

FCC TEST REPORT
for
Shenzhen Zilink Electrical Appliance Co., Ltd.

Wi-Fi Doorbell
Model No.: Cobell, Cobell-HD, Qdoors, Qdoors-HD,
DB31S, DB32S, DB33S, DB31H, DB32H, DB33H

Prepared for : Shenzhen Zilink Electrical Appliance Co., Ltd.
Address : F1, 9th Floor, Antaihe Industrial Building, No.2 Furong 7Rd.,
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Date of Test : Jan. 05~ 19, 2015
Date of Report : Jan. 20, 2015

TABLE OF CONTENT

Description

Test Report

Page

1. GENERAL INFORMATION.....	4
1.1. Description of Device (EUT).....	4
1.2. Auxiliary Equipment Used during Test.....	5
1.3. Description of Test Facility.....	5
1.4. Measurement Uncertainty.....	5
2. TEST METHODOLOGY.....	6
2.1. Summary of Test Results.....	6
2.2. Description of Test Modes.....	6
2.3. List of channels:.....	7
3. FCC PART 15.247 REQUIREMENTS FOR DSSS & OFDM MODULATION.....	8
3.1 Test Setup.....	8
3.2 6dB Bandwidth.....	8
3.3. Maximum Peak output power test.....	24
3.4. Band Edges Measurement.....	32
3.5. Peak Power Spectral Density.....	69
3.6. Radiated Emissions.....	77
4. PHOTOGRAPH.....	88
4.1. Photo of Radiation Emission Test.....	88
APPENDIX I (EXTERNAL PHOTOS).....	89
APPENDIX II (INTERNAL PHOTOS).....	92

TEST REPORT

Applicant : Shenzhen Zilink Electrical Appliance Co., Ltd.
Manufacturer : Shenzhen Zilink Electrical Appliance Co., Ltd.
EUT : Wi-Fi Doorbell
Model No. : Cobell, Cobell-HD, Qdoors, Qdoors-HD, DB31S, DB32S, DB33S,
DB31H, DB32H, DB33H
Serial No. : N.A.
Trade Mark : 
Rating : DC 12V

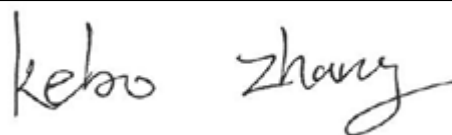
Measurement Procedure Used:
FCC Part15 Subpart C, Paragraph 15.247

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 : Jan. 05~ 19, 2015

Prepared by :



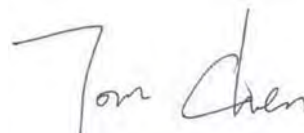
(Tested Engineer / Kebo Zhang)

Reviewer :



(Project Manager / Amy Ding)

Approved & Authorized Signer :



(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	: Wi-Fi Doorbell
Model Number	: Cobell, Cobell-HD, Qdoors, Qdoors-HD, DB31S, DB32S, DB33S, DB31H, DB32H, DB33H (Note: All samples are the same except the model number and appearance, so we prepare "Cobell" for test only.)
Test Power Supply	: DC 12V
RF Transmission Frequency	: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Channels	: 11 For (802.11b/802.11g/802.11n(HT20)) 7 For (802.11n(HT40))
Modulation	: 802.11b CCK 802.11g OFDM 802.11n MCS
Antenna Gain:	: 4dBi
Applicant Address	: Shenzhen Zilink Electrical Appliance Co., Ltd. F1, 9th Floor, Antaihe Industrial Building, No.2 Furong 7Rd., Shajing, Baoan District, Shenzhen, China
Manufacturer Address	: Shenzhen Zilink Electrical Appliance Co., Ltd. F1, 9th Floor, Antaihe Industrial Building, No.2 Furong 7Rd., Shajing, Baoan District, Shenzhen, China
Factory Address	: Shenzhen Zilink Electrical Appliance Co., Ltd. F1, 9th Floor, Antaihe Industrial Building, No.2 Furong 7Rd., Shajing, Baoan District, Shenzhen, China
Date of receipt	: Jan. 05, 2015
Date of Test	: Jan. 05~ 19, 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 registered 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 = 4.3dB

Conduction Uncertainty : Uc = 3.4dB

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4: 2009 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	-	N/A
FCC Part 15, Paragraph 15.247(b)(1)	Peak 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 is programmed.

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.

IEEE802.11n (HT40): Channel 3(2422MHz), Channel 6(2437MHz) and Channel 9(2452MHz) with MCS 0 Mbps lowest data rate (the worst case) are chosen for the final testing.

2.3. List of channels:

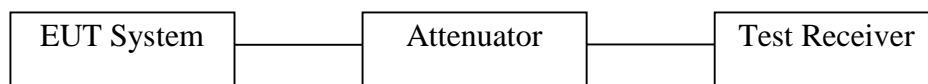
√ - available

X - tested

Number	Frequency(MHz)		802.11 b/g/n (HT20)	802.11 b/g/n (HT40)
1	2412	√	X	
2	2417	√		
3	2422	√		X
4	2427	√		
5	2432	√		
6	2437	√	X	X
7	2442	√		
8	2447	√		
9	2452	√		X
10	2457	√		
11	2462	√	X	

3. FCC Part 15.247 Requirements for DSSS & OFDM Modulation

3.1 Test Setup



3.2 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 $\geq 3 \times$ 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 $\geq 3 \times$ 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 3.1**d. Test Equipment**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Aug. 08, 2014	1 Year
2.	Preamplifier	Instruments corporation	EMC011830	980100	Aug. 08, 2014	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 22, 2014	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 04, 2014	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 24, 2014	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Aug. 08, 2014	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A

e. Test Results

Pass.

f. Test Data
6dB Bandwidth

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	11.88	>500	Pass
Mid	2437	11.88		Pass
High	2462	11.88		Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	16.65	>500	Pass
Mid	2437	16.65		Pass
High	2462	16.65		Pass

Test mode: IEEE 802.11n (HT20)

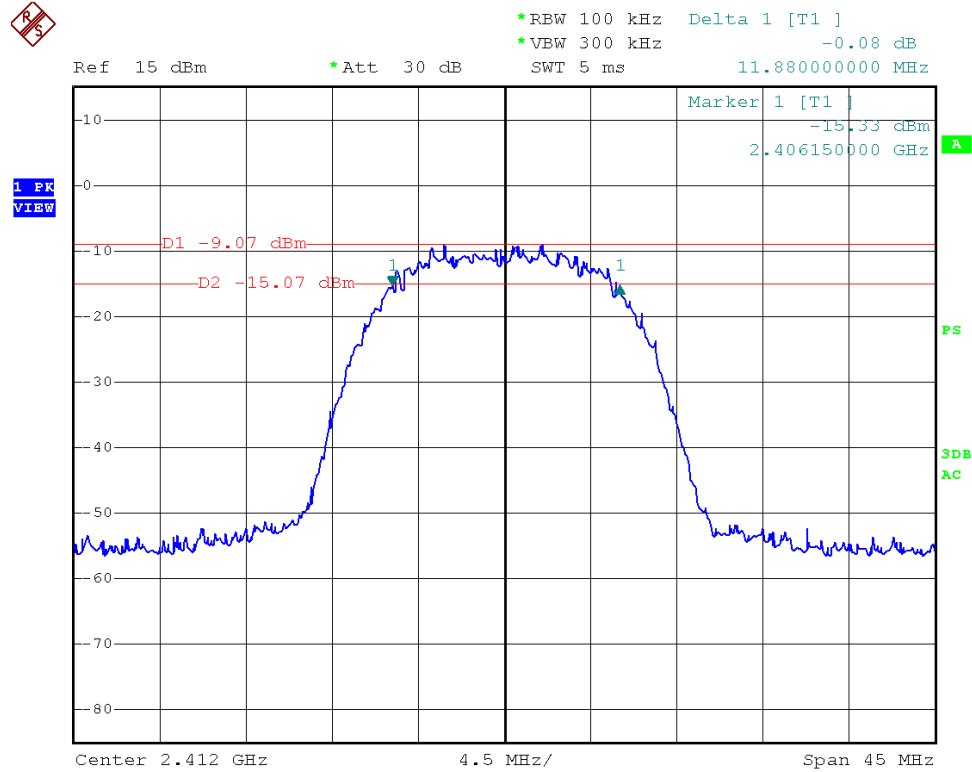
Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2412	17.73	>500	Pass
Mid	2437	17.73		Pass
High	2462	17.73		Pass

Test mode: IEEE 802.11n (HT40)

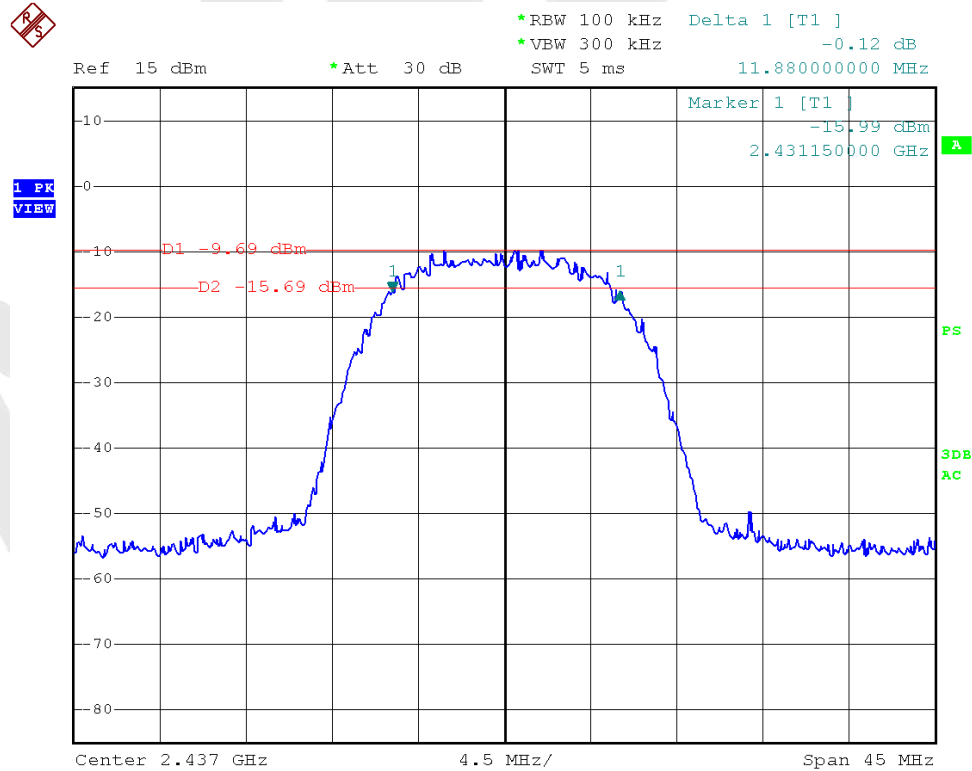
Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Results
Low	2422	36.32	>500	Pass
Mid	2437	36.32		Pass
High	2452	36.32		Pass

Test Plots See the following page.

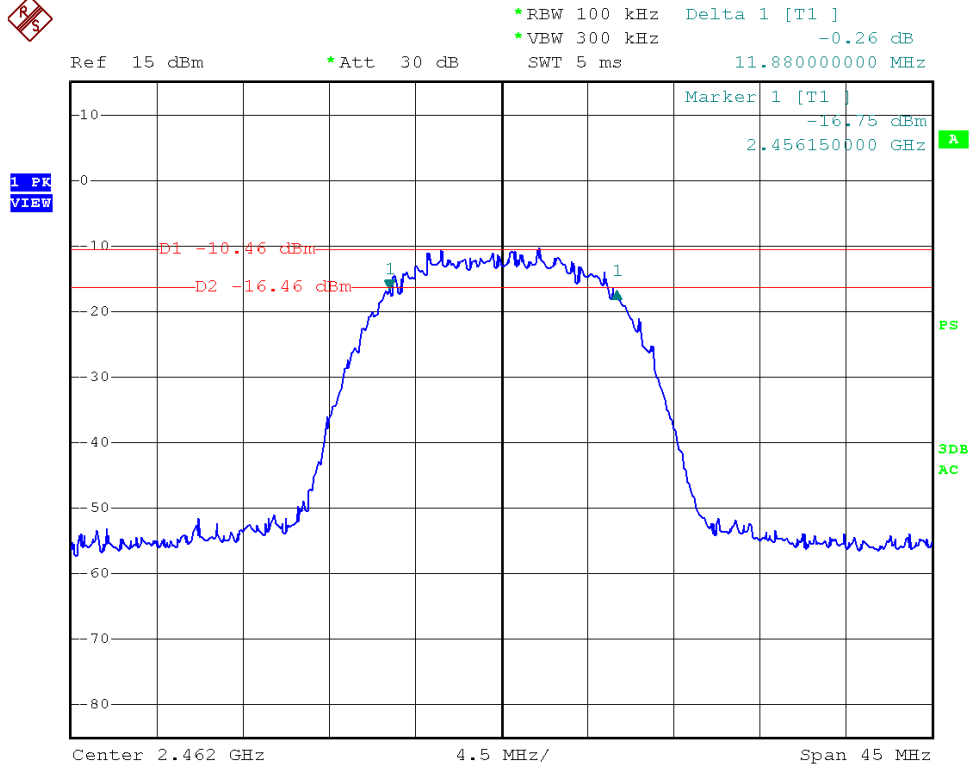
Test Mode: 802.11b---Low



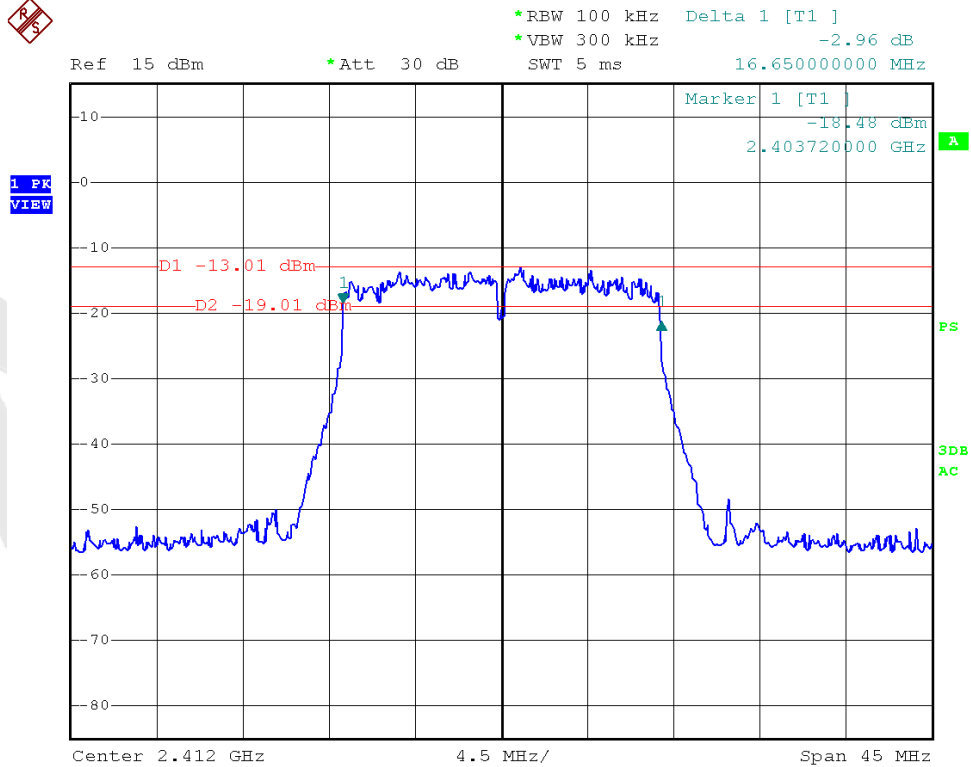
Test Mode: 802.11b---Mid



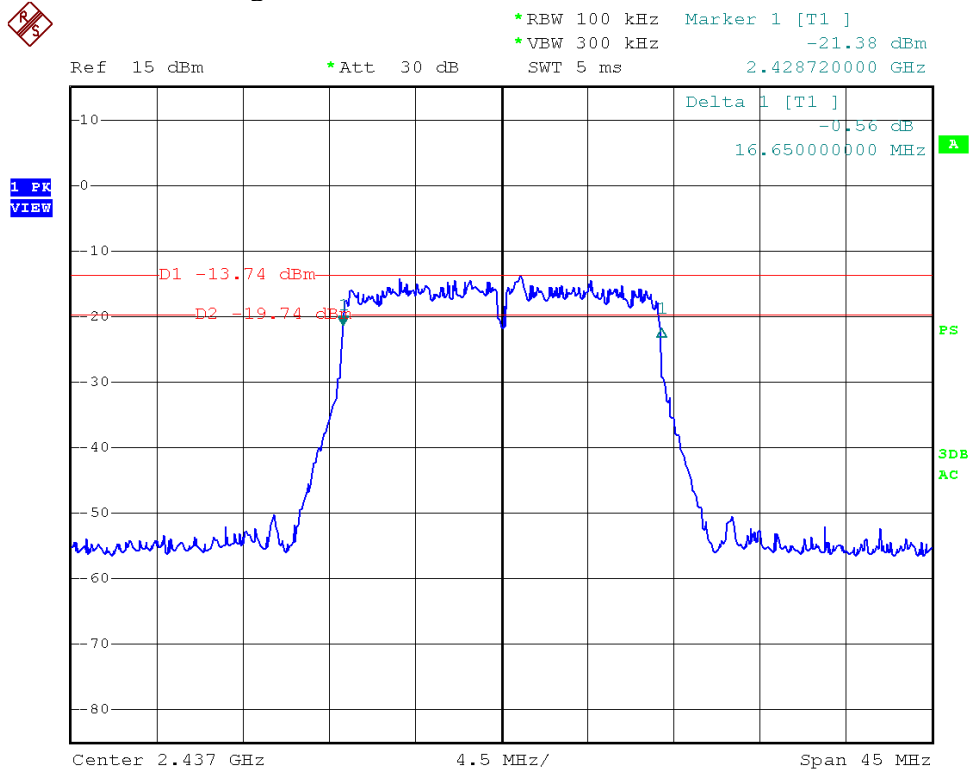
Test Mode: 802.11b---High



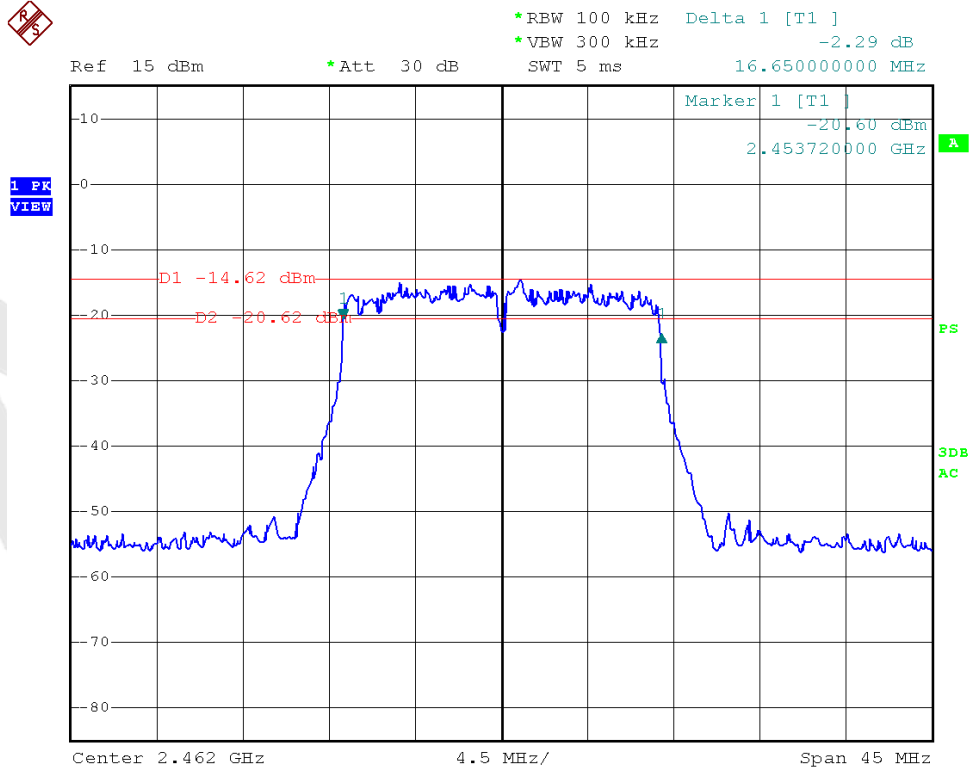
Test Mode: 802.11g---Low



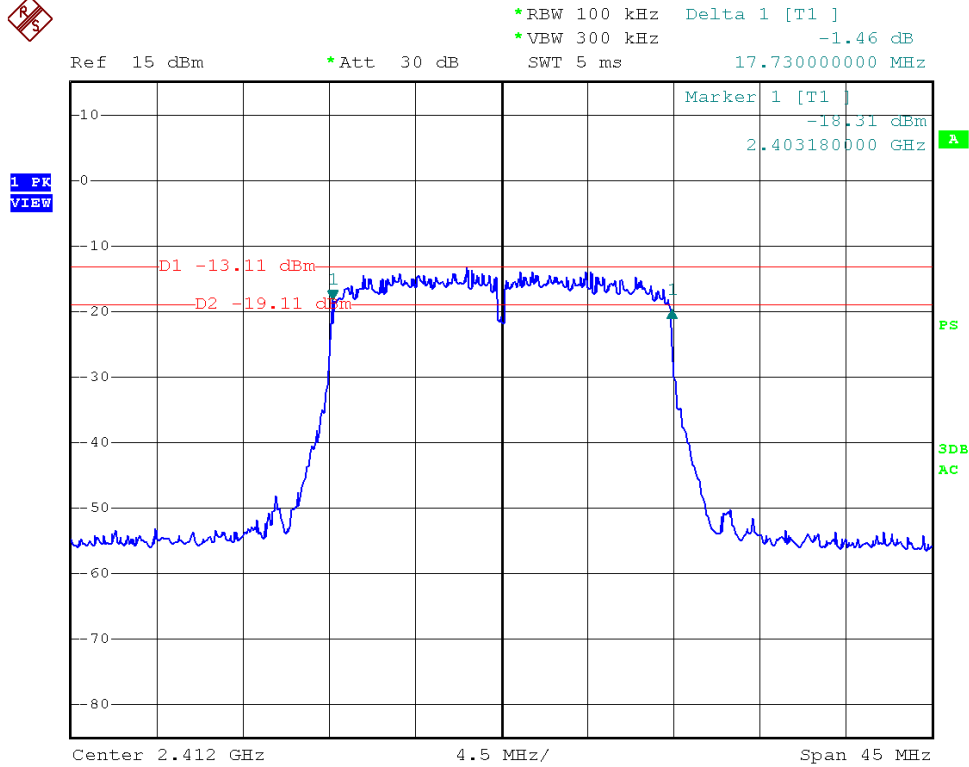
Test Mode: 802.11g---Mid



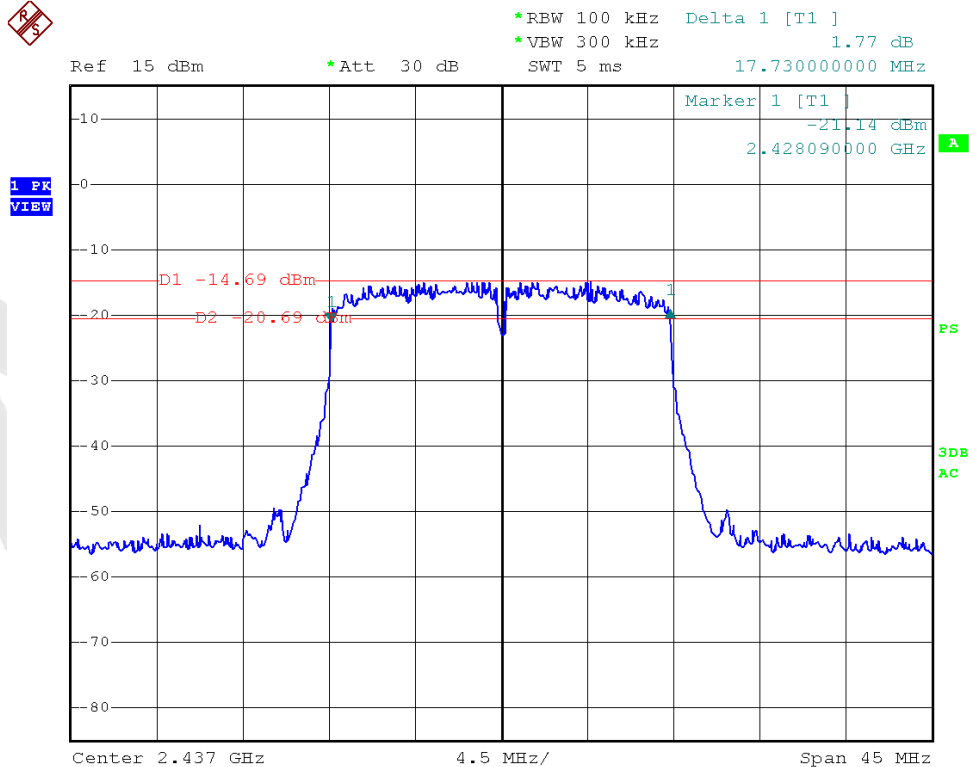
Test Mode: 802.11g---High



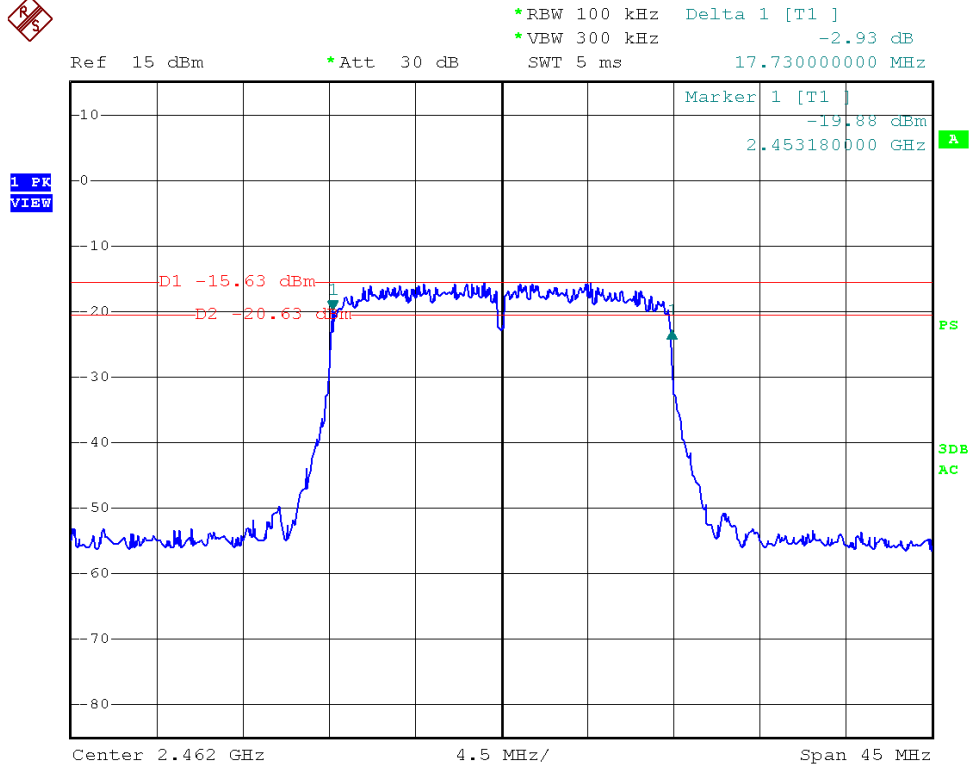
Test Mode: 802.11n (HT20)---Low



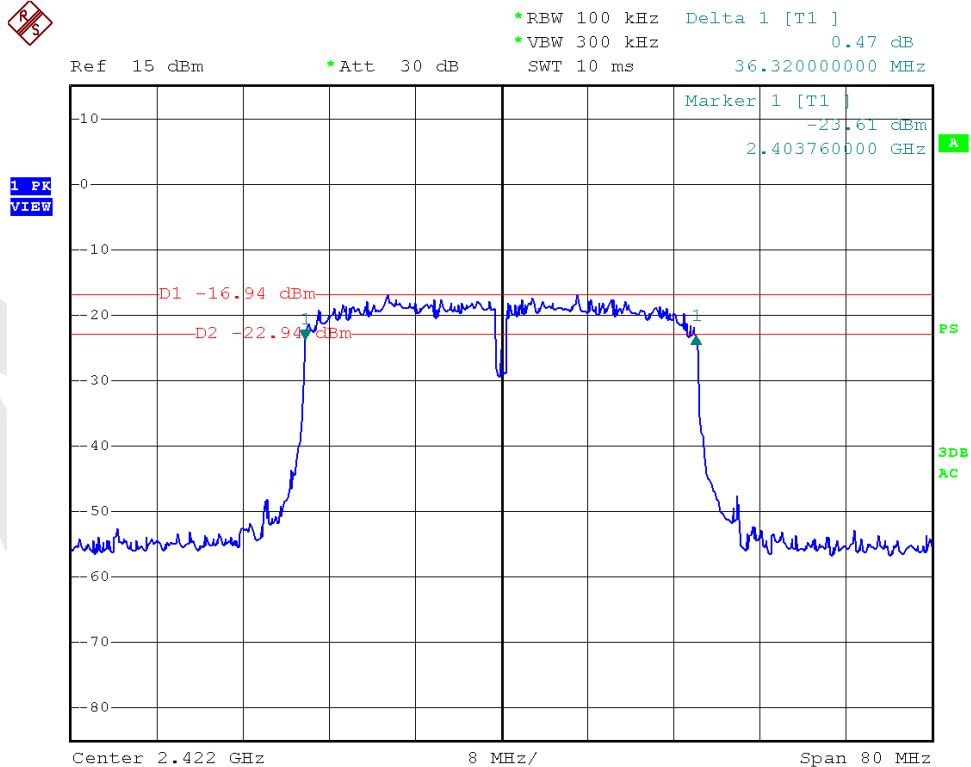
Test Mode: 802.11n (HT20)---Mid



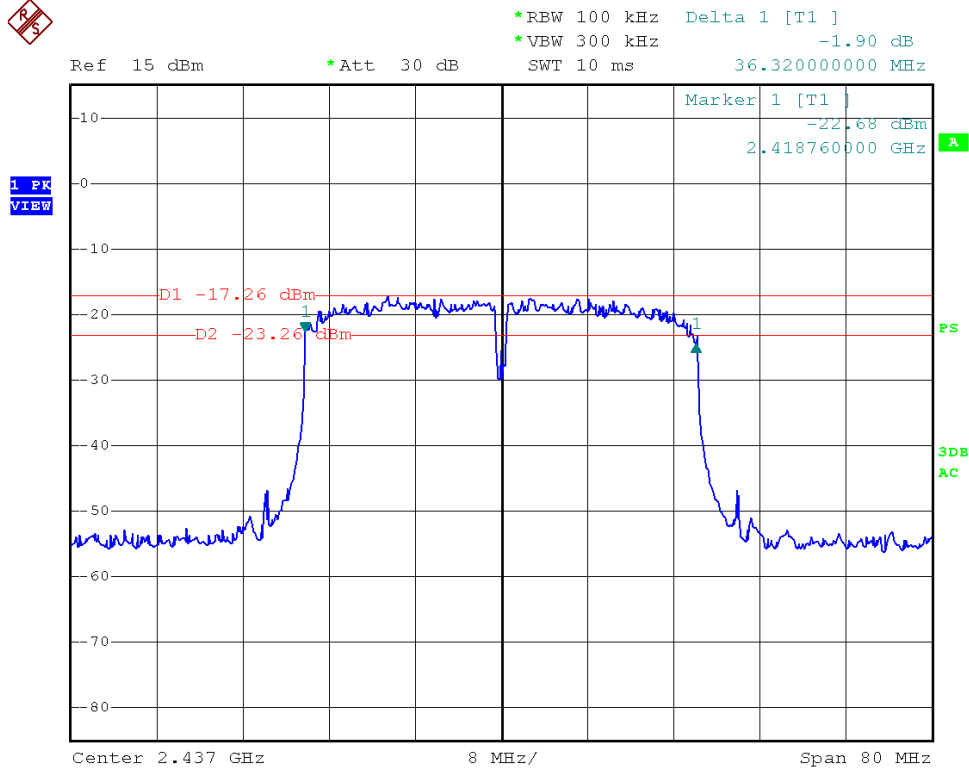
Test Mode: 802.11n (HT20)---High



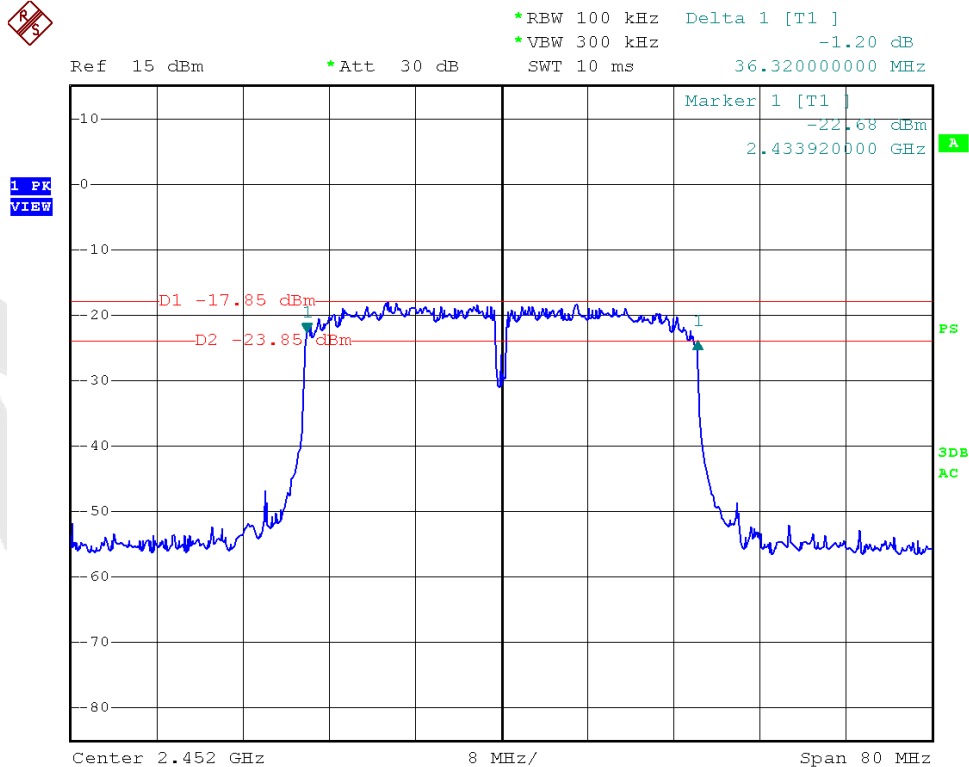
Test Mode: 802.11n (HT40)---Low



Test Mode: 802.11n (HT40)---Mid



Test Mode: 802.11n (HT40)---High



20dB Bandwidth

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	17.36	Pass
Mid	2437	17.44	Pass
High	2462	17.36	Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	20.08	Pass
Mid	2437	20.16	Pass
High	2462	19.68	Pass

Test mode: IEEE 802.11n (HT20)

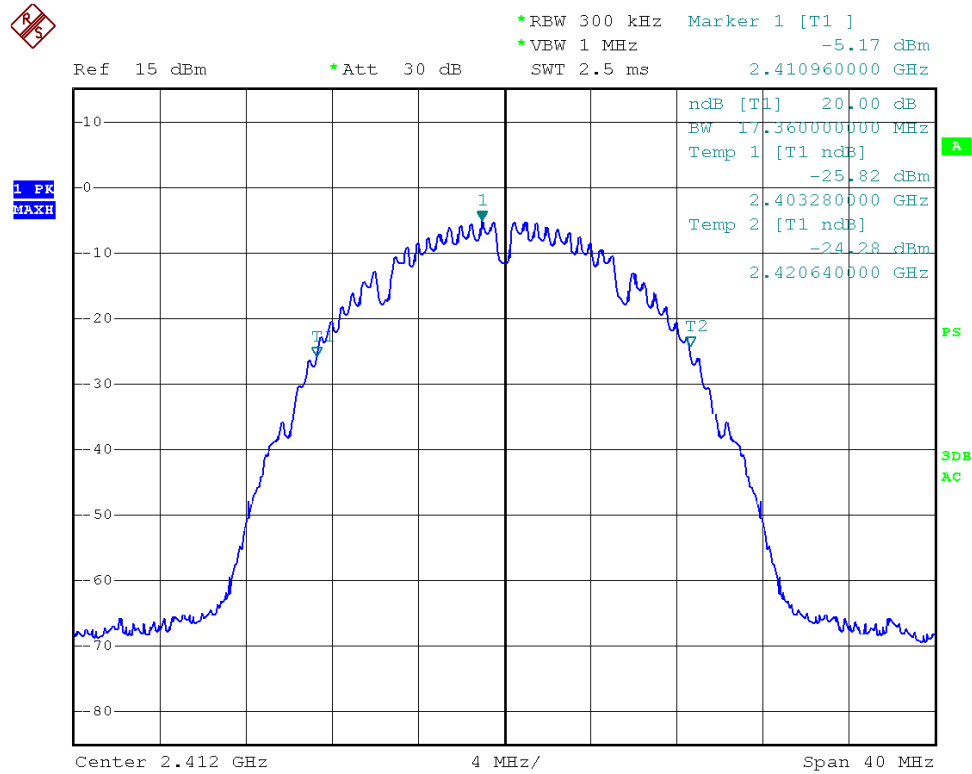
Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2412	20.88	Pass
Mid	2437	21.28	Pass
High	2462	21.12	Pass

Test mode: IEEE 802.11n (HT40)

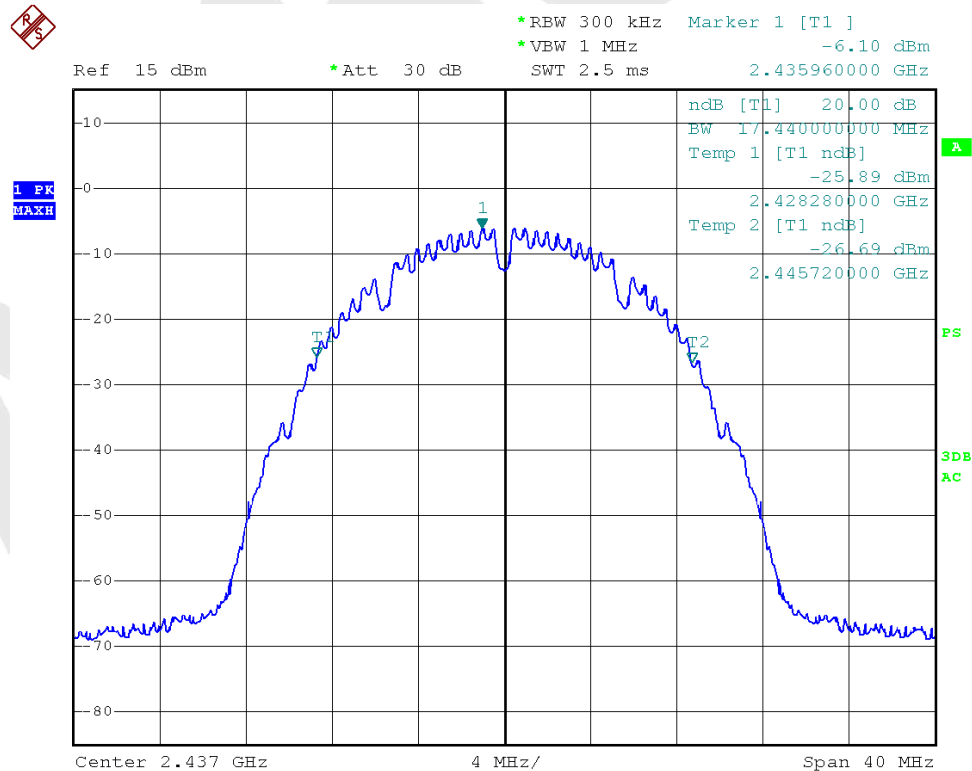
Channel	Frequency (MHz)	Bandwidth (MHz)	Results
Low	2422	39.12	Pass
Mid	2437	39.36	Pass
High	2452	39.00	Pass

Test Plots See the following page.

