

# FCC Part 15C

## Measurement and Test Report

### For

**Verykool USA Inc**

**4350 Executive Dr. #100, San Diego, CA92121, USA**

**FCC ID: WA6S635**

**FCC Rules:** FCC Part 15C

**Product Description:** Mobile Phone

**Tested Model:** S635

**Report No.:** STR12078146I-3

**Tested Date:** 2012-07-16 to 2012-08-03

**Issued Date:** 2012-08-06

**Tested By:** Vigoss Xiong / Engineer

**Reviewed By:** Lahm Peng / EMC Manager

**Approved & Authorized By:** Jandy so / PSQ Manager

**Prepared By:**

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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd

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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: Verykool USA Inc  
Address of applicant: 4350 Executive Dr. #100, San Diego, CA 92121, USA  
Manufacturer: Shenzhen Konka Telecommunications Technology Co., Ltd  
Address of manufacturer: Overseas Chinese towns, NanShan District, Shenzhen  
Address of manufacturer: Overseas Chinese towns, NanShan District, Shenzhen

#### General Description of EUT

Product Name:	Mobile Phone
Trade Name:	verykool
Model No.:	S635
Rated Voltage:	DC 3.7V Li-ion Battery, Adapter Charging: DC 5V
Power Adapter Model:	A361-0500500U (Input: AC 100-240V, Output: DC 5V)

*Note: The test data is gathered from a production sample, provided by the manufacturer (Two SIM Card). The other model listed in the report has different appearance only of one SIM Card without circuit and electronic construction changed, declared by the manufacturer*

#### Technical Characteristics of EUT

Support Standards:	802.11b/g/n
Frequency Range:	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40)
RF Output Power:	16.57 dBm (Conducted)
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Modulation:	CCK, BPSK, QPSK, 16QAM, 64QAM
Quantity of Channels:	11 for 802.11b/g/n-HT20, 7 for 802.11n-HT40
Channel Separation:	5MHz
Antenna Type:	Integral Antenna
Antenna Gain:	0dBi
Lowest Internal Frequency of EUT:	32.768KHz
Device Category:	Portable Device

## 1.2 Test Standards

The following report is prepared on behalf of the Verykool USA Inc in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

## 1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The public notice KDB 558074 for digital transmission systems shall be performed also.

## 1.4 Test Facility

- **FCC – Registration No.: 994117**

SEM.Test Compliance Services Co., Ltd. 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 and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

## 1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11b	2412MHz, 2437MHz, 2462MHz
TM2	802.11g	2412MHz, 2437MHz, 2462MHz
TM3	802.11n-HT20	2412MHz, 2437MHz, 2462MHz
TM4	802.11n-HT40	2422MHz, 2437MHz, 2452MHz

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

## 2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§ 15.207(a)	Conducted Emission	N/A
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	RF Output Power	Compliant
§ 15.209(a)(d)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable

### **3. Antenna Requirement**

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#### **3.1 Standard Applicable**

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

#### **3.2 Evaluation Information**

This product has a permanent antenna, fulfill the requirement of this section.

## 4. Power Spectral Density

### 4.1 Standard Applicable

According to 15.247(a)(1)(iii), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2012-03-28	2013-03-27
Attenuator	ATTEN	ATS100-4-20	/	2012-03-28	2013-03-27

**Statement of Traceability:** All calibrations have been performed per the NVLAP requirements traceable to the NIST.

### 4.3 Test Procedure

According to the KDB 558074, the test method of power spectral density as below:

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set center frequency of spectrum analyzer = operating frequency.
3. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Span 5-30 % greater than the EBW.
4. Repeat above procedures until all frequency measured was complete.
5. (BWCF) where  $BWCF = 10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$ .

### 4.4 Environmental Conditions

Temperature:	20° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

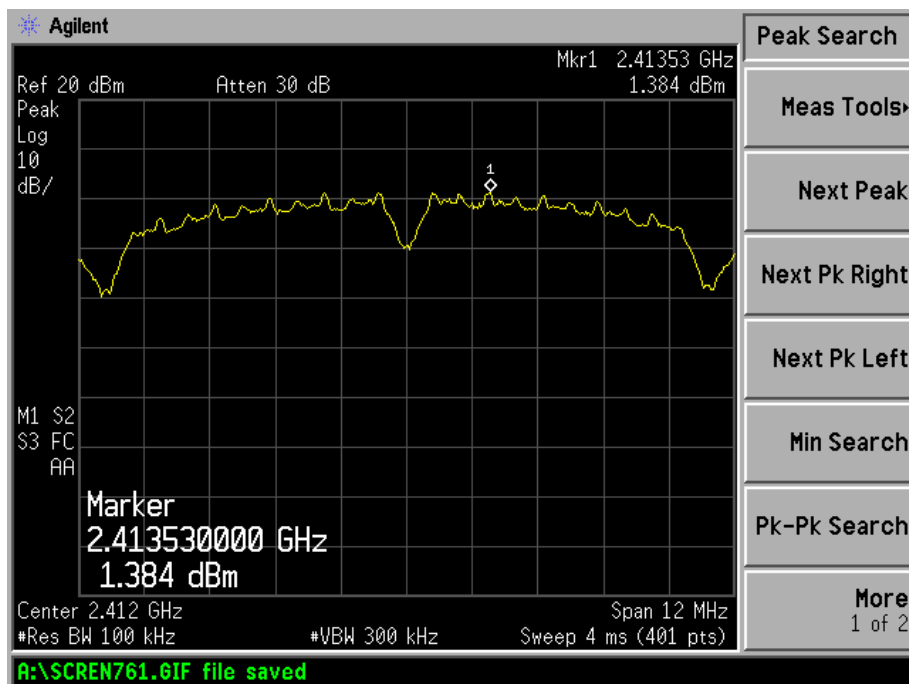


#### 4.5 Summary of Test Results/Plots

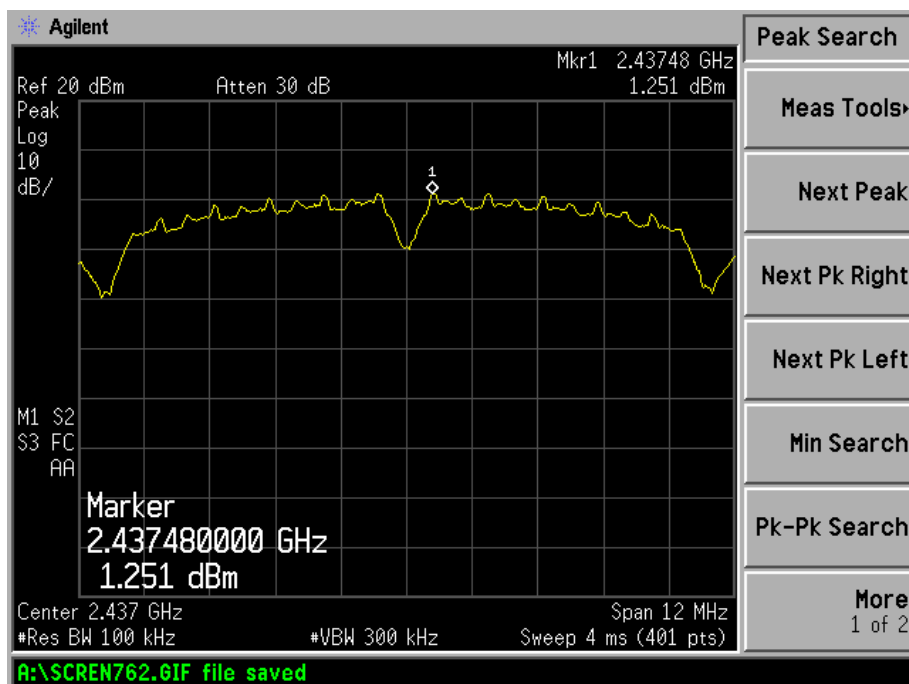
Test Mode	Test Channel MHz	Power Spectral Density dBm/100kHz	BWCF	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	1.384	-15.2	-13.816	8
	2437	1.251	-15.2	-13.949	8
	2462	3.039	-15.2	-12.161	8
802.11g	2412	-4.363	-15.2	-19.563	8
	2437	-1.631	-15.2	-16.831	8
	2462	-3.428	-15.2	-18.628	8
802.11n HT20	2412	-4.181	-15.2	-19.381	8
	2437	-2.129	-15.2	-17.329	8
	2462	-4.399	-15.2	-19.599	8
802.11n HT40	2422	-6.909	-15.2	-22.109	8
	2437	-5.968	-15.2	-21.168	8
	2452	-7.733	-15.2	-22.933	8

Please refer to the following test plots:

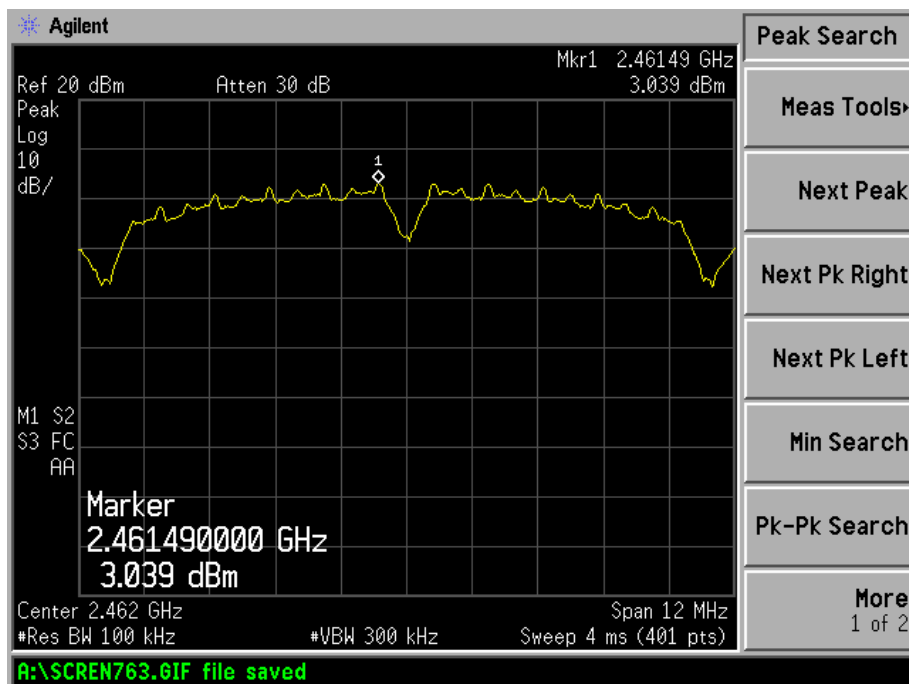
## 802.11b-Low Channel



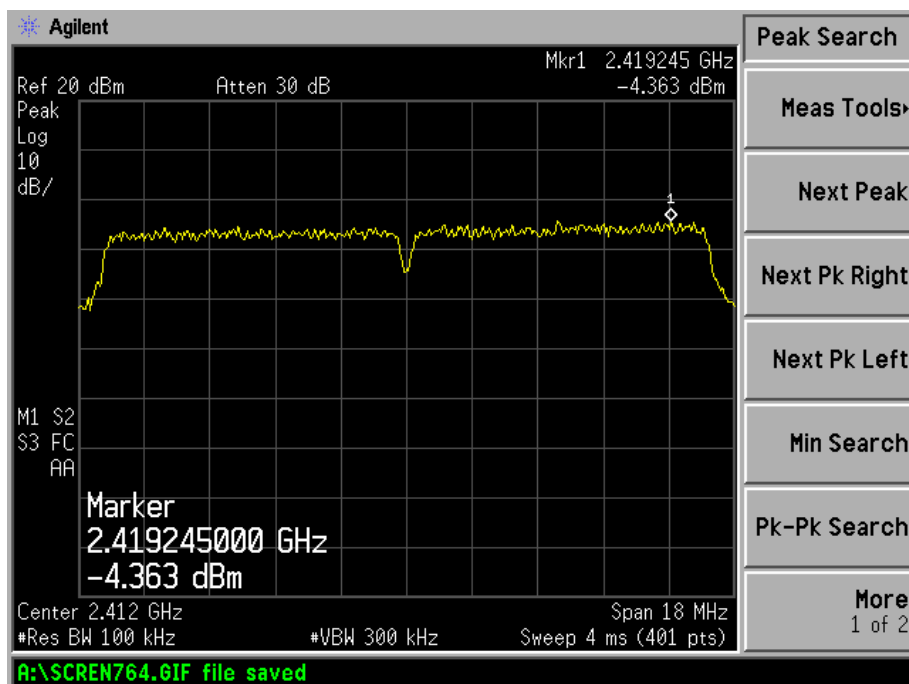
## 802.11b-Middle Channel



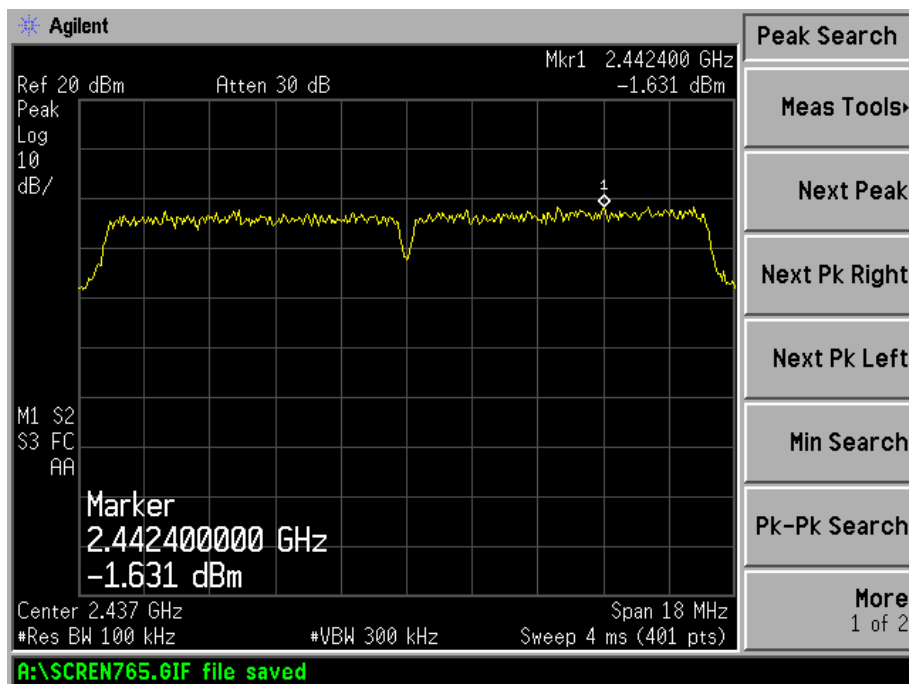
## 802.11b-High Channel



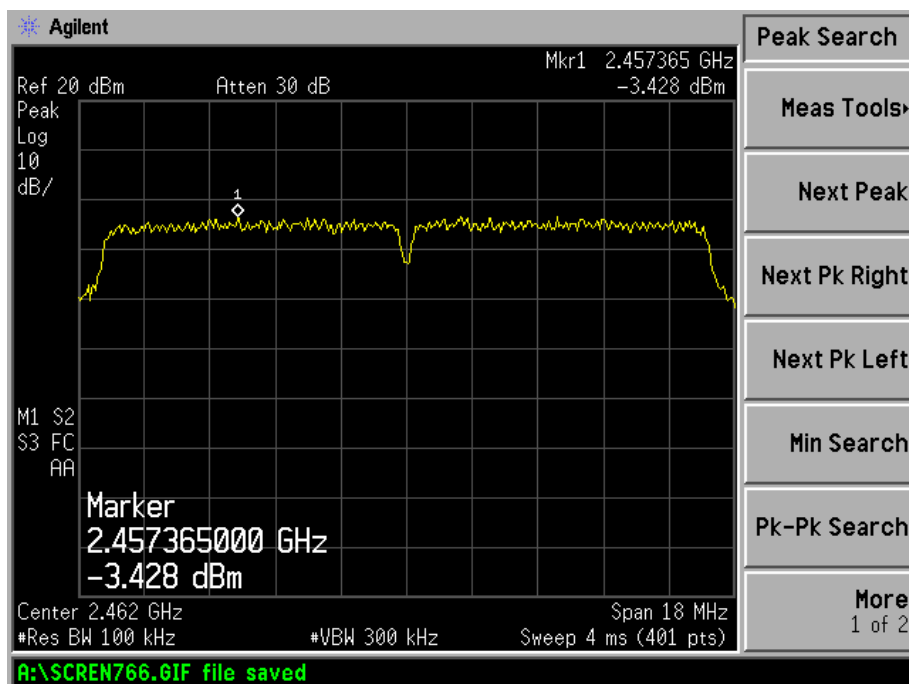
## 802.11g-Low Channel



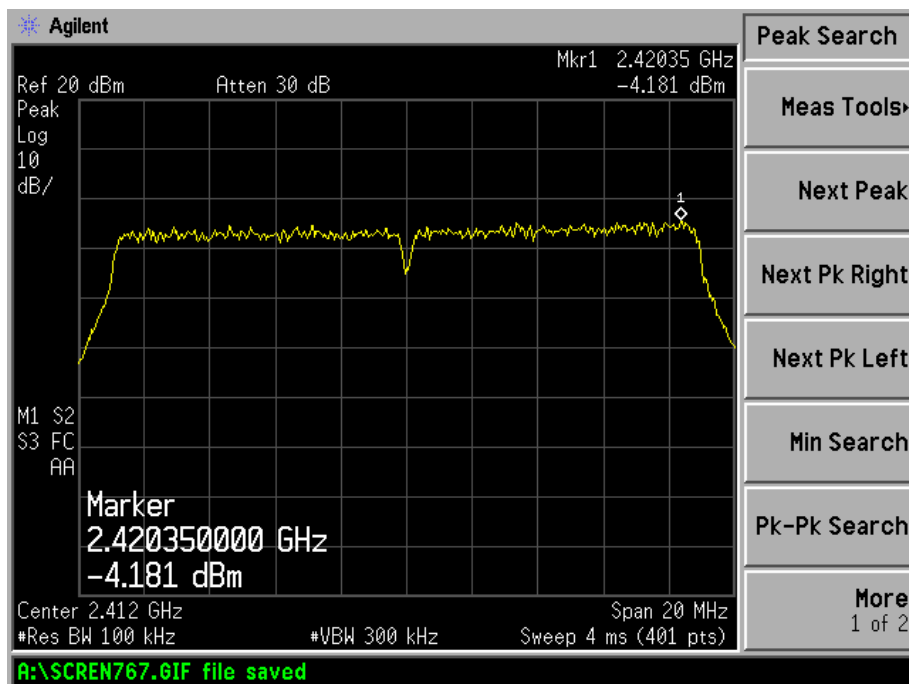
## 802.11g-Middle Channel



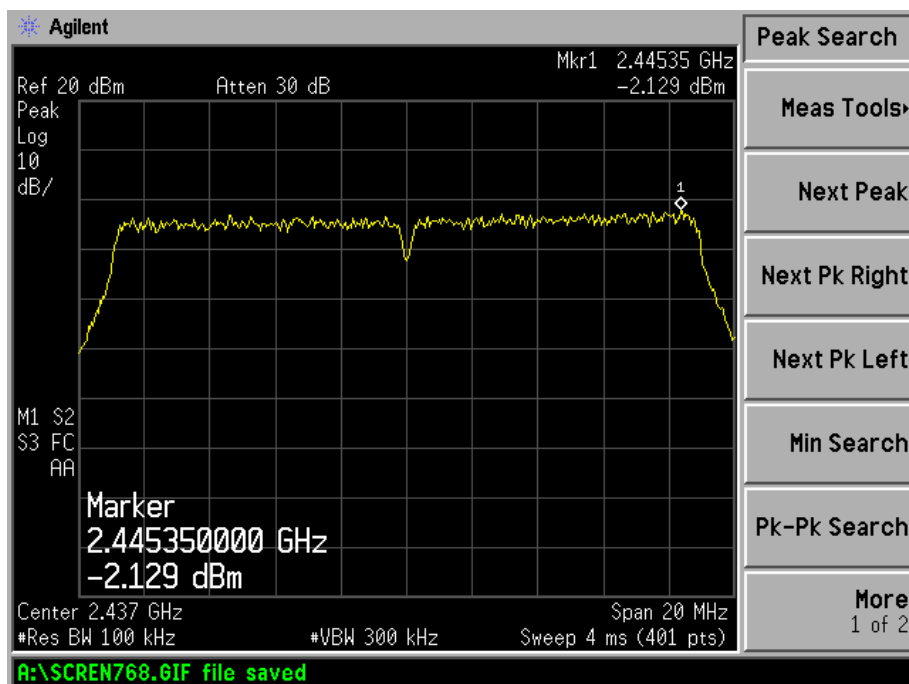
## 802.11g-High Channel



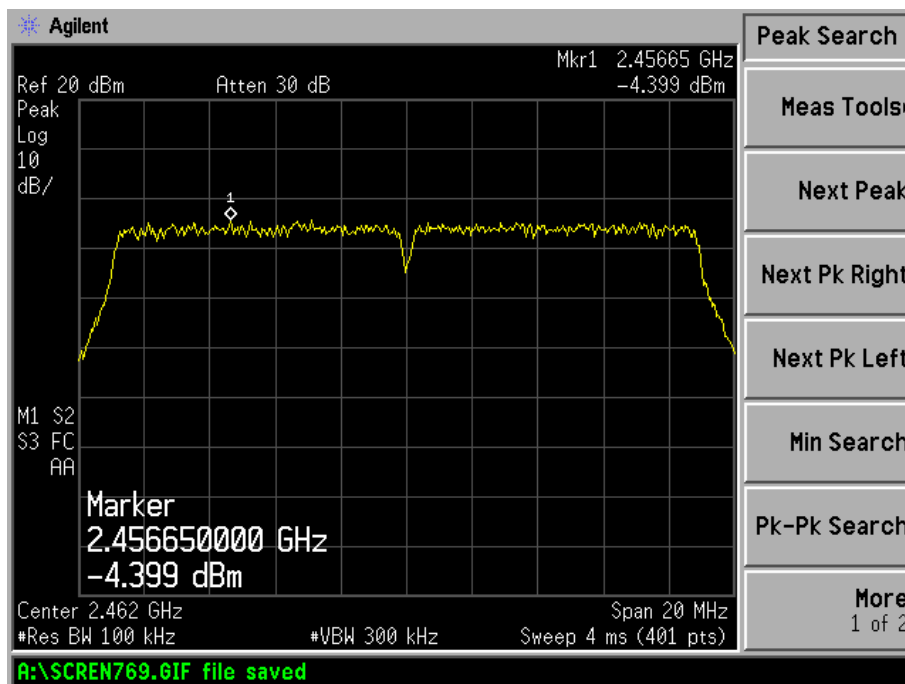
## 802.11n-HT20-Low Channel



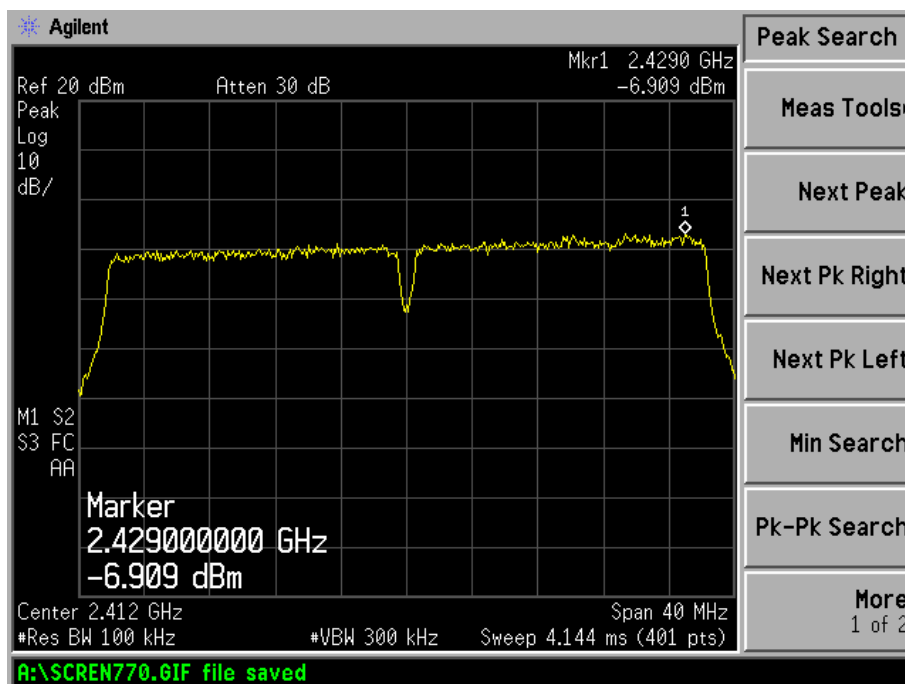
## 802.11n-HT20-Middle Channel



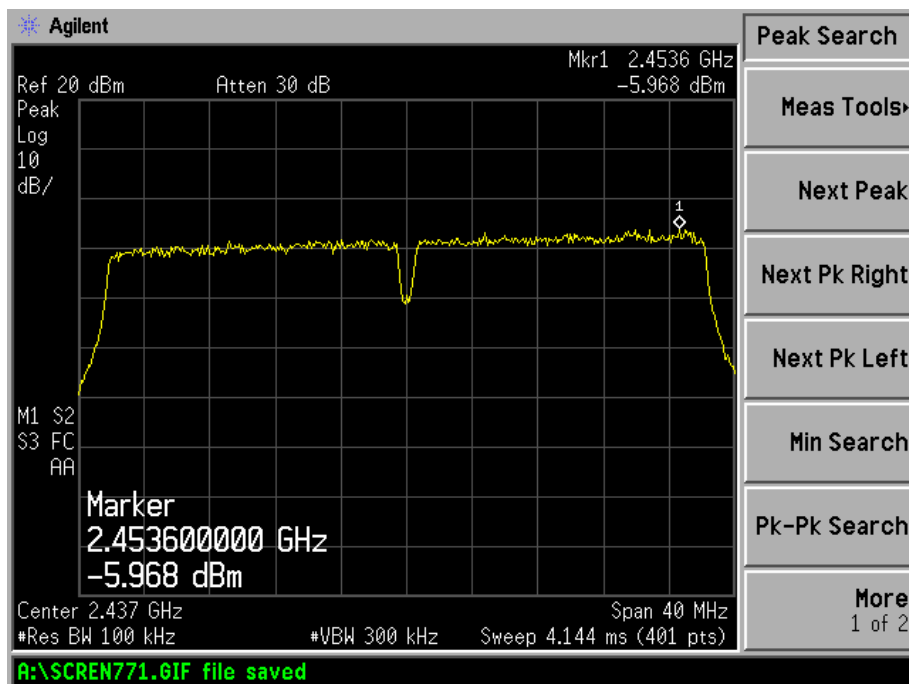
802.11n-HT20-High Channel



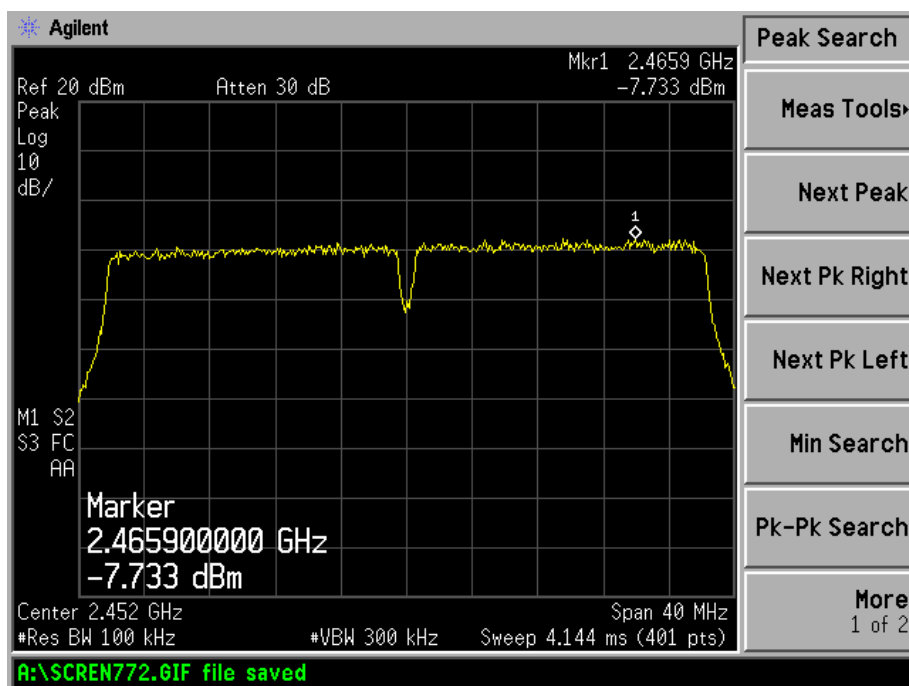
802.11n-HT40-Low Channel



## 802.11n-HT40-Middle Channel



## 802.11n-HT40-High Channel



## 5. 6dB Bandwidth

### 5.1 Standard Applicable

According to 15.247(a)(2). Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### 5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2012-03-28	2013-03-27
Attenuator	ATTEN	ATS100-4-20	/	2012-03-28	2013-03-27

### 5.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set center frequency of spectrum analyzer = operating frequency.
3. The spectrum analyzer as RBW=300kHz (1 % of Bandwidth.), Sweep=auto
4. Mark the peak frequency and –6dB (upper and lower) frequency.

