

FCC Part 15C Measurement and Test Report

For
Verykool USA Inc
4350 Executive Dr. #100, San Diego, CA 92121, USA

FCC ID: WA6S135

FCC Rules:	<u>FCC Part 15C</u>	
Product Description:	<u>3G Mobile Phone</u>	
Tested Model:	<u>S135</u>	
Report No.:	<u>STR12078082I-2</u>	
Tested Date:	<u>2012-07-16 to 2012-07-30</u>	
Issued Date:	<u>2012-07-31</u>	
Tested By:	<u>Seven Song / Engineer</u>	<i>Seven Song</i>
Reviewed By:	<u>Lahm Peng / EMC Manager</u>	<i>Lahm peng</i>
Approved & Authorized By:	<u>Jandy so / PSQ Manager</u>	<i>Jandyso</i>
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Verykool USA Inc
 Address of applicant: 4350 Executive Dr. #100, San Diego, CA 92121, USA
 Manufacturer: Shenzhen SanMu Communication Technology Co., Ltd.
 Address of manufacturer: 3/F Block T2-A, Shenzhen Software Park, Southern Zone, Hi-Tech Industrial Park, Nanshan, Shenzhen

General Description of EUT	
Product Name:	3G Mobile Phone
Trade Name:	verykool
Model No.:	S135
Rated Voltage:	Battery DC 3.7V, Adapter Charging: DC 5V
Power Adapter Model:	A261-0500500U
<p><i>Note: The test data is gathered from a production sample (with two SIM card) , provided by the manufacturer. The other sample have same model name listed in the report has different Number SIM card socket only without circuit and electronic construction changed, declared by the manufacturer.</i></p>	

Technical Characteristics of EUT	
Support Standards:	802.11b/g/n
Frequency Range:	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40)
Max RF Output Power:	15.81 dBm (Conducted)
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Modulation:	CCK, BPSK, QPSK, 16QAM, 64QAM
Quantity of Channels:	11 for 802.11b/g/n-HT20, 7 for 802.11n-HT40
Channel Separation:	5MHz
Antenna Type:	Integral Antenna
Antenna Gain:	0 dBi
Lowest Internal Frequency of EUT:	32.76 kHz
Device Category:	Portable Device

1.2 Test Standards

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

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

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

1.3 Test Methodology

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

1.4 Test Facility

- **FCC – Registration No.: 994117**

SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.

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

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

- **CNAS Registration No.: L4062**

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

1.5 EUT Setup and Test Mode

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

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

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

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

2. SUMMARY OF TEST RESULTS

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

N/A: not applicable

3. Antenna Requirement

3.1 Standard Applicable

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

3.2 Evaluation Information

This product has an Integral antenna, fulfill the requirement of this section.

4. Power Spectral Density

4.1 Standard Applicable

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

4.2 Test Equipment List and Details

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

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

4.3 Test Procedure

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

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

4.4 Environmental Conditions

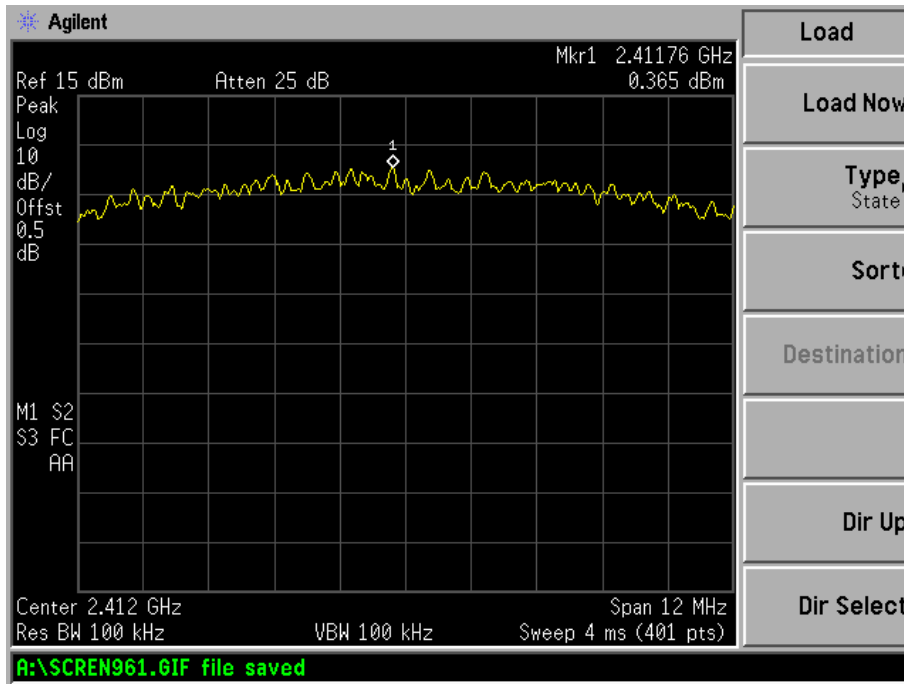
Temperature:	20° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

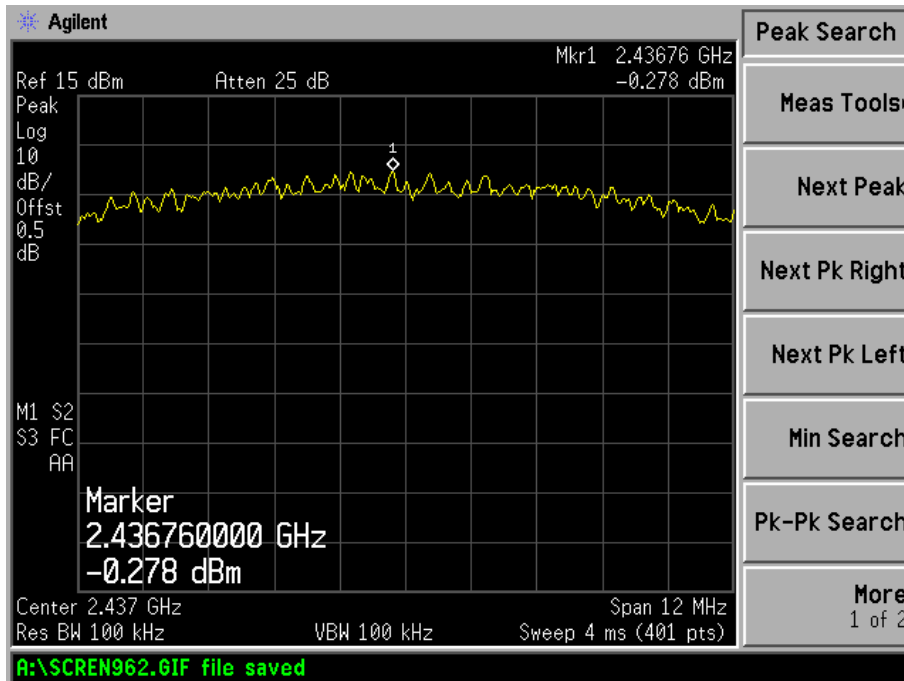
Test Mode	Test Channel MHz	Power Spectral Density dBm/100kHz	BWCF	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	0.365	-15.2	-14.835	8
	2437	-0.278	-15.2	-15.478	8
	2462	-1.639	-15.2	-16.839	8
802.11g	2412	-3.711	-15.2	-18.911	8
	2437	-3.768	-15.2	-18.968	8
	2462	-3.623	-15.2	-18.823	8
802.11n HT20	2412	-3.133	-15.2	-18.333	8
	2437	-3.930	-15.2	-19.13	8
	2462	-3.974	-15.2	-19.174	8
802.11n HT40	2422	-5.689	-15.2	-20.889	8
	2437	-6.723	-15.2	-21.923	8
	2452	-6.683	-15.2	-21.883	8

Please refer to the following test plots:

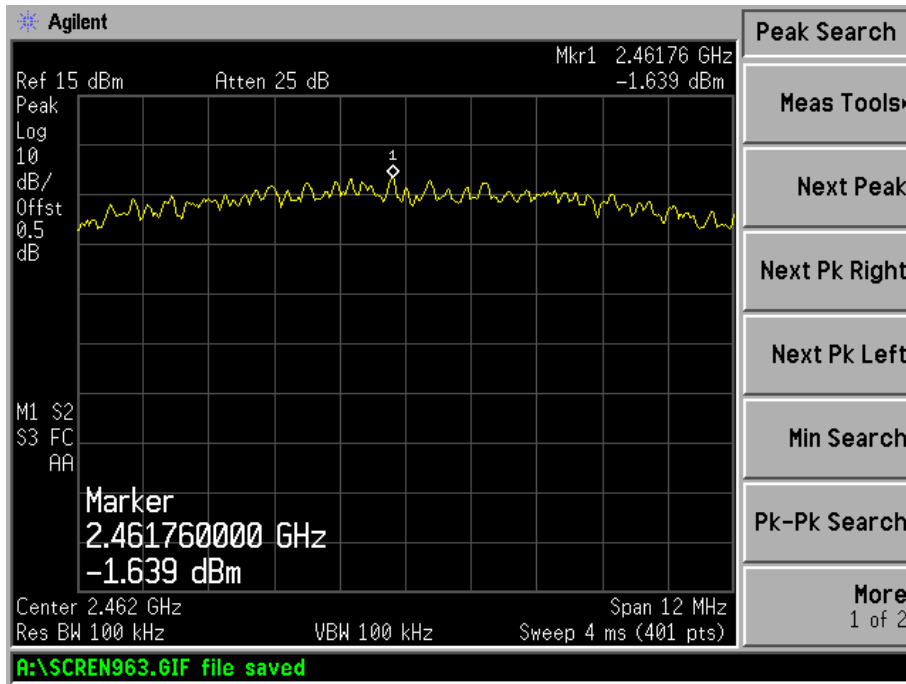
802.11b-Low Channel



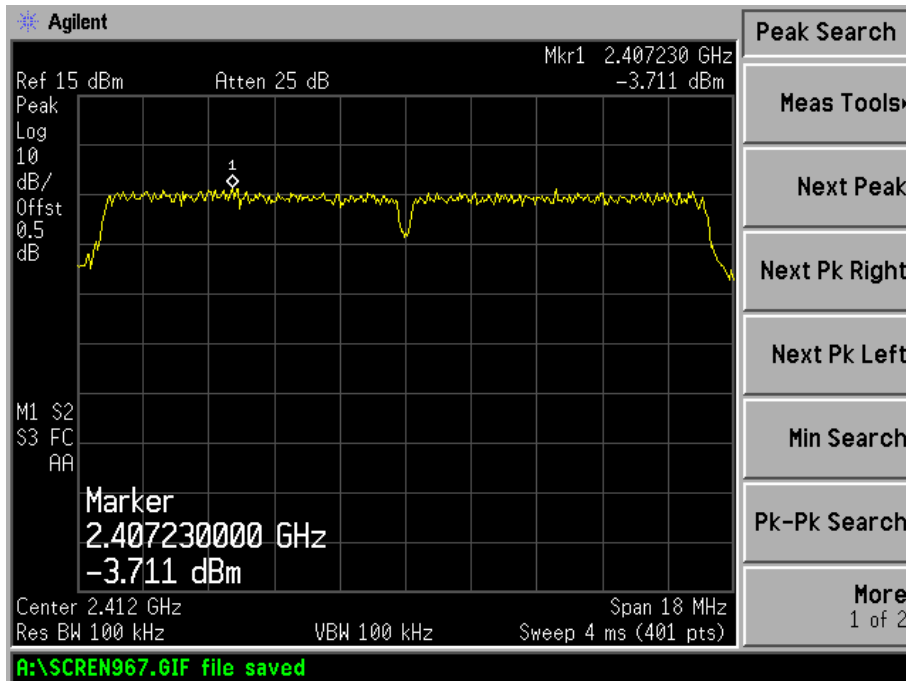
802.11b-Middle Channel



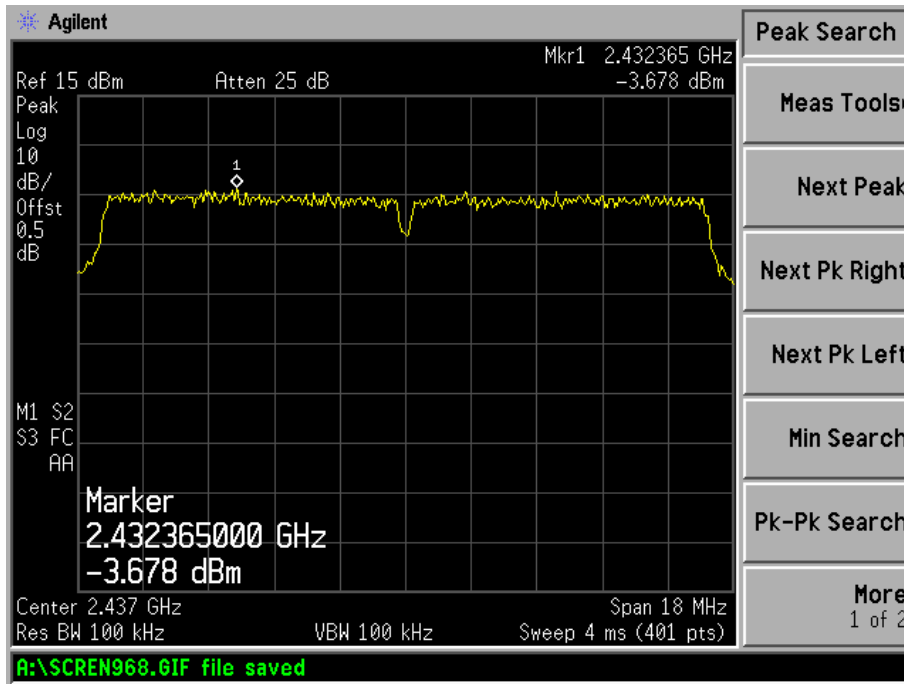
802.11b-High Channel



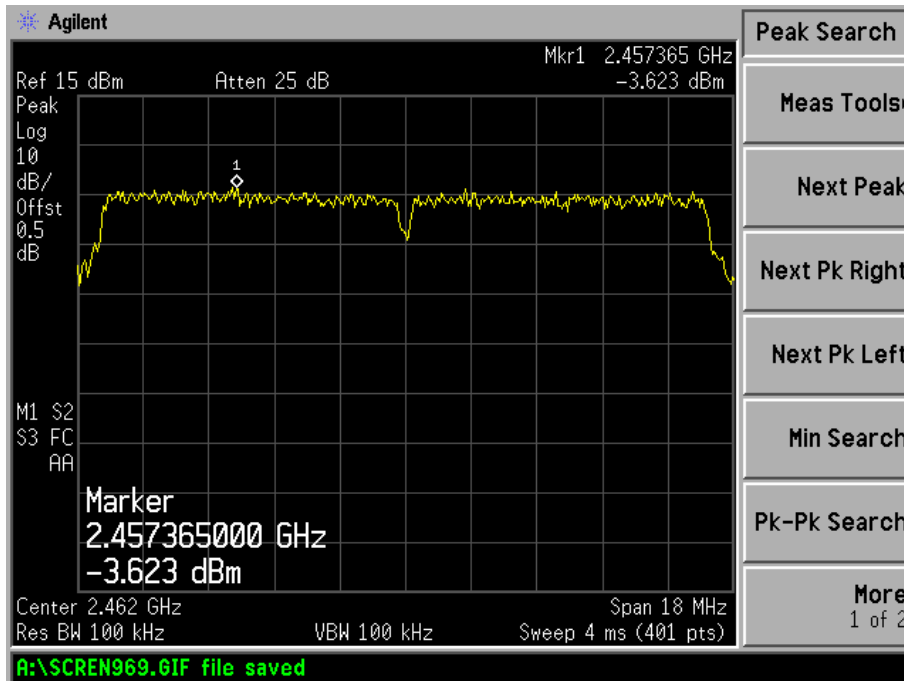
802.11g-Low Channel



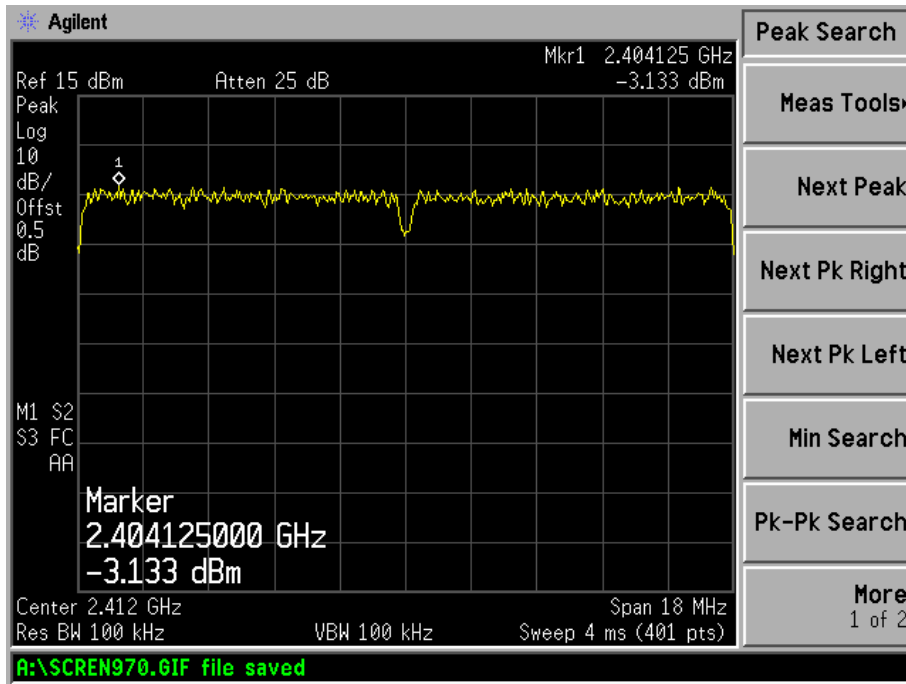
802.11g-Middle Channel



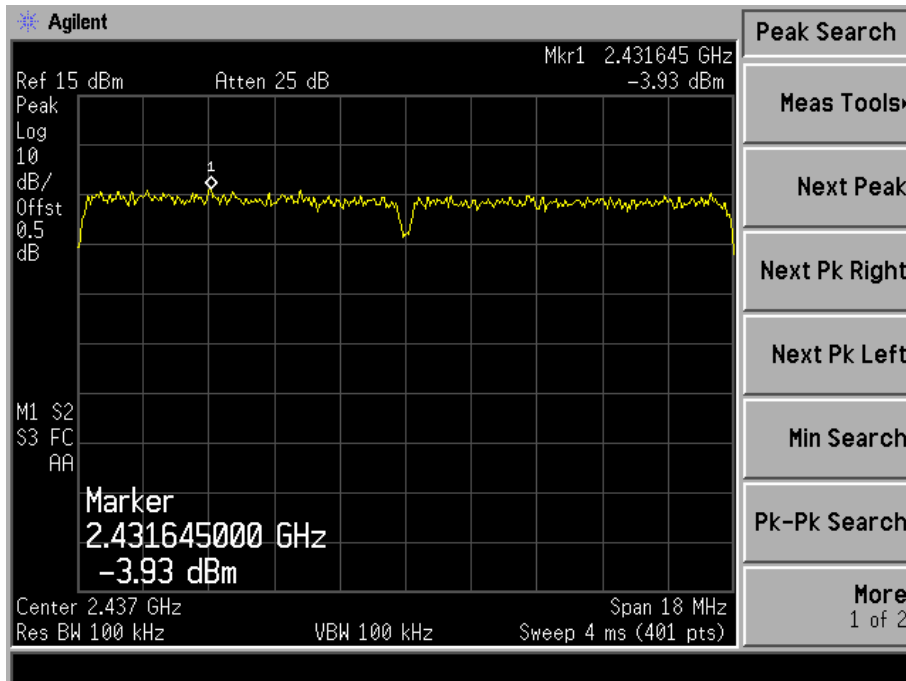
802.11g-High Channel



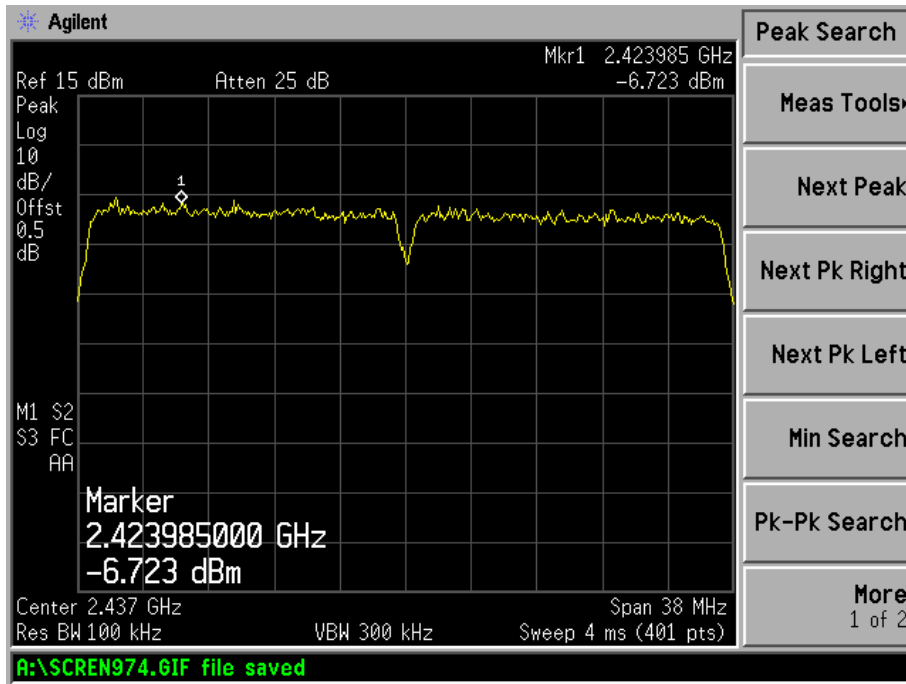
802.11n-HT20-Low Channel



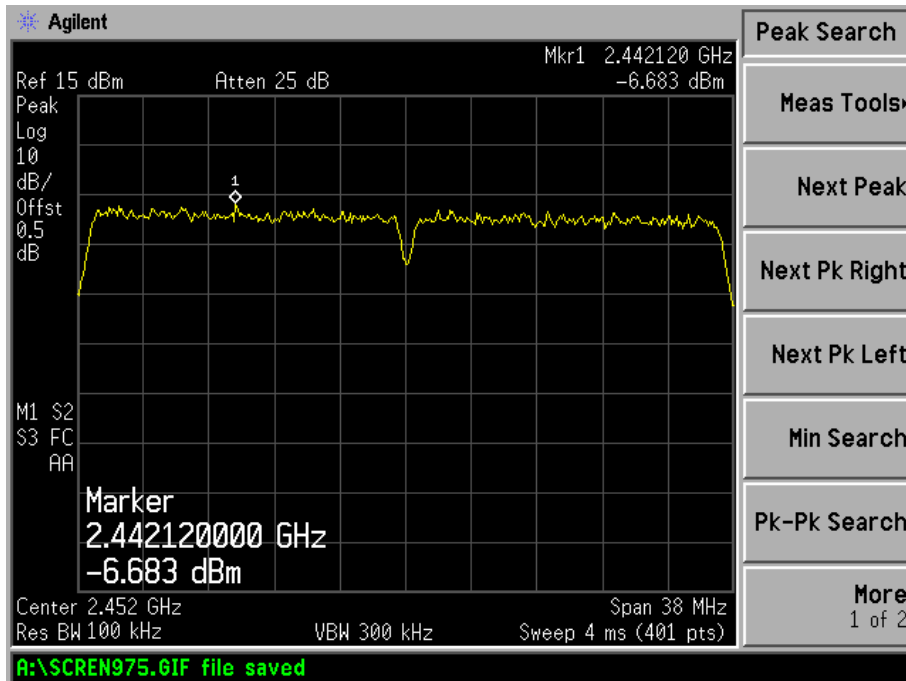
802.11n-HT20-Middle Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



5. 6dB Bandwidth

5.1 Standard Applicable

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

5.2 Test Equipment List and Details

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

5.3 Test Procedure

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

5.4 Environmental Conditions

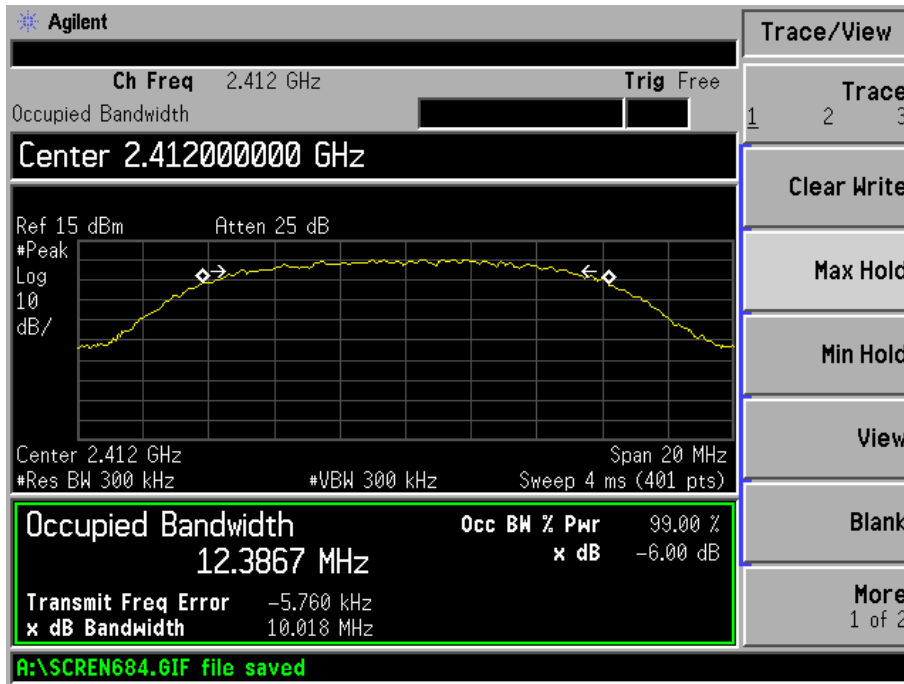
Temperature:	24° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

5.5 Summary of Test Results/Plots

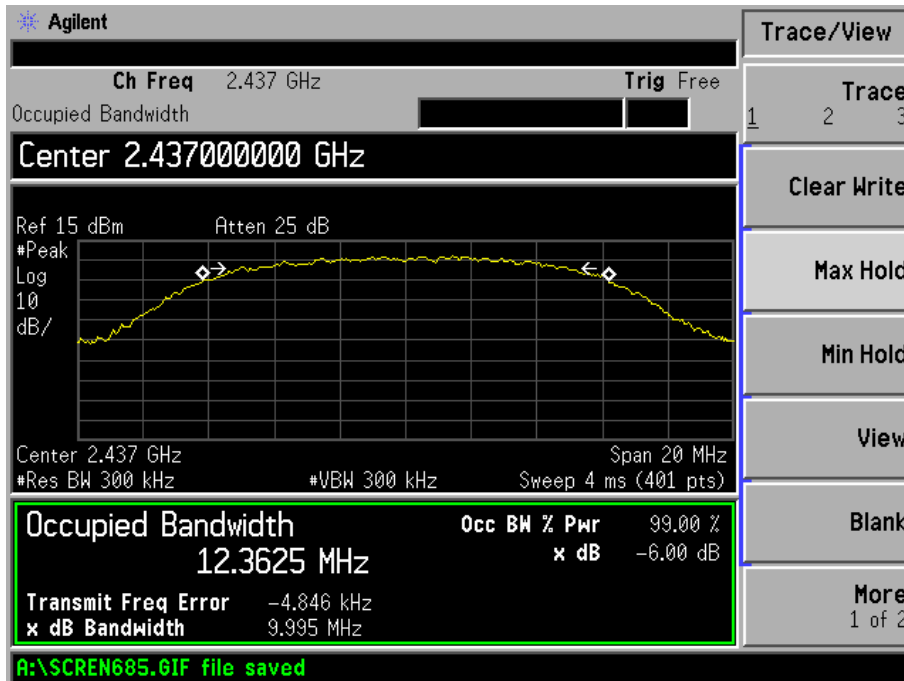
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	Limit kHz
802.11b	2412	10018	500
	2437	9995	500
	2462	10016	500
802.11g	2422	16476	500
	2437	16462	500
	2452	16494	500
802.11n-HT20	2412	17673	500
	2437	17754	500
	2462	17796	500
802.11n-HT40	2422	36397	500
	2437	36403	500
	2452	36273	500

Please refer to the following test plots:

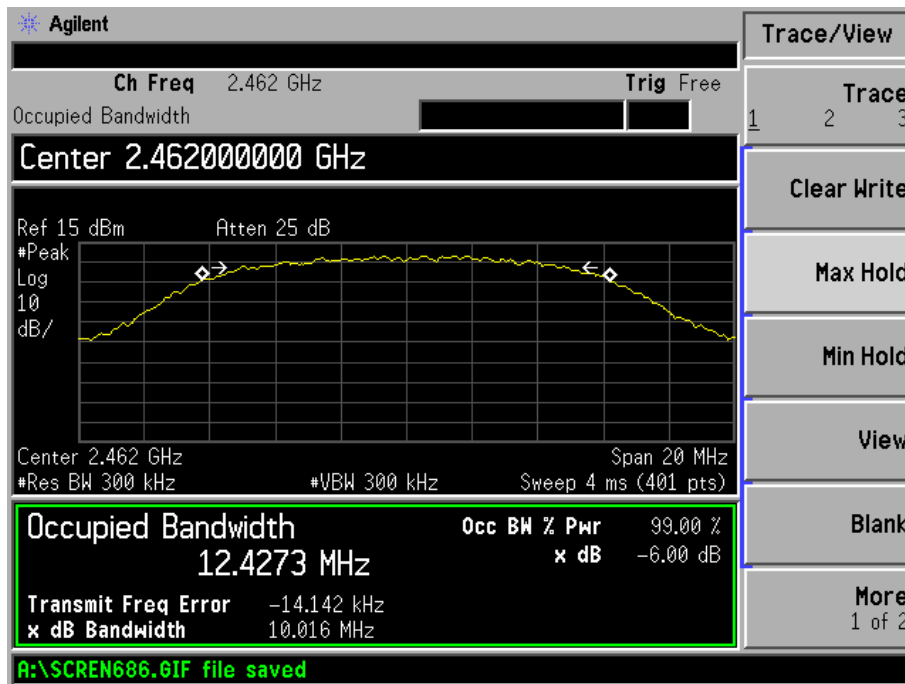
802.11b-Low Channel



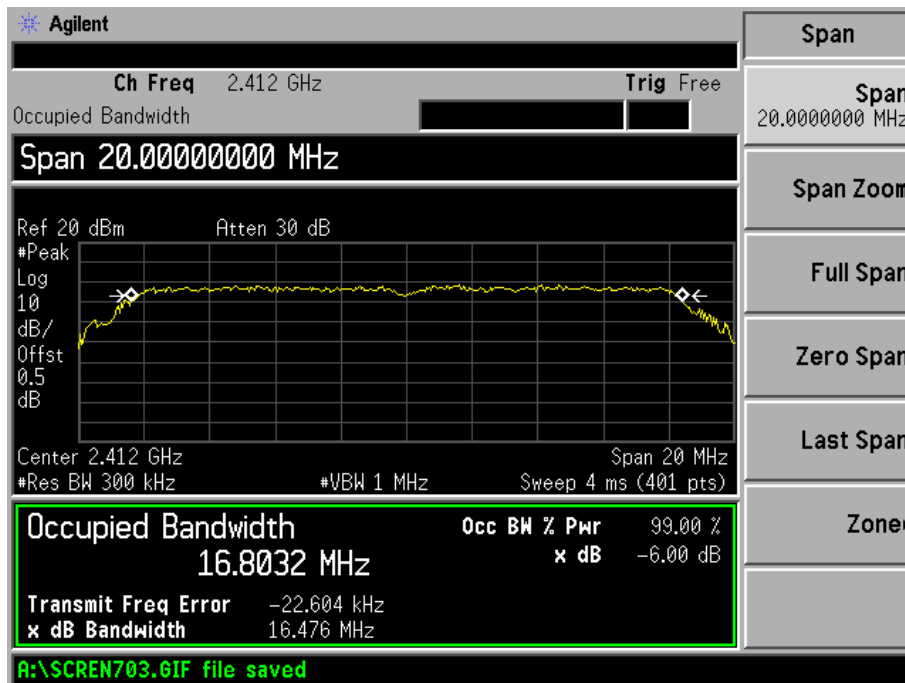
802.11b-Middle Channel



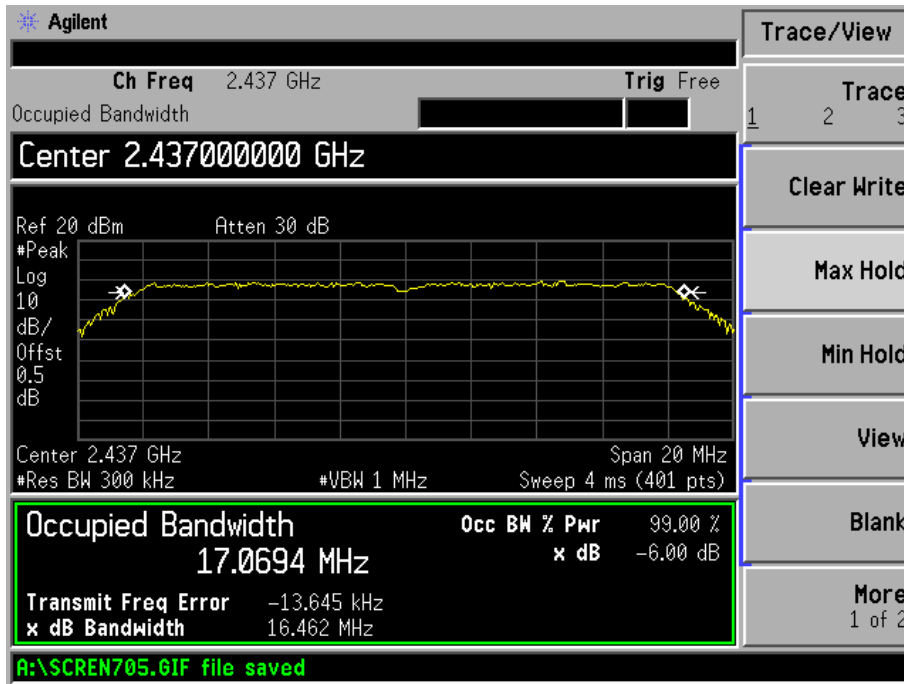
802.11b-High Channel



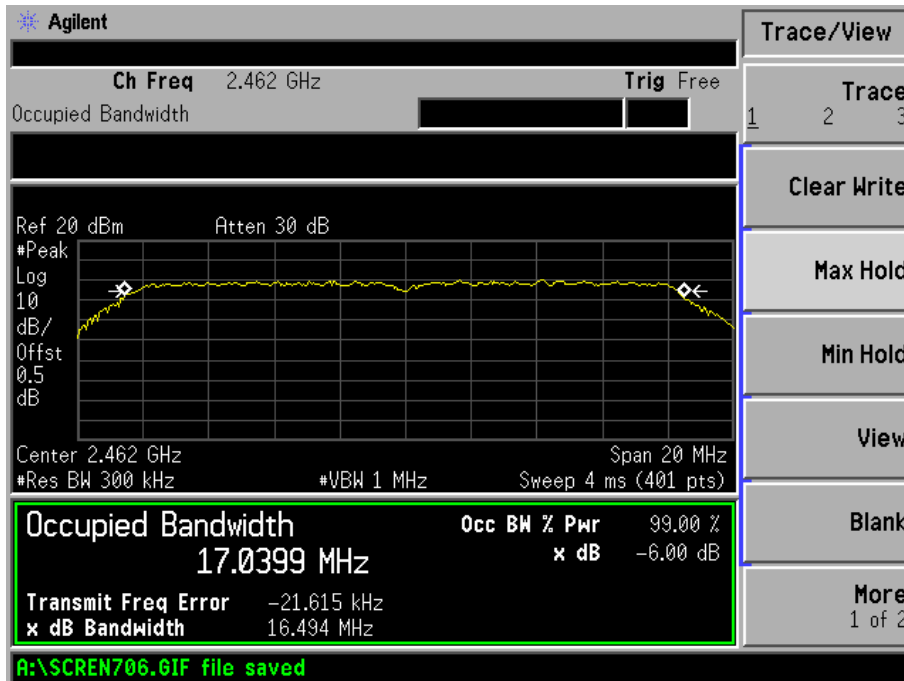
802.11g-Low Channel



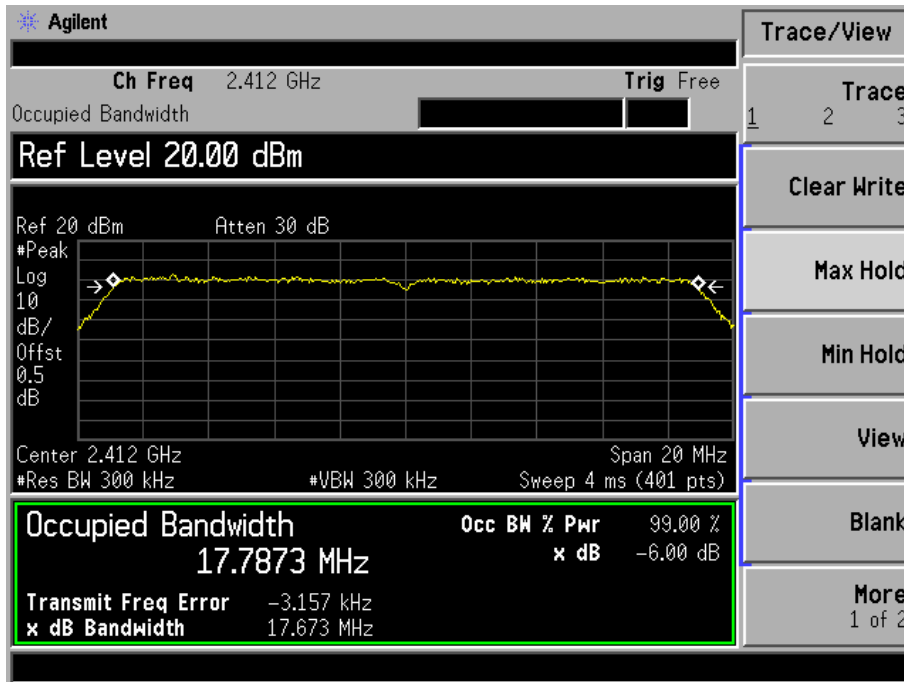
802.11g-Middle Channel



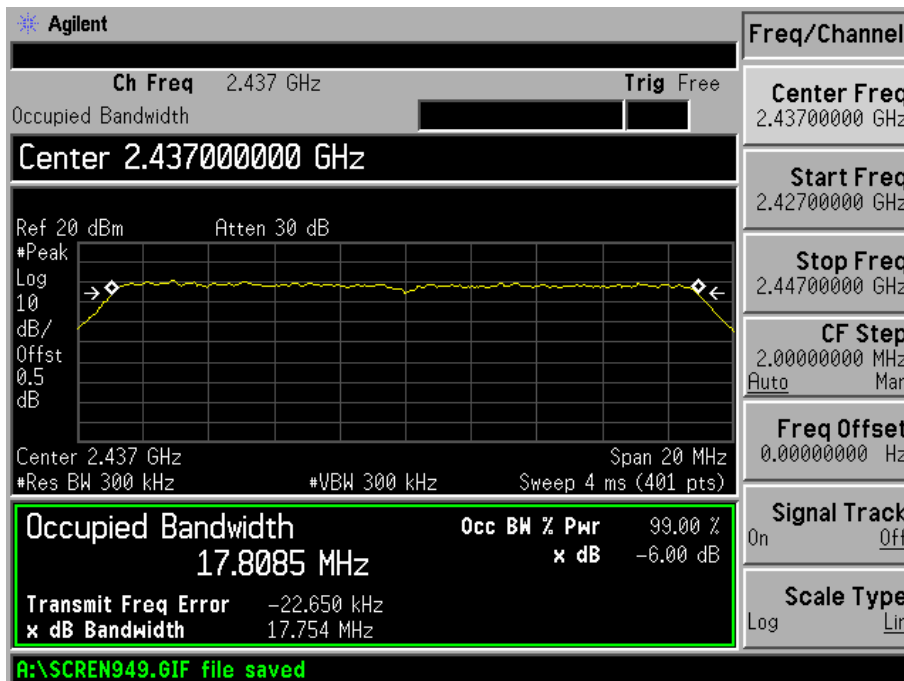
802.11g-High Channel



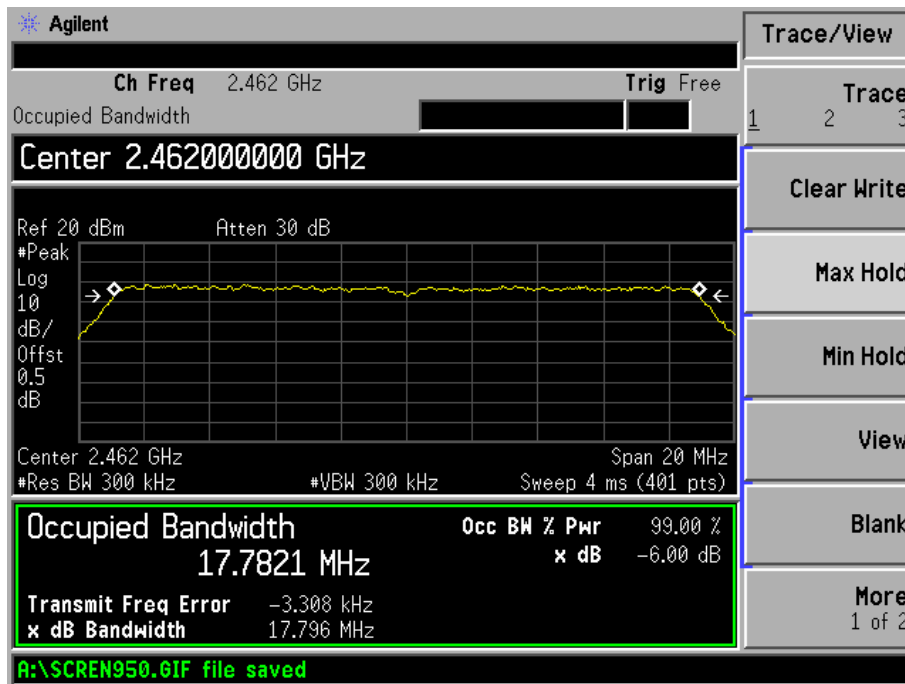
802.11n-HT20-Low Channel



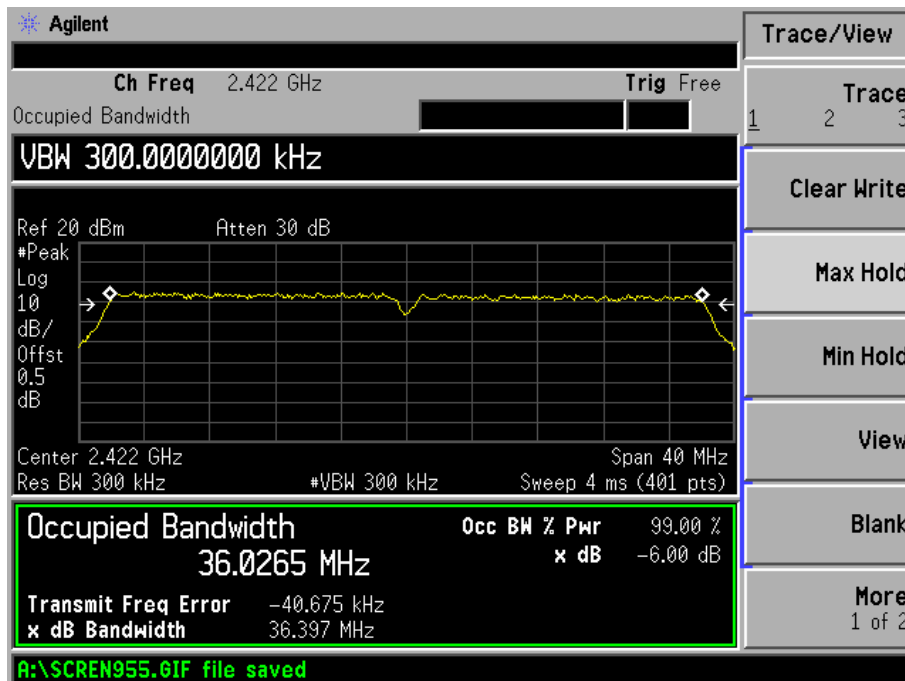
802.11n-HT20-Middle Channel



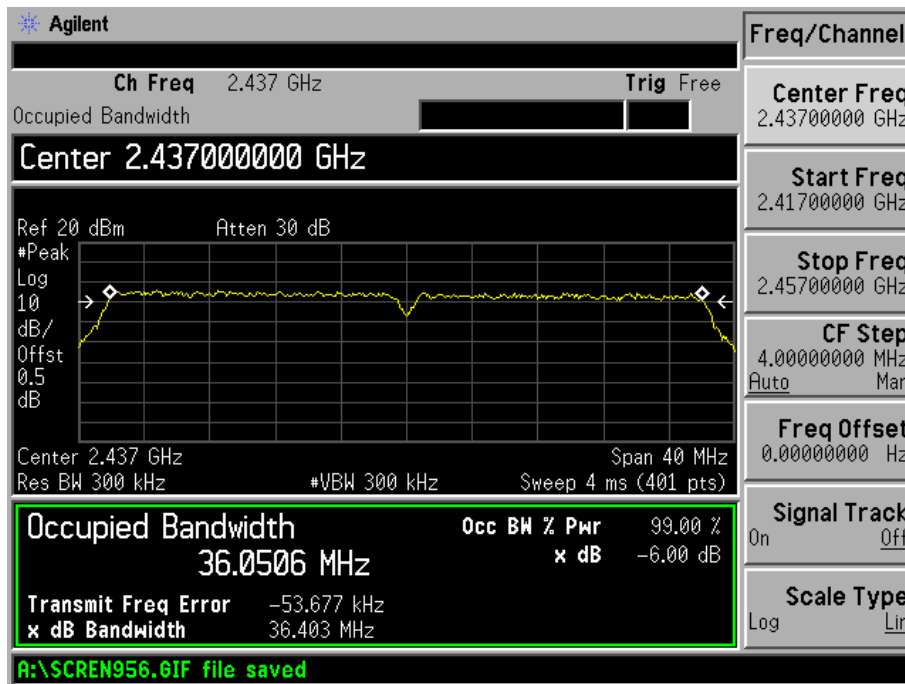
802.11n-HT20-High Channel



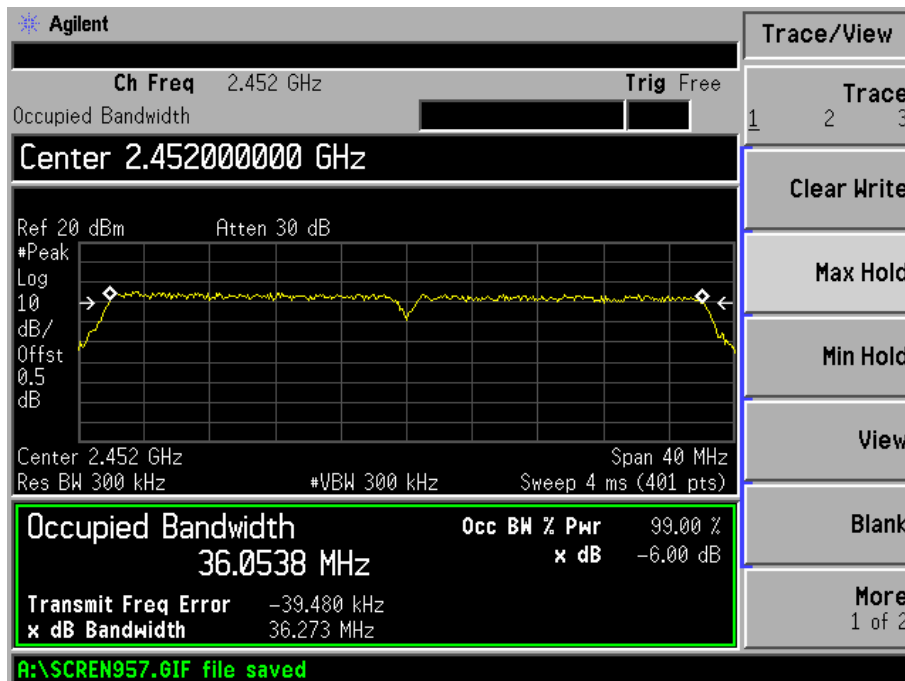
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



6. RF Output Power

6.1 Standard Applicable

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

6.2 Test Equipment List and Details

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

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

6.3 Test Procedure

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

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

6.4 Environmental Conditions

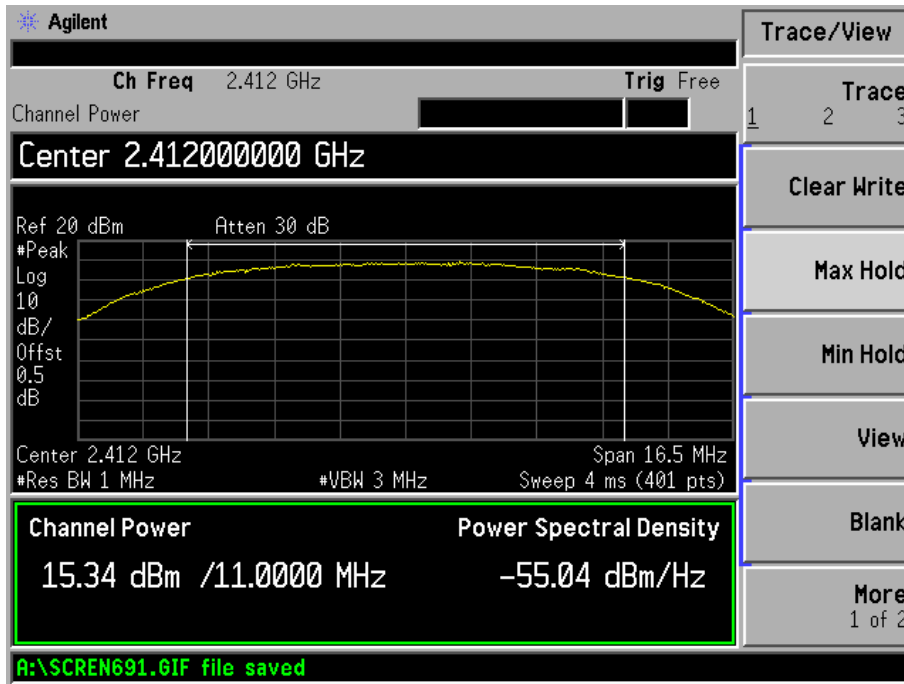
Temperature:	21° C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

6.5 Summary of Test Results/Plots

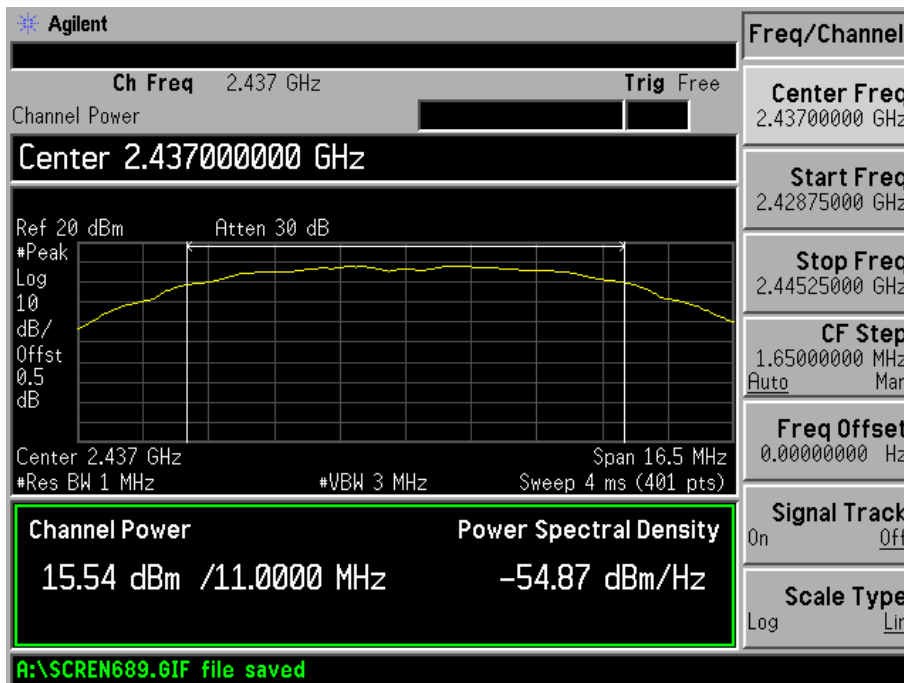
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b_1Mbps	2412	15.34	34.20	1000
	2437	15.54	35.81	1000
	2462	15.81	38.11	1000
802.11b_11Mbps	2412	15.62	36.48	1000
	2437	15.34	34.20	1000
	2462	15.66	36.81	1000
802.11g_6Mbps	2412	12.68	18.54	1000
	2437	13.66	23.23	1000
	2462	13.79	23.93	1000
802.11g_54Mbps	2412	13.05	20.18	1000
	2437	13.66	23.23	1000
	2462	13.51	22.44	1000
802.11n HT20_MCS0	2412	12.66	18.45	1000
	2437	12.61	18.24	1000
	2462	13.58	22.80	1000
802.11n HT20_MCS7	2412	12.84	19.23	1000
	2437	12.82	19.14	1000
	2462	13.38	21.78	1000
802.11n HT40_MCS0	2422	13.07	20.28	1000
	2437	13.23	21.04	1000
	2452	13.63	23.07	1000
802.11n HT40_MCS7	2422	13.23	21.04	1000
	2437	13.86	24.32	1000
	2452	13.84	24.21	1000

Please refer to the following test plots:

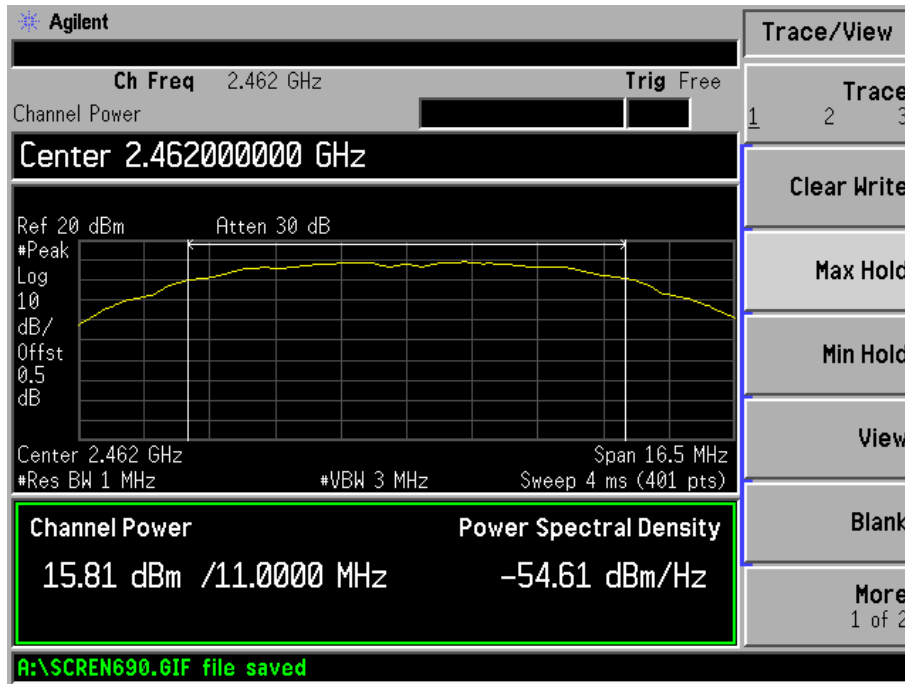
802.11b-1Mbps-Low Channel



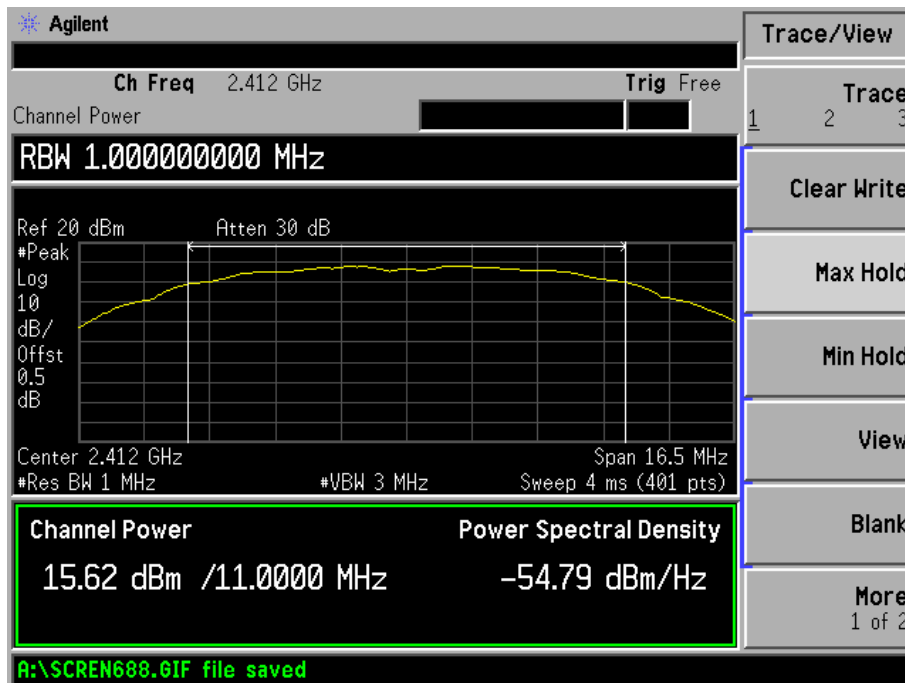
802.11b-1Mbps-Middle Channel



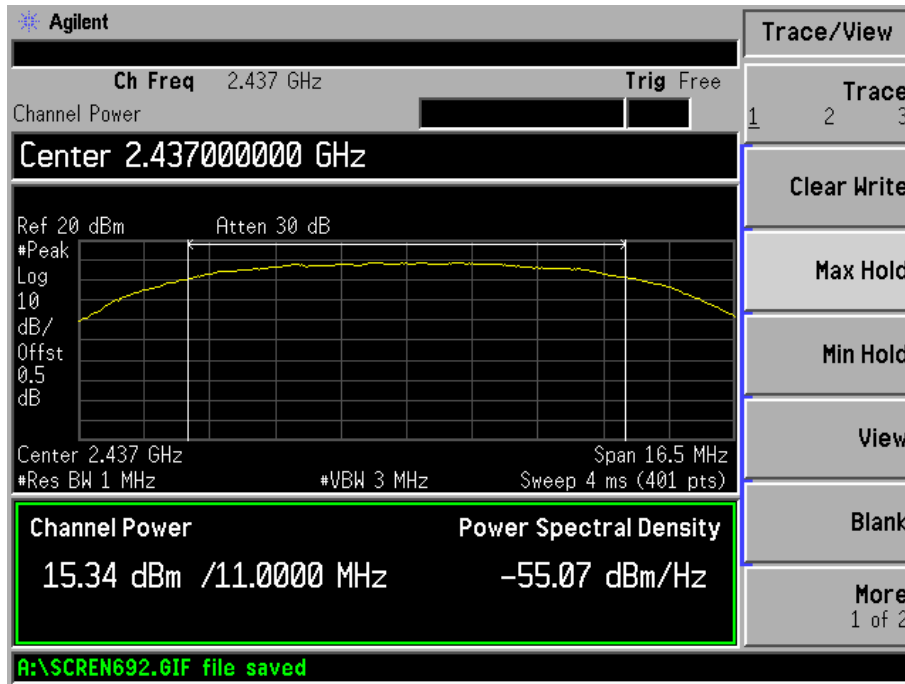
802.11b-1Mbps-High Channel



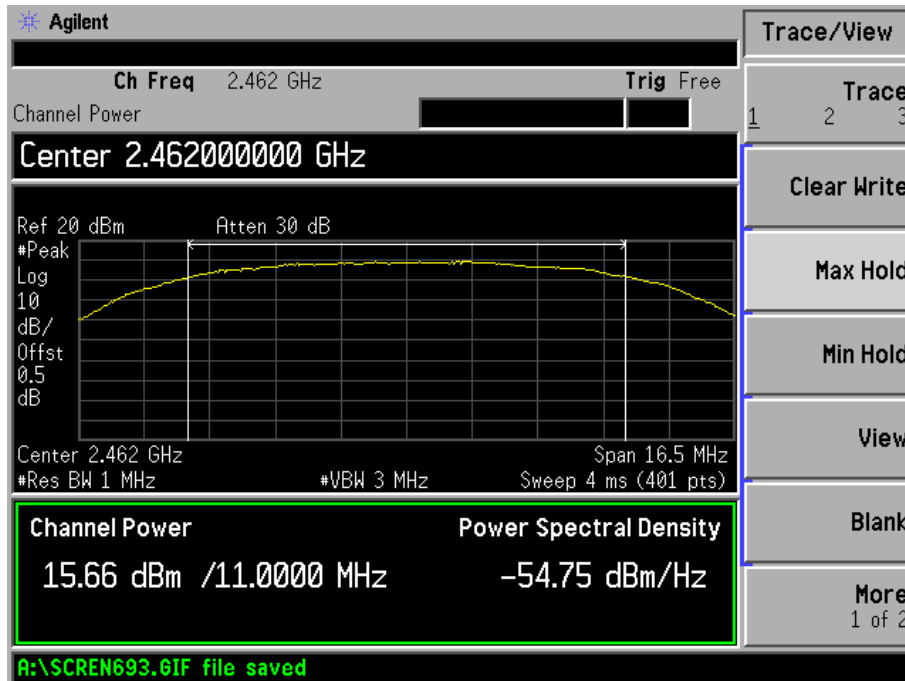
802.11b11Mbps-Low Channel



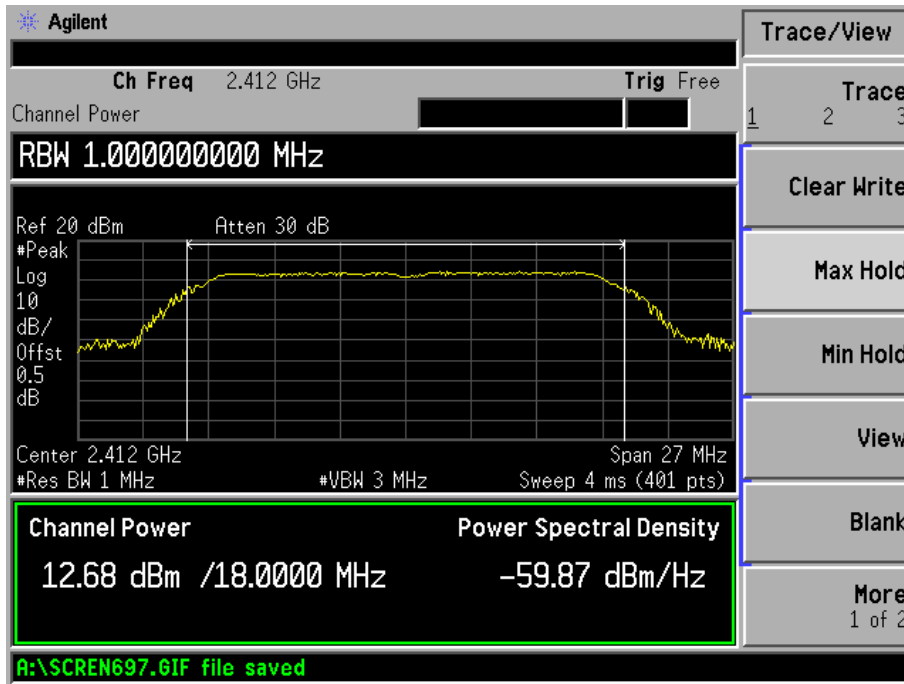
802.11b-11Mbps-Middle Channel



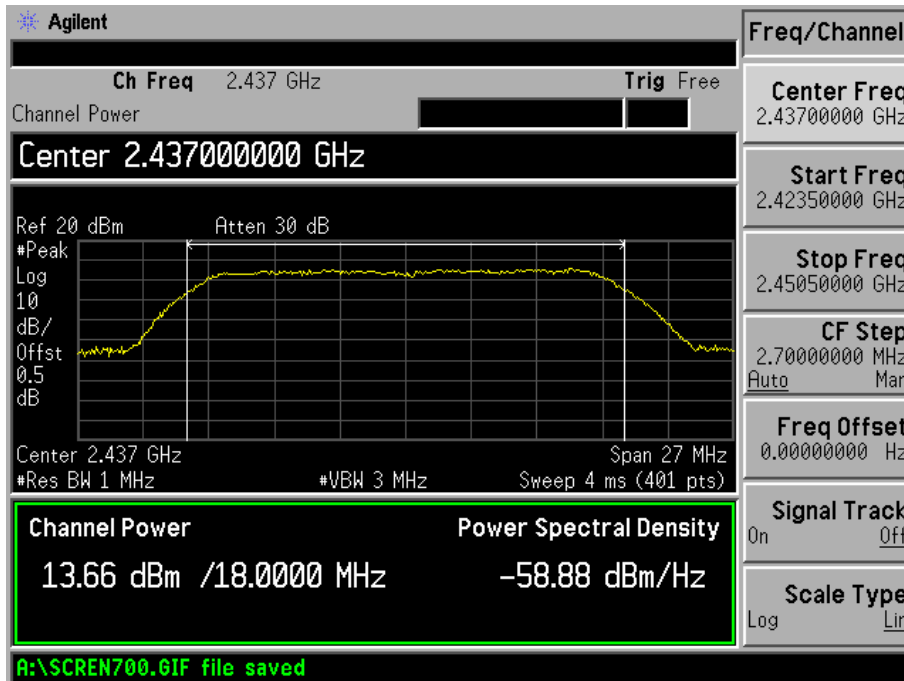
802.11b-11Mbps-High Channel



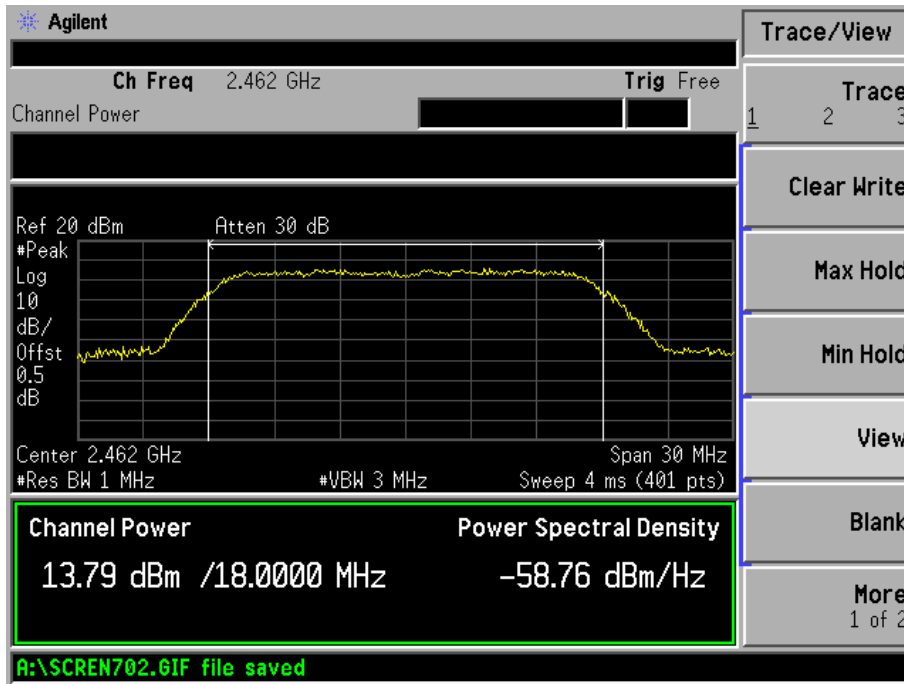
802.11g-6Mbps-Low Channel



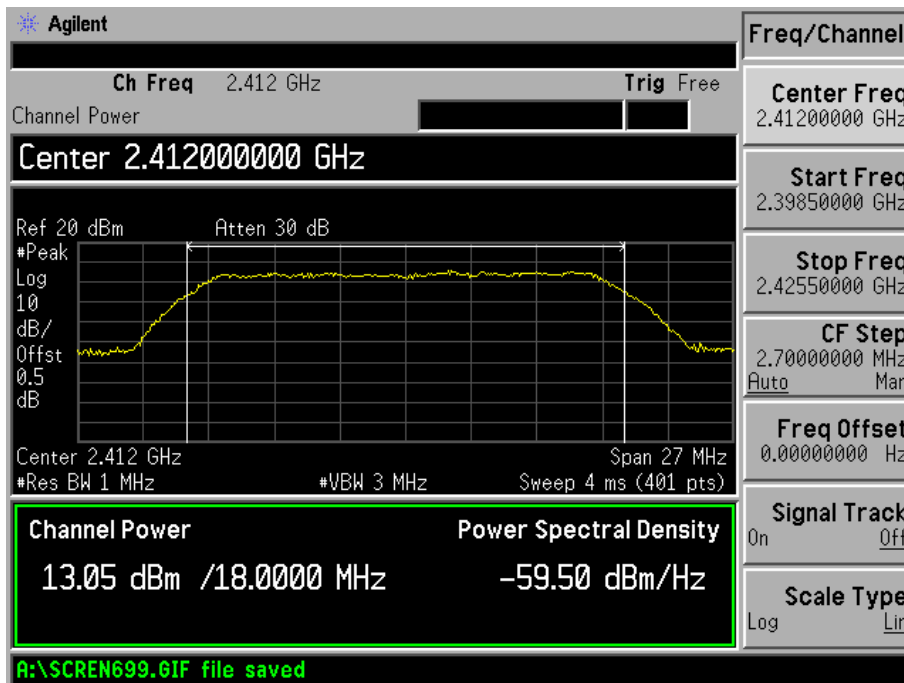
802.11g-6Mbps-Middle Channel



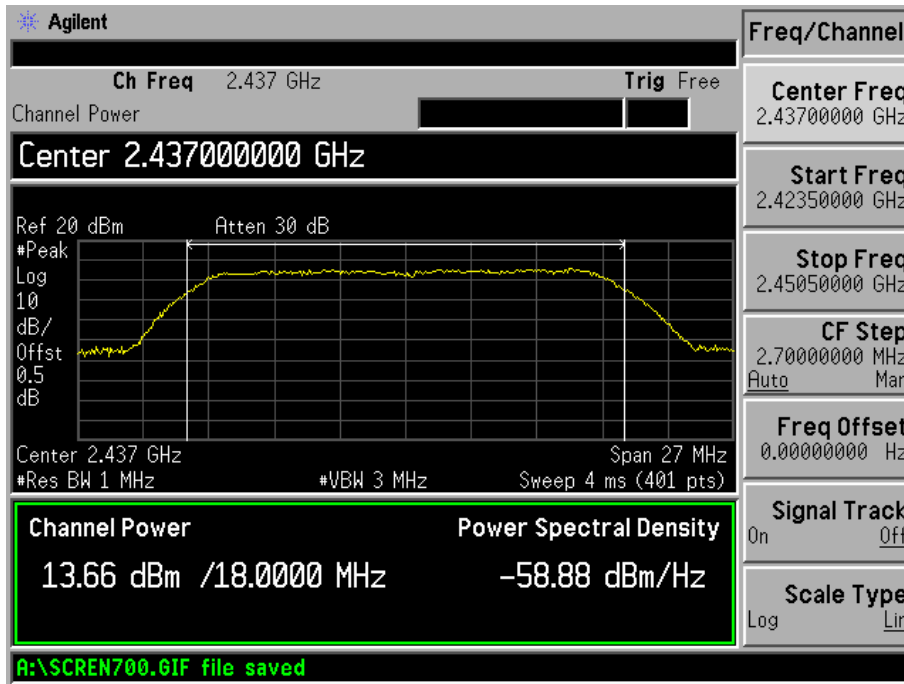
802.11 g-6Mbps-High Channel



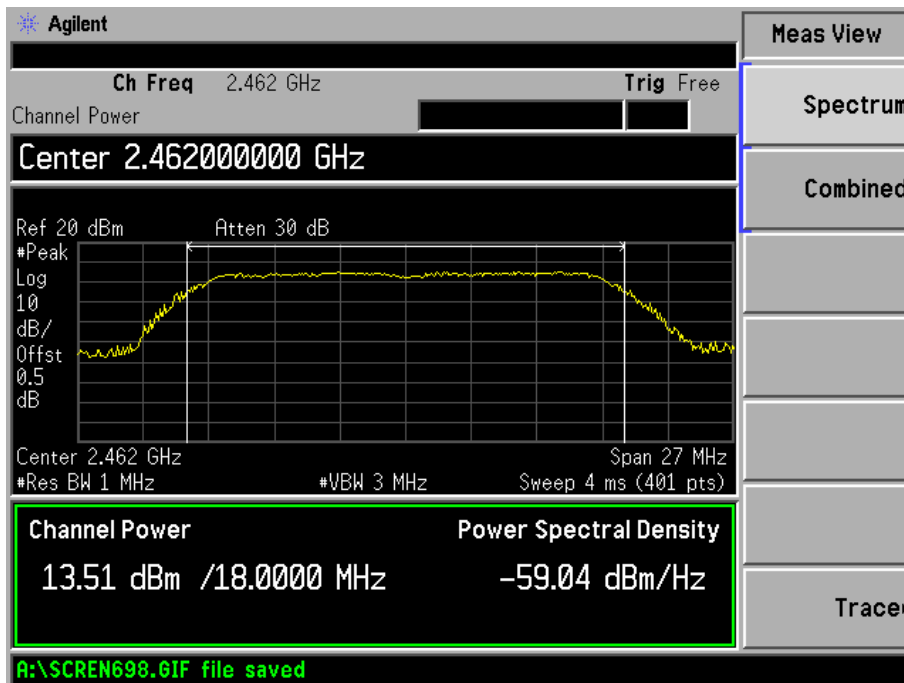
802.11g-54Mbps-Lows Channel



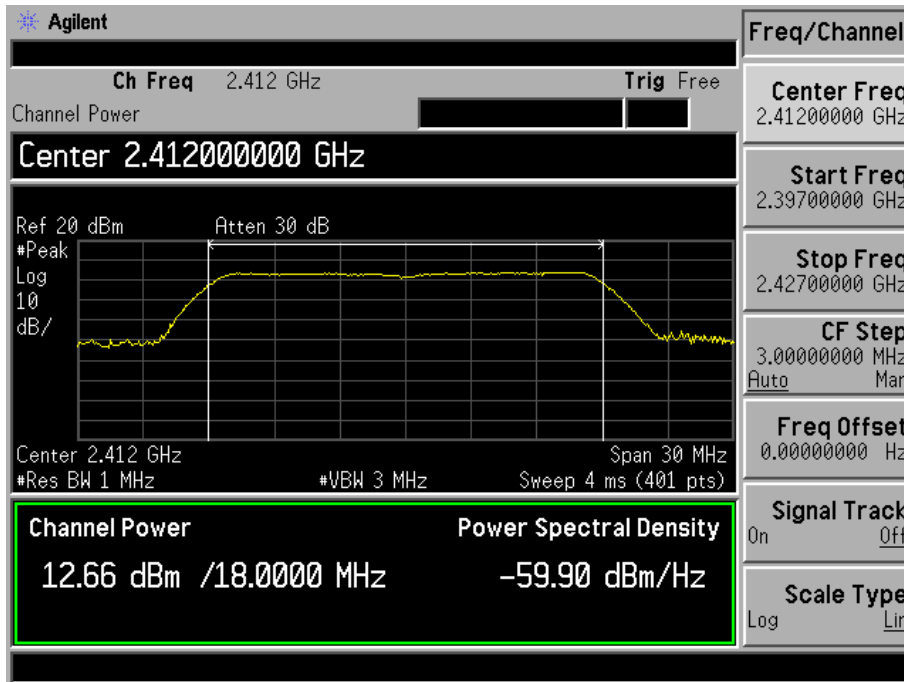
802.11g-54Mbps-Middle Channel



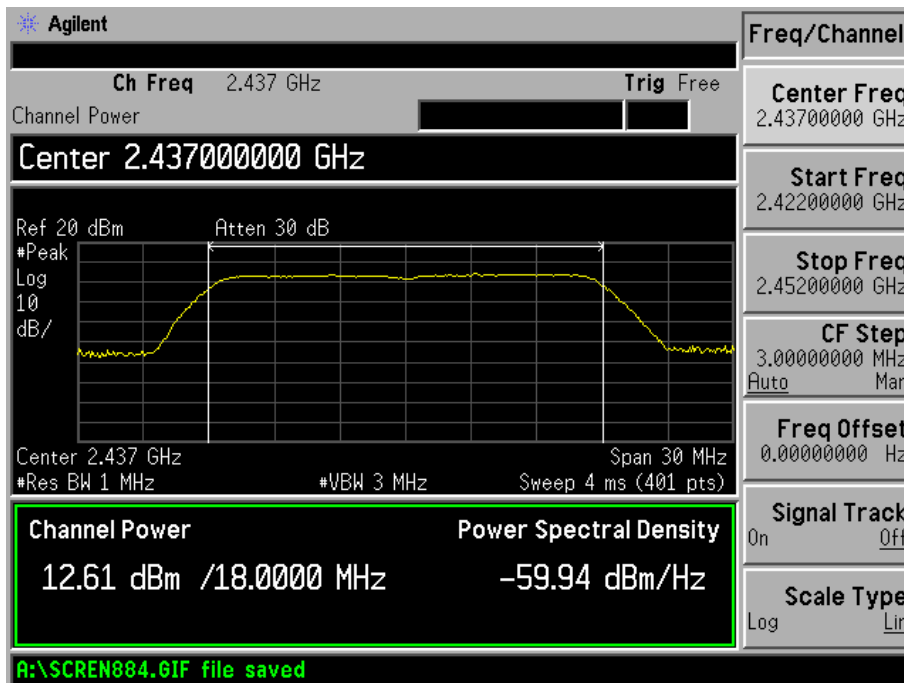
802.11g-54Mbps-High Channel



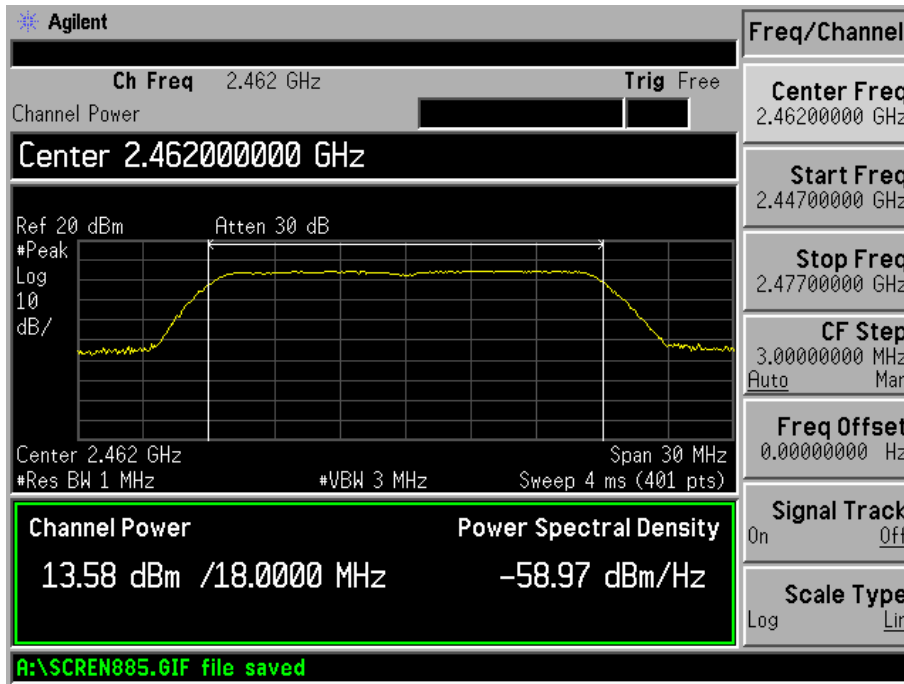
802.11n-HT20-MCS0-Low Channel



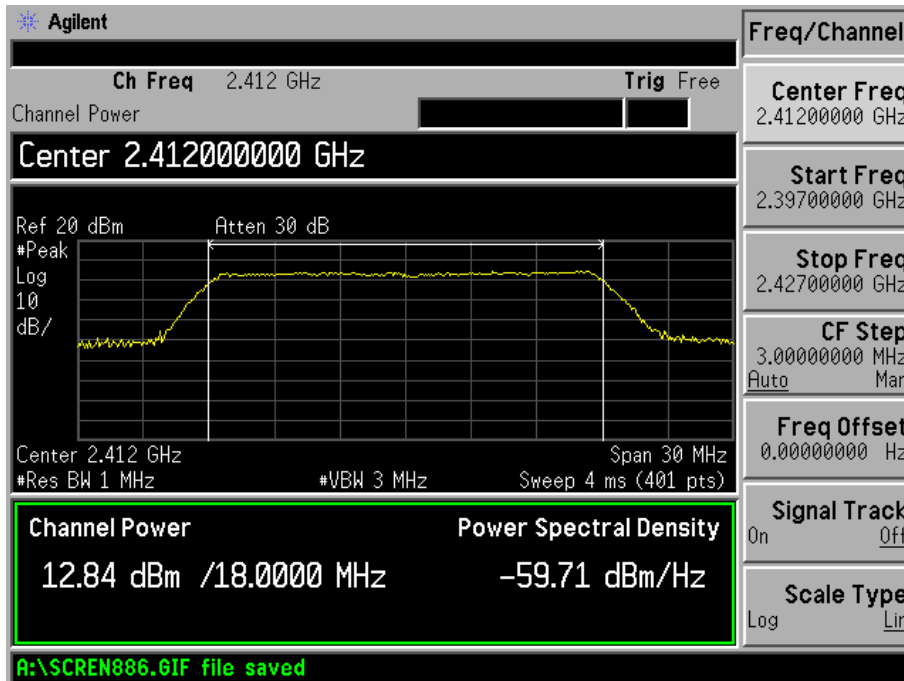
802.11n-HT20-MCS0-Middle Channel



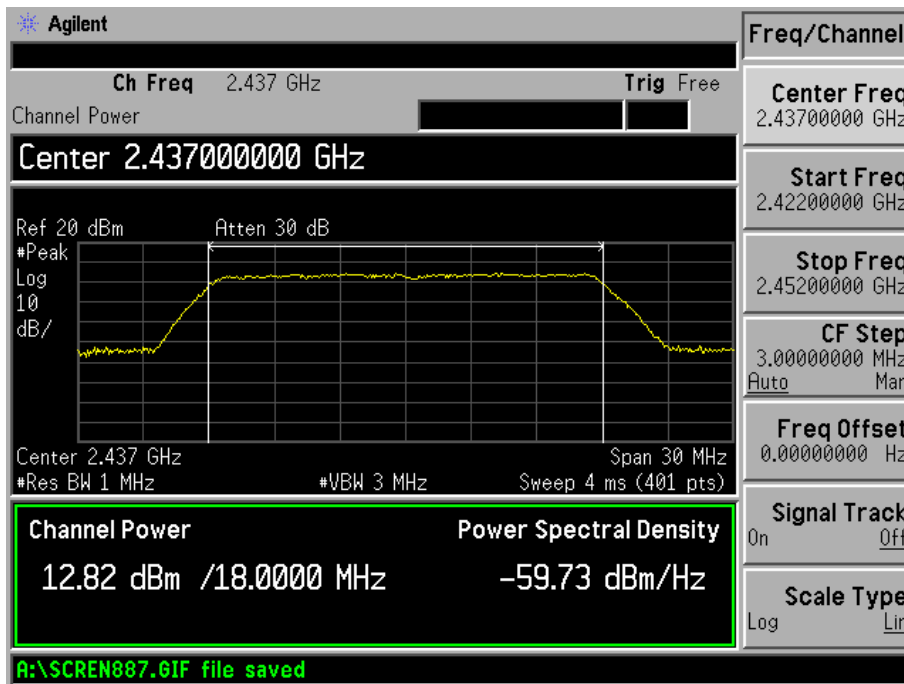
802.11n-HT20-MCS0-High Channel



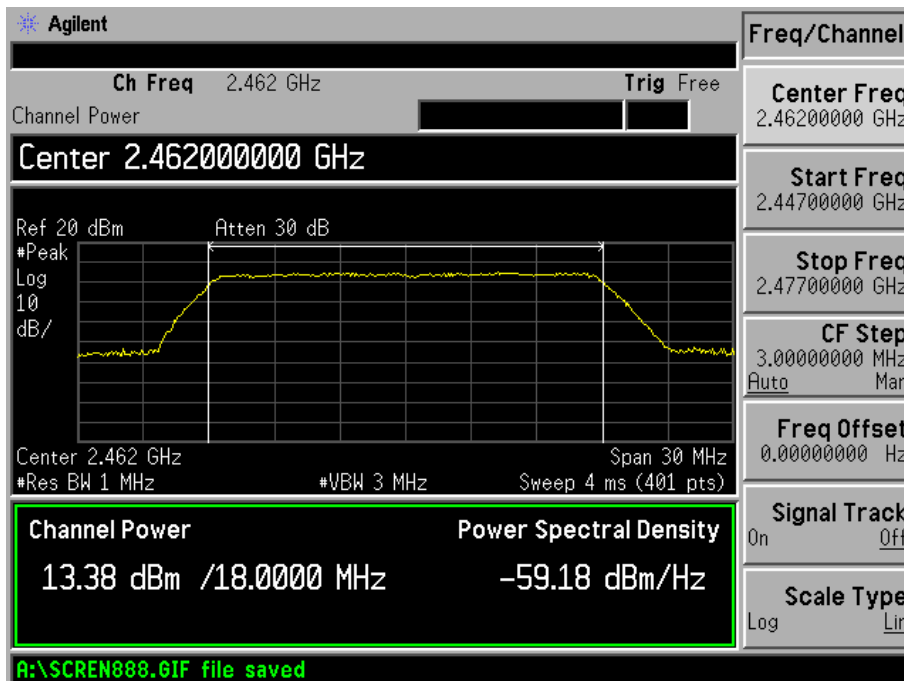
802.11n-HT20-MCS7-Low Channel



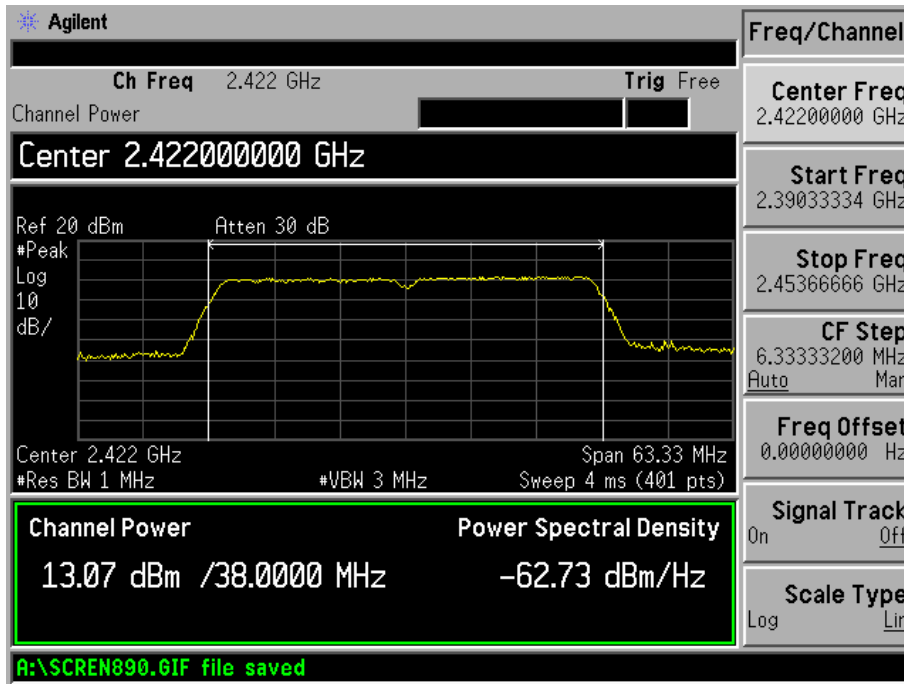
802.11n-HT20-MCS7-Middle Channel



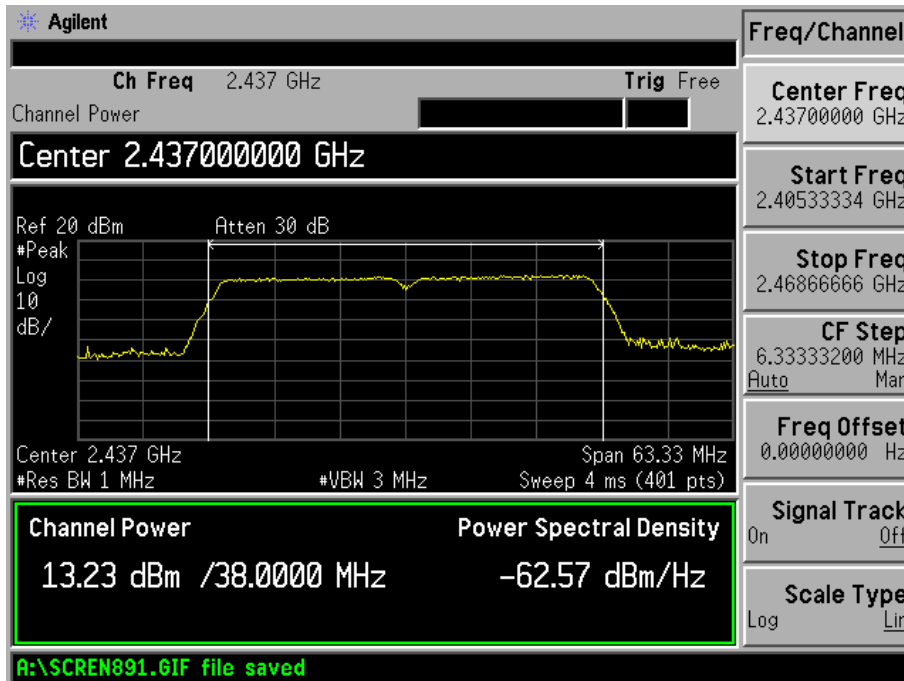
802.11n-HT20-MCS7-High Channel



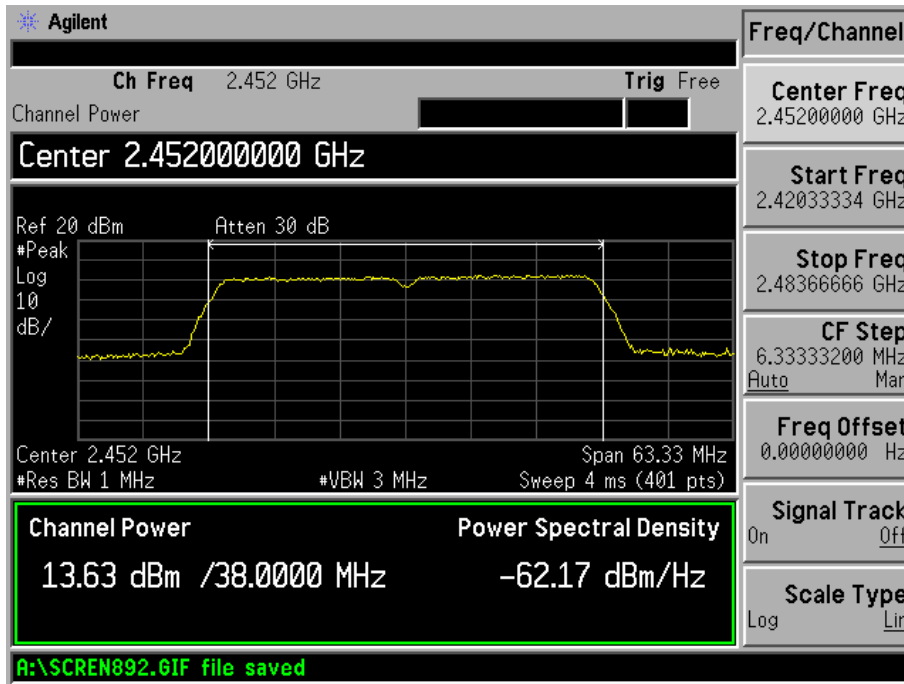
802.11n-HT40-MCS0-Low Channel



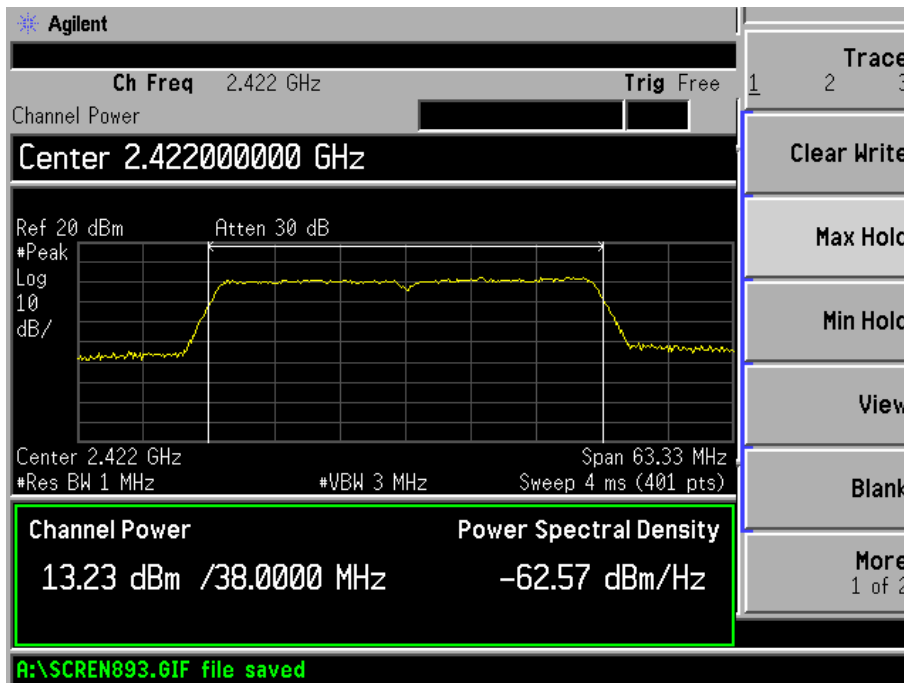
802.11n-HT40-MCS0-Middle Channel



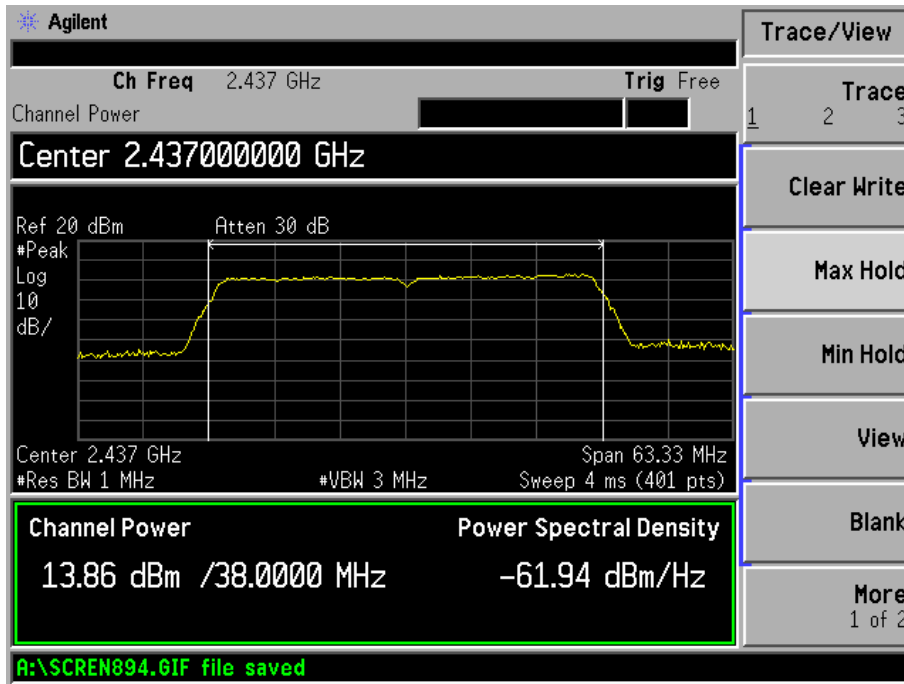
802.11n-HT40-MCS0-High Channel



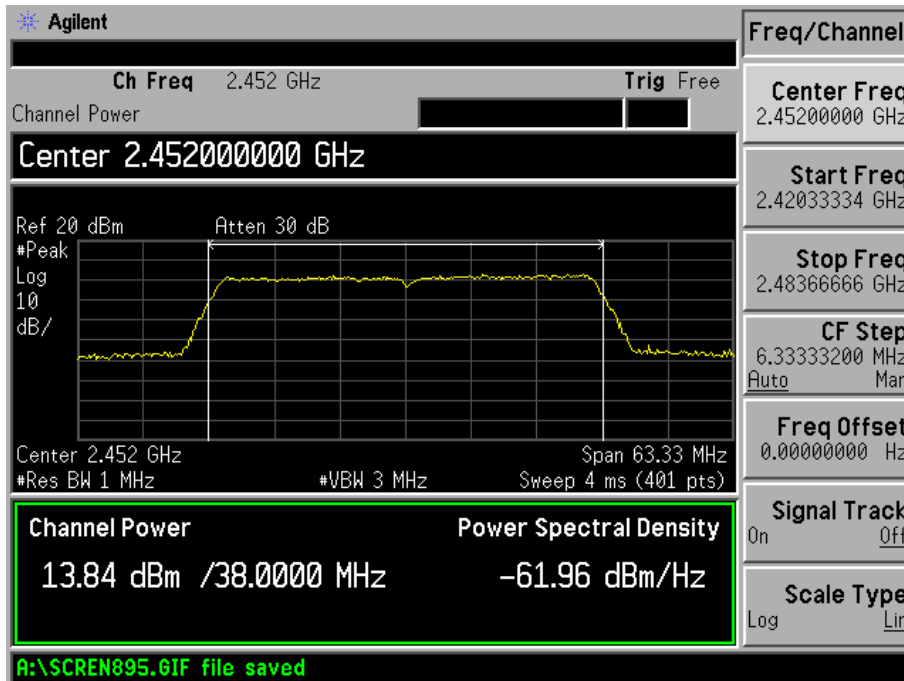
802.11n-HT40-MCS7-Low Channel



802.11n-HT40-MCS7-Middle Channel



802.11n-HT40-MCS7-High Channel



7. Field Strength of Spurious Emissions

7.1 Measurement Uncertainty

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

7.2 Standard Applicable

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

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

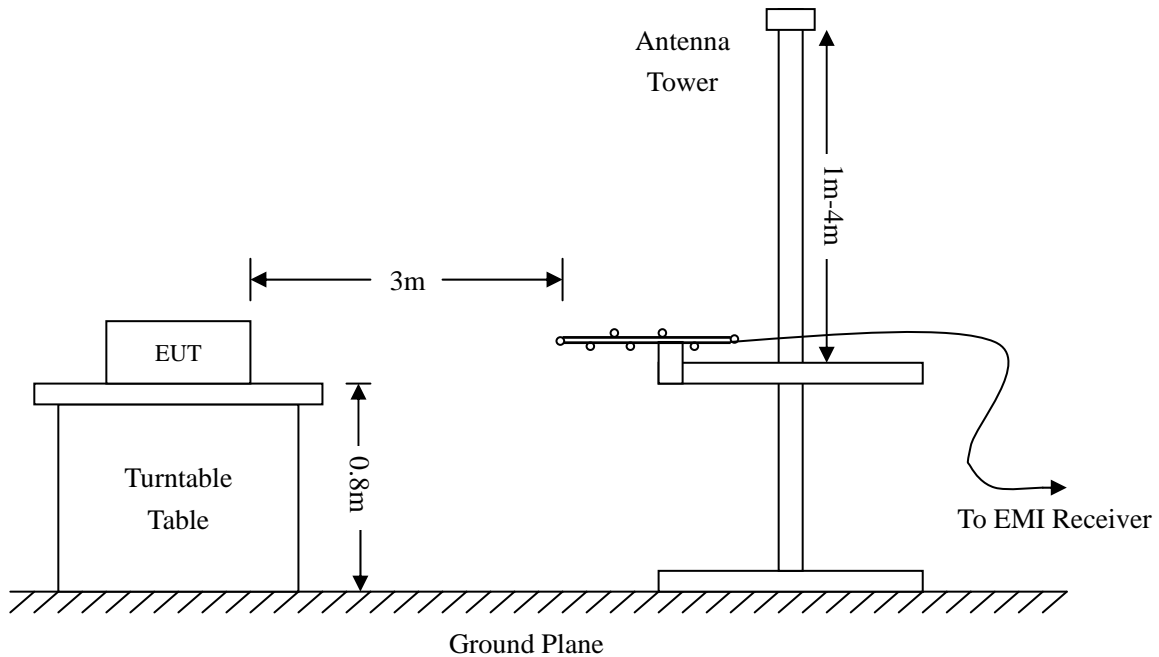
