

# FCC Part 15C

## Measurement and Test Report

For

**ELECTRONICS TECHNOLOGY(DONG GUAN) COMPANY LIMITED**

**No.161, Xin Min Road, Tong Luo Wei Industrial Zone, Dong Guan City,**

**China**

**FCC ID: ZL9-M77GH2**

**FCC Rule(s):** FCC Part 15C

**Product Description:** Tablet PC

**Tested Model:** M77GH2(AP)

**Report No.:** STR14118088I-3

**Tested Date:** 2014-11-11 to 2014-11-19

**Issued Date:** 2014-11-19

**Tested By:** Lebron Wang / Engineer

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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 Shenzhen SEM.Test Technology Co., Ltd.

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## 1. GENERAL INFORMATION

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

#### Client Information

Applicant: ELECTRONICS TECHNOLOGY(DONG GUAN)  
COMPANY LIMITED

Address of applicant: No. 161, Xin Min Road, Tong Luo Wei Industrial Zone,  
Dong Guan City, China

Manufacturer: ELECTRONICS TECHNOLOGY(DONG GUAN)  
COMPANY LIMITED

Address of manufacturer: No. 161, Xin Min Road, Tong Luo Wei Industrial Zone,  
Dong Guan City, China

General Description of EUT	
Product Name:	Tablet PC
Trade Name:	/
Model No.:	M77GH2(AP)
Adding Model(s):	Trio PRO-7 for Windows
Rated Voltage:	DC 3.7V Battery
Power Adapter Model:	PGAE0500200U1UL
	Input: AC 100-240V    Output: DC 5V/2A
<i>Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model M77GH2(AP), but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2472MHz, 2422-2462MHz
RF Output Power:	17.04dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	13/9
Channel Separation:	5MHz
Type of Antenna:	Integral
Antenna Gain:	0dBi
Lowest Internal Frequency:	32.768kHz

## 1.2 Test Standards

The following report is prepared on behalf of the ELECTRONICS TECHNOLOGY(DONG GUAN) COMPANY LIMITED 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 measurement guide KDB 558074 D01 V03r02 for digital transmission systems shall be performed also.

## 1.4 Test Facility

### **FCC – Registration No.: 934118**

Shenzhen SEM.Test Technology 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 934118.

### **Industry Canada (IC) Registration No.: 11464A**

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

### **CNAS Registration No.: L4062**

Shenzhen SEM.Test Technology 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 1/F, Building A, Hongwei Industrial Park, Liuxian 2<sup>nd</sup> 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, 2442MHz, 2472MHz
TM2	802.11g	2412MHz, 2442MHz, 2472MHz
TM3	802.11n-HT20	2412MHz, 2442MHz, 2472MHz
TM4	802.11n-HT40	2422MHz, 2442MHz, 2462MHz

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.0	Shielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
OTG USB Cable	0.15	Unshielded	Without Ferrite
Earphone	1.2	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
U disk	Kingston	G3	/

## 2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 2.1093	RF Exposure	Compliant
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§ 15.207(a)	Conducted Emission	Compliant
§ 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)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable

### **3. RF Exposure**

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#### **3.1 Standard Applicable**

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

#### **3.2 Test Result**

This product complied with the requirement of the RF exposure, please see the SAR Report.

## **4. Antenna Requirement**

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### **4.1 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.

### **4.2 Evaluation Information**

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



## 5. Power Spectral Density

### 5.1 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.

### 5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2014-05-28	2015-05-27
Attenuator	ATTEN	ATS100-4-20	/	2014-05-28	2015-05-27

### 5.3 Test Procedure

According to the KDB 558074 D01 V03r02, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

- Set instrument center frequency to DTS channel center frequency.
- Set span to at least 1.5 times the OBW.
- Set RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- Set VBW  $\geq 3 \times \text{RBW}$ .
- Detector = power averaging (RMS) or sample detector (when RMS not available).
- Ensure that the number of measurement points in the sweep  $\geq 2 \times \text{span/RBW}$ .
- Sweep time = auto couple.
- Employ trace averaging (RMS) mode over a minimum of 100 traces.
- Use the peak marker function to determine the maximum amplitude level.
- If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).

### 5.4 Environmental Conditions

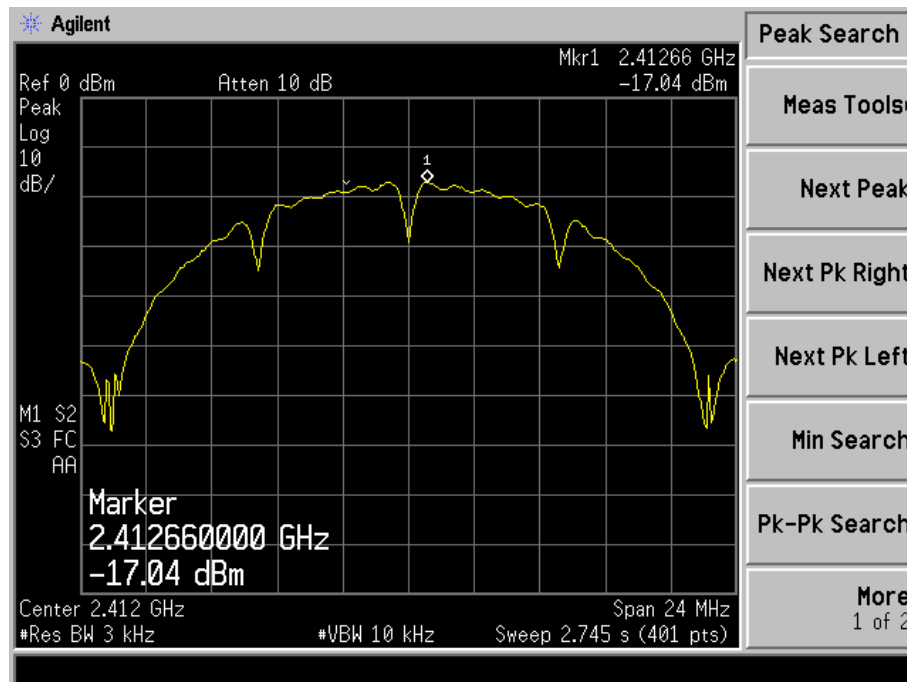
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

## 5.5 Summary of Test Results/Plots

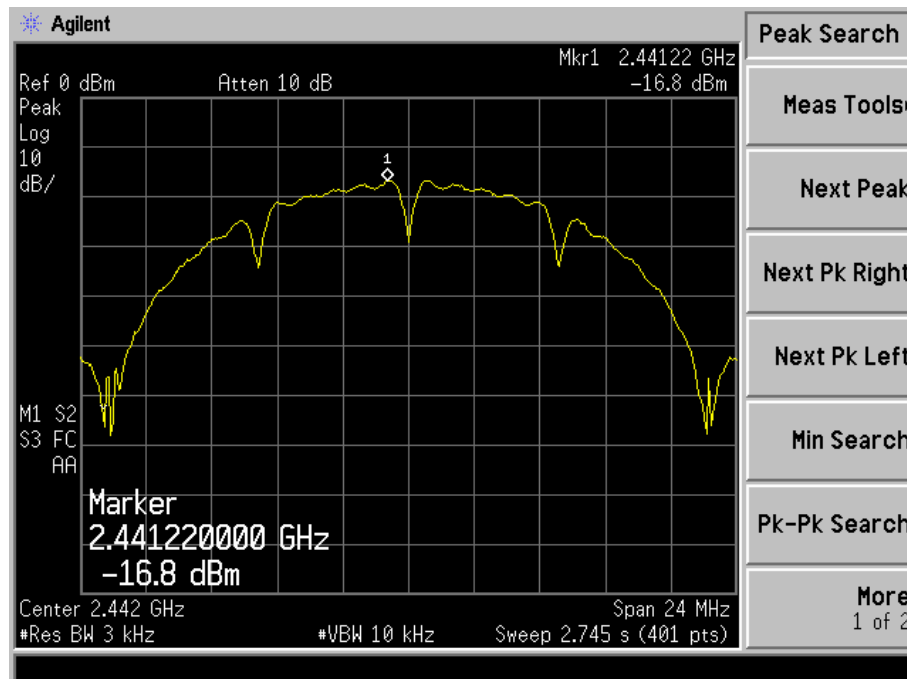
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-17.04	8
	2442	-16.80	8
	2472	-16.40	8
802.11g	2412	-19.01	8
	2442	-19.11	8
	2472	-18.82	8
802.11n HT20	2412	-19.80	8
	2442	-18.99	8
	2472	-18.59	8
802.11n HT40	2422	-22.29	8
	2442	-22.66	8
	2462	-19.88	8

Please refer to the following test plots:

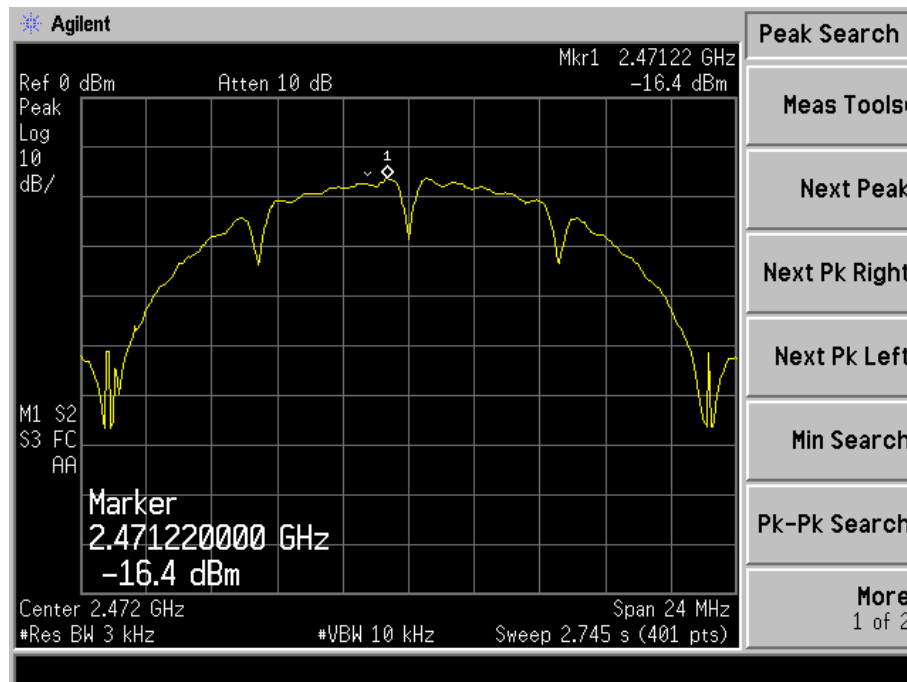
## 802.11b-Low Channel



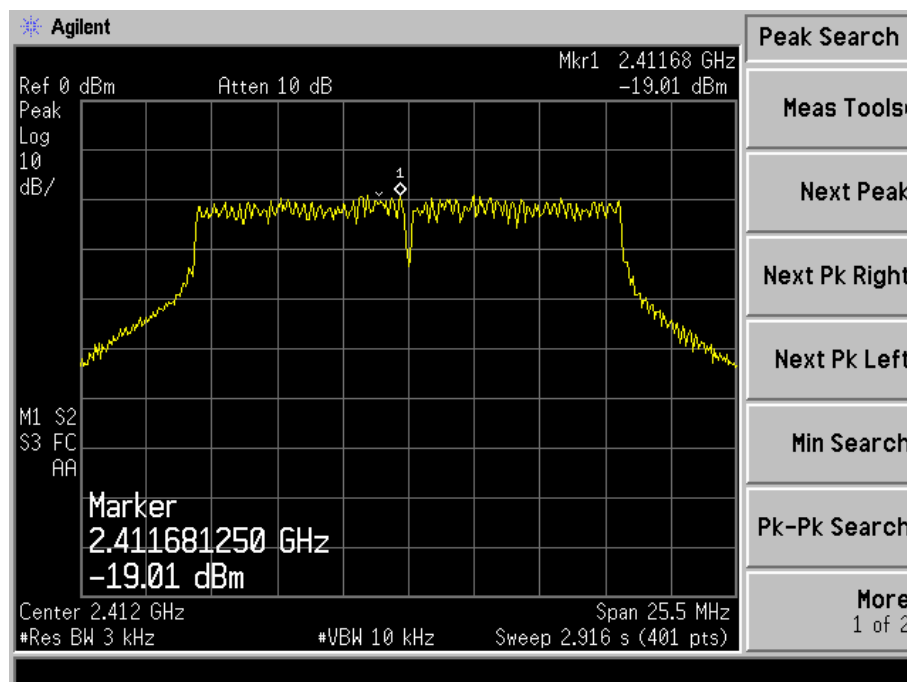
## 802.11b-Middle Channel



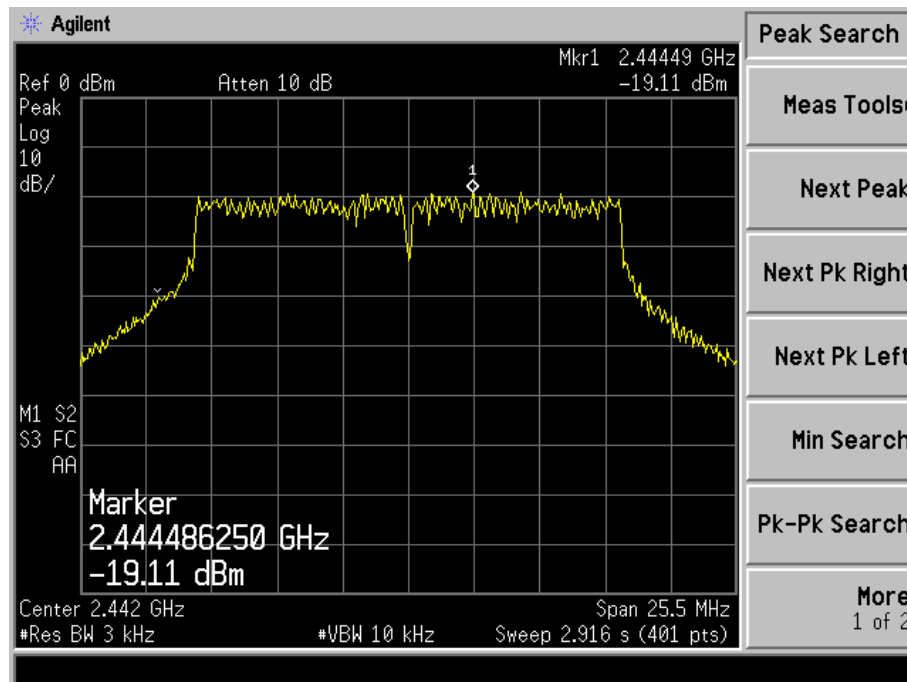
## 802.11b-High Channel



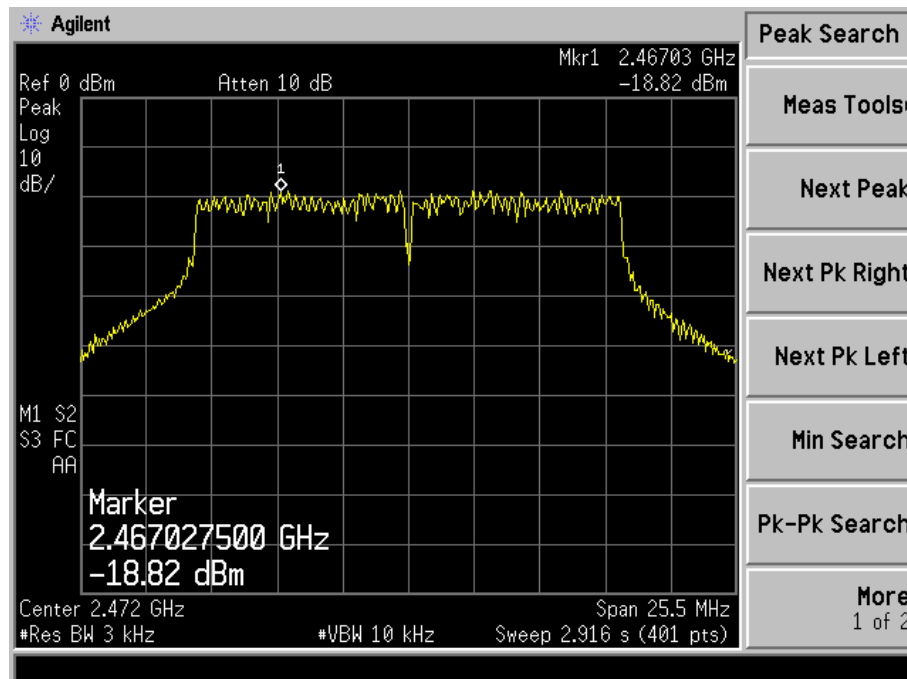
## 802.11g-Low Channel



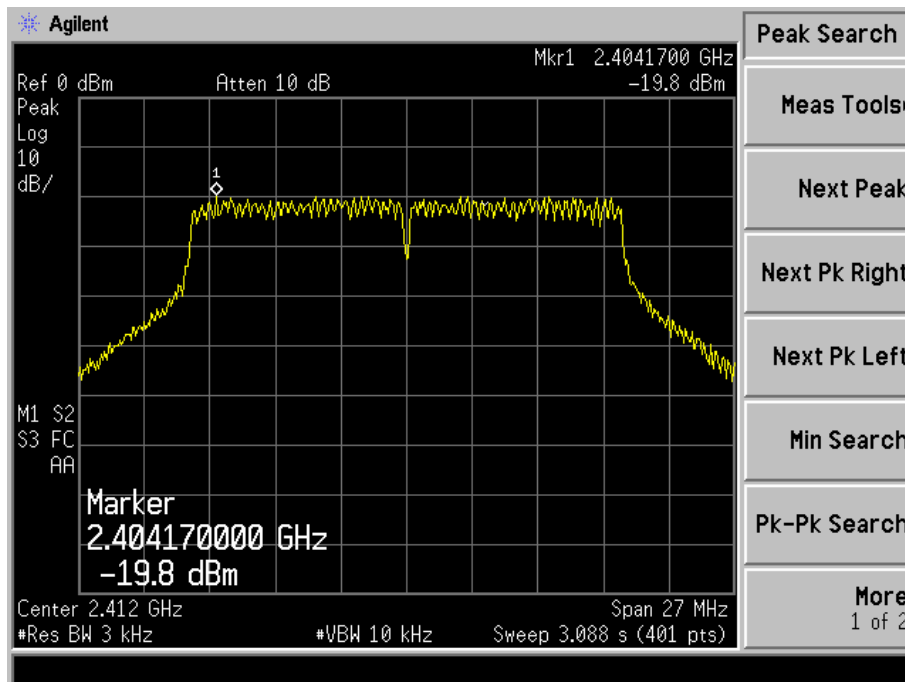
## 802.11g-Middle Channel



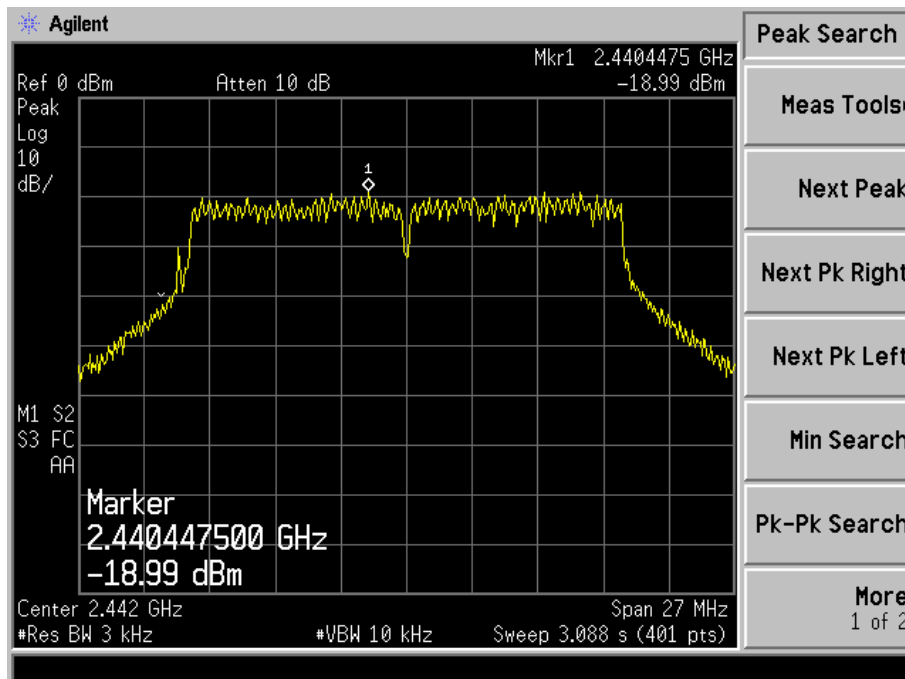
## 802.11g-High Channel



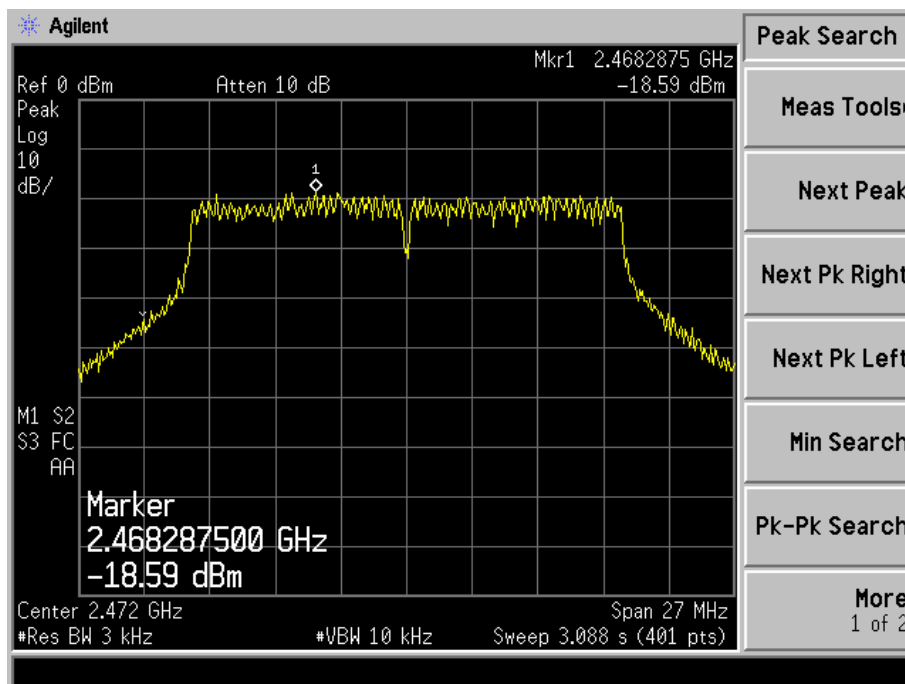
## 802.11n-HT20-Low Channel



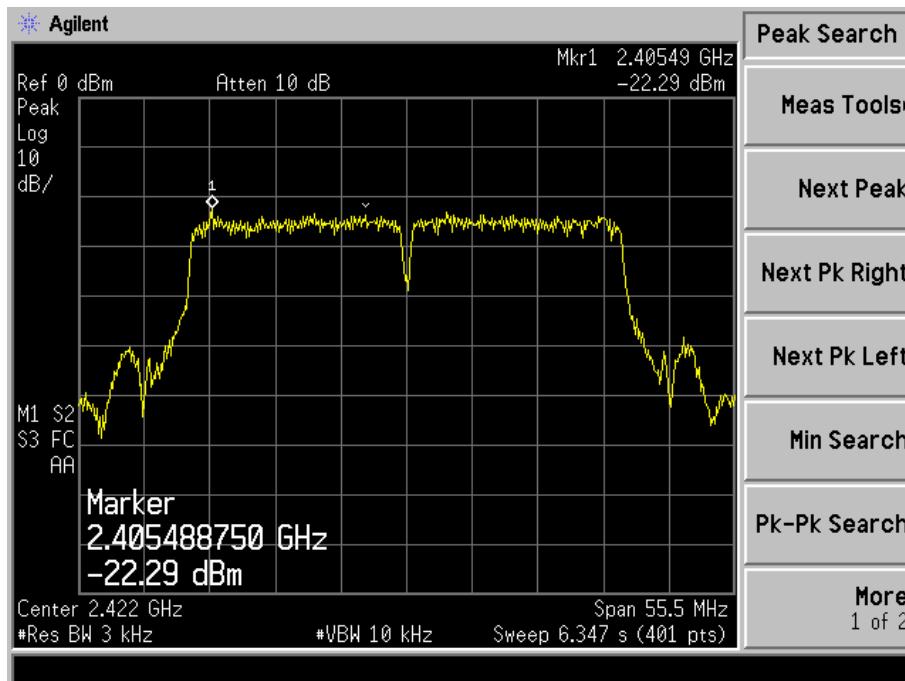
## 802.11n-HT20-Middle Channel



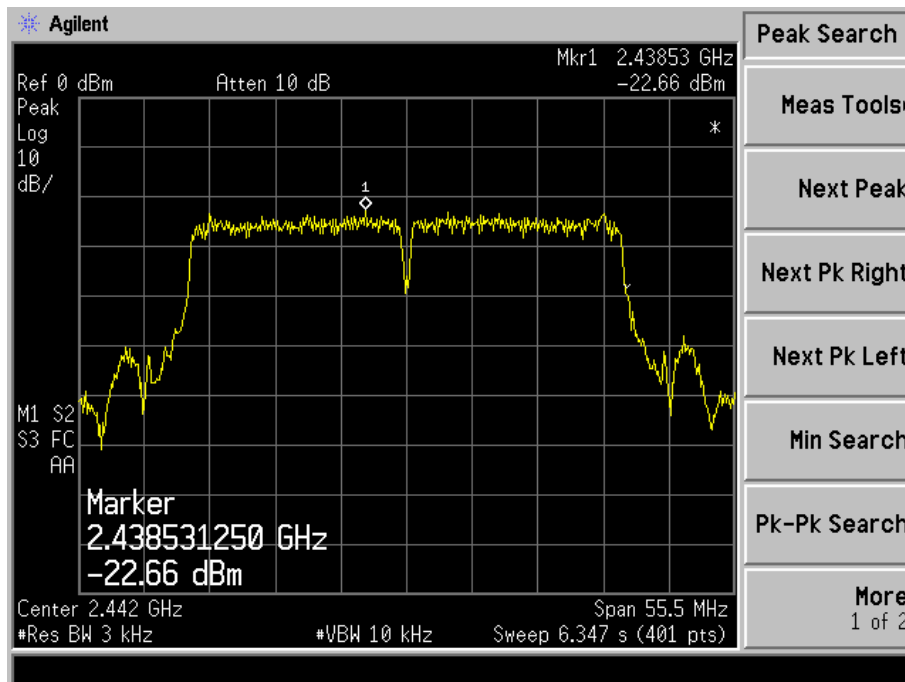
## 802.11n-HT20-High Channel



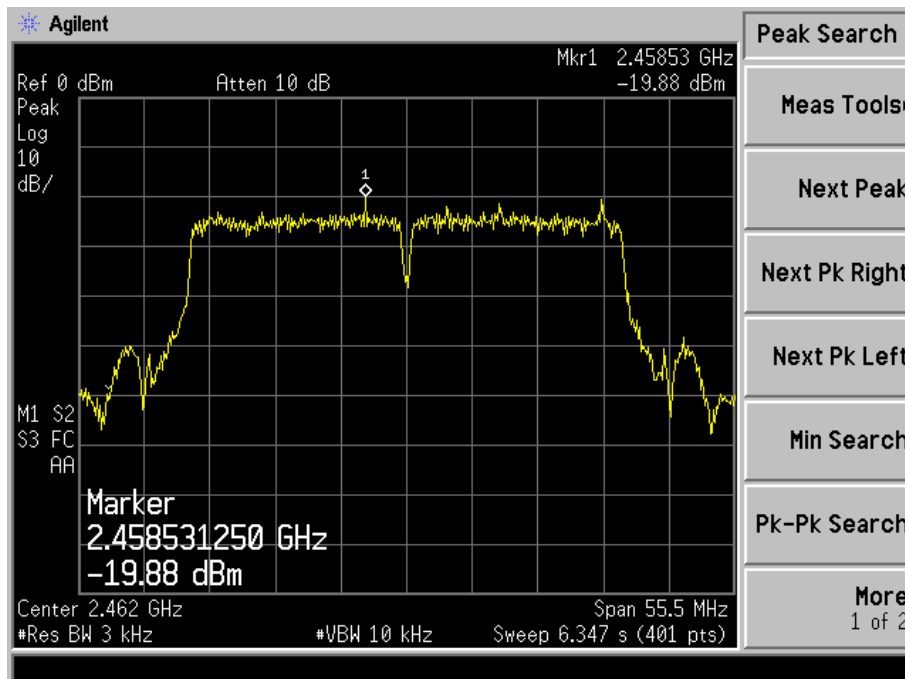
## 802.11n-HT40-Low Channel



## 802.11n-HT40-Middle Channel



## 802.11n-HT40-High Channel





## 6. 6dB Bandwidth

### 6.1 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.

### 6.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2014-05-28	2015-05-27
Attenuator	ATTEN	ATS100-4-20	/	2014-05-28	2015-05-27

