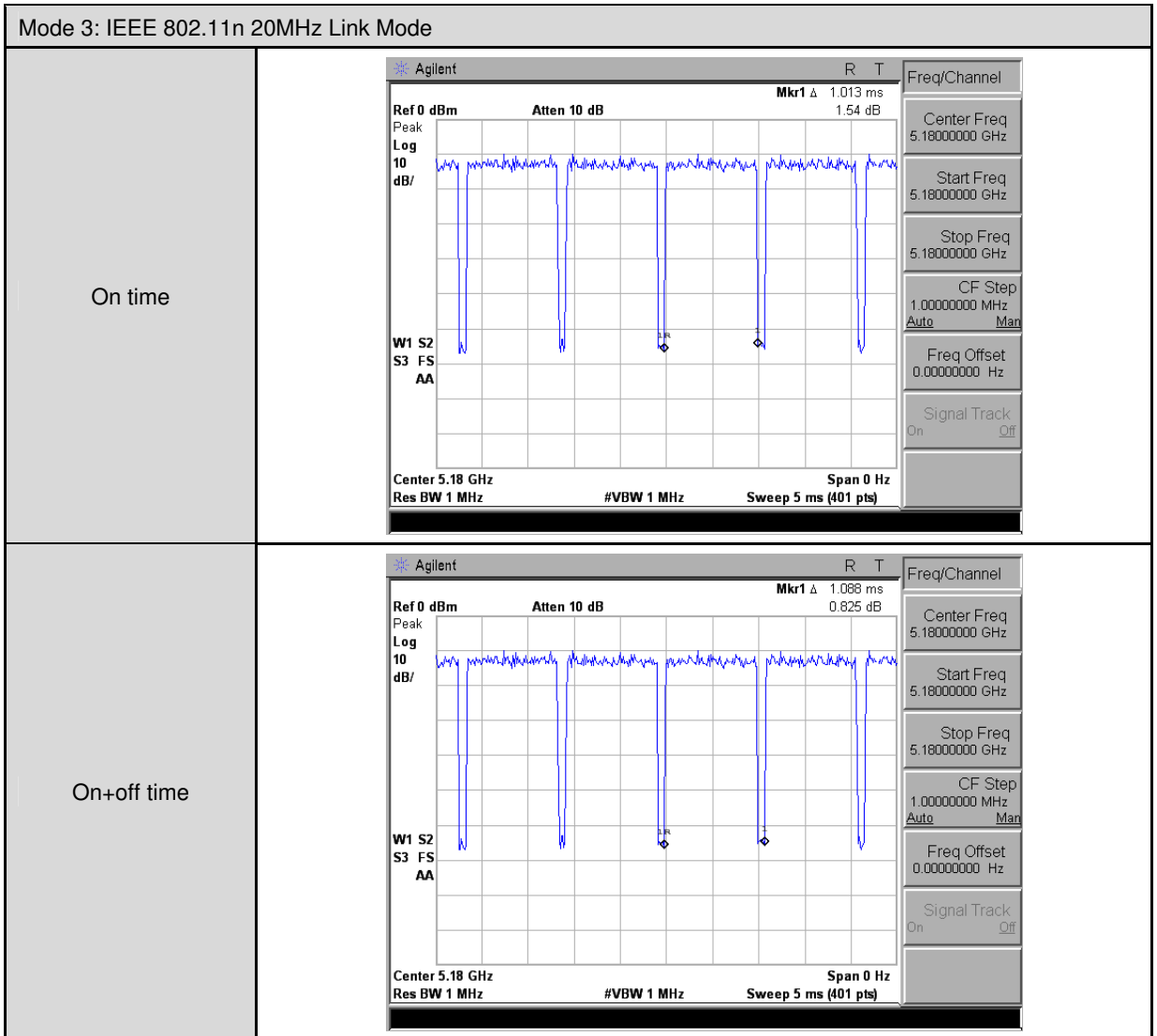
The device used two models of adapter, adapter number: AD2038F20 is worst case to perform testing.

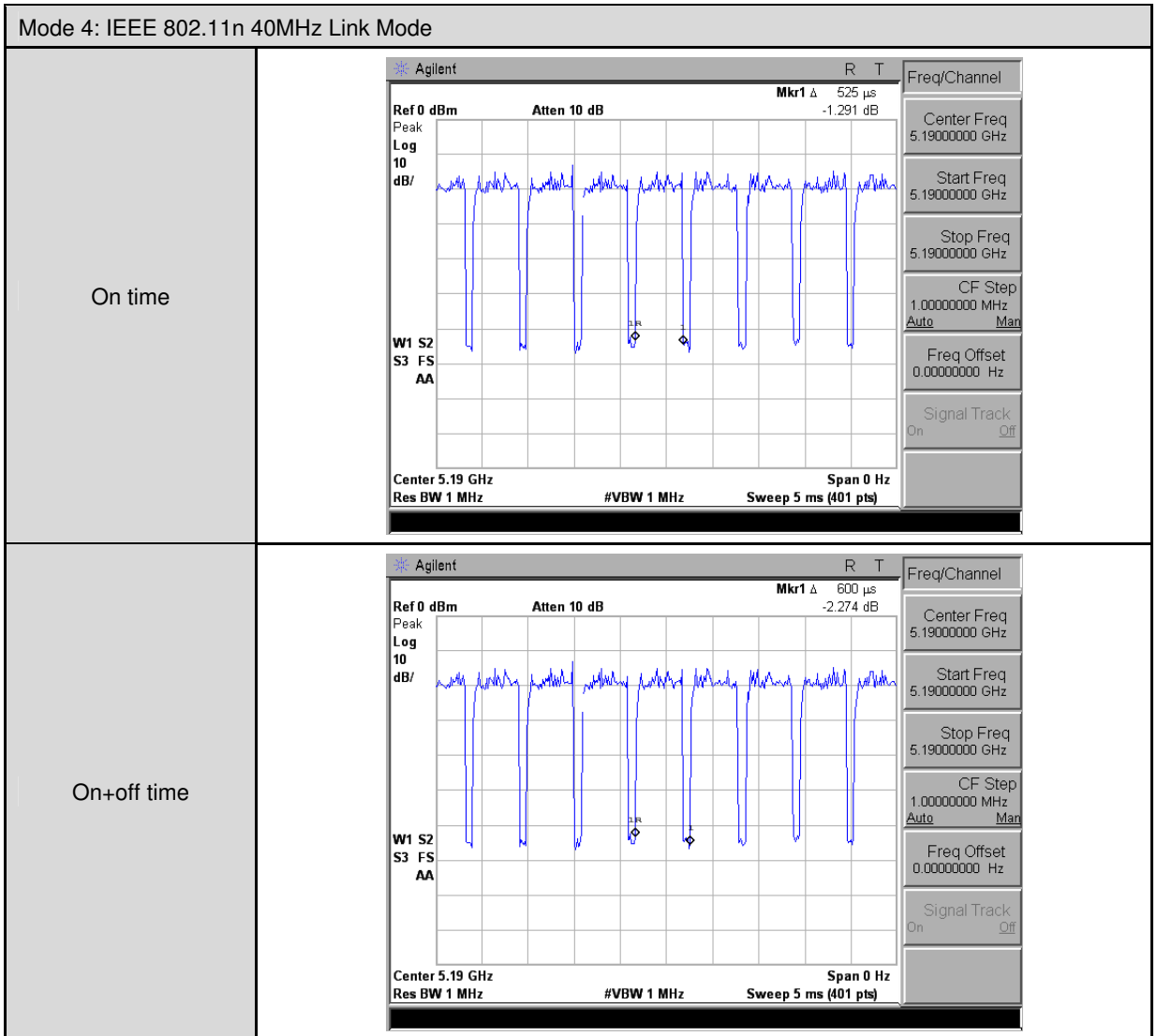
Test Mode	Band	Data Rate	Test Channel
IEEE 802.11a Link Mode	U-NII Band I	6M	36, 40, 48
	U-NII Band III		149, 157, 165
IEEE 802.11n 20MHz Link Mode	U-NII Band I	13M	36, 40, 48
	U-NII Band III		149, 157, 165
IEEE 802.11n 40MHz Link Mode	U-NII Band I	27M	38, 46
	U-NII Band III		151, 159
IEEE 802.11ac 80MHz Link Mode	U-NII Band I	58.6M	42
	U-NII Band III		155

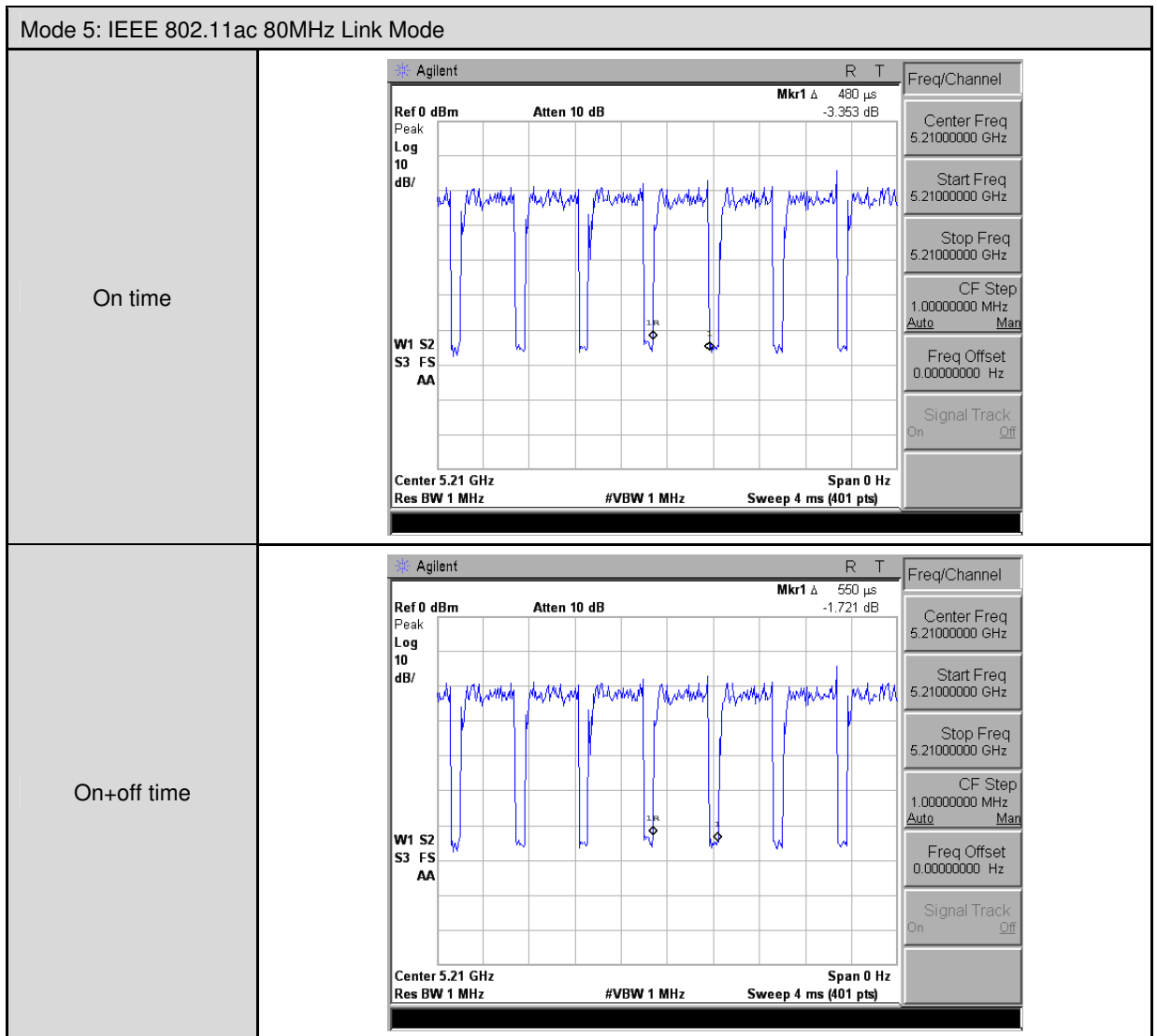
Duty cycle

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2: IEEE 802.11a Link Mode	5180.0	2.100	2.150	0.977	0.102	0.476
Mode 3: IEEE 802.11n 20MHz Link Mode	5180.0	1.013	1.088	0.931	0.310	0.987
Mode 4: IEEE 802.11n 40MHz Link Mode	5190.0	0.525	0.600	0.875	0.580	1.905
Mode 5: IEEE 802.11ac 80MHz Link Mode	5210.0	0.480	0.550	0.873	0.591	2.083

Duty Cycle Graphs








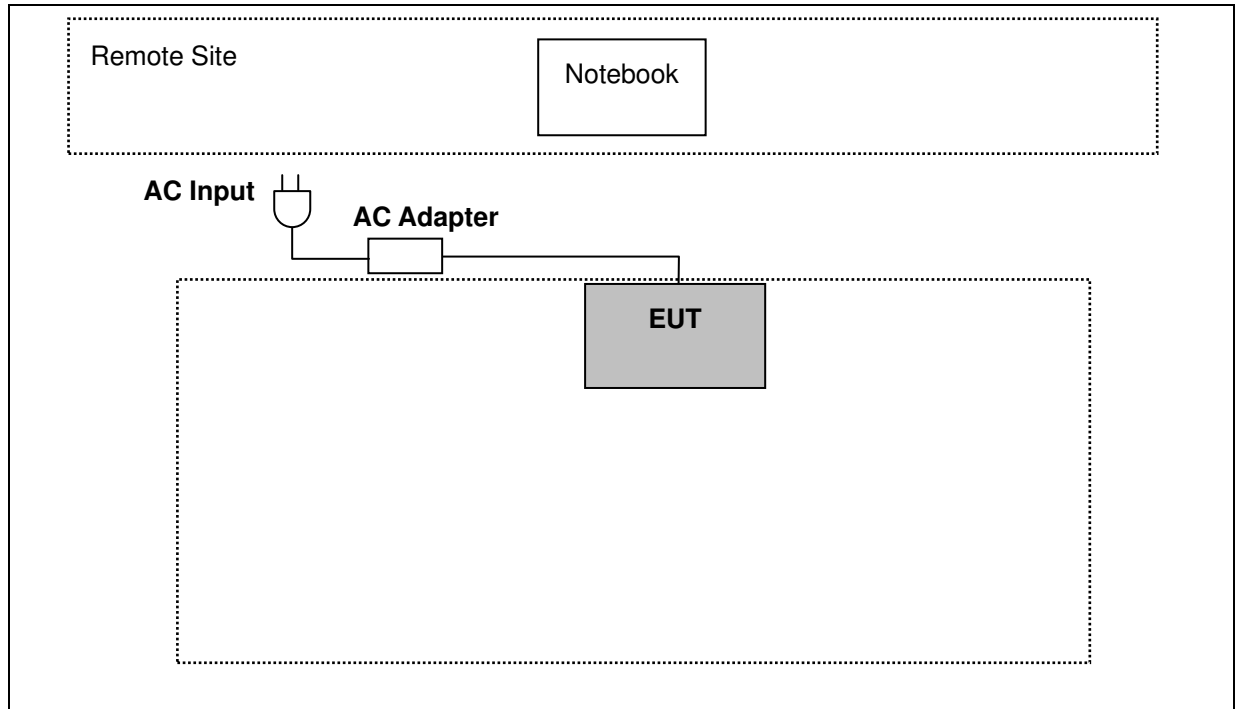
3.2. EUT Exercise Software

The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

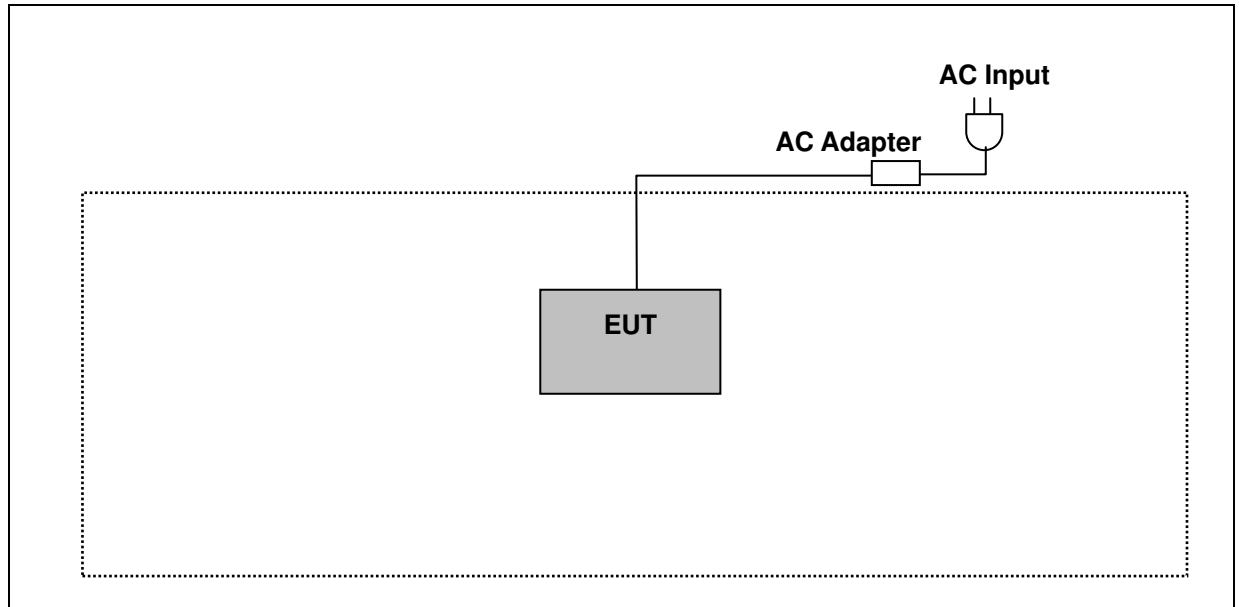
1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to Notebook.
4.	EUT run test program.

