

# FCC Part 15C Measurement and Test Report

For

**Shenzhen Huibaizhou Electronics Co., Ltd**

**Room 1011, Hualianfa building, Huaqiang North Road, Futian District,**

**Shenzhen City, Guangdong Province**

**FCC ID: 2AEBTA850**

<b>FCC Rule(s):</b>	<u>FCC Part 15C</u>
<b>Product Description:</b>	<u>Mobile Phone</u>
<b>Tested Model:</b>	<u>A850</u>
<b>Report No.:</b>	<u>STR15028110I-3</u>
<b>Tested Date:</b>	<u>2015-02-26 to 2015-03-11</u>
<b>Issued Date:</b>	<u>2015-03-11</u>
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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: Shenzhen Huibaizhou Electronics Co., Ltd  
 Address of applicant: Room 1011, Hualianfa building, Huaqiang North Road,  
 Futian District, Shenzhen City, Guangdong Province

Manufacturer: Lenovo Mobile Communication Co., Ltd(Wuhan).  
 Address of manufacturer: Building No.5, Gaoxin Four Road, Dong Hu New  
 Technology Development Zone, Wuhan Province

General Description of EUT	
Product Name:	Mobile Phone
Brand Name:	LENOVO
Model No.:	A850
Hardware Version:	AUX-MB-H301
Software Version:	A850_S203_140208
IMEI:	865127025261228
Rated Voltage:	DC 3.7V Li-ion Battery
Battery:	2250mAh
Power Adaptor:	Input 100-260V, 50/60Hz, Output DC 5V/1000mA
Device Category:	Portable Device
<i>The EUT is GSM 850/900/1800/1900, WCDMA 900/2100 Mobile Phone, the Mobile Phone is intended for speech and Multimedia Message Service (MMS) transmission. It is equipped with GPRS/EDGE class 12 for GSM850 and GSM1900 and Bluetooth WIFI camera functions. For more information see the following datasheet</i>	
<i>Note: The test data is gathered from a production sample provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n(HT20;HT40)
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20) 2422-2452MHz for 802.11n(HT40)
AV Output Power:	9.10dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11 for 802.11b/g/n(HT20); 7 for 802.11n(HT40)
Channel Separation:	5MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	0dBi

## 1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Huibaizhou Electronics Co., Ltd 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, 2462MHz
TM2	802.11g	2412MHz, 2442MHz, 2462MHz
TM3	802.11n-HT20	2412MHz, 2442MHz, 2462MHz
TM4	802.11n-HT40	2422MHz, 2442MHz, 2452MHz

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	0.8	Shielded	Without Core
Earphone	1.2	Unshielded	Without Ferrite

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	LR-63C8R

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

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

### 5.4 Environmental Conditions

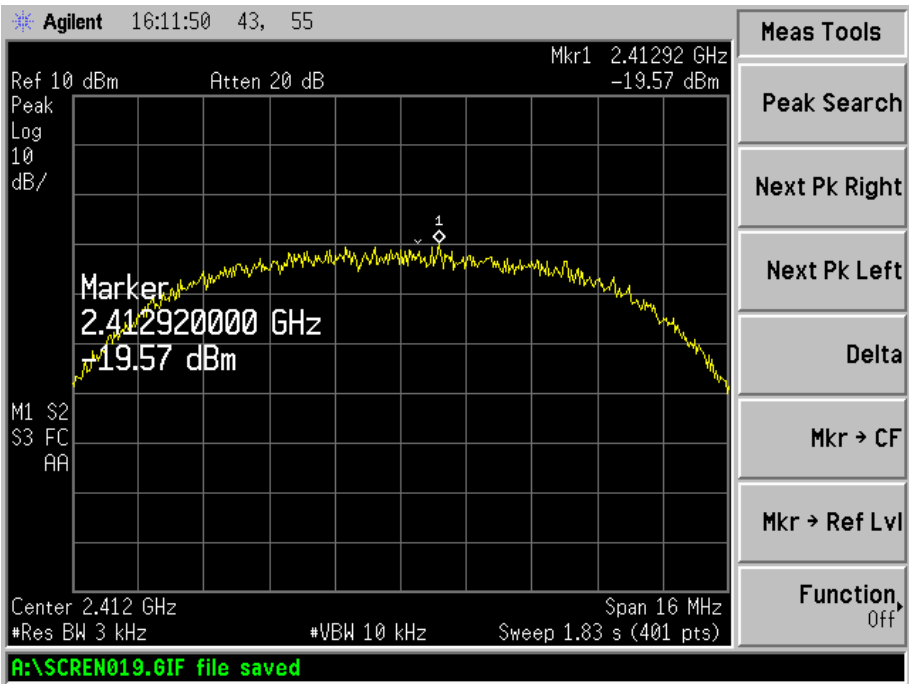
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

## 5.5 Summary of Test Results/Plots

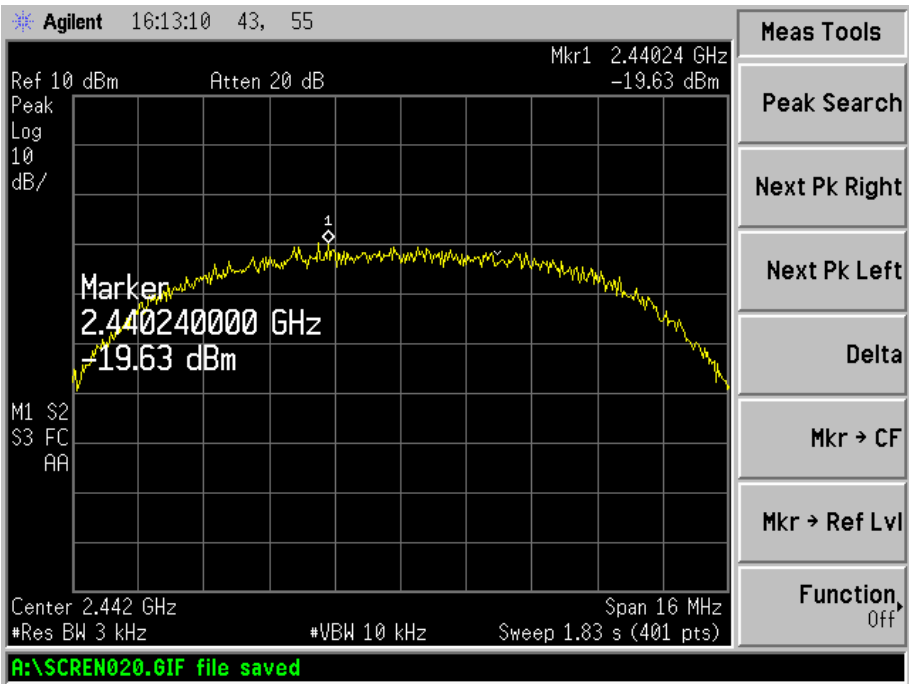
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-19.57	8
	2442	-19.63	8
	2462	-20.10	8
802.11g	2412	-22.87	8
	2442	-21.12	8
	2462	-23.24	8
802.11n HT20	2412	-22.95	8
	2442	-21.48	8
	2462	-23.22	8
802.11n HT40	2422	-24.99	8
	2442	-24.94	8
	2452	-25.74	8

Please refer to the following test plots:

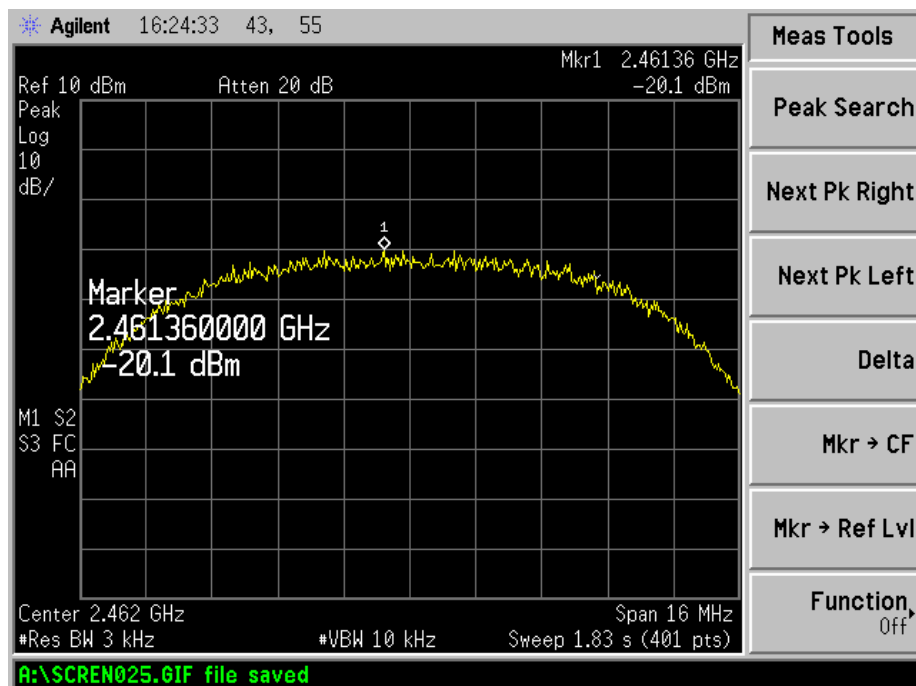
802.11b-Low Channel



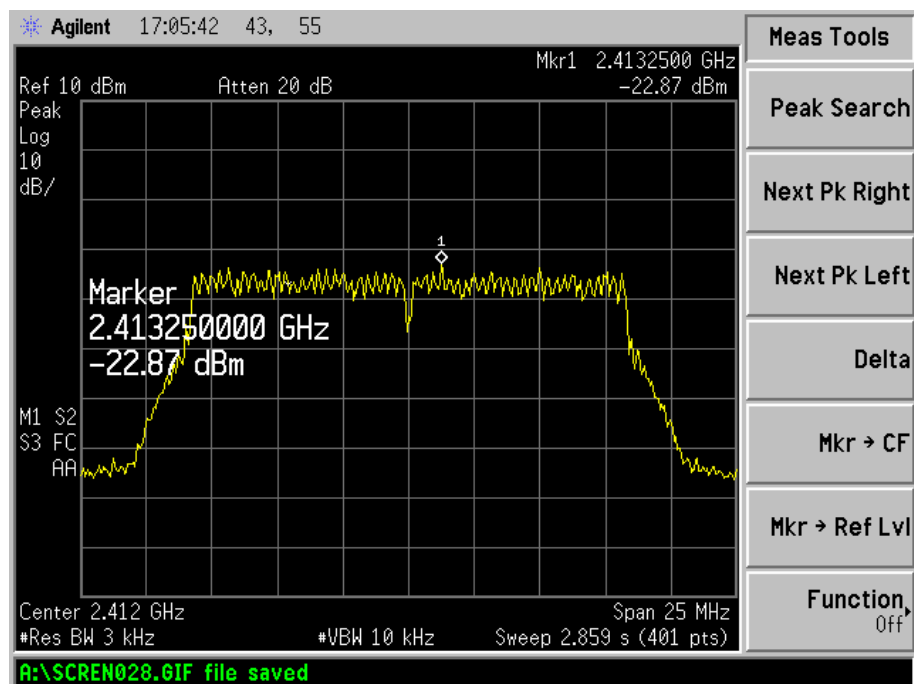
802.11b-Middle Channel



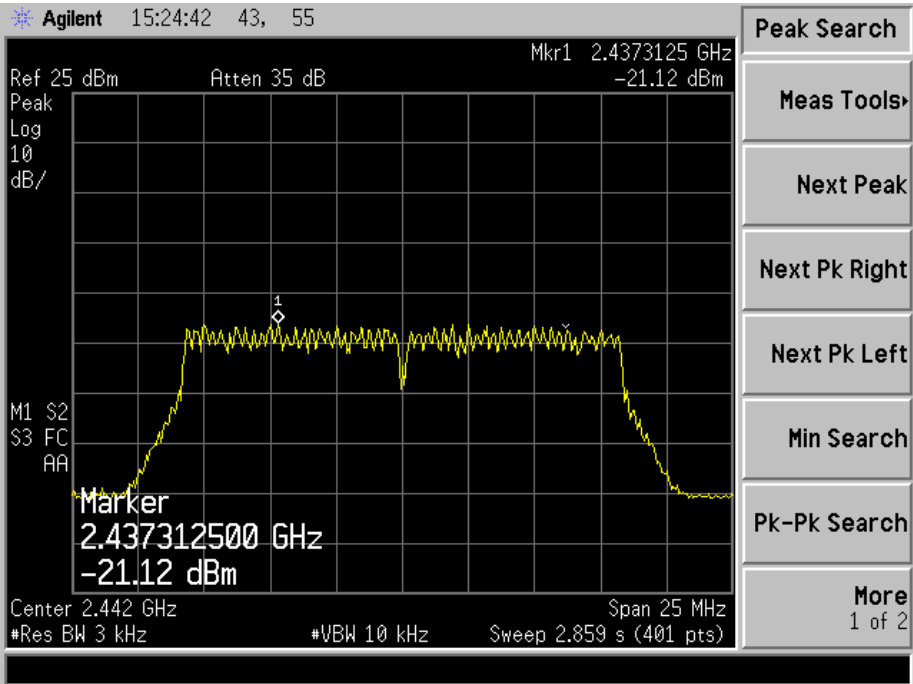
## 802.11b-High Channel



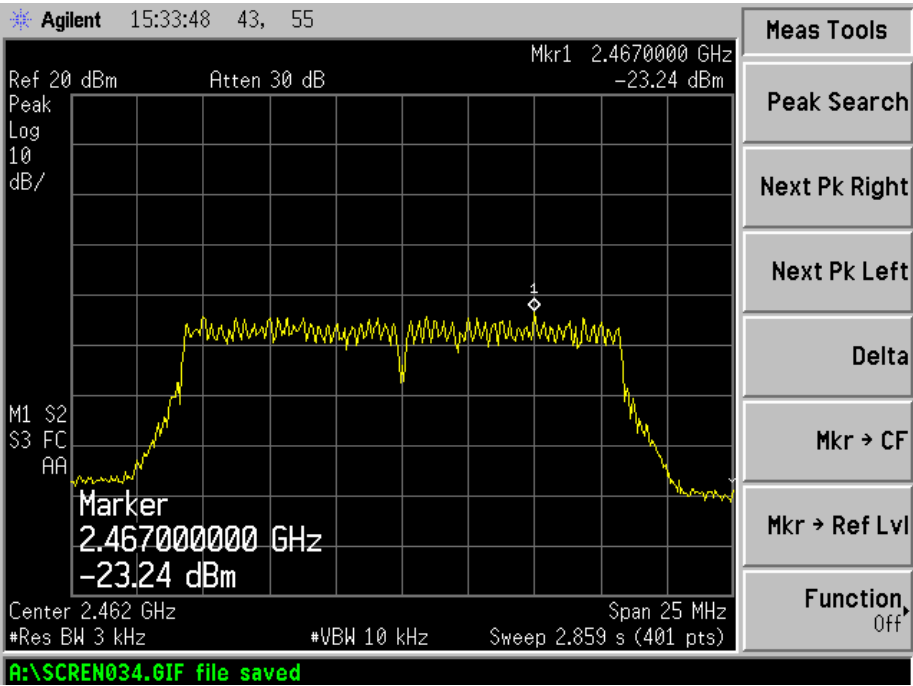
## 802.11g-Low Channel



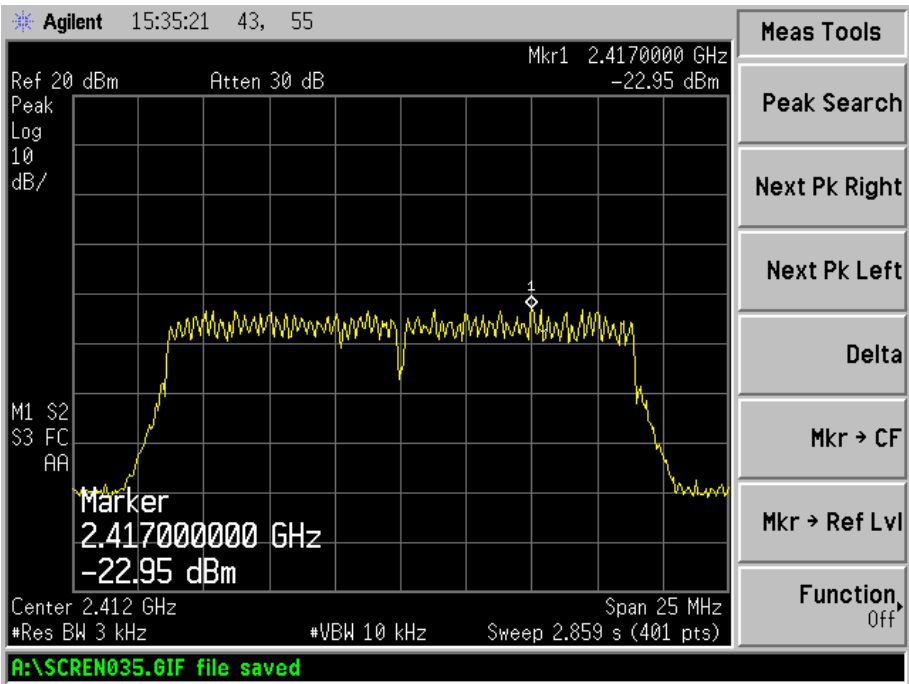
802.11g-Middle Channel



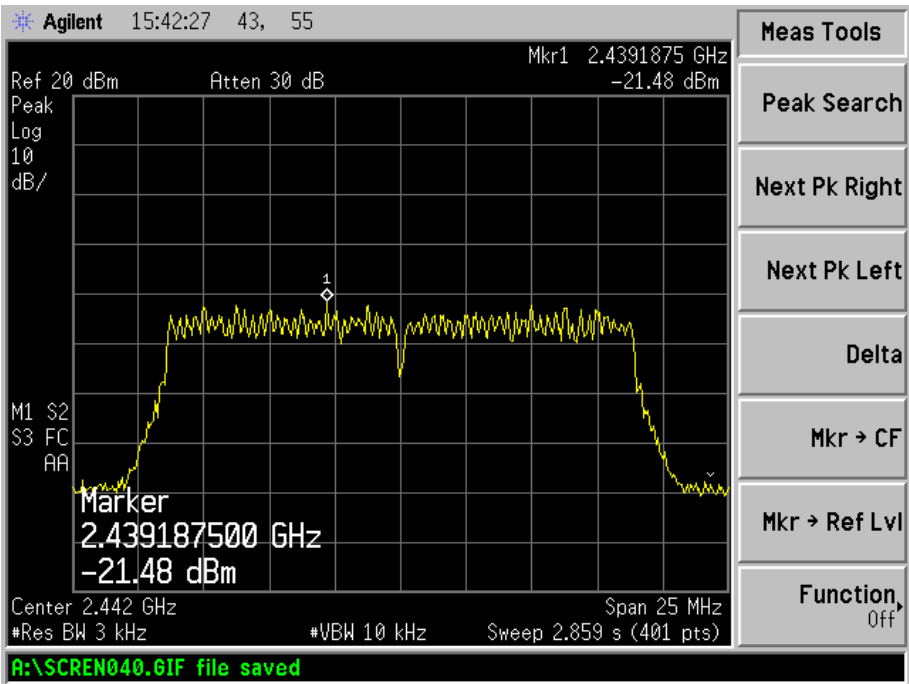
802.11g-High Channel



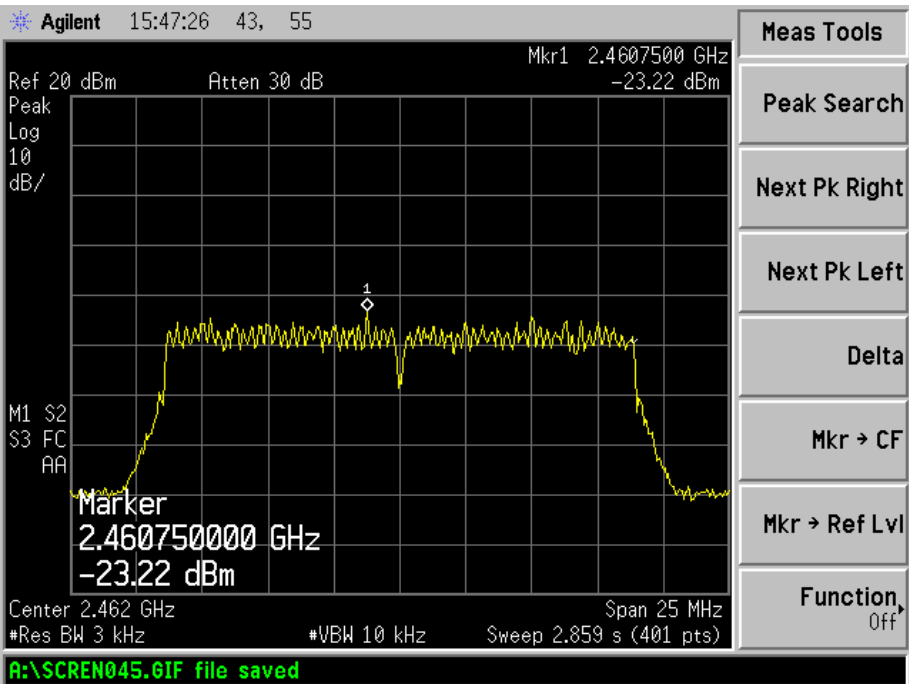
802.11n-HT20-Low Channel



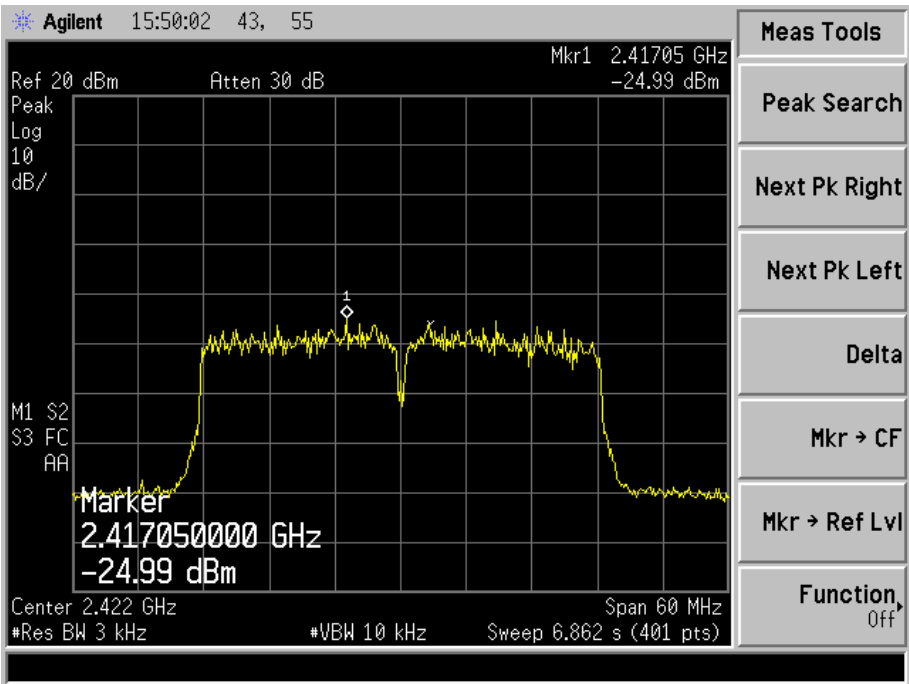
802.11n-HT20-Middle Channel



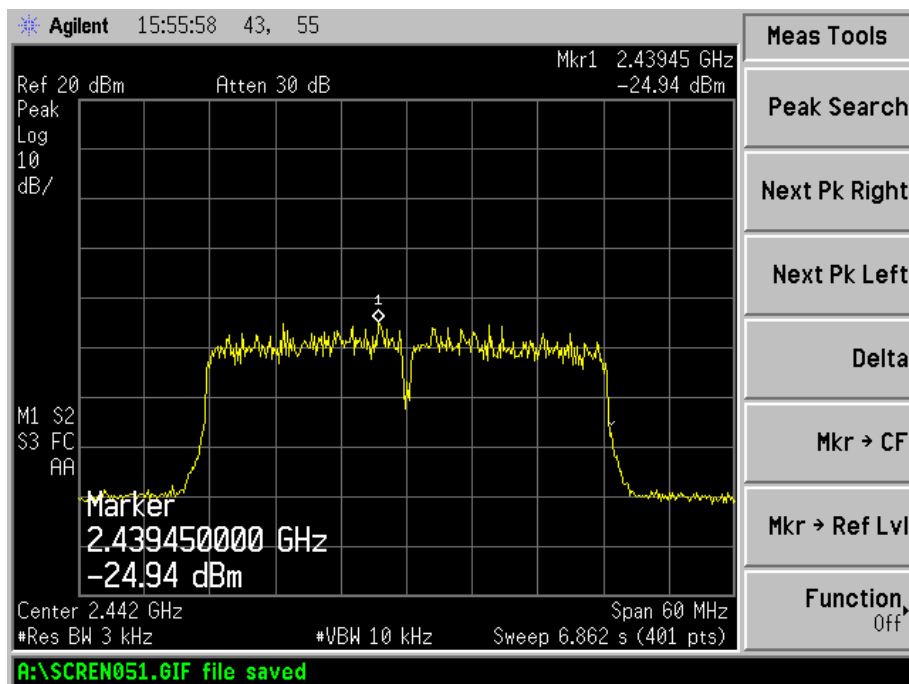
802.11n-HT20-High Channel



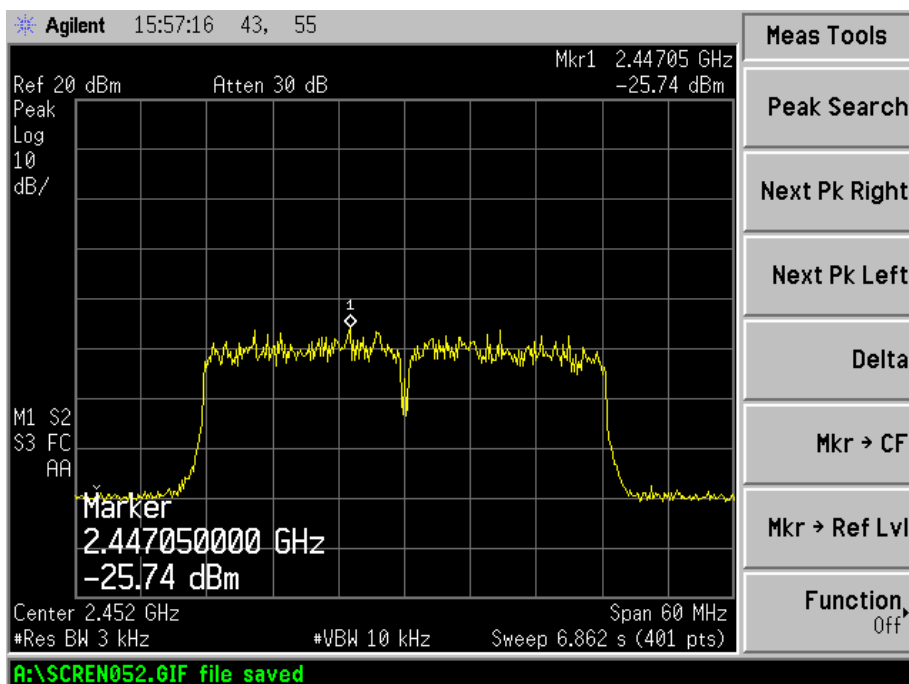
802.11n-HT40-Low Channel



## 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

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

### 6.4 Environmental Conditions

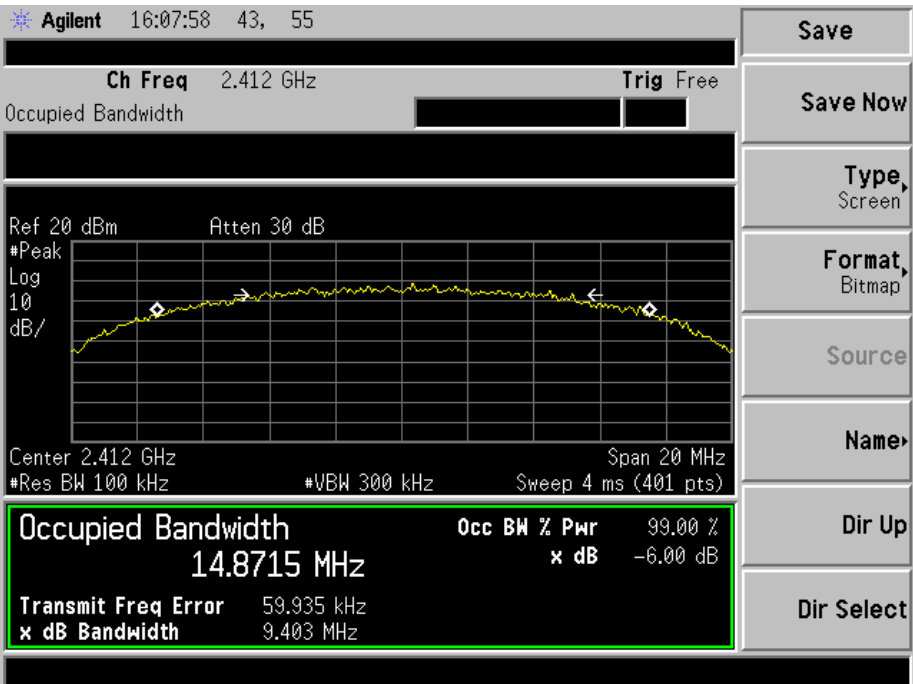
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