7.3 Test Equipment List and Details

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

7.4 Test Procedure

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

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.



7.5 Corrected Amplitude & Margin Calculation

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

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

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

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

7.6 Environmental Conditions

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

7.7 Summary of Test Results/Plots

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

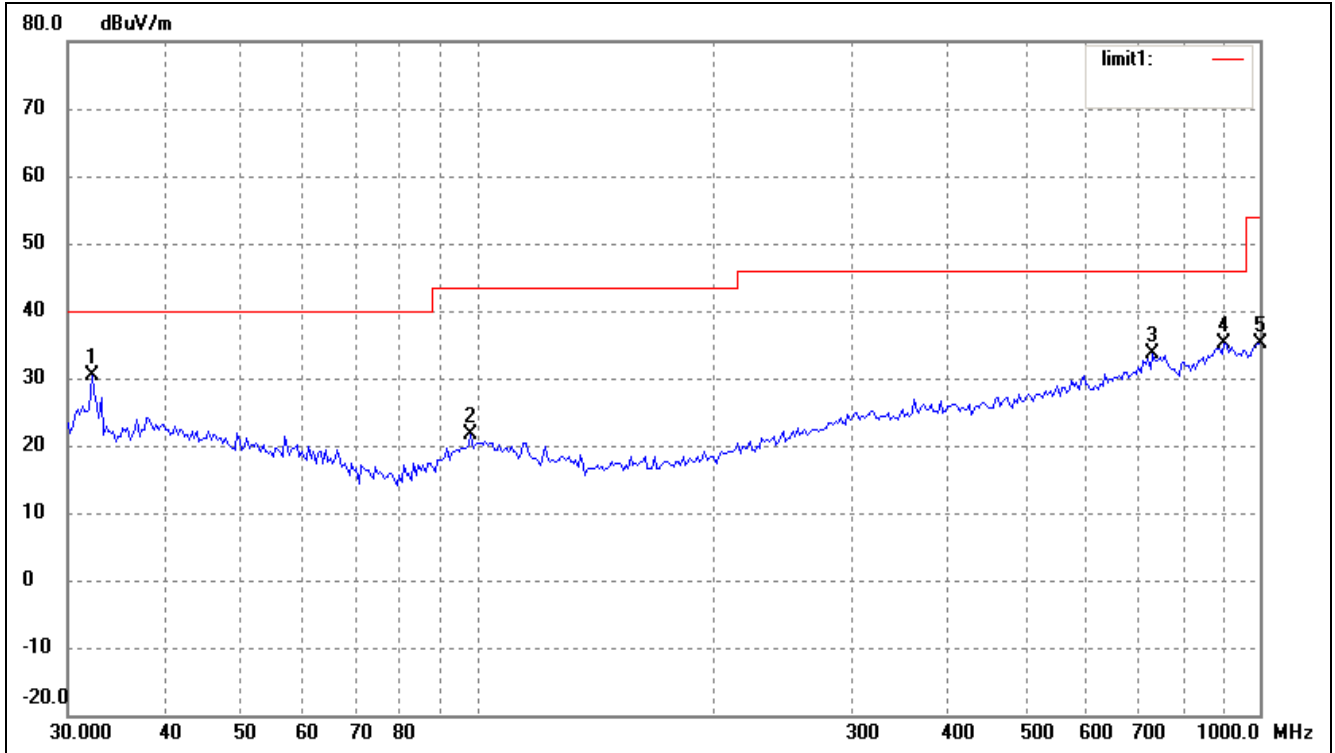
**-6.97 dB μ V at 7236 MHz in the Horizontal polarization for 802.11b Low Channel mode,
9kHz to 25 GHz, 3 Meters**

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

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

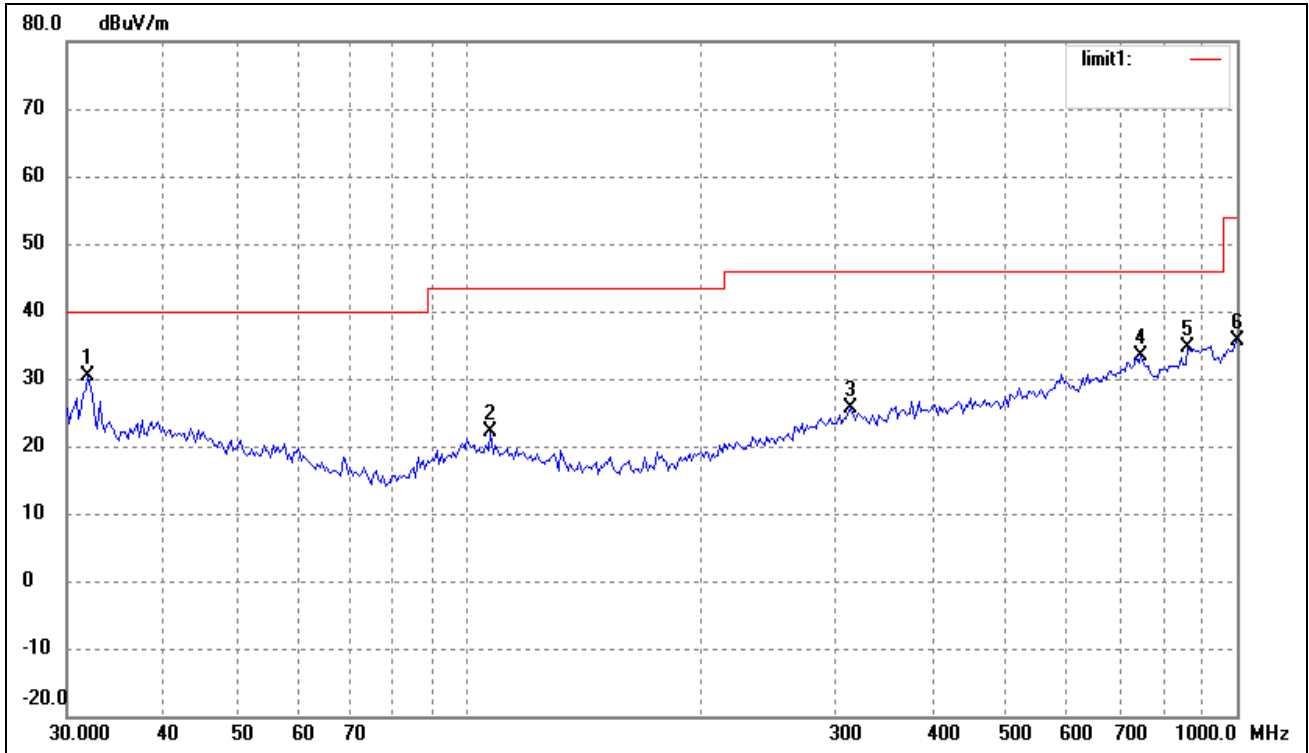
EUT: 3G Mobile Phone
 Tested Model: S135
 Operating Condition: 802.11b Transmitting Low Channel-2412MHz
 Comment:

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	32.1795	21.91	8.41	30.32	40.00	-9.68	360	100	peak
2	98.1419	15.13	6.39	21.52	43.50	-21.98	360	100	peak
3	729.3583	16.32	17.31	33.63	46.00	-12.37	360	100	peak
4	900.1474	15.77	19.38	35.15	46.00	-10.85	113	100	peak
5	1000.0000	15.30	19.90	35.20	54.00	-18.80	156	100	peak

Test Specification: Vertical

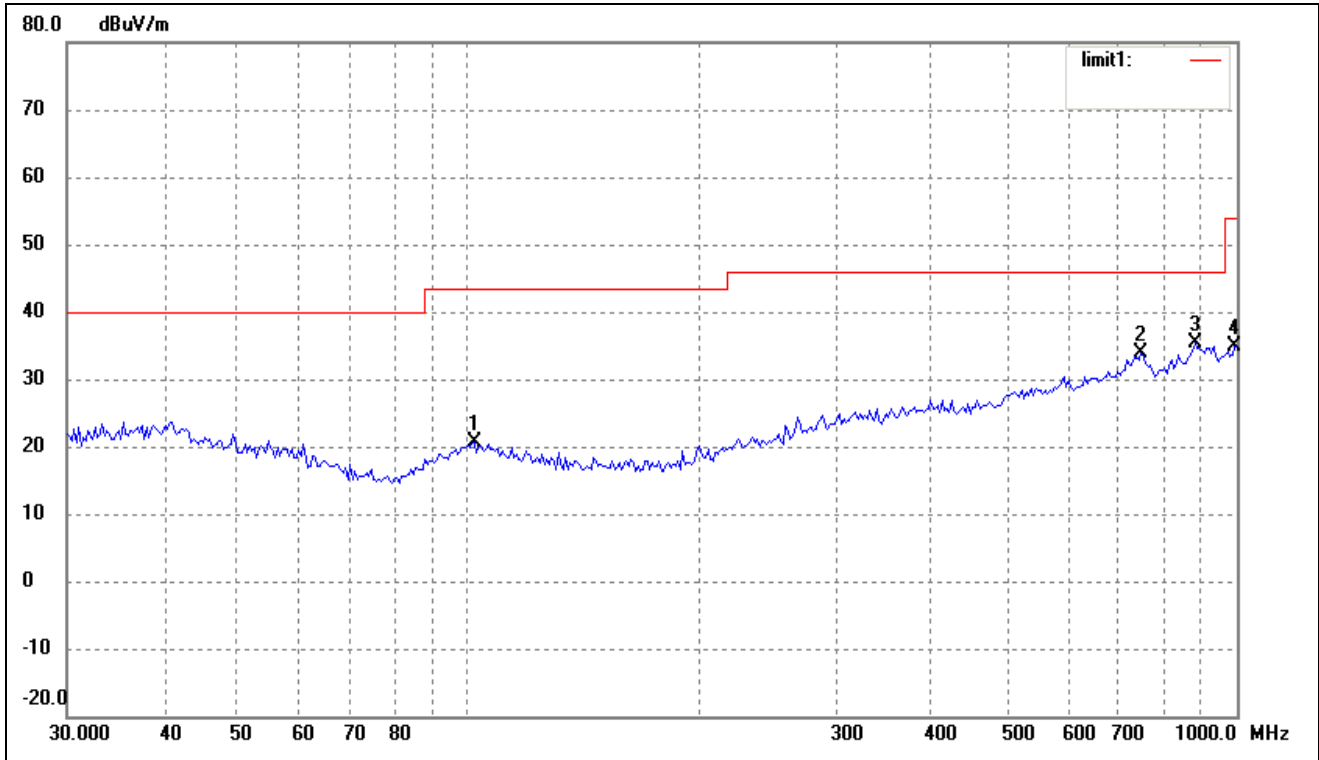


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	31.9546	22.07	8.37	30.44	40.00	-9.56	256	100	peak
2	106.7587	16.03	6.18	22.21	43.50	-21.29	46	100	peak
3	314.3765	15.32	10.40	25.72	46.00	-20.28	197	100	peak
4	750.1083	15.69	17.78	33.47	46.00	-12.53	63	100	peak
5	863.0562	16.45	18.27	34.72	46.00	-11.28	113	100	peak
6	1000.0000	15.85	19.90	35.75	54.00	-18.25	360	100	peak

Operating Condition: 802.11b Transmitting Middle Channel-2437MHz

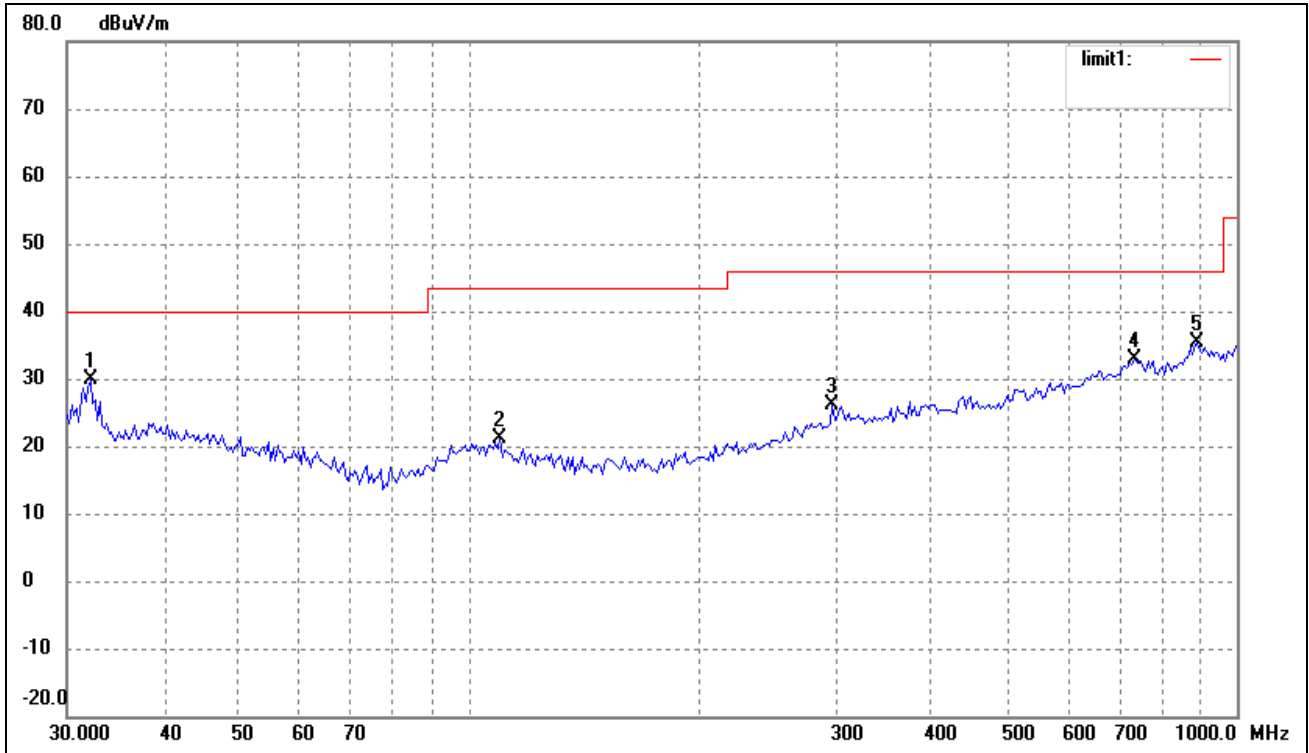
Comment:

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	101.6443	13.98	6.67	20.65	43.50	-22.85	162	100	peak
2	750.1083	16.10	17.78	33.88	46.00	-12.12	200	100	peak
3	881.4067	16.36	19.03	35.39	46.00	-10.61	250	100	peak
4	993.0114	15.42	19.53	34.95	54.00	-19.05	164	200	peak

Test Specification: Vertical

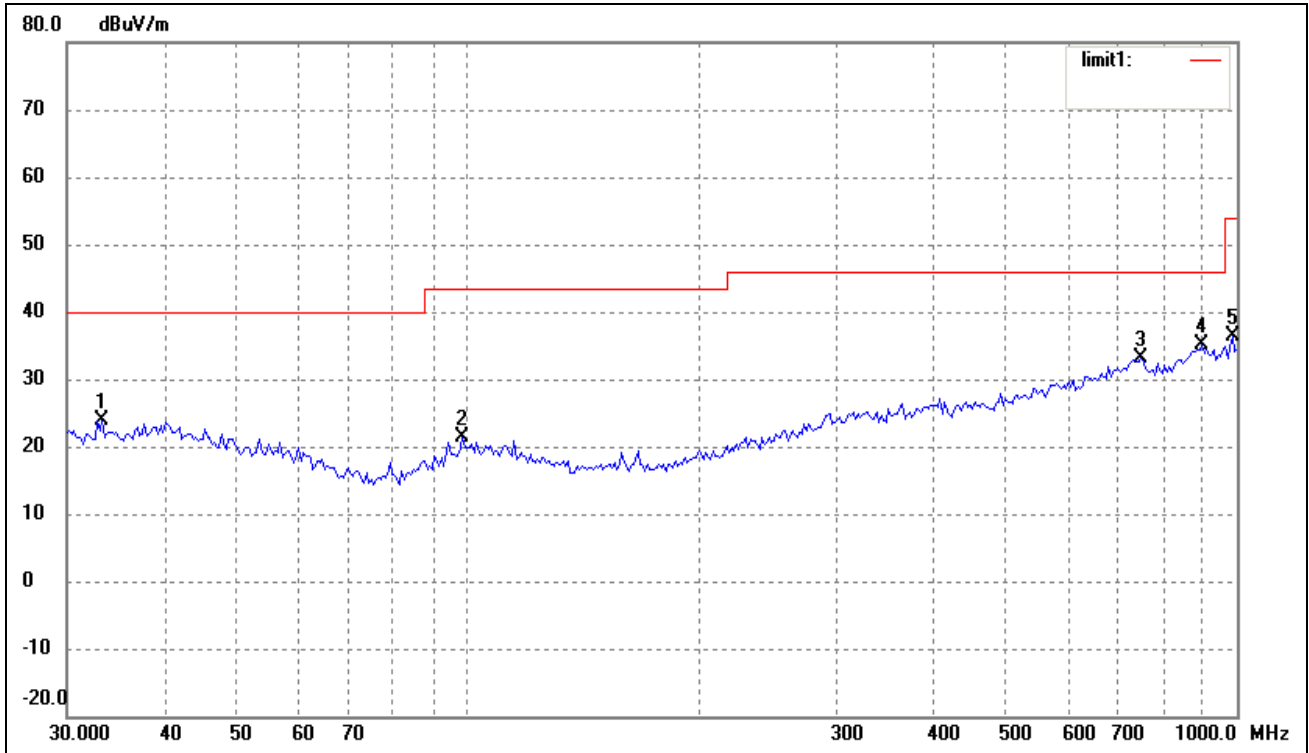


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.1795	21.42	8.41	29.83	40.00	-10.17	52	100	peak
2	109.7960	15.31	5.87	21.18	43.50	-22.32	113	100	peak
3	297.2241	16.13	10.04	26.17	46.00	-19.83	360	100	peak
4	734.4913	15.16	17.68	32.84	46.00	-13.16	180	100	peak
5	887.6099	16.14	19.15	35.29	46.00	-10.71	203	100	peak

Operating Condition: 802.11b Transmitting High Channel-2462MHz

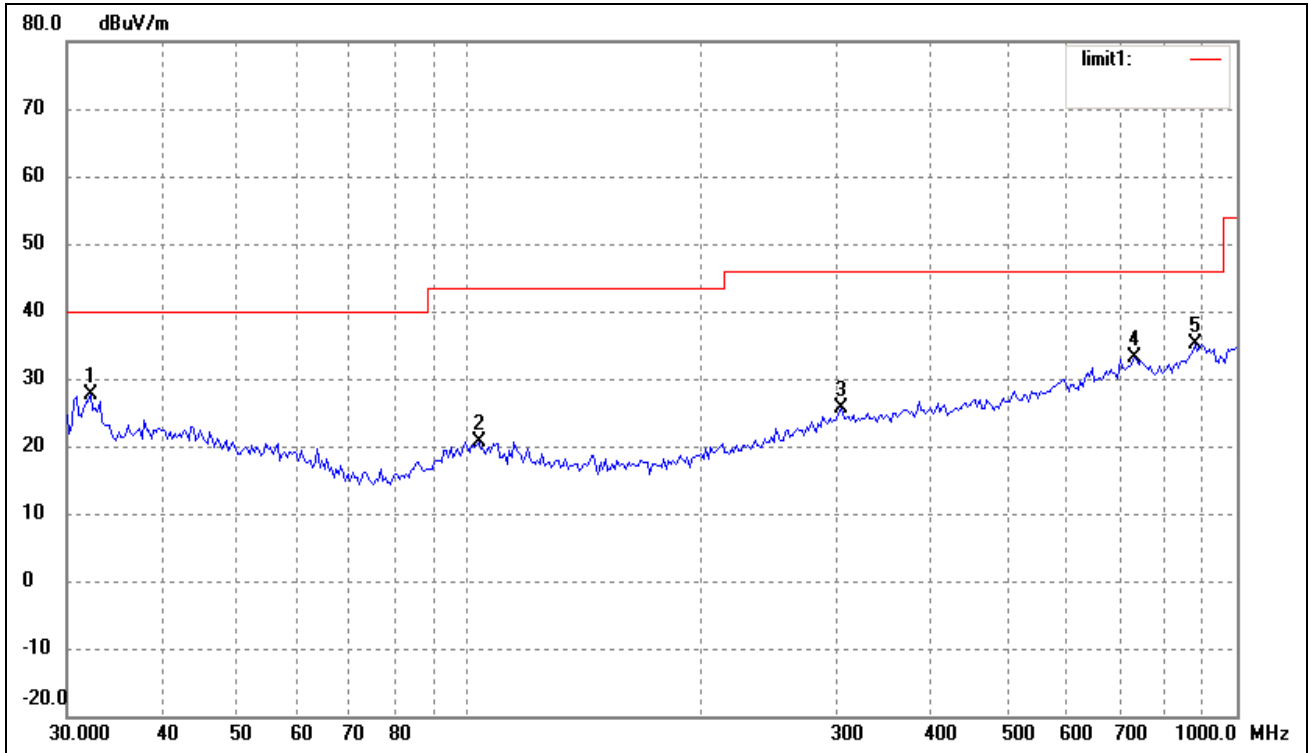
Comment:

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	33.3279	15.34	8.60	23.94	40.00	-16.06	360	100	peak
2	98.1419	15.10	6.39	21.49	43.50	-22.01	227	100	peak
3	750.1083	15.37	17.78	33.15	46.00	-12.85	184	100	peak
4	900.1474	15.85	19.38	35.23	46.00	-10.77	360	100	peak
5	986.0717	17.11	19.17	36.28	54.00	-17.72	113	100	peak

Test Specification: Vertical

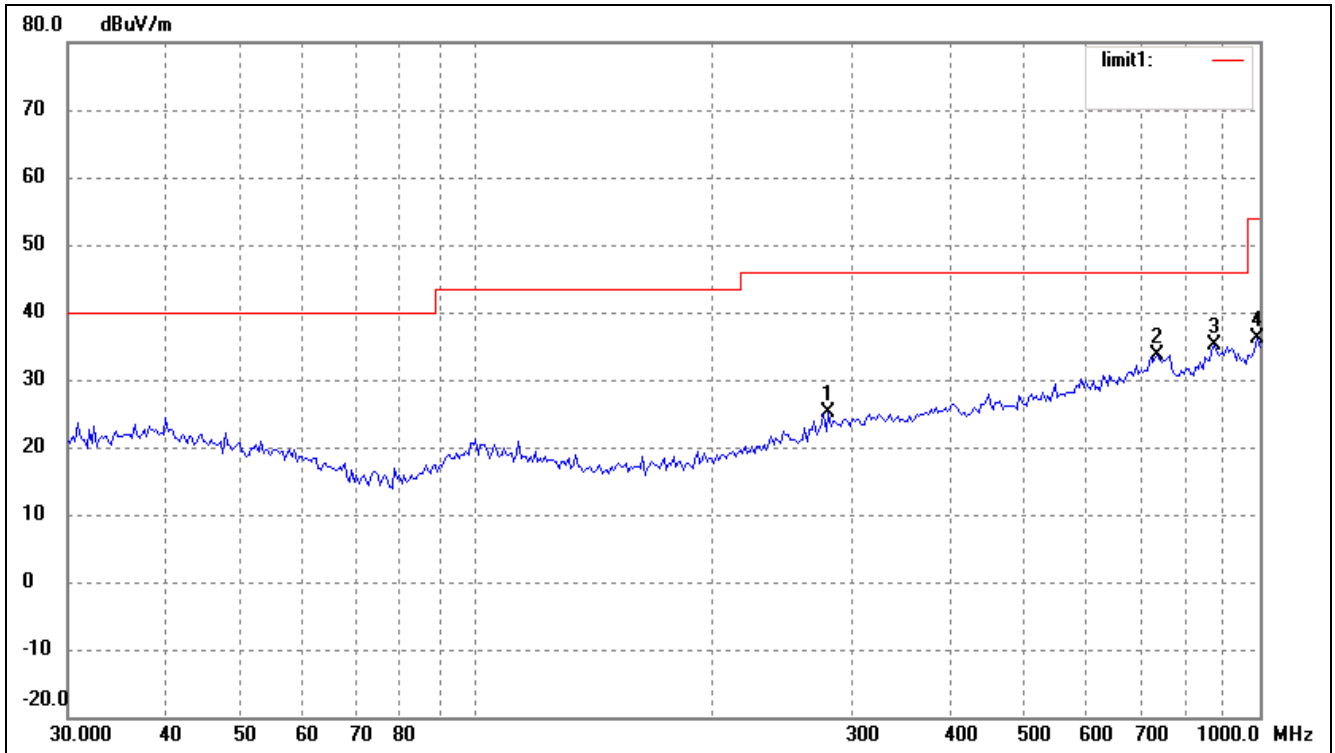


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.1795	19.17	8.41	27.58	40.00	-12.42	270	100	peak
2	103.0800	14.19	6.54	20.73	43.50	-22.77	180	100	peak
3	305.6800	15.41	10.27	25.68	46.00	-20.32	334	100	peak
4	734.4913	15.50	17.68	33.18	46.00	-12.82	180	200	peak
5	881.4067	16.09	19.03	35.12	46.00	-10.88	116	100	peak

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

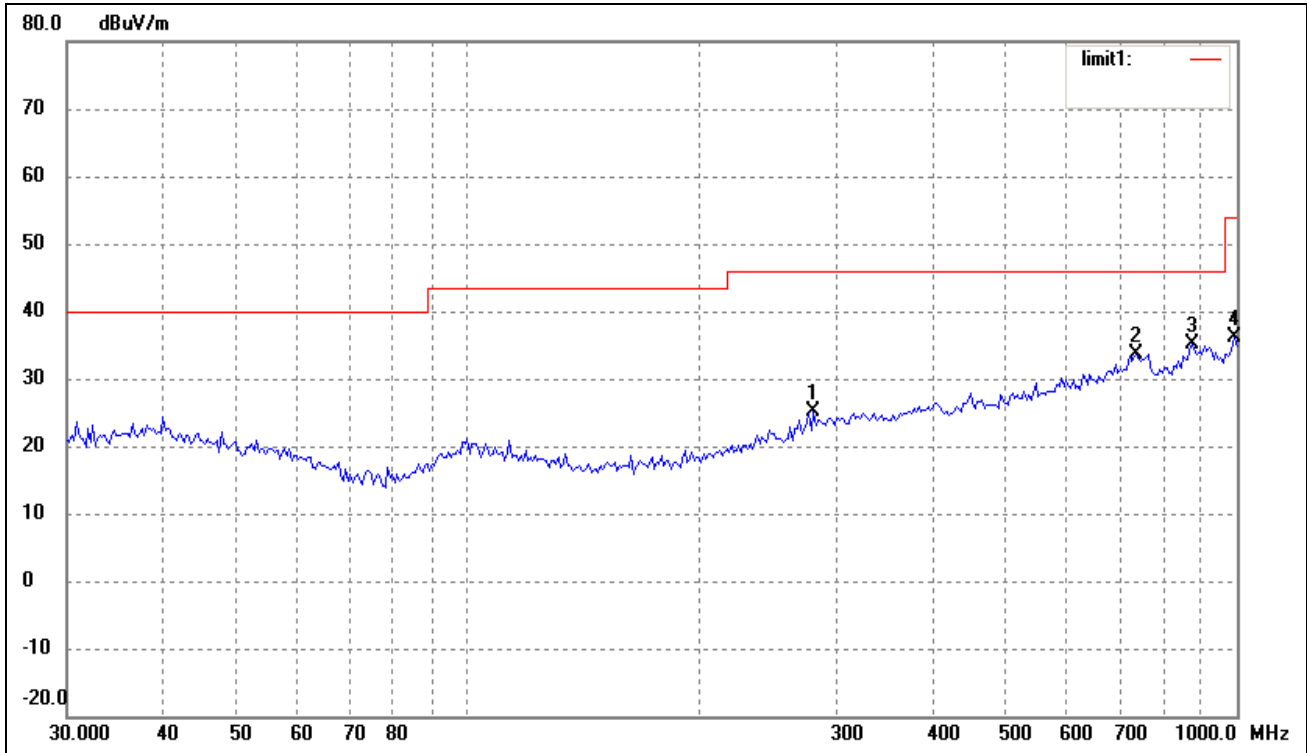
EUT: 3G Mobile Phone
 Tested Model: S135
 Operating Condition: 802.11g Transmitting Low Channel-2412MHz
 Comment:

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	281.0075	15.92	9.29	25.21	46.00	-20.79	360	100	peak
2	739.6605	15.61	18.07	33.68	46.00	-12.32	147	100	peak
3	875.2470	16.42	18.80	35.22	46.00	-10.78	152	100	peak
4	993.0114	16.48	19.53	36.01	54.00	-17.99	360	100	peak

Test Specification: Vertical

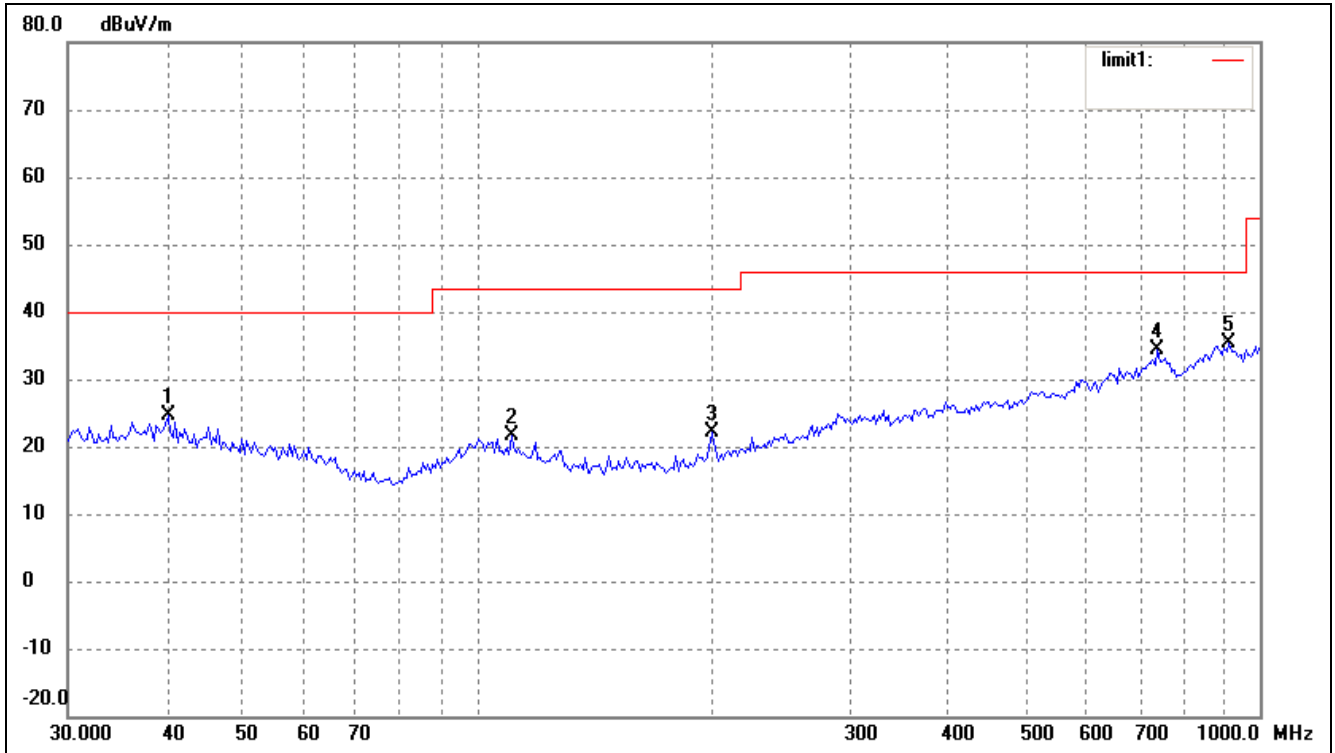


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	281.0075	15.92	9.29	25.21	46.00	-20.79	255	100	peak
2	739.6605	15.61	18.07	33.68	46.00	-12.32	180	100	peak
3	875.2470	16.42	18.80	35.22	46.00	-10.78	87	100	peak
4	993.0114	16.48	19.53	36.01	54.00	-17.99	62	100	peak

Operating Condition: 802.11g Transmitting Middle Channel-2437MHz

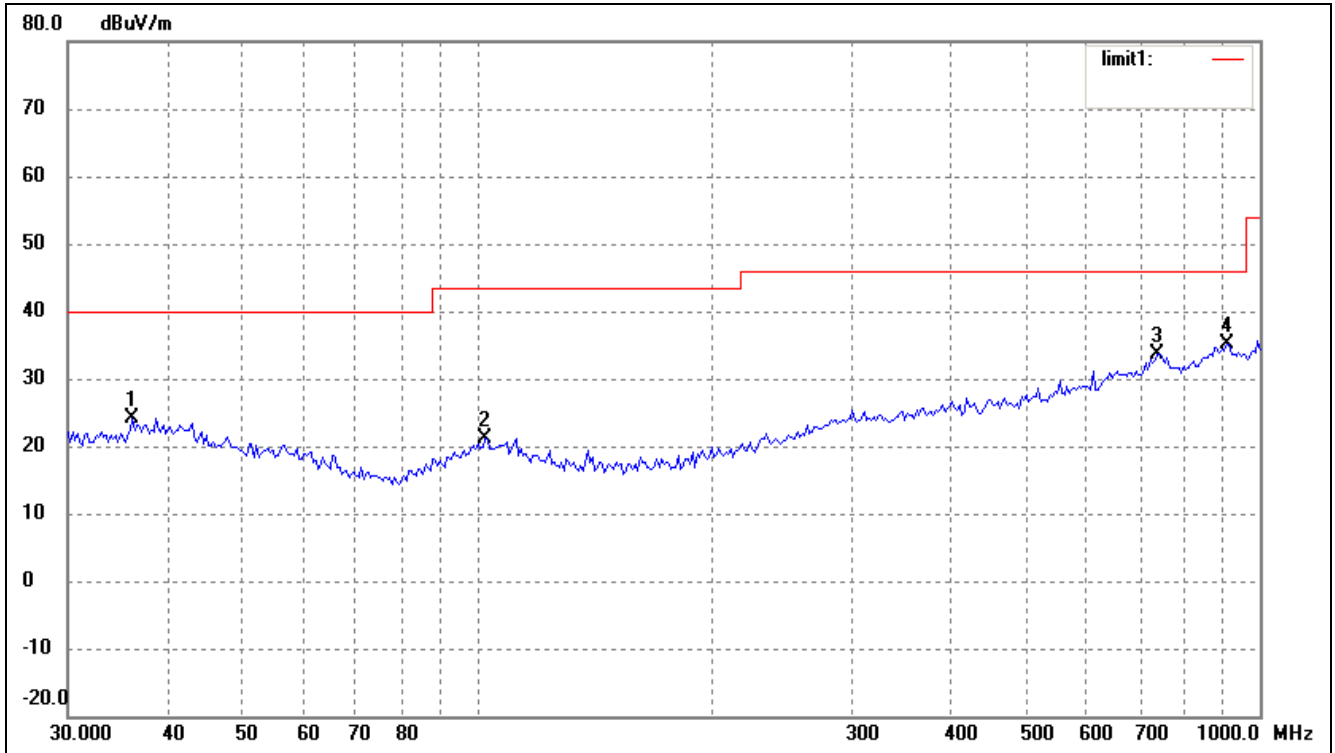
Comment:

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	40.2757	15.03	9.60	24.63	40.00	-15.37	221	100	peak
2	110.5687	15.81	5.80	21.61	43.50	-21.89	238	100	peak
3	199.2855	17.47	4.61	22.08	43.50	-21.42	67	100	peak
4	739.6605	16.33	18.07	34.40	46.00	-11.60	91	100	peak
5	912.8620	16.49	18.93	35.42	46.00	-10.58	236	100	peak

Test Specification: Vertical

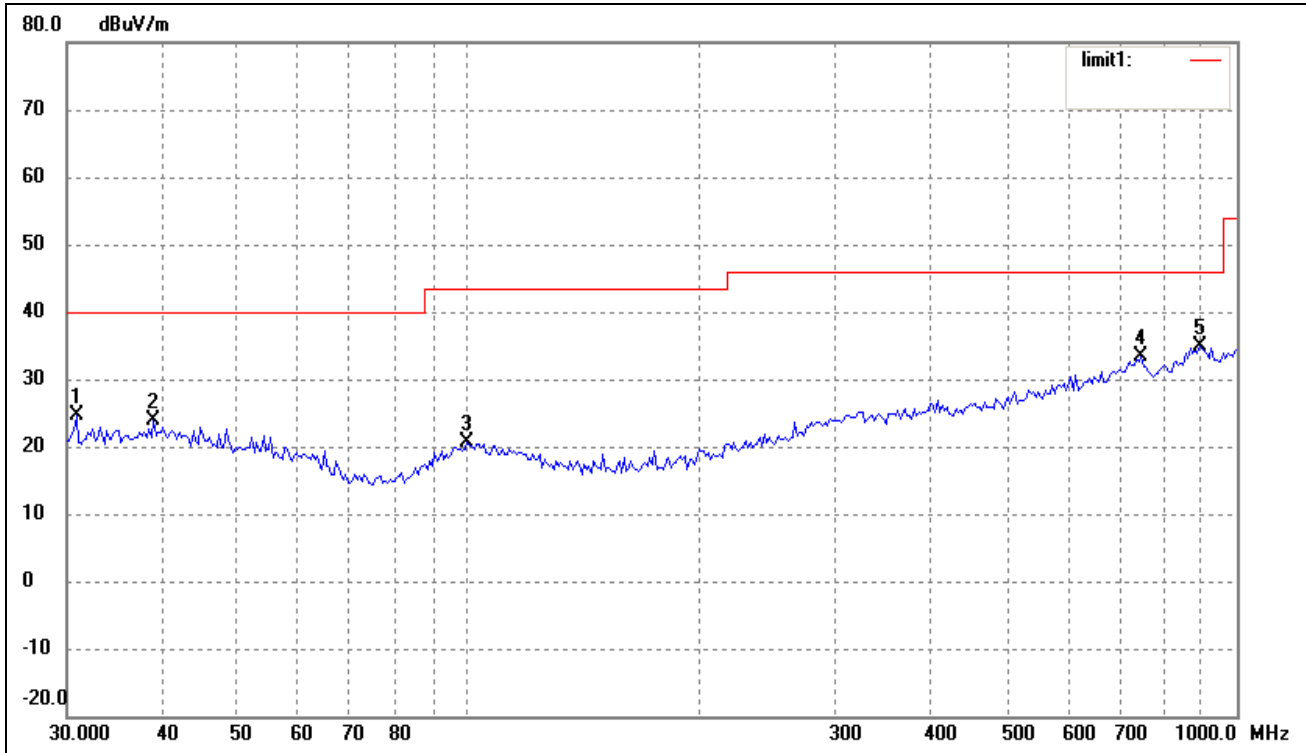


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	36.2541	14.92	9.09	24.01	40.00	-15.99	264	100	peak
2	102.3597	14.60	6.61	21.21	43.50	-22.29	180	100	peak
3	739.6605	15.59	18.07	33.66	46.00	-12.34	255	100	peak
4	906.4824	15.98	19.15	35.13	46.00	-10.87	65	100	peak

Operating Condition: 802.11g Transmitting High Channel-2462MHz

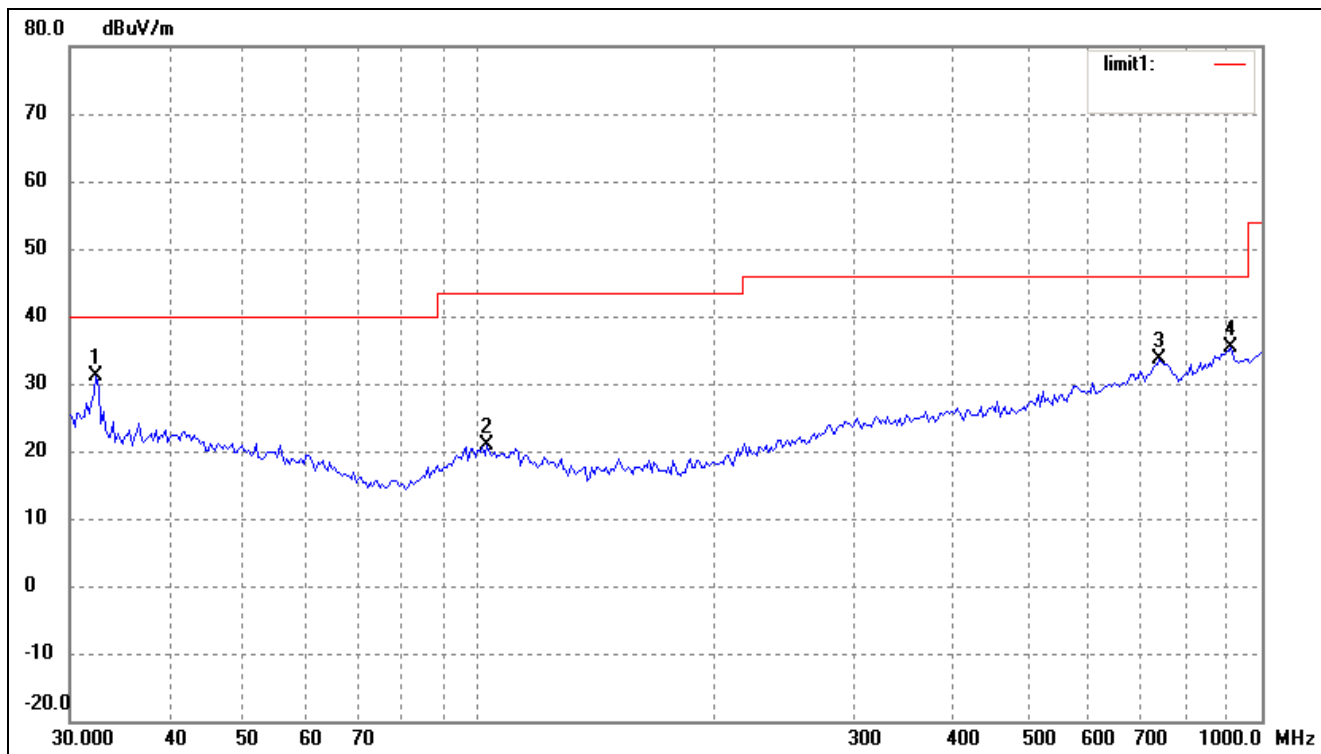
Comment:

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	30.8535	16.45	8.19	24.64	40.00	-15.36	244	100	peak
2	38.8879	14.29	9.50	23.79	40.00	-16.21	73	200	peak
3	99.5281	14.02	6.72	20.74	43.50	-22.76	164	100	peak
4	750.1083	15.67	17.78	33.45	46.00	-12.55	220	100	peak
5	893.8567	15.72	19.27	34.99	46.00	-11.01	113	100	peak

Test Specification: Vertical

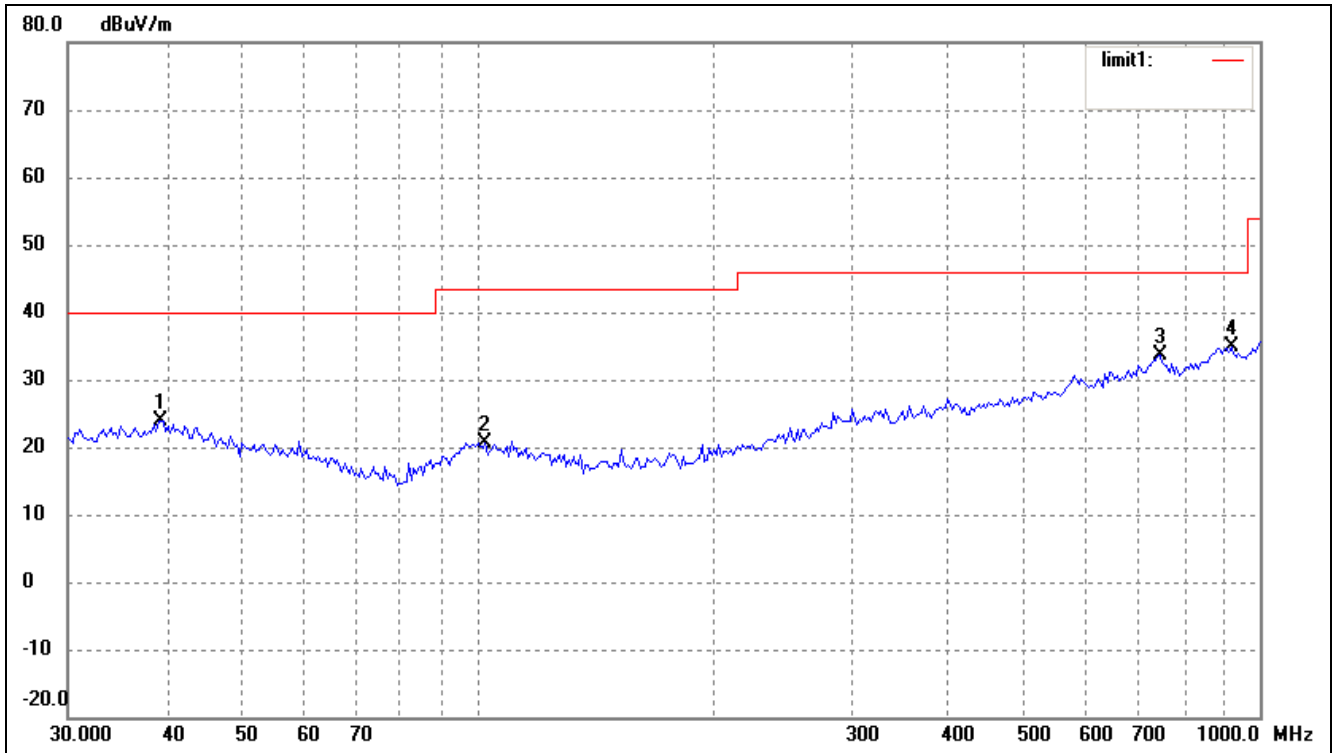


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.4059	22.61	8.44	31.05	40.00	-8.95	261	100	peak
2	102.3597	14.29	6.61	20.90	43.50	-22.60	360	100	peak
3	739.6605	15.66	18.07	33.73	46.00	-12.27	119	100	peak
4	912.8620	16.55	18.93	35.48	46.00	-10.52	250	100	peak

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

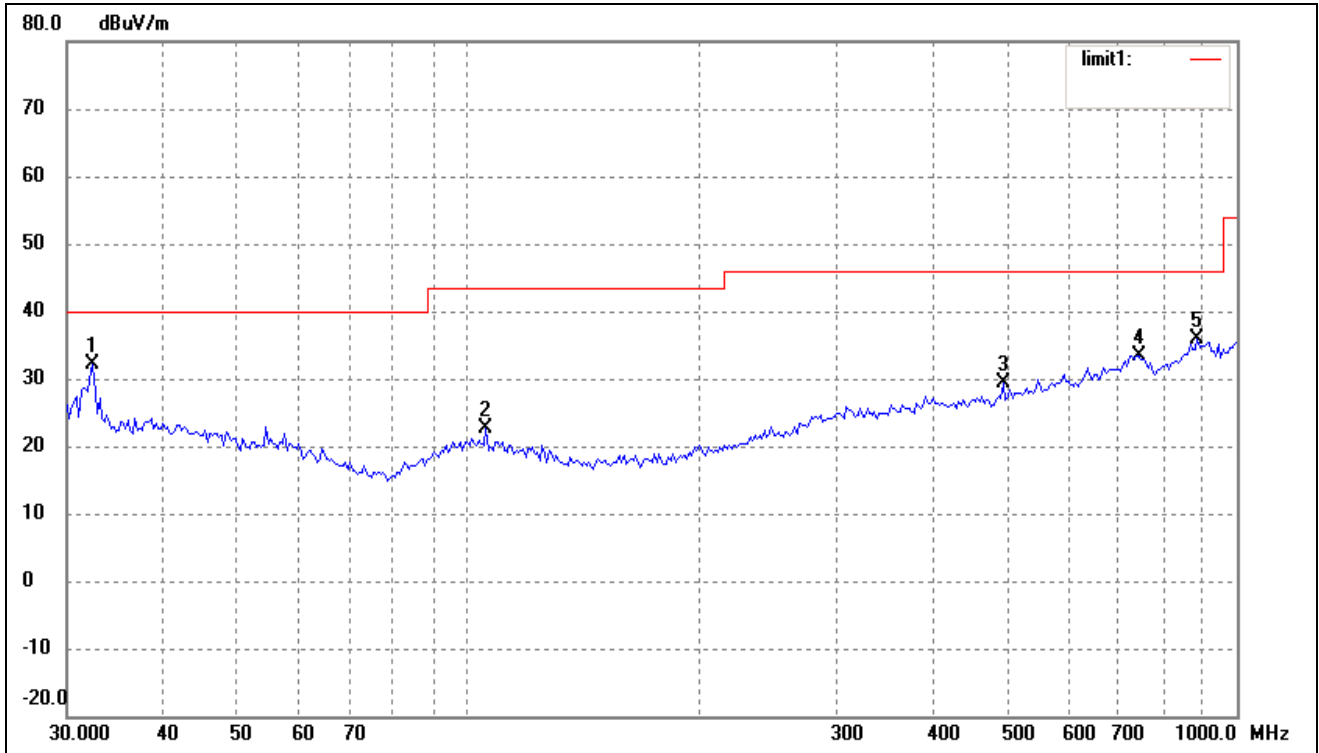
EUT: 3G Mobile Phone
 Tested Model: S135
 Operating Condition: 802.11n-HT20 Transmitting Low Channel-2412MHz
 Comment:

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

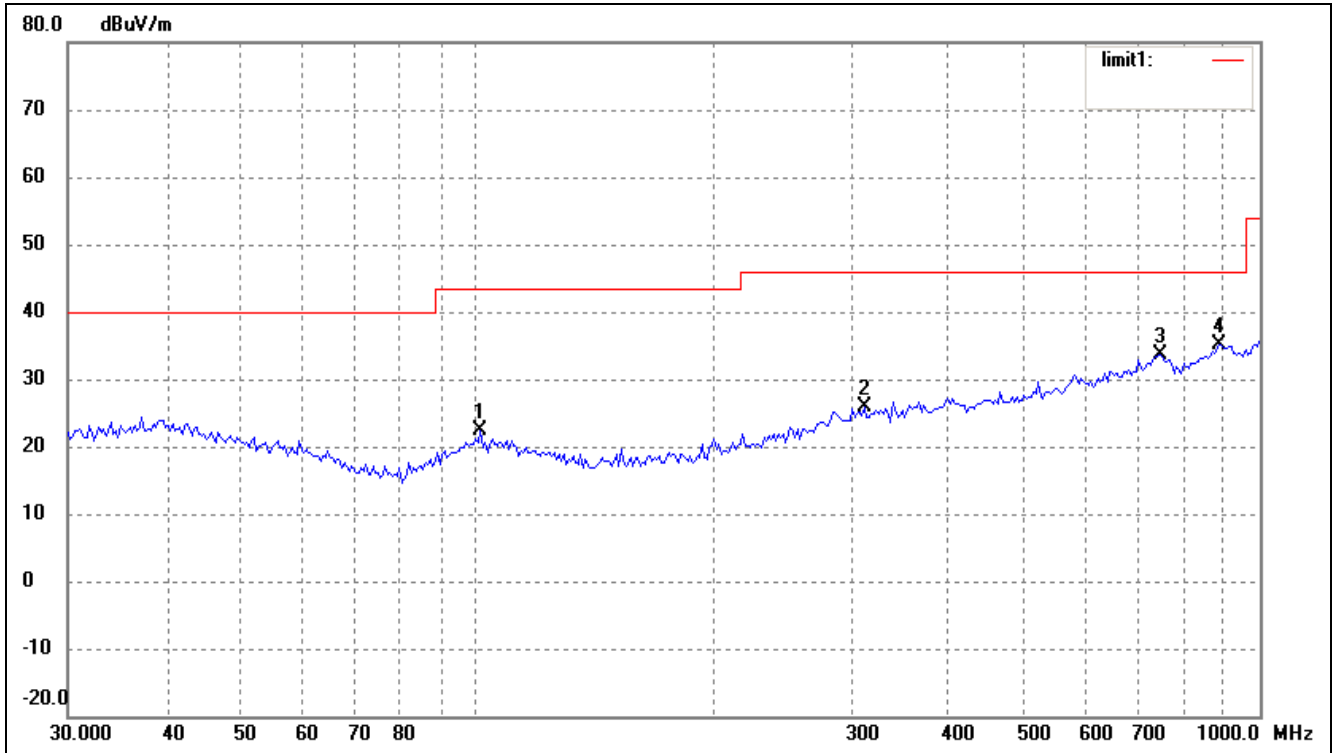


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.4059	23.69	8.44	32.13	40.00	-7.87	155	100	peak
2	105.2718	16.25	6.32	22.57	43.50	-20.93	197	100	peak
3	495.9344	17.25	12.04	29.29	46.00	-16.71	310	100	peak
4	744.8661	15.46	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-2437MHz

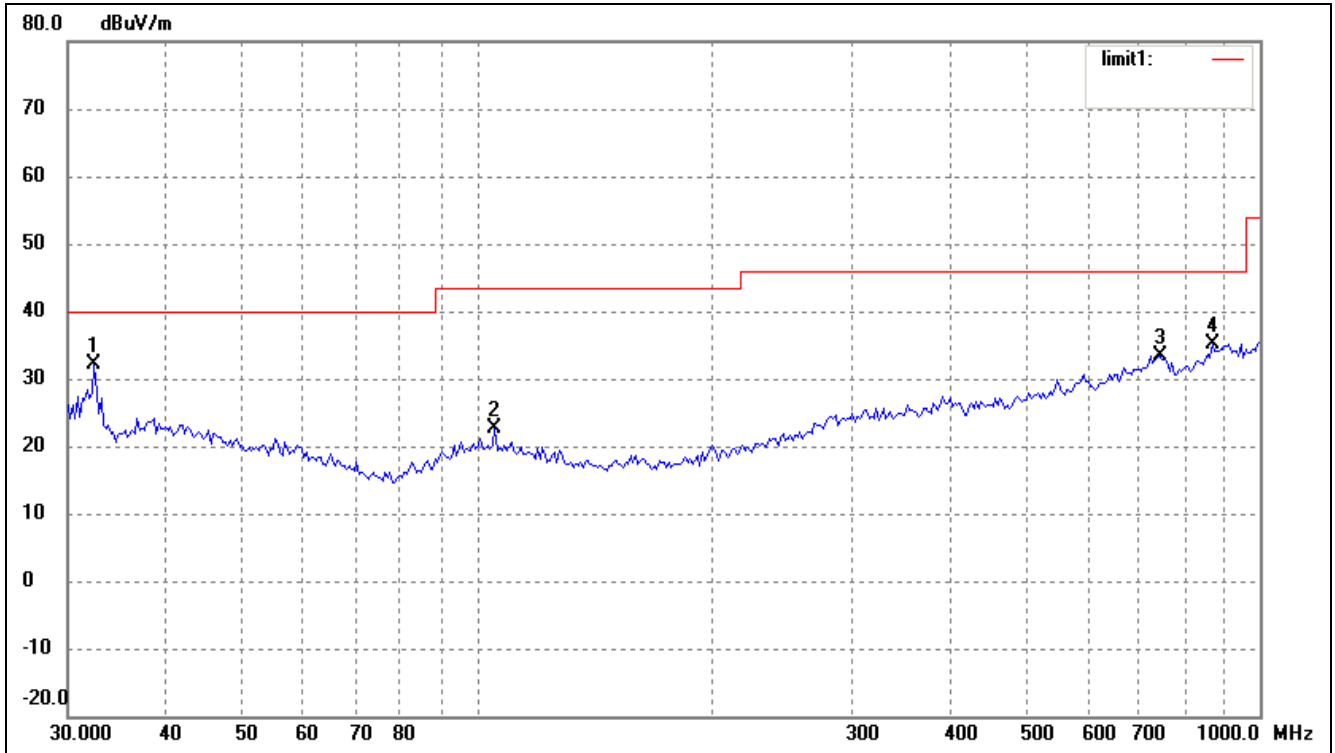
Comment:

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

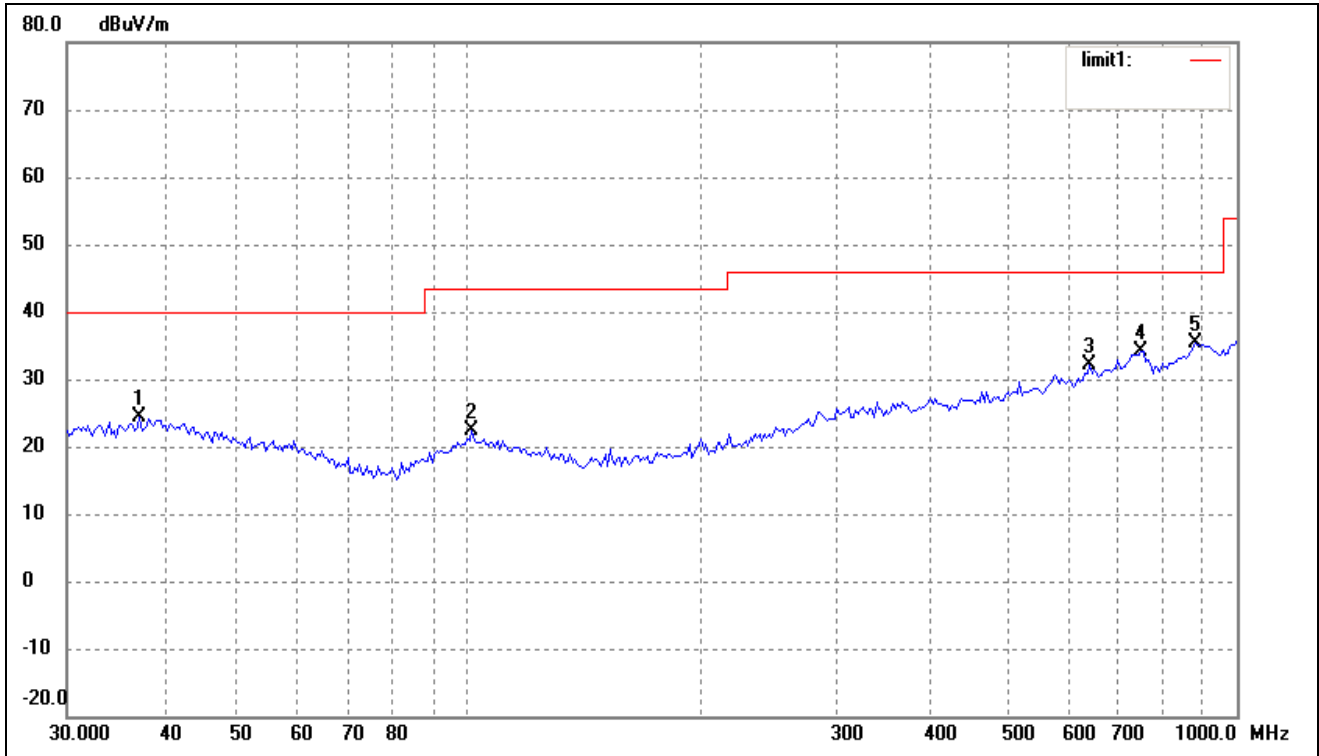


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.4059	23.69	8.44	32.13	40.00	-7.87	264	100	peak
2	105.2718	16.25	6.32	22.57	43.50	-20.93	110	100	peak
3	744.8661	15.46	17.95	33.41	46.00	-12.59	136	100	peak
4	869.1302	16.70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

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

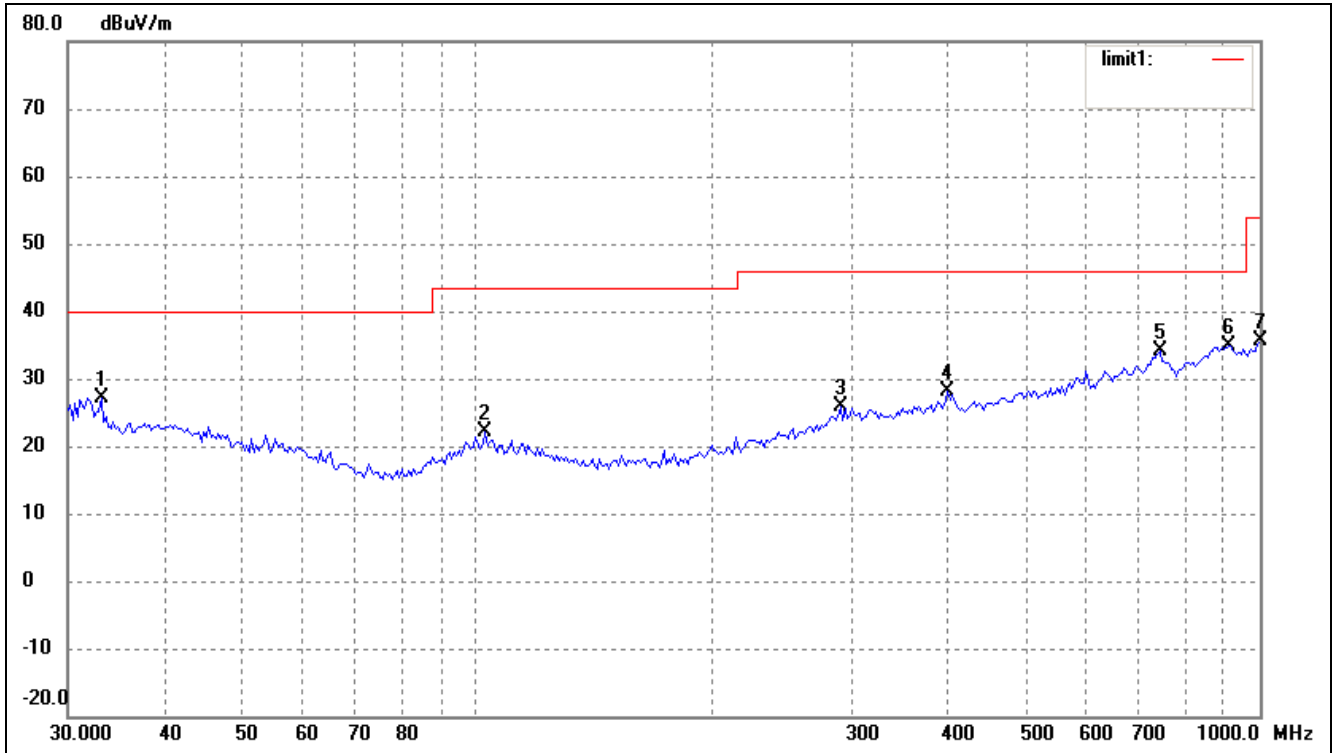
Comment:

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	37.2855	15.17	9.25	24.42	40.00	-15.58	264	100	peak
2	100.9340	15.68	6.75	22.43	43.50	-21.07	113	100	peak
3	642.8613	17.05	15.14	32.19	46.00	-13.81	80	100	peak
4	750.1083	16.28	17.78	34.06	46.00	-11.94	340	100	peak
5	881.4067	16.33	19.03	35.36	46.00	-10.64	116	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	33.0950	18.69	8.56	27.25	40.00	-12.75	360	100	peak
2	102.3597	15.45	6.61	22.06	43.50	-21.44	154	100	peak
3	291.0360	15.99	9.77	25.76	46.00	-20.24	22	100	peak
4	399.0302	16.71	11.50	28.21	46.00	-17.79	138	100	peak
5	744.8661	16.11	17.95	34.06	46.00	-11.94	64	100	peak
6	912.8620	15.87	18.93	34.80	46.00	-11.20	81	100	peak
7	1000.0000	15.78	19.90	35.68	54.00	-18.32	113	100	peak

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

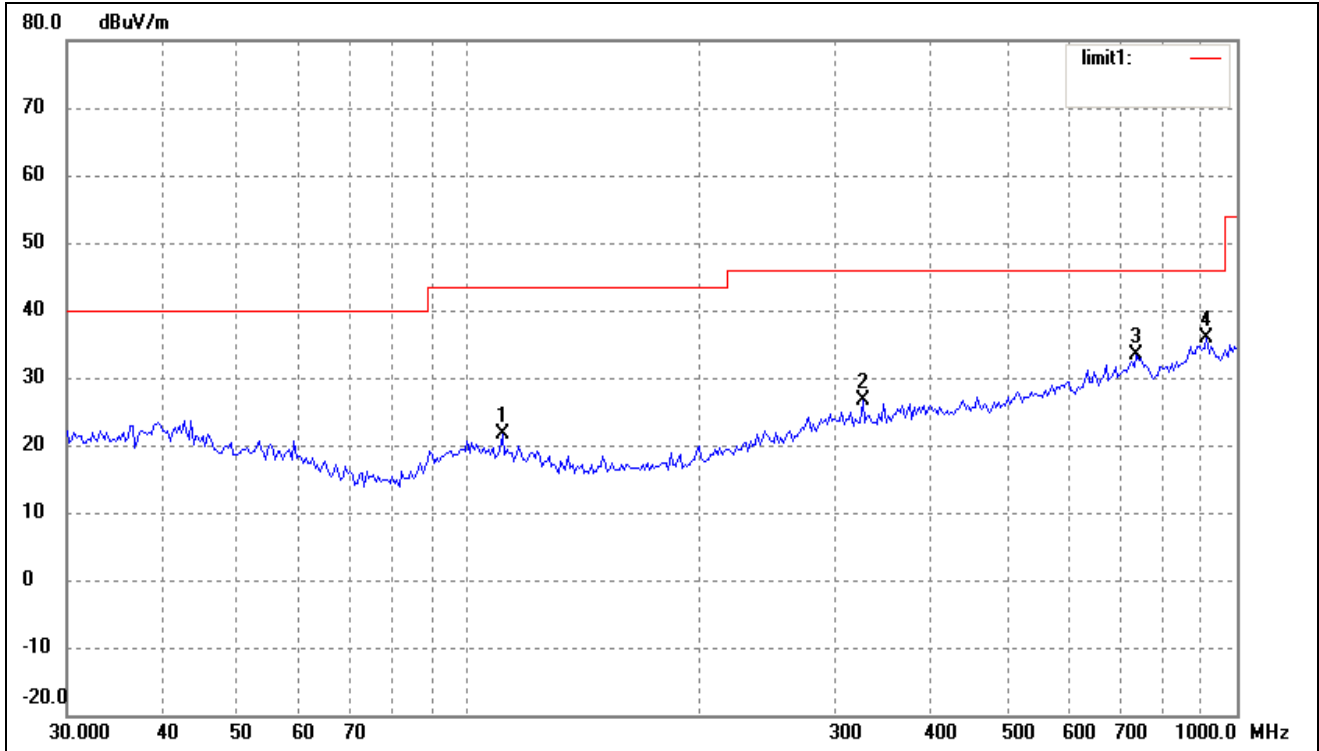
EUT: 3G Mobile Phone

Tested Model: S135

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

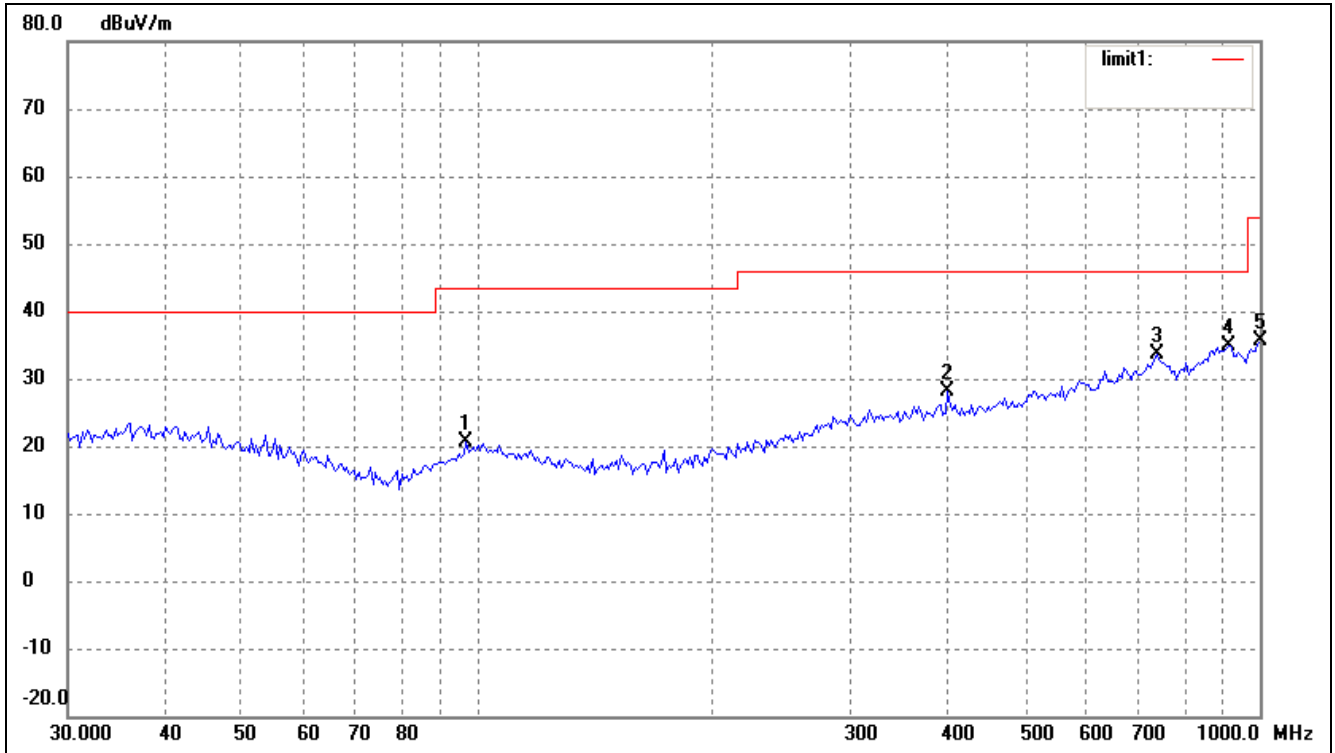
Comment:

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	110.5687	15.81	5.80	21.61	43.50	-21.89	226	100	peak
2	325.5958	16.19	10.38	26.57	46.00	-19.43	134	200	peak
3	739.6605	15.23	18.07	33.30	46.00	-12.70	260	200	peak
4	912.8620	17.04	18.93	35.97	46.00	-10.03	310	200	peak