3.3. Configuration of Test System Details

Conducted Emission



Radiated Emission



3.4. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 AC Power Conducted Emission Measurement

4.1. Limit

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

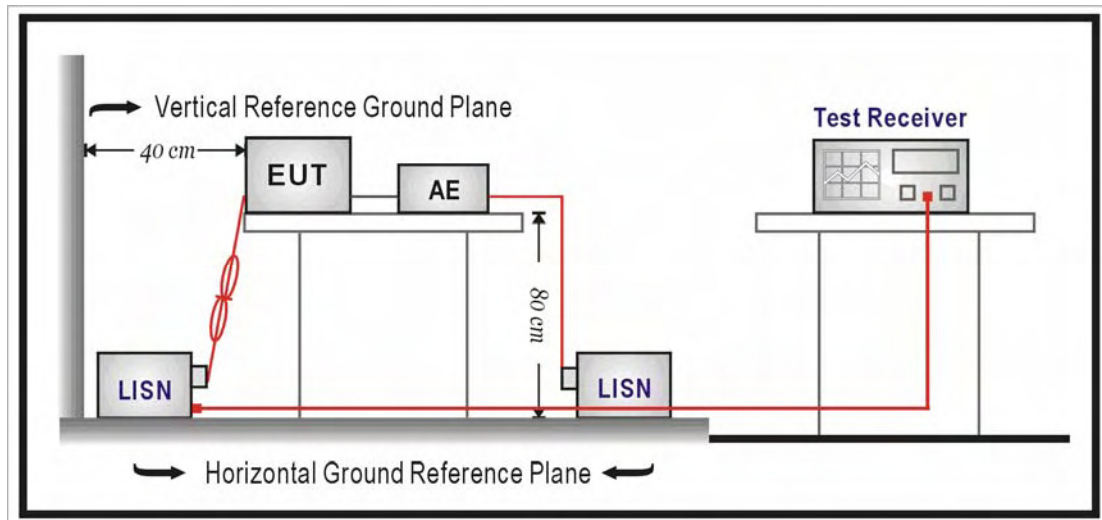
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/25/2015	(1)
LISN	R&S	ENV216	101040	03/10/2015	(1)
LISN	R&S	ENV216	101041	03/06/2015	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

4.3. Test Setup



4.4. Test Procedure

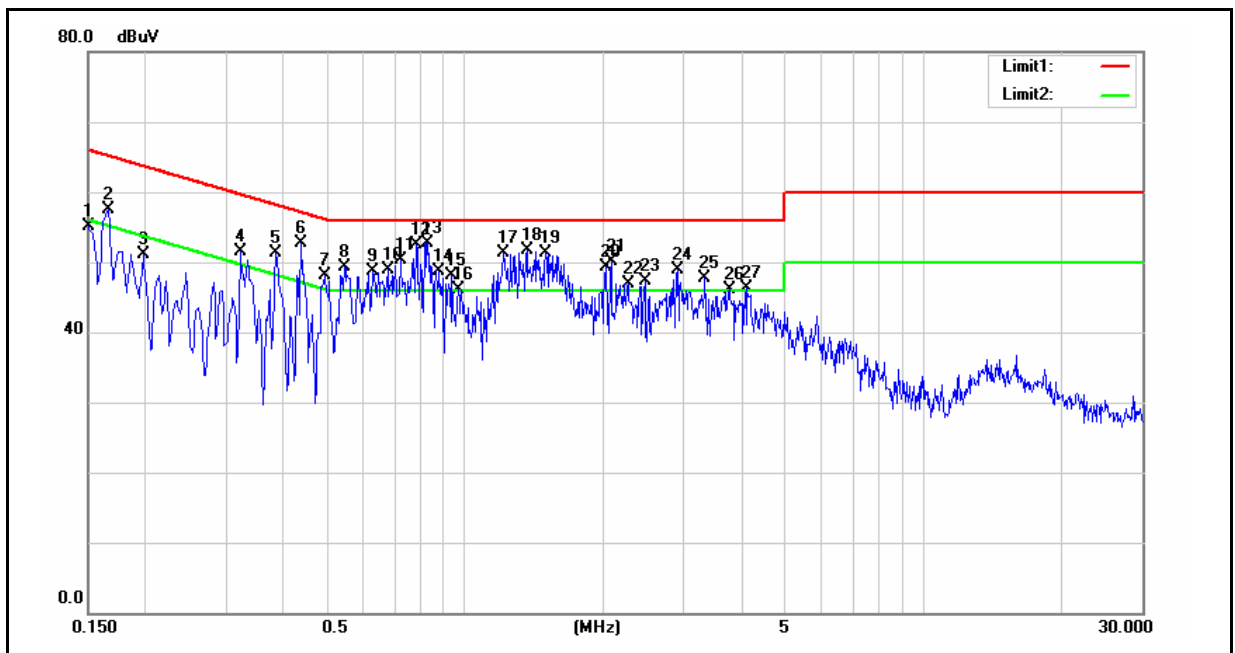
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

4.5. Test Result

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	09/23/2015
Deacription	AD2038F20	Test By:	Eric Ou Yang

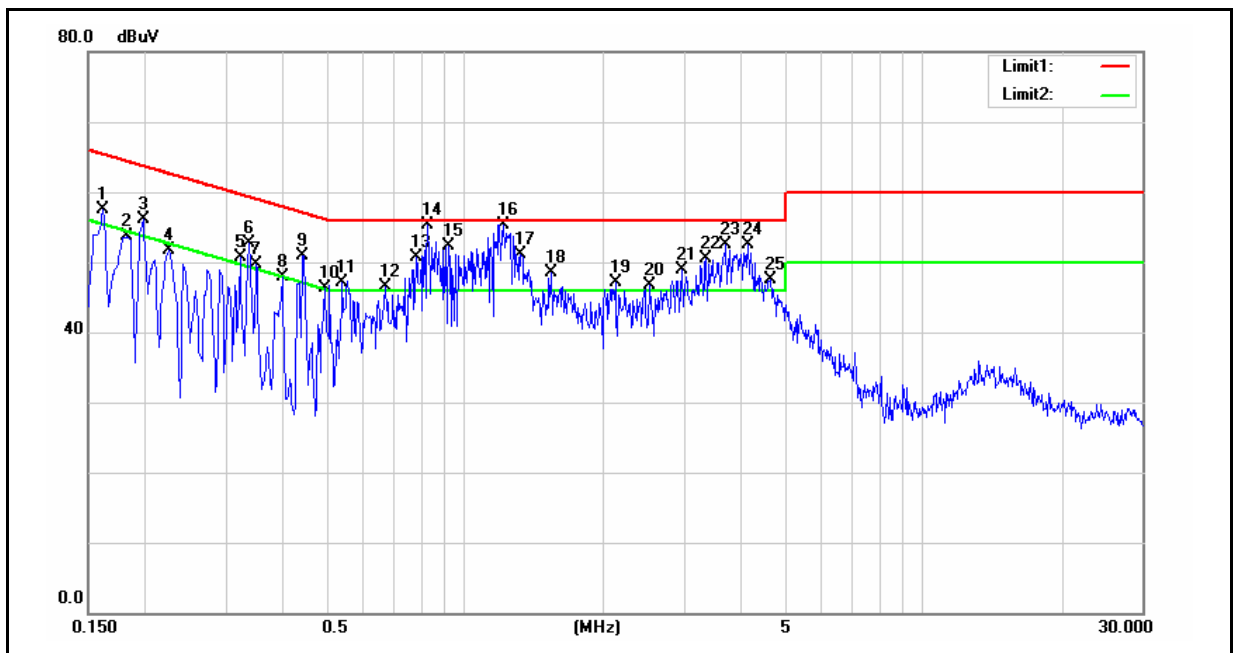


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	45.04	35.05	9.58	54.62	44.63	66.00	56.00	-11.38	-11.37	Pass
2	0.1660	44.11	35.04	9.58	53.69	44.62	65.16	55.16	-11.47	-10.54	Pass
3	0.1980	39.05	30.25	9.58	48.63	39.83	63.69	53.69	-15.06	-13.86	Pass
4	0.3220	35.77	26.72	9.59	45.36	36.31	59.66	49.66	-14.30	-13.35	Pass
5	0.3860	39.19	32.69	9.59	48.78	42.28	58.15	48.15	-9.37	-5.87	Pass
6	0.4380	41.76	35.50	9.59	51.35	45.09	57.10	47.10	-5.75	-2.01	Pass
7	0.4940	35.91	31.36	9.60	45.51	40.96	56.10	46.10	-10.59	-5.14	Pass
8	0.5460	35.50	29.15	9.60	45.10	38.75	56.00	46.00	-10.90	-7.25	Pass
9	0.6300	36.94	29.86	9.60	46.54	39.46	56.00	46.00	-9.46	-6.54	Pass
10	0.6780	36.67	31.58	9.61	46.28	41.19	56.00	46.00	-9.72	-4.81	Pass

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	09/23/2015
Deacription	AD2038F20	Test By:	Eric Ou Yang

No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
11	0.7220	37.37	32.74	9.61	46.98	42.35	56.00	46.00	-9.02	-3.65	Pass
12	0.7820	39.19	32.92	9.61	48.80	42.53	56.00	46.00	-7.20	-3.47	Pass
13	0.8300	43.49	34.66	9.61	53.10	44.27	56.00	46.00	-2.90	-1.73	Pass
14	0.8780	36.03	29.33	9.61	45.64	38.94	56.00	46.00	-10.36	-7.06	Pass
15	0.9340	33.14	27.92	9.61	42.75	37.53	56.00	46.00	-13.25	-8.47	Pass
16	0.9660	33.35	26.26	9.62	42.97	35.88	56.00	46.00	-13.03	-10.12	Pass
17	1.2140	38.57	31.31	9.63	48.20	40.94	56.00	46.00	-7.80	-5.06	Pass
18	1.3620	35.86	29.04	9.63	45.49	38.67	56.00	46.00	-10.51	-7.33	Pass
19	1.4980	34.35	29.49	9.64	43.99	39.13	56.00	46.00	-12.01	-6.87	Pass
20	2.0300	36.68	25.80	9.66	46.34	35.46	56.00	46.00	-9.66	-10.54	Pass
21	2.0780	38.05	26.24	9.66	47.71	35.90	56.00	46.00	-8.29	-10.10	Pass
22	2.2700	33.22	26.11	9.67	42.89	35.78	56.00	46.00	-13.11	-10.22	Pass
23	2.4620	35.68	26.52	9.67	45.35	36.19	56.00	46.00	-10.65	-9.81	Pass
24	2.9020	37.36	26.20	9.69	47.05	35.89	56.00	46.00	-8.95	-10.11	Pass
25	3.3300	34.39	23.51	9.71	44.10	33.22	56.00	46.00	-11.90	-12.78	Pass
26	3.7700	34.22	23.10	9.72	43.94	32.82	56.00	46.00	-12.06	-13.18	Pass
27	4.1300	31.19	18.16	9.72	40.91	27.88	56.00	46.00	-15.09	-18.12	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	09/23/2015
Description	AD2038F20	Test By:	Eric Ou Yang



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1620	45.08	32.84	9.58	54.66	42.42	65.36	55.36	-10.70	-12.94	Pass
2	0.1820	40.28	26.04	9.58	49.86	35.62	64.39	54.39	-14.53	-18.77	Pass
3	0.1980	41.40	28.10	9.58	50.98	37.68	63.69	53.69	-12.71	-16.01	Pass
4	0.2260	37.57	24.52	9.58	47.15	34.10	62.60	52.60	-15.45	-18.50	Pass
5	0.3220	33.34	22.08	9.59	42.93	31.67	59.66	49.66	-16.73	-17.99	Pass
6	0.3380	39.83	28.81	9.59	49.42	38.40	59.25	49.25	-9.83	-10.85	Pass
7	0.3500	34.93	22.25	9.59	44.52	31.84	58.96	48.96	-14.44	-17.12	Pass
8	0.3980	31.55	22.82	9.59	41.14	32.41	57.90	47.90	-16.76	-15.49	Pass
9	0.4420	38.50	28.63	9.59	48.09	38.22	57.02	47.02	-8.93	-8.80	Pass
10	0.4940	31.82	24.81	9.60	41.42	34.41	56.10	46.10	-14.68	-11.69	Pass

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	09/23/2015
Description	AD2038F20	Test By:	Eric Ou Yang

No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
11	0.5380	31.28	24.88	9.60	40.88	34.48	56.00	46.00	-15.12	-11.52	Pass
12	0.6700	29.57	24.37	9.61	39.18	33.98	56.00	46.00	-16.82	-12.02	Pass
13	0.7820	38.01	32.59	9.61	47.62	42.20	56.00	46.00	-8.38	-3.80	Pass
14	0.8300	42.21	34.62	9.61	51.82	44.23	56.00	46.00	-4.18	-1.77	Pass
15	0.9220	39.93	31.65	9.61	49.54	41.26	56.00	46.00	-6.46	-4.74	Pass
16	1.2140	41.91	34.57	9.63	51.54	44.20	56.00	46.00	-4.46	-1.80	Pass
17	1.3220	37.16	30.83	9.63	46.79	40.46	56.00	46.00	-9.21	-5.54	Pass
18	1.5380	30.41	24.58	9.65	40.06	34.23	56.00	46.00	-15.94	-11.77	Pass
19	2.1220	31.99	21.17	9.67	41.66	30.84	56.00	46.00	-14.34	-15.16	Pass
20	2.5180	34.70	20.26	9.70	44.40	29.96	56.00	46.00	-11.60	-16.04	Pass
21	2.9620	36.49	22.22	9.71	46.20	31.93	56.00	46.00	-9.80	-14.07	Pass
22	3.3460	36.74	19.22	9.73	46.47	28.95	56.00	46.00	-9.53	-17.05	Pass
23	3.7140	38.24	20.87	9.74	47.98	30.61	56.00	46.00	-8.02	-15.39	Pass
24	4.1380	38.20	20.73	9.75	47.95	30.48	56.00	46.00	-8.05	-15.52	Pass
25	4.6380	34.24	18.60	9.77	44.01	28.37	56.00	46.00	-11.99	-17.63	Pass

5 Radiated Emission Measurement

5.1. Limit

Limits of Radiated Emission Measurement

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequency Range (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	10	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note: 1. The lower limit shall apply at the transition frequencies.