## 6.5 Summary of Test Results/Plots

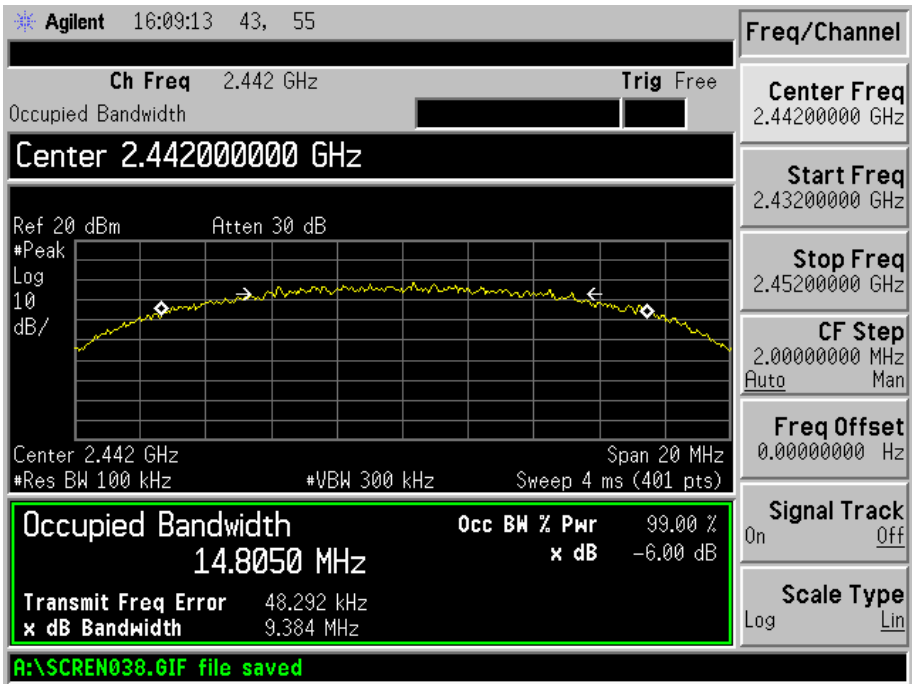
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	99% Bandwidth kHz	Limit kHz
802.11b	2412	9403	14871.5	500
	2442	9384	14805.0	500
	2462	8784	14941.6	500
802.11g	2412	16464	16486.5	500
	2442	16399	16480.7	500
	2462	16394	16469.9	500
802.11n-HT20	2412	17656	17629.1	500
	2442	17657	17663.9	500
	2462	17584	17662.4	500
802.11n-HT40	2422	35734	35954.0	500
	2442	35534	35800.0	500
	2452	35656	35794.4	500

Please refer to the following test plots:

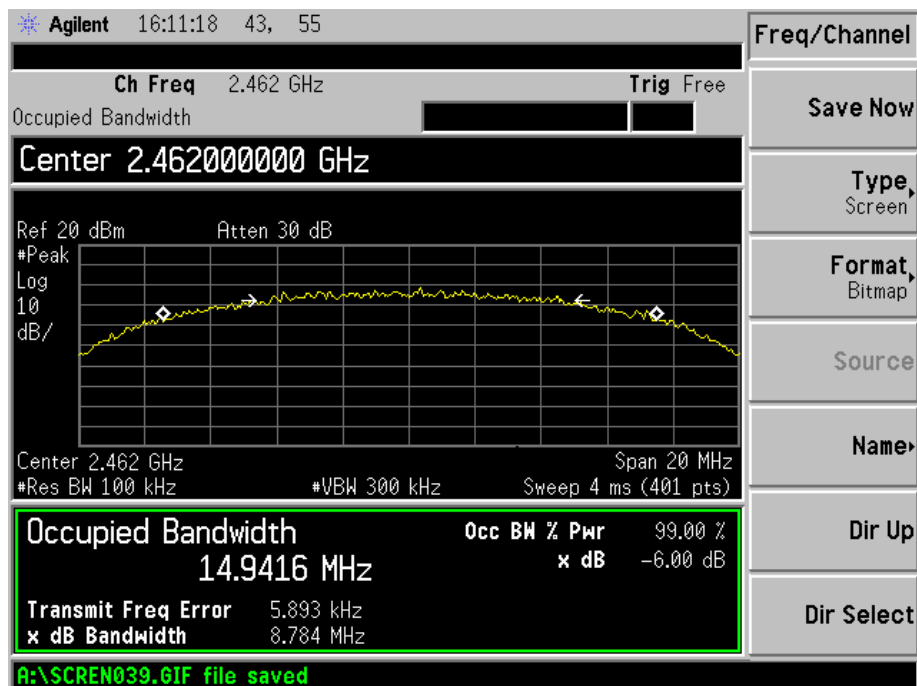
802.11b-Low Channel



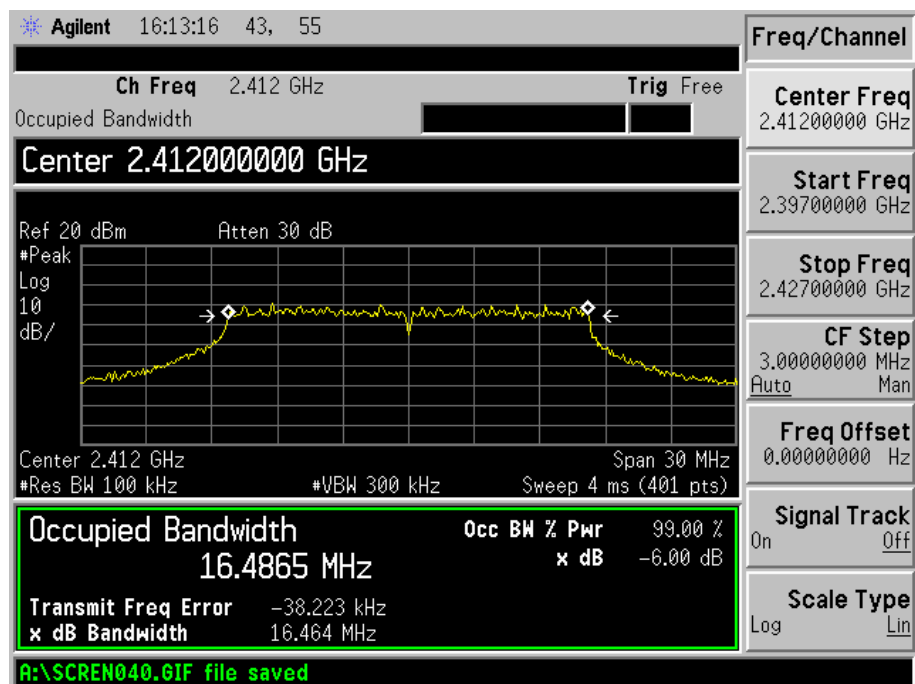
802.11b-Middle Channel



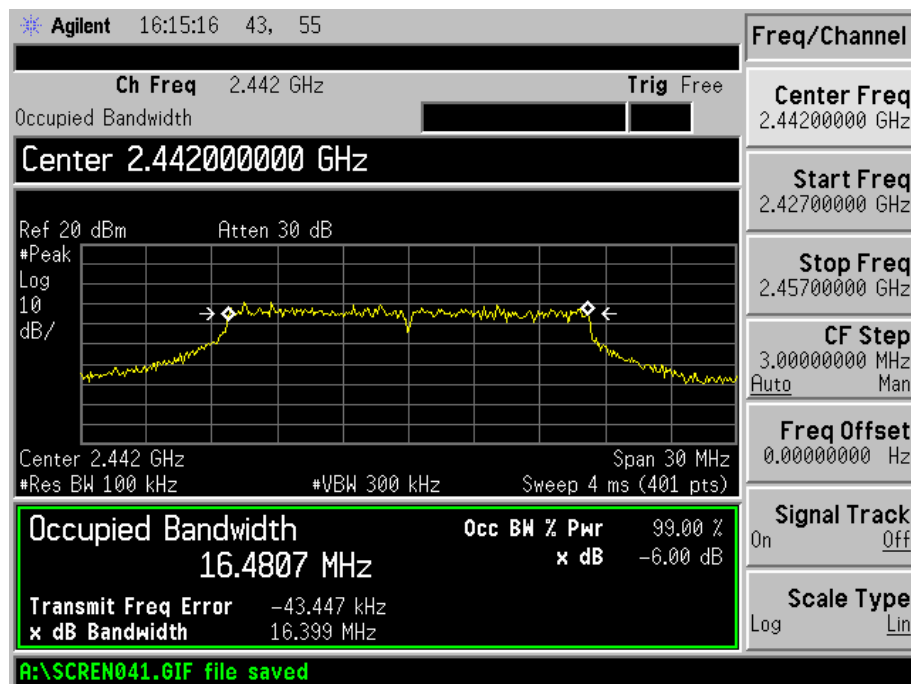
## 802.11b-High Channel



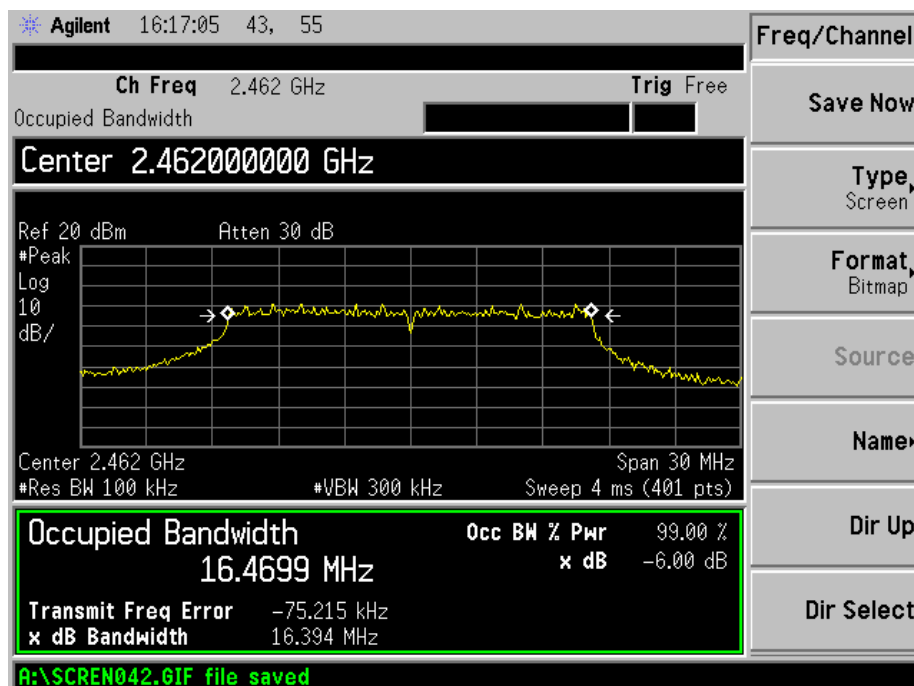
## 802.11g-Low Channel



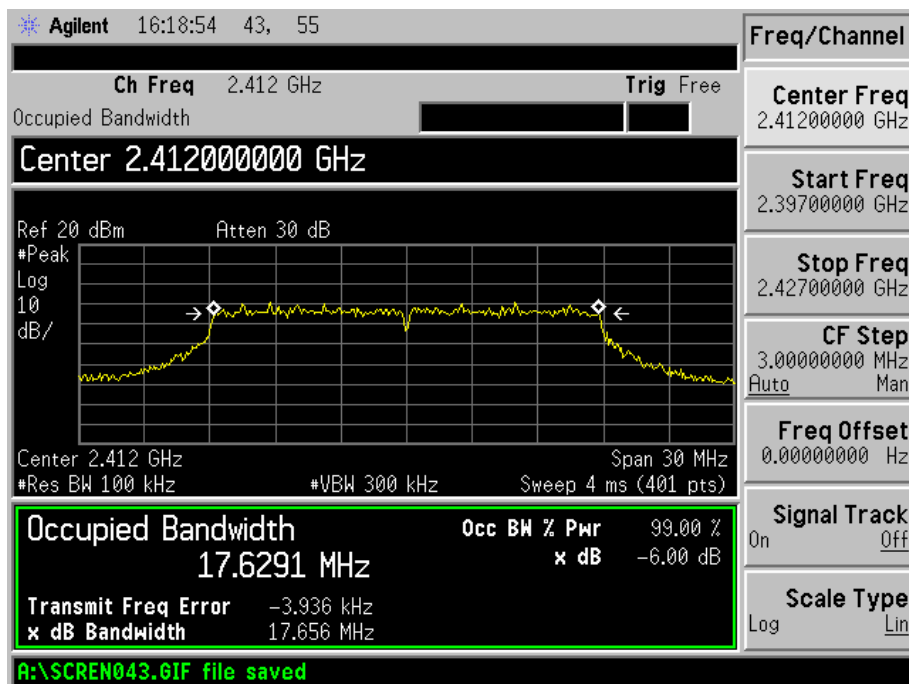
## 802.11g-Middle Channel



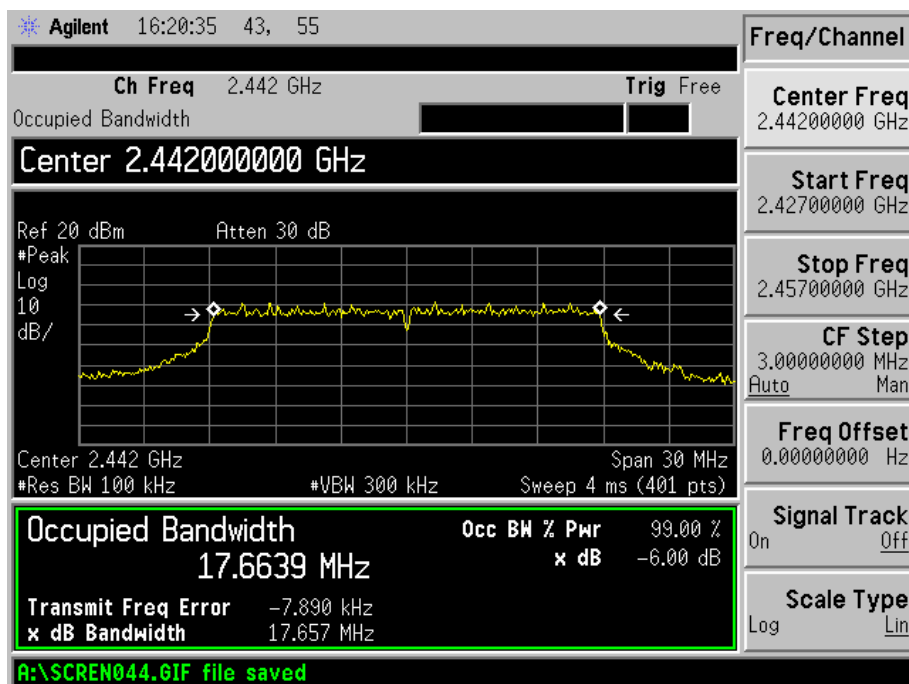
## 802.11g-High Channel



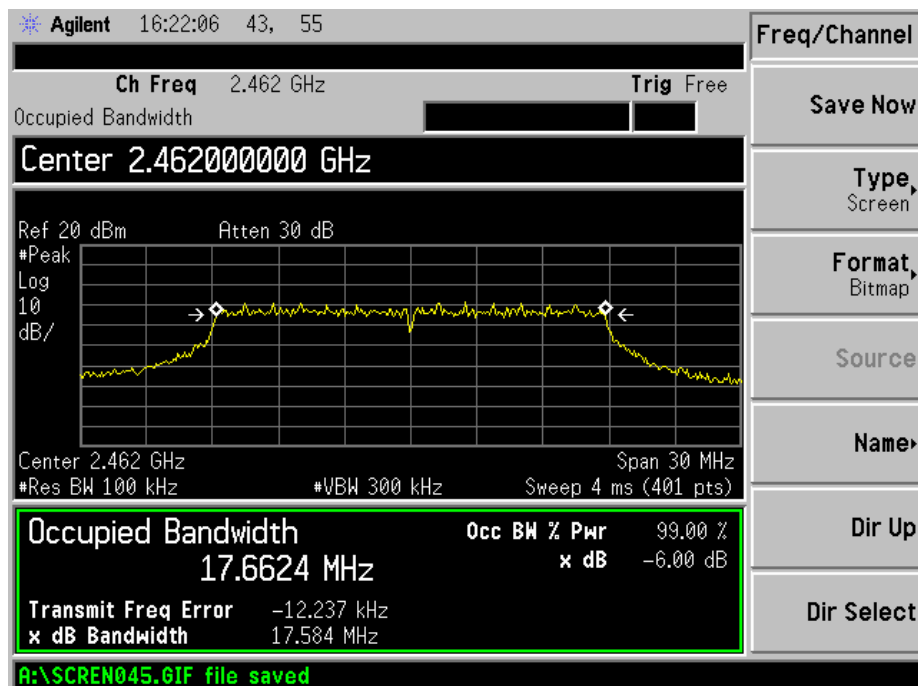
## 802.11n-HT20-Low Channel



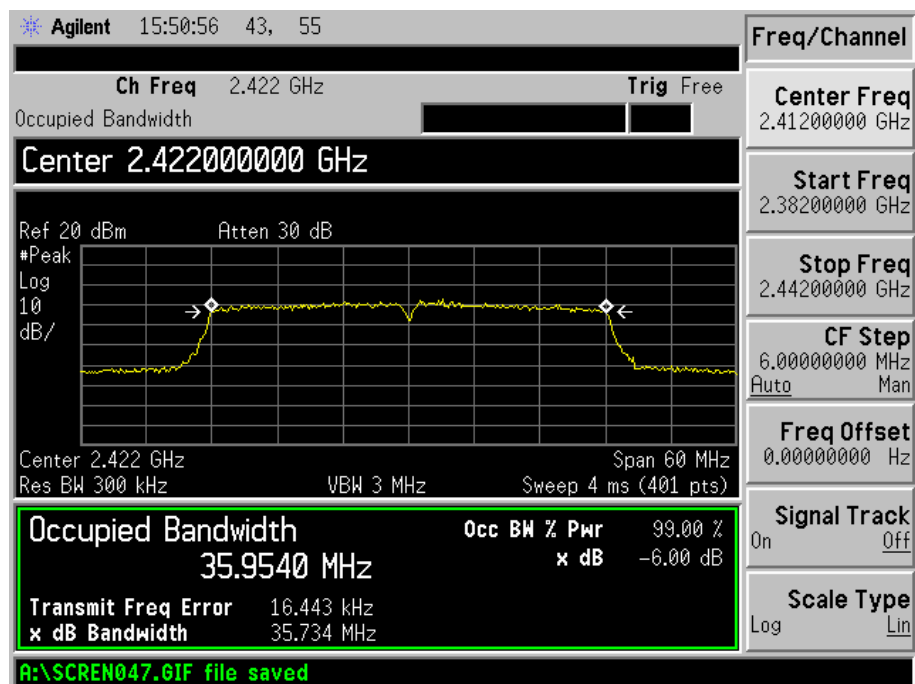
## 802.11n-HT20-Middle Channel



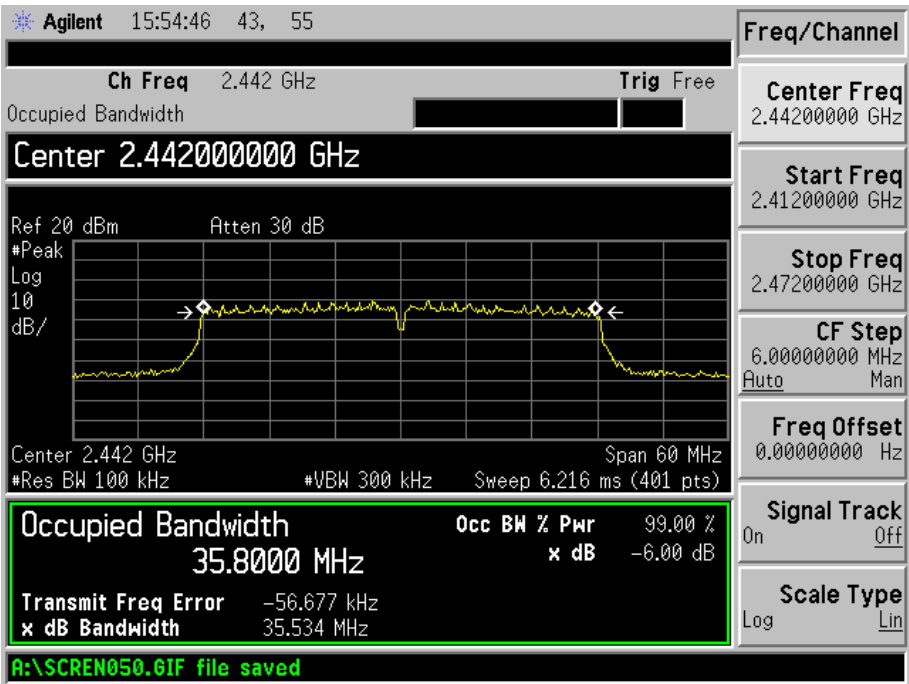
## 802.11n-HT20-High Channel



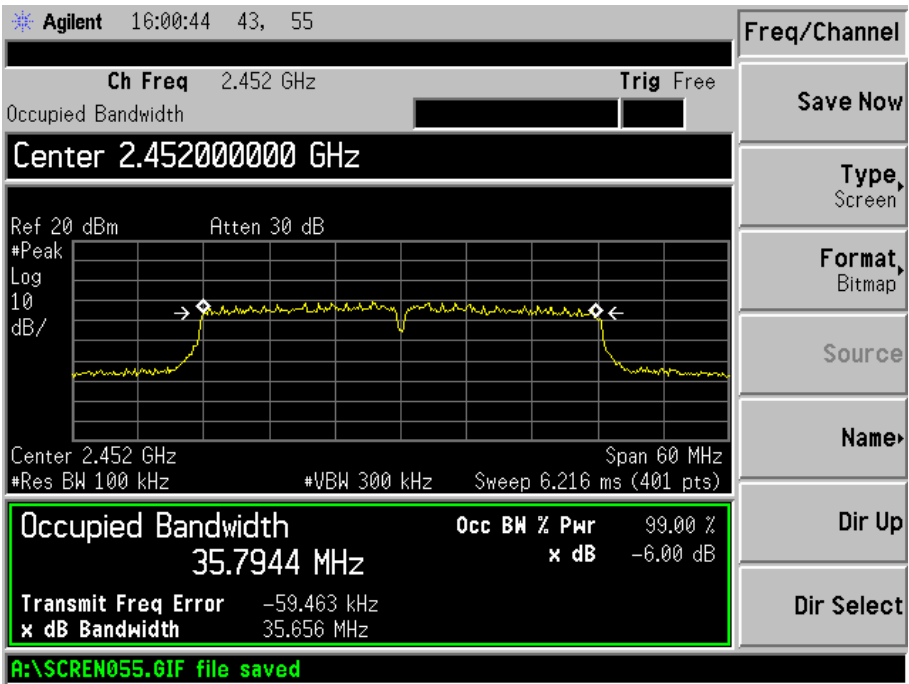
## 802.11n-HT40-Low Channel



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, 8.1.2 Option 2 (channel integration method) this procedure should only be used when the maximum available RBW of the spectrum/signal analyzer is less than the DTS bandwidth.