Test Specification: Vertical

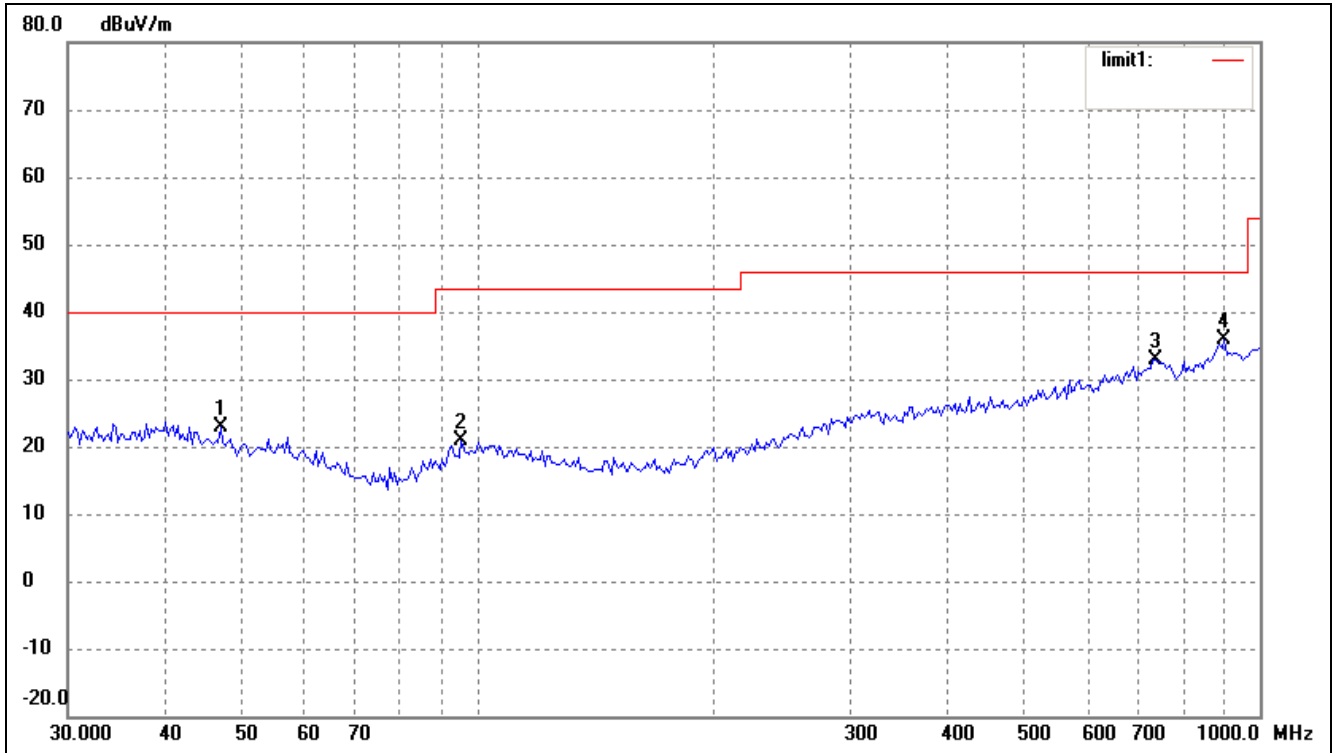


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	96.7749	14.48	6.04	20.52	43.50	-22.98	164	100	peak
2	399.0302	16.71	11.50	28.21	46.00	-17.79	227	100	peak
3	739.6605	15.48	18.07	33.55	46.00	-12.45	185	100	peak
4	912.8620	15.87	18.93	34.80	46.00	-11.20	254	100	peak
5	1000.0000	15.78	19.90	35.68	54.00	-18.32	61	100	peak

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

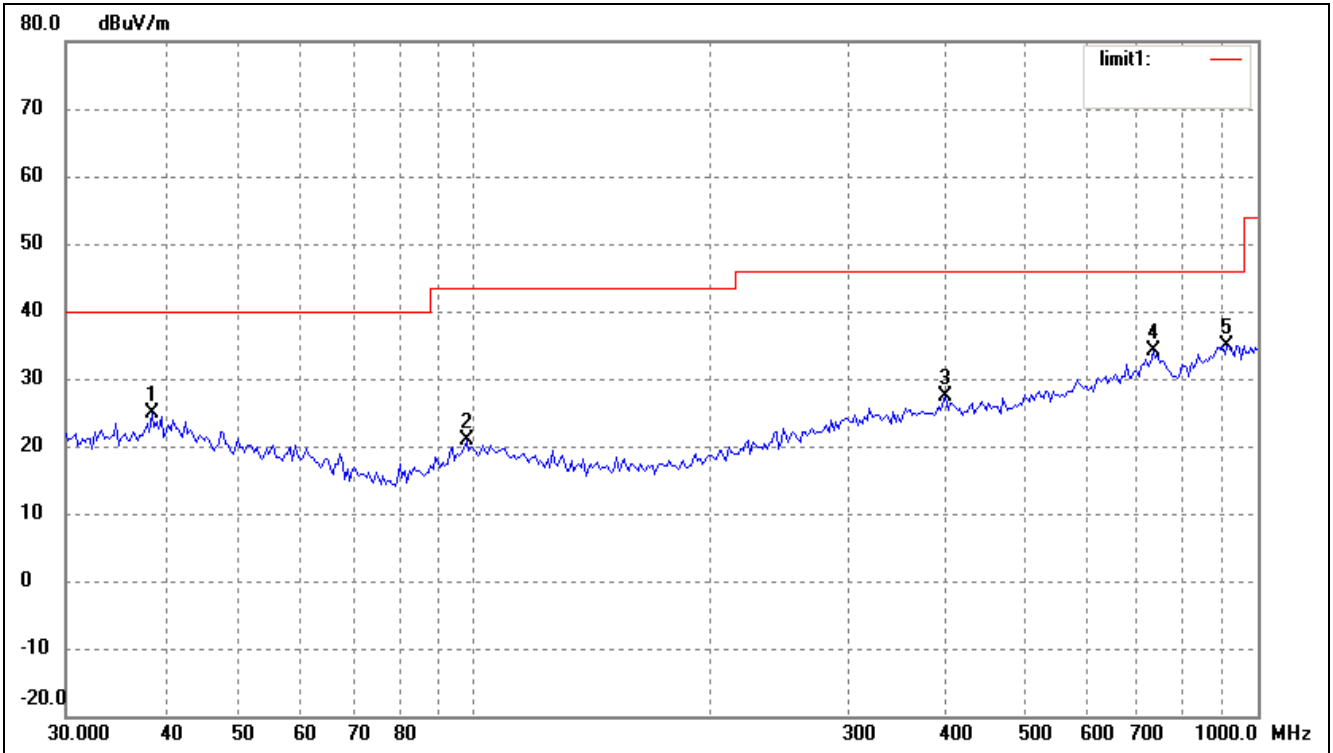
Comment:

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

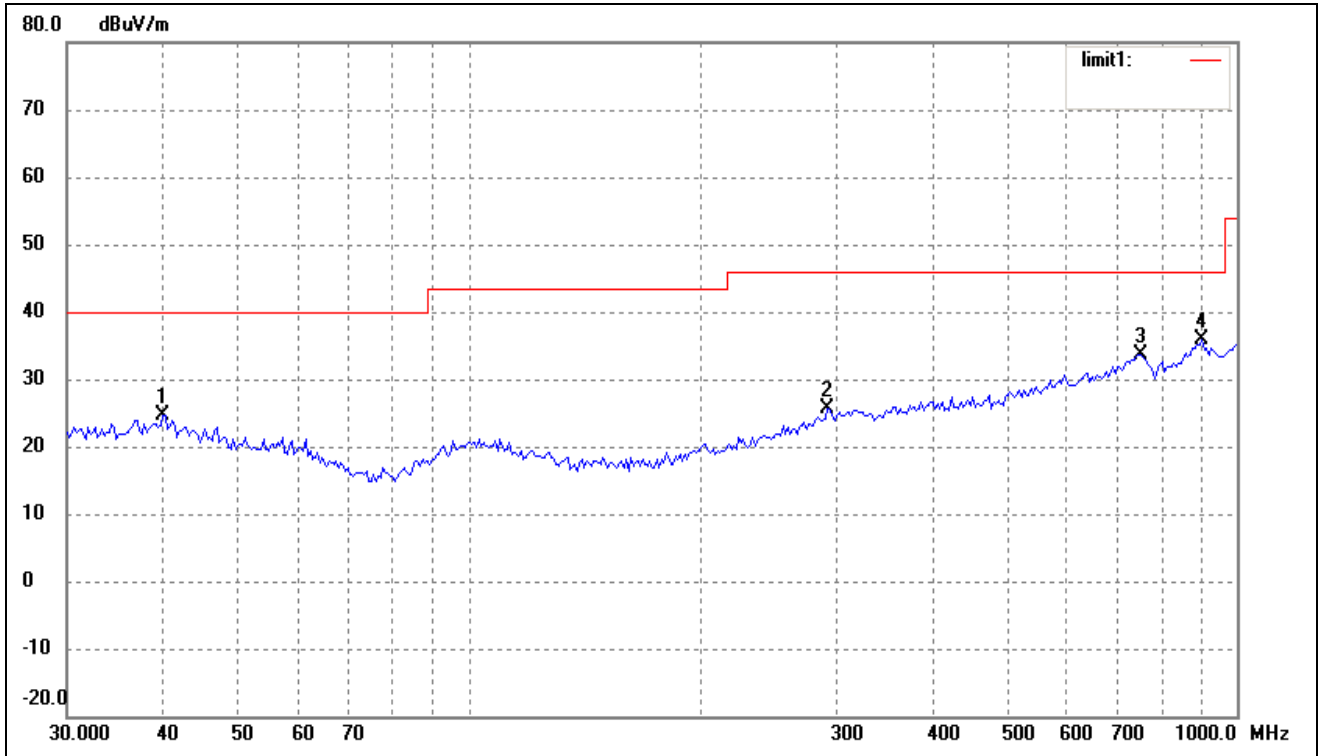


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	38.6161	15.30	9.46	24.76	40.00	-15.24	47	100	peak
2	97.4560	14.68	6.21	20.89	43.50	-22.61	264	100	peak
3	399.0302	15.85	11.50	27.35	46.00	-18.65	225	100	peak
4	734.4913	16.36	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-2452MHz

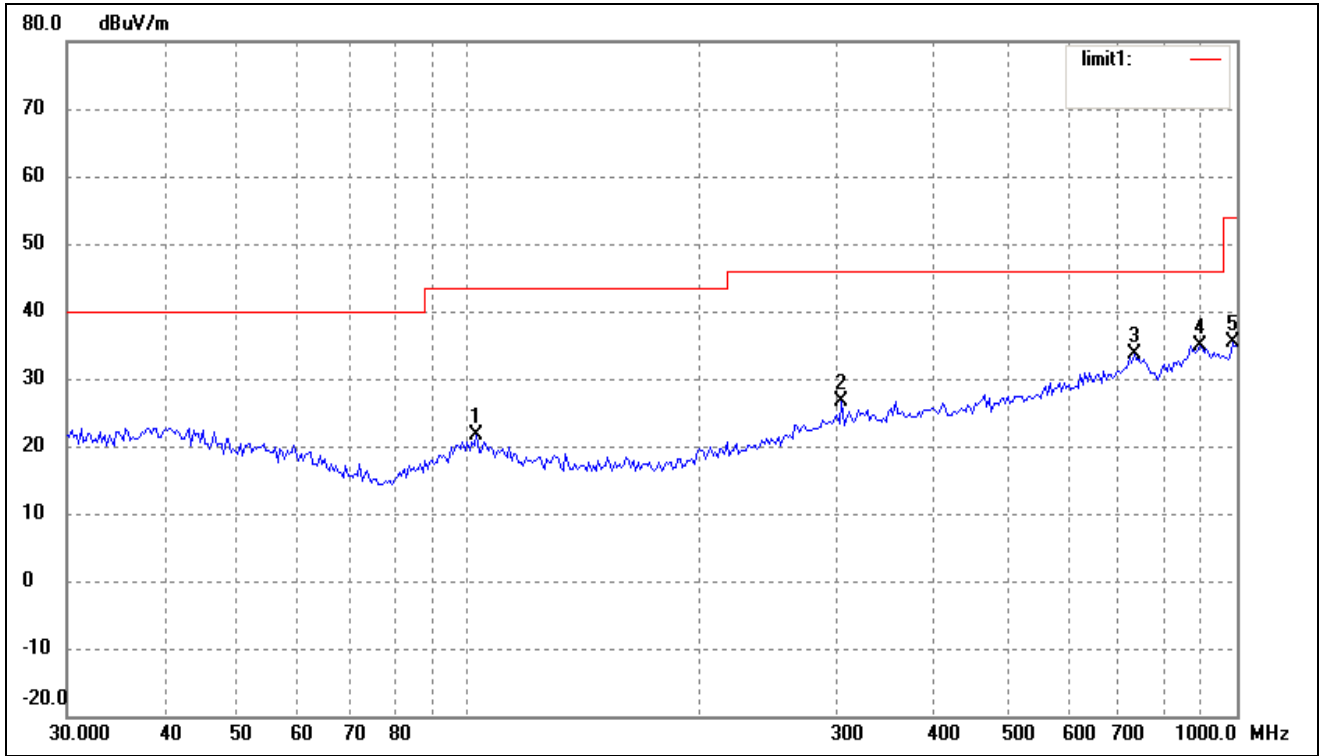
Comment:

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	39.9942	14.84	9.68	24.52	40.00	-15.48	67	100	peak
2	293.0842	15.85	9.85	25.70	46.00	-20.30	184	100	peak
3	750.1083	15.96	17.78	33.74	46.00	-12.26	113	100	peak
4	900.1474	16.39	19.38	35.77	46.00	-10.23	264	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	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	65.63	-3.86	61.77	74.00	-12.23	H	PK
4824	47.02	-3.86	43.16	54.00	-10.84	H	AV
7236	61.57	1.10	62.67	74.00	-11.33	H	PK
7236	45.93	1.10	47.03	54.00	-6.97	H	AV
4824	62.50	-3.86	58.64	74	-15.36	V	PK
4824	45.21	-3.86	41.35	54	-12.65	V	AV
7236	56.27	1.10	57.37	74	-16.63	V	PK
7236	39.54	1.10	40.64	54	-13.36	V	AV
Middle Channel-2437MHz							
4874	66.07	-3.74	62.33	74	-11.67	H	PK
4874	48.06	-3.74	44.32	54	-9.68	H	AV
7311	60.24	1.47	61.71	74	-12.29	H	PK
7311	43.13	1.47	44.6	54	-9.4	H	AV
4874	61.46	-3.74	57.72	74	-16.28	V	PK
4874	47.11	-3.74	43.37	54	-10.63	V	AV
7311	56.43	1.47	57.90	74	-16.1	V	PK
7311	39.76	1.47	41.23	54	-12.77	V	AV
High Channel-2462MHz							
4924	63.96	-3.59	60.37	74	-13.63	H	PK
4924	45.11	-3.59	41.52	54	-12.48	H	AV
7386	60.42	1.79	62.21	74	-11.79	H	PK
7386	43.01	1.79	44.80	54	-9.2	H	AV
4924	60.51	-3.59	56.92	74	-17.08	V	PK
4924	46.14	-3.59	42.55	54	-11.45	V	AV
7386	56.68	1.79	58.47	74	-15.53	V	PK
7386	40.48	1.79	42.27	54	-11.73	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	66.19	-3.86	62.33	74	-11.67	H	PK
4824	46.73	-3.86	42.87	54	-11.13	H	AV
7236	60.77	1.10	61.87	74	-12.13	H	PK
7236	44.77	1.10	45.87	54	-8.13	H	AV
4824	60.23	-3.86	56.37	74	-17.63	V	PK
4824	46.51	-3.86	42.65	54	-11.35	V	AV
7236	57.63	1.10	58.73	74	-15.27	V	PK
7236	40.25	1.10	41.35	54	-12.65	V	AV
Middle Channel-2437MHz							
4874	64.99	-3.74	61.25	74	-12.75	H	PK
4874	47.28	-3.74	43.54	54	-10.46	H	AV
7311	61.27	1.47	62.74	74	-11.26	H	PK
7311	42.90	1.47	44.37	54	-9.63	H	AV
4874	59.32	-3.74	55.58	74	-18.42	V	PK
4874	45.31	-3.74	41.57	54	-12.43	V	AV
7311	54.50	1.47	55.97	74	-18.03	V	PK
7311	38.91	1.47	40.38	54	-13.62	V	AV
High Channel-2462MHz							
4924	66.96	-3.59	63.37	74	-10.63	H	PK
4924	48.11	-3.59	44.52	54	-9.48	H	AV
7386	62.56	1.79	64.35	74	-9.65	H	PK
7386	43.92	1.79	45.71	54	-8.29	H	AV
4924	61.93	-3.59	58.34	74	-15.66	V	PK
4924	46.31	-3.59	42.72	54	-11.28	V	AV
7386	54.88	1.79	56.67	74	-17.33	V	PK
7386	42.24	1.79	44.03	54	-9.97	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	68.49	-3.86	64.63	74	-9.37	H	PK
4824	50.38	-3.86	46.52	54	-7.48	H	AV
7236	61.25	1.10	62.35	74	-11.65	H	PK
7236	43.25	1.10	44.35	54	-9.65	H	AV
4824	63.57	-3.86	59.71	74	-14.29	V	PK
4824	49.14	-3.86	45.28	54	-8.72	V	AV
7236	54.87	1.10	55.97	74	-18.03	V	PK
7236	39.98	1.10	41.08	54	-12.92	V	AV
Middle Channel-2437MHz							
4874	64.06	-3.74	60.32	74	-13.68	H	PK
4874	46.39	-3.74	42.65	54	-11.35	H	AV
7311	62.85	1.47	64.32	74	-9.68	H	PK
7311	45.05	1.47	46.52	54	-7.48	H	AV
4874	61.29	-3.74	57.55	74	-16.45	V	PK
4874	46.02	-3.74	42.28	54	-11.72	V	AV
7311	55.30	1.47	56.77	74	-17.23	V	PK
7311	40.61	1.47	42.08	54	-11.92	V	AV
High Channel-2462MHz							
4924	65.13	-3.59	61.54	74	-12.46	H	PK
4924	43.93	-3.59	40.34	54	-13.66	H	AV
7386	63.96	1.79	65.75	74	-8.25	H	PK
7386	44.91	1.79	46.70	54	-7.30	H	AV
4924	62.41	-3.59	58.82	74	-15.18	V	PK
4924	47.43	-3.59	43.84	54	-10.16	V	AV
7386	55.98	1.79	57.77	74	-16.23	V	PK
7386	42.51	1.79	44.30	54	-9.70	V	AV

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

8. Out of Band Emissions

8.1 Standard Applicable

According to §15.247 (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

8.2 Test Equipment List and Details

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

8.3 Test Procedure

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

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

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

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

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

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

8.4 Environmental Conditions

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

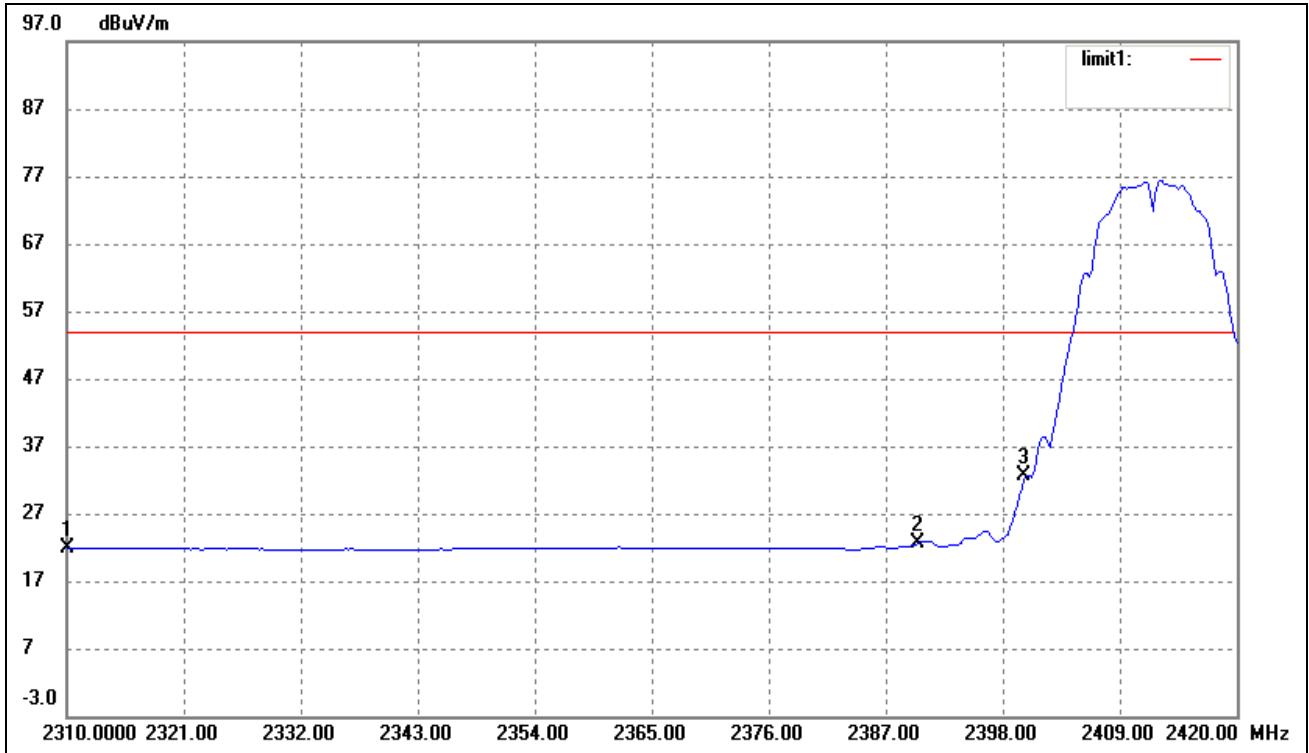
8.5 Summary of Test Results/Plots

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

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

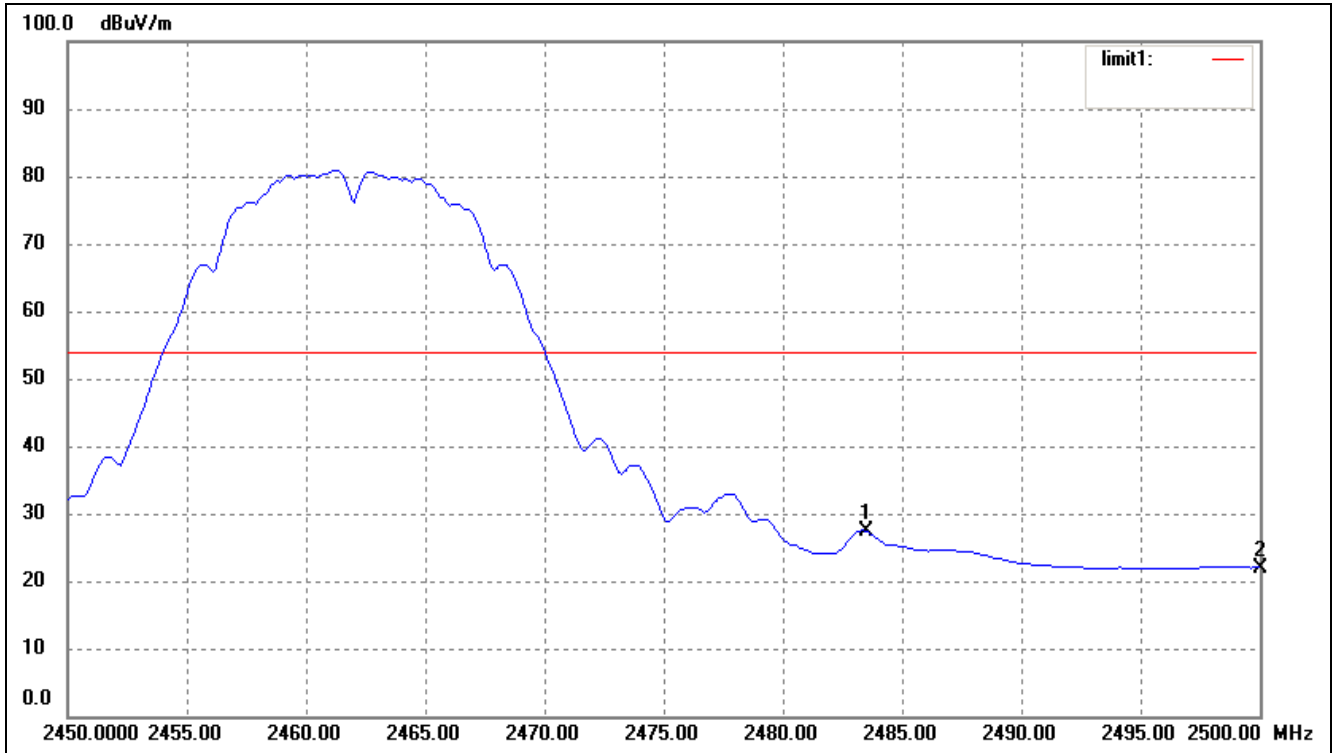
Please refer to the test plots as below.

802.11b-Lowest Bandedge



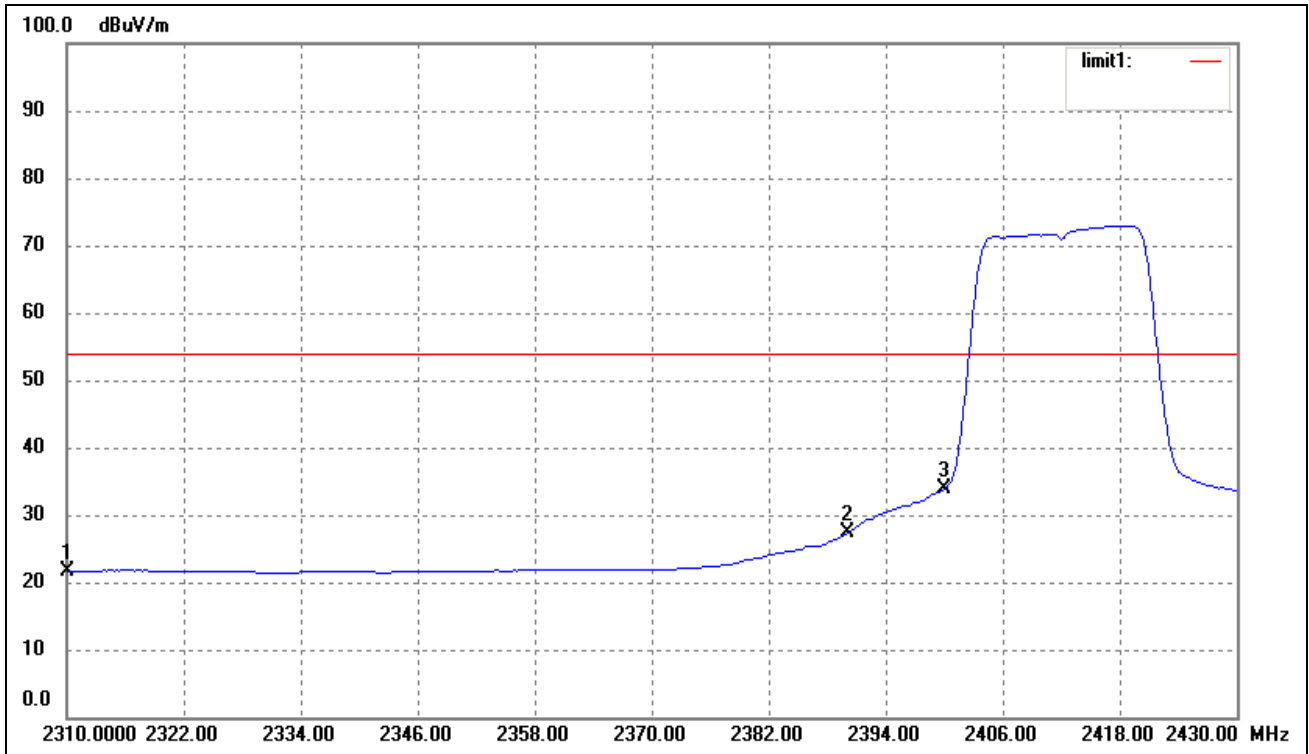
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2310.000	33.60	-11.72	21.88	54.00	-32.12	274	100	Ave
	2310.000	46.33	-11.72	34.61	74.00	-39.39	274	100	peak
2	2390.000	34.40	-11.75	22.65	54.00	-31.35	274	100	Ave
	2390.000	47.47	-11.75	35.72	74.00	-38.28	274	100	peak
3	2400.000	44.36	-11.75	32.61	54.00	-21.39	274	100	Ave
	2400.000	53.77	-11.75	42.02	74.00	-31.98	274	100	peak