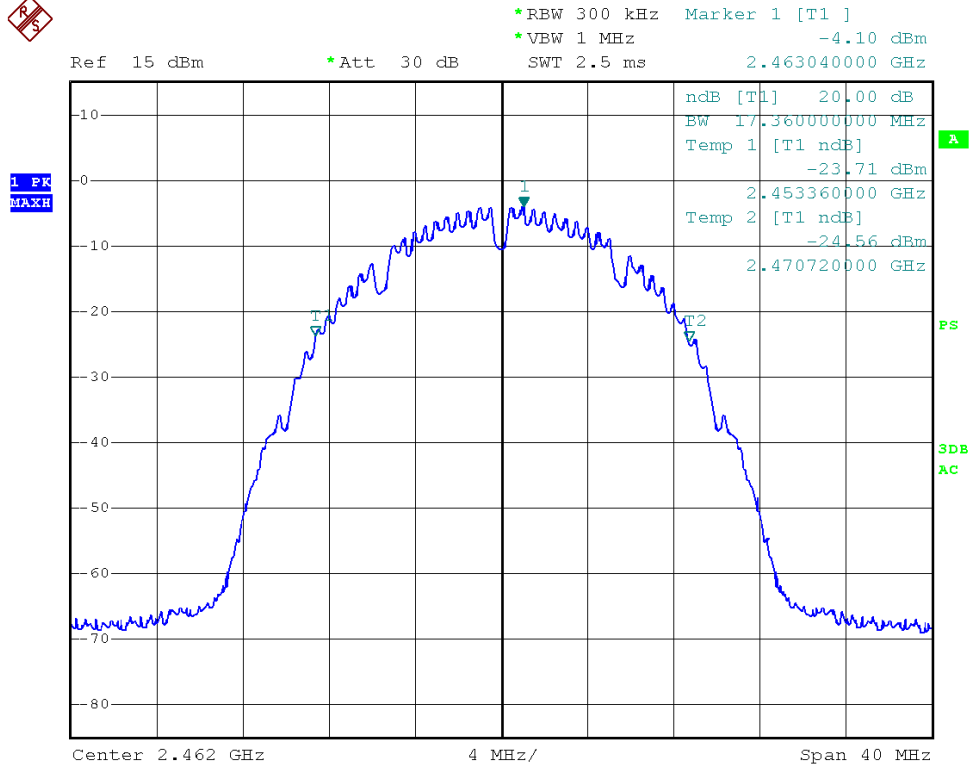
Test Mode: 802.11b---Low



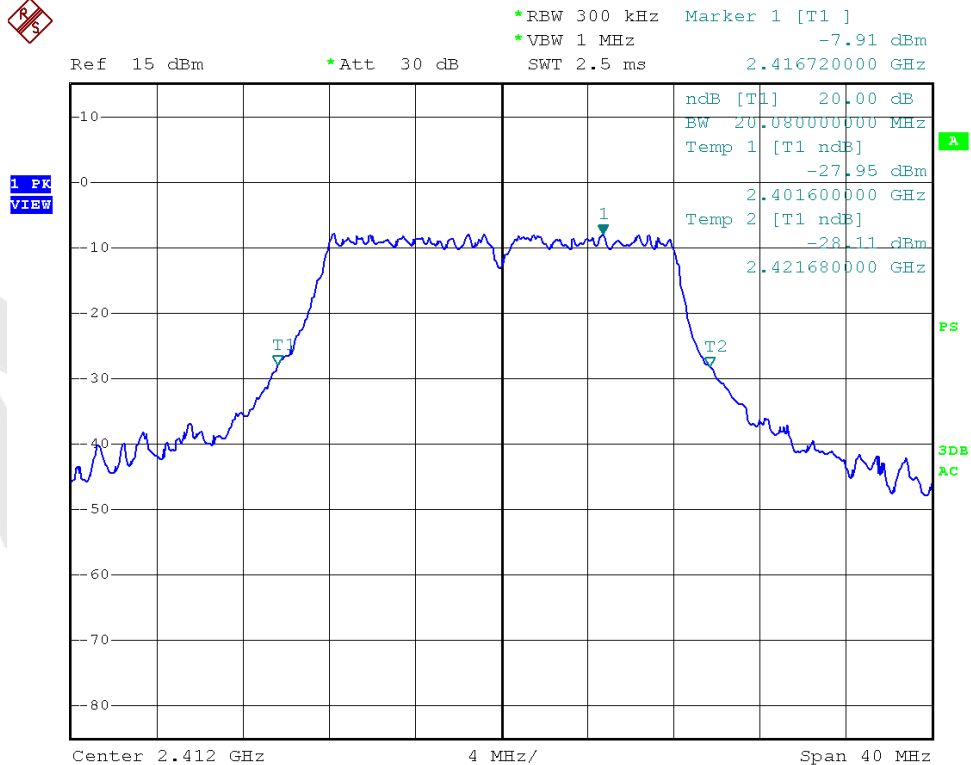
Test Mode: 802.11b---Mid



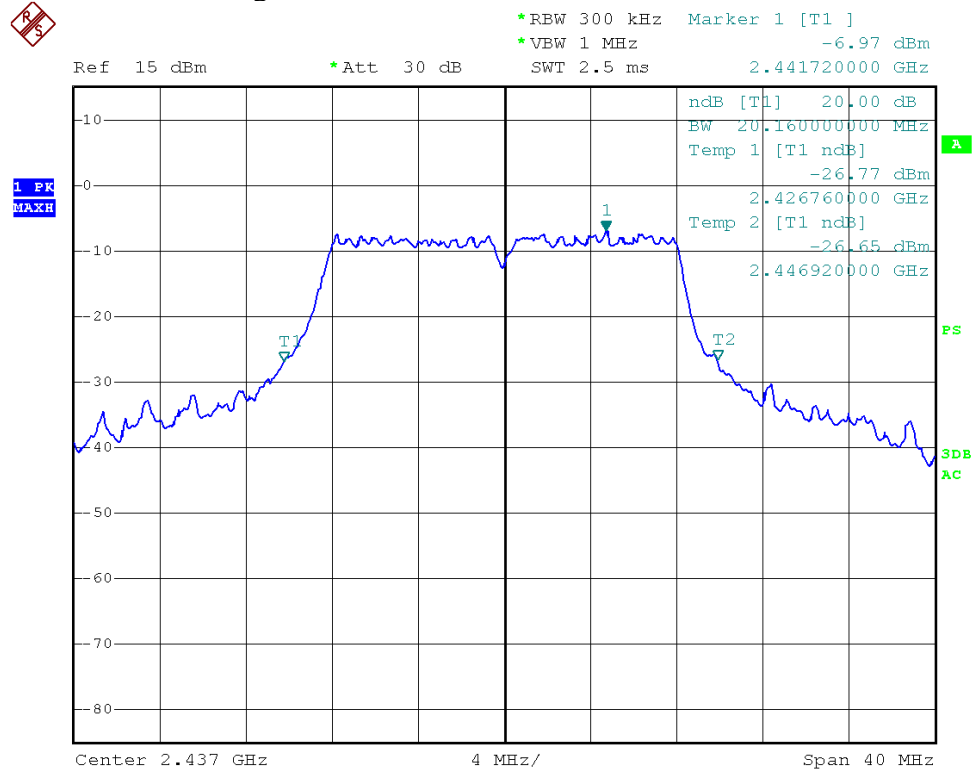
Test Mode: 802.11b---High



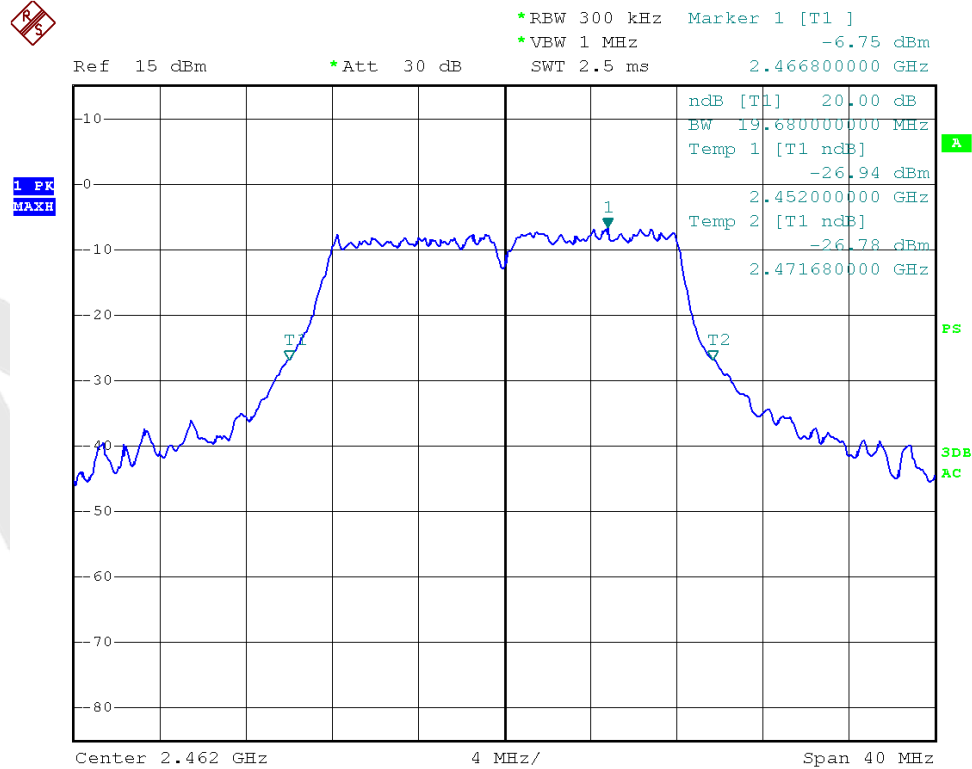
Test Mode: 802.11g---Low



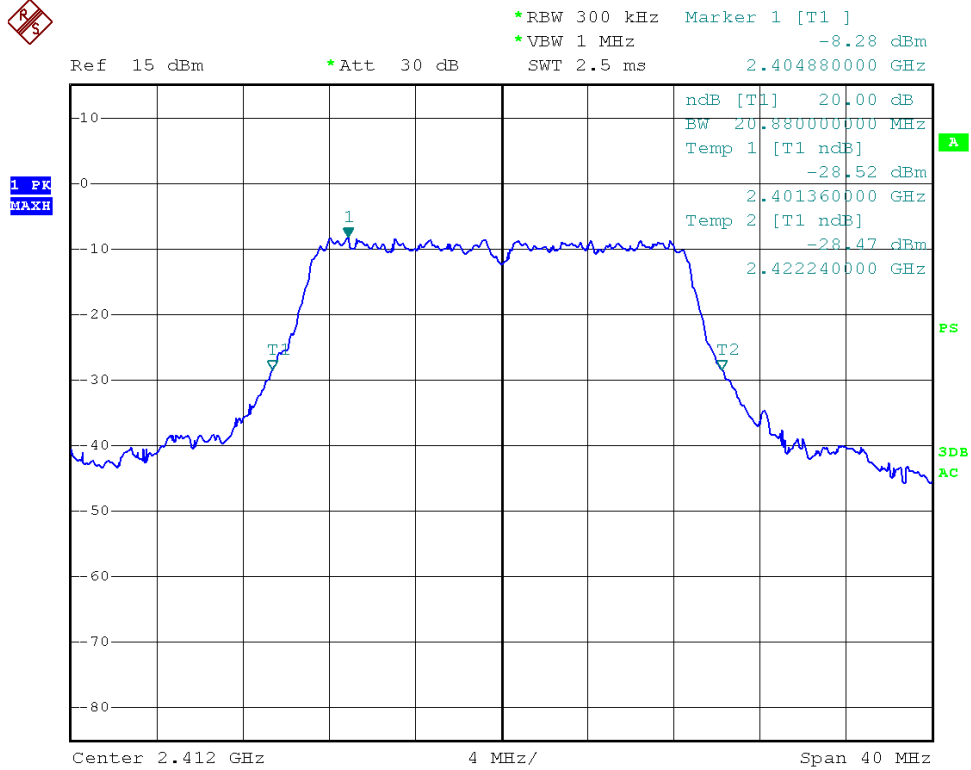
Test Mode: 802.11g---Mid



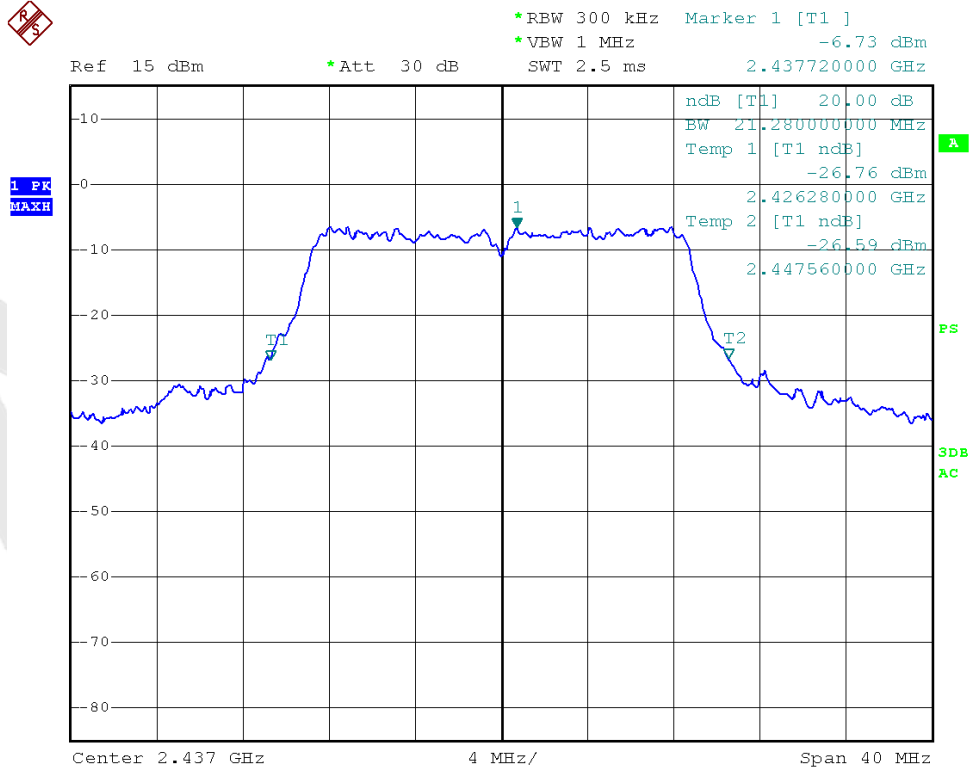
Test Mode: 802.11g---High



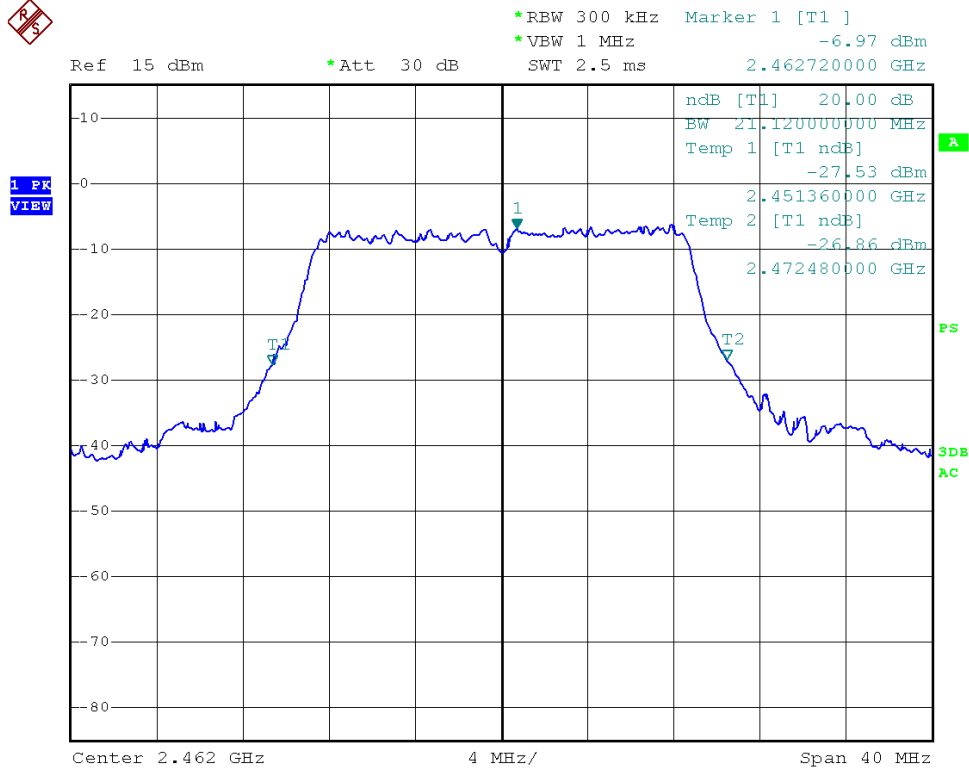
Test Mode: 802.11n (HT20)---Low



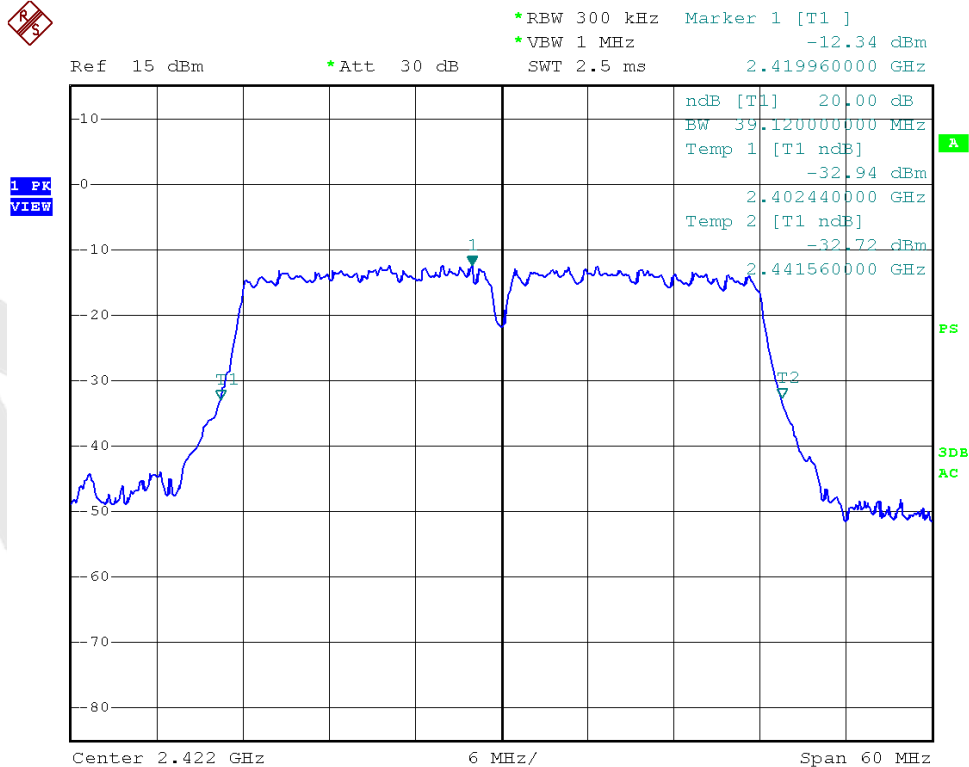
Test Mode: 802.11n (HT20)---Mid



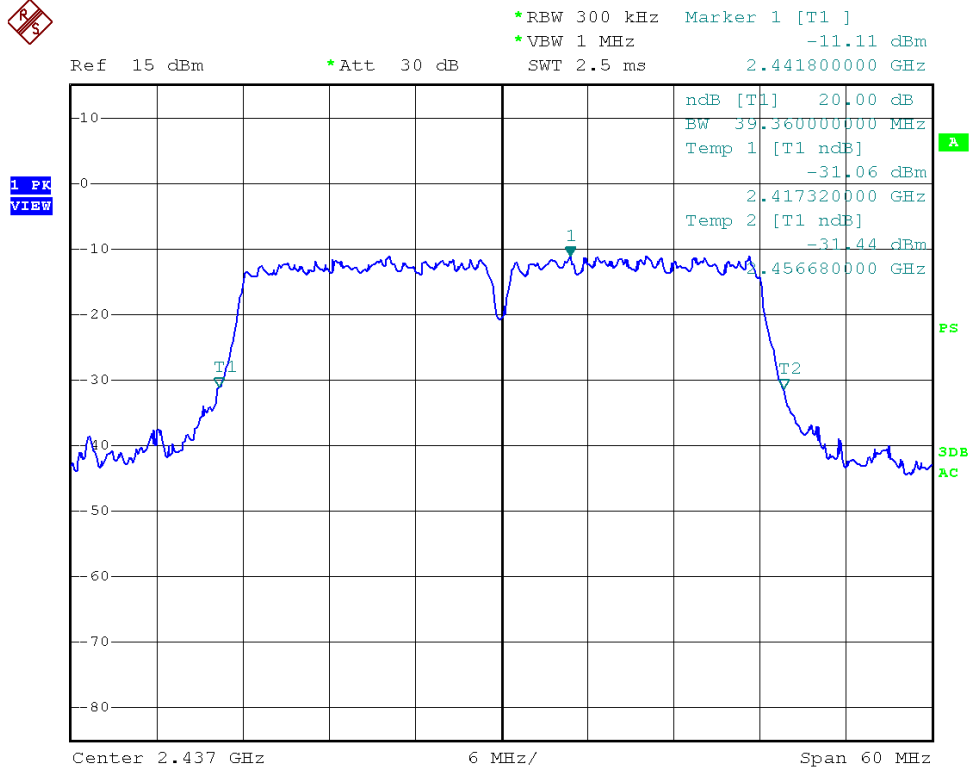
Test Mode: 802.11n (HT20)---High



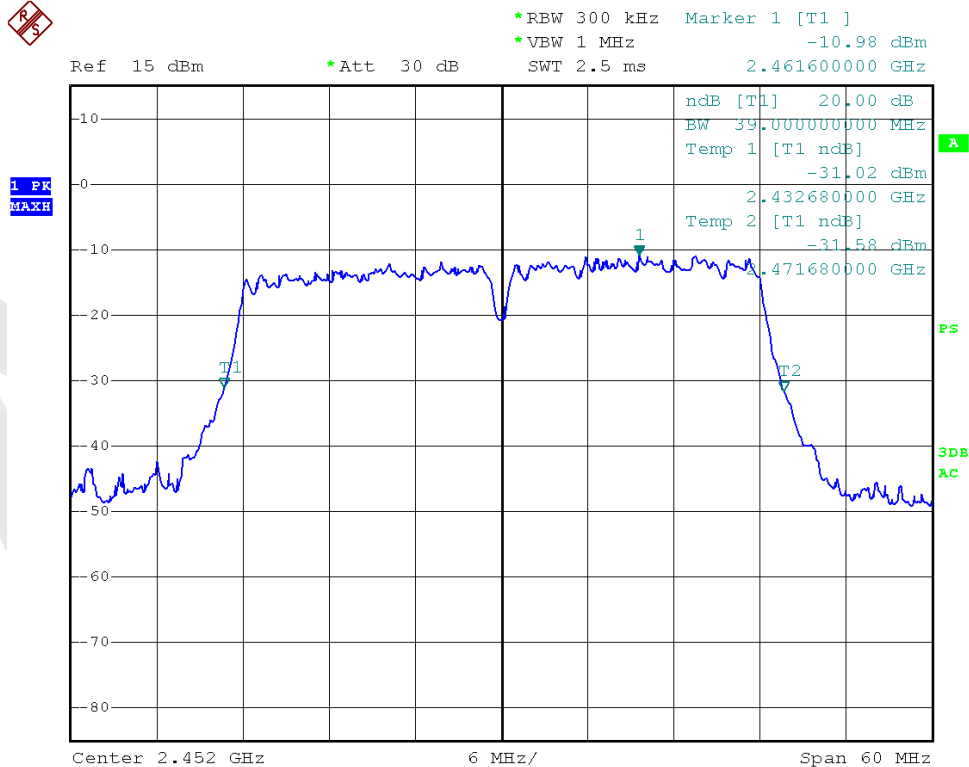
Test Mode: 802.11n (HT40)---Low



Test Mode: 802.11n (HT40)---Mid



Test Mode: 802.11n (HT40)---High



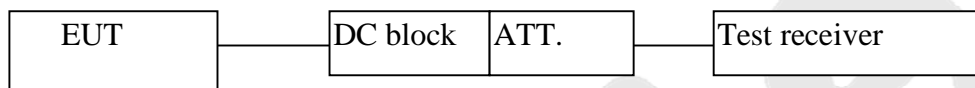
3.3. Maximum Peak output power test

a. Limit

The maximum peak 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 9.1.2:

1. This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.
2. Set the RBW = 1 MHz.
3. Set the VBW $\geq 3 \times \text{RBW} = 3 \text{ MHz}$.
4. Set the span $\geq 1.5 \times \text{DTS bandwidth}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.

e. Test Equipment

Same as the equipment listed in 3.2.

f. Test Results

Pass.

g. Test Data

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	8.43	30	1	Pass
Mid	2437	7.51			Pass
High	2462	6.59			Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	7.36	30	1	Pass
Mid	2437	6.73			Pass
High	2462	6.04			Pass

Test mode: IEEE 802.11n (HT20)

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2412	7.30	30	1	Pass
Mid	2437	6.73			Pass
High	2462	5.93			Pass

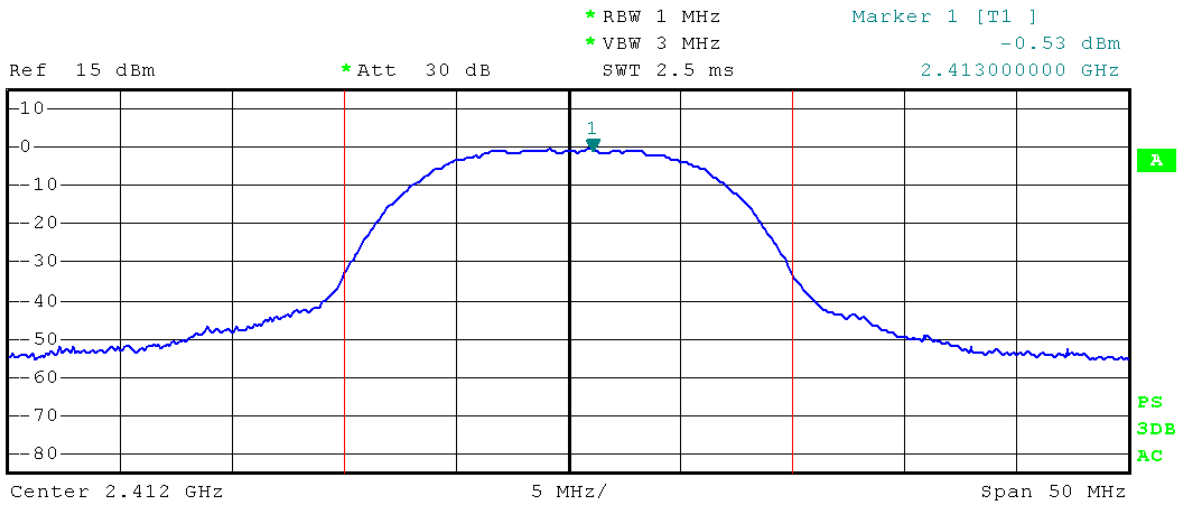
Test mode: IEEE 802.11n (HT40)

Channel	Frequency (MHz)	Maximum transmit power	Limit		Result
		(dBm)	(dBm)	(watts)	
Low	2422	6.91	30	1	Pass
Mid	2437	6.36			Pass
High	2452	5.91			Pass