1. Set span to at least 1.5 times the OBW.
2. Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
3. Set VBW  $\geq 3 \times$  RBW.
4. 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.)
5. Sweep time = auto.
6. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
8. 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

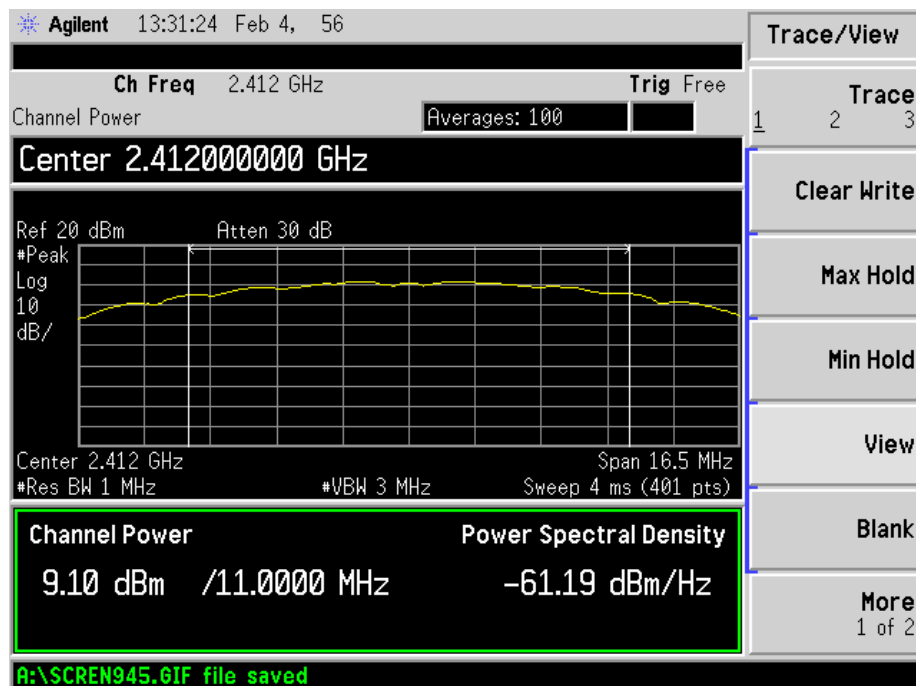
Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

## 7.5 Summary of Test Results/Plots

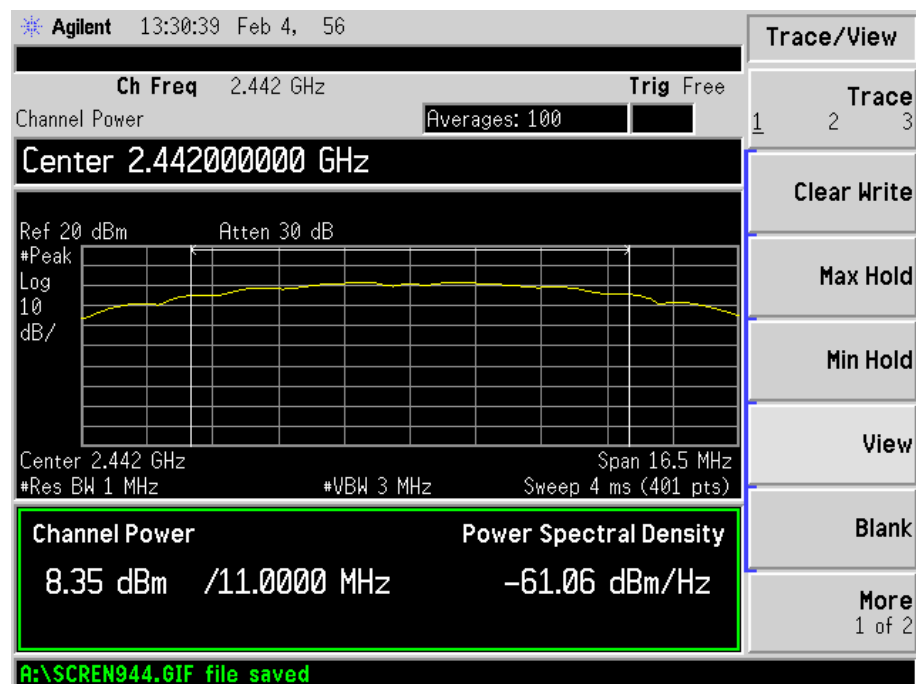
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b _ 11Mbps	2412	9.10	8.1283	1000
	2442	8.35	6.8391	1000
	2462	8.65	7.3282	1000
802.11g_54Mbps	2412	7.53	5.6624	1000
	2442	7.85	6.0954	1000
	2462	7.38	5.4702	1000
802.11n HT20_MCS7	2412	7.04	5.0582	1000
	2442	7.27	5.3333	1000
	2462	7.85	6.0954	1000
802.11n HT40_MCS7	2422	6.95	4.9545	1000
	2442	7.35	5.4325	1000
	2452	6.96	4.9659	1000

Please refer to the following test plots:

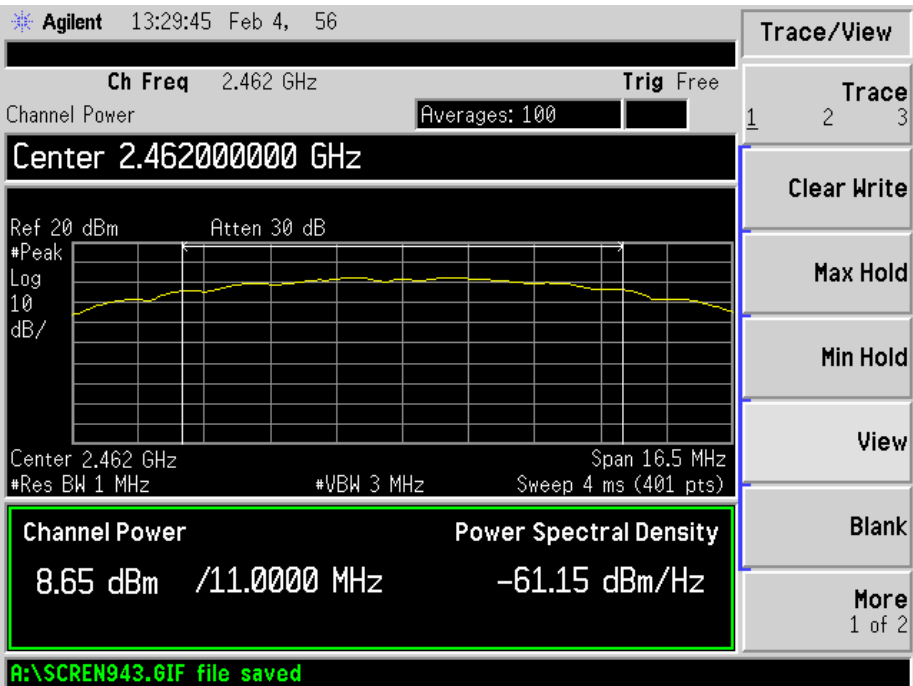
## 802.11b-Low Channel



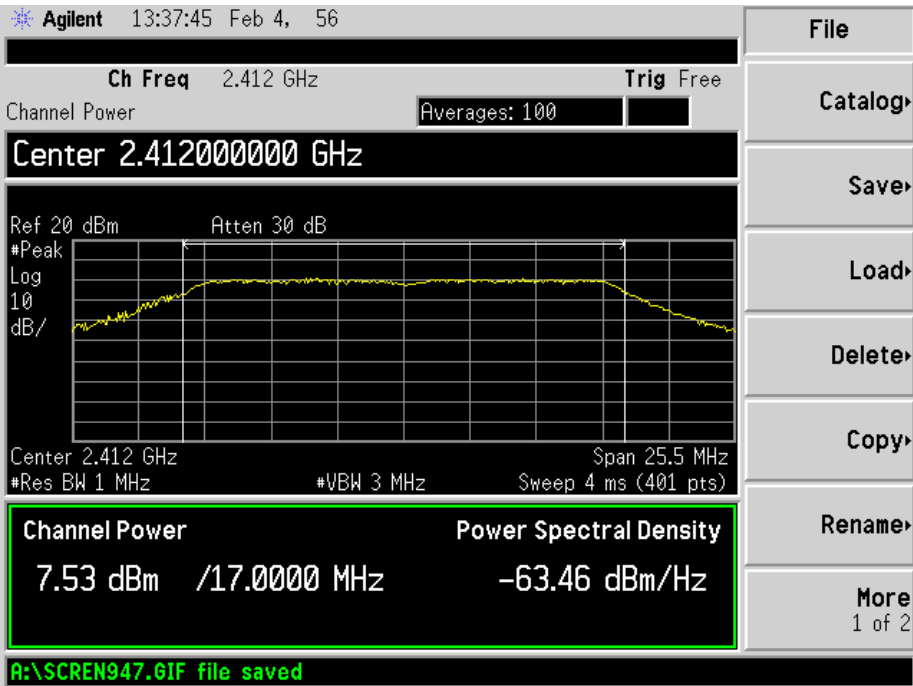
## 802.11b-Middle Channel



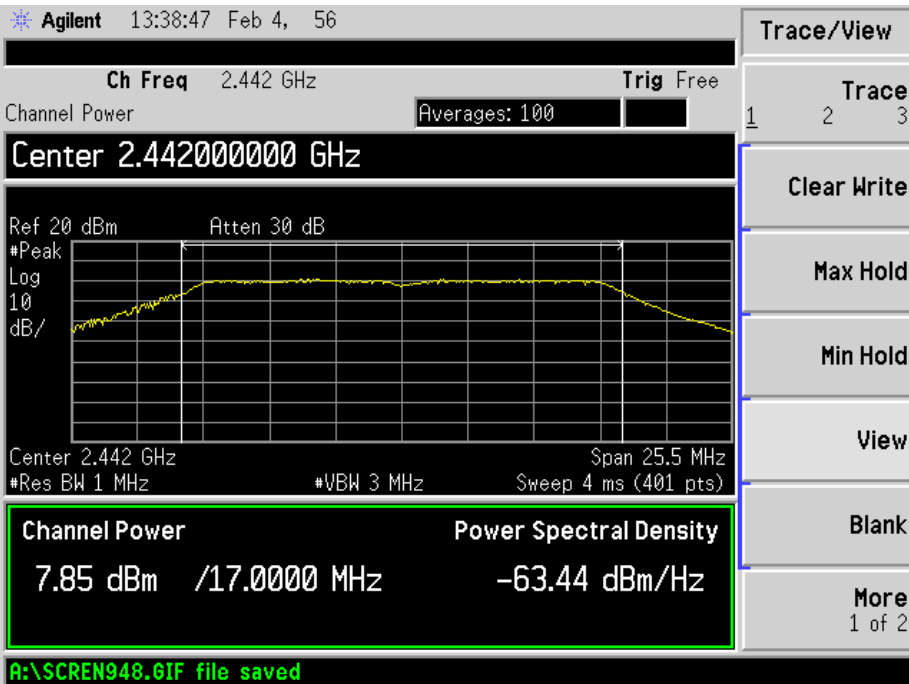
802.11b-High Channel



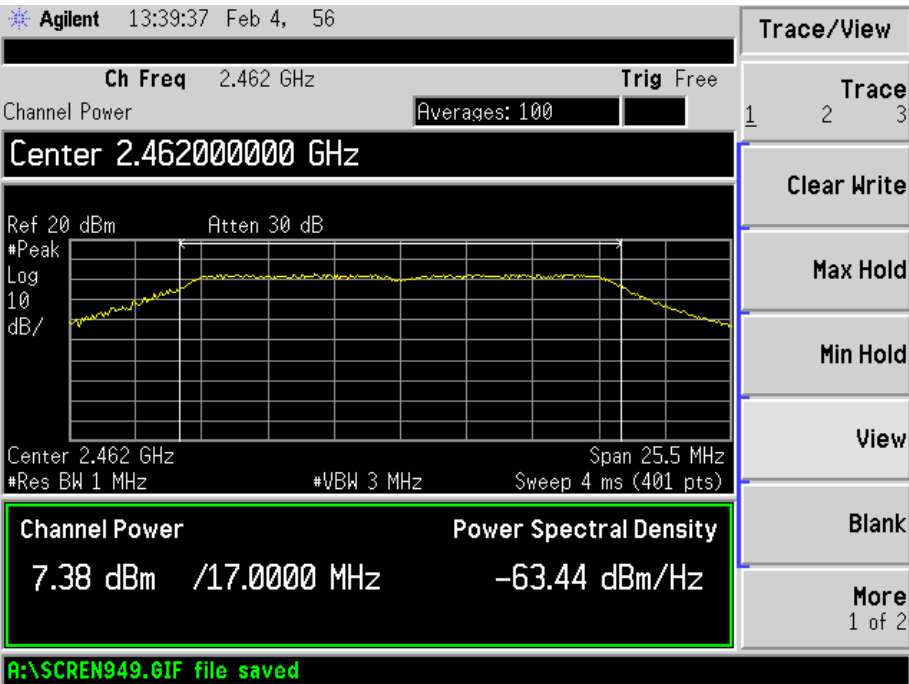
802.11g-Low Channel



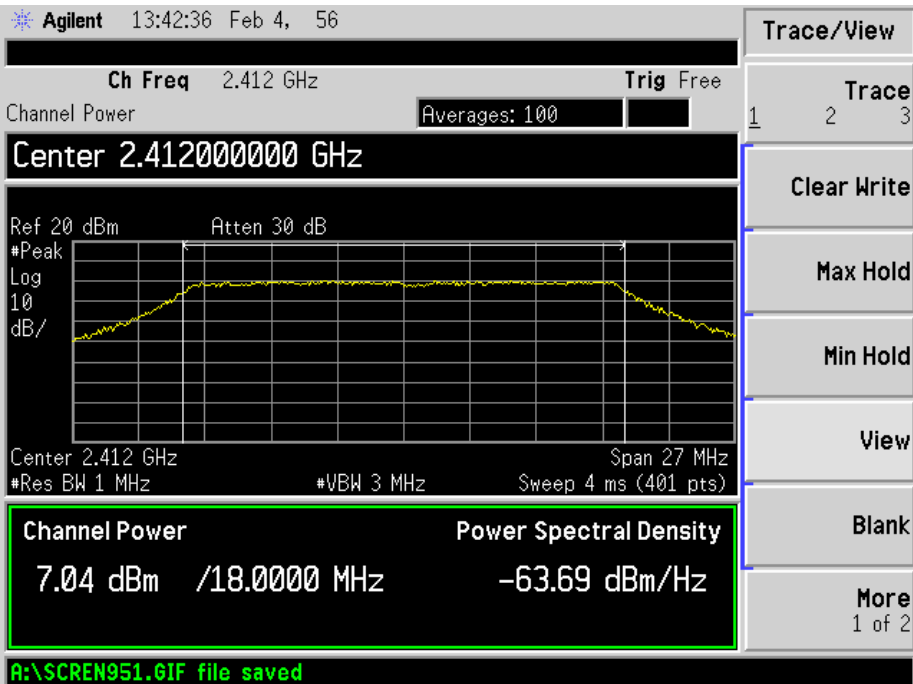
802.11g-Middle Channel



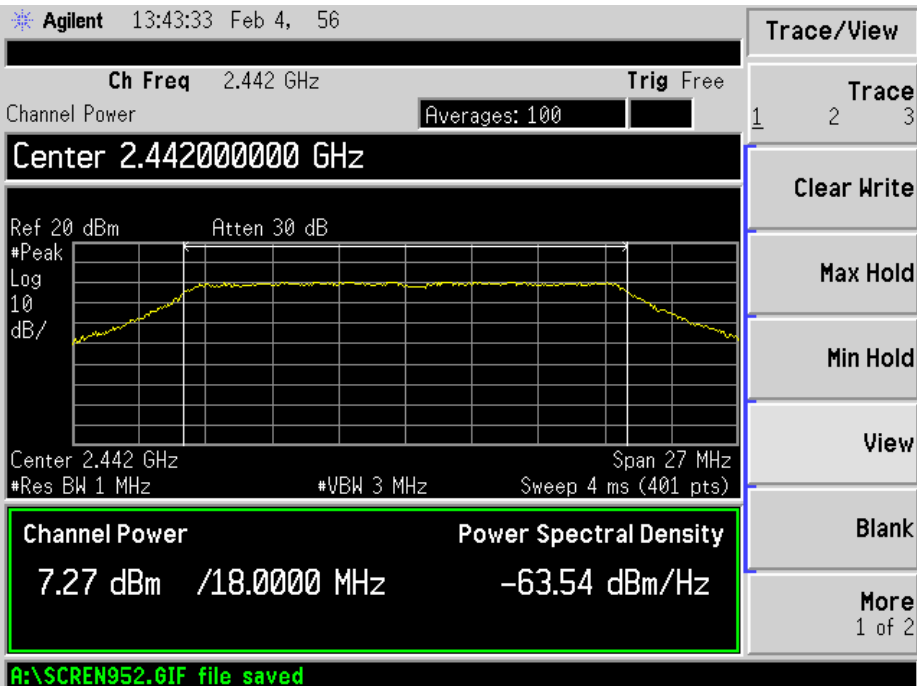
802.11g-High Channel



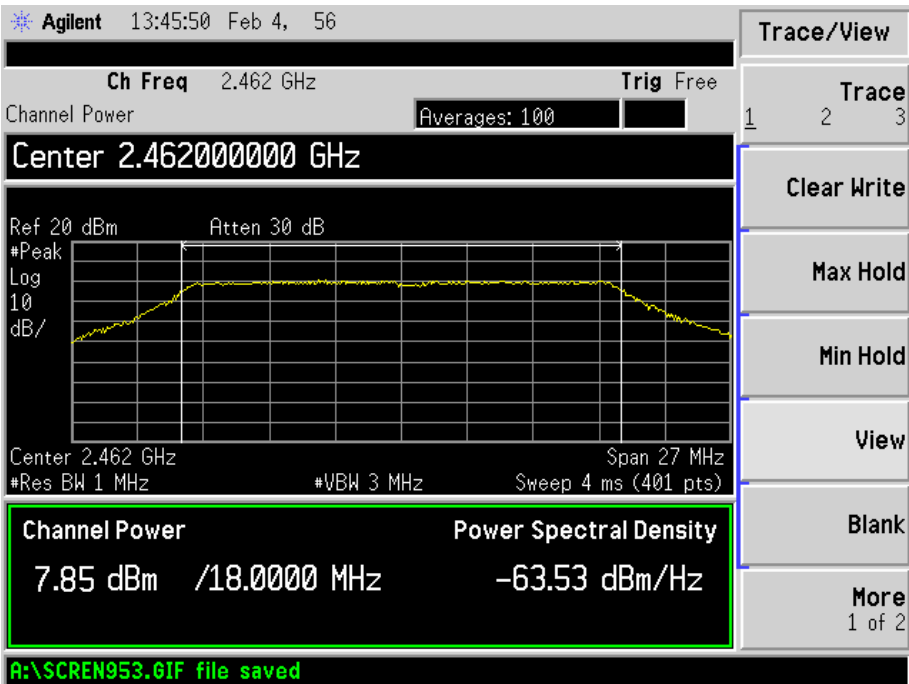
802.11n-HT20-Low Channel



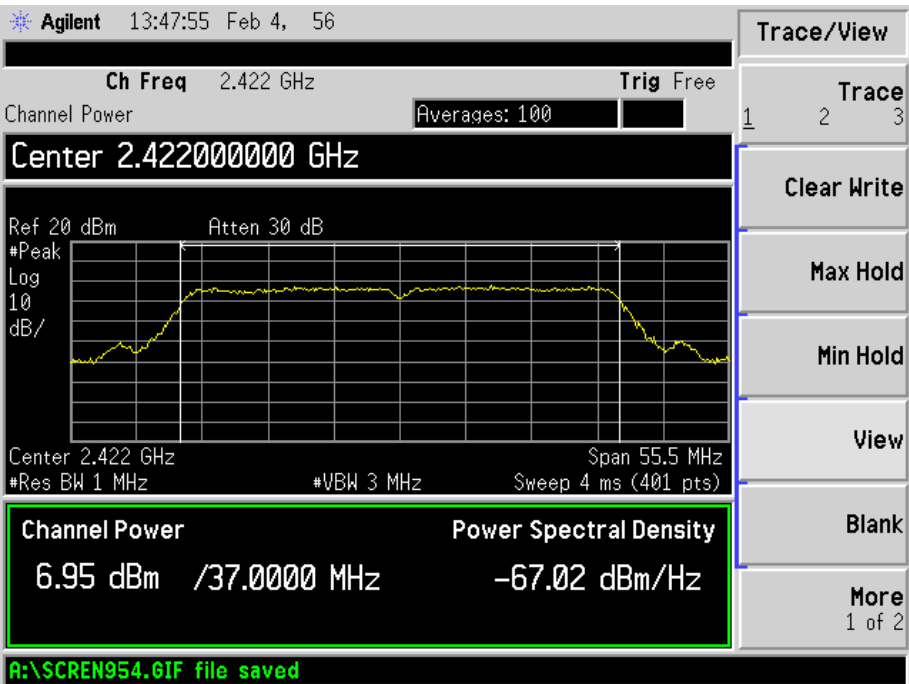
802.11n-HT20-Middle Channel



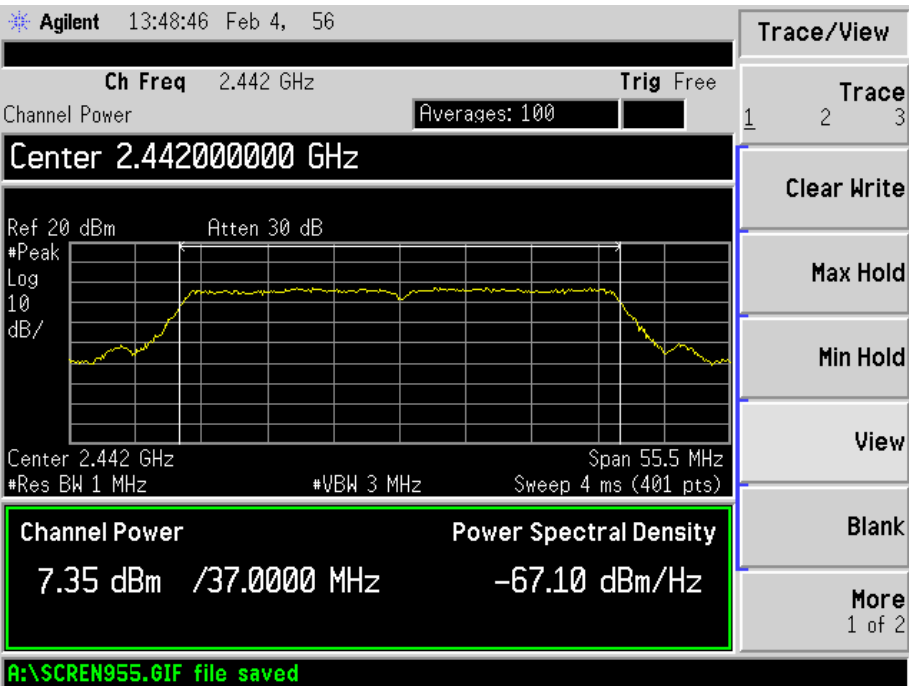
802.11n-HT20-High Channel



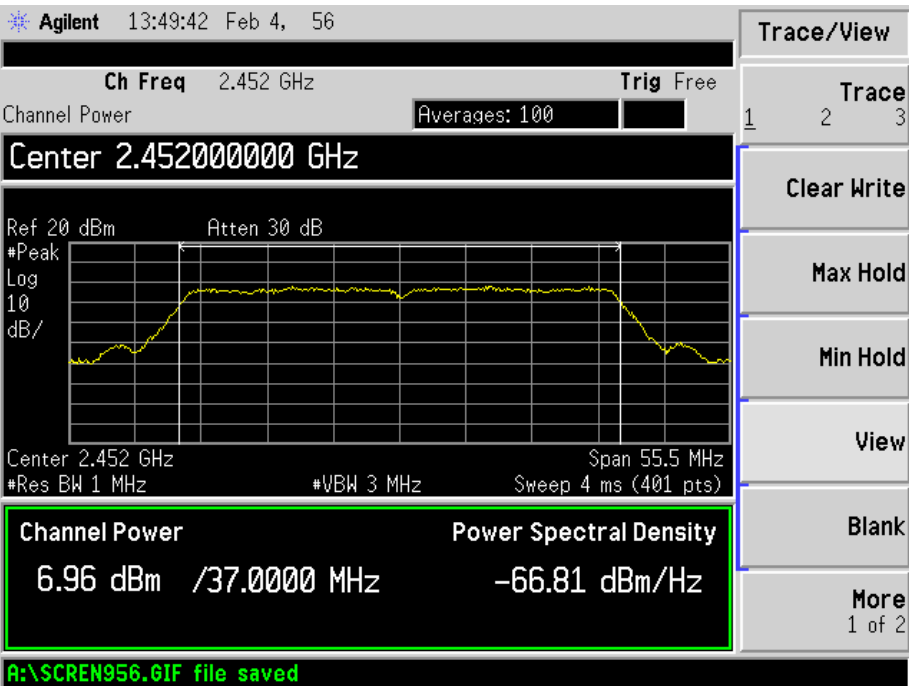
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel





## 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

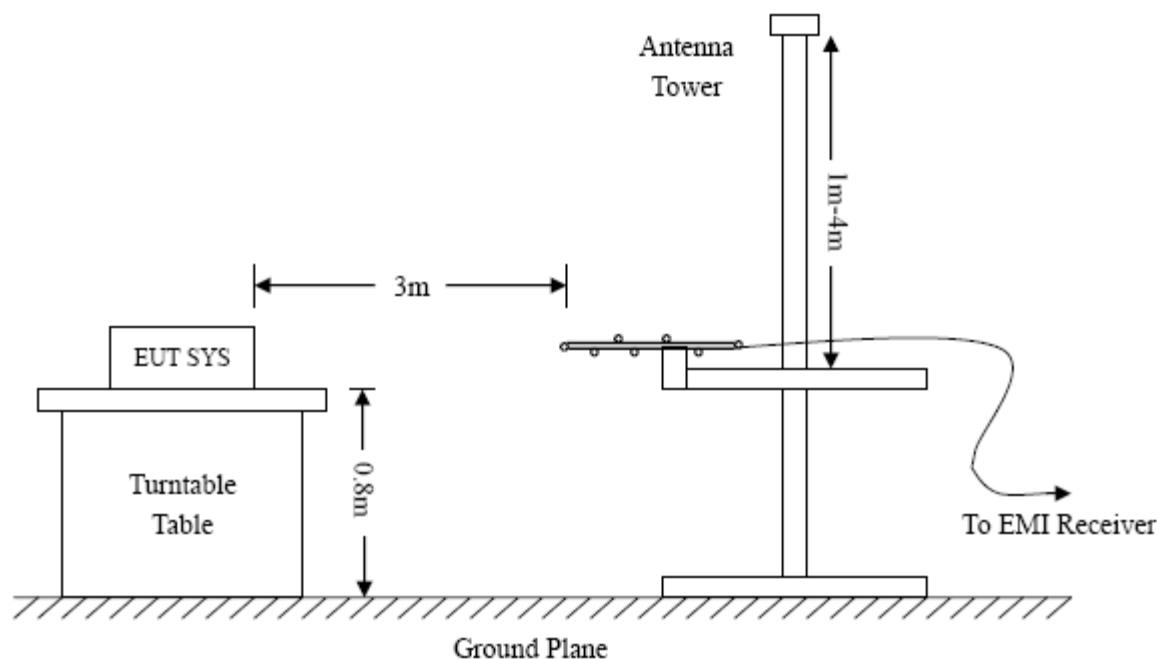
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2014-05-28	2015-05-27
EMI Test Receiver	R&S	ESVB	825471/005	2014-05-28	2015-05-27
Pre-amplifier	Agilent	8447F	3113A06717	2014-05-28	2015-05-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2014-05-28	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:

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

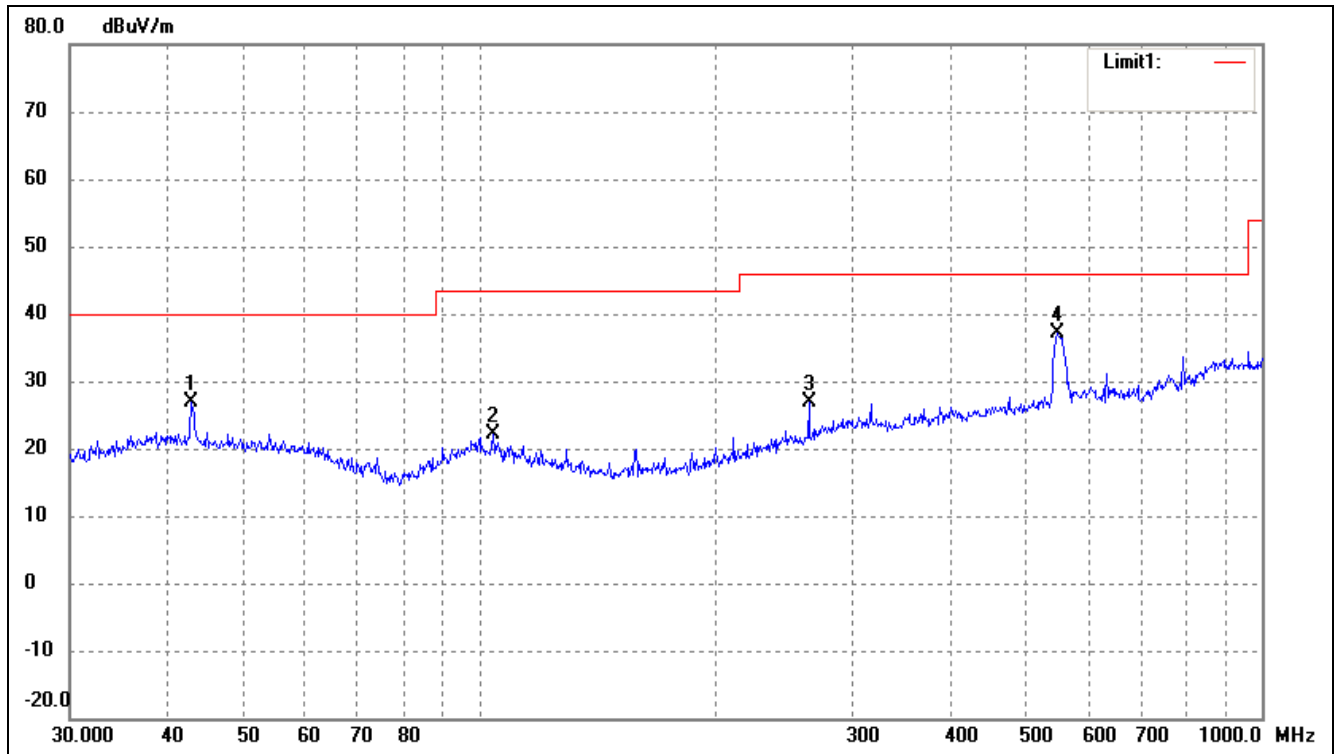
## 8.6 Environmental Conditions

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

## 8.7 Summary of Test Results/Plots

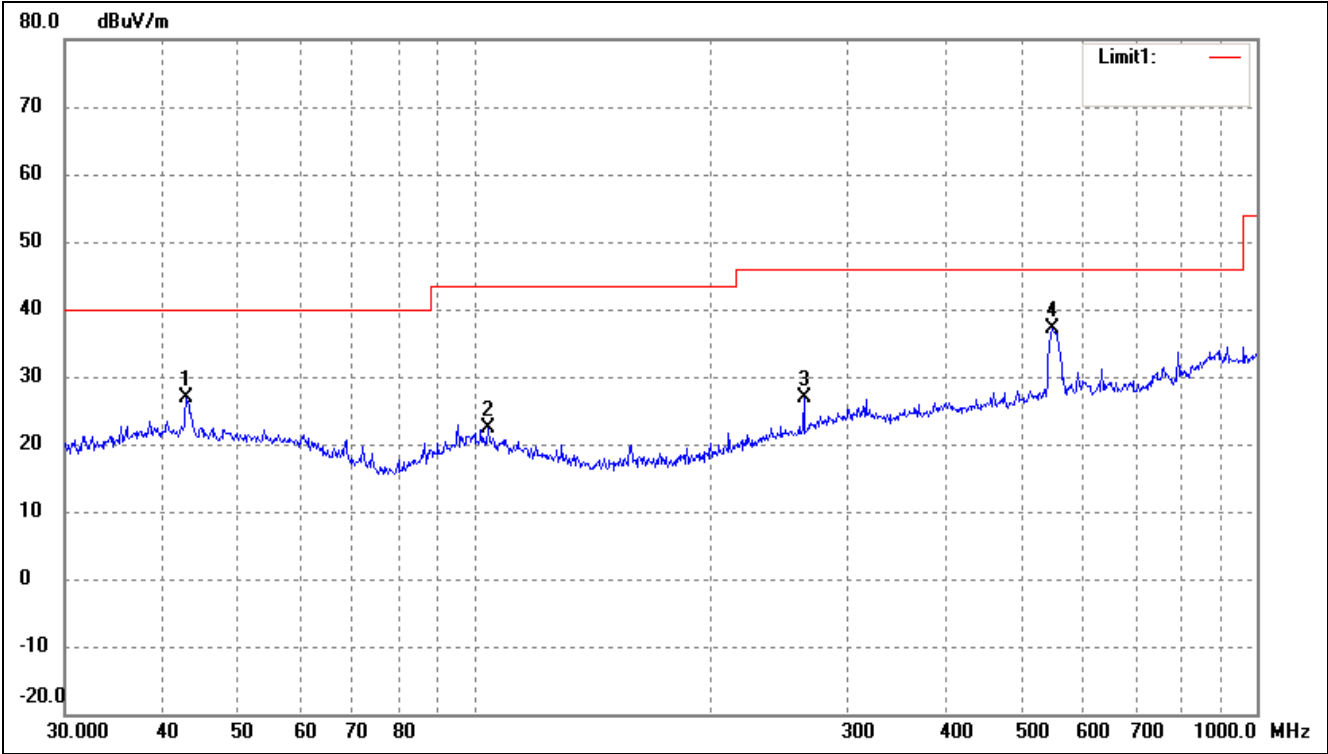
According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

*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:* Mobile Phone*Tested Model:* A850*Operating Condition:* 802.11b Transmitting Low Channel-2412MHz*Comment:* DC3.7V*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	42.8998	19.80	6.96	26.76	40.00	-13.24	154	100	peak
2	104.1701	16.35	5.69	22.04	43.50	-21.46	98	100	peak
3	263.8190	19.53	7.29	26.82	46.00	-19.18	186	100	peak
4	547.0977	25.73	11.37	37.10	46.00	-8.90	45	100	peak

Test Specification: Vertical

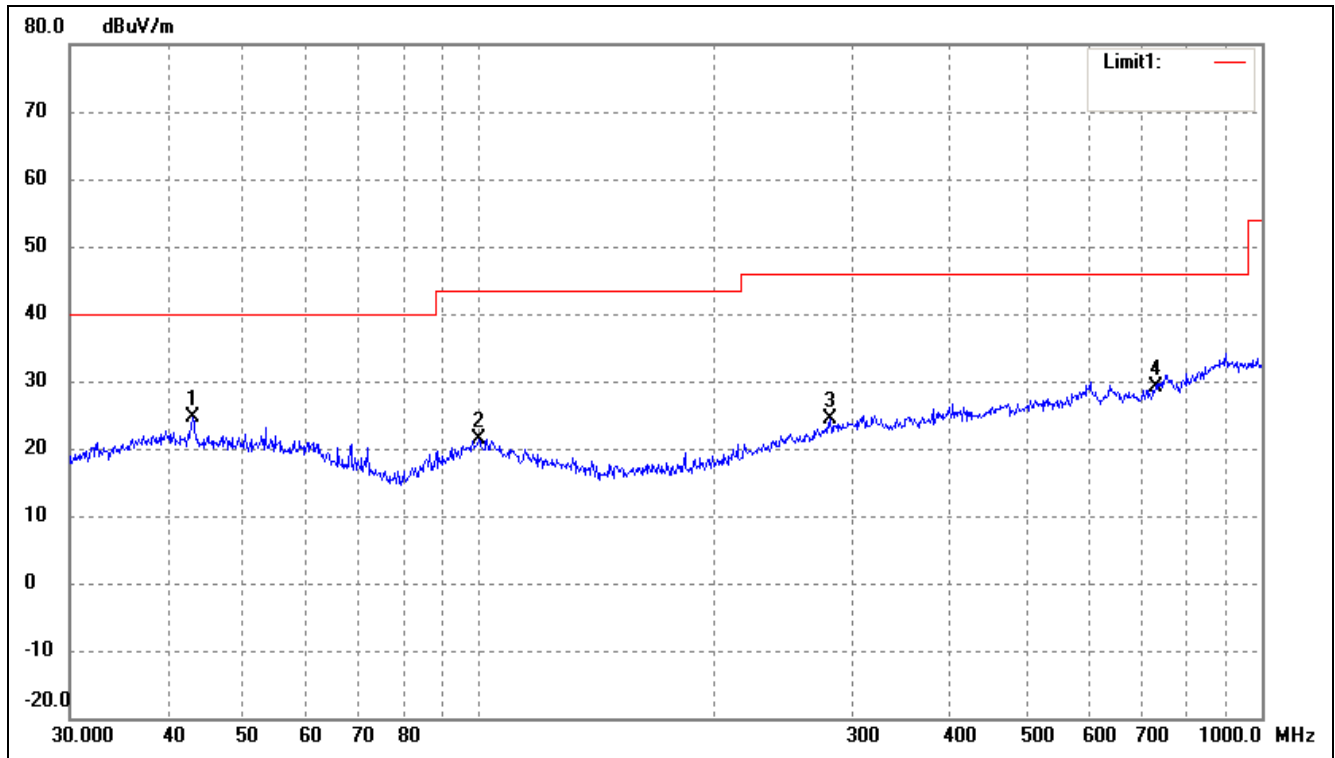


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	42.8998	18.38	8.38	26.76	40.00	-13.24	187	100	peak
2	104.1701	16.81	5.69	22.50	43.50	-21.00	27	100	peak
3	263.8190	19.53	7.29	26.82	46.00	-19.18	78	100	peak
4	547.0977	25.73	11.37	37.10	46.00	-8.90	116	100	peak

Operating Condition: 802.11b Transmitting Middle Channel-2442MHz

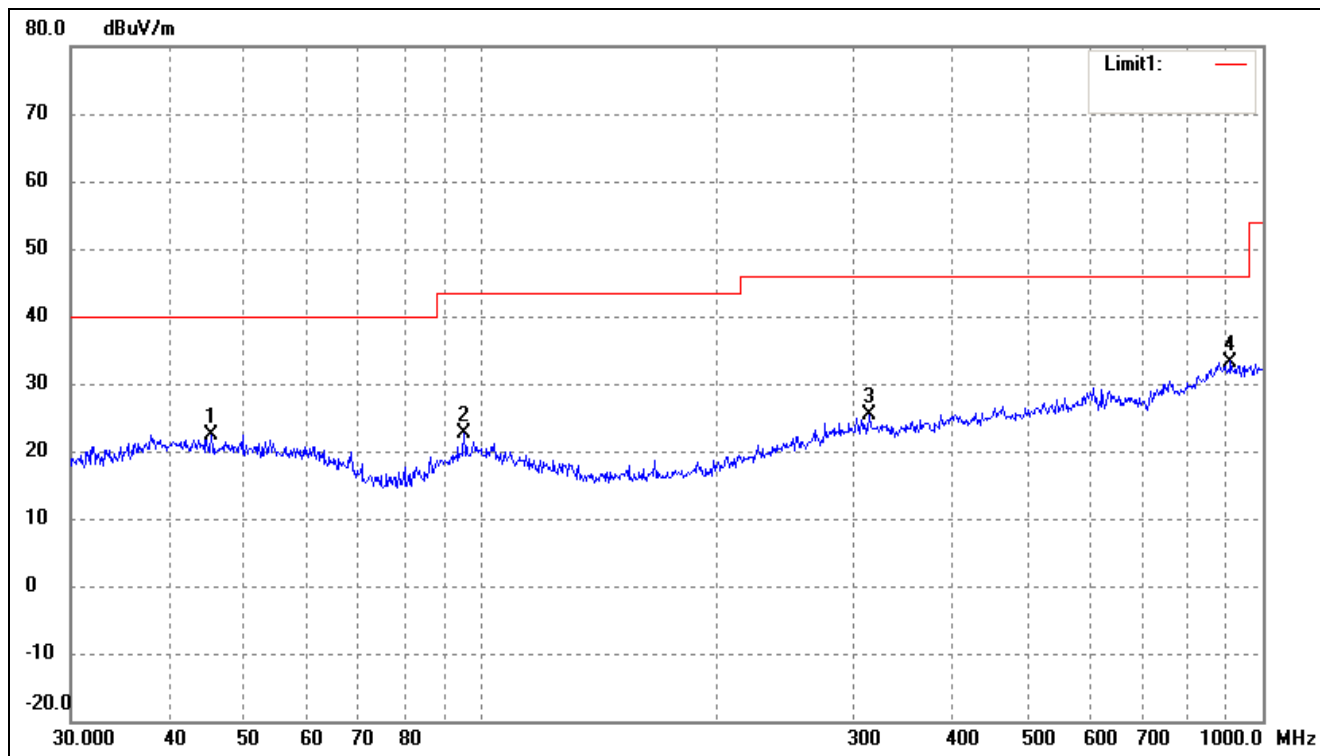
Comment: DC3.7V

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	43.0505	17.60	6.94	24.54	40.00	-15.46	17	100	peak
2	99.8777	15.38	6.10	21.48	43.50	-22.02	224	100	peak
3	281.0075	16.01	8.44	24.45	46.00	-21.55	78	100	peak
4	731.9203	15.95	13.08	29.03	46.00	-16.97	290	100	peak

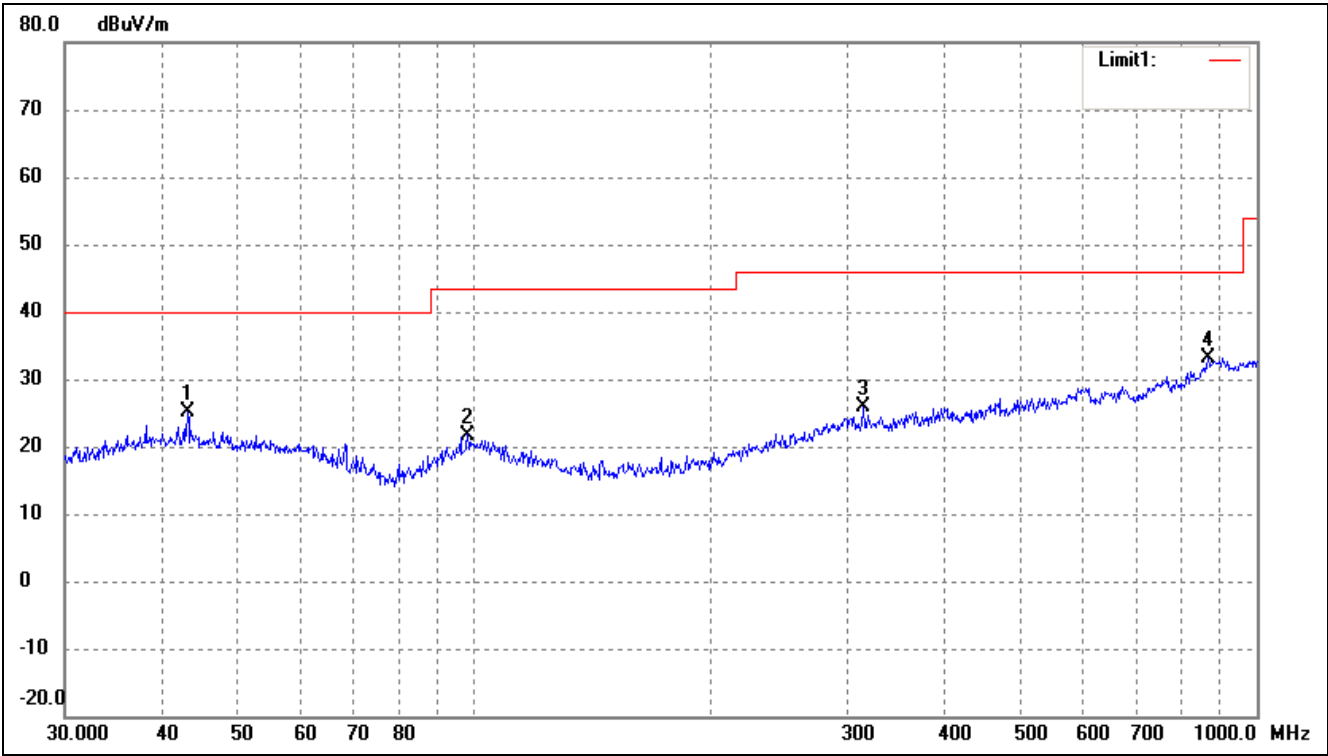
*Test Specification:*                      *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	45.3755	14.69	7.65	22.34	40.00	-17.66	256	100	peak
2	95.4270	17.66	4.98	22.64	43.50	-20.86	75	100	peak
3	314.3765	16.17	9.26	25.43	46.00	-20.57	45	100	peak
4	909.6667	16.57	16.68	33.25	46.00	-12.75	89	100	peak

Operating Condition: 802.11b Transmitting High Channel-2462MHz  
Comment: DC3.7V

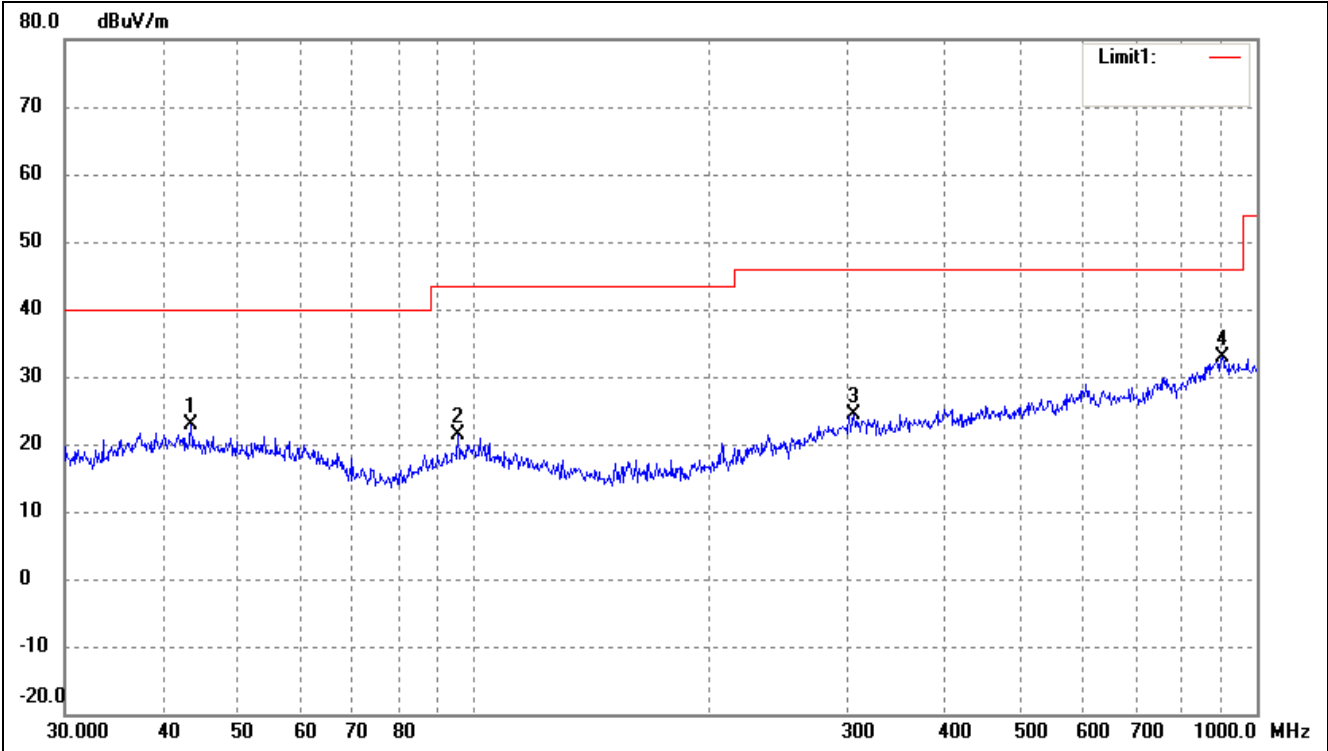
Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	43.0505	18.25	6.94	25.19	40.00	-14.81	171	100	peak
2	98.1419	16.08	5.67	21.75	43.50	-21.75	157	100	peak
3	314.3765	16.67	9.26	25.93	46.00	-20.07	78	100	peak
4	866.0879	16.72	16.45	33.17	46.00	-12.83	178	100	peak



Test Specification: Vertical

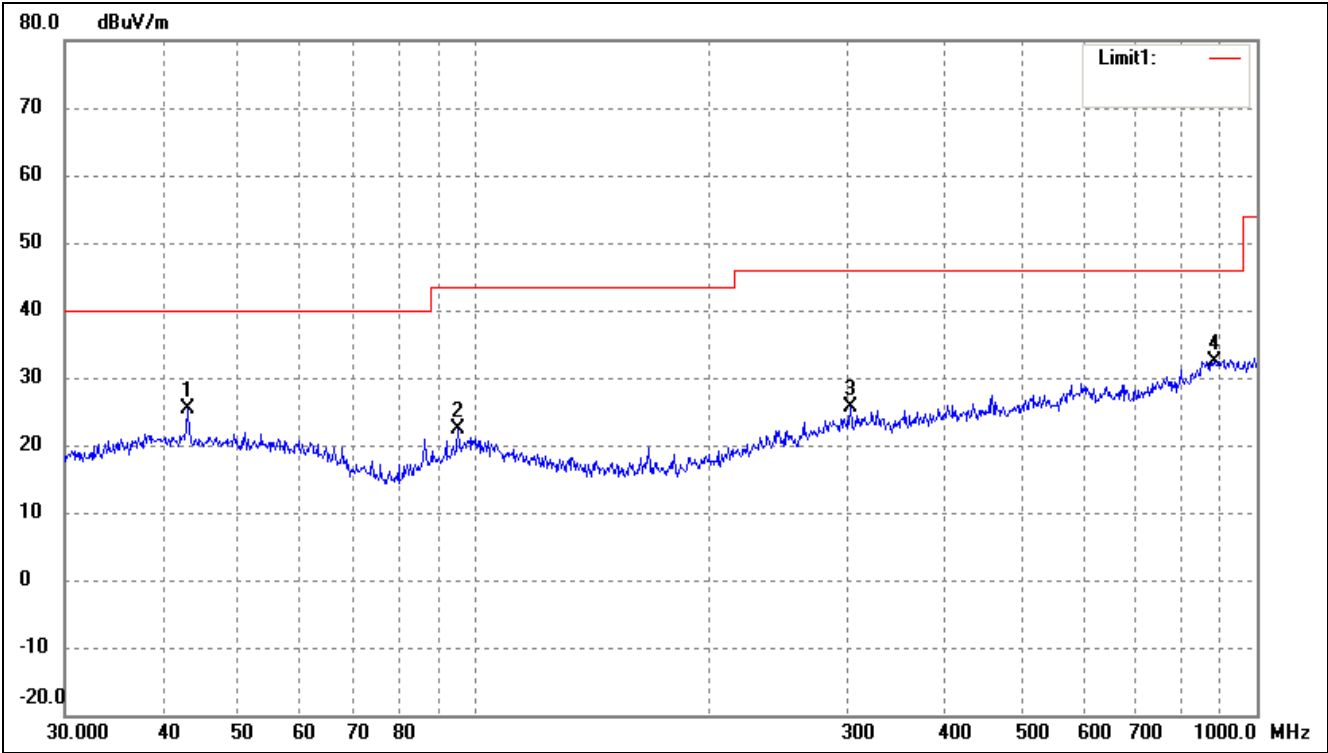


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	43.5057	14.75	8.20	22.95	40.00	-17.05	78	100	peak
2	95.4270	16.46	4.98	21.44	43.50	-22.06	125	100	peak
3	305.6800	15.26	9.21	24.47	46.00	-21.53	112	100	peak
4	903.3094	16.17	16.79	32.96	46.00	-13.04	189	100	peak

