

FCC 47 CFR PART 15 SUBPART C RF Test Report

Applicant : Ubiquiti Networks, Inc.
Applicant Address : 2580 Orchard Parkway, San Jose, California, United States, 95131
Product Type : Access Point
Trade Name : UBIQUITI
Model Number : UAP-AC-LITE
Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2014
ANSI C63.10:2013
Receive Date : Apr. 08, 2015
Test Period : Jun. 02 ~ 26, 2015
Issue Date : Aug. 04, 2015

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Aug. 04, 2015	Initial Issue	

Verification of Compliance

Issued Date: 08/04/2015

Applicant : Ubiquiti Networks, Inc.
Address Applicant : 2580 Orchard Parkway, San Jose, California, United States, 95131
Product Type : Access Point
Trade Name : UBIQUITI
Model Number : UAP-AC-LITE
FCC ID : SWX-UAPACL
EUT Rated Voltage : DC 24V, 0.5A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2014
ANSI C63.10:2013

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.

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Taoyuan County 334, Taiwan R.O.C.

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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)

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1 General Information

1.1 Summary of Test Result

Standard	Item	Result	Remark
15.247			
15.207	AC Power Conducted Emission	PASS	----
----	99 % Occupied Bandwidth	PASS	----
Standard	Item	Result	Remark
15.247			
15.247(d)	Transmitter Radiated Emissions	PASS	----
15.247(b)(3)	Max. Output Power	PASS	----
15.247(a)(2)	6dB RF Bandwidth	PASS	----
15.247(e)	Power Spectral Density	PASS	----
15.247(d)	Out of Band Conducted Spurious Emission	PASS	----
15.247(d)	Band Edge Measurement	PASS	----
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

Test Item	Frequency Range	Uncertainty (dB)	
Conducted Emission	9kHz ~ 30MHz	± 2.02	
Radiated Emission	30MHz ~ 1000MHz	Horizontal	± 3.98
		Vertical	± 3.62
	1000MHz ~ 18000MHz	Horizontal	± 3.11
		Vertical	± 3.07
	18000MHz ~ 40000MHz	Horizontal	± 3.66
		Vertical	± 3.54

2 EUT Description

Applicant	Ubiquiti Networks, Inc.
Applicant Address	2580 Orchard Parkway, San Jose, California, United States, 95131
Manufacturer	Ubiquiti Networks, Inc.
Manufacturer Address	2580 Orchard Parkway, San Jose, California, United States, 95131
Product Type	Access Point
Trade Name	UBIQUITI
Model Number	UAP-AC-LITE
FCC ID	SWX-UAPACL
Operate Band	IEEE 802.11b / 802.11g / 802.11n 2.4GHz 20MHz & 40MHz
Frequency Range	IEEE 802.11b / 802.11g / 802.11n 2.4GHz 20MHz: 2412 ~ 2462 MHz IEEE 802.11n 2.4GHz 40MHz: 2422 ~ 2452 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: DSSS + OFDM IEEE 802.11n 2.4GHz 20MHz: OFDM IEEE 802.11n 2.4GHz 40MHz: OFDM
Channel Numbers	IEEE 802.11b / 802.11g / 802.11n 2.4GHz 20MHz: 11ch IEEE 802.11n 2.4GHz 40MHz: 9ch
Antenna Delivery	2TX + 2RX
Antenna Type	Dual band antenna
Antenna Gain	3 dBi
RF Output Power	IEEE 802.11b: 0.110 W / 20.43 dBm IEEE 802.11g: 0.080 W / 19.04 dBm IEEE 802.11n 2.4GHz 20MHz: 0.082 W / 19.13 dBm IEEE 802.11n 2.4GHz 40MHz: 0.071 W / 18.50 dBm

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 802.11b link mode
Mode 3: IEEE 802.11g link mode
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode
Mode 5: IEEE 802.11n 2.4GHz 40MHz 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.

Test Mode	ANT-0	ANT-1	ANT-0+1
Mode 2: IEEE 802.11b link mode	V	V	V
Mode 3: IEEE 802.11g link mode	V	V	V
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	V	V	V
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	V	V	V

Test Mode	Antenna Delivery	Test Channel	Data Rate
Mode 2: IEEE 802.11b link mode	2TX / 2RX	1, 6, 11	1
Mode 3: IEEE 802.11g link mode	2TX / 2RX	1, 6, 11	6
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	2TX / 2RX	1, 6, 11	13
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	2TX / 2RX	3, 6, 9	27

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 802.11b link mode	2412.0	12.180	12.230	0.996	0.018	0.010
Mode 3: IEEE 802.11g link mode	2412.0	2.055	2.090	0.983	0.073	0.010
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	2412.0	0.980	1.010	0.970	0.131	1.020
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	2422.0	0.500	0.525	0.952	0.212	2.000

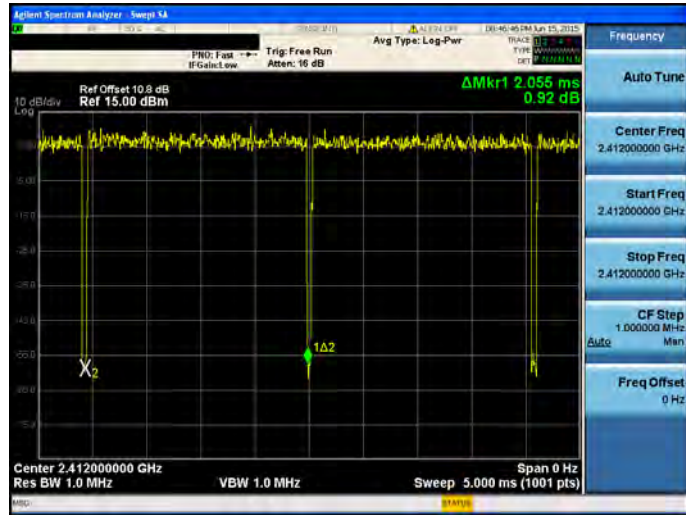
Duty Cycle Graphs

Mode 2: IEEE 802.11b link mode

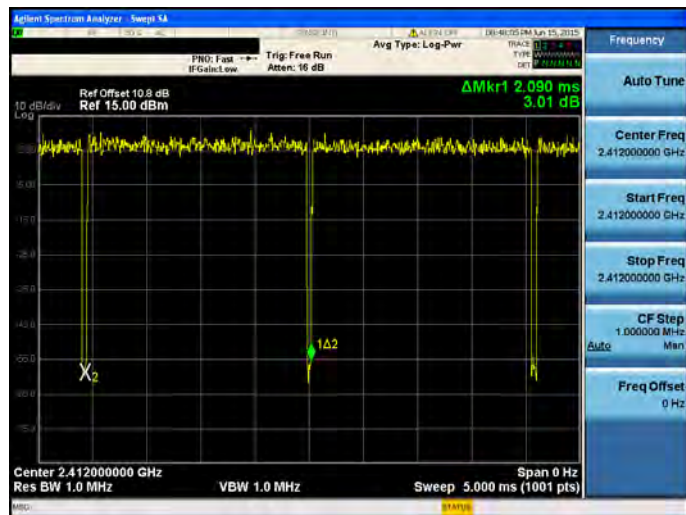
<p>On time</p>	 <p>Agilent Spectrum Analyzer - Sweep 14 Ref Offset: 10.8 dB Ref: 15.00 dBm ΔMkr1: 12.18 ms 0.02 dB Center: 2.412000000 GHz Res BW: 1.0 MHz VBW: 1.0 MHz Sweep: 15.00 ms (1001 pts) Span: 0 Hz</p>
<p>On+off time</p>	 <p>Agilent Spectrum Analyzer - Sweep 14 Ref Offset: 10.8 dB Ref: 15.00 dBm ΔMkr1: 12.23 ms -0.23 dB Center: 2.412000000 GHz Res BW: 1.0 MHz VBW: 1.0 MHz Sweep: 15.00 ms (1001 pts) Span: 0 Hz</p>

Mode 3: IEEE 802.11g Mode

On time

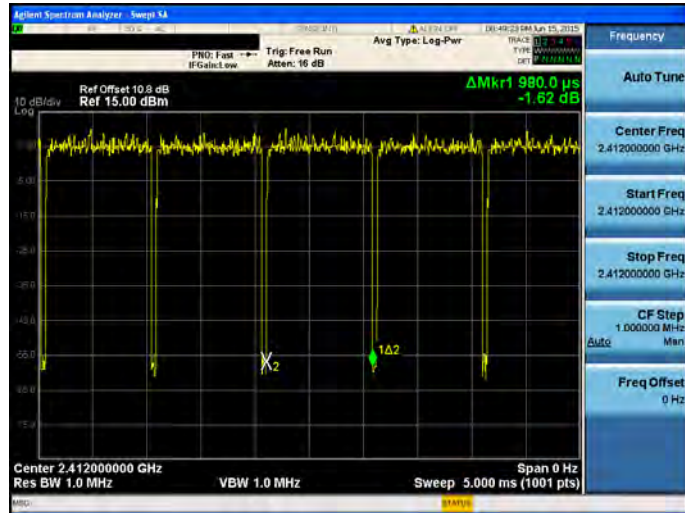


On+off time

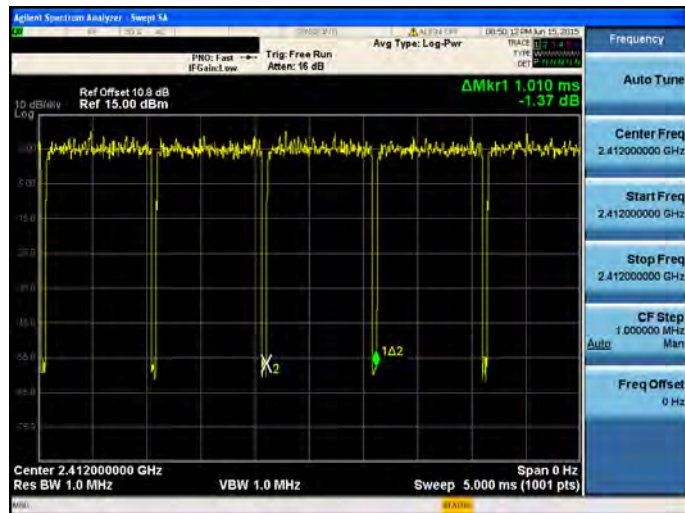


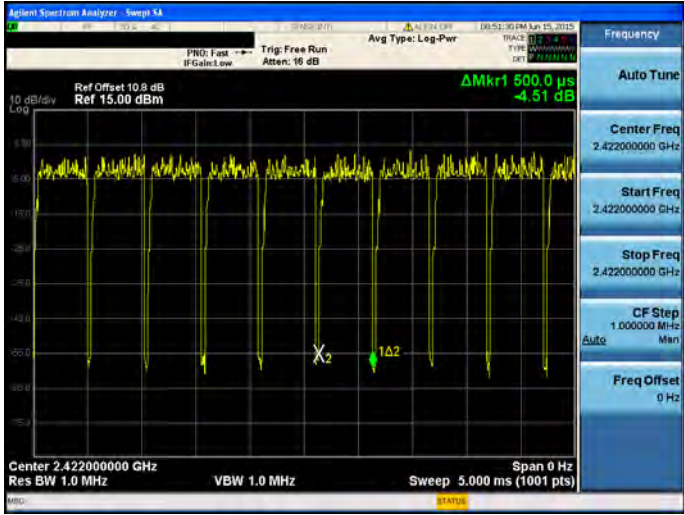
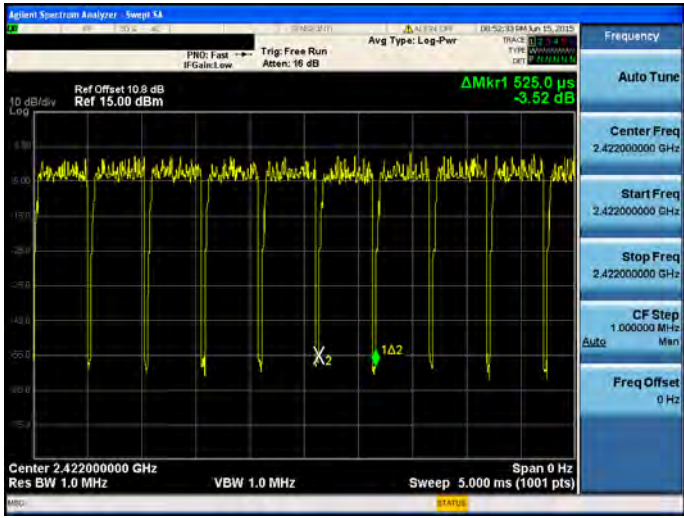
Mode 4: IEEE 802.11n 2.4GHz 20MHz Mode