2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

5.2. Test Instruments

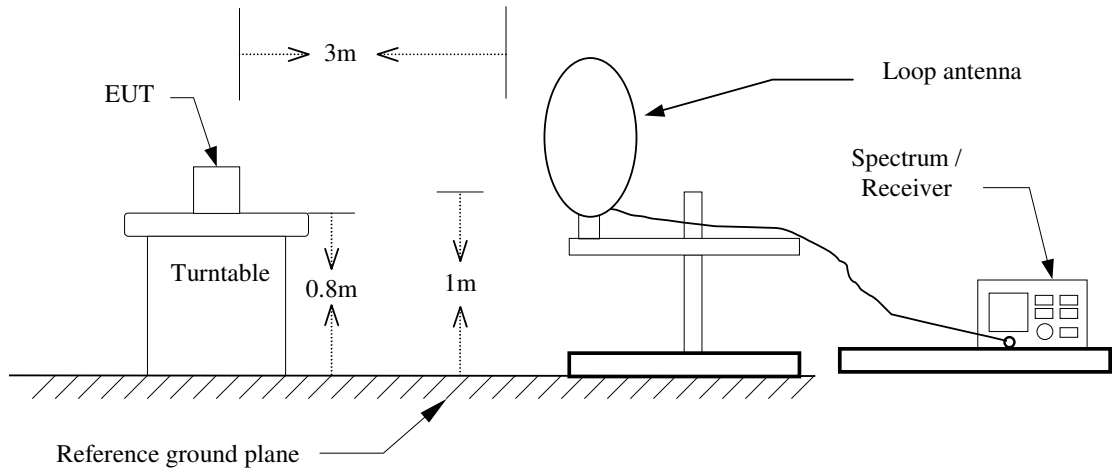
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/11/2015	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/10/2015	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/06/2015	(1)
Test Site	ATL	TE01	888001	08/27/2015	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

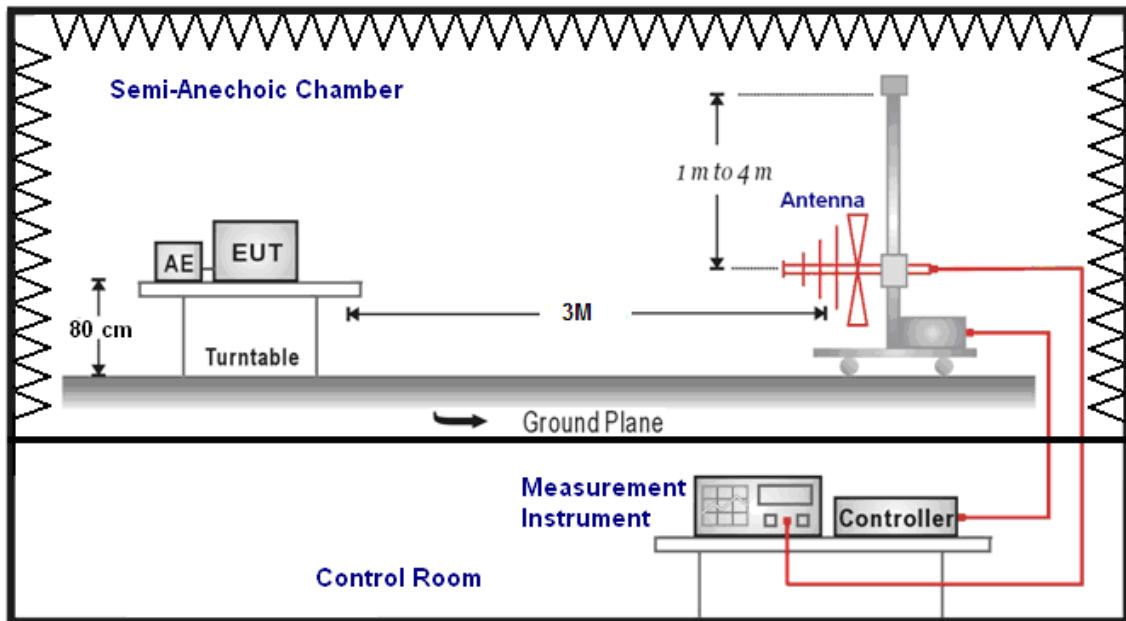
Note: N.C.R. = No Calibration Request.

5.3. Setup

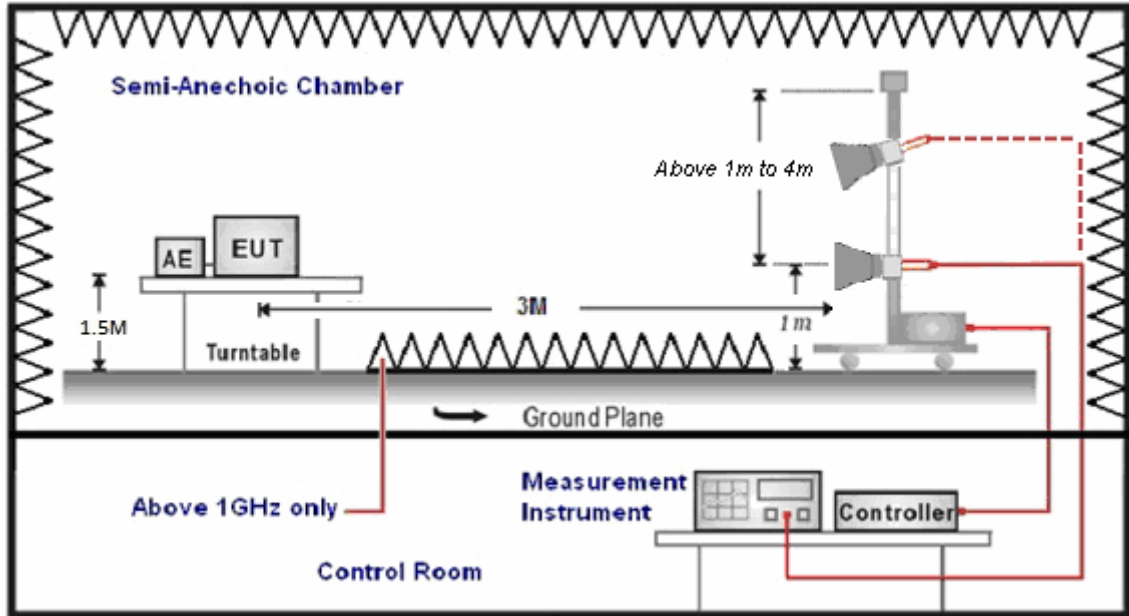
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height (below 1GHz use 0.8m turntable / above 1GHz use 1.5m turntable), top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For restricted measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle > 0.98 / 1/T for average measurements when Duty cycle < 0.98.

For out of band measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Trilog-Broadband Antenna (mode SB AC VULB) at 3 Meter and the ETS-Lindgren Double-Ridged Waveguide Horn antenna (model 3117) Schwarzbeck Mess-Elektronik Broadband Horn Antenna (BBHA 9170) was used in frequencies 1 – 40 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade). For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) $\text{Amplitude (dBuV/m)} = \text{FI (dBuV)} + \text{AF (dBuV)} + \text{CL (dBuV)} - \text{Gain (dB)}$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) $\text{Actual Amplitude (dBuV/m)} = \text{Amplitude (dBuV)} - \text{Dis(dB)}$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

5.5. Test Result

Below 1GHz

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	08/26/2015
Description:		Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
164.5000	26.30	-12.17	14.13	43.50	-29.37	QP	H
298.0000	29.87	-10.55	19.32	46.00	-26.68	QP	H
497.5000	27.90	-6.60	21.30	46.00	-24.70	QP	H
631.0000	27.79	-3.78	24.01	46.00	-21.99	QP	H
793.0000	28.37	-0.62	27.75	46.00	-18.25	QP	H
918.0000	26.92	1.98	28.90	46.00	-17.10	QP	H
123.0000	32.60	-14.26	18.34	43.50	-25.16	QP	V
370.5000	27.77	-9.13	18.64	46.00	-27.36	QP	V
576.0000	29.50	-4.93	24.57	46.00	-21.43	QP	V
651.5000	28.20	-3.50	24.70	46.00	-21.30	QP	V
820.5000	27.60	-0.11	27.49	46.00	-18.51	QP	V
891.5000	26.17	1.32	27.49	46.00	-18.51	QP	V

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

Above 1GHz

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	08/23/2015				
Frequency:	5180MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2778.000	39.45	-1.06	38.39	74.00	-35.61	peak	H
4668.000	34.80	4.22	39.02	74.00	-34.98	peak	H
7405.000	34.77	11.30	46.07	74.00	-27.93	peak	H
2792.000	38.98	-1.03	37.95	74.00	-36.05	peak	V
4640.000	34.39	4.15	38.54	74.00	-35.46	peak	V
7405.000	33.74	11.30	45.04	74.00	-28.96	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	08/23/2015				
Frequency:	5200MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2792.000	39.56	-1.03	38.53	74.00	-35.47	peak	H
4675.000	35.86	4.24	40.10	74.00	-33.90	peak	H
7391.000	34.73	11.26	45.99	74.00	-28.01	peak	H
2834.000	39.22	-0.93	38.29	74.00	-35.71	peak	V
4710.000	34.12	4.33	38.45	74.00	-35.55	peak	V
7531.000	33.03	11.57	44.60	74.00	-29.40	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	08/23/2015				
Frequency:	5240MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2820.000	39.07	-0.96	38.11	74.00	-35.89	peak	H
4752.000	35.58	4.43	40.01	74.00	-33.99	peak	H
7482.000	34.35	11.49	45.84	74.00	-28.16	peak	H
2785.000	39.33	-1.05	38.28	74.00	-35.72	peak	V
4605.000	35.45	4.05	39.50	74.00	-34.50	peak	V
7328.000	33.84	11.13	44.97	74.00	-29.03	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	09/05/2015				
Frequency:	5745MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3002.000	36.24	-0.54	35.70	74.00	-38.30	peak	H
4682.000	34.32	4.25	38.57	74.00	-35.43	peak	H
6782.000	33.33	9.76	43.09	74.00	-30.91	peak	H
3030.000	36.30	-0.45	35.85	74.00	-38.15	peak	V
4535.000	34.08	3.88	37.96	74.00	-36.04	peak	V
6719.000	33.83	9.58	43.41	74.00	-30.59	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	09/05/2015				
Frequency:	5785MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2953.000	37.94	-0.66	37.28	74.00	-36.72	peak	H
4633.000	34.04	4.13	38.17	74.00	-35.83	peak	H
6649.000	33.06	9.39	42.45	74.00	-31.55	peak	H
3030.000	37.98	-0.45	37.53	74.00	-36.47	peak	V
4570.000	34.21	3.97	38.18	74.00	-35.82	peak	V
6705.000	34.06	9.54	43.60	74.00	-30.40	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 2	Date:	09/05/2015				
Frequency:	5825MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	36.24	-0.48	35.76	74.00	-38.24	peak	H
4598.000	33.27	4.04	37.31	74.00	-36.69	peak	H
6670.000	34.41	9.45	43.86	74.00	-30.14	peak	H
3030.000	36.51	-0.45	36.06	74.00	-37.94	peak	V
4577.000	35.93	3.98	39.91	74.00	-34.09	peak	V
6705.000	32.51	9.54	42.05	74.00	-31.95	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	08/23/2015				
Frequency:	5180MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2799.000	38.92	-1.01	37.91	74.00	-36.09	peak	H
3863.000	37.49	2.13	39.62	74.00	-34.38	peak	H
7419.000	34.01	11.33	45.34	74.00	-28.66	peak	H
2778.000	38.91	-1.06	37.85	74.00	-36.15	peak	V
4731.000	36.01	4.38	40.39	74.00	-33.61	peak	V
7384.000	33.52	11.25	44.77	74.00	-29.23	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	08/23/2015				
Frequency:	5200MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2820.000	37.99	-0.96	37.03	74.00	-36.97	peak	H
4703.000	34.81	4.31	39.12	74.00	-34.88	peak	H
7349.000	31.33	11.18	42.51	74.00	-31.49	peak	H
2827.000	38.42	-0.94	37.48	74.00	-36.52	peak	V
3919.000	35.55	2.32	37.87	74.00	-36.13	peak	V
7293.000	31.68	11.05	42.73	74.00	-31.27	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	08/23/2015				
Frequency:	5240MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2799.000	39.19	-1.01	38.18	74.00	-35.82	peak	H
4675.000	34.06	4.24	38.30	74.00	-35.70	peak	H
7419.000	34.07	11.33	45.40	74.00	-28.60	peak	H
2806.000	38.49	-0.99	37.50	74.00	-36.50	peak	V
4738.000	35.66	4.40	40.06	74.00	-33.94	peak	V
7377.000	33.27	11.24	44.51	74.00	-29.49	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	09/05/2015				
Frequency:	5745MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3065.000	37.26	-0.36	36.90	74.00	-37.10	peak	H
4570.000	34.26	3.97	38.23	74.00	-35.77	peak	H
6719.000	33.94	9.58	43.52	74.00	-30.48	peak	H
3030.000	37.39	-0.45	36.94	74.00	-37.06	peak	V
4570.000	34.89	3.97	38.86	74.00	-35.14	peak	V
6698.000	33.89	9.53	43.42	74.00	-30.58	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	09/05/2015				
Frequency:	5785MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2981.000	36.36	-0.59	35.77	74.00	-38.23	peak	H
4605.000	34.42	4.05	38.47	74.00	-35.53	peak	H
6726.000	33.93	9.60	43.53	74.00	-30.47	peak	H
2995.000	36.82	-0.55	36.27	74.00	-37.73	peak	V
4605.000	34.34	4.05	38.39	74.00	-35.61	peak	V
6670.000	34.08	9.45	43.53	74.00	-30.47	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 3	Date:	09/05/2015				
Frequency:	5825MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2995.000	37.31	-0.55	36.76	74.00	-37.24	peak	H
4626.000	35.19	4.10	39.29	74.00	-34.71	peak	H
6747.000	33.72	9.65	43.37	74.00	-30.63	peak	H
3009.000	37.05	-0.51	36.54	74.00	-37.46	peak	V
4521.000	33.23	3.84	37.07	74.00	-36.93	peak	V
6705.000	32.82	9.54	42.36	74.00	-31.64	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 4	Date:	08/23/2015				
Frequency:	5190MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2841.000	38.84	-0.91	37.93	74.00	-36.07	peak	H
4612.000	35.29	4.07	39.36	74.00	-34.64	peak	H
7412.000	34.23	11.32	45.55	74.00	-28.45	peak	H
2792.000	39.23	-1.03	38.20	74.00	-35.80	peak	V
4619.000	34.86	4.10	38.96	74.00	-35.04	peak	V
7377.000	34.84	11.24	46.08	74.00	-27.92	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 4	Date:	08/23/2015				
Frequency:	5230MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2792.000	39.35	-1.03	38.32	74.00	-35.68	peak	H
4738.000	34.24	4.40	38.64	74.00	-35.36	peak	H
7335.000	33.28	11.14	44.42	74.00	-29.58	peak	H
2806.000	38.32	-0.99	37.33	74.00	-36.67	peak	V
4577.000	35.63	3.98	39.61	74.00	-34.39	peak	V
7398.000	33.02	11.29	44.31	74.00	-29.69	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 4	Date:	11/04/2015				
Frequency:	5755MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2967.000	37.18	-0.62	36.56	74.00	-37.44	peak	H
4647.000	33.85	4.16	38.01	74.00	-35.99	peak	H
6782.000	34.11	9.76	43.87	74.00	-30.13	peak	H
3009.000	37.97	-0.51	37.46	74.00	-36.54	peak	V
4591.000	34.94	4.01	38.95	74.00	-35.05	peak	V
6775.000	34.72	9.74	44.46	74.00	-29.54	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 4	Date:	11/04/2015				
Frequency:	5795MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3009.000	36.06	-0.51	35.55	74.00	-38.45	peak	H
4598.000	34.83	4.04	38.87	74.00	-35.13	peak	H
6698.000	33.64	9.53	43.17	74.00	-30.83	peak	H
3037.000	36.33	-0.44	35.89	74.00	-38.11	peak	V
4570.000	35.49	3.97	39.46	74.00	-34.54	peak	V
6747.000	33.76	9.65	43.41	74.00	-30.59	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 5	Date:	09/05/2015				
Frequency:	5210MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2792.000	39.85	-1.03	38.82	74.00	-35.18	peak	H
4654.000	34.65	4.19	38.84	74.00	-35.16	peak	H
7328.000	33.16	11.13	44.29	74.00	-29.71	peak	H
2792.000	39.24	-1.03	38.21	74.00	-35.79	peak	V
4682.000	34.77	4.25	39.02	74.00	-34.98	peak	V
7342.000	32.56	11.16	43.72	74.00	-30.28	peak	V