### 6.3 Test Procedure

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 6.4 Environmental Conditions

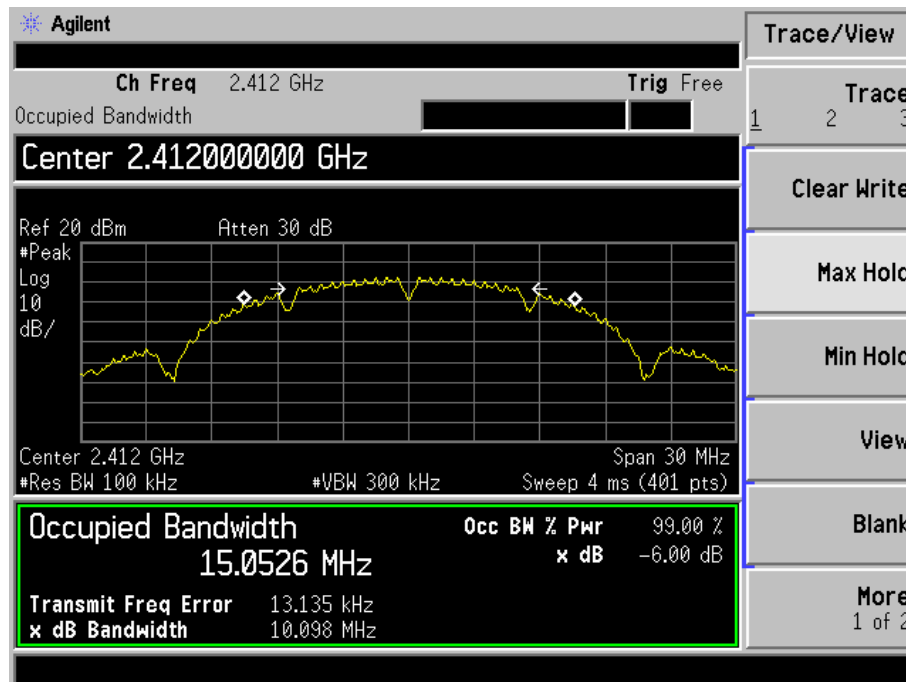
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

## 6.5 Summary of Test Results/Plots

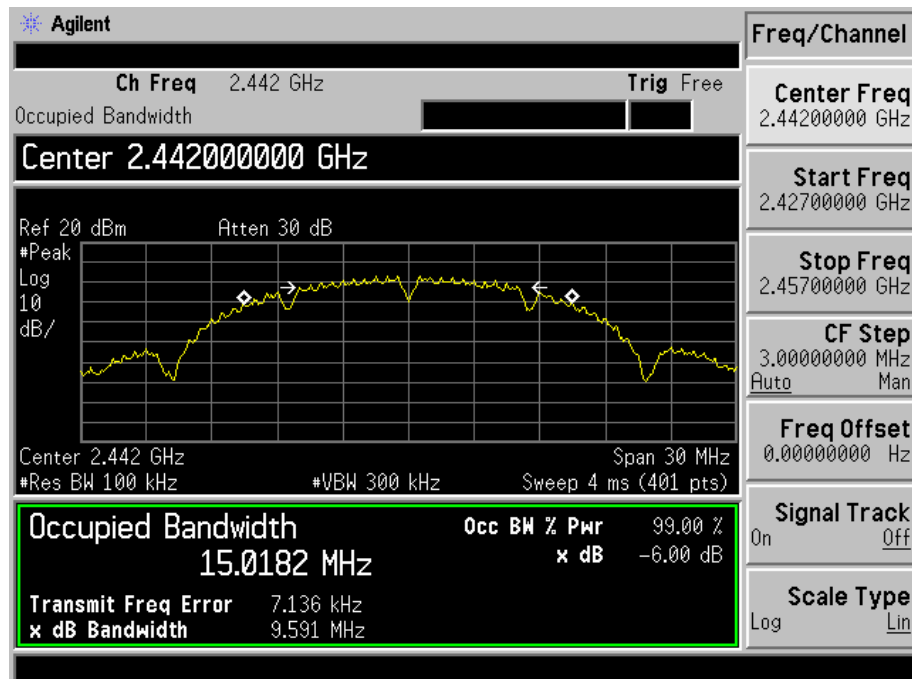
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	99% Bandwidth kHz	Limit kHz
802.11b	2412	10098	15052.6	500
	2442	9591	15018.2	500
	2472	9143	15037.5	500
802.11g	2412	16569	16497.9	500
	2442	16574	16484.7	500
	2472	16572	16476.5	500
802.11n-HT20	2412	17827	17713.3	500
	2442	17867	17716.1	500
	2472	17844	17712.7	500
802.11n-HT40	2422	36504	36128.9	500
	2442	36548	36129.2	500
	2462	36516	36083.8	500

Please refer to the following test plots:

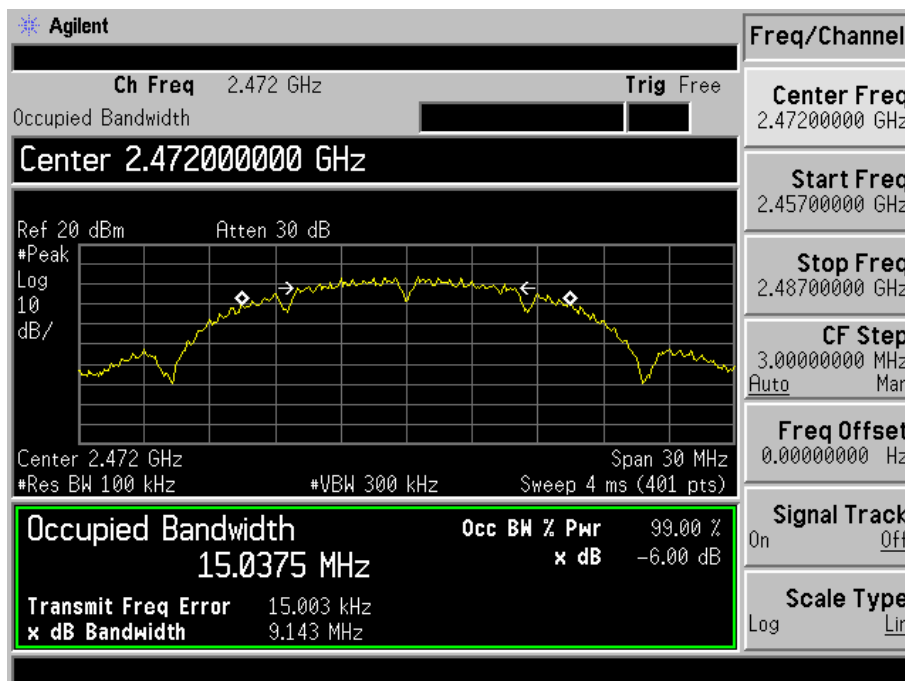
## 802.11b-Low Channel



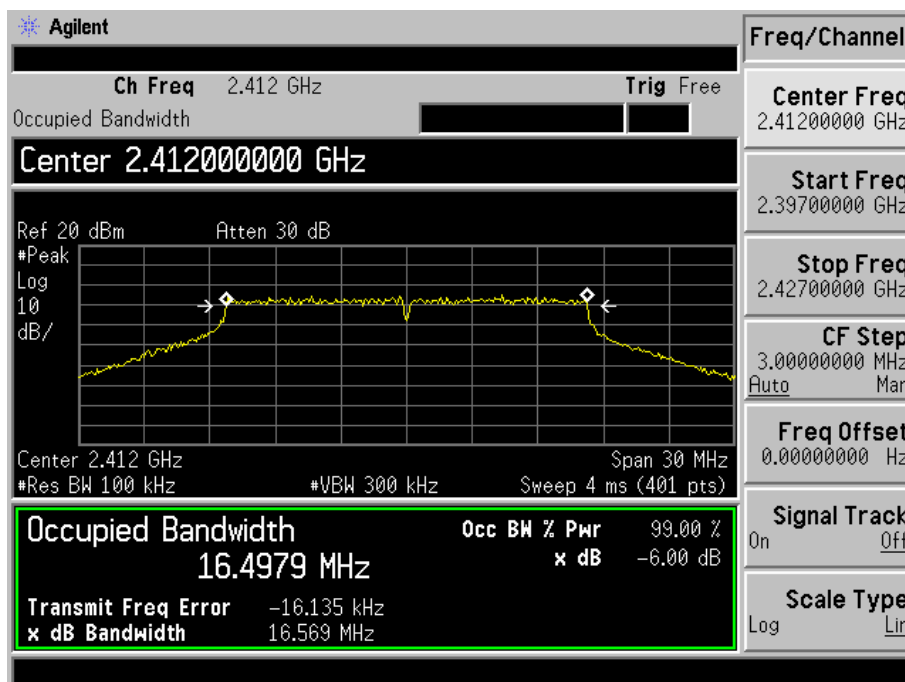
## 802.11b-Middle Channel



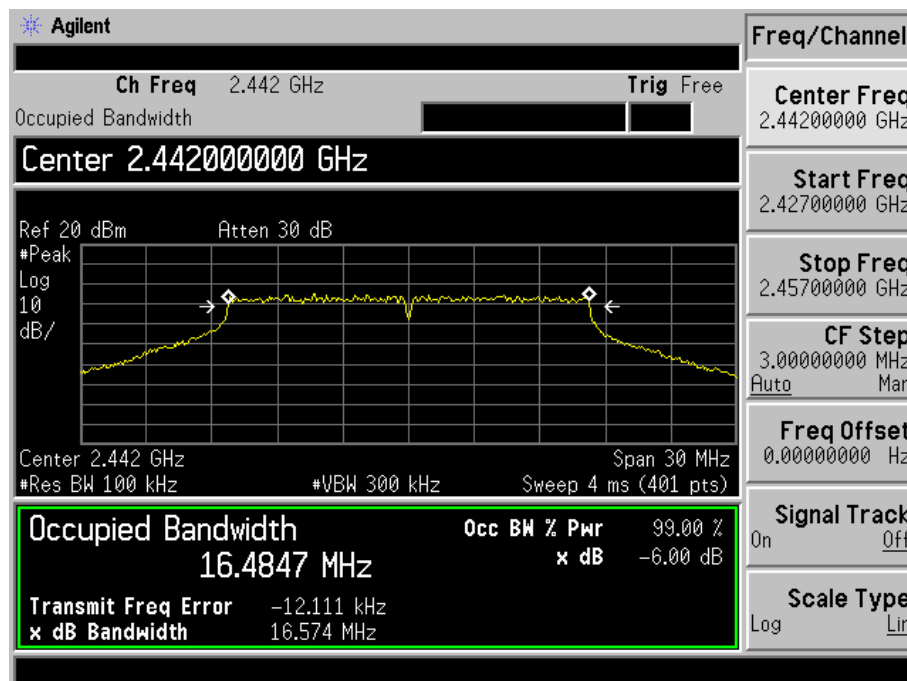
## 802.11b-High Channel



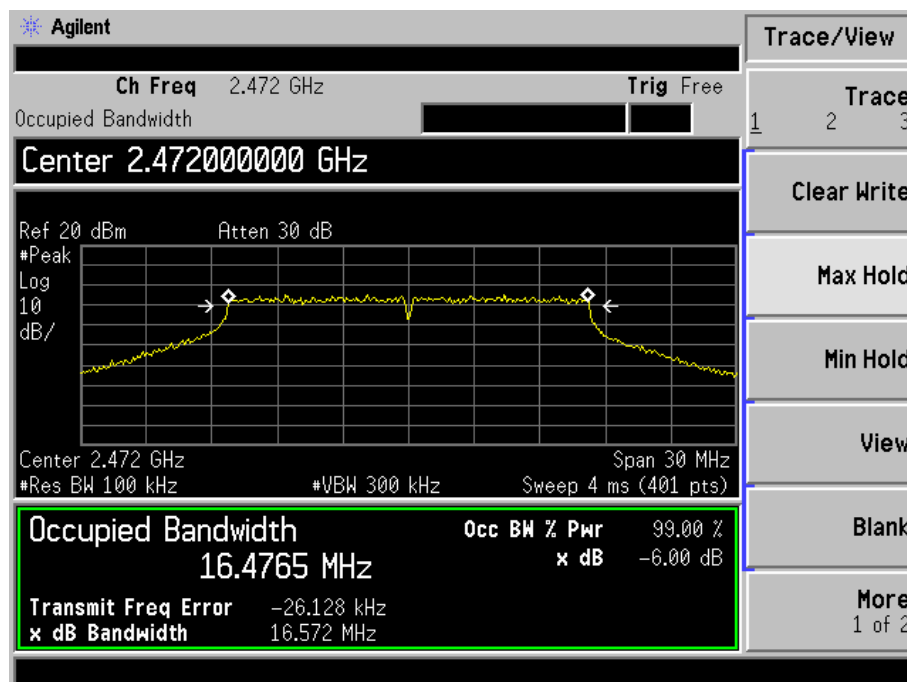
## 802.11g-Low Channel



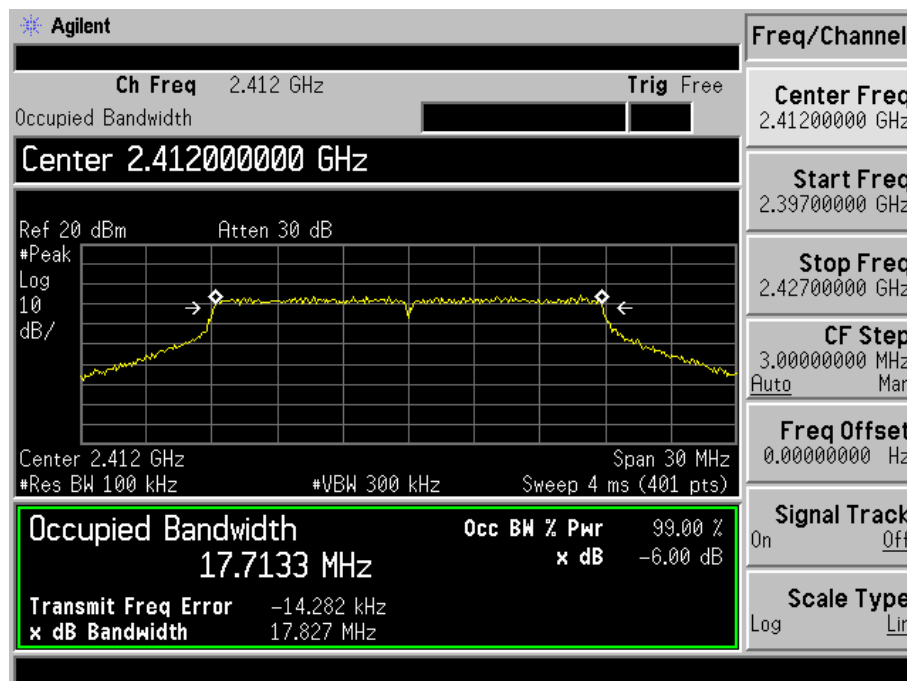
## 802.11g-Middle Channel



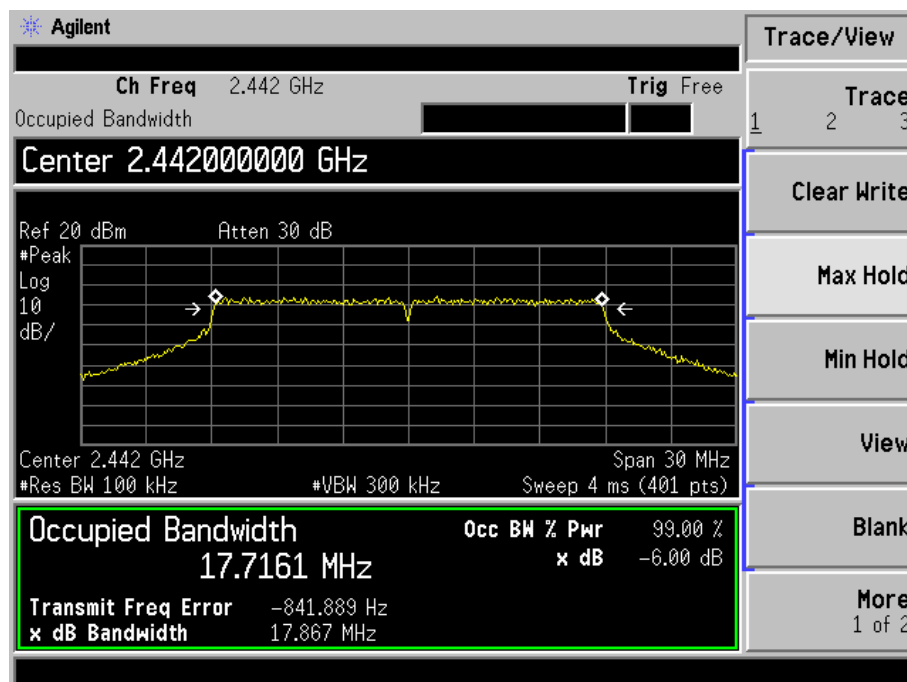
## 802.11g-High Channel



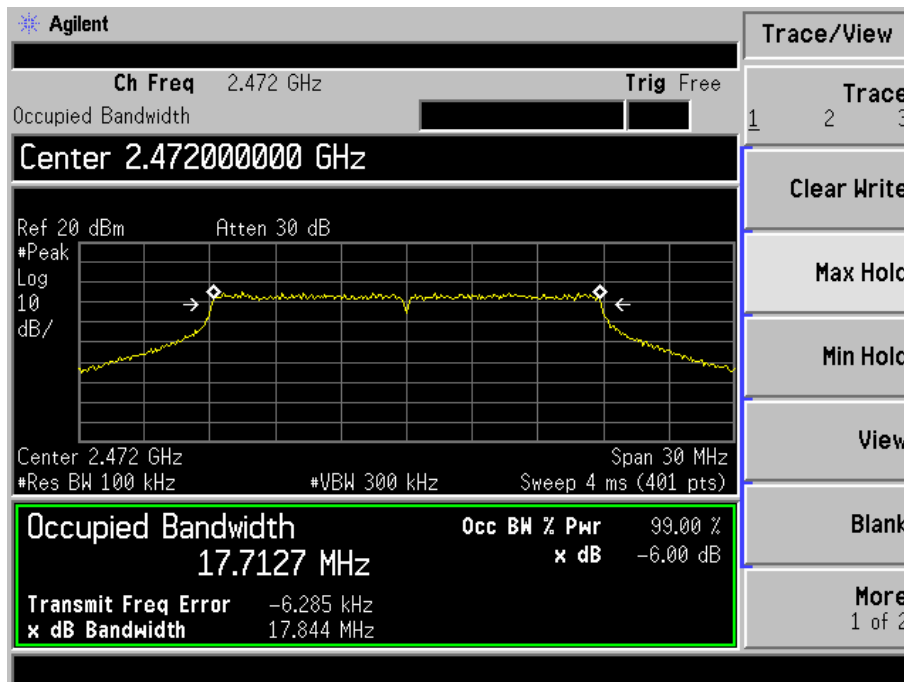
## 802.11n-HT20-Low Channel



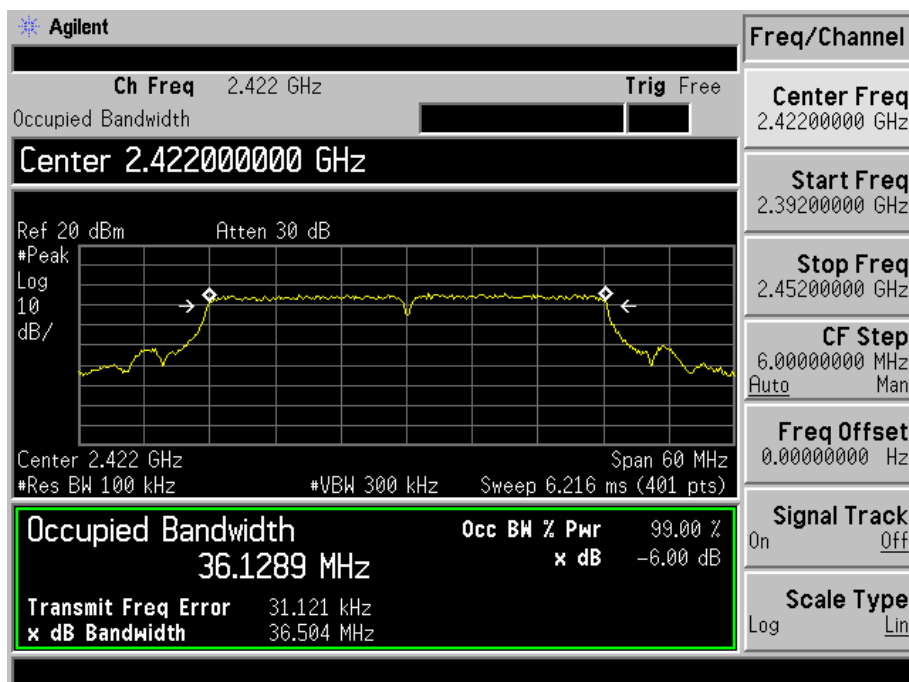
## 802.11n-HT20-Middle Channel



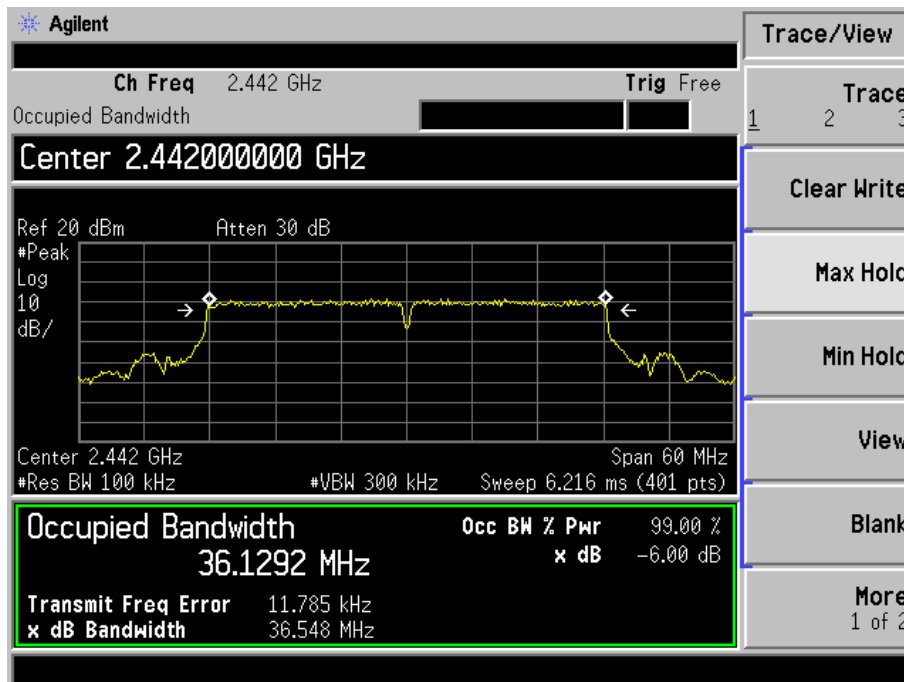
## 802.11n-HT20-High Channel



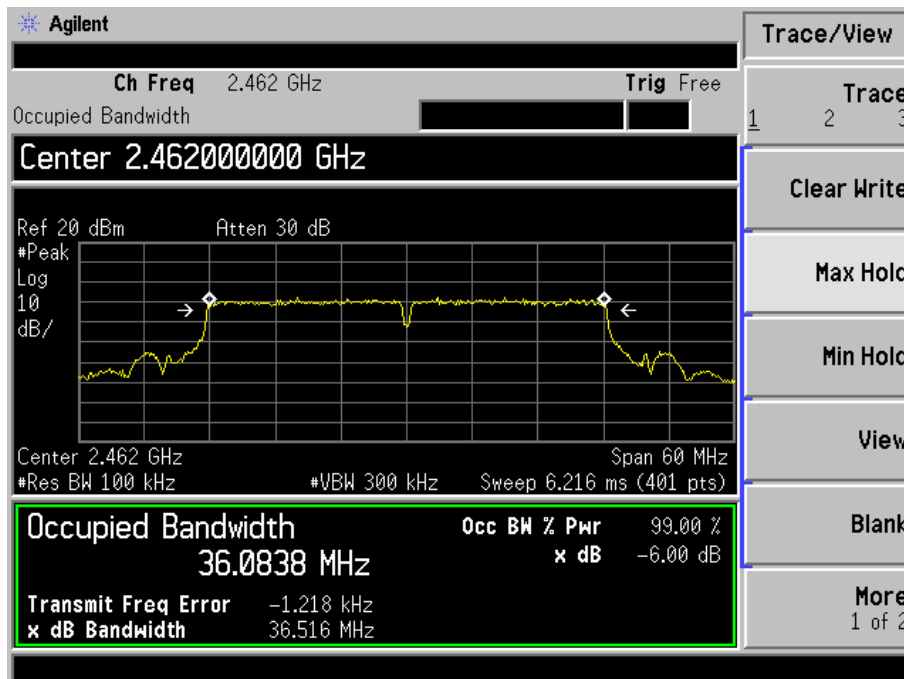
## 802.11n-HT40-Low Channel



## 802.11n-HT40-Middle Channel



## 802.11n-HT40-High Channel





## 7. RF Output Power

### 7.1 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.

### 7.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2014-05-28	2015-05-27
Attenuator	ATTEN	ATS100-4-20	/	2014-05-28	2015-05-27