Test Mode: 802.11b---Low



1 PK
MAXH

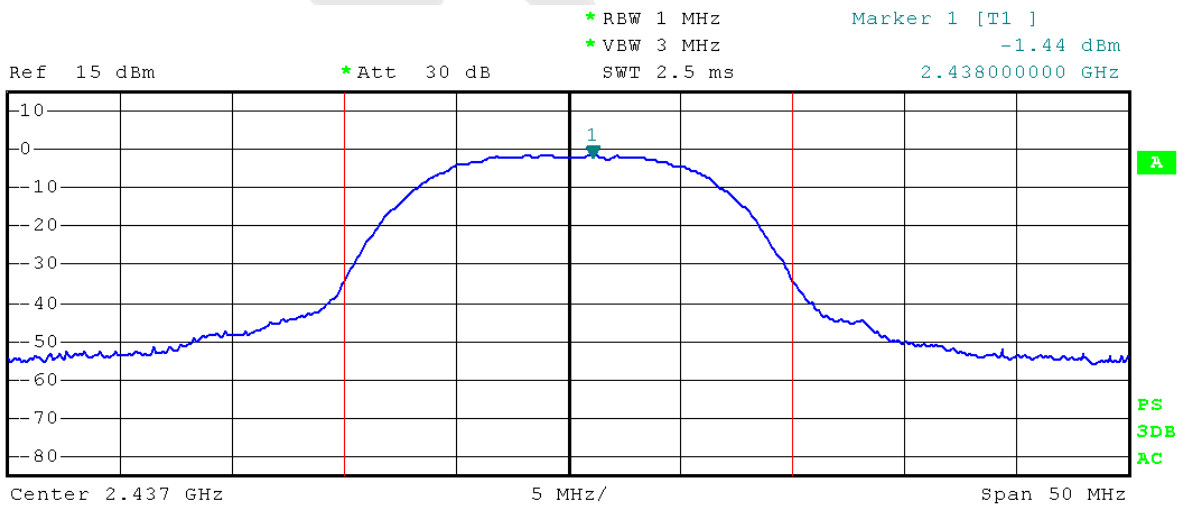


Tx Channel
Bandwidth 20 MHz Power 8.43 dBm

Test Mode: 802.11b---Mid



1 PK
MAXH

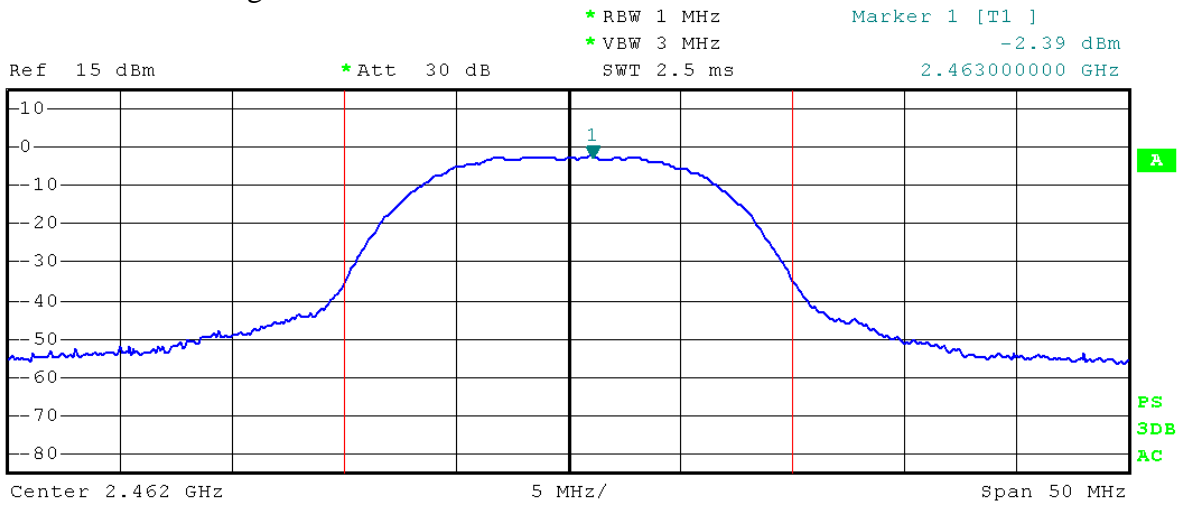


Tx Channel
Bandwidth 20 MHz Power 7.51 dBm

Test Mode: 802.11b---High



1 PK
MAXH

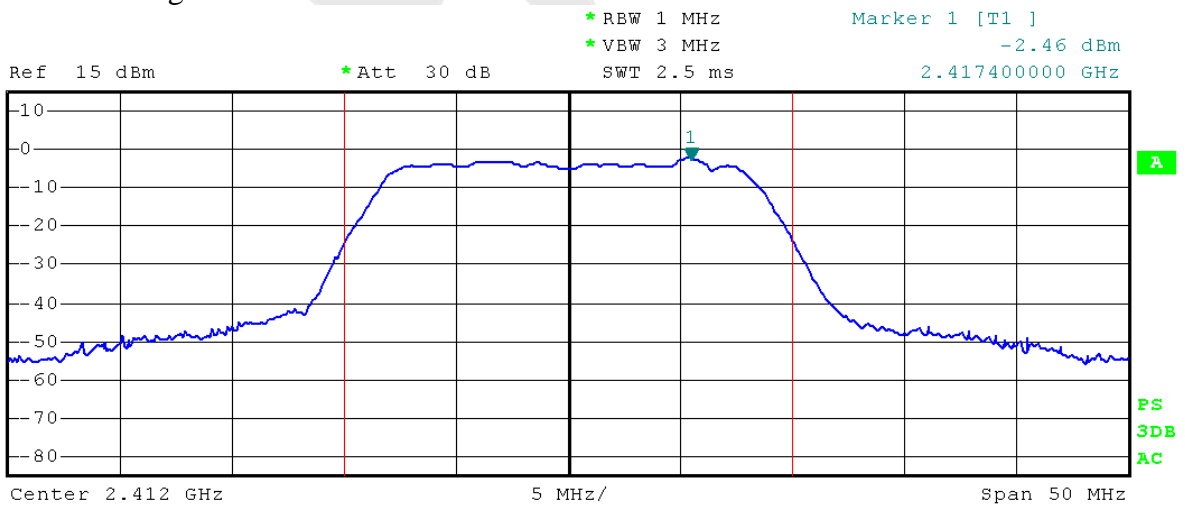


Tx Channel
Bandwidth 20 MHz Power 6.59 dBm

Test Mode: 802.11g---Low



1 PK
MAXH

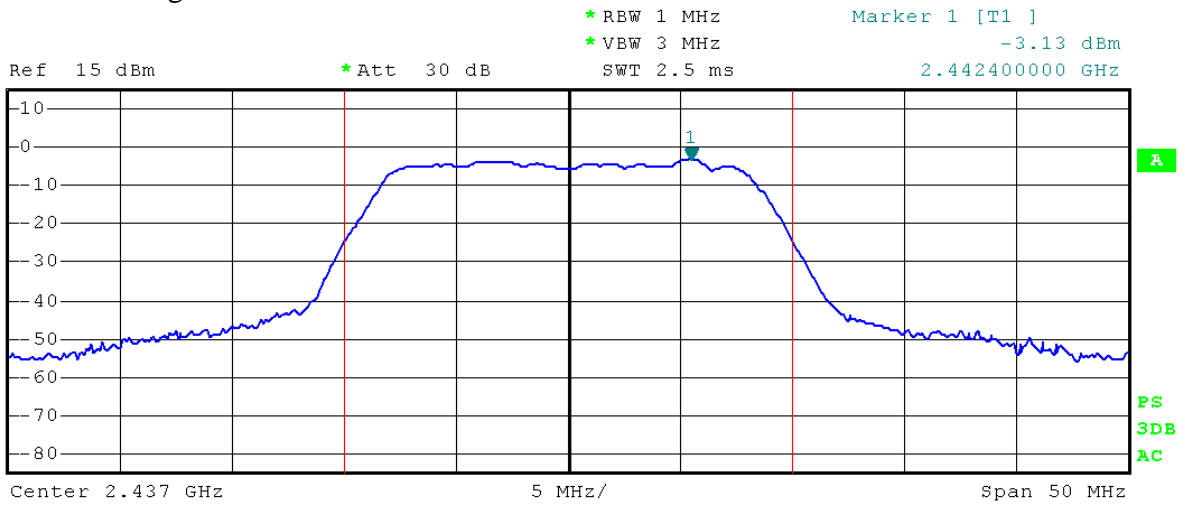


Tx Channel
Bandwidth 20 MHz Power 7.36 dBm

Test Mode: 802.11g---Mid



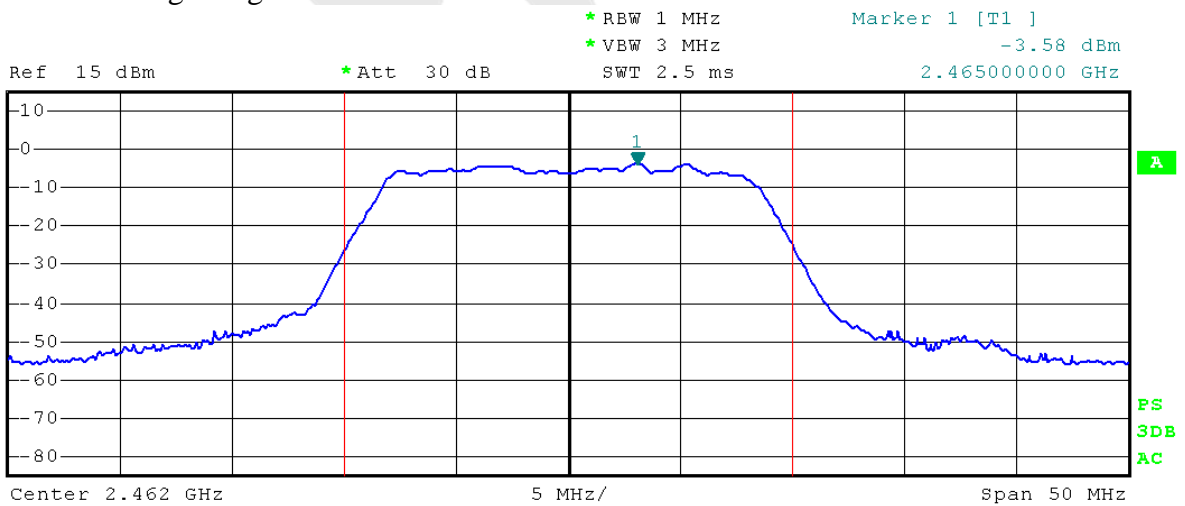
1 PK
MAXH



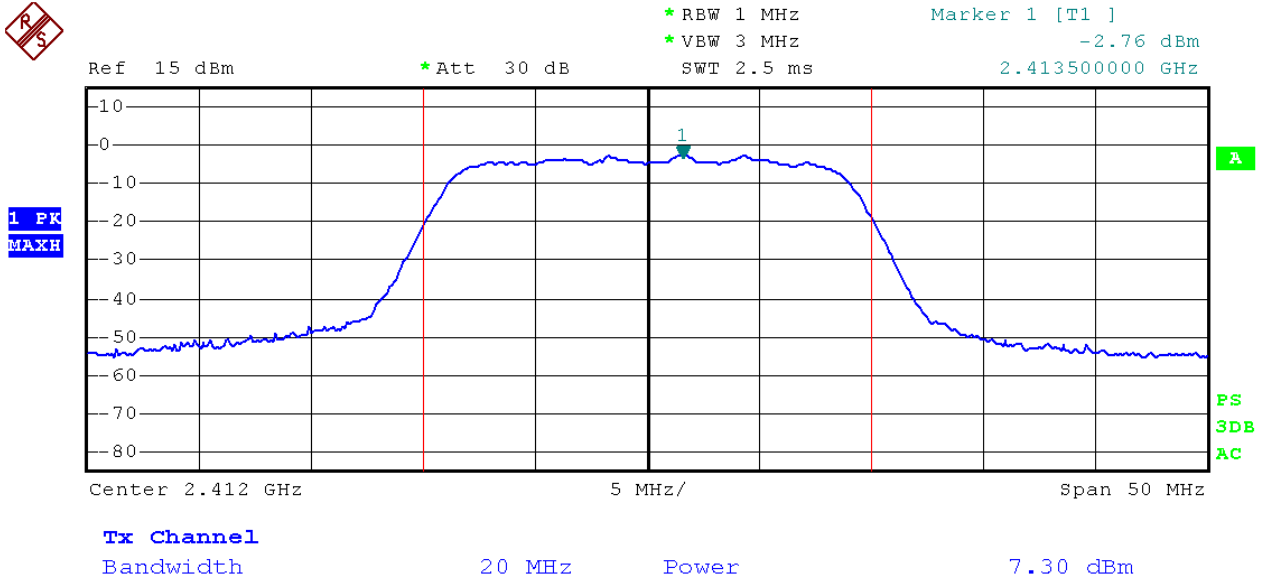
Test Mode: 802.11g---High



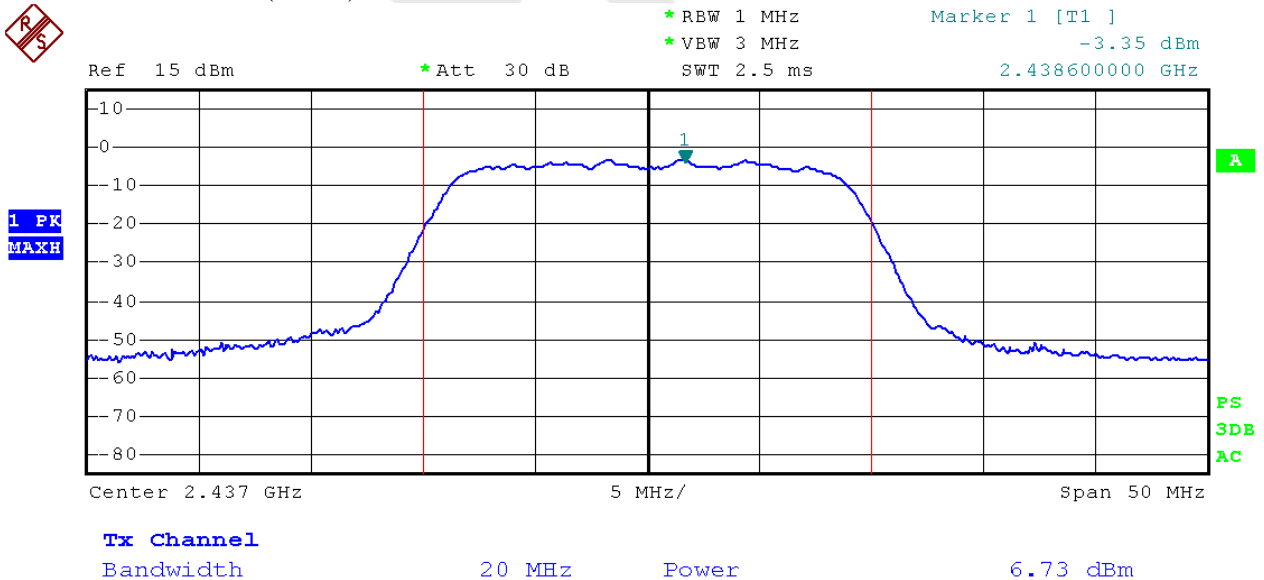
1 PK
MAXH



Test Mode: 802.11n(HT20)---Low



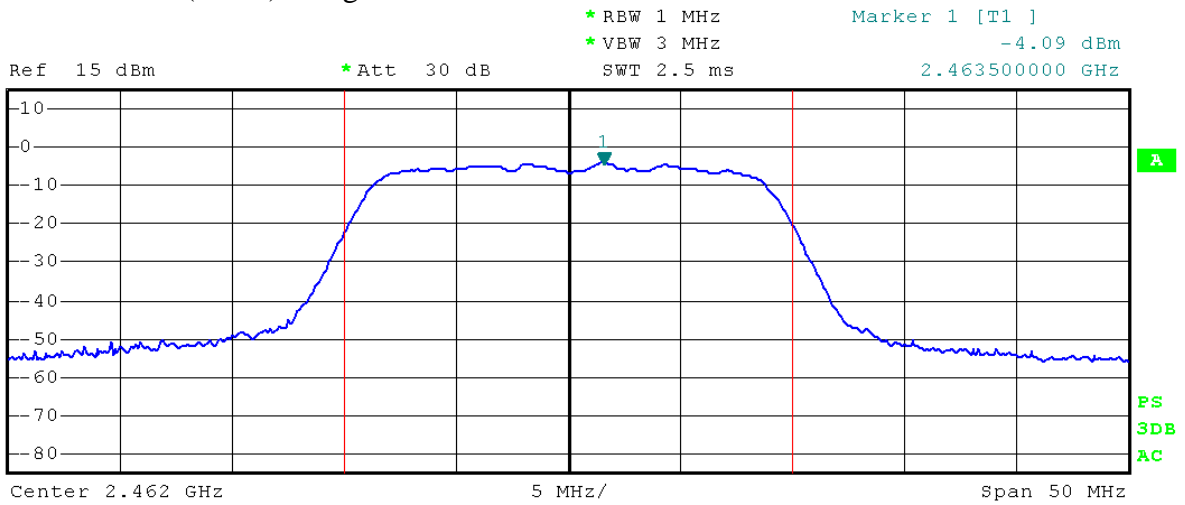
Test Mode: 802.11n(HT20)---Mid



Test Mode: 802.11n(HT20)---High



1 PK
MAXH

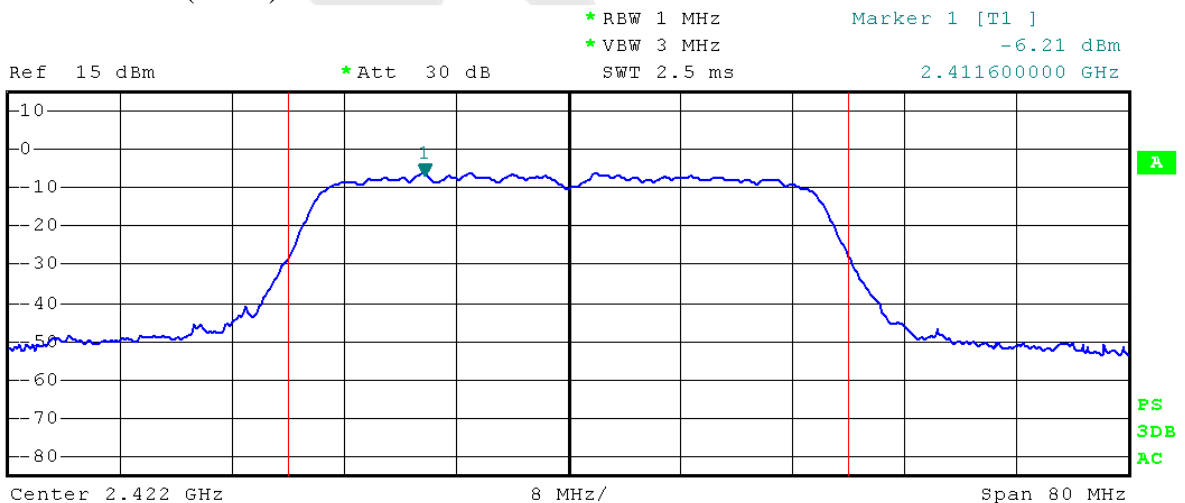


Tx Channel
Bandwidth 20 MHz Power 5.93 dBm

Test Mode: 802.11n(HT40)---Low



1 PK
MAXH

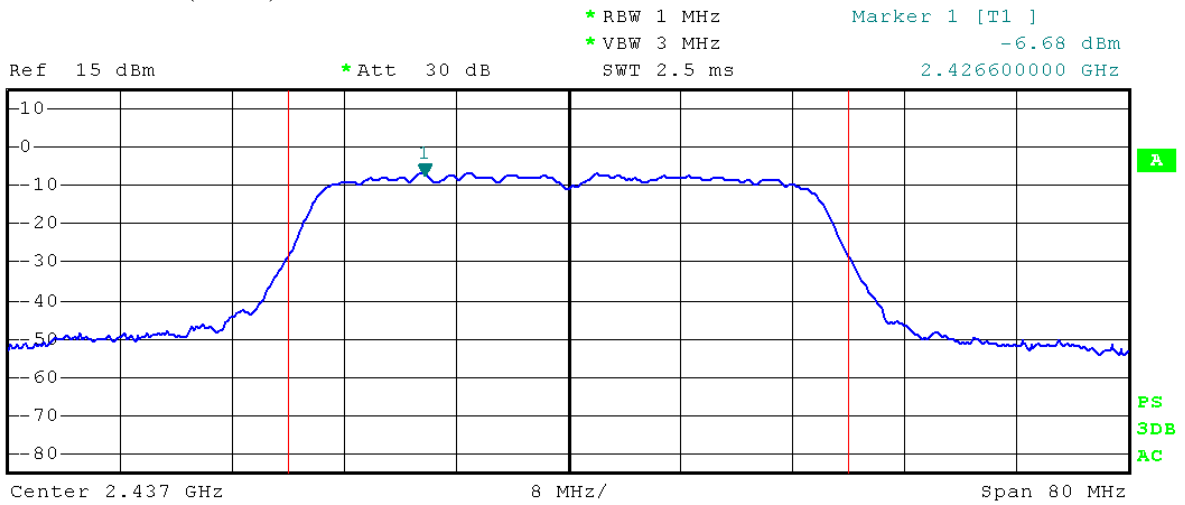


Tx Channel
Bandwidth 40 MHz Power 6.91 dBm

Test Mode: 802.11n(HT40)---Mid



1 PK
MAXH

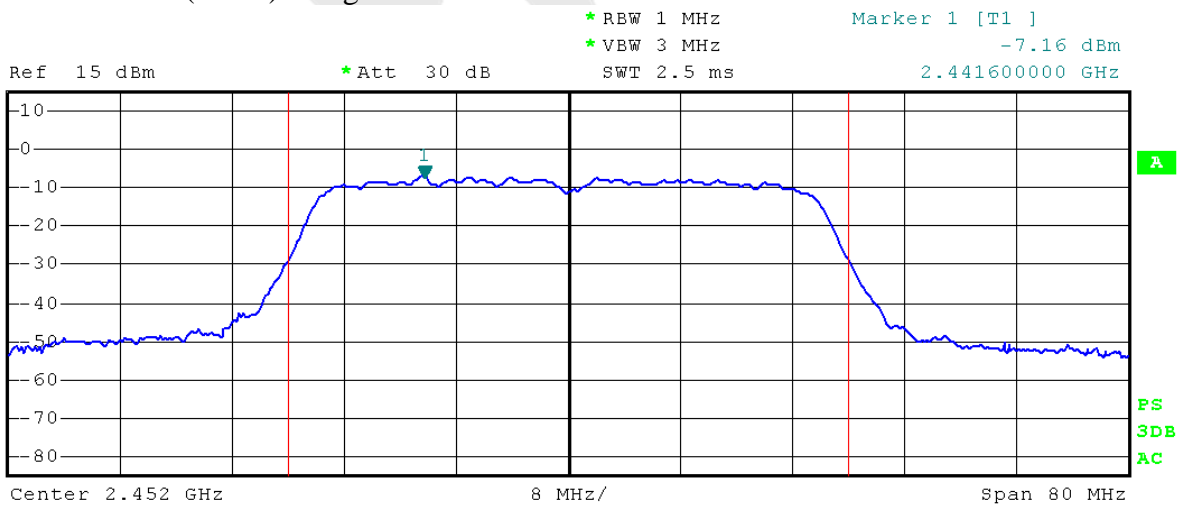


Tx Channel
Bandwidth 40 MHz Power 6.36 dBm

Test Mode: 802.11n(HT40)---High



1 PK
MAXH



Tx Channel
Bandwidth 40 MHz Power 5.91 dBm

3.4. 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 is 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 in §15.209(a).

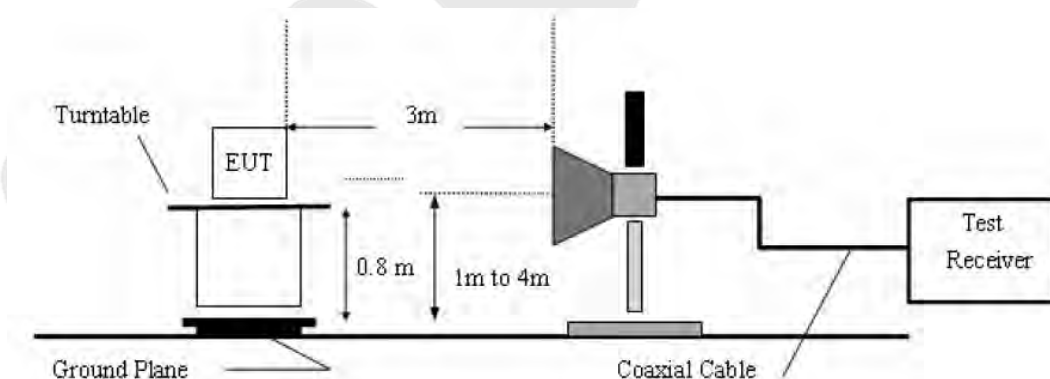
b. Test Procedure

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) The EUT is placed on a turntable, which is 0.8m above the ground plane.
- 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.



c. Test Equipment

Same as the equipment listed in 3.2.

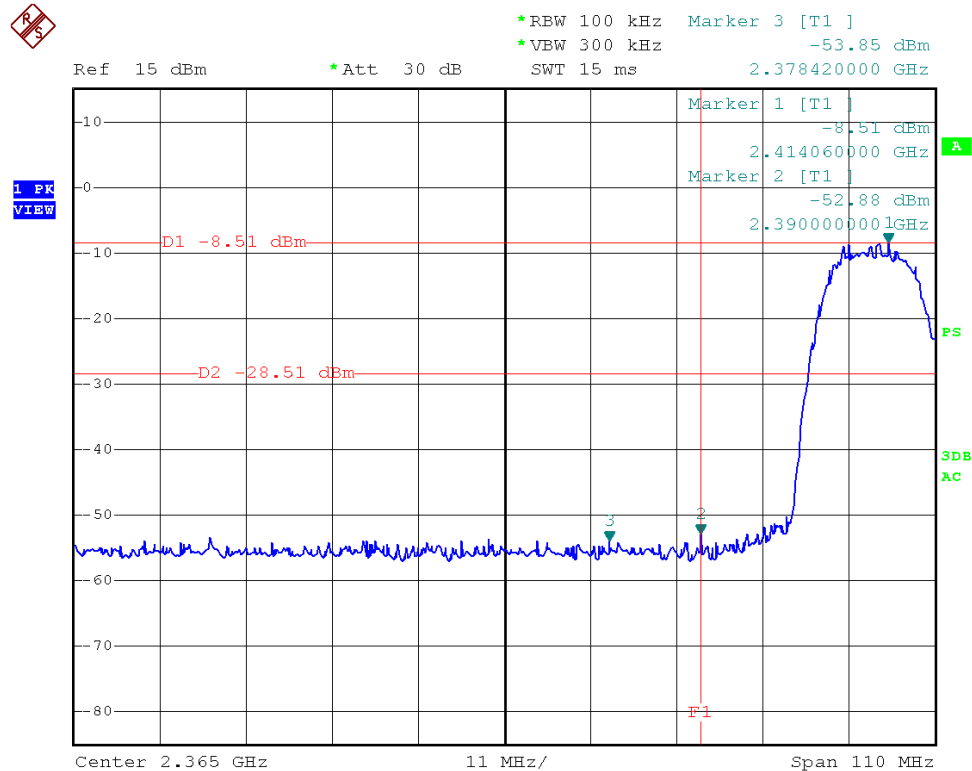
d. Test Results

Pass.

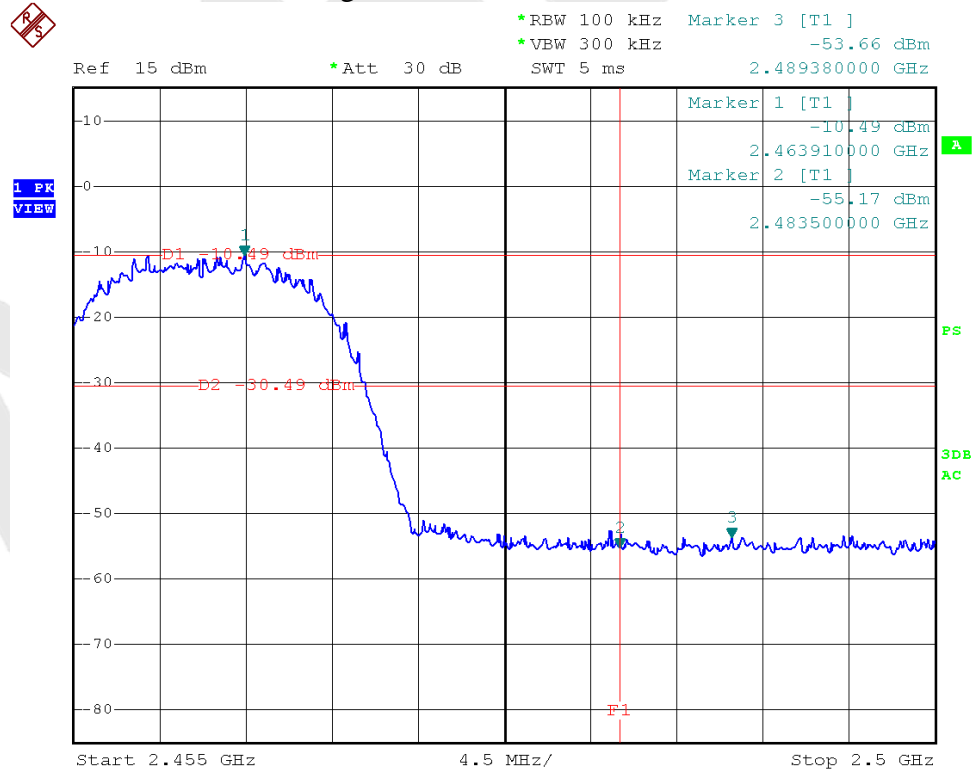
e. Test Plots

See the following page.