### 5.4 Environmental Conditions

Temperature:	24° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

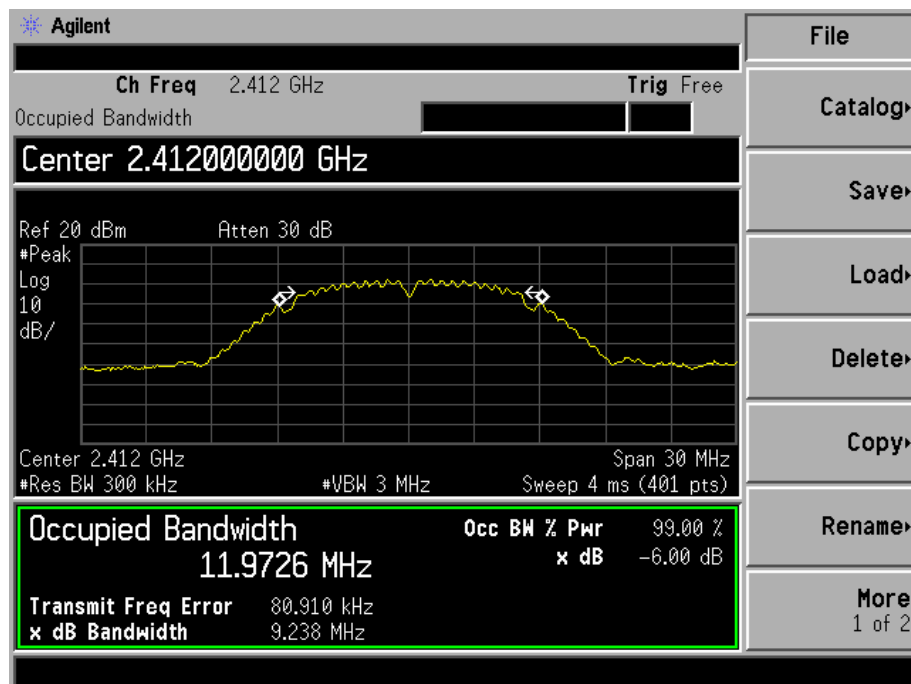


### 5.5 Summary of Test Results/Plots

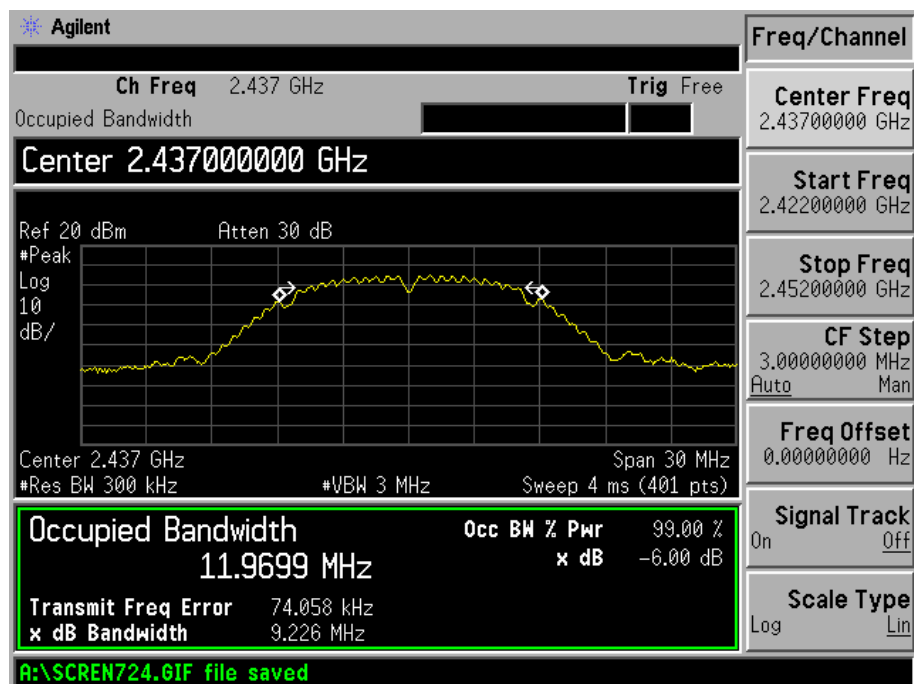
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	Limit kHz
802.11b	2412	9238	500
	2437	9226	500
	2462	9237	500
802.11g	2422	16660	500
	2437	16601	500
	2452	16668	500
802.11n-HT20	2412	17855	500
	2437	17837	500
	2462	17841	500
802.11n-HT40	2422	36276	500
	2437	36363	500
	2452	36679	500

Please refer to the following test plots:

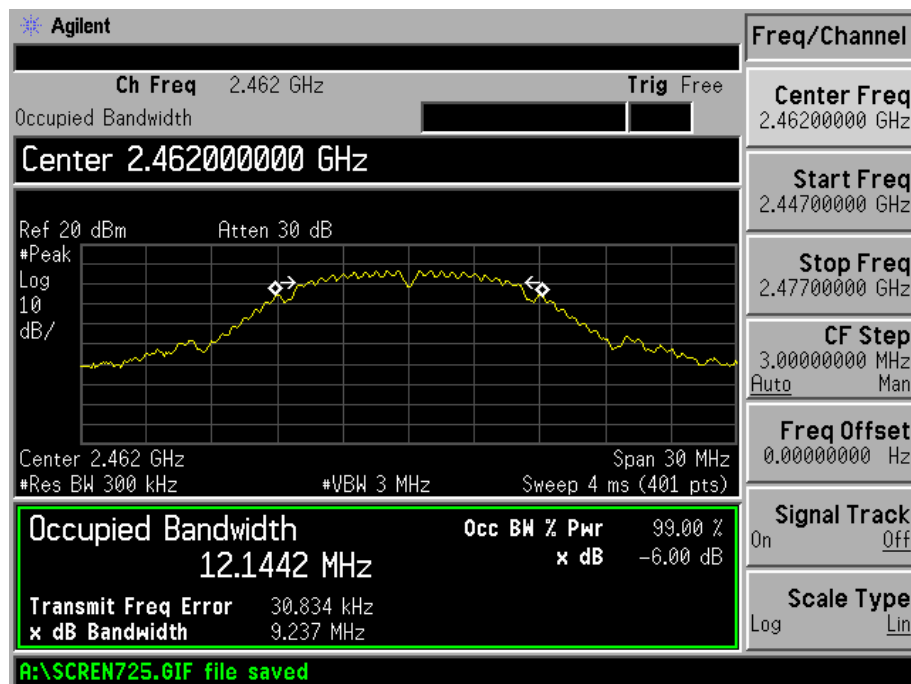
## 802.11b-Low Channel



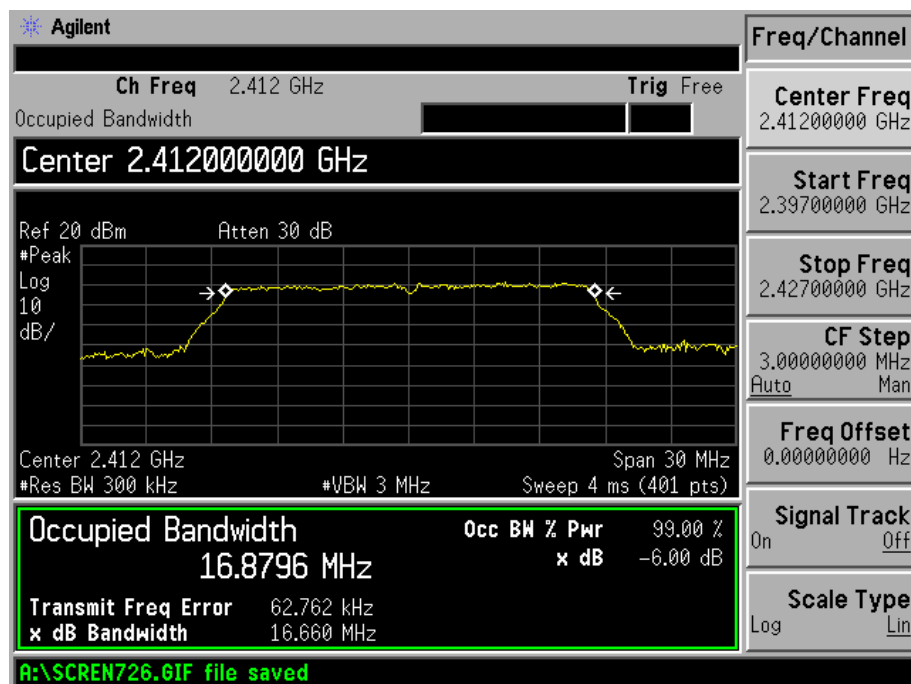
## 802.11b-Middle Channel



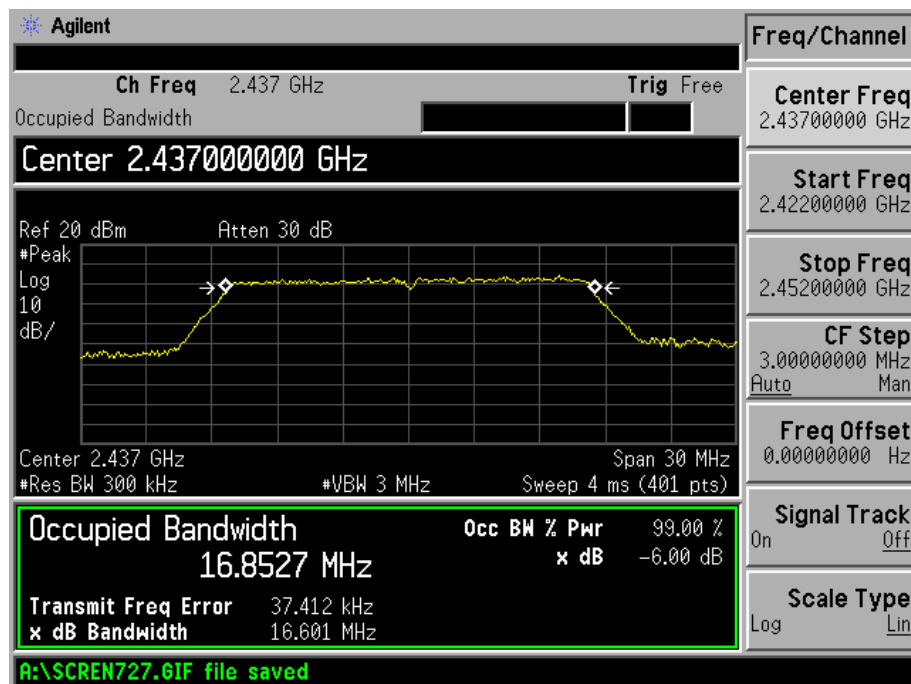
## 802.11b-High Channel



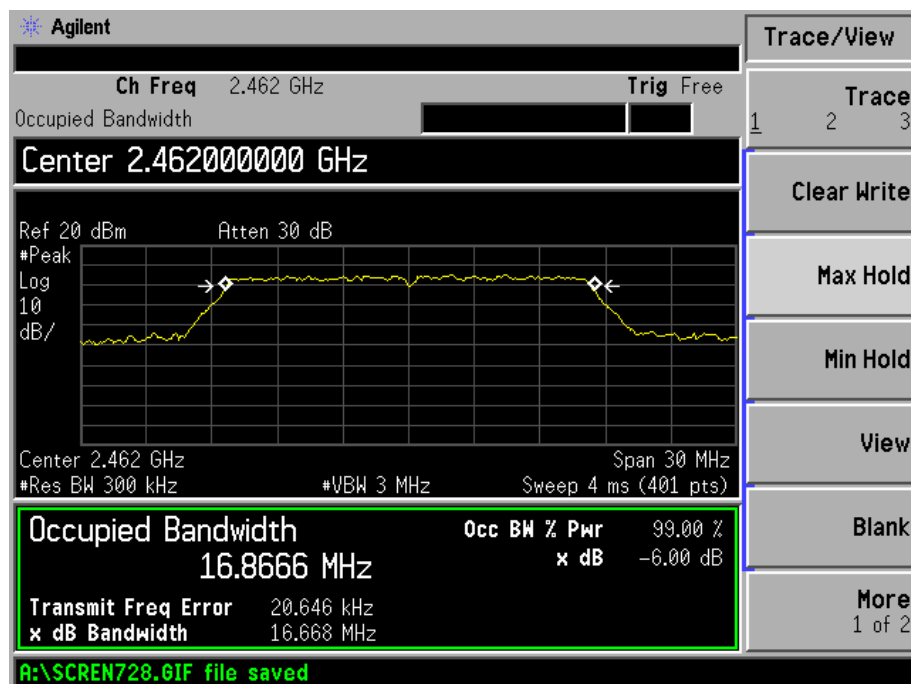
## 802.11g-Low Channel



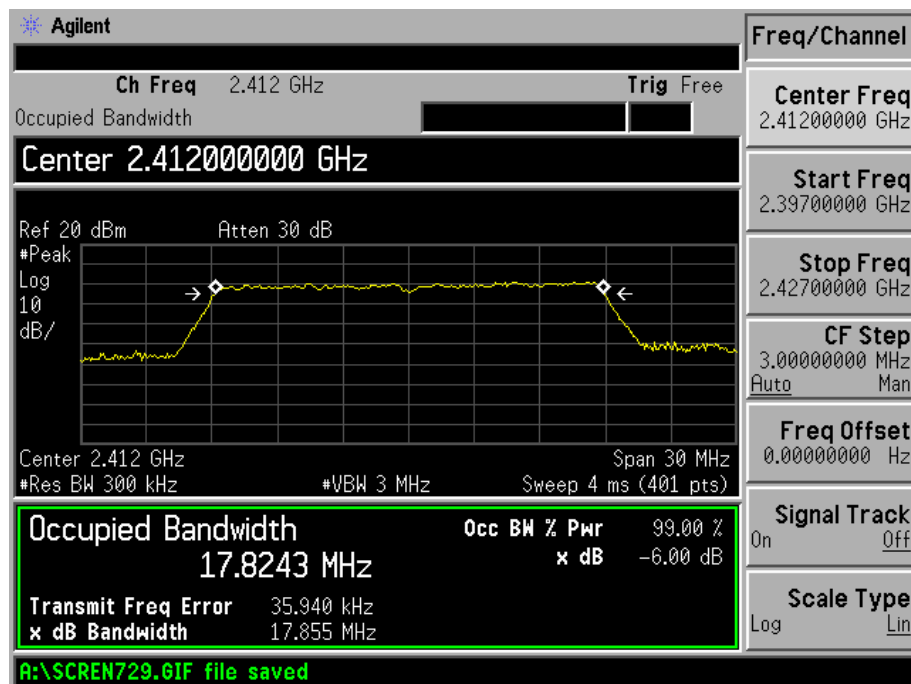
## 802.11g-Middle Channel



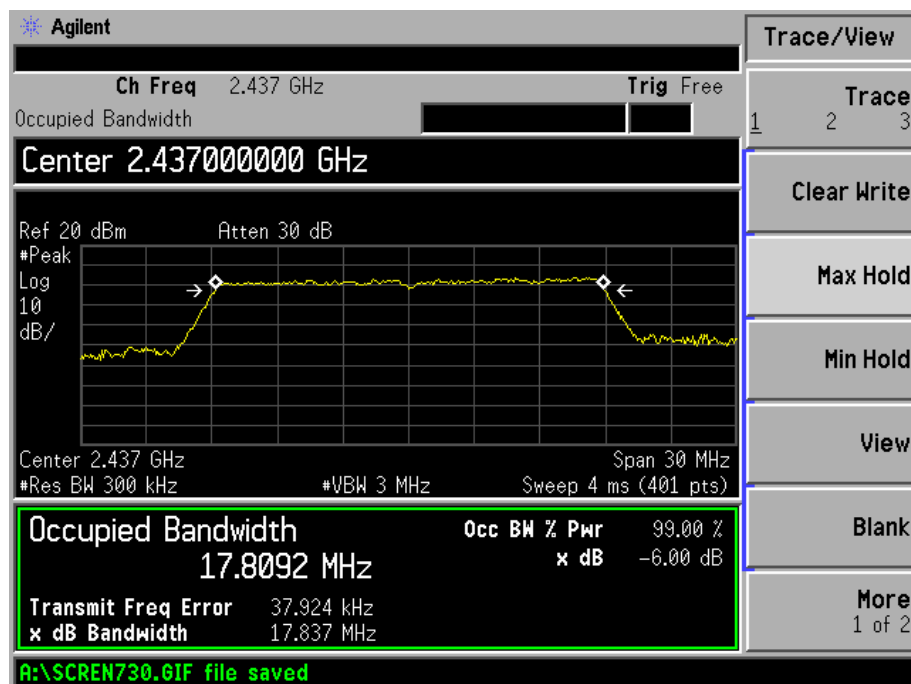
## 802.11g-High Channel



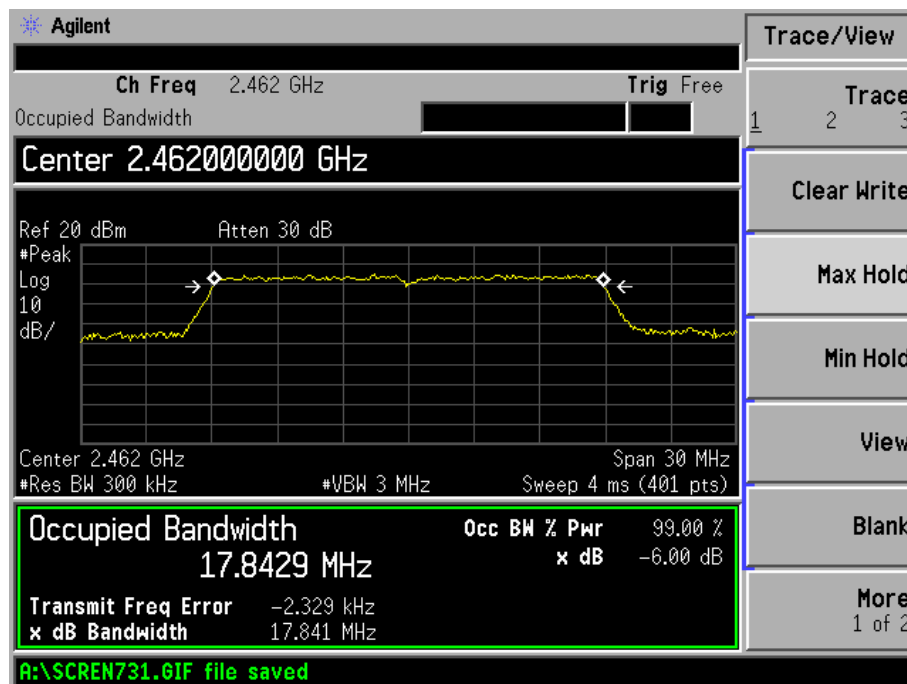
## 802.11n-HT20-Low Channel



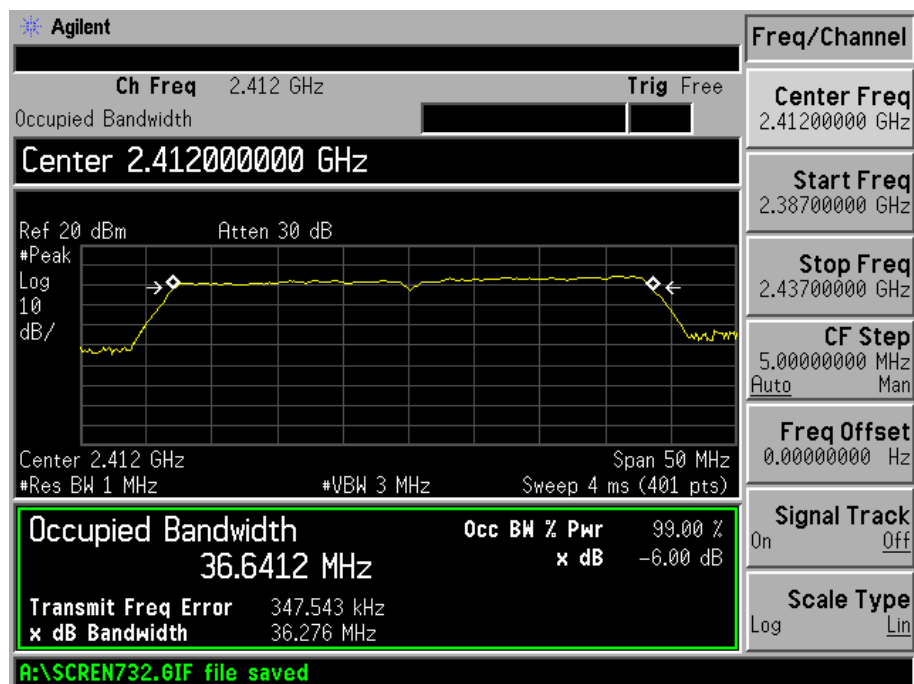
## 802.11n-HT20-Middle Channel



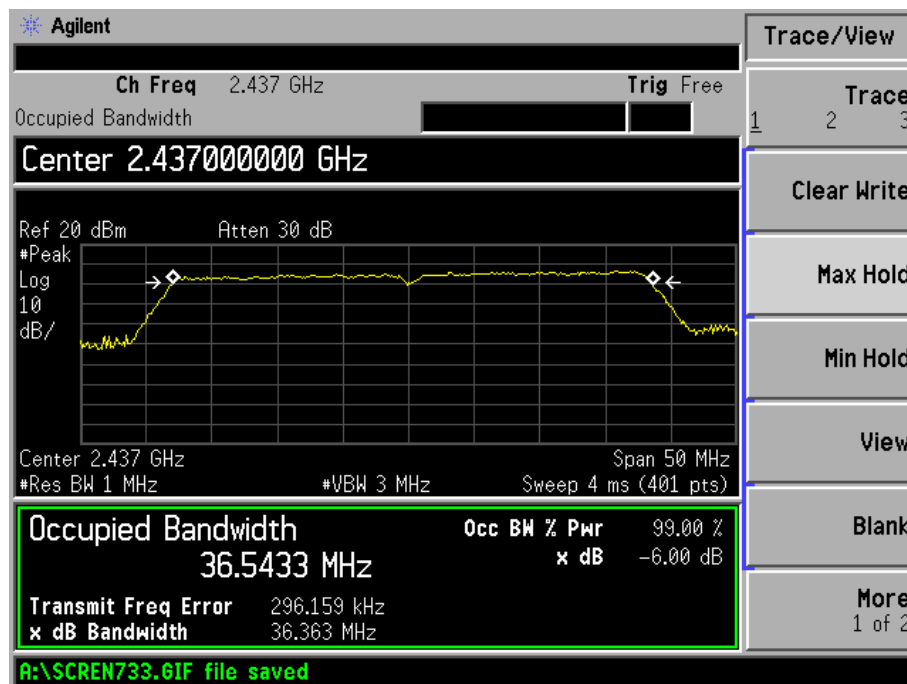
## 802.11n-HT20-High Channel



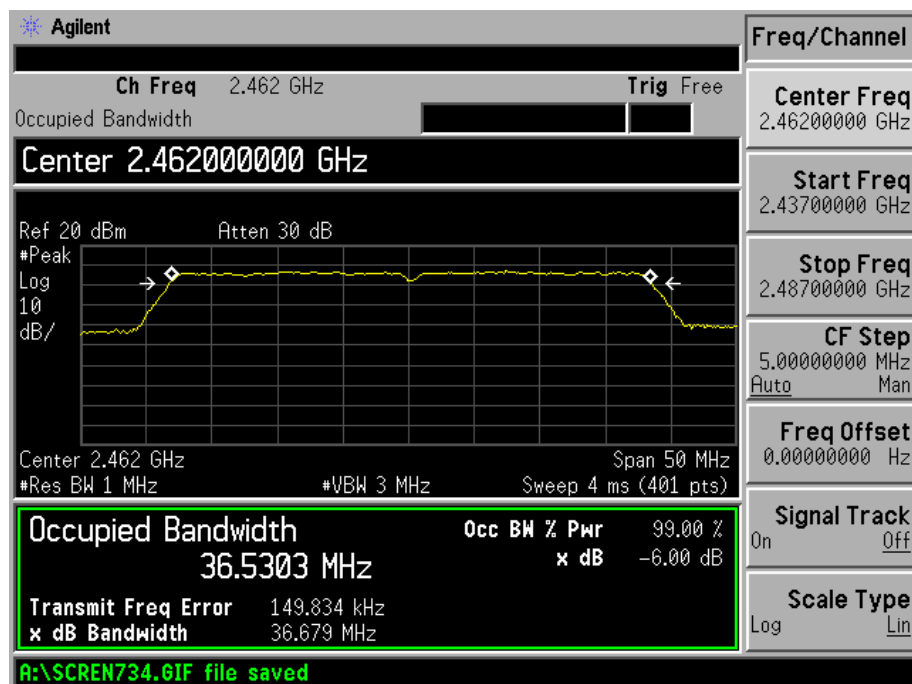
## 802.11n-HT40-Low Channel



## 802.11n-HT40-Middle Channel



## 802.11n-HT40-High Channel



## 6. RF Output Power

### 6.1 Standard Applicable

According to 15.247(b)(3). For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

### 6.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2012-03-28	2013-03-27
Attenuator	ATTEN	ATS100-4-20	/	2012-03-28	2013-03-27

**Statement of Traceability:** All calibrations have been performed per the NVLAP requirements traceable to the NIST.

### 6.3 Test Procedure

According to section 15.247(b)-power output of the KDB-558074 (2012),

1. This procedure provides an integrated measurement alternative when the maximum available RBW < EBW.
2. Set the RBW = 1 MHz.
3. Set the VBW = 3 MHz.
4. Set the span to a value that is 5-30 % greater than the EBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the spectrum analyzer's integrated band power measurement function with band limits set equal to the EBW band edges (for some analyzers, this may require a manual override to ensure use of peak detector). If the spectrum analyzer does not have a band power function, sum the spectrum levels (in linear power units) at 1 MHz intervals extending across the EBW of the spectrum.

