FCC TEST REPORT
for
Shenzhen Rakwireless Technology Co., Ltd.

Wi-Fi Module
Model No.: RAK41X, RAK44X, RAK49X (X Indicate 0-9)

Prepared for	:	Shenzhen Rakwireless Technology Co., Ltd.
Address	:	Room 406, Tsinghua Harbor, Science and Technology Park North Buildings, Nanshan District, Shenzhen, China

Prepared By	:	Shenzhen Anbotek Compliance Laboratory Limited
Address	:	1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China Tel: (86) 755-26066544 Fax: (86) 755-26014772

Report Number	:	R011508174I
Date of Test	:	Aug. 17~ Sept. 30 ,2015
Date of Report	:	Oct. 09, 2015

TABLE OF CONTENT

Description

Page

Test Report

TEST REPORT

Applicant	:	Shenzhen Rakwireless Technology Co., Ltd.
Manufacturer	:	Shenzhen Rakwireless Technology Co., Ltd.
EUT	:	Wi-Fi Module
Model No.	:	RAK41X, RAK44X, RAK49X (X Indicate 0-9)
Serial No.	:	N.A.
Trade Mark	:	N.A.
Rating	:	DC 3.3V, 80mA

Measurement Procedure Used:
FCC Part15 Subpart C 2015, Paragraph 15.247

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test : Aug. 17~ Sept. 30 ,2015

Prepared by : Kebo Zhang
(Tested Engineer / Kebo Zhang)

Reviewer : Amy Ding
(Project Manager / Amy Ding)

Approved & Authorized Signer : Tom Chen
(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Wi-Fi Module
Model Number	:	RAK41X, RAK44X, RAK49X (X Indicate 0-9) (Note: All samples are the same except the model number, so we prepare "RAK415" for test only.)
Test Power Supply	:	AC 120V, 60Hz and AC 240V, 60Hz for adapter
Adapter	:	Model: FY0501500 Input: AC 100-240V, 50/60Hz Output: DC 5V, 1.5A
RF Transmission Frequency	:	2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20))
Channels	:	11 For (802.11b/802.11g/802.11n(HT20))
Modulation		802.11b CCK; 802.11g OFDM; 802.11n MCS
Antenna Gain:	:	External Antenna: 2.0 dBi Onboard Antenna: 0.5 dBi
Applicant	:	Shenzhen Rakwireless Technology Co., Ltd.
Address	:	Room 406, Tsinghua Harbor, Science and Technology Park North Buildings, Nanshan District, Shenzhen, China
Manufacturer	:	Shenzhen Rakwireless Technology Co., Ltd.
Address	:	Room 406, Tsinghua Harbor, Science and Technology Park North Buildings, Nanshan District, Shenzhen, China
Factory	:	Chengdu Xuguang Technology Co., Ltd.
Address	:	Second section of Gongyuan Road of Longquanyi, Chengdu City, Sichuan Province, China
Date of receipt	:	Aug. 17, 2015
Date of Test	:	Aug. 17~ Sept. 30 ,2015

1.2. Auxiliary Equipment Used during Test

N/A

1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS - LAB Code: L3503
Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 10, 2013.

IC-Registration No.: 8058A-1
Shenzhen Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A, February 22, 2013.

Test Location
All Emissions tests were performed at
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

1.4. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1 dB (Horizontal) Ur = 4.3 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4dB

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2013 and FCC Part 15, Paragraph 15.247.

2.1. Summary of Test Results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.107, 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15, Paragraph 15.247(b)(1)	Maximum Output Power	PASS	Complies
FCC Part 15, Paragraph 15.247(a)(2)	6dB Bandwidth	PASS	Complies
FCC Part 15, Paragraph 15.247(c)	100kHz Bandwidth of Frequency Band Edges	PASS	Complies
FCC Part 15, Paragraph 15.209(a)(f)	Spurious Emission	PASS	Complies
FCC Part 15, Paragraph 15.247(a)(1)	Frequency Separation	-	N/A
FCC Part 15, Paragraph 15.247(a)(1)(iii)	Number of Hopping Frequency	-	N/A
FCC Part 15, Paragraph 15.247(a)(1)(iii)	Time of Occupancy	-	N/A
FCC Part 15, Paragraph 15.247(c)	Peak Power Density	PASS	Complies

2.2. Description of Test Modes

The EUT has been tested under operating condition.
Software used to control the EUT for staying in continuous transmitting and receiving mode isprogrammed.
IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 1 Mbps lowest data rate (worst case) are chosen for the final testing.
IEEE802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6 Mbps lowest data rate (the worst case) are chosen for the final testing.
IEEE802.11n (HT20): Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with MCS 0 Mbps lowest data rate (the worst case) are chosen for the final testing.

2.3. List of channels:

√ - available

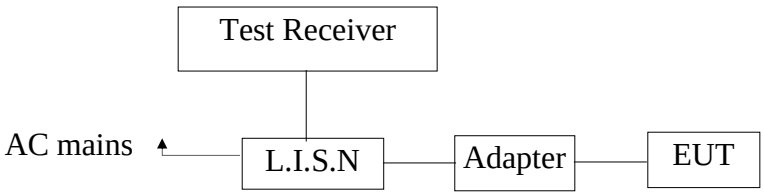
X - tested

Number	Frequency(MHz)		802.11 b/g/n （HT20）
1	2412	√	X
2	2417	√	
3	2422	√	
4	2427	√	
5	2432	√	
6	2437	√	X
7	2442	√	
8	2447	√	
9	2452	√	
10	2457	√	
11	2462	√	X

3. Conducted Emission Test

3.1. Block Diagram of Test Setup

3.1.1. Block diagram of connection between the EUT and simulators



3.2. Power Line Conducted Emission Measurement Limits (15.207)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4. Operating Condition of EUT

3.4.1. Setup the EUT and simulator as shown as Section 3.1.

3.4.2. Turn on the power of all equipment.

3.4.3. Let the EUT work in test mode (ON) and measure it.

3.5. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2013 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test results are reported on Section 3.6.

3.6. Test equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Two-Line V-network	Rohde & Schwarz	ENV216	100055	Apr. 17, 2015	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 17, 2015	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 17, 2015	1 Year

3.7. Power Line Conducted Emission Measurement Results

PASS.

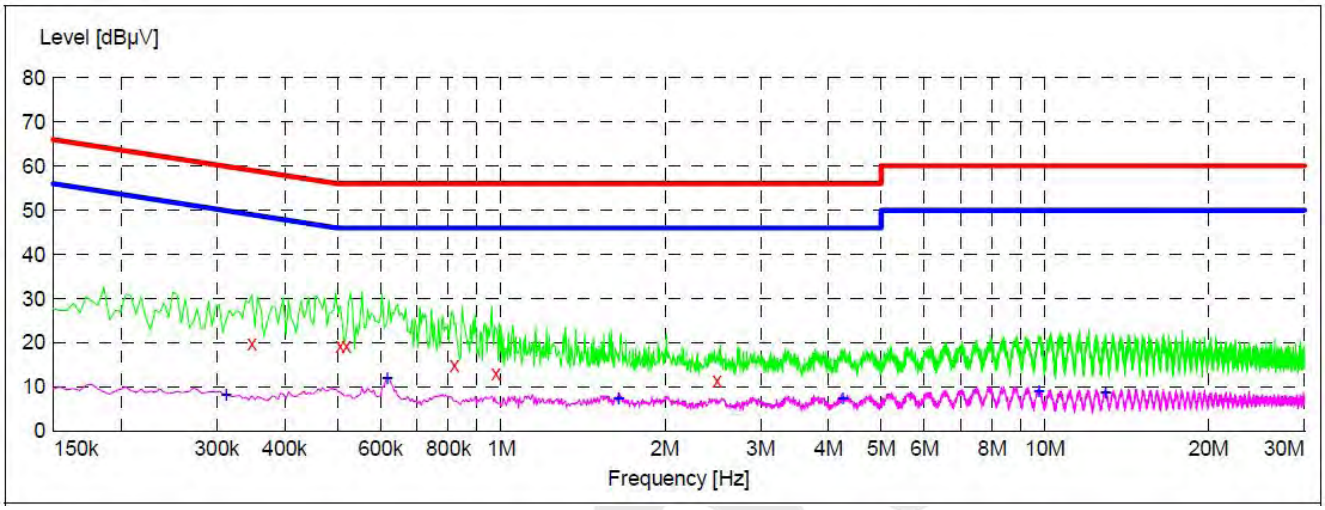
The frequency range from 150KHz to 30 MHz is investigated.

Please refer the following pages.

CONDUCTED EMISSION TEST DATA

Test Site:	1# Shielded Room
Operating Condition:	ON
Test Specification:	AC 120V, 60Hz for adapter
Comment:	Live Line
	Tem.:25℃ Hum.:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



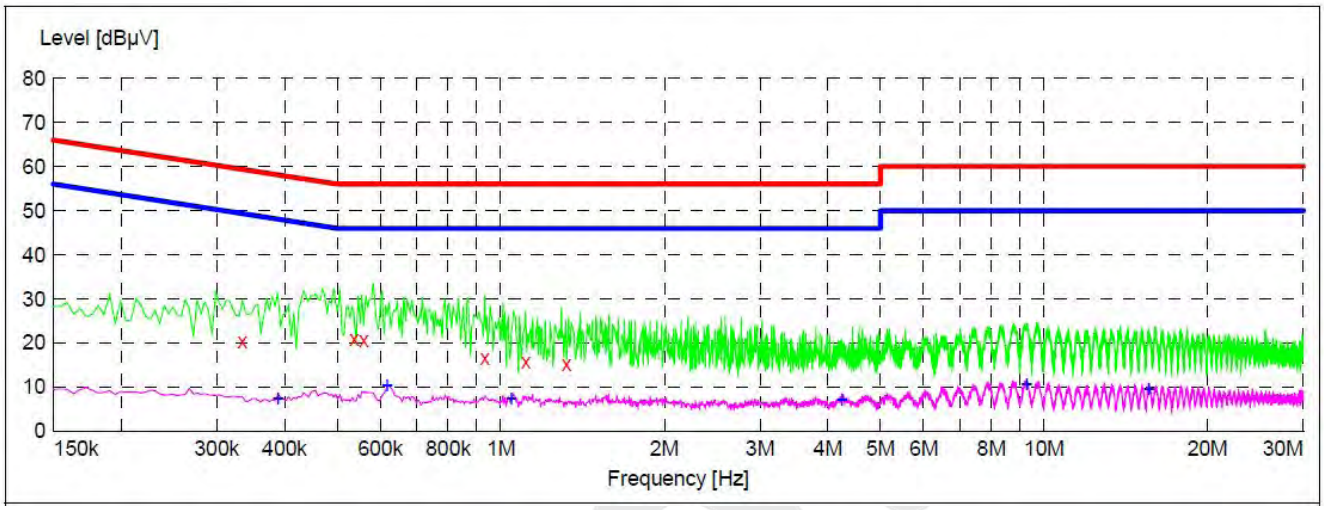
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.348000	19.80	20.1	59	39.2	QP	L1	GND
0.505500	19.30	20.1	56	36.7	QP	L1	GND
0.519000	19.30	20.1	56	36.7	QP	L1	GND
0.820500	15.00	20.1	56	41.0	QP	L1	GND
0.978000	13.10	20.2	56	42.9	QP	L1	GND
2.498500	11.40	20.3	56	44.6	QP	L1	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.312000	8.30	20.1	50	41.6	AV	L1	GND
0.618000	12.10	20.1	46	33.9	AV	L1	GND
1.643500	7.40	20.3	46	38.6	AV	L1	GND
4.249000	7.50	20.5	46	38.5	AV	L1	GND
9.752500	9.10	20.6	50	40.9	AV	L1	GND
12.920500	8.70	20.7	50	41.3	AV	L1	GND

CONDUCTED EMISSION TEST DATA

Test Site:	1# Shielded Room
Operating Condition:	ON
Test Specification:	AC 120V, 60Hz for adapter
Comment:	Neutral Line
	Tem.:25℃ Hum.:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



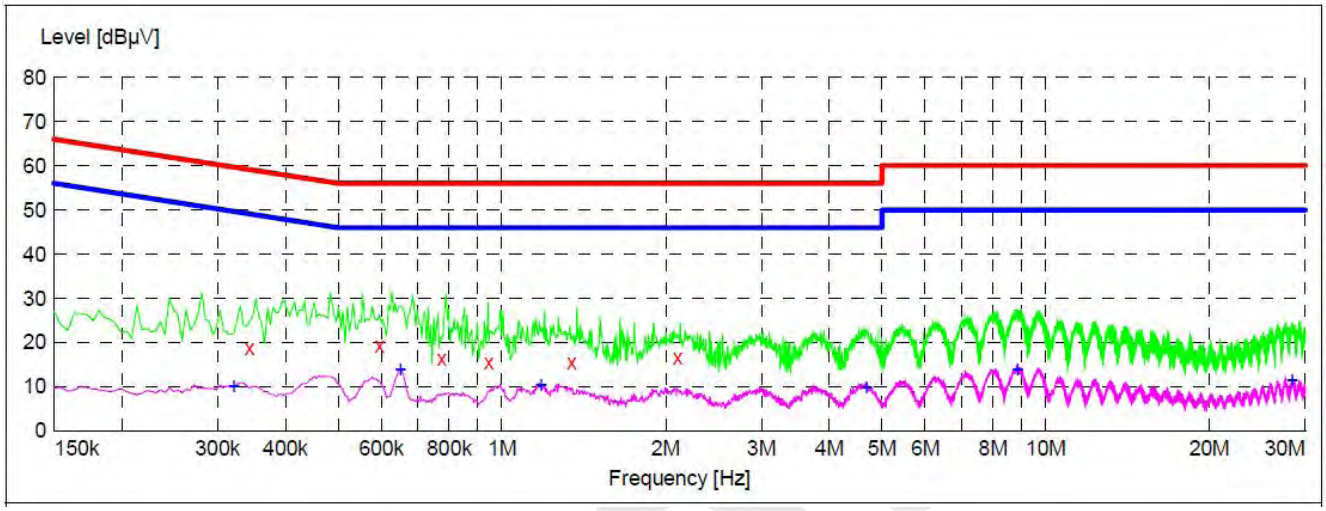
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.334500	20.50	20.1	59	38.8	QP	N	GND
0.537000	20.90	20.1	56	35.1	QP	N	GND
0.559500	20.80	20.1	56	35.2	QP	N	GND
0.933000	16.70	20.1	56	39.3	QP	N	GND
1.112500	15.80	20.2	56	40.2	QP	N	GND
1.319500	15.30	20.2	56	40.7	QP	N	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.388500	7.30	20.1	48	40.8	AV	N	GND
0.618000	10.30	20.1	46	35.7	AV	N	GND
1.045000	7.40	20.2	46	38.6	AV	N	GND
4.235500	7.10	20.5	46	38.9	AV	N	GND
9.275500	10.60	20.6	50	39.4	AV	N	GND
15.598000	9.70	20.7	50	40.3	AV	N	GND

CONDUCTED EMISSION TEST DATA

Test Site:	1# Shielded Room
Operating Condition:	ON
Test Specification:	AC 240V, 60Hz for adapter
Comment:	Live Line
	Tem.:25℃ Hum.:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



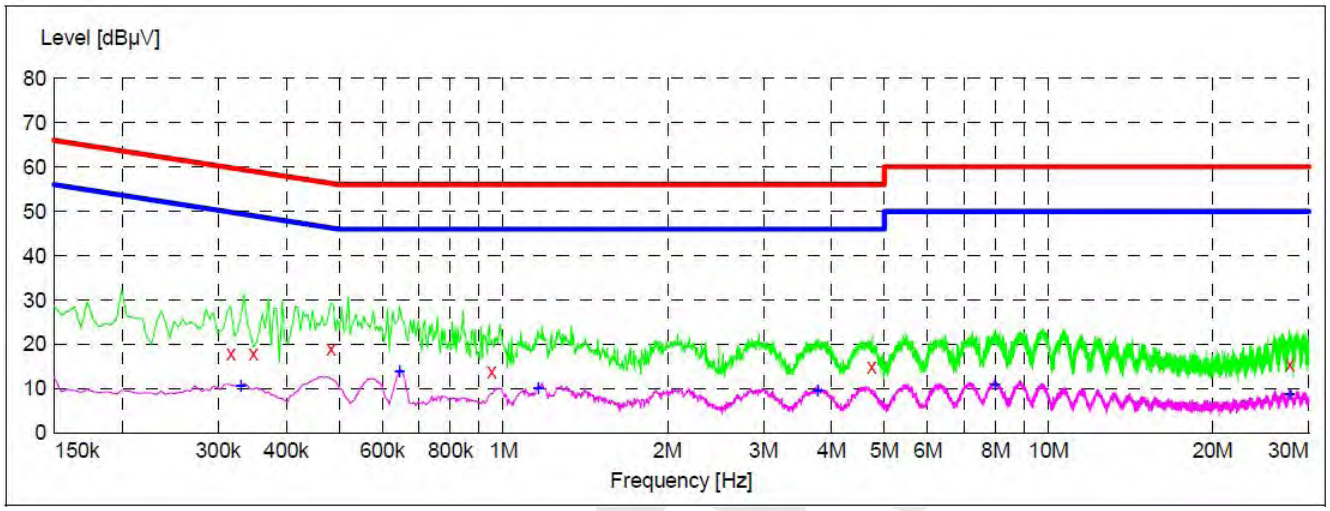
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.343500	18.70	20.1	59	40.4	QP	L1	GND
0.595500	19.30	20.1	56	36.7	QP	L1	GND
0.775500	16.30	20.1	56	39.7	QP	L1	GND
0.946500	15.50	20.1	56	40.5	QP	L1	GND
1.342000	15.50	20.2	56	40.5	QP	L1	GND
2.102500	16.60	20.3	56	39.4	QP	L1	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.321000	10.20	20.1	50	39.5	AV	L1	GND
0.649500	13.80	20.1	46	32.2	AV	L1	GND
1.180000	10.30	20.2	46	35.7	AV	L1	GND
4.681000	9.90	20.5	46	36.1	AV	L1	GND
8.884000	13.80	20.6	50	36.2	AV	L1	GND
28.409500	11.50	20.9	50	38.5	AV	L1	GND

CONDUCTED EMISSION TEST DATA

Test Site:	1# Shielded Room
Operating Condition:	ON
Test Specification:	AC 240V, 60Hz for adapter
Comment:	Neutral Line
	Tem.:25℃ Hum.:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages

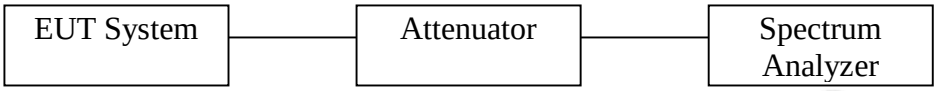


Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.316500	18.10	20.1	60	41.7	QP	N	GND
0.348000	17.80	20.1	59	41.2	QP	N	GND
0.483000	19.10	20.1	56	37.2	QP	N	GND
0.951000	13.90	20.2	56	42.1	QP	N	GND
4.739500	15.10	20.5	56	40.9	QP	N	GND
27.680500	15.50	20.9	60	44.5	QP	N	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.330000	10.80	20.1	50	38.7	AV	N	GND
0.645000	14.00	20.1	46	32.0	AV	N	GND
1.157500	10.10	20.2	46	35.9	AV	N	GND
3.772000	9.60	20.4	46	36.4	AV	N	GND
7.979500	11.00	20.5	50	39.0	AV	N	GND
27.676000	8.70	20.9	50	41.3	AV	N	GND

4. FCC Part 15.247 Requirements for DSSS & OFDM Modulation

4.1 Test Setup



4.2 6dB Bandwidth

a. Limit

For the direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

b.Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:
   RBW = 100kHz, VBW≥3*RBW =300kHz,
   Detector= Peak
   Trace mode= Max hold.
   Sweep- auto couple.
4. Mark the peak frequency and –6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

20dB Bandwidth:
C63.10
Occupied Bandwidth (OBW=20dB Bandwidth

1. Set RBW=1%~5% OBW
2. Set the VBW≥3*RBW
3. Set the span range between 2 times and 5 times of the OBW
4. Sweep Time= Auto
   Detector= Peak
   Trace= Max hold
5. Once the reference level is established, the equipment is conditioned with typical modulating signals to produce the worst case (i.e. the widest) bandwidth. Unless otherwise specified for an unlicensed wireless device, measure the bandwidth at the -20dB levels with respect to the reference level.

c. Test Setup See 4.1

d. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Apr. 17, 2015	1 Year
2.	Preamplifier	Instruments corporation	EMC011830	980100	Apr. 17, 2015	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 17, 2015	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 20, 2015	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 20, 2015	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Apr. 17, 2015	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
8	Power Sensor	DAER	RPR3006W	15I00041SN046	Jun 30, 2015	1 Year
9	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Jun 30, 2015	1 Year
10	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Jun 30, 2015	1 Year
11	Signal Generator	Agilent	E4421B	MY41000743	Jun 30, 2015	1 Year
12	DC Power supply	IV	IV-8080	YQSB0096	Jun 30, 2015	1 Year
13	TEMP&HUMI PROGRAMMABLE CHAMBER	Bell Group	BE-THK-150M8	SE-0137	Mar 16, 2015	1 Year

e. Test Results

Pass.

f. Test Data
6dB Bandwidth

External Antenna
Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	10.08		Pass
Mid	2437	10.10	>500	Pass
High	2462	10.09		Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	16.32		Pass
Mid	2437	16.32	>500	Pass
High	2462	16.33		Pass

Test mode: IEEE 802.11n (HT20)

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	17.51		Pass
Mid	2437	17.55	>500	Pass
High	2462	17.51		Pass

Test Plots See the following page.

Onboard Antenna

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	10.10		Pass
Mid	2437	10.09	>500	Pass
High	2462	10.08		Pass

Test mode: IEEE 802.11g

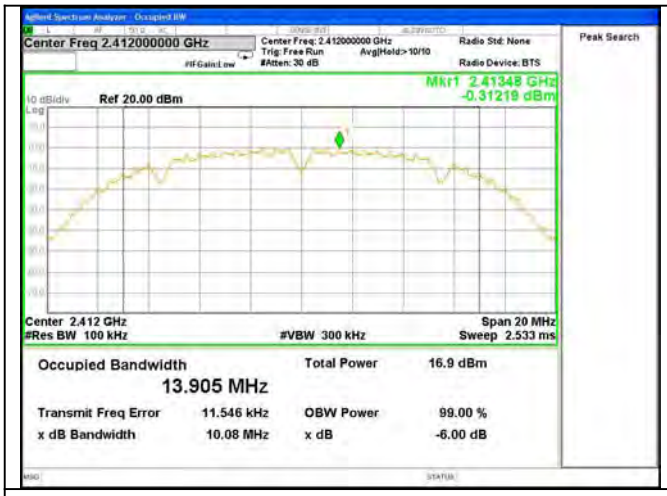
Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	16.33		Pass
Mid	2437	16.32	>500	Pass
High	2462	16.32		Pass

Test mode: IEEE 802.11n (HT20)

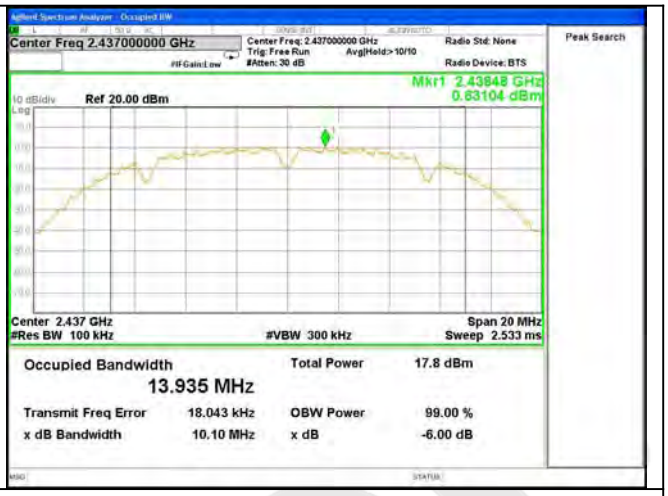
Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	17.29		Pass
Mid	2437	17.28	>500	Pass
High	2462	17.29		Pass

Test Plots See the following page.