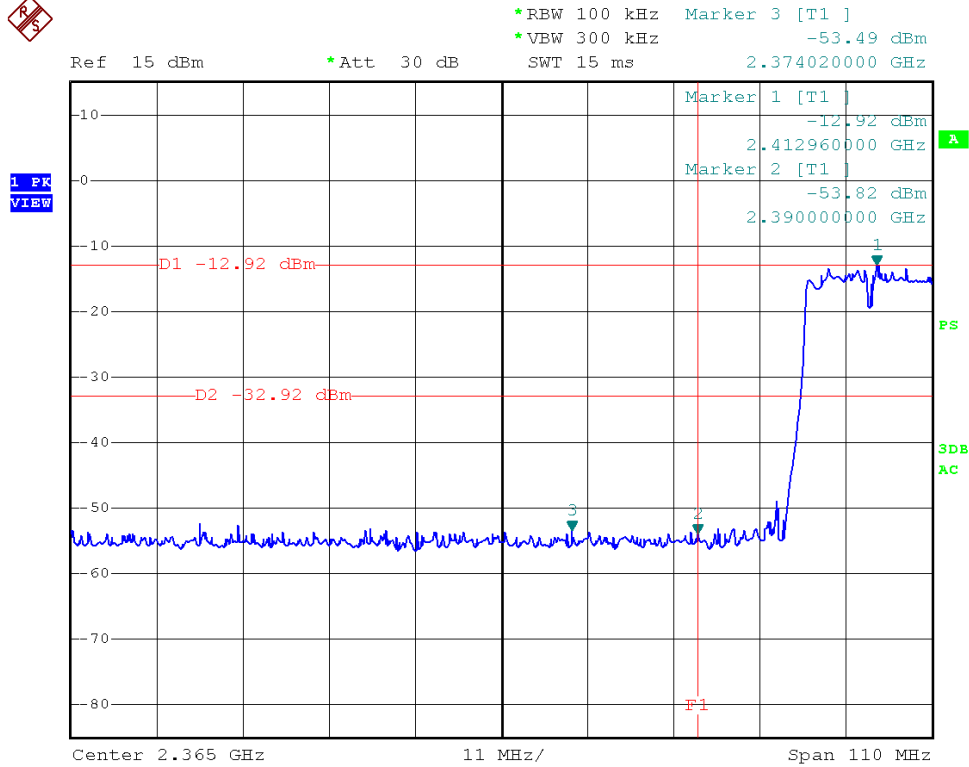
Test Mode: 802.11b ---Low



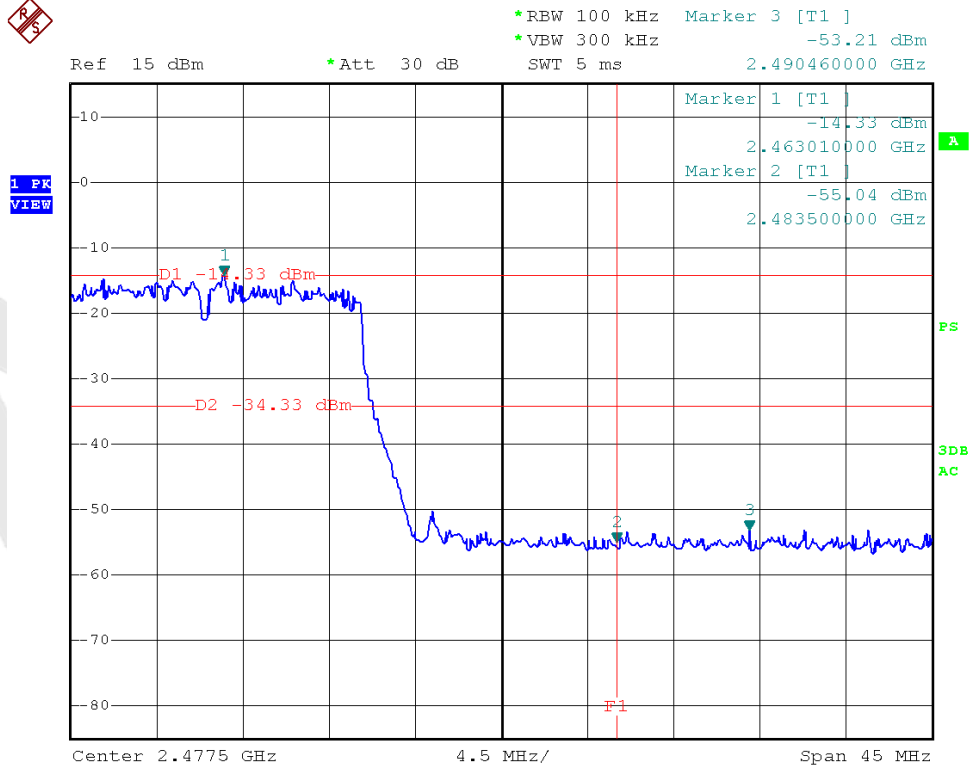
Test Mode: 802.11b ---High



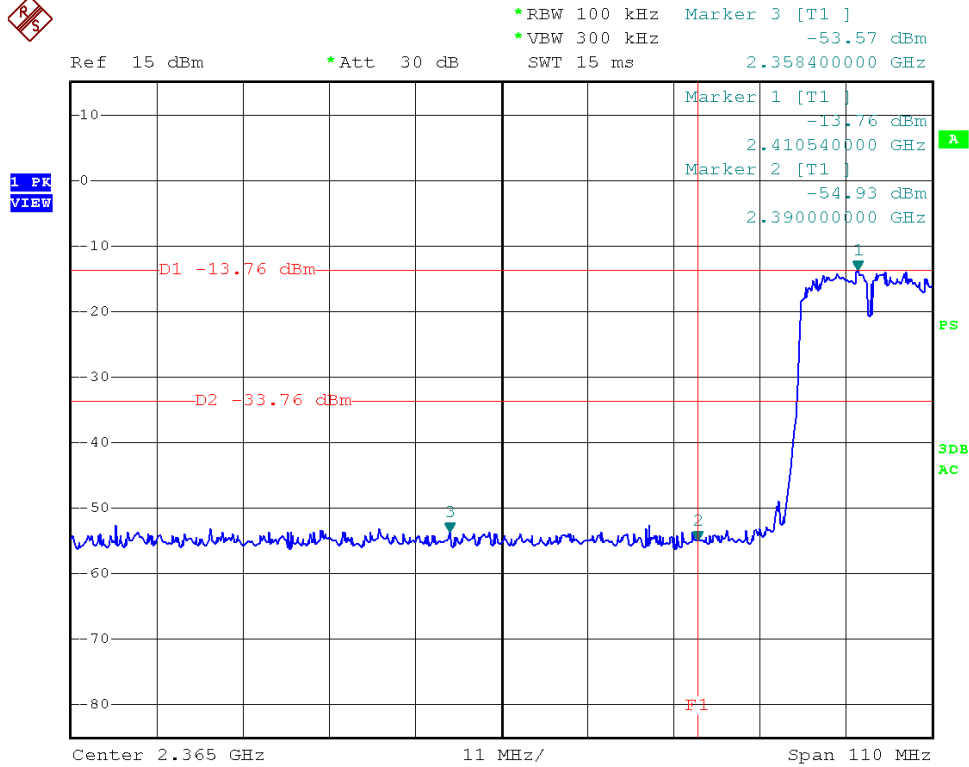
Test Mode: 802.11g ---Low



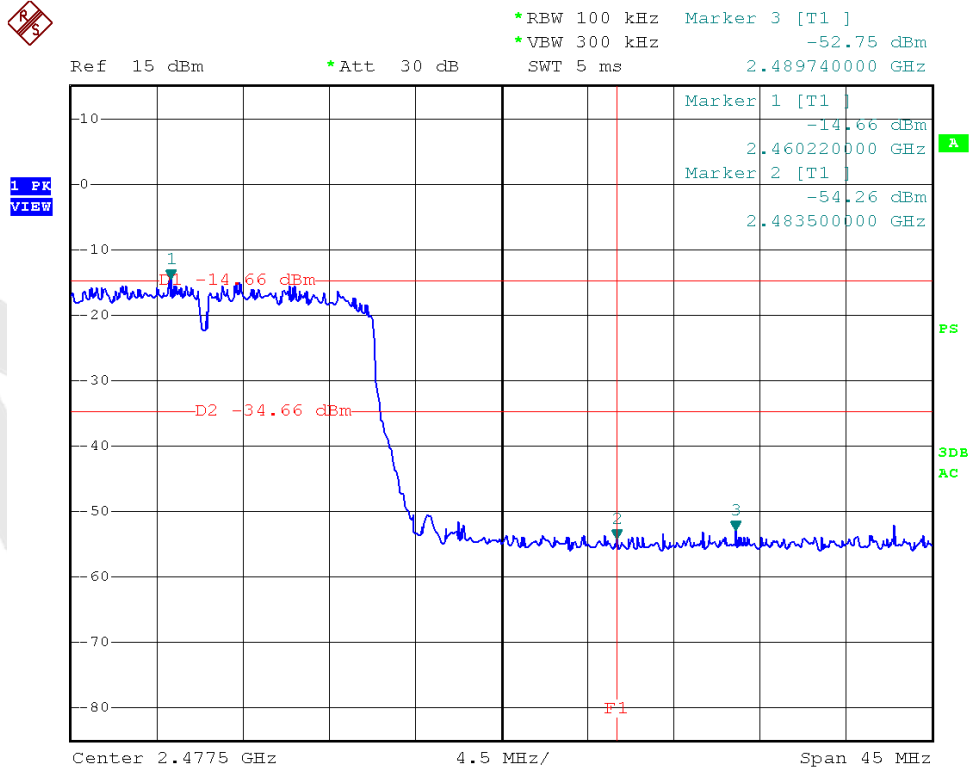
Test Mode: 802.11g ---High



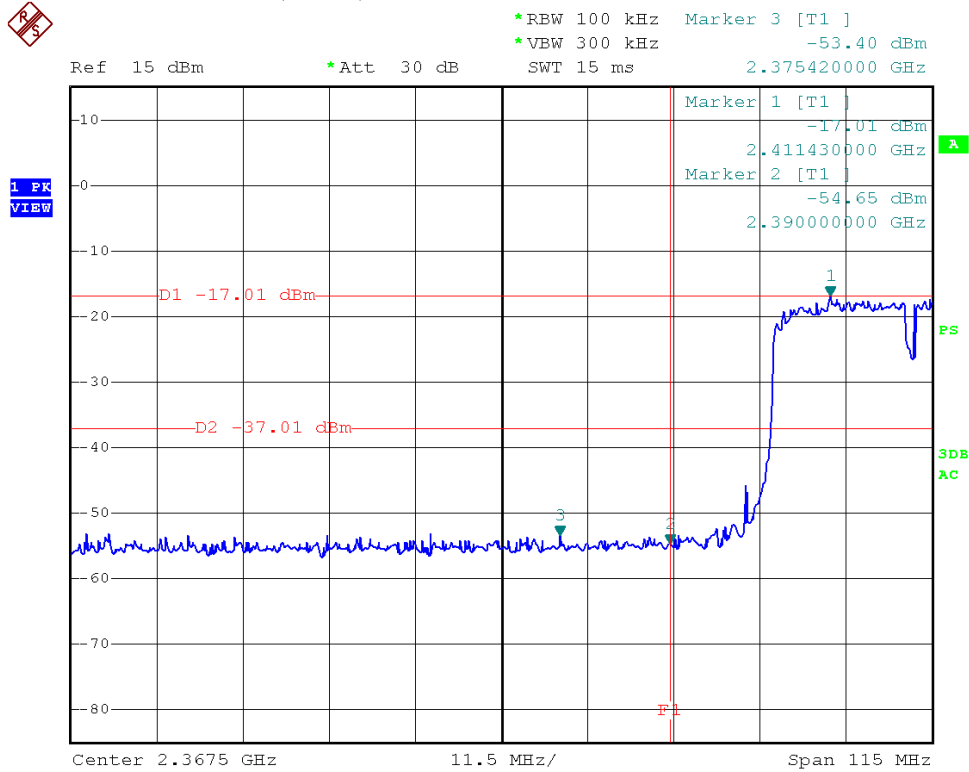
Test Mode: 802.11n (HT20) ---Low



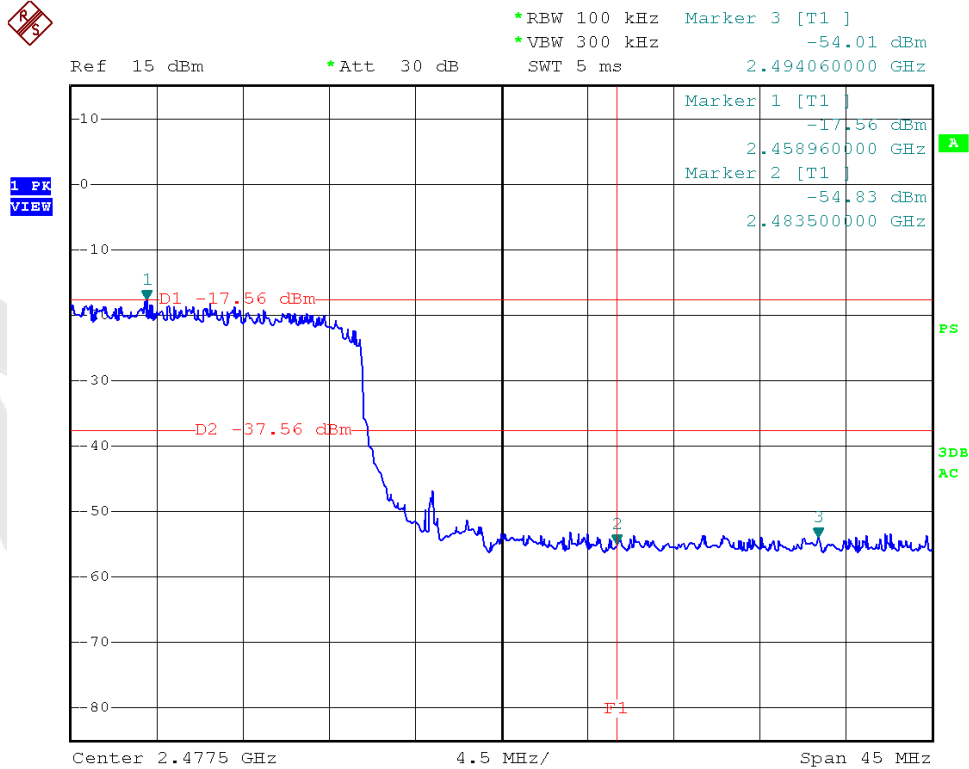
Test Mode: 802.11n (HT20)---High



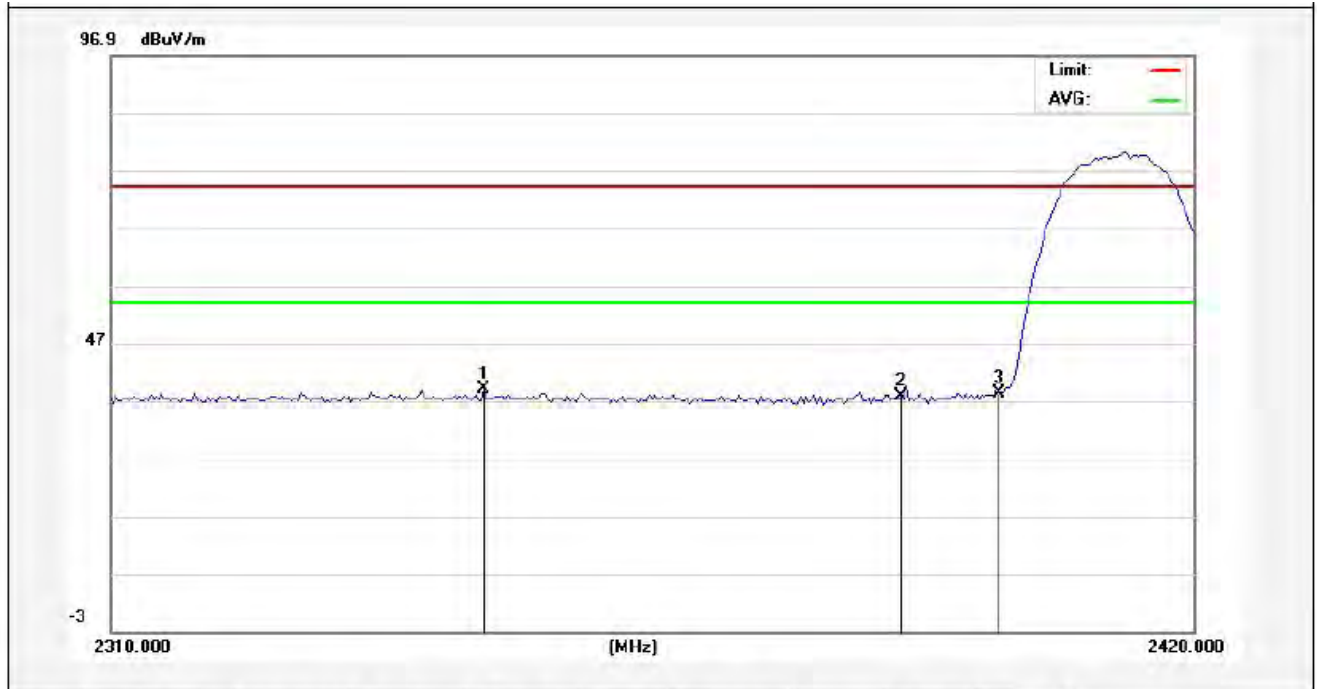
Test Mode: 802.11n (HT40) ---Low



Test Mode: 802.11n (HT40) ---High

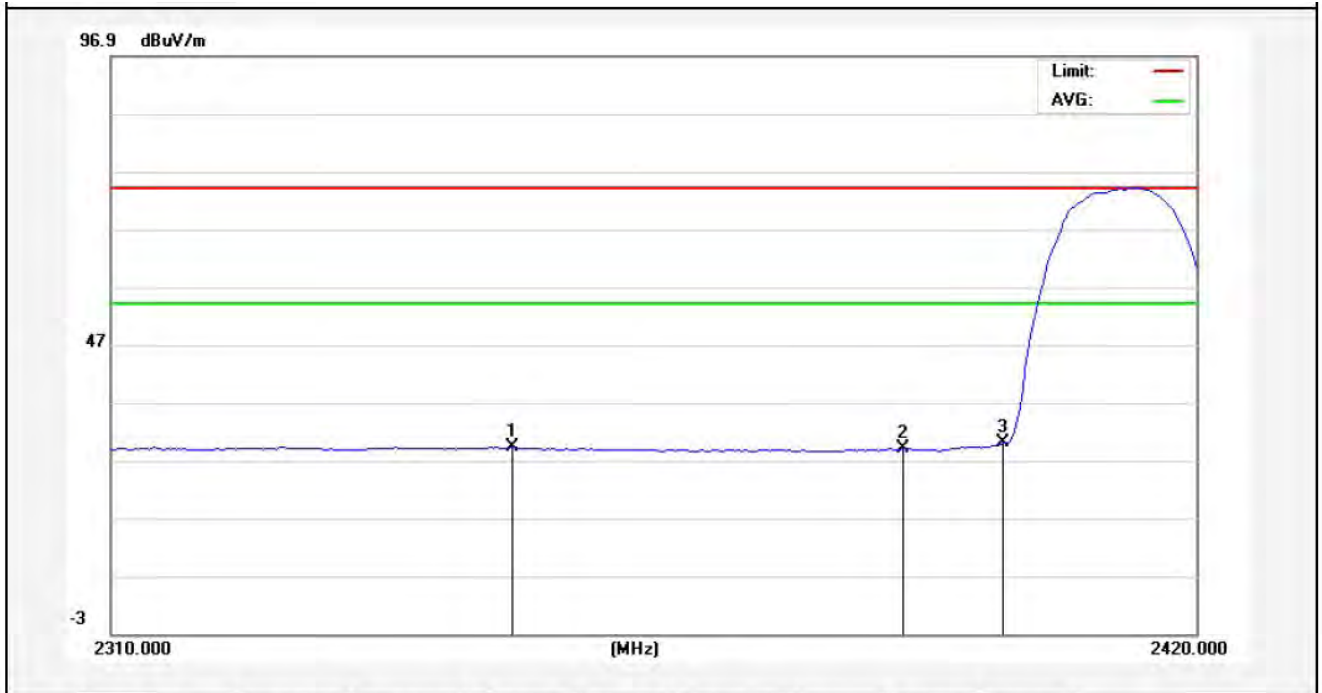


Test Mode: 802.11b
2412MHz
Horizontal-PEAK:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2347.400	41.56	-2.61	38.95	74.00	-35.05	peak			
2	2390.000	40.33	-2.51	37.82	74.00	-36.18	peak			
3	2400.000	40.89	-2.49	38.40	74.00	-35.60	peak			

Horizontal-AV:

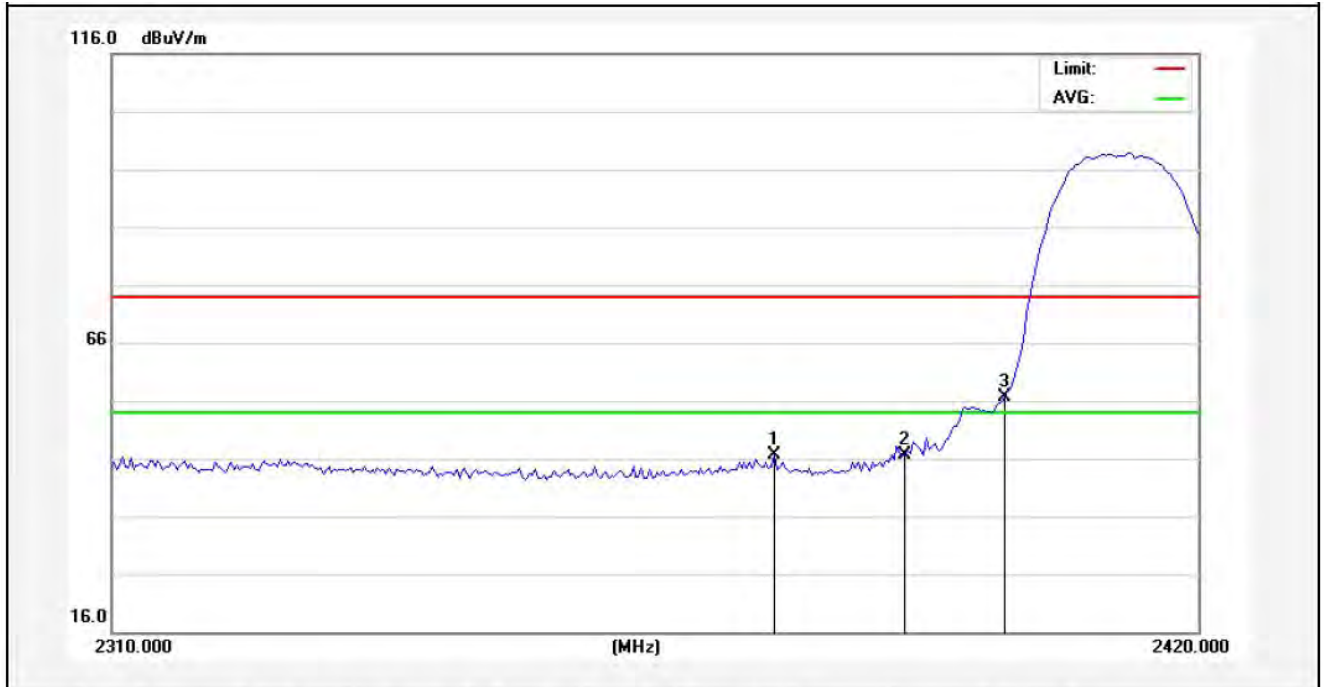


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2350.150	31.80	-2.60	29.20	54.00	-24.80	AVG			
2	2390.000	31.52	-2.51	29.01	54.00	-24.99	AVG			
3	2400.000	32.40	-2.49	29.91	54.00	-24.09	AVG			

Test Mode: 802.11b

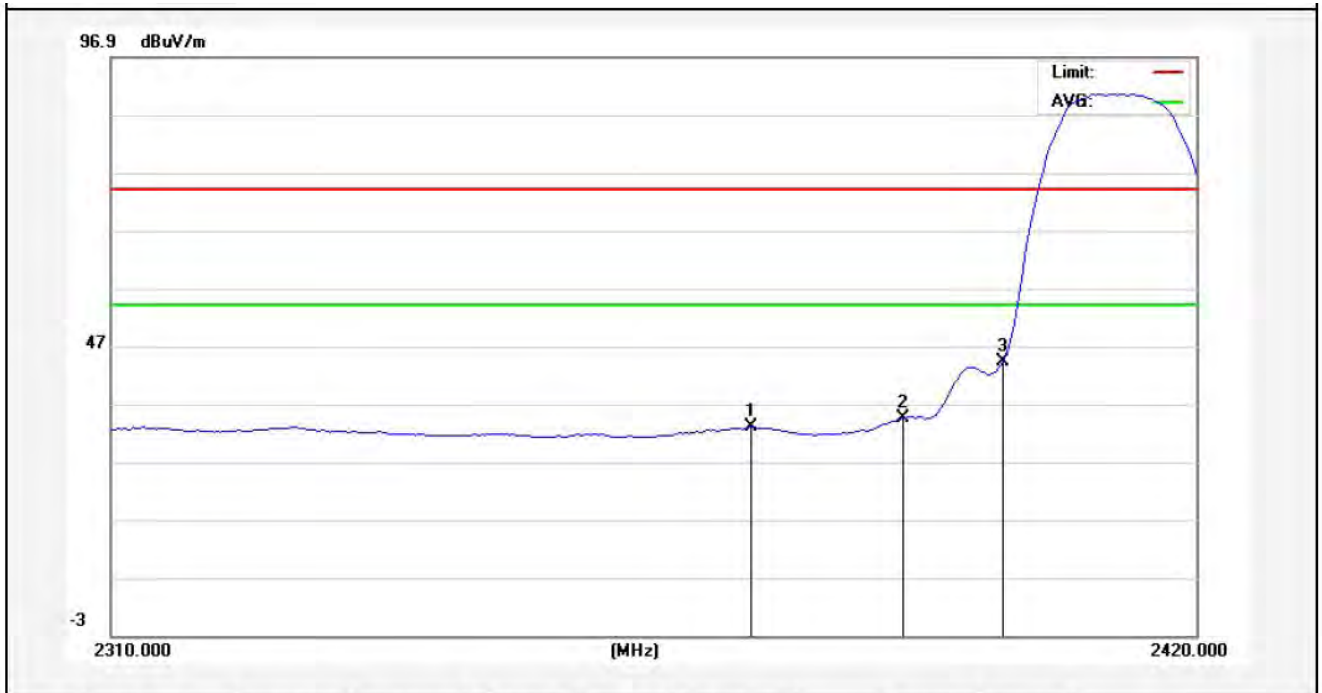
2412MHz

Vertical-PEAK:



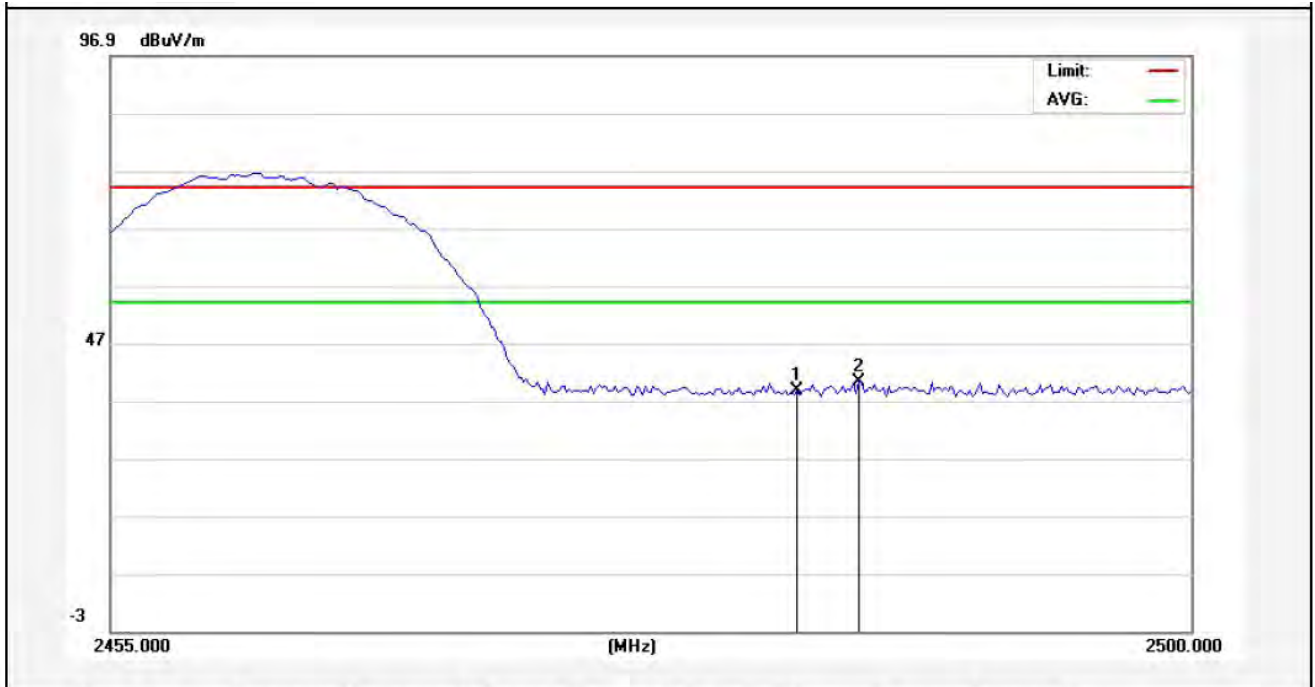
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2376.550	49.13	-2.54	46.59	74.00	-27.41	peak			
2	2390.000	49.09	-2.51	46.58	74.00	-27.42	peak			
3	2400.000	59.09	-2.49	56.60	74.00	-17.40	peak			

Vertical-AV:



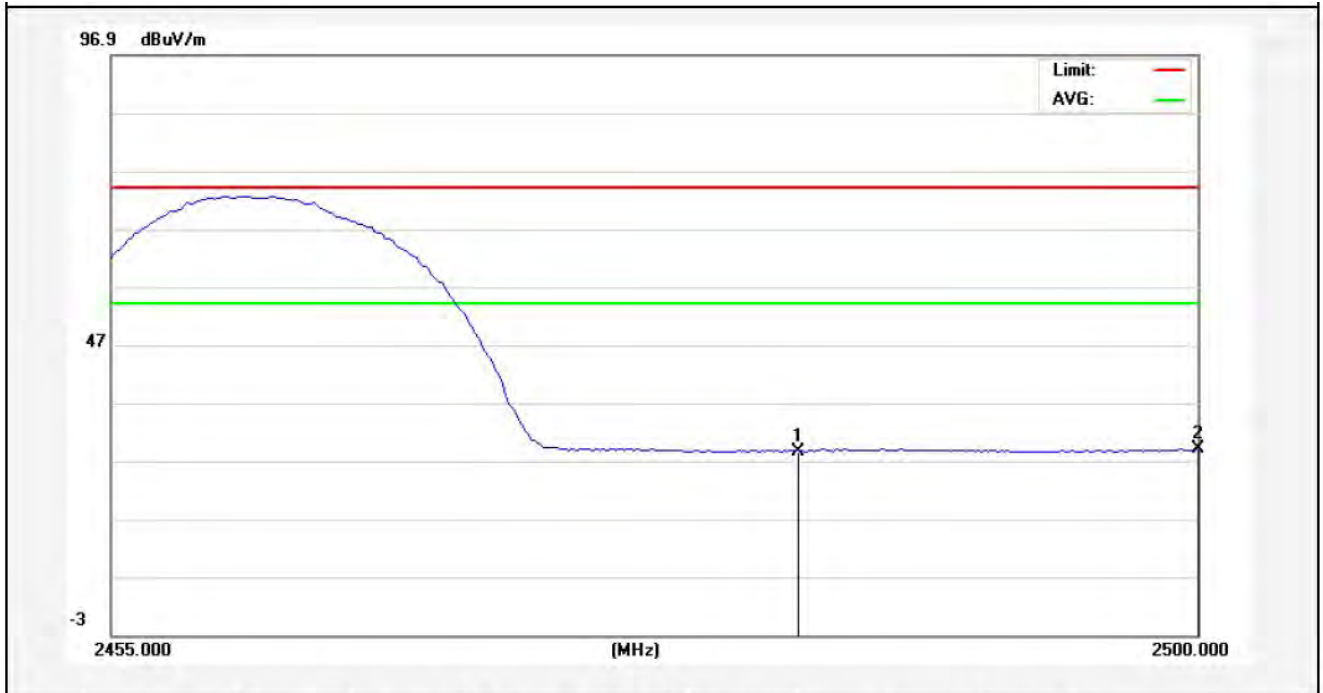
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2374.350	35.48	-2.55	32.93	54.00	-21.07	AVG			
2	2390.000	36.95	-2.51	34.44	54.00	-19.56	AVG			
3	2400.000	46.80	-2.49	44.31	54.00	-9.69	AVG			

Test Mode: 802.11b
2462MHz
Horizontal-PEAK:



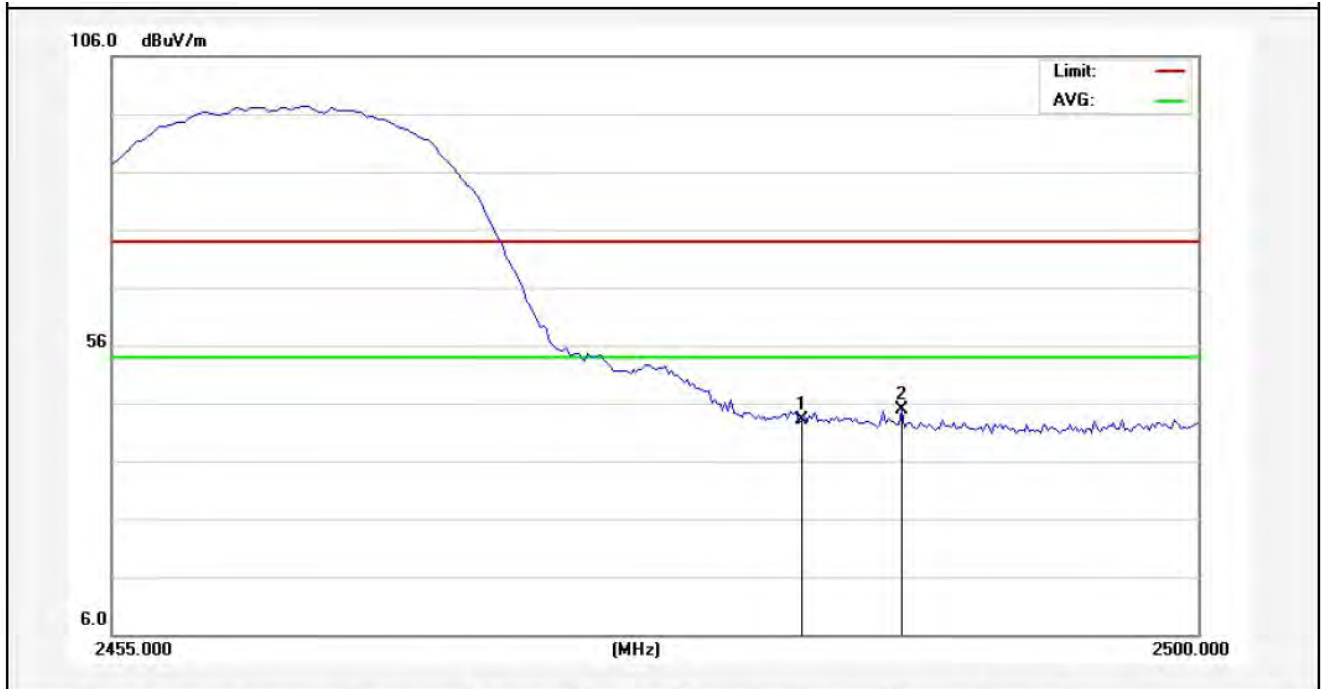
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	41.10	-2.31	38.79	74.00	-35.21	peak			
2	2486.162	42.69	-2.30	40.39	74.00	-33.61	peak			

Horizontal-AV:



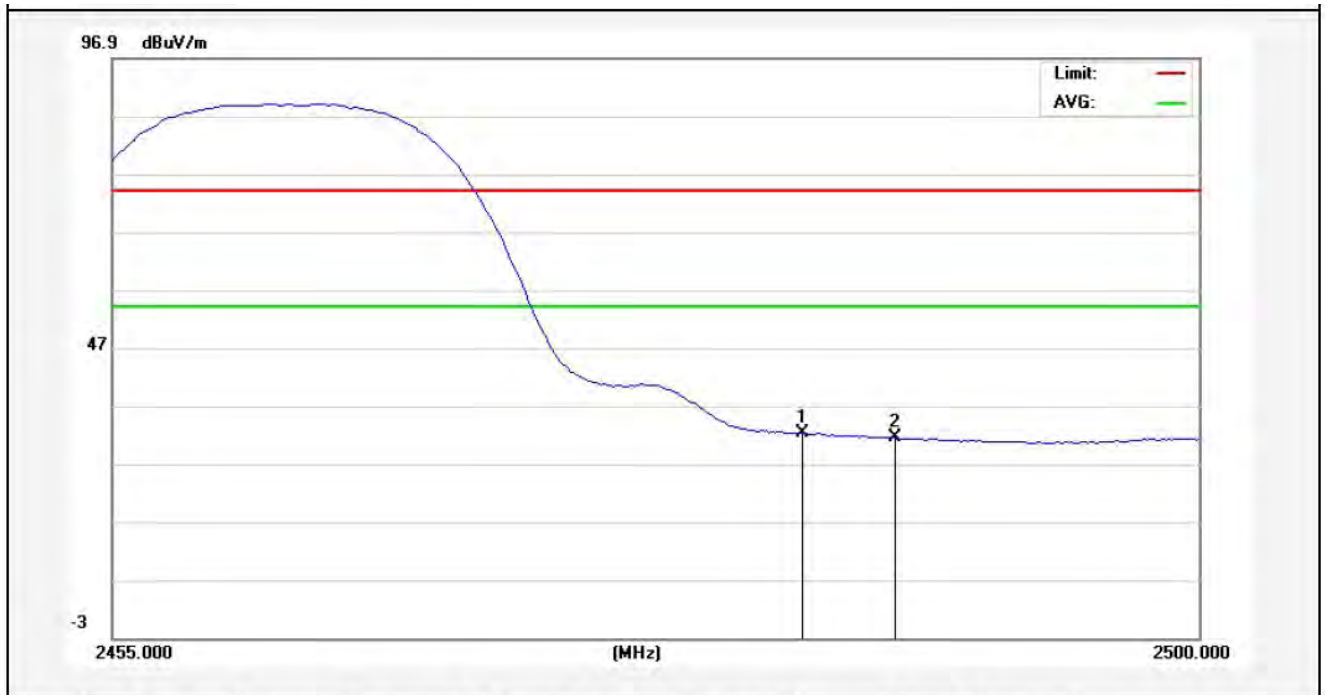
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	30.96	-2.31	28.65	54.00	-25.35	AVG			
2	2500.000	31.29	-2.27	29.02	54.00	-24.98	AVG			

Test Mode: 802.11b
2462MHz
Vertical-PEAK:



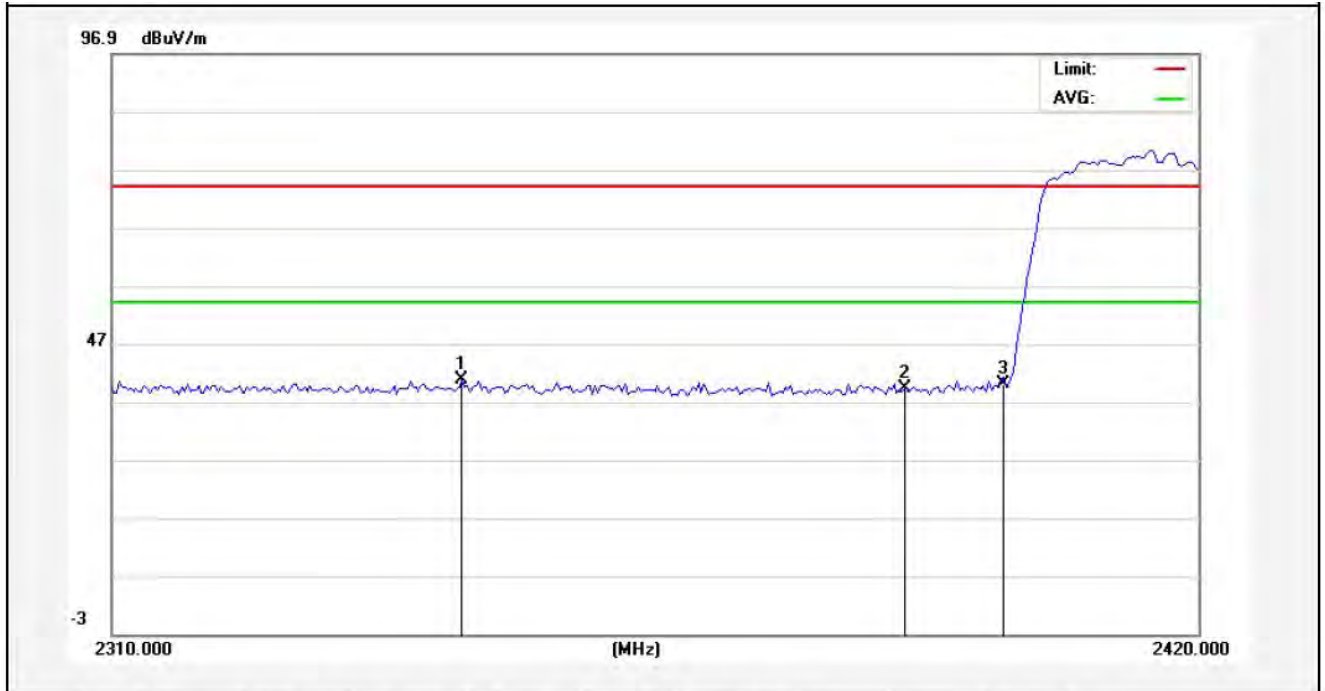
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	45.48	-2.31	43.17	74.00	-30.83	peak			
2	2487.738	47.08	-2.30	44.78	74.00	-29.22	peak			

Vertical-AV:



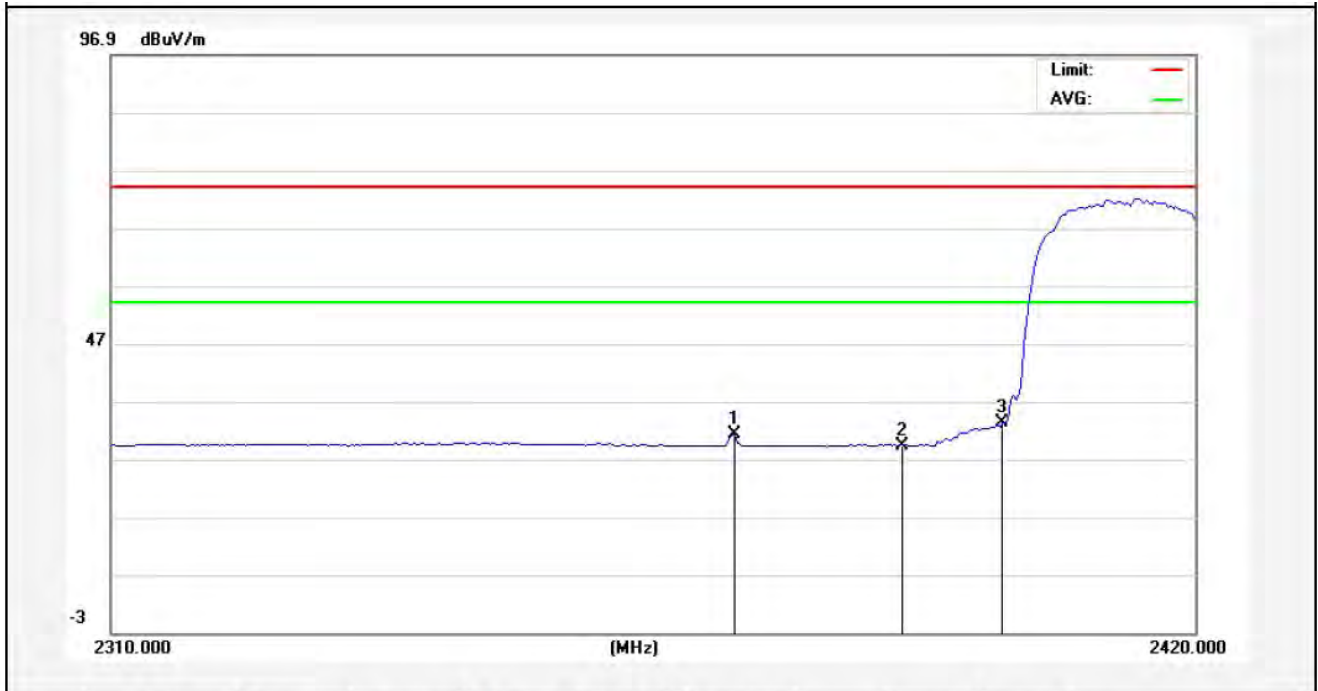
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	34.64	-2.31	32.33	54.00	-21.67	AVG			
2	2487.400	33.78	-2.30	31.48	54.00	-22.52	AVG			

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	2344.925	43.31	-2.61	40.70	74.00	-33.30	peak			
2	2390.000	41.76	-2.51	39.25	74.00	-34.75	peak			
3	2400.000	42.60	-2.49	40.11	74.00	-33.89	peak			

Horizontal-AV:



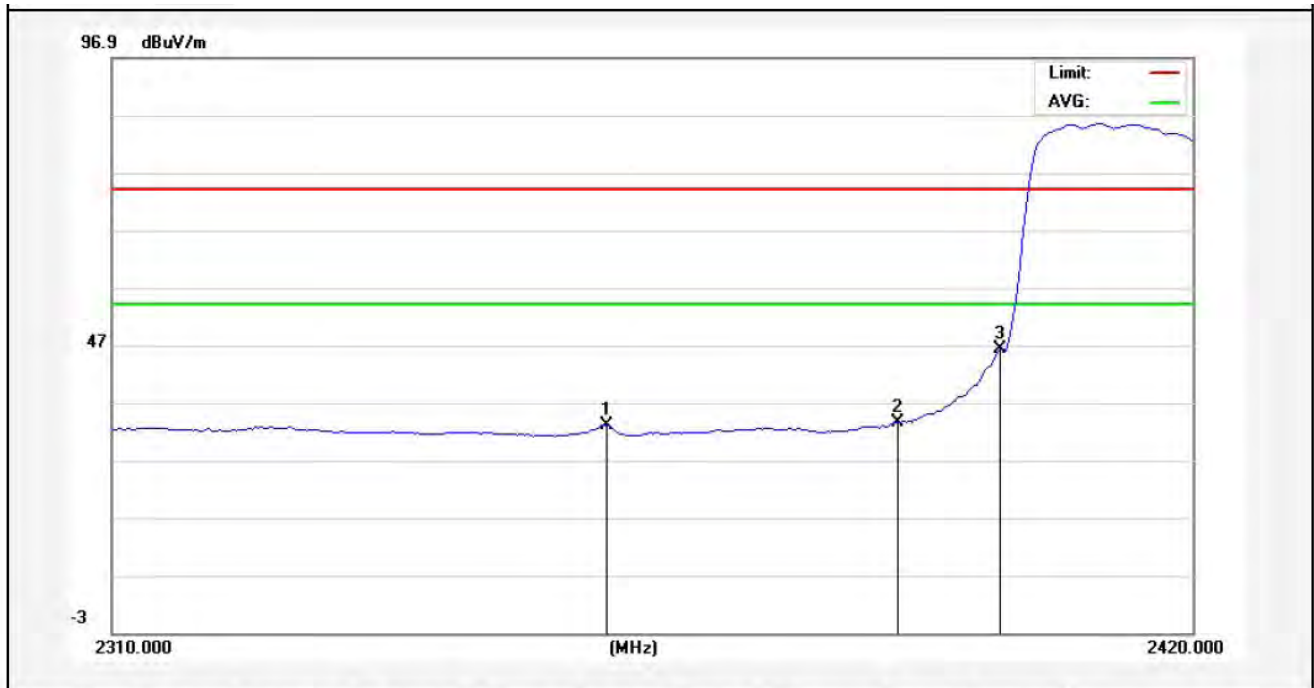
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2372.700	33.76	-2.55	31.21	54.00	-22.79	AVG			
2	2390.000	31.91	-2.51	29.40	54.00	-24.60	AVG			
3	2400.000	35.85	-2.49	33.36	54.00	-20.64	AVG			