### 6.4 Environmental Conditions

Temperature:	21° C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

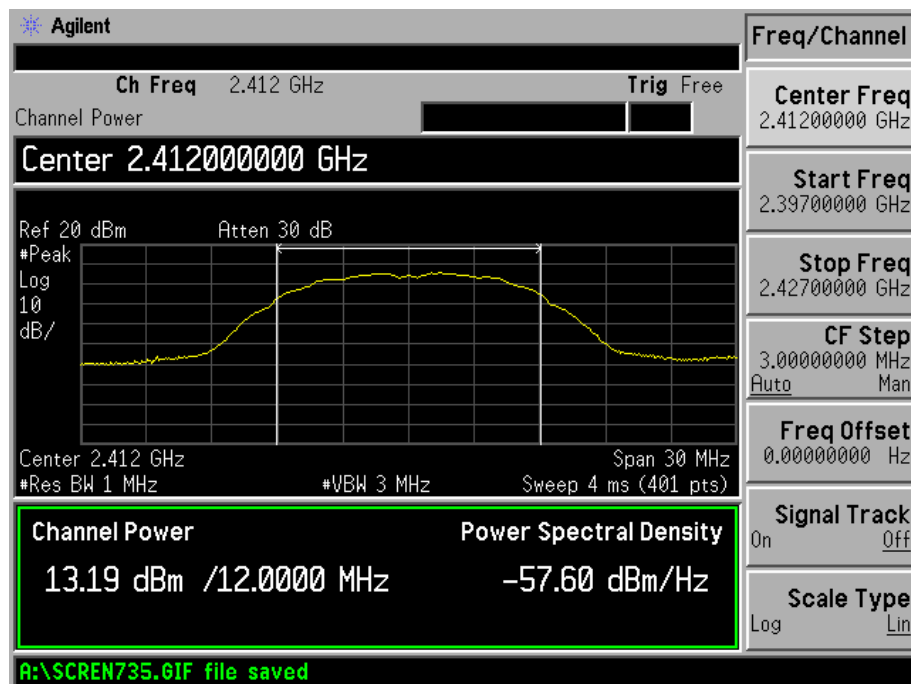


## 6.5 Summary of Test Results/Plots

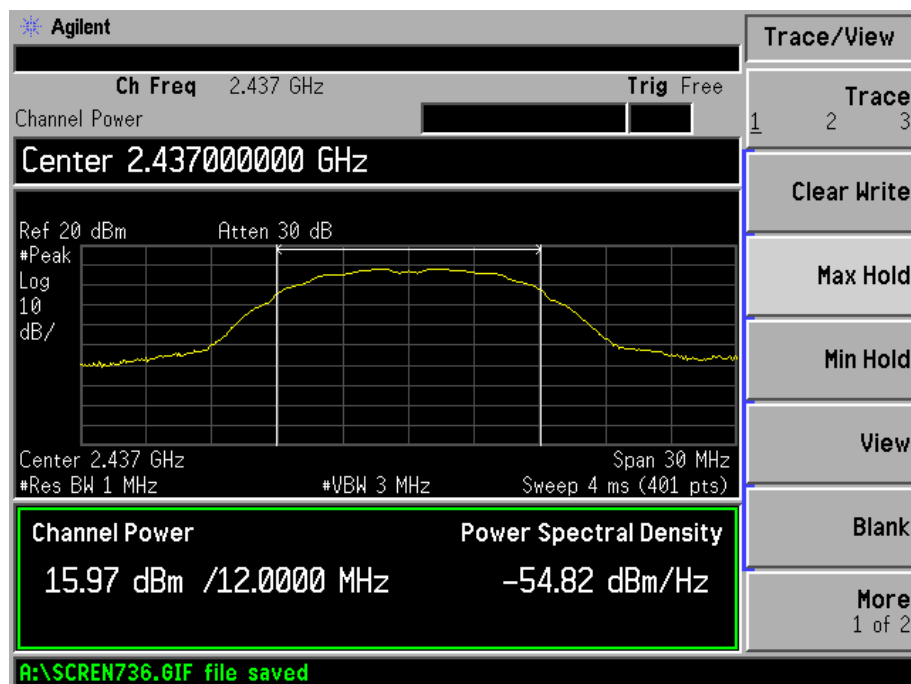
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b _1Mbps	2412	13.19	20.84	1000
	2437	15.97	39.54	1000
	2462	15.10	32.36	1000
802.11b _11Mbps	2412	14.68	29.38	1000
	2437	14.92	31.05	1000
	2462	16.57	45.39	1000
802.11g_6Mbps	2412	14.20	26.30	1000
	2437	14.86	30.62	1000
	2462	14.43	27.73	1000
802.11g_54Mbps	2412	14.70	29.51	1000
	2437	13.18	20.80	1000
	2462	14.93	31.12	1000
802.11n HT20_MCS0	2412	14.53	28.38	1000
	2437	15.85	38.46	1000
	2462	14.99	31.55	1000
802.11n HT20_MCS7	2412	14.61	28.91	1000
	2437	13.39	21.83	1000
	2462	13.14	20.61	1000
802.11n HT40_MCS0	2422	13.86	24.32	1000
	2437	13.93	24.72	1000
	2452	13.43	22.03	1000
802.11n HT40_MCS7	2422	14.31	26.98	1000
	2437	14.40	27.54	1000
	2452	13.71	23.50	1000

Please refer to the following test plots:

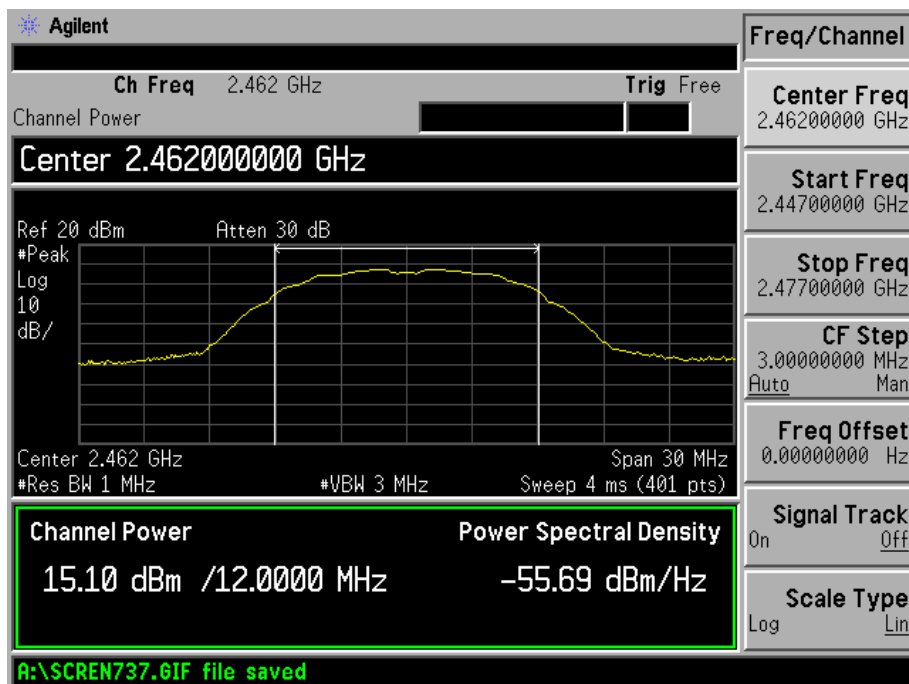
## 802.11b- 1Mbps-Low Channel



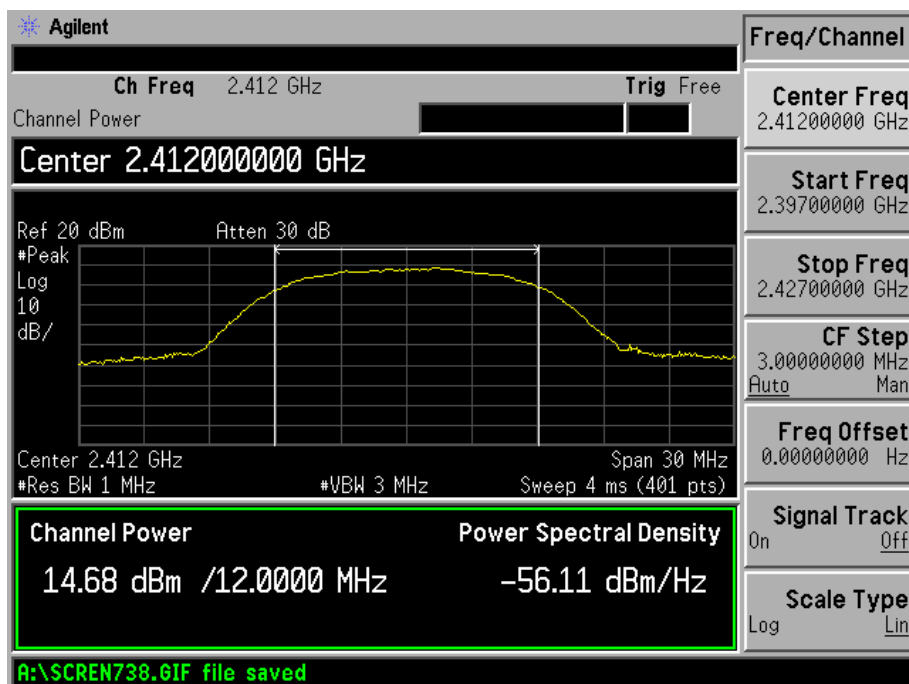
## 802.11b- 1Mbps-Middle Channel



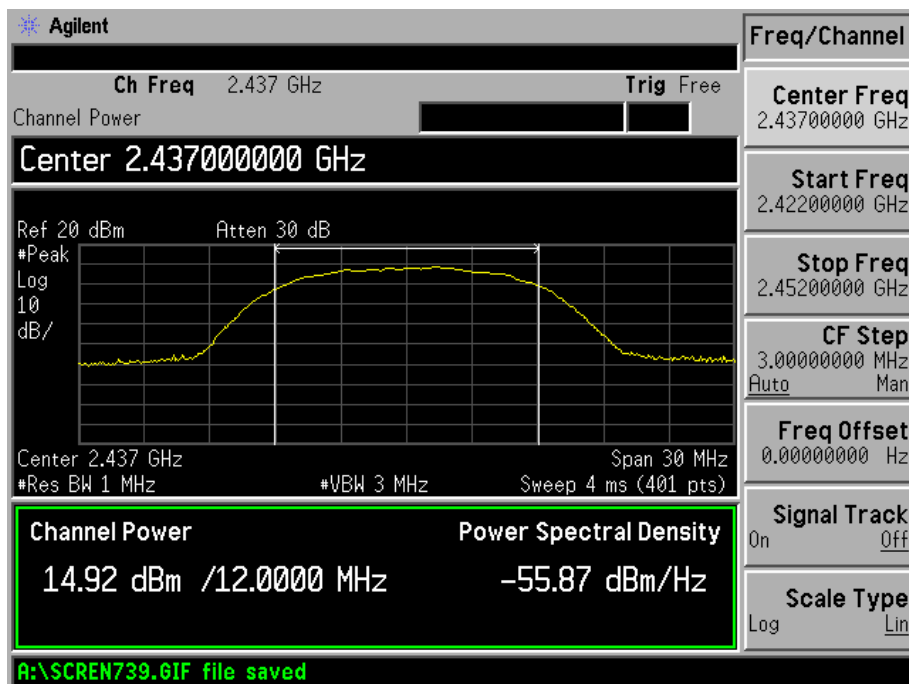
## 802.11b- 1Mbps-High Channel



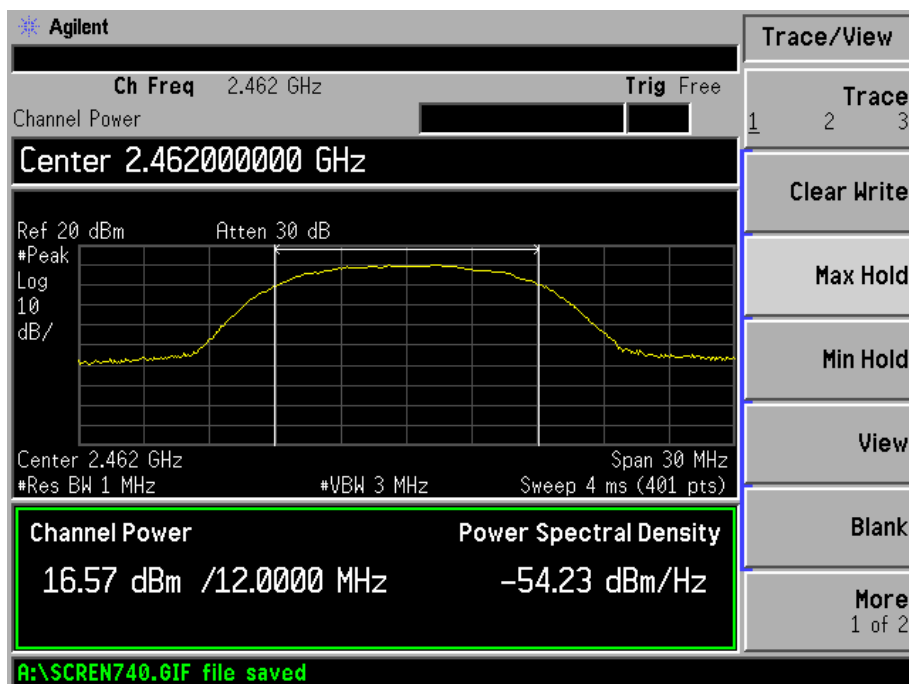
## 802.11b- 11Mbps-Low Channel



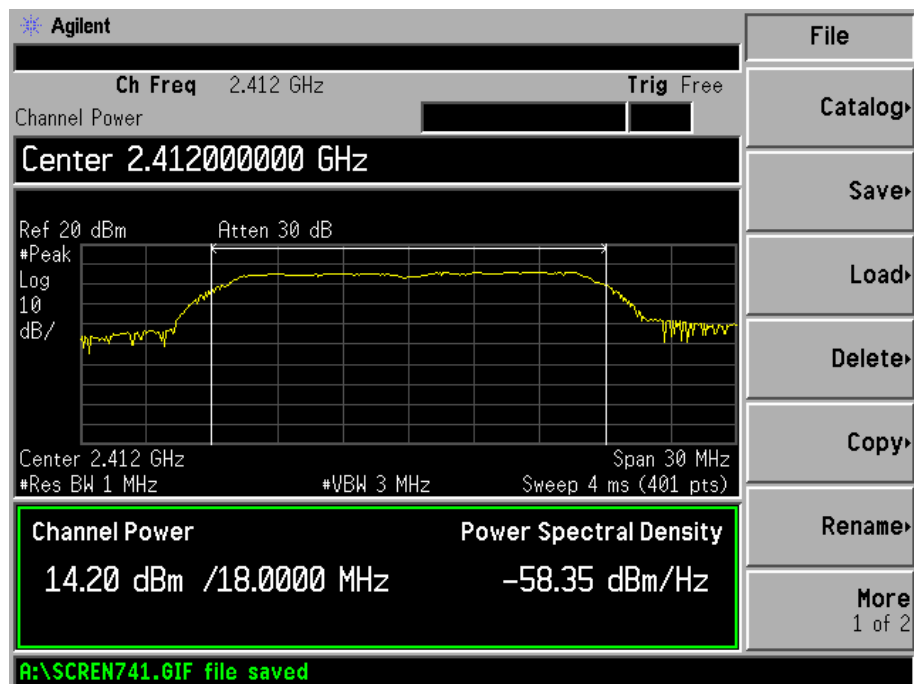
## 802.11b- 11Mbps-Middle Channel



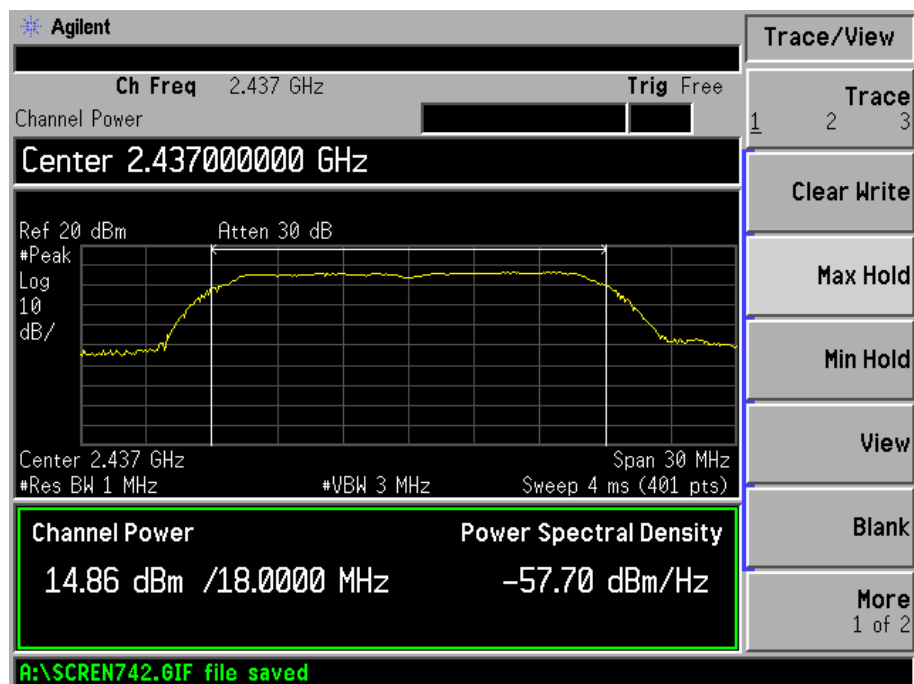
## 802.11b- 11Mbps-High Channel



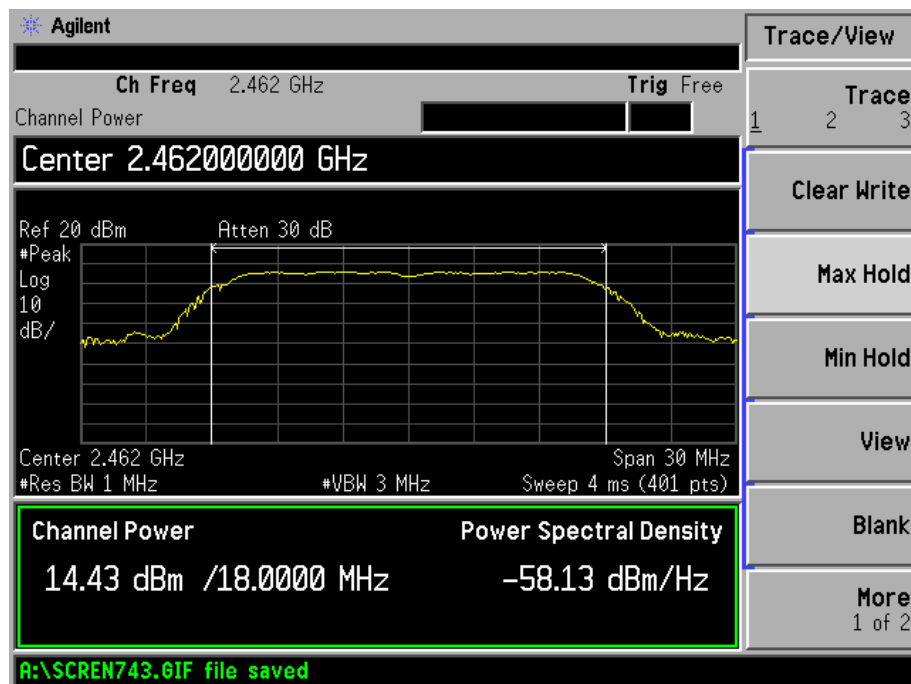
## 802.11g-6Mbps-Low Channel



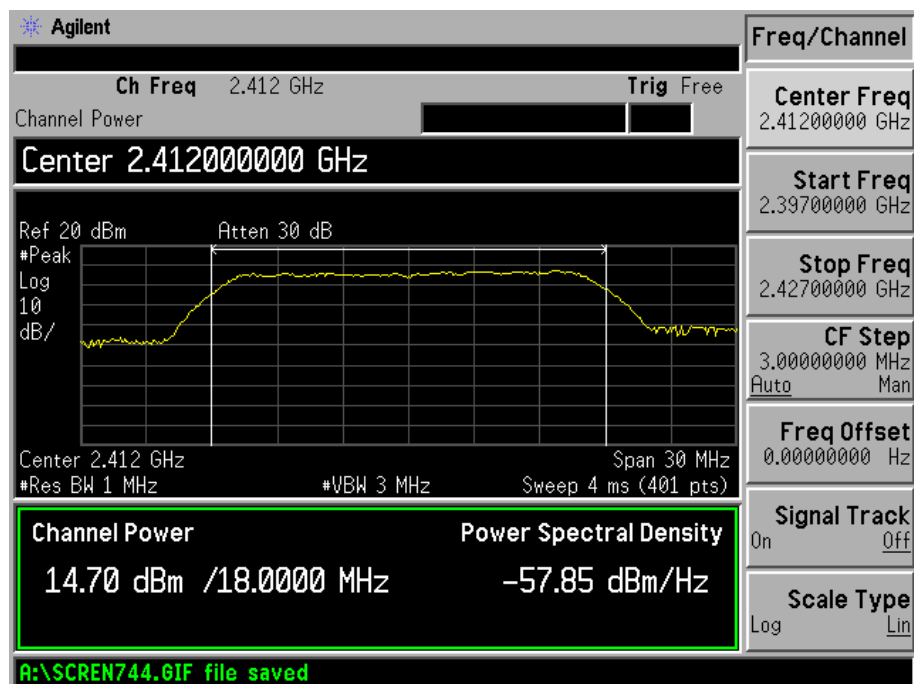
## 802.11g-6Mbps -Middle Channel



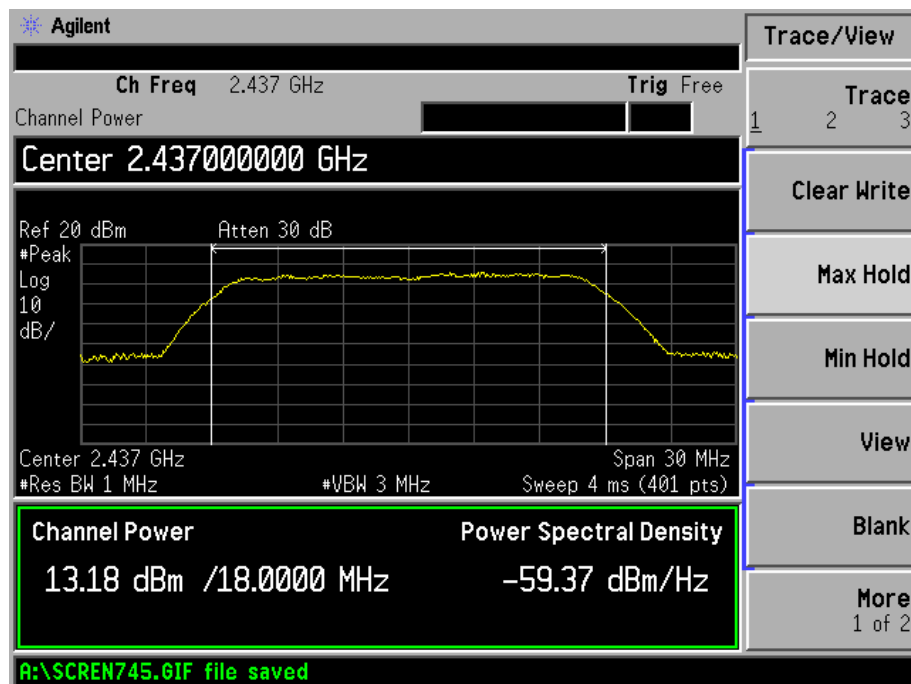
## 802.11g-6Mbps -High Channel



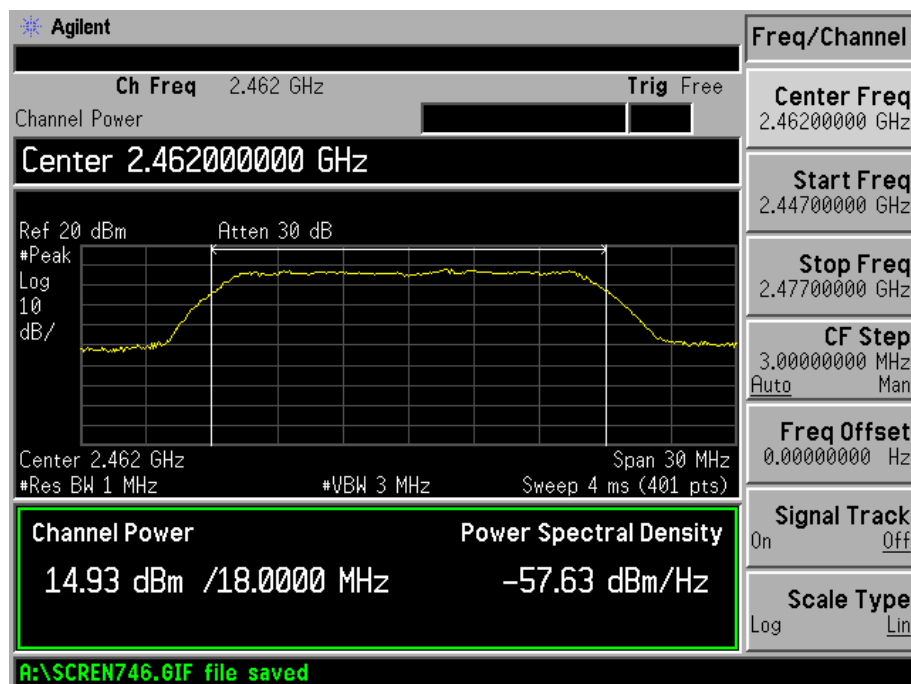
## 802.11g-54Mbps -Low Channel



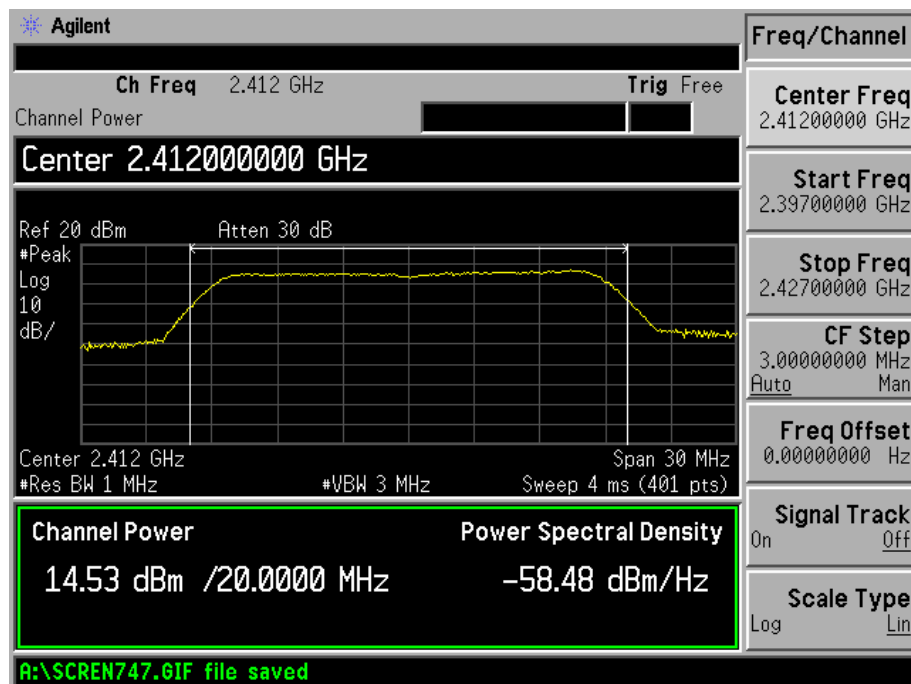
## 802.11g-54Mbps -Middle Channel



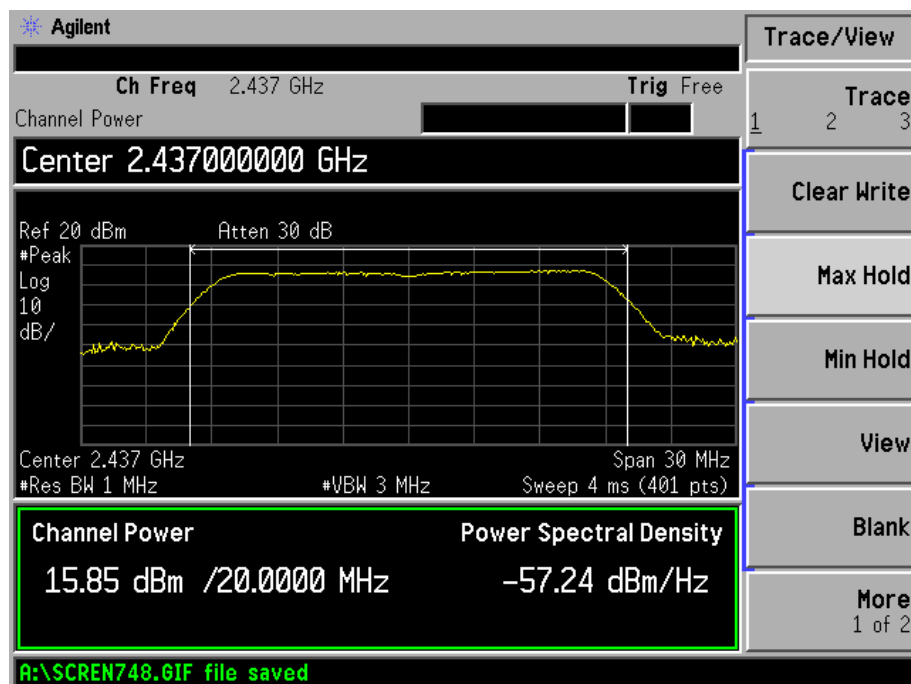
## 802.11g-54Mbps -High Channel



## 802.11n-HT20- MCS0-Low Channel

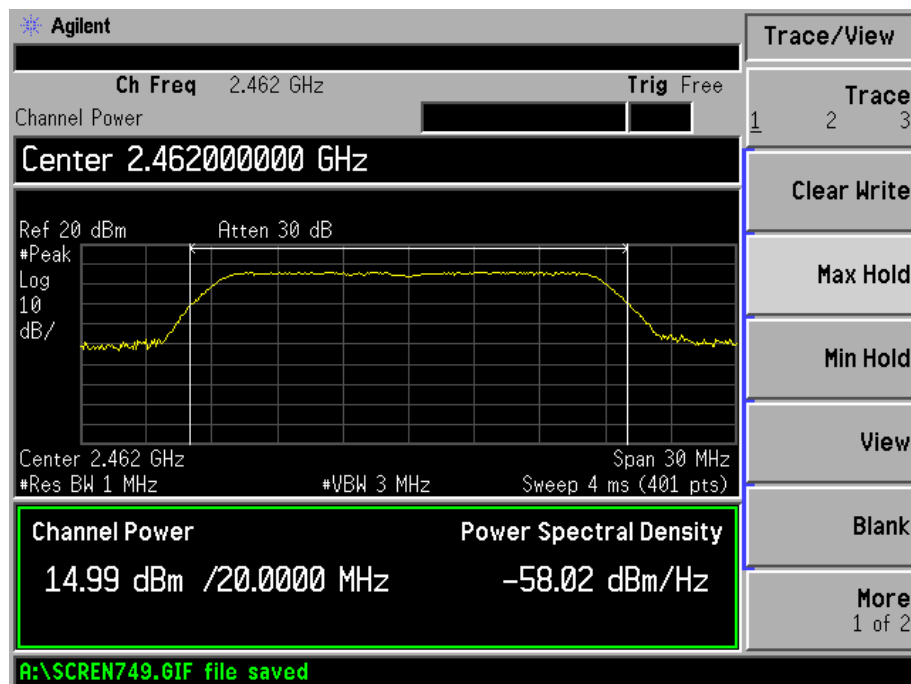


## 802.11n-HT20- MCS0-Middle Channel

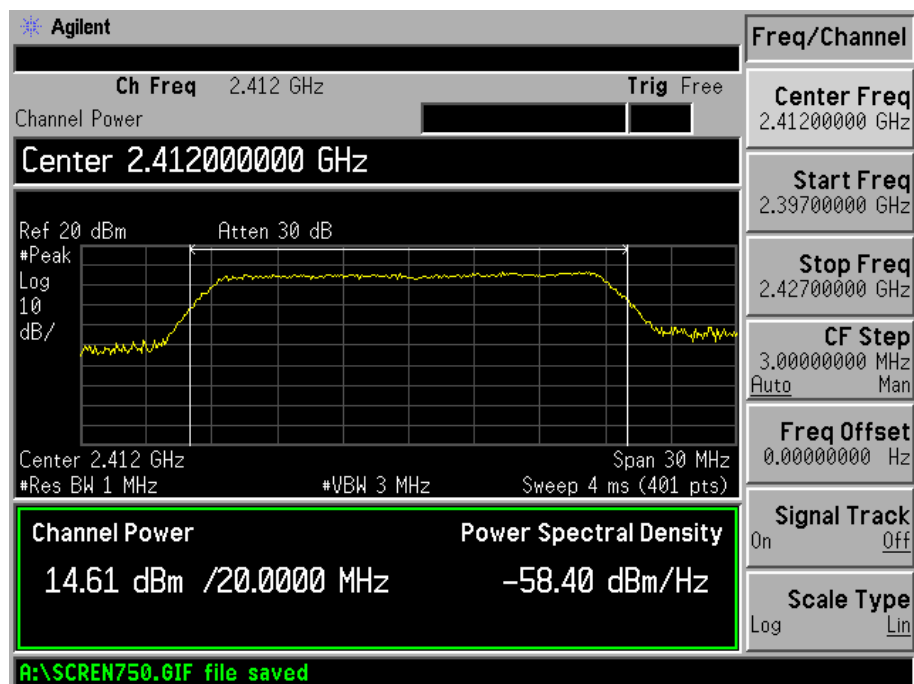




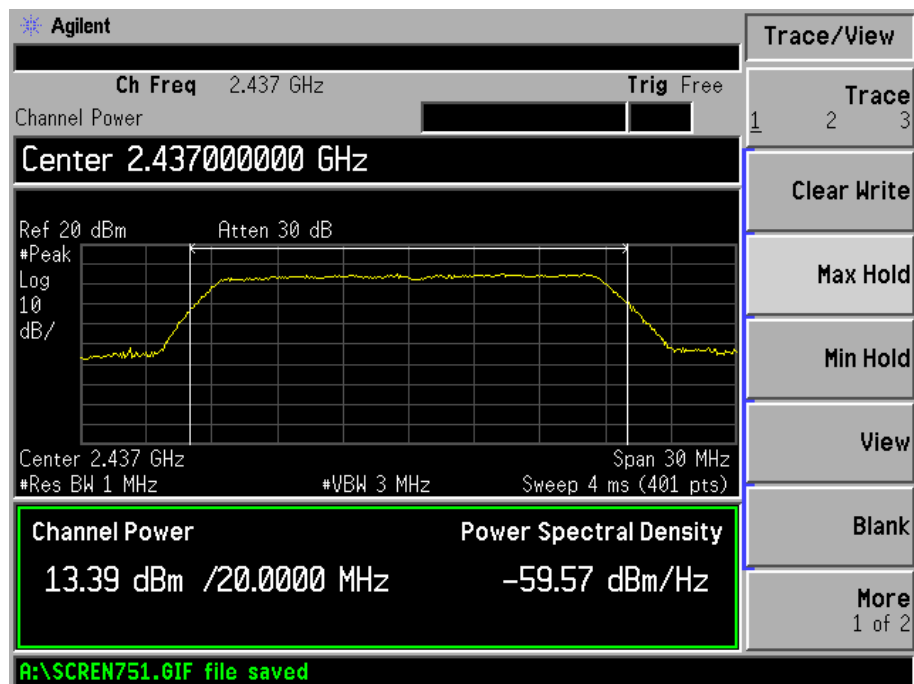
## 802.11n-HT20- MCS0-High Channel



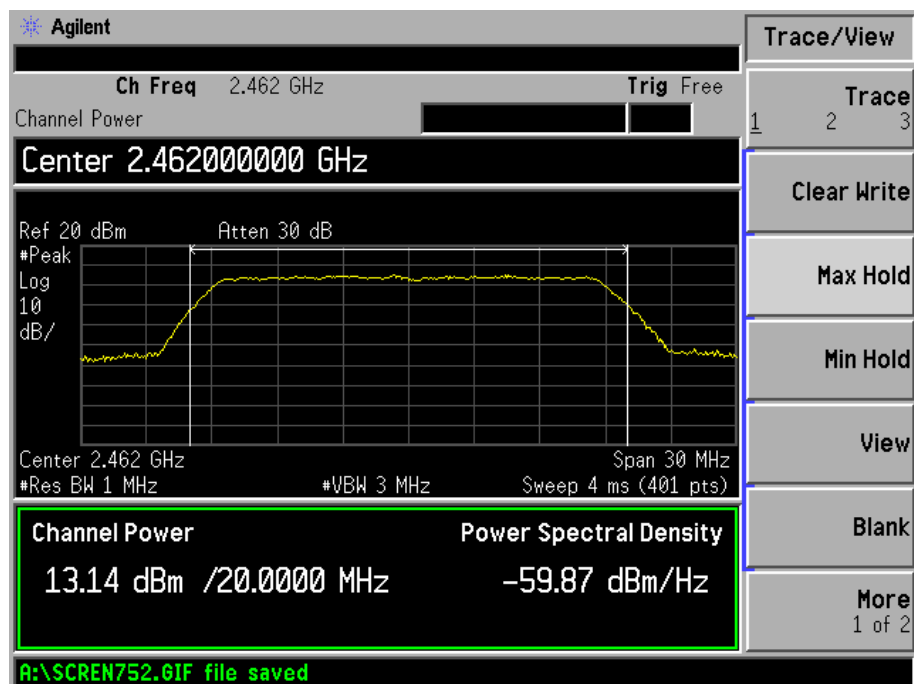
## 802.11n-HT20- MCS7-Low Channel



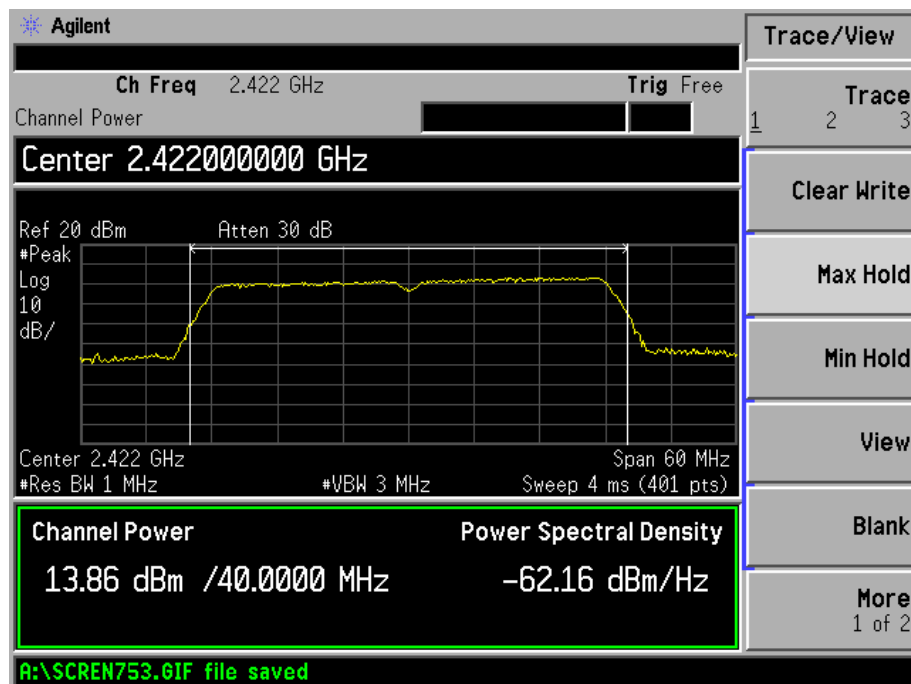
## 802.11n-HT20- MCS7-Middle Channel



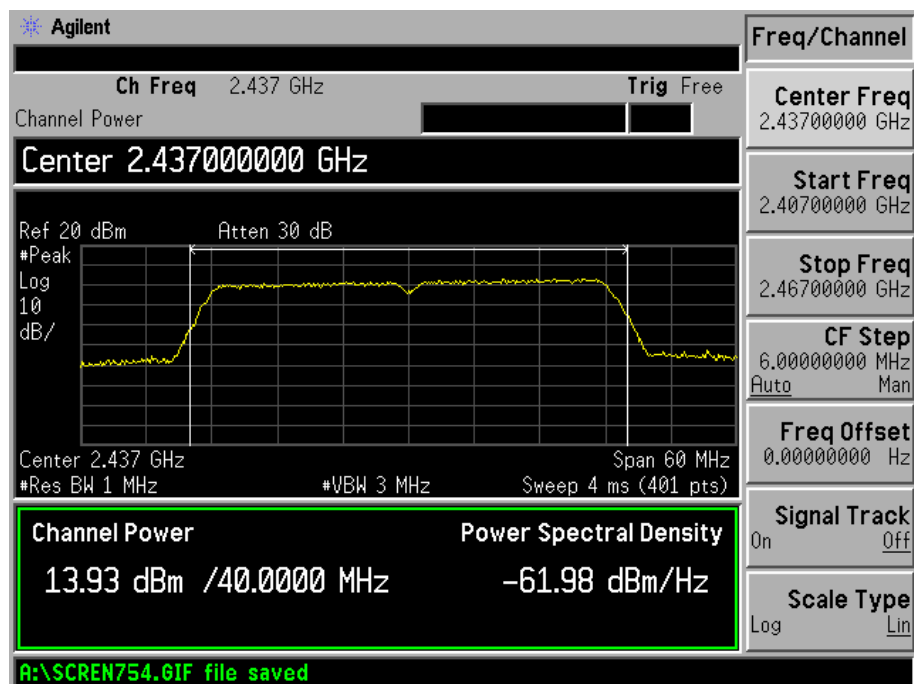
## 802.11n-HT20- MCS7-High Channel



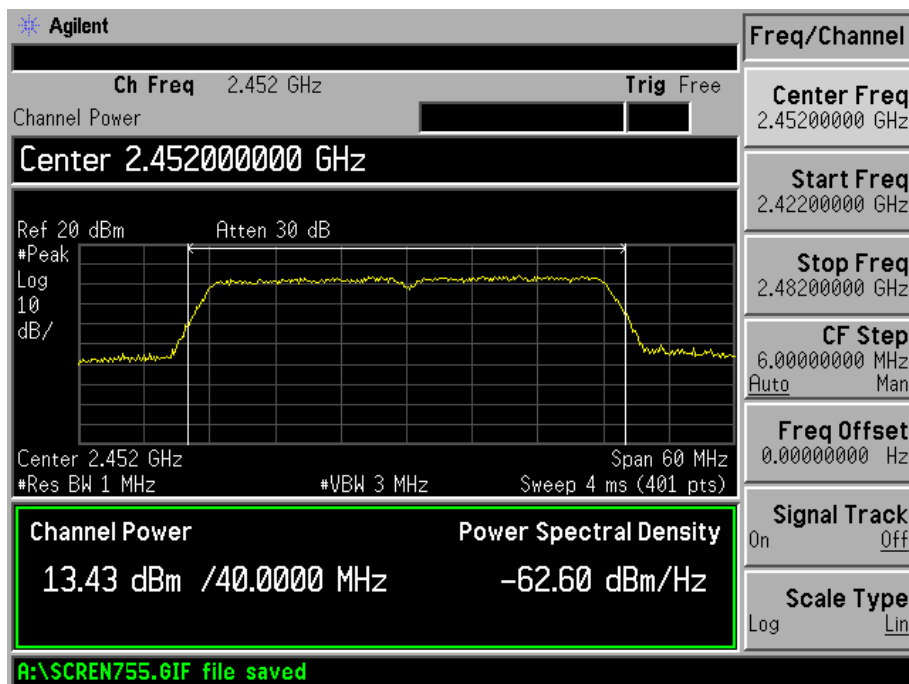
## 802.11n-HT40- MCS0-Low Channel



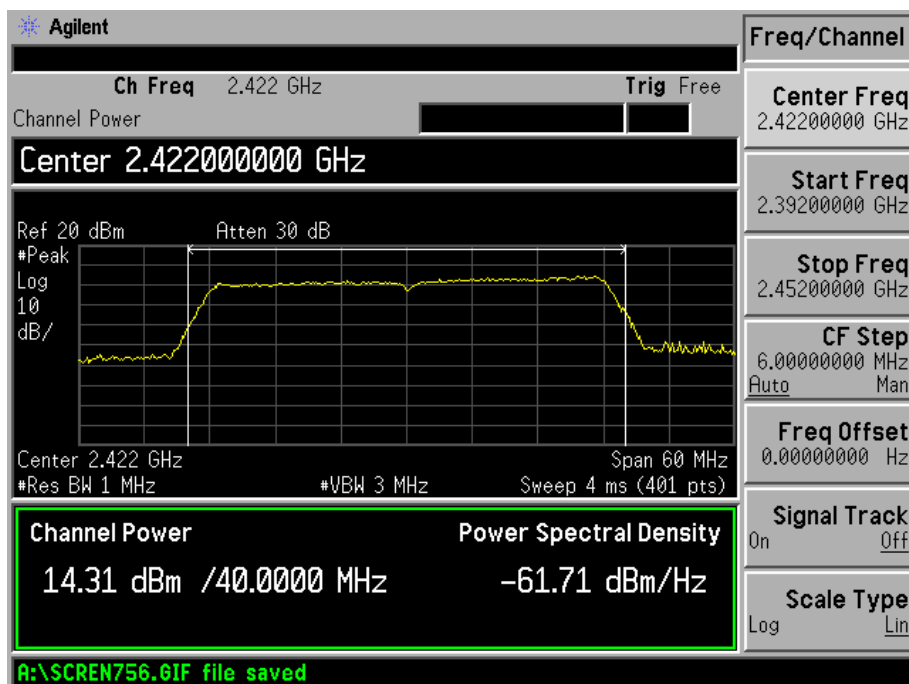
## 802.11n-HT40- MCS0-Middle Channel



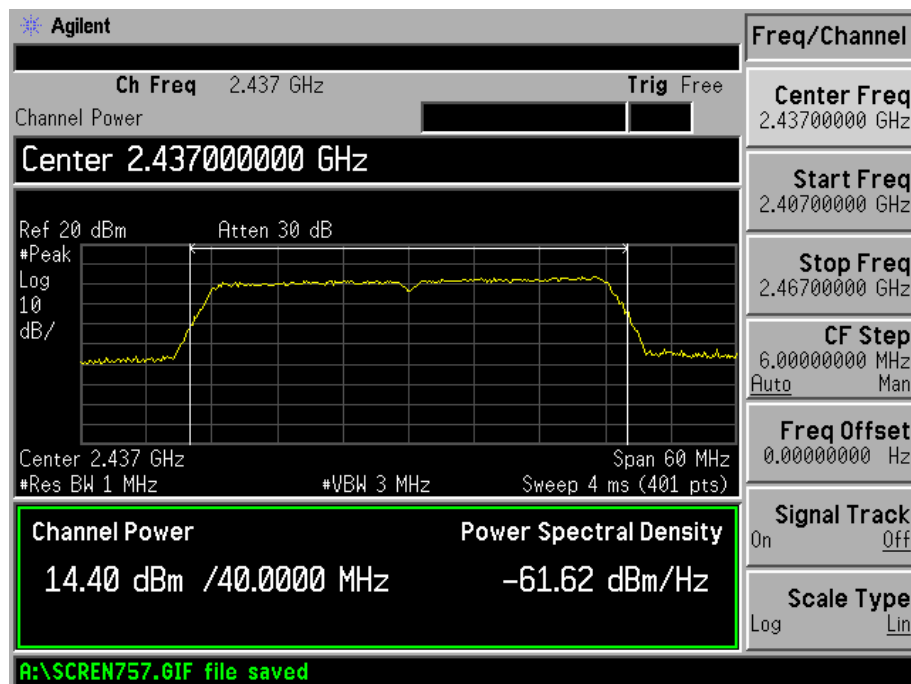
## 802.11n-HT40- MCS0-High Channel



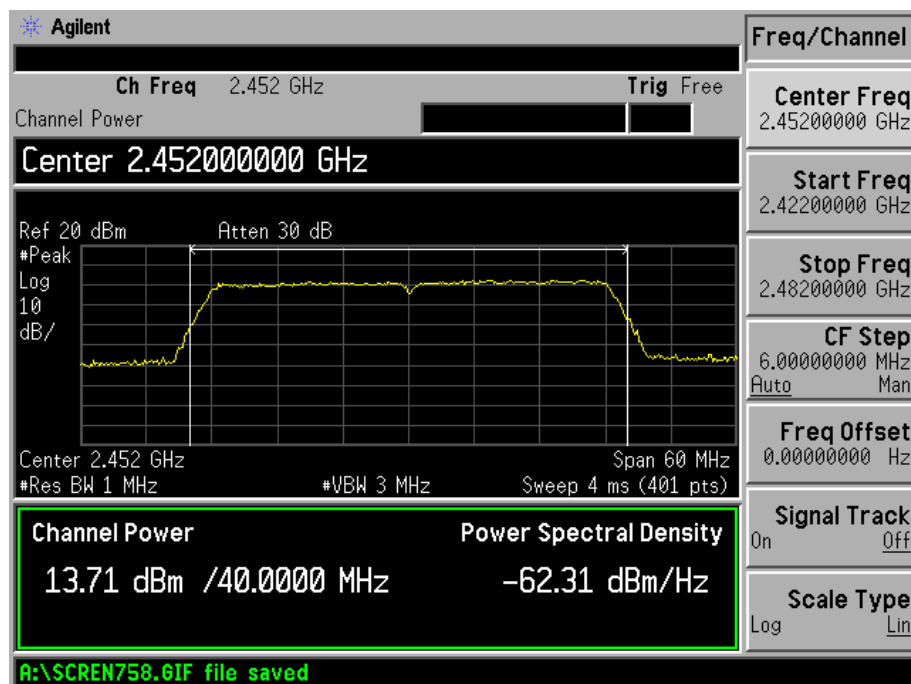
## 802.11n-HT40- MCS7-Low Channel



## 802.11n-HT40- MCS7-Middle Channel



## 802.11n-HT40- MCS7-High Channel



## 7. Field Strength of Spurious Emissions

### 7.1 Measurement Uncertainty

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is  $\pm 5.10$  dB.

### 7.2 Standard Applicable

According to §15.247(d), 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

### 7.3 Test Equipment List and Details

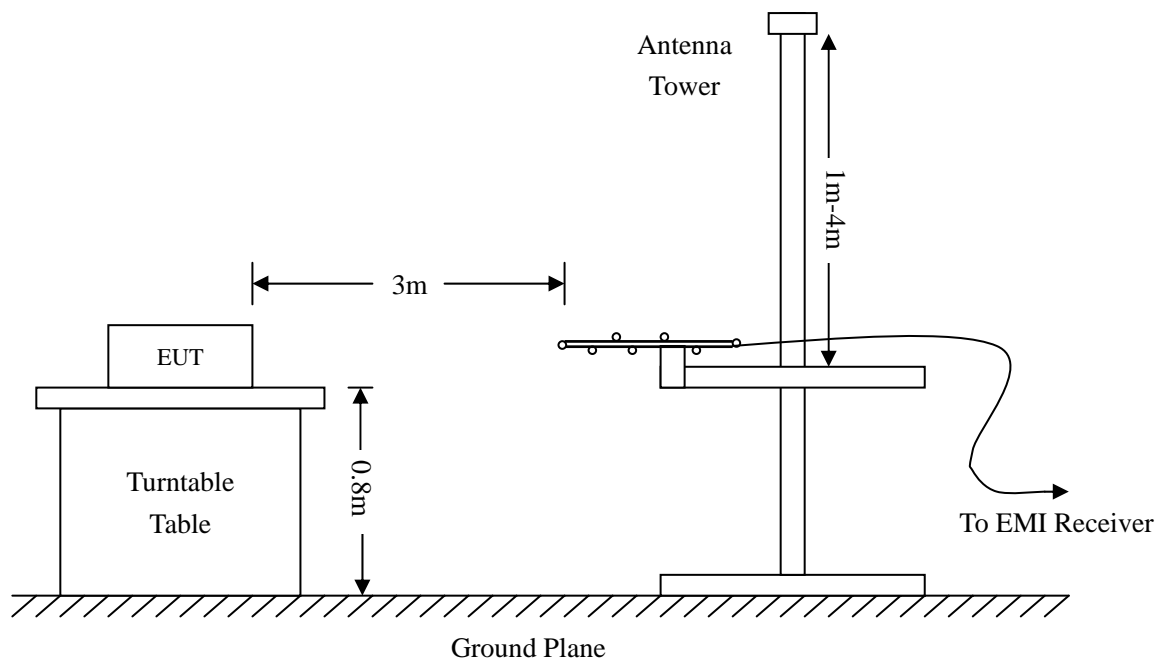
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2012-03-28	2013-03-27
EMI Test Receiver	R&S	ESVB	825471/005	2012-03-28	2013-03-27
Pre-amplifier	Agilent	8447F	3113A06717	2012-03-28	2013-03-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2012-03-28	2013-03-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2012-02-25	2013-02-24
Horn Antenna	ETS	3117	00086197	2012-02-25	2013-02-24
Horn Antenna	ETS	3116B	00088203	2012-02-25	2013-02-24
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2012-02-25	2013-02-24

## 7.4 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



## 7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

## 7.6 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

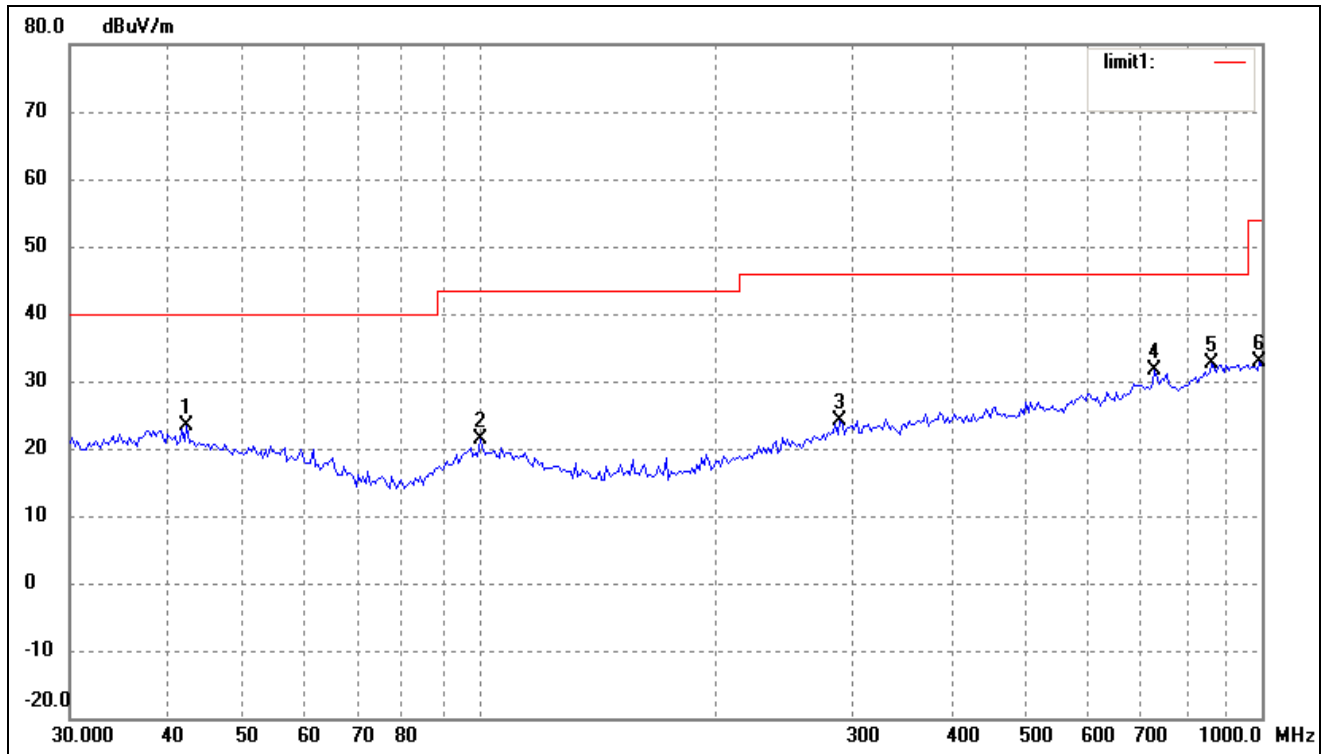
## 7.7 Summary of Test Results/Plots

According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst margin of:

**-6.09 dB $\mu$ V at 4924.0 MHz in the Horizontal polarization for 802.11n-HT20, 9 kHz to 25 GHz, 3 Meters**

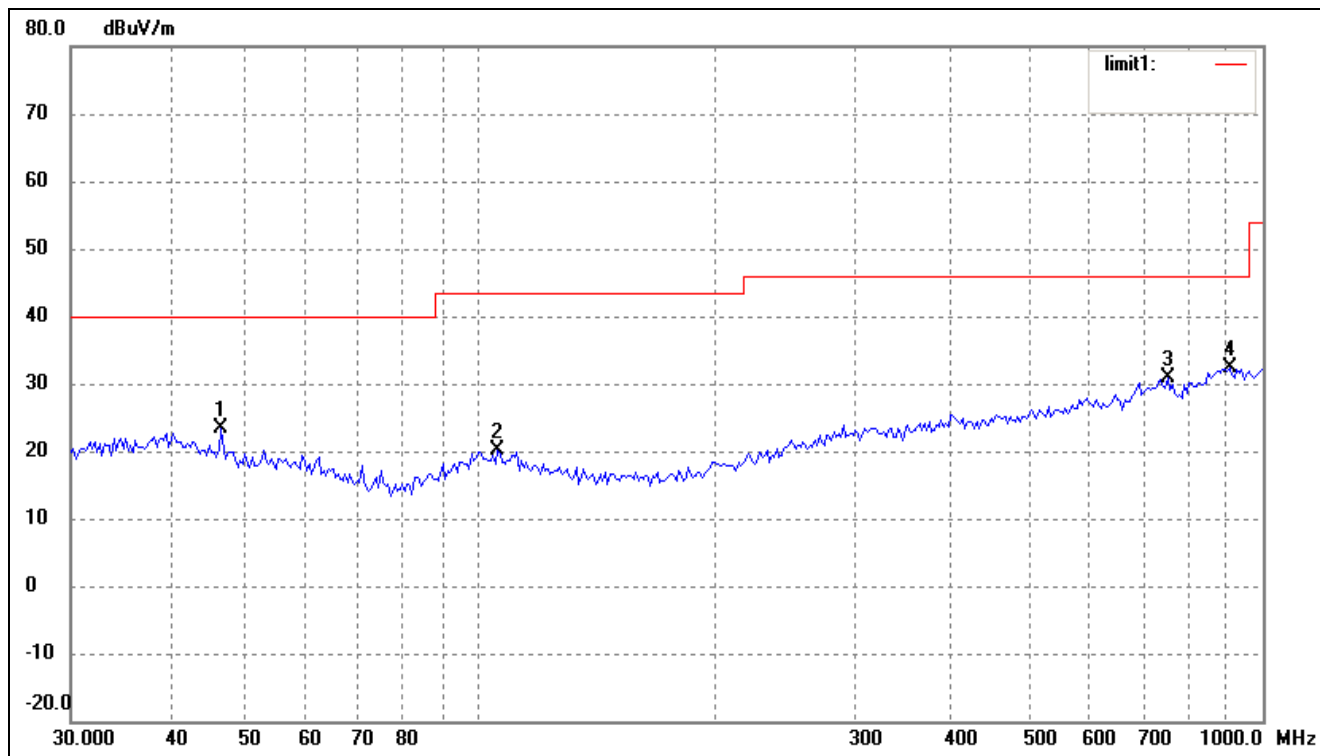
*Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.*



**Plot of Radiated Emissions Test Data (30MHz to 1GHz)***EUT:* Mobile Phone*Tested Model:* S635*Operating Condition:* 802.11b Transmitting Low Channel-2412MHz*Comment:* DC 3.7V Li-ion Battery*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	42.3022	15.28	8.18	23.46	40.00	-16.54	264	100	peak
2	100.2286	15.24	6.12	21.36	43.50	-22.14	113	200	peak
3	289.0021	15.51	8.70	24.21	46.00	-21.79	287	100	peak
4	729.3583	16.75	14.87	31.62	46.00	-14.38	185	200	peak
5	863.0562	16.23	16.30	32.53	46.00	-13.47	110	100	QP
6	993.0114	15.78	17.00	32.78	54.00	-21.22	359	100	peak

Test Specification: Vertical

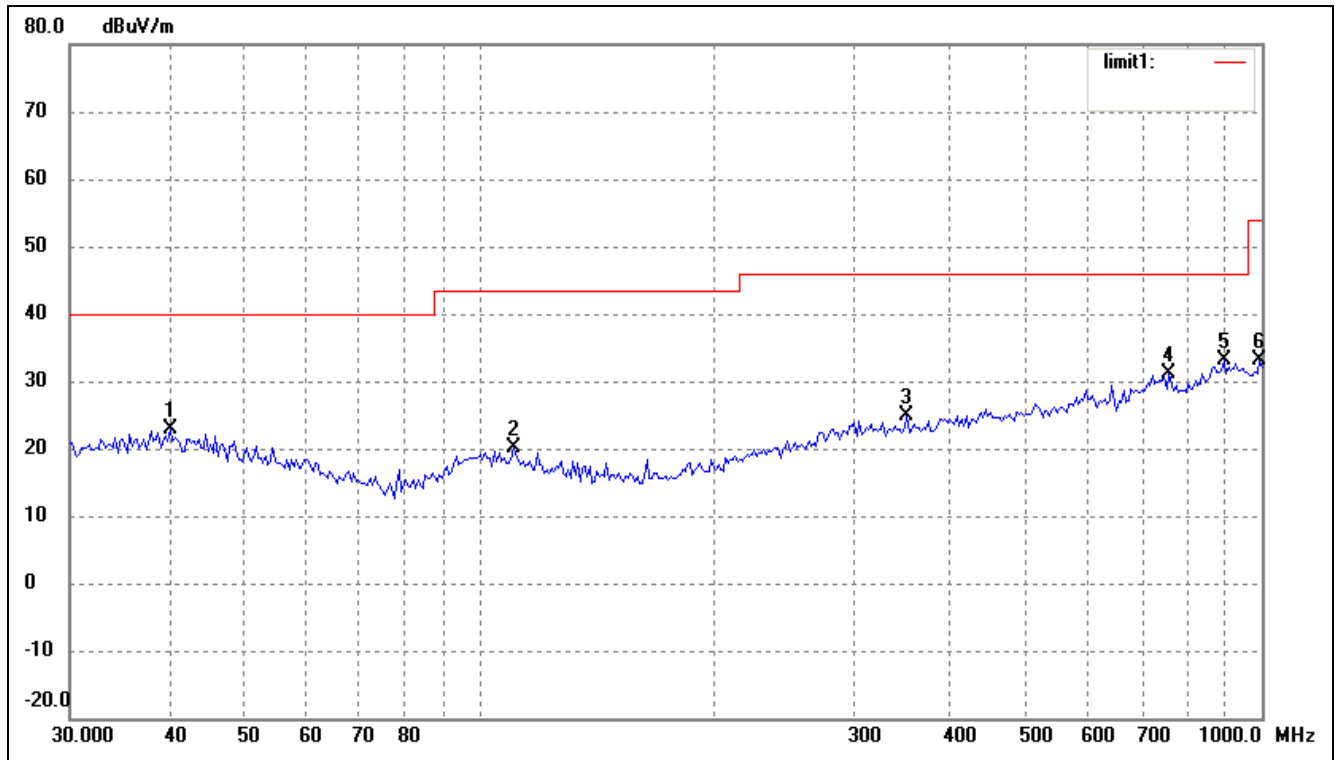


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	46.6664	16.56	6.91	23.47	40.00	-16.53	240	100	peak
2	105.2718	14.50	5.60	20.10	43.50	-23.40	187	100	peak
3	755.3873	16.12	14.84	30.96	46.00	-15.04	220	100	peak
4	906.4824	15.63	16.63	32.26	46.00	-13.74	359	100	peak