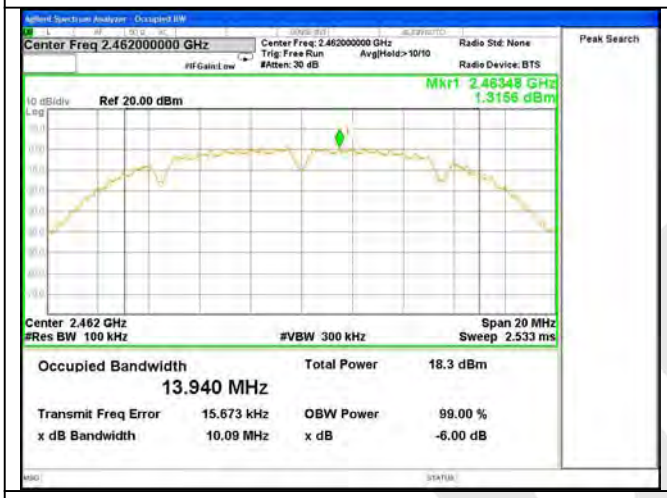
External Antenna



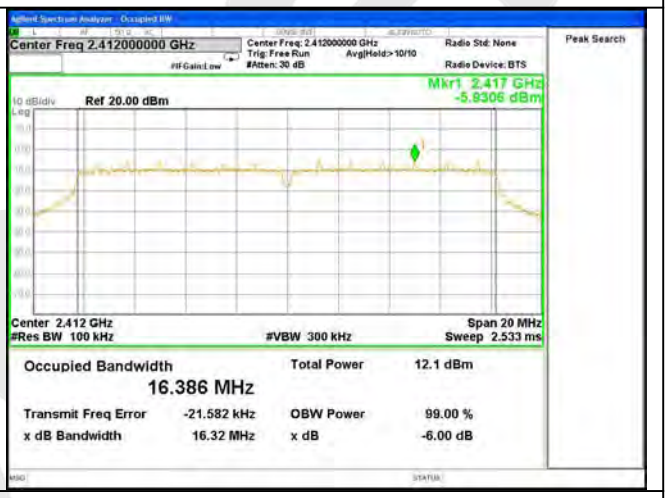
Test Mode: 802.11b---Low



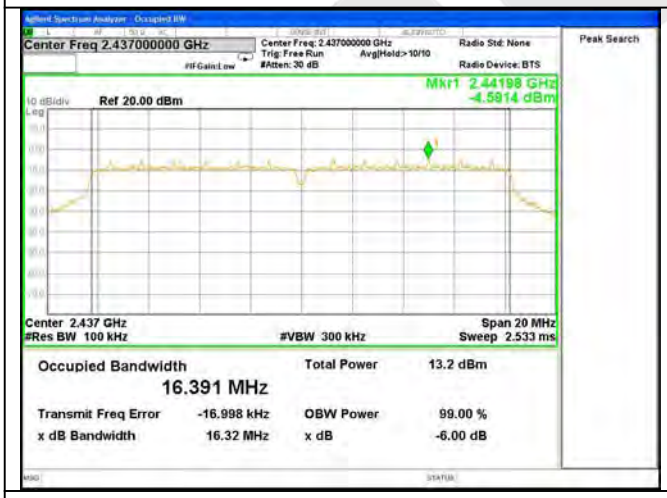
Test Mode: 802.11b---Mid



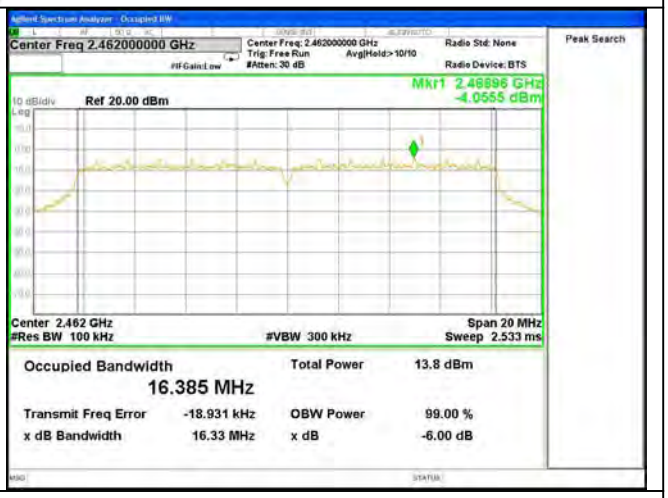
Test Mode: 802.11b---High



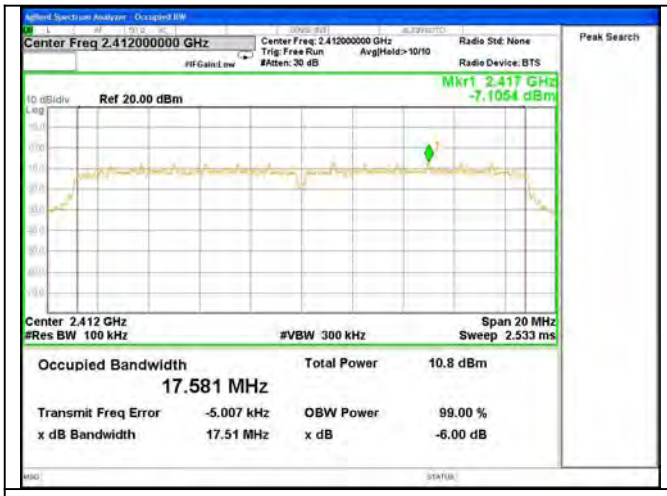
Test Mode: 802.11g---Low



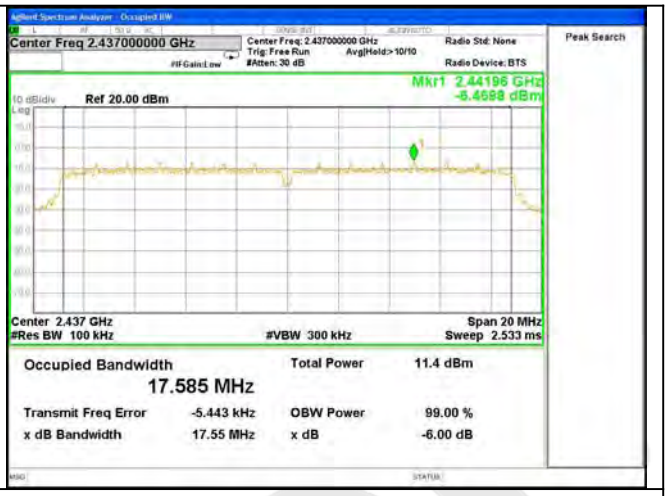
Test Mode: 802.11g---Mid



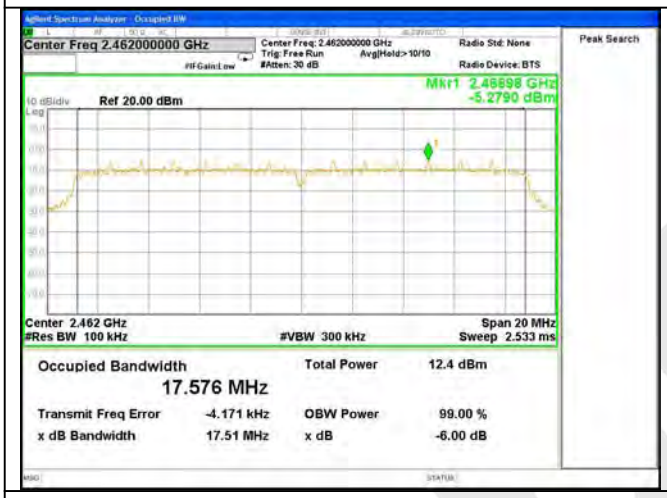
Test Mode: 802.11g---High



Test Mode: 802.11n20---Low



Test Mode: 802.11n20---Mid

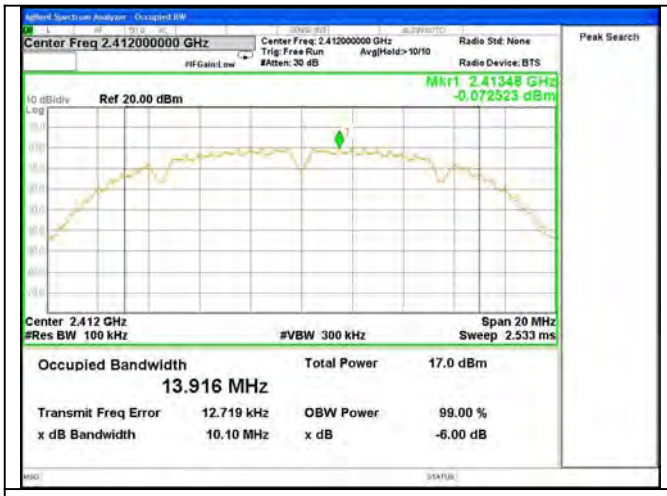


Test Mode: 802.11n20---High

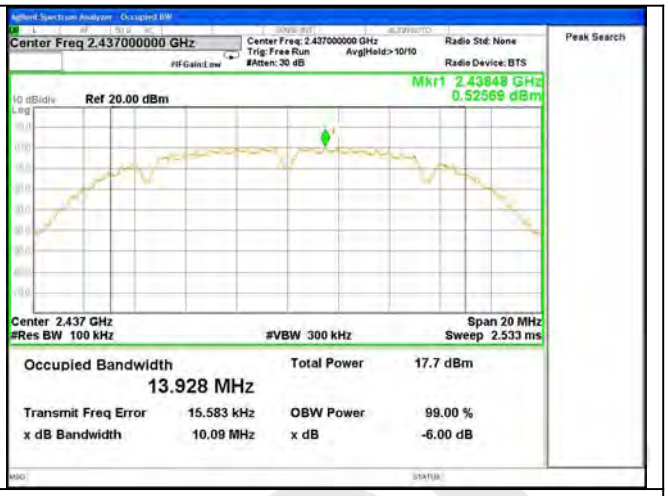
/

/

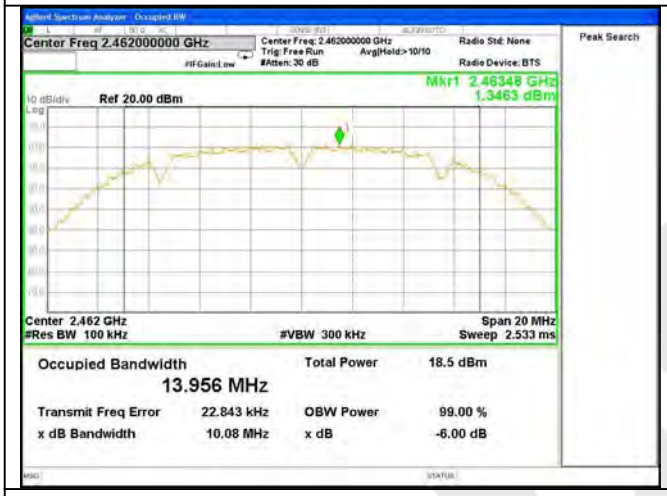
Onboard Antenna



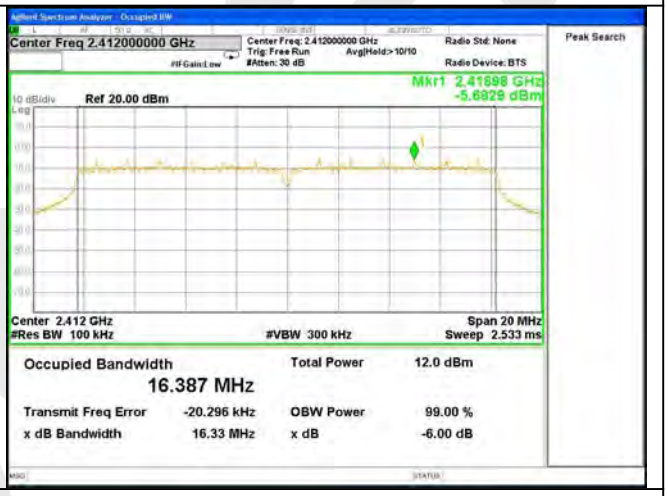
Test Mode: 802.11b---Low



Test Mode: 802.11b---Mid



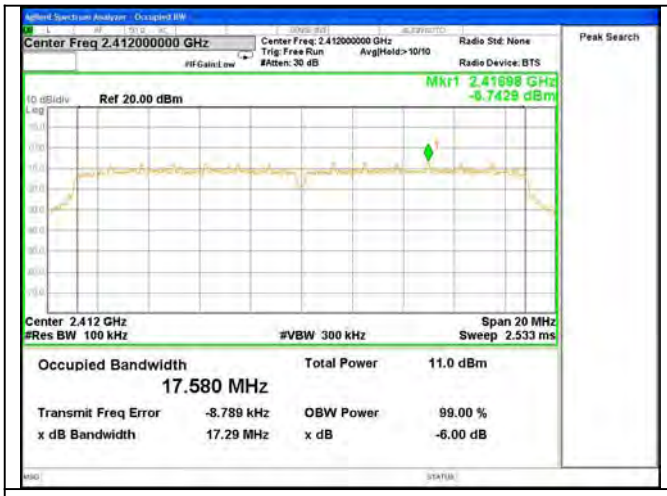
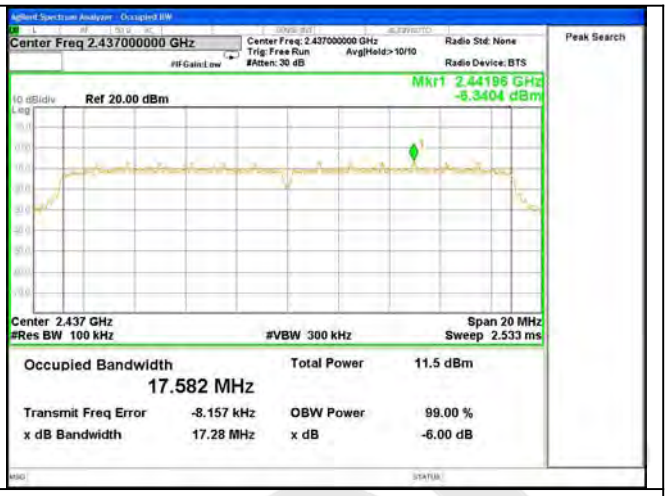
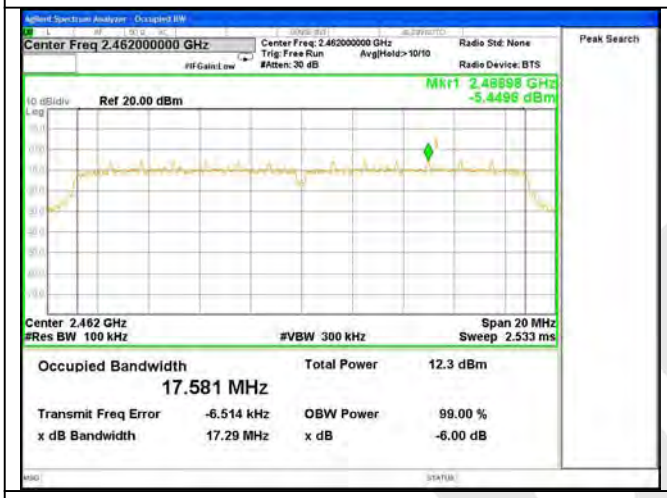
Test Mode: 802.11b---High



Test Mode: 802.11g---Low

Test Mode: 802.11g---Mid

Test Mode: 802.11g---High

	
Test Mode: 802.11n20---Low	Test Mode: 802.11n20---Mid
	/
Test Mode: 802.11n20---High	/

20dB Bandwidth

External Antenna
Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	16.24	Pass
Mid	2437	16.17	Pass
High	2462	16.17	Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	19.32	Pass
Mid	2437	19.46	Pass
High	2462	18.95	Pass

Test mode: IEEE 802.11n (HT20)

Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	20.36	Pass
Mid	2437	20.32	Pass
High	2462	20.34	Pass

Test Plots See the following page.

Onboard Antenna
Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	16.14	Pass
Mid	2437	16.16	Pass
High	2462	16.17	Pass

Test mode: IEEE 802.11g

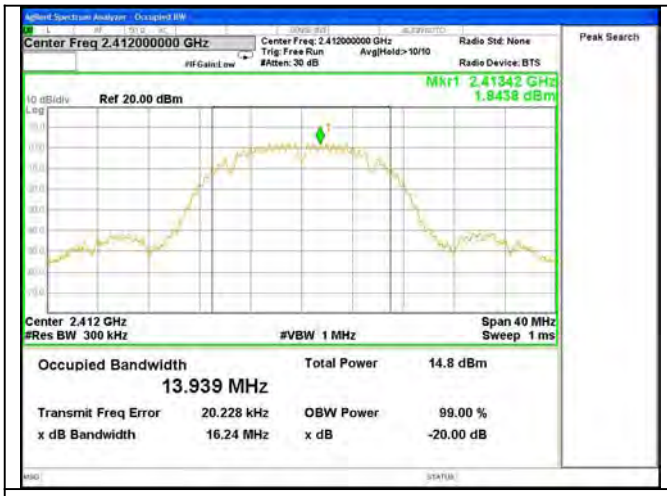
Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	19.07	Pass
Mid	2437	19.00	Pass
High	2462	19.40	Pass

Test mode: IEEE 802.11n (HT20)

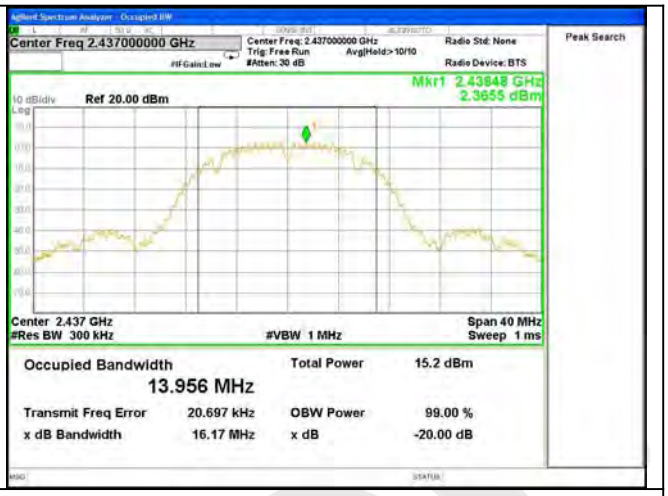
Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	20.39	Pass
Mid	2437	20.41	Pass
High	2462	20.46	Pass

Test Plots See the following page.