Test Mode: 802.11g
2412MHz
Vertical-PEAK:



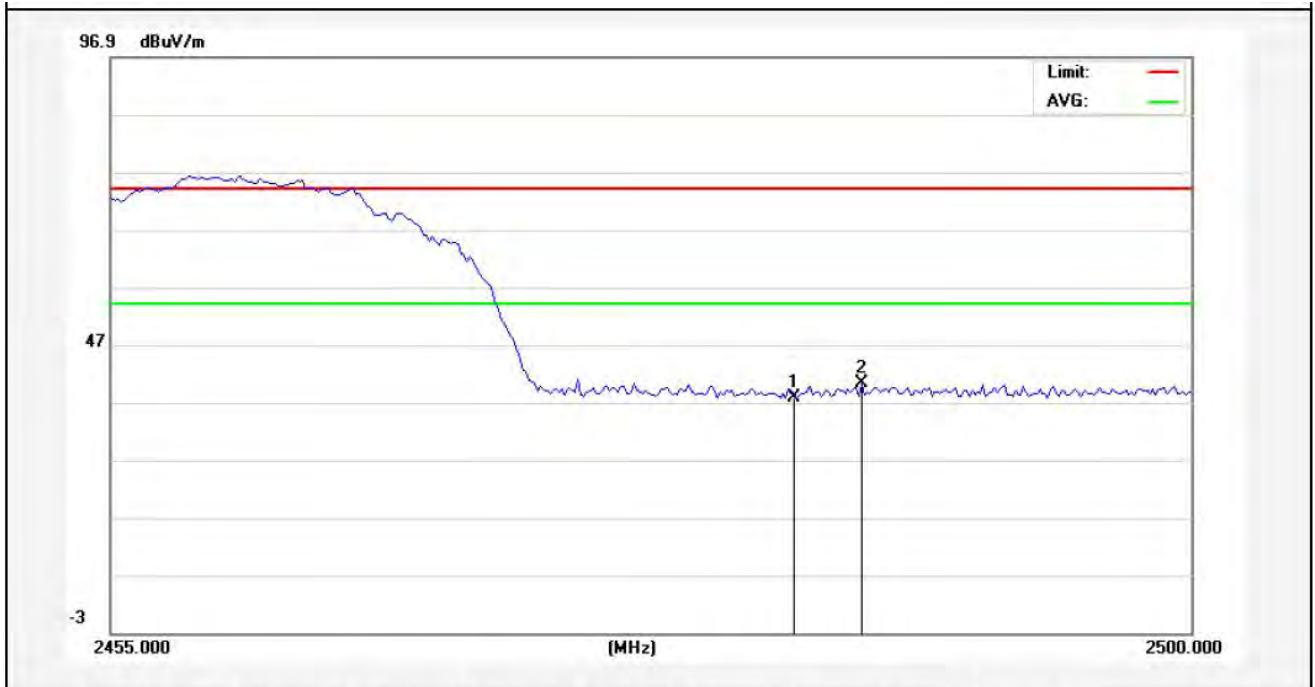
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2372.700	47.31	-2.55	44.76	74.00	-29.24	peak			
2	2390.000	50.40	-2.51	47.89	74.00	-26.11	peak			
3	2400.000	63.28	-2.49	60.79	74.00	-13.21	peak			

Vertical-AV:



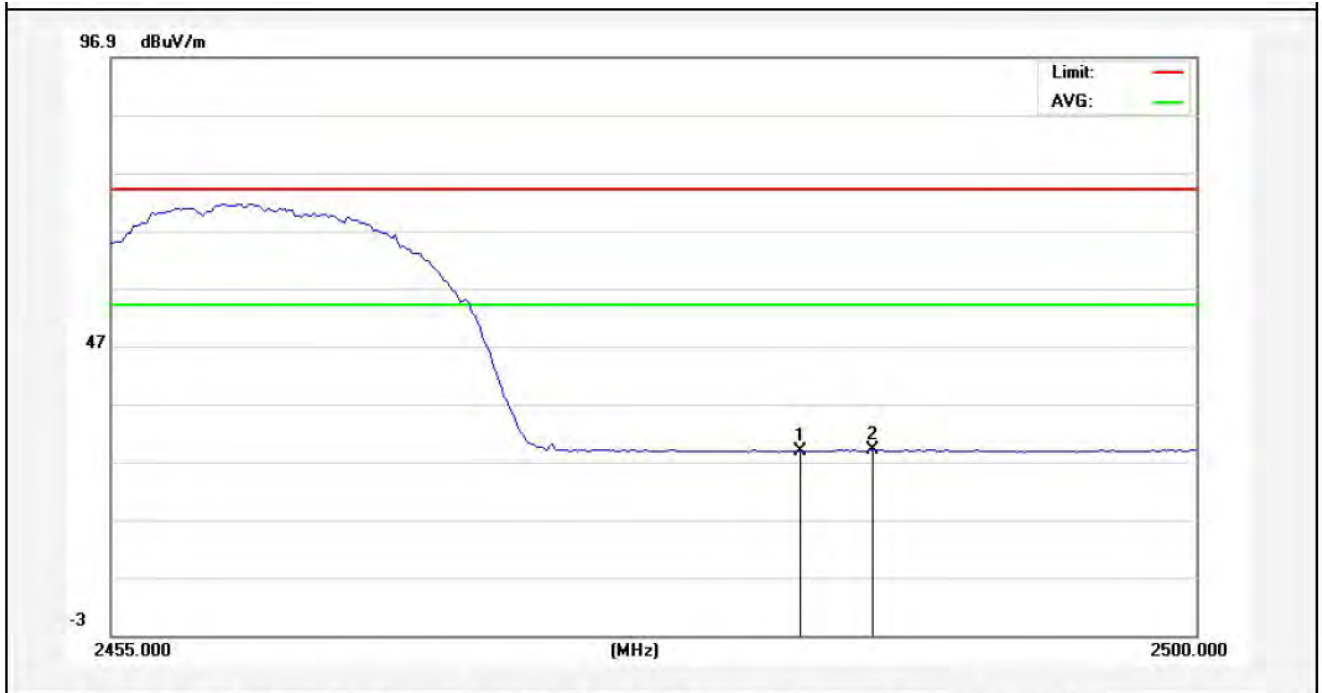
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2359.775	35.62	-2.58	33.04	54.00	-20.96	AVG			
2	2390.000	36.02	-2.51	33.51	54.00	-20.49	AVG			
3	2400.000	48.77	-2.49	46.28	54.00	-7.72	AVG			

Test Mode: 802.11g
2462MHz
Horizontal-PEAK:



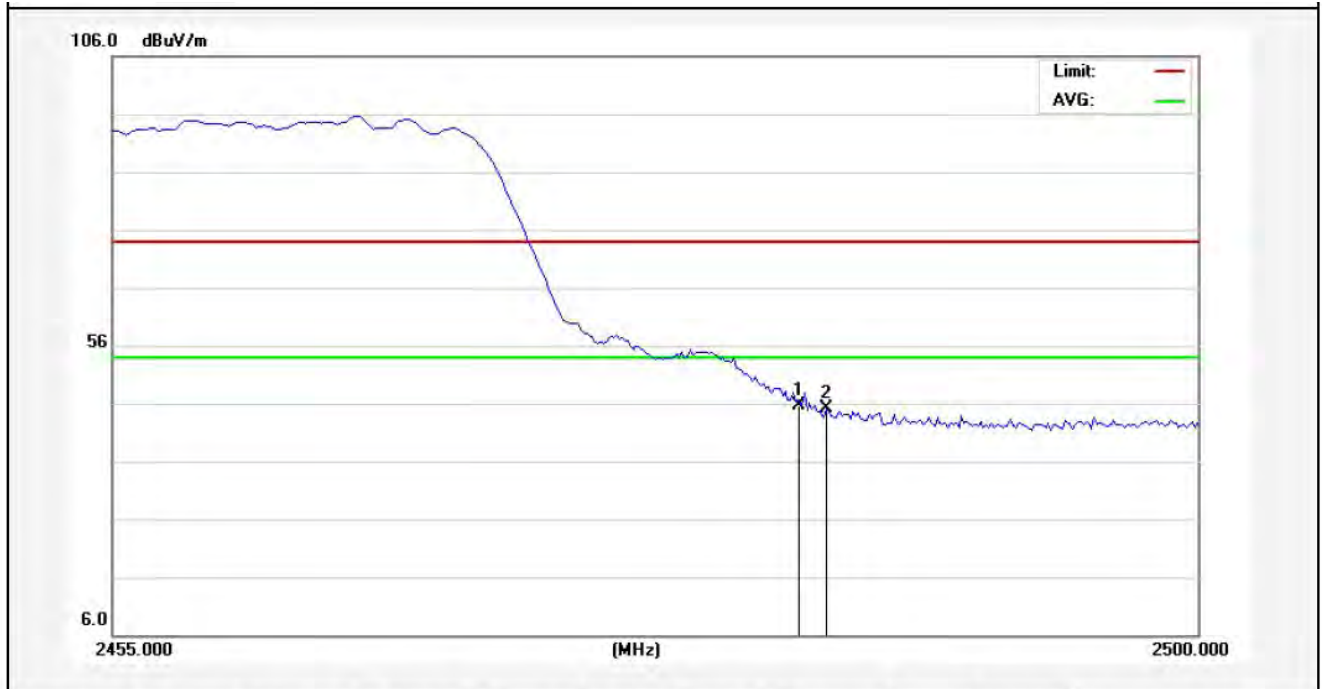
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	40.16	-2.31	37.85	74.00	-36.15	peak			
2	2486.275	42.64	-2.30	40.34	74.00	-33.66	peak			

Horizontal-AV:



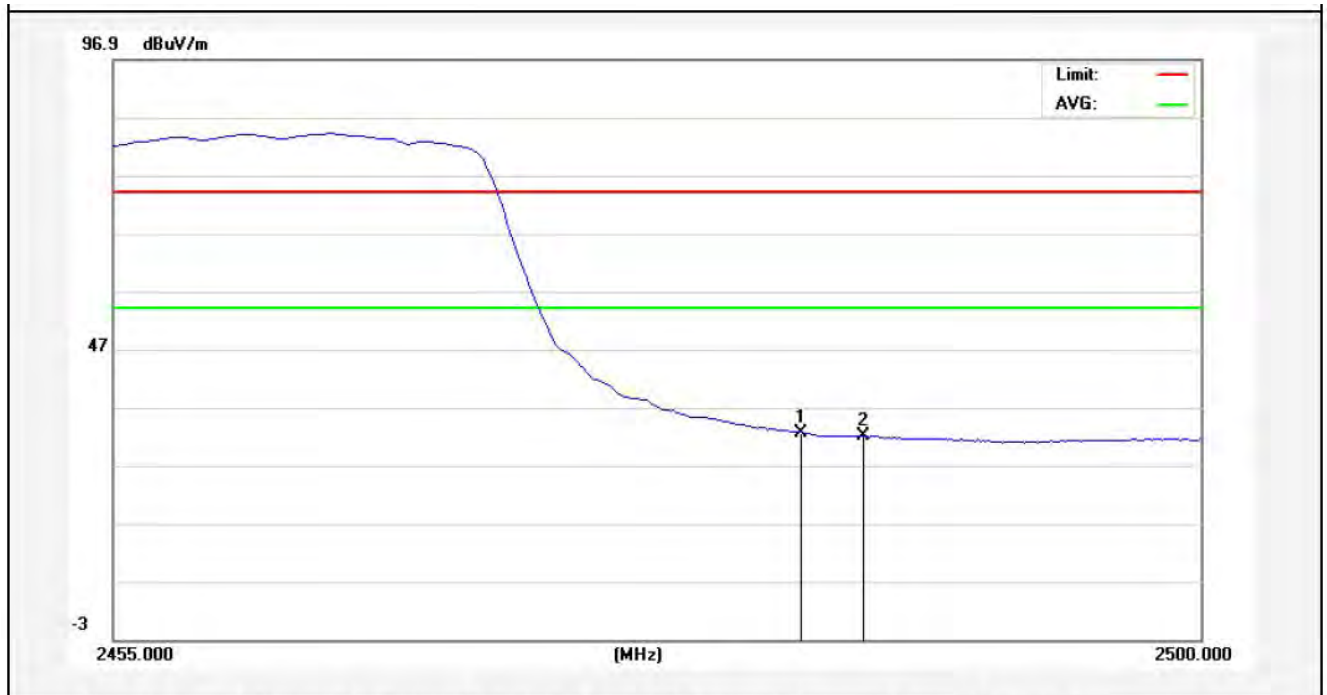
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	31.17	-2.31	28.86	54.00	-25.14	AVG			
2	2486.613	31.43	-2.30	29.13	54.00	-24.87	AVG			

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	47.96	-2.31	45.65	74.00	-28.35	peak			
2	2484.588	47.44	-2.30	45.14	74.00	-28.86	peak			

Vertical-AV:

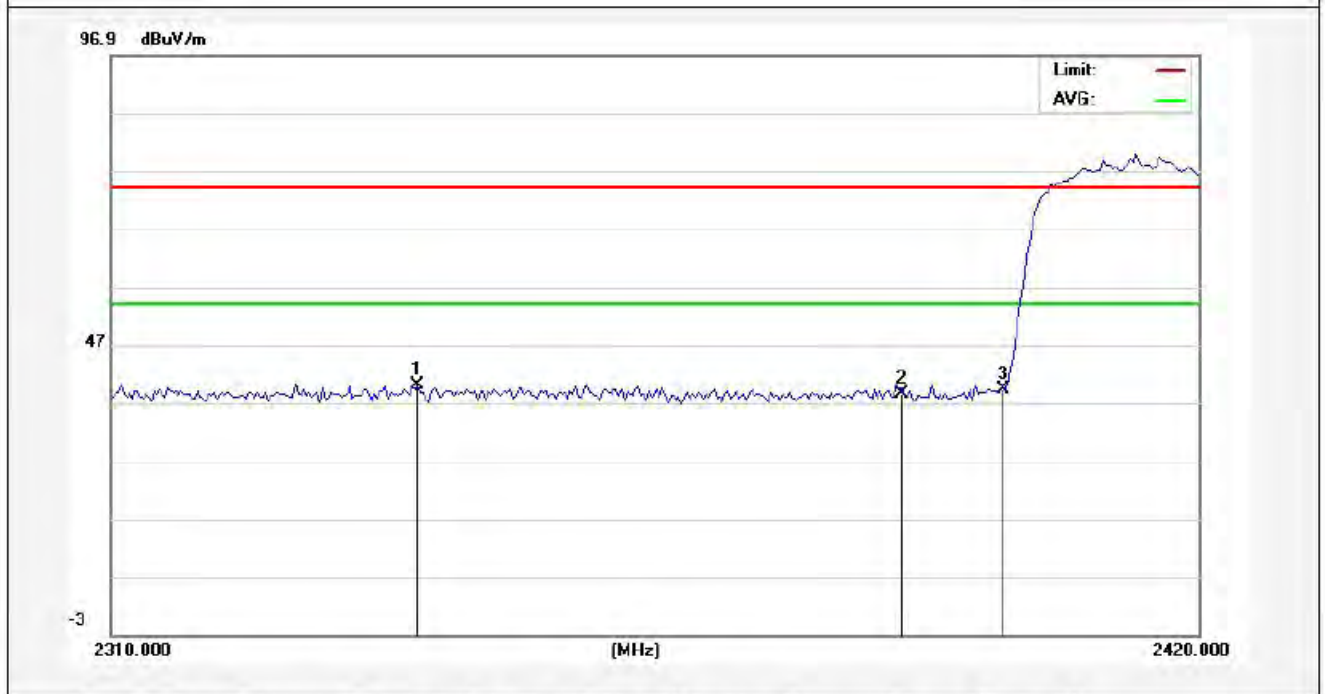


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	34.94	-2.31	32.63	54.00	-21.37	AVG			
2	2486.162	34.34	-2.30	32.04	54.00	-21.96	AVG			

Test Mode: 802.11n (HT20)

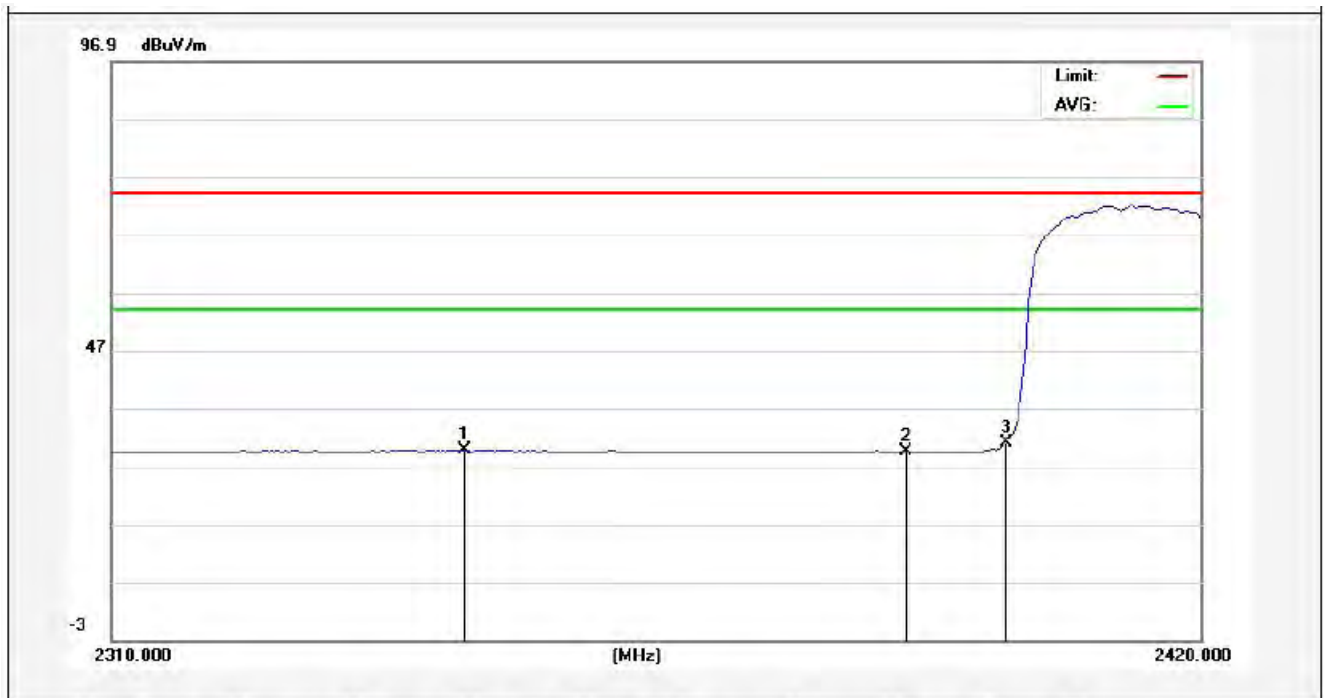
2412MHz

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	2340.800	42.64	-2.62	40.02	74.00	-33.98	peak			
2	2390.000	41.15	-2.51	38.64	74.00	-35.36	peak			
3	2400.000	41.72	-2.49	39.23	74.00	-34.77	peak			

Horizontal-AV:

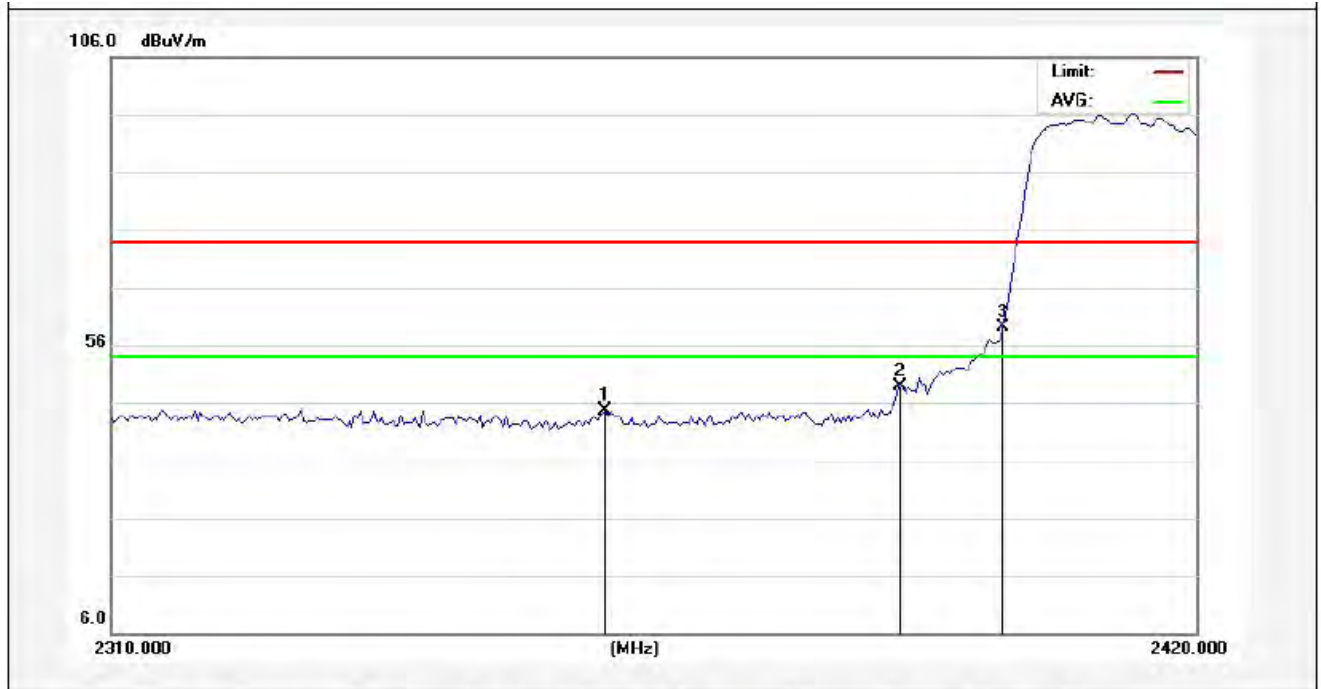


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2345.200	32.45	-2.61	29.84	54.00	-24.16	AVG			
2	2390.000	31.98	-2.51	29.47	54.00	-24.53	AVG			
3	2400.000	33.45	-2.49	30.96	54.00	-23.04	AVG			

Test Mode: 802.11n (HT20)

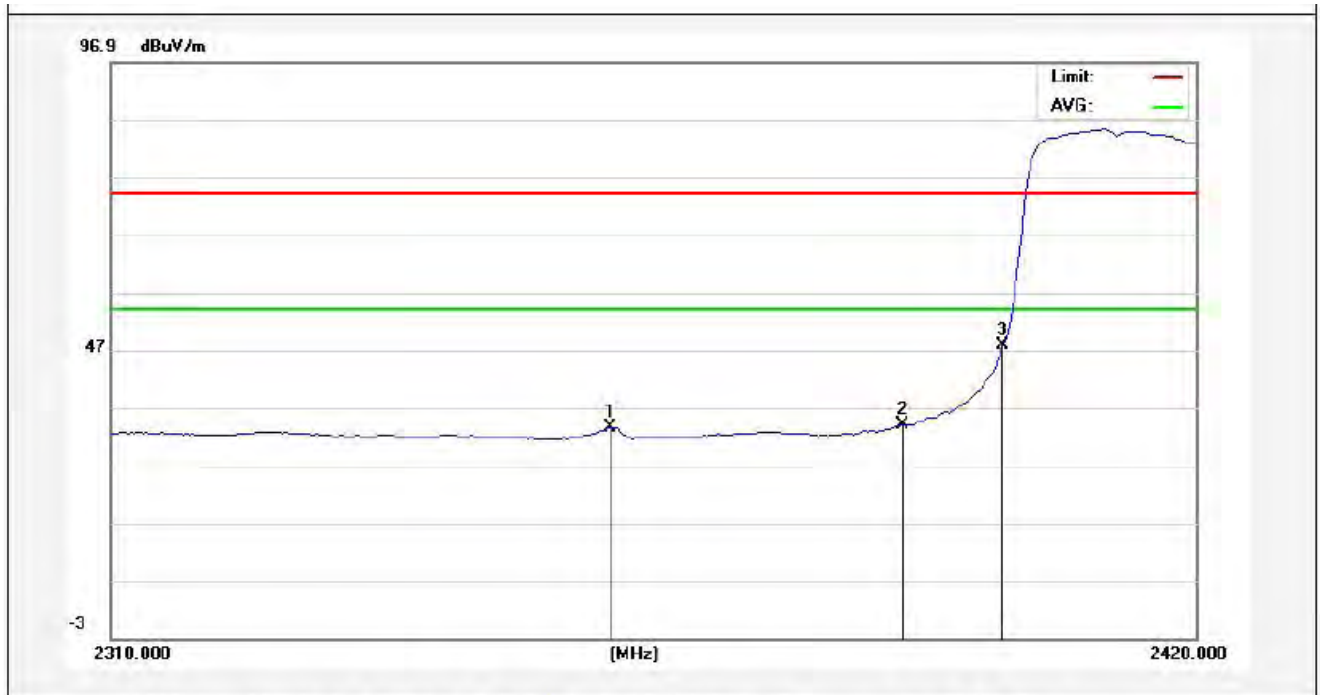
2412MHz

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	2359.500	47.23	-2.58	44.65	74.00	-29.35	peak			
2	2390.000	51.37	-2.51	48.86	74.00	-25.14	peak			
3	2400.000	61.55	-2.49	59.06	74.00	-14.94	peak			

Vertical-AV:

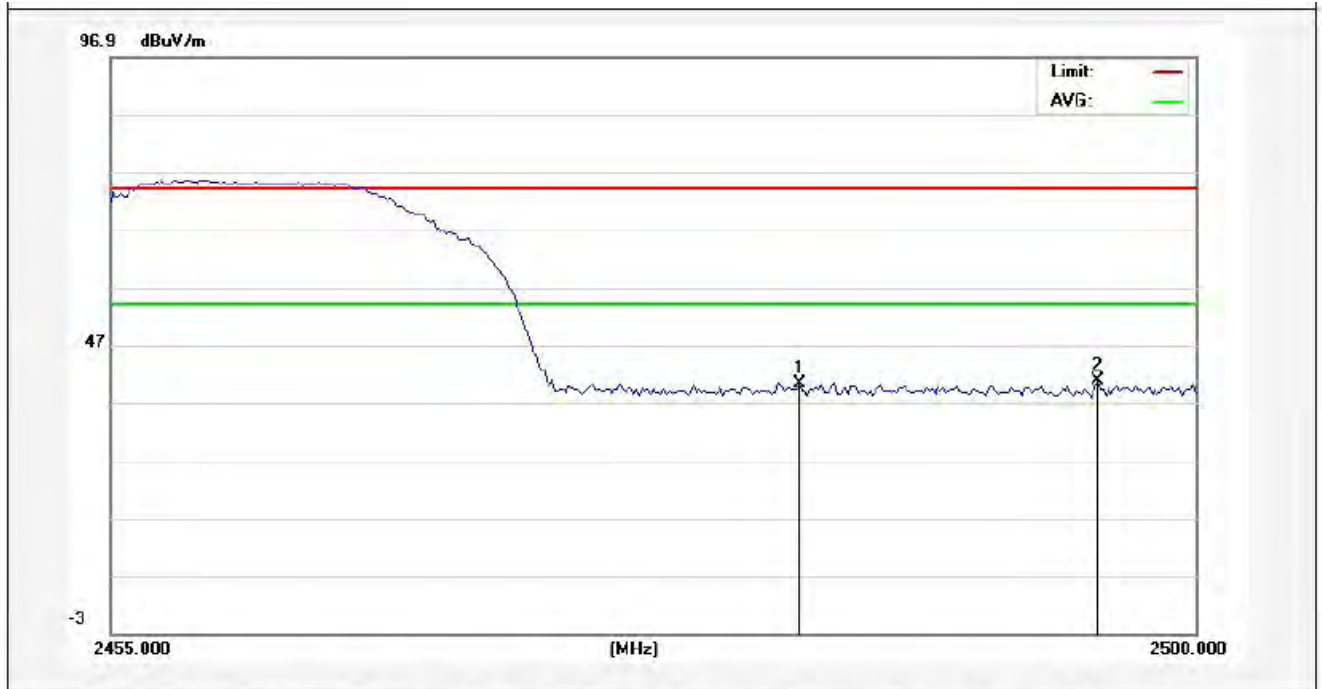


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2360.050	36.18	-2.58	33.60	54.00	-20.40	AVG			
2	2390.000	36.45	-2.51	33.94	54.00	-20.06	AVG			
3	2400.000	50.34	-2.49	47.85	54.00	-6.15	AVG			

Test Mode: 802.11n (HT20)

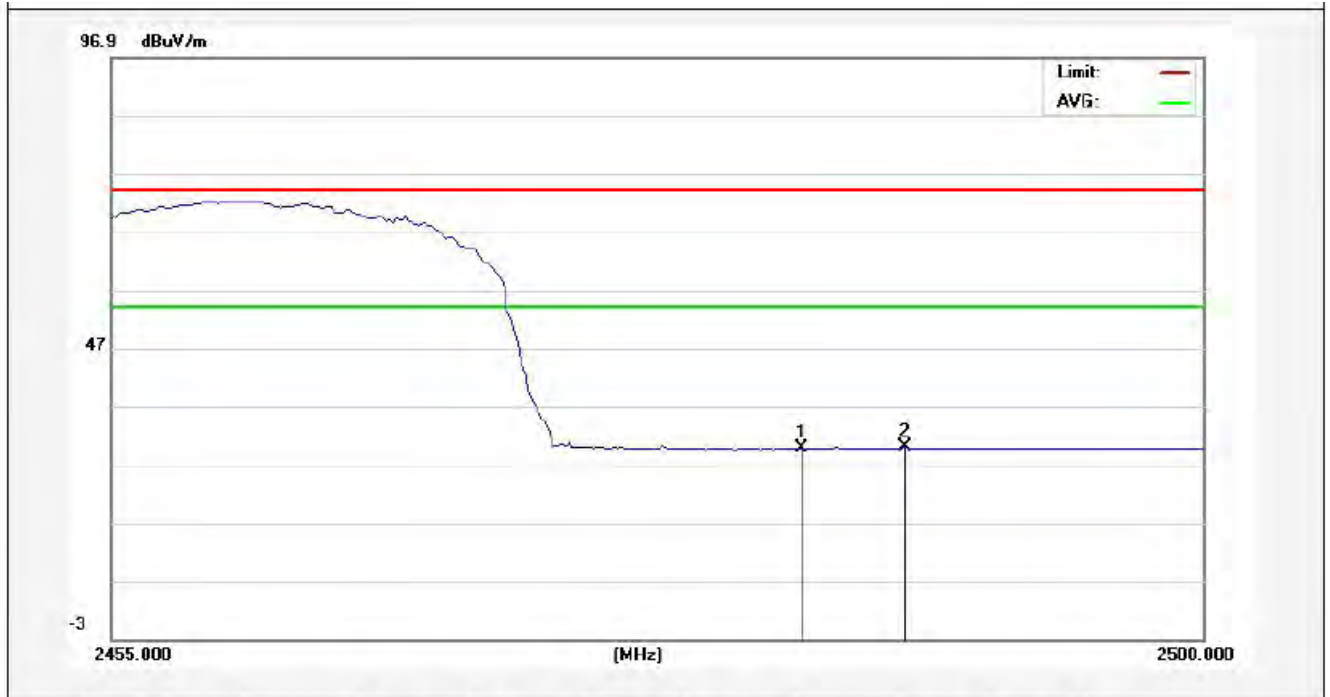
2462MHz

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	42.59	-2.31	40.28	74.00	-33.72	peak			
2	2495.950	43.18	-2.28	40.90	74.00	-33.10	peak			

Horizontal-AV:

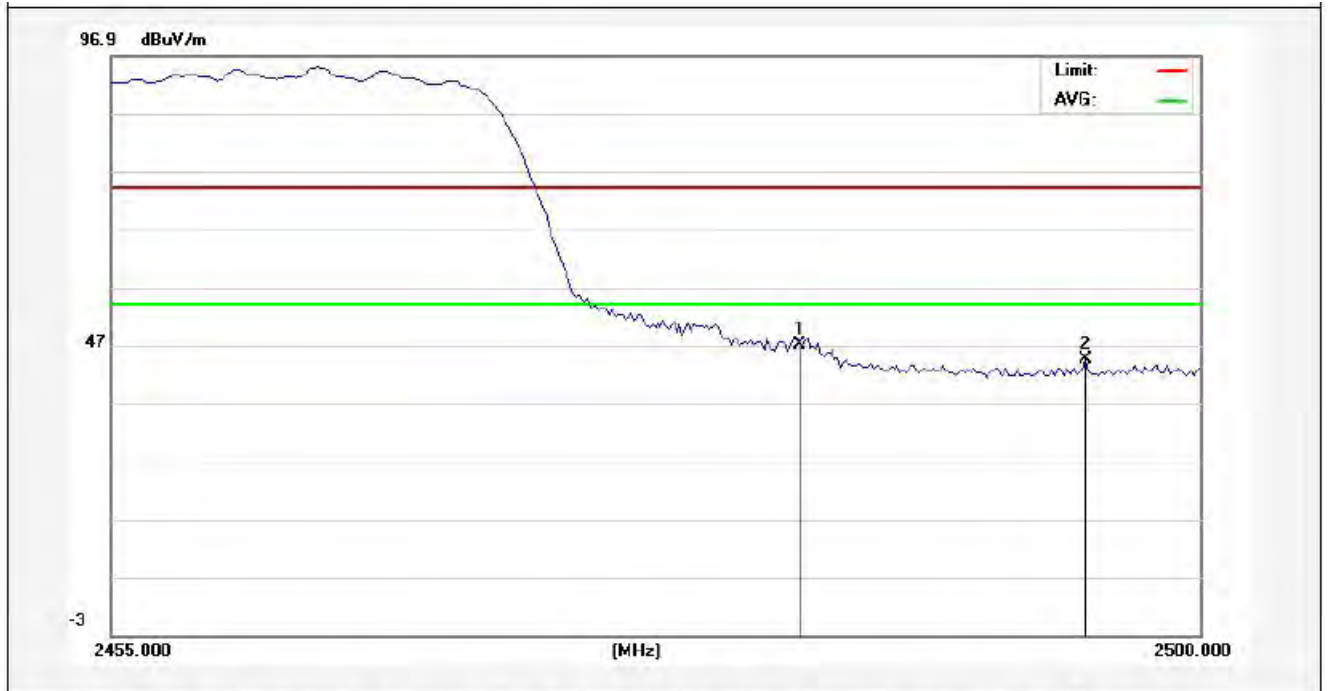


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.04	-2.31	29.73	54.00	-24.27	AVG			
2	2487.738	32.25	-2.30	29.95	54.00	-24.05	AVG			

Test Mode: 802.11n (HT20)

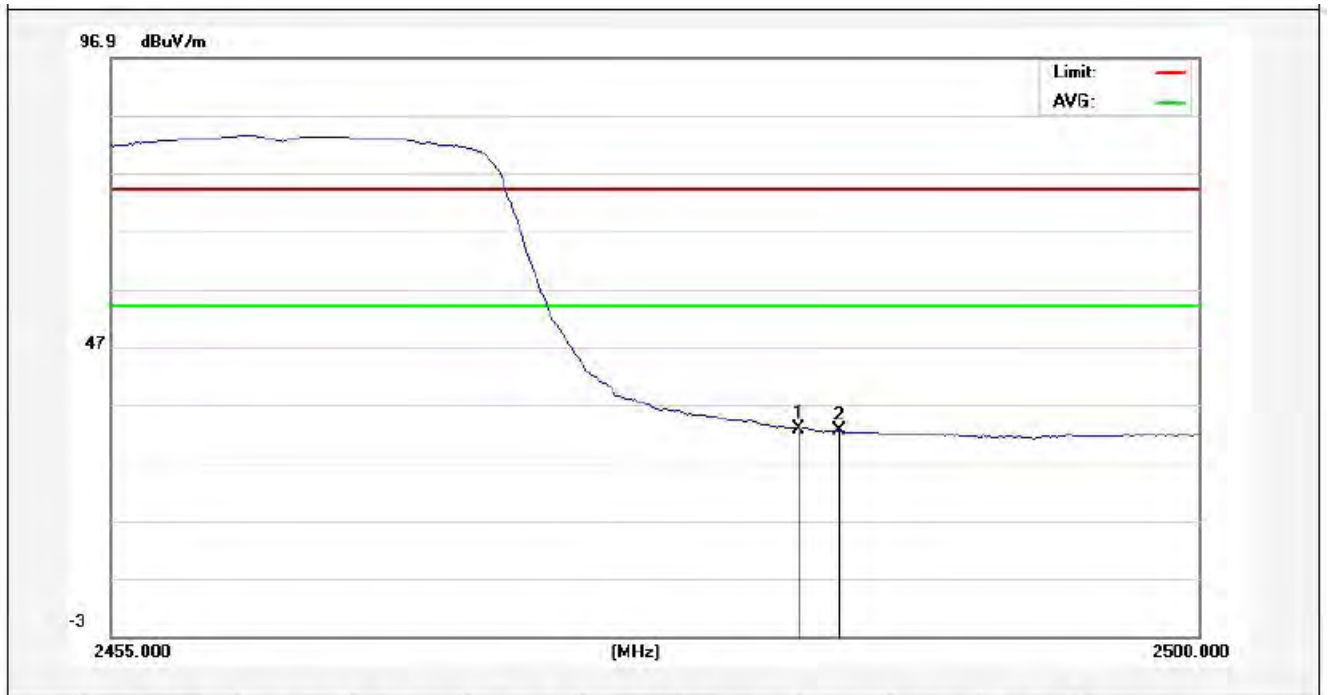
2462MHz

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	49.34	-2.31	47.03	74.00	-26.97	peak			
2	2495.275	46.70	-2.28	44.42	74.00	-29.58	peak			