On time



On+off time



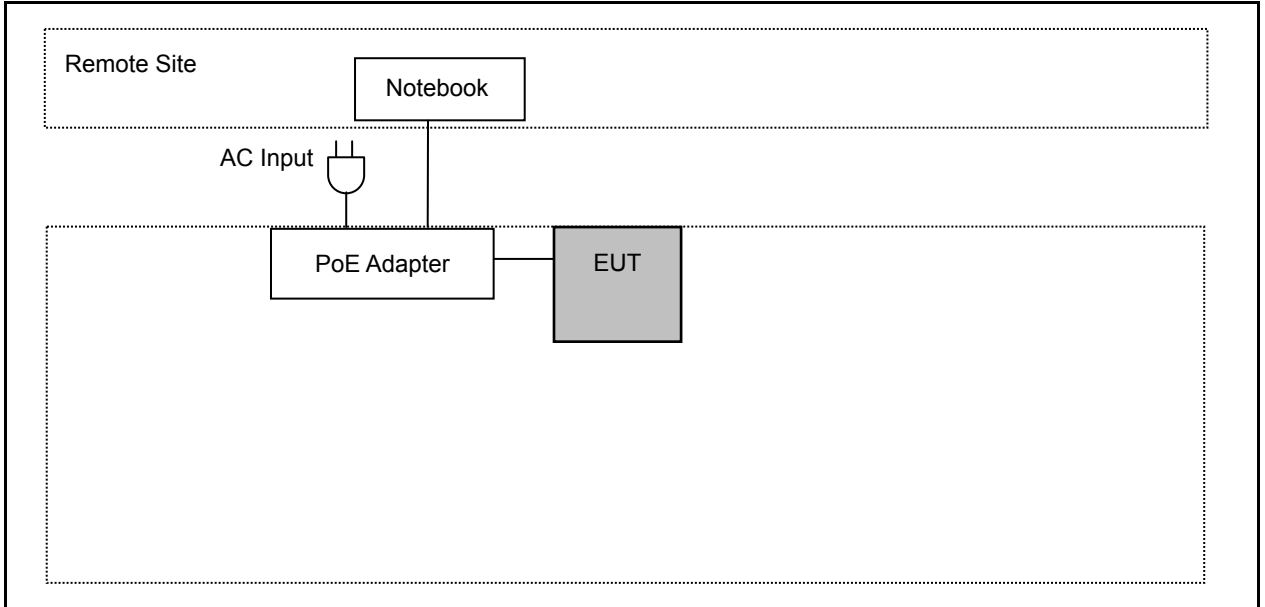
Mode 5: IEEE 802.11n 2.4GHz 40MHz Mode	
On time	
On+off time	

3.2. EUT Exercise Software

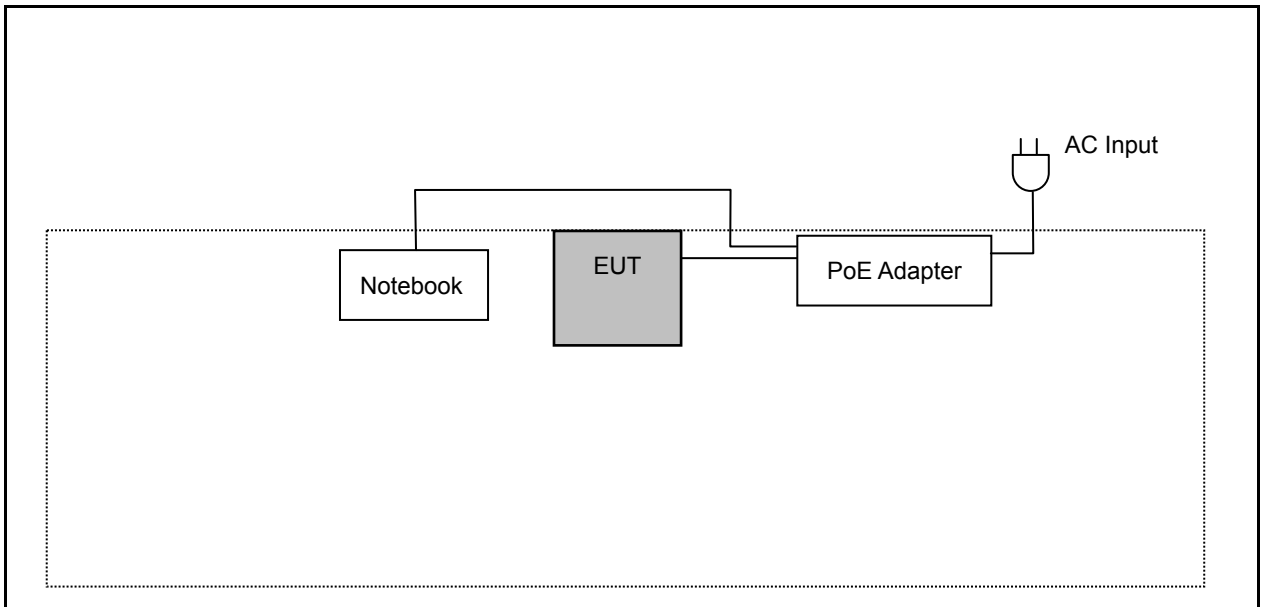
1. Setup the EUT shown on 3.3.
2. Turn on the power of all equipment.
3. Turn Wi-Fi function link to Notebook
4. EUT run test program.

3.3. Configuration of Test System Details

Conducted Emissions



Radiated Emissions



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 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

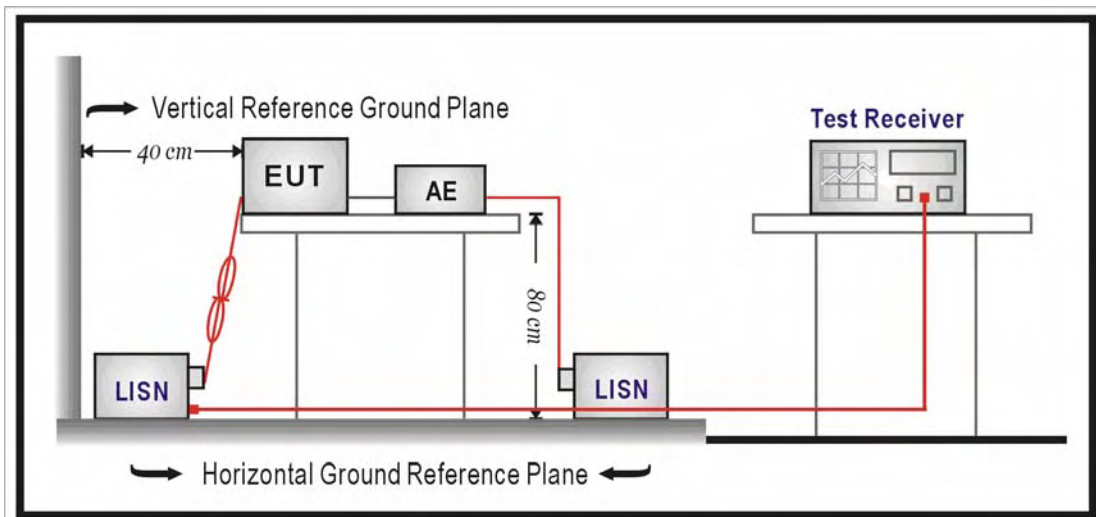
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/12/2014	(1)
LISN	R&S	ENV216	101040	03/10/2015	(1)
LISN	R&S	ENV216	101041	03/06/2015	(1)
RF Cable	EMCI	RG 214/U	TE-02	06/30/2014	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

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

4.3. Test Setup



4.4. Test Procedure

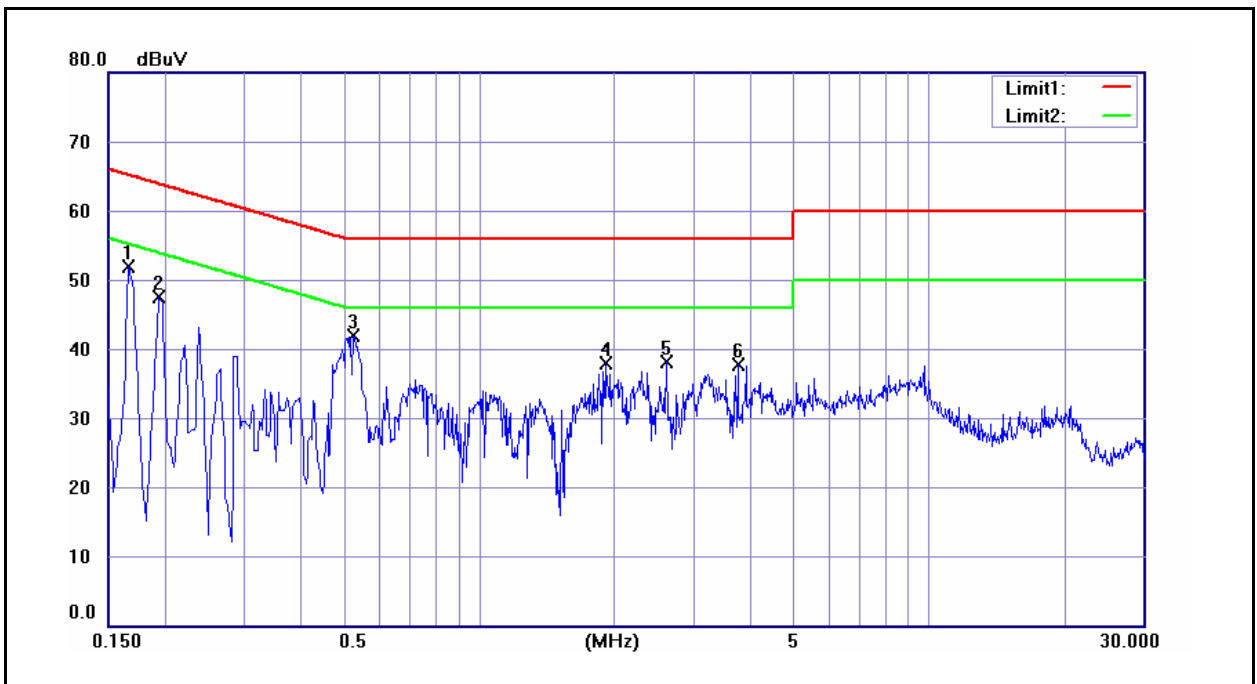
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/08/2015
		Test By:	Eric Ou Yang
Description:			

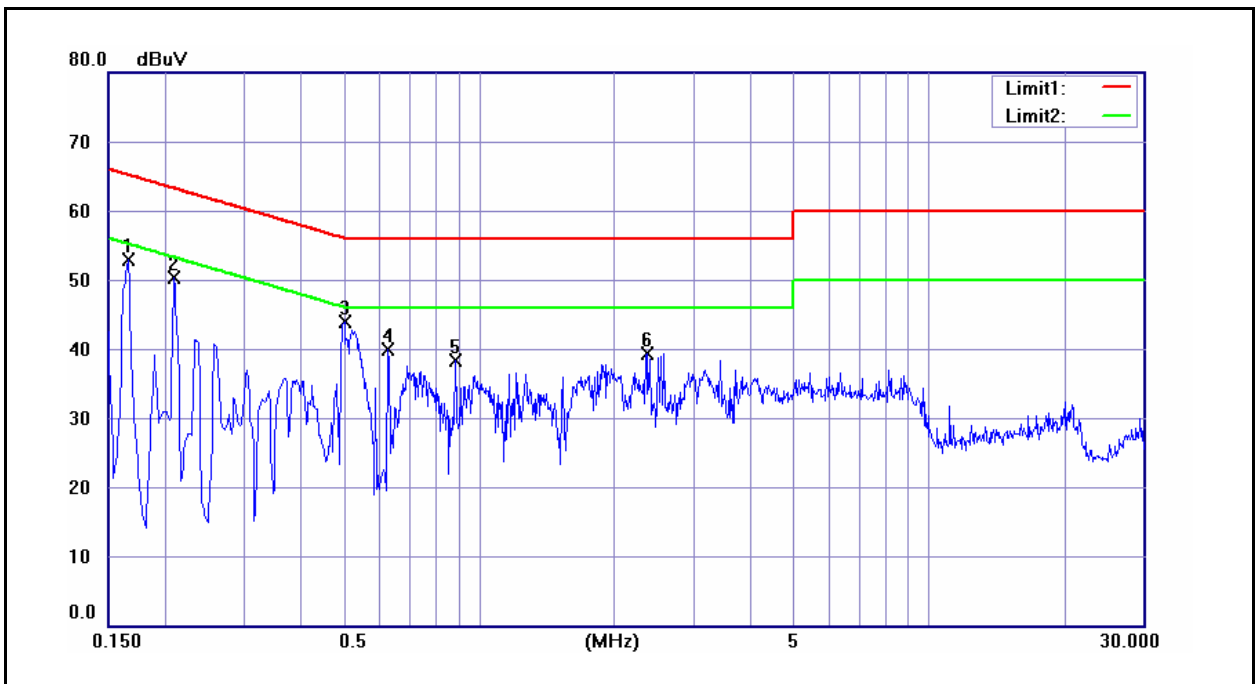


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1660	41.00	26.00	9.64	50.64	35.64	65.16	55.16	-14.52	-19.52	Pass
2	0.1940	36.74	19.81	9.64	46.38	29.45	63.86	53.86	-17.48	-24.41	Pass
3	0.5260	31.42	22.96	9.65	41.07	32.61	56.00	46.00	-14.93	-13.39	Pass
4	1.9140	21.41	14.43	9.76	31.17	24.19	56.00	46.00	-24.83	-21.81	Pass
5	2.6140	20.09	11.21	9.78	29.87	20.99	56.00	46.00	-26.13	-25.01	Pass
6	3.7740	19.66	9.08	9.83	29.49	18.91	56.00	46.00	-26.51	-27.09	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/08/2015
		Test By:	Eric Ou Yang
Description:			



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	0.1660	41.05	27.20	9.62	50.67	36.82	65.16	55.16	-14.49	-18.34	Pass
2	0.2100	30.89	11.00	9.62	40.51	20.62	63.21	53.21	-22.70	-32.59	Pass
3	0.5020	30.08	21.71	9.64	39.72	31.35	56.00	46.00	-16.28	-14.65	Pass
4	0.6300	20.51	5.77	9.64	30.15	15.41	56.00	46.00	-25.85	-30.59	Pass
5	0.8860	19.53	9.06	9.66	29.19	18.72	56.00	46.00	-26.81	-27.28	Pass
6	2.3620	22.26	12.16	9.72	31.98	21.88	56.00	46.00	-24.02	-24.12	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

5 Radiated Emission Measurement

5.1. Limit

According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 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	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