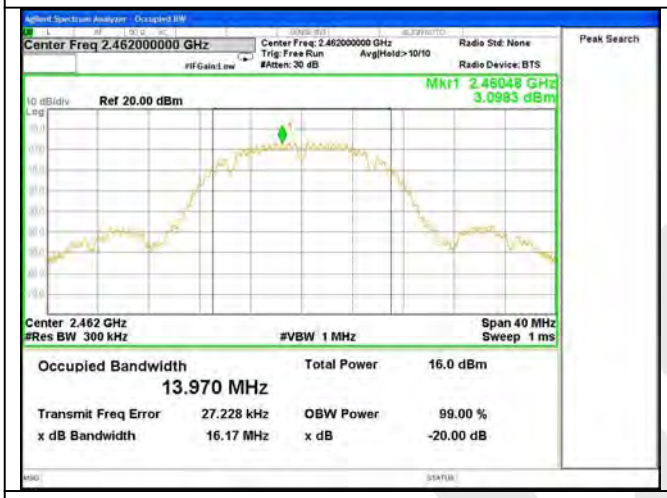
External Antenna



Test Mode: 802.11b---Low

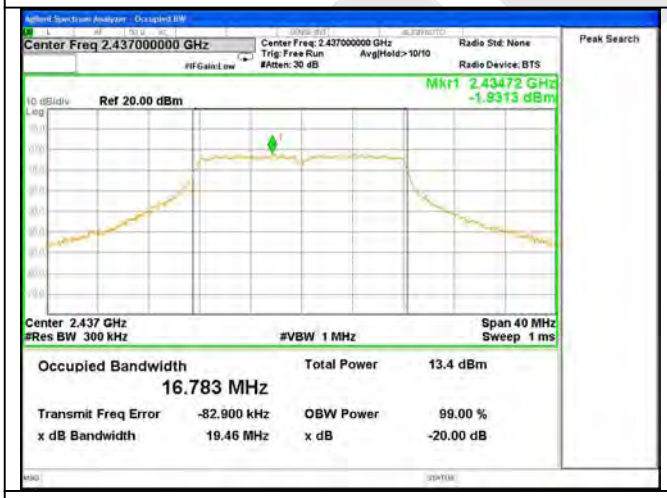


Test Mode: 802.11b---Mid

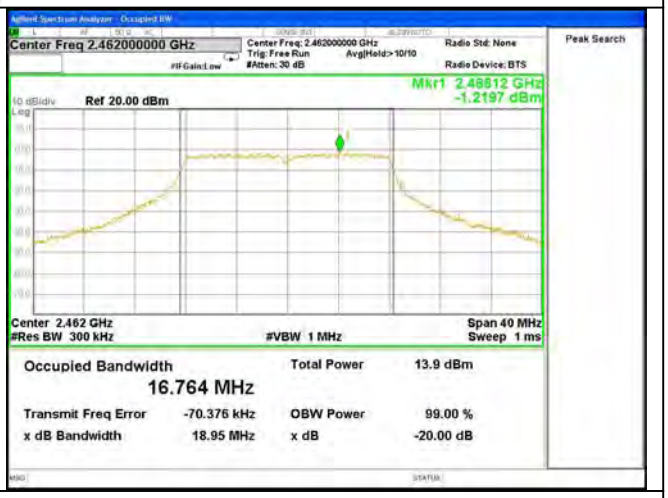


Test Mode: 802.11b---High

Test Mode: 802.11g---Low

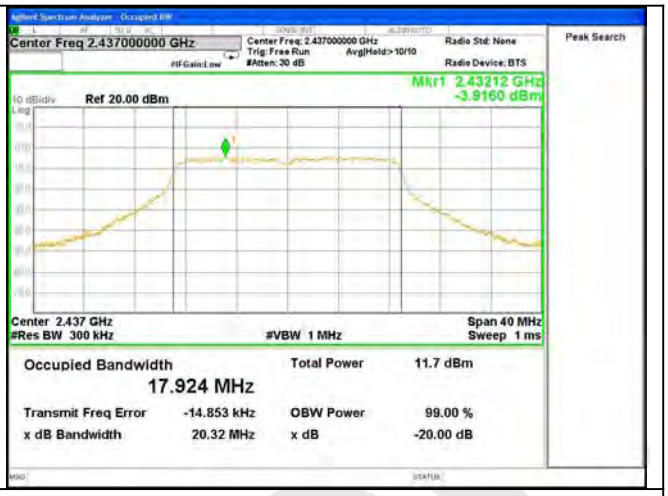


Test Mode: 802.11g---Mid

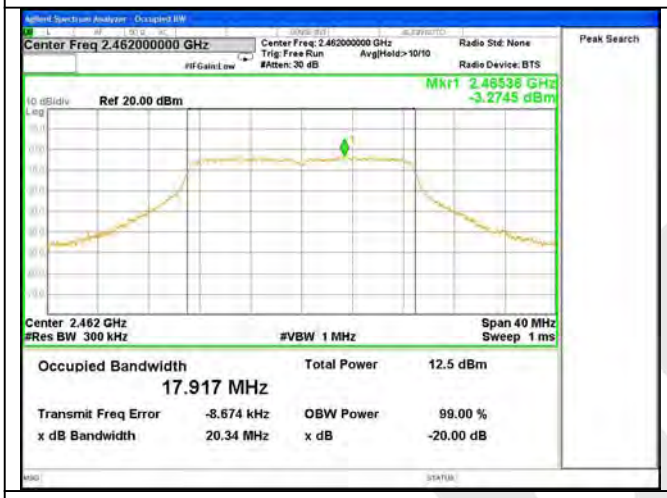


Test Mode: 802.11g---High

Test Mode: 802.11n20---Low



Test Mode: 802.11n20---Mid

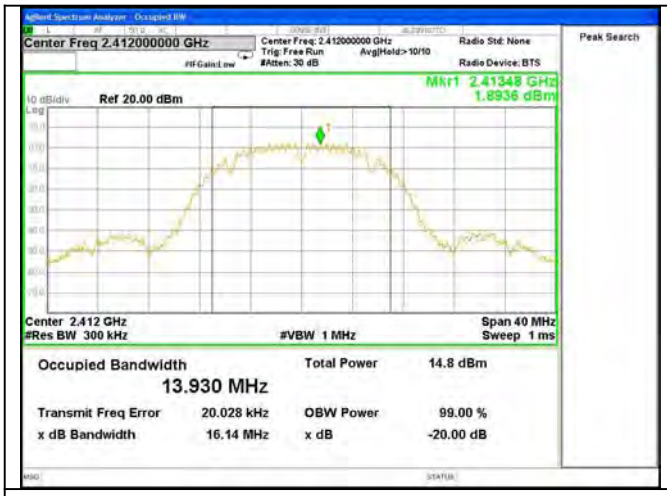


Test Mode: 802.11n20---High

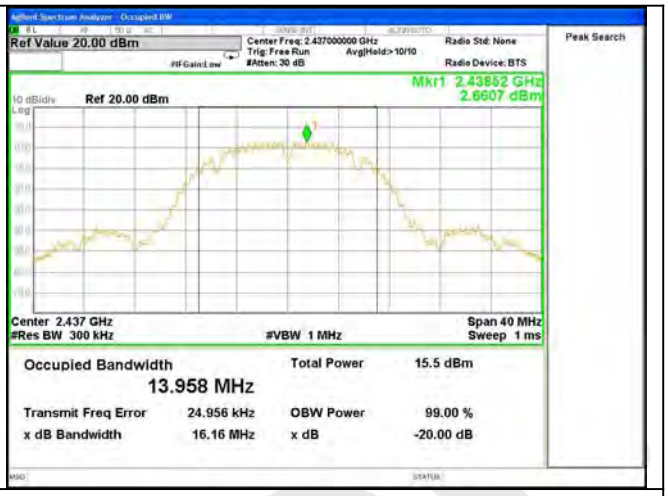
/

/

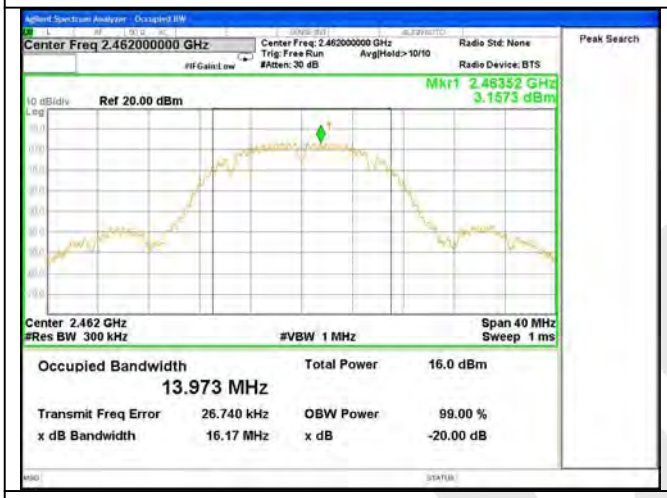
Onboard Antenna



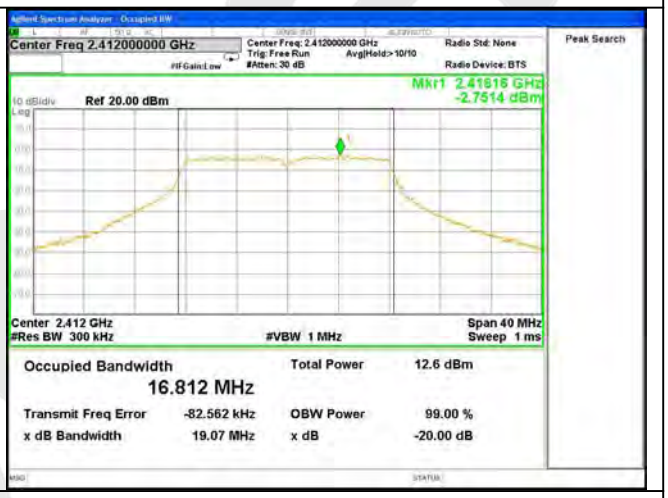
Test Mode: 802.11b---Low



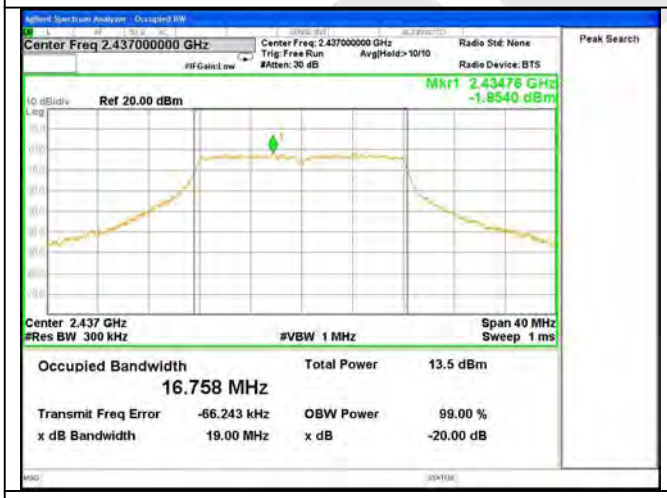
Test Mode: 802.11b---Mid



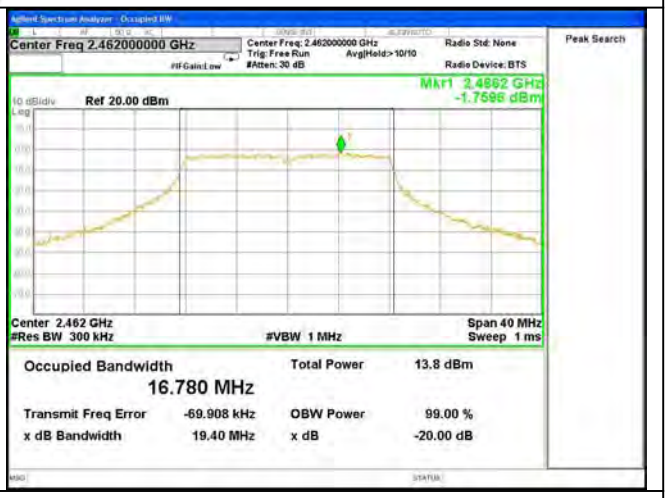
Test Mode: 802.11b---High



Test Mode: 802.11g---Low

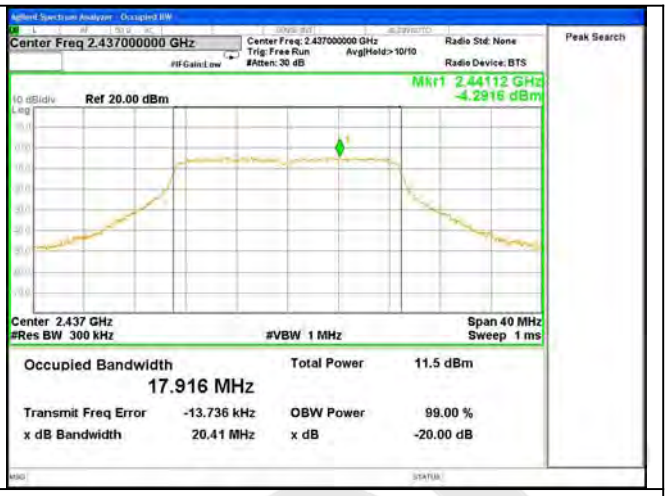


Test Mode: 802.11g---Mid

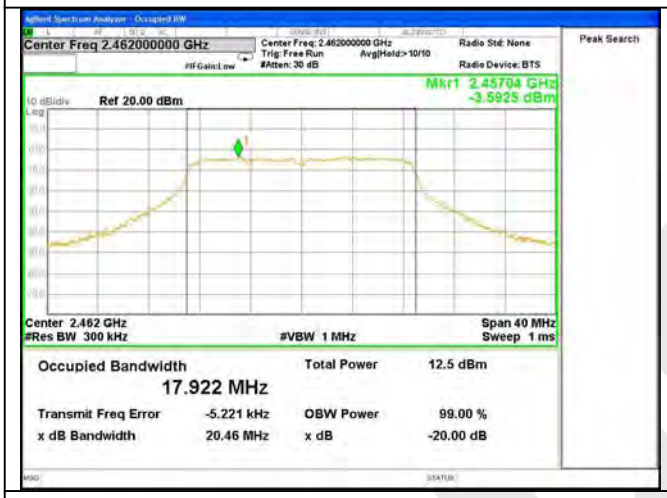


Test Mode: 802.11g---High

Test Mode: 802.11n20---Low



Test Mode: 802.11n20---Mid



Test Mode: 802.11n20---High

/

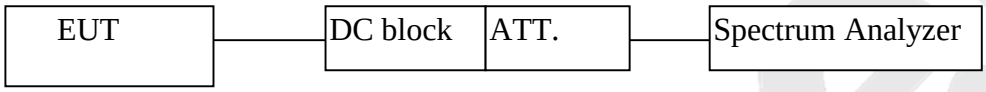
/

4.3. Maximum Output Power Test

a. Limit

The maximum output power of the intentional radiator shall not exceed the following:
1. For systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 watt (30dBm).
2. Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antenna of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

b. Configuration of Measurement



c. Data Rates

IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 1 Mbps data rate (worst case) are chosen for the final testing.
IEEE802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6 Mbps data rate (the worst case) are chosen for the final testing.
IEEE802.11n (HT20: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6.5Mbps data rate (the worst case) are chosen for the final testing.
IEEE802.11n (HT40: Channel 3(2422MHz), Channel 6(2437MHz) and Channel 9(2452MHz) with 13.5Mbps data rate (the worst case) are chosen for the final testing.

d. Test Procedure

This test was according the kDB 558074 9.2.2:
1. Set span to at least 1.5 times the OBW.
2. Set the RBW =1~5% of the OBW, not to exceed 1MHz.
3. Set VBW≥3*RBW.
4. Detector = Average.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.

e. Test Equipment

Same as the equipment listed in 4.2.

f. Test Results

Pass.

g. Test Data

External Antenna Gain= 2.0 dBi
Onboard Antenna Gain= 0.5 dBi
Array Gain= 4.32 dBi= 10*log((10^(2/10)+(10^(0.5/10)))

External Antenna
Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	14.90	30	1	Pass
Mid	2437	15.45			Pass
High	2462	16.30			Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	12.58	30	1	Pass
Mid	2437	13.27			Pass
High	2462	13.96			Pass

Test mode: IEEE 802.11n (HT20)

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	11.09	30	1	Pass
Mid	2437	11.63			Pass
High	2462	12.33			Pass

Onboard Antenna

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	14.80	30	1	Pass
Mid	2437	15.35			Pass
High	2462	16.10			Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	12.66	30	1	Pass
Mid	2437	13.19			Pass
High	2462	13.89			Pass

Test mode: IEEE 802.11n (HT20)

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	11.10	30	1	Pass
Mid	2437	11.60			Pass
High	2462	12.37			Pass

Channel	**Channel Frequency (MHz)**	**External Antenna Output Power (dBm)**	**Onboard Antenna Output Power (dBm)**	**Data Rate (Mbps)**	**MIMO Output Power (dBm)**	**Limit (dBm)**
802.11n (20M MIMO) mode						
Low	2412	11.09	11.10	MCS0	14.11	30
Middle	2437	11.63	11.60	MCS0	14.63	30
High	2462	12.33	12.37	MCS0	15.36	30

External Antenna

Test Mode: 802.11b---Low

Test Mode: 802.11b---Mid

Test Mode: 802.11b---High

Test Mode: 802.11g---Low

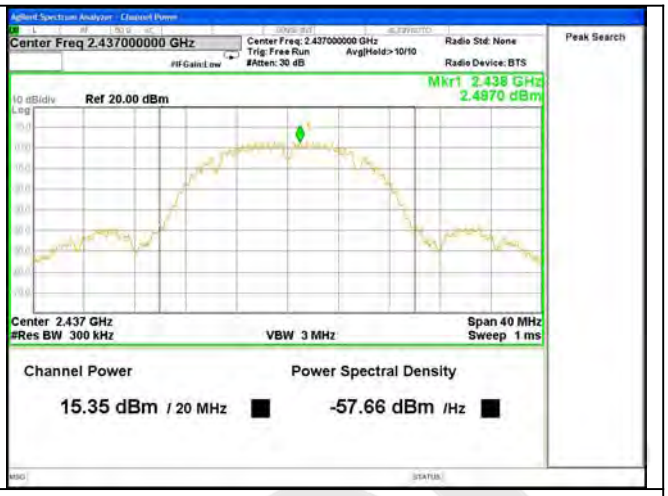
Test Mode: 802.11g---Mid

Test Mode: 802.11g---High

	
Test Mode: 802.11n20---Low	Test Mode: 802.11n20---Mid
	/
Test Mode: 802.11n20---High	/

Onboard Antenna

Test Mode: 802.11b---Low



Test Mode: 802.11b---Mid

Test Mode: 802.11b---High

Test Mode: 802.11g---Low

Test Mode: 802.11g---Mid

Test Mode: 802.11g---High

	
Test Mode: 802.11n20---Low	Test Mode: 802.11n20---Mid
	/
Test Mode: 802.11n20---High	/

4.4. Band Edges Measurement

a. Limit

According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in15.209(a).

b. Test Procedure

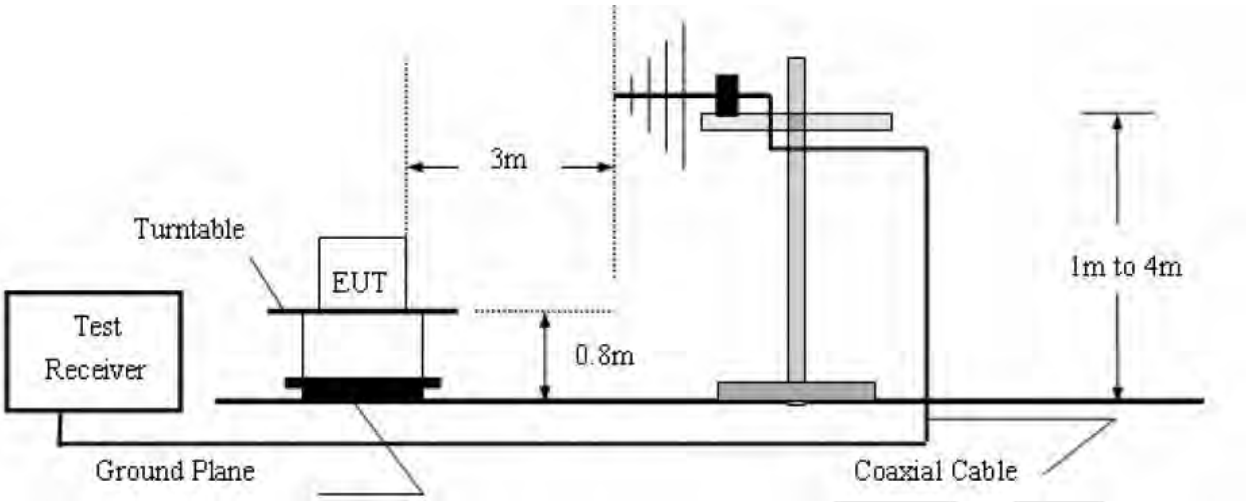
1. Conducted Method:

1) Set RBW=100KHz, VBW=300KHz
2) Detector=peak
3) Sweep time= auto
4) Trace mode=max hold.

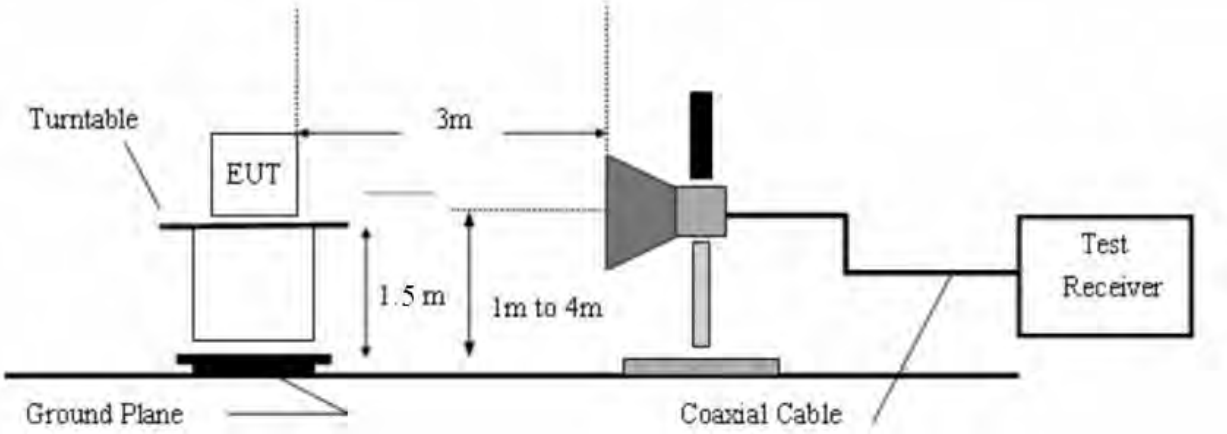
2. Radiated Method:

1) For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane. The EUT is tested in 9*6*6 Chamber.
   For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane. The EUT is tested in 9*6*6 Chamber.
2) The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3) EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4) Peak detector: RBW=1MHz, VBW=3MHz, SWT=AUTO
   Average detector: RBW=1MHz, VBW=10Hz, SWT=AUTO
   The EUT is tested in 9*6*6 Chamber.
5) Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

30M to 1G emissions:



1G to 40G emissions:



c. Test Equipment

Same as the equipment listed in 4.2.

d. Test Results

Pass.

e. Test Plots

See the following page.