Vertical-AV:

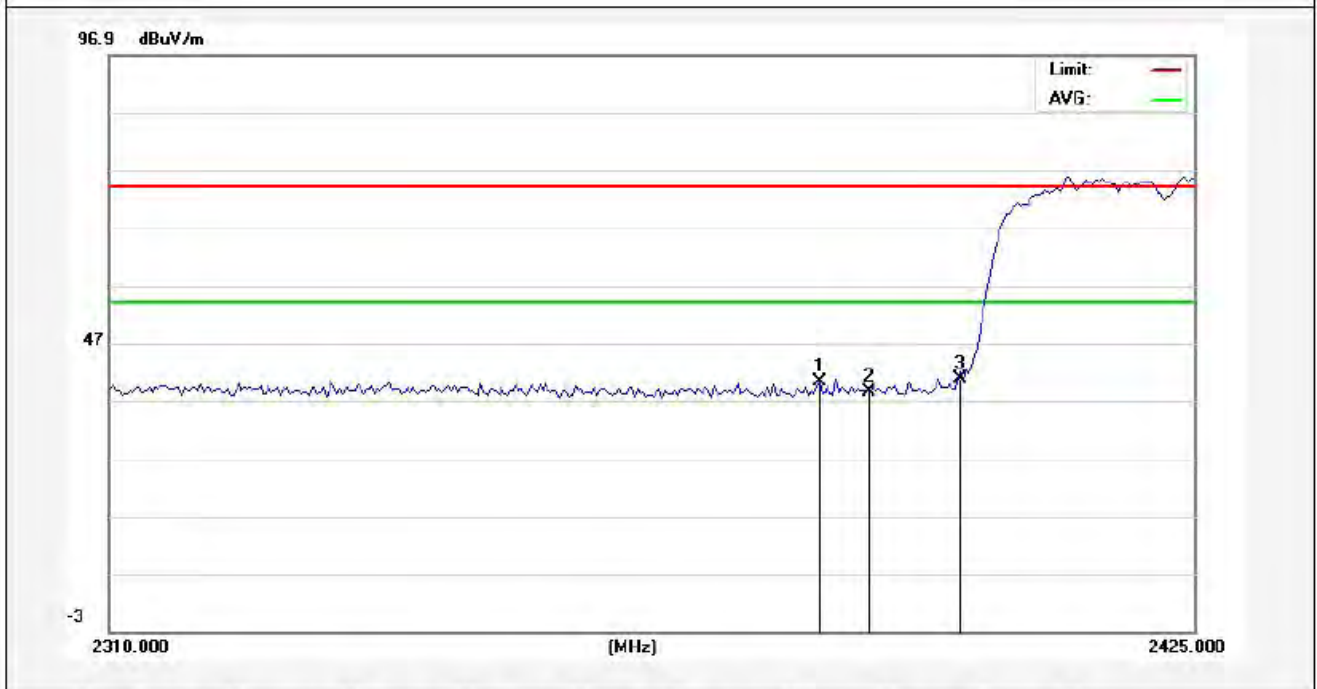


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	35.16	-2.31	32.85	54.00	-21.15	AVG			
2	2485.150	34.77	-2.30	32.47	54.00	-21.53	AVG			

Test Mode: 802.11n (HT40)

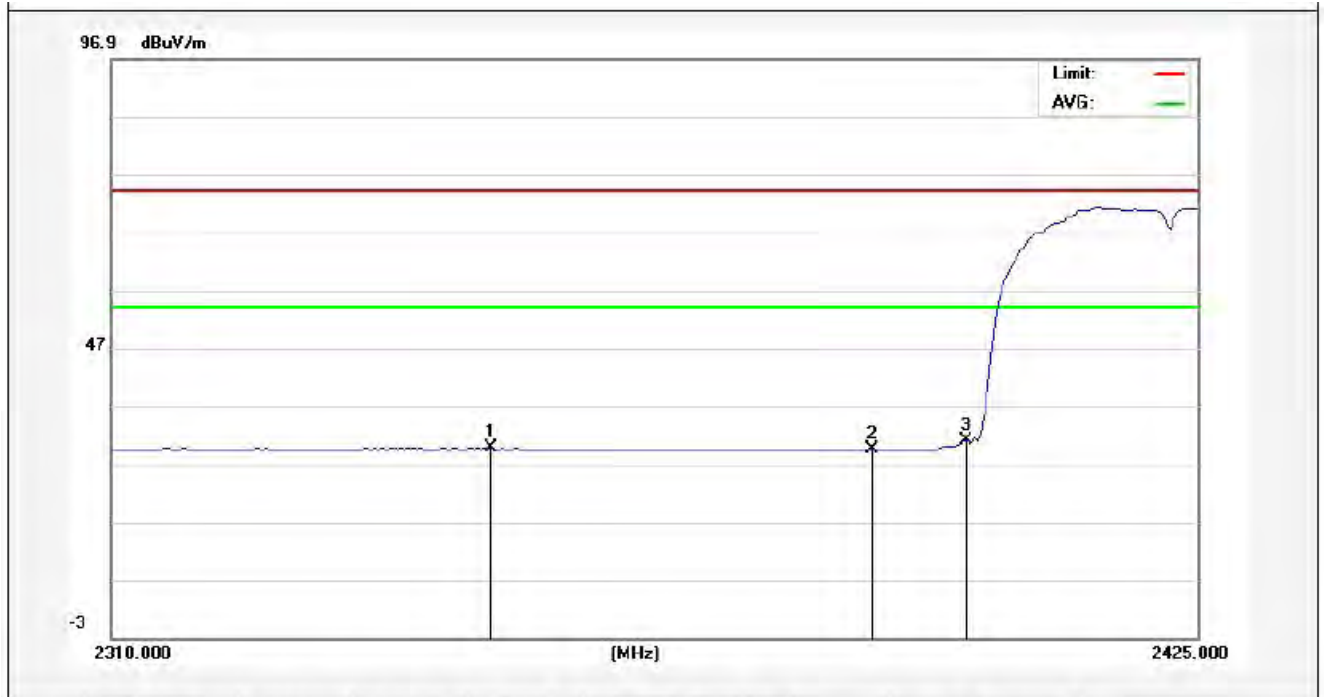
2412MHz

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	2384.750	42.88	-2.53	40.35	74.00	-33.65	peak			
2	2390.000	41.06	-2.51	38.55	74.00	-35.45	peak			
3	2400.000	43.31	-2.49	40.82	74.00	-33.18	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	2349.675	32.42	-2.60	29.82	54.00	-24.18	AVG			
2	2390.000	31.99	-2.51	29.48	54.00	-24.52	AVG			
3	2400.000	33.53	-2.49	31.04	54.00	-22.96	AVG			

Test Mode: 802.11n (HT40)

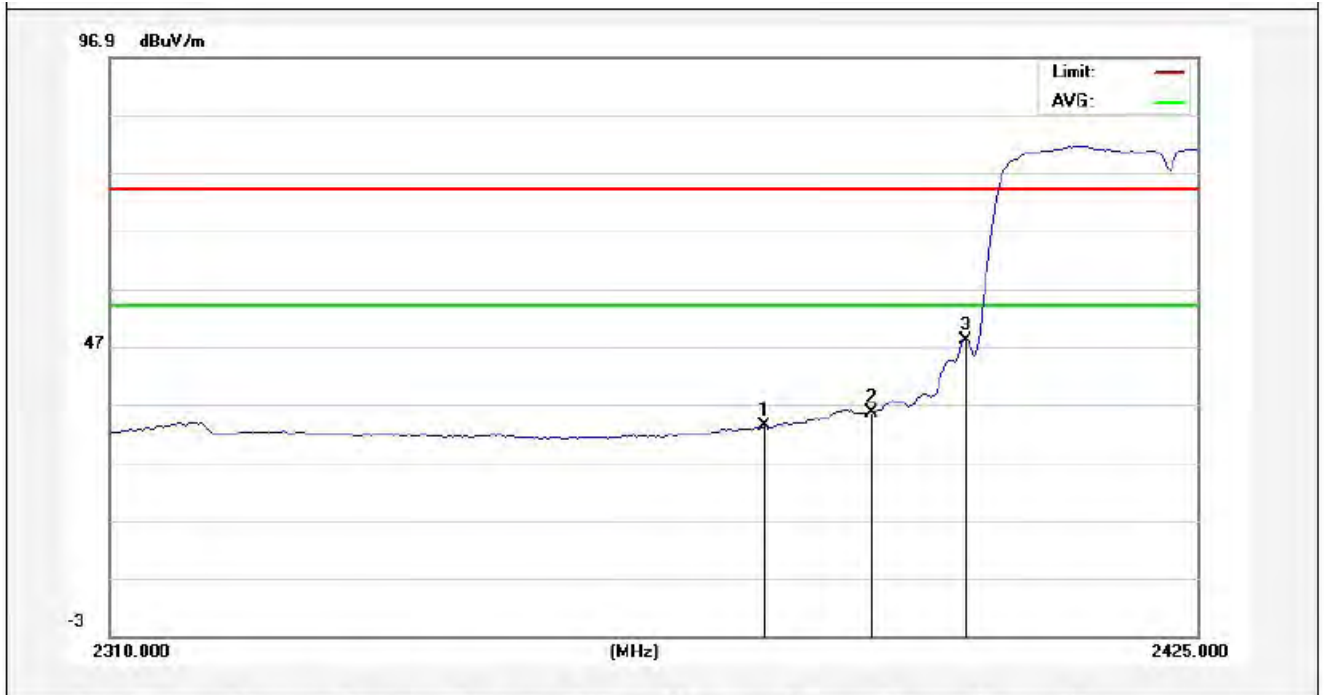
2412MHz

Vertical-PEAK:



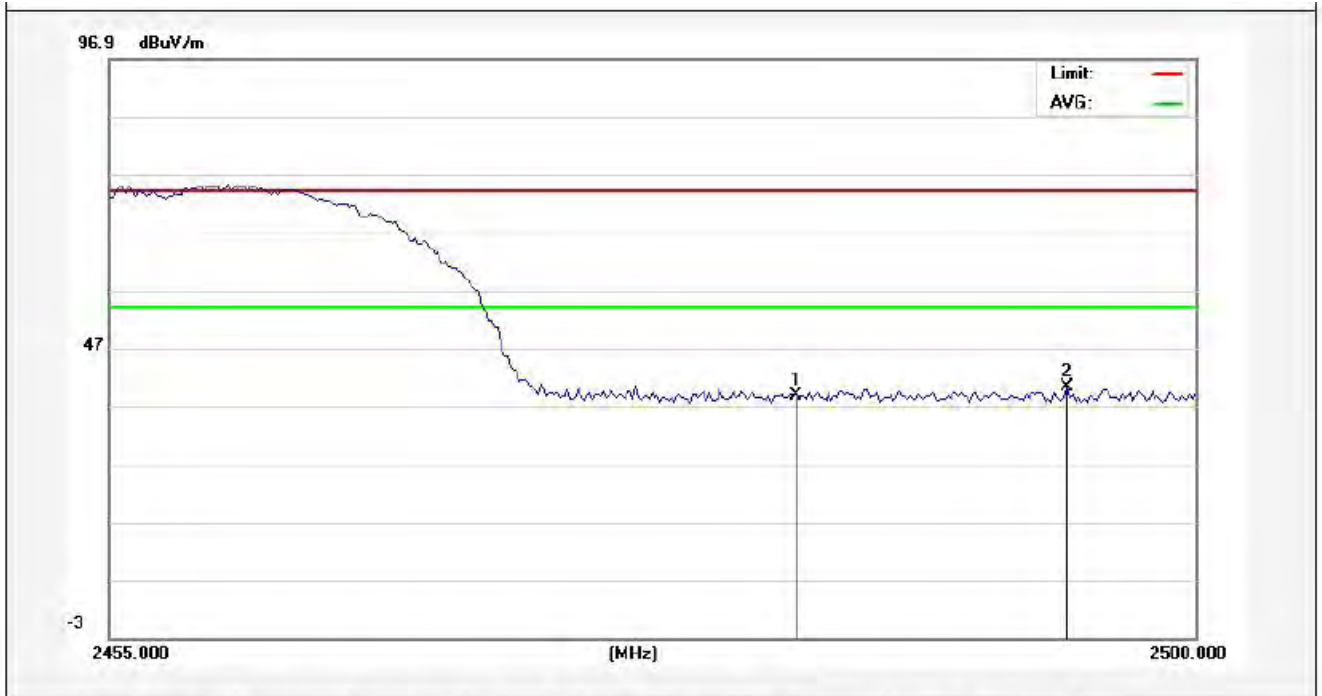
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2386.188	52.60	-2.52	50.08	74.00	-23.92	peak			
2	2390.000	51.88	-2.51	49.37	74.00	-24.63	peak			
3	2400.000	63.44	-2.49	60.95	74.00	-13.05	peak			

Vertical-AV:



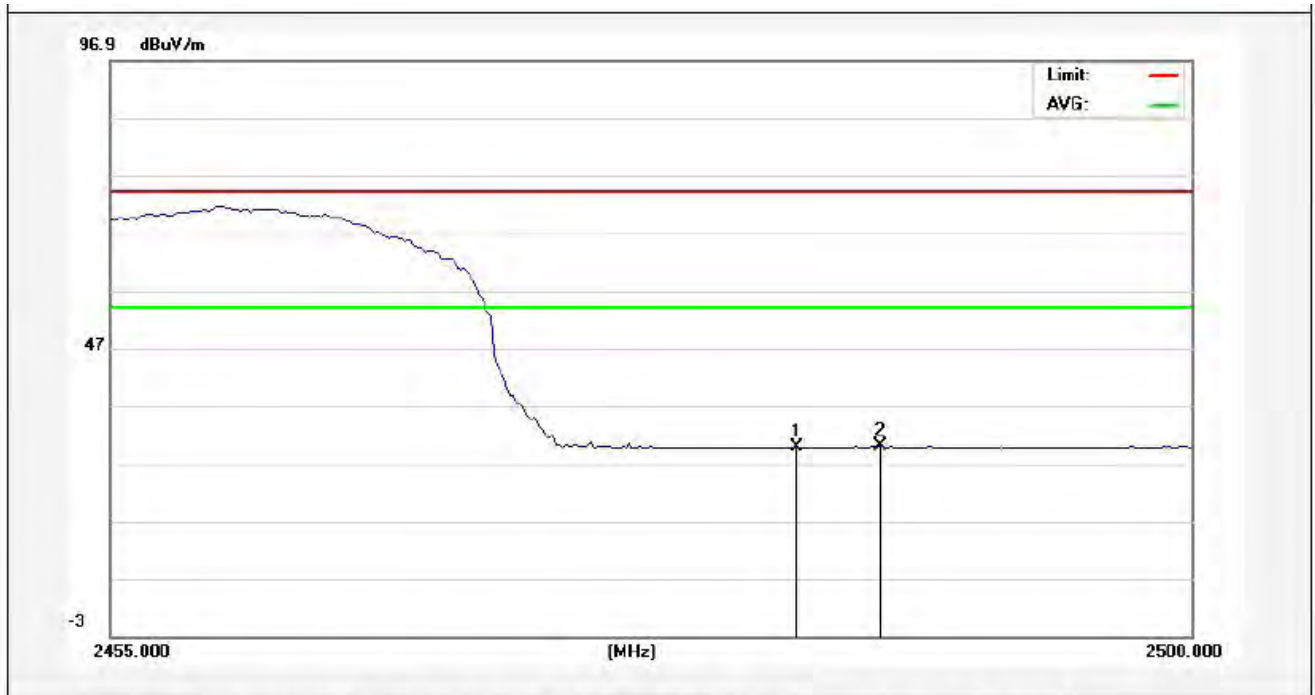
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2378.713	35.92	-2.54	33.38	54.00	-20.62	AVG			
2	2390.000	38.10	-2.51	35.59	54.00	-18.41	AVG			
3	2400.000	50.46	-2.49	47.97	54.00	-6.03	AVG			

Test Mode: 802.11n (HT40)
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	41.20	-2.31	38.89	74.00	-35.11	peak			
2	2494.713	42.63	-2.28	40.35	74.00	-33.65	peak			

Horizontal-AV:

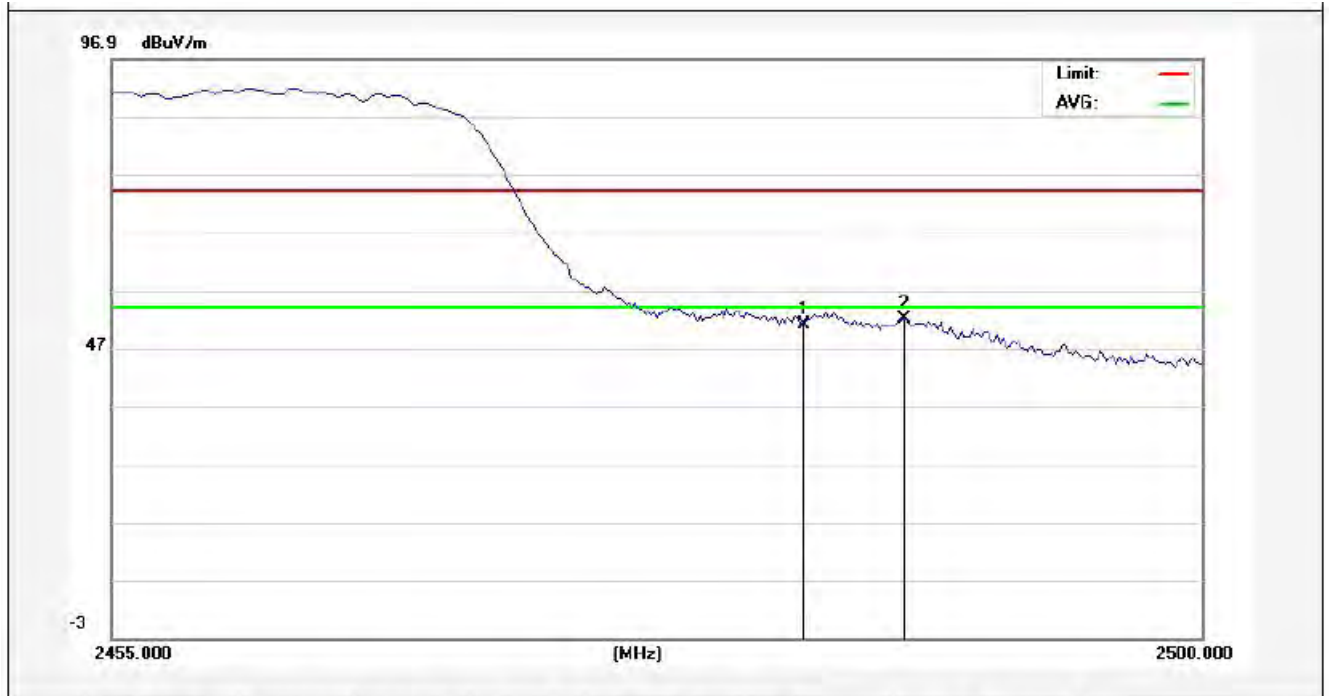


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	2483.500	32.14	-2.31	29.83	54.00	-24.17	AVG			
2	2487.063	32.32	-2.30	30.02	54.00	-23.98	AVG			

Test Mode: 802.11n (HT40)

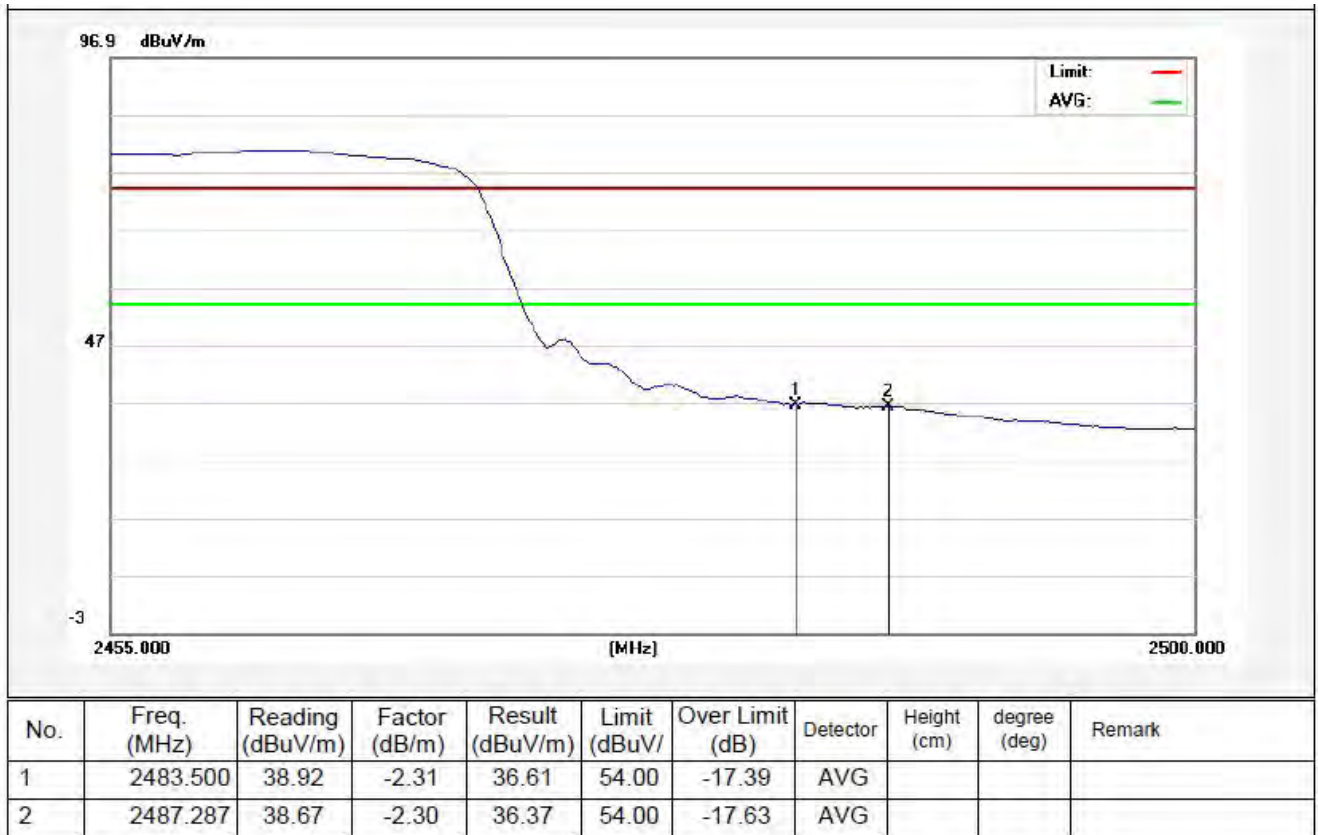
2462MHz

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	53.37	-2.31	51.06	74.00	-22.94	peak			
2	2487.738	54.41	-2.30	52.11	74.00	-21.89	peak			

Vertical-AV:



3.5. Peak Power Spectral Density

a. Limit

1. For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.
2. The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

b. Test Procedure

1. Place the EUT on the table and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW = 3kHz, VBW = 10kHz, Span = 1.5MHz, Sweep=500s
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed.

c. Test Equipment

Same as the equipment listed in 3.2.

d. Test Setup

See 4.1

e. Test Results

Pass

f. Test Data

Please refer to the following data.

g. Test Plot

See the following pages

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	PPSD (dBm/3KHz)	ΣPPSD (dBm/3KHz)	Limit (dBm)	Result
Low	2412	-20.86	-	8.00	Pass
Mid	2437	-22.01	-		Pass
High	2462	-23.00	-		Pass

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	PPSD (dBm)	ΣPPSD (dBm)	Limit (dBm)	Result
Low	2412	-25.81	-	8.00	Pass
Mid	2437	-26.43	-		Pass
High	2462	-27.89	-		Pass

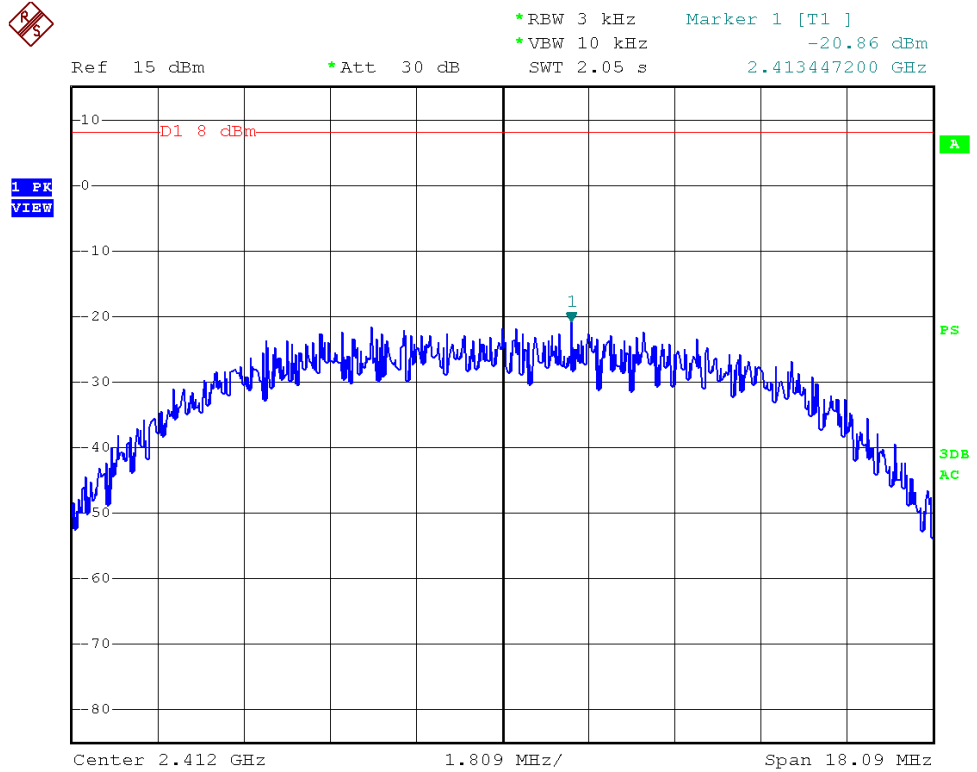
Test mode: IEEE 802.11n (HT20)

Channel	Frequency (MHz)	PPSD (dBm/3KHz)	ΣPPSD (dBm/3KHz)	Limit (dBm)	Result
Low	2412	-26.76	-	8.00	Pass
Mid	2437	-27.32	-		Pass
High	2462	-28.33	-		Pass

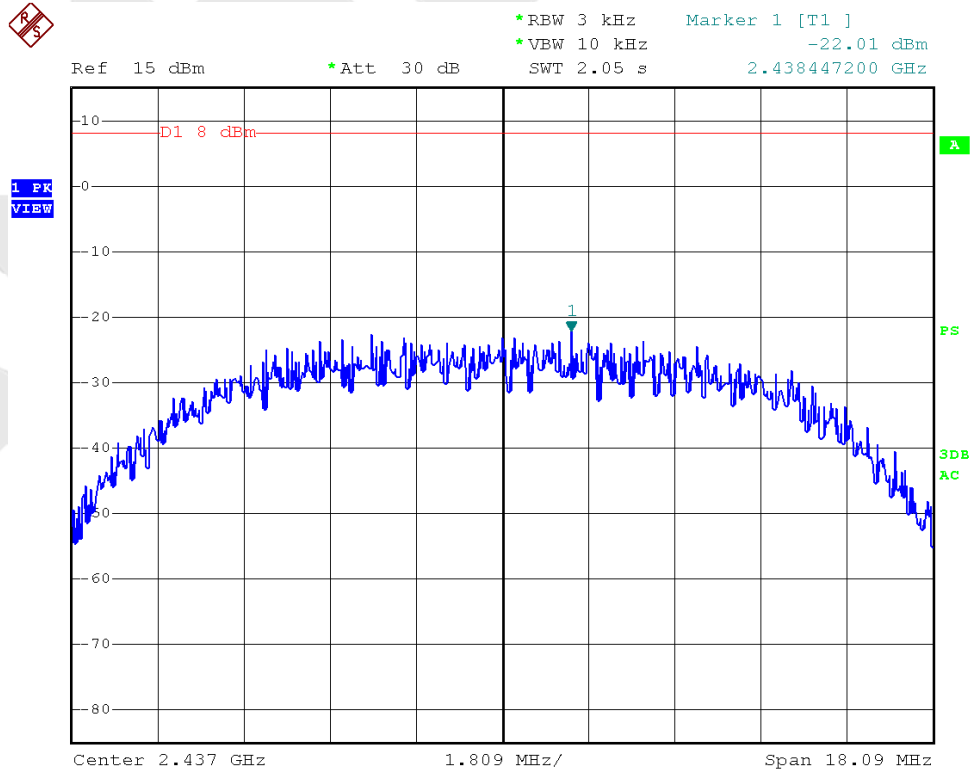
Test mode: IEEE 802.11n (HT40)

Channel	Frequency (MHz)	PPSD (dBm/3KHz)	ΣPPSD (dBm/3KHz)	Limit (dBm)	Result
Low	2422	-28.32	-	8.00	Pass
Mid	2437	-28.89	-		Pass
High	2452	-29.47	-		Pass