5.2. Test Instruments

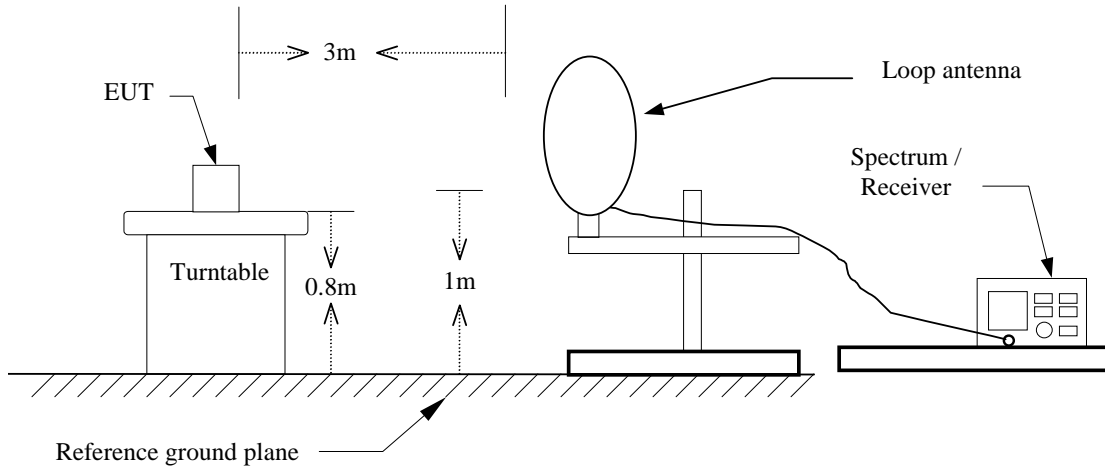
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/22/2014	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/02/2014	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	02/02/2015	(1)
Microwave Cable	EMCI	EMC-104-SM-S M-14000	140202	02/24/2015	(1)
Microwave Cable	EMCI	EMC104-SM-S M-600	140301	02/24/2015	(1)
Test Site	ATL	TE01	888001	08/28/2014	(1)

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

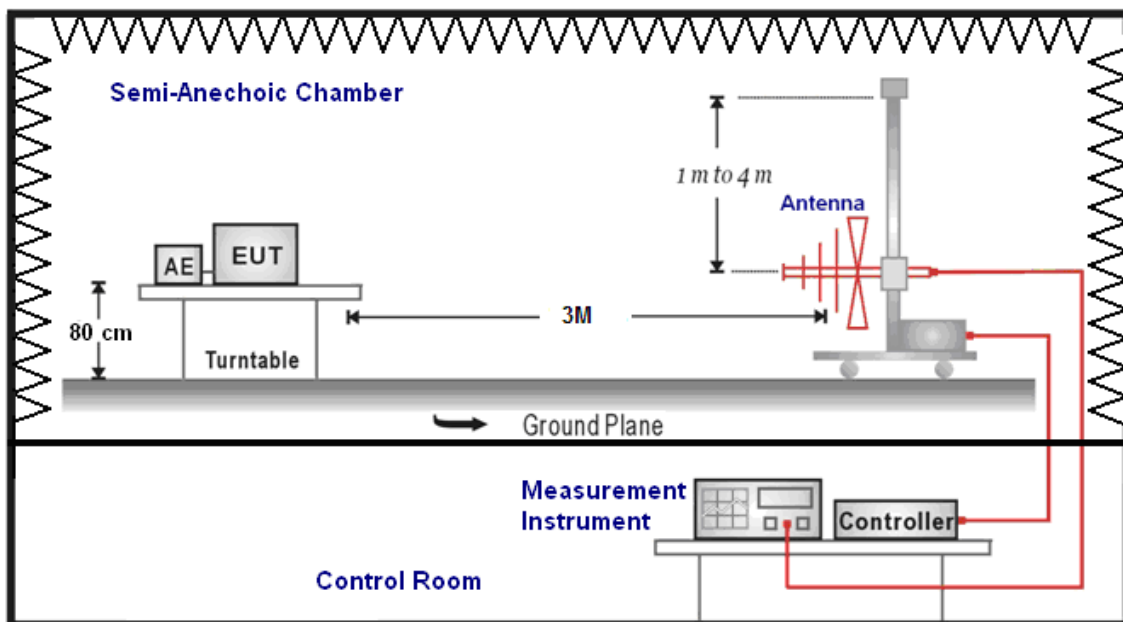
Note: N.C.R. = No Calibration Request.

5.3. Setup

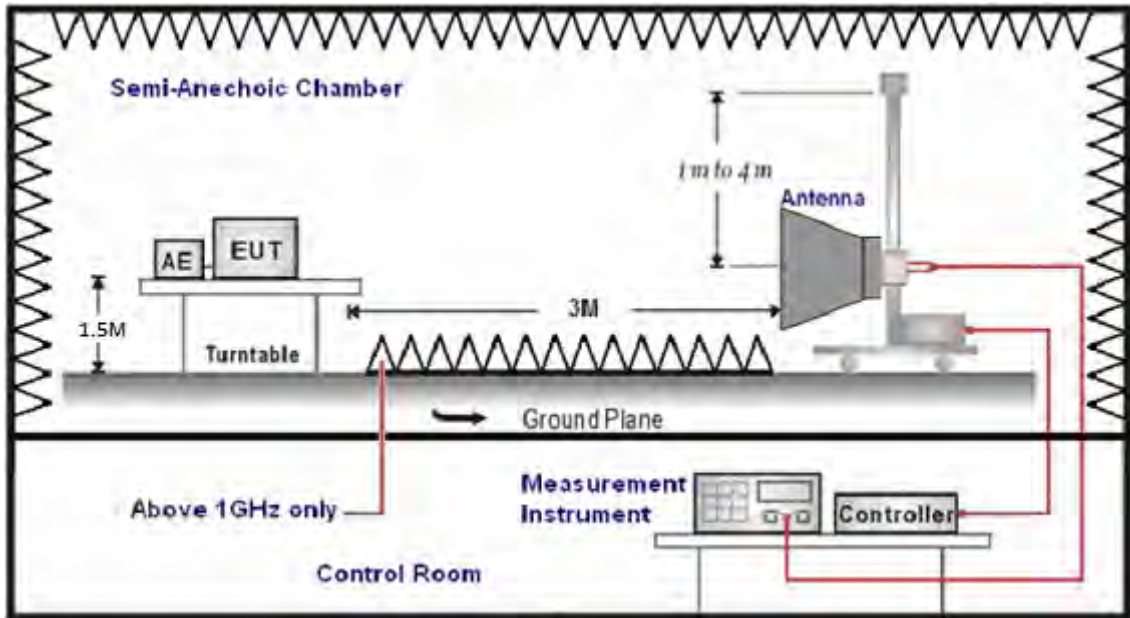
9kHz ~ 30MHz



Below 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 1.5 meters height, 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 26.5 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 measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements when Duty cycle >98% / 1/T for average measurements when Duty cycle <98%.

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 Biconilog Antenna (mode VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 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 pre 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

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

5.5. Test Result

Below 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	06/02/2015
		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
173.5000	39.22	-11.87	27.35	43.50	-16.15	QP	H
350.0000	41.41	-8.48	32.93	46.00	-13.07	QP	H
462.5000	29.91	-6.07	23.84	46.00	-22.16	QP	H
605.0000	25.56	-3.09	22.47	46.00	-23.53	QP	H
750.0000	27.76	-0.26	27.50	46.00	-18.50	QP	H
872.0000	27.42	1.92	29.34	46.00	-16.66	QP	H
121.0000	40.88	-14.11	26.77	43.50	-16.73	QP	V
286.5000	30.83	-9.79	21.04	46.00	-24.96	QP	V
355.0000	30.29	-8.37	21.92	46.00	-24.08	QP	V
465.0000	27.77	-6.04	21.73	46.00	-24.27	QP	V
667.0000	29.15	-2.17	26.98	46.00	-19.02	QP	V
826.0000	25.68	0.89	26.57	46.00	-19.43	QP	V

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

Above 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/19/2015
Frequency:	2412MHz	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
3198.000	37.46	6.75	44.21	74.00	-29.79	peak	H
4605.000	33.69	9.92	43.61	74.00	-30.39	peak	H
6670.000	35.10	12.76	47.86	74.00	-26.14	peak	H
3177.000	37.70	6.68	44.38	74.00	-29.62	peak	V
4605.000	34.01	9.92	43.93	74.00	-30.07	peak	V
6705.000	34.24	12.78	47.02	74.00	-26.98	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	06/19/2015
Frequency:	2437MHz	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
3177.000	38.37	6.68	45.05	74.00	-28.95	peak	H
4577.000	33.38	9.87	43.25	74.00	-30.75	peak	H
6677.000	33.72	12.75	46.47	74.00	-27.53	peak	H
3177.000	37.62	6.68	44.30	74.00	-29.70	peak	V
4598.000	33.84	9.91	43.75	74.00	-30.25	peak	V
6691.000	34.83	12.78	47.61	74.00	-26.39	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 2			Date:	06/19/2015		
Frequency:	2462MHz			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
3163.000	37.19	6.64	43.83	74.00	-30.17	peak	H
4591.000	34.14	9.90	44.04	74.00	-29.96	peak	H
6691.000	34.26	12.78	47.04	74.00	-26.96	peak	H
3205.000	38.07	6.77	44.84	74.00	-29.16	peak	V
4605.000	33.74	9.92	43.66	74.00	-30.34	peak	V
6691.000	33.95	12.78	46.73	74.00	-27.27	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	06/19/2015		
Frequency:	2412MHz			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
3205.000	36.83	6.77	43.60	74.00	-30.40	peak	H
4591.000	34.68	9.90	44.58	74.00	-29.42	peak	H
6705.000	33.92	12.78	46.70	74.00	-27.30	peak	H
3191.000	37.96	6.72	44.68	74.00	-29.32	peak	V
4570.000	33.57	9.87	43.44	74.00	-30.56	peak	V
6698.000	33.87	12.77	46.64	74.00	-27.36	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/19/2015
Frequency:	2437MHz	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
3177.000	37.55	6.68	44.23	74.00	-29.77	peak	H
4577.000	34.75	9.87	44.62	74.00	-29.38	peak	H
6649.000	33.78	12.74	46.52	74.00	-27.48	peak	H
3191.000	36.93	6.72	43.65	74.00	-30.35	peak	V
4591.000	34.76	9.90	44.66	74.00	-29.34	peak	V
6677.000	33.93	12.75	46.68	74.00	-27.32	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	06/19/2015
Frequency:	2462MHz	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
3170.000	37.85	6.65	44.50	74.00	-29.50	peak	H
4577.000	35.23	9.87	45.10	74.00	-28.90	peak	H
6691.000	33.04	12.78	45.82	74.00	-28.18	peak	H
3170.000	38.18	6.65	44.83	74.00	-29.17	peak	V
4577.000	34.52	9.87	44.39	74.00	-29.61	peak	V
6677.000	33.35	12.75	46.10	74.00	-27.90	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/19/2015		
Frequency:	2412MHz			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
3163.000	37.85	6.64	44.49	74.00	-29.51	peak	H
4563.000	33.01	9.86	42.87	74.00	-31.13	peak	H
6698.000	33.59	12.77	46.36	74.00	-27.64	peak	H
3170.000	37.57	6.65	44.22	74.00	-29.78	peak	V
4577.000	33.39	9.87	43.26	74.00	-30.74	peak	V
6677.000	34.08	12.75	46.83	74.00	-27.17	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/19/2015		
Frequency:	2437MHz			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
3170.000	37.30	6.65	43.95	74.00	-30.05	peak	H
4549.000	32.99	9.83	42.82	74.00	-31.18	peak	H
6691.000	33.29	12.78	46.07	74.00	-27.93	peak	H
3177.000	38.30	6.68	44.98	74.00	-29.02	peak	V
4570.000	33.82	9.87	43.69	74.00	-30.31	peak	V
6677.000	33.92	12.75	46.67	74.00	-27.33	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	06/19/2015
Frequency:	2462MHz	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
3177.000	36.34	6.68	43.02	74.00	-30.98	peak	H
4577.000	33.95	9.87	43.82	74.00	-30.18	peak	H
6698.000	33.44	12.77	46.21	74.00	-27.79	peak	H
3177.000	37.05	6.68	43.73	74.00	-30.27	peak	V
4591.000	33.83	9.90	43.73	74.00	-30.27	peak	V
6705.000	33.10	12.78	45.88	74.00	-28.12	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	UAP-AC-LITE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	06/19/2015
Frequency:	2422MHz	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
3149.000	37.59	6.60	44.19	74.00	-29.81	peak	H
4542.000	33.74	9.83	43.57	74.00	-30.43	peak	H
6663.000	34.14	12.75	46.89	74.00	-27.11	peak	H
3163.000	36.60	6.64	43.24	74.00	-30.76	peak	V
4570.000	33.86	9.87	43.73	74.00	-30.27	peak	V
6663.000	34.08	12.75	46.83	74.00	-27.17	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/19/2015		
Frequency:	2437MHz			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
3170.000	36.75	6.65	43.40	74.00	-30.60	peak	H
4577.000	34.11	9.87	43.98	74.00	-30.02	peak	H
6677.000	33.76	12.75	46.51	74.00	-27.49	peak	H
3198.000	38.35	6.75	45.10	74.00	-28.90	peak	V
4626.000	33.97	9.95	43.92	74.00	-30.08	peak	V
6670.000	33.82	12.76	46.58	74.00	-27.42	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/19/2015		
Frequency:	2452MHz			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
3170.000	36.61	6.65	43.26	74.00	-30.74	peak	H
4570.000	33.65	9.87	43.52	74.00	-30.48	peak	H
6663.000	33.89	12.75	46.64	74.00	-27.36	peak	H
3170.000	37.82	6.65	44.47	74.00	-29.53	peak	V
4605.000	33.28	9.92	43.20	74.00	-30.80	peak	V
6663.000	34.01	12.75	46.76	74.00	-27.24	peak	V

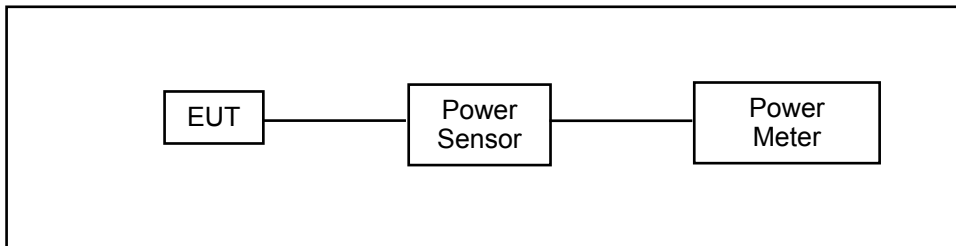
Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2.4GHz+5GHz			Date:	06/26/2015		
	Simultaneous Transmitting			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2841.000	35.65	5.70	41.35	74.00	-32.65	peak	H
4563.000	31.83	9.86	41.69	74.00	-32.31	peak	H
7671.000	32.01	13.30	45.31	74.00	-28.69	peak	H
2841.000	34.60	5.70	40.30	74.00	-33.70	peak	V
4542.000	31.22	9.83	41.05	74.00	-32.95	peak	V
7657.000	31.35	13.28	44.63	74.00	-29.37	peak	V

6 Maximum Conducted Output Power Measurement

6.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for maximum output power is 30dBm.