### 7.3 Test Procedure

According to section 15.247(b)-power output of the KDB-558074 D01 V03r02, 9.2.2.2 (channel integration method) When this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth

- Set span to at least 1.5 times the OBW.
- Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
- Set VBW  $\geq 3 \times$  RBW.
- Number of points in sweep  $\geq 2 \times$  span / RBW. (This gives bin-to-bin spacing  $\leq$  RBW/2, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto.
- Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- If transmit duty cycle  $< 98\%$ , use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle  $\geq 98\%$ , and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
- Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

### 7.4 Environmental Conditions

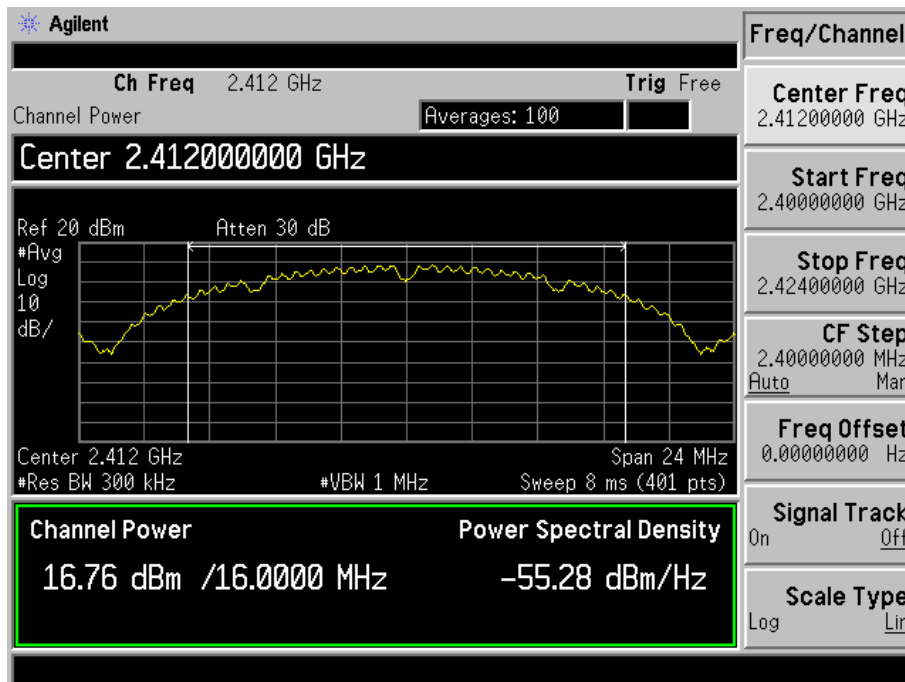
Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

## 7.5 Summary of Test Results/Plots

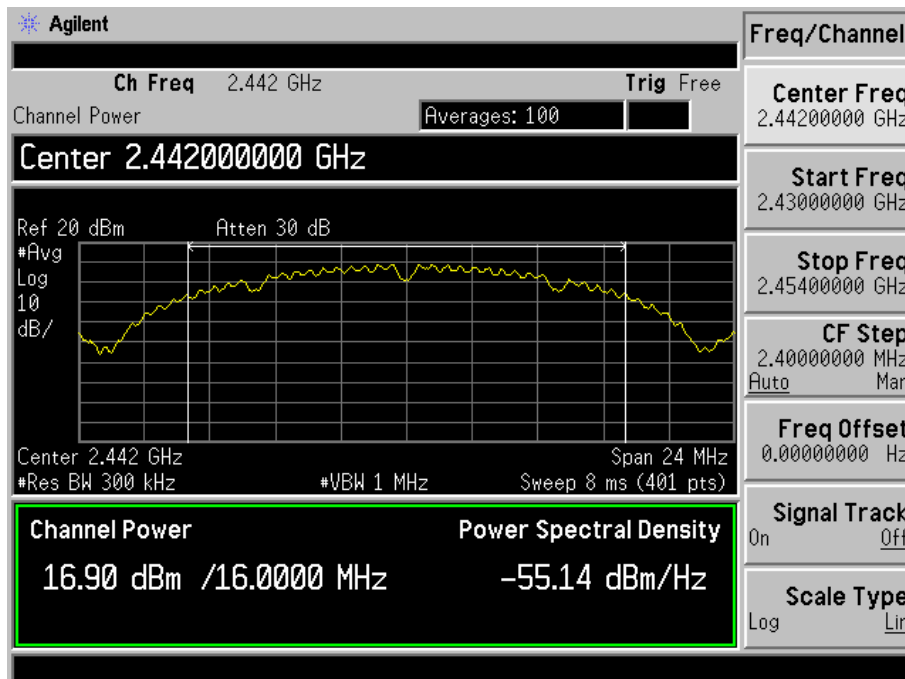
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b_11Mbps	2412	16.76	47.42	1000
	2442	16.90	48.98	1000
	2472	17.04	50.58	1000
802.11g_54Mbps	2412	12.41	17.42	1000
	2442	12.98	19.86	1000
	2472	13.25	21.13	1000
802.11n HT20_MCS7	2412	12.82	19.14	1000
	2442	13.04	20.14	1000
	2472	13.13	20.56	1000
802.11n HT40_MCS7	2422	11.69	14.76	1000
	2442	11.73	14.89	1000
	2462	11.88	15.42	1000

Please refer to the following test plots:

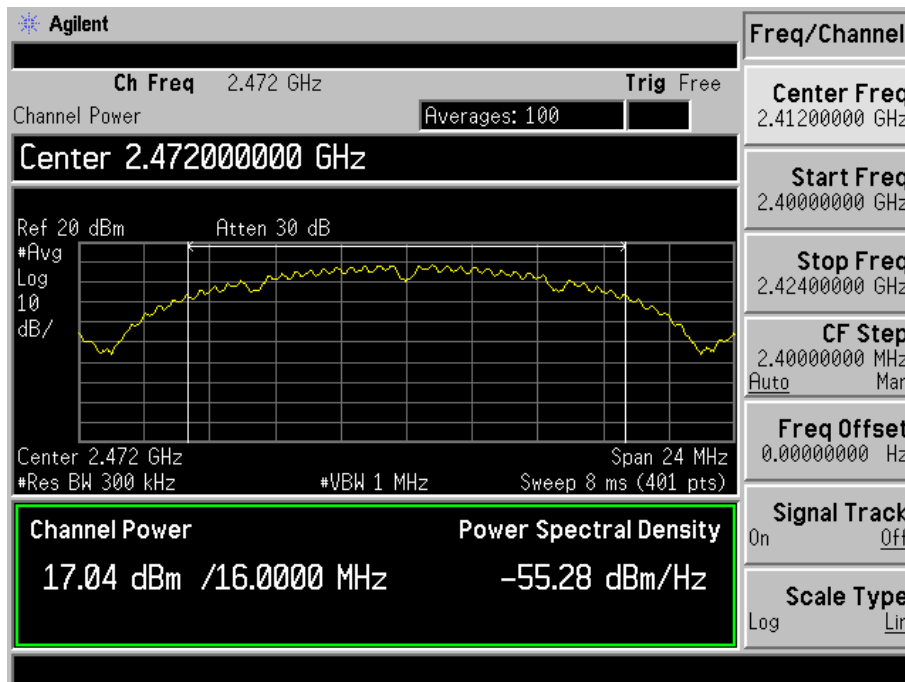
## 802.11b-Low Channel



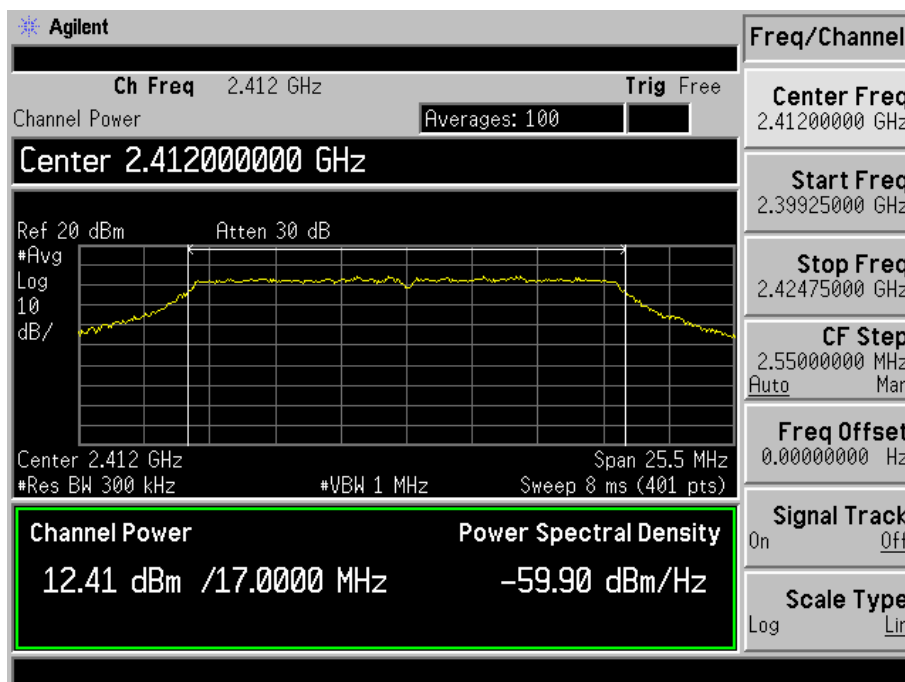
## 802.11b -Middle Channel



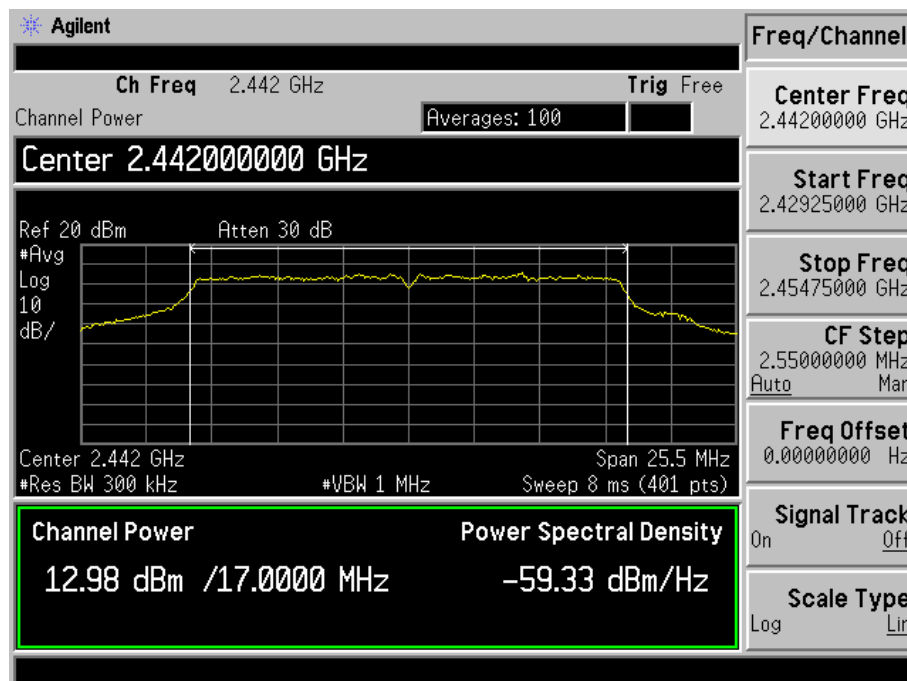
## 802.11b -1Mbps-High Channel



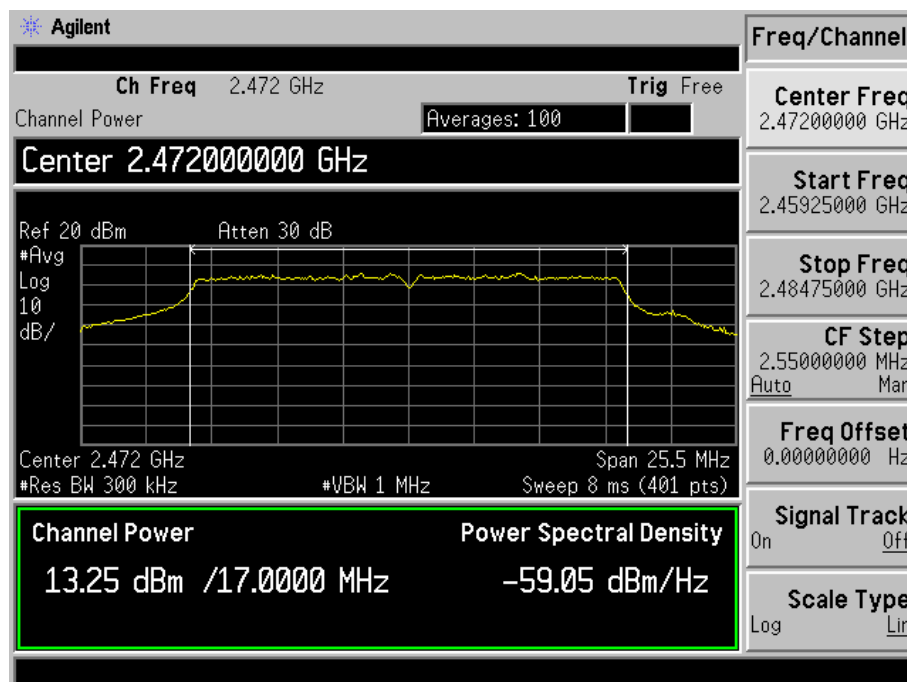
## 802.11g-Low Channel



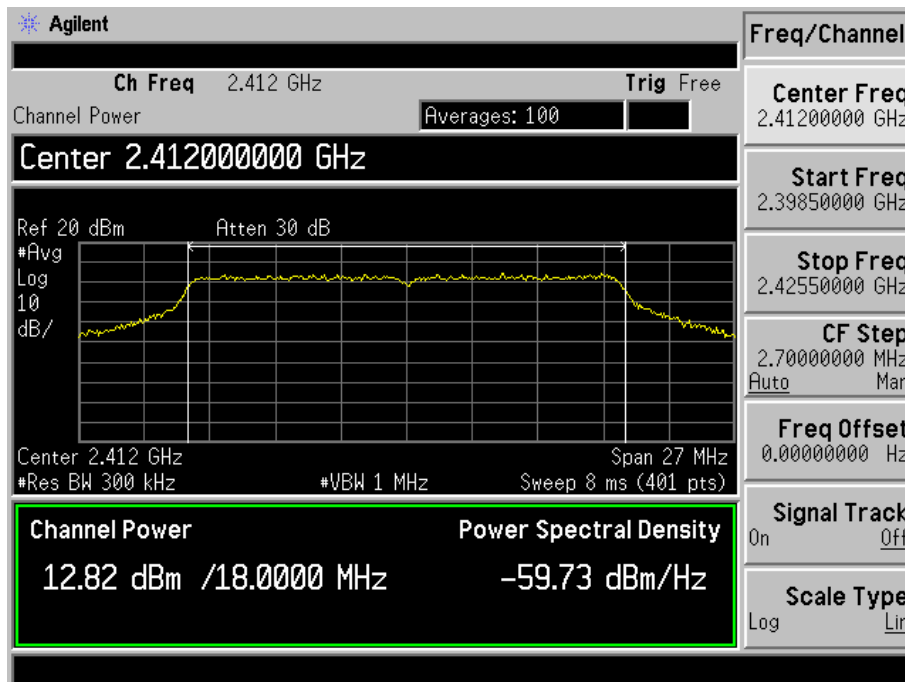
## 802.11g-Middle Channel



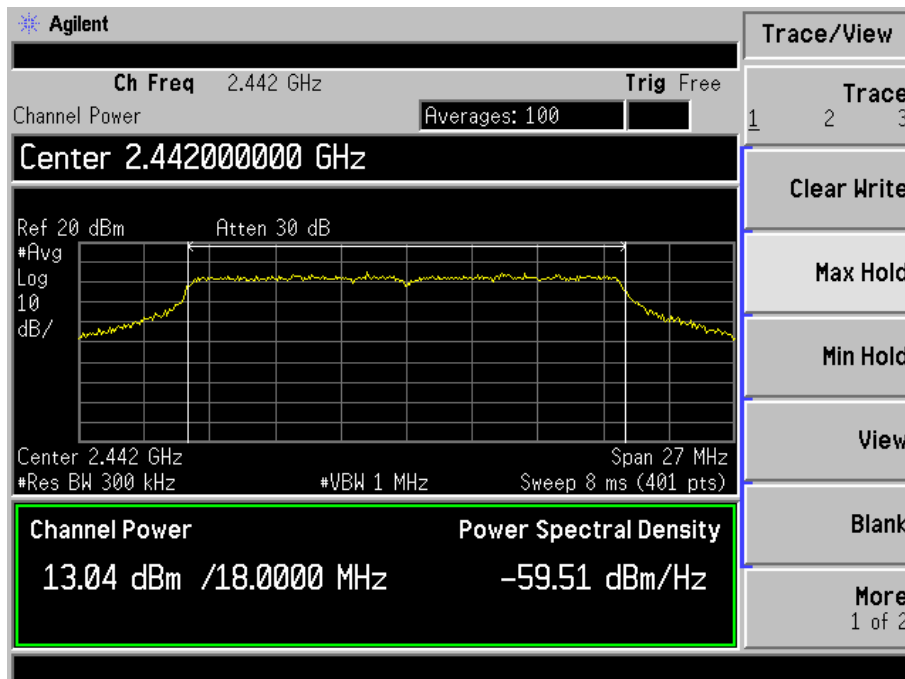
## 802.11g-High Channel



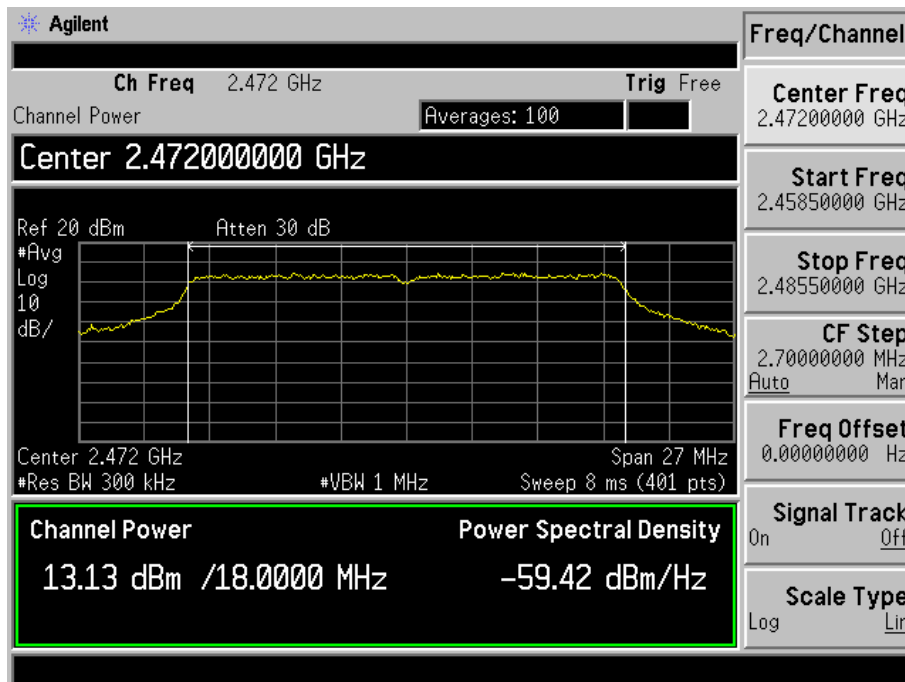
## 802.11n-HT20-Low Channel



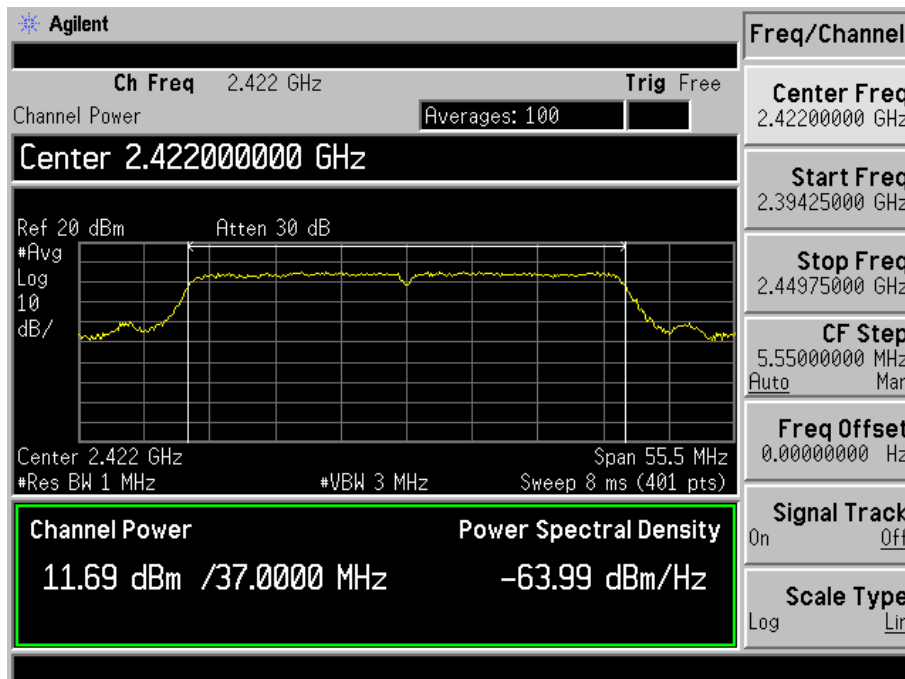
## 802.11n-HT20-Middle Channel



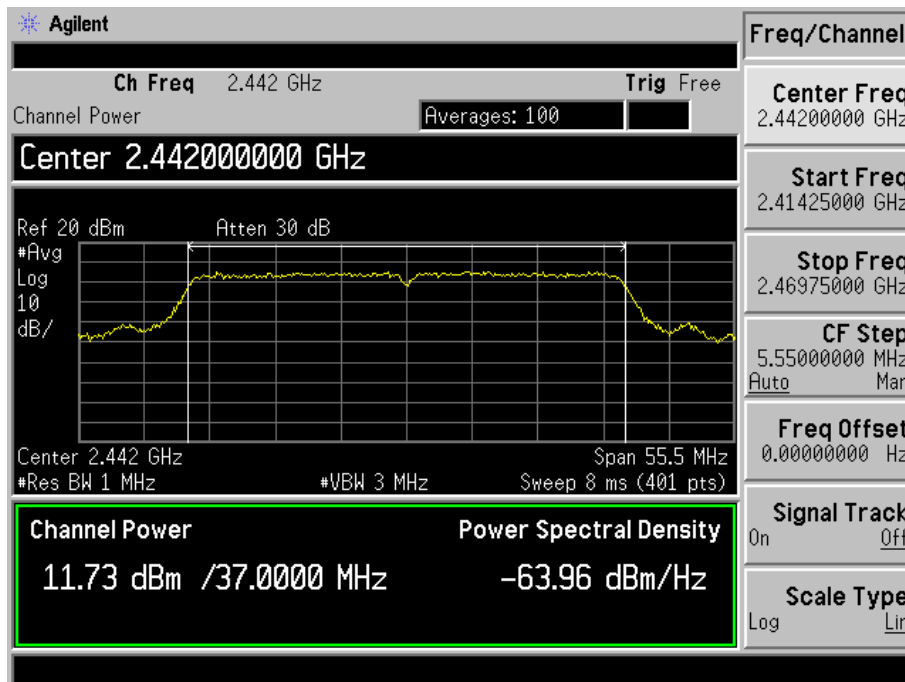
## 802.11n-HT20--High Channel



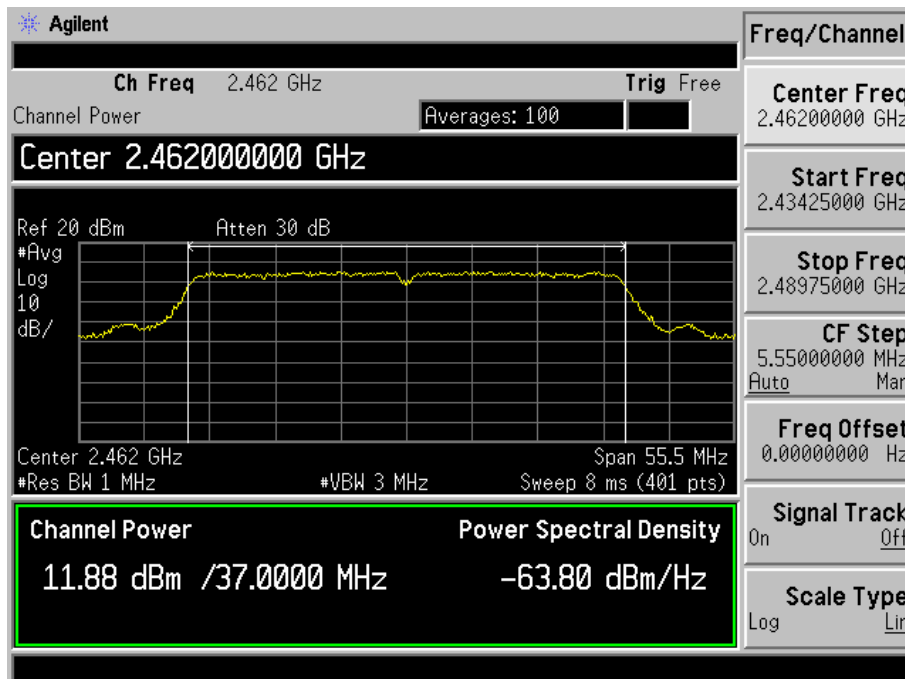
## 802.11n-HT40-Low Channel



## 802.11n-HT40-Middle Channel



## 802.11n-HT40-High Channel





## 8. Field Strength of Spurious Emissions

### 8.1 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.

### 8.2 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.

### 8.3 Test Equipment List and Details

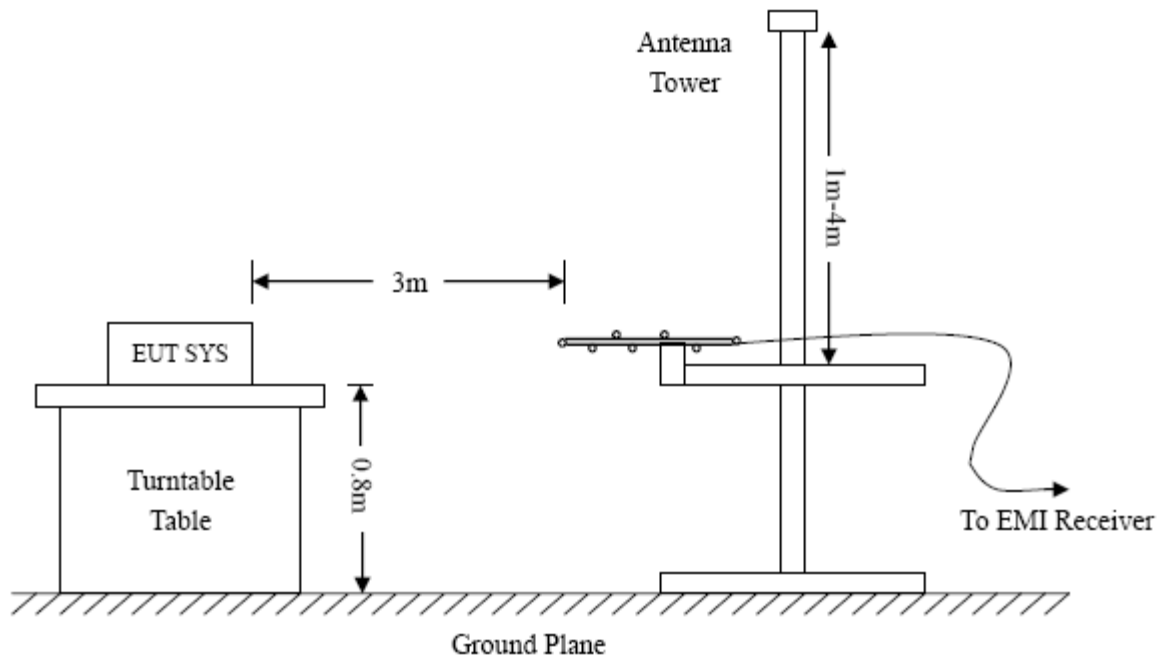
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2014-05-28	2015-05-27
EMI Test Receiver	R&S	ESVB	825471/005	2014-05-28	2015-05-27
Pre-amplifier	Agilent	8447F	3113A06717	2014-05-28	2015-05-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2014-05-28	2015-05-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2014-05-24	2015-05-23
Horn Antenna	ETS	3117	00086197	2014-05-24	2015-05-23
Horn Antenna	ETS	3116B	00088203	2014-05-24	2015-05-23
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2014-05-24	2015-05-23

