FCC Part 15C
Measurement and Test Report

For

Shenzhen Jimi Software Co., Ltd

Floor 4th, Building C, Gaoxinqi Industrial Park, Liuxian 1st Road, District 67, Bao'an, Shenzhen, China

FCC ID: 2AMLFJH09

FCC Rule(s):	FCC Part 15C
Product Description:	3G camera
Tested Model:	JH09
Report No.:	STR17058333I-2
Tested Date:	2017-06-12 to 2017-07-03
Issued Date:	2017-07-05
Tested By:	Iven Guo / Engineer
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Jimi Software Co., Ltd
Address of applicant:	Floor 4th, Building C, Gaoxinqi Industrial Park, Liuxian 1st Road, District 67, Bao'an, Shenzhen, China
Manufacturer:	Shenzhen Jimi Software Co., Ltd
Address of manufacturer:	Floor 4th, Building C, Gaoxinqi Industrial Park, Liuxian 1st Road, District 67, Bao'an, Shenzhen, China

General Description of EUT	
Product Name:	3G camera
Brand Name:	Jimi
Model No.:	JH09
Adding Model(s):	JH09S, JH07
Rated Voltage:	DC 3.7V by battery
Battery Capacity:	770mAh
Power Adapter:	HJ-0502000N1-EU
	Input:100-240V,50/60Hz,0.3A; Output:DC5V,2.0A
The EUT Main board support WCDMA Band/2/5 function. It is intended for Remote monitoring, real-time monitoring, voice Shouting. It is equipped with Wi-Fi function. For more information see the following datasheet	
Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model JH09, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20) 2422-2452MHz for 802.11n(HT40)
RF Output Power:	15.40dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11/7
Channel Separation:	5MHz
Type of Antenna:	Integral
Antenna Gain:	0.14dBi

1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Jimi Software 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 C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, 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 v04 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 2nd 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
Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.		

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
adapter Cable	3.0	Shielded	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
USB Cable	1.0	Shielded	Without Ferrite

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Power Spectral Density	Conducted	±1.8dB
Conducted Spurious Emission	Conducted	±2.17dB
Conducted Emissions	Conducted	±2.88dB
Transmitter Spurious Emissions	Radiated	±5.1dB

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2017-06-12	2018-06-11
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2017-06-12	2018-06-11
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2017-06-12	2018-06-11
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2017-06-12	2018-06-11
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2017-06-12	2018-06-11
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2017-06-12	2018-06-11
SEMT-1042	Horn Antenna	ETS	3117	00086197	2017-06-12	2018-06-11
SEMT-1121	Horn Antenna	ETS	3116B	00088203	2017-06-12	2018-06-11
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-12	2018-06-11
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2017-06-12	2018-06-11
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2017-06-12	2018-06-11
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2017-06-12	2018-06-11

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
§15.205	Restricted Band of Operation	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

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

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 Procedure

According to the KDB 558074 D01 v04, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

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

5.3 Environmental Conditions

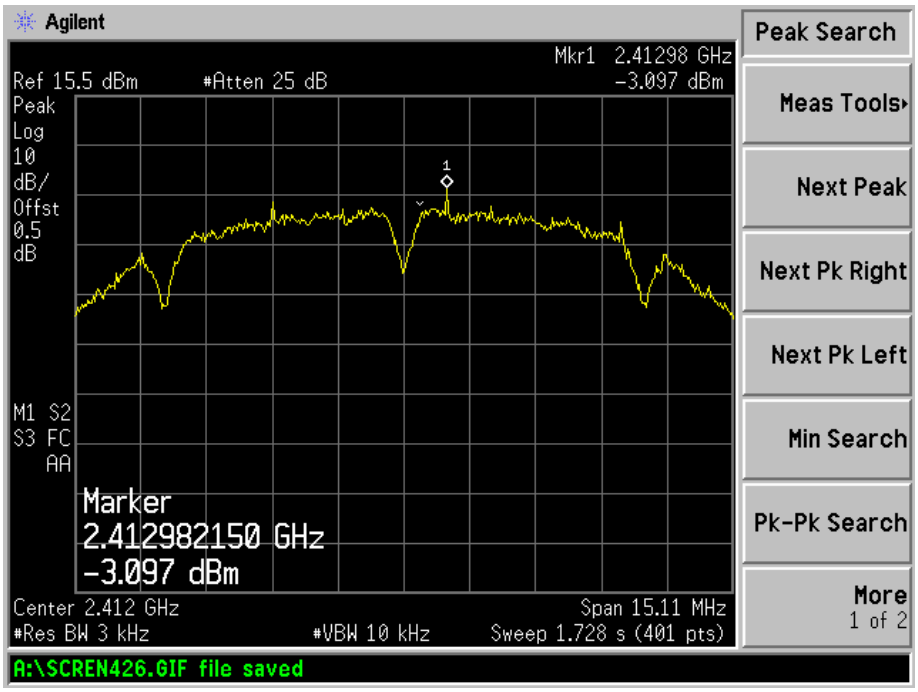
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