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	TE05	TE05	N.C.R.	----

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

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

6.4. Test Procedure

The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6)/3 dBm.

The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

6.5. Test Result

Model Number	UAP-AC-LITE										
Test Item	Maximum Conducted Output Power										
Test Mode	Mode 2: IEEE 802.11b link mode										
Date of Test	06/02/2015							Test Site		TE05	
Frequency (MHz)	Data Rate	Average Power				Peak Power				Limit (dBm)	
		ANT-0		ANT-1		ANT-0		ANT-1			
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)		
2412	1M	14.32	0.027	14.81	0.030	17.15	0.052	17.68	0.059	< 30	
2437		14.08	0.026	14.65	0.029	16.94	0.049	17.52	0.056	< 30	
2462		14.40	0.028	13.96	0.025	17.21	0.053	16.75	0.047	< 30	
2437	2M	13.97	0.025	14.17	0.026	16.83	0.048	17.10	0.051	< 30	
2437	5.5M	13.98	0.025	14.05	0.025	16.85	0.048	16.98	0.050	< 30	
2437	11M	14.06	0.025	14.03	0.025	16.90	0.049	16.94	0.049	< 30	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)					
		ANT-0+1		ANT-0+1							
		(dBm)	(W)	(dBm)	(W)						
2412	1M	17.58	0.057	20.43	0.110	< 30					
2437		17.38	0.055	20.25	0.106	< 30					
2462		17.20	0.052	20.00	0.100	< 30					
2437	2M	17.08	0.051	19.98	0.099	< 30					
2437	5.5M	17.03	0.050	19.93	0.098	< 30					
2437	11M	17.06	0.051	19.93	0.098	< 30					

Model Number	UAP-AC-LITE										
Test Item	Maximum Conducted Output Power										
Test Mode	Mode 3: IEEE 802.11g link mode										
Date of Test	06/02/2015							Test Site	TE05		
Frequency (MHz)	Data Rate	Average Power				Peak Power				Limit (dBm)	
		ANT-0		ANT-1		ANT-0		ANT-1			
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)		
2412	6M	12.52	0.018	12.57	0.018	15.55	0.036	15.31	0.034	< 30	
2437		13.11	0.020	13.18	0.021	16.10	0.041	15.95	0.039	< 30	
2462		13.16	0.021	13.15	0.021	16.13	0.041	15.91	0.039	< 30	
2437	9M	12.99	0.020	13.17	0.021	16.00	0.040	15.94	0.039	< 30	
2437	12M	13.06	0.020	13.15	0.021	16.04	0.040	15.91	0.039	< 30	
2437	18M	13.08	0.020	13.13	0.021	16.05	0.040	15.88	0.039	< 30	
2437	24M	12.85	0.019	12.92	0.020	15.87	0.039	15.68	0.037	< 30	
2437	36M	12.82	0.019	13.05	0.020	15.81	0.038	15.77	0.038	< 30	
2437	48M	12.93	0.020	12.89	0.019	15.95	0.039	15.64	0.037	< 30	
2437	54M	13.10	0.020	13.16	0.021	16.08	0.041	15.92	0.039	< 30	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)					
		ANT-0+1		ANT-0+1							
		(dBm)	(W)	(dBm)	(W)						
2412	6M	15.56	0.036	18.44	0.070	< 30					
2437		16.16	0.041	19.04	0.080	< 30					
2462		16.17	0.041	19.03	0.080	< 30					
2437	9M	16.09	0.041	18.98	0.079	< 30					
2437	12M	16.12	0.041	18.99	0.079	< 30					
2437	18M	16.12	0.041	18.98	0.079	< 30					
2437	24M	15.90	0.039	18.79	0.076	< 30					
2437	36M	15.95	0.039	18.80	0.076	< 30					
2437	48M	15.92	0.039	18.81	0.076	< 30					
2437	54M	16.14	0.041	19.01	0.080	< 30					

Model Number	UAP-AC-LITE										
Test Item	Maximum Conducted Output Power										
Test Mode	Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode										
Date of Test	06/02/2015							Test Site	TE05		
Frequency (MHz)	Data Rate	Average Power				Peak Power				Limit (dBm)	
		ANT-0		ANT-1		ANT-0		ANT-1			
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)		
2412	13M	12.67	0.018	12.95	0.020	15.68	0.037	15.70	0.037	< 30	
2437		12.99	0.020	13.47	0.022	15.99	0.040	16.25	0.042	< 30	
2462		12.70	0.019	13.42	0.022	15.73	0.037	16.17	0.041	< 30	
2437	26M	12.91	0.020	13.43	0.022	15.92	0.039	16.19	0.042	< 30	
2437	39M	12.86	0.019	13.46	0.022	15.88	0.039	16.24	0.042	< 30	
2437	52M	12.69	0.019	13.22	0.021	15.72	0.037	16.00	0.040	< 30	
2437	78M	12.13	0.016	12.98	0.020	15.17	0.033	15.72	0.037	< 30	
2437	104M	12.17	0.016	12.84	0.019	15.21	0.033	15.56	0.036	< 30	
2437	117M	12.20	0.017	12.87	0.019	15.27	0.034	15.61	0.036	< 30	
2437	130M	12.24	0.017	12.75	0.019	15.32	0.034	15.51	0.036	< 30	
Frequency (MHz)	Data Rate	Average Power				Peak Power				Limit (dBm)	
		ANT-0+1				ANT-0+1					
		(dBm)		(W)		(dBm)		(W)			
2412	13M	15.82		0.038		18.70		0.074		< 30	
2437		16.25		0.042		19.13		0.082		< 30	
2462		16.09		0.041		18.97		0.079		< 30	
2437	26M	16.19		0.042		19.07		0.081		< 30	
2437	39M	16.18		0.042		19.07		0.081		< 30	
2437	52M	15.97		0.040		18.87		0.077		< 30	
2437	78M	15.59		0.036		18.46		0.070		< 30	
2437	104M	15.53		0.036		18.40		0.069		< 30	
2437	117M	15.56		0.036		18.45		0.070		< 30	
2437	130M	15.51		0.036		18.43		0.070		< 30	

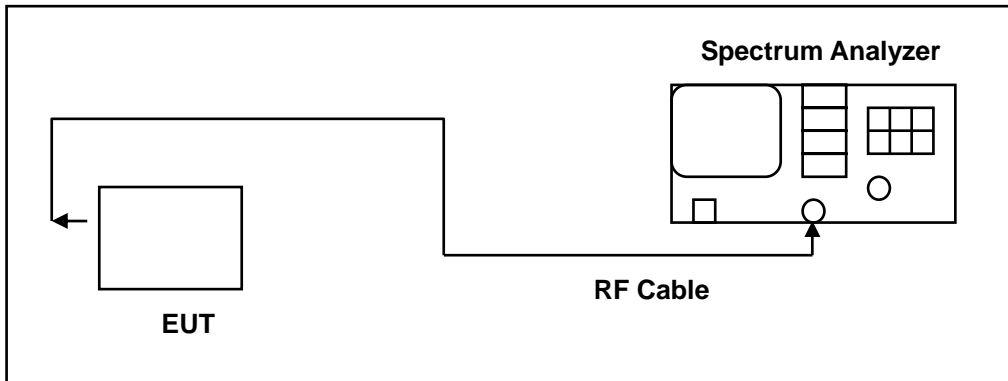
Model Number	UAP-AC-LITE										
Test Item	Maximum Conducted Output Power										
Test Mode	Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode										
Date of Test	06/02/2015							Test Site	TE05		
Frequency (MHz)	Data Rate	Average Power				Peak Power				Limit (dBm)	
		ANT-0		ANT-1		ANT-0		ANT-1			
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)		
2422	27M	12.11	0.016	12.31	0.017	15.14	0.033	15.12	0.033	< 30	
2437		12.37	0.017	12.83	0.019	15.42	0.035	15.55	0.036	< 30	
2452		12.06	0.016	12.58	0.018	15.07	0.032	15.35	0.034	< 30	
2437	54M	12.14	0.016	12.73	0.019	15.19	0.033	15.48	0.035	< 30	
2437	81M	12.21	0.017	12.74	0.019	15.28	0.034	15.49	0.035	< 30	
2437	108M	11.10	0.013	12.71	0.019	14.23	0.026	15.45	0.035	< 30	
2437	162M	11.45	0.014	12.06	0.016	14.56	0.029	14.91	0.031	< 30	
2437	216M	11.16	0.013	11.81	0.015	14.31	0.027	14.78	0.030	< 30	
2437	243M	11.01	0.013	11.77	0.015	14.11	0.026	14.71	0.030	< 30	
2437	270M	10.80	0.012	11.49	0.014	13.86	0.024	14.44	0.028	< 30	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)					
		ANT-0+1		ANT-0+1							
		(dBm)	(W)	(dBm)	(W)						
2422	27M	15.22	0.033	18.14	0.065	< 30					
2437		15.62	0.036	18.50	0.071	< 30					
2452		15.34	0.034	18.22	0.066	< 30					
2437	54M	15.46	0.035	18.35	0.068	< 30					
2437	81M	15.49	0.035	18.40	0.069	< 30					
2437	108M	14.99	0.032	17.89	0.062	< 30					
2437	162M	14.78	0.030	17.75	0.060	< 30					
2437	216M	14.51	0.028	17.56	0.057	< 30					
2437	243M	14.42	0.028	17.43	0.055	< 30					
2437	270M	14.17	0.026	17.17	0.052	< 30					

7 6dB RF Bandwidth Measurement

7.1. Limit

6dB RF Bandwidth: Systems using digital modulation techniques may operate in the 2400–2483.5 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

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	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.

7.4. Test Procedure

The EUT tested to DTS test procedure of KDB558074D01 for compliance to FCC 47CFR 15.247 requirements.

6dB RF Bandwidth: The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES RBW 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 (Channel low, middle, high)

99 % Occupied Bandwidth: The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

7.5. Test Result

Model Number	UAP-AC-LITE		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 2: IEEE 802.11b link mode Mode 3: IEEE 802.11g link mode Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode		
Date of Test	06/15/2015	Test Site	TE05
Test Mode	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
Mode 2	2412	7115	> 500
	2437	6580	> 500
	2462	6620	> 500
Mode 3	2412	15073	> 500
	2437	15139	> 500
	2462	15125	> 500
Mode 4	2412	15127	> 500
	2437	15137	> 500
	2462	15094	> 500
Mode 5	2422	35012	> 500
	2437	31312	> 500
	2452	32548	> 500

7.6. Test Graphs

Mode 2: IEEE 802.11b link mode_ANT-0	
2412	<p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 11.7308 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -576.591 Hz</p> <p>x dB Bandwidth 7.115 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 11.8201 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -11.056 kHz</p> <p>x dB Bandwidth 6.580 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2462	<p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 11.7288 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -35.610 kHz</p> <p>x dB Bandwidth 6.620 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11g link mode_ANT-0

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

<p>2412</p>	<p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.2514 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -9.492 kHz x dB Bandwidth 15.127 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 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>2437</p>	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.2361 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -16.372 kHz x dB Bandwidth 15.137 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 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>2462</p>	<p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.2568 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -13.883 kHz x dB Bandwidth 15.084 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

<p>2422</p>	<p>Agilent R T</p> <p>Ch Freq 2.422 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.422 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth 35.5419 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -31.755 kHz x dB Bandwidth 35.012 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.42200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.44700000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.437 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth 35.5125 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -26.355 kHz x dB Bandwidth 31.312 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.41200000 GHz</p> <p>Stop Freq 2.46200000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2452</p>	<p>Agilent R T</p> <p>Ch Freq 2.452 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.452 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth 35.4877 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -57.855 kHz x dB Bandwidth 32.548 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.45200000 GHz</p> <p>Start Freq 2.42700000 GHz</p> <p>Stop Freq 2.47700000 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 2: IEEE 802.11b link mode_ANT-1

2412	<p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 11.8574 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 6.534 kHz x dB Bandwidth 7.097 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 11.0811 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -192.753 kHz x dB Bandwidth 7.062 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2462	<p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 11.8373 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -34.155 kHz x dB Bandwidth 7.094 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11g link mode_ANT-1

<p>2412</p>	<p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak</p> <p>Log</p> <p>dB/Offset</p> <p>10.8 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.1562 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -3.045 kHz</p> <p>x dB Bandwidth 15.071 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 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>2437</p>	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak</p> <p>Log</p> <p>dB/Offset</p> <p>10.8 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.1537 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -8.681 kHz</p> <p>x dB Bandwidth 15.154 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 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>2462</p>	<p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak</p> <p>Log</p> <p>dB/Offset</p> <p>10.8 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 16.1686 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -7.815 kHz</p> <p>x dB Bandwidth 15.140 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

<p>2412</p>	<p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.3072 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -13.000 kHz x dB Bandwidth 15.147 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 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>2437</p>	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.2936 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -26.787 kHz x dB Bandwidth 15.117 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 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>2462</p>	<p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offset 10.8 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.2637 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -37.736 kHz x dB Bandwidth 15.128 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