## 8.4 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.



Frequency :9kHz-30MHz

RBW=10KHz,

VBW =30KHz

Sweep time= Auto

Trace = max hold

Detector function = peak

Frequency :30MHz-1GHz

RBW=120KHz,

VBW=300KHz

Sweep time= Auto

Trace = max hold

Detector function = peak, QP

Frequency :Above 1GHz

RBW=1MHz,

VBW=3MHz(Peak), 10Hz(AV)

Sweep time= Auto

Trace = max hold

Detector function = peak, AV

## 8.5 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:

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

## 8.6 Environmental Conditions

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

## 8.7 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 cases:

*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)

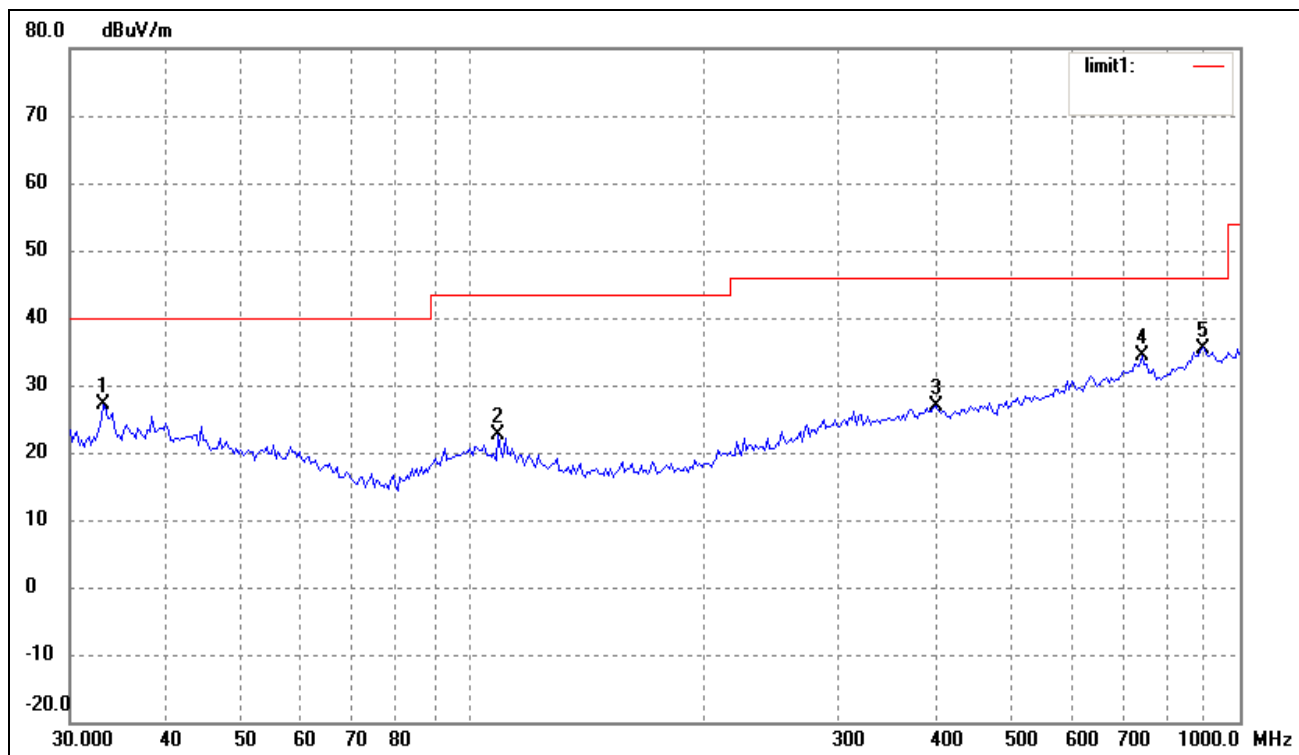
EUT: Tablet PC

Tested Model: M77GH2(AP)

Operating Condition: 802.11b Transmitting Low Channel-2412MHz

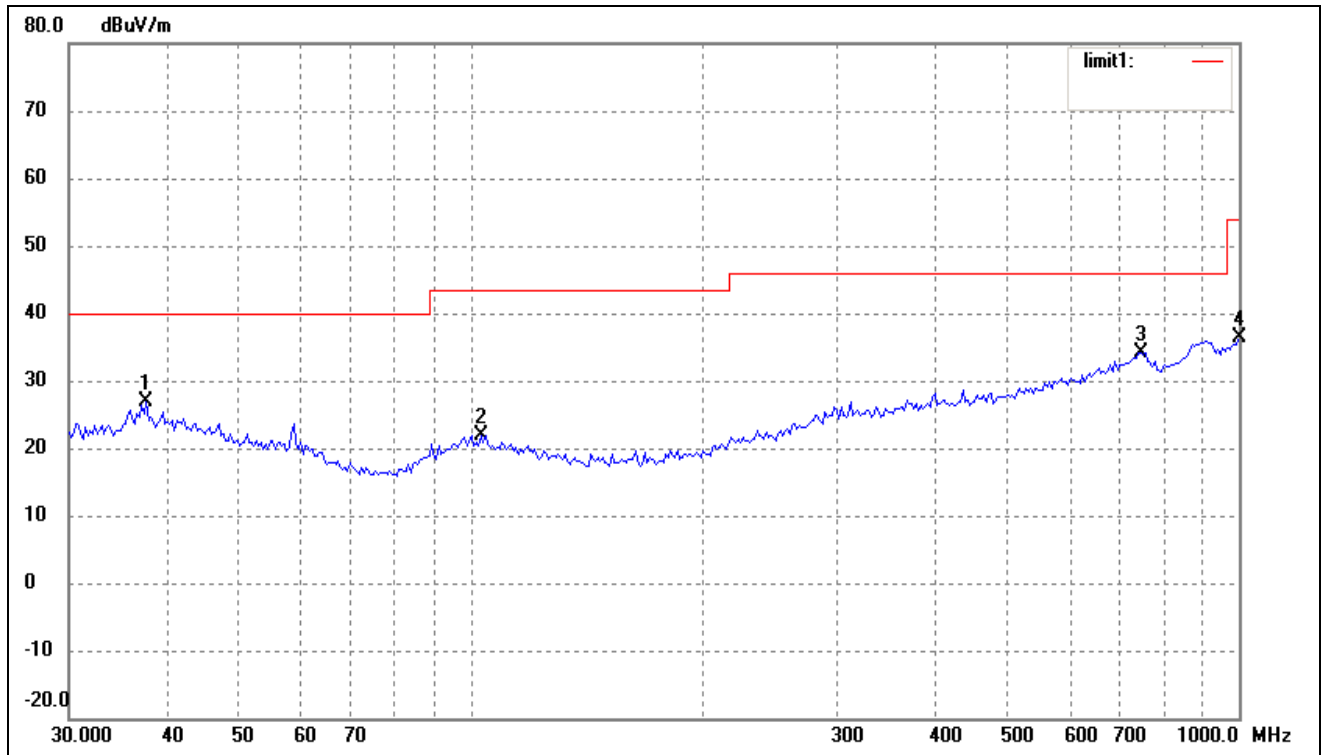
Comment: DC 3.7V Battery

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	33.0950	18.58	8.56	27.14	40.00	-12.86	254	100	peak
2	108.2667	16.51	6.02	22.53	43.50	-20.97	113	100	peak
3	401.8385	15.51	11.47	26.98	46.00	-19.02	284	100	peak
4	744.8661	16.35	17.95	34.30	46.00	-11.70	360	100	peak
5	893.8567	16.23	19.27	35.50	46.00	-10.50	100	100	peak

Test Specification: Vertical

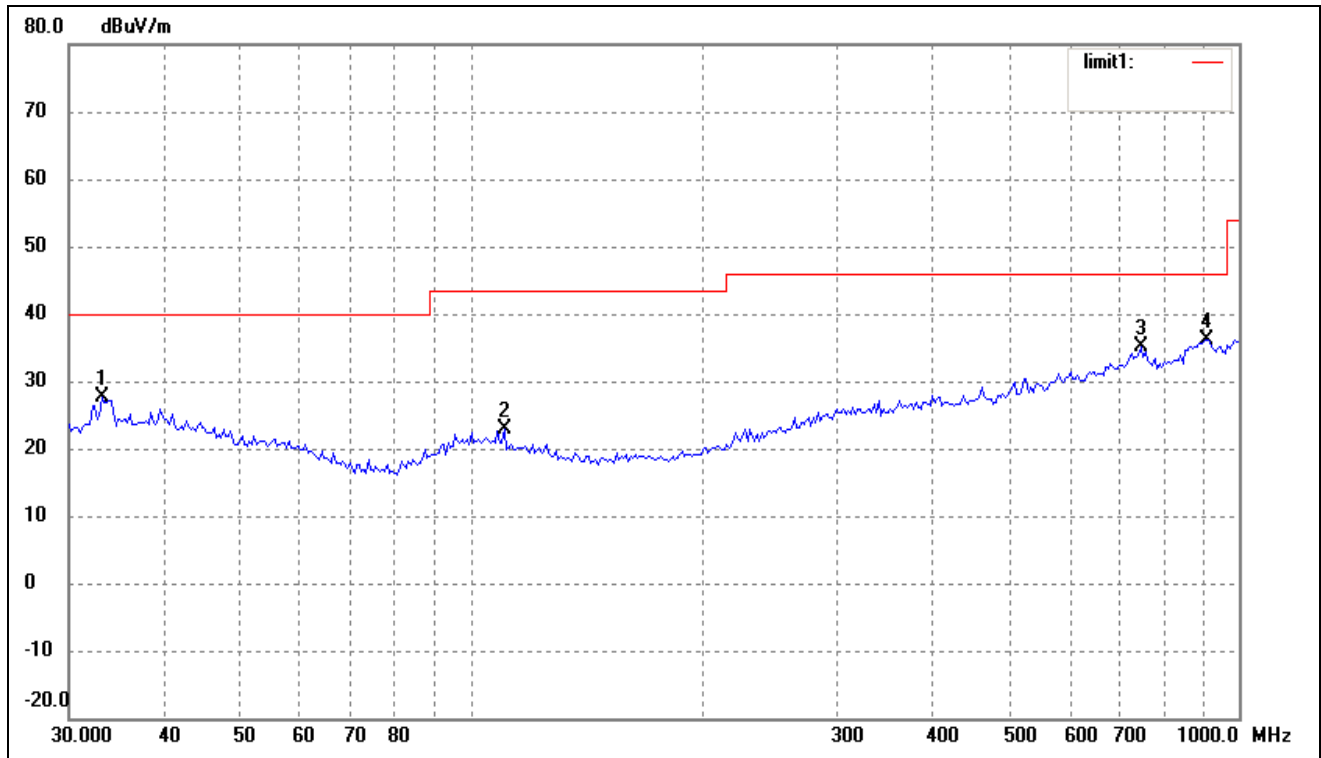


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	37.8121	17.52	9.33	26.85	40.00	-13.15	114	100	peak
2	103.0800	15.37	6.54	21.91	43.50	-21.59	270	100	peak
3	744.8661	16.16	17.95	34.11	46.00	-11.89	360	100	peak
4	1000.0000	16.41	19.90	36.31	54.00	-17.69	116	100	peak

Operating Condition: 802.11b Transmitting Middle Channel-2442MHz

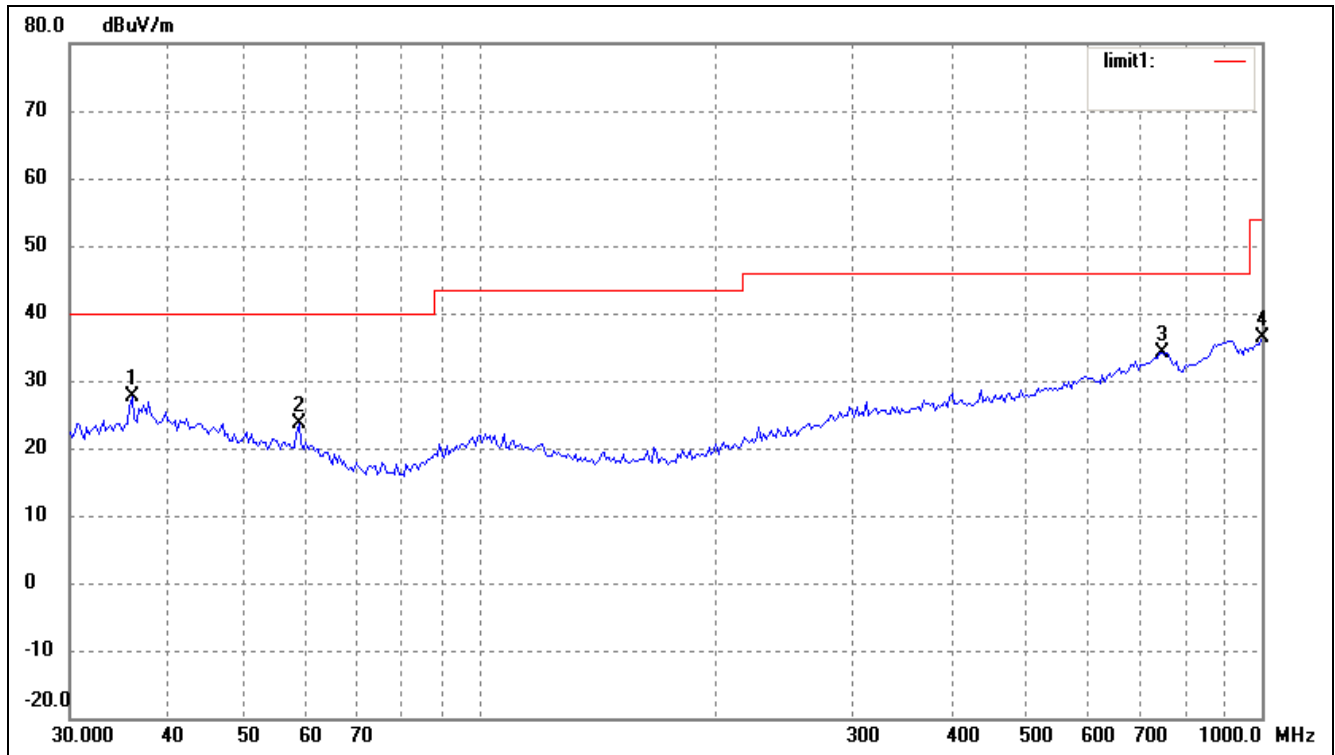
Comment: DC 3.7V battery

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	33.0950	19.05	8.56	27.61	40.00	-12.39	178	100	peak
2	110.5687	16.99	5.80	22.79	43.50	-20.71	224	100	peak
3	744.8661	17.06	17.95	35.01	46.00	-10.99	160	100	peak
4	906.4824	16.94	19.15	36.09	46.00	-9.91	290	100	peak

Test Specification: Vertical

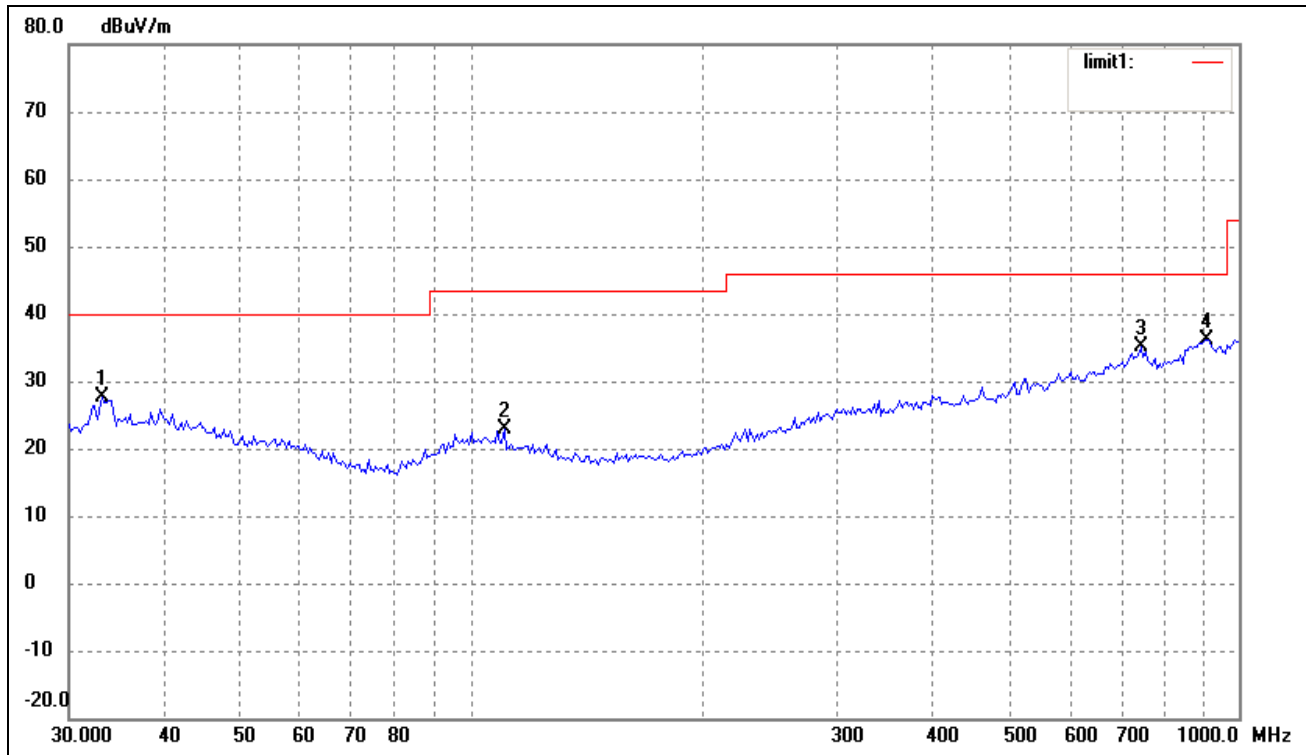


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	36.0007	18.59	9.04	27.63	40.00	-12.37	256	100	peak
2	58.8185	17.75	5.81	23.56	40.00	-16.44	360	100	peak
3	744.8661	16.16	17.95	34.11	46.00	-11.89	360	100	peak
4	1000.0000	16.41	19.90	36.31	54.00	-17.69	360	100	peak

Operating Condition: 802.11b Transmitting High Channel-2472MHz

Comment: DC 3.7V Battery

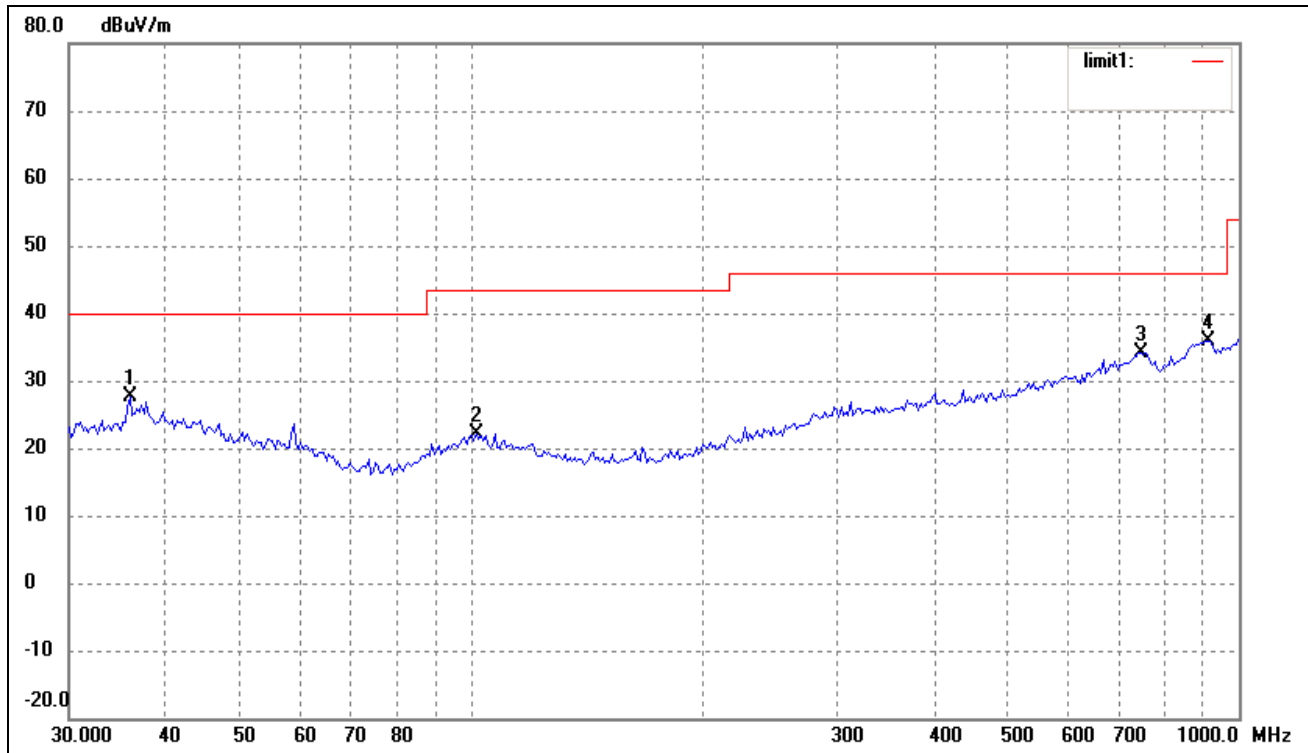
Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	33.0950	19.05	8.56	27.61	40.00	-12.39	176	100	peak
2	110.5687	16.99	5.80	22.79	43.50	-20.71	255	100	peak
3	744.8661	17.06	17.95	35.01	46.00	-10.99	360	100	peak
4	906.4824	16.94	19.15	36.09	46.00	-9.91	178	100	peak



Test Specification: Vertical

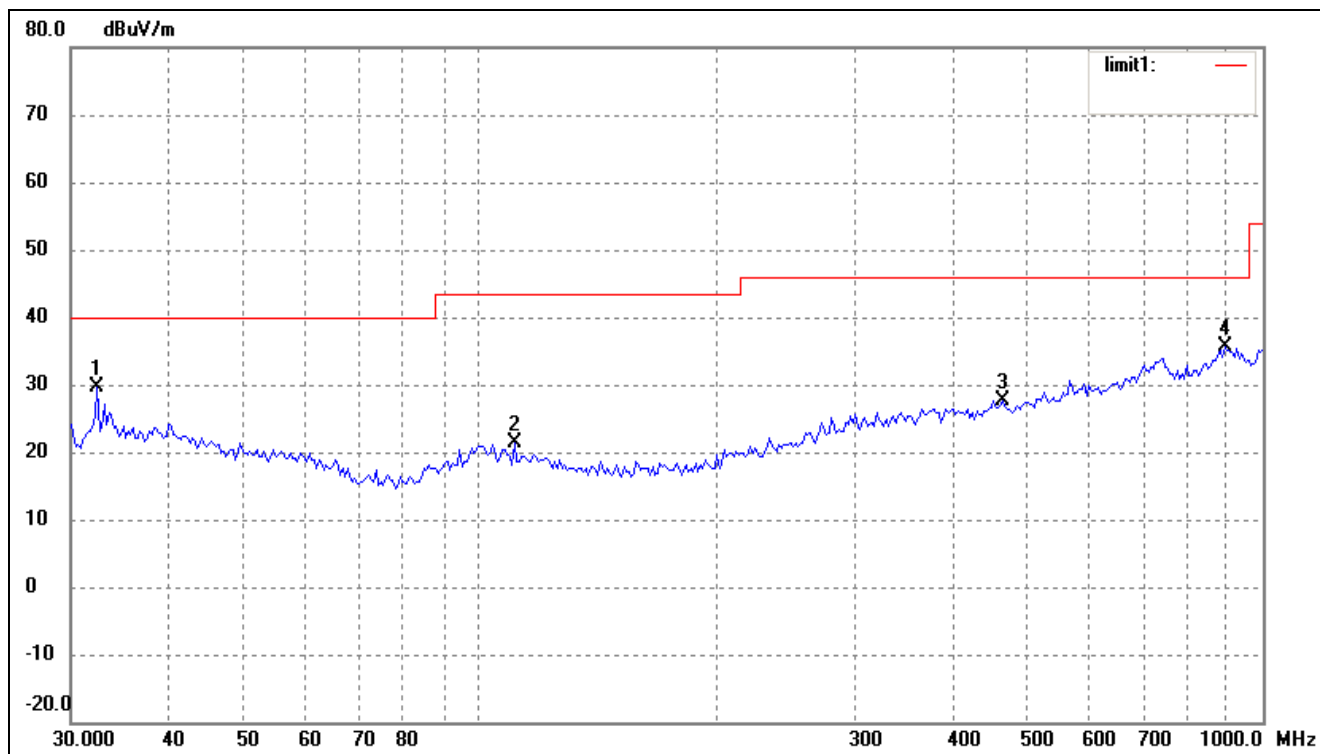


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( • )	(cm)	
1	36.0007	18.59	9.04	27.63	40.00	-12.37	360	100	peak
2	101.6443	15.50	6.67	22.17	43.50	-21.33	225	100	peak
3	744.8661	16.16	17.95	34.11	46.00	-11.89	160	100	peak
4	912.8620	16.92	18.93	35.85	46.00	-10.15	310	100	peak