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

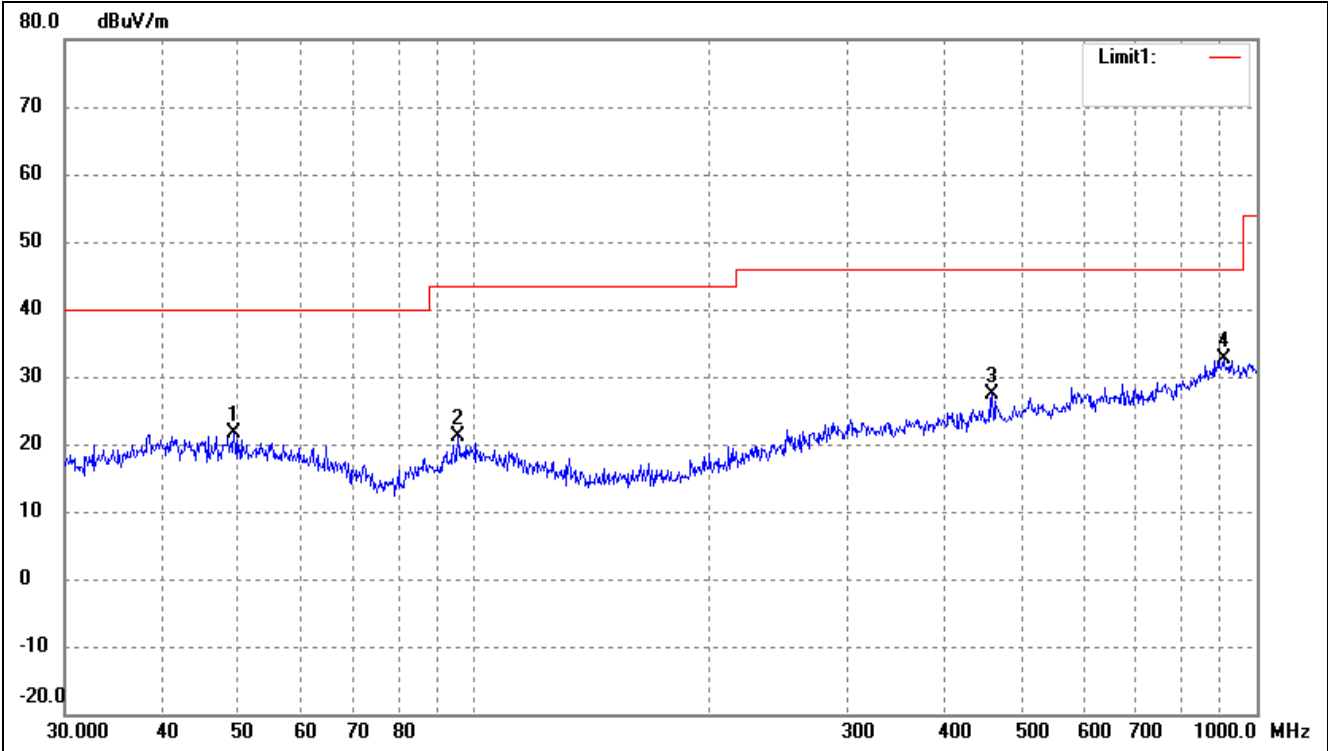
EUT: Mobile Phone  
 Tested Model: A850  
 Operating Condition: 802.11g Transmitting Low Channel-2412MHz  
 Comment: DC3.7V

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	43.0505	18.34	6.94	25.28	40.00	-14.72	174	100	peak
2	95.4270	17.49	4.98	22.47	43.50	-21.03	160	100	peak
3	302.4812	16.33	9.19	25.52	46.00	-20.48	320	100	peak
4	884.5029	15.67	16.83	32.50	46.00	-13.50	360	100	peak

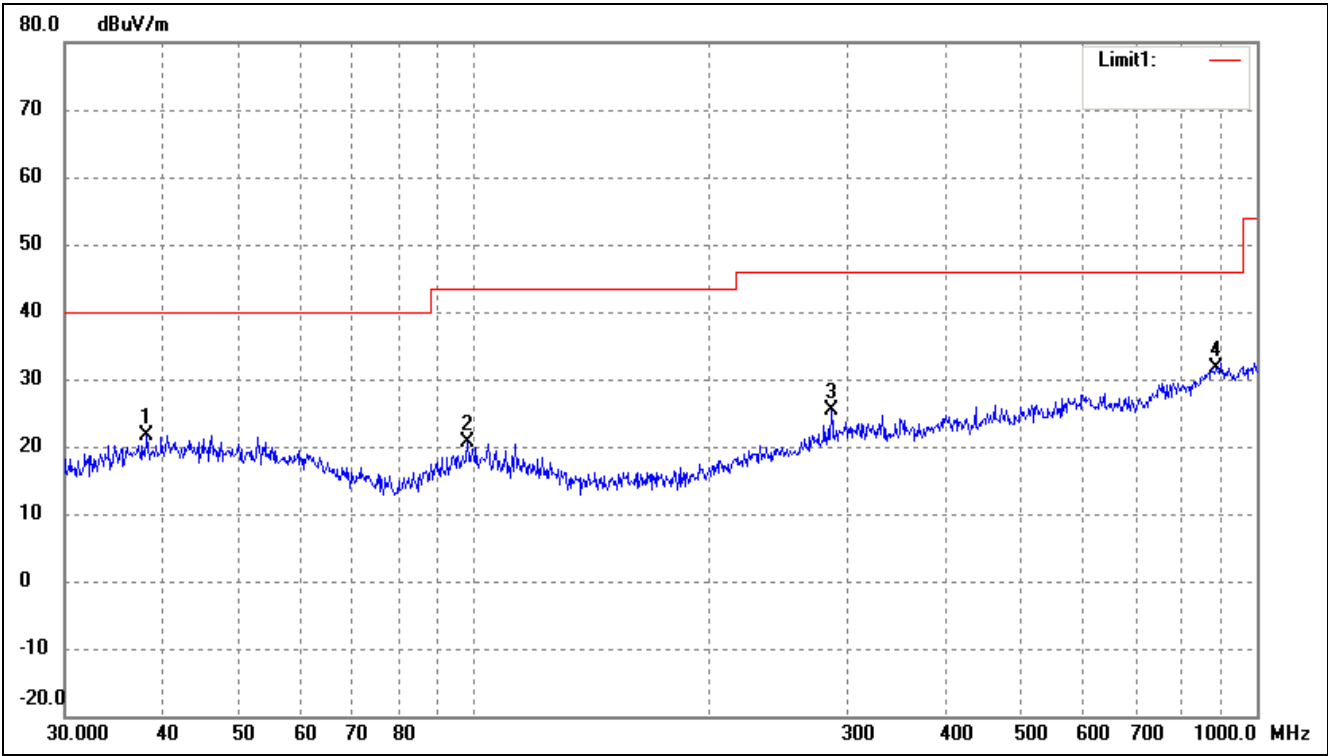
Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	49.3594	15.28	6.45	21.73	40.00	-18.27	177	100	peak
2	95.4270	16.22	4.98	21.20	43.50	-22.30	90	100	peak
3	459.1144	16.84	10.54	27.38	46.00	-18.62	214	100	peak
4	906.4824	15.89	16.73	32.62	46.00	-13.38	154	100	peak

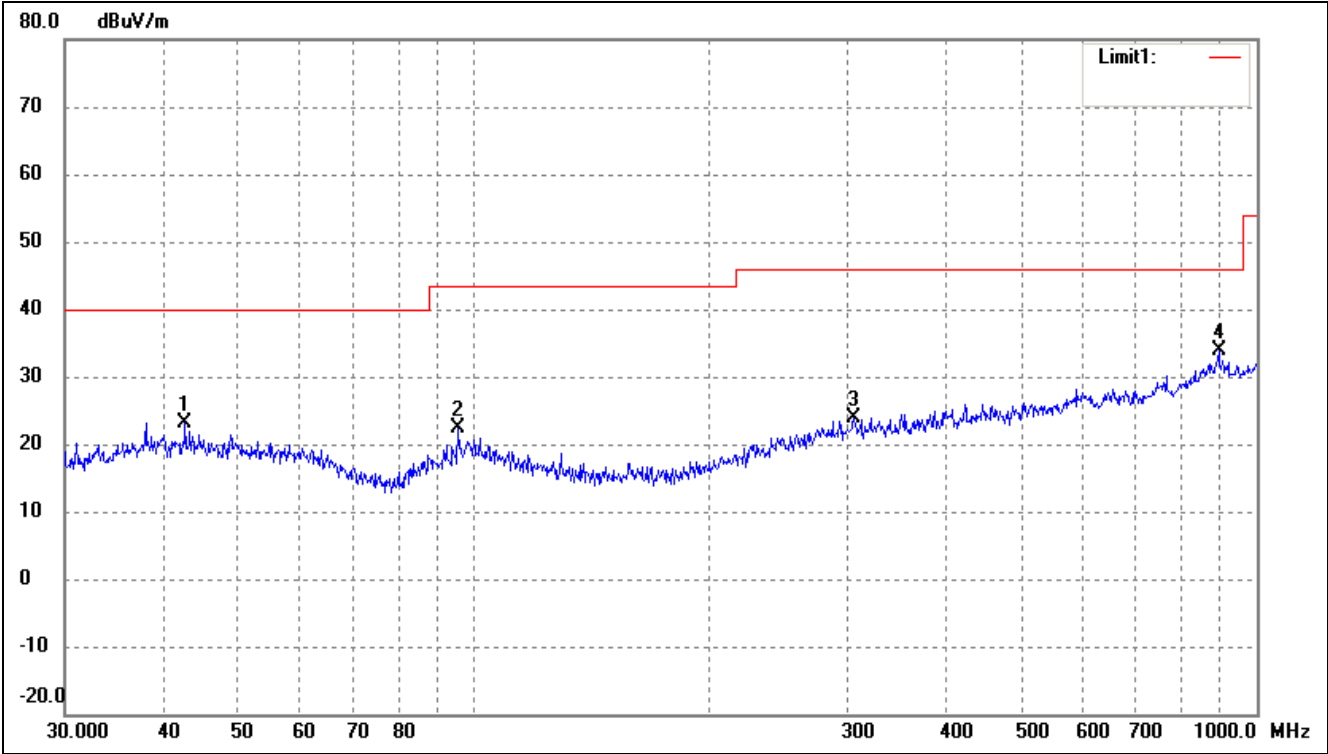
Operating Condition: 802.11g Transmitting Middle Channel-2442MHz  
Comment: DC3.7V

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	38.2120	14.99	6.76	21.75	40.00	-18.25	270	100	peak
2	98.1419	14.87	5.67	20.54	43.50	-22.96	164	100	peak
3	285.9778	16.65	8.64	25.29	46.00	-20.71	278	100	peak
4	887.6099	14.91	16.84	31.75	46.00	-14.25	130	100	peak

Test Specification: Vertical

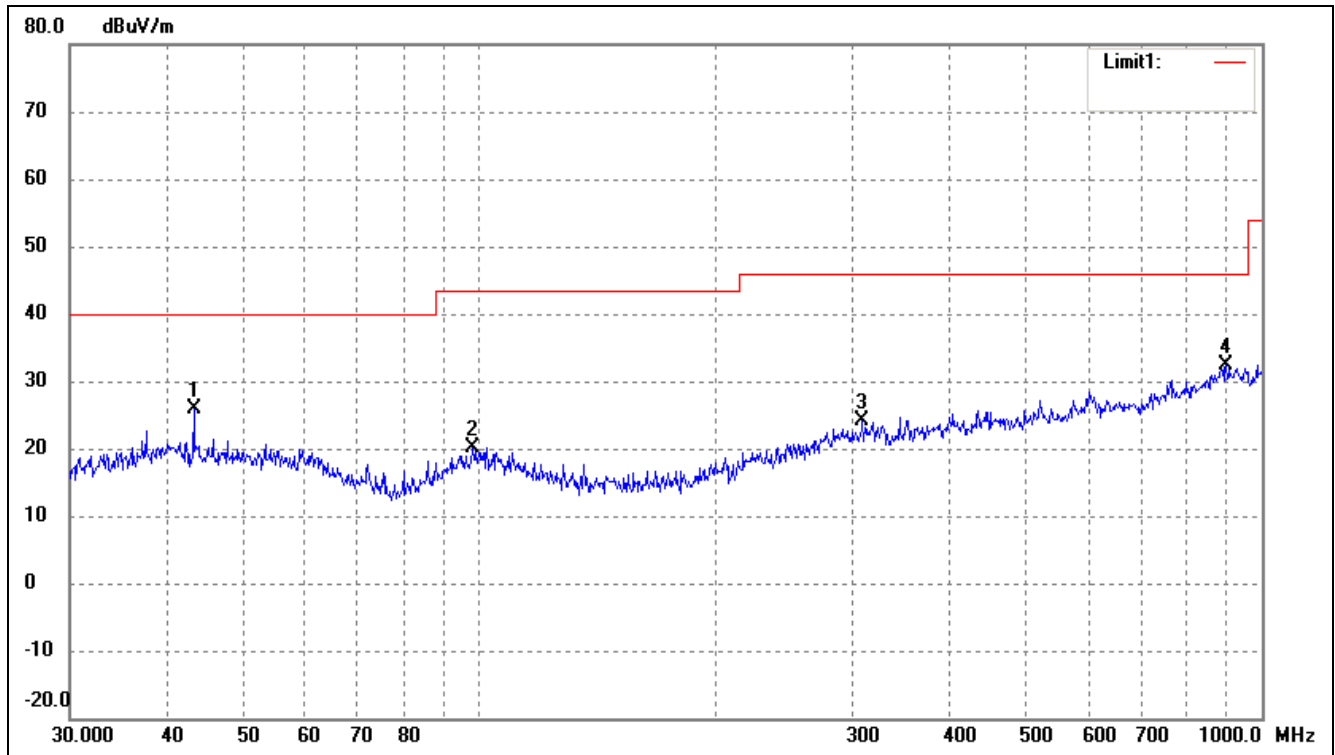


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	42.7496	14.67	8.43	23.10	40.00	-16.90	360	100	peak
2	95.4270	17.31	4.98	22.29	43.50	-21.21	255	100	peak
3	305.6800	14.76	9.21	23.97	46.00	-22.03	270	100	peak
4	893.8567	17.07	16.85	33.92	46.00	-12.08	180	100	peak

Operating Condition: 802.11g Transmitting High Channel-2462MHz

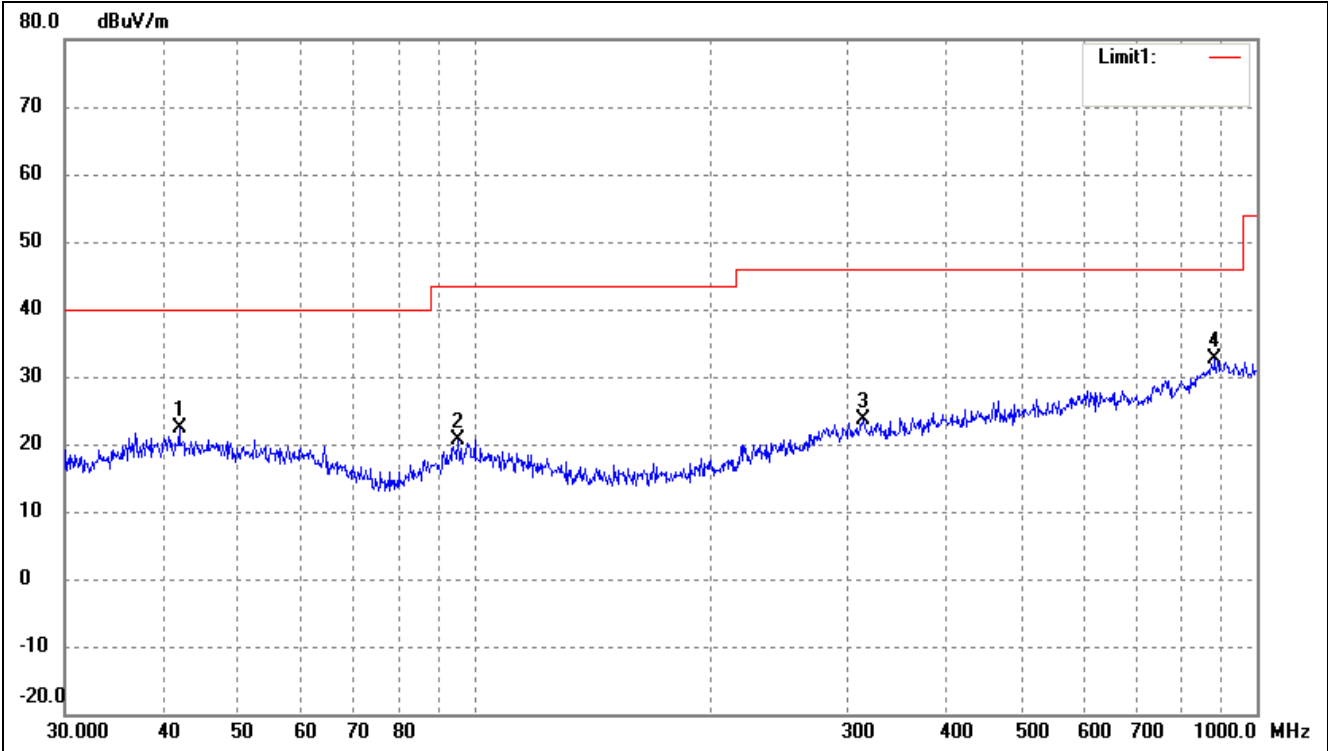
Comment: DC3.7V

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	43.2017	18.85	6.93	25.78	40.00	-14.22	245	100	peak
2	98.1419	14.52	5.67	20.19	43.50	-23.31	51	200	peak
3	308.9126	14.83	9.22	24.05	46.00	-21.95	257	200	peak
4	900.1474	15.55	16.85	32.40	46.00	-13.60	157	100	peak

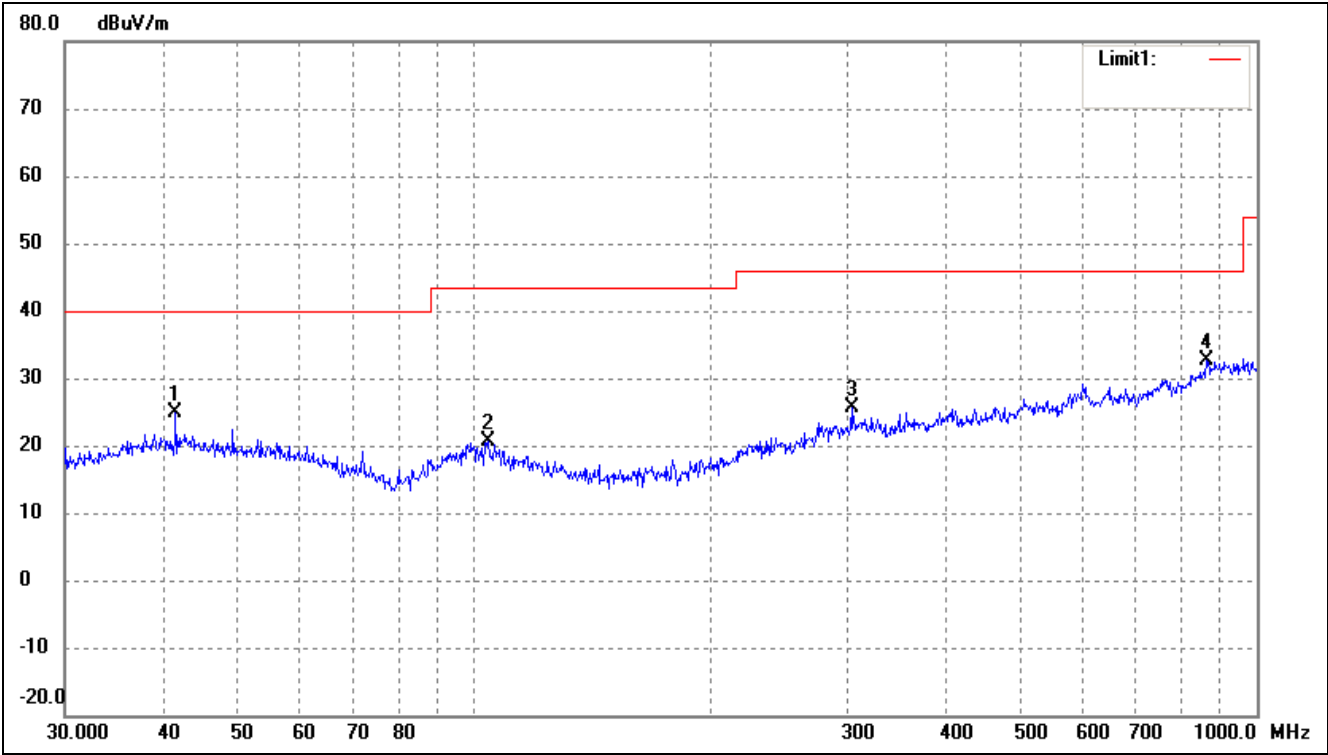
Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	42.0066	13.71	8.65	22.36	40.00	-17.64	360	100	peak
2	95.4270	15.73	4.98	20.71	43.50	-22.79	180	100	peak
3	314.3765	14.28	9.26	23.54	46.00	-22.46	225	100	peak
4	884.5029	15.80	16.83	32.63	46.00	-13.37	67	100	peak

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

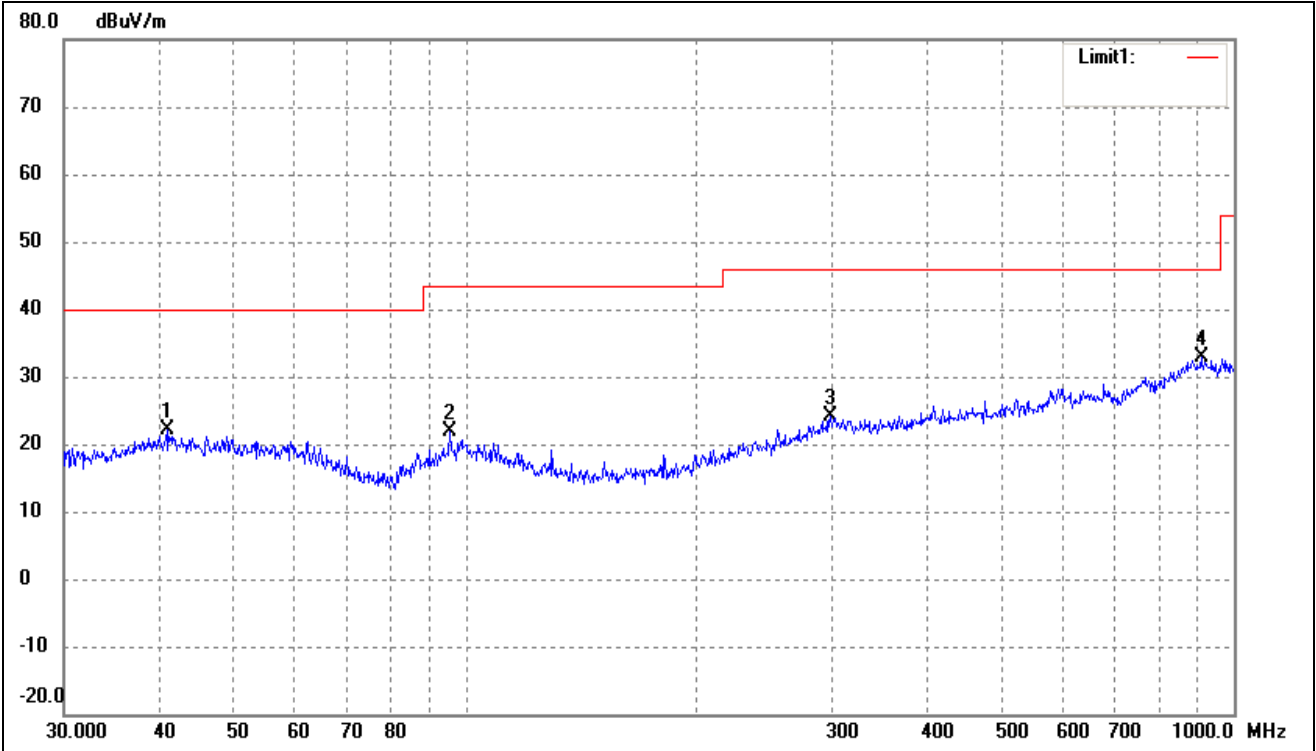
EUT: Mobile Phone  
Tested Model: A850  
Operating Condition: 802.11n-HT20 Transmitting Low Channel-2412MHz  
Comment: DC3.7V  
  
Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	41.5670	17.70	7.09	24.79	40.00	-15.21	260	100	peak
2	104.1701	14.94	5.69	20.63	43.50	-22.87	131	200	peak
3	303.5437	16.35	9.19	25.54	46.00	-20.46	145	200	peak
4	863.0562	16.33	16.38	32.71	46.00	-13.29	78	100	peak



Test Specification: Vertical

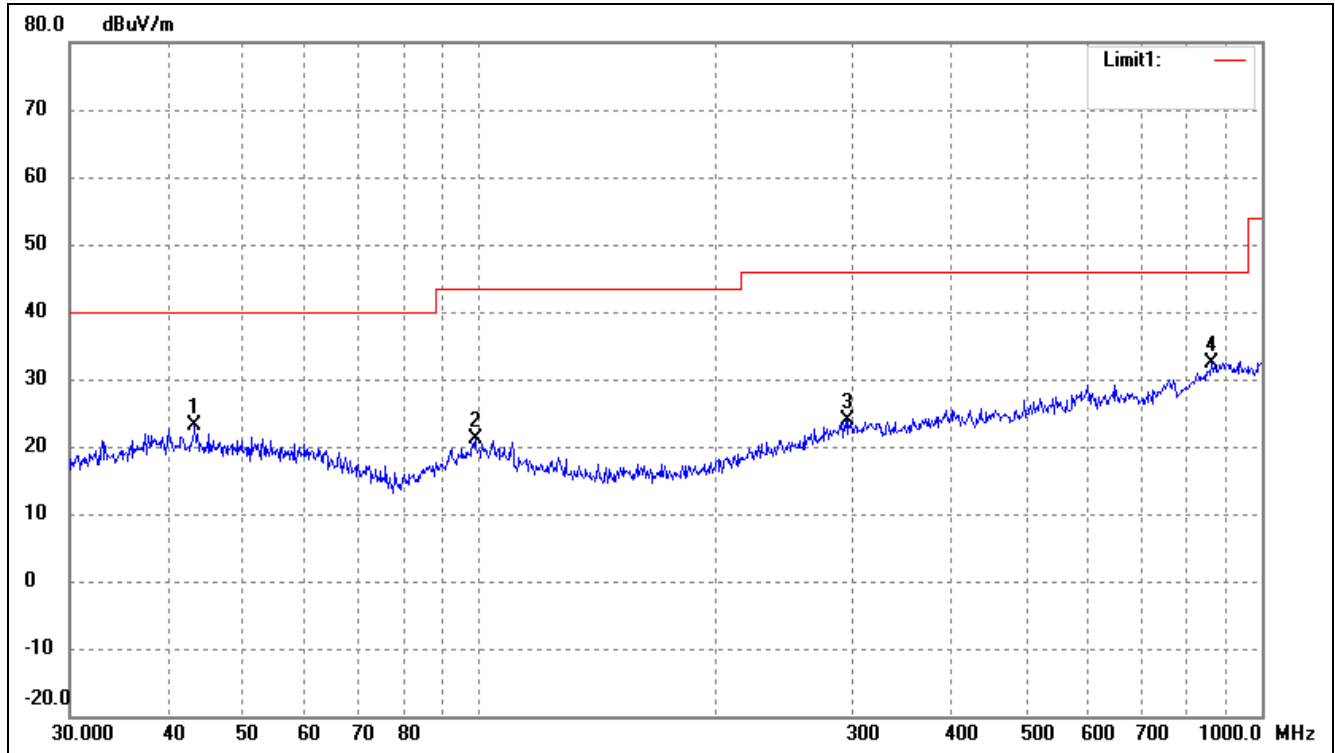


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	40.8446	13.02	9.00	22.02	40.00	-17.98	155	100	peak
2	95.4270	17.01	4.98	21.99	43.50	-21.51	197	100	peak
3	298.2681	14.97	9.11	24.08	46.00	-21.92	45	100	peak
4	906.4824	16.12	16.73	32.85	46.00	-13.15	125	100	peak