Operating Condition: 802.11b Transmitting Middle Channel-2437MHz

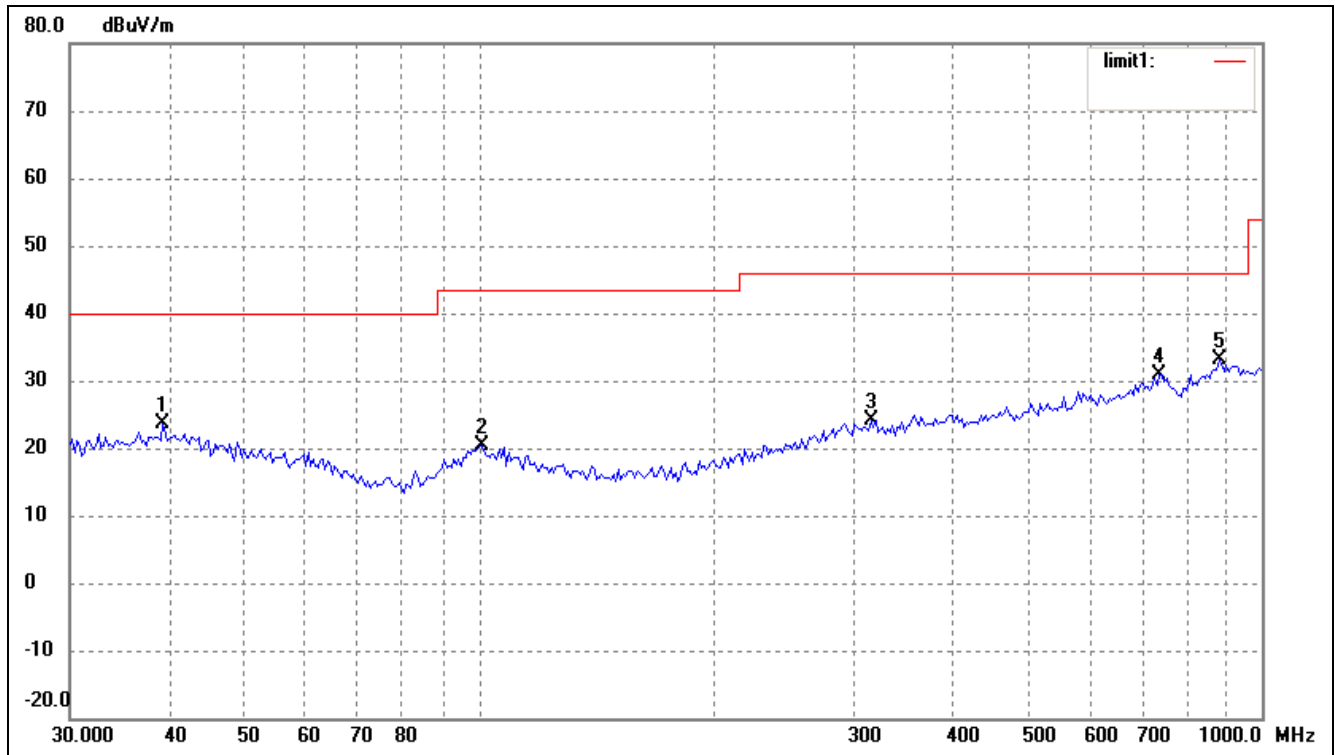
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	40.2757	14.02	8.78	22.80	40.00	-17.20	162	100	peak
2	110.5687	14.96	5.05	20.01	43.50	-23.49	200	100	peak
3	351.7079	15.75	9.04	24.79	46.00	-21.21	359	200	Peak
4	760.7036	16.54	14.59	31.13	46.00	-14.87	359	200	peak
5	893.8567	16.28	16.75	33.03	46.00	-12.97	359	200	peak
6	993.0114	16.19	17.00	33.19	54.00	-20.81	359	200	Peak

Test Specification: Vertical

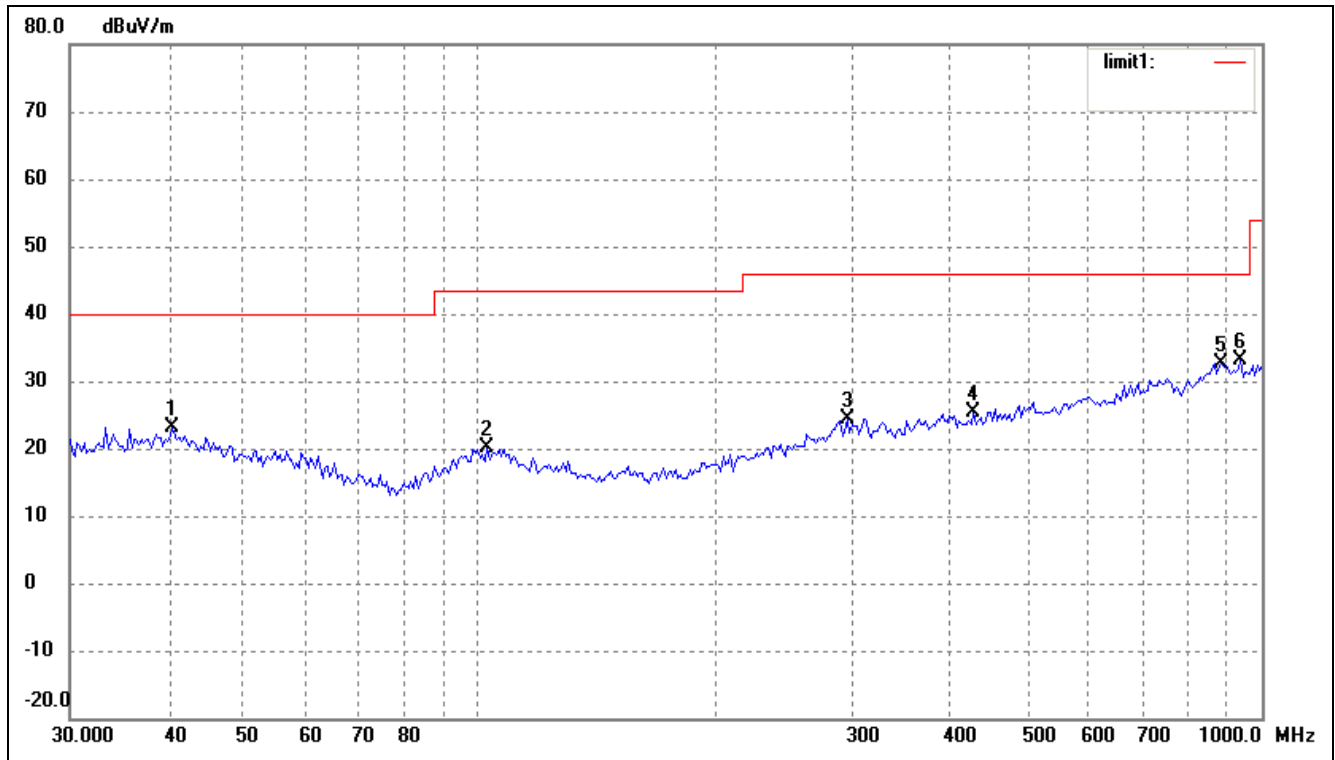


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.4372	14.93	8.78	23.71	40.00	-16.29	240	100	peak
2	100.9340	14.26	6.05	20.31	43.50	-23.19	187	100	peak
3	316.5890	14.89	9.26	24.15	46.00	-21.85	220	100	peak
4	739.6605	15.43	15.49	30.92	46.00	-15.08	359	100	peak
5	881.4067	16.40	16.73	33.13	46.00	-12.87	359	100	peak

Operating Condition: 802.11b Transmitting High Channel-2462MHz

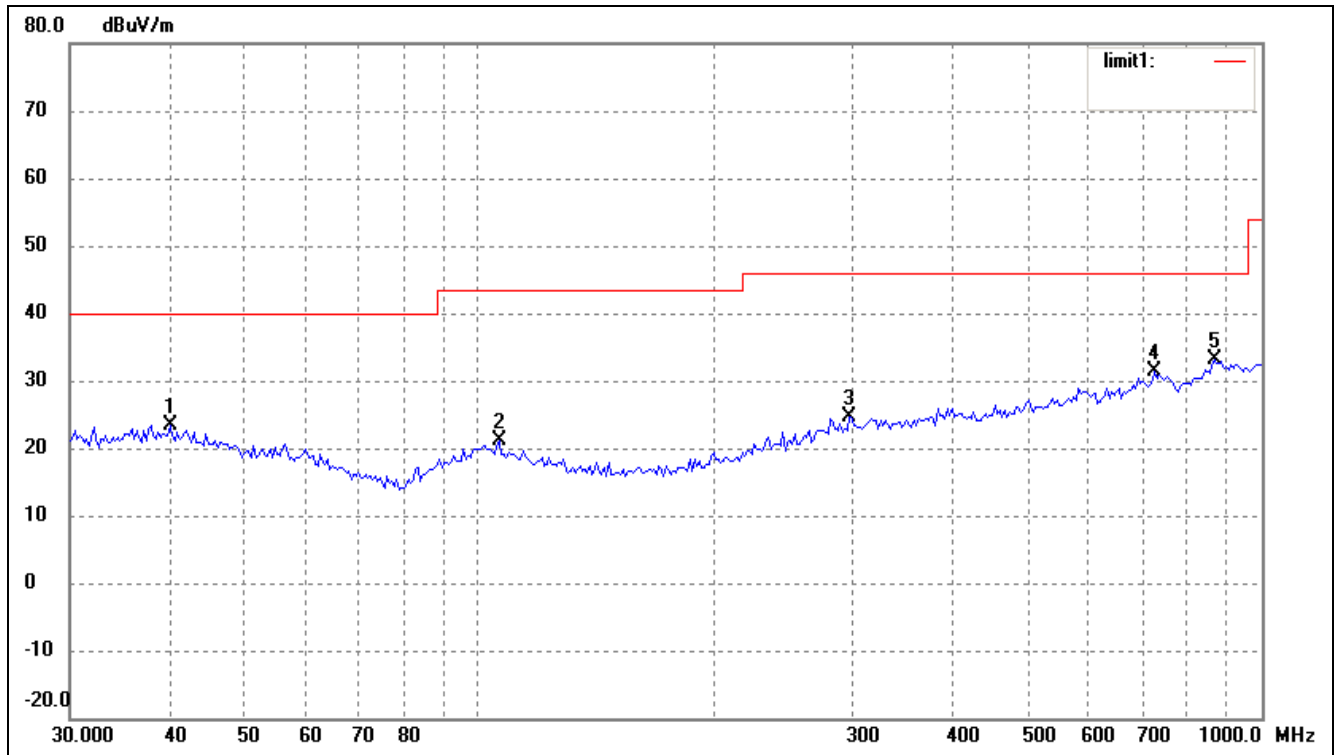
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	40.5591	14.48	8.69	23.17	40.00	-16.83	162	100	peak
2	102.3597	14.26	5.91	20.17	43.50	-23.33	200	100	peak
3	295.1469	15.46	8.95	24.41	46.00	-21.59	359	200	peak
4	428.0193	15.80	9.64	25.44	46.00	-20.56	359	200	peak
5	887.6099	15.88	16.74	32.62	46.00	-13.38	359	200	peak
6	938.8326	16.94	16.11	33.05	46.00	-12.95	359	200	peak

Test Specification: Vertical

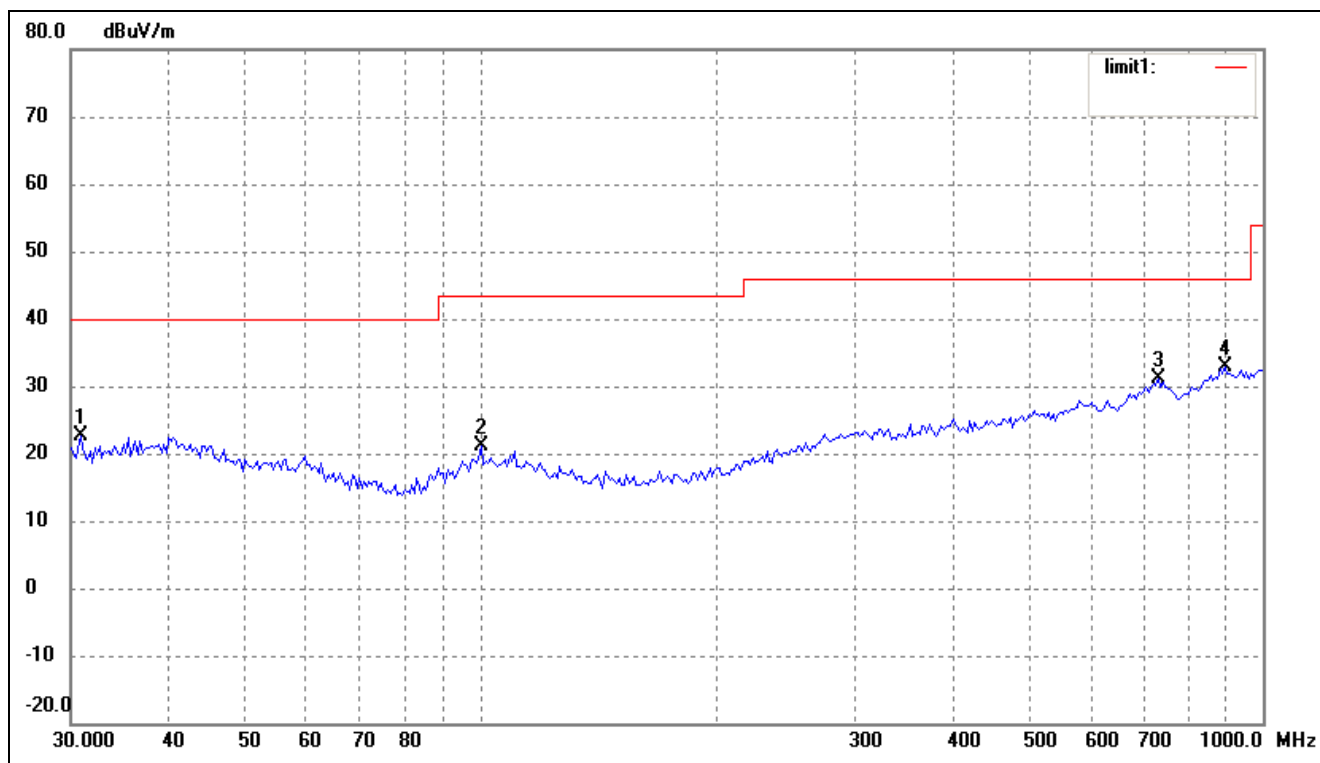


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	40.2757	14.57	8.78	23.35	40.00	-16.65	240	100	peak
2	106.0126	15.61	5.52	21.13	43.50	-22.37	187	100	peak
3	297.2241	15.69	9.02	24.71	46.00	-21.29	220	100	peak
4	729.3583	16.39	14.87	31.26	46.00	-14.74	359	100	peak
5	869.1302	16.56	16.46	33.02	46.00	-12.98	359	100	peak

Operating Condition: 802.11g Transmitting Low Channel-2412MHz

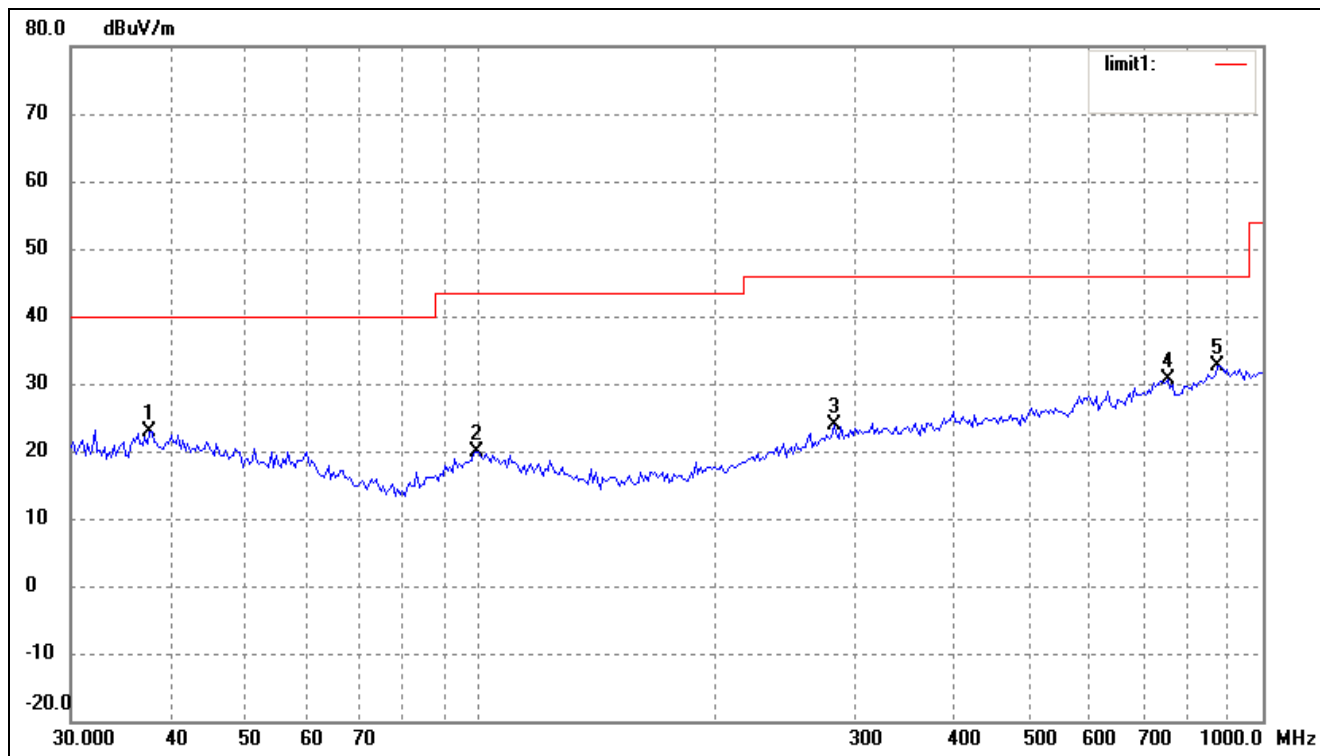
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	30.8535	15.20	7.42	22.62	40.00	-17.38	162	100	peak
2	100.2286	14.95	6.12	21.07	43.50	-22.43	200	100	peak
3	734.4913	15.84	15.18	31.02	46.00	-14.98	359	200	Peak
4	893.8567	16.08	16.75	32.83	46.00	-13.17	359	200	peak

Test Specification: Vertical



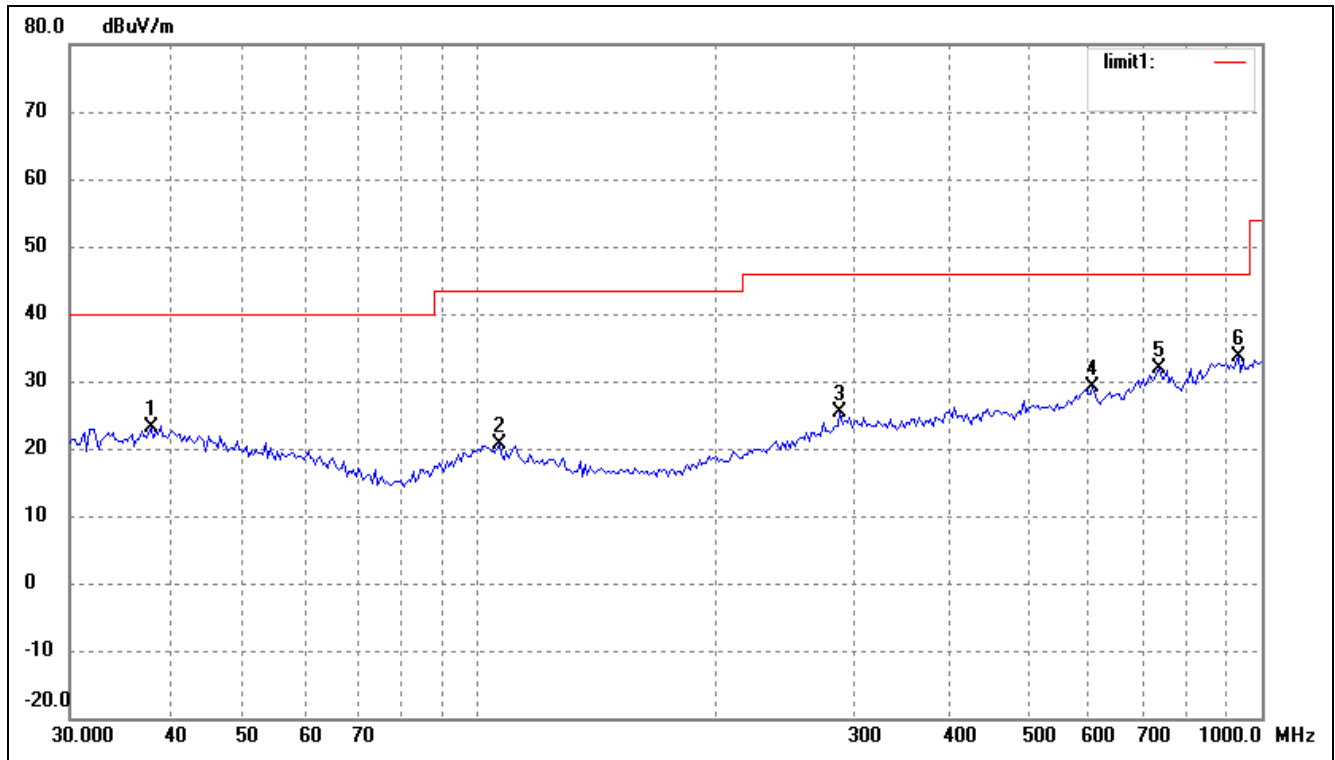
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	37.8121	14.38	8.51	22.89	40.00	-17.11	240	100	peak
2	98.8326	14.10	5.85	19.95	43.50	-23.55	187	100	peak
3	282.9852	15.47	8.46	23.93	46.00	-22.07	220	100	peak
4	755.3873	15.68	14.84	30.52	46.00	-15.48	359	100	peak
5	875.2470	15.98	16.62	32.60	46.00	-13.40	359	100	peak



Operating Condition: 802.11g Transmitting Middle Channel-2437MHz

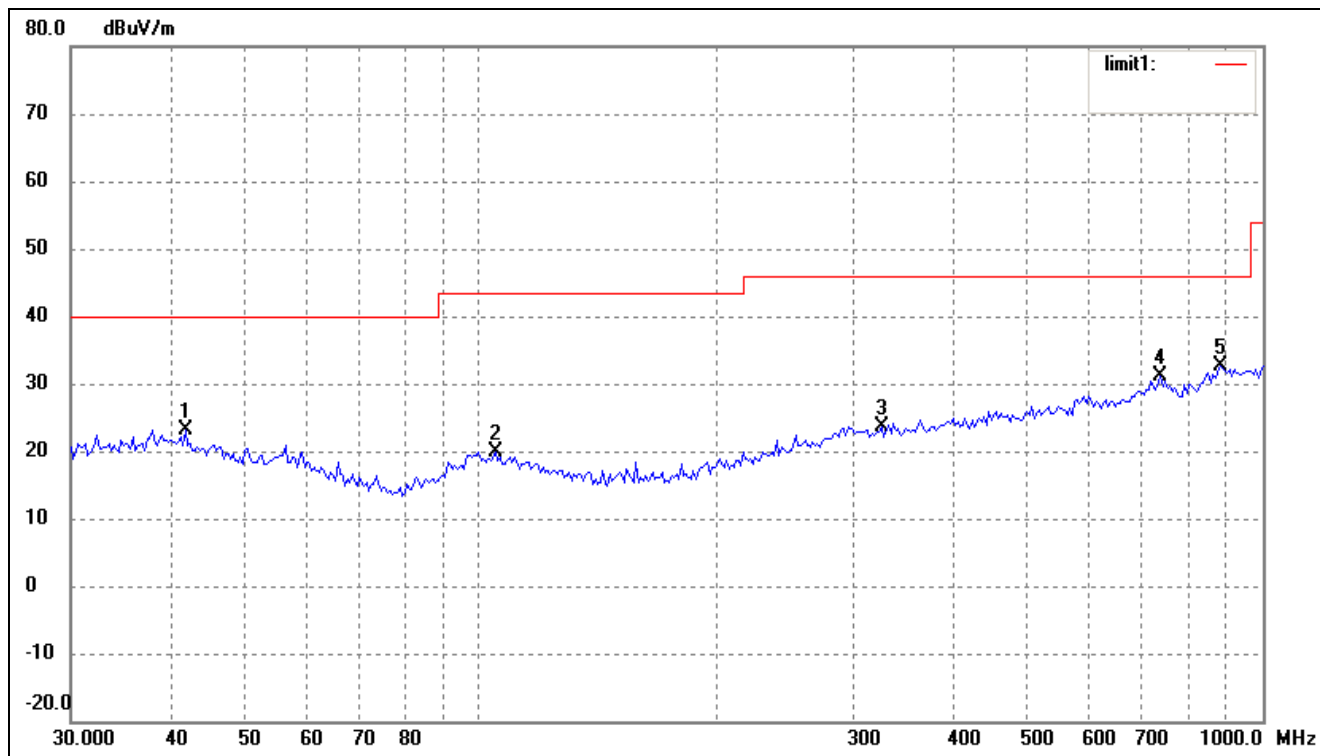
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	38.0783	14.63	8.55	23.18	40.00	-16.82	162	100	peak
2	106.0126	15.11	5.52	20.63	43.50	-22.87	200	100	peak
3	289.0021	16.62	8.70	25.32	46.00	-20.68	359	200	peak
4	607.7867	16.43	12.67	29.10	46.00	-16.90	359	200	peak
5	739.6605	16.47	15.49	31.96	46.00	-14.04	359	200	peak
6	932.2715	17.34	16.21	33.55	46.00	-12.45	359	200	peak

Test Specification: Vertical

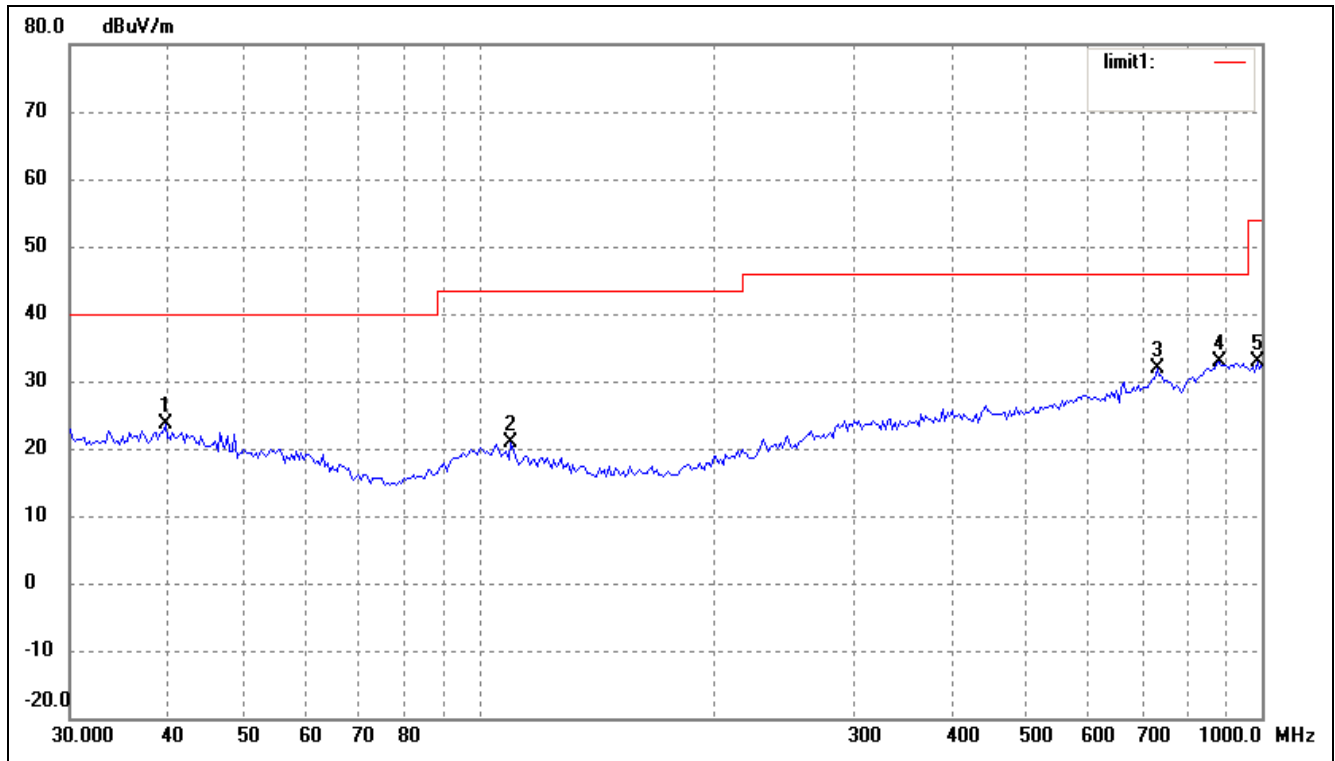


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	42.0066	14.77	8.27	23.04	40.00	-16.96	240	100	peak
2	104.5361	14.15	5.67	19.82	43.50	-23.68	187	100	peak
3	325.5958	14.50	9.13	23.63	46.00	-22.37	220	100	peak
4	739.6605	15.75	15.49	31.24	46.00	-14.76	359	100	peak
5	881.4067	15.85	16.73	32.58	46.00	-13.42	359	100	peak