### Plot of Radiated Emissions Test Data (30MHz to 1GHz)

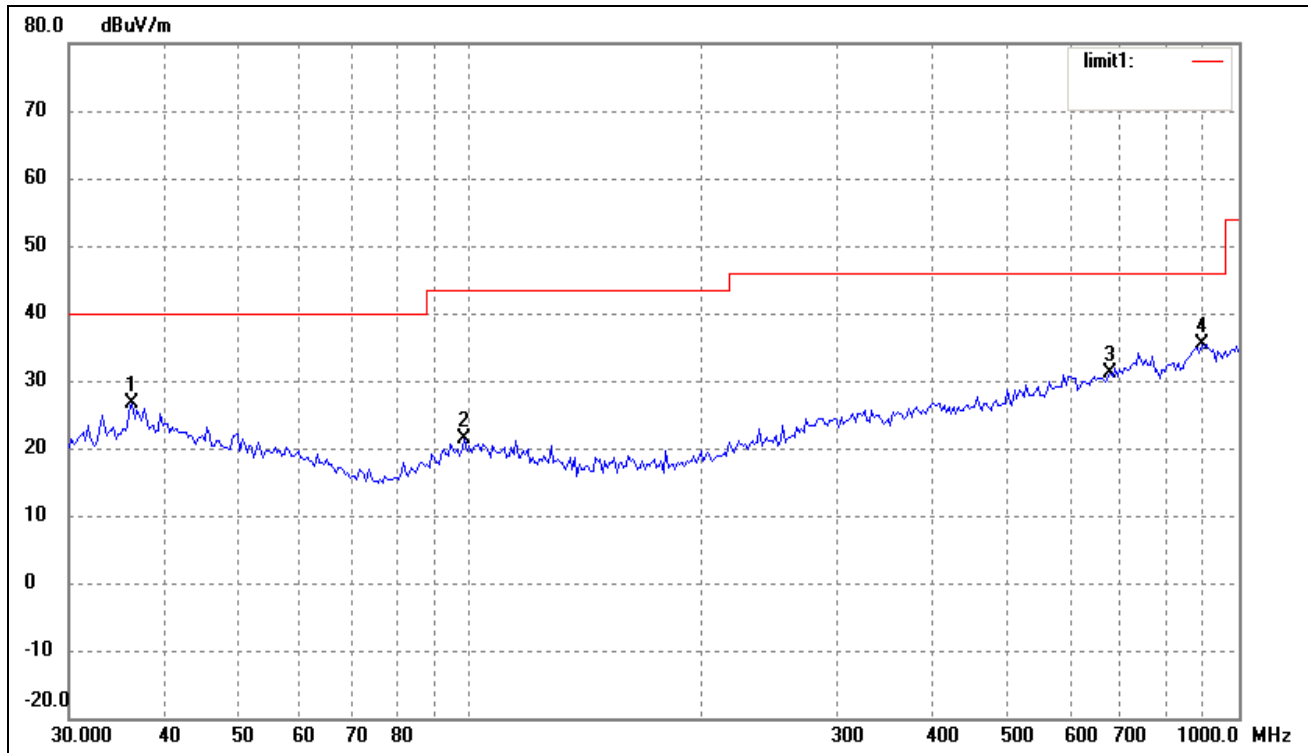
EUT: Tablet PC  
Tested Model: M77GH2(AP)  
Operating Condition: 802.11g Transmitting Low Channel-2412MHz  
Comment: DC 3.7V battery

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	32.4059	21.23	8.44	29.67	40.00	-10.33	174	100	peak
2	110.5687	15.56	5.80	21.36	43.50	-22.14	160	100	peak
3	465.5994	16.02	11.69	27.71	46.00	-18.29	320	100	peak
4	893.8567	16.34	19.27	35.61	46.00	-10.39	360	100	peak

Test Specification: Vertical

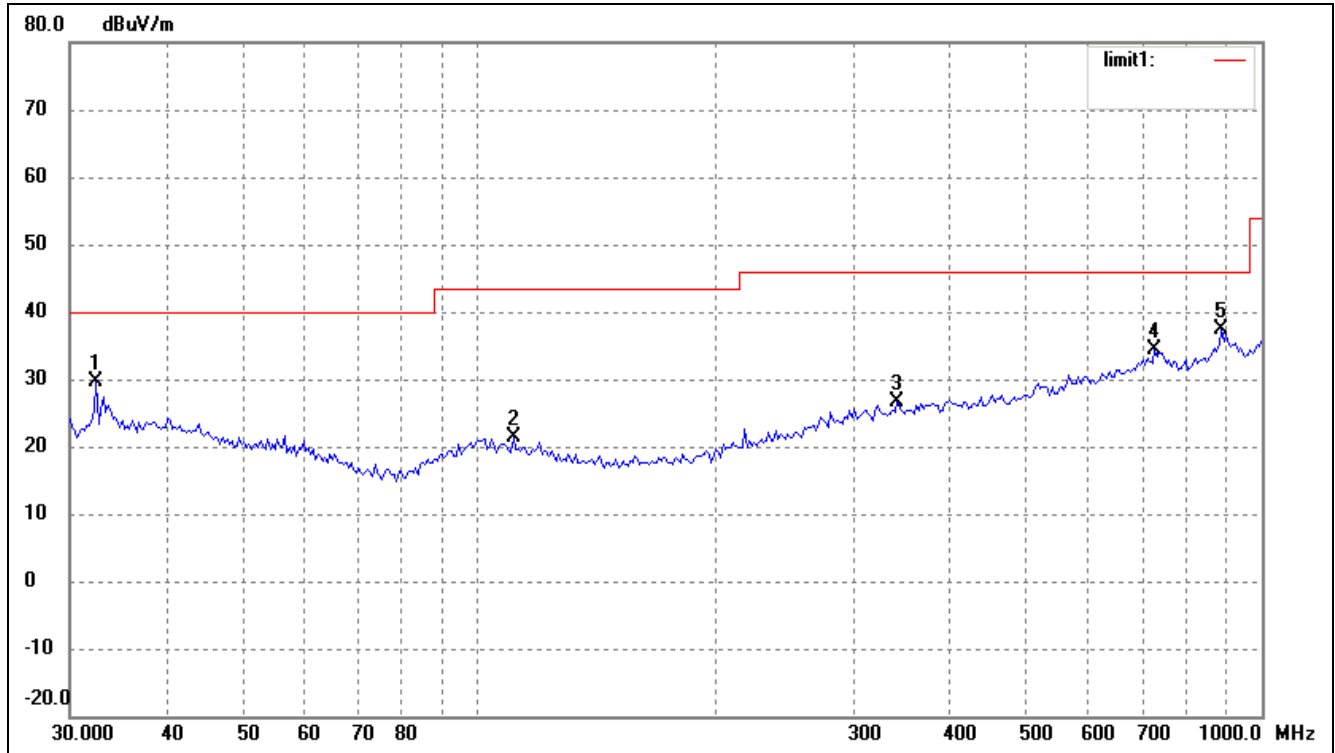


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	36.2541	17.45	9.09	26.54	40.00	-13.46	177	100	peak
2	98.1419	14.98	6.39	21.37	43.50	-22.13	90	100	peak
3	679.9600	15.48	15.55	31.03	46.00	-14.97	336	100	peak
4	893.8567	16.13	19.27	35.40	46.00	-10.60	360	100	peak

Operating Condition: 802.11g Transmitting Middle Channel-2442MHz

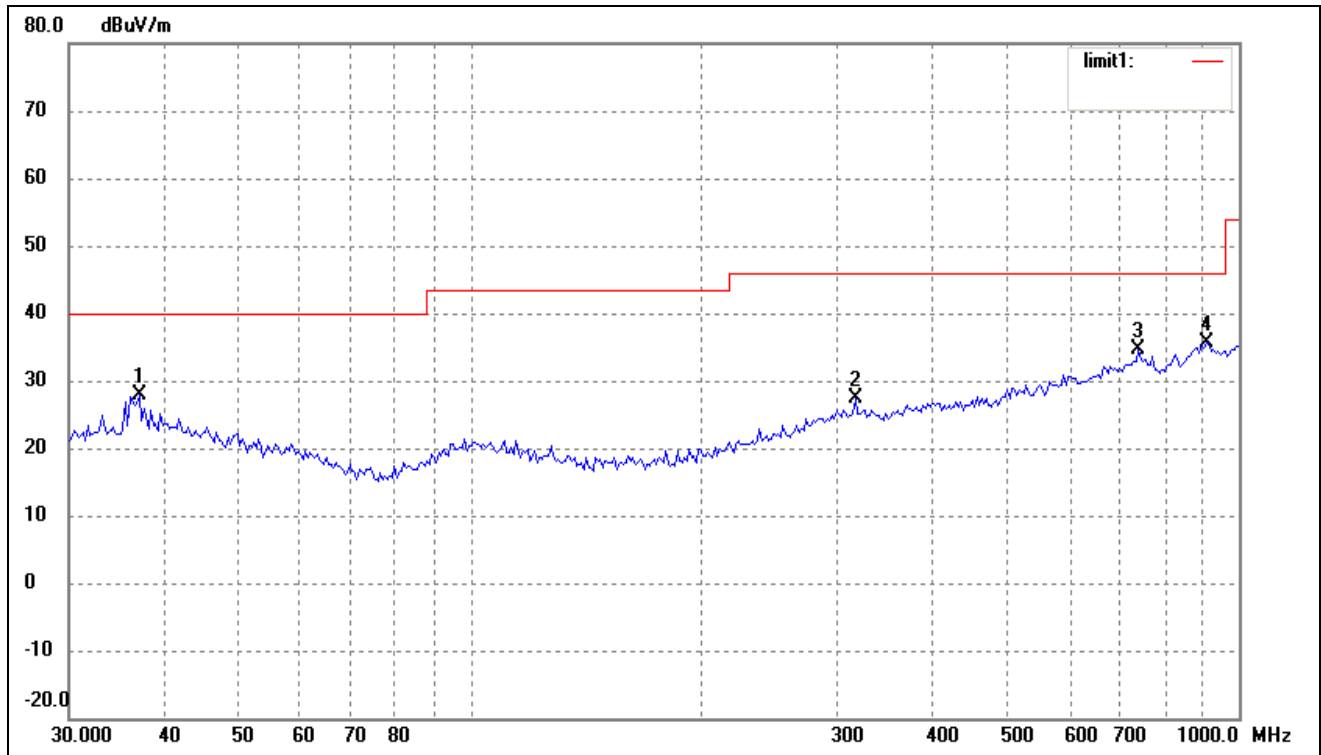
Comment: DC 3.7V Battery

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	32.4059	21.23	8.44	29.67	40.00	-10.33	270	100	peak
2	110.5687	15.56	5.80	21.36	43.50	-22.14	164	100	peak
3	341.9787	16.40	10.16	26.56	46.00	-19.44	228	200	peak
4	729.3583	17.11	17.31	34.42	46.00	-11.58	130	200	peak
5	887.6099	18.21	19.15	37.36	46.00	-8.64	360	100	peak

Test Specification: Vertical

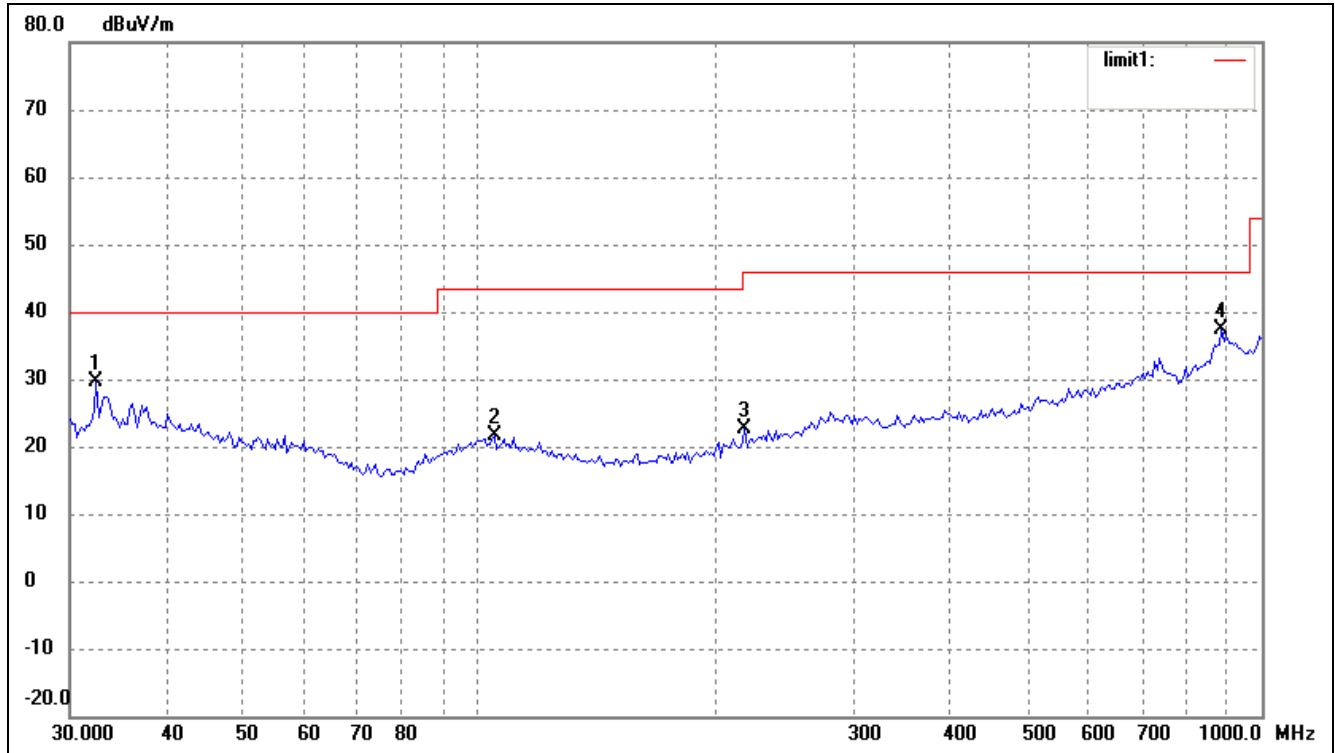


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	37.0249	18.59	9.21	27.80	40.00	-12.20	360	100	peak
2	316.5890	16.84	10.44	27.28	46.00	-18.72	255	100	peak
3	739.6605	16.54	18.07	34.61	46.00	-11.39	270	100	peak
4	906.4824	16.47	19.15	35.62	46.00	-10.38	180	100	peak

Operating Condition: 802.11g Transmitting High Channel-2472MHz

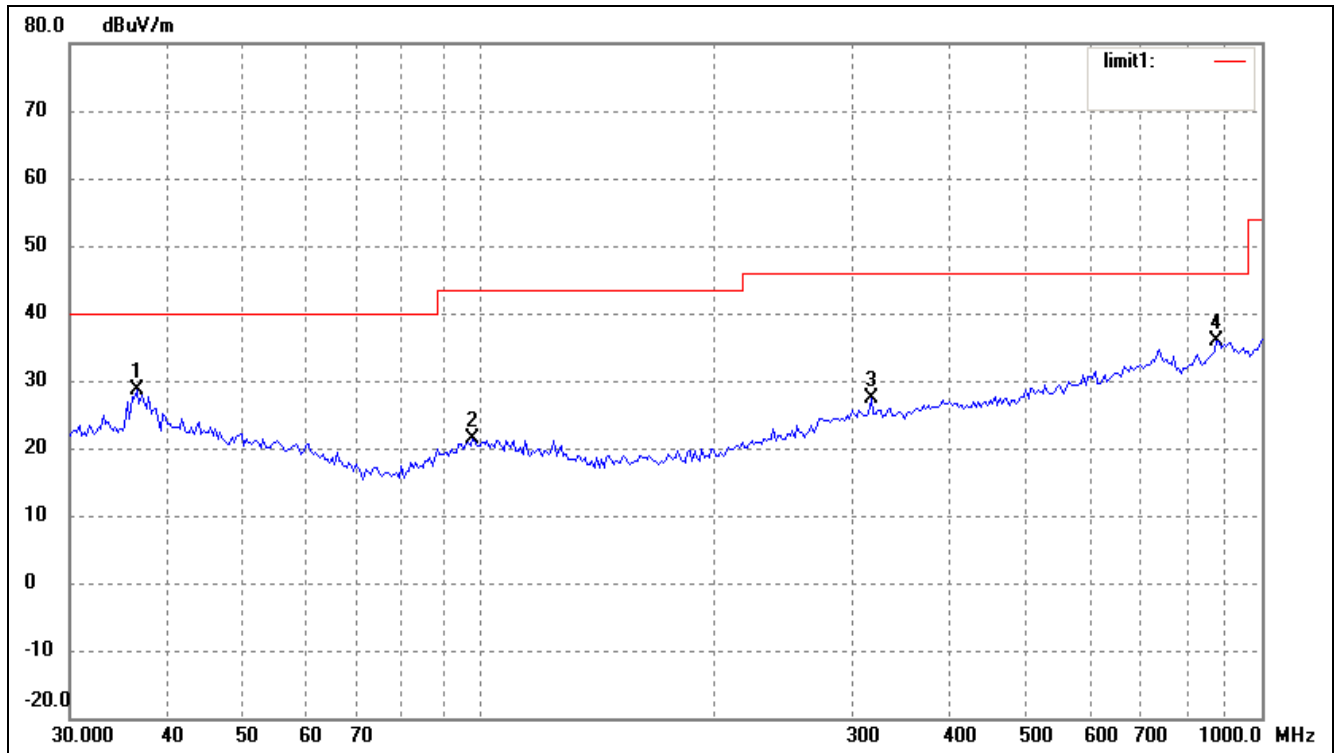
Comment: DC 3.7V Battery

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	32.4059	21.23	8.44	29.67	40.00	-10.33	270	100	peak
2	104.5361	15.27	6.39	21.66	43.50	-21.84	51	200	peak
3	218.3085	16.82	5.81	22.63	46.00	-23.37	360	200	peak
4	887.6099	18.21	19.15	37.36	46.00	-8.64	360	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	36.5092	19.47	9.13	28.60	40.00	-11.40	360	100	peak
2	98.1419	14.98	6.39	21.37	43.50	-22.13	180	100	peak
3	316.5890	16.84	10.44	27.28	46.00	-18.72	225	100	peak
4	875.2470	17.15	18.80	35.95	46.00	-10.05	67	100	peak

### Plot of Radiated Emissions Test Data (30MHz to 1GHz)

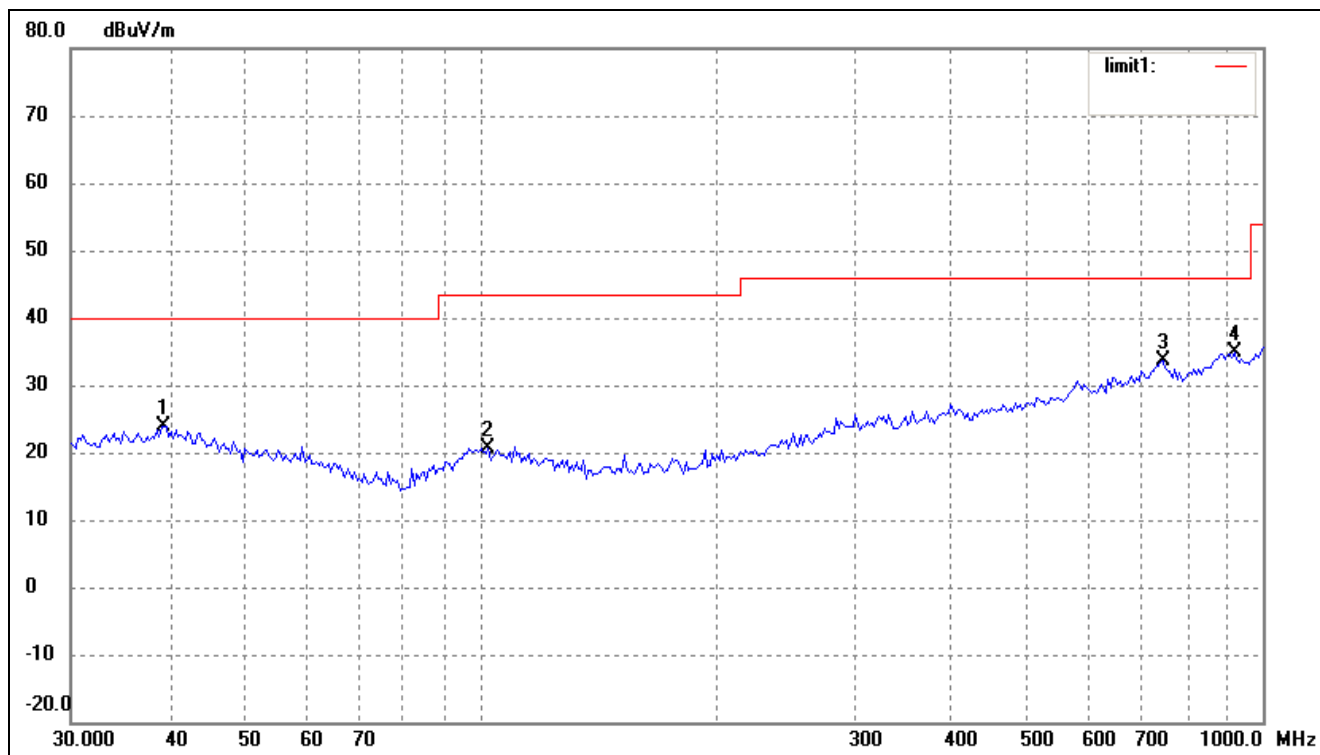
EUT: Tablet PC

Tested Model: M77GH2(AP)

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

Comment: DC 3.7V Battery

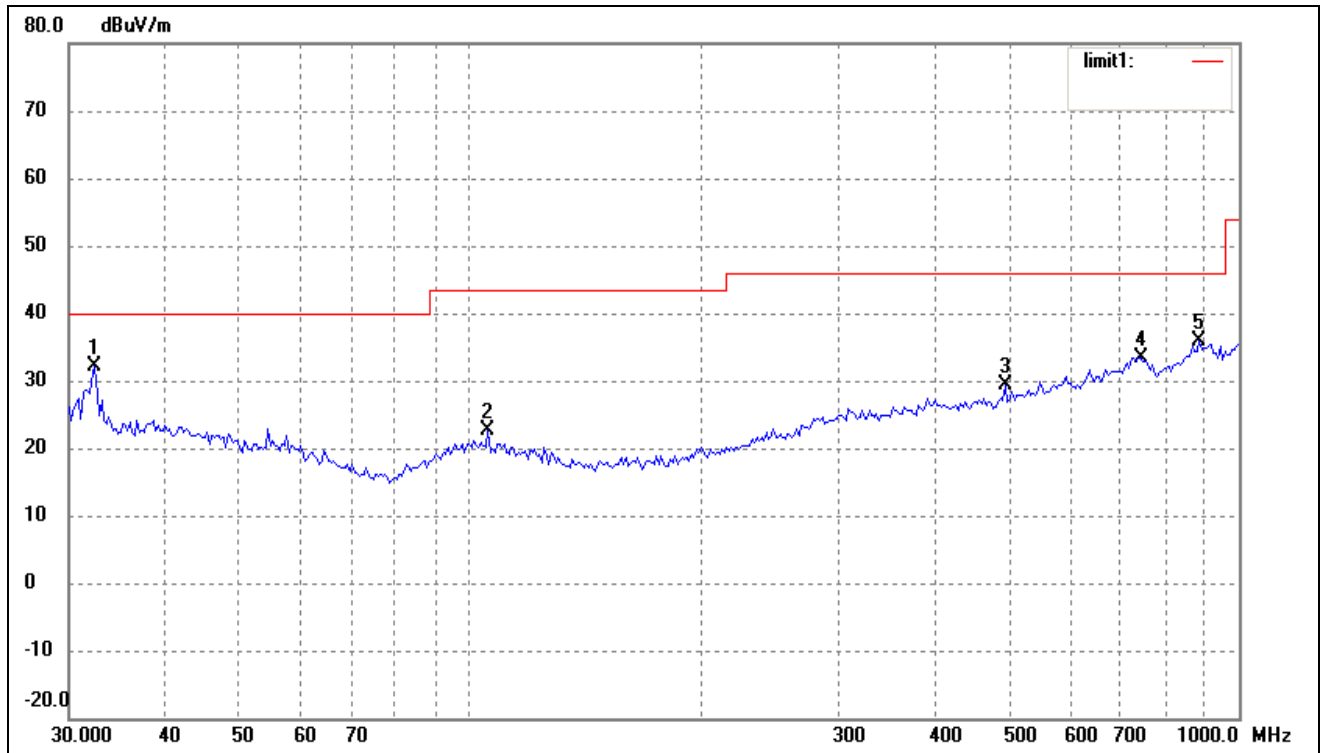
Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	39.4372	14.37	9.60	23.97	40.00	-16.03	260	100	peak
2	102.3597	14.14	6.61	20.75	43.50	-22.75	131	200	peak
3	744.8661	15.61	17.95	33.56	46.00	-12.44	285	200	peak
4	919.2866	16.27	18.70	34.97	46.00	-11.03	224	100	peak



Test Specification: Vertical

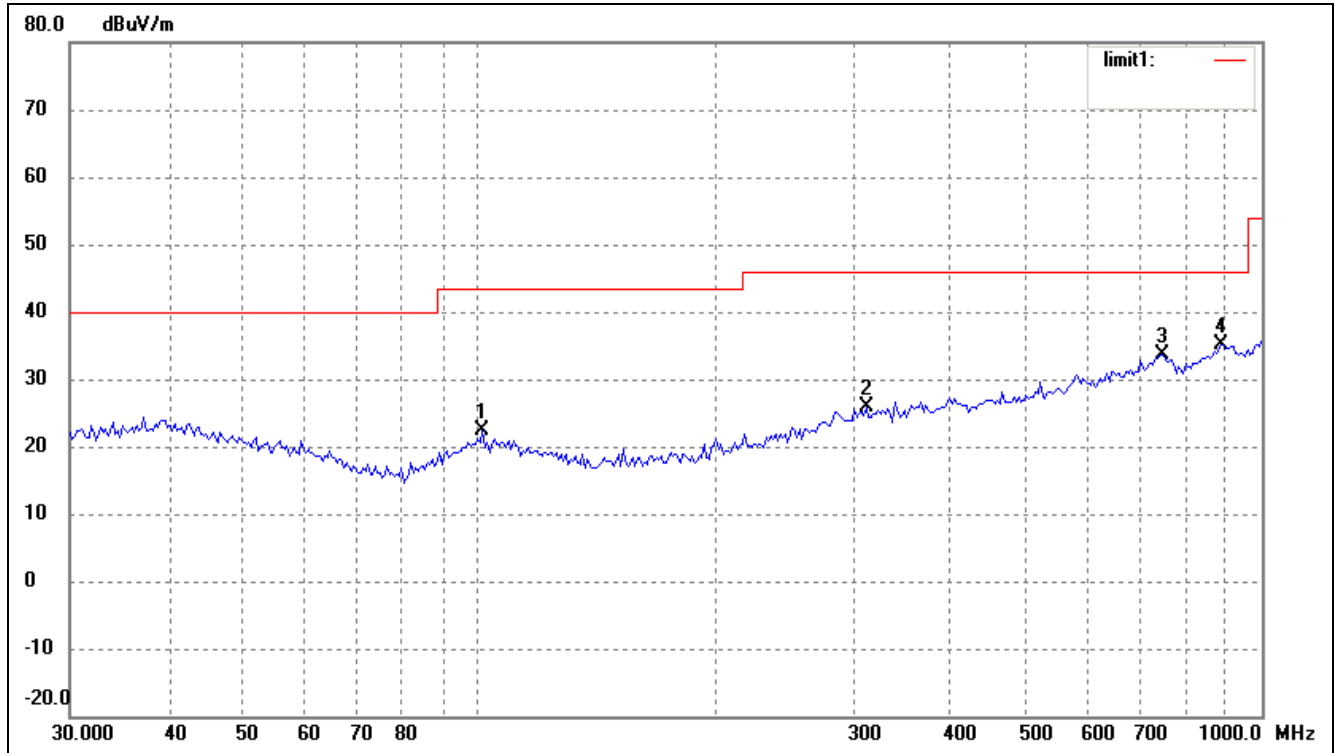


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	32.4059	23.69	8.44	32.13	40.00	-7.87	155	100	peak
2	105.2718	16.25	6.32	22.57	43.50	-20.93	197	100	peak
3	495.9344	17.25	12.04	29.29	46.00	-16.71	310	100	peak
4	744.8661	15.46	17.95	33.41	46.00	-12.59	229	100	peak
5	887.6099	16.71	19.15	35.86	46.00	-10.14	130	100	peak