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

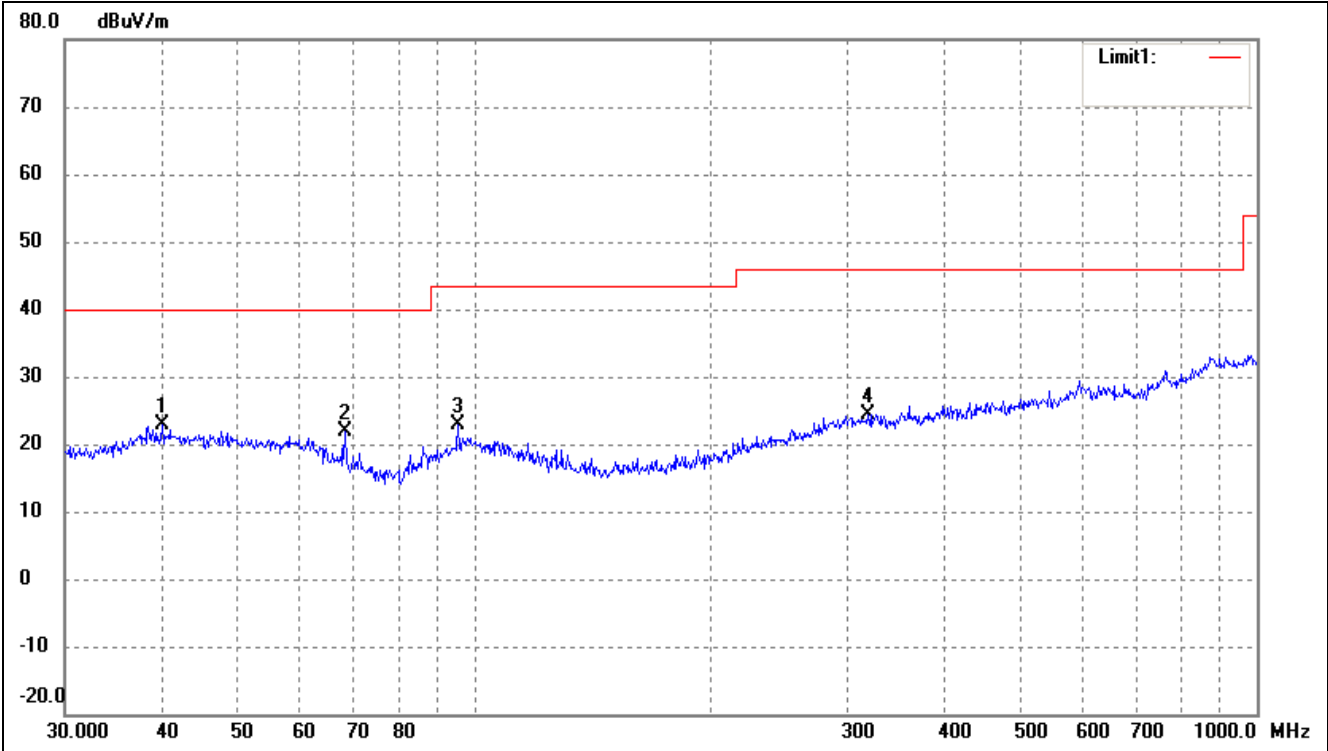
Comment: DC3.7V

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	43.3534	16.16	6.91	23.07	40.00	-16.93	241	100	peak
2	98.8326	15.21	5.84	21.05	43.50	-22.45	158	100	peak
3	296.1836	14.89	9.03	23.92	46.00	-22.08	82	100	peak
4	863.0562	16.06	16.38	32.44	46.00	-13.56	134	100	peak

Test Specification: Vertical

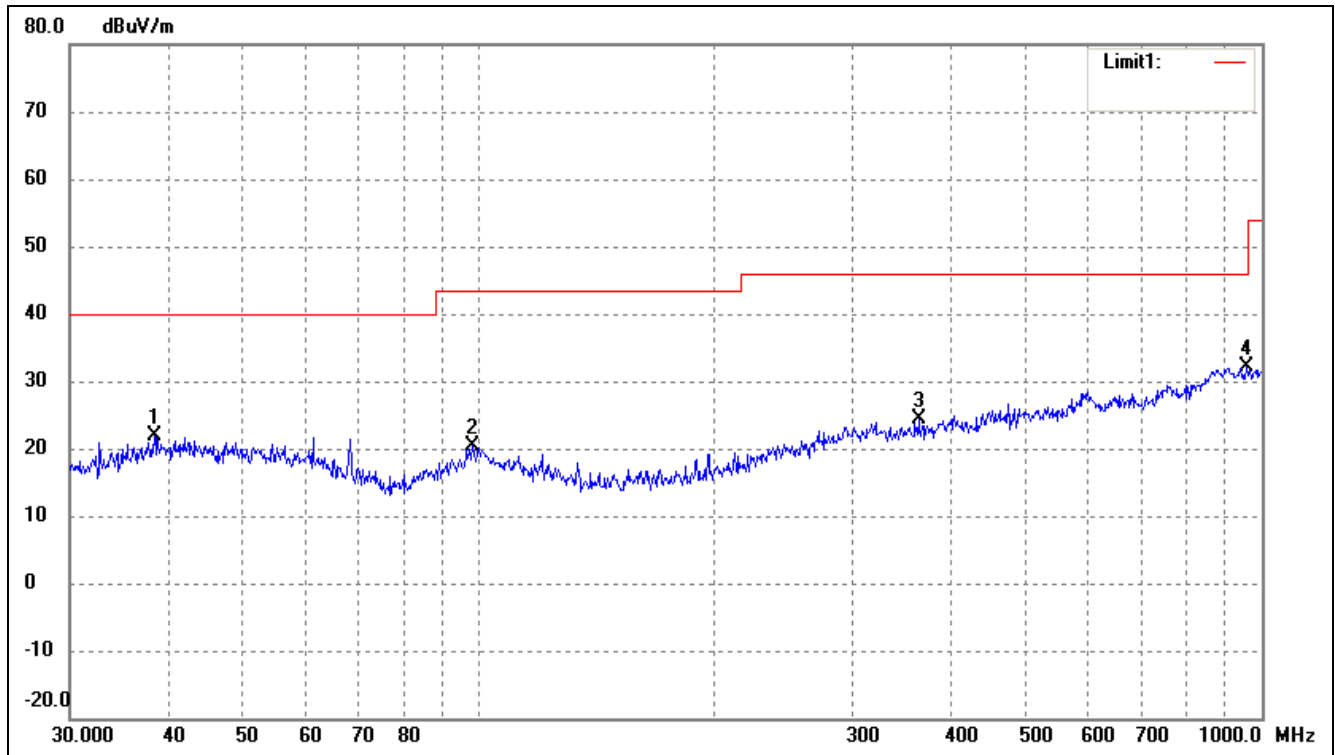


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.9942	13.68	9.25	22.93	40.00	-17.07	264	100	peak
2	68.3908	19.14	2.70	21.84	40.00	-18.16	214	100	peak
3	95.4270	17.96	4.98	22.94	43.50	-20.56	158	100	peak
4	318.8170	15.06	9.28	24.34	46.00	-21.66	90	100	peak

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

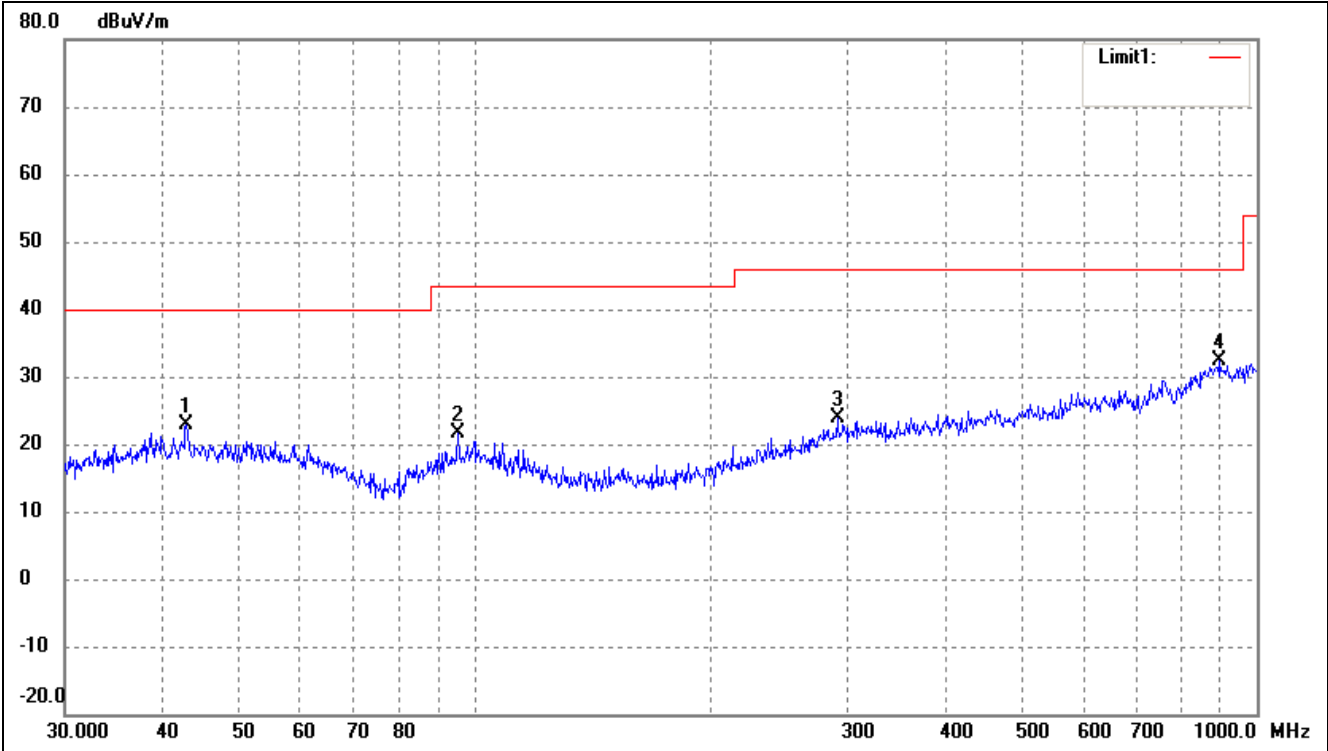
Comment: DC3.7V

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	38.4809	15.05	6.84	21.89	40.00	-18.11	36	100	peak
2	98.1419	14.73	5.67	20.40	43.50	-23.10	287	100	peak
3	364.2595	15.07	9.24	24.31	46.00	-21.69	197	200	peak
4	955.4381	15.75	16.32	32.07	46.00	-13.93	45	100	peak

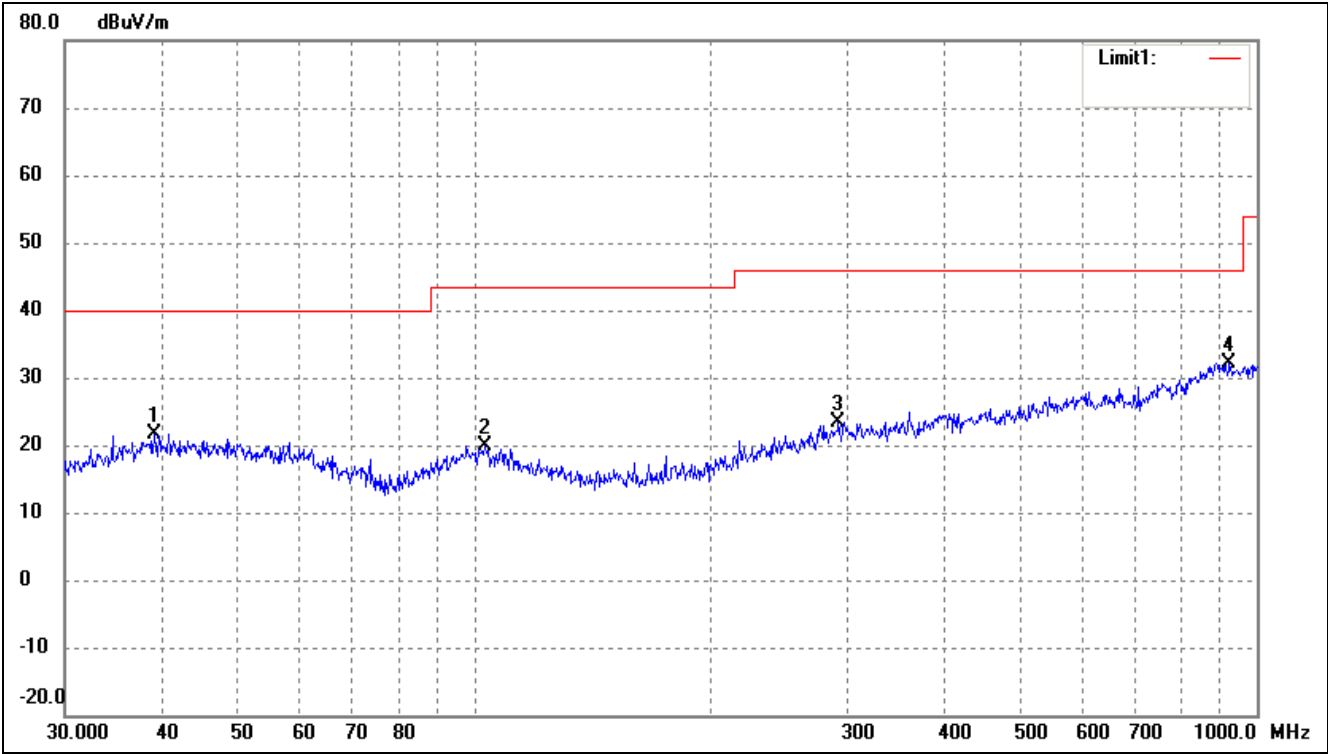
Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	42.8998	14.50	8.38	22.88	40.00	-17.12	267	100	peak
2	95.4270	16.70	4.98	21.68	43.50	-21.82	116	100	peak
3	291.0360	14.94	8.83	23.77	46.00	-22.23	157	100	peak
4	896.9965	15.46	16.85	32.31	46.00	-13.69	228	100	peak

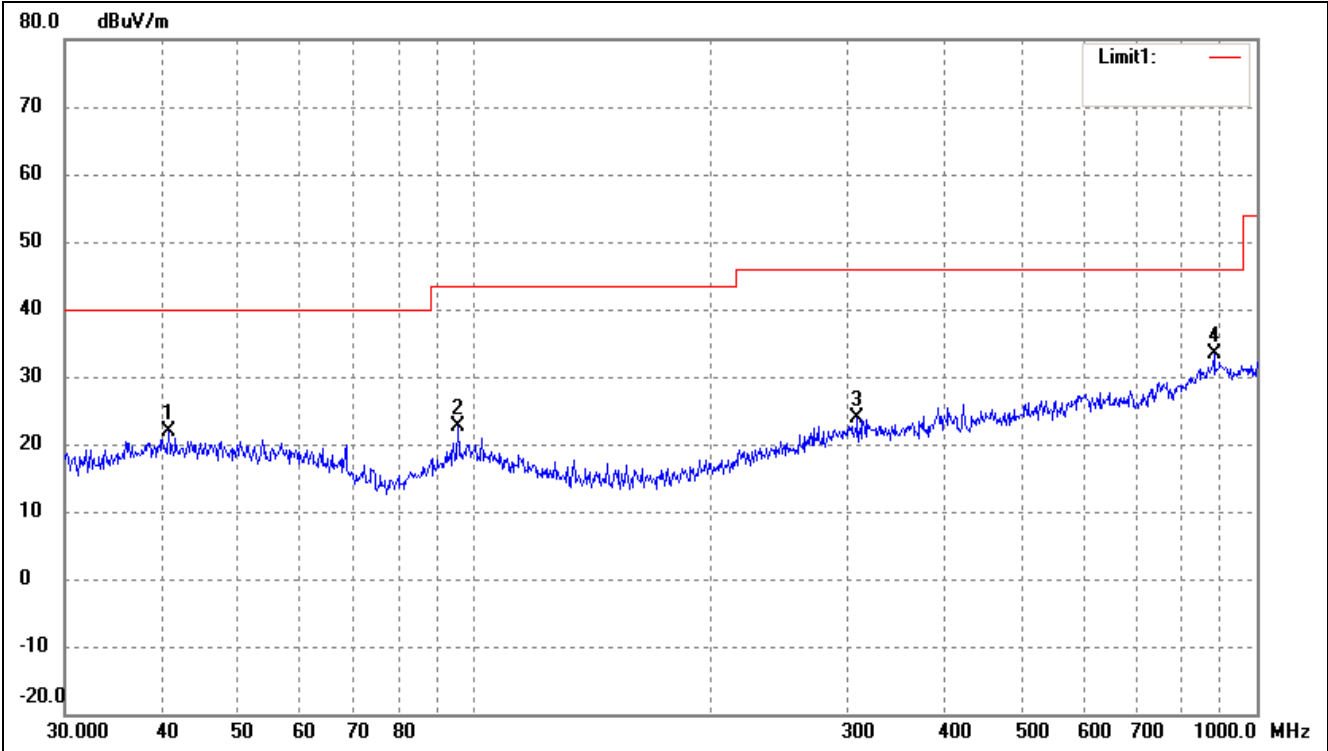
EUT: Mobile Phone  
 Tested Model: A850  
 Operating Condition: 802.11n-HT40 Transmitting Low Channel-2422MHz  
 Comment: DC3.7V

Test Specification: Horizontal



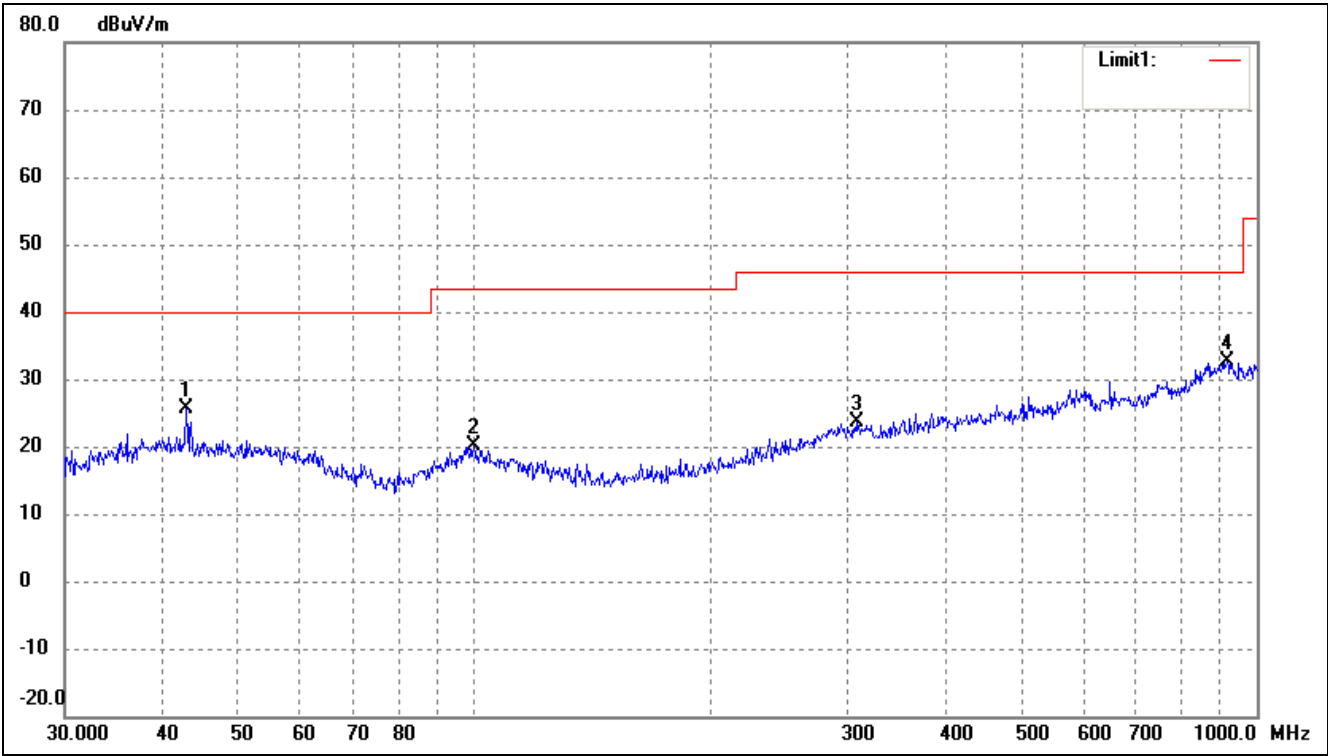
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	39.0245	14.64	6.99	21.63	40.00	-18.37	267	100	peak
2	103.4421	14.20	5.77	19.97	43.50	-23.53	105	200	peak
3	292.0583	14.59	8.86	23.45	46.00	-22.55	35	200	peak
4	922.5157	15.62	16.45	32.07	46.00	-13.93	87	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	40.7016	12.79	9.04	21.83	40.00	-18.17	157	100	peak
2	95.4270	17.58	4.98	22.56	43.50	-20.94	258	100	peak
3	308.9126	14.58	9.22	23.80	46.00	-22.20	347	100	peak
4	881.4067	16.54	16.82	33.36	46.00	-12.64	270	100	peak

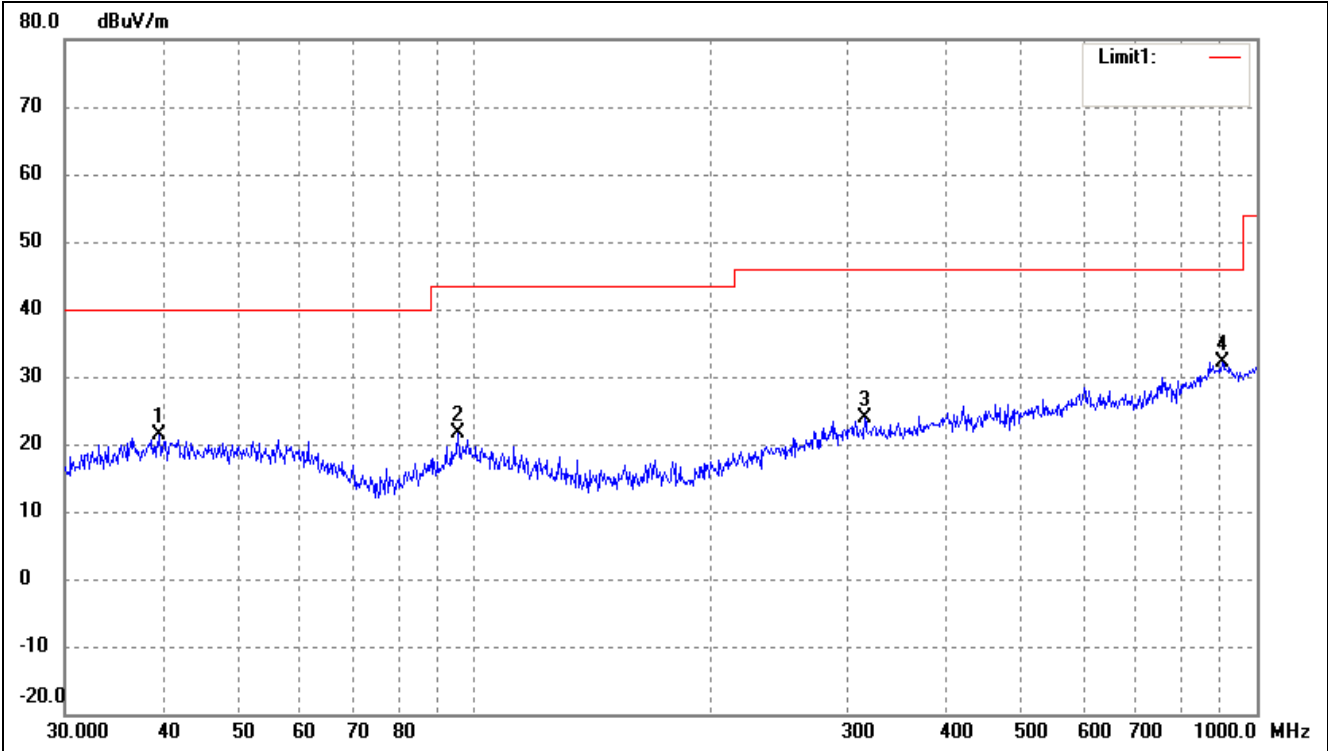
Operating Condition: 802.11n-HT40 Transmitting Middle Channel-2442MHz  
Comment: DC3.7V  
  
Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	42.8998	18.74	6.96	25.70	40.00	-14.30	251	100	peak
2	99.8777	14.07	6.10	20.17	43.50	-23.33	167	100	peak
3	307.8313	14.35	9.22	23.57	46.00	-22.43	44	100	peak
4	916.0687	16.12	16.56	32.68	46.00	-13.32	130	100	peak