5.4 Summary of Test Results/Plots

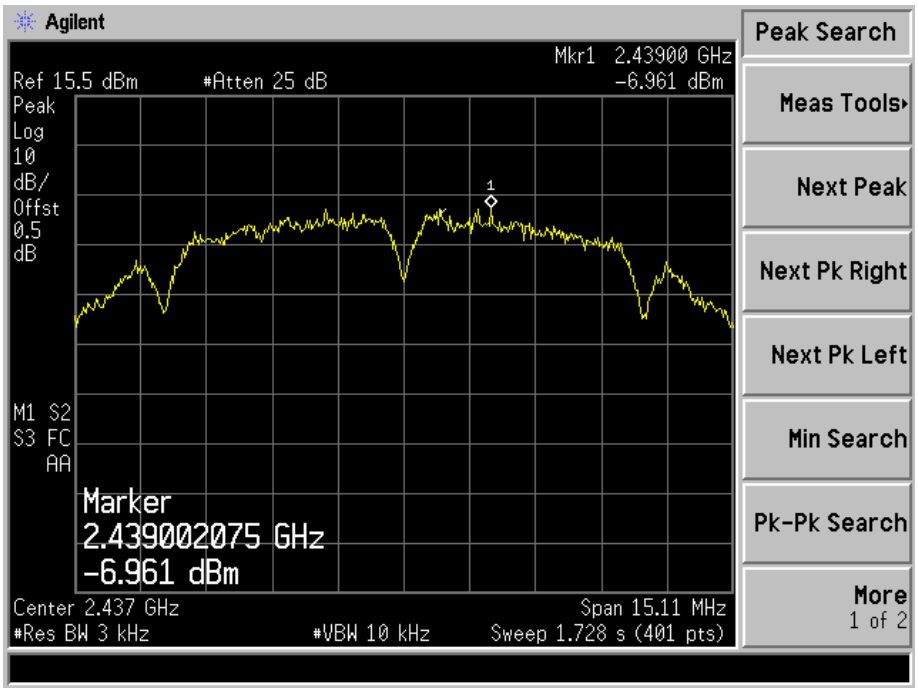
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-3.097	8
	2437	-6.961	8
	2462	-7.557	8
802.11g	2412	-10.99	8
	2437	-10.20	8
	2462	-11.80	8
802.11n HT20	2412	-11.25	8
	2437	-9.871	8
	2462	-10.97	8
802.11n HT40	2422	-17.34	8
	2437	-13.18	8
	2452	-17.55	8

Please refer to the following test plots:

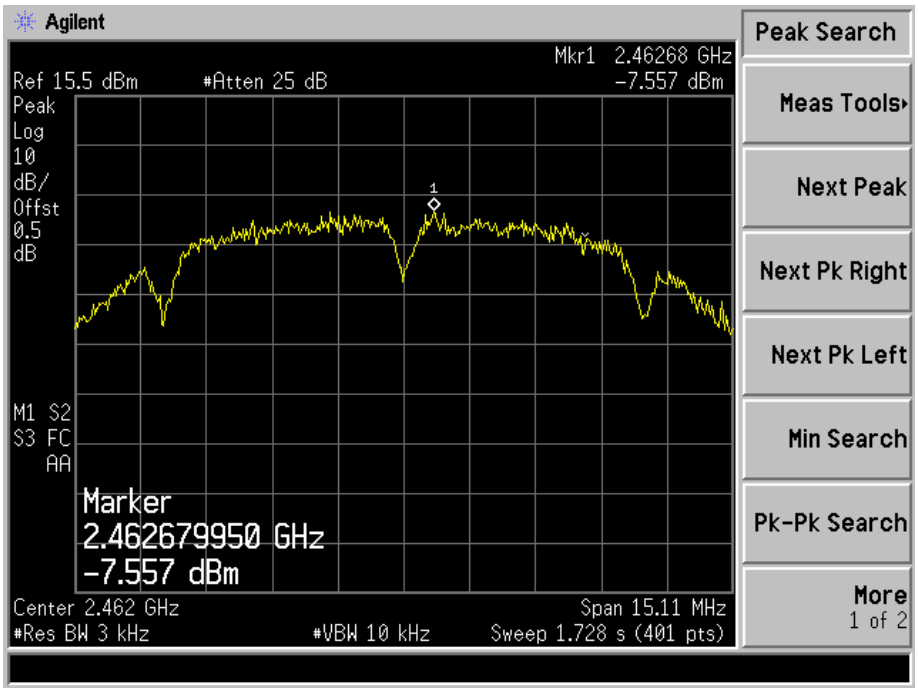
802.11b-Low Channel



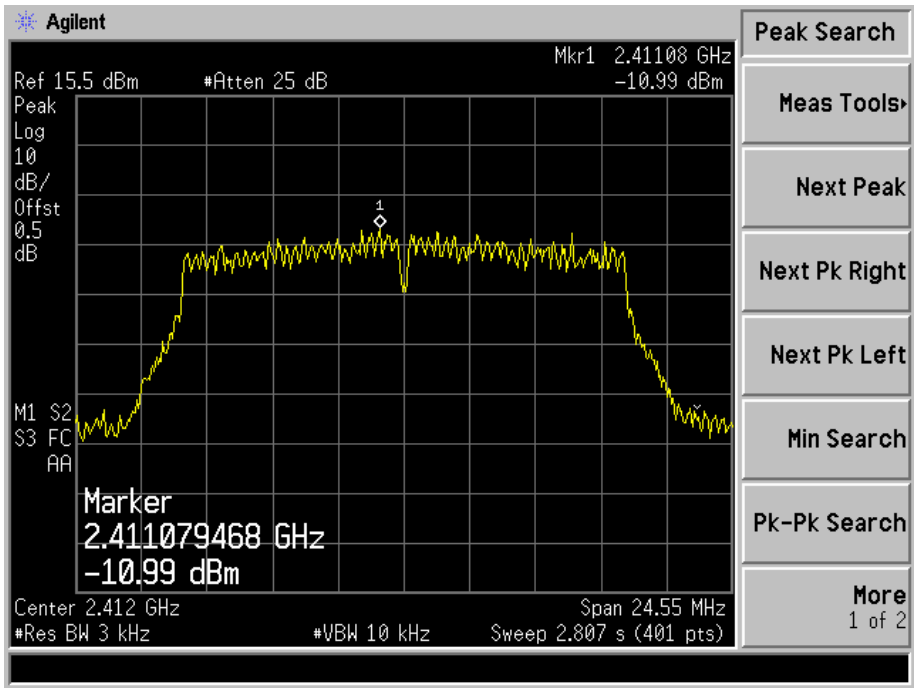
802.11b-Middle Channel



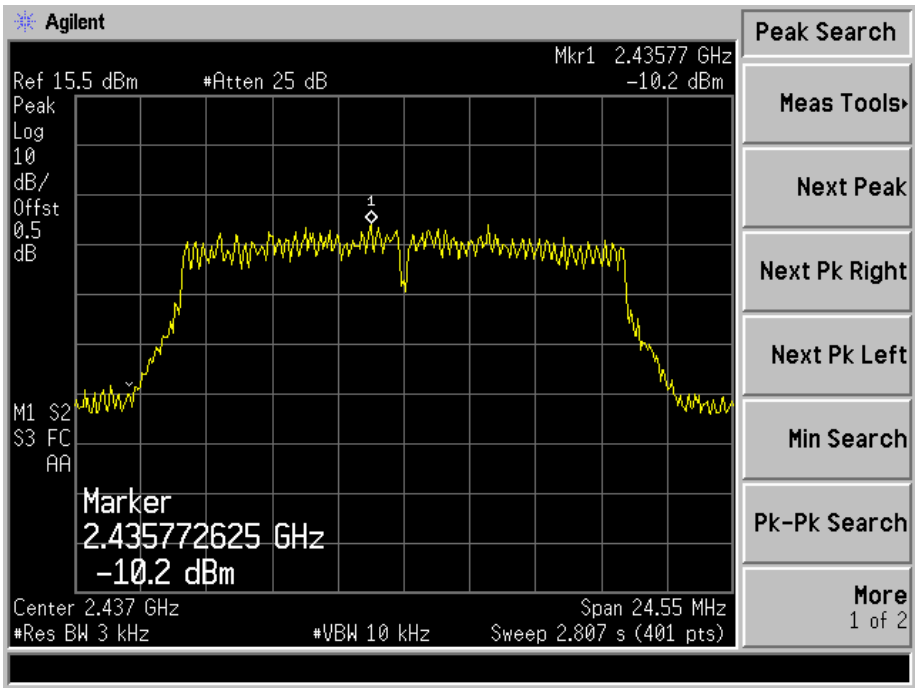