Operating Condition: 802.11g Transmitting High Channel-2462MHz

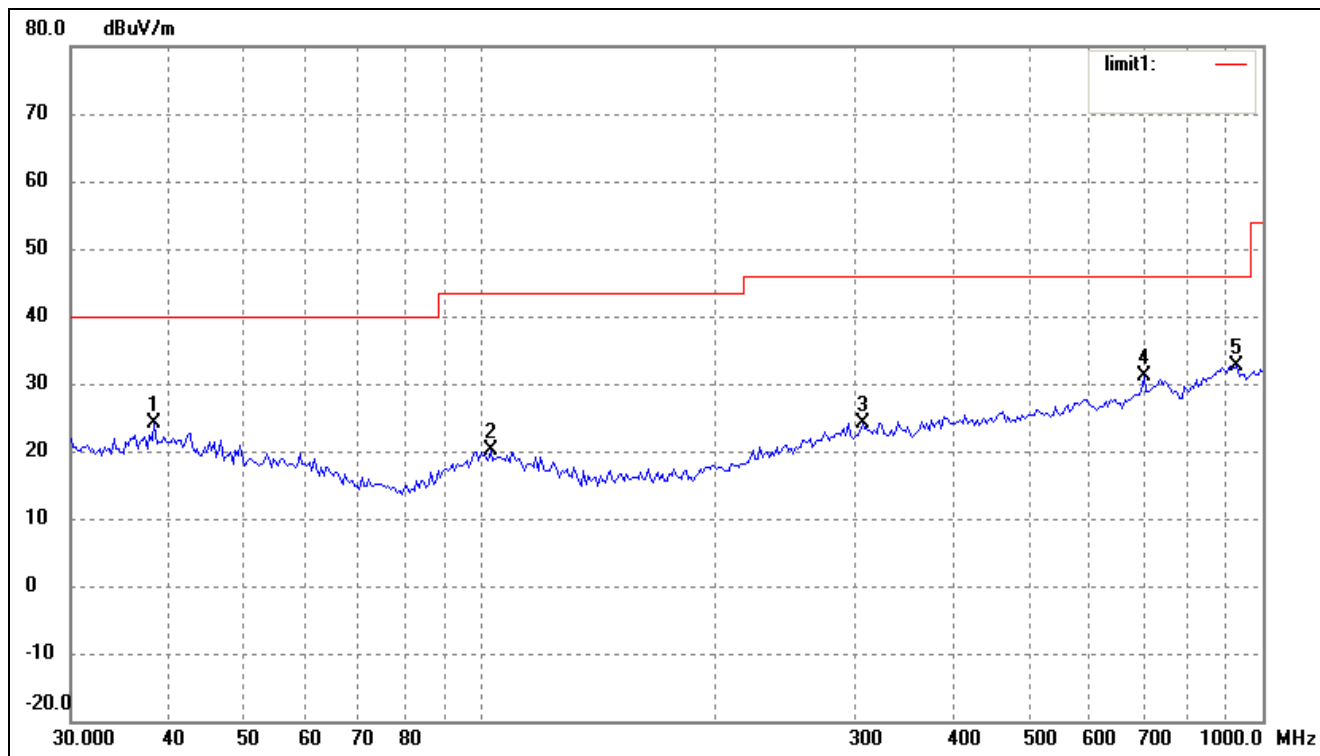
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	39.7147	14.80	8.82	23.62	40.00	-16.38	162	100	peak
2	109.7960	15.72	5.12	20.84	43.50	-22.66	200	100	peak
3	734.4913	16.68	15.18	31.86	46.00	-14.14	359	200	Peak
4	881.4067	16.09	16.73	32.82	46.00	-13.18	359	200	peak
5	986.0717	16.22	16.75	32.97	54.00	-21.03	359	200	peak

Test Specification: Vertical

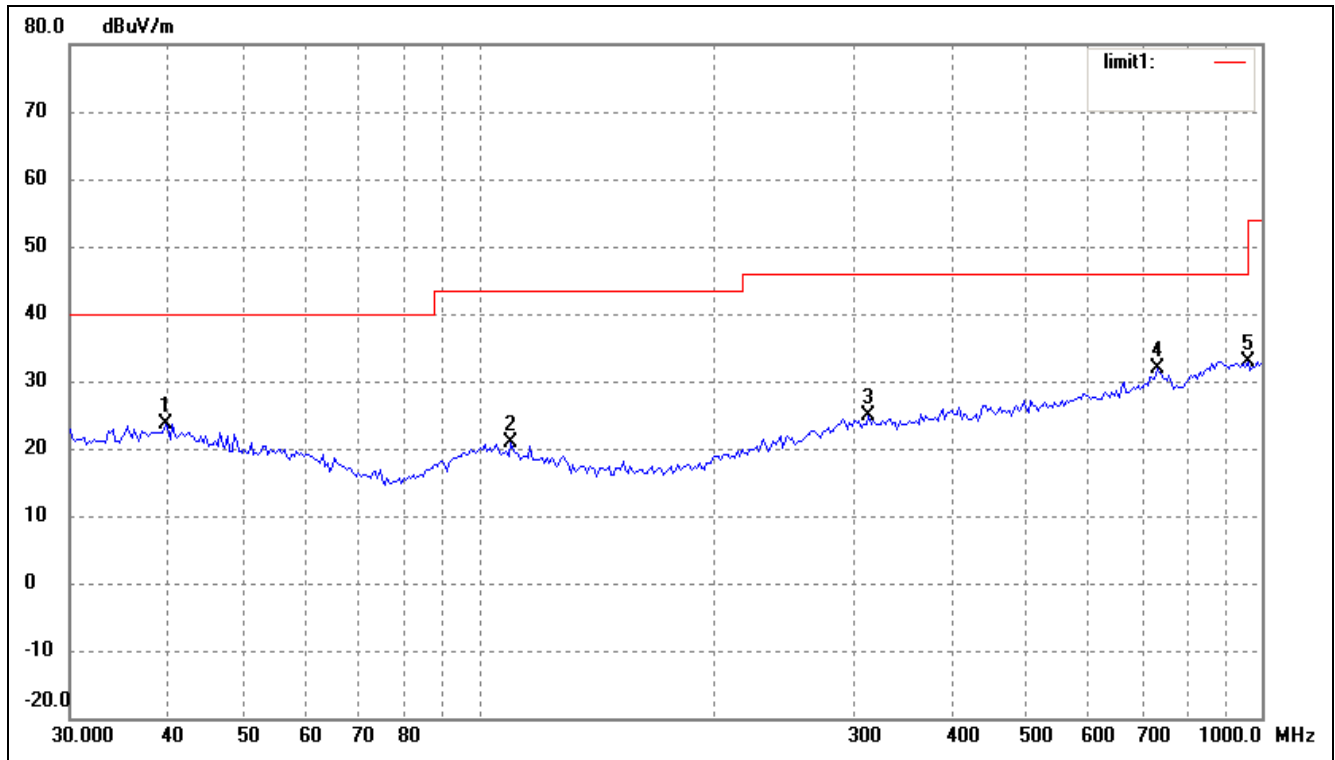


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	38.3462	15.63	8.60	24.23	40.00	-15.77	240	100	peak
2	103.0800	14.35	5.83	20.18	43.50	-23.32	187	100	peak
3	307.8313	14.97	9.20	24.17	46.00	-21.83	220	100	peak
4	704.2261	17.41	13.82	31.23	46.00	-14.77	359	100	peak
5	925.7563	16.31	16.29	32.60	46.00	-13.40	359	100	peak

Operating Condition: 802.11n-HT20 Transmitting Low Channel-2412MHz

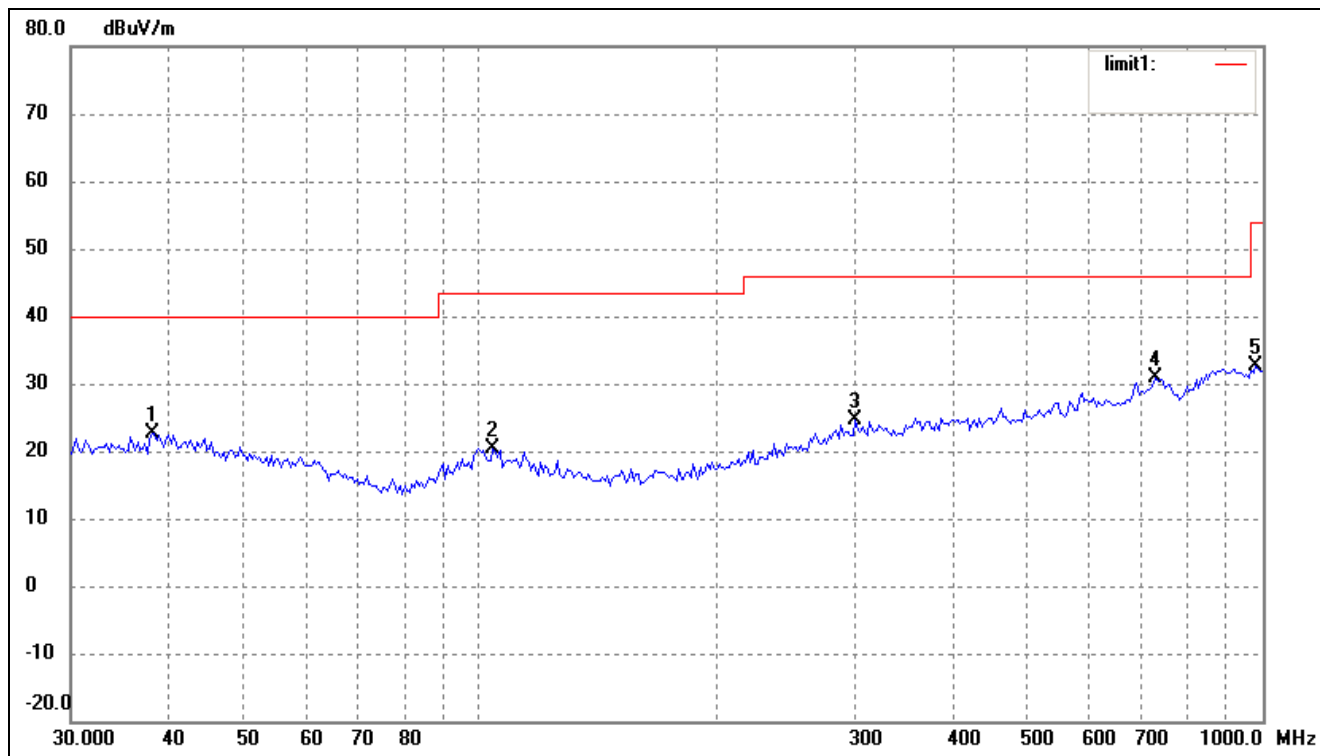
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.7147	14.80	8.82	23.62	40.00	-16.38	162	100	peak
2	109.7960	15.72	5.12	20.84	43.50	-22.66	200	100	peak
3	314.3765	15.51	9.25	24.76	46.00	-21.24	359	200	peak
4	734.4913	16.68	15.18	31.86	46.00	-14.14	359	200	peak
5	958.7943	16.80	16.20	33.00	46.00	-13.00	359	200	peak

Test Specification: Vertical

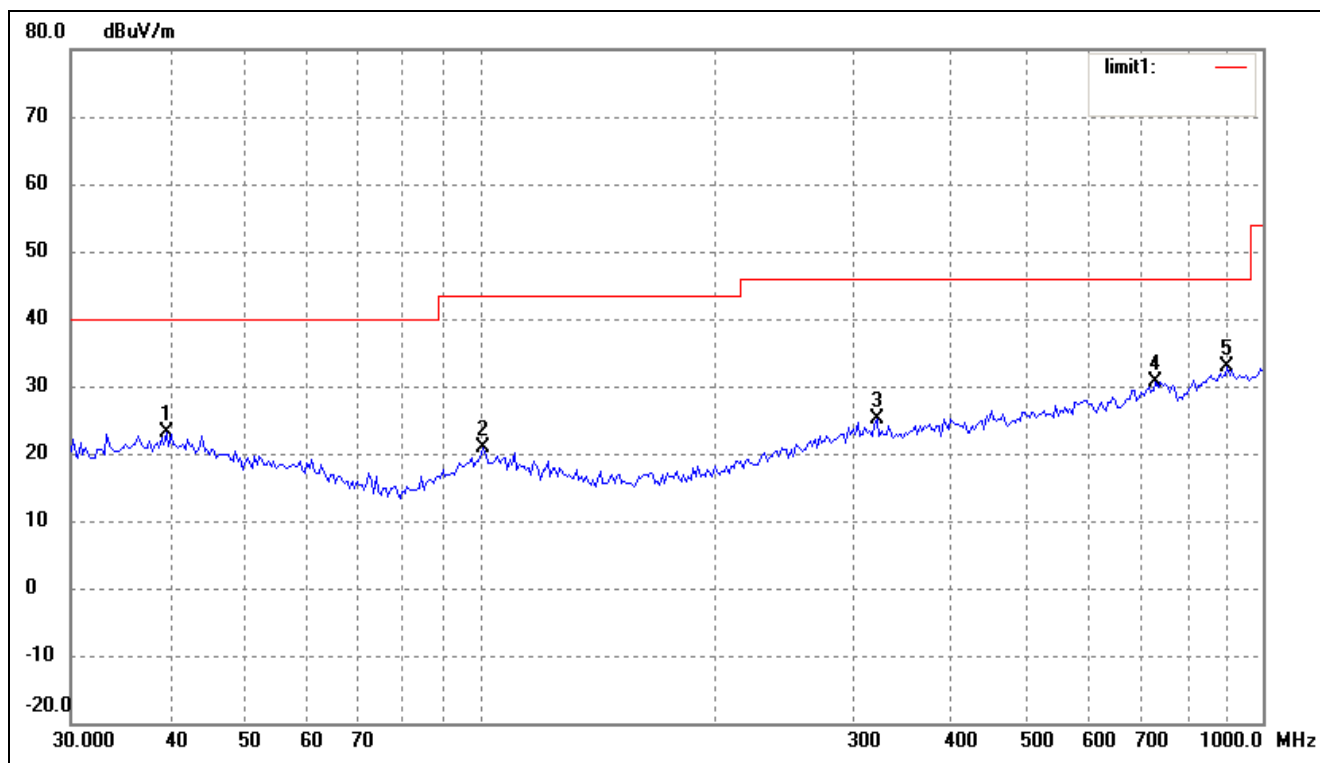


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	38.0783	14.11	8.55	22.66	40.00	-17.34	240	100	peak
2	103.8055	14.65	5.75	20.40	43.50	-23.10	187	100	peak
3	301.4224	15.40	9.15	24.55	46.00	-21.45	220	100	peak
4	729.3583	15.94	14.87	30.81	46.00	-15.19	359	100	peak
5	979.1804	16.07	16.52	32.59	54.00	-21.41	359	100	peak

Operating Condition: 802.11n-HT20 Transmitting Middle Channel-2437MHz

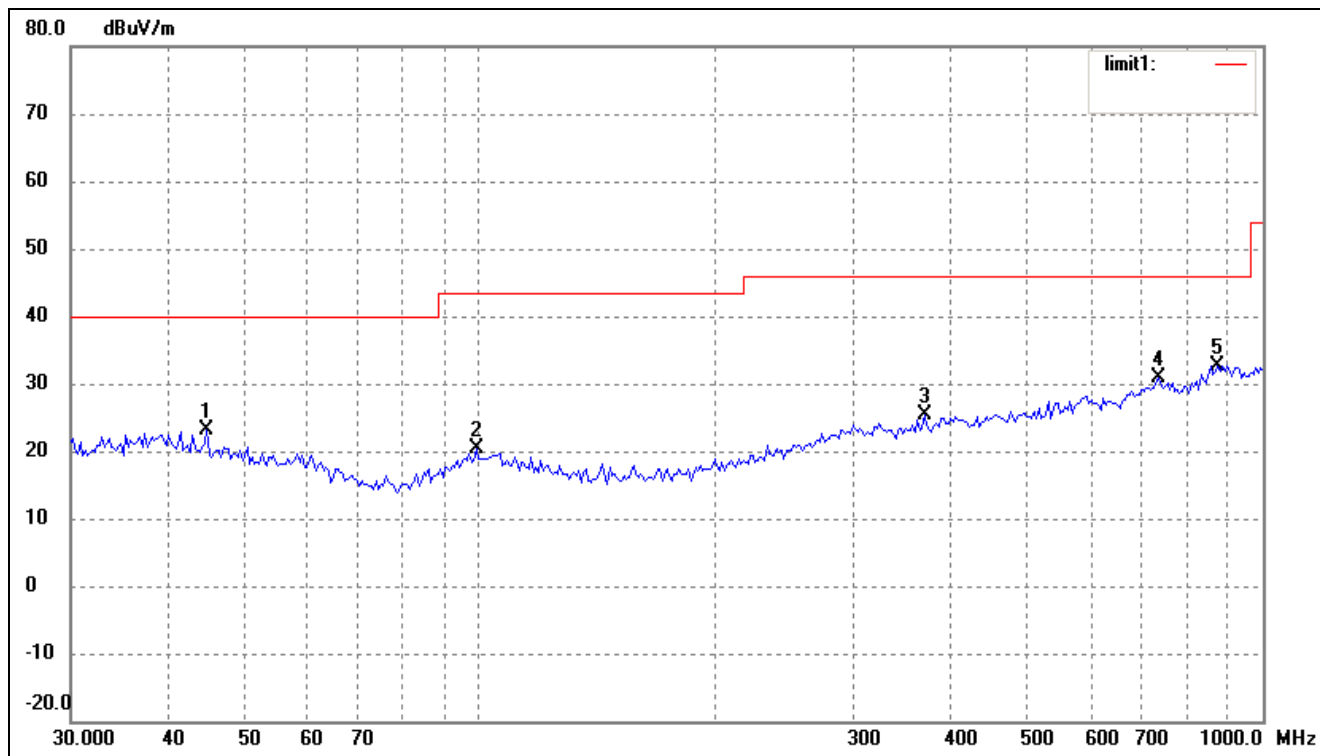
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.7147	14.35	8.82	23.17	40.00	-16.83	162	100	peak
2	100.9340	14.84	6.05	20.89	43.50	-22.61	200	100	peak
3	321.0608	15.77	9.25	25.02	46.00	-20.98	359	200	Peak
4	729.3583	15.79	14.87	30.66	46.00	-15.34	359	200	peak
5	900.1474	16.01	16.75	32.76	46.00	-13.24	359	200	peak

Test Specification: Vertical



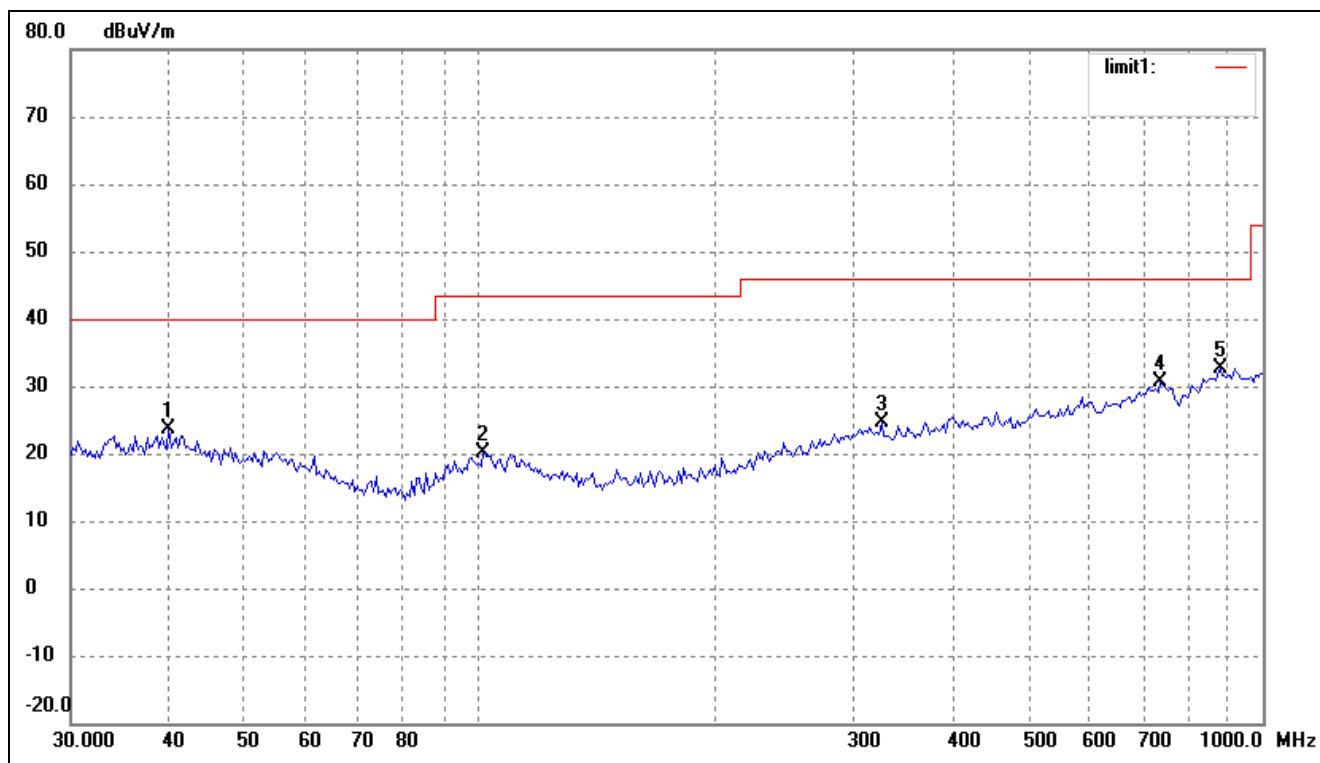
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	44.7434	15.55	7.48	23.03	40.00	-16.97	240	100	peak
2	98.8326	14.45	5.85	20.30	43.50	-23.20	187	100	peak
3	369.4047	16.07	9.25	25.32	46.00	-20.68	220	100	peak
4	734.4913	15.61	15.18	30.79	46.00	-15.21	359	100	peak
5	875.2470	16.12	16.62	32.74	46.00	-13.26	359	100	peak



Operating Condition: 802.11n-HT20 Transmitting High Channel-2462MHz

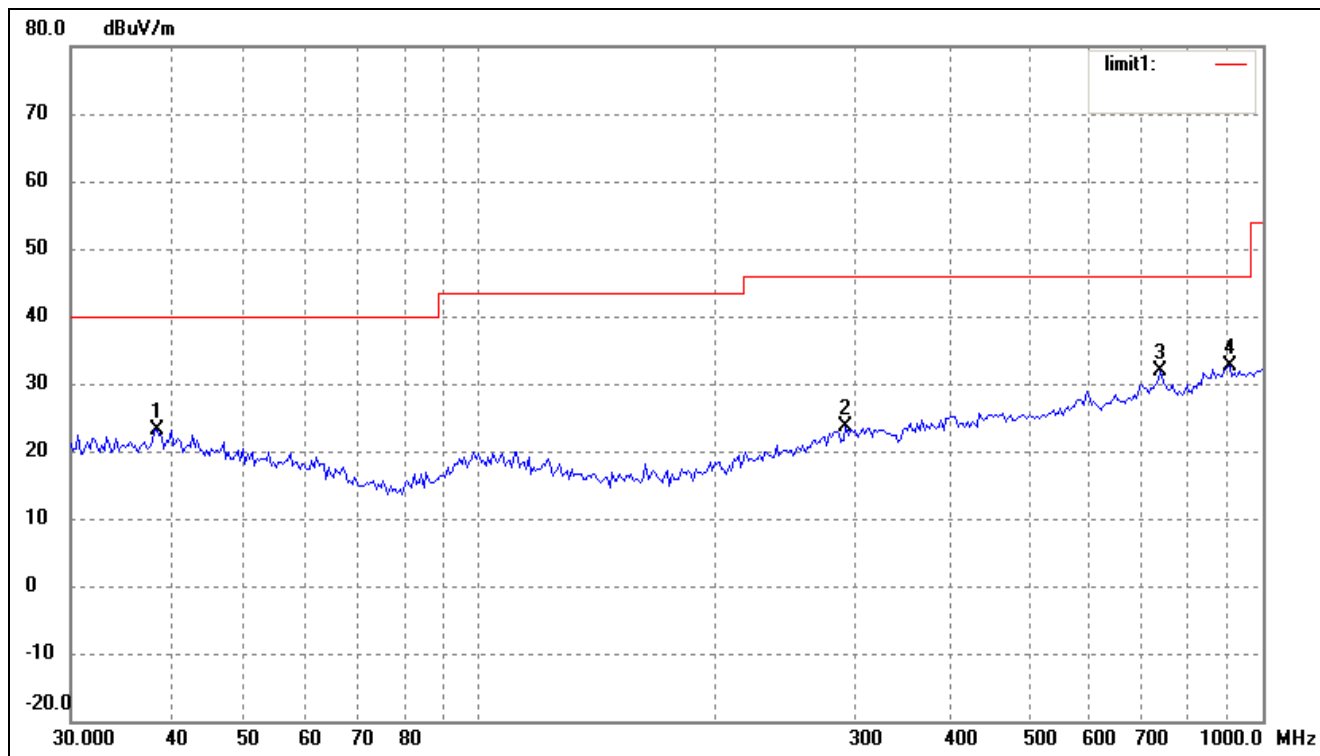
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.9942	14.70	8.86	23.56	40.00	-16.44	162	100	peak
2	100.9340	14.12	6.05	20.17	43.50	-23.33	200	100	peak
3	325.5958	15.43	9.13	24.56	46.00	-21.44	359	200	peak
4	739.6605	15.20	15.49	30.69	46.00	-15.31	359	200	peak
5	881.4067	15.85	16.73	32.58	46.00	-13.42	359	200	peak

Test Specification: Vertical

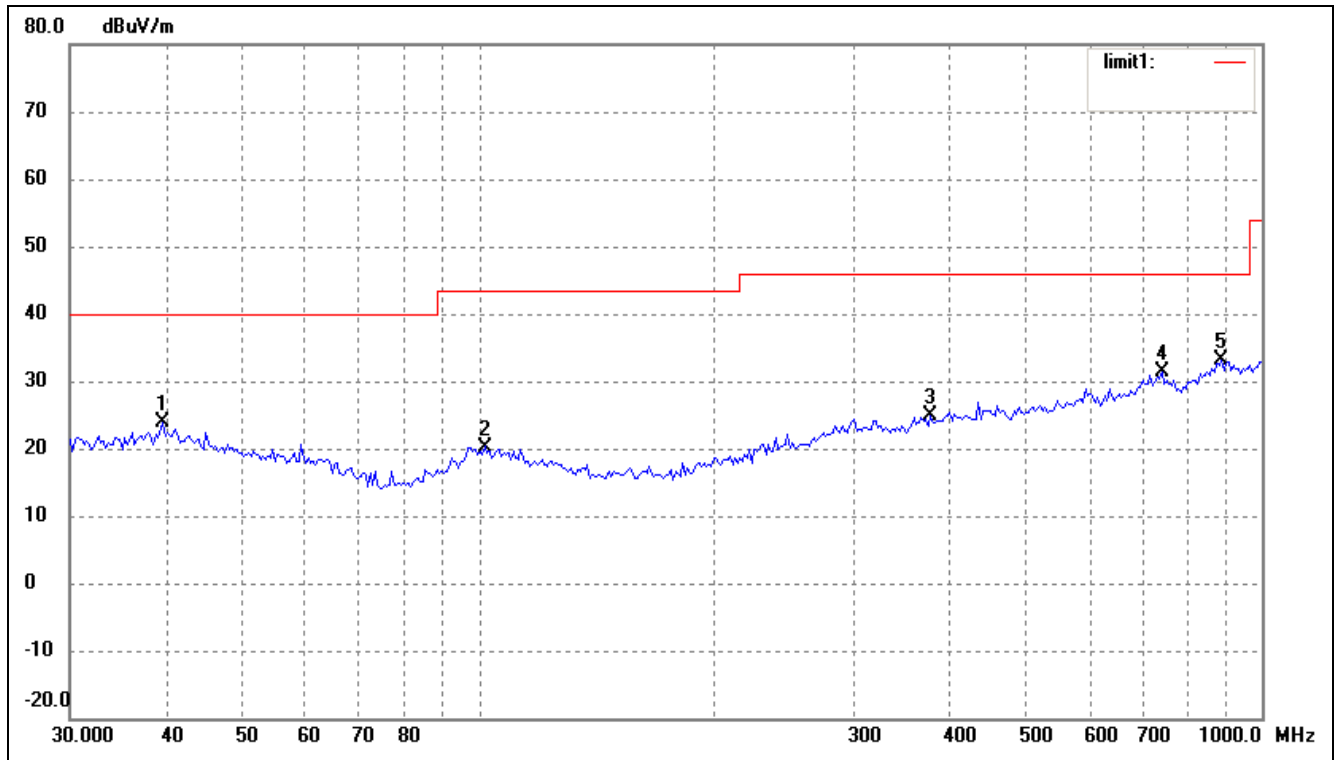


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	38.6161	14.51	8.64	23.15	40.00	-16.85	240	100	peak
2	293.0842	14.73	8.86	23.59	46.00	-22.41	187	100	peak
3	739.6605	16.31	15.49	31.80	46.00	-14.20	220	100	peak
4	906.4824	15.89	16.63	32.52	46.00	-13.48	359	100	peak