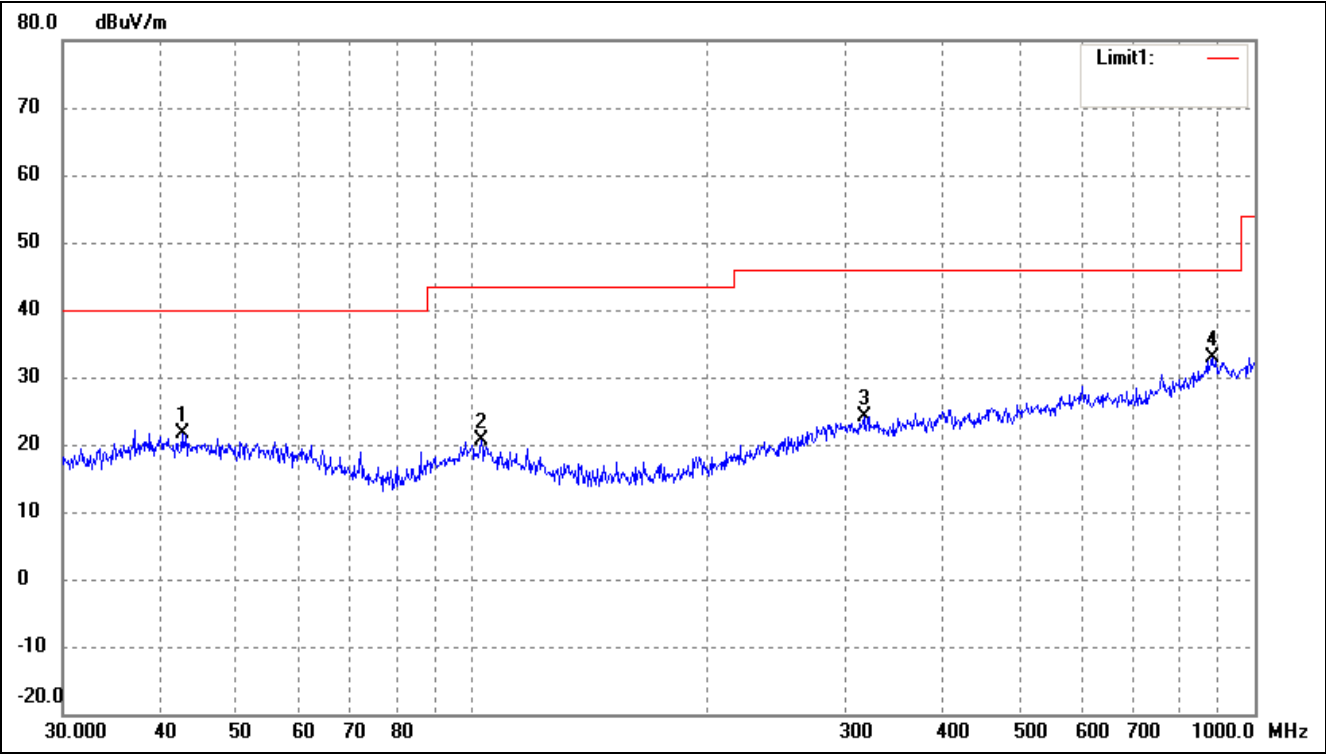
Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( ° )	(cm)	
1	39.5757	12.21	9.18	21.39	40.00	-18.61	47	100	peak
2	95.4270	16.77	4.98	21.75	43.50	-21.75	256	100	peak
3	315.4808	14.49	9.27	23.76	46.00	-22.24	177	100	peak
4	903.3094	15.45	16.79	32.24	46.00	-13.76	214	100	peak

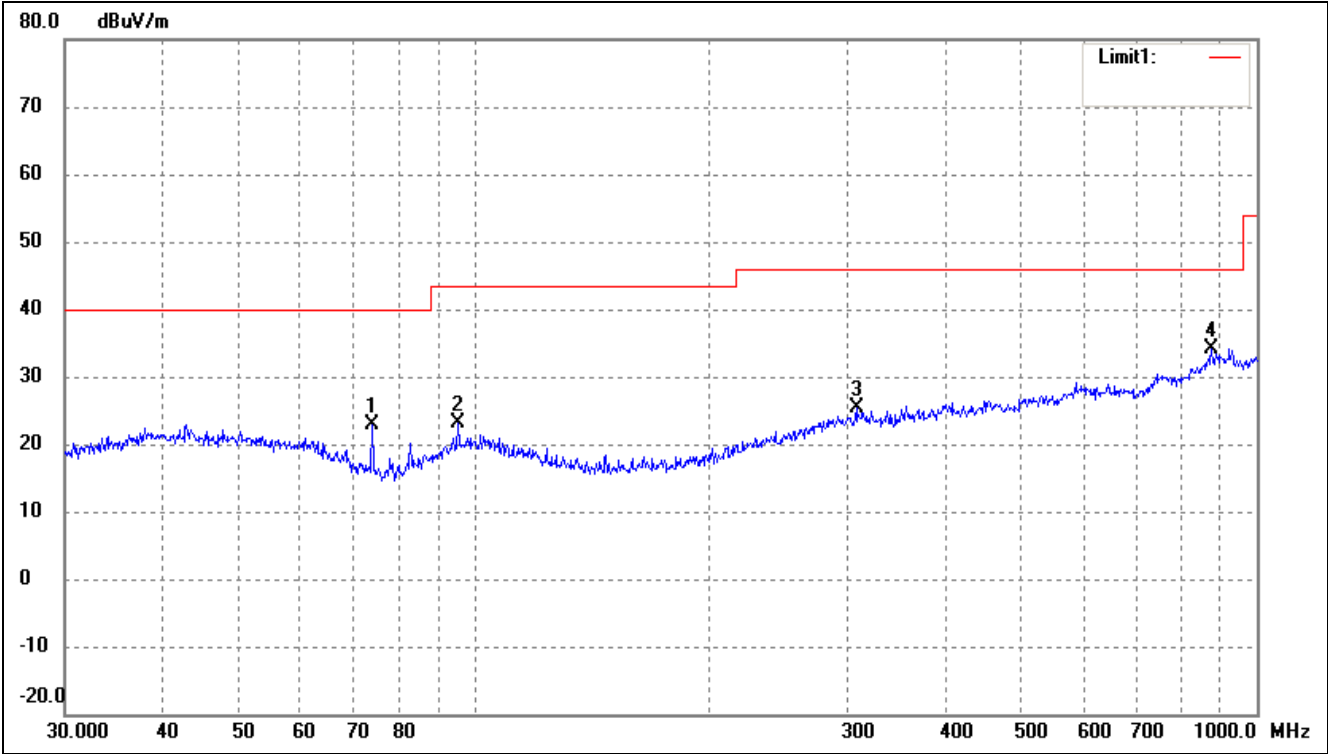
Operating Condition: 802.11n-HT40 Transmitting High Channel-2452MHz  
Comment: DC3.7V

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	42.6000	14.74	6.99	21.73	40.00	-18.27	145	100	peak
2	102.7192	14.74	5.85	20.59	43.50	-22.91	267	100	peak
3	316.5890	14.81	9.28	24.09	46.00	-21.91	168	100	peak
4	881.4067	16.01	16.82	32.83	46.00	-13.17	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	74.1351	21.25	1.70	22.95	40.00	-17.05	78	100	peak
2	95.4270	18.07	4.98	23.05	43.50	-20.45	214	100	peak
3	307.8313	16.06	9.22	25.28	46.00	-20.72	274	100	peak
4	875.2470	17.31	16.70	34.01	46.00	-11.99	60	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							
4824.000	42.70	0.57	43.27	74.00	-30.73	H	PK
4824.000	31.72	0.57	32.29	54.00	-21.71	H	AV
7236.000	33.79	3.69	37.48	74.00	-36.52	H	PK
7236.000	21.16	3.69	24.85	54.00	-29.15	H	AV
4824.000	42.92	0.57	43.49	74.00	-30.51	V	PK
4824.000	32.36	0.62	32.98	54.00	-21.02	V	AV
7236.000	36.21	3.76	39.97	74.00	-34.03	V	PK
7236.000	24.65	3.76	28.41	54.00	-25.59	V	AV
Middle Channel-2442MHz							
4884.000	43.15	0.66	43.81	74.00	-30.19	H	PK
4884.000	31.83	0.66	32.49	54.00	-21.51	H	AV
7326.000	37.03	3.76	40.79	74.00	-33.21	H	PK
7326.000	25.97	3.76	29.73	54.00	-24.27	H	AV
4884.000	43.23	0.60	43.83	74.00	-30.17	V	PK
4884.000	31.95	0.60	32.55	54.00	-21.45	V	AV
7326.000	36.44	3.76	40.20	74.00	-33.80	V	PK
7326.000	25.33	3.76	29.09	54.00	-24.91	V	AV
High Channel-2462MHz							
4924.000	44.59	0.75	45.34	74.00	-28.66	H	PK
4924.000	31.45	0.75	32.20	54.00	-21.80	H	AV
7386.000	38.58	3.83	42.41	74.00	-31.59	H	PK
7386.000	26.46	3.83	30.29	54.00	-23.71	H	AV
4924.000	42.82	0.75	43.57	74.00	-30.43	V	PK
4924.000	31.49	0.75	32.24	54.00	-21.76	V	AV
7386.000	38.46	3.83	42.29	74.00	-31.71	V	PK
7386.000	25.96	3.83	29.79	54.00	-24.21	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							
4824.000	42.16	0.57	42.73	74.00	-31.27	H	PK
4824.000	31.48	0.57	32.05	54.00	-21.95	H	AV
7236.000	33.13	3.69	36.82	74.00	-37.18	H	PK
7236.000	22.52	3.69	26.21	54.00	-27.79	H	AV
4824.000	42.92	0.57	43.49	74.00	-30.51	V	PK
4824.000	31.19	0.57	31.76	54.00	-22.24	V	AV
7236.000	33.81	3.69	37.50	74.00	-36.50	V	PK
7236.000	21.74	3.69	25.43	54.00	-28.57	V	AV
Middle Channel-2442MHz							
4884.000	42.66	0.66	43.32	74.00	-30.68	H	PK
4884.000	31.36	0.66	32.02	54.00	-21.98	H	AV
7326.000	35.92	3.76	39.68	74.00	-34.32	H	PK
7326.000	24.81	3.76	28.57	54.00	-25.43	H	AV
4884.000	42.88	0.66	43.54	74.00	-30.46	V	PK
4884.000	31.72	0.66	32.38	54.00	-21.62	V	AV
7326.000	36.62	3.76	40.38	74.00	-33.62	V	PK
7326.000	25.27	3.76	29.03	54.00	-24.97	V	AV
High Channel-2462MHz							
4924.000	42.22	0.82	43.04	74.00	-30.96	H	PK
4924.000	30.78	0.82	31.60	54.00	-22.40	H	AV
7386.000	36.83	3.83	40.66	74.00	-33.34	H	PK
7386.000	25.60	3.83	29.43	54.00	-24.57	H	AV
4924.000	42.13	0.82	42.95	74.00	-31.05	V	PK
4924.000	30.83	0.82	31.65	54.00	-22.35	V	AV
7386.000	37.58	3.83	41.41	74.00	-32.59	V	PK
7386.000	25.77	3.83	29.60	54.00	-24.40	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							
4824.000	42.53	0.57	43.10	74.00	-30.90	H	PK
4824.000	31.16	0.57	31.73	54.00	-22.27	H	AV
7236.000	33.42	3.69	37.11	74.00	-36.89	H	PK
7236.000	21.55	3.69	25.24	54.00	-28.76	H	AV
4824.000	41.63	0.57	42.20	74.00	-31.80	V	PK
4824.000	31.46	0.57	32.03	54.00	-21.97	V	AV
7236.000	32.59	3.69	36.28	74.00	-37.72	V	PK
7236.000	22.28	3.69	25.97	54.00	-28.03	V	AV
Middle Channel-2442MHz							
4884.000	43.49	0.66	44.15	74.00	-29.85	H	PK
4884.000	31.38	0.66	32.04	54.00	-21.96	H	AV
7326.000	35.65	3.76	39.41	74.00	-34.59	H	PK
7326.000	25.61	3.76	29.37	54.00	-24.63	H	AV
4884.000	42.11	0.66	42.77	74.00	-31.23	V	PK
4884.000	31.53	0.66	32.19	54.00	-21.81	V	AV
7326.000	36.08	3.76	39.84	74.00	-34.16	V	PK
7326.000	24.85	3.76	28.61	54.00	-25.39	V	AV
High Channel-2462MHz							
4924.000	42.34	0.75	43.09	74.00	-30.91	H	PK
4924.000	31.02	0.75	31.77	54.00	-22.23	H	AV
7386.000	37.08	3.83	40.91	74.00	-33.09	H	PK
7386.000	25.71	3.83	29.54	54.00	-24.46	H	AV
4924.000	41.63	0.82	42.45	74.00	-31.55	V	PK
4924.000	30.90	0.82	31.72	54.00	-22.28	V	AV
7386.000	37.45	3.83	41.28	74.00	-32.72	V	PK
7386.000	25.63	3.83	29.46	54.00	-24.54	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							
4844.000	43.14	0.60	43.74	74.00	-30.26	H	PK
4844.000	31.09	0.60	31.69	54.00	-22.31	H	AV
7266.000	33.78	3.72	37.50	74.00	-36.50	H	PK
7266.000	22.24	3.72	25.96	54.00	-28.04	H	AV
4844.000	42.77	0.60	43.37	74.00	-30.63	V	PK
4844.000	31.29	0.60	31.89	54.00	-22.11	V	AV
7266.000	34.00	3.72	37.72	74.00	-36.28	V	PK
7266.000	24.83	3.72	28.55	54.00	-25.45	V	AV
Middle Channel-2442MHz							
4884.000	42.42	0.66	43.08	74.00	-30.92	H	PK
4884.000	31.73	0.66	32.39	54.00	-21.61	H	AV
7326.000	36.10	3.76	39.86	74.00	-34.14	H	PK
7326.000	24.84	3.76	28.60	54.00	-25.40	H	AV
4884.000	4884.000	41.78	0.66	42.44	74.00	V	PK
4884.000	4884.000	31.66	0.66	32.32	54.00	V	AV
7326.000	7326.000	36.93	3.76	40.69	74.00	V	PK
7326.000	7326.000	25.66	3.76	29.42	54.00	V	AV
High Channel-2452MHz							
4904.000	43.31	0.72	44.03	74.00	-29.97	H	PK
4904.000	31.38	0.72	32.10	54.00	-21.90	H	AV
7356.000	36.97	3.81	40.78	74.00	-33.22	H	PK
7356.000	25.77	3.81	29.58	54.00	-24.42	H	AV
4904.000	42.39	0.72	43.11	74.00	-30.89	V	PK
4904.000	30.99	0.72	31.71	54.00	-22.29	V	AV
7356.000	36.83	3.81	40.64	74.00	-33.36	V	PK
7356.000	25.62	3.81	29.43	54.00	-24.57	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.

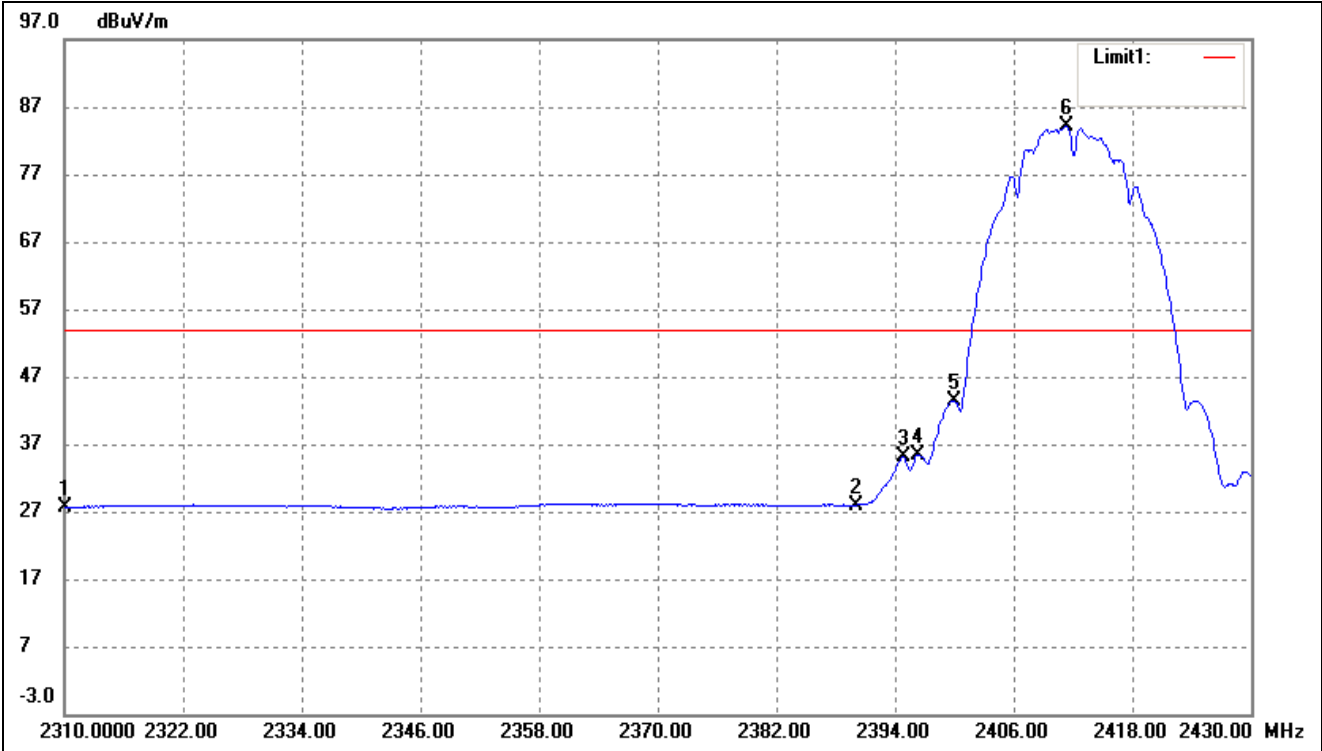
#### 9.4 Environmental Conditions

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

#### 9.5 Summary of Test Results/Plots

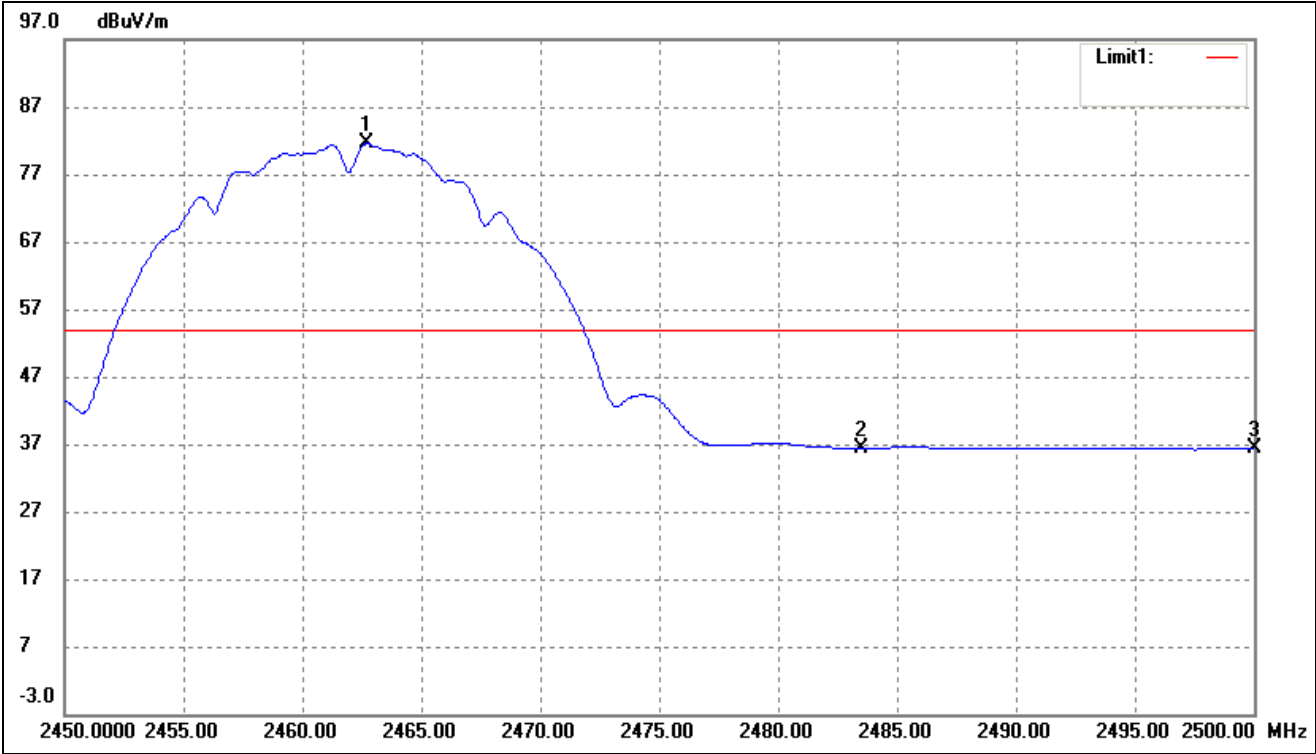
Please refer to the test plots as below.

802.11b-Lowest Bandedge  
Vertical (Worst case)



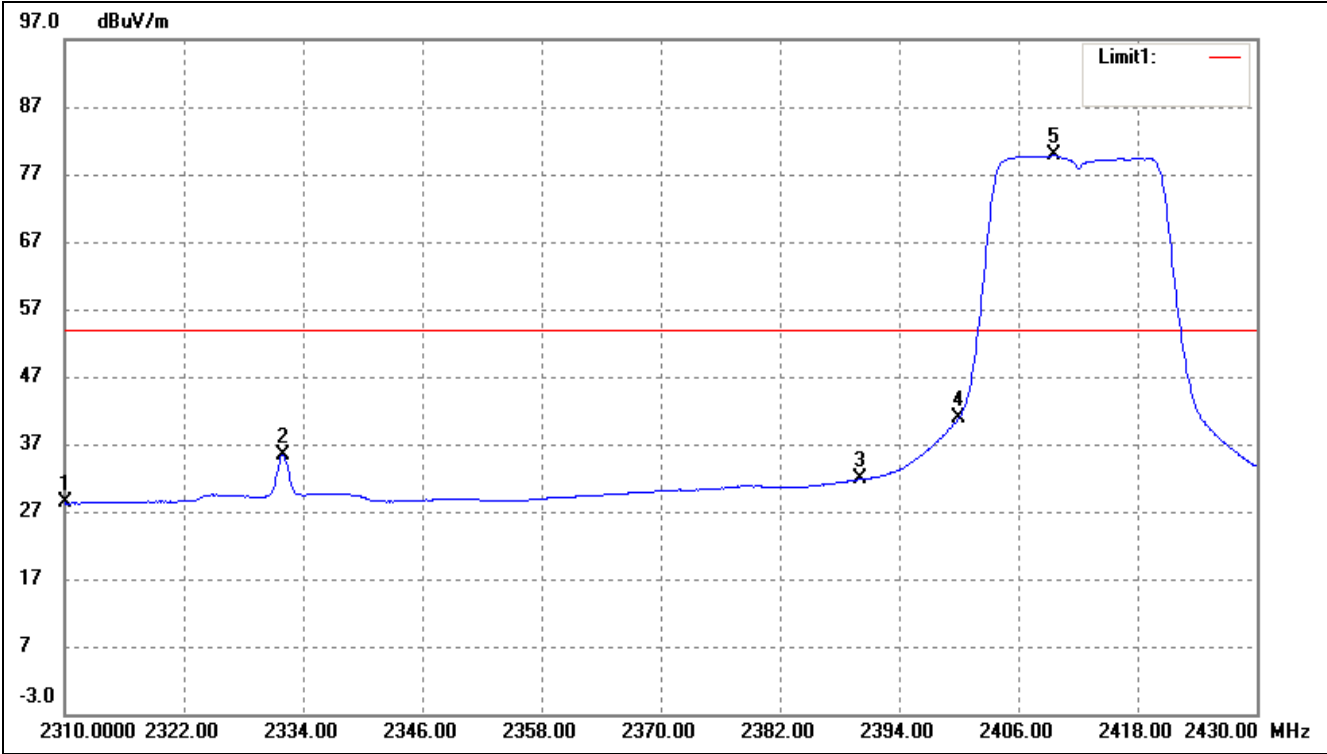
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	31.31	-3.71	27.60	54.00	-26.40	Average Detector
	2310.000	44.18	-3.71	40.47	74.00	-33.53	Peak Detector
2	2390.000	31.52	-3.54	27.98	54.00	-26.02	Average Detector
	2390.000	44.89	-3.54	41.35	74.00	-32.65	Peak Detector
3	2394.840	38.56	-3.53	35.03	54.00	-18.97	Average Detector
4	2396.280	38.97	-3.52	35.45	54.00	-18.55	Average Detector
5	2400.000	46.84	-3.51	43.33	Delta=40.89dBc		Average Detector
6	2411.280	87.70	-3.48	84.22			Average Detector

802.11b-Highest Bandedge  
Vertical (Worst case)



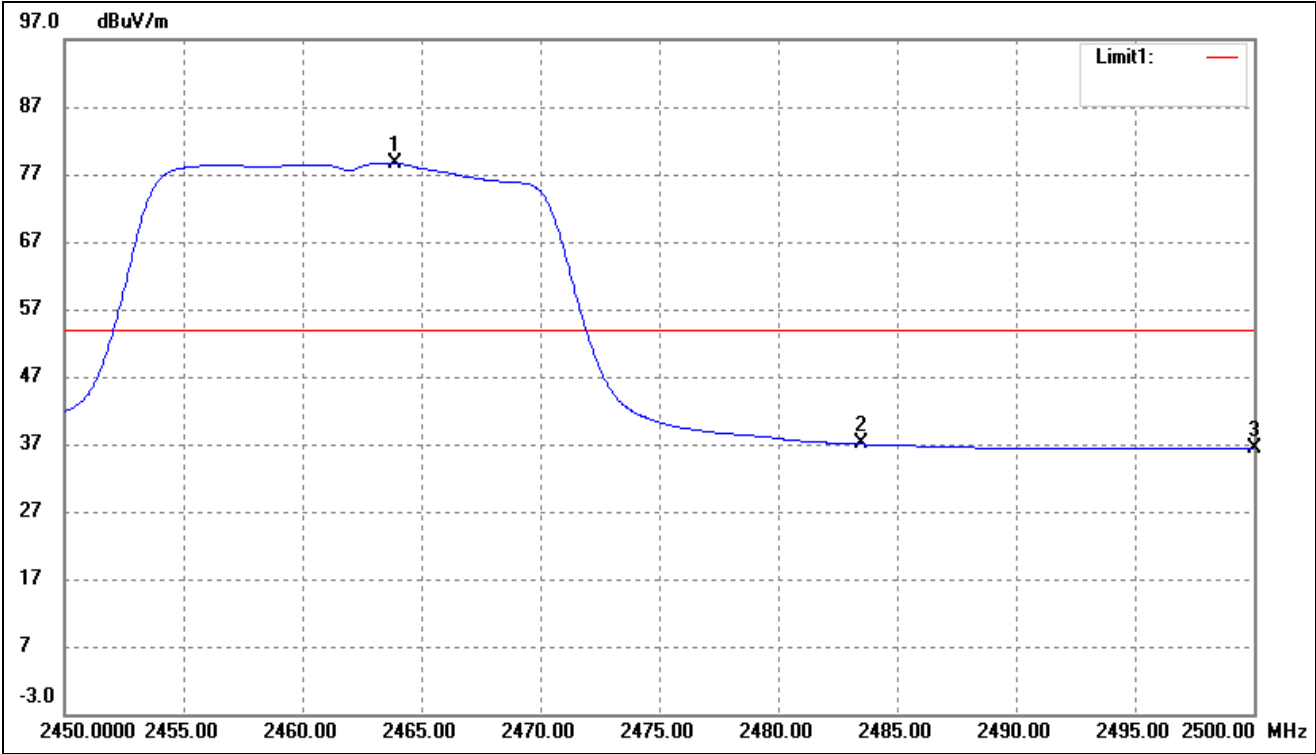
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2462.700	64.01	17.57	81.58	/	/	Average Detector
	2462.700	73.45	17.58	91.03	/	/	Peak Detector
2	2483.500	Delta = 45.14dBc		36.44	54.00	-17.56	Average Detector
	2483.500			45.89	74.00	-28.11	Peak Detector
3	2500.000	18.58	17.85	36.43	54.00	-17.57	Average Detector
	2500.000	35.39	17.85	53.24	74.00	-20.76	Peak Detector