802.11b-Highest Bandedge



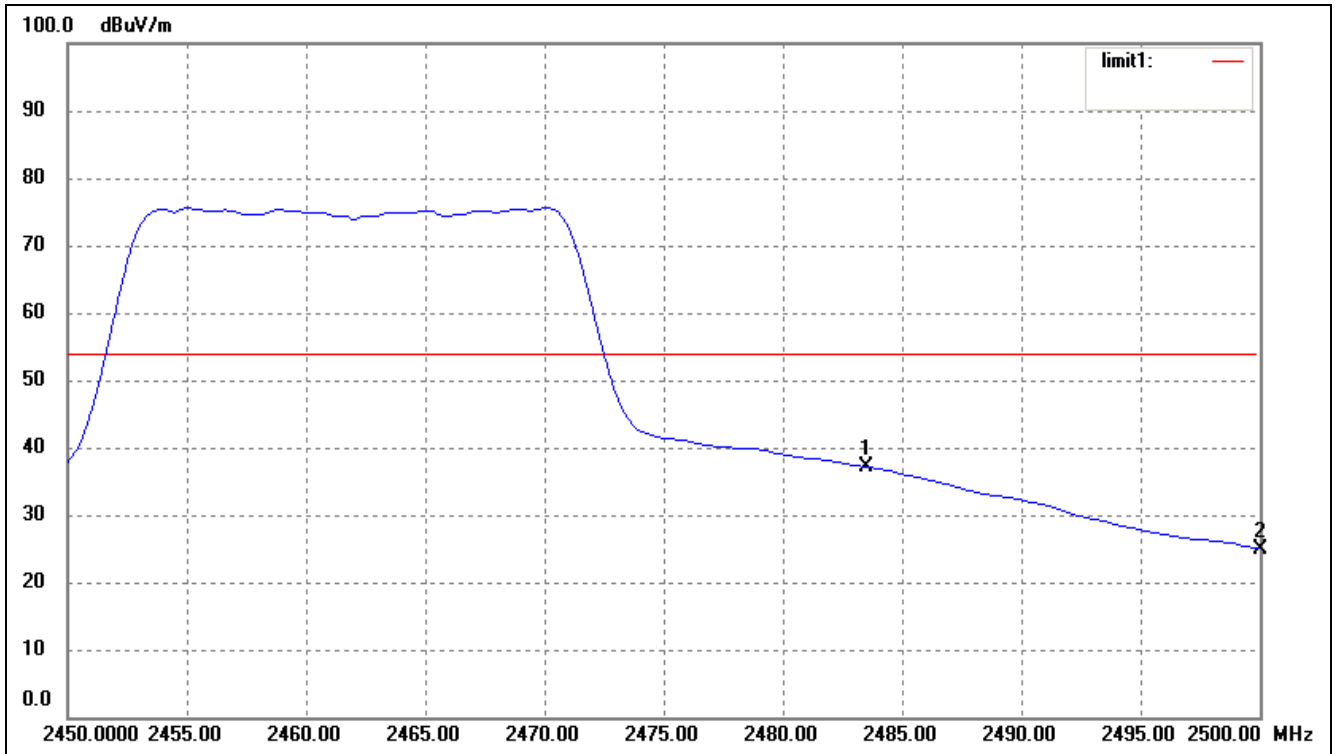
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2483.500	39.12	-11.78	27.34	54.00	-26.66	282	100	Ave
	2483.500	47.64	-11.78	35.86	74.00	-38.14	282	100	Peak
2	2500.000	33.74	-11.78	21.96	54.00	-32.04	282	100	Ave
	2500.000	45.38	-11.78	33.60	74.00	-40.40	282	100	Peak

802.11g-Lowest Bandedge



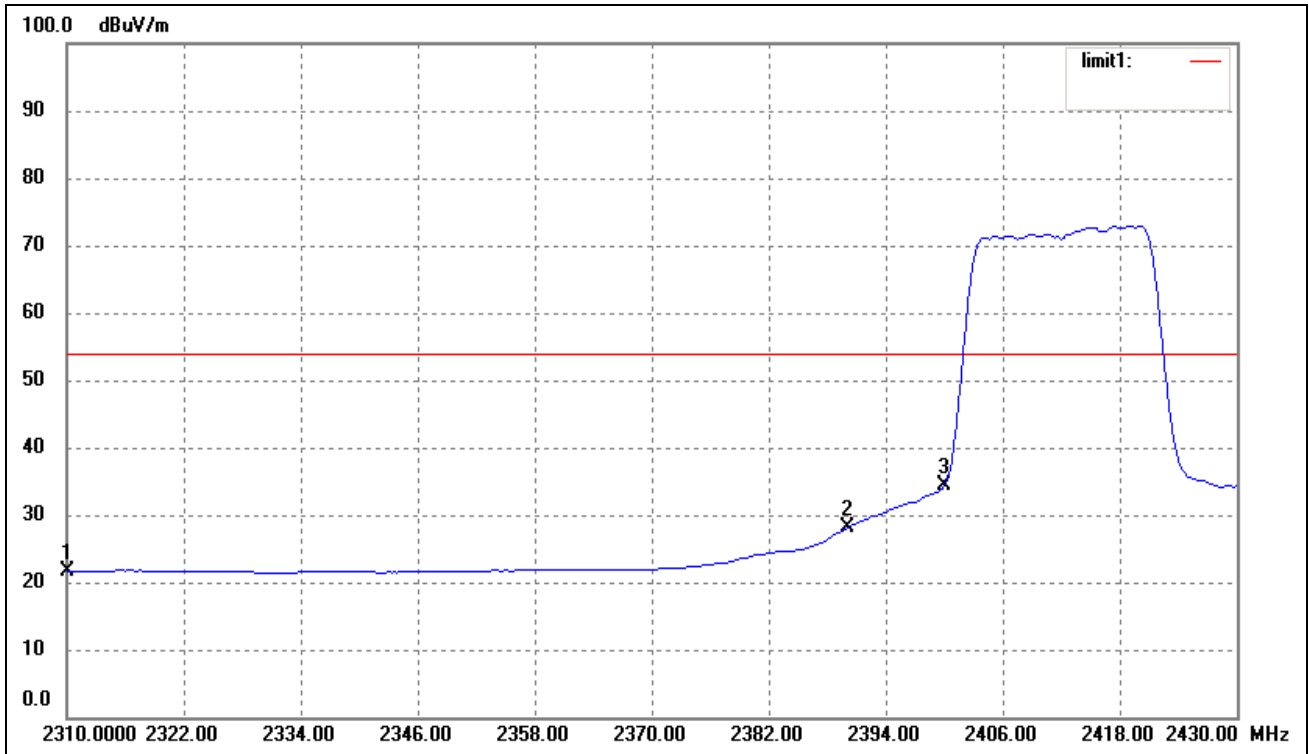
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2310.000	33.44	-11.72	21.72	54.00	-32.28	273	100	Ave
	2310.000	44.27	-11.72	32.55	74.00	-41.45	273	100	Peak
2	2390.000	39.24	-11.75	27.49	54.00	-26.51	273	100	Ave
	2390.000	56.03	-11.75	44.28	74.00	-29.72	273	100	Peak
3	2400.000	45.55	-11.75	33.80	54.00	-20.20	273	100	Ave
	2400.000	67.33	-11.75	55.58	74.00	-18.42	273	100	Peak

802.11g-Highest Bandedge



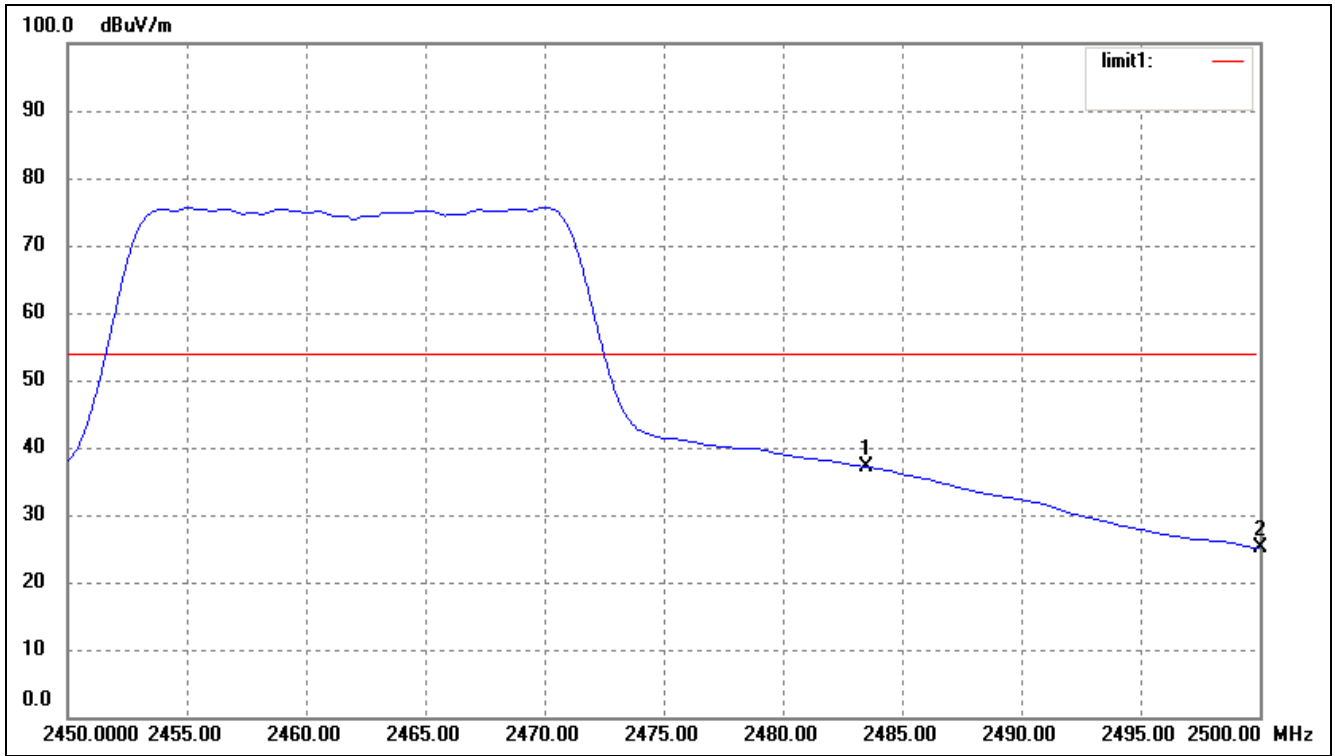
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2483.500	48.88	-11.78	37.10	54.00	-16.90	270	100	Ave
	2483.500	70.29	-11.78	58.51	74.00	-15.49	270	100	Peak
2	2500.000	36.78	-11.78	25.00	54.00	-29.00	270	100	Ave
	2500.000	57.94	-11.78	46.16	74.00	-27.84	270	100	Peak

802.11n-HT20-Lowest Bandedge



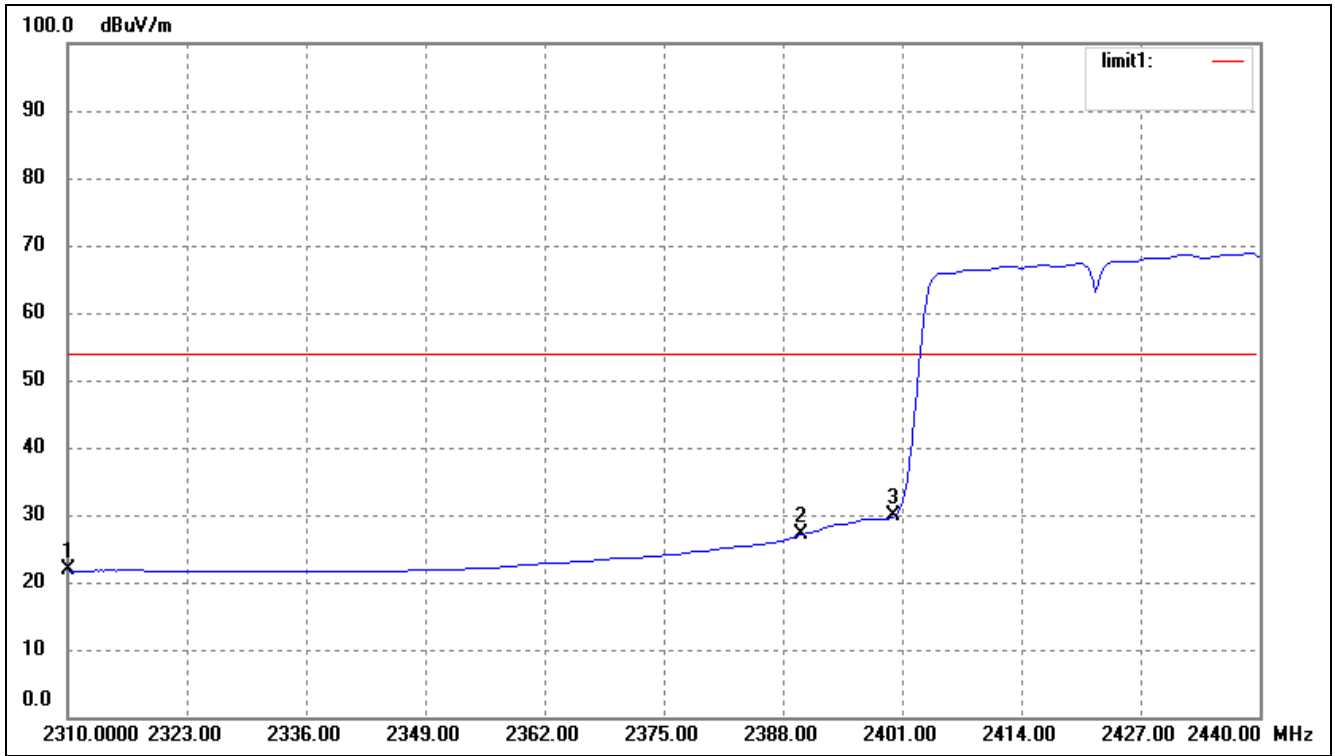
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2310.000	33.45	-11.72	21.73	54.00	-32.27	92	100	Ave
	2310.000	46.04	-11.72	34.32	74.00	-39.68	92	100	Peak
2	2390.000	39.91	-11.75	28.16	54.00	-25.84	92	100	Ave
	2390.000	62.35	-11.75	50.60	74.00	-23.40	92	100	Peak
3	2400.000	46.16	-11.75	34.41	54.00	-19.59	92	100	Ave
	2400.000	68.91	-11.75	57.16	74.00	-16.84	92	100	Peak

802.11n-HT20-Highest Bandedge



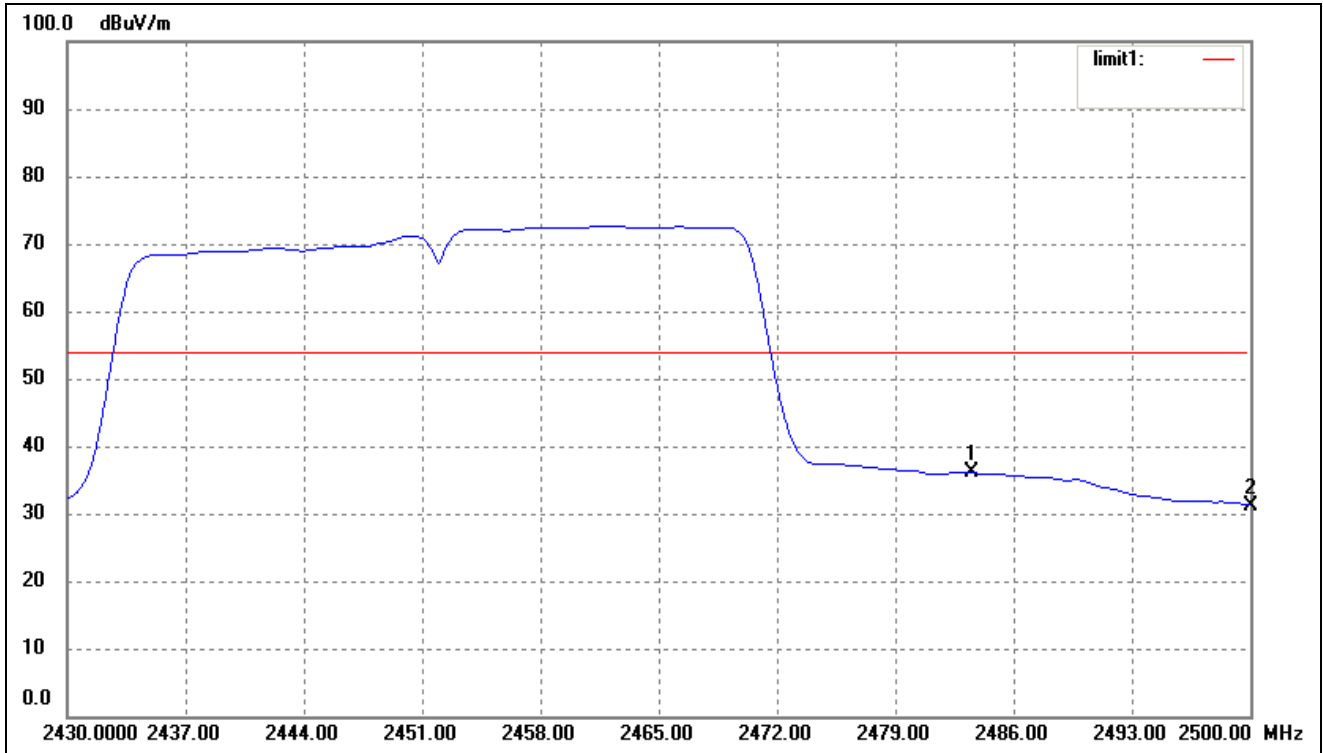
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2483.500	48.87	-11.78	37.09	54.00	-16.91	92	100	Ave
	2483.500	70.67	-11.78	58.89	74.00	-15.11	92	100	Peak
2	2500.000	36.81	-11.78	25.03	54.00	-28.97	92	100	Ave
	2500.000	57.80	-11.78	46.02	74.00	-27.98	92	100	Peak

802.11n-HT40-Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2310.000	33.49	-11.72	21.77	54.00	-32.23	87	100	Ave
	2310.000	46.16	-11.72	34.44	74.00	-39.56	87	100	Peak
2	2390.000	38.83	-11.75	27.08	54.00	-26.92	87	100	Ave
	2390.000	58.00	-11.75	46.25	74.00	-27.75	87	100	Peak
3	2400.000	41.67	-11.75	29.92	54.00	-24.08	87	100	Ave
	2400.000	58.77	-11.75	47.02	74.00	-26.98	87	100	Peak

802.11n-HT40-Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	2483.500	47.87	-11.78	36.09	54.00	-17.91	90	100	Ave
	2483.500	64.37	-11.78	52.59	74.00	-21.41	90	100	Peak
2	2500.000	43.00	-11.78	31.22	54.00	-22.78	90	100	Ave
	2500.000	61.66	-11.78	49.88	74.00	-24.12	90	100	Peak

9. Conducted Emissions

9.1 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 ± 2.88 dB.

9.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2012-03-28	2013-03-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2012-03-28	2013-03-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2012-03-28	2013-03-27

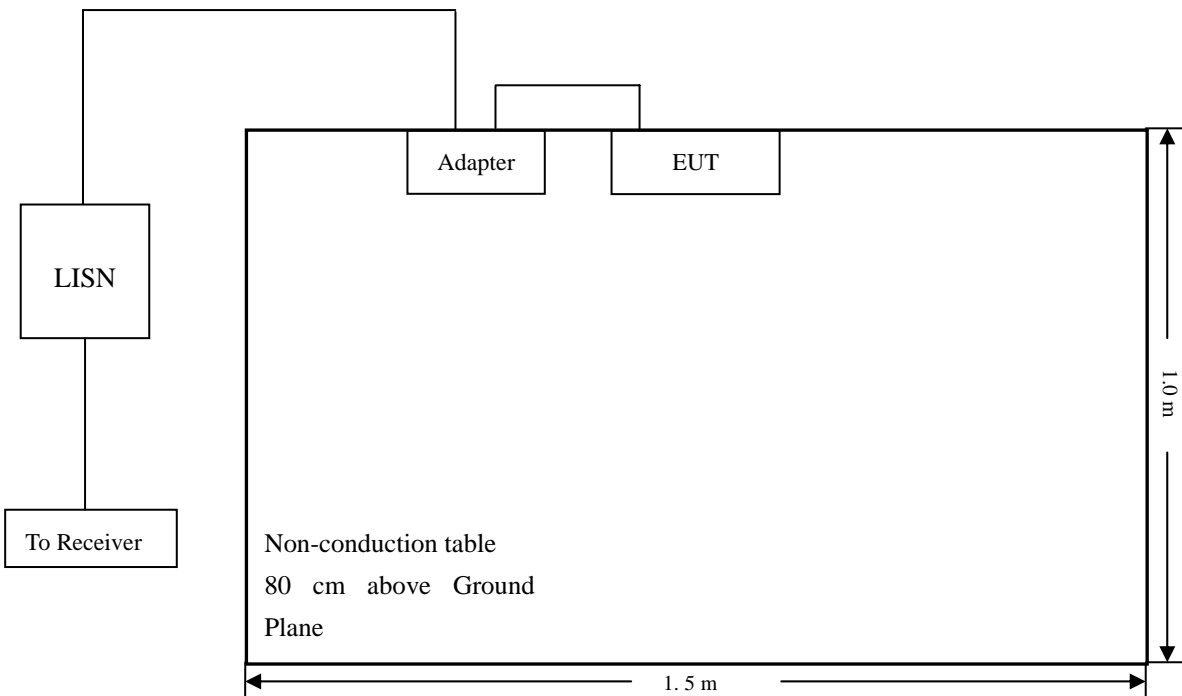
9.3 Test Procedure

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.

9.4 Basic Test Setup Block Diagram



9.5 Environmental Conditions

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

9.6 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

9.7 Summary of Test Results/Plots

According to the data in section 3.8, the EUT complied with the FCC Part 15.207 Conducted margin for a Class B device, with the *worst* margin reading of:

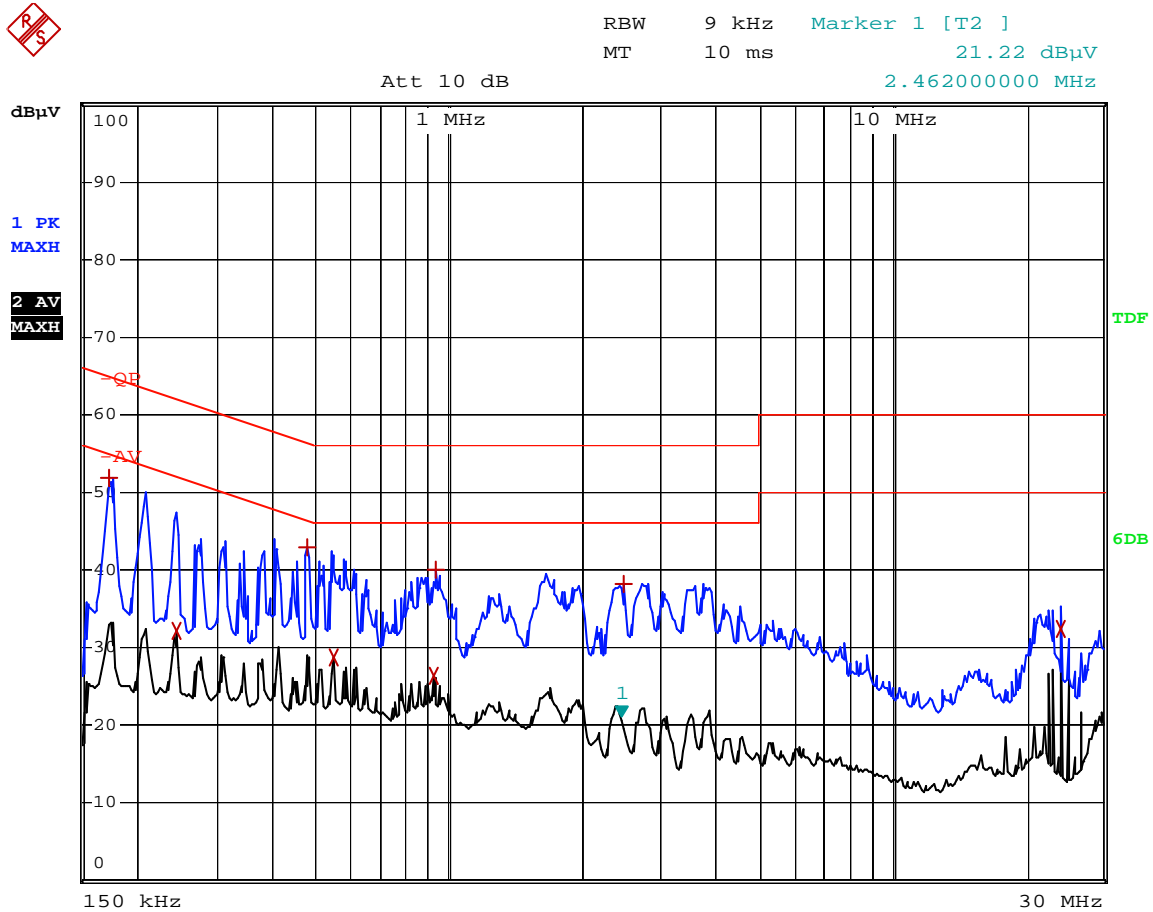
-10.78 dBμV at 0.174 MHz in the Line mode, Peak detector, 0.15-30MHz

9.8 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

EUT: 3G Mobile Phone
 Tested Model: S135
 Operating Condition: Charging & Transmitting
 Comment: AC120V60Hz

Test Specification: Neutral

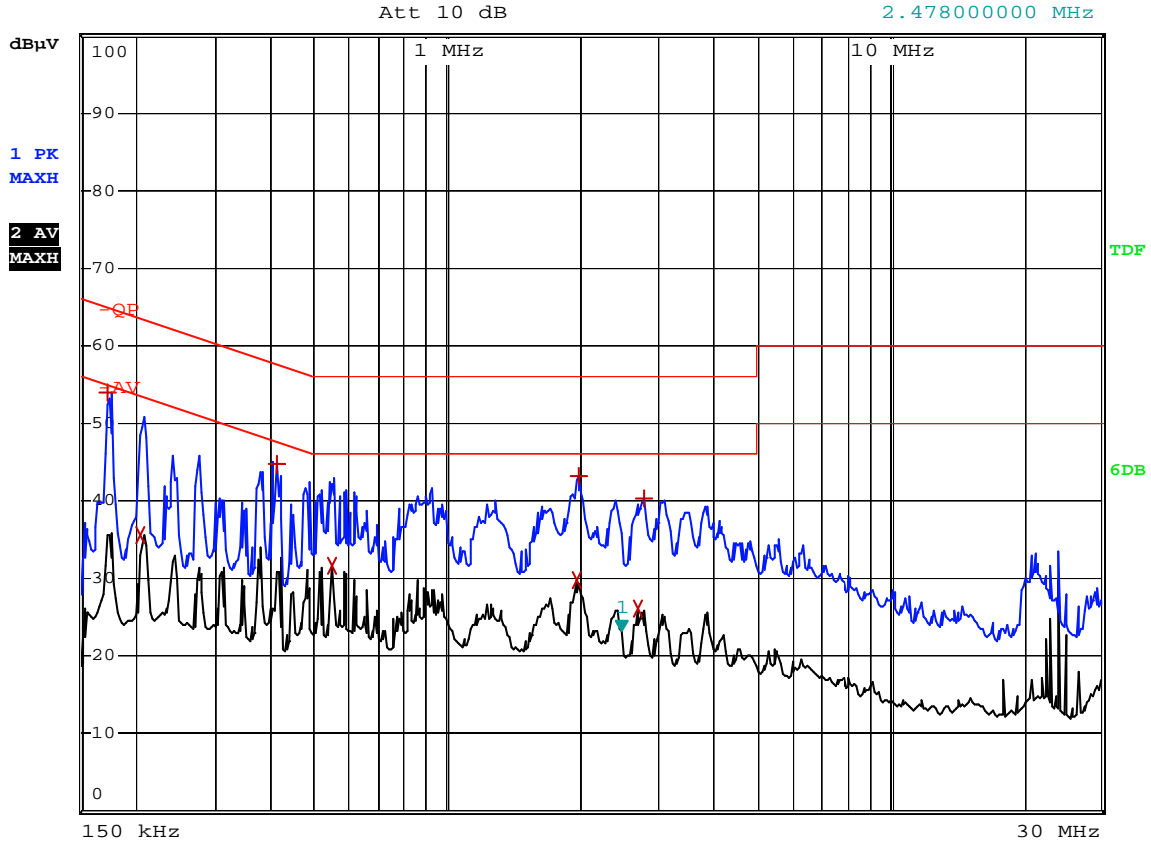


EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	174 kHz	51.93	-12.83
2 Average	242 kHz	32.27	-19.75
1 Max Peak	478 kHz	43.01	-13.35
2 Average	550 kHz	28.70	-17.29
2 Average	926 kHz	26.32	-19.67
1 Max Peak	930 kHz	39.95	-16.04
1 Max Peak	2.474 MHz	38.20	-17.79
2 Average	23.982 MHz	32.46	-17.53

Test Specification: Line



RBW 9 kHz Marker 1 [T2]
 MT 100 ms 23.18 dBµV
 2.47800000 MHz



EDIT PEAK LIST (Prescan Results)			
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
1 Max Peak	174 kHz	53.98	-10.78
2 Average	206 kHz	35.56	-17.80
1 Max Peak	410 kHz	44.83	-12.81
2 Average	550 kHz	31.71	-14.28
2 Average	1.974 MHz	29.91	-16.08
1 Max Peak	1.99 MHz	43.15	-12.84
2 Average	2.71 MHz	26.19	-19.80
1 Max Peak	2.79 MHz	40.21	-15.78

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