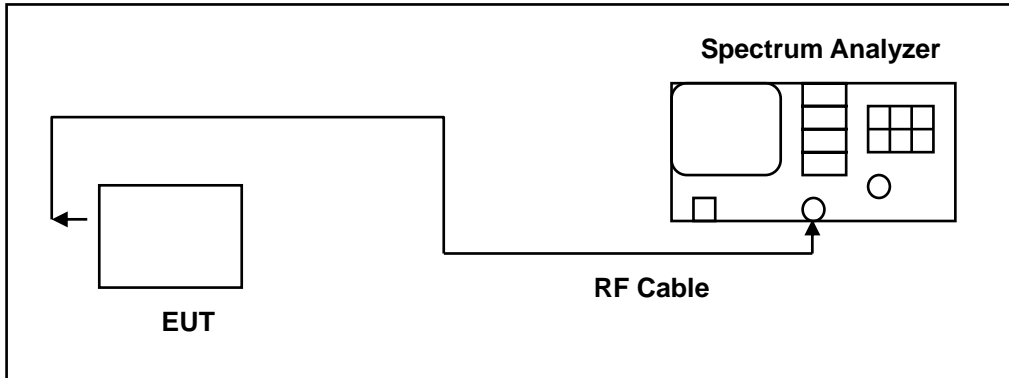
2422	<p>Agilent R T</p> <p>Ch Freq 2.422 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offst 10.8 dB</p> <p>Center 2.422 GHz Span 50 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 5.18 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 35.5485 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -41.889 kHz x dB Bandwidth 30.090 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.42200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.44700000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offst 10.8 dB</p> <p>Center 2.437 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 % 35.5188 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -62.896 kHz x dB Bandwidth 32.543 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.41200000 GHz</p> <p>Stop Freq 2.46200000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2452	<p>Agilent R T</p> <p>Ch Freq 2.452 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/Offst 10.8 dB</p> <p>Center 2.452 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 % 35.5187 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -67.702 kHz x dB Bandwidth 32.516 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.45200000 GHz</p> <p>Start Freq 2.42700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 5.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

8 Maximum Power Density Measurement

8.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

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.	-----

Remark: (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

The EUT tested to DTS test procedure of KDB558074D01 for compliance to FCC 47CFR 15.247 requirements.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

8.5. Test Result

Model Number	UAP-AC-LITE			
Test Item	Maximum Power Density			
Test Mode	Mode 2: IEEE 802.11b link mode Mode 3: IEEE 802.11g link mode Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode			
Date of Test	06/15/2015		Test Site	TE05
Test Mode	Frequency (MHz)	Measurement (dBm/3KHz)		Limit (dBm/3KHz)
		ANT-0	ANT-1	
Mode 2	2412	-7.957	-7.008	< 8
	2437	-7.259	-7.797	< 8
	2462	-7.766	-7.057	< 8
Mode 3	2412	-11.240	-10.710	< 8
	2437	-10.060	-10.620	< 8
	2462	-10.280	-11.460	< 8
Mode 4	2412	-11.530	-11.350	< 8
	2437	-11.060	-11.280	< 8
	2462	-11.330	-11.540	< 8
Mode 5	2422	-15.050	-14.180	< 8
	2437	-15.450	-13.100	< 8
	2452	-14.610	-13.270	< 8

8.6. Test Graphs

Mode 2: IEEE 802.11b link mode_ANT-0	
2412	
2437	
2462	

Mode 3: IEEE 802.11g link mode_ANT-0

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

<p>2412</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4134950 GHz -11.53 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.412 GHz Span 23 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.63 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.40050000 GHz</p> <p>Stop Freq 2.42350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4367125 GHz -11.06 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 23 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.63 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42550000 GHz</p> <p>Stop Freq 2.44850000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2462</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4613675 GHz -11.33 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.462 GHz Span 23 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.63 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.45050000 GHz</p> <p>Stop Freq 2.47350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

<p>2422</p>	
<p>2437</p>	
<p>2452</p>	

Mode 2: IEEE 802.11b link mode_ANT-1

<p>2412</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4110100 GHz</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.412 GHz Span 11 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 1.258 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.40650000 GHz</p> <p>Stop Freq 2.41750000 GHz</p> <p>CF Step 1.10000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4360100 GHz</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 11 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 1.258 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.43150000 GHz</p> <p>Stop Freq 2.44250000 GHz</p> <p>CF Step 1.10000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2462</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4610100 GHz</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.462 GHz Span 11 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 1.258 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.45650000 GHz</p> <p>Stop Freq 2.46750000 GHz</p> <p>CF Step 1.10000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11g link mode_ANT-1

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

<p>2412</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4145875 GHz -11.35 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.412 GHz Span 23 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.63 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.40050000 GHz</p> <p>Stop Freq 2.42350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4376325 GHz -11.28 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 23 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.63 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42550000 GHz</p> <p>Stop Freq 2.44850000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2462</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.4595275 GHz -11.54 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.462 GHz Span 23 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.63 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.45050000 GHz</p> <p>Stop Freq 2.47350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

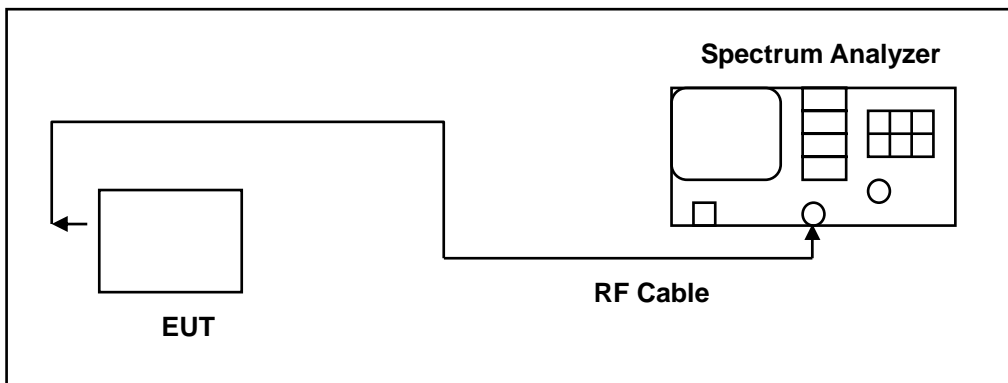
<p>2422</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.42641 GHz -14.18 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.422 GHz Span 49 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 5.604 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.42200000 GHz</p> <p>Start Freq 2.39750000 GHz</p> <p>Stop Freq 2.44650000 GHz</p> <p>CF Step 4.90000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.43578 GHz -13.1 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 49 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 5.604 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.41250000 GHz</p> <p>Stop Freq 2.46150000 GHz</p> <p>CF Step 4.90000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2452</p>	<p>Agilent R T</p> <p>Ref 10 dBm Atten 10 dB Mkr1 2.44637 GHz -13.27 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.452 GHz Span 49 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 5.604 s (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.45200000 GHz</p> <p>Start Freq 2.42750000 GHz</p> <p>Stop Freq 2.47650000 GHz</p> <p>CF Step 4.90000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

9 Out of Band Conducted Emissions Measurement

9.1. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

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	(2)
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/24/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	----

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

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

9.4. Test Procedure

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band.

The test was performed at 3 channels.

9.5. Test Graphs

Reference level

Mode 2: IEEE 802.11b link mode_ANT-0	
2412	
2437	
2462	

Mode 3: IEEE 802.11g link mode_ANT-0

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

<p>2412</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4132650 GHz 2.211 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.412 GHz Span 23 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.40050000 GHz</p> <p>Stop Freq 2.42350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4382650 GHz 2.651 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 23 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42550000 GHz</p> <p>Stop Freq 2.44850000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2462</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4607350 GHz 2.43 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.462 GHz Span 23 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.45050000 GHz</p> <p>Stop Freq 2.47350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

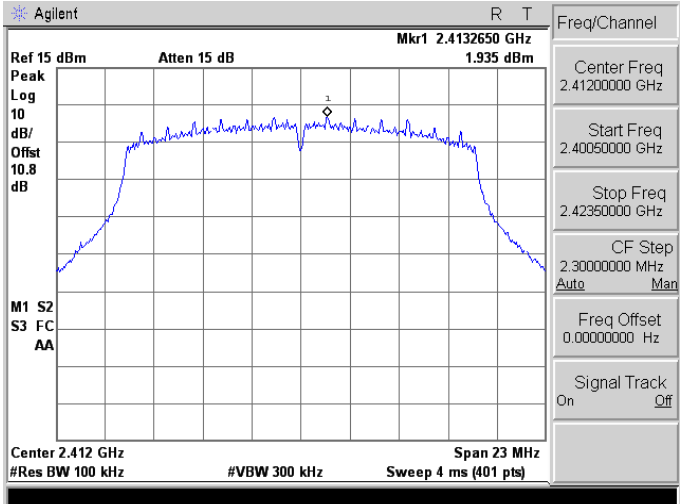
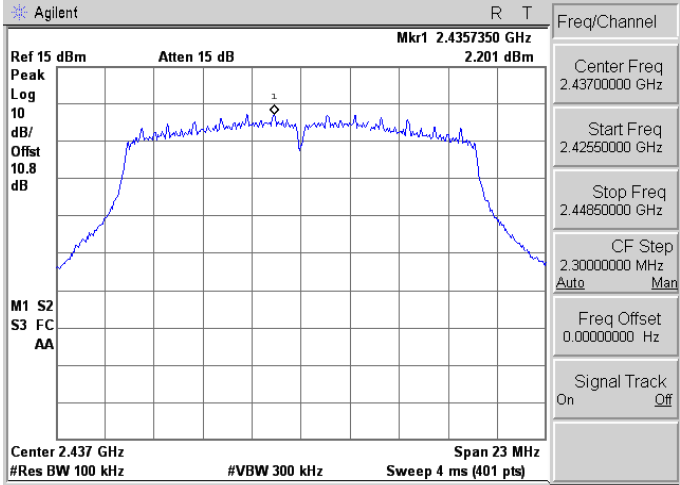
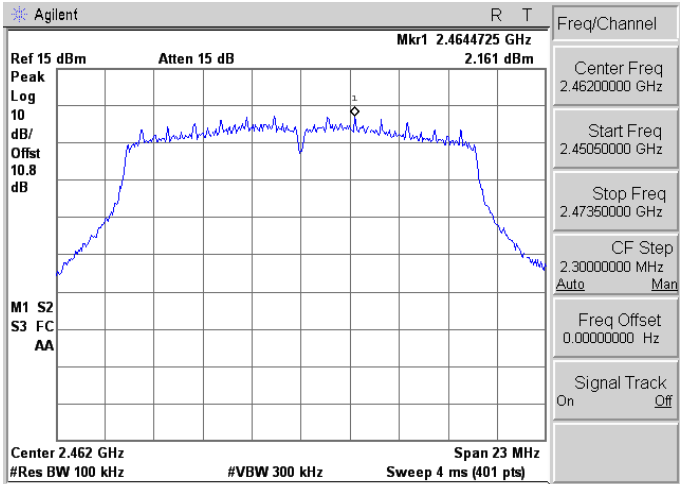
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

<p>2422</p>	
<p>2437</p>	
<p>2452</p>	

Mode 2: IEEE 802.11b link mode_ANT-1

2412	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4124950 GHz 6.329 dBm</p> <p>Peak Log 10 dB/Offst 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.412 GHz Span 11 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.40650000 GHz</p> <p>Stop Freq 2.41750000 GHz</p> <p>CF Step 1.10000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2437	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4374950 GHz 6.573 dBm</p> <p>Peak Log 10 dB/Offst 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 11 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.43150000 GHz</p> <p>Stop Freq 2.44250000 GHz</p> <p>CF Step 1.10000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
2462	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4624950 GHz 6.458 dBm</p> <p>Peak Log 10 dB/Offst 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.462 GHz Span 11 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.45650000 GHz</p> <p>Stop Freq 2.46750000 GHz</p> <p>CF Step 1.10000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 3: IEEE 802.11g link mode_ANT-1

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

<p>2412</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4107350 GHz 2.048 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.412 GHz Span 23 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.40050000 GHz</p> <p>Stop Freq 2.42350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4382650 GHz 2.143 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 23 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42550000 GHz</p> <p>Stop Freq 2.44850000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>
<p>2462</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.4644725 GHz 2.309 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.462 GHz Span 23 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.45050000 GHz</p> <p>Stop Freq 2.47350000 GHz</p> <p>CF Step 2.30000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>

Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

<p>2422</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.41955 GHz Peak 0.714 dBm</p> <p>Log dB/Offst 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.422 GHz Span 49 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 5.076 ms (401 pts)</p> <table border="1"> <tr><th colspan="2">Freq/Channel</th></tr> <tr><td>Center Freq</td><td>2.42200000 GHz</td></tr> <tr><td>Start Freq</td><td>2.39750000 GHz</td></tr> <tr><td>Stop Freq</td><td>2.44650000 GHz</td></tr> <tr><td>CF Step</td><td>4.90000000 MHz</td></tr> <tr><td></td><td>Auto Man</td></tr> <tr><td>Freq Offset</td><td>0.00000000 Hz</td></tr> <tr><td>Signal Track</td><td>On Off</td></tr> </table>	Freq/Channel		Center Freq	2.42200000 GHz	Start Freq	2.39750000 GHz	Stop Freq	2.44650000 GHz	CF Step	4.90000000 MHz		Auto Man	Freq Offset	0.00000000 Hz	Signal Track	On Off
Freq/Channel																	
Center Freq	2.42200000 GHz																
Start Freq	2.39750000 GHz																
Stop Freq	2.44650000 GHz																
CF Step	4.90000000 MHz																
	Auto Man																
Freq Offset	0.00000000 Hz																
Signal Track	On Off																
<p>2437</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.43198 GHz Peak 0.271 dBm</p> <p>Log dB/Offst 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.437 GHz Span 49 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 5.076 ms (401 pts)</p> <table border="1"> <tr><th colspan="2">Freq/Channel</th></tr> <tr><td>Center Freq</td><td>2.43700000 GHz</td></tr> <tr><td>Start Freq</td><td>2.41250000 GHz</td></tr> <tr><td>Stop Freq</td><td>2.46150000 GHz</td></tr> <tr><td>CF Step</td><td>4.90000000 MHz</td></tr> <tr><td></td><td>Auto Man</td></tr> <tr><td>Freq Offset</td><td>0.00000000 Hz</td></tr> <tr><td>Signal Track</td><td>On Off</td></tr> </table>	Freq/Channel		Center Freq	2.43700000 GHz	Start Freq	2.41250000 GHz	Stop Freq	2.46150000 GHz	CF Step	4.90000000 MHz		Auto Man	Freq Offset	0.00000000 Hz	Signal Track	On Off
Freq/Channel																	
Center Freq	2.43700000 GHz																
Start Freq	2.41250000 GHz																
Stop Freq	2.46150000 GHz																
CF Step	4.90000000 MHz																
	Auto Man																
Freq Offset	0.00000000 Hz																
Signal Track	On Off																
<p>2452</p>	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.44698 GHz Peak 0.194 dBm</p> <p>Log dB/Offst 10.8 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 2.452 GHz Span 49 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 5.076 ms (401 pts)</p> <table border="1"> <tr><th colspan="2">Freq/Channel</th></tr> <tr><td>Center Freq</td><td>2.45200000 GHz</td></tr> <tr><td>Start Freq</td><td>2.42750000 GHz</td></tr> <tr><td>Stop Freq</td><td>2.47650000 GHz</td></tr> <tr><td>CF Step</td><td>4.90000000 MHz</td></tr> <tr><td></td><td>Auto Man</td></tr> <tr><td>Freq Offset</td><td>0.00000000 Hz</td></tr> <tr><td>Signal Track</td><td>On Off</td></tr> </table>	Freq/Channel		Center Freq	2.45200000 GHz	Start Freq	2.42750000 GHz	Stop Freq	2.47650000 GHz	CF Step	4.90000000 MHz		Auto Man	Freq Offset	0.00000000 Hz	Signal Track	On Off
Freq/Channel																	
Center Freq	2.45200000 GHz																
Start Freq	2.42750000 GHz																
Stop Freq	2.47650000 GHz																
CF Step	4.90000000 MHz																
	Auto Man																
Freq Offset	0.00000000 Hz																
Signal Track	On Off																

Out of Band Conducted Emissions

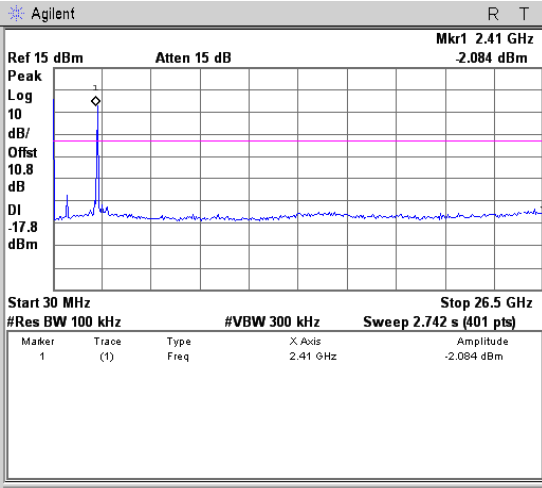
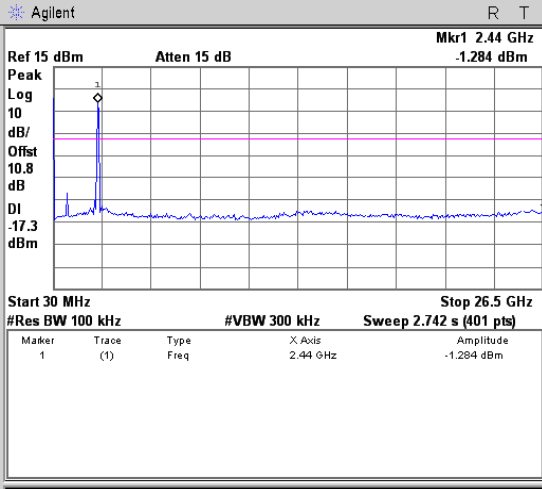
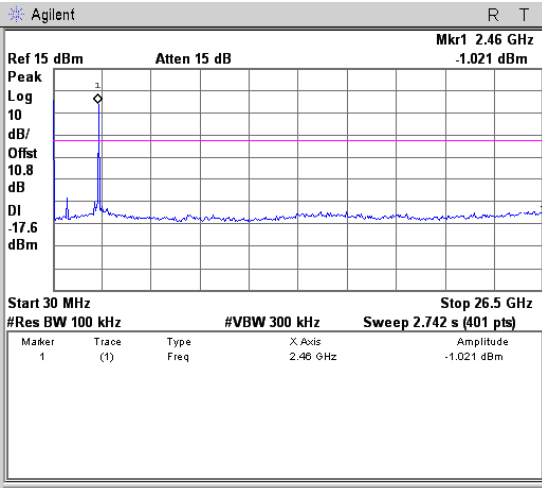
Mode 2: IEEE 802.11b link mode_ANT-0

<p>2412</p>	
<p>2437</p>	
<p>2462</p>	

Mode 3: IEEE 802.11g link mode_ANT-0

<p>2412</p>	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.41 GHz -1.499 dBm Peak Log 10 dB/Offset 10.8 dB DI -18.2 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) Marker Trace Type X Axis Amplitude 1 (1) Freq 2.41 GHz -1.499 dBm</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2437</p>	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz -0.898 dBm Peak Log 10 dB/Offset 10.8 dB DI -17.7 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) Marker Trace Type X Axis Amplitude 1 (1) Freq 2.44 GHz -0.898 dBm</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>
<p>2462</p>	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.46 GHz 1.325 dBm Peak Log 10 dB/Offset 10.8 dB DI -17.7 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) Marker Trace Type X Axis Amplitude 1 (1) Freq 2.46 GHz 1.325 dBm</p> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

<p>2412</p>	 <p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.41 GHz Peak 2.084 dBm</p> <p>Log 10 dB/ 10.8 Offset dB DI -17.8 dBm</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.41 GHz</td> <td>-2.084 dBm</td> </tr> </tbody> </table> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.41 GHz	-2.084 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.41 GHz	-2.084 dBm							
<p>2437</p>	 <p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz Peak 1.284 dBm</p> <p>Log 10 dB/ 10.8 Offset dB DI -17.3 dBm</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.44 GHz</td> <td>-1.284 dBm</td> </tr> </tbody> </table> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	-1.284 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	-1.284 dBm							
<p>2462</p>	 <p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.46 GHz Peak 1.021 dBm</p> <p>Log 10 dB/ 10.8 Offset dB DI -17.6 dBm</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.46 GHz</td> <td>-1.021 dBm</td> </tr> </tbody> </table> <p>Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.46 GHz	-1.021 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.46 GHz	-1.021 dBm							

Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

2422	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.42 GHz 2.762 dBm Peak Log 10 dB/ Offst 10.8 dB DI -20.6 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.42 GHz</td> <td>-2.762 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.42 GHz	-2.762 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.42 GHz	-2.762 dBm							
2437	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz 3.425 dBm Peak Log 10 dB/ Offst 10.8 dB DI -20.4 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.44 GHz</td> <td>-3.425 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	-3.425 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	-3.425 dBm							
2452	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.45 GHz 3.471 dBm Peak Log 10 dB/ Offst 10.8 dB DI -20.4 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.45 GHz</td> <td>-3.471 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.45 GHz	-3.471 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.45 GHz	-3.471 dBm							

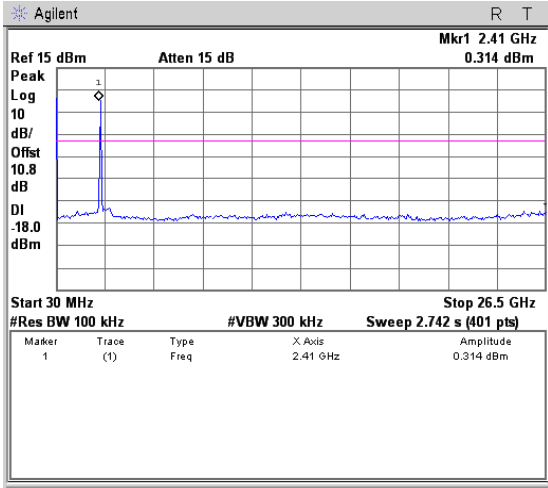
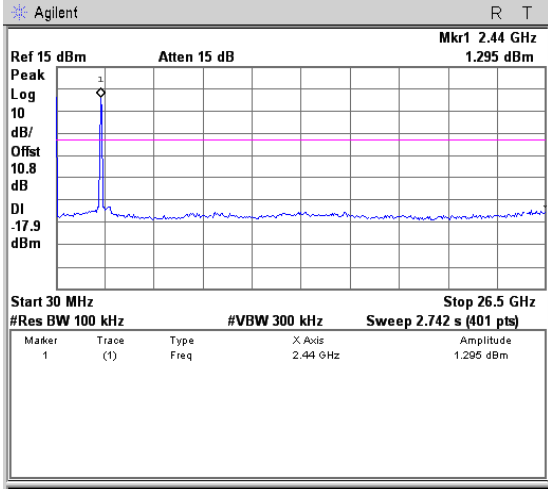
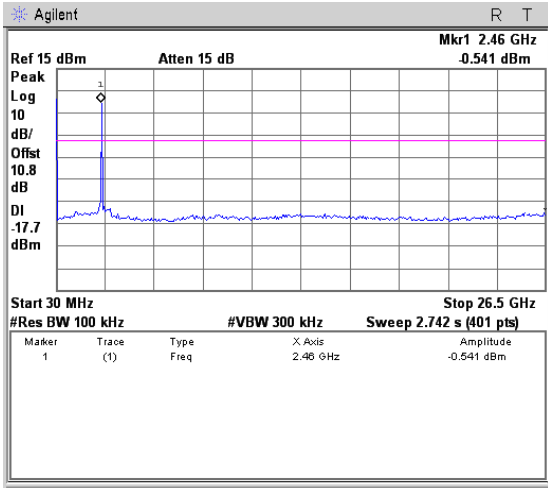
Mode 2: IEEE 802.11b link mode_ANT-1

2412	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.41 GHz 4.113 dBm Peak Log 10 dB/Offst 10.8 dB DI -13.7 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.41 GHz</td> <td>4.113 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.41 GHz	4.113 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.41 GHz	4.113 dBm							
2437	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz 3.592 dBm Peak Log 10 dB/Offst 10.8 dB DI -13.4 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.44 GHz</td> <td>3.592 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	3.592 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	3.592 dBm							
2462	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.46 GHz 4.598 dBm Peak Log 10 dB/Offst 10.8 dB DI -13.5 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.46 GHz</td> <td>4.598 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.46 GHz	4.598 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.46 GHz	4.598 dBm							

Mode 3: IEEE 802.11g link mode_ANT-1

2412	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.41 GHz -1.151 dBm Peak Log 10 dB/Offset 10.8 dB DI -18.1 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.41 GHz</td> <td>-1.151 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.41 GHz	-1.151 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.41 GHz	-1.151 dBm							
2437	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz -0.057 dBm Peak Log 10 dB/Offset 10.8 dB DI -17.8 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.44 GHz</td> <td>-0.057 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	-0.057 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	-0.057 dBm							
2462	<p>Agilent R T Ref 15 dBm Atten 15 dB Mkr1 2.46 GHz -0.26 dBm Peak Log 10 dB/Offset 10.8 dB DI -17.8 dBm Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts) <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.46 GHz</td> <td>-0.26 dBm</td> </tr> </tbody> </table> </p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.46 GHz	-0.26 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.46 GHz	-0.26 dBm							

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

<p>2412</p>	 <p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.41 GHz 0.314 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB DI -18.0 dBm</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.41 GHz</td> <td>0.314 dBm</td> </tr> </tbody> </table> <p>Freq/Channel</p> <p>Center Freq 13.2650000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 26.5000000 GHz</p> <p>CF Step 2.64700000 GHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.41 GHz	0.314 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.41 GHz	0.314 dBm							
<p>2437</p>	 <p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz 1.295 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB DI -17.9 dBm</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.44 GHz</td> <td>1.295 dBm</td> </tr> </tbody> </table> <p>Freq/Channel</p> <p>Center Freq 13.2650000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 26.5000000 GHz</p> <p>CF Step 2.64700000 GHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	1.295 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	1.295 dBm							
<p>2462</p>	 <p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.46 GHz -0.541 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB DI -17.7 dBm</p> <p>Start 30 MHz Stop 26.5 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.46 GHz</td> <td>-0.541 dBm</td> </tr> </tbody> </table> <p>Freq/Channel</p> <p>Center Freq 13.2650000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 26.5000000 GHz</p> <p>CF Step 2.64700000 GHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.46 GHz	-0.541 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.46 GHz	-0.541 dBm							

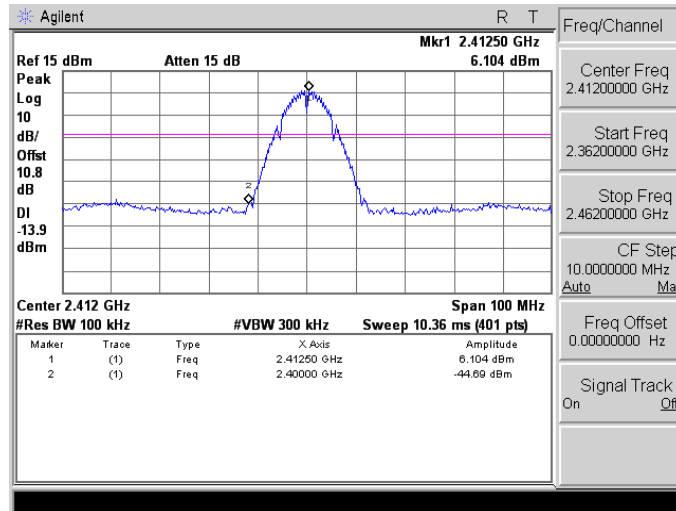
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