Standard:	FCC Part 15E	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Test Mode:	Mode 5	Date:	09/05/2015				
Frequency:	5775MHz	Test By:	Eric Ou Yang				
Description:							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3037.000	37.52	-0.44	37.08	74.00	-36.92	peak	H
4605.000	34.98	4.05	39.03	74.00	-34.97	peak	H
6649.000	34.38	9.39	43.77	74.00	-30.23	peak	H
3058.000	37.37	-0.38	36.99	74.00	-37.01	peak	V
4570.000	34.70	3.97	38.67	74.00	-35.33	peak	V
6663.000	33.44	9.43	42.87	74.00	-31.13	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	AC810S-300			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2.4GHz+5GHz			Date:	08/29/2015		
	Simultaneous Transmitting			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2813.000	35.63	1.07	36.70	74.00	-37.30	peak	H
4689.000	31.05	7.05	38.10	74.00	-35.90	peak	H
7601.000	32.60	14.18	46.78	74.00	-27.22	peak	H
2750.000	34.93	0.86	35.79	74.00	-38.21	peak	V
4570.000	32.09	6.68	38.77	74.00	-35.23	peak	V
7678.000	32.57	14.31	46.88	74.00	-27.12	peak	V

Band Edge

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 2	Date:	08/23/2015
Frequency:	5180 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5140.500	52.96	8.20	61.16	74.00	-12.84	peak	H
5140.500	38.32	8.20	46.52	54.00	-7.48	AVG	H
5150.000	49.80	8.21	58.01	74.00	-15.99	peak	H
5150.000	40.99	8.21	49.20	54.00	-4.80	AVG	H
5146.800	51.79	8.21	60.00	74.00	-14.00	peak	V
5146.800	38.24	8.21	46.45	54.00	-7.55	AVG	V
5150.000	51.49	8.21	59.70	74.00	-14.30	peak	V
5150.000	38.81	8.21	47.02	54.00	-6.98	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 2	Date:	08/23/2015
Frequency:	5240 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	48.46	8.48	56.94	74.00	-17.06	peak	H
5350.000	35.80	8.48	44.28	54.00	-9.72	AVG	H
5414.020	49.02	8.56	57.58	74.00	-16.42	peak	H
5414.020	35.65	8.56	44.21	54.00	-9.79	AVG	H
5350.000	47.39	8.48	55.87	74.00	-18.13	peak	V
5350.000	35.46	8.48	43.94	54.00	-10.06	AVG	V
5400.380	48.31	8.54	56.85	74.00	-17.15	peak	V
5400.380	35.54	8.54	44.08	54.00	-9.92	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 2	Date:	09/05/2015
Frequency:	5745 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5715.000	42.43	9.18	51.61	68.20	-16.59	peak	H
5725.000	47.96	9.21	57.17	78.20	-21.03	peak	H
5715.000	47.05	9.18	56.23	68.20	-11.97	peak	V
5725.000	51.99	9.21	61.20	78.20	-17.00	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 2	Date:	09/05/2015
Frequency:	5825 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5850.000	45.16	9.51	54.67	78.20	-23.53	peak	H
5860.000	43.90	9.53	53.43	68.20	-14.77	peak	H
5850.000	46.51	9.51	56.02	78.20	-22.18	peak	V
5860.000	44.38	9.53	53.91	68.20	-14.29	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	AC810S-300			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	08/23/2015		
Frequency:	5180 MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5137.700	53.06	8.19	61.25	74.00	-12.75	peak	H
5137.700	38.22	8.19	46.41	54.00	-7.59	AVG	H
5150.000	51.64	8.21	59.85	74.00	-14.15	peak	H
5150.000	41.87	8.21	50.08	54.00	-3.92	AVG	H
5141.200	51.00	8.20	59.20	74.00	-14.80	peak	V
5141.200	37.34	8.20	45.54	54.00	-8.46	AVG	V
5150.000	49.21	8.21	57.42	74.00	-16.58	peak	V
5150.000	39.24	8.21	47.45	54.00	-6.55	AVG	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	AC810S-300			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 3			Date:	08/23/2015		
Frequency:	5220 MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	45.89	8.48	54.37	74.00	-19.63	peak	H
5350.000	35.82	8.48	44.30	54.00	-9.70	AVG	H
5409.400	48.82	8.56	57.38	74.00	-16.62	peak	H
5409.400	35.81	8.56	44.37	54.00	-9.63	AVG	H
5350.000	47.05	8.48	55.53	74.00	-18.47	peak	V
5350.000	35.69	8.48	44.17	54.00	-9.83	AVG	V
5421.940	48.18	8.57	56.75	74.00	-17.25	peak	V
5421.940	35.71	8.57	44.28	54.00	-9.72	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 3	Date:	09/05/2015
Frequency:	5745 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5715.000	44.19	9.18	53.37	68.20	-14.83	peak	H
5725.000	49.28	9.21	58.49	78.20	-19.71	peak	H
5715.000	44.90	9.18	54.08	68.20	-14.12	peak	V
5725.000	48.11	9.21	57.32	78.20	-20.88	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 3	Date:	09/05/2015
Frequency:	5825 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5850.000	44.68	9.51	54.19	78.20	-24.01	peak	H
5860.000	42.43	9.53	51.96	68.20	-16.24	peak	H
5850.000	45.23	9.51	54.74	78.20	-23.46	peak	V
5860.000	44.09	9.53	53.62	68.20	-14.58	peak	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	AC810S-300			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	08/23/2015		
Frequency:	5190 MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5143.300	57.66	8.21	65.87	74.00	-8.13	peak	H
5143.300	40.49	8.21	48.70	54.00	-5.30	AVG	H
5150.000	59.07	8.21	67.28	74.00	-6.72	peak	H
5150.000	44.03	8.21	52.24	54.00	-1.76	AVG	H
5138.400	53.23	8.19	61.42	74.00	-12.58	peak	V
5138.400	38.80	8.19	46.99	54.00	-7.01	AVG	V
5150.000	58.08	8.21	66.29	74.00	-7.71	peak	V
5150.000	44.19	8.21	52.40	54.00	-1.60	AVG	V

Standard:	FCC Part 15E			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	AC810S-300			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Test Mode:	Mode 4			Date:	08/23/2015		
Frequency:	5230 MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	45.94	8.48	54.42	74.00	-19.58	peak	H
5350.000	35.76	8.48	44.24	54.00	-9.76	AVG	H
5387.320	49.38	8.52	57.90	74.00	-16.10	peak	H
5387.320	35.74	8.52	44.26	54.00	-9.74	AVG	H
5350.000	47.23	8.48	55.71	74.00	-18.29	peak	V
5350.000	35.63	8.48	44.11	54.00	-9.89	AVG	V
5370.300	48.77	8.50	57.27	74.00	-16.73	peak	V
5370.300	35.72	8.50	44.22	54.00	-9.78	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 4	Date:	11/04/2015
Frequency:	5775 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5715.000	47.28	12.81	60.09	68.20	-8.11	peak	H
5725.000	53.93	12.84	66.77	78.20	-11.43	peak	H
5715.000	42.58	12.81	55.39	68.20	-12.81	peak	V
5725.000	50.15	12.84	62.99	78.20	-15.21	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 4	Date:	11/04/2015
Frequency:	5795 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5850.000	44.06	13.17	57.23	78.20	-20.97	peak	H
5860.000	39.38	13.20	52.58	68.20	-15.62	peak	H
5850.000	44.05	13.17	57.22	78.20	-20.98	peak	V
5860.000	40.58	13.20	53.78	68.20	-14.42	peak	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 5	Date:	08/23/2015
Frequency:	5210 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5143.300	59.79	8.21	68.00	74.00	-6.00	peak	H
5143.300	42.20	8.21	50.41	54.00	-3.59	AVG	H
5150.000	59.52	8.21	67.73	74.00	-6.27	peak	H
5150.000	40.84	8.21	49.05	54.00	-4.95	AVG	H
5145.400	59.34	8.21	67.55	74.00	-6.45	peak	V
5145.400	40.46	8.21	48.67	54.00	-5.33	AVG	V
5150.000	56.10	8.21	64.31	74.00	-9.69	peak	V
5150.000	40.60	8.21	48.81	54.00	-5.19	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 5	Date:	08/23/2015
Frequency:	5210 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5350.000	47.23	8.48	55.71	74.00	-18.29	peak	H
5350.000	36.70	8.48	45.18	54.00	-8.82	AVG	H
5388.500	49.11	8.52	57.63	74.00	-16.37	peak	H
5388.500	36.06	8.52	44.58	54.00	-9.42	AVG	H
5350.000	45.88	8.48	54.36	74.00	-19.64	peak	V
5350.000	36.43	8.48	44.91	54.00	-9.09	AVG	V
5368.480	48.39	8.50	56.89	74.00	-17.11	peak	V
5368.480	35.99	8.50	44.49	54.00	-9.51	AVG	V

Standard:	FCC Part 15E	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC810S-300	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 5	Date:	09/05/2015
Frequency:	5775 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
5715.000	56.27	9.18	65.45	68.20	-2.75	peak	H
5725.000	60.76	9.21	69.97	78.20	-8.23	peak	H
5715.000	55.24	9.18	64.42	68.20	-3.78	peak	V
5725.000	59.62	9.21	68.83	78.20	-9.37	peak	V

6 Maximum Conducted Output Power Measurement

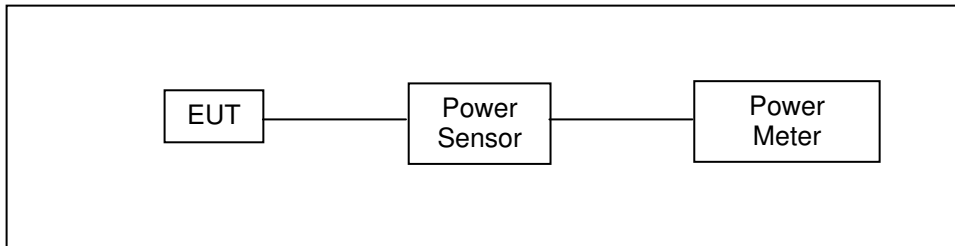
6.1. Limit

Conducted Output Power

Frequency Range (MHz)	FCC Limit
5.150 ~ 5.250 GHz	The lesser of 1000mW (30dBm)
5.250 ~ 5.350 GHz	The lesser of 250mW (24dBm) or 11dBm + 10log (B)
5.470 ~ 5.725 GHz	The lesser of 250mW (24dBm) or 11dBm + 10log (B)
5.725 ~ 5.850 GHz	The lesser of 1000mW (30dBm)

Note: Where B is the 26dB emission bandwidth in MHz.

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Power Sensor	Anritsu	MA2411B	1126022	08/21/2014	(1)
Power Meter	Anritsu	ML2495A	1135009	08/21/2014	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

6.4. Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

6.5. Test Result

Model Number		AC810S-300						
Test Item		Maximum Conducted Output Power						
Test Mode		Mode 2: IEEE 802.11a Link Mode						
Date of Test		08/10/2015				Test Site		TE02
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Outup Power		Max. Outup Power		Max. Outup Power		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5180	6M	8.05	0.0064	7.86	0.0061	10.97	0.0125	< 30
5200		7.99	0.0063	7.79	0.0060	10.90	0.0123	
5220		7.84	0.0061	7.65	0.0058	10.76	0.0119	
5240		7.71	0.0059	7.54	0.0057	10.64	0.0116	< 30
5745		8.03	0.0064	7.89	0.0062	10.97	0.0125	
5765		8.27	0.0067	8.08	0.0064	11.19	0.0131	
5785		8.18	0.0066	8.04	0.0064	11.12	0.0129	
5805		8.02	0.0063	7.87	0.0061	10.96	0.0125	
5825		8.16	0.0065	8.04	0.0064	11.11	0.0129	
5180	54M	8.01	0.0063	7.82	0.0061	10.93	0.0124	< 30
5200		7.92	0.0062	7.76	0.0060	10.85	0.0122	
5220		7.80	0.0060	7.61	0.0058	10.72	0.0118	
5240		7.69	0.0059	7.54	0.0057	10.63	0.0116	< 30
5745		7.96	0.0063	7.81	0.0060	10.90	0.0123	
5765		8.23	0.0067	8.01	0.0063	11.13	0.0130	
5785		8.11	0.0065	7.96	0.0063	11.05	0.0127	
5805		7.94	0.0062	7.79	0.0060	10.88	0.0122	
5825		8.08	0.0064	7.97	0.0063	11.04	0.0127	

Model Number		AC810S-300						
Test Item		Maximum Conducted Output Power						
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode						
Date of Test		08/10/2015				Test Site		TE02
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Outup Power		Max. Outup Power		Max. Outup Power		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5180	13M	8.31	0.0068	8.19	0.0066	11.26	0.0134	< 30
5200		8.37	0.0069	8.24	0.0067	11.32	0.0135	
5220		8.11	0.0065	7.94	0.0062	11.04	0.0127	
5240		8.09	0.0064	7.92	0.0062	11.02	0.0126	< 30
5745		8.07	0.0064	7.93	0.0062	11.01	0.0126	
5765		8.26	0.0067	8.16	0.0065	11.22	0.0132	
5785		8.23	0.0067	8.12	0.0065	11.19	0.0131	
5805		7.99	0.0063	7.88	0.0061	10.95	0.0124	
5825		8.01	0.0063	7.90	0.0062	10.97	0.0125	
5180	130M	8.14	0.0065	8.01	0.0063	11.09	0.0128	< 30
5200		8.19	0.0066	8.05	0.0064	11.13	0.0130	
5220		7.97	0.0063	7.81	0.0060	10.90	0.0123	
5240		7.91	0.0062	7.74	0.0059	10.84	0.0121	< 30
5745		7.87	0.0061	7.73	0.0059	10.81	0.0121	
5765		8.05	0.0064	7.96	0.0063	11.02	0.0126	
5785		7.99	0.0063	7.88	0.0061	10.95	0.0124	
5805		7.76	0.0060	7.69	0.0059	10.74	0.0118	
5825		7.81	0.0060	7.71	0.0059	10.77	0.0119	

Model Number		AC810S-300						
Test Item		Maximum Conducted Output Power						
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode						
Date of Test		08/10/2015				Test Site		TE02
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Outup Power		Max. Outup Power		Max. Outup Power		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5190	27M	8.41	0.0069	8.24	0.0067	11.34	0.0136	< 30
5230		8.29	0.0067	8.04	0.0064	11.18	0.0131	
5755		8.52	0.0071	8.48	0.0070	11.51	0.0142	< 30
5795		8.45	0.0070	8.27	0.0067	11.37	0.0137	
5190	270M	7.57	0.0057	7.38	0.0055	10.49	0.0112	< 30
5230		7.39	0.0055	7.19	0.0052	10.30	0.0107	
5755		7.72	0.0059	7.67	0.0058	10.71	0.0118	< 30
5795		7.61	0.0058	7.55	0.0057	10.59	0.0115	

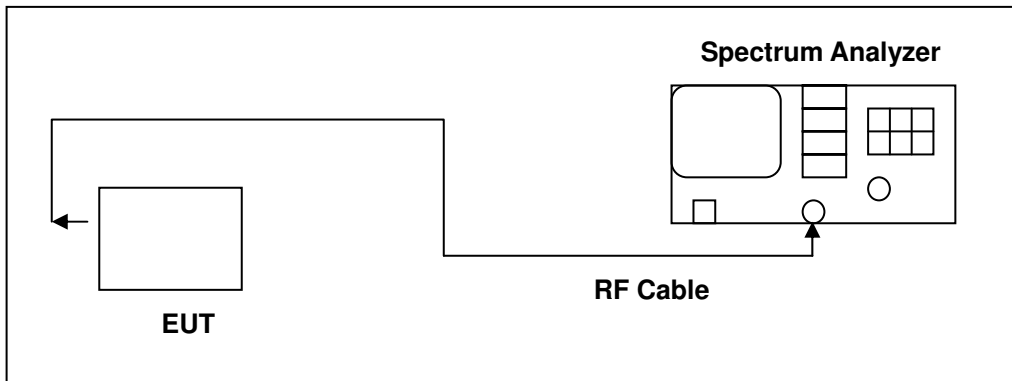
Model Number		AC810S-300						
Test Item		Maximum Conducted Output Power						
Test Mode		Mode 5: IEEE 802.11ac 80MHz Link Mode						
Date of Test		08/10/2015				Test Site		TE02
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Outup Power		Max. Outup Power		Max. Outup Power		
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5210	58.6M	7.98	0.0063	7.75	0.0060	10.88	0.0122	< 30
5775		8.45	0.0070	8.26	0.0067	11.37	0.0137	< 30
5210	780M	6.68	0.0047	6.44	0.0044	9.57	0.0091	< 30
5775		7.73	0.0059	7.56	0.0057	10.66	0.0116	< 30

7 26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement

7.1. Limit

N/A

7.2. Test Setup



7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/16/2014	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

7.4. Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

7.5. Test Result

Model Number	AC810S-300			
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement			
Test Mode	Mode 2: IEEE 802.11a Link Mode			
Date of Test	08/20/2015	Test Site	TE02	
Frequency (MHz)	ANT-0		ANT-1	
	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
5180	19.568	16.3037	20.706	16.3761
5200	19.276	16.2998	20.555	16.3157
5240	19.730	16.2887	20.259	16.3130

Model Number	AC810S-300			
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement			
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode			
Date of Test	06/09/2015	Test Site	TE02	
Frequency (MHz)	ANT-0		ANT-1	
	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
5180	21.019	17.4052	22.127	17.4292
5200	20.509	17.4080	22.701	17.4340
5240	21.089	17.4049	22.706	17.4468

Model Number	AC810S-300			
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement			
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode			
Date of Test	06/09/2015	Test Site	TE02	
Frequency (MHz)	ANT-0		ANT-1	
	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
5190	45.711	35.9640	45.905	35.9666
5230	43.334	35.9288	43.115	35.9923

Note: The 99% occupied bandwidth not crossed 5250MHz.