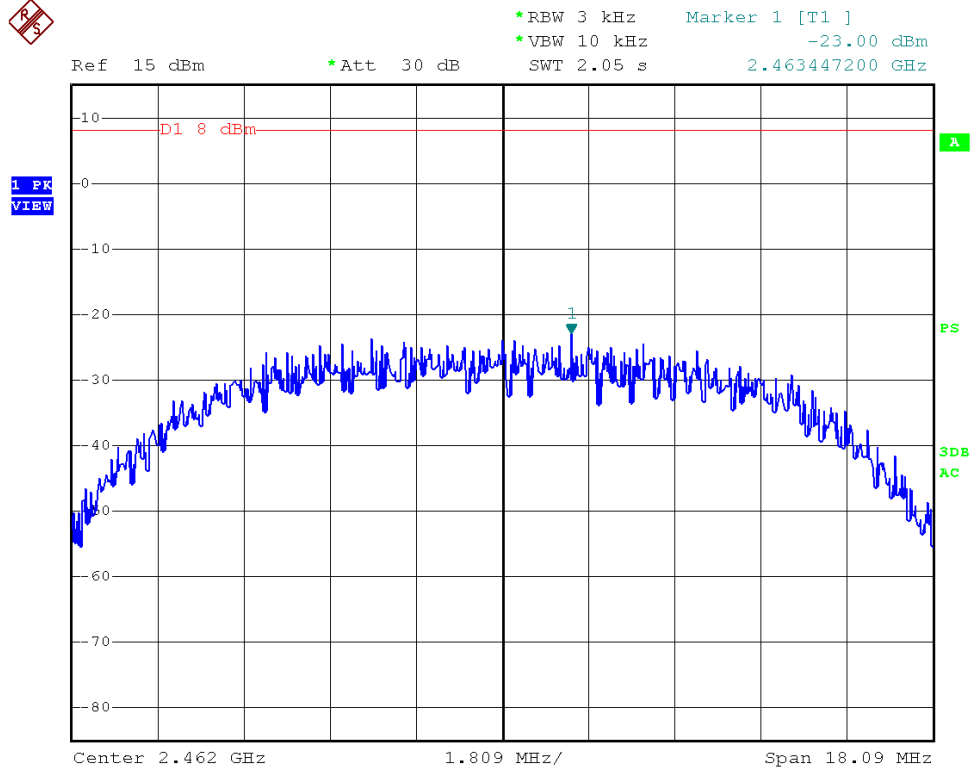
802.11 b CH--Low



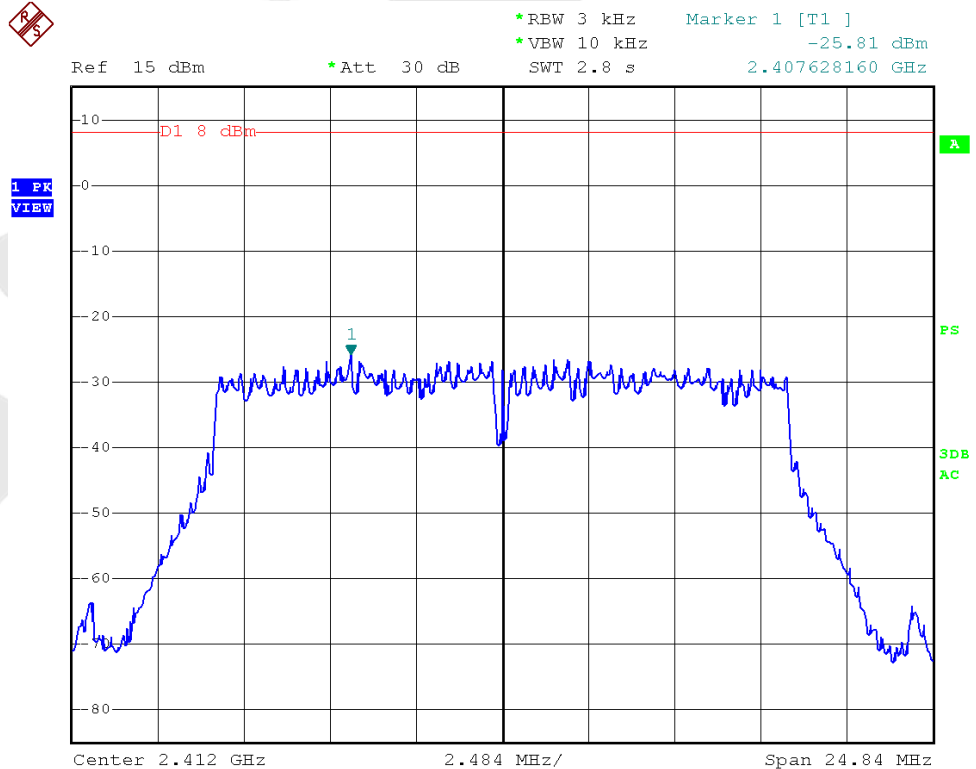
802.11 b CH--Mid



802.11 b CH--High

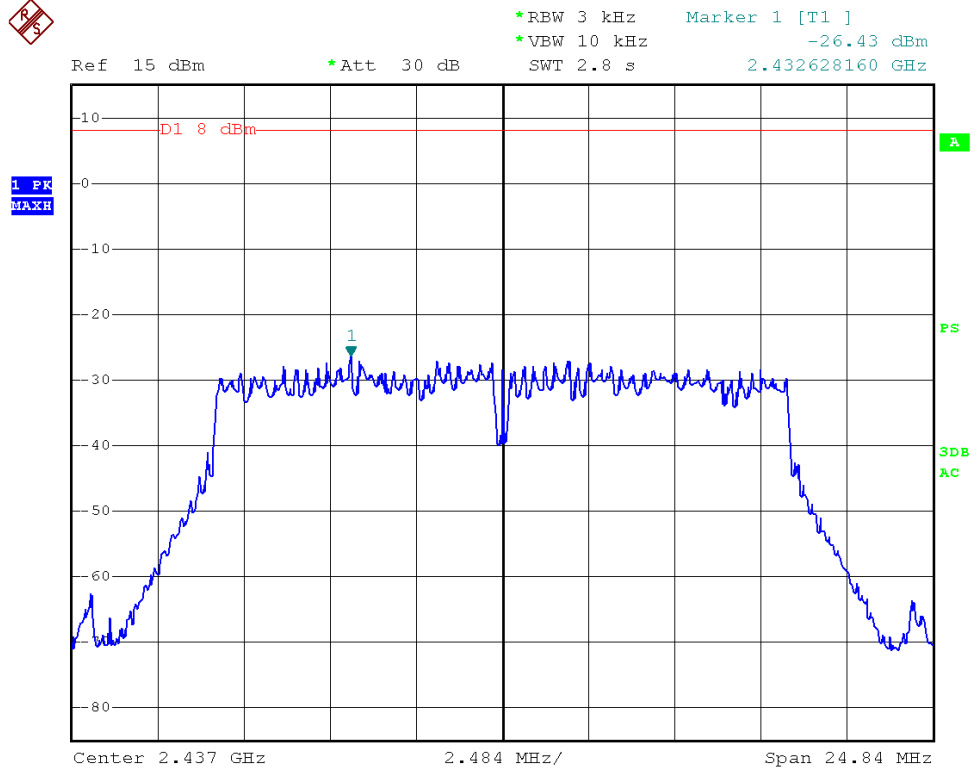


802.11g CH--Low



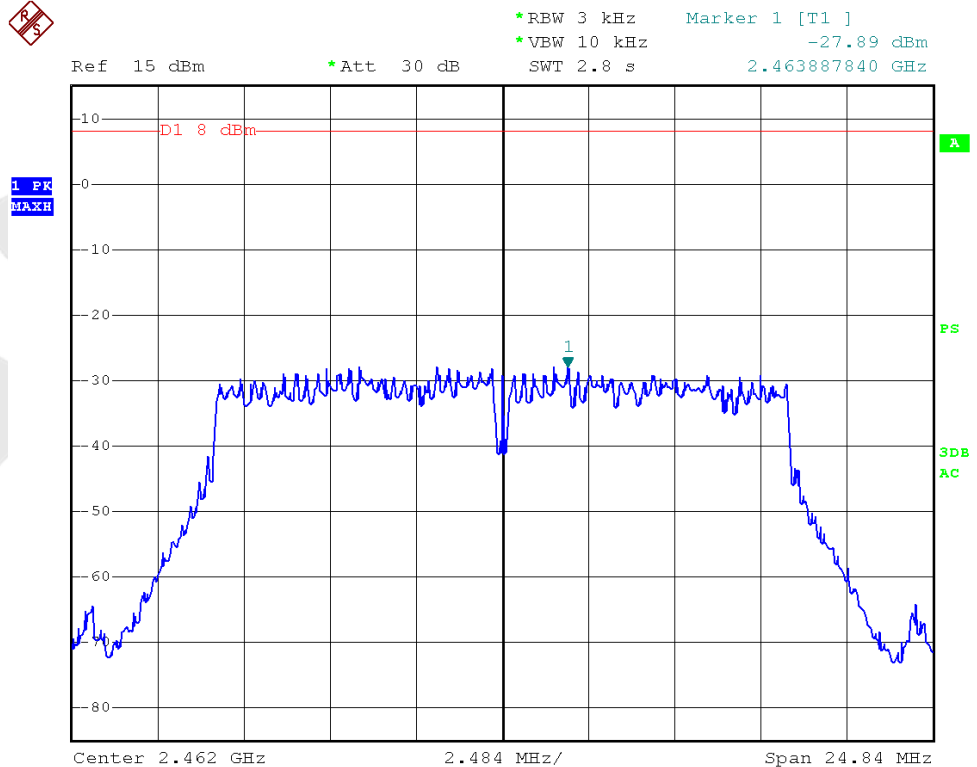
802.11g

CH--Mid

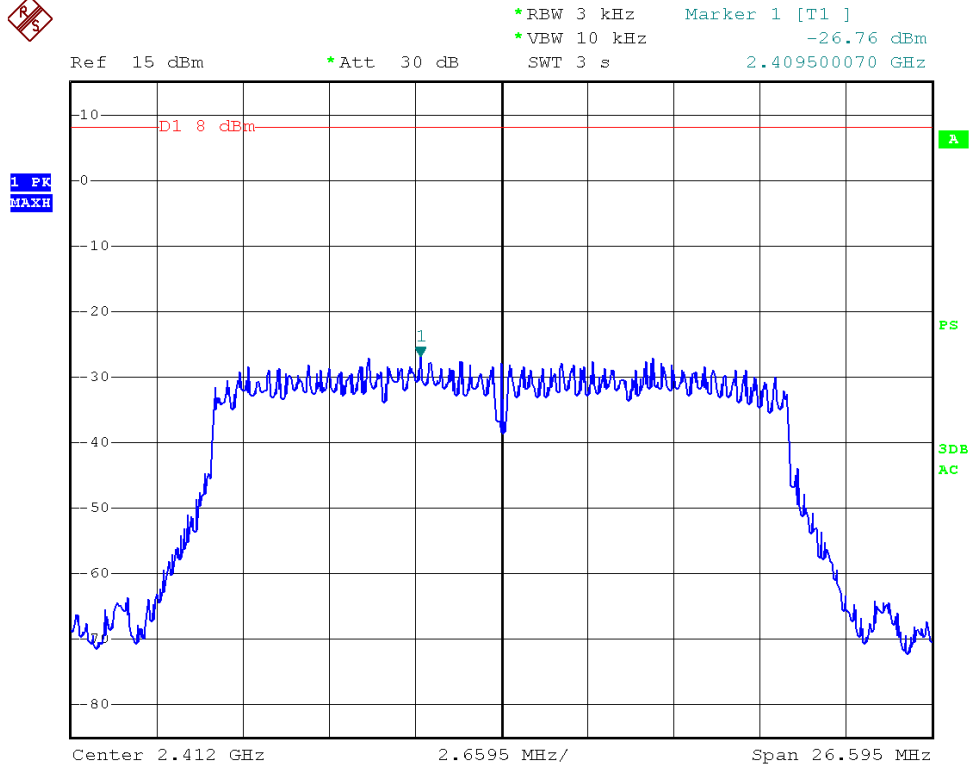


802.11g

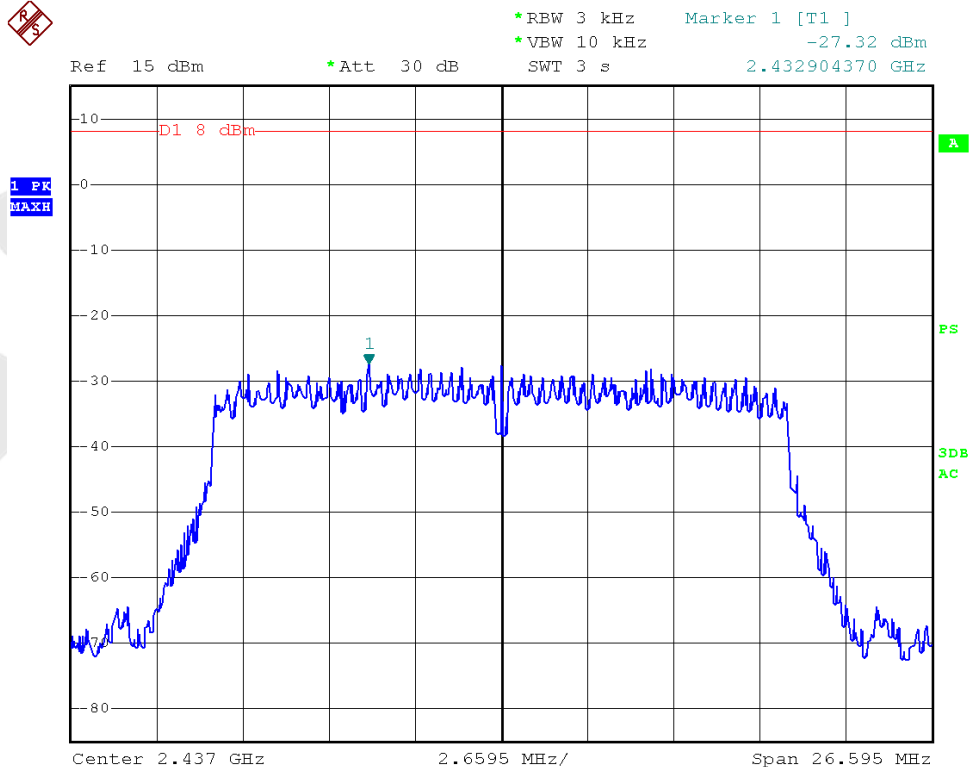
CH--High



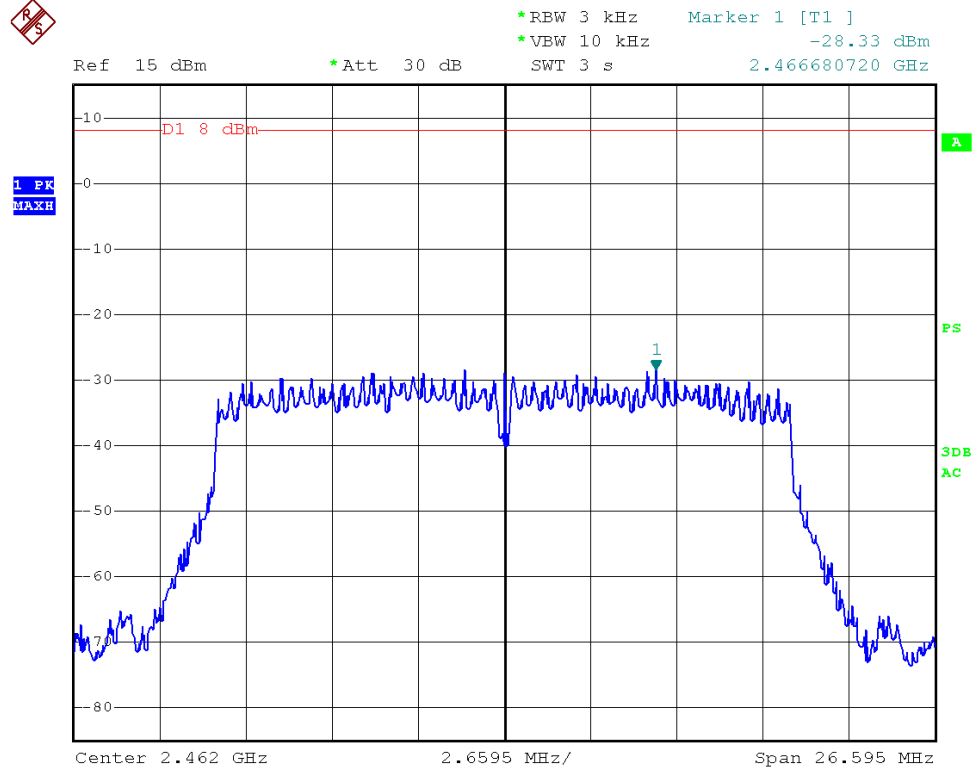
802.11n (HT20) CH—Low



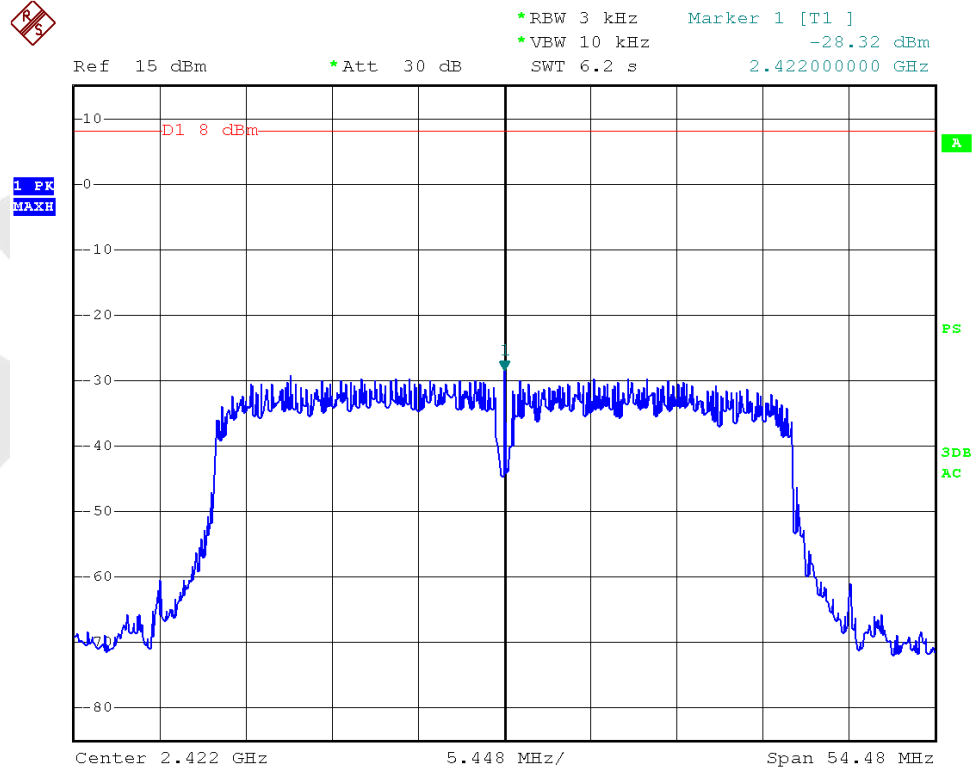
802.11n (HT20) CH—Mid



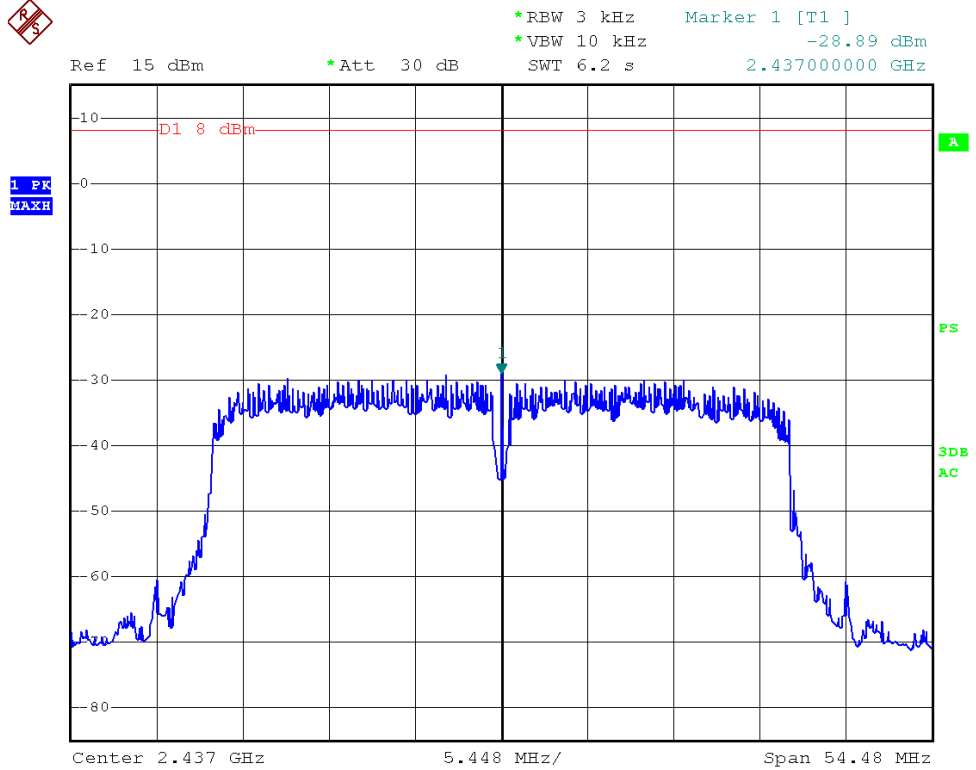
802.11n (HT20) CH—High



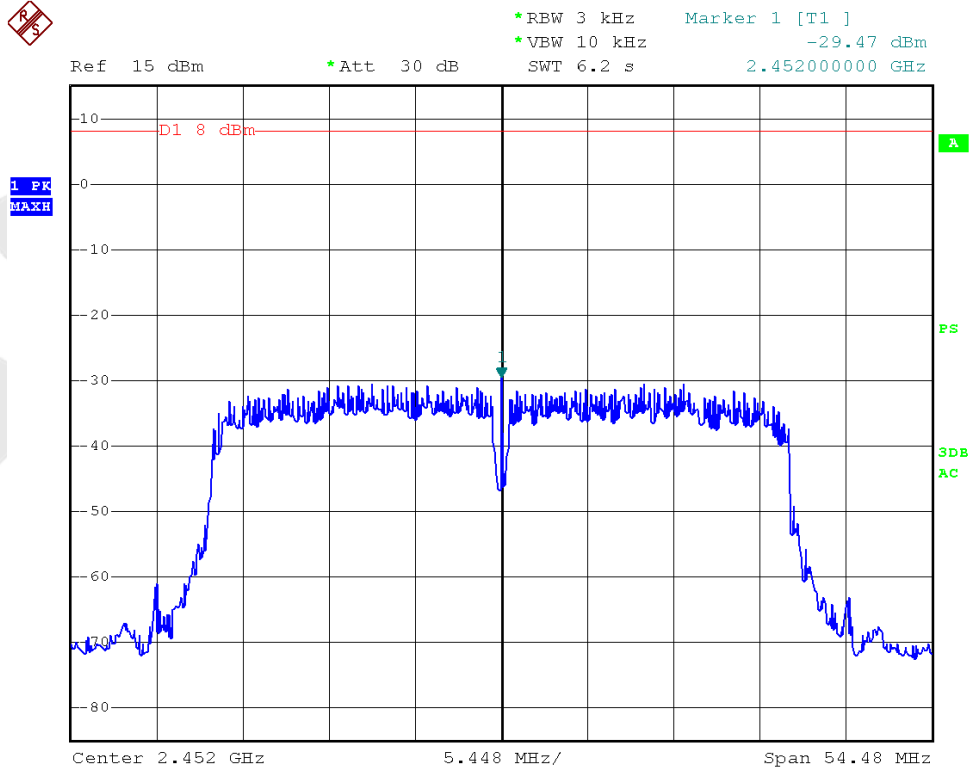
802.11n (HT40) CH—Low



802.11n (HT40) CH—Mid



802.11n (HT40) CH—High



3.6. Radiated Emissions

3.6.1.1. Test Limits (< 30 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

3.6.1.2. Test Limits (\geq 30 MHz)

FIELD STRENGTH of Fundamental: @3M	FIELD STRENGTH of Harmonics	S15.209 30 - 88 MHz	40 dBuV/m
902-928 MHz		88 - 216 MHz	43.5
2.4-2.4835 GHz		216 - 960 MHz	46
94 dBuV/m @3m	54 dBuV/m @3m	ABOVE 960 MHz	54dBuV/m

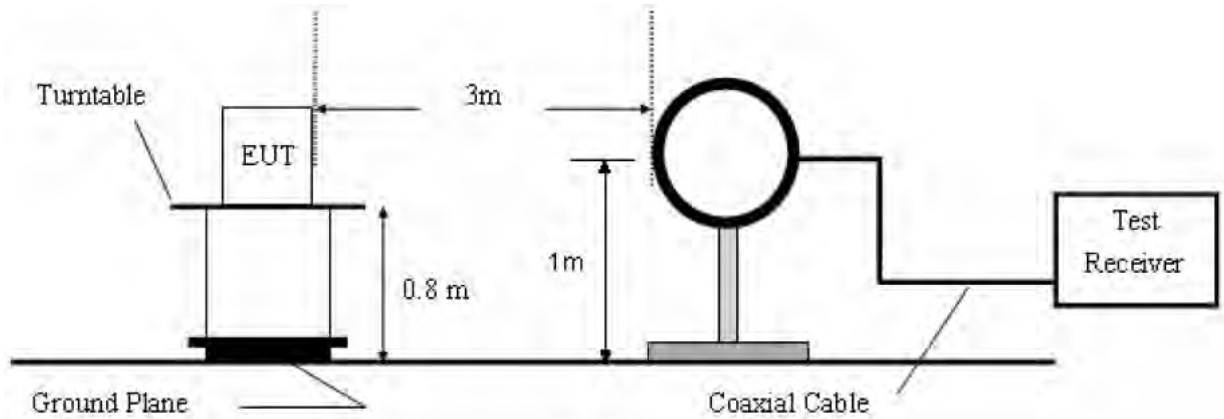
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Test Equipment

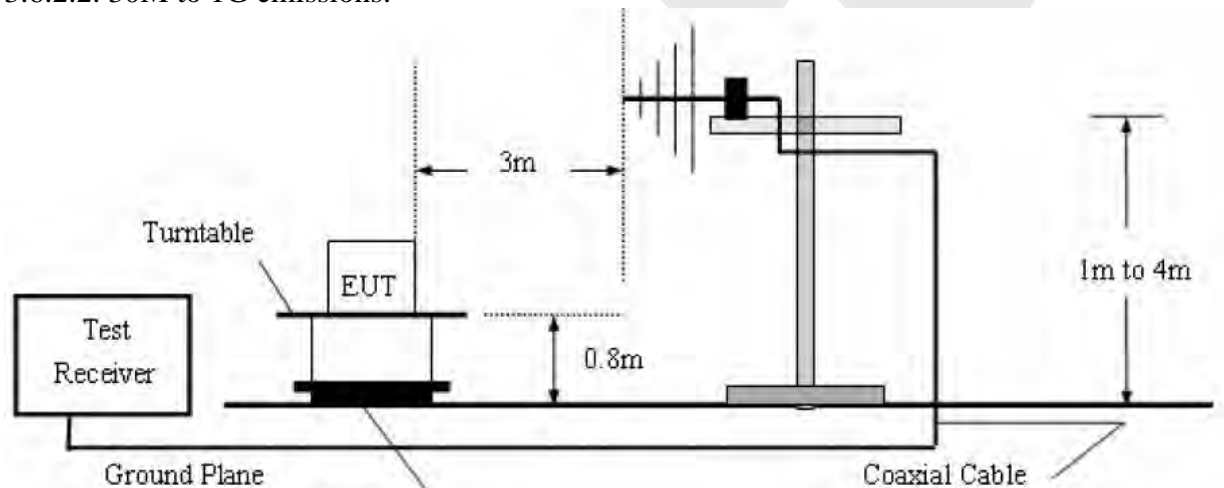
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Aug. 08, 2014	1 Year
2.	Preamplifier	Instruments corporation	EMC011830	980100	Aug. 08, 2014	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 22, 2014	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 04, 2014	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 24, 2014	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Aug. 08, 2014	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A

3.6.2. Test Configuration:

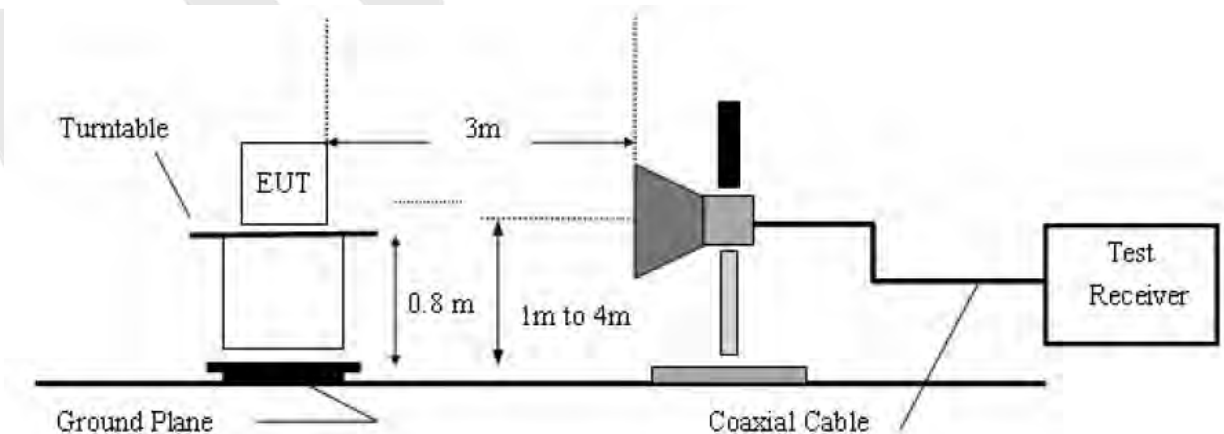
3.6.2.1. 9k to 30MHz emissions:



3.6.2.2. 30M to 1G emissions:



3.6.2.3. 1G to 40G emissions:



3.6.3. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Measurements are made on 9KHz to 30MHz and 30MHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels.

All readings from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All reading are above 1GHz, peak & average values with a resolution bandwidth of 1MHz.

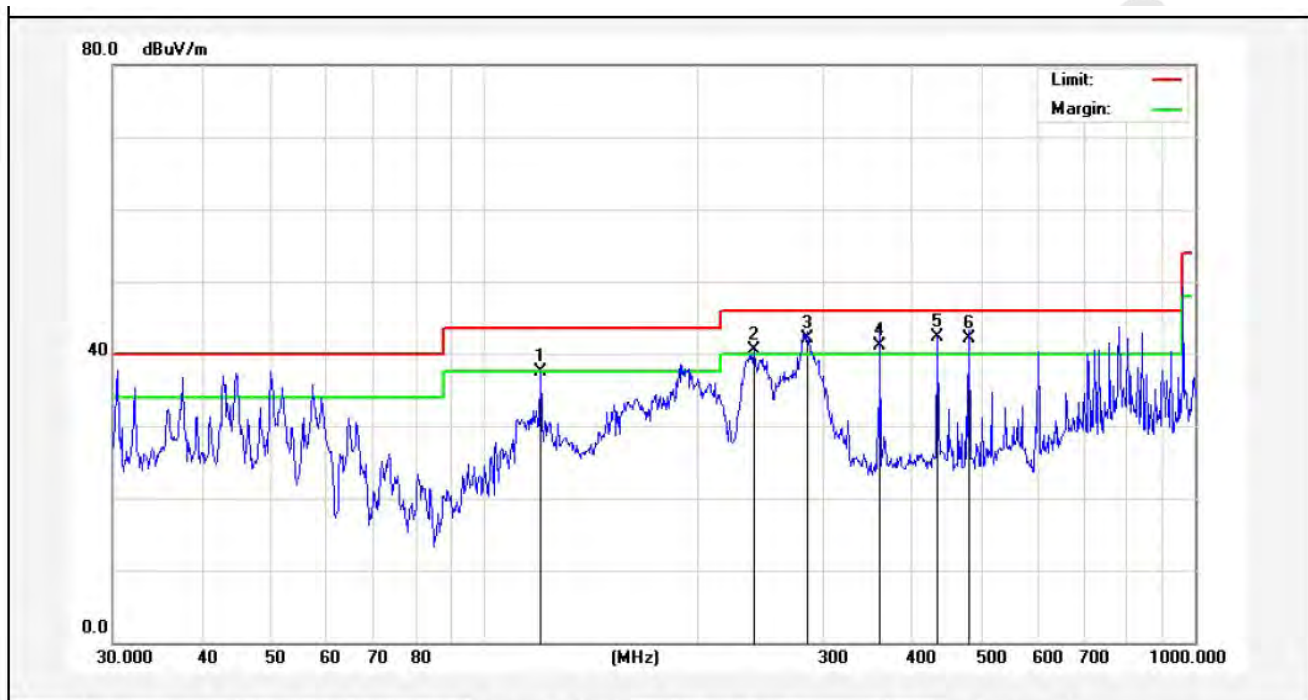
The EUT is tested in 9*6*6 Chamber.

The test results are listed in Section 3.6.4.

3.6.4. Test Results

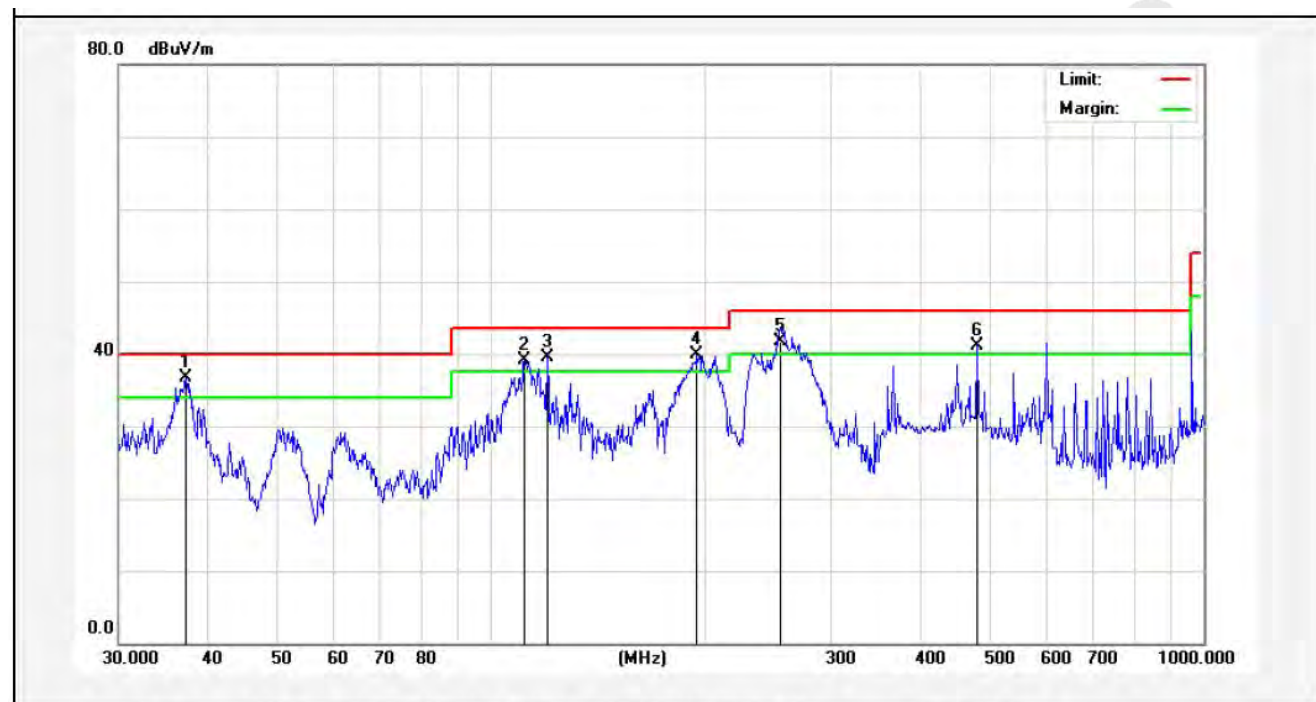
Please refer to the following pages.

Job No.:	011412838I	Polarization:	Horizontal
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Test Mode:	On	Distance:	3m



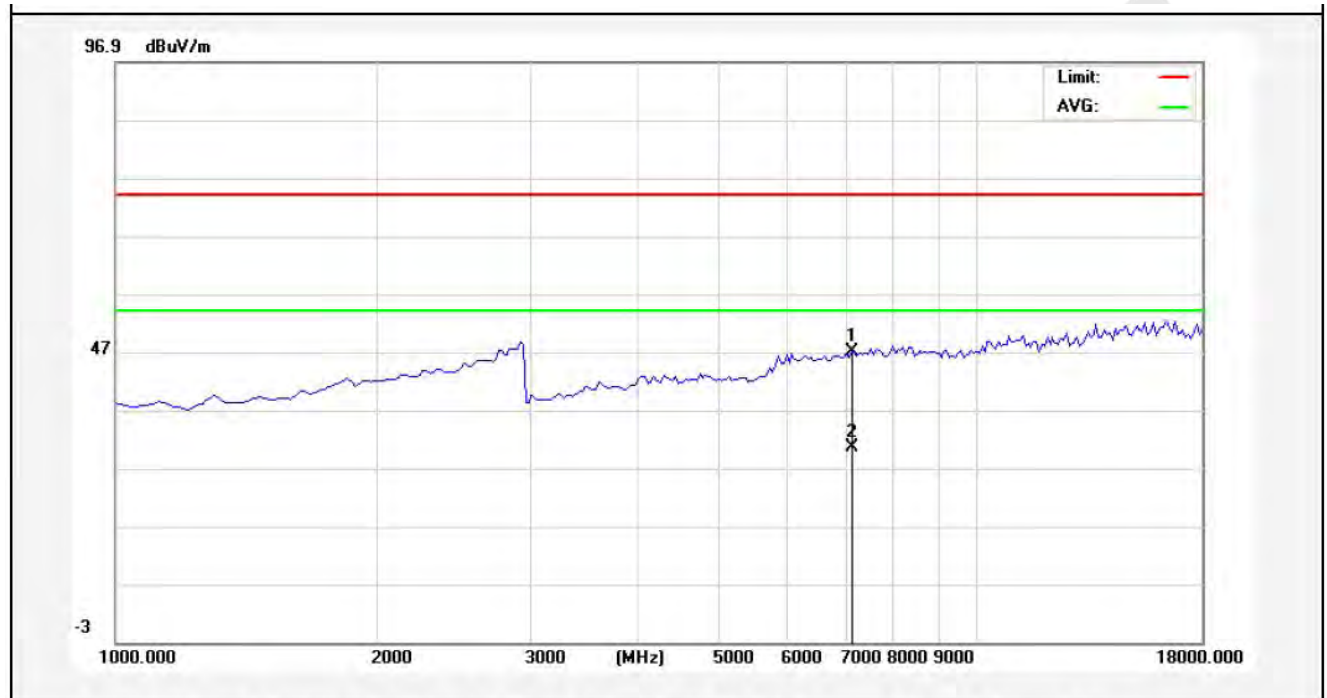
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	119.8555	58.81	-21.32	37.49	43.50	-6.01	peak			
2	239.1473	58.72	-18.17	40.55	46.00	-5.45	peak			
3	284.9766	60.28	-18.09	42.19	46.00	-3.81	QP	300	0	
4	360.4476	54.77	-13.65	41.12	46.00	-4.88	QP	300	360	
5	434.0649	54.52	-12.27	42.25	46.00	-3.75	peak			
6	480.5276	53.73	-11.53	42.20	46.00	-3.80	QP	300	0	

Job No.:	011412838I	Polarization:	Vertical
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Test Mode:	On	Distance:	3m



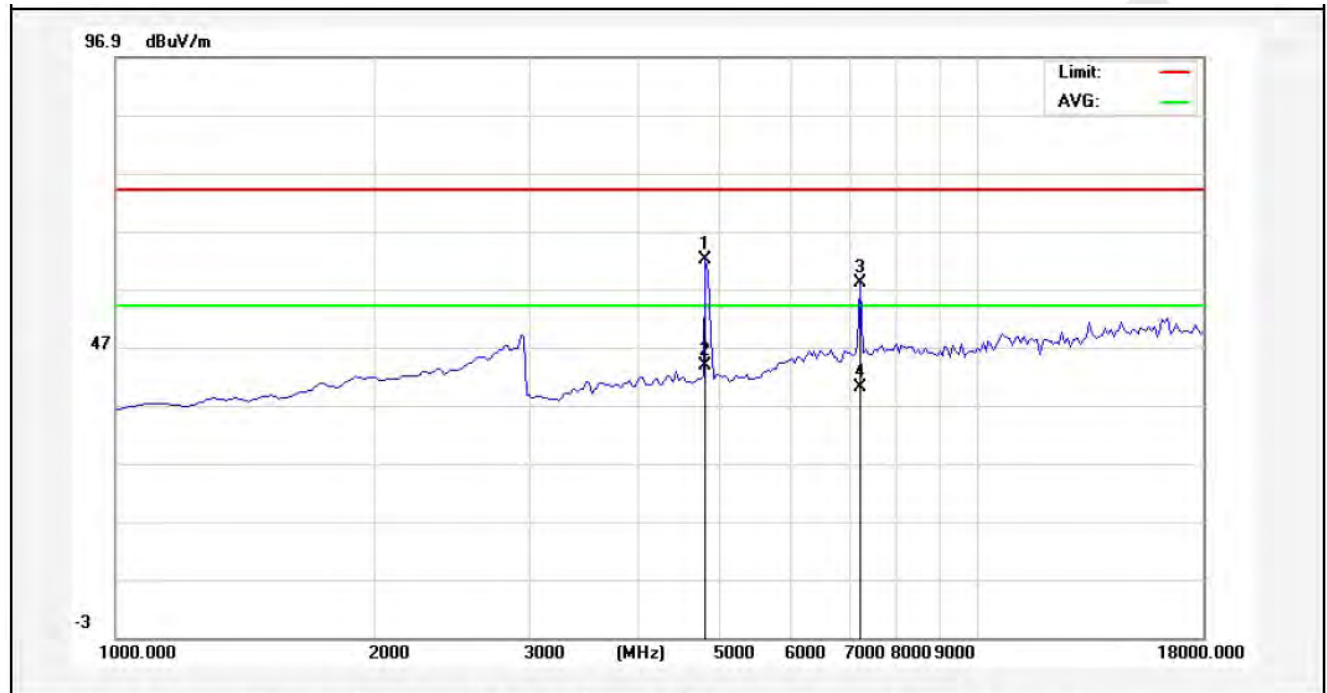
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	37.2854	49.16	-12.49	36.67	40.00	-3.33	peak			
2	111.3468	54.80	-15.72	39.08	43.50	-4.42	peak			
3	119.8555	55.83	-16.32	39.51	43.50	-3.99	peak			
4	194.4533	55.74	-15.90	39.84	43.50	-3.66	peak			
5	254.7283	55.80	-14.02	41.78	46.00	-4.22	QP	100	0	
6	480.5276	52.68	-11.53	41.15	46.00	-4.85	peak			