2422	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.42 GHz -0.576 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB DI -20.7 dBm</p> <p>Start 30 MHz Stop 26.5 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.42 GHz</td> <td>-0.576 dBm</td> </tr> </tbody> </table> <p>Freq/Channel</p> <p>Center Freq 13.2650000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 26.5000000 GHz</p> <p>CF Step 2.64700000 GHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.42 GHz	-0.576 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.42 GHz	-0.576 dBm							
2437	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.44 GHz -2.112 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB DI -19.7 dBm</p> <p>Start 30 MHz Stop 26.5 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.44 GHz</td> <td>-2.112 dBm</td> </tr> </tbody> </table> <p>Freq/Channel</p> <p>Center Freq 13.2650000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 26.5000000 GHz</p> <p>CF Step 2.64700000 GHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	-2.112 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	-2.112 dBm							
2452	<p>Agilent R T</p> <p>Ref 15 dBm Atten 15 dB Mkr1 2.45 GHz -1.545 dBm</p> <p>Peak Log 10 dB/Offset 10.8 dB DI -20.2 dBm</p> <p>Start 30 MHz Stop 26.5 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 2.742 s (401 pts)</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Trace</th> <th>Type</th> <th>X Axis</th> <th>Amplitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1)</td> <td>Freq</td> <td>2.45 GHz</td> <td>-1.545 dBm</td> </tr> </tbody> </table> <p>Freq/Channel</p> <p>Center Freq 13.2650000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 26.5000000 GHz</p> <p>CF Step 2.64700000 GHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p>	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.45 GHz	-1.545 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.45 GHz	-1.545 dBm							

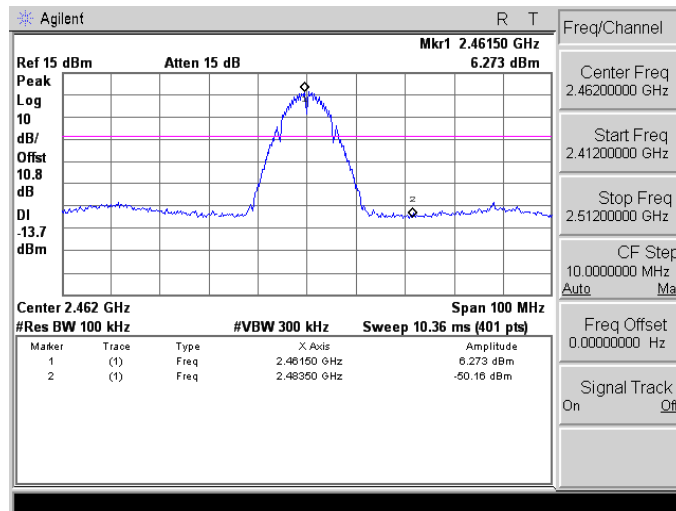
Conducted Band Edge

Mode 2: IEEE 802.11b link mode_ANT-0

2412

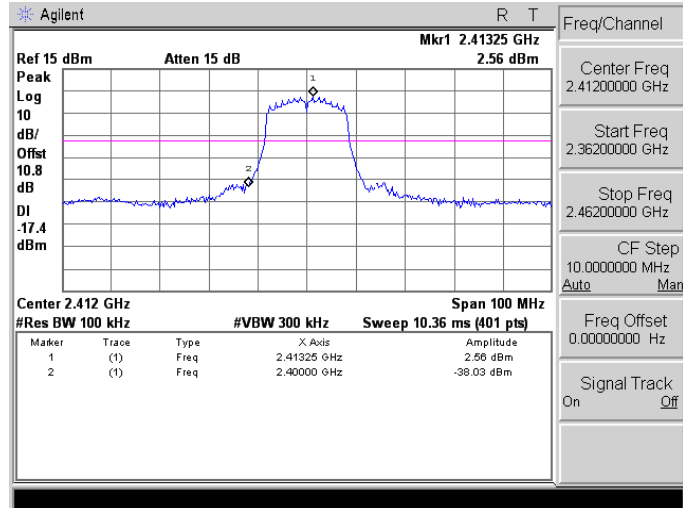


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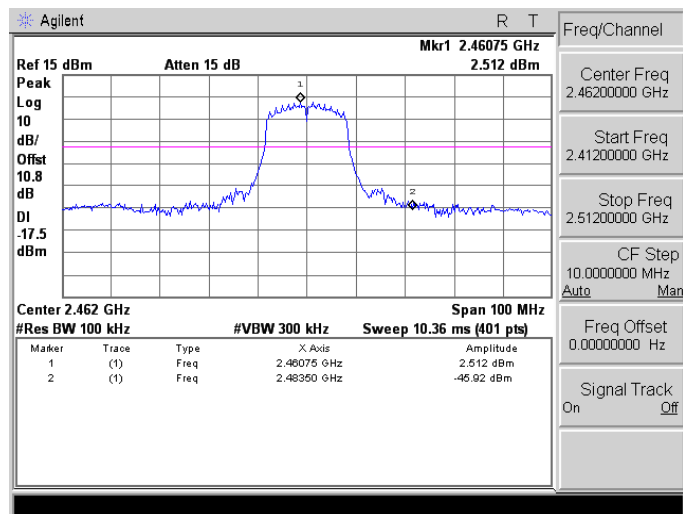


Mode 3: IEEE 802.11g link mode_ANT-0

2412

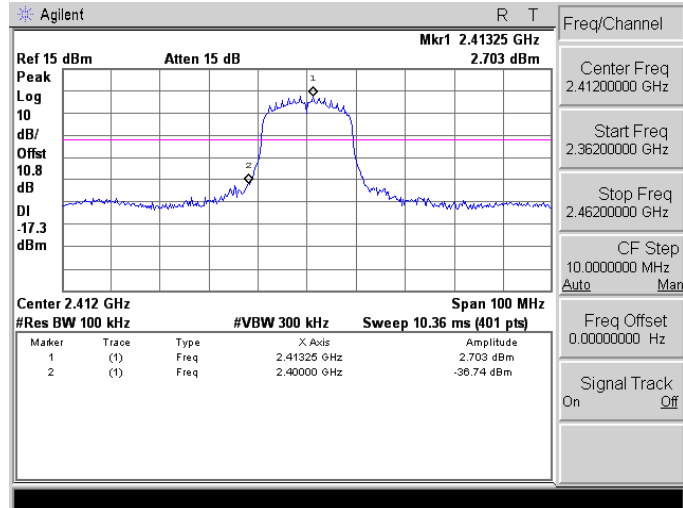


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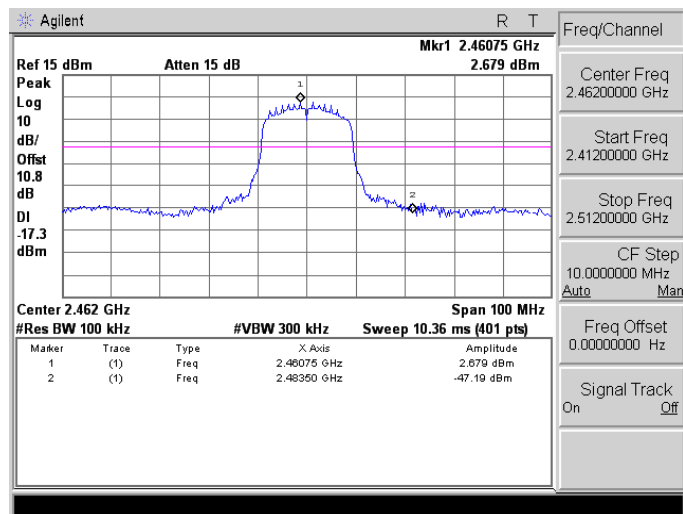


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

2412

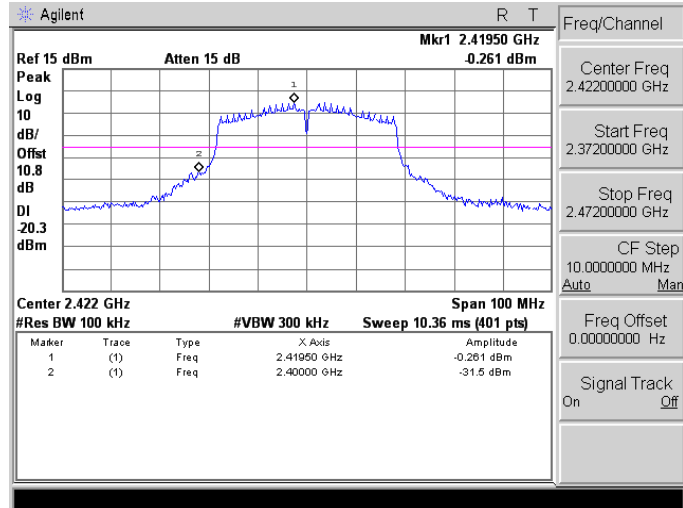


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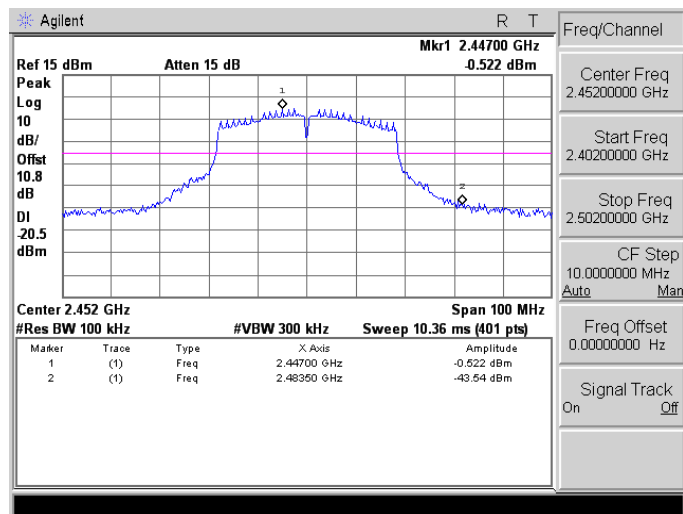


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

2422

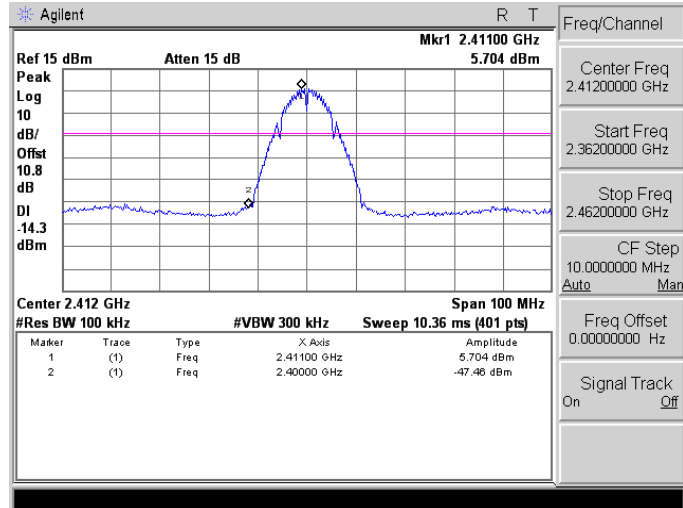


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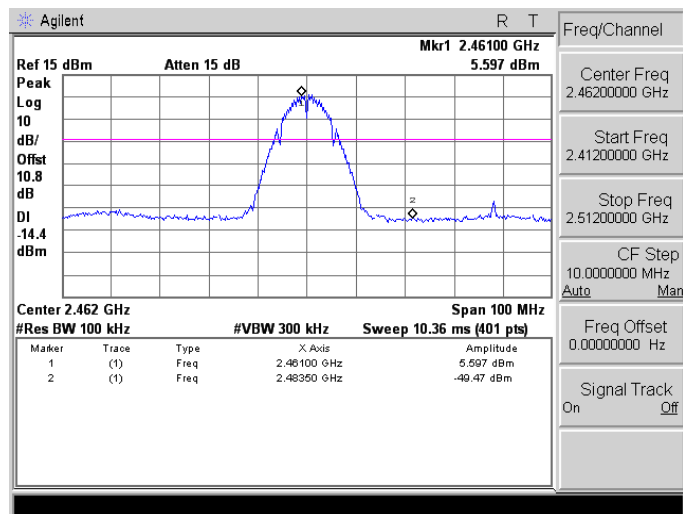


Mode 2: IEEE 802.11b link mode_ANT-1

2412

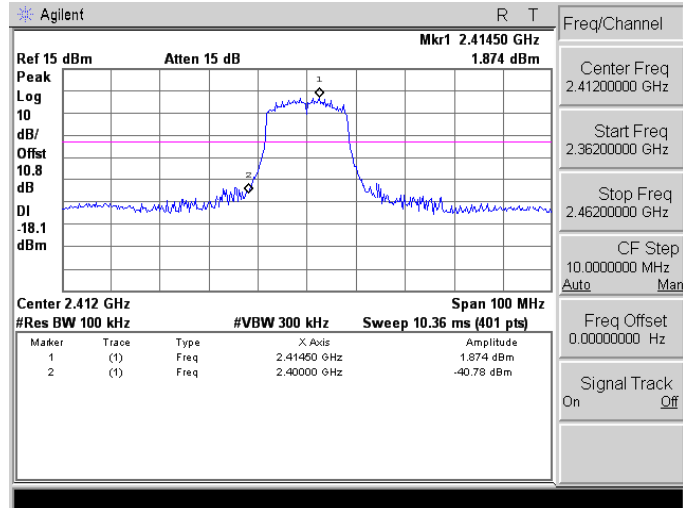


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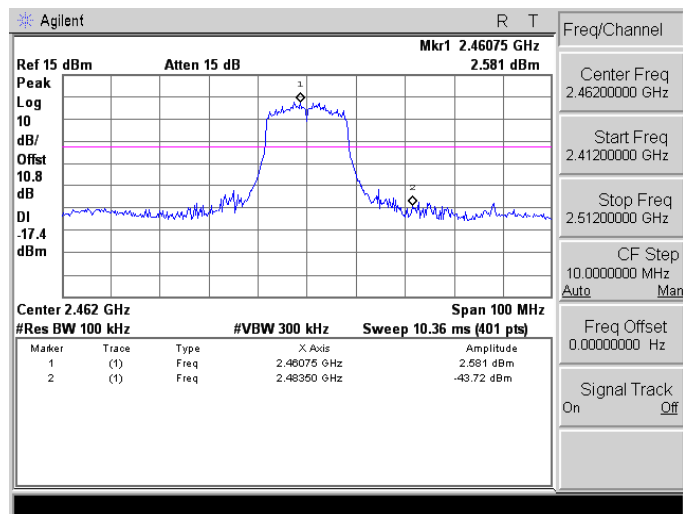