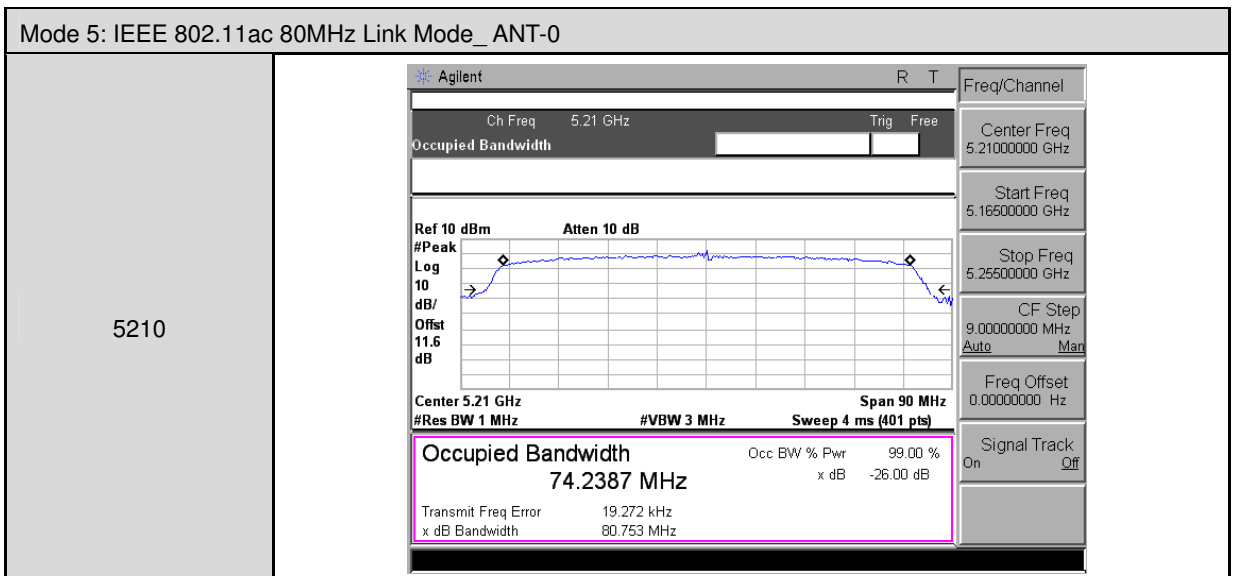
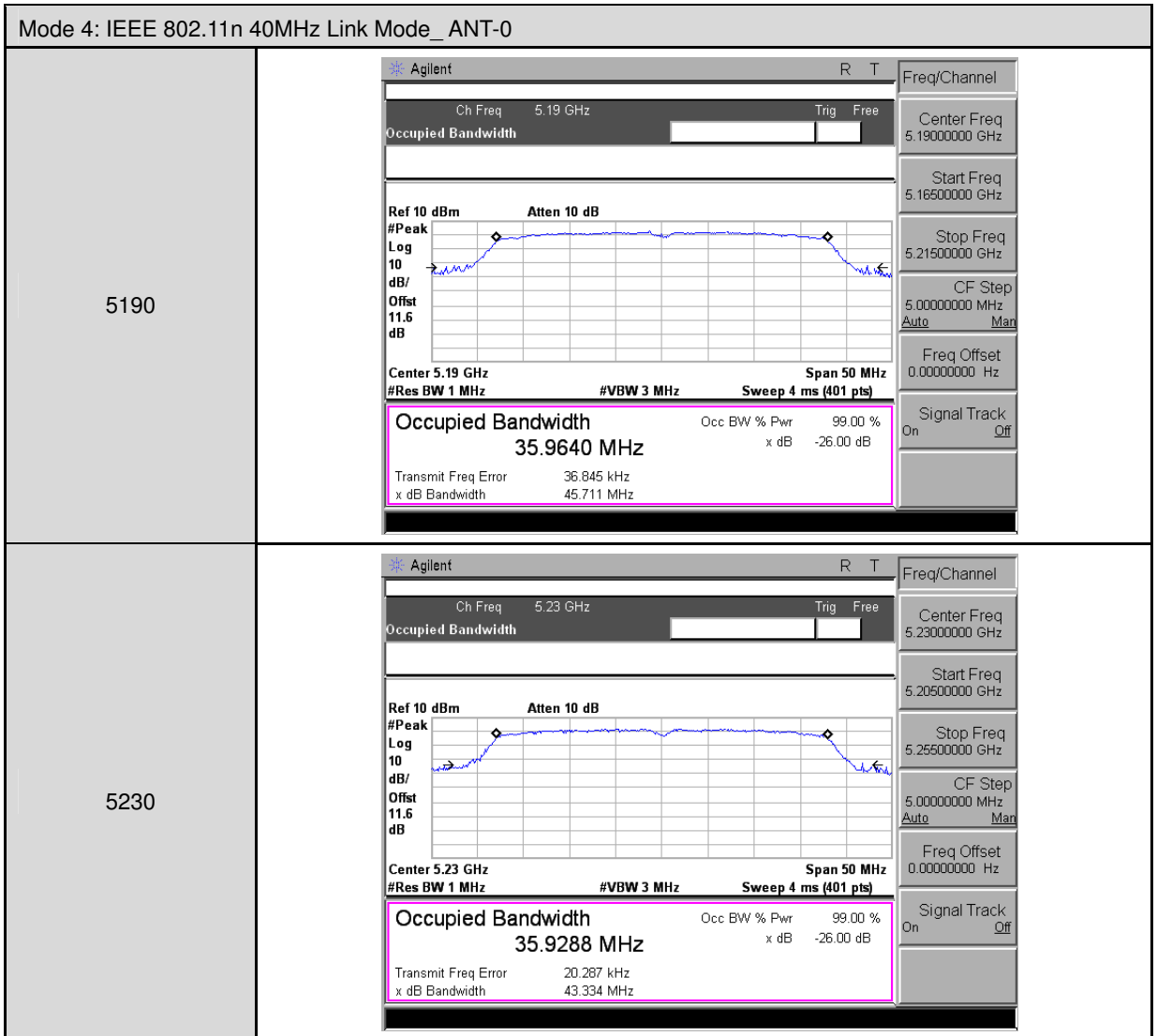
Model Number	AC810S-300			
Test Item	26dB RF Bandwidth & 99 % Occupied Bandwidth Measurement			
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode			
Date of Test	05/06/2015	Test Site	TE02	
Frequency (MHz)	ANT-0		ANT-1	
	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
5210	80.753	74.2387	83.106	74.6443

Note: The 99% occupied bandwidth not crossed 5250MHz.

7.6. Test Graphs

Mode 2: IEEE 802.11a Link Mode_ ANT-0	
5180	
5200	
5240	

Mode 3: IEEE 802.11n 20MHz Link Mode_ ANT-0													
5180	<p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.18 GHz Span 25 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Occ BW % Pwr</td> <td>99.00 %</td> </tr> <tr> <td>17.4052 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-10.235 kHz</td> <td></td> </tr> <tr> <td>x dB Bandwidth</td> <td>21.019 MHz</td> <td></td> </tr> </table> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16750000 GHz</p> <p>Stop Freq 5.19250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Occupied Bandwidth	Occ BW % Pwr	99.00 %	17.4052 MHz	x dB	-26.00 dB	Transmit Freq Error	-10.235 kHz		x dB Bandwidth	21.019 MHz	
Occupied Bandwidth	Occ BW % Pwr	99.00 %											
17.4052 MHz	x dB	-26.00 dB											
Transmit Freq Error	-10.235 kHz												
x dB Bandwidth	21.019 MHz												
5200	<p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.2 GHz Span 25 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Occ BW % Pwr</td> <td>99.00 %</td> </tr> <tr> <td>17.4080 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-15.396 kHz</td> <td></td> </tr> <tr> <td>x dB Bandwidth</td> <td>20.509 MHz</td> <td></td> </tr> </table> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18750000 GHz</p> <p>Stop Freq 5.21250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Occupied Bandwidth	Occ BW % Pwr	99.00 %	17.4080 MHz	x dB	-26.00 dB	Transmit Freq Error	-15.396 kHz		x dB Bandwidth	20.509 MHz	
Occupied Bandwidth	Occ BW % Pwr	99.00 %											
17.4080 MHz	x dB	-26.00 dB											
Transmit Freq Error	-15.396 kHz												
x dB Bandwidth	20.509 MHz												
5240	<p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.24 GHz Span 25 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Occ BW % Pwr</td> <td>99.00 %</td> </tr> <tr> <td>17.4049 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-24.948 kHz</td> <td></td> </tr> <tr> <td>x dB Bandwidth</td> <td>21.089 MHz</td> <td></td> </tr> </table> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22750000 GHz</p> <p>Stop Freq 5.25250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Occupied Bandwidth	Occ BW % Pwr	99.00 %	17.4049 MHz	x dB	-26.00 dB	Transmit Freq Error	-24.948 kHz		x dB Bandwidth	21.089 MHz	
Occupied Bandwidth	Occ BW % Pwr	99.00 %											
17.4049 MHz	x dB	-26.00 dB											
Transmit Freq Error	-24.948 kHz												
x dB Bandwidth	21.089 MHz												



Mode 2: IEEE 802.11a Link Mode_ ANT-1	
5180	<p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.18 GHz Span 25 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.3761 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 799.892 Hz x dB Bandwidth 20.706 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16750000 GHz</p> <p>Stop Freq 5.19250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5200	<p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.2 GHz Span 25 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.3157 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -241.042 Hz x dB Bandwidth 20.555 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18750000 GHz</p> <p>Stop Freq 5.21250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5240	<p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.24 GHz Span 25 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.3130 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 4.813 kHz x dB Bandwidth 20.259 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22750000 GHz</p> <p>Stop Freq 5.25250000 GHz</p> <p>CF Step 2.50000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11n 20MHz Link Mode_ ANT-1	
5180	
5200	
5240	

Mode 4: IEEE 802.11n 40MHz Link Mode_ ANT-1	
5190	<p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.19 GHz Span 50 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 35.9666 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 32.570 kHz x dB Bandwidth 45.905 MHz</p> <p>Freq/Channel: Center Freq 5.19000000 GHz, Start Freq 5.16500000 GHz, Stop Freq 5.21500000 GHz, CF Step 5.00000000 MHz, Freq Offset 0.00000000 Hz, Signal Track On</p>
5230	<p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.23 GHz Span 50 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 35.9923 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 57.003 kHz x dB Bandwidth 43.115 MHz</p> <p>Freq/Channel: Center Freq 5.23000000 GHz, Start Freq 5.20500000 GHz, Stop Freq 5.25500000 GHz, CF Step 5.00000000 MHz, Freq Offset 0.00000000 Hz, Signal Track On</p>
5210	<p>Agilent R T</p> <p>Ch Freq 5.21 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offset 11.6 dB</p> <p>Center 5.21 GHz Span 90 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 74.6443 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 217.605 kHz x dB Bandwidth 83.106 MHz</p> <p>Freq/Channel: Center Freq 5.21000000 GHz, Start Freq 5.16500000 GHz, Stop Freq 5.25500000 GHz, CF Step 9.00000000 MHz, Freq Offset 0.00000000 Hz, Signal Track On</p>

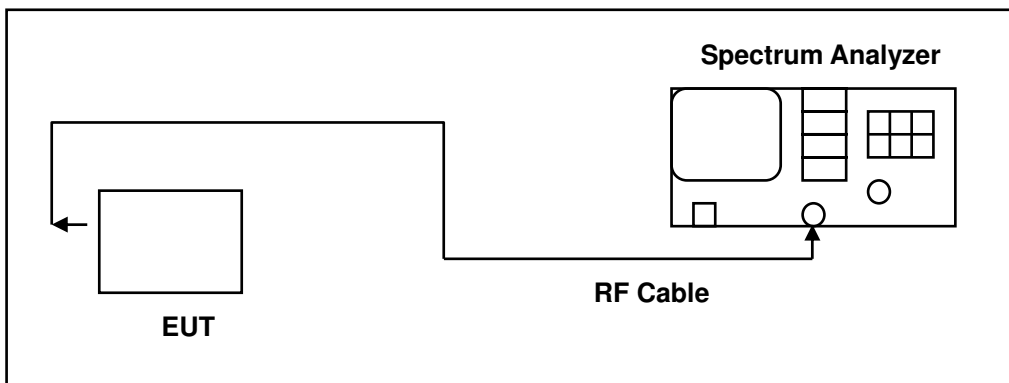
8 6dB RF Bandwidth & 99 % Occupied Bandwidth Measurement

8.1. Limit

6dB RF Bandwidth

Systems using digital modulation techniques may operate in the 5725~5850MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

8.2. Test Setup



8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/16/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	----

dRemark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

8.4. Test Procedure

6dB RF Bandwidth

The EUT tested to UNII test procedure of KDB789033 D02 for compliance to FCC 47CFR 15.407 requirements.

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A peak output reading was taken, a DISPLAY line was drawn 6 dB lower than peak level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

The test was performed at 3 channels.