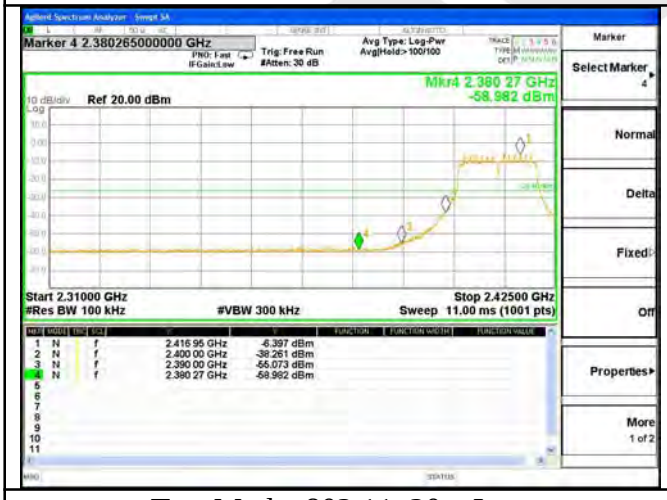
External Antenna

Test Mode: 802.11b---Low

Test Mode: 802.11b---High

Test Mode: 802.11g---Low

Test Mode: 802.11g---High



Test Mode: 802.11n20---Low

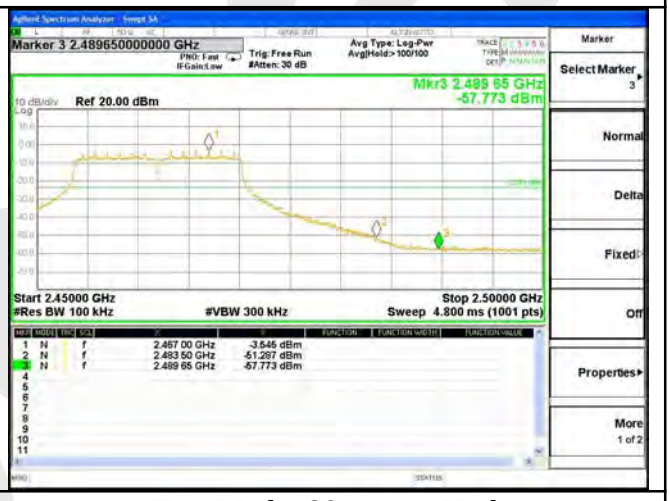
Test Mode: 802.11n20---High

Onboard Antenna

Test Mode: 802.11b---Low

Test Mode: 802.11b---High

Test Mode: 802.11g---Low



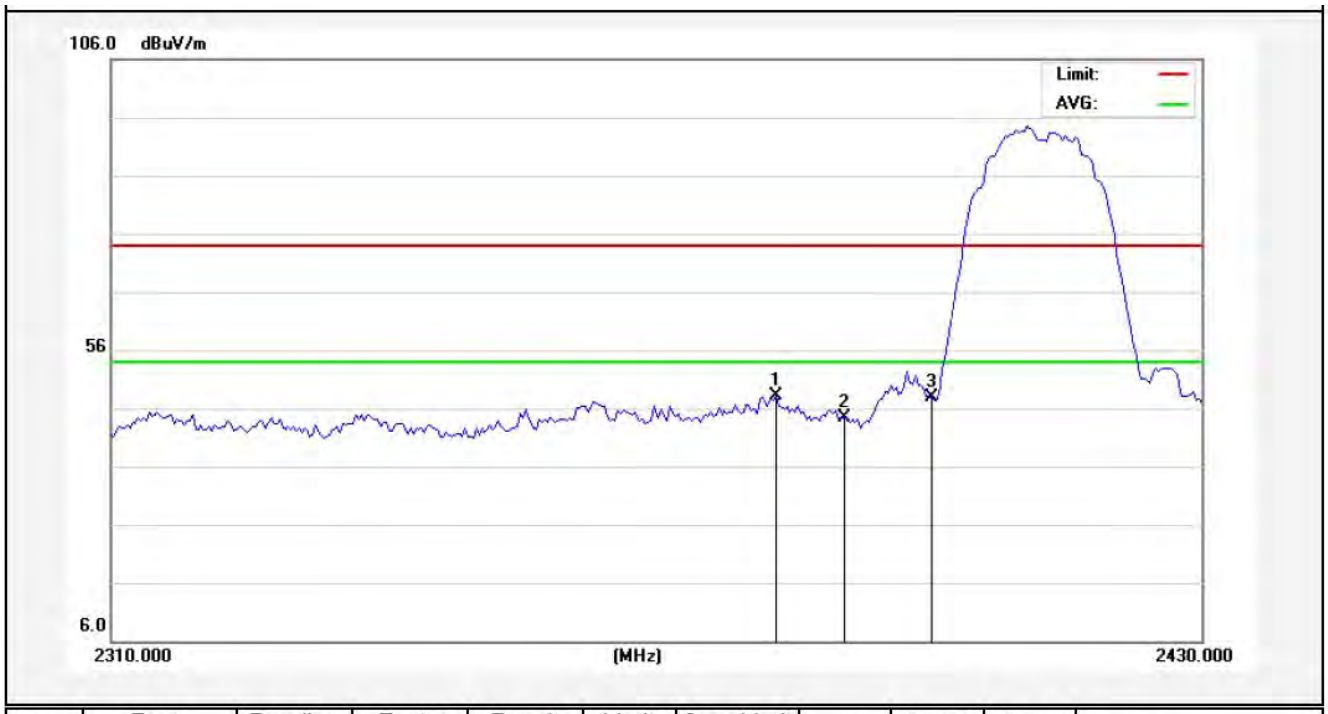
Test Mode: 802.11g---High

Test Mode: 802.11n20---Low

Test Mode: 802.11n20---High

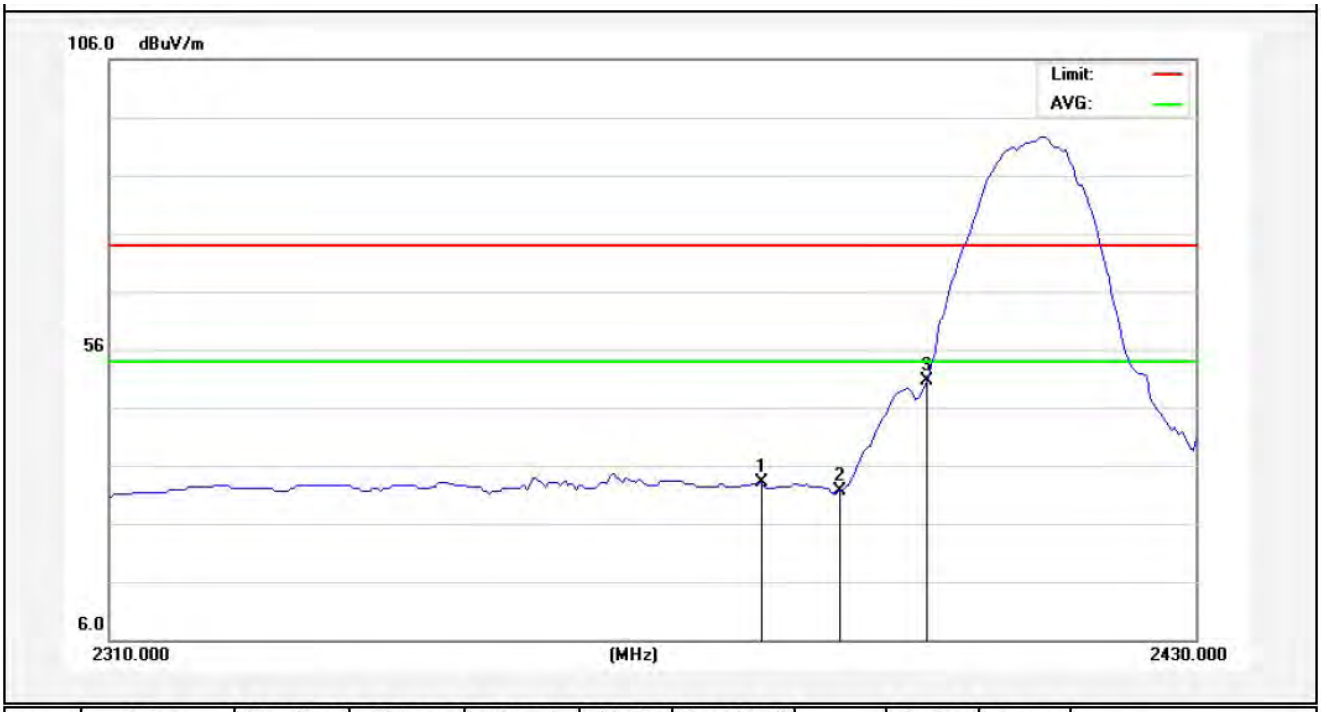
External Antenna

Test Mode: 802.11b
2412MHz
Horizontal-PEAK:



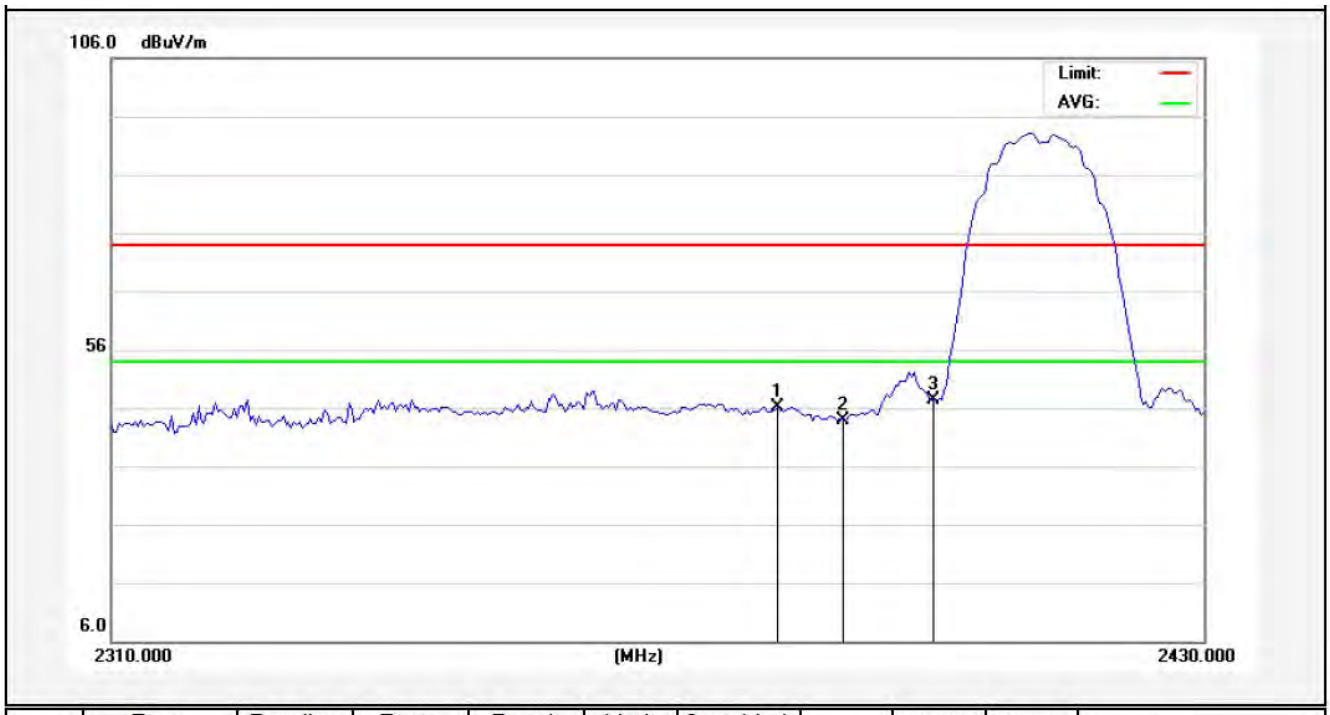
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2382.600	50.69	-2.53	48.16	74.00	-25.84	peak			
2	2390.000	46.95	-2.51	44.44	74.00	-29.56	peak			
3	2400.000	50.32	-2.49	47.83	74.00	-26.17	peak			

Horizontal-AV:



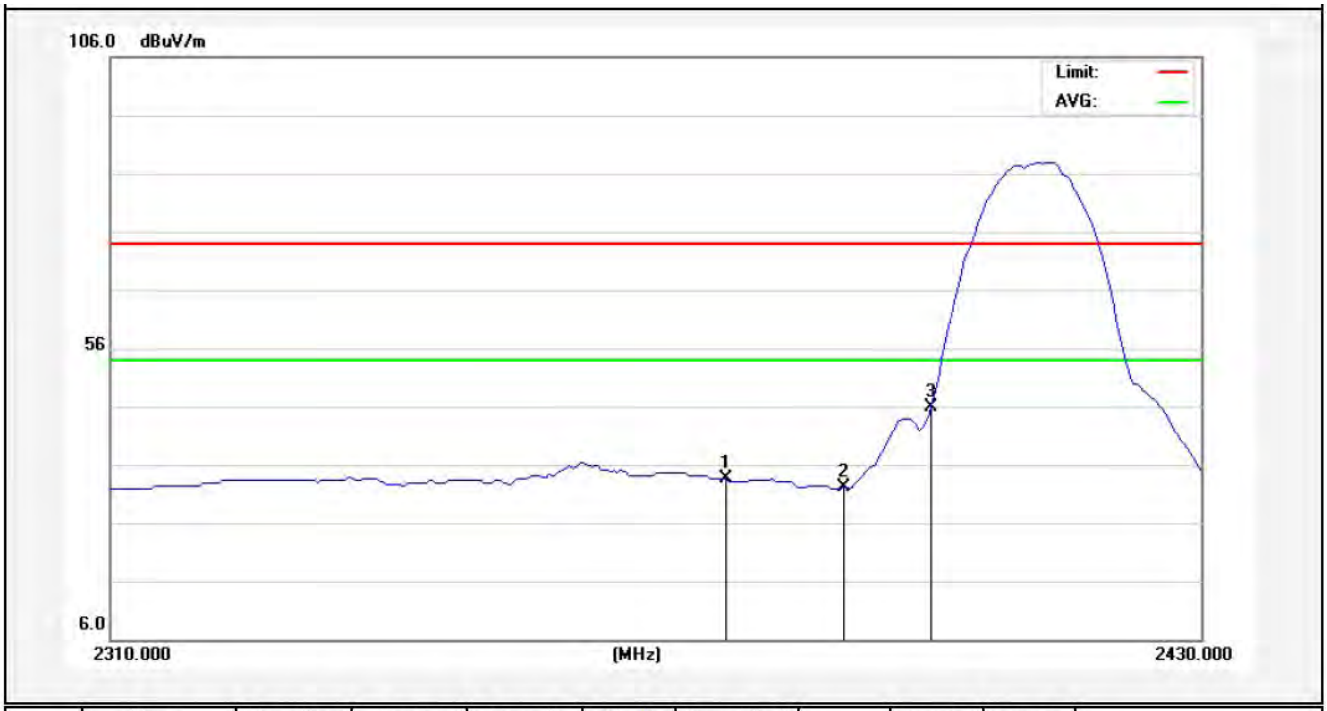
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2381.400	35.55	-2.53	33.02	54.00	-20.98	AVG			
2	2390.000	34.07	-2.51	31.56	54.00	-22.44	AVG			
3	2400.000	53.05	-2.49	50.56	54.00	-3.44	AVG			

Test Mode: 802.11b
2412MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2382.600	48.65	-2.53	46.12	74.00	-27.88	peak			
2	2390.000	46.39	-2.51	43.88	74.00	-30.12	peak			
3	2400.000	49.90	-2.49	47.41	74.00	-26.59	peak			

Vertical-AV:

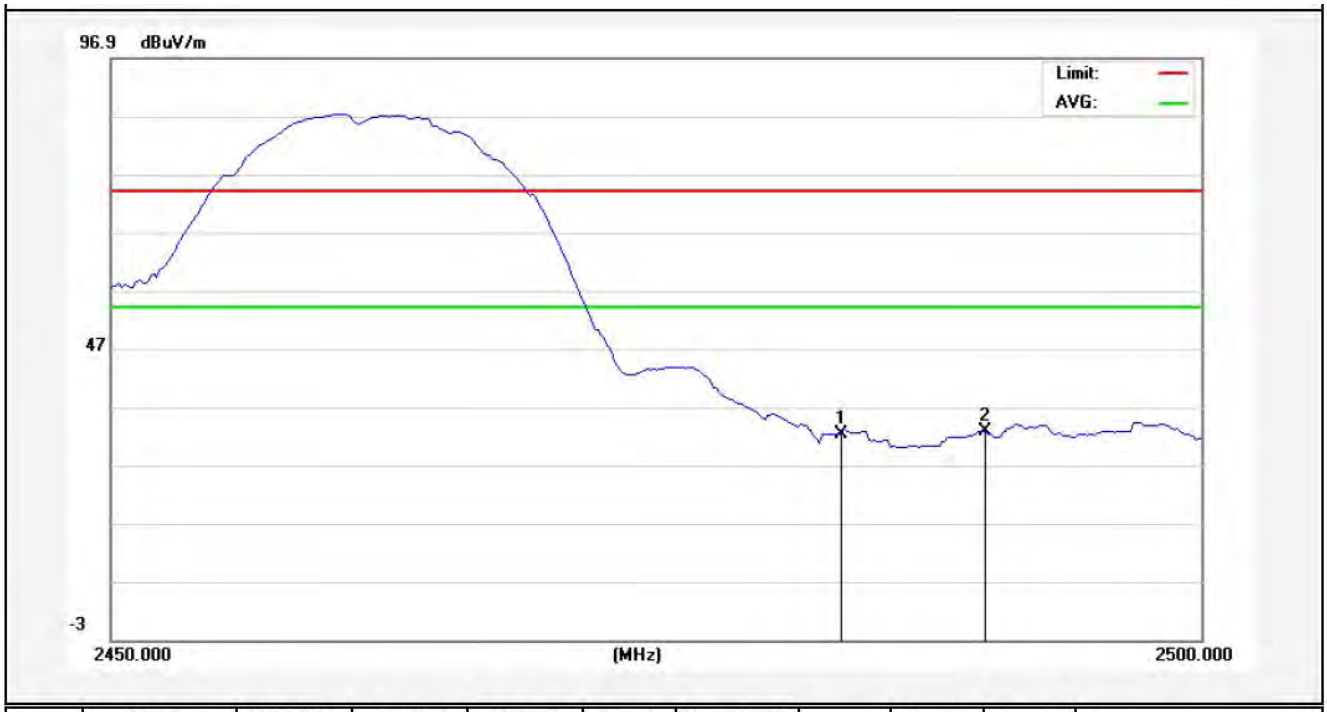


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2377.200	36.16	-2.54	33.62	54.00	-20.38	AVG			
2	2390.000	34.53	-2.51	32.02	54.00	-21.98	AVG			
3	2400.000	48.25	-2.49	45.76	54.00	-8.24	AVG			

Test Mode: 802.11b
2462MHz
Horizontal-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	47.35	-2.31	45.04	74.00	-28.96	peak			
2	2489.500	53.03	-2.29	50.74	74.00	-23.26	peak			

Horizontal-AV:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	34.58	-2.31	32.27	54.00	-21.73	AVG			
2	2490.125	35.11	-2.29	32.82	54.00	-21.18	AVG			

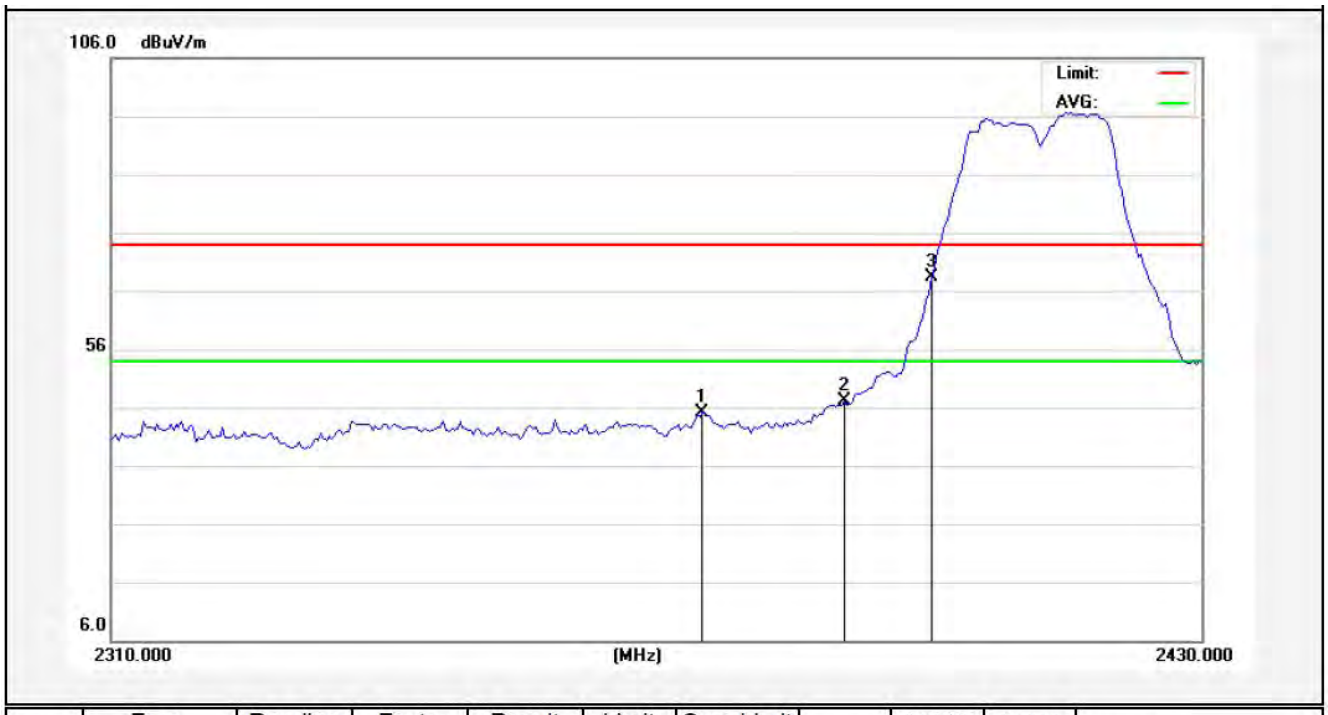
Test Mode: 802.11b
2462MHz
Vertical-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	48.27	-2.31	45.96	74.00	-28.04	peak			
2	2489.125	49.80	-2.29	47.51	74.00	-26.49	peak			

Vertical-AV:

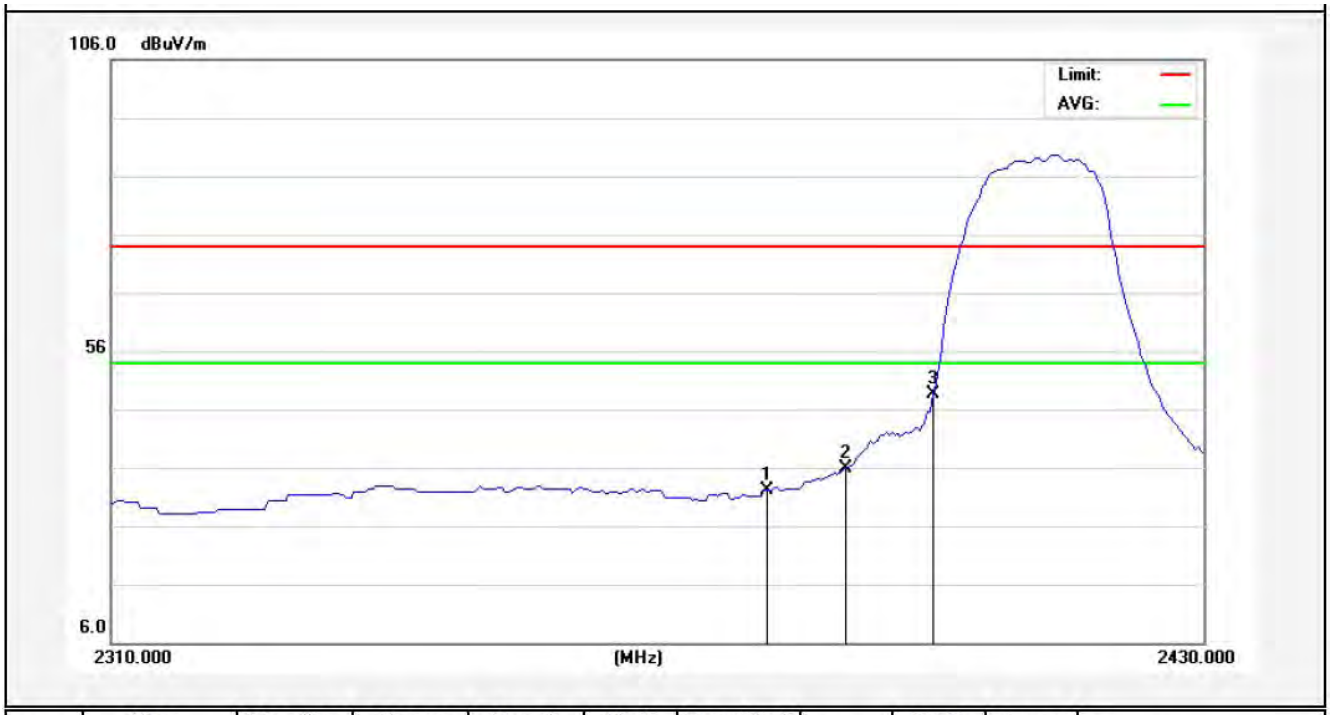
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.77	-2.31	30.46	54.00	-23.54	AVG			
2	2488.125	33.60	-2.30	31.30	54.00	-22.70	AVG			

Test Mode: 802.11g
2412MHz
Horizontal-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2374.500	47.79	-2.55	45.24	74.00	-28.76	peak			
2	2390.000	49.53	-2.51	47.02	74.00	-26.98	peak			
3	2400.000	70.96	-2.49	68.47	74.00	-5.53	peak			

Horizontal-AV:

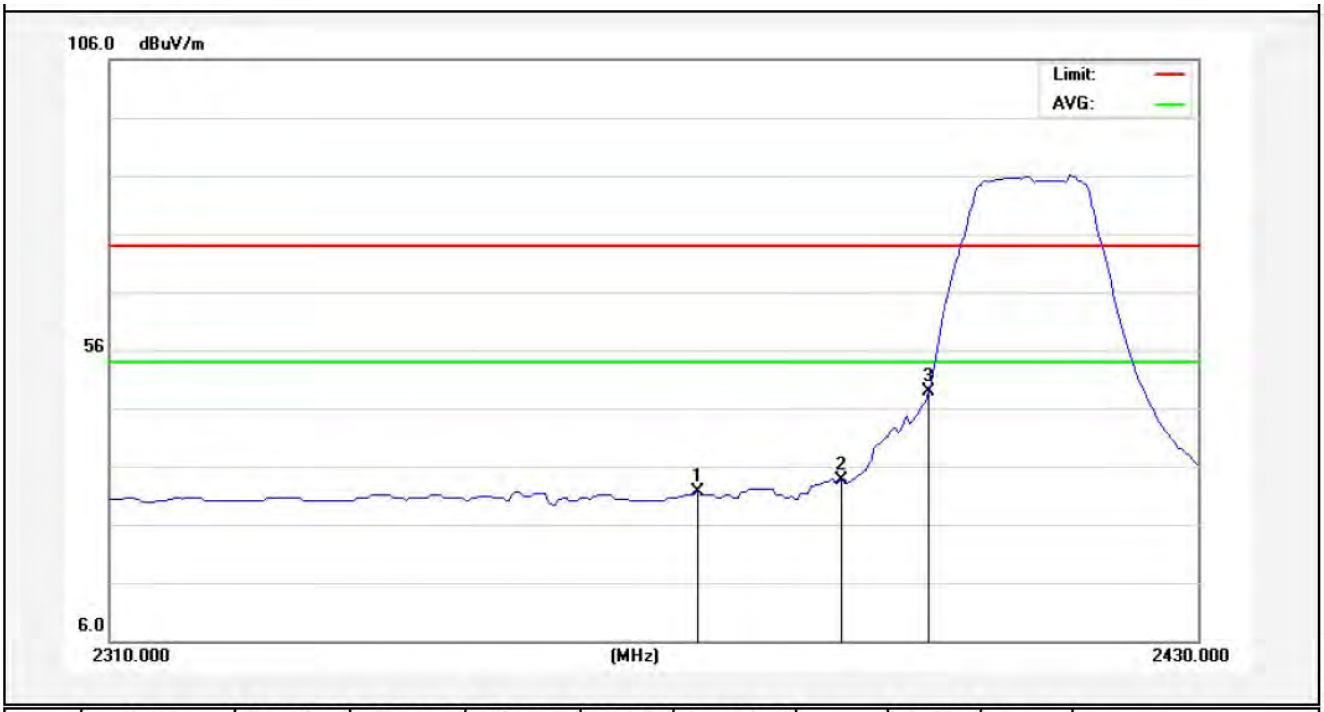


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2381.400	34.69	-2.53	32.16	54.00	-21.84	AVG			
2	2390.000	38.34	-2.51	35.83	54.00	-18.17	AVG			
3	2400.000	51.07	-2.49	48.58	54.00	-5.42	AVG			

Test Mode: 802.11g
2412MHz
Vertical-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2376.900	47.77	-2.54	45.23	74.00	-28.77	peak			
2	2390.000	48.03	-2.51	45.52	74.00	-28.48	peak			
3	2400.000	69.63	-2.49	67.14	74.00	-6.86	peak			

Vertical-AV:

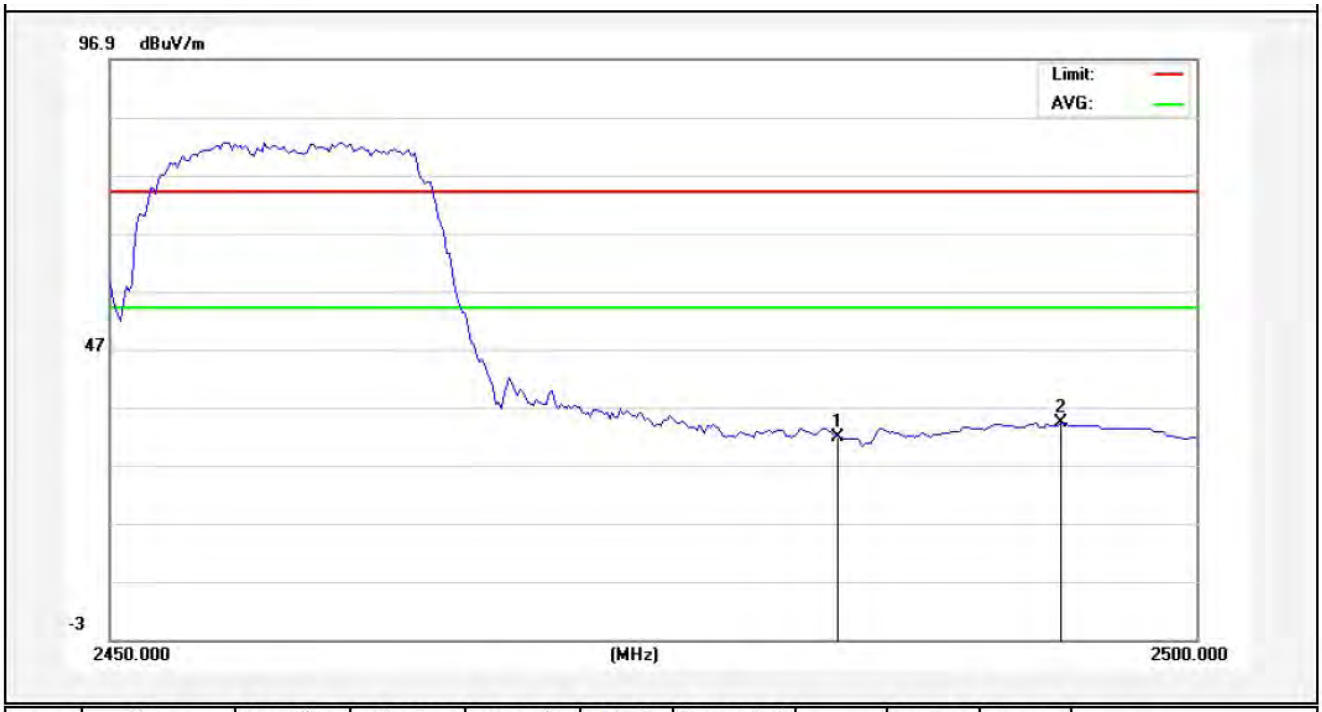


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2374.200	34.22	-2.55	31.67	54.00	-22.33	AVG			
2	2390.000	36.19	-2.51	33.68	54.00	-20.32	AVG			
3	2400.000	51.46	-2.49	48.97	54.00	-5.03	AVG			

Test Mode: 802.11g
2462MHz
Horizontal-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	46.33	-2.31	44.02	74.00	-29.98	peak			
2	2491.875	53.40	-2.29	51.11	74.00	-22.89	peak			

Horizontal-AV:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	34.21	-2.31	31.90	54.00	-22.10	AVG			
2	2493.750	36.50	-2.28	34.22	54.00	-19.78	AVG			

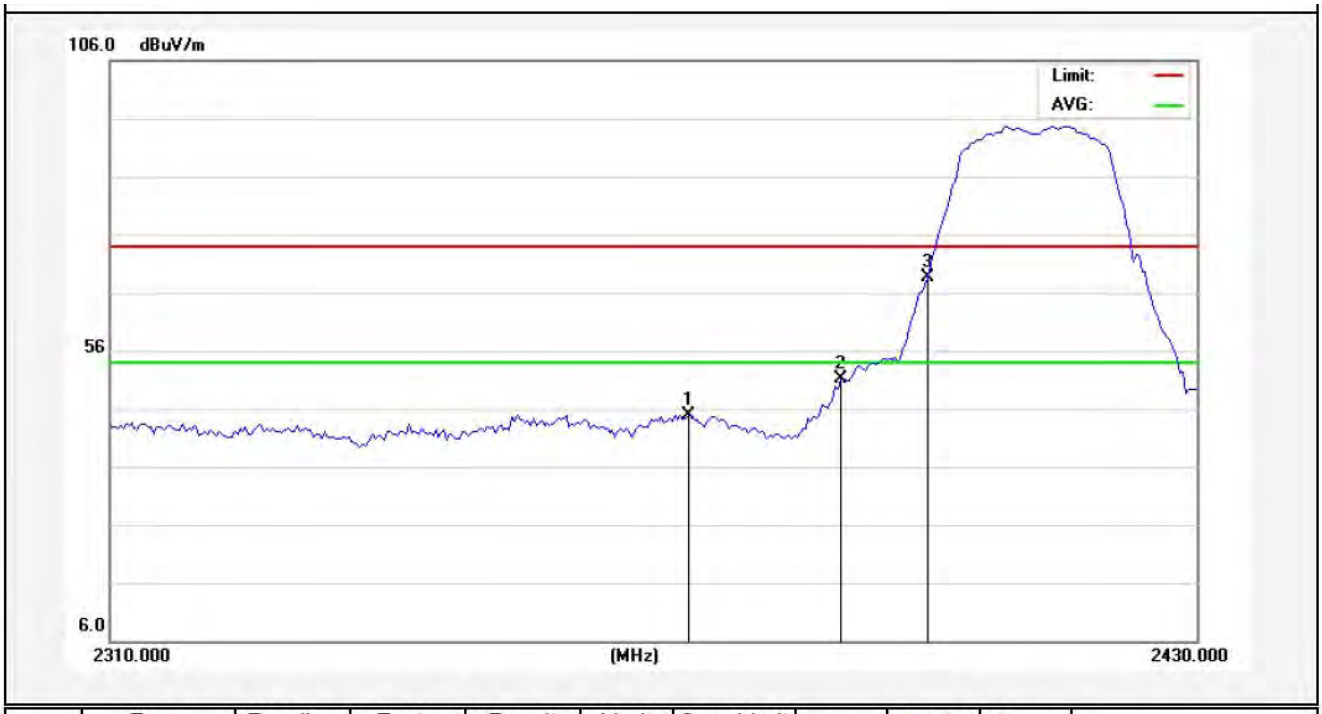
Test Mode: 802.11g
2462MHz
Vertical-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	51.63	-2.31	49.32	74.00	-24.68	peak			
2	2488.625	53.77	-2.30	51.47	74.00	-22.53	peak			

Vertical-AV:

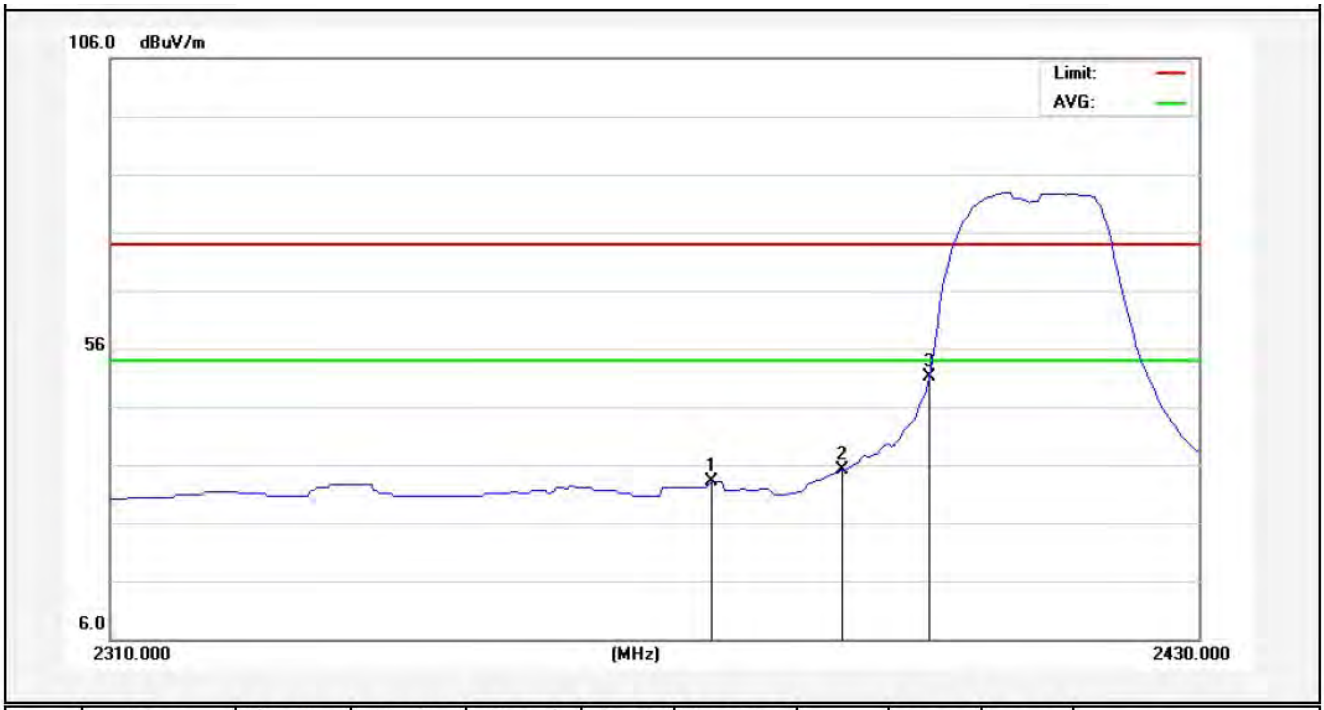
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	34.32	-2.31	32.01	54.00	-21.99	AVG			
2	2490.125	37.40	-2.29	35.11	54.00	-18.89	AVG			

Test Mode: 802.11n (HT20)
2412MHz
Horizontal-PEAK:



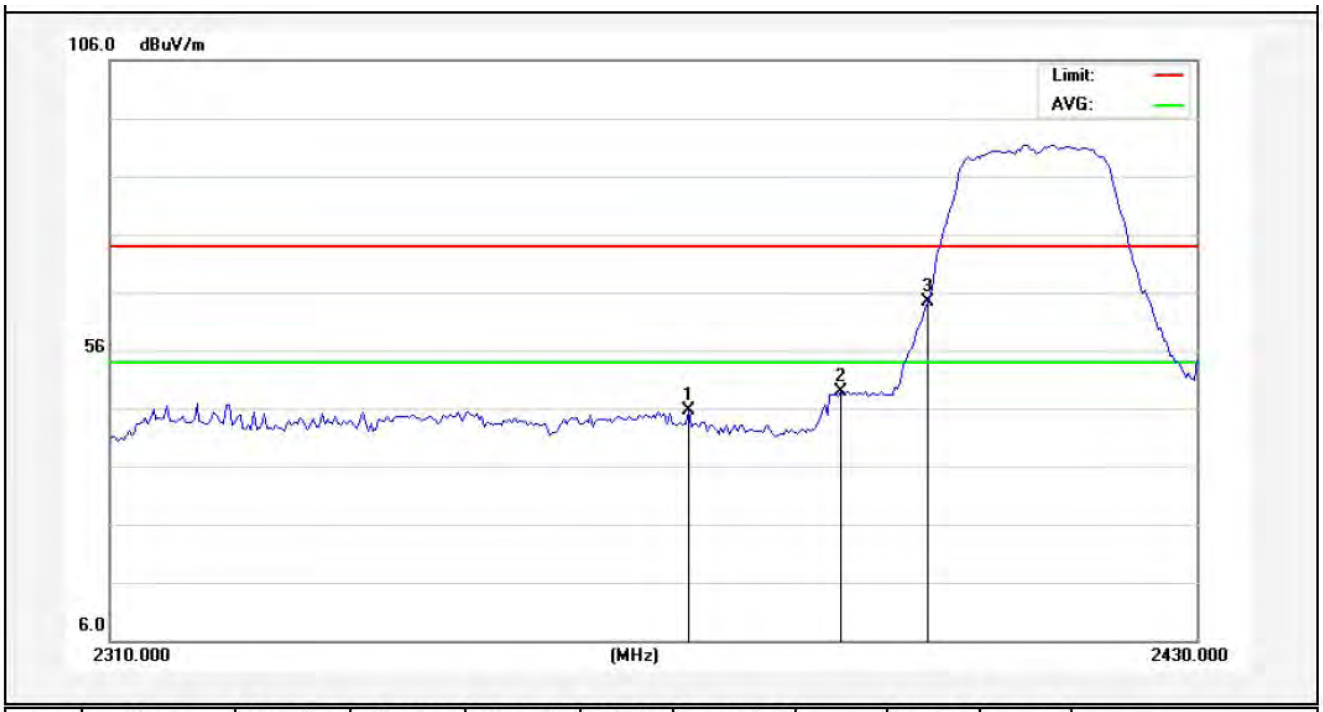
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2373.300	47.52	-2.55	44.97	74.00	-29.03	peak			
2	2390.000	53.59	-2.51	51.08	74.00	-22.92	peak			
3	2400.000	71.12	-2.49	68.63	74.00	-5.37	peak			

Horizontal-AV:



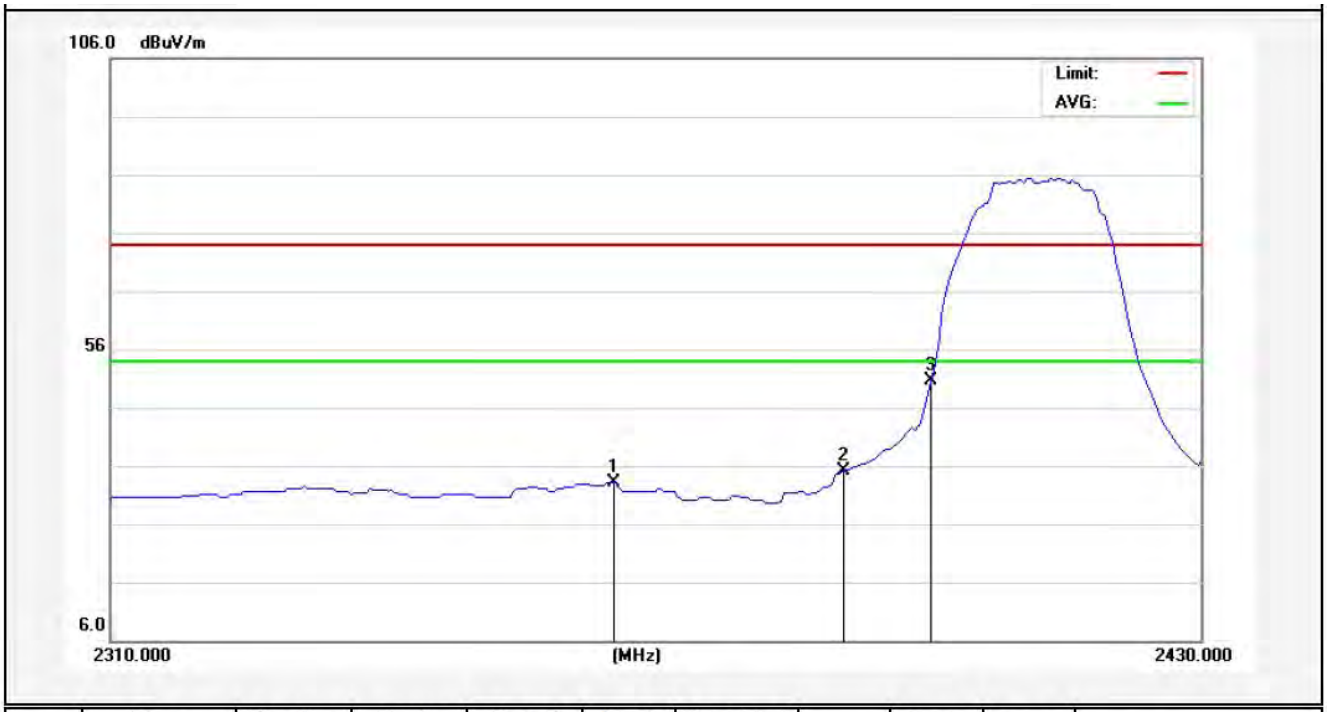
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2375.700	35.75	-2.55	33.20	54.00	-20.80	AVG			
2	2390.000	37.54	-2.51	35.03	54.00	-18.97	AVG			
3	2400.000	53.54	-2.49	51.05	54.00	-2.95	AVG			

Test Mode: 802.11n (HT20)
2412MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2373.300	48.28	-2.55	45.73	74.00	-28.27	peak			
2	2390.000	51.31	-2.51	48.80	74.00	-25.20	peak			
3	2400.000	66.84	-2.49	64.35	74.00	-9.65	peak			

Vertical-AV:

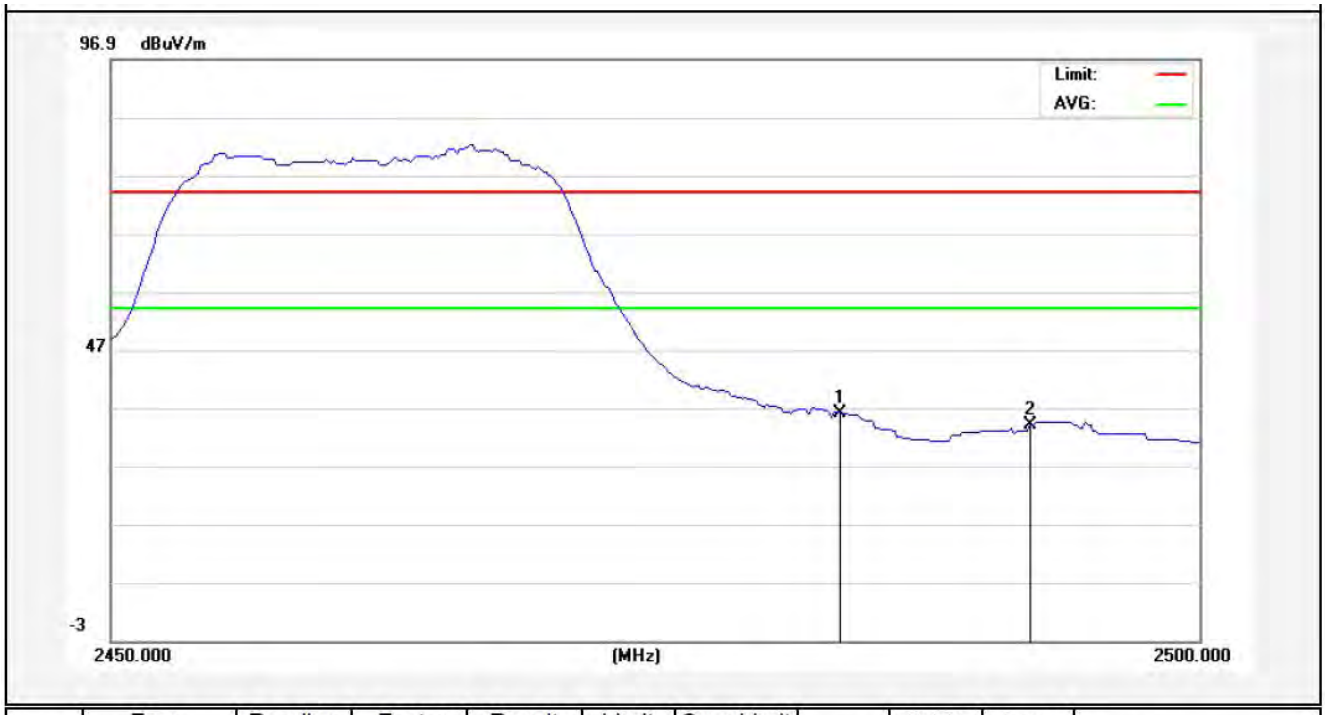


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2364.900	35.74	-2.57	33.17	54.00	-20.83	AVG			
2	2390.000	37.57	-2.51	35.06	54.00	-18.94	AVG			
3	2400.000	53.08	-2.49	50.59	54.00	-3.41	AVG			

Test Mode: 802.11n (HT20)
2462MHz
Horizontal-PEAK:

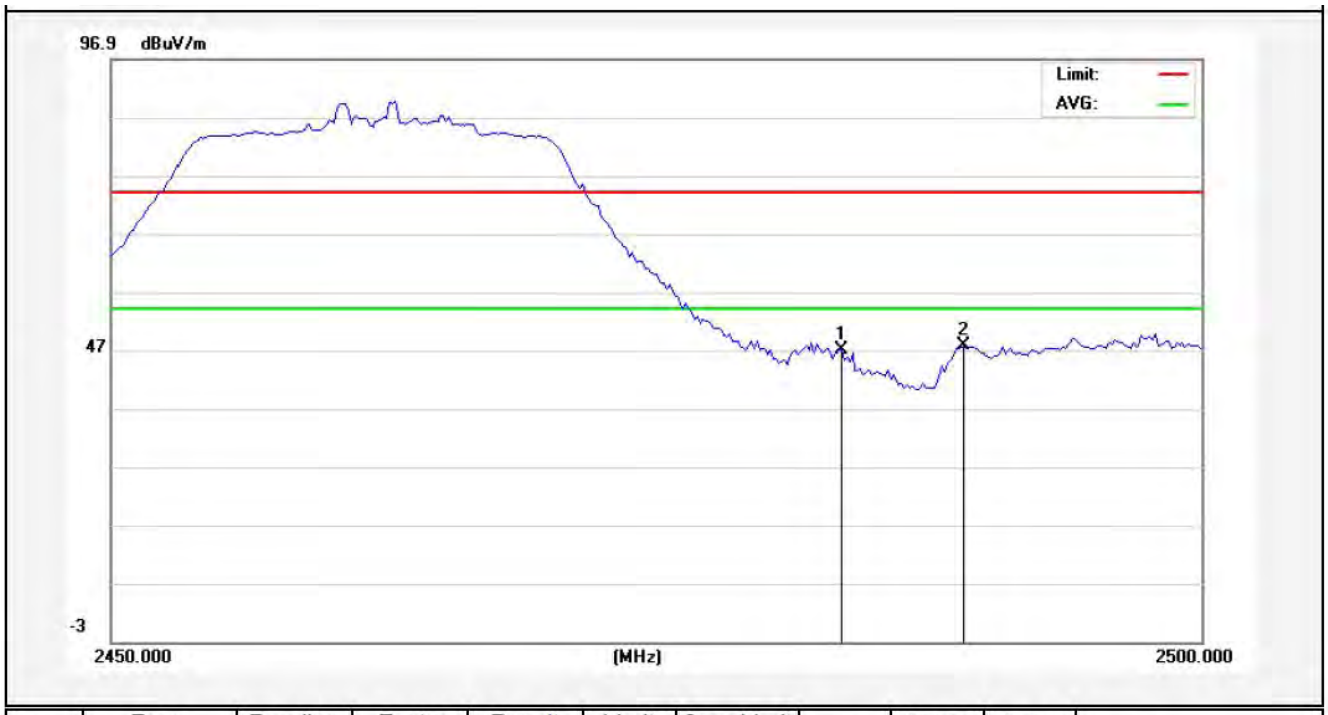
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	48.52	-2.31	46.21	74.00	-27.79	peak			
2	2493.000	49.03	-2.29	46.74	74.00	-27.26	peak			

Horizontal-AV:



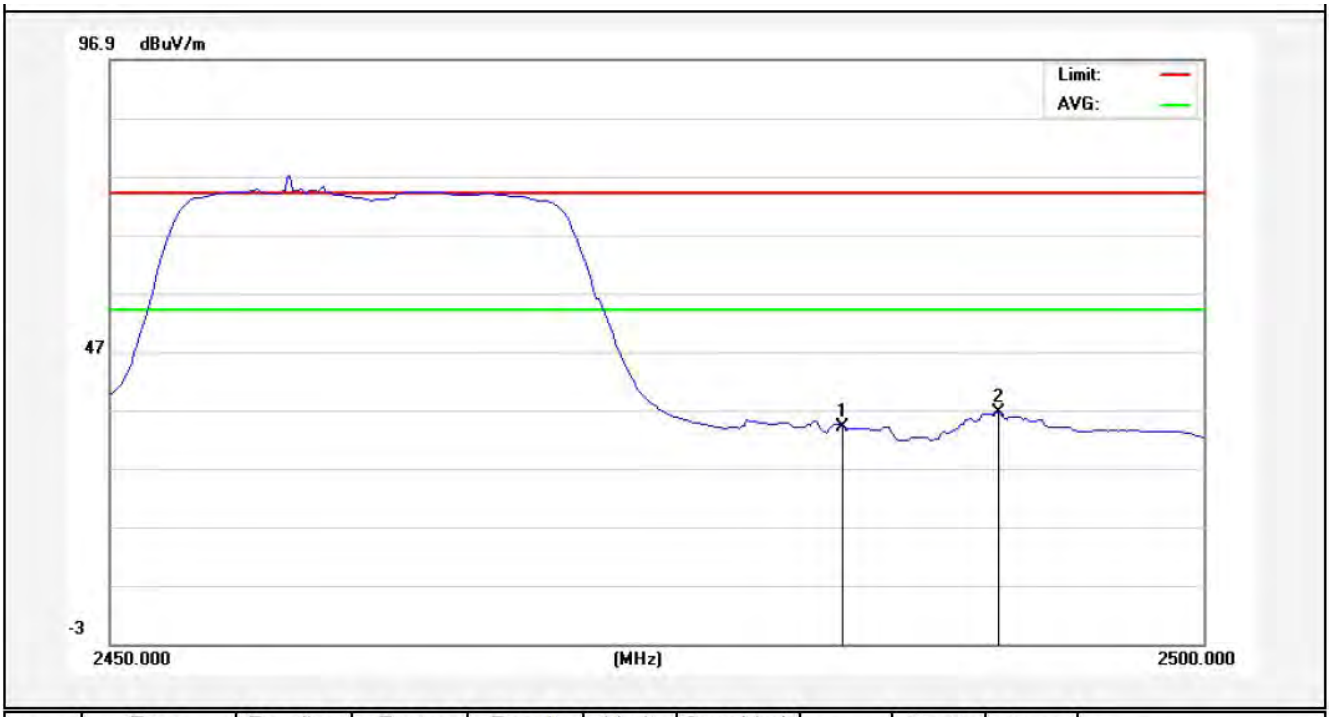
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	38.45	-2.31	36.14	54.00	-17.86	AVG			
2	2492.250	36.26	-2.29	33.97	54.00	-20.03	AVG			

Test Mode: 802.11n (HT20)
2462MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	49.25	-2.31	46.94	74.00	-27.06	peak			
2	2489.125	49.97	-2.29	47.68	74.00	-26.32	peak			

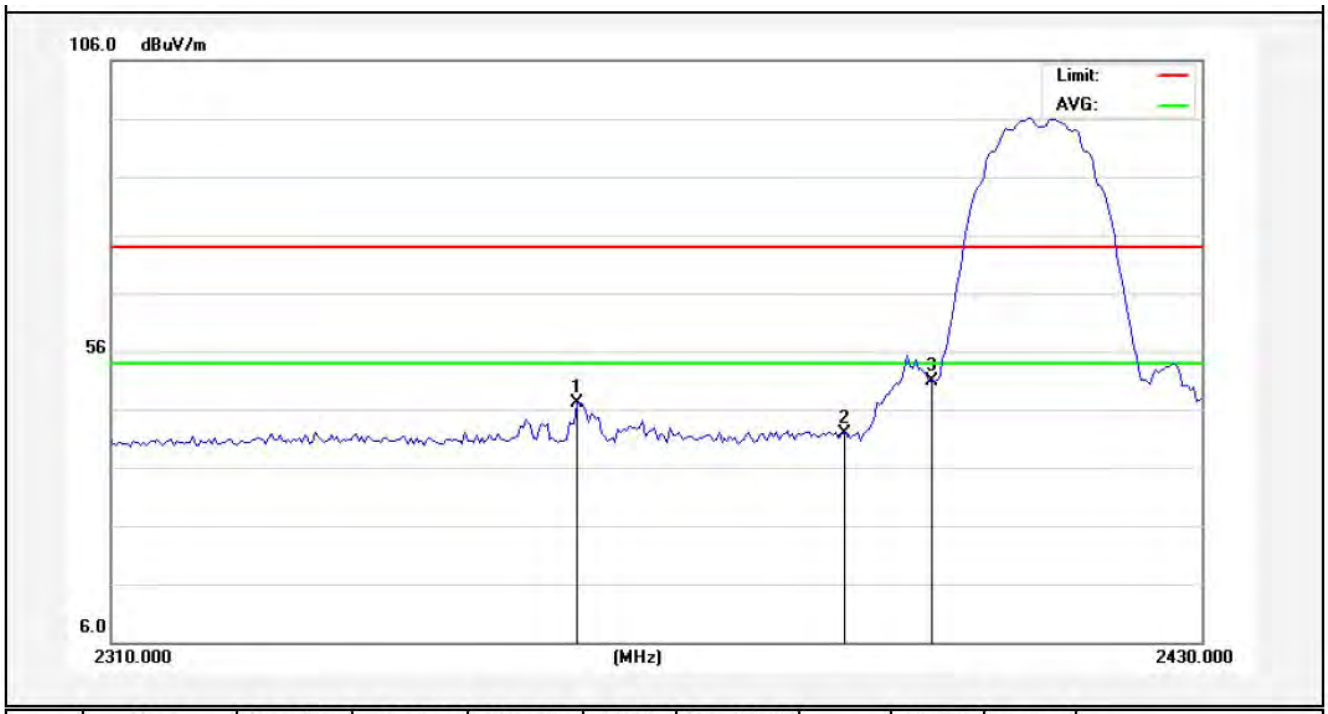
Vertical-AV:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	36.23	-2.31	33.92	54.00	-20.08	AVG			
2	2490.625	38.70	-2.29	36.41	54.00	-17.59	AVG			

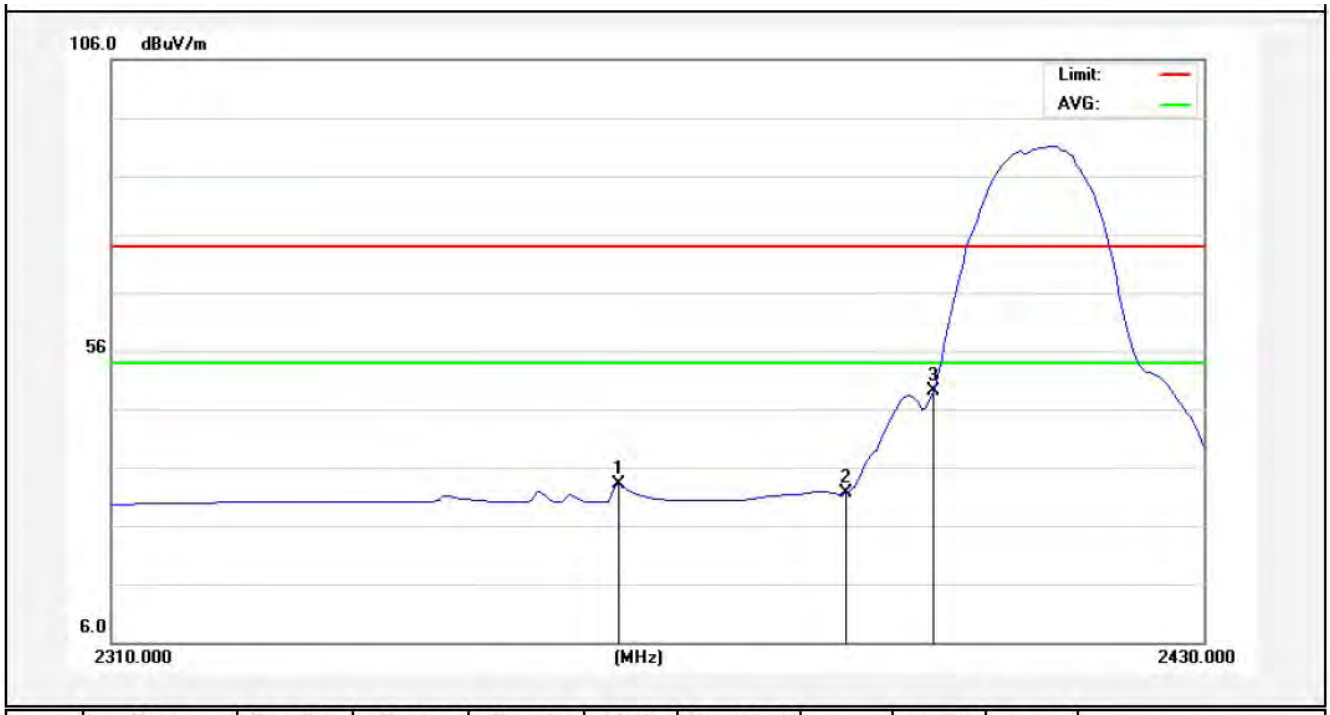
Onboard Antenna

Test Mode: 802.11b
2412MHz
Horizontal-PEAK:



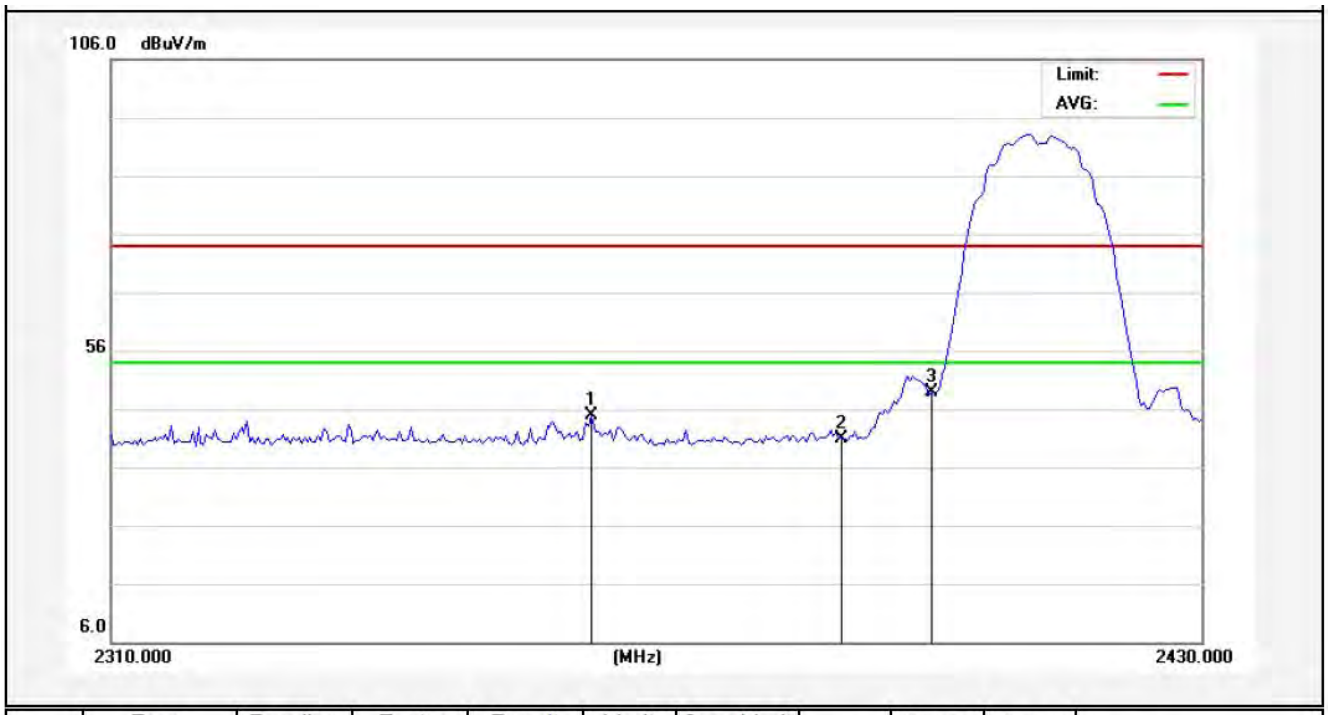
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2360.700	49.69	-2.58	47.11	74.00	-26.89	peak			
2	2390.000	44.45	-2.51	41.94	74.00	-32.06	peak			
3	2400.000	53.32	-2.49	50.83	74.00	-23.17	peak			

Horizontal-AV:



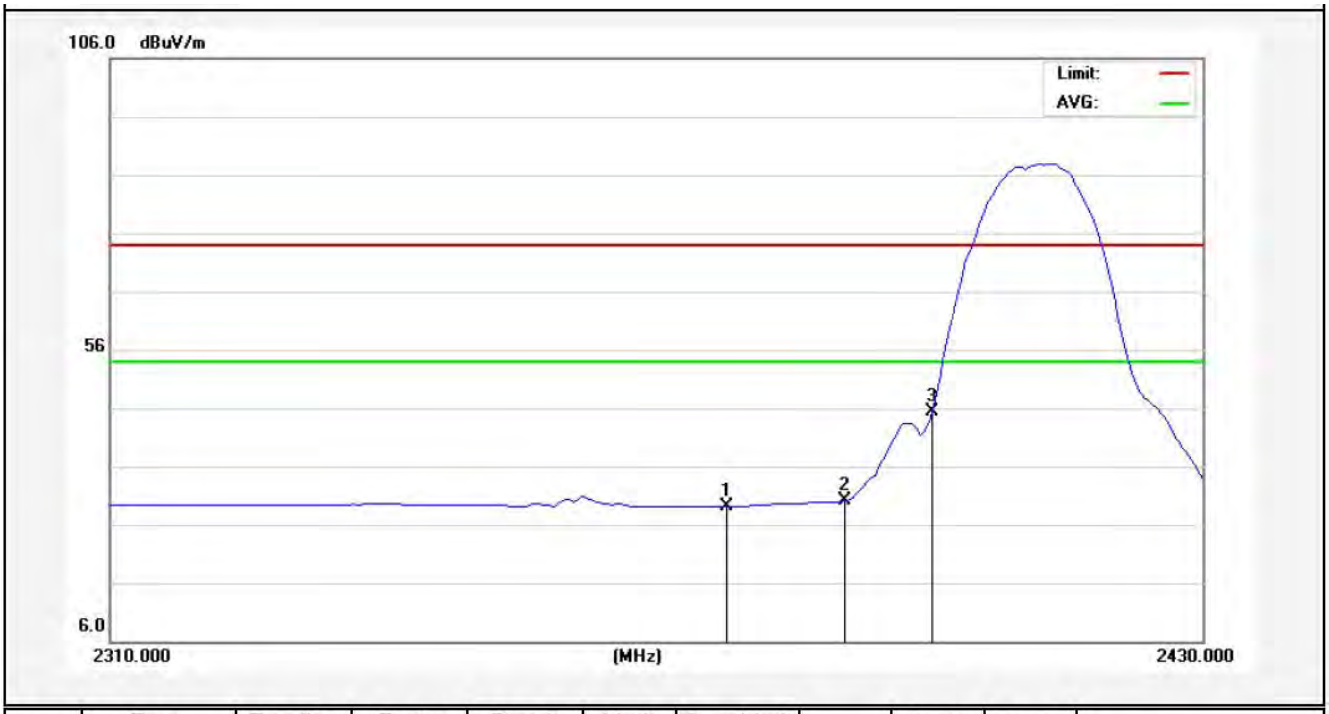
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2365.200	35.64	-2.57	33.07	54.00	-20.93	AVG			
2	2390.000	34.07	-2.51	31.56	54.00	-22.44	AVG			
3	2400.000	51.55	-2.49	49.06	54.00	-4.94	AVG			

Test Mode: 802.11b
2412MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2362.200	47.43	-2.58	44.85	74.00	-29.15	peak			
2	2390.000	43.39	-2.51	40.88	74.00	-33.12	peak			
3	2400.000	51.40	-2.49	48.91	74.00	-25.09	peak			

Vertical-AV:

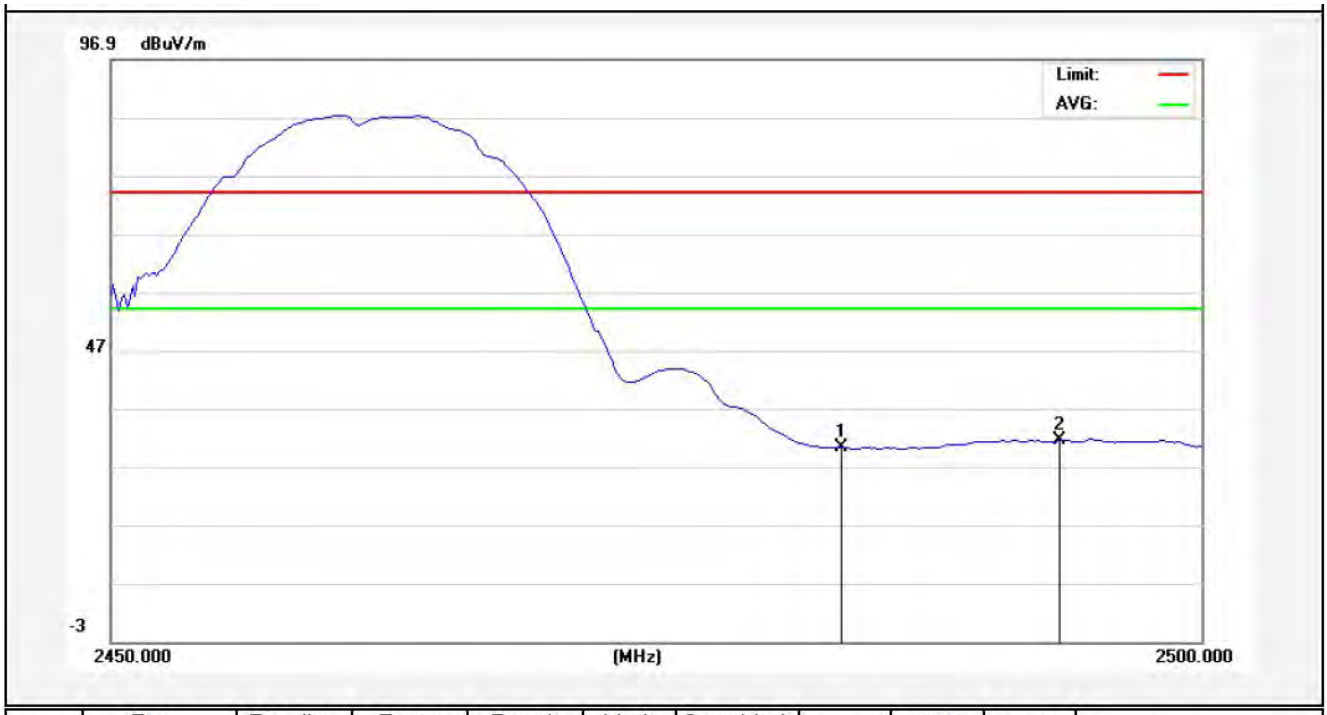


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2377.200	31.66	-2.54	29.12	54.00	-24.88	AVG			
2	2390.000	32.53	-2.51	30.02	54.00	-23.98	AVG			
3	2400.000	47.75	-2.49	45.26	54.00	-8.74	AVG			

Test Mode: 802.11b
2462MHz
Horizontal-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	44.85	-2.31	42.54	74.00	-31.46	peak			
2	2489.500	51.03	-2.29	48.74	74.00	-25.26	peak			

Horizontal-AV:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.58	-2.31	30.27	54.00	-23.73	AVG			
2	2493.500	33.74	-2.28	31.46	54.00	-22.54	AVG			