Mode 3: IEEE 802.11g link mode_ANT-1

2412

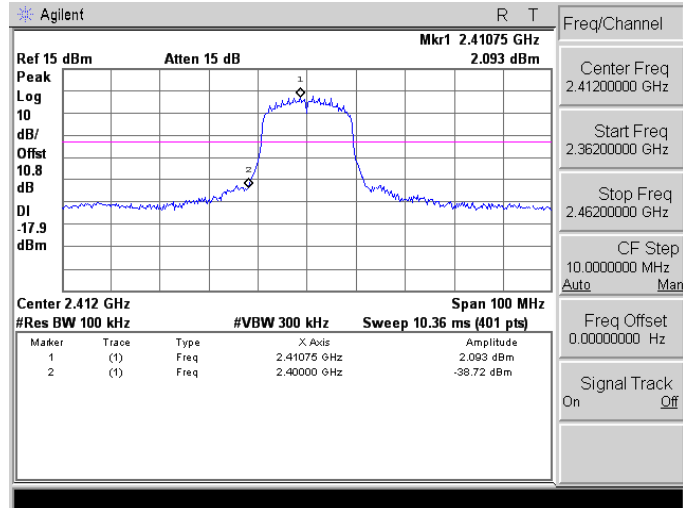


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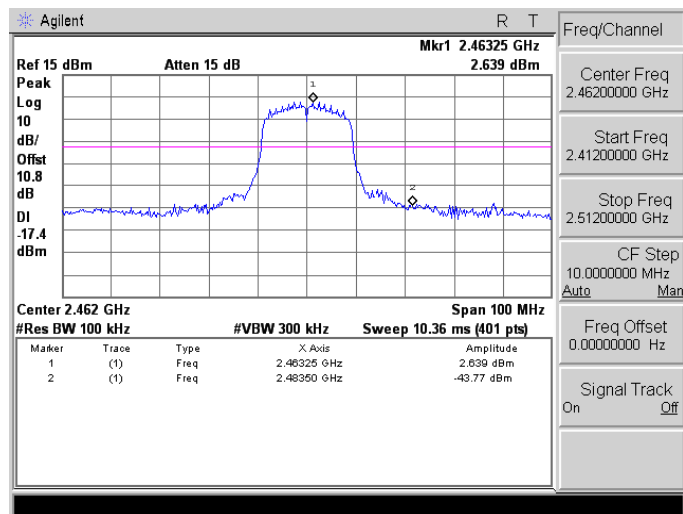


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

2412

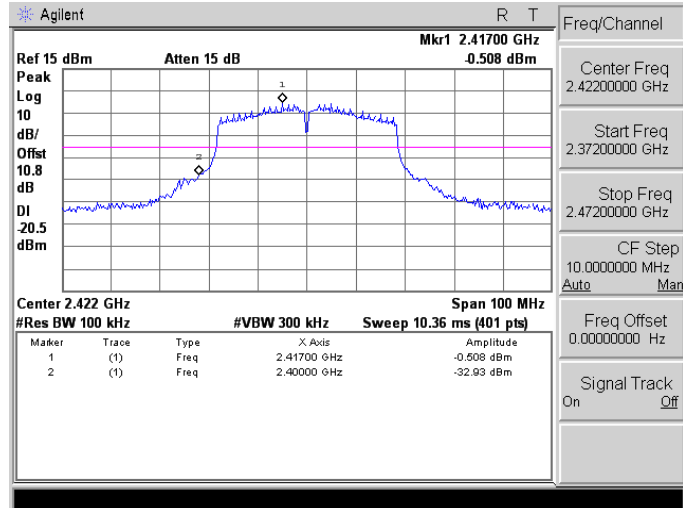


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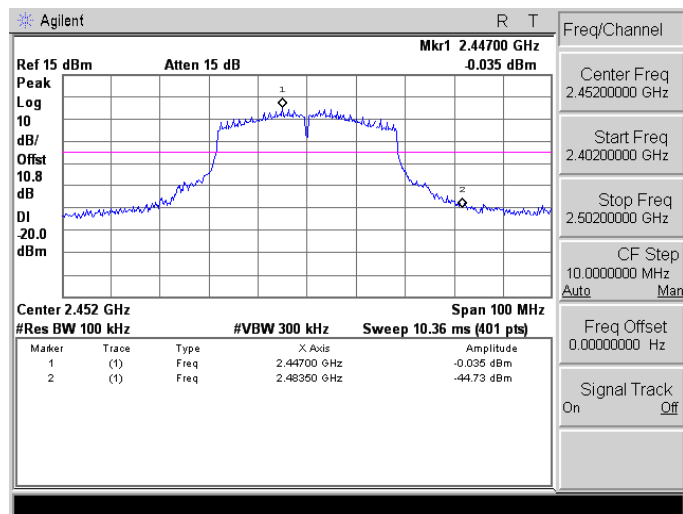


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

2422



2452

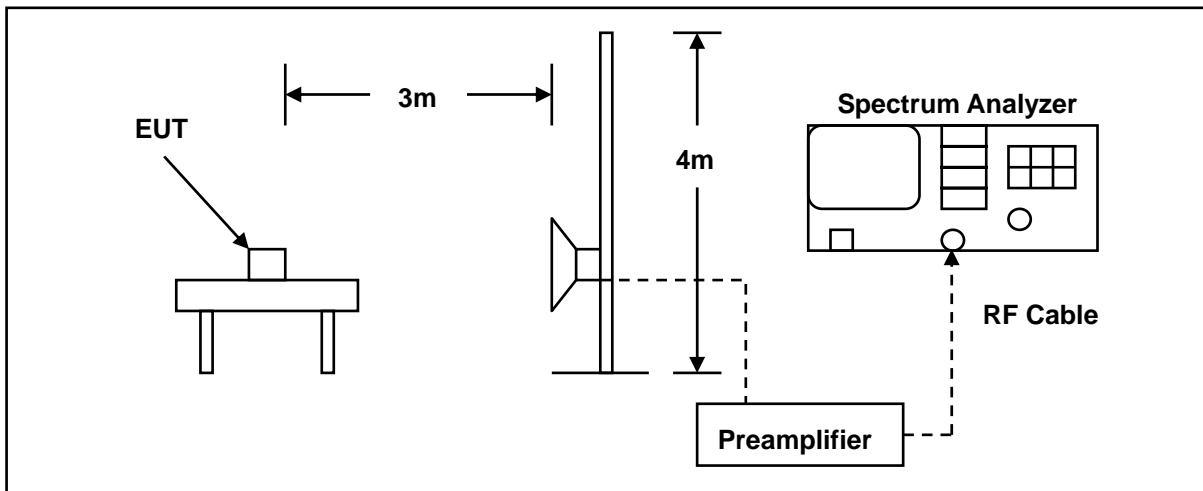


10 Band Edges Measurement

10.1.Limit

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

10.2.Test Setup



10.3.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)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	(1)
Microwave Cable	EMCI	EMC-104-SM-S M-14000	140202	02/24/2015	(1)
Microwave Cable	EMCI	EMC104-SM-S M-600	140301	02/24/2015	(1)
Test Site	ATL	TE01	888001	08/28/2014	(1)

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

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

10.4. Test Procedure

The EUT tested to DTS test procedure of KDB558074D01 for compliance to FCC 47CFR 15.247 requirements.

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements when Duty cycle >98% / 1/T for average measurements when Duty cycle <98%.

10.5. Test Result

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 2			Date:	06/20/2015		
Frequency:	2412 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
2372.040	60.87	-1.80	59.07	74.00	-14.93	peak	H
2372.040	46.92	-1.80	45.12	54.00	-8.88	AVG	H
2390.000	54.05	-1.73	52.32	74.00	-21.68	peak	H
2390.000	42.95	-1.73	41.22	54.00	-12.78	AVG	H
2373.580	63.13	-1.79	61.34	74.00	-12.66	peak	V
2373.580	51.62	-1.79	49.83	54.00	-4.17	AVG	V
2390.000	55.59	-1.73	53.86	74.00	-20.14	peak	V
2390.000	47.50	-1.73	45.77	54.00	-8.23	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 2			Date:	06/20/2015		
Frequency:	2462 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
2483.500	53.64	-1.39	52.25	74.00	-21.75	peak	H
2483.500	45.70	-1.39	44.31	54.00	-9.69	AVG	H
2484.640	55.59	-1.39	54.20	74.00	-19.80	peak	H
2484.640	45.64	-1.39	44.25	54.00	-9.75	AVG	H
2483.500	56.96	-1.39	55.57	74.00	-18.43	peak	V
2483.500	46.06	-1.39	44.67	54.00	-9.33	AVG	V
2484.360	59.56	-1.39	58.17	74.00	-15.83	peak	V
2484.360	45.68	-1.39	44.29	54.00	-9.71	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	06/20/2015		
Frequency:	2412 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
2369.730	63.54	-1.80	61.74	74.00	-12.26	peak	H
2369.730	49.61	-1.80	47.81	54.00	-6.19	AVG	H
2390.000	63.61	-1.73	61.88	74.00	-12.12	peak	H
2390.000	45.84	-1.73	44.11	54.00	-9.89	AVG	H
2369.180	65.28	-1.80	63.48	74.00	-10.52	peak	V
2369.180	53.37	-1.80	51.57	54.00	-2.43	AVG	V
2390.000	64.33	-1.73	62.60	74.00	-11.40	peak	V
2390.000	50.43	-1.73	48.70	54.00	-5.30	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	06/20/2015		
Frequency:	2462 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
2483.500	64.78	-1.39	63.39	74.00	-10.61	peak	H
2483.500	44.76	-1.39	43.37	54.00	-10.63	AVG	H
2485.000	72.28	-1.39	70.89	74.00	-3.11	peak	H
2485.000	44.60	-1.39	43.21	54.00	-10.79	AVG	H
2483.500	69.57	-1.39	68.18	74.00	-5.82	peak	V
2483.500	47.93	-1.39	46.54	54.00	-7.46	AVG	V
2484.560	73.64	-1.39	72.25	74.00	-1.75	peak	V
2484.560	47.41	-1.39	46.02	54.00	-7.98	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/20/2015		
Frequency:	2412 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
2367.970	61.62	-1.81	59.81	74.00	-14.19	peak	H
2367.970	48.74	-1.81	46.93	54.00	-7.07	AVG	H
2390.000	60.63	-1.73	58.90	74.00	-15.10	peak	H
2390.000	45.28	-1.73	43.55	54.00	-10.45	AVG	H
2369.840	64.09	-1.80	62.29	74.00	-11.71	peak	V
2369.840	52.00	-1.80	50.20	54.00	-3.80	AVG	V
2390.000	67.45	-1.73	65.72	74.00	-8.28	peak	V
2390.000	48.90	-1.73	47.17	54.00	-6.83	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	06/20/2015		
Frequency:	2462 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
2369.840	64.09	-1.80	62.29	74.00	-11.71	peak	H
2369.840	52.00	-1.80	50.20	54.00	-3.80	AVG	H
2390.000	67.45	-1.73	65.72	74.00	-8.28	peak	H
2390.000	48.90	-1.73	47.17	54.00	-6.83	AVG	H
2369.840	64.09	-1.80	62.29	74.00	-11.71	peak	V
2369.840	52.00	-1.80	50.20	54.00	-3.80	AVG	V
2390.000	67.45	-1.73	65.72	74.00	-8.28	peak	V
2390.000	48.90	-1.73	47.17	54.00	-6.83	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/20/2015		
Frequency:	2422 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
2388.240	66.44	-1.74	64.70	74.00	-9.30	peak	H
2388.240	45.06	-1.74	43.32	54.00	-10.68	AVG	H
2390.000	66.59	-1.73	64.86	74.00	-9.14	peak	H
2390.000	45.67	-1.73	43.94	54.00	-10.06	AVG	H
2388.360	69.22	-1.74	67.48	74.00	-6.52	peak	V
2388.360	49.39	-1.74	47.65	54.00	-6.35	AVG	V
2390.000	67.37	-1.73	65.64	74.00	-8.36	peak	V
2390.000	49.52	-1.73	47.79	54.00	-6.21	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	UAP-AC-LITE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	06/20/2015		
Frequency:	2452 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
2483.500	60.44	-0.06	60.38	74.00	-13.62	peak	H
2483.500	46.85	-0.06	46.79	54.00	-7.21	AVG	H
2484.000	64.81	-0.06	64.75	74.00	-9.25	peak	H
2484.000	46.79	-0.06	46.73	54.00	-7.27	AVG	H
2483.500	67.80	-0.06	67.74	74.00	-6.26	peak	V
2483.500	49.91	-0.06	49.85	54.00	-4.15	AVG	V
2484.050	69.56	-0.06	69.50	74.00	-4.50	peak	V
2484.050	49.77	-0.06	49.71	54.00	-4.29	AVG	V

11 Antenna Measurement

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 15.247 (b), 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 Dual band antenna. And the maximum Gain of this antenna is only 3 dBi.