8.5. Test Result

Model Number	AC810S-300				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 2: IEEE 802.11a Link Mode				
Date of Test	09/07/2015				
Frequency (MHz)	6dB BW			99% Occ. BW	
	ANT-0 (kHz)	ANT-1 (kHz)	Limit (kHz)	ANT-0 (MHz)	ANT-1 (MHz)
5745	15359	15090	> 500	16.1982	16.2453
5785	15493	15124	> 500	16.2230	16.2533
5825	14723	15067	> 500	16.2464	16.2530

Model Number	AC810S-300				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test	09/07/2015				
Frequency (MHz)	6dB BW			99% Occ. BW	
	ANT-0 (kHz)	ANT-1 (kHz)	Limit (kHz)	ANT-0 (MHz)	ANT-1 (MHz)
5745	15340	17800	> 500	17.3491	17.6524
5785	14701	17663	> 500	17.4051	17.6515
5825	15150	17669	> 500	17.3429	17.6250

Model Number	AC810S-300				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test	11/04/2015				
Frequency (MHz)	6dB BW			99% Occ. BW	
	ANT-0 (kHz)	ANT-1 (kHz)	Limit (kHz)	ANT-0 (MHz)	ANT-1 (MHz)
5755	35194	35170	> 500	35.5644	35.5900
5795	35187	35145	> 500	35.5582	35.6564

Model Number	AC810S-300				
Test Item	6dB RF Bandwidth & 99 % Occupied Bandwidth				
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test	09/07/2015				
Frequency (MHz)	6dB BW			99% Occ. BW	
	ANT-0 (kHz)	ANT-1 (kHz)	Limit (kHz)	ANT-0 (MHz)	ANT-1 (MHz)
5775	75111	72632	> 500	74.7135	74.5196

8.6. Test Graphs

Mode 2: IEEE 802.11a Link Mode_ANT-0	
5745	<p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Center Freq 5.74500000 GHz</p> <p>Start Freq 5.73000000 GHz</p> <p>Stop Freq 5.76000000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/ Offst 11.6 dB</p> <p>Center 5.745 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.1982 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -30.468 kHz</p> <p>x dB Bandwidth 15.359 MHz</p>
5785	<p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Center Freq 5.78500000 GHz</p> <p>Start Freq 5.77000000 GHz</p> <p>Stop Freq 5.80000000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/ Offst 11.6 dB</p> <p>Center 5.785 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.2230 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -33.772 kHz</p> <p>x dB Bandwidth 15.493 MHz</p>
5825	<p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Center Freq 5.82500000 GHz</p> <p>Start Freq 5.81000000 GHz</p> <p>Stop Freq 5.84000000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/ Offst 11.6 dB</p> <p>Center 5.825 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.2464 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -26.113 kHz</p> <p>x dB Bandwidth 14.723 MHz</p>

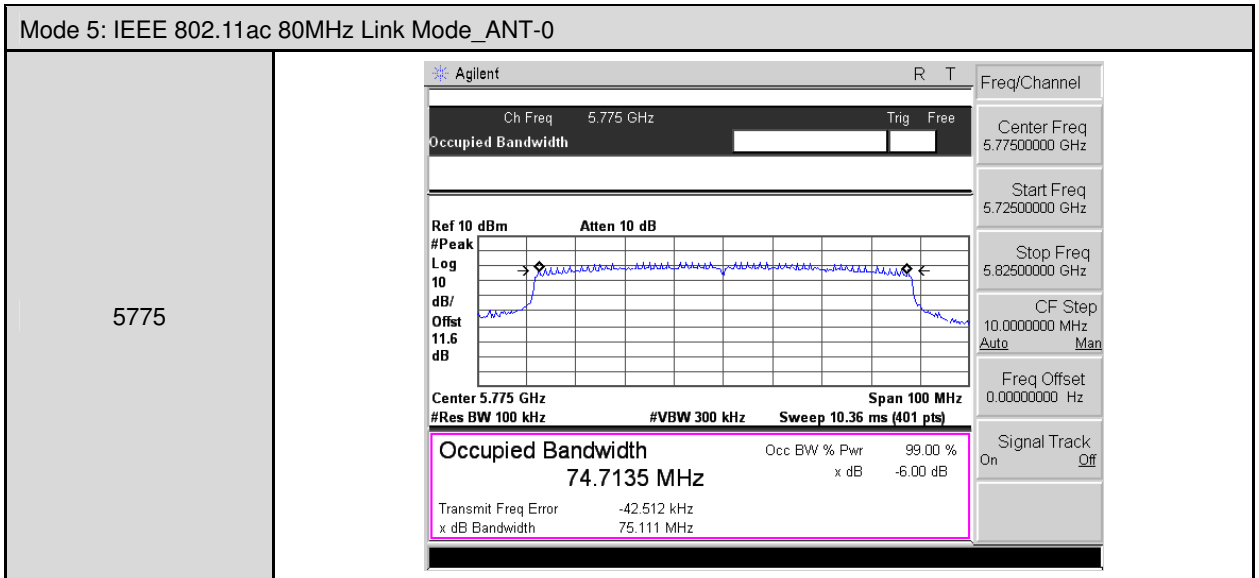
Mode 3: IEEE 802.11n 20MHz Link Mode_ANT-0

<p>5745</p>	
<p>5785</p>	
<p>5825</p>	

Mode 4: IEEE 802.11n 40MHz Link Mode_ANT-0

5755	<p>Agilent R T</p> <p>Ch Freq 5.755 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak</p> <p>Log 10</p> <p>dB/</p> <p>Offset 11.6</p> <p>dB</p> <p>Center 5.755 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.5644 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -22.276 kHz</p> <p>x dB Bandwidth 35.194 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.75500000 GHz</p> <p>Start Freq 5.73000000 GHz</p> <p>Stop Freq 5.78000000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5795	<p>Agilent R T</p> <p>Ch Freq 5.795 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak</p> <p>Log 10</p> <p>dB/</p> <p>Offset 11.6</p> <p>dB</p> <p>Center 5.795 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.5582 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -53.700 kHz</p> <p>x dB Bandwidth 35.187 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.79500000 GHz</p> <p>Start Freq 5.77000000 GHz</p> <p>Stop Freq 5.82000000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11ac 80MHz Link Mode_ANT-0



Mode 2: IEEE 802.11a Link Mode_ANT-1

<p>5745</p>	
<p>5785</p>	
<p>5825</p>	

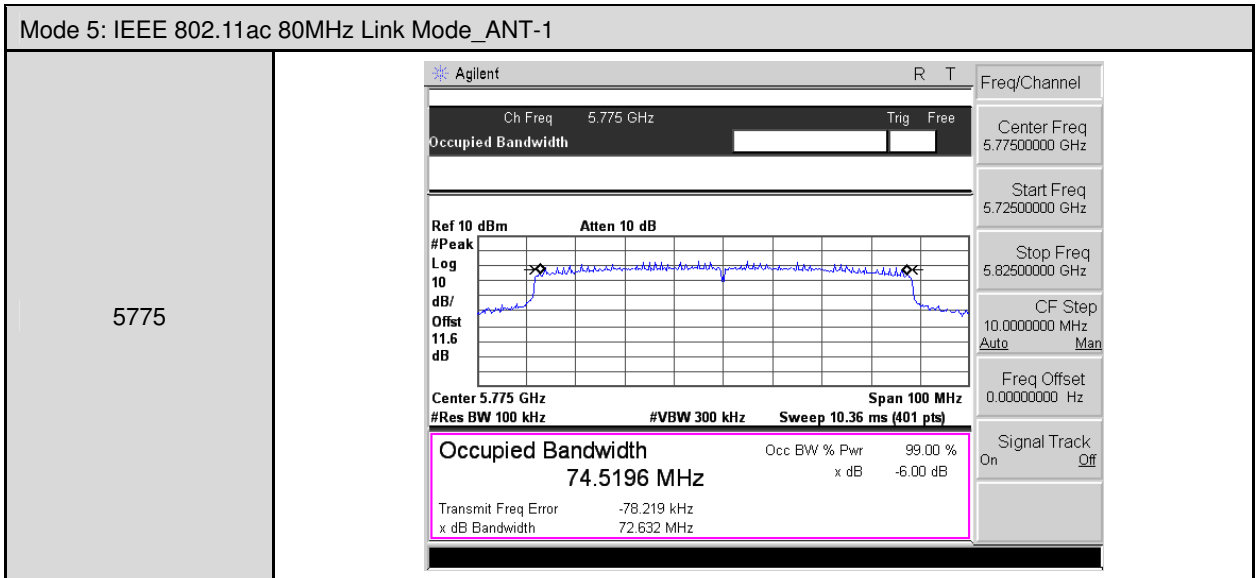
Mode 3: IEEE 802.11n 20MHz Link Mode_ANT-1

<p>5745</p>	<p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/ Offset 11.6 dB</p> <p>Center 5.745 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.6524 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -14.343 kHz x dB Bandwidth 17.660 MHz</p> <p>Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>5785</p>	<p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/ Offset 11.6 dB</p> <p>Center 5.785 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.6515 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -35.496 kHz x dB Bandwidth 17.663 MHz</p> <p>Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>5825</p>	<p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/ Offset 11.6 dB</p> <p>Center 5.825 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.6250 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -27.786 kHz x dB Bandwidth 17.669 MHz</p> <p>Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 4: IEEE 802.11n 40MHz Link Mode_ANT-1

5755	<p>Agilent R T</p> <p>Ch Freq 5.755 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offset 11.6 dB</p> <p>Center 5.755 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.5900 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -52.863 kHz</p> <p>x dB Bandwidth 35.170 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.75500000 GHz</p> <p>Start Freq 5.73000000 GHz</p> <p>Stop Freq 5.78000000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
5795	<p>Agilent R T</p> <p>Ch Freq 5.795 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 10 dBm Atten 10 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offset 11.6 dB</p> <p>Center 5.795 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.6564 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -69.001 kHz</p> <p>x dB Bandwidth 35.145 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.79500000 GHz</p> <p>Start Freq 5.77000000 GHz</p> <p>Stop Freq 5.82000000 GHz</p> <p>CF Step 5.00000000 MHz</p> <p>Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11ac 80MHz Link Mode_ANT-1



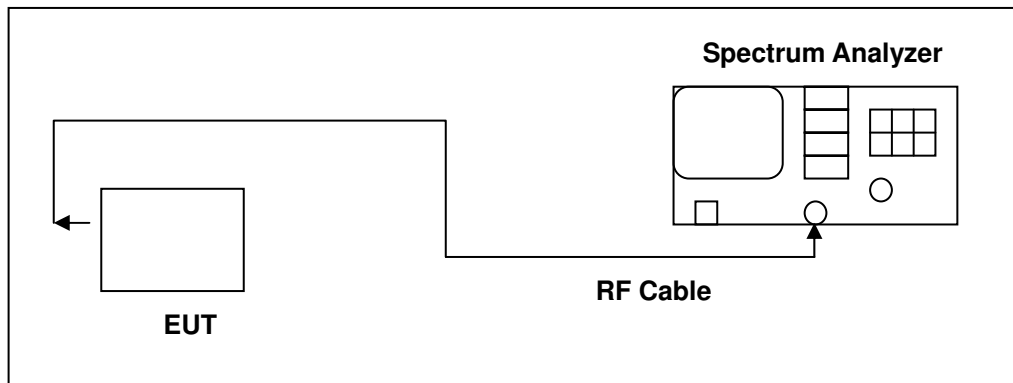
9 Peak Power Spectral Density Measurement

9.1. Limit

Conducted power spectral density

Frequency Range (MHz)	FCC Limit
5.150 ~ 5.250 GHz	17 dBm/MHz
5.250 ~ 5.350 GHz	11 dBm/MHz
5.470 ~ 5.725 GHz	11 dBm/MHz
5.725 ~ 5.850 GHz	30 dBm/500KHz

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/16/2014	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

9.4. Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

9.5. Test Result

Model Number	AC810S-300				
Test Item	Conducted power spectral density				
Test Mode	Mode 2: IEEE 802.11a Link Mode				
Date of Test	08/20/2015				
Frequency (MHz)	Power spectral density (dBm/MHz)			FCC Limit (dBm/MHz)	
	ANT-0	ANT-1	ANT-0+1		
5180	-3.785	-3.748	-0.654	< 17	
5220	-3.701	-3.392	-0.431		
5240	-3.869	-3.600	-0.620		
Frequency (MHz)	Power spectral density (dBm/100KHz)		Power spectral density (dBm/500KHz)		FCC Limit (dBm/500KHz)
	ANT-0	ANT-1	ANT-0	ANT-1	
5745	-11.67	-12.33	-4.68	-5.34	< 30
5785	-11.95	-12.82	-4.96	-5.83	
5825	-11.64	-13.32	-4.65	-6.33	
Frequency (MHz)	Power spectral density (dBm/500KHz)			FCC Limit (dBm/500KHz)	
	ANT-0+1				
5745	-1.89			< 30	
5785	-2.26				
5825	-2.30				

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) = measured result + duty factor.

Model Number	AC810S-300				
Test Item	Conducted power spectral density				
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode				
Date of Test	08/20/2015				
Frequency (MHz)	Power spectral density (dBm/MHz)			FCC Limit (dBm/MHz)	
	ANT-0	ANT-1	ANT-0+1		
5180	-2.934	-3.344	0.186	< 17	
5220	-3.127	-3.164	0.175		
5240	-3.183	-3.342	0.059		
Frequency (MHz)	Power spectral density (dBm/100KHz)		Power spectral density (dBm/500KHz)		FCC Limit (dBm/500KHz)
	ANT-0	ANT-1	ANT-0	ANT-1	
5745	-12.52	-12.55	-5.53	-5.56	< 30
5785	-11.77	-11.97	-4.78	-4.98	
5825	-12.47	-11.85	-5.48	-4.86	
Frequency (MHz)	Power spectral density (dBm/500KHz)			FCC Limit (dBm/500KHz)	
	ANT-0+1				
5745	-2.22			< 30	
5785	-1.56				
5825	-1.84				

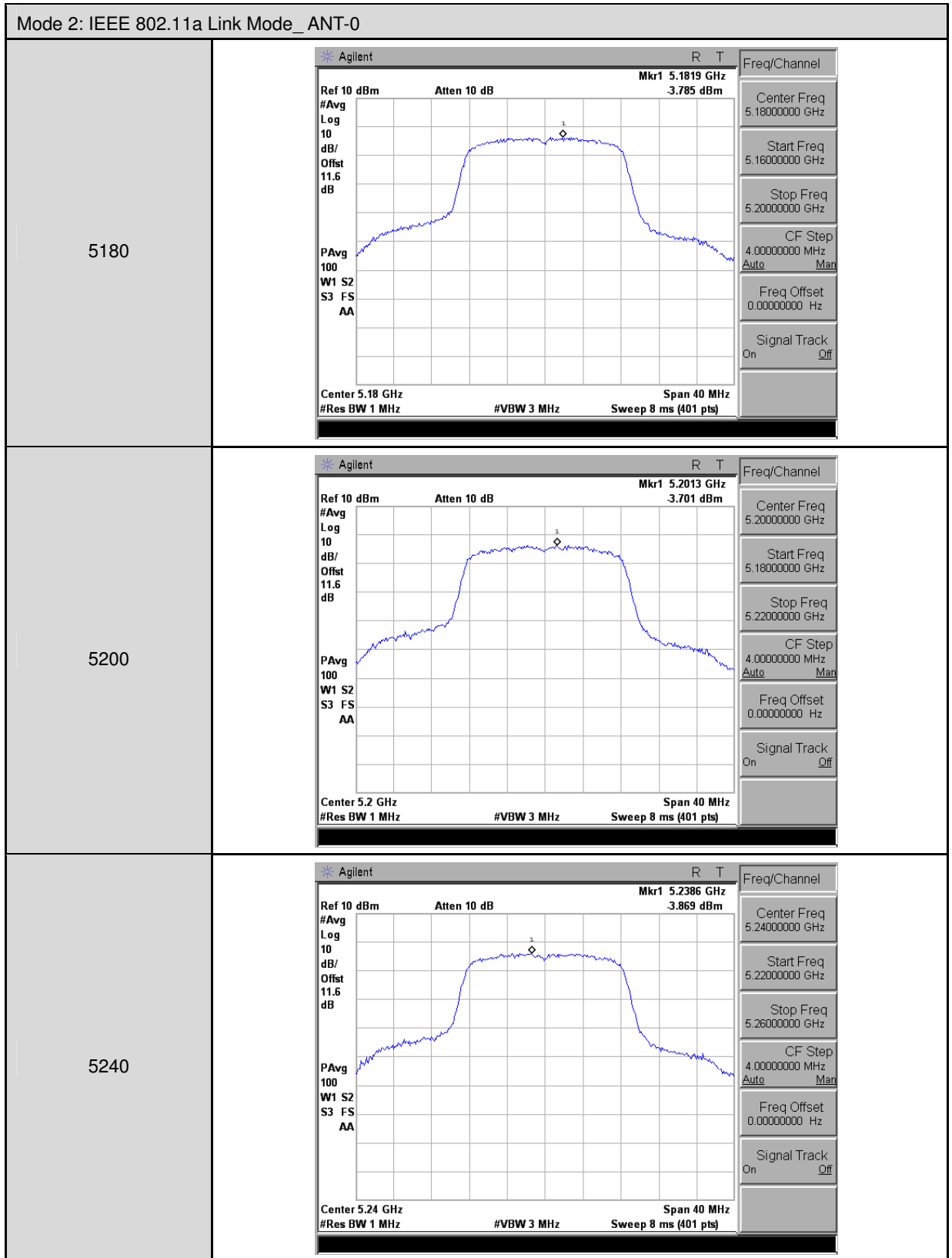
Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) = measured result + duty factor.