Operating Condition: 802.11n-HT20 Transmitting Middle Channel-2442MHz

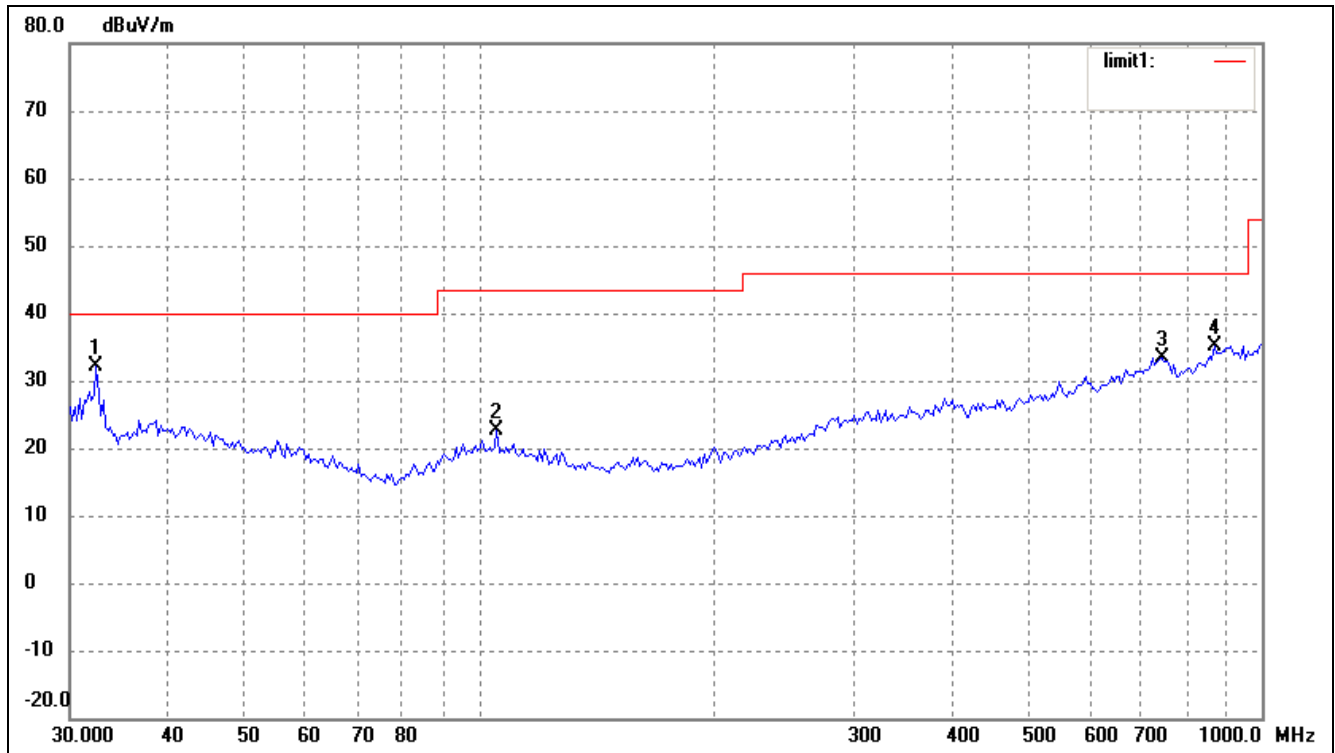
Comment: DC 3.7V Battery

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	100.9340	15.68	6.75	22.43	43.50	-21.07	274	100	peak
2	312.1794	15.59	10.36	25.95	46.00	-20.05	116	100	peak
3	744.8661	15.61	17.95	33.56	46.00	-12.44	82	100	peak
4	887.6099	15.93	19.15	35.08	46.00	-10.92	134	100	peak

Test Specification: Vertical

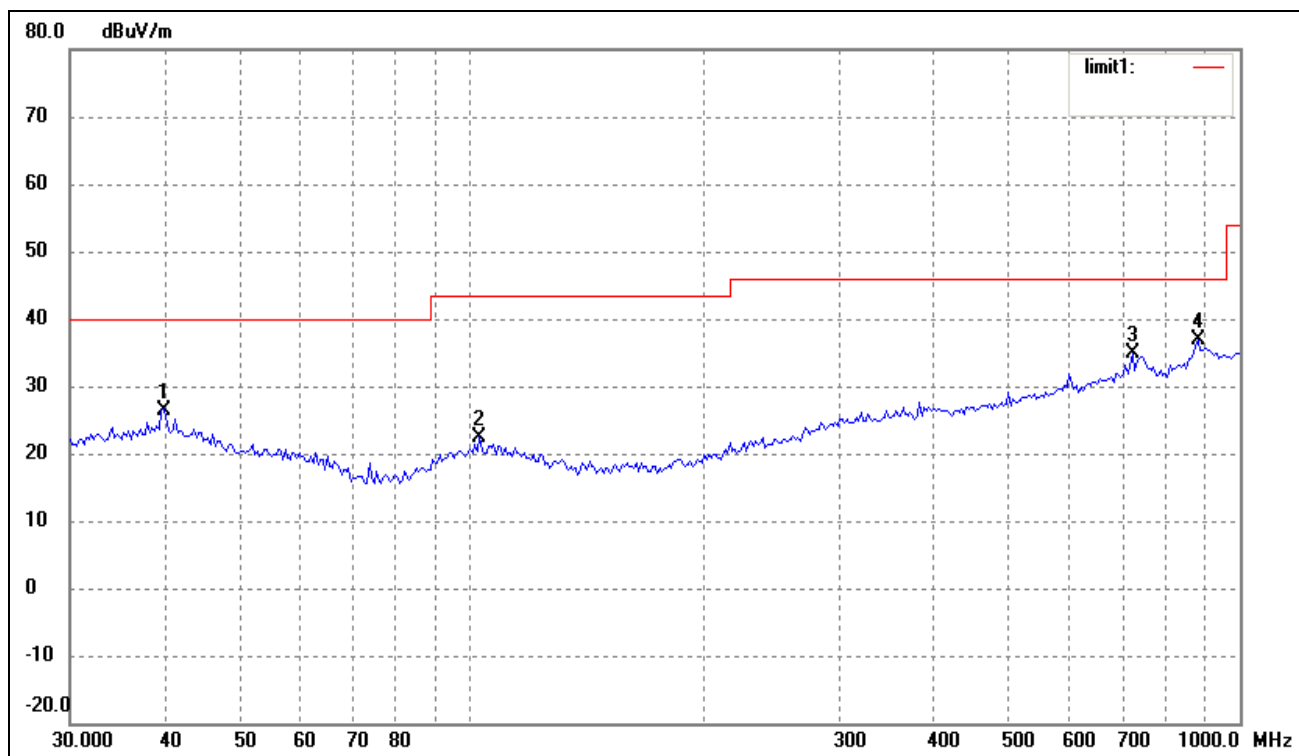


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	32.4059	23.69	8.44	32.13	40.00	-7.87	264	100	peak
2	105.2718	16.25	6.32	22.57	43.50	-20.93	110	100	peak
3	744.8661	15.46	17.95	33.41	46.00	-12.59	136	100	peak
4	869.1302	16.70	18.54	35.24	46.00	-10.76	90	100	peak

Operating Condition: 802.11n-HT20 Transmitting High Channel-2472MHz

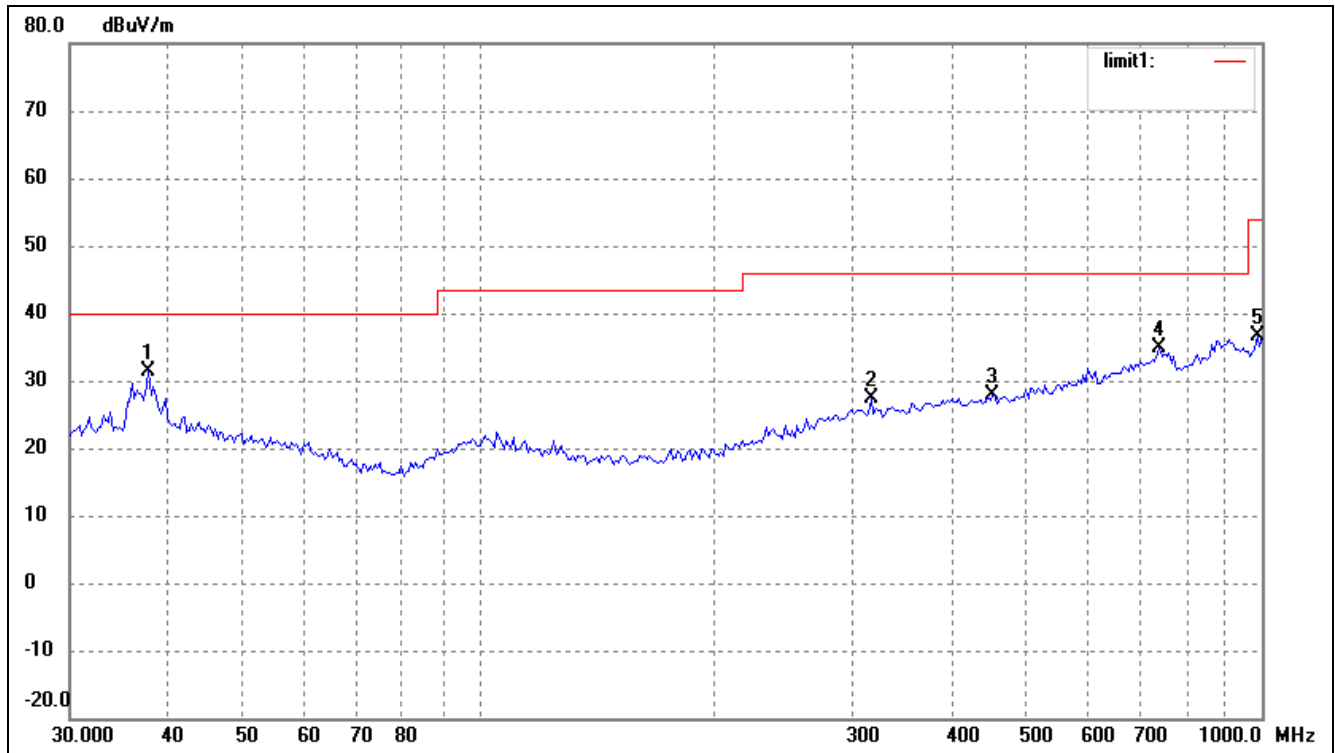
Comment: DC 3.7V Battery

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	16.86	9.64	26.50	40.00	-13.50	360	100	peak
2	102.3597	15.89	6.61	22.50	43.50	-21.00	112	100	peak
3	724.2611	18.01	16.93	34.94	46.00	-11.06	180	200	peak
4	881.4067	17.84	19.03	36.87	46.00	-9.13	270	200	peak

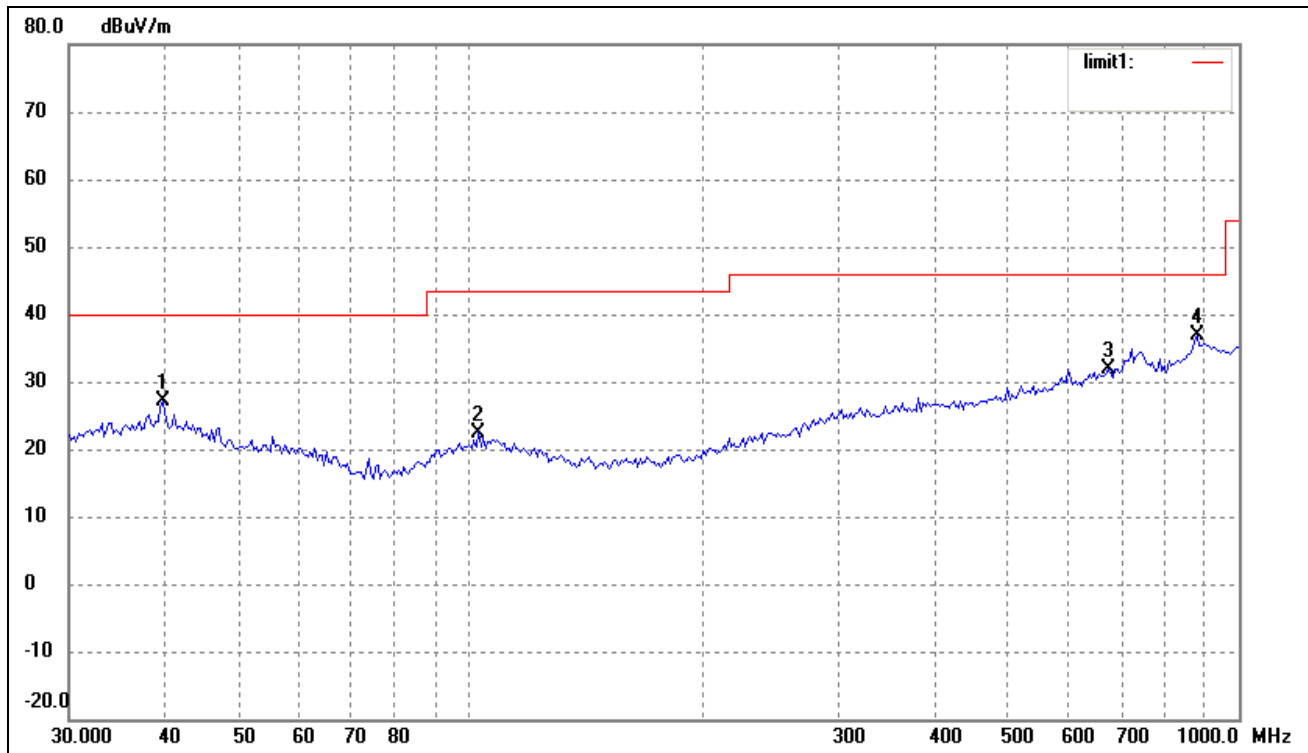
Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	37.8121	21.98	9.33	31.31	40.00	-8.69	267	100	peak
2	316.5890	16.84	10.44	27.28	46.00	-18.72	116	100	peak
3	452.7197	16.27	11.58	27.85	46.00	-18.15	360	100	peak
4	739.6605	16.81	18.07	34.88	46.00	-11.12	228	100	peak
5	986.0717	17.36	19.17	36.53	54.00	-17.47	270	100	peak

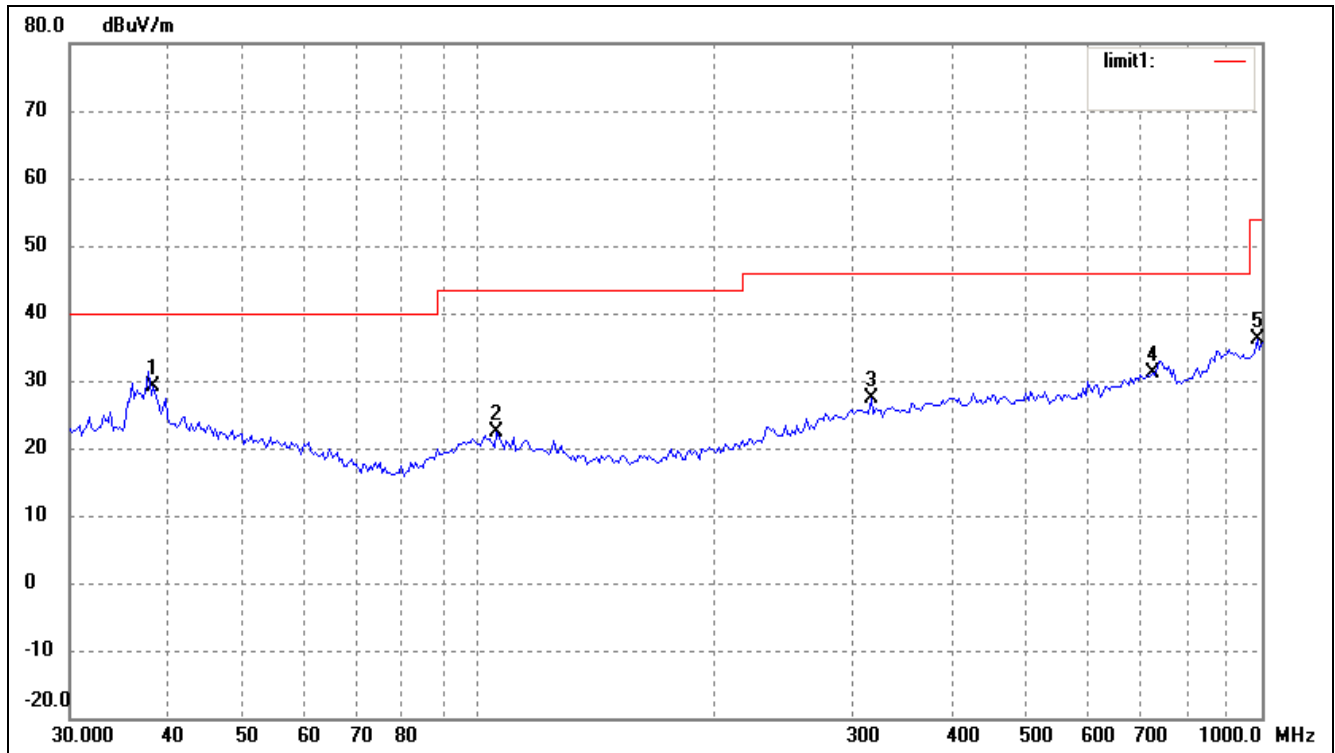
EUT: Tablet PC  
Tested Model: M77GH2(AP)  
Operating Condition: 802.11n-HT40 Transmitting Low Channel-2422MHz  
Comment: DC 3.7V battery

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	17.39	9.64	27.03	40.00	-12.97	267	100	peak
2	102.3597	15.89	6.61	22.50	43.50	-21.00	114	200	peak
3	675.2080	16.60	15.36	31.96	46.00	-14.04	35	200	peak
4	881.4067	17.84	19.03	36.87	46.00	-9.13	81	100	peak

Test Specification: Vertical

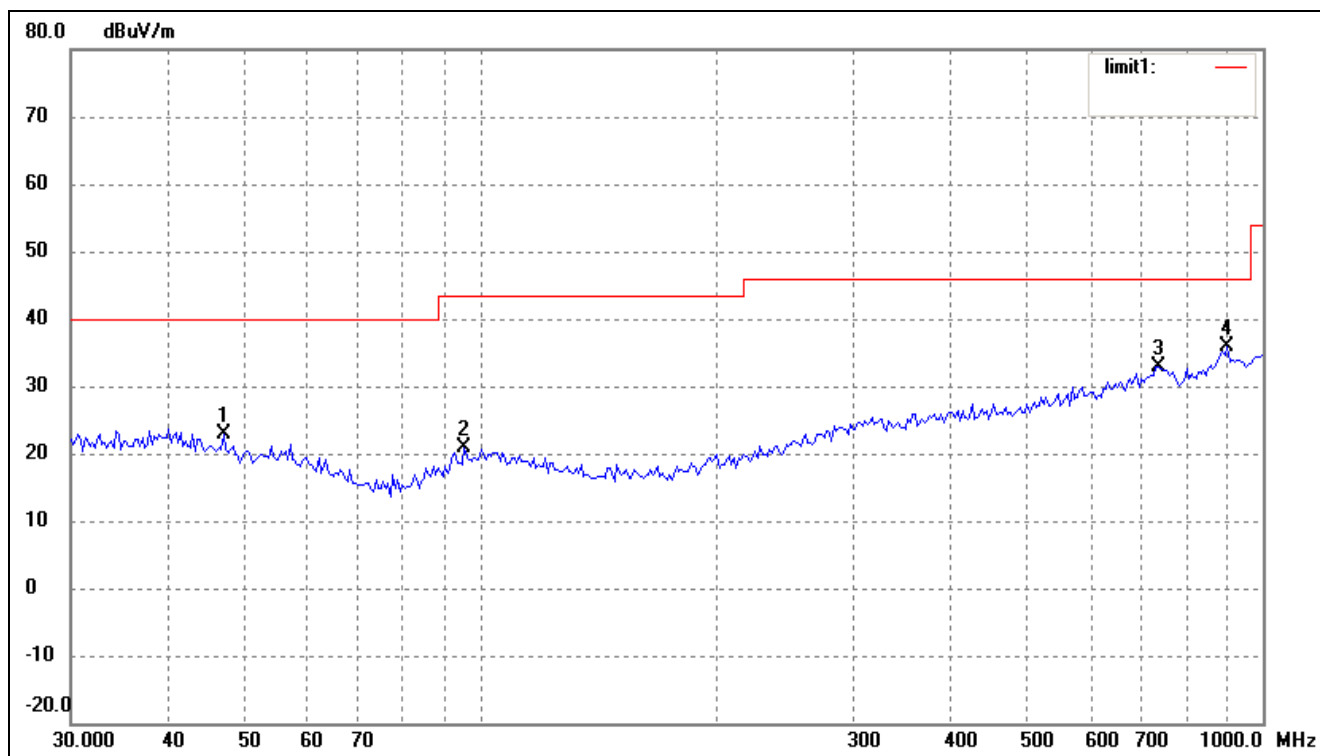


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	38.3462	19.59	9.42	29.01	40.00	-10.99	360	100	peak
2	105.2718	15.98	6.32	22.30	43.50	-21.20	258	100	peak
3	316.5890	16.84	10.44	27.28	46.00	-18.72	347	100	peak
4	724.2611	14.21	16.93	31.14	46.00	-14.86	270	100	peak
5	986.0717	16.86	19.17	36.03	54.00	-17.97	90	100	peak

Operating Condition: 802.11n-HT40 Transmitting Middle Channel-2442MHz

Comment: DC 3.7V battery

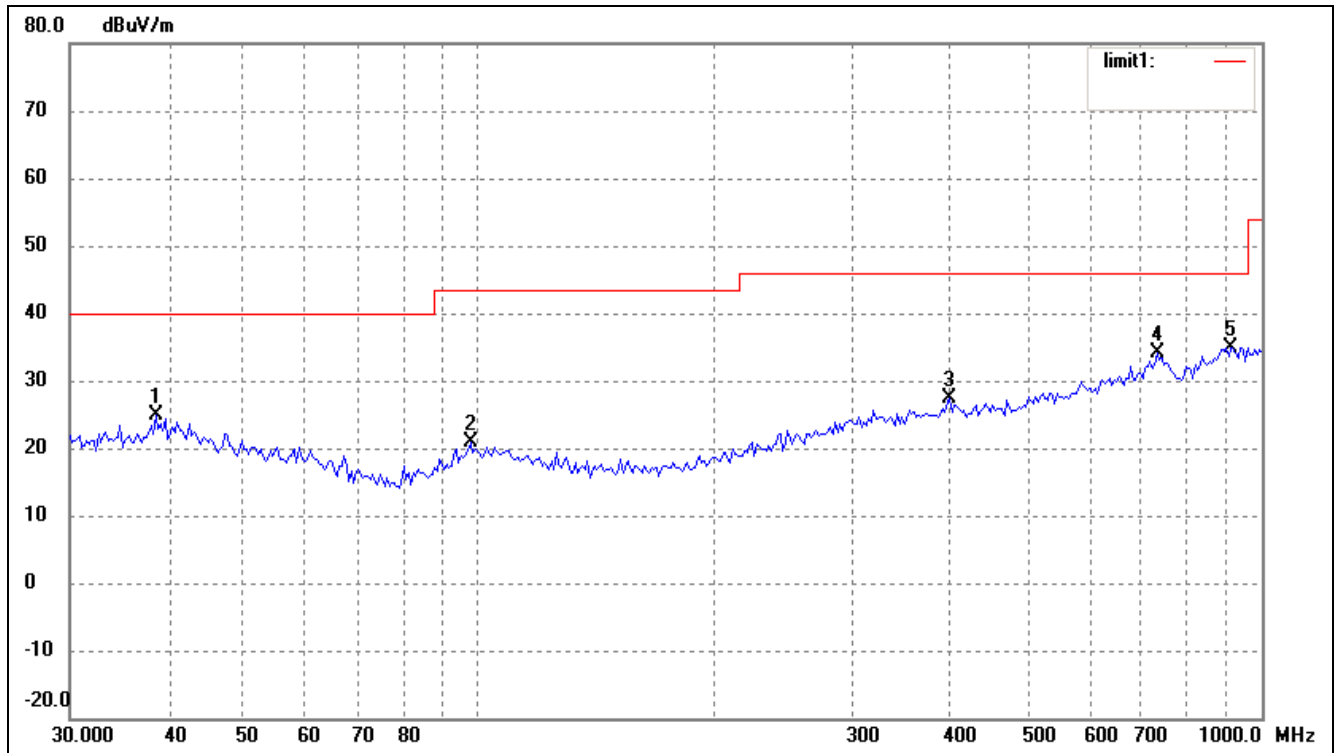
Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( ° )	Height (cm)	Remark
1	46.9948	15.43	7.54	22.97	40.00	-17.03	251	100	peak
2	95.4270	15.15	5.71	20.86	43.50	-22.64	167	100	peak
3	734.4913	15.18	17.68	32.86	46.00	-13.14	44	100	peak
4	900.1474	16.39	19.38	35.77	46.00	-10.23	130	100	peak