Operating Condition: 802.11n-HT40 Transmitting Low Channel-2422MHz

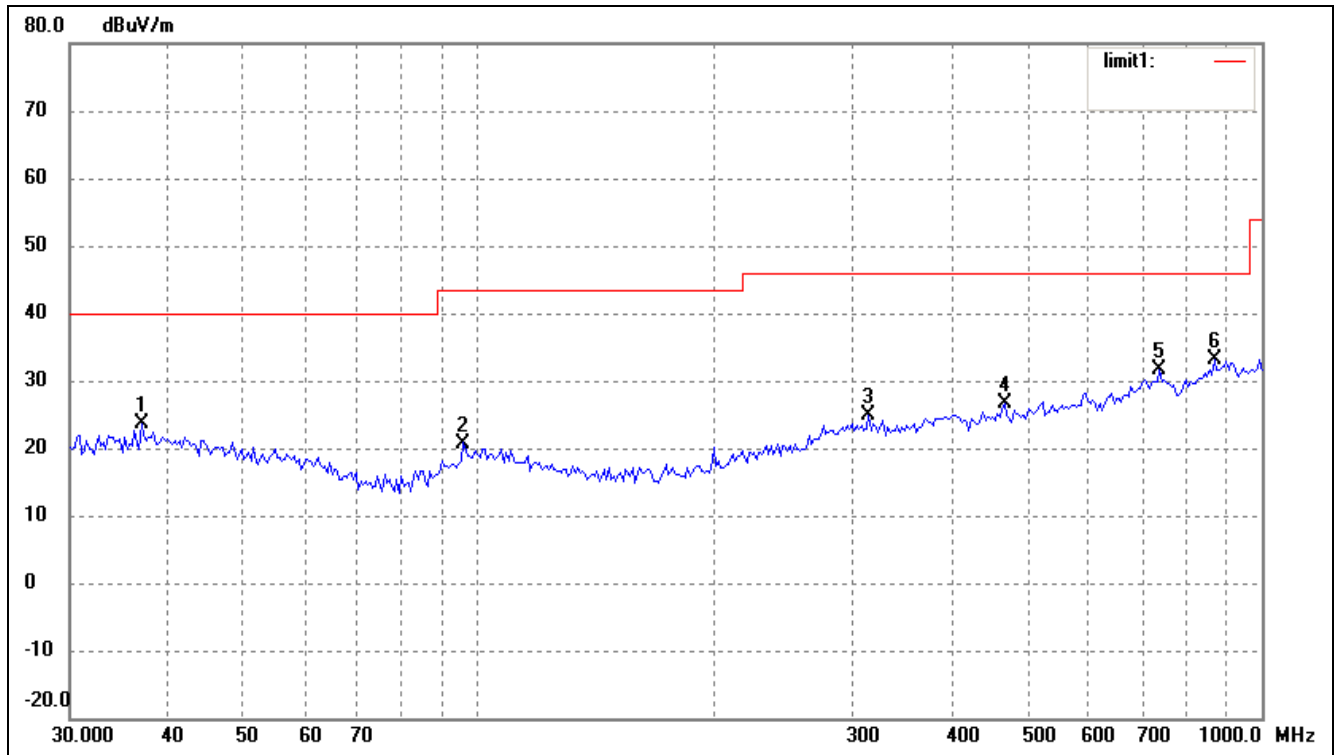
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.4372	14.98	8.78	23.76	40.00	-16.24	162	100	peak
2	101.6443	14.28	5.97	20.25	43.50	-23.25	200	100	peak
3	377.2591	15.73	9.22	24.95	46.00	-21.05	359	200	Peak
4	744.8661	16.04	15.30	31.34	46.00	-14.66	359	200	peak
5	887.6099	16.42	16.74	33.16	46.00	-12.84	359	200	peak

Test Specification: Vertical

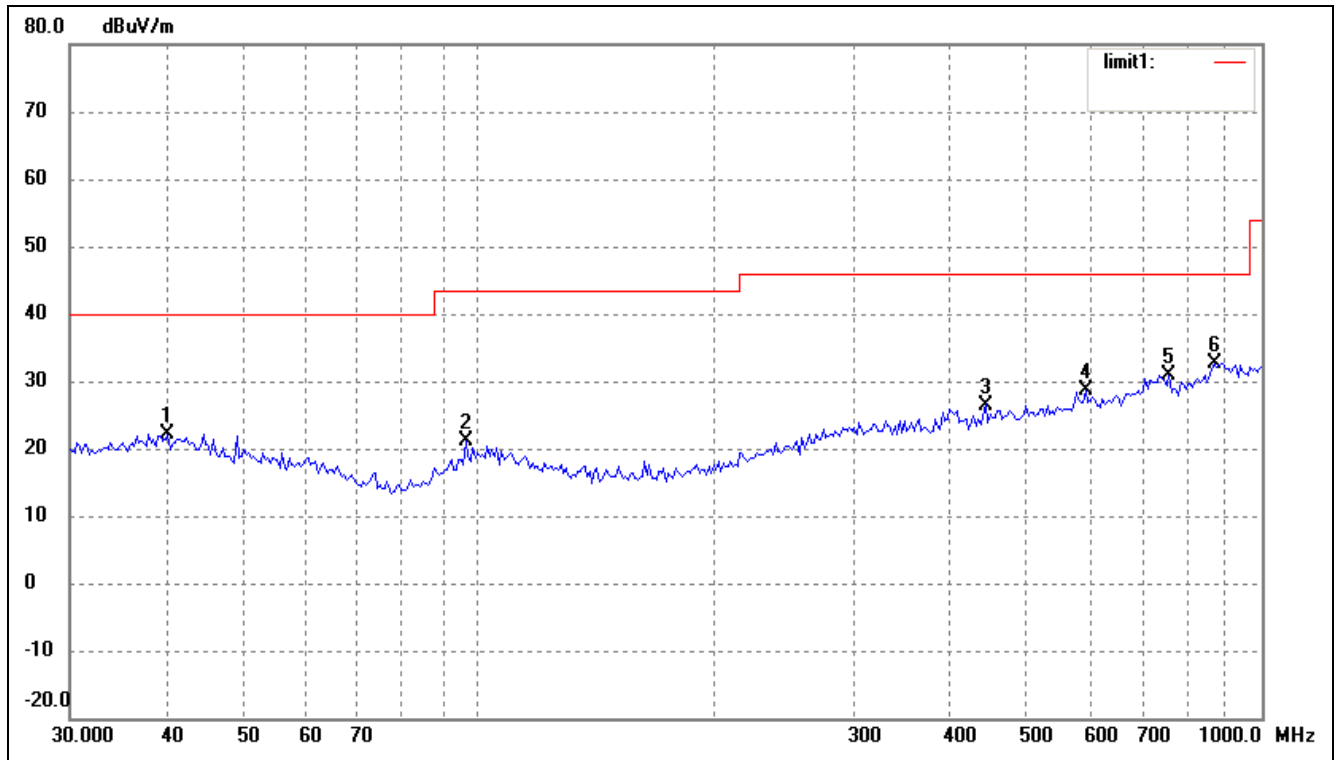


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	37.0249	15.18	8.39	23.57	40.00	-16.43	240	100	peak
2	95.4270	15.78	4.97	20.75	43.50	-22.75	187	100	peak
3	314.3765	15.54	9.25	24.79	46.00	-21.21	220	100	peak
4	468.8762	16.33	10.35	26.68	46.00	-19.32	359	100	peak
5	739.6605	16.14	15.49	31.63	46.00	-14.37	359	100	peak
6	869.1302	16.79	16.46	33.25	46.00	-12.75	359	100	peak

Operating Condition: 802.11n-HT40 Transmitting Middle Channel-2437MHz

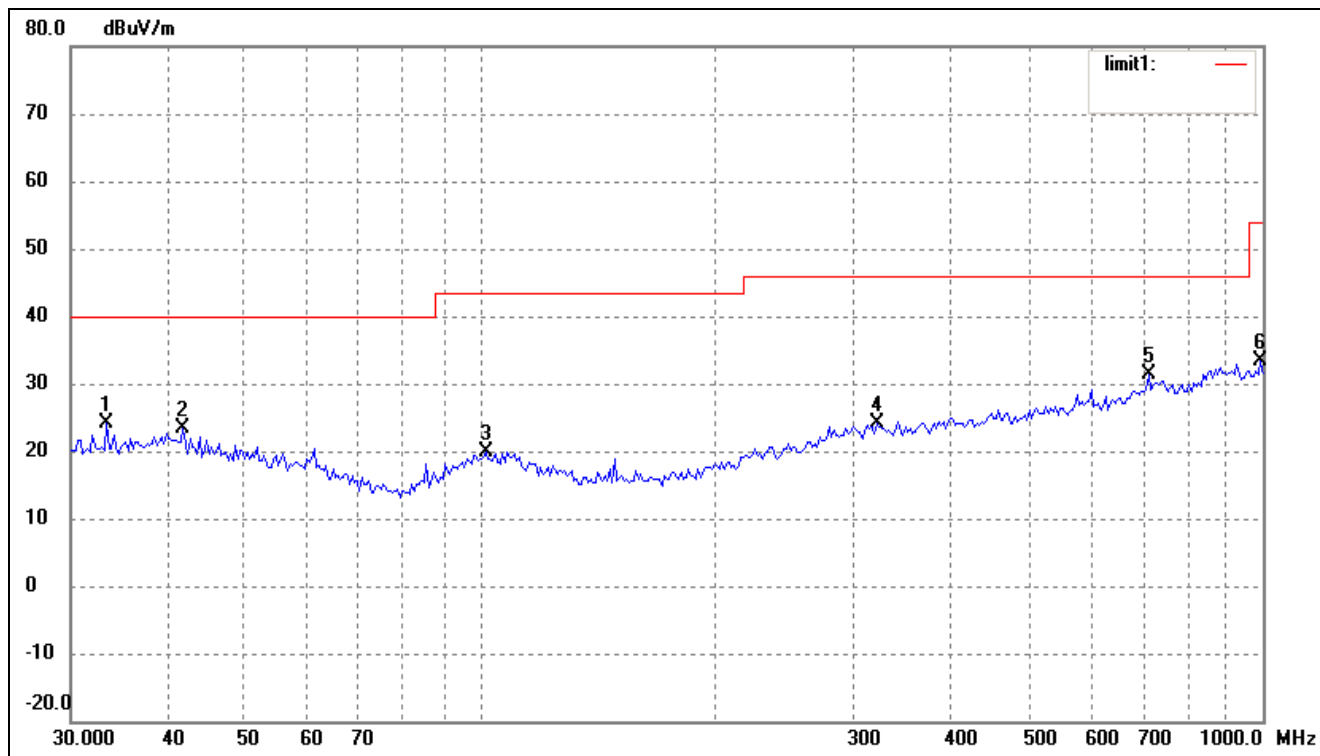
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.9942	13.20	8.86	22.06	40.00	-17.94	162	100	peak
2	96.0986	15.88	5.14	21.02	43.50	-22.48	200	100	peak
3	443.2943	16.39	10.11	26.50	46.00	-19.50	359	200	peak
4	595.1329	15.55	13.04	28.59	46.00	-17.41	359	200	peak
5	760.7036	16.35	14.59	30.94	46.00	-15.06	359	200	peak
6	869.1302	16.06	16.46	32.52	46.00	-13.48	359	200	peak

Test Specification: Vertical

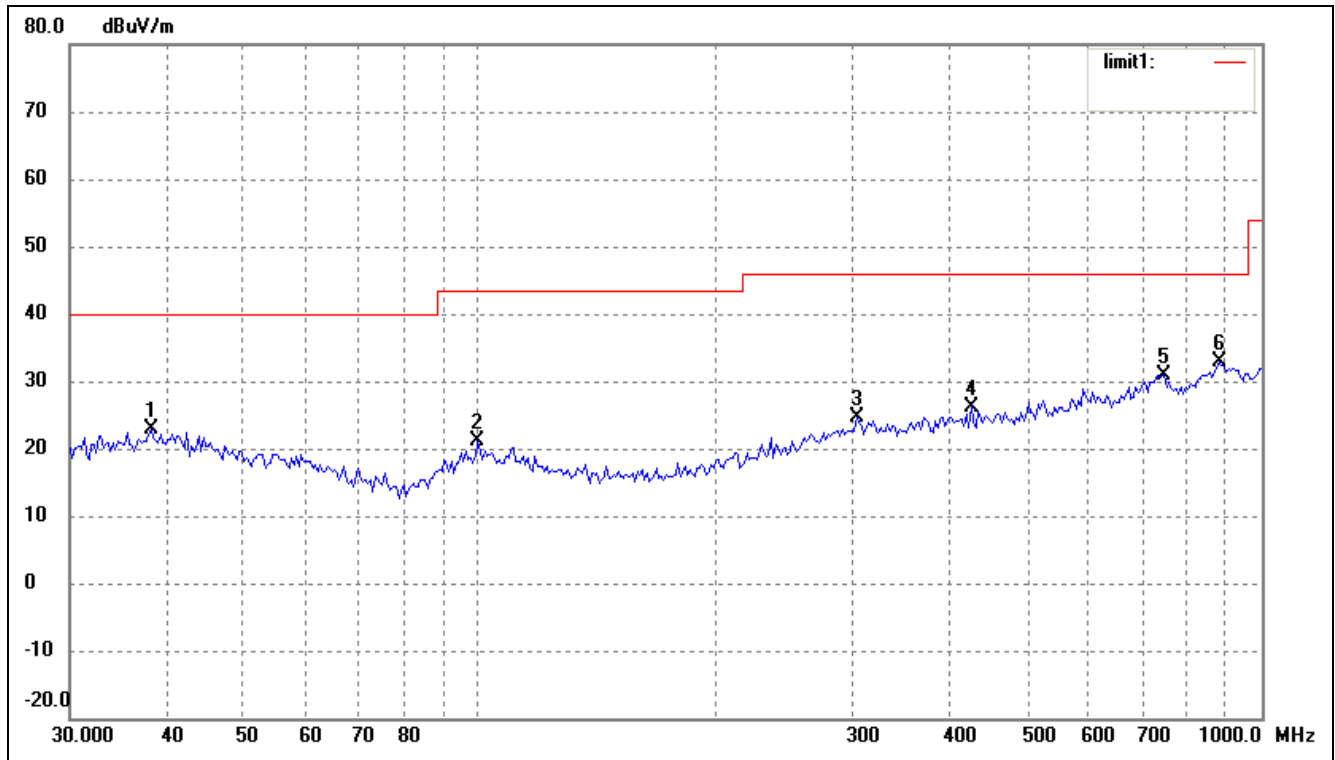


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	33.3279	16.25	7.80	24.05	40.00	-15.95	240	100	peak
2	41.7130	14.97	8.36	23.33	40.00	-16.67	187	100	peak
3	101.6443	14.00	5.97	19.97	43.50	-23.53	220	100	peak
4	321.0608	14.85	9.25	24.10	46.00	-21.90	359	100	peak
5	714.1734	17.26	14.12	31.38	46.00	-14.62	359	100	peak
6	993.0114	16.30	17.00	33.30	54.00	-20.70	359	100	peak

Operating Condition: 802.11n-HT40 Transmitting High Channel-2452MHz

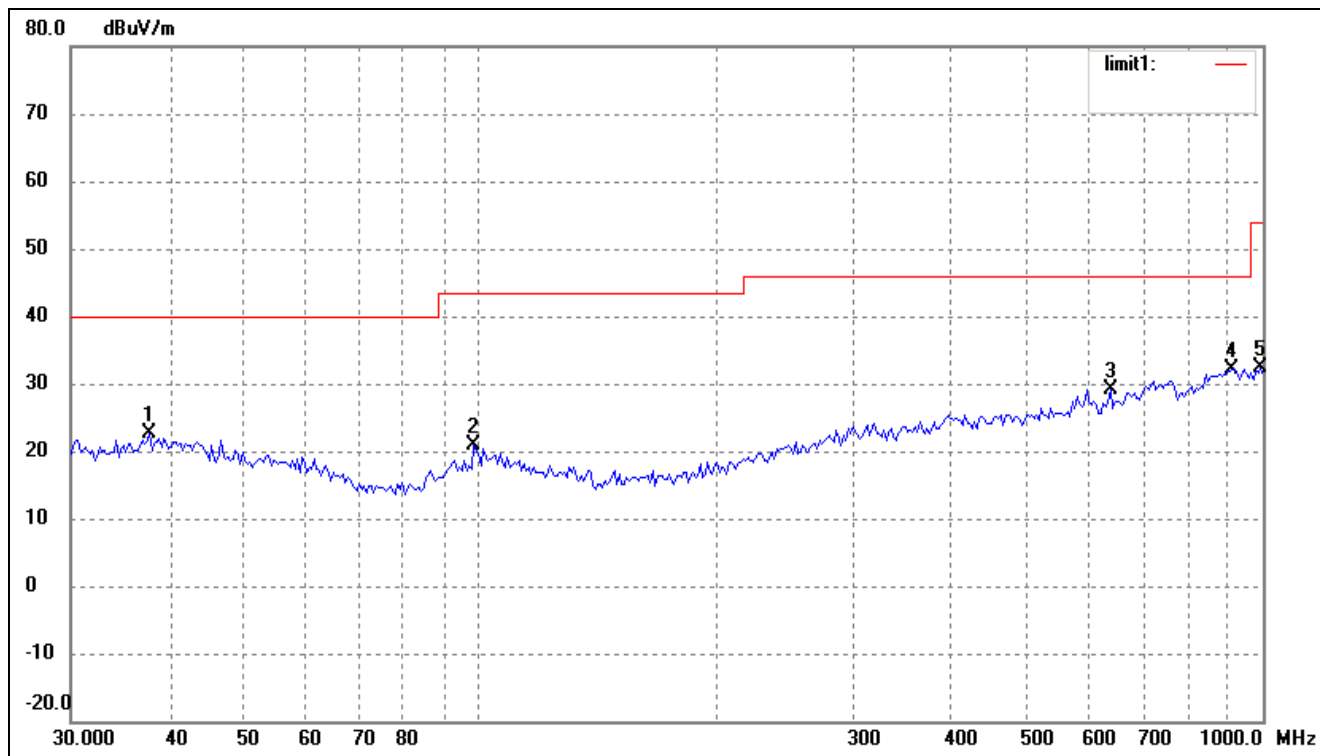
Comment: DC 3.7V Li-ion Battery

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	38.0783	14.34	8.55	22.89	40.00	-17.11	162	100	peak
2	99.5281	15.01	6.03	21.04	43.50	-22.46	200	100	peak
3	303.5437	15.56	9.17	24.73	46.00	-21.27	359	200	Peak
4	425.0280	16.70	9.55	26.25	46.00	-19.75	359	200	peak
5	750.1083	15.92	15.07	30.99	46.00	-15.01	359	200	peak
6	881.4067	16.11	16.73	32.84	46.00	-13.16	359	200	Peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	37.8121	14.09	8.51	22.60	40.00	-17.40	240	100	peak
2	98.1419	15.23	5.68	20.91	43.50	-22.59	187	100	peak
3	638.3686	16.65	12.48	29.13	46.00	-16.87	220	100	peak
4	912.8620	15.58	16.51	32.09	46.00	-13.91	359	100	peak
5	993.0114	15.40	17.00	32.40	54.00	-21.60	359	100	peak



*Spurious Emissions Above 1GHz**Test Mode: 802.11b*

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	54.25	-3.85	50.40	74.00	-23.60	H	PK
4824	39.91	-3.85	36.06	54.00	-17.94	H	AV
7236	47.35	2.23	49.58	74.00	-24.42	H	PK
7236	35.15	2.23	37.38	54.00	-16.62	H	AV
4824	50.65	-3.85	46.80	74.00	-27.20	V	PK
4824	37.47	-3.85	33.62	54.00	-20.38	V	AV
7236	47.47	2.23	49.70	74.00	-24.30	V	PK
7236	35.11	2.23	37.34	54.00	-16.66	V	AV
Middle Channel-2437MHz							
4874	60.86	-3.71	57.15	74.00	-16.85	H	PK
4874	46.62	-3.71	42.91	54.00	-11.09	H	AV
7311	47.31	1.59	48.90	74.00	-25.10	H	PK
7311	36.06	1.59	37.65	54.00	-16.35	H	AV
4874	52.58	-3.71	48.87	74.00	-25.13	V	PK
4874	39.60	-3.71	35.89	54.00	-18.11	V	AV
7311	47.38	2.23	49.61	74.00	-24.39	V	PK
7311	35.42	2.23	37.65	54.00	-16.35	V	AV
High Channel-2462MHz							
4924	63.84	-3.57	60.27	74.00	-13.73	H	PK
4924	49.63	-3.57	46.06	54.00	-7.94	H	AV
7386	48.60	1.91	50.51	74.00	-23.49	H	PK
7386	36.36	1.91	38.27	54.00	-15.73	H	AV
4924	57.69	-3.57	54.12	74.00	-19.88	V	PK
4924	43.49	-3.57	39.92	54.00	-14.08	V	AV
7386	47.17	2.20	49.37	74.00	-24.63	V	PK
7386	35.62	2.20	37.82	54.00	-16.18	V	AV

*Test Mode: 802.11g*

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	52.73	-3.85	48.88	74.00	-25.12	H	PK
4824	39.07	-3.85	35.22	54.00	-18.78	H	AV
7236	47.13	2.26	49.39	74.00	-24.61	H	PK
7236	35.42	2.26	37.68	54.00	-16.32	H	AV
4824	47.63	-4.13	42.50	74.00	-31.50	V	PK
4824	35.14	-4.13	31.01	54.00	-22.99	V	AV
7236	48.17	2.23	50.40	74.00	-23.60	V	PK
7236	35.47	2.23	37.70	54.00	-16.30	V	AV
Middle Channel-2437MHz							
4874	53.53	-3.71	49.82	74.00	-24.18	H	PK
4874	40.62	-3.71	36.91	54.00	-17.09	H	AV
7311	48.36	2.07	49.73	74.00	-24.27	H	PK
7311	35.29	2.07	37.36	54.00	-16.64	H	AV
4874	47.88	-3.71	44.17	74.00	-29.83	V	PK
4874	36.80	-3.71	33.09	54.00	-20.91	V	AV
7311	46.88	2.23	49.11	74.00	-24.89	V	PK
7311	35.38	2.23	37.61	54.00	-16.39	V	AV
High Channel-2462MHz							
4924	63.51	-3.57	59.94	74.00	-14.06	H	PK
4924	49.77	-3.57	46.20	54.00	-7.80	H	AV
7386	49.97	1.91	51.88	74.00	-22.12	H	PK
7386	37.11	1.91	39.02	54.00	-14.98	H	AV
4924	48.84	-3.57	45.27	74.00	-28.73	V	PK
4924	37.25	-3.57	33.68	54.00	-20.32	V	AV
7386	48.12	2.23	50.35	74.00	-23.65	V	PK
7386	35.47	2.23	37.70	54.00	-16.30	V	AV

Test Mode: 802.11n-HT20

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	51.90	-3.85	48.05	74.00	-25.95	H	PK
4824	39.89	-3.85	36.04	54.00	-17.96	H	AV
7236	46.83	2.20	49.03	74.00	-24.97	H	PK
7236	34.67	2.20	36.87	54.00	-17.13	H	AV
4824	45.51	-3.85	41.66	74.00	-32.34	V	PK
4824	33.89	-3.85	30.04	54.00	-23.96	V	AV
7236	46.34	2.20	48.54	74.00	-25.46	V	PK
7236	34.70	2.20	36.90	54.00	-17.10	V	AV
Middle Channel-2437MHz							
4874	56.14	-3.71	52.43	74.00	-21.57	H	PK
4874	44.29	-3.71	40.58	54.00	-13.42	H	AV
7311	47.15	2.23	49.38	74.00	-24.62	H	PK
7311	35.41	2.23	37.64	54.00	-16.36	H	AV
4874	46.48	-3.71	42.77	74.00	-31.23	V	PK
4874	34.34	-3.71	30.63	54.00	-23.37	V	AV
7311	48.23	2.26	50.49	74.00	-23.51	V	PK
7311	35.41	2.26	37.67	54.00	-16.33	V	AV
High Channel-2462MHz							
4924	63.34	-3.57	59.77	74.00	-14.23	H	PK
4924	51.48	-3.57	47.91	54.00	-6.09	H	AV
7386	50.67	1.91	52.58	74.00	-21.42	H	PK
7386	37.91	1.91	39.82	54.00	-14.18	H	AV
4924	47.10	-3.57	43.53	74.00	-30.47	V	PK
4924	35.67	-3.57	32.10	54.00	-21.90	V	AV
7386	46.40	1.91	48.31	74.00	-25.69	V	PK
7386	34.80	1.91	36.71	54.00	-17.29	V	AV

Test Mode: 802.11n-HT40

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBUV/m)	dB/m	(dBUV/m)	(dBUV/m)	(dB)	H/V	
Low Channel-2422MHz							
4844	50.00	-3.78	46.22	74.00	-27.78	H	PK
4844	39.19	-3.78	35.41	54.00	-18.59	H	AV
7266	47.01	2.26	49.27	74.00	-24.73	H	PK
7266	35.25	2.26	37.51	54.00	-16.49	H	AV
4844	47.88	-3.78	43.10	74.00	-30.90	V	PK
4844	34.54	-3.78	30.76	54.00	-23.24	V	AV
7266	47.38	2.26	49.64	74.00	-24.36	V	PK
7266	35.33	2.26	37.59	54.00	-16.41	V	AV
Middle Channel-2437MHz							
4874	48.99	-3.71	45.28	74.00	-28.72	H	PK
4874	38.06	-3.71	34.35	54.00	-19.65	H	AV
7311	46.84	2.26	49.10	74.00	-24.90	H	PK
7311	35.30	2.26	37.56	54.00	-16.44	H	AV
4874	46.77	-4.59	42.18	74.00	-31.82	V	PK
4874	34.78	-4.13	30.65	54.00	-23.35	V	AV
7311	46.84	2.15	48.99	74.00	-25.01	V	PK
7311	35.37	2.26	37.63	54.00	-16.37	V	AV
High Channel-2452MHz							
4904	54.92	-3.57	51.35	74.00	-22.65	H	PK
4904	43.81	-3.57	40.24	54.00	-13.76	H	AV
7356	47.31	2.26	49.57	74.00	-24.43	H	PK
7356	35.21	2.26	37.47	54.00	-16.53	H	AV
4904	50.68	-3.57	47.11	74.00	-26.89	V	PK
4904	39.25	-3.57	35.68	54.00	-18.32	V	AV
7356	35.28	2.26	37.54	54.00	-16.46	V	PK
7356	46.51	2.26	48.77	74.00	-25.23	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5<sup>th</sup> Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.  
The measurements greater than 20dB below the limit from 9kHz to 30MHz..

## 8. Out of Band Emissions

### 8.1 Standard Applicable

According to §15.247 (d) 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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).

### 8.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2012-03-28	2013-03-27
EMI Test Receiver	R&S	ESVB	825471/005	2012-03-28	2013-03-27
Pre-amplifier	Agilent	8447F	3113A06717	2012-03-28	2013-03-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2012-03-28	2013-03-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2012-02-25	2013-02-24
Horn Antenna	ETS	3117	00086197	2012-02-25	2013-02-24

### 8.3 Test Procedure

According to the KDB 558074, the band-edge radiated test method as follows:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)

RBW = 1MHz, VBW = 1MHz for peak value measured

RBW = 1MHz, VBW = 10Hz for average value measured

Sweep = auto; Detector function = peak/average; Trace = max hold

All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205.