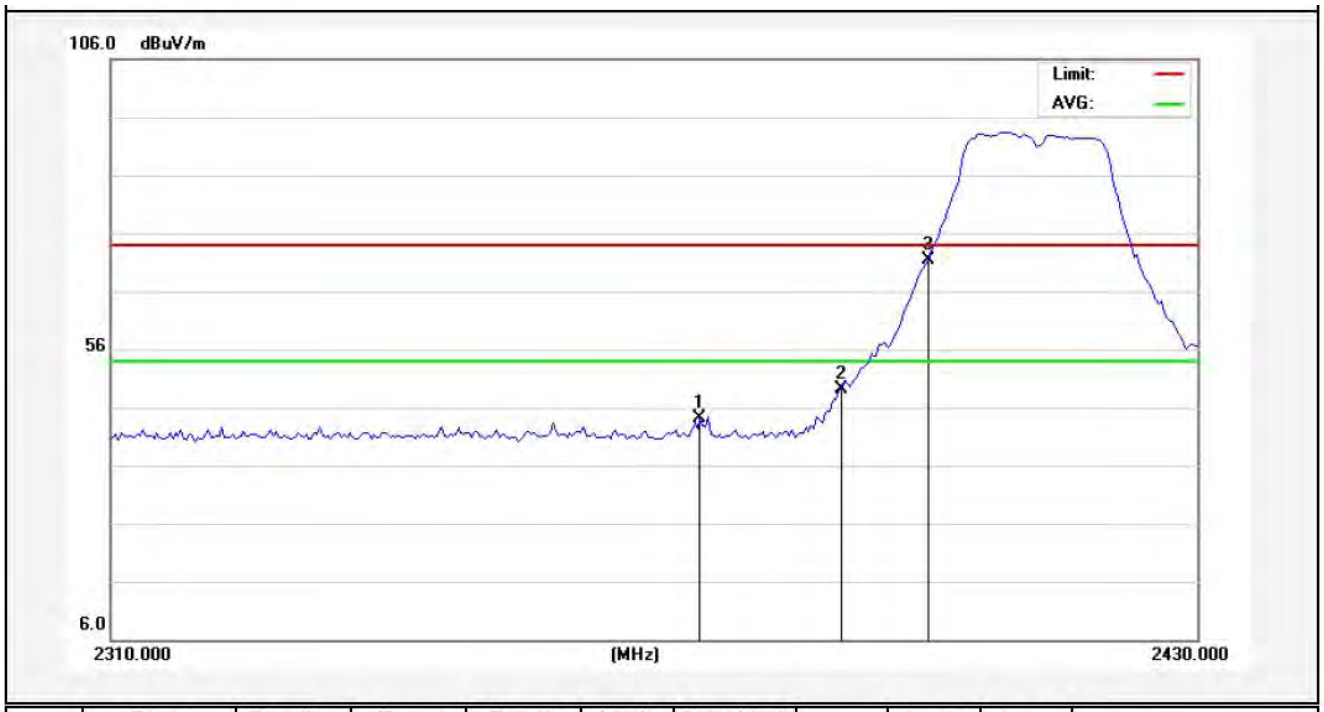
Test Mode: 802.11b
2462MHz
Vertical-PEAK:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	44.27	-2.31	41.96	74.00	-32.04	peak			
2	2490.625	52.21	-2.29	49.92	74.00	-24.08	peak			

Vertical-AV:

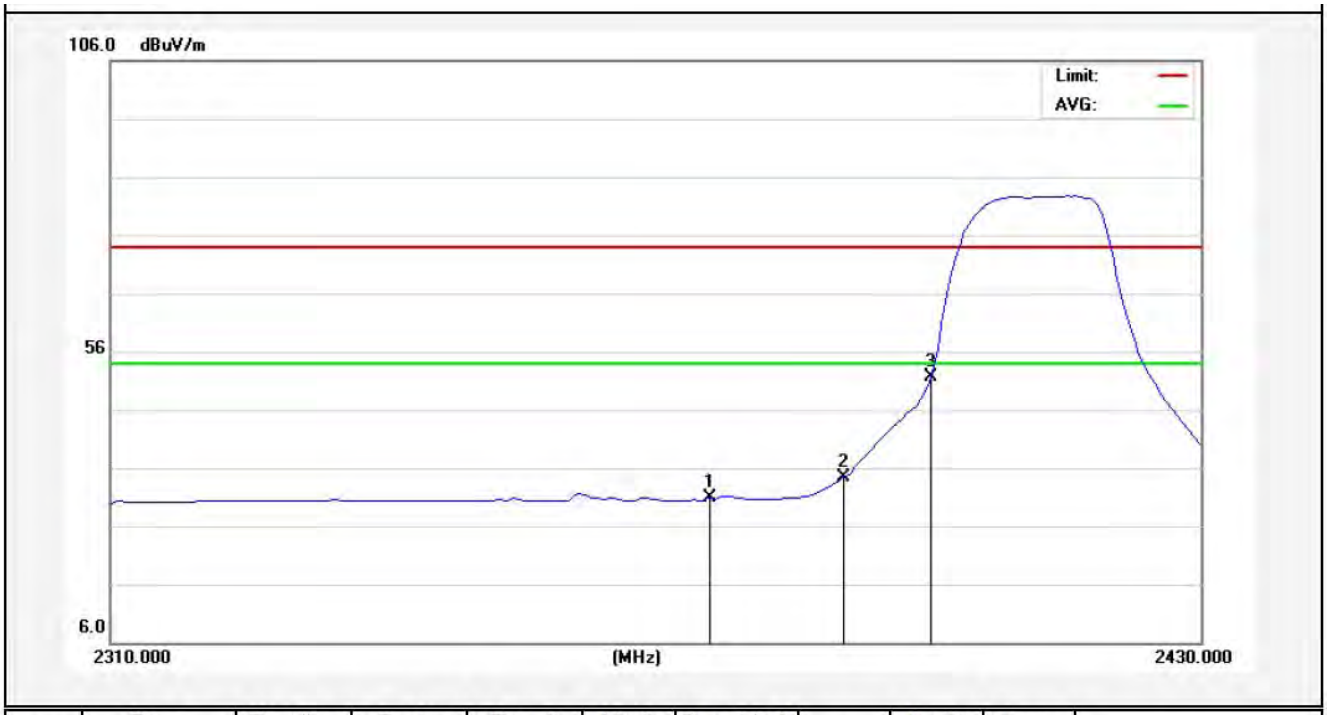
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.27	-2.31	29.96	54.00	-24.04	AVG			
2	2492.500	35.23	-2.29	32.94	54.00	-21.06	AVG			

Test Mode: 802.11g
2412MHz
Horizontal-PEAK:



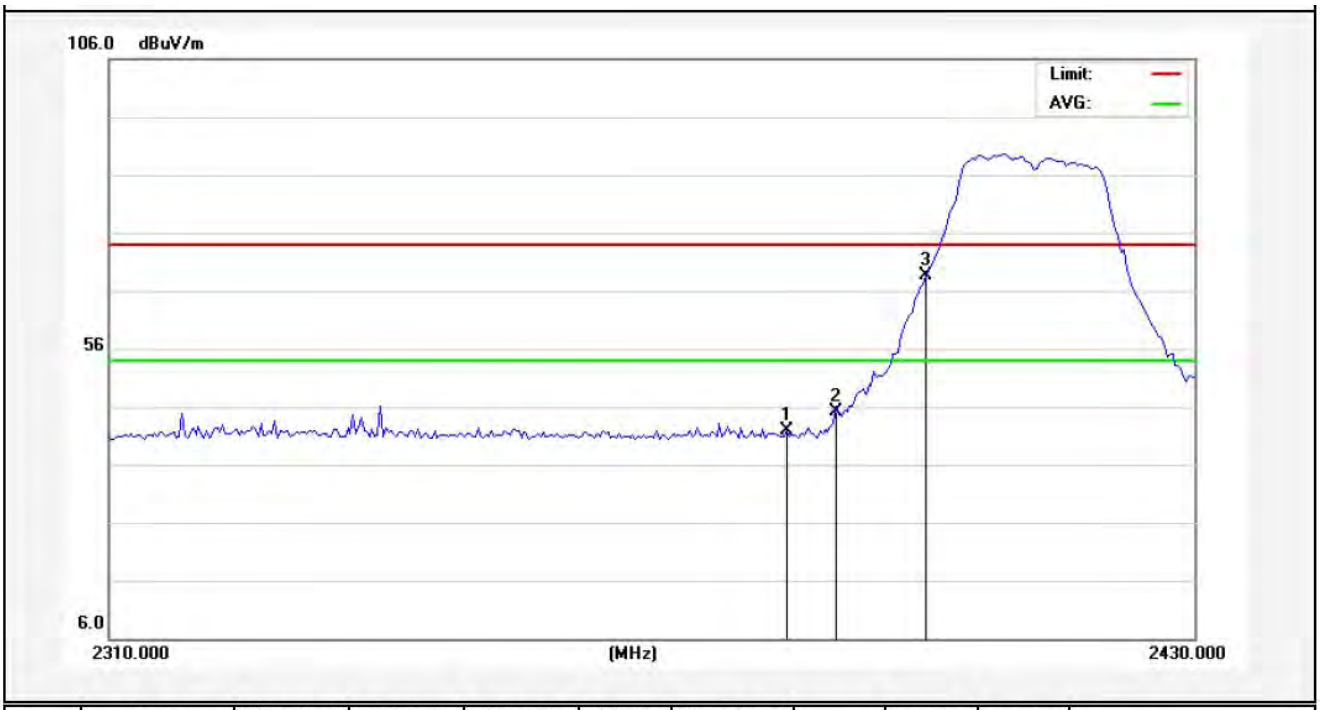
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2374.500	46.79	-2.55	44.24	74.00	-29.76	peak			
2	2390.000	51.53	-2.51	49.02	74.00	-24.98	peak			
3	2400.000	73.96	-2.49	71.47	74.00	-2.53	peak			

Horizontal-AV:



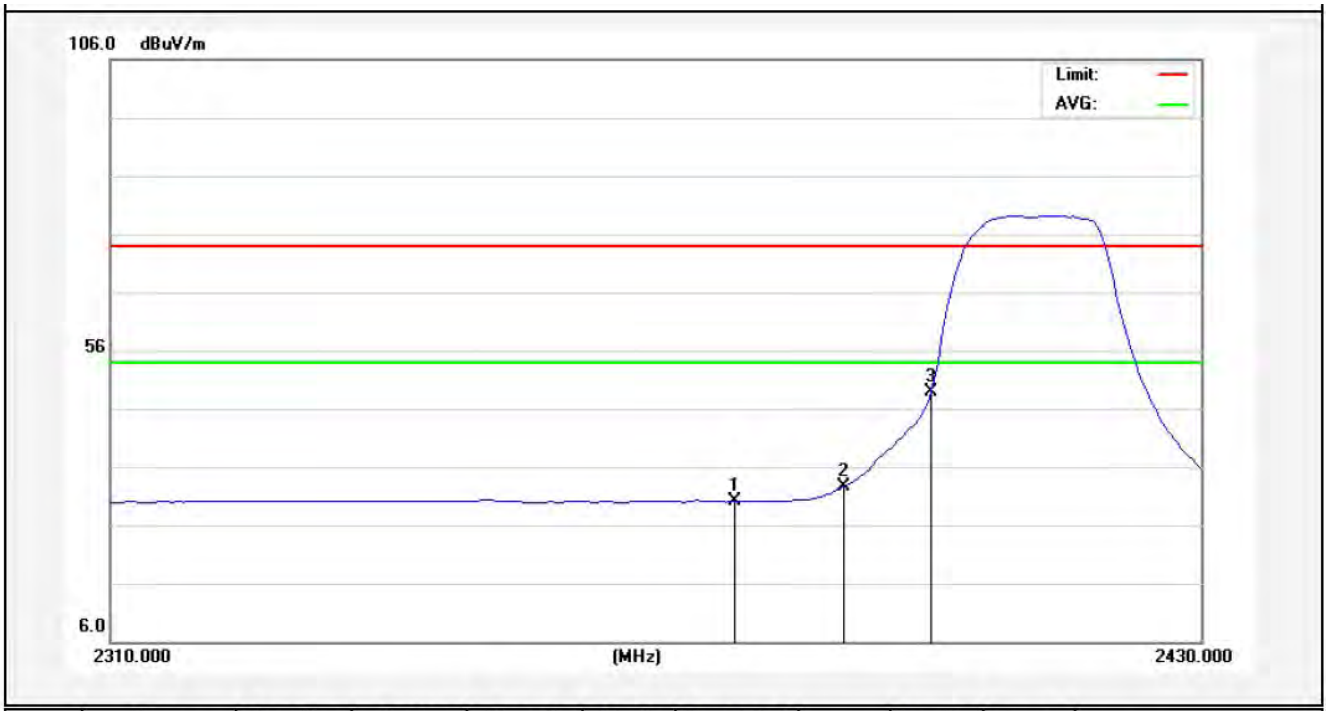
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2375.400	33.49	-2.55	30.94	54.00	-23.06	AVG			
2	2390.000	36.84	-2.51	34.33	54.00	-19.67	AVG			
3	2400.000	54.07	-2.49	51.58	54.00	-2.42	AVG			

Test Mode: 802.11g
2412MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2384.400	44.42	-2.53	41.89	74.00	-32.11	peak			
2	2390.000	47.53	-2.51	45.02	74.00	-28.98	peak			
3	2400.000	71.13	-2.49	68.64	74.00	-5.36	peak			

Vertical-AV:

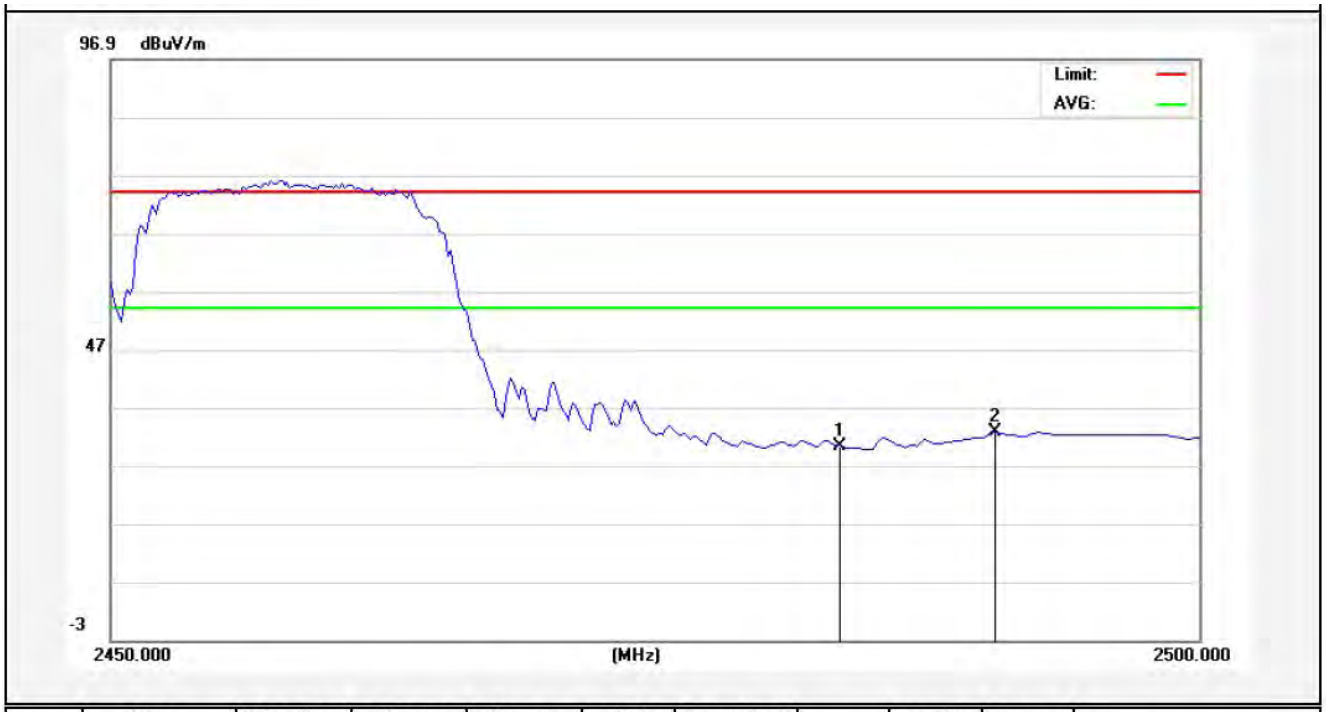


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2378.100	32.74	-2.54	30.20	54.00	-23.80	AVG			
2	2390.000	35.19	-2.51	32.68	54.00	-21.32	AVG			
3	2400.000	51.46	-2.49	48.97	54.00	-5.03	AVG			

Test Mode: 802.11g
2462MHz
Horizontal-PEAK:

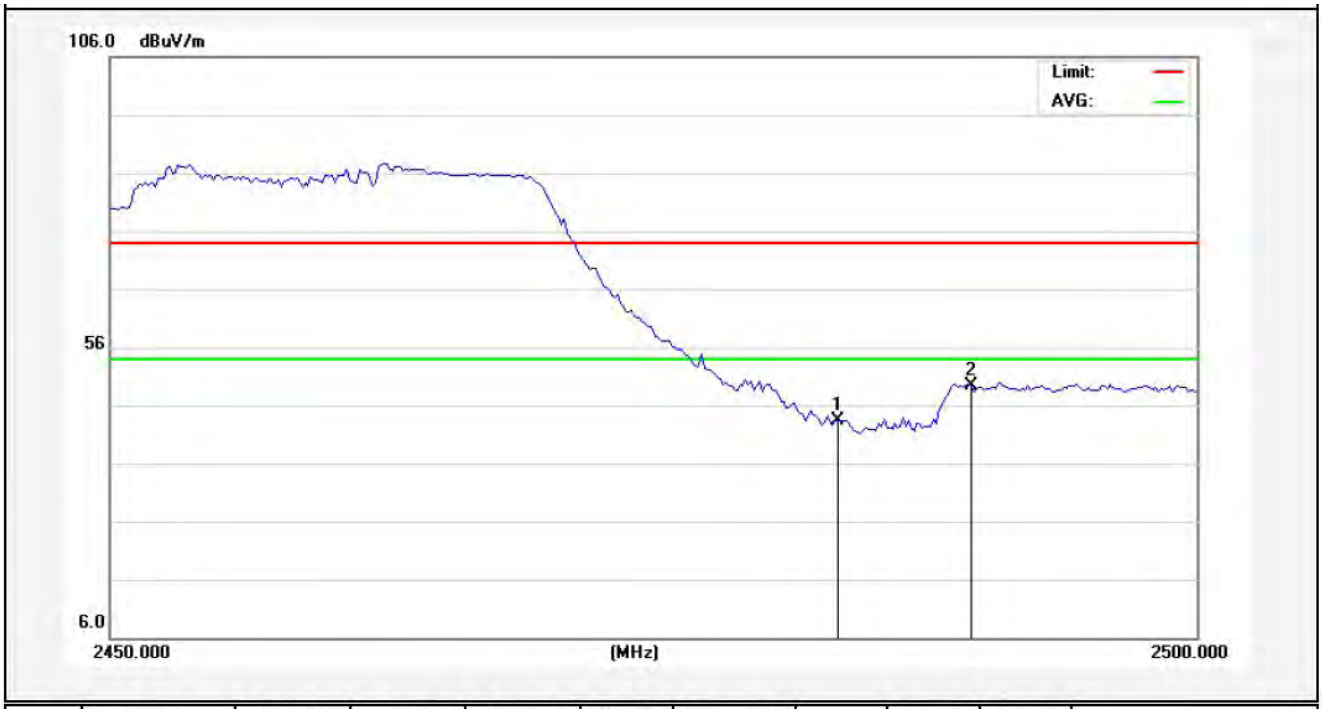
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	44.83	-2.31	42.52	74.00	-31.48	peak			
2	2488.750	51.31	-2.29	49.02	74.00	-24.98	peak			

Horizontal-AV:



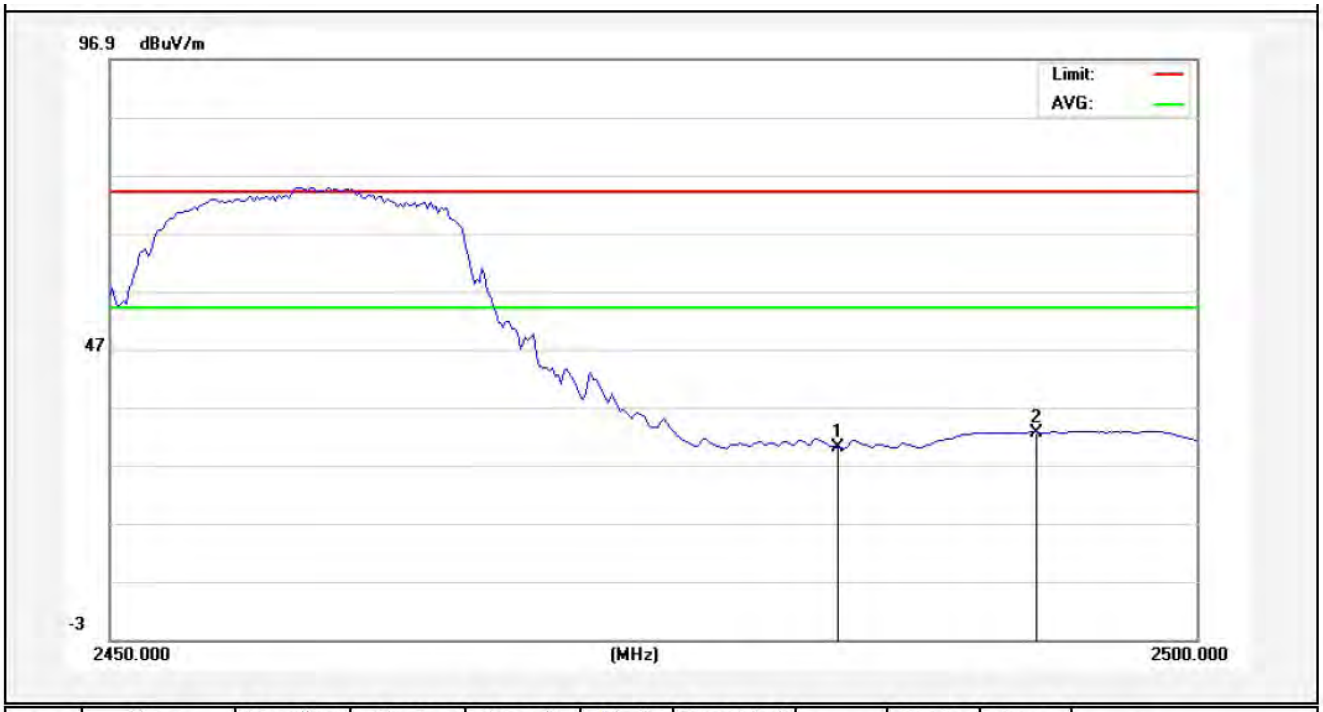
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.71	-2.31	30.40	54.00	-23.60	AVG			
2	2490.625	34.96	-2.29	32.67	54.00	-21.33	AVG			

Test Mode: 802.11g
2462MHz
Vertical-PEAK:



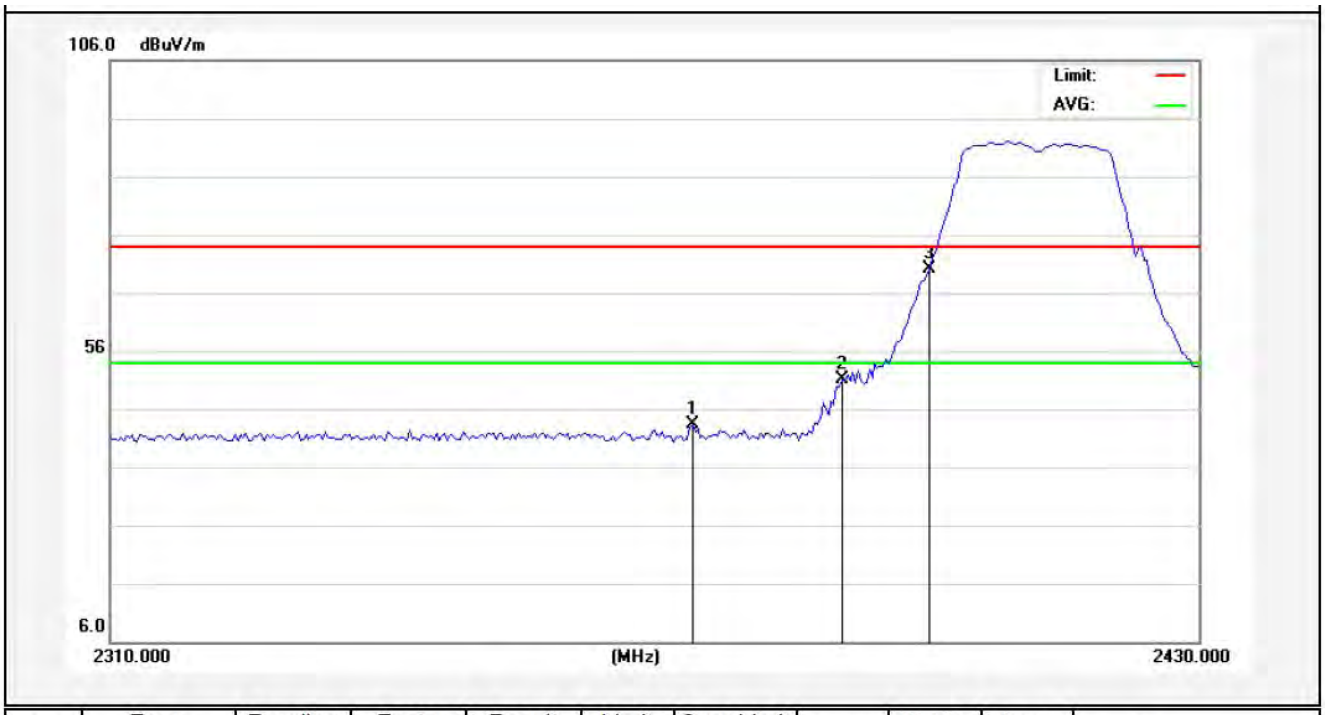
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	45.63	-2.31	43.32	74.00	-30.68	peak			
2	2489.625	51.58	-2.29	49.29	74.00	-24.71	peak			

Vertical-AV:



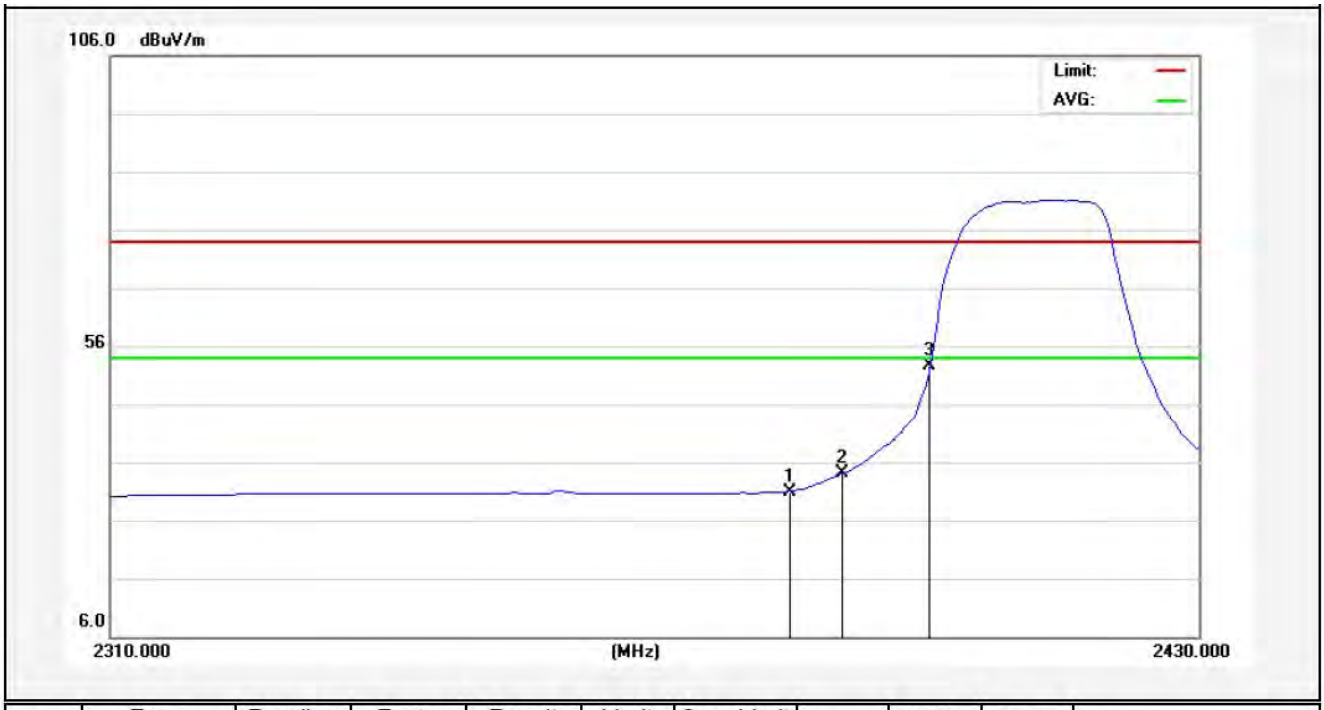
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.32	-2.31	30.01	54.00	-23.99	AVG			
2	2492.625	34.94	-2.29	32.65	54.00	-21.35	AVG			

Test Mode: 802.11n (HT20)
2412MHz
Horizontal-PEAK:



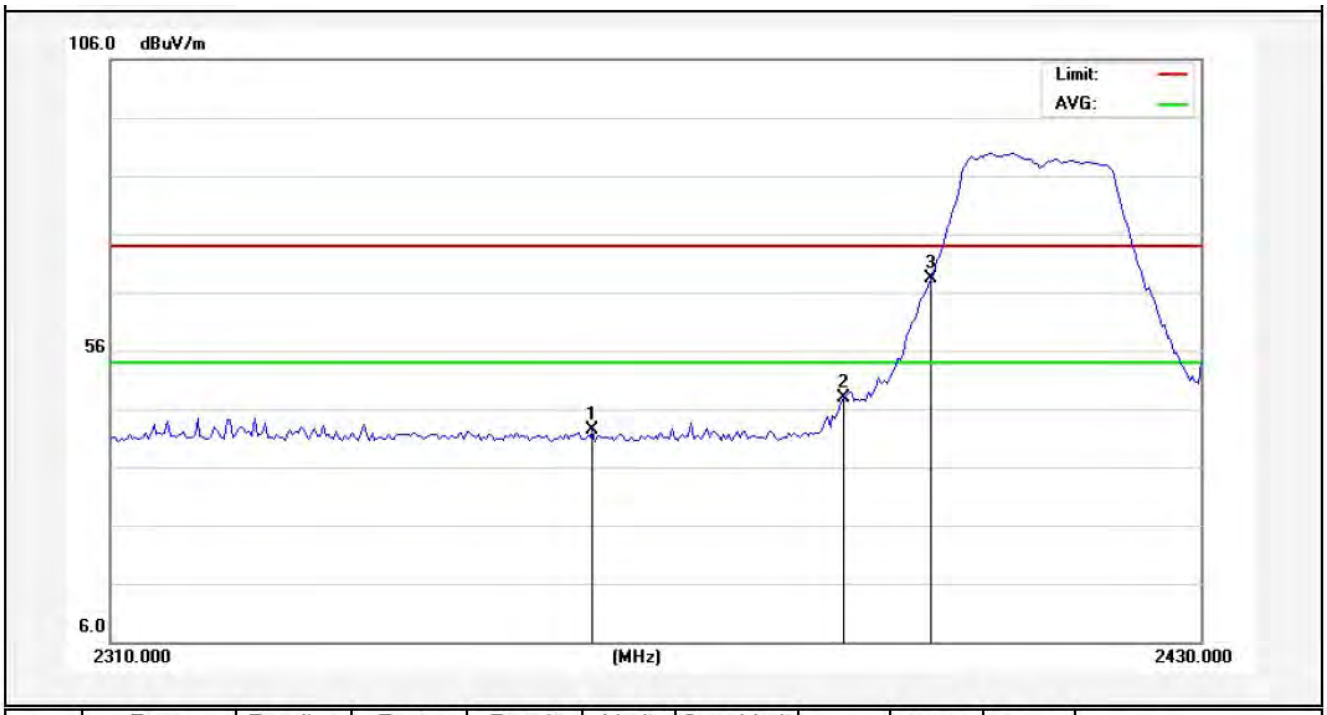
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2373.600	45.81	-2.55	43.26	74.00	-30.74	peak			
2	2390.000	53.59	-2.51	51.08	74.00	-22.92	peak			
3	2400.000	72.62	-2.49	70.13	74.00	-3.87	peak			

Horizontal-AV:



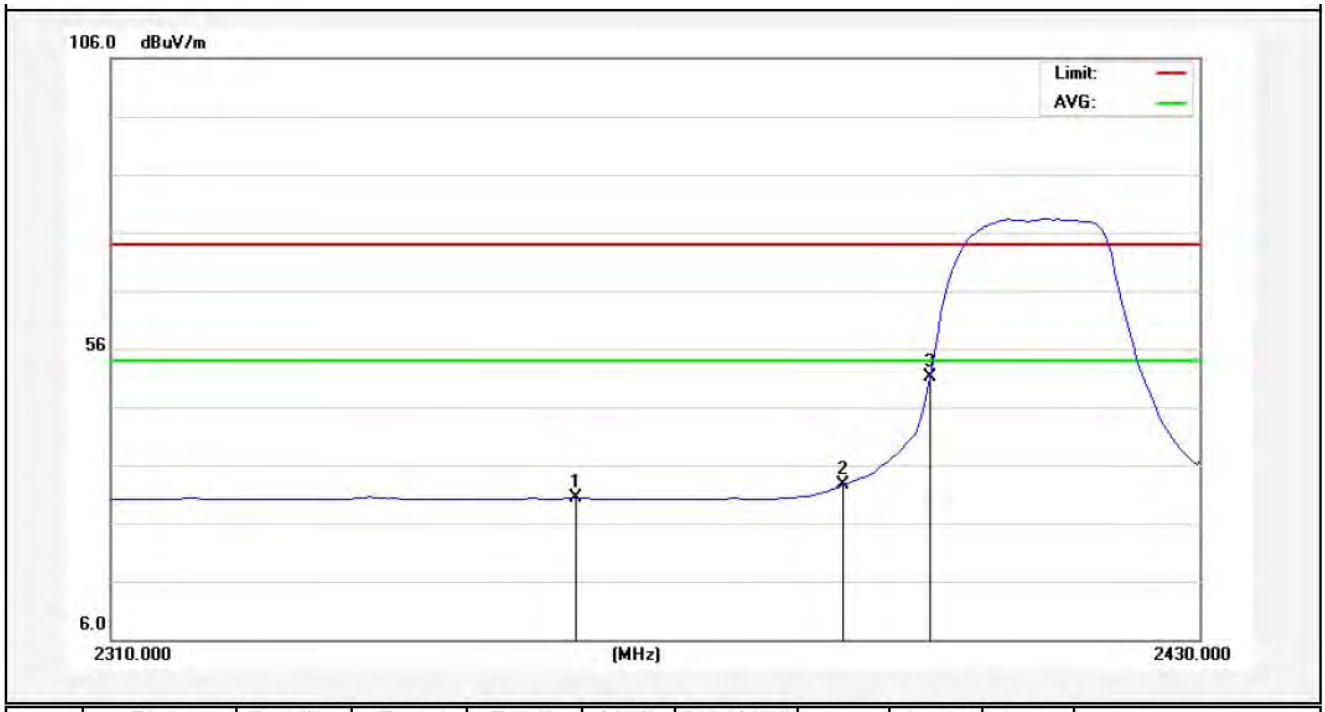
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2384.100	33.48	-2.53	30.95	54.00	-23.05	AVG			
2	2390.000	36.54	-2.51	34.03	54.00	-19.97	AVG			
3	2400.000	55.12	-2.49	52.63	54.00	-1.37	AVG			

Test Mode: 802.11n (HT20)
2412MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2362.500	45.06	-2.58	42.48	74.00	-31.52	peak			
2	2390.000	50.31	-2.51	47.80	74.00	-26.20	peak			
3	2400.000	70.84	-2.49	68.35	74.00	-5.65	peak			

Vertical-AV:

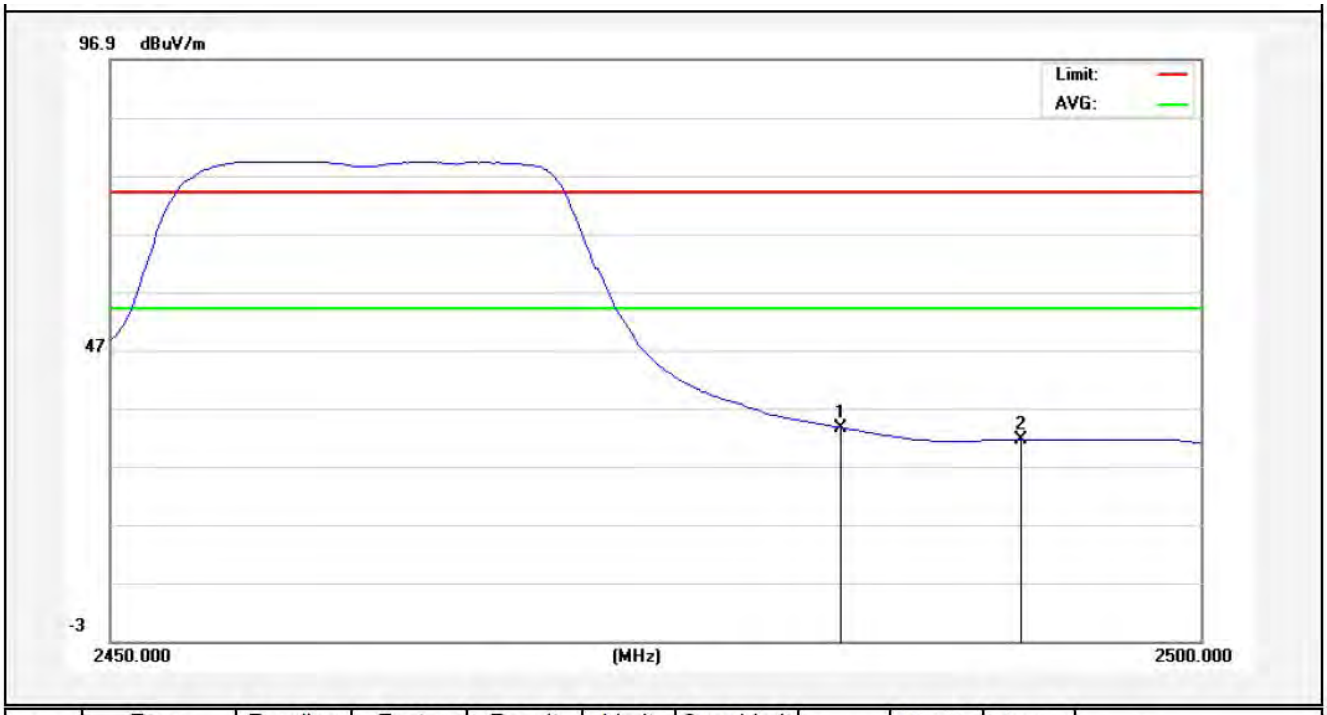


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2360.700	32.98	-2.58	30.40	54.00	-23.60	AVG			
2	2390.000	35.07	-2.51	32.56	54.00	-21.44	AVG			
3	2400.000	53.58	-2.49	51.09	54.00	-2.91	AVG			

Test Mode: 802.11n (HT20)
2462MHz
Horizontal-PEAK:

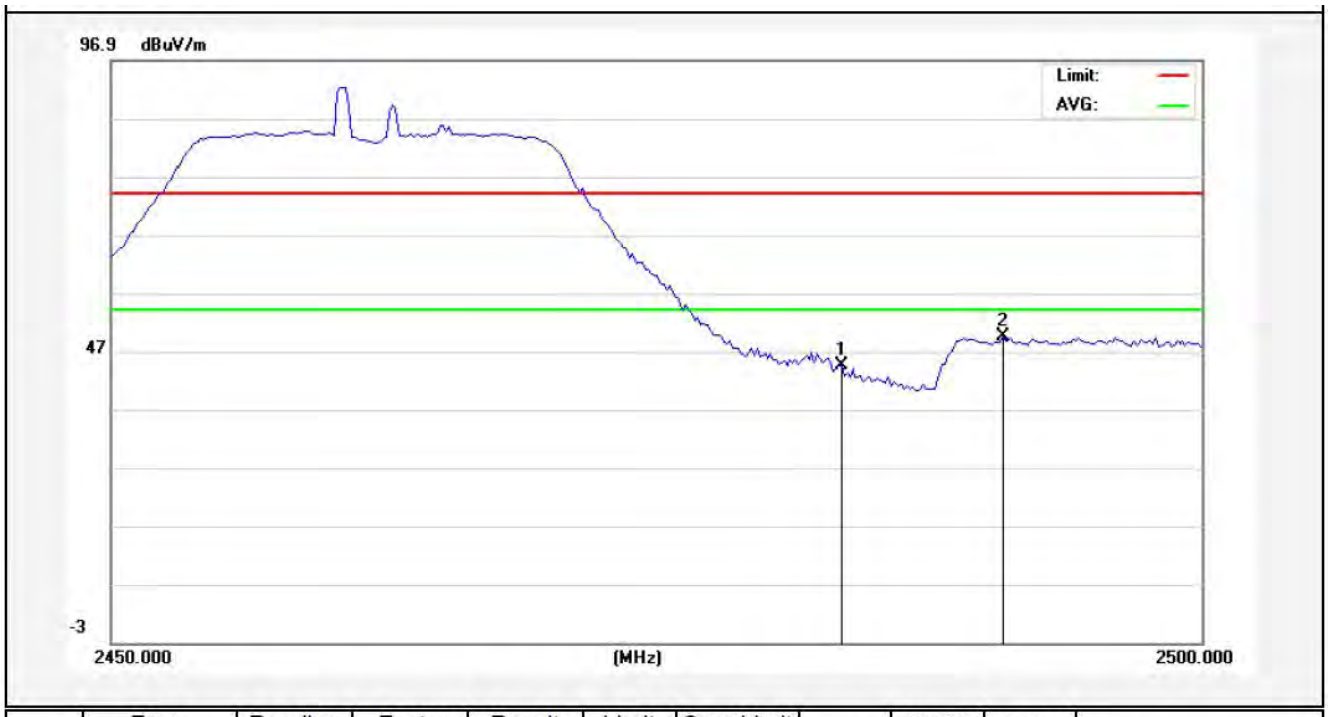
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	43.02	-2.31	40.71	74.00	-33.29	peak			
2	2491.500	45.74	-2.29	43.45	74.00	-30.55	peak			

Horizontal-AV:



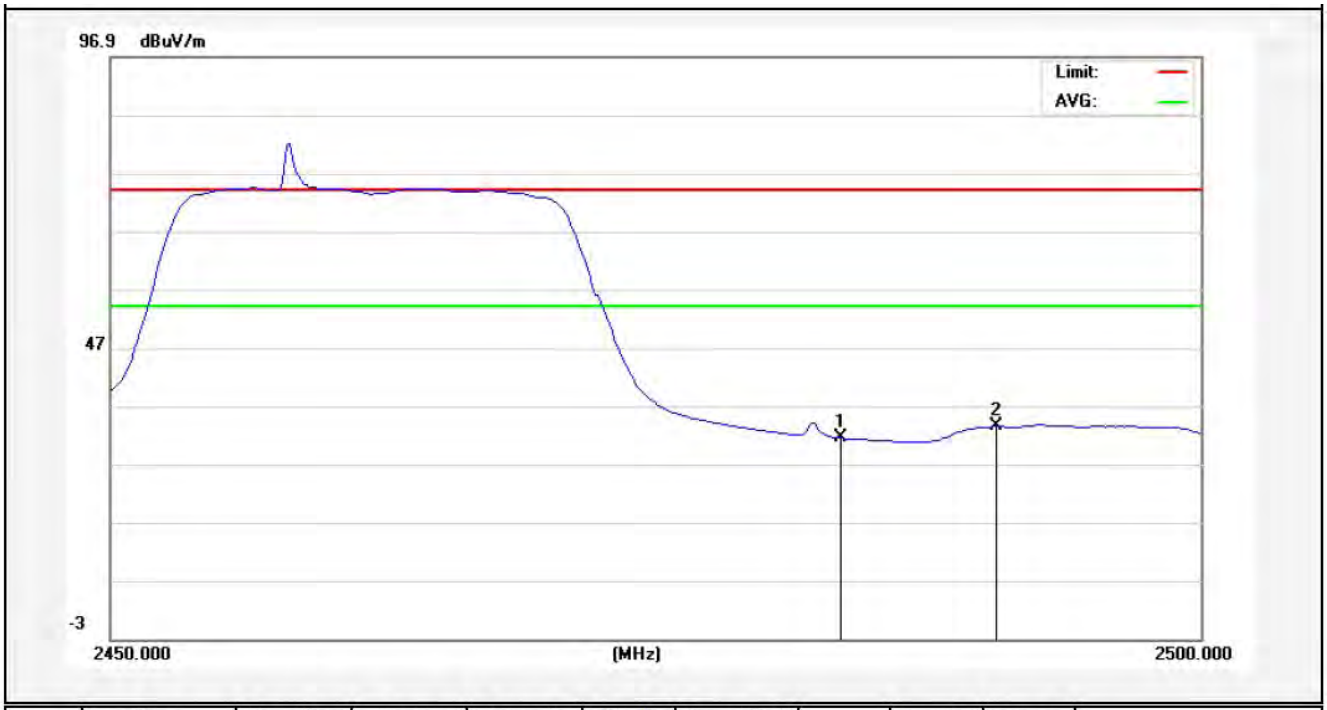
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	35.95	-2.31	33.64	54.00	-20.36	AVG			
2	2491.750	33.76	-2.29	31.47	54.00	-22.53	AVG			

Test Mode: 802.11n (HT20)
2462MHz
Vertical-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	46.75	-2.31	44.44	74.00	-29.56	peak			
2	2490.875	51.89	-2.29	49.60	74.00	-24.40	peak			

Vertical-AV:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	33.73	-2.31	31.42	54.00	-22.58	AVG			
2	2490.625	35.70	-2.29	33.41	54.00	-20.59	AVG			