Test Specification: Vertical

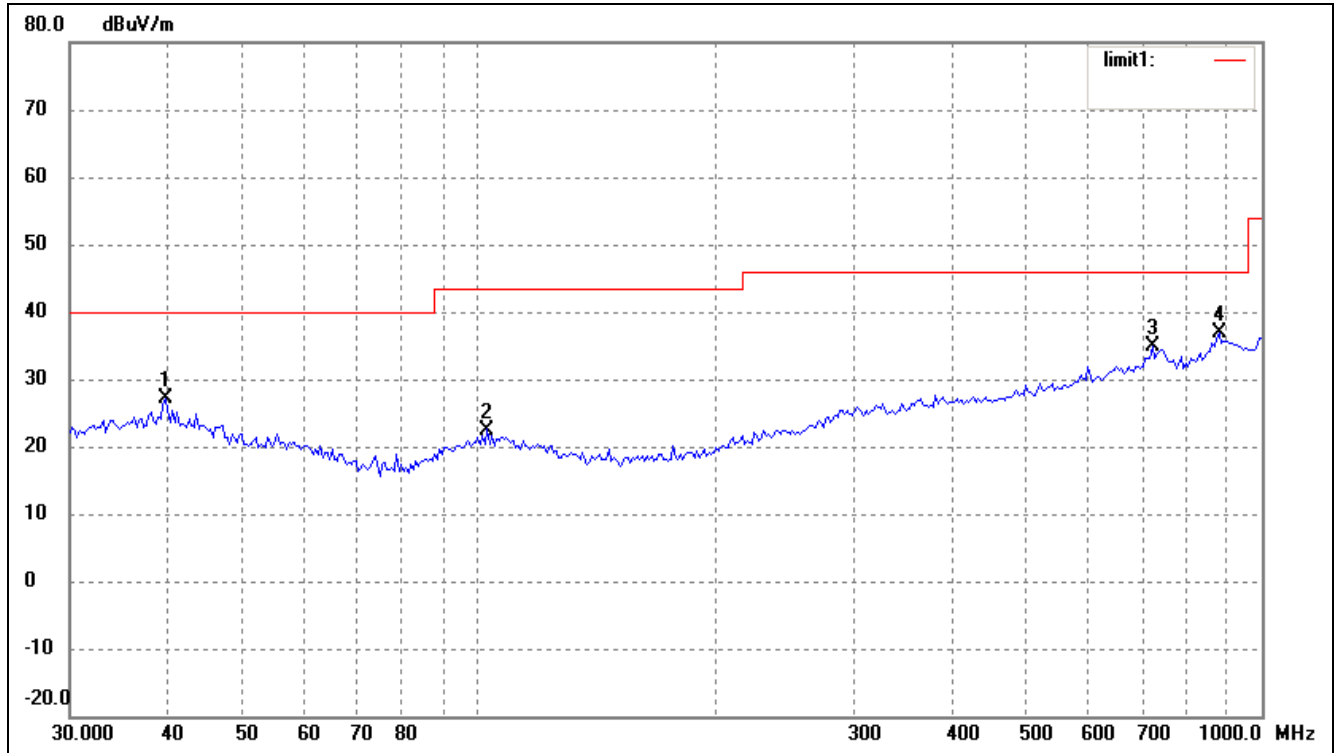


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	38.6161	15.30	9.46	24.76	40.00	-15.24	47	100	peak
2	97.4560	14.68	6.21	20.89	43.50	-22.61	264	100	peak
3	399.0302	15.85	11.50	27.35	46.00	-18.65	225	100	peak
4	734.4913	16.36	17.68	34.04	46.00	-11.96	180	100	peak
5	912.8620	15.86	18.93	34.79	46.00	-11.21	315	100	peak

Operating Condition: 802.11n-HT40 Transmitting High Channel-2462MHz

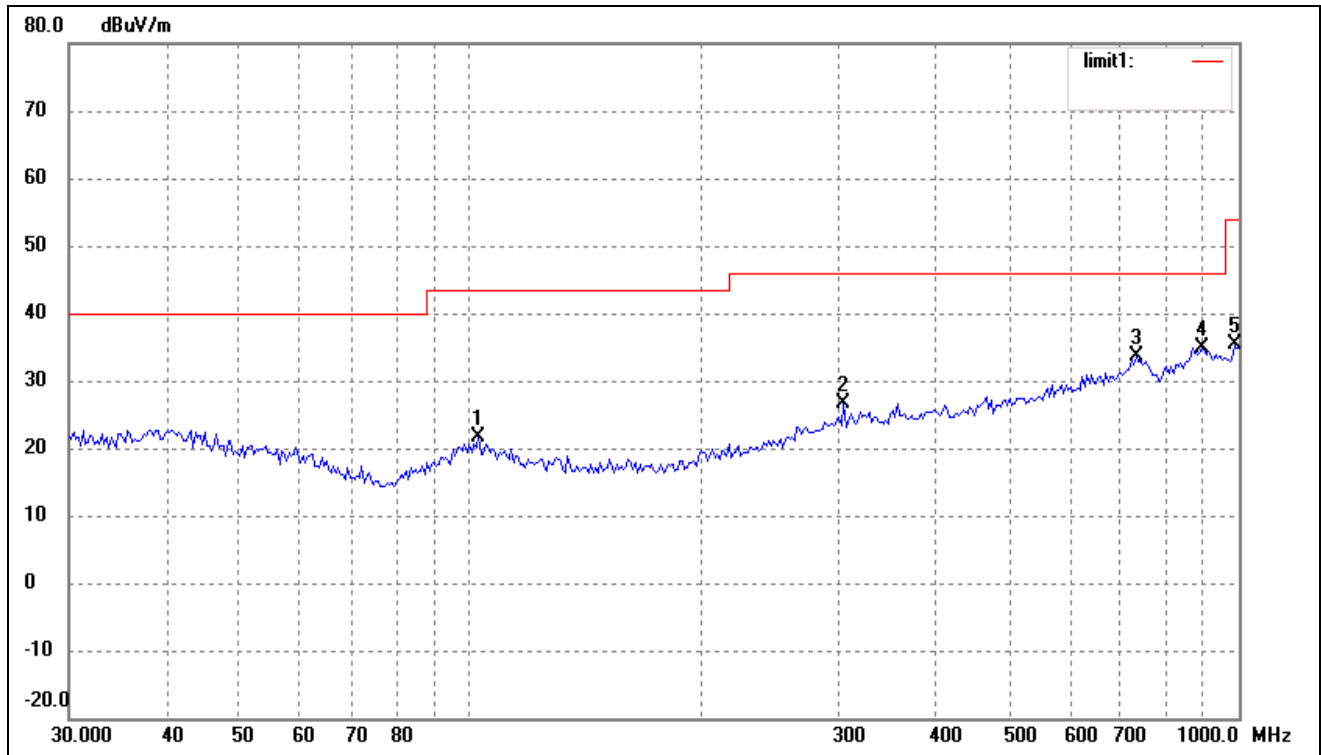
Comment: DC 3.7V battery

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	17.39	9.64	27.03	40.00	-12.97	360	100	peak
2	102.3597	15.89	6.61	22.50	43.50	-21.00	287	100	peak
3	724.2611	18.01	16.93	34.94	46.00	-11.06	168	100	peak
4	881.4067	17.84	19.03	36.87	46.00	-9.13	122	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	102.3597	15.01	6.61	21.62	43.50	-21.88	78	100	peak
2	305.6800	16.44	10.27	26.71	46.00	-19.29	136	100	peak
3	734.4913	15.93	17.68	33.61	46.00	-12.39	284	100	peak
4	893.8567	15.69	19.27	34.96	46.00	-11.04	60	100	peak
5	986.0717	16.20	19.17	35.37	54.00	-18.63	330	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	44.12	0.57	44.69	74.00	-29.31	H	PK
4824	33.52	0.57	34.09	54.00	-19.91	H	AV
7236	46.84	3.69	50.53	74.00	-23.47	H	PK
7236	38.45	3.69	42.14	54.00	-11.86	H	AV
4824	43.20	0.57	43.77	74.00	-30.23	V	PK
4824	33.63	0.57	34.20	54.00	-19.80	V	AV
7236	48.50	3.69	52.19	74.00	-21.81	V	PK
7236	37.19	3.69	40.88	54.00	-13.12	V	AV
Middle Channel-2442MHz							
4884	44.90	0.66	45.56	74.00	-28.44	H	PK
4884	32.01	0.66	32.67	54.00	-21.33	H	AV
7326	47.95	3.76	51.71	74.00	-22.29	H	PK
7326	36.41	3.76	40.17	54.00	-13.83	H	AV
4884	44.41	0.66	45.07	74.00	-28.93	V	PK
4884	31.99	0.66	32.65	54.00	-21.35	V	AV
7326	48.51	3.76	52.27	74.00	-21.73	V	PK
7326	37.4	3.76	41.16	54.00	-12.84	V	AV
High Channel-2472MHz							
4944	43.17	0.74	43.91	74.00	-30.09	H	PK
4944	32.14	0.74	32.88	54.00	-21.12	H	AV
7416	47.74	3.83	51.57	74.00	-22.43	H	PK
7416	35.71	3.83	39.54	54.00	-14.46	H	AV
4944	43.52	0.74	44.26	74.00	-29.74	V	PK
4944	32.17	0.74	32.91	54.00	-21.09	V	AV
7416	49.58	3.83	53.41	74.00	-20.59	V	PK
7416	36.97	3.83	40.80	54.00	-13.20	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	43.22	0.57	43.79	74.00	-30.21	H	PK
4824	33.44	0.57	34.01	54.00	-19.99	H	AV
7236	51.85	3.69	55.54	74.00	-18.46	H	PK
7236	38.08	3.69	41.77	54.00	-12.23	H	AV
4824	43.41	0.57	43.98	74.00	-30.02	V	PK
4824	33.42	0.57	33.99	54.00	-20.01	V	AV
7236	51.08	3.69	54.77	74.00	-19.23	V	PK
7236	37.86	3.69	41.55	54.00	-12.45	V	AV
Middle Channel-2442MHz							
4884	44.60	0.66	45.26	74.00	-28.74	H	PK
4884	32.02	0.66	32.68	54.00	-21.32	H	AV
7326	50.42	3.76	54.18	74.00	-19.82	H	PK
7326	36.66	3.76	40.42	54.00	-13.58	H	AV
4884	43.90	0.66	44.56	74.00	-29.44	V	PK
4884	31.96	0.66	32.62	54.00	-21.38	V	AV
7326	53.12	3.76	56.88	74.00	-17.12	V	PK
7326	38.75	3.76	42.51	54.00	-11.49	V	AV
High Channel-2472MHz							
4944	43.28	0.74	44.02	74.00	-29.98	H	PK
4944	31.87	0.74	32.61	54.00	-21.39	H	AV
7416	48.11	3.83	51.94	74.00	-22.06	H	PK
7416	37.07	3.83	40.90	54.00	-13.10	H	AV
4944	41.50	0.74	42.24	74.00	-31.76	V	PK
4944	32.04	0.74	32.78	54.00	-21.22	V	AV
7416	48.19	3.83	52.02	74.00	-21.98	V	PK
7416	36.98	3.83	40.81	54.00	-13.19	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	42.52	0.57	43.09	74.00	-30.91	H	PK
4824	33.62	0.57	34.19	54.00	-19.81	H	AV
7236	36.52	3.69	40.21	74.00	-33.79	H	PK
7236	34.01	3.69	37.70	54.00	-16.30	H	AV
4824	43.82	0.57	44.39	74.00	-29.61	V	PK
4824	33.65	0.57	34.22	54.00	-19.78	V	AV
7236	54.17	3.69	57.86	74.00	-16.14	V	PK
7236	37.36	3.69	41.05	54.00	-12.95	V	AV
Middle Channel-2442MHz							
4884	45.17	0.66	45.83	74.00	-28.17	H	PK
4884	31.94	0.66	32.60	54.00	-21.40	H	AV
7326	48.62	3.76	52.38	74.00	-21.62	H	PK
7326	38.35	3.76	42.11	54.00	-11.89	H	AV
4884	44.60	0.66	45.26	74.00	-28.74	V	PK
4884	32.02	0.66	32.68	54.00	-21.32	V	AV
7326	53.52	3.76	57.28	74.00	-16.72	V	PK
7326	38.46	3.76	42.22	54.00	-11.78	V	AV
High Channel-2472MHz							
4944	42.76	0.74	43.50	74.00	-30.50	H	PK
4944	31.98	0.74	32.72	54.00	-21.28	H	AV
7416	50.45	3.83	54.28	74.00	-19.72	H	PK
7416	38.35	3.83	42.18	54.00	-11.82	H	AV
4944	42.40	0.74	43.14	74.00	-30.86	V	PK
4944	32.14	0.74	32.88	54.00	-21.12	V	AV
7416	54.24	3.83	58.07	74.00	-15.93	V	PK
7416	39.20	3.83	43.03	54.00	-10.97	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	42.52	0.60	43.12	74.00	-30.88	H	PK
4844	33.30	0.60	33.9	54.00	-20.10	H	AV
7266	46.53	3.72	50.25	74.00	-23.75	H	PK
7266	34.11	3.72	37.83	54.00	-16.17	H	AV
4844	43.25	0.60	43.85	74.00	-30.15	V	PK
4844	31.56	0.60	32.16	54.00	-21.84	V	AV
7266	44.36	3.72	48.08	74.00	-25.92	V	PK
7266	43.32	3.72	47.04	54.00	-6.96	V	AV
Middle Channel-2442MHz							
4884	44.21	0.66	44.87	74.00	-29.13	H	PK
4884	32.01	0.66	32.67	54.00	-21.33	H	AV
7326	35.98	3.76	39.74	74.00	-34.26	H	PK
7326	24.30	3.76	28.06	54.00	-25.94	H	AV
4884	53.86	0.66	54.52	74.00	-19.48	V	PK
4884	41.84	0.66	42.50	54.00	-11.5	V	AV
7326	45.92	3.76	49.68	74.00	-24.32	V	PK
7326	34.31	3.76	38.07	54.00	-15.93	V	AV
High Channel-2462MHz							
4924	43.62	0.72	44.34	74.00	-29.66	H	PK
4924	32.04	0.72	32.76	54.00	-21.24	H	AV
7386	35.25	3.81	39.06	74.00	-34.94	H	PK
7386	24.11	3.81	27.92	54.00	-26.08	H	AV
4924	52.63	0.72	53.35	74.00	-20.65	V	PK
4924	43.24	0.72	43.96	54.00	-10.04	V	AV
7386	45.03	3.81	48.84	74.00	-25.16	V	PK
7386	43.31	3.81	47.12	54.00	-6.88	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 3<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.

## 9. Out of Band Emissions

### 9.1 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).

### 9.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2014-05-28	2015-05-27
EMI Test Receiver	R&S	ESVB	825471/005	2014-05-28	2015-05-27
Pre-amplifier	Agilent	8447F	3113A06717	2014-05-28	2015-05-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2014-05-28	2015-05-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2014-05-24	2015-05-23
Horn Antenna	ETS	3117	00086197	2014-05-24	2015-05-23

### 9.3 Test Procedure

According to the KDB 558074D01 v03r02, 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. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.



According to the KDB 558074 D01 V03r02, the conducted spurious emissions test method as follows:

1. Set start frequency to DTS channel edge frequency.
2. Set stop frequency so as to encompass the spectrum to be examined.
3. Set RBW = 100 kHz.
4. Set VBW  $\geq$  300 kHz.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.

#### 9.4 Environmental Conditions

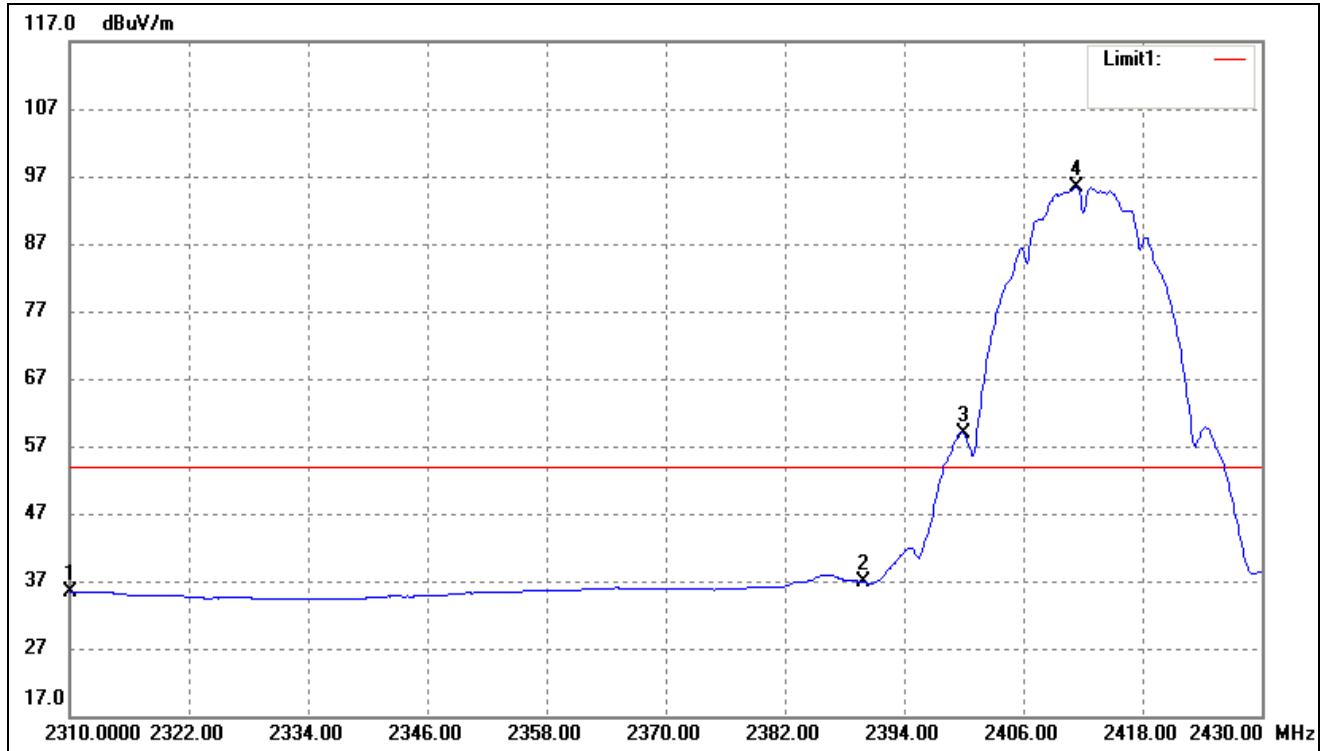
Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

#### 9.5 Summary of Test Results/Plots

Please refer to the test plots as below.

## 802.11b-Lowest Bandedge

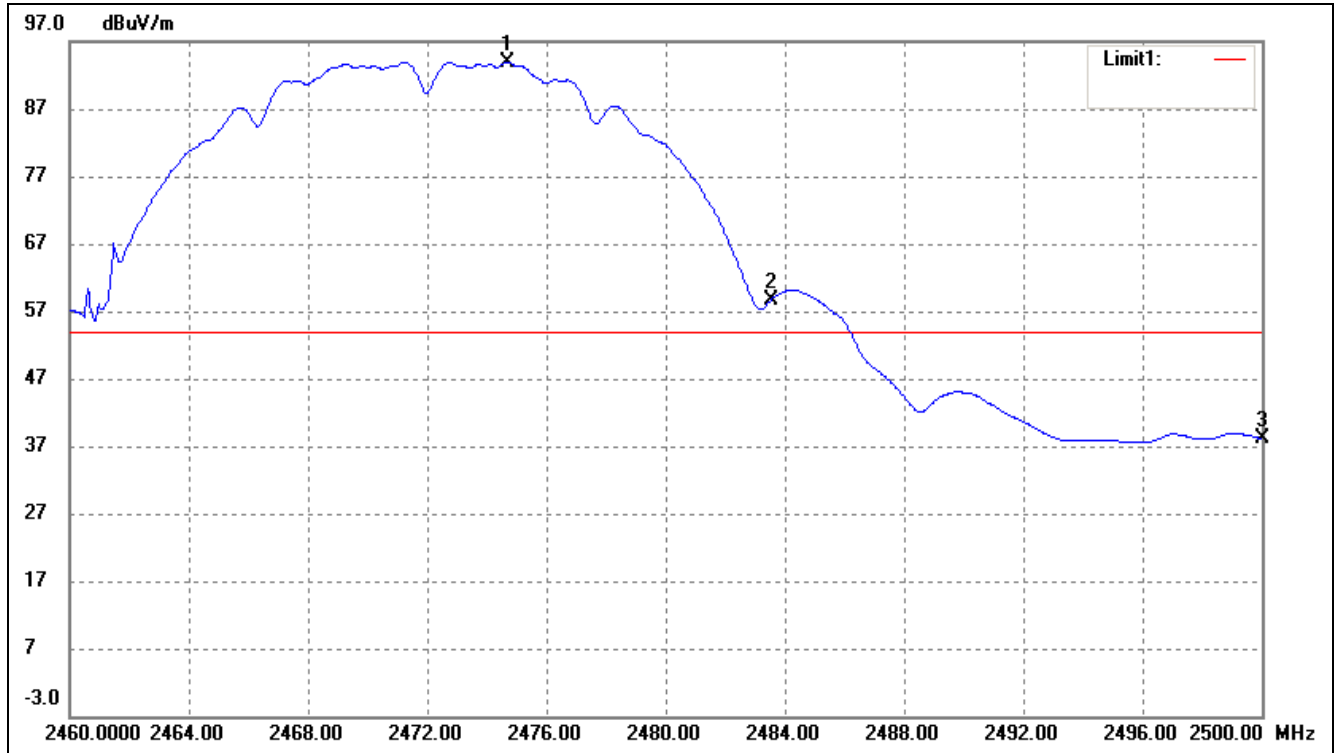
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	19.01	16.34	35.35	54.00	-18.65	Average Detector
	2310.000	31.35	16.34	47.69	74.00	-26.31	Peak Detector
2	2390.000	19.73	17.03	36.76	54.00	-17.24	Average Detector
	2390.000	32.54	17.03	49.57	74.00	-24.43	Peak Detector
3	2400.000	41.85	17.11	58.96	Delta=36.52dBc		Average Detector
4	2411.280	78.29	17.19	95.48			Average Detector

## 802.11b-Highest Bandedge

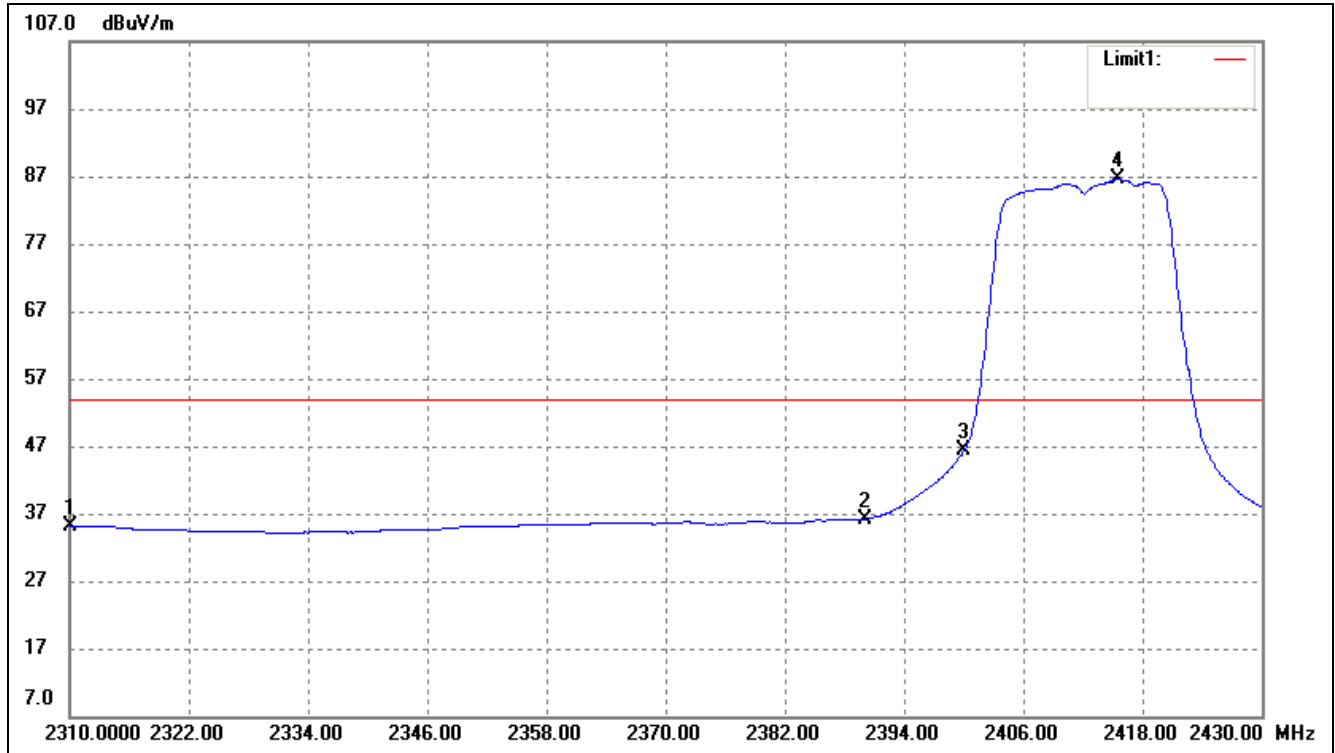
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2474.680	76.23	17.67	93.90	/	/	Average Detector
	2473.040	80.99	17.66	98.65	/	/	Peak Detector
2	2483.500	Delta = 45.25dBc		48.65	54.00	-5.35	Average Detector
	2483.500			53.40	74.00	-20.60	Peak Detector
3	2500.000	20.20	17.86	38.06	54.00	-15.94	Average Detector
	2500.000	32.48	17.86	50.34	74.00	-23.66	Peak Detector

802.11g-Lowest Bandedge

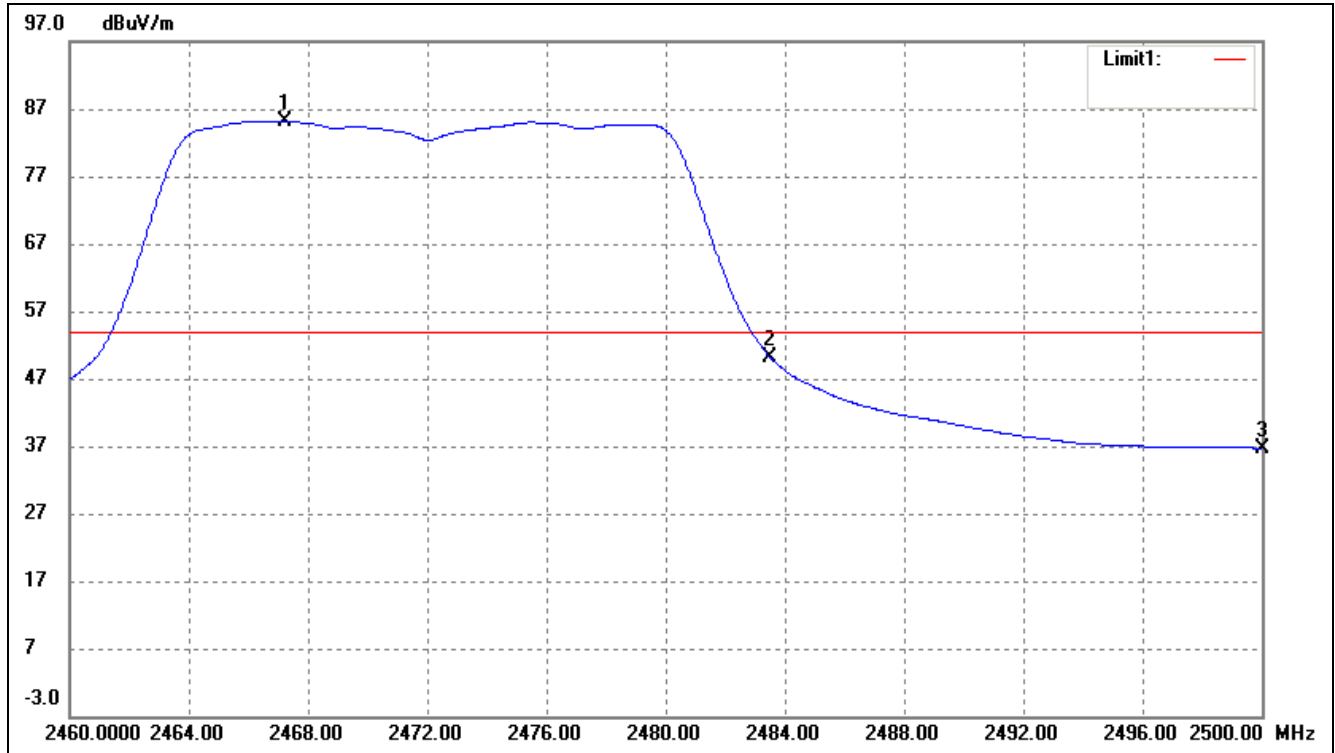
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	18.74	16.34	35.08	54.00	-18.92	Average Detector
	2310.000	30.53	16.34	46.87	74.00	-27.13	Peak Detector
2	2390.000	19.22	17.03	36.25	54.00	-17.75	Average Detector
	2390.000	31.00	17.03	48.03	74.00	-25.97	Peak Detector
3	2400.000	29.16	17.11	46.27	Delta=40.31dBc		Average Detector
4	2415.480	69.35	17.23	86.58			Peak Detector