## 8.4 Environmental Conditions

Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

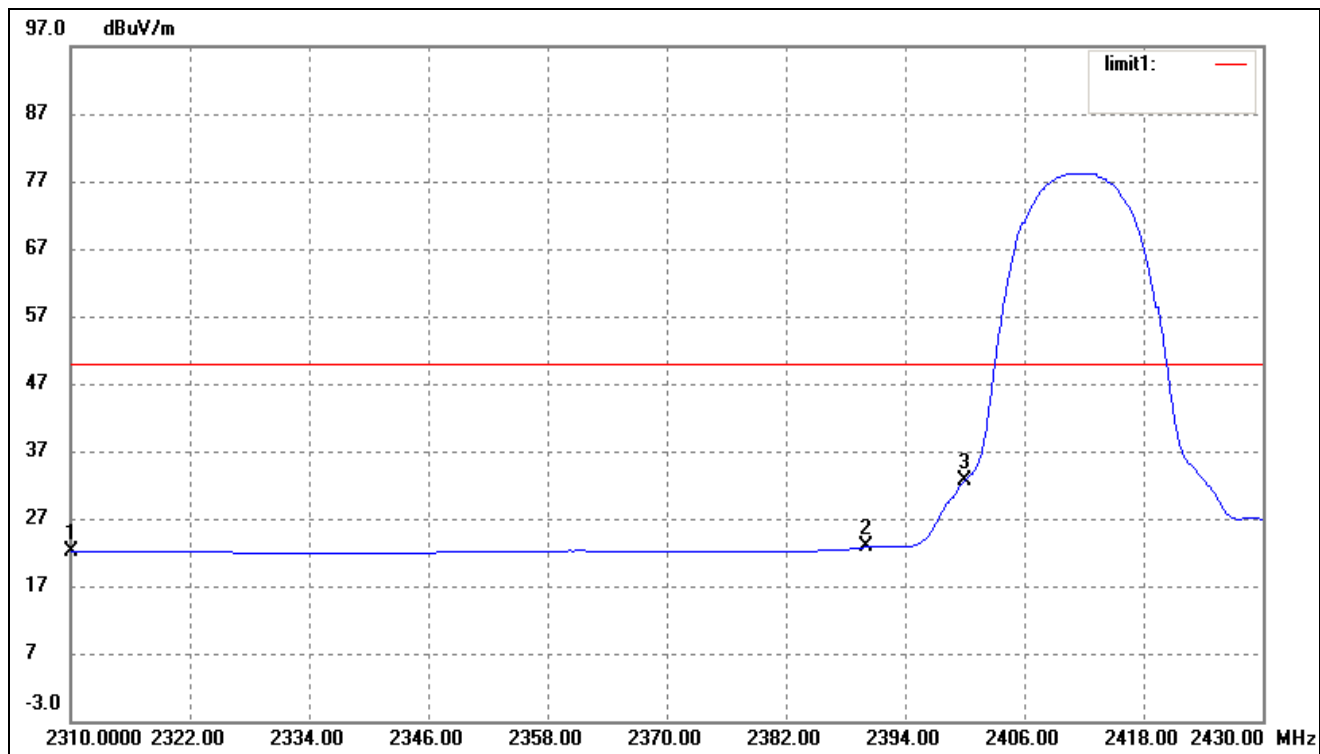
## 8.5 Summary of Test Results/Plots

Test Mode	Test Frequency MHz	Limit dBuV / dBc	Result
802.11b	2390.00	<54 dBuV	Pass
	2400.00	>20 dBc	Pass
	2483.50	<54 dBuV	Pass
802.11g	2390.00	<54 dBuV	Pass
	2400.00	>20 dBc	Pass
	2483.50	<54 dBuV	Pass
802.11n-HT20	2390.00	<54 dBuV	Pass
	2400.00	>20 dBc	Pass
	2483.50	<54 dBuV	Pass
802.11n-HT40	2390.00	<54 dBuV	Pass
	2400.00	>20 dBc	Pass
	2483.50	<54 dBuV	Pass

The edge emissions are below the FCC 15.209 Limits or complies with the 15.247(d) requirements.

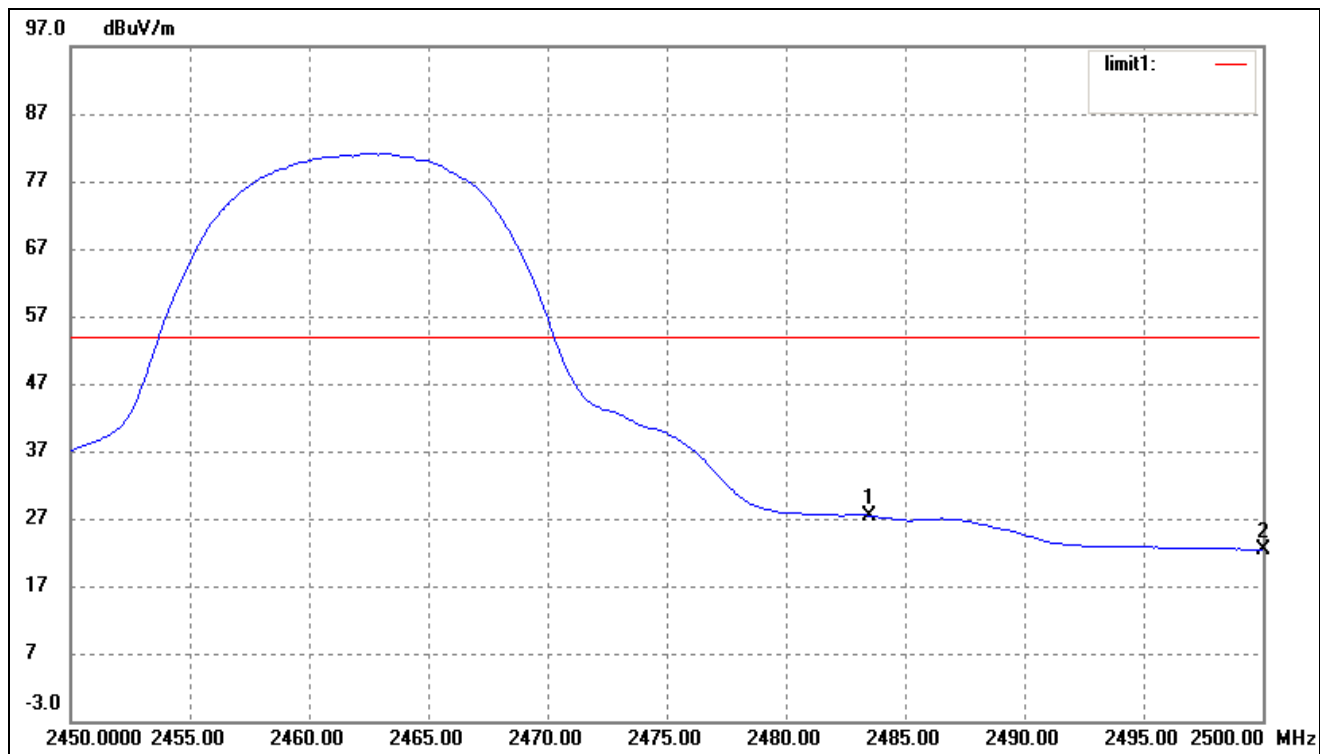
Please refer to the test plots as below.

## 802.11b-Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	2310.000	33.81	-11.72	22.09	50.00	-27.91	256	100	Ave
	2310.000	47.04	-11.72	35.32	74.00	-38.68	256	100	peak
2	2390.000	34.57	-11.75	22.82	50.00	-27.18	256	100	Ave
	2390.000	47.56	-11.75	35.81	74.00	-38.19	256	100	peak
3	2400.000	44.40	-11.75	32.65	50.00	-17.35	256	100	Ave
	2400.000	55.02	-11.75	43.27	74.00	-30.73	256	100	peak

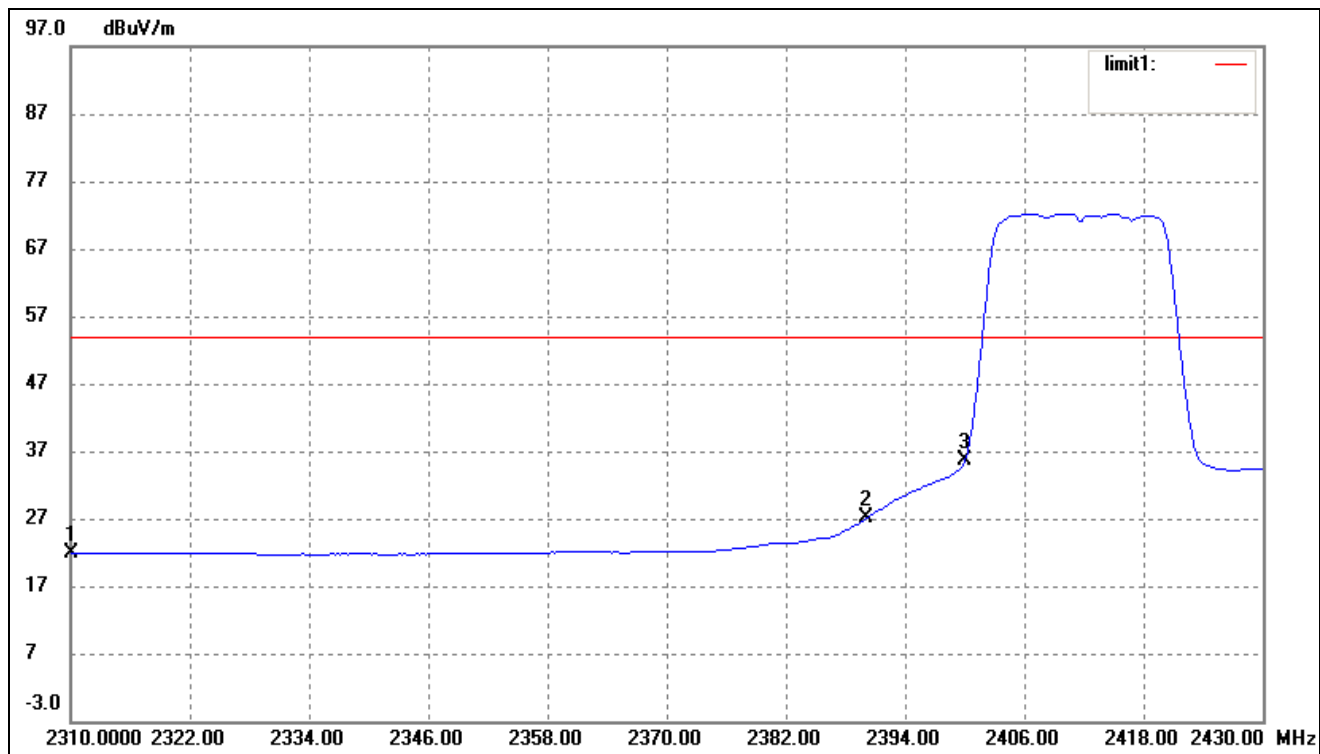
## 802.11b-Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( °)	Height (cm)	Remark
1	2483.500	39.22	-11.78	27.44	54.00	-26.56	256	100	Ave
	2483.500	51.37	-11.78	39.59	74.00	-34.41	256	100	Peak
2	2500.000	34.18	-11.78	22.40	54.00	-31.60	256	100	Ave
	2500.000	46.64	-11.78	34.86	74.00	-39.14	256	100	Peak

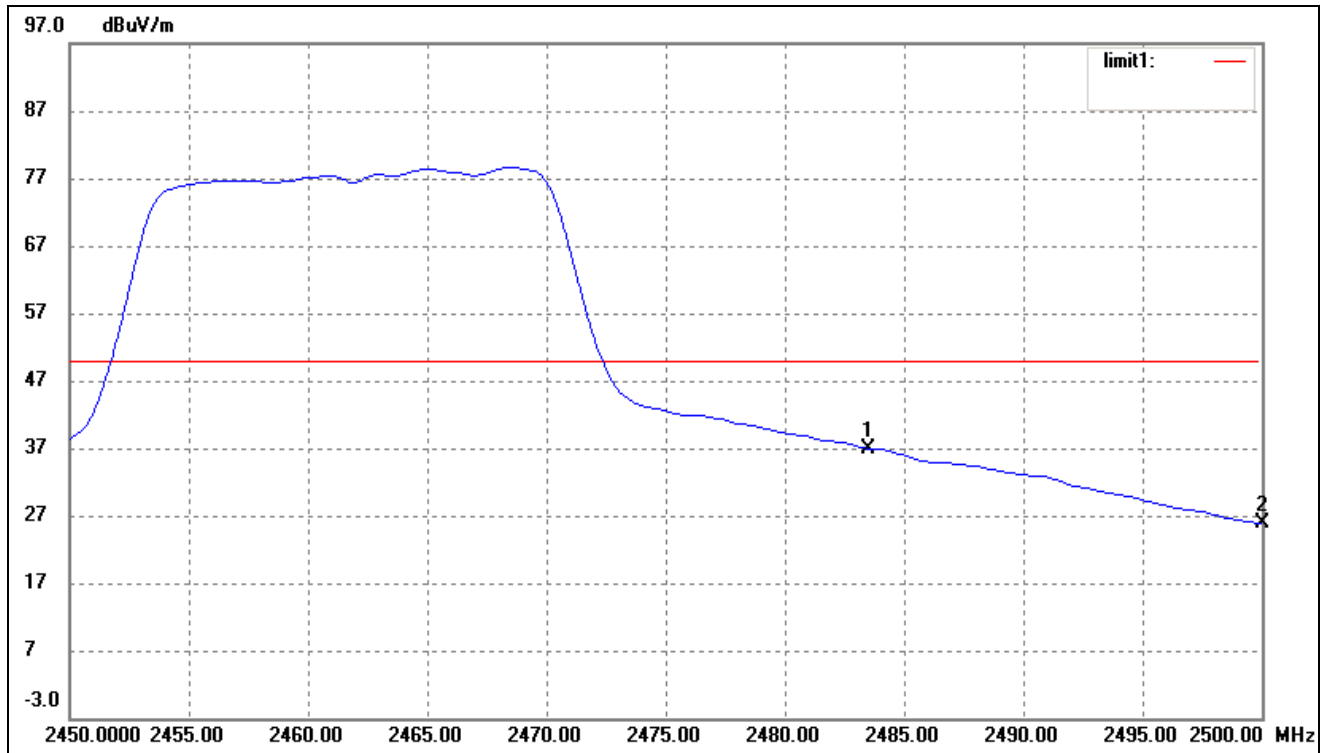


## 802.11g-Lowest Bandedge



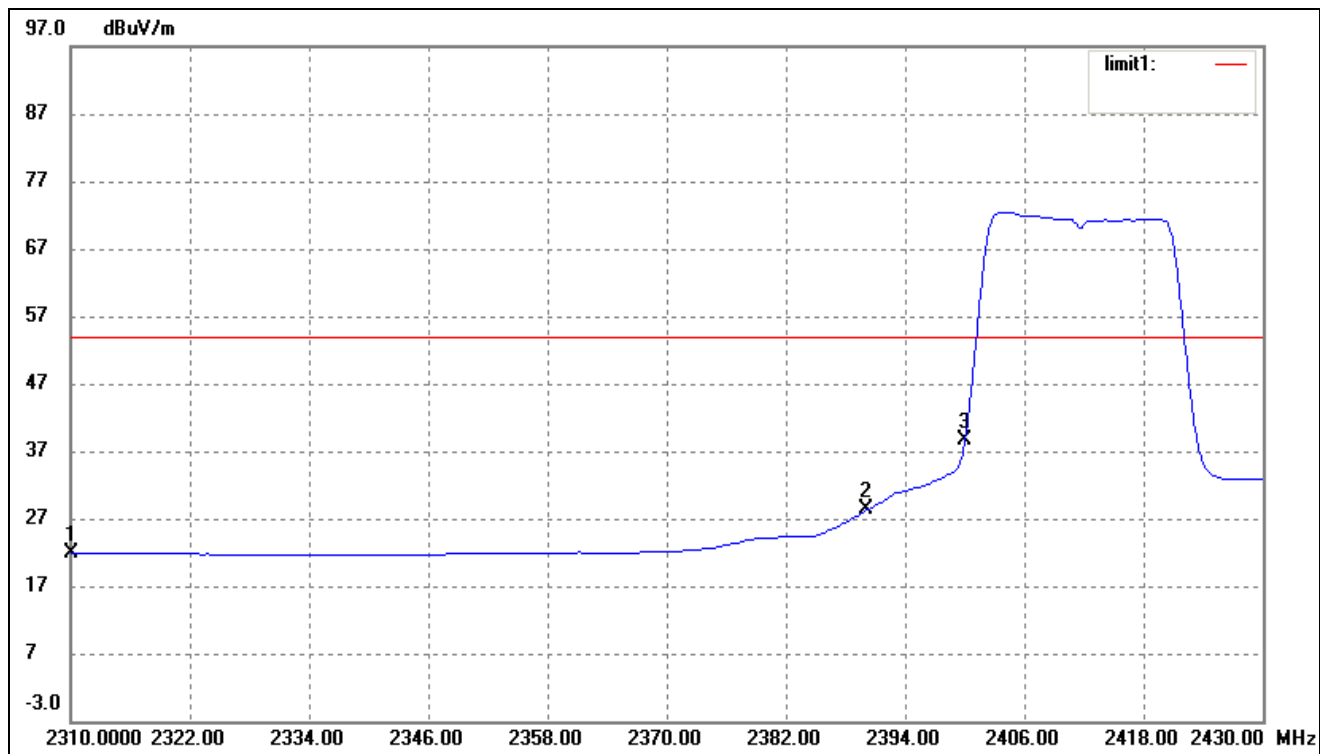
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	2310.000	33.64	-11.72	21.92	54.00	-32.08	256	100	Ave
	2310.000	47.24	-11.72	35.52	74.00	-38.48	256	100	peak
2	2390.000	38.95	-11.75	27.20	54.00	-26.80	256	100	Ave
	2390.000	58.57	-11.75	46.82	74.00	-27.18	256	100	peak
3	2400.000	47.40	-11.75	35.65	54.00	-18.35	256	100	Ave
	2400.000	66.09	-11.75	54.34	74.00	-19.66	256	100	peak

## 802.11g-Highest Bandedge



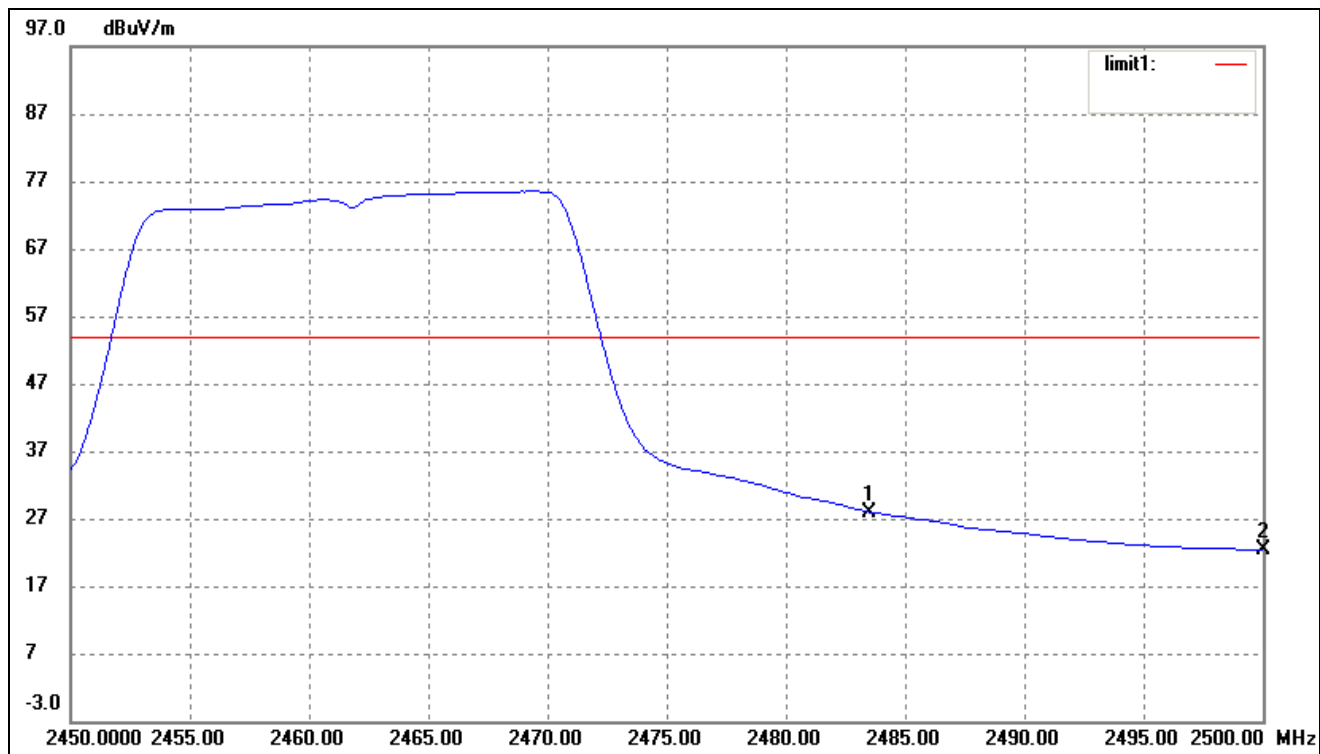
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( °)	Height (cm)	Remark
1	2483.500	48.72	-11.78	36.94	50.00	-13.06	256	100	Ave
	2483.500	69.30	-11.78	57.52	74.00	-16.48	256	100	Peak
2	2500.000	37.62	-11.78	25.84	50.00	-24.16	256	100	Ave
	2500.000	58.10	-11.78	46.32	74.00	-27.68	256	100	Peak

## 802.11n-HT20-Lowest Bandedge



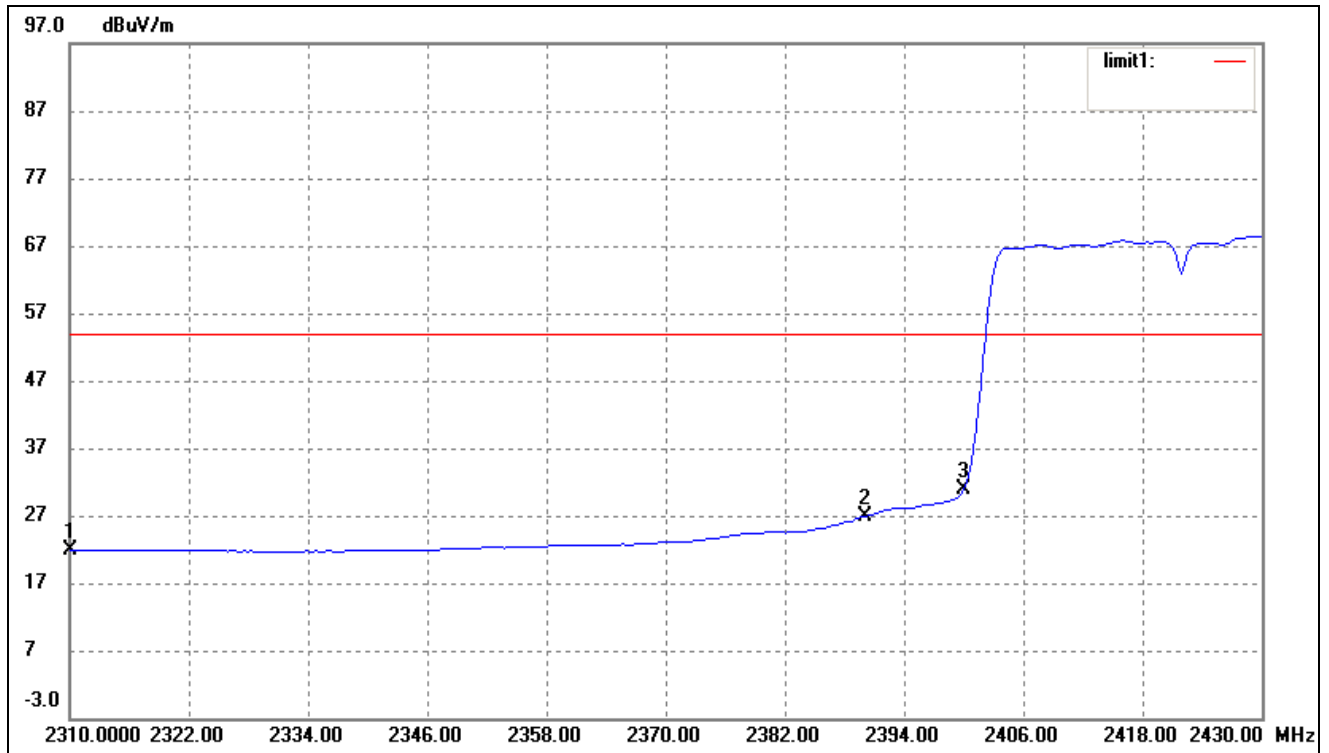
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	2310.000	33.54	-11.72	21.82	54.00	-32.18	256	100	Ave
	2310.000	46.75	-11.72	35.03	74.00	-38.97	256	100	peak
2	2390.000	40.01	-11.75	28.26	54.00	-25.74	256	100	Ave
	2390.000	59.52	-11.75	47.77	74.00	-26.23	256	100	peak
3	2400.000	50.33	-11.75	38.58	54.00	-15.42	256	100	Ave
	2400.000	65.24	-11.75	53.49	74.00	-20.51	256	100	peak

## 802.11n-HT20-Highest Bandedge

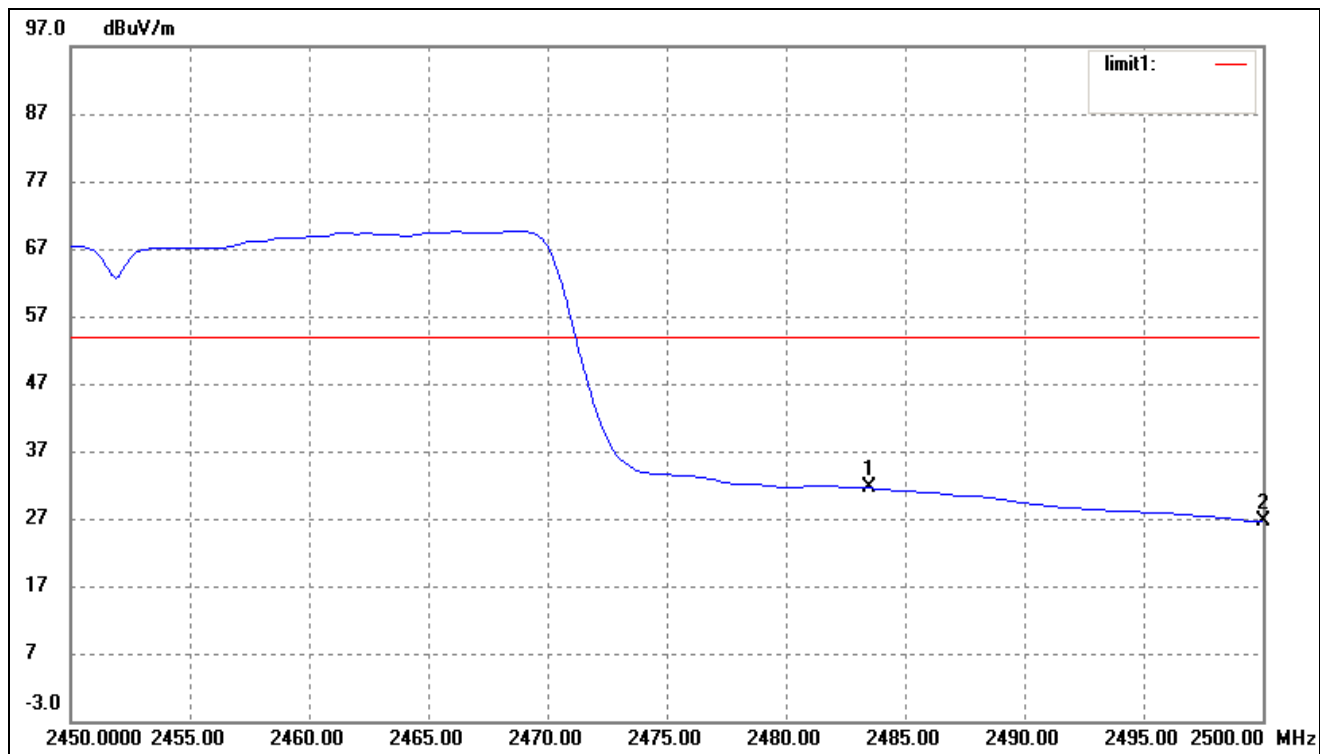


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( °)	Height (cm)	Remark
1	2483.500	39.75	-11.78	27.97	54.00	-26.03	256	100	Ave
	2483.500	59.51	-11.78	47.73	74.00	-26.27	256	100	Peak
2	2500.000	34.14	-11.78	22.36	54.00	-31.64	256	100	Ave
	2500.000	47.80	-11.78	36.02	74.00	-37.98	256	100	Peak

## 802.11n-HT40-Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	2310.000	33.56	-11.72	21.84	54.00	-32.16	256	100	Ave
	2310.000	45.78	-11.72	34.06	74.00	-39.94	256	100	peak
2	2390.000	38.66	-11.75	26.91	54.00	-27.09	256	100	Ave
	2390.000	58.11	-11.75	46.36	74.00	-27.64	256	100	peak
3	2400.000	42.75	-11.75	31.00	54.00	-23.00	256	100	Ave
	2400.000	59.65	-11.75	47.90	74.00	-26.10	256	100	peak

**802.11n-HT40-Highest Bandedge**

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	2483.500	43.33	-11.78	31.55	54.00	-22.45	256	100	Ave
	2483.500	62.12	-11.78	50.34	74.00	-23.66	256	100	Peak
2	2500.000	38.41	-11.78	26.63	54.00	-27.37	256	100	Ave
	2500.000	56.60	-11.78	44.82	74.00	-29.18	256	100	Peak

\*\*\*\*\* END OF REPORT \*\*\*\*\*