Model Number	AC810S-300				
Test Item	Conducted power spectral density				
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode				
Date of Test	08/20/2015, 11/04/2015				
Frequency (MHz)	Power spectral density (dBm/MHz)			FCC Limit (dBm/MHz)	
	ANT-0	ANT-1	ANT-0+1		
5190	-6.999	-6.942	-3.380	< 17	
5230	-7.055	-6.859	-3.366		
Frequency (MHz)	Power spectral density (dBm/100KHz)		Power spectral density (dBm/500KHz)		FCC Limit (dBm/500KHz)
	ANT-0	ANT-1	ANT-0	ANT-1	
5755	-15.45	-8.46	-15.40	-8.41	< 30
5795	-15.43	-8.44	-15.75	-8.76	
Frequency (MHz)	Power spectral density (dBm/500KHz)			FCC Limit (dBm/500KHz)	
	ANT-0+1				
5755	-4.85			< 30	
5795	-5.01				

Model Number	AC810S-300				
Test Item	Conducted power spectral density				
Test Mode	Mode 5: IEEE 802.11ac 80MHz Link Mode				
Date of Test	08/20/2015				
Frequency (MHz)	Power spectral density (dBm/MHz)			FCC Limit (dBm/MHz)	
	ANT-0	ANT-1	ANT-0+1		
5210	-9.942	-10.270	-6.501	< 17	
Frequency (MHz)	Power spectral density (dBm/100KHz)		Power spectral density (dBm/500KHz)		FCC Limit (dBm/500KHz)
	ANT-0	ANT-1	ANT-0	ANT-1	
5775	-18.83	-19.14	-11.84	-12.15	< 30
Frequency (MHz)	Power spectral density (dBm/500KHz)			FCC Limit (dBm/500KHz)	
	ANT-0+1				
5775	-8.39			< 30	

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) = measured result + duty factor.

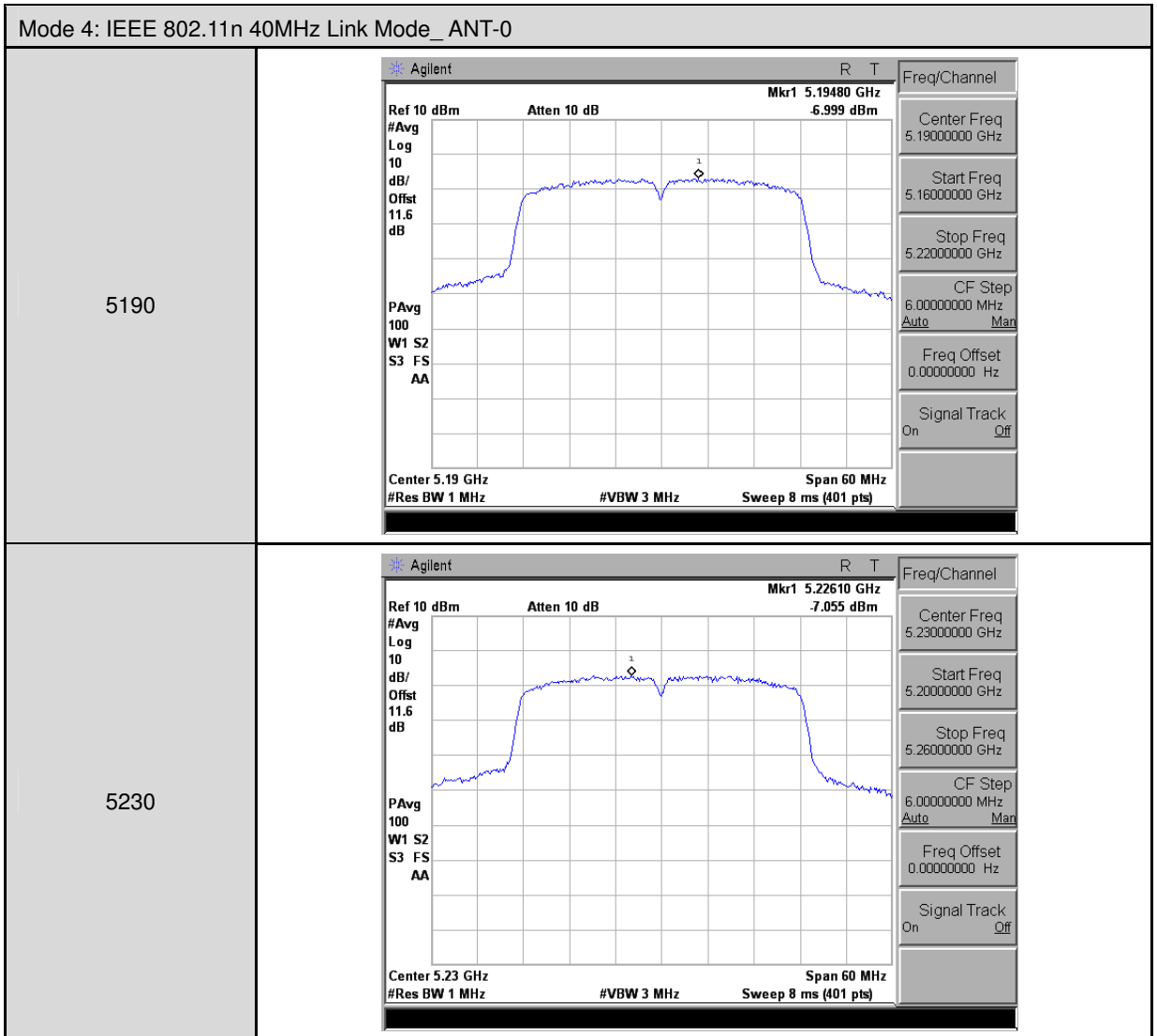
9.6. Test Graphs

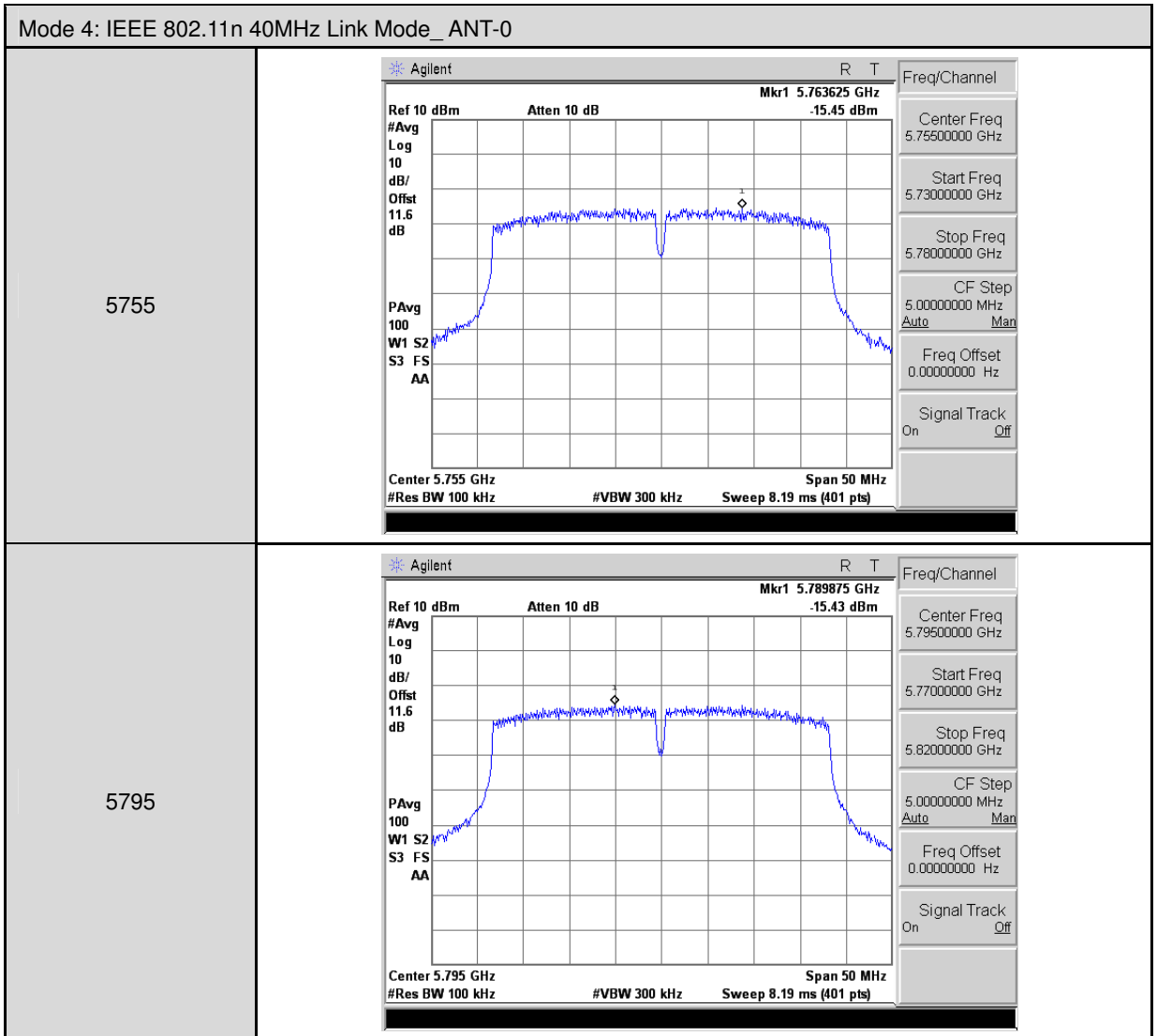


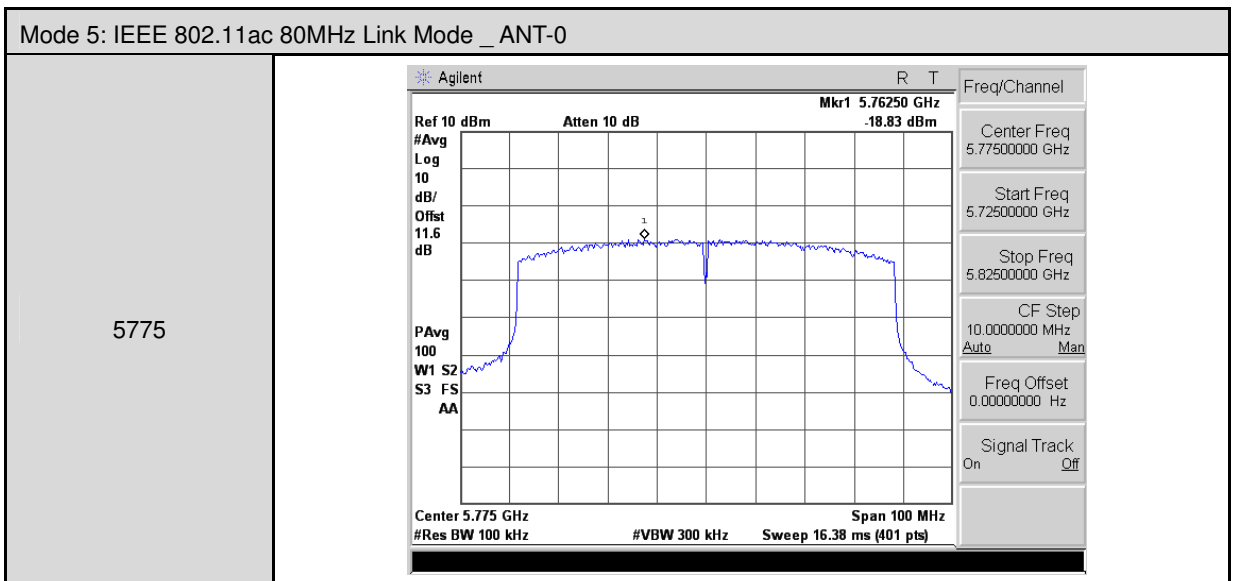
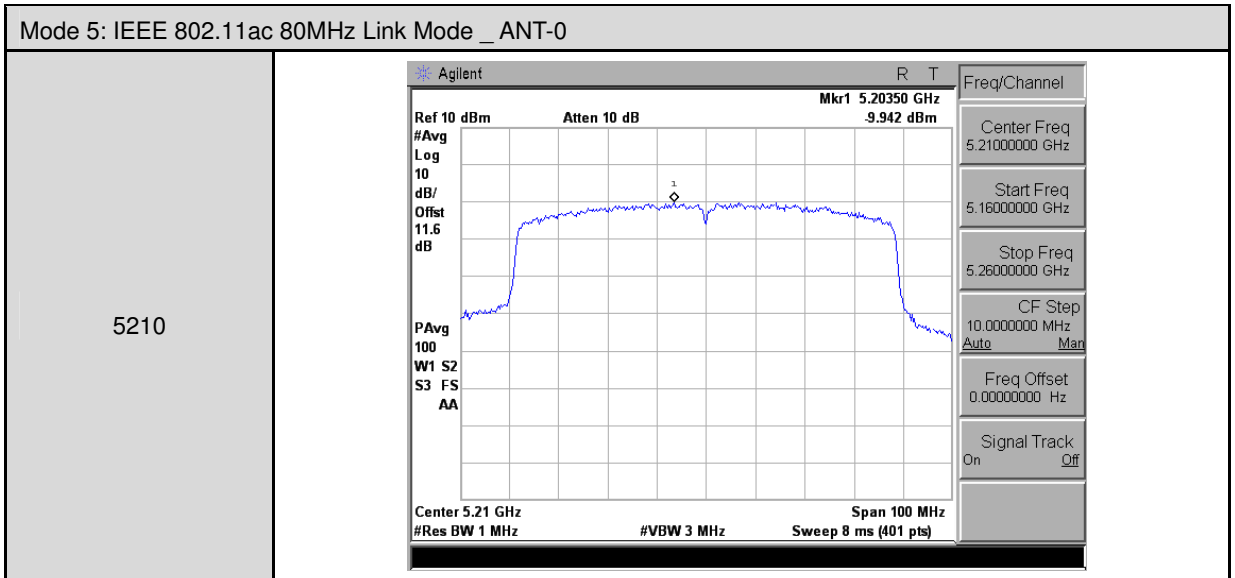
Mode 2: IEEE 802.11a Link Mode_ ANT-0	
5745	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.743650 GHz -11.67 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.745 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5785	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.784025 GHz -11.95 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.785 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5825	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.828075 GHz -11.64 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.825 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 3: IEEE 802.11n 20MHz Link Mode _ANT-0	
5180	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.1785 GHz #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA</p> <p>Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.18000000 GHz Start Freq 5.16000000 GHz Stop Freq 5.20000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5200	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.2013 GHz #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA</p> <p>Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.20000000 GHz Start Freq 5.18000000 GHz Stop Freq 5.22000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5240	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.2436 GHz #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA</p> <p>Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.24000000 GHz Start Freq 5.22000000 GHz Stop Freq 5.26000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 3: IEEE 802.11n 20MHz Link Mode _ANT-0	
5745	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.746200 GHz -12.52 dBm #Avg 10 Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.745 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Agilent Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5785	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.783050 GHz -11.77 dBm #Avg 10 Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.785 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Agilent Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5825	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.826200 GHz -12.47 dBm #Avg 10 Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.825 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Agilent Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>