802.11g-Highest Bandedge

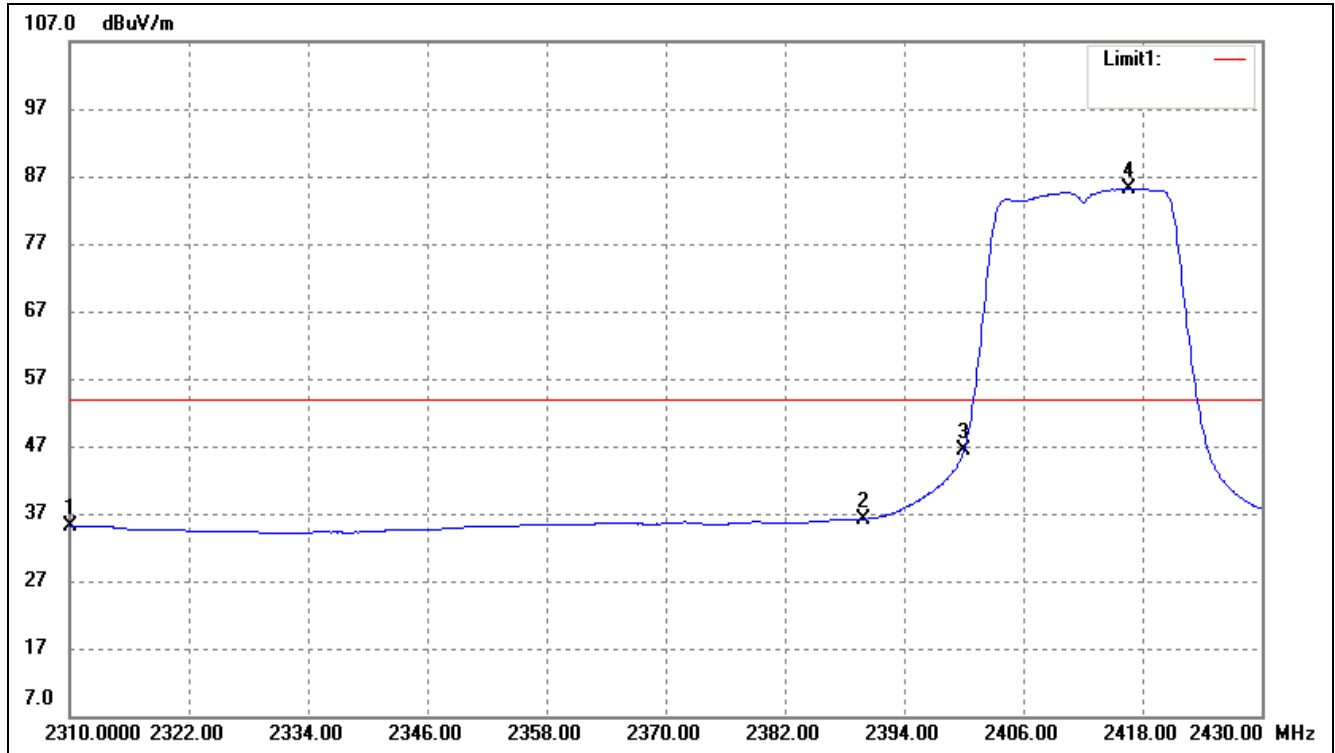
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2	2467.200	67.57	17.60	85.17	/	/	Average Detector
	2475.160	79.15	17.67	96.82	/	/	Peak Detector
1	2483.500	Delta = 41.43dBc		43.74	54.00	-10.26	Average Detector
	2483.500			55.39	74.00	-18.61	Peak Detector
3	2500.000	18.82	17.86	36.68	54.00	-17.32	Average Detector
	2500.000	31.51	17.86	49.37	74.00	-24.63	Peak Detector

802.11n-HT20-Lowest Bandedge

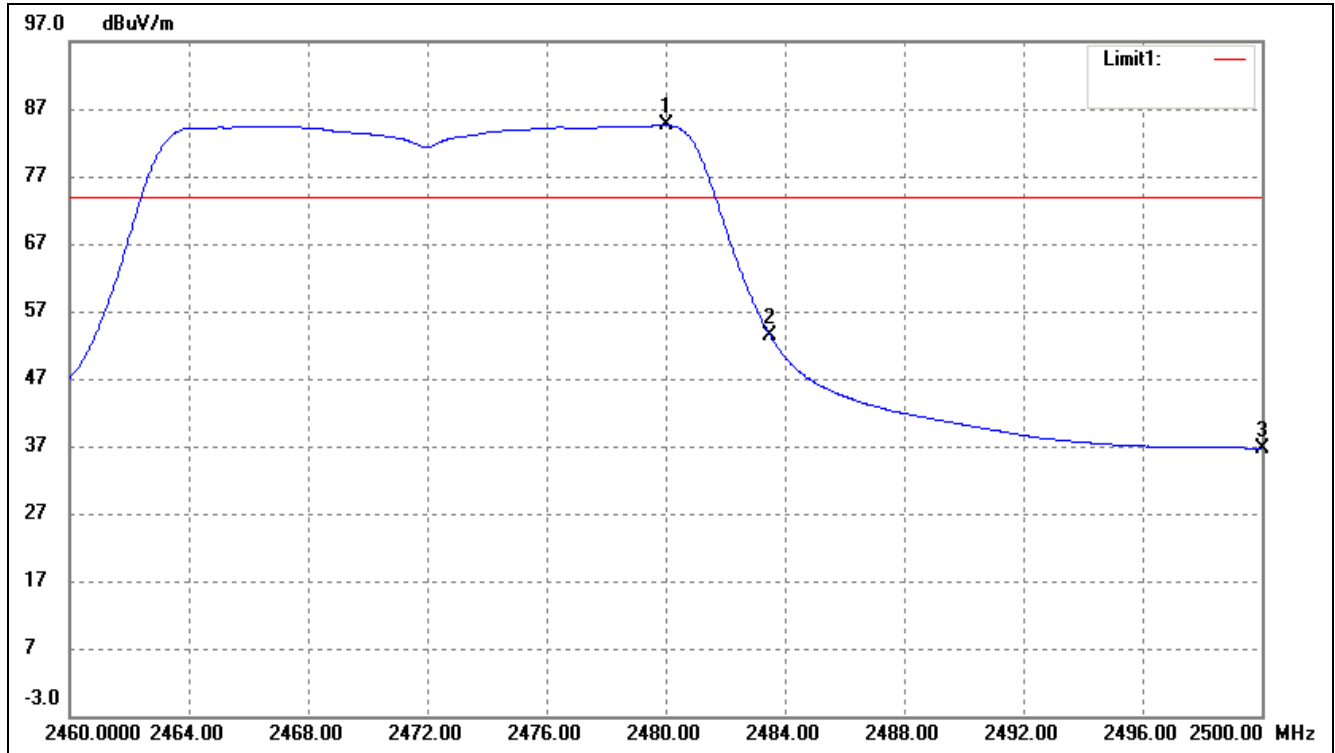
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	18.69	16.34	35.03	54.00	-18.97	Average Detector
	2310.000	29.47	16.34	45.81	74.00	-28.19	Peak Detector
2	2390.000	19.15	17.03	36.18	54.00	-17.82	Average Detector
	2390.000	30.90	17.03	47.93	74.00	-26.07	Peak Detector
3	2400.000	29.17	17.11	46.28	Delta=38.96dBc		Average Detector
4	2416.560	68.00	17.24	85.24			Average Detector

802.11n-HT20-Highest Bandedge

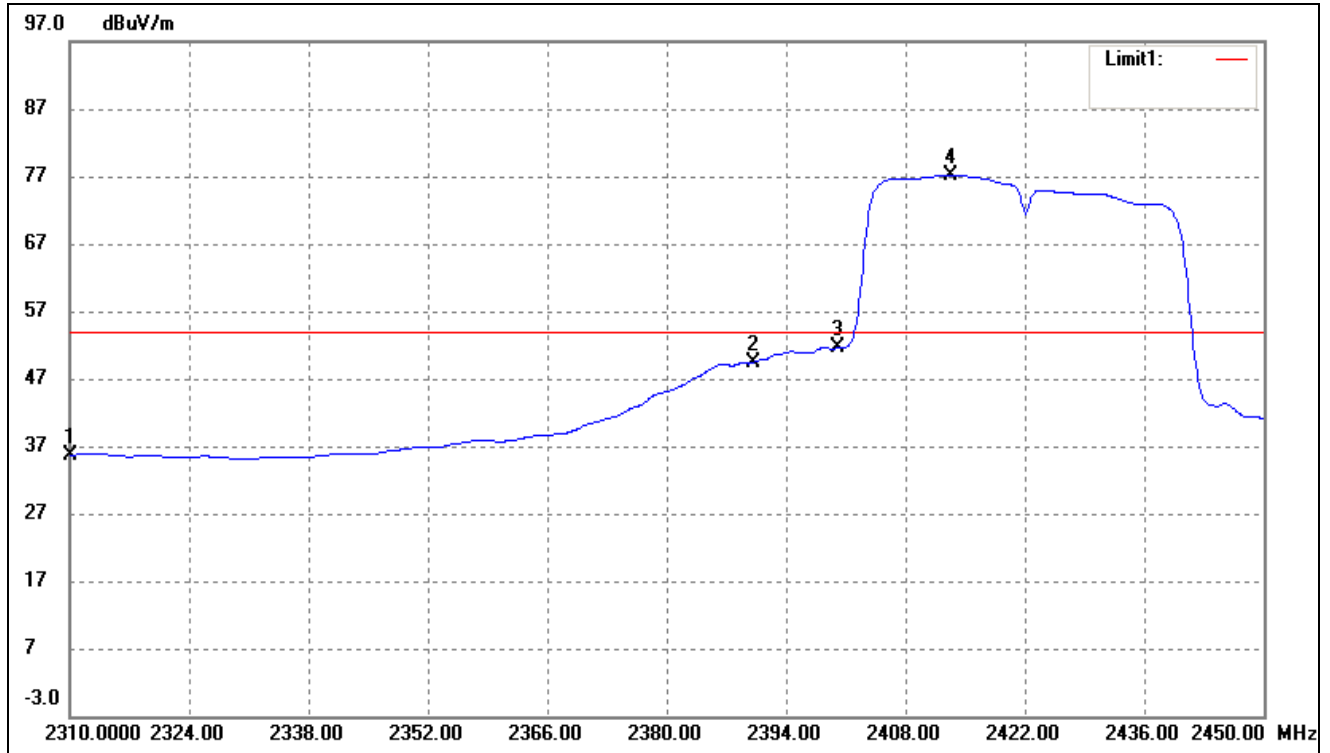
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2480.000	66.87	17.71	84.58	/	/	Average Detector
	2480.120	77.82	17.71	95.53	/	/	Peak Detector
2	2483.500	Delta =37.78dBc		46.80	54.00	-7.2	Average Detector
	2483.500			57.75	74.00	-16.25	Peak Detector
3	2500.000	18.72	17.86	36.58	74.00	-37.42	Average Detector
	2500.000	30.48	17.86	48.34	74.00	-25.66	Peak Detector

802.11n-HT40-Lowest Bandedge

Vertical (Worst case)

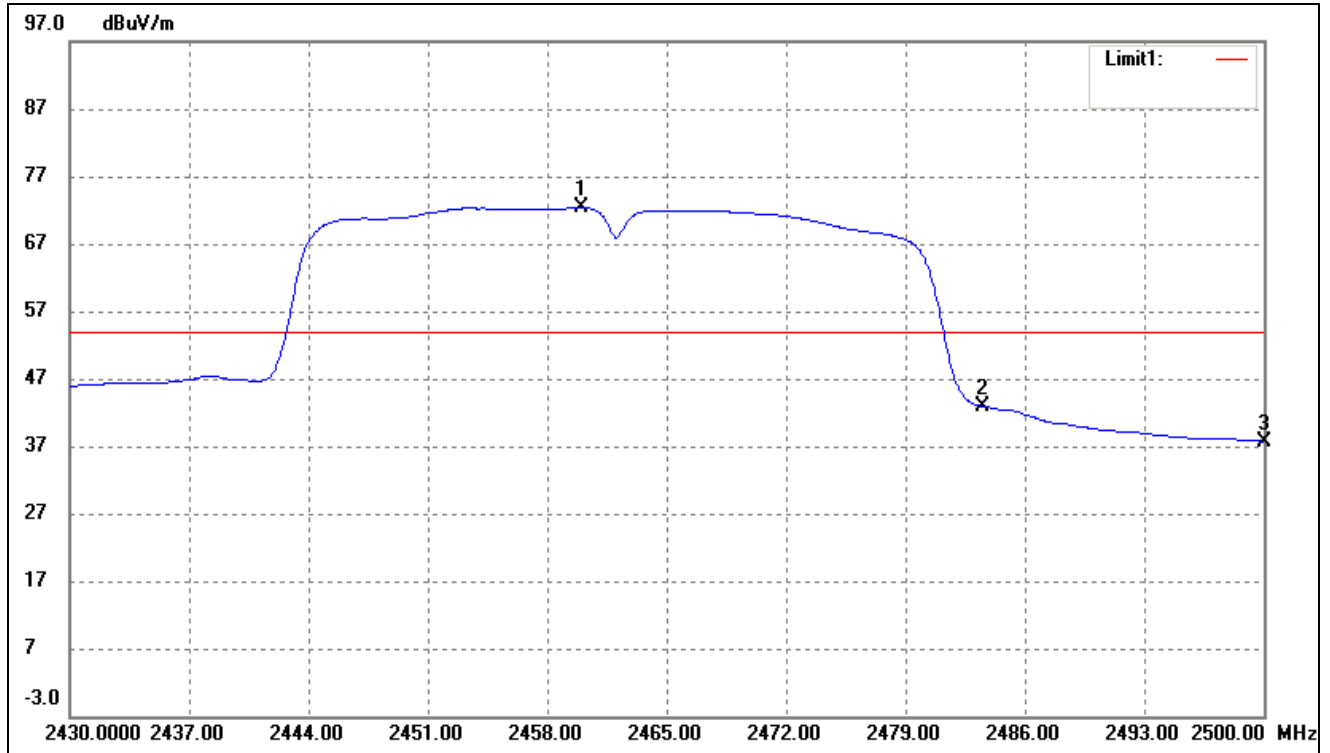


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	19.39	16.34	35.73	54.00	-18.27	Average Detector
	2310.000	31.78	16.34	48.12	74.00	-25.88	Peak Detector
2	2390.000	32.35	17.03	49.38	54.00	-4.62	Average Detector
	2390.000	47.86	17.03	64.89	74.00	-9.11	Peak Detector
3	2400.000	34.47	17.11	51.58	Delta=25.55dBc		Average Detector
4	2413.320	59.92	17.21	77.13			Peak Detector



802.11n-HT40-Highest Bandedge

Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.030	54.79	17.56	72.35	/	/	Average Detector
	2459.610	65.70	17.55	83.25	/	/	Peak Detector
2	2483.500	Delta = 46.21dBc		26.14	54.00	-27.86	Average Detector
	2483.500			37.04	74.00	-36.96	Peak Detector
3	2500.000	19.80	17.86	37.66	54.00	-16.34	Average Detector
	2500.000	33.96	17.86	51.82	74.00	-22.18	Peak Detector

## 10. Conducted Emissions

### 10.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is  $\pm 2.88$  dB.

### 10.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2014-05-28	2015-05-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2014-05-28	2015-05-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2014-05-28	2015-05-27

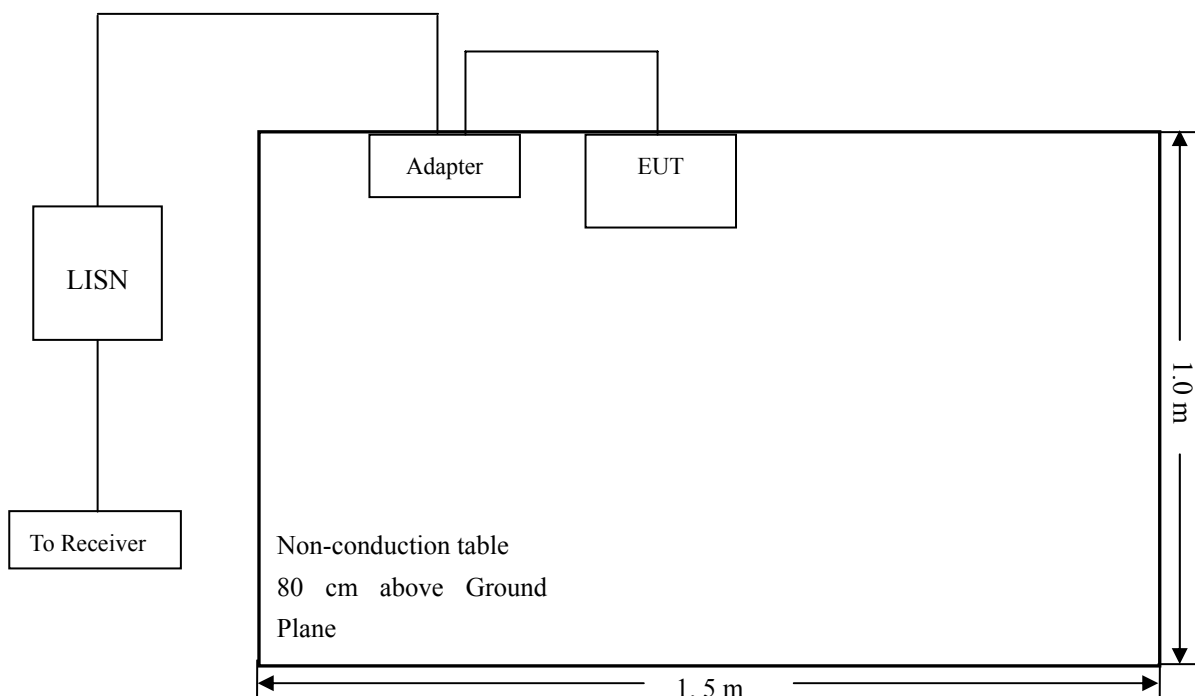
### 10.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 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.

### 10.4 Basic Test Setup Block Diagram



## 10.5 Environmental Conditions

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

## 10.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz  
Stop Frequency..... 30 MHz  
Sweep Speed ..... Auto  
IF Bandwidth..... 10 kHz  
Quasi-Peak Adapter Bandwidth ..... 9 kHz  
Quasi-Peak Adapter Mode ..... Normal

## 10.7 Summary of Test Results/Plots

According to the data in section 9.8, the EUT complied with the FCC Part 15.207 Conducted margin for a Class B device, with the *worst* margin reading of:

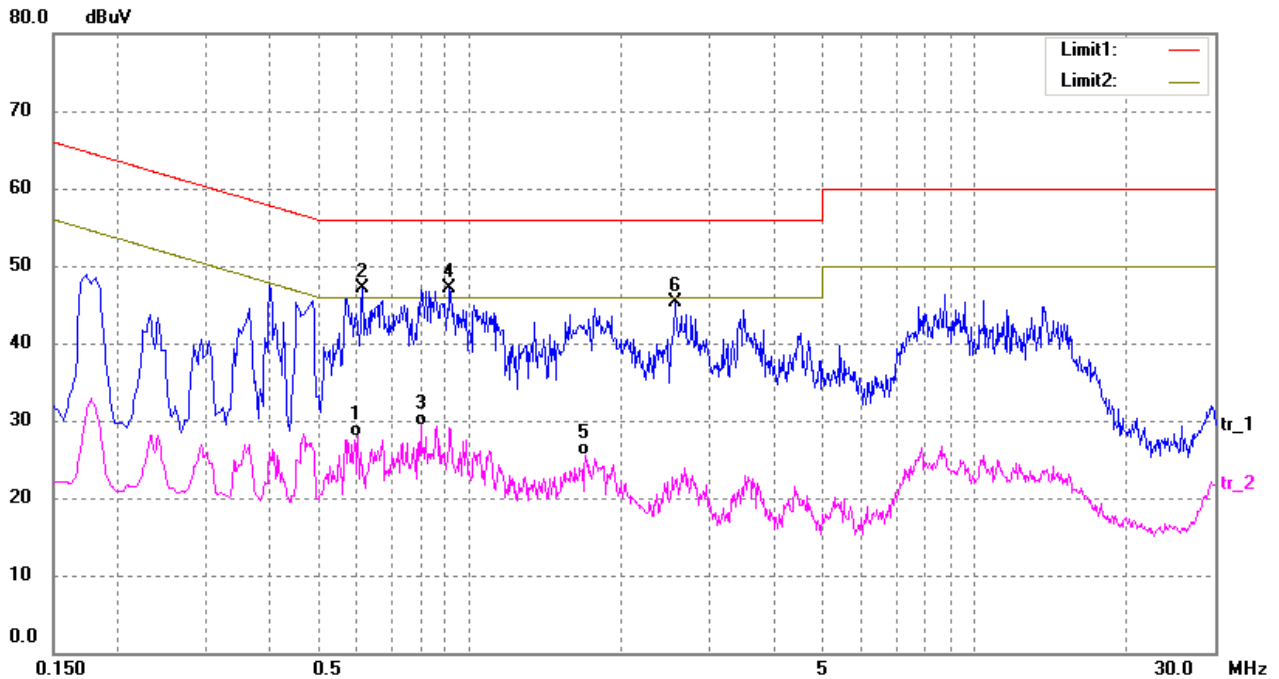
**-5.90 dB at 0.4900 MHz in the Line, Peak detector, 0.15-30MHz**

## 10.8 Conducted Emissions Test Data

### Plot of Conducted Emissions Test Data

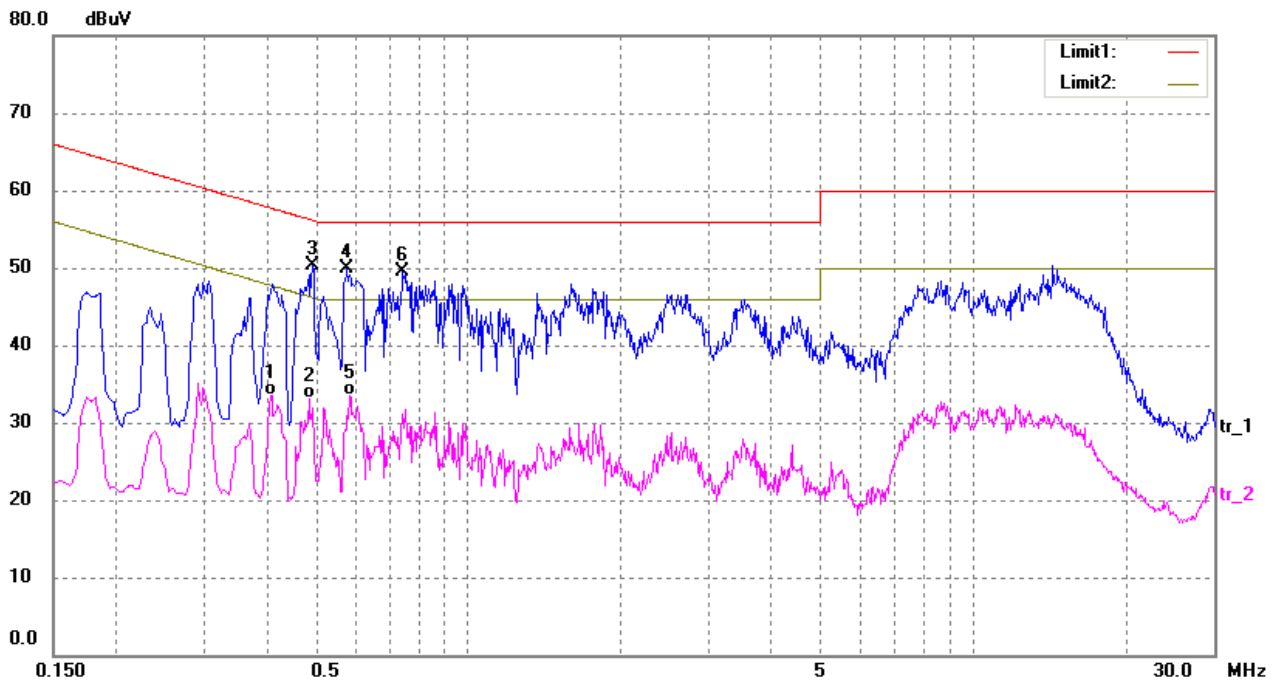
EUT: Tablet PC  
 Tested Model: M77GH2(AP)  
 Operating Condition: Transmitting(Wi-Fi)  
 Comment: AC 120V/60Hz; DC 5V Adapter

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.6020	18.40	9.60	28.00	46.00	-18.00	AVG
2	0.6140	37.43	9.61	47.04	56.00	-8.96	peak
3	0.8020	19.48	9.80	29.28	46.00	-16.72	AVG
4	0.9180	37.15	9.92	47.07	56.00	-8.93	peak
5	1.7060	15.53	10.00	25.53	46.00	-20.47	AVG
6	2.5580	35.33	10.00	45.33	56.00	-10.67	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4060	24.08	9.50	33.58	47.73	-14.15	AVG
2	0.4820	23.57	9.50	33.07	46.30	-13.23	AVG
3	0.4900	40.77	9.50	50.27	56.17	-5.90	peak
4	0.5740	40.35	9.57	49.92	56.00	-6.08	peak
5	0.5820	23.98	9.58	33.56	46.00	-12.44	AVG
6	0.7420	39.72	9.74	49.46	56.00	-6.54	peak

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