Job No.:	011412838I	Polarization:	Horizontal
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Note:	802.11b(2412MHz)	Distance:	3m



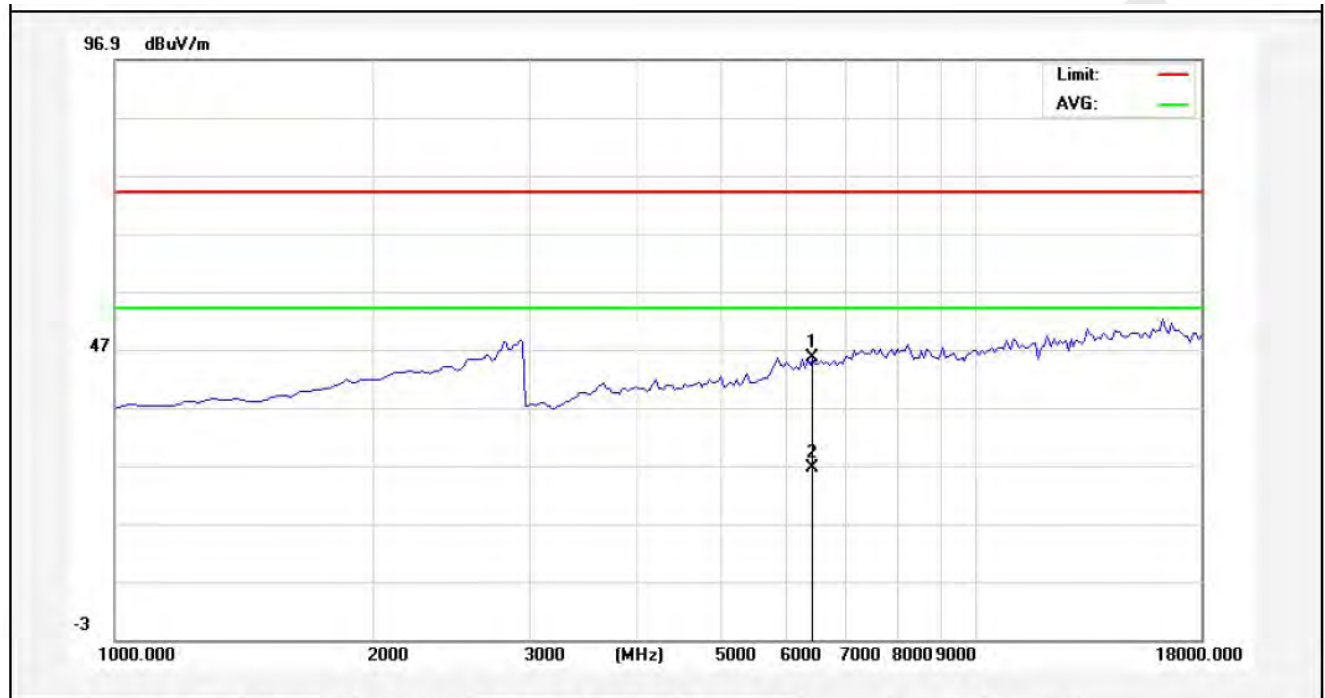
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	7120.000	38.76	8.33	47.09	74.00	-26.91	peak			
2	7120.000	22.21	8.33	30.54	54.00	-23.46	AVG			

Job No.:	011412838I	Polarization:	Vertical
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum. (%RH):	24.3(C)/55%RH
Note:	802.11b(2412MHz)	Distance:	3m



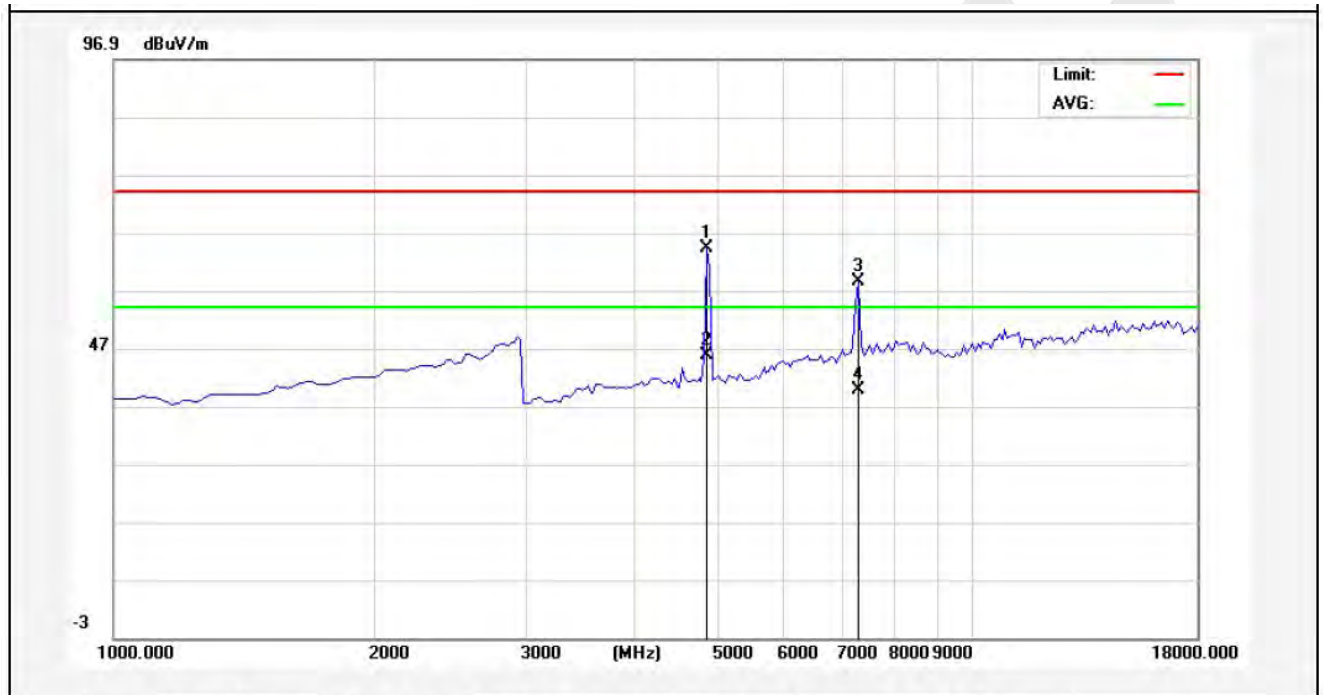
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	4825.000	58.77	3.34	62.11	74.00	-11.89	peak			
2	4825.000	40.55	3.34	43.89	54.00	-10.11	AVG			
3	7247.500	49.56	8.48	58.04	74.00	-15.96	peak			
4	7247.500	31.47	8.48	39.95	54.00	-14.05	AVG			

Job No.:	011412838I	Polarization:	Horizontal
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Note:	802.11b(2437MHz)	Distance:	3m



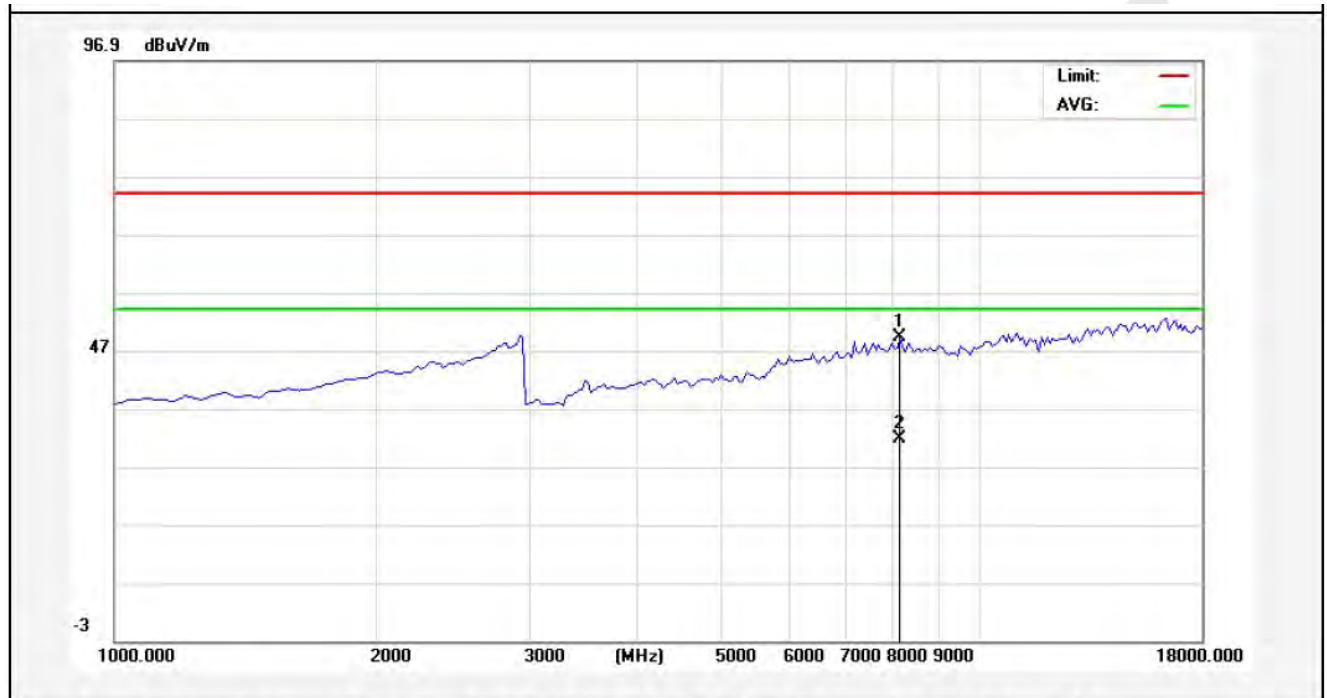
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	6440.000	38.04	7.54	45.58	74.00	-28.42	peak			
2	6440.000	18.91	7.54	26.45	54.00	-27.55	AVG			

Job No.:	011412838I	Polarization:	Vertical
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Note:	802.11b(2437MHz)	Distance:	3m



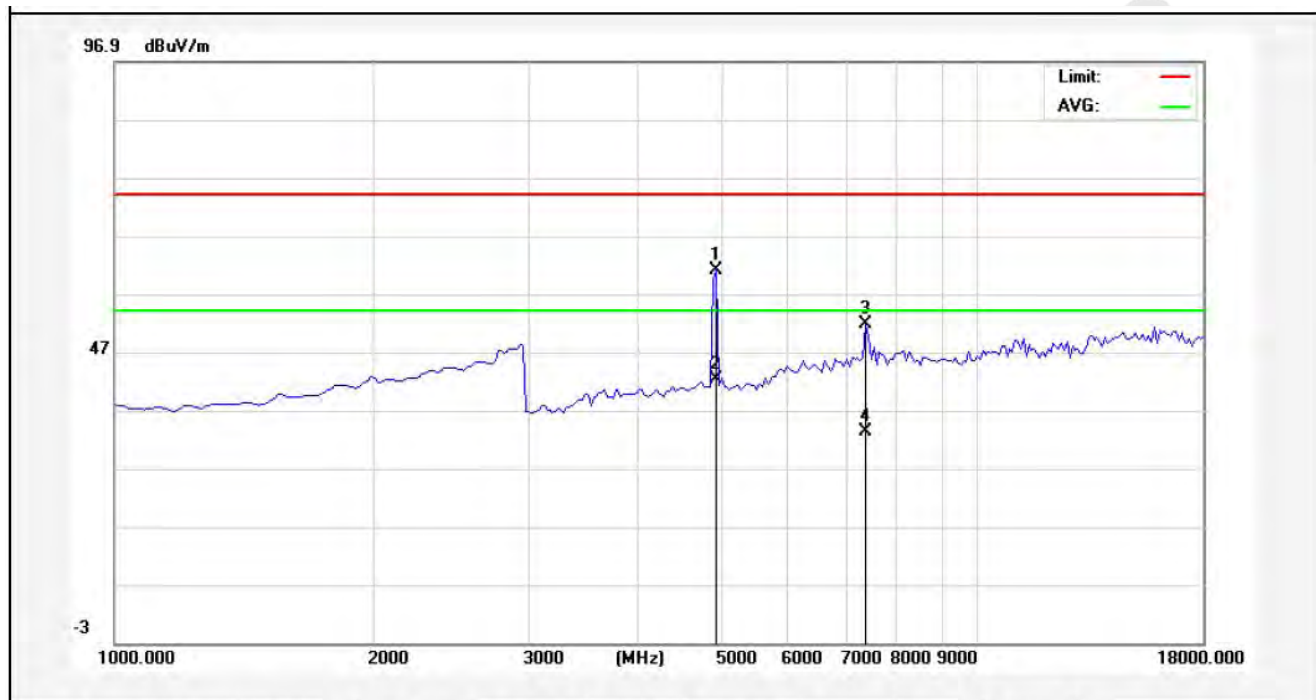
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	4867.500	60.96	3.41	64.37	74.00	-9.63	peak			
2	4867.500	42.37	3.41	45.78	54.00	-8.22	AVG			
3	7332.500	49.87	8.58	58.45	74.00	-15.55	peak			
4	7332.500	31.31	8.58	39.89	54.00	-14.11	AVG			

Job No.:	011412838I	Polarization:	Horizontal
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Note:	802.11b(2462MHz)	Distance:	3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	8097.500	39.53	9.66	49.19	74.00	-24.81	peak			
2	8097.500	22.00	9.66	31.66	54.00	-22.34	AVG			

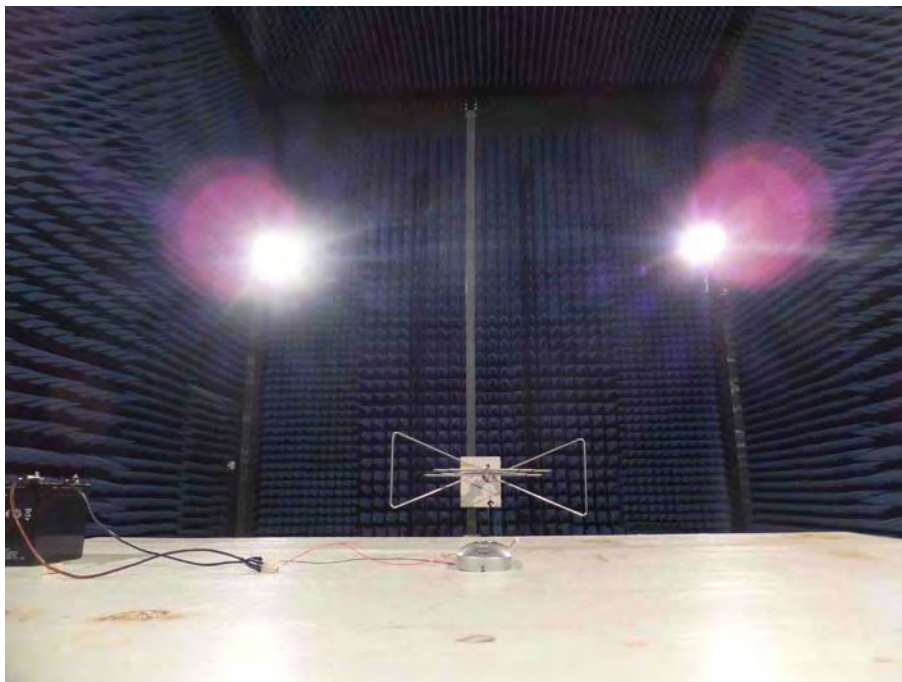
Job No.:	011412838I	Polarization:	Vertical
Standard:	(RE)FCC PART15 C _3m	Power Source:	DC 12V
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Note:	802.11b(2462MHz)	Distance:	3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	4952.500	57.39	3.57	60.96	74.00	-13.04	peak			
2	4952.500	38.78	3.57	42.35	54.00	-11.65	AVG			
3	7375.000	43.24	8.63	51.87	74.00	-22.13	peak			
4	7375.000	24.55	8.63	33.18	54.00	-20.82	AVG			

4. PHOTOGRAPH

4.1. Photo of Radiation Emission Test



APPENDIX I (EXTERNAL PHOTOS)

Figure 1
The EUT-Top View

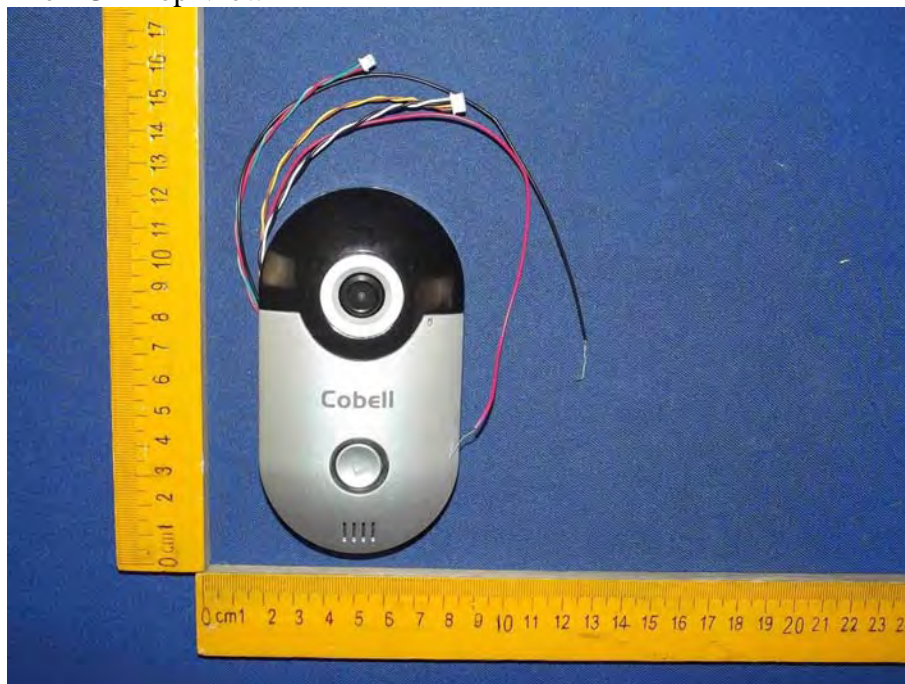


Figure 2
The EUT-Bottom View

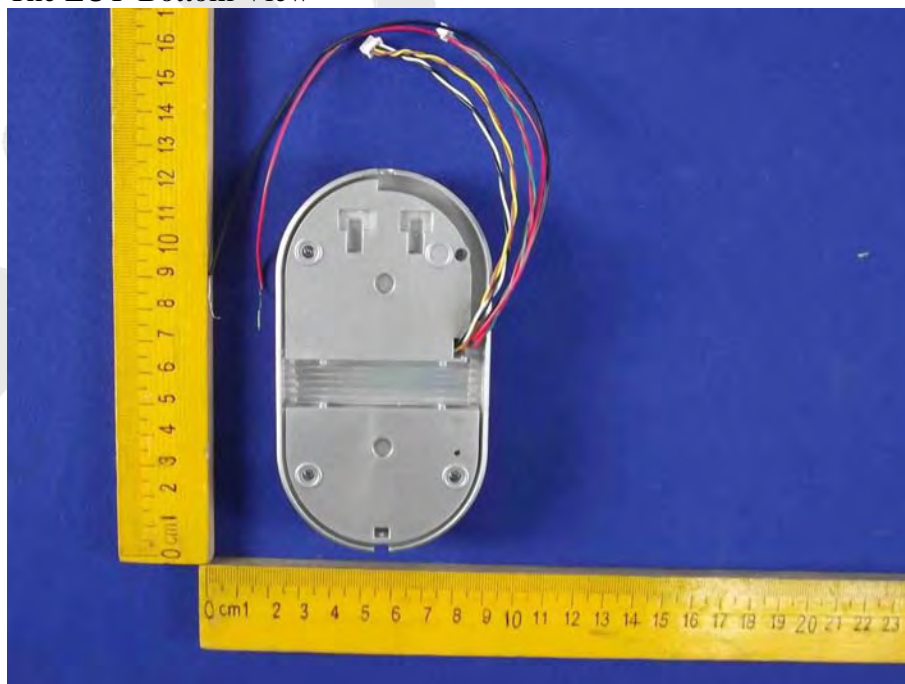


Figure 3
The EUT-Front View



Figure 4
The EUT-Back View



Figure 5
The EUT-Right View



Figure 6
The EUT-Left View



APPENDIX II (INTERNAL PHOTOS)

Figure 7
The EUT-Inside View



Figure 8
PCB of the EUT-Front View

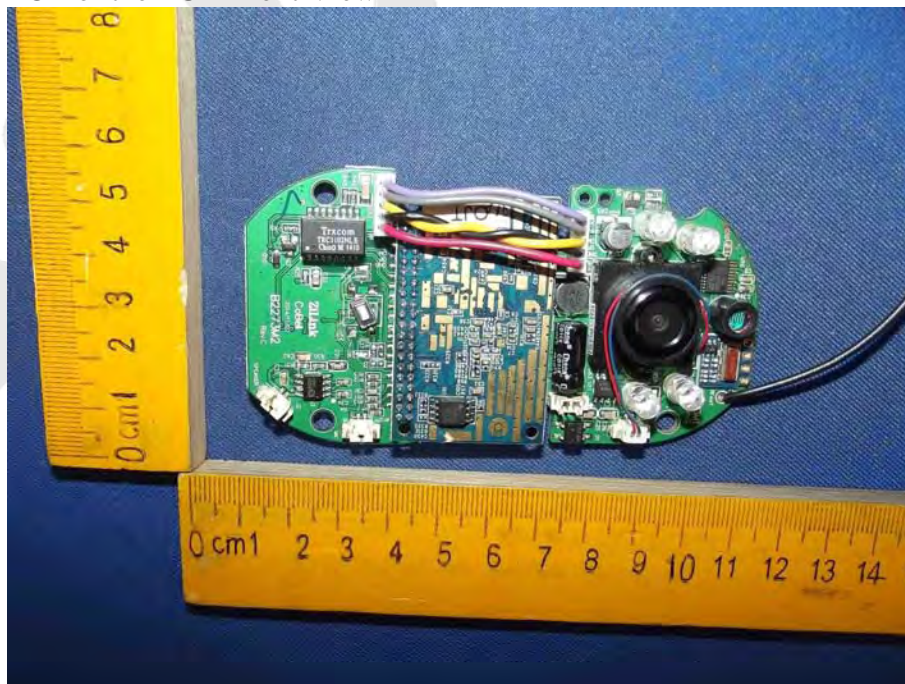


Figure 9
PCB of the EUT-Back View

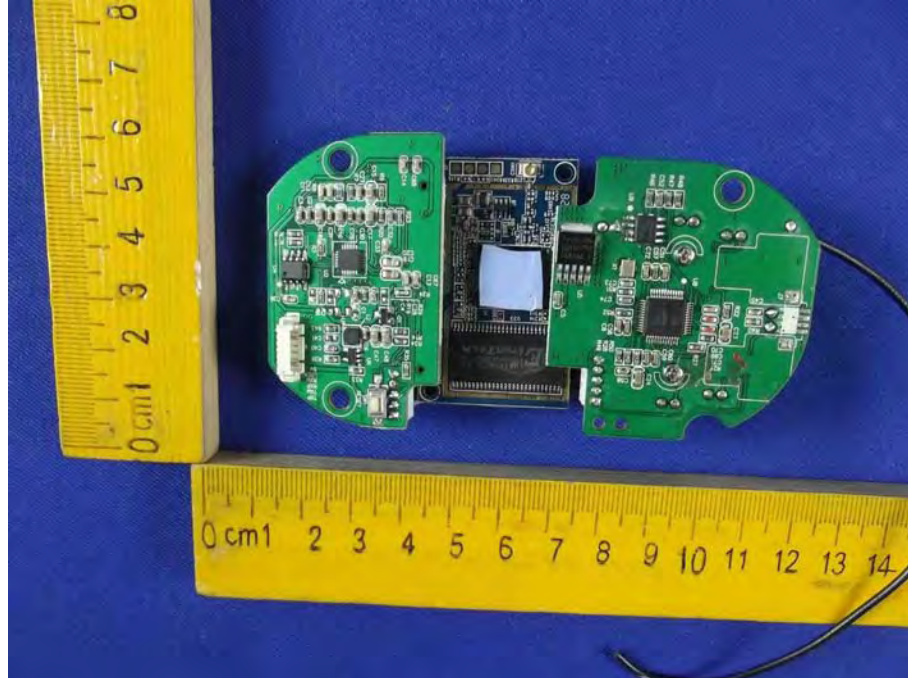


Figure 10
PCB of the EUT-Front View

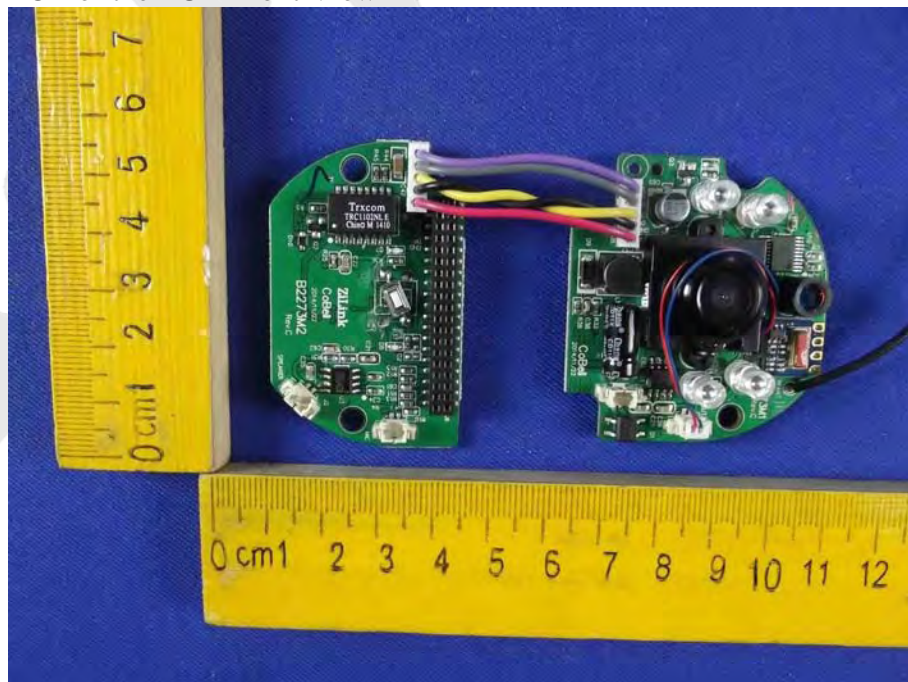


Figure 11
PCB of the EUT-Back View

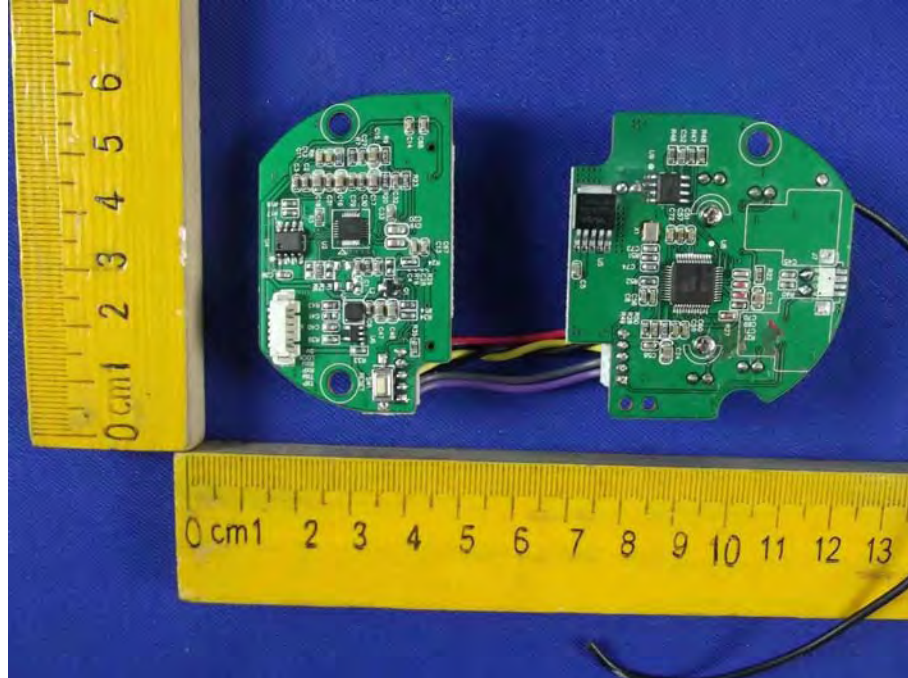


Figure 12
PCB of the EUT-Front View (WiFi Module)

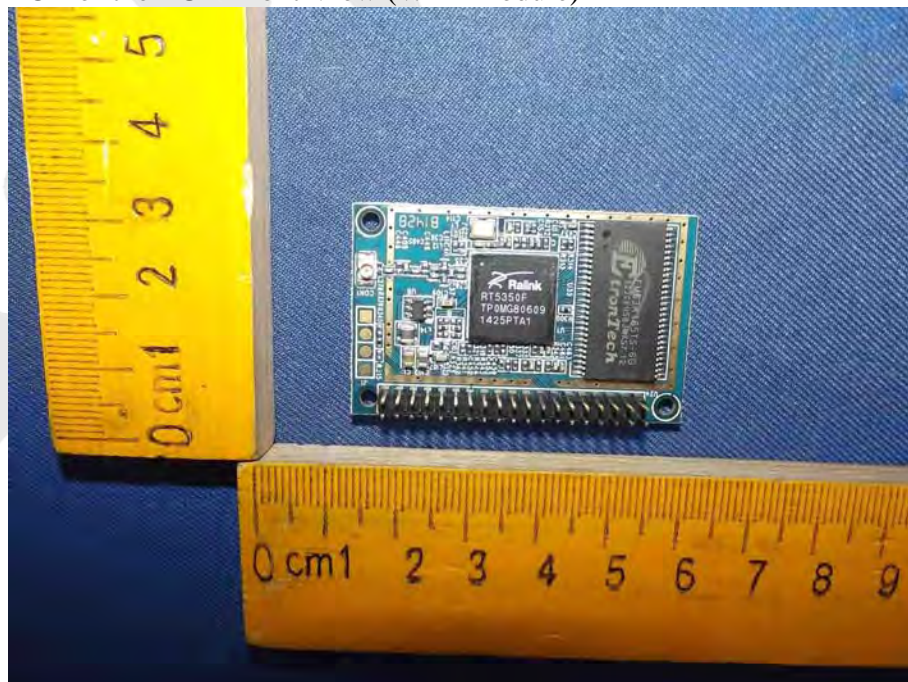


Figure 13
PCB of the EUT-Back View (WiFi Module)

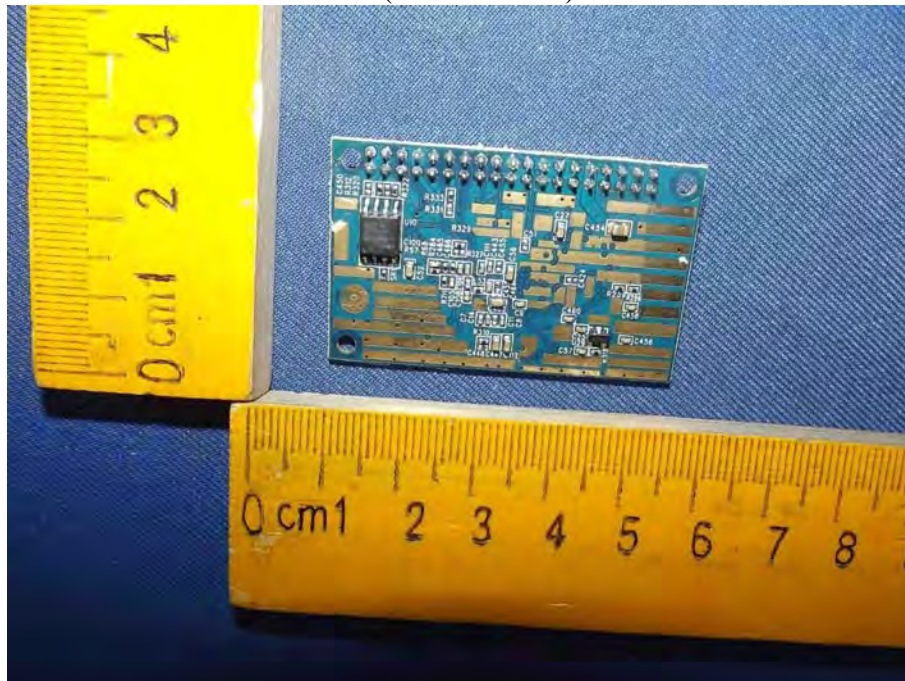


Figure 14
PCB of the EUT-Front View (WiFi Module)

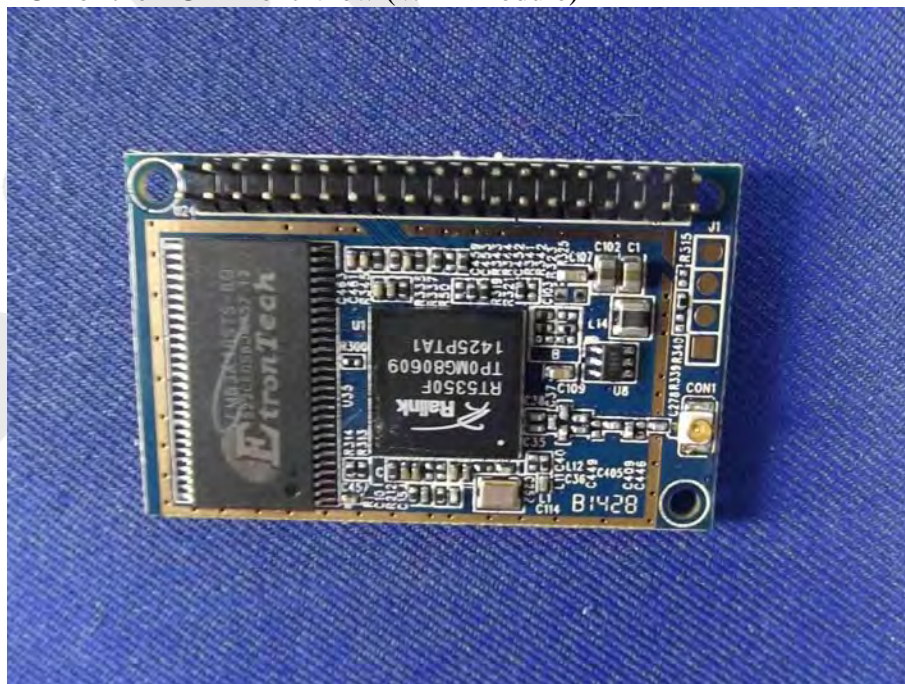


Figure 15
PCB of the EUT-Back View (WiFi Module)

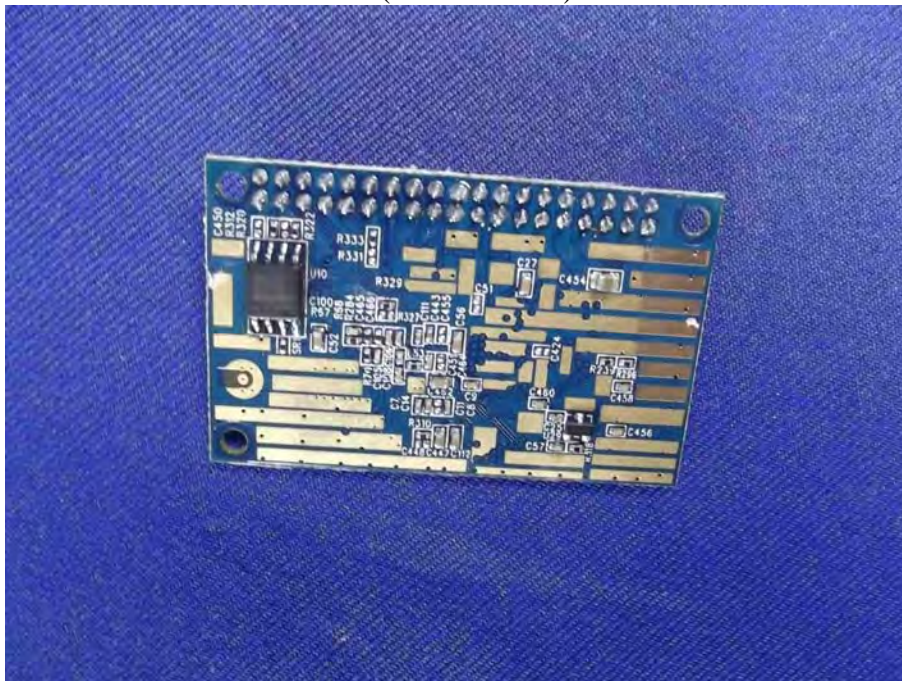


Figure 16
PCB of the EUT-Module View (433MHz)