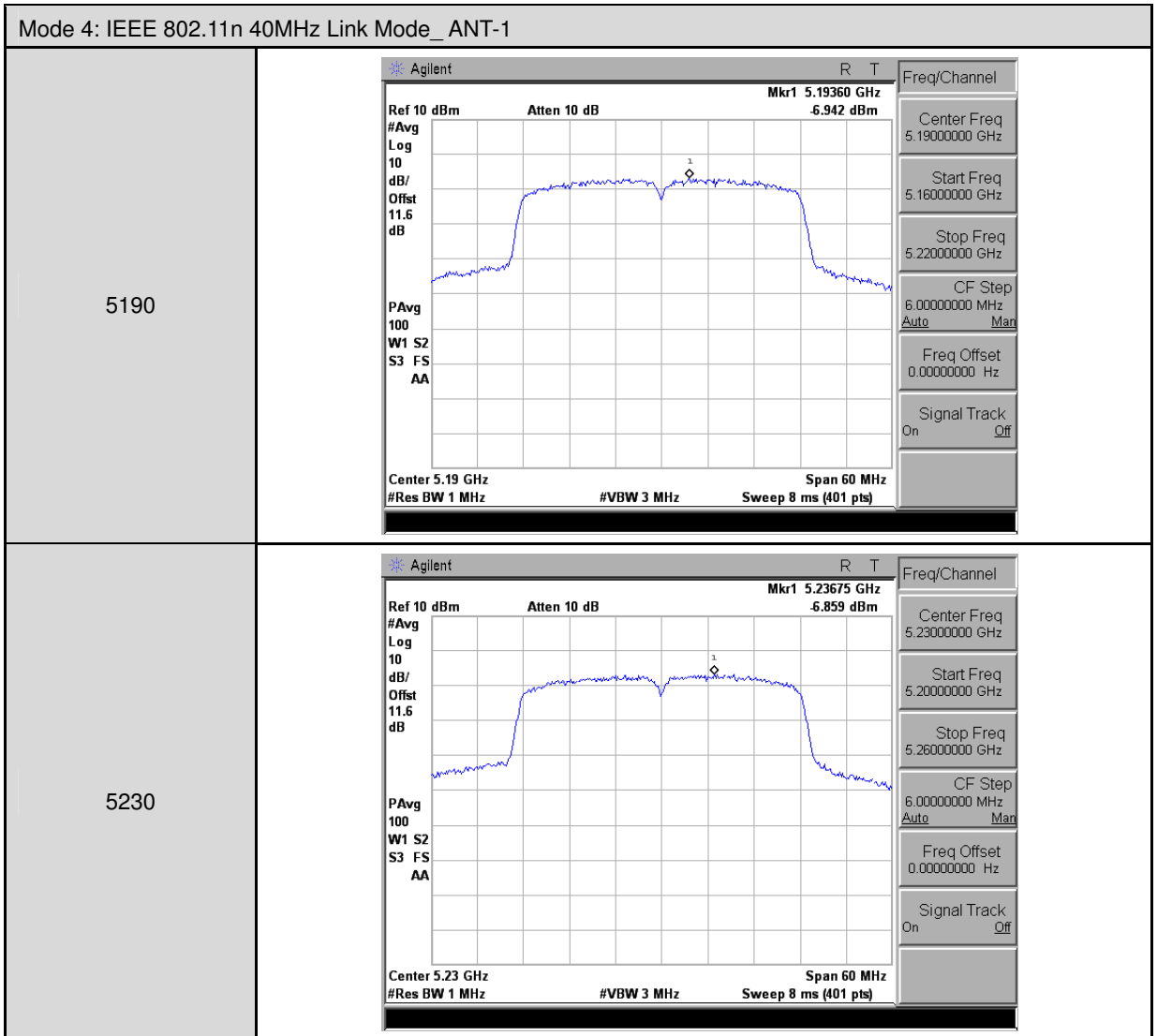


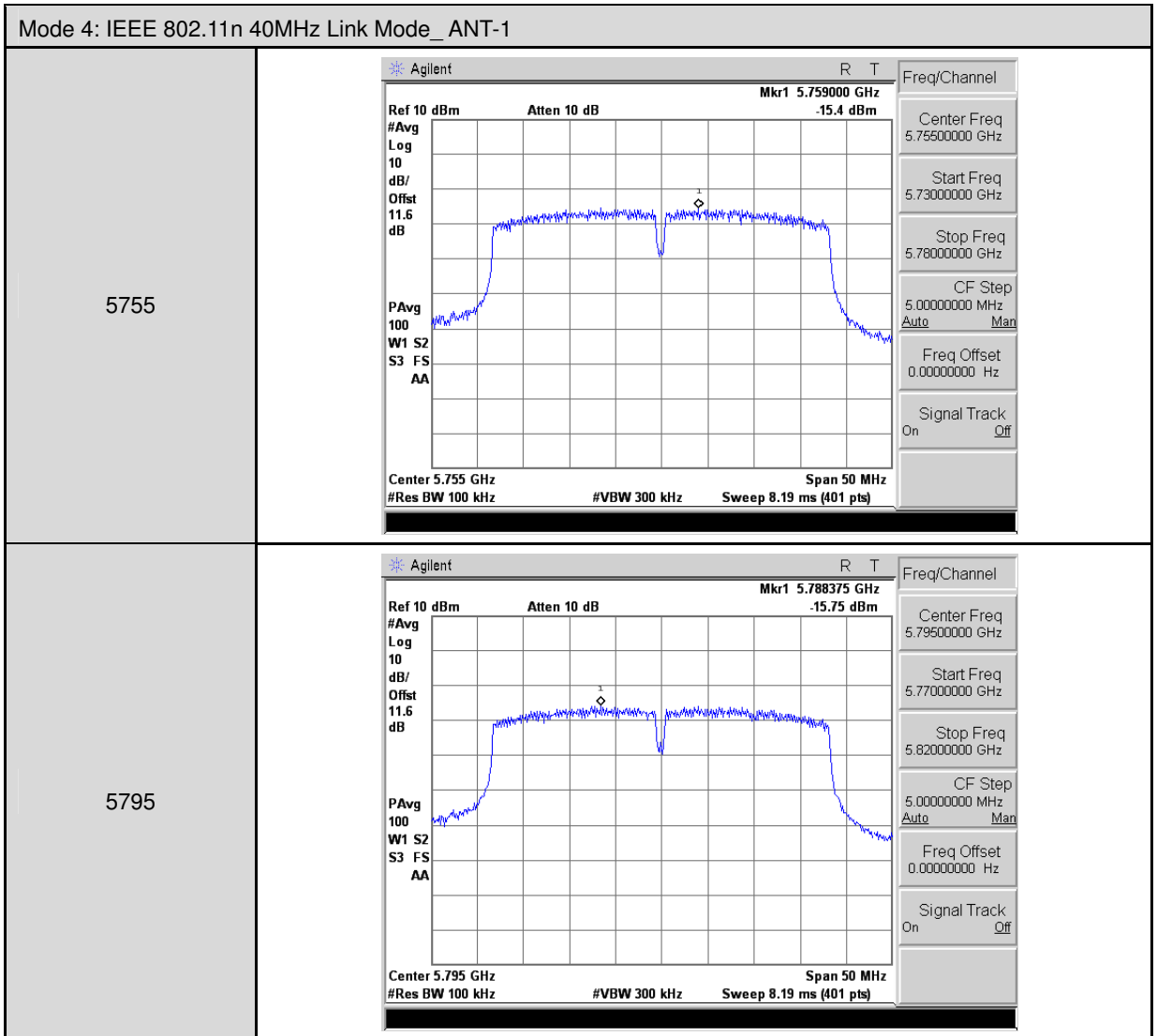
Mode 2: IEEE 802.11a Link Mode_ ANT-1	
5180	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.1782 GHz -3.748 dBm #Avg 10 Log dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Agilent R T Center Freq 5.18000000 GHz Start Freq 5.16000000 GHz Stop Freq 5.20000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5200	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.1990 GHz -3.392 dBm #Avg 10 Log dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Agilent R T Center Freq 5.20000000 GHz Start Freq 5.18000000 GHz Stop Freq 5.22000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5240	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.2375 GHz -3.6 dBm #Avg 10 Log dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Agilent R T Center Freq 5.24000000 GHz Start Freq 5.22000000 GHz Stop Freq 5.26000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

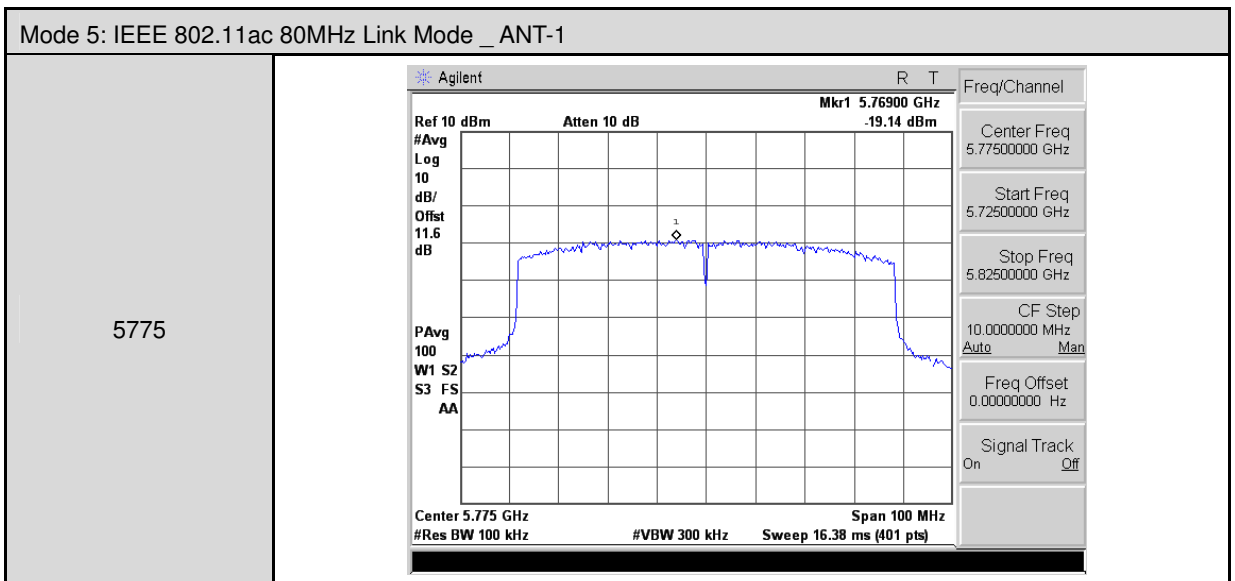
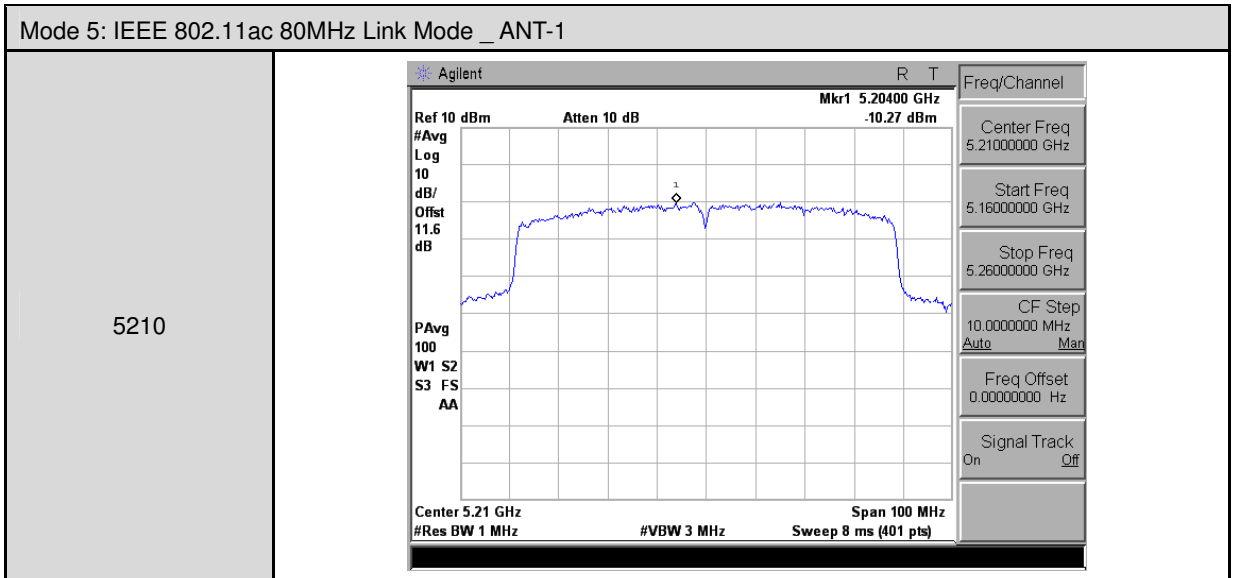
Mode 2: IEEE 802.11a Link Mode_ ANT-1	
5745	<p>Agilent R T Mkr1 5.744325 GHz -12.33 dBm Ref 10 dBm Atten 10 dB #Avg 10 Log 10 dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.745 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5785	<p>Agilent R T Mkr1 5.782750 GHz -12.82 dBm Ref 10 dBm Atten 10 dB #Avg 10 Log 10 dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.785 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5825	<p>Agilent R T Mkr1 5.824025 GHz -13.32 dBm Ref 10 dBm Atten 10 dB #Avg 10 Log 10 dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.825 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 3: IEEE 802.11n 20MHz Link Mode _ANT-1	
5180	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.1836 GHz -3.344 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.18000000 GHz Start Freq 5.16000000 GHz Stop Freq 5.20000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5200	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.1988 GHz -3.164 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.20000000 GHz Start Freq 5.18000000 GHz Stop Freq 5.22000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5240	<p>Agilent R T Ref 10 dBm Atten 10 dB Mkr1 5.2373 GHz -3.342 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.24000000 GHz Start Freq 5.22000000 GHz Stop Freq 5.26000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 3: IEEE 802.11n 20MHz Link Mode _ANT-1	
5745	<p>Agilent R T Mkr1 5.738700 GHz Ref 10 dBm Atten 10 dB -12.55 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.745 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5785	<p>Agilent R T Mkr1 5.789950 GHz Ref 10 dBm Atten 10 dB -11.97 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.785 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
5825	<p>Agilent R T Mkr1 5.819975 GHz Ref 10 dBm Atten 10 dB -11.85 dBm #Avg 10 Log dB/Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.825 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 8 ms (401 pts)</p> <p>Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>





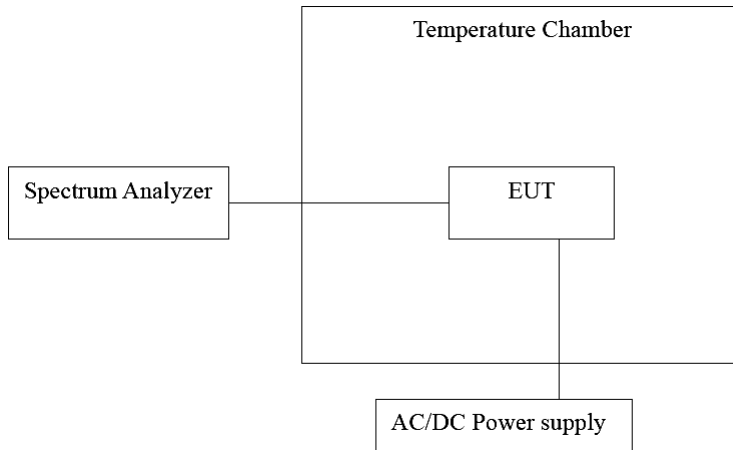


10 Frequency Stability Measurement

10.1. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

10.2. Test Setup



10.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/27/2015	(1)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/14/2014	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

10.4. Test Procedure

1. The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

10.5. Test Result

Temperature Variations

Model Number	AC810S-300					
Test Item	Frequency Stability					
Date of Test	08/10/2015					
Frequency	Temp. (°C)	Voltage (Vdc)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	-30	3.80	5199.95455	-45450	-8.740	Pass
	-20		5199.95625	-43750	-8.413	Pass
	-10		5199.96645	-33550	-6.452	Pass
	0		5199.98155	-18450	-3.548	Pass
	10		5199.98455	-15450	-2.971	Pass
	20		5199.99175	-8250	-1.587	Pass
	30		5200.00895	8950	1.721	Pass
	40		5200.02355	23550	4.529	Pass
	50		5200.03645	36450	7.010	Pass
5785 MHz	-30	3.80	5784.9484	-51600	-8.920	Pass
	-20		5784.9562	-43800	-7.571	Pass
	-10		5784.9684	-31600	-5.462	Pass
	0		5784.9730	-27000	-4.667	Pass
	10		5784.9825	-17500	-3.025	Pass
	20		5784.9910	-9000	-1.556	Pass
	30		5785.0114	11400	1.971	Pass
	40		5785.0203	20300	3.509	Pass
	50		5785.0313	31300	5.411	Pass

Voltage Variations

Model Number	AC810S-300					
Test Item	Frequency Stability					
Date of Test	08/20/2015					
Frequency	Temp. (°C)	Voltage (Vdc)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	20	4.35	5199.98555	-14450	-2.779	Pass
		3.80	5200.00095	950	0.183	Pass
		3.50	5200.01265	12650	2.433	Pass
5785 MHz	20	4.35	5784.9885	-11500	-1.988	Pass
		3.80	5784.9994	-600	-0.104	Pass
		3.50	5785.0119	11900	2.057	Pass

Note: The manufacturer's frequency stability specification is better than 20ppm.

11 Antenna Requirement

11.1. Limit

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And According to 15.407 (a), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Antenna Connector Construction

The antenna used in this product is chip antennas. And the maximum Gain of this antenna is only 3 dBi.