802.11g-Lowest Bandedge  
Vertical (Worst case)



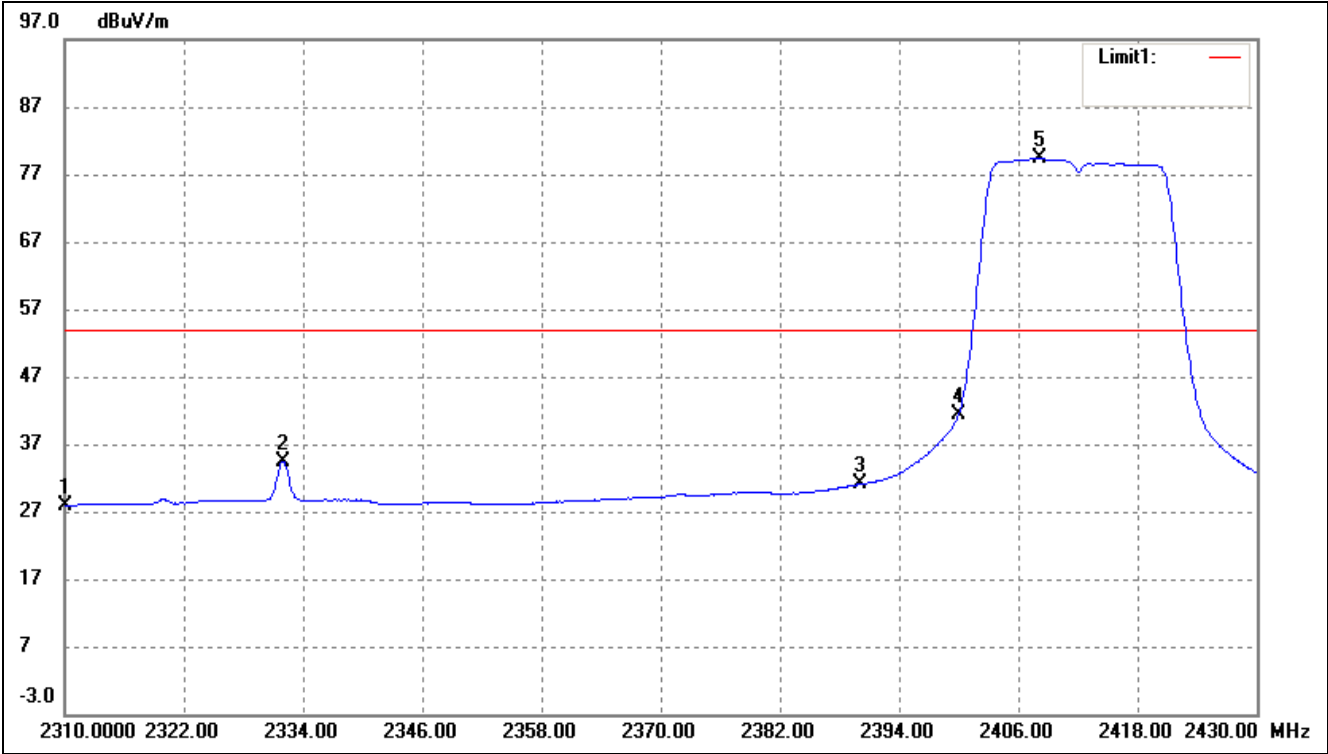
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	31.98	-3.71	28.27	54.00	-25.73	Average Detector
	2310.000	44.55	-3.71	40.84	74.00	-33.16	Peak Detector
2	2331.960	38.98	-3.67	35.31	54.00	-18.69	Average Detector
3	2390.000	35.32	-3.54	31.78	54.00	-22.22	Average Detector
	2390.000	48.45	-3.54	44.91	74.00	-29.09	Peak Detector
4	2400.000	44.37	-3.51	40.86	Delta = 38.94dBc		Average Detector
5	2409.600	83.28	-3.48	79.80			Average Detector

802.11g-Highest Bandedge  
Vertical (Worst case)



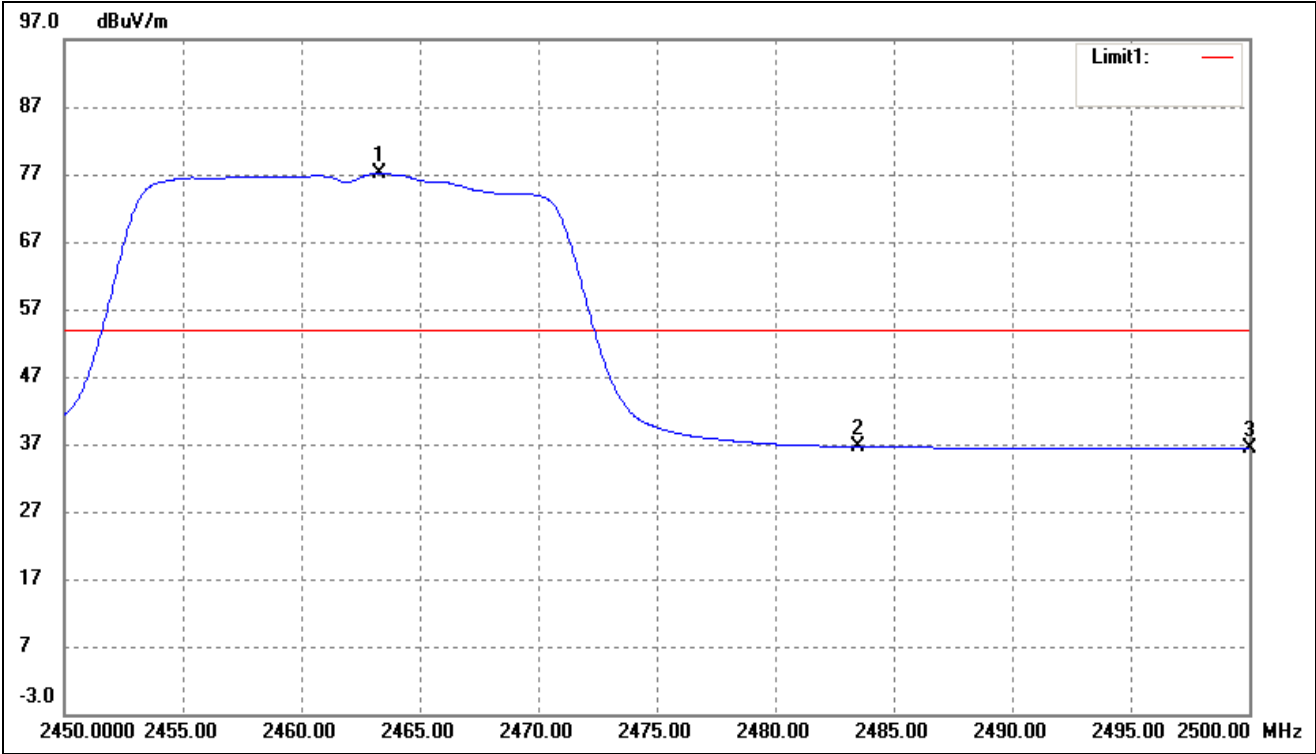
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
2	2463.900	61.10	17.58	78.68	/	/	Average Detector
	2463.900	66.78	17.58	84.36	/	/	Peak Detector
1	2483.500	Delta = 41.64dBc		37.04	54.00	-16.96	Average Detector
	2483.500			42.72	74.00	-31.28	Peak Detector
3	2500.000	30.49	17.86	48.35	74.00	-25.65	Average Detector
	2500.000	18.59	17.86	36.45	54.00	-17.55	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	31.64	-3.71	27.93	54.00	-26.07	Average Detector
	2310.000	43.94	-3.71	40.23	74.00	-33.77	Peak Detector
2	2331.960	38.15	-3.67	34.48	54.00	-19.52	Average Detector
3	2390.000	34.66	-3.54	31.12	54.00	-22.88	Average Detector
	2390.000	47.76	-3.54	44.22	74.00	-29.78	Peak Detector
4	2400.000	45.00	-3.51	41.49	Delta=37.86dBc		Average Detector
5	2408.160	82.84	-3.49	79.35			Average Detector

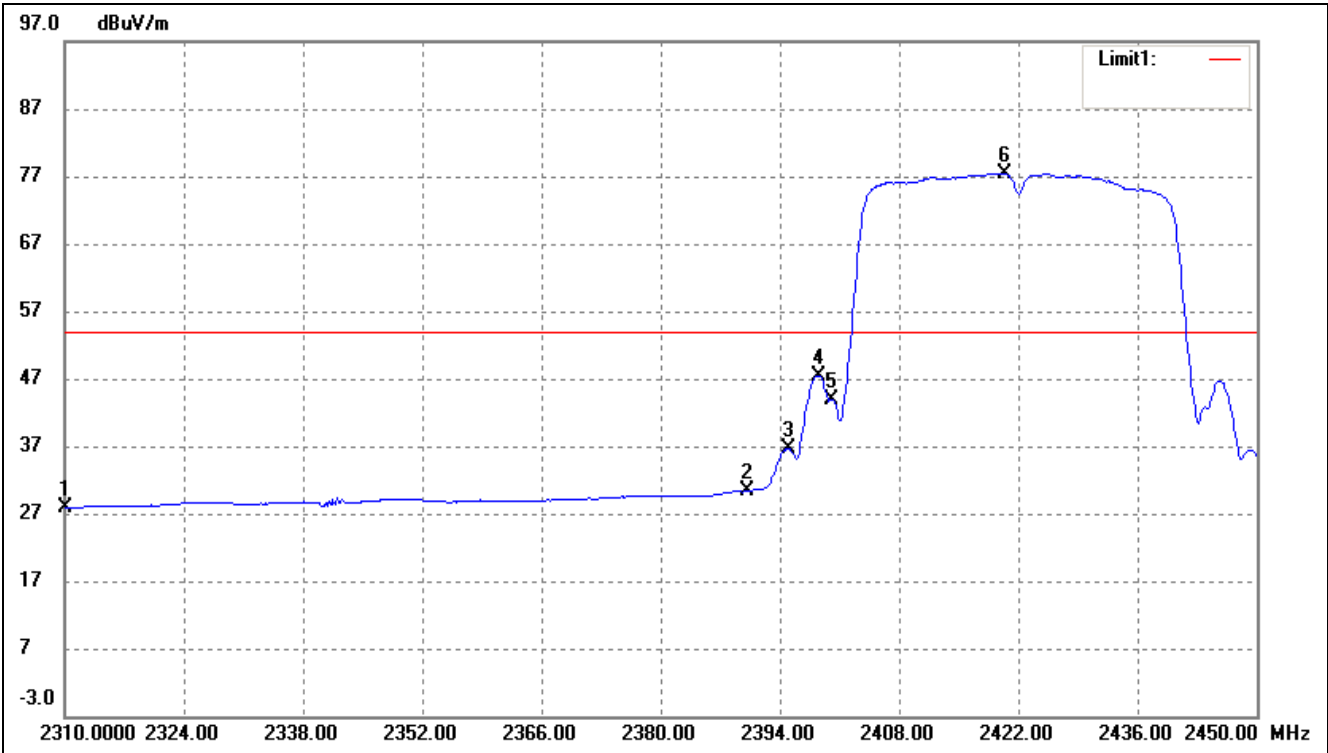
802.11n-HT20-Highest Bandedge  
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2463.300	59.56	17.58	77.14	/	/	Average Detector
	2463.300	71.46	17.58	89.03	/	/	Peak Detector
2	2483.500	Delta = 40.46dBc		36.68	54.00	-17.32	Average Detector
	2483.500			48.57	74.00	-25.43	Peak Detector
3	2500.000	30.75	17.86	48.61	74.00	-25.39	Average Detector
	2500.000	18.57	17.85	36.42	54.00	-17.58	Peak Detector

802.11n-HT40-Lowest Bandedge

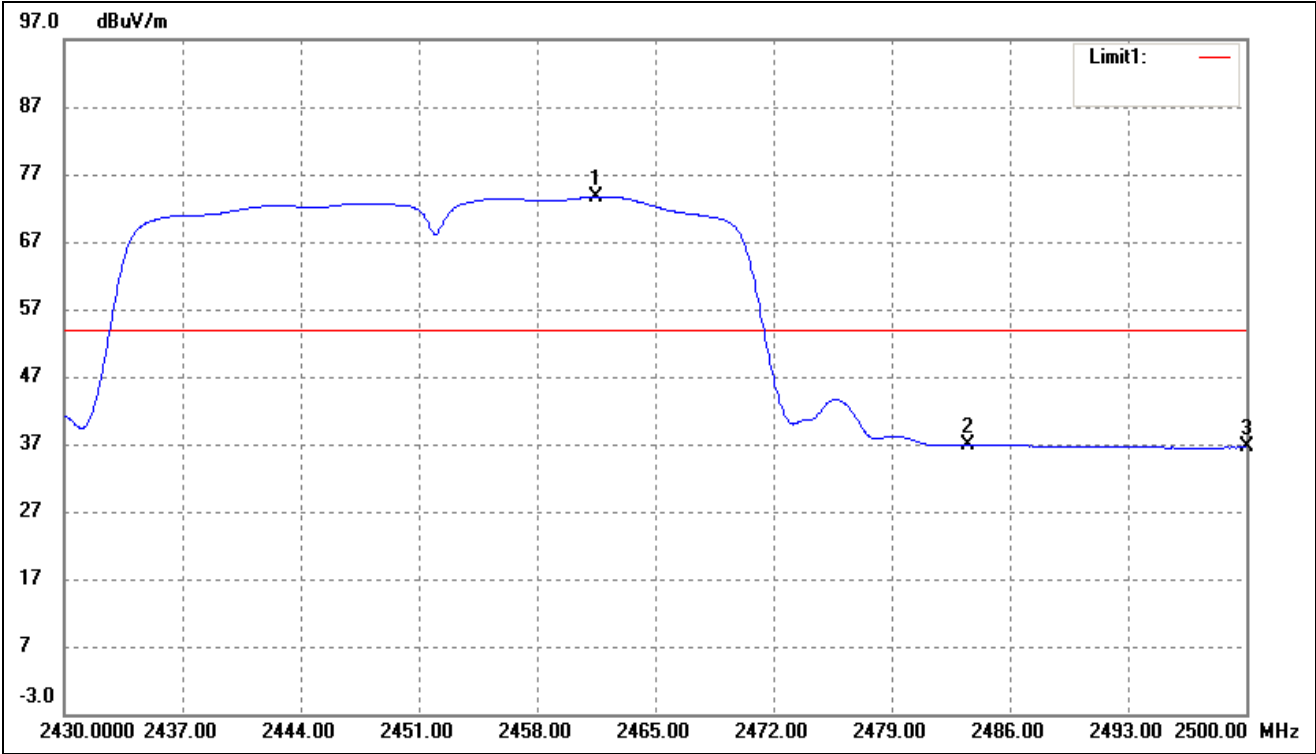
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	31.60	-3.71	27.89	54.00	-26.11	Average Detector
	2310.000	44.38	-3.71	40.67	74.00	-33.33	Peak Detector
2	2390.000	33.84	-3.54	30.30	54.00	-23.70	Average Detector
	2390.000	48.02	-3.54	44.48	74.00	-29.52	Peak Detector
3	2394.980	40.17	-3.53	36.64	54.00	-17.36	Average Detector
4	2398.480	50.93	-3.51	47.42	54.00	-6.58	Average Detector
5	2400.000	47.38	-3.51	43.87	Delta=33.49dBc		Average Detector
6	2420.320	80.82	-3.46	77.36			Average 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	2461.500	56.17	17.57	73.74	/	/	Average Detector
	2461.500	66.77	17.56	84.33	/	/	Peak Detector
2	2483.500	Delta = 36.87dBc		36.87	54.00	-17.13	Average Detector
	2483.500			37.46	74.00	-36.54	Peak Detector
3	2500.000	18.72	17.85	36.57	54.00	-17.43	Average Detector
	2500.000	29.95	17.86	47.81	74.00	-26.19	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

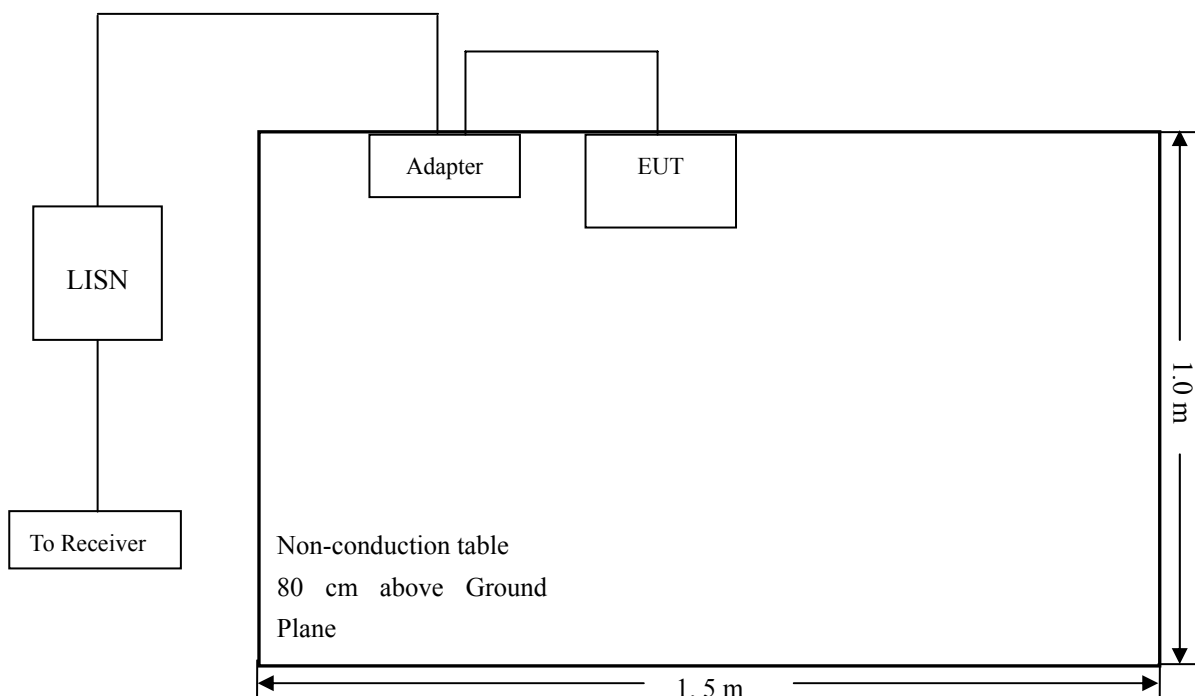
### 10.3 Test Procedure

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:

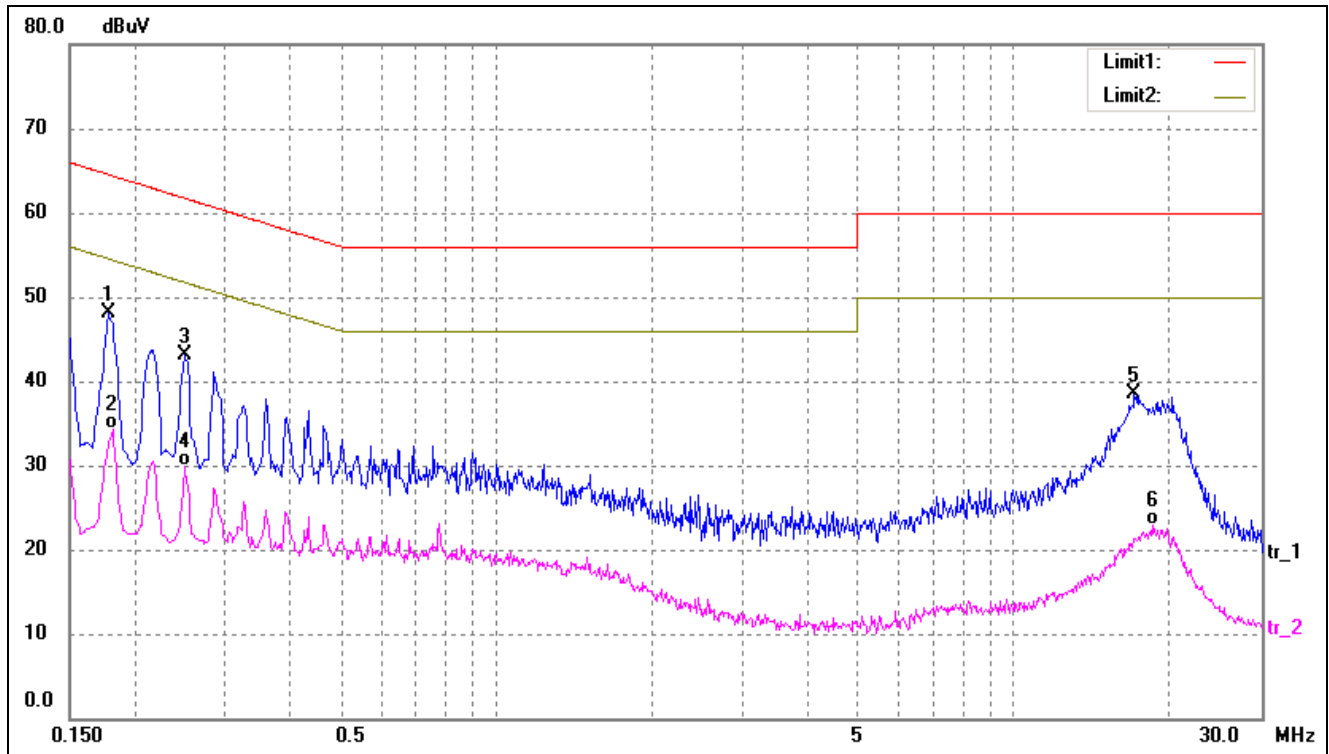
Start Frequency ..... 150 kHz  
Stop Frequency..... 30 MHz  
Sweep Speed ..... Auto  
IF Bandwidth..... 10 kHz  
Quasi-Peak Adapter Bandwidth ..... 9 kHz  
Quasi-Peak Adapter Mode ..... Normal

## 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:

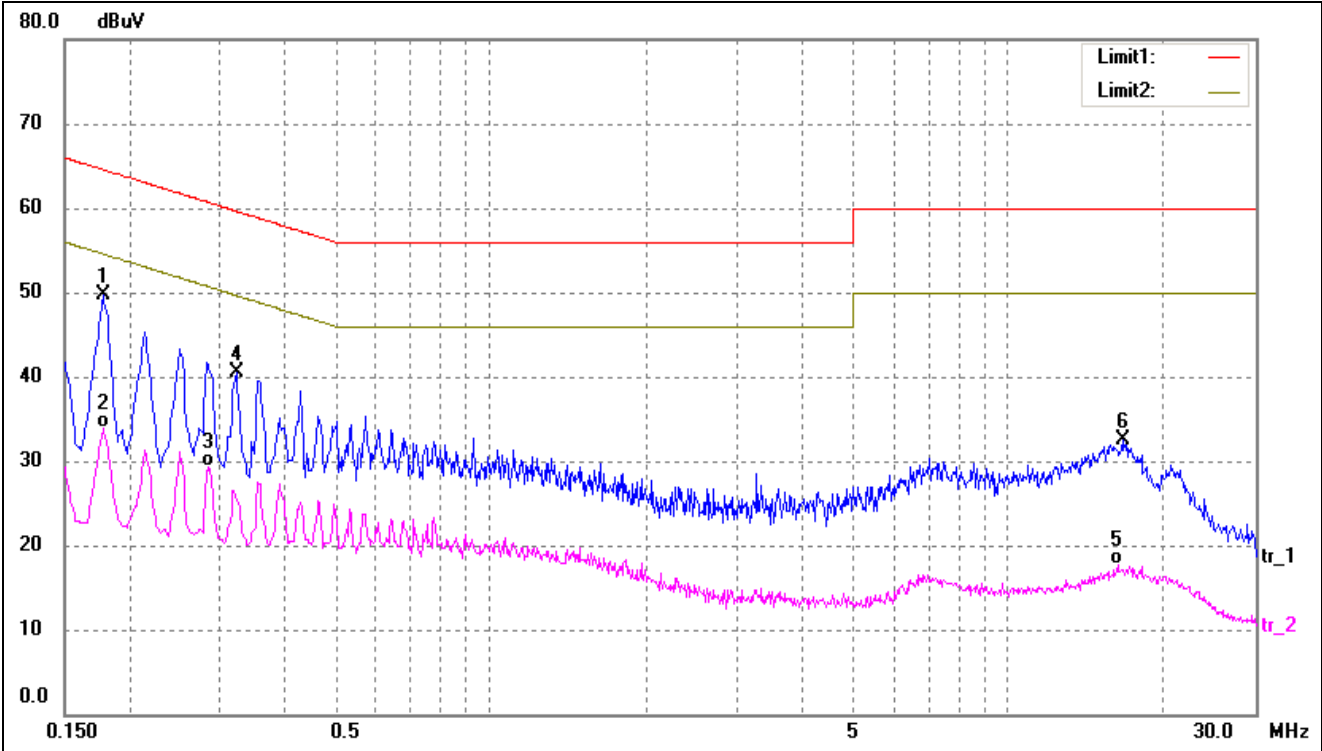
**-11.69 dB at 2.1980 MHz in the *Neutral* mode, **Peak** detector, 0.15-30MHz**

## 10.8 Conducted Emissions Test Data

**Plot of Conducted Emissions Test Data**EUT: *Mobile Phone*Tested Model: *A850*Operating Condition: *Transmitting(Wi-Fi)*Comment: *Adapter:DC5V*Test Specification: *Neutral*

No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1780	38.66	9.50	48.16	64.58	-16.42	peak
2	0.1820	24.72	9.50	34.22	54.39	-20.17	AVG
3	0.2500	33.64	9.50	43.14	61.76	-18.62	peak
4	0.2500	20.32	9.50	29.82	51.76	-21.94	AVG
5	17.0540	27.00	11.41	38.41	60.00	-21.59	peak
6	18.4900	11.15	11.70	22.85	50.00	-27.15	AVG

Test Specification: Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1780	40.14	9.50	49.64	64.57	-14.93	peak
2	0.1780	24.33	9.50	33.83	54.57	-20.74	AVG
3	0.2860	19.79	9.50	29.29	50.64	-21.35	AVG
4	0.3220	30.94	9.50	40.44	59.65	-19.21	peak
5	16.2539	6.40	11.25	17.65	50.00	-32.35	AVG
6	16.6539	21.09	11.33	32.42	60.00	-27.58	peak

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