802.11b-High Channel



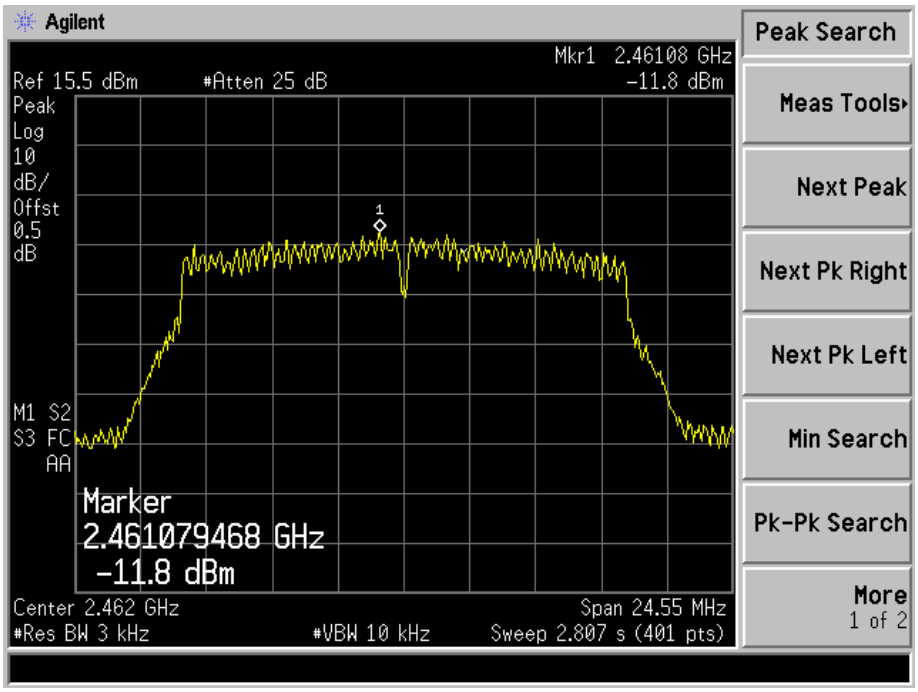
802.11g-Low Channel



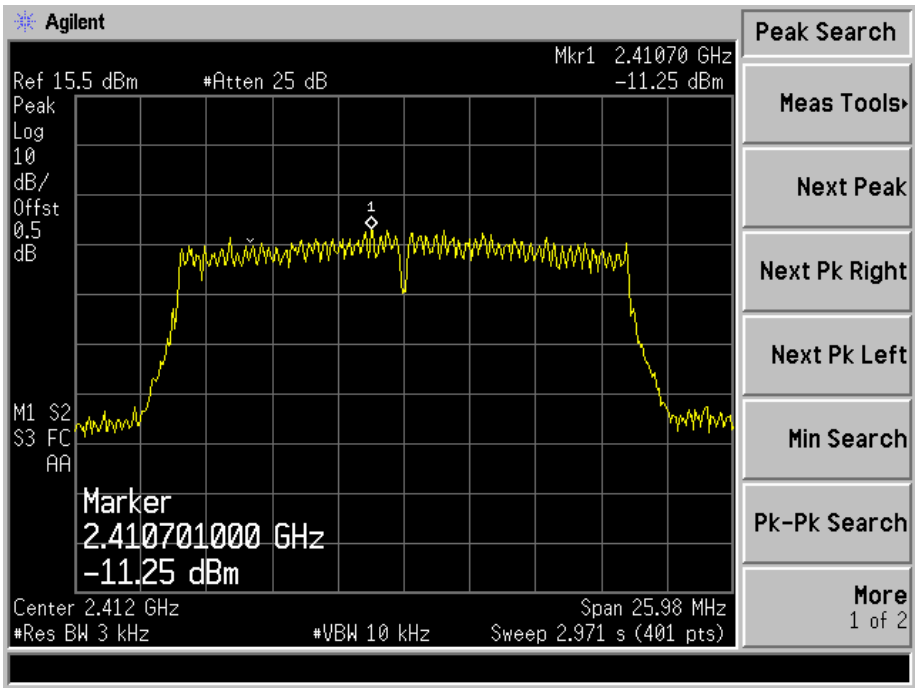
802.11g-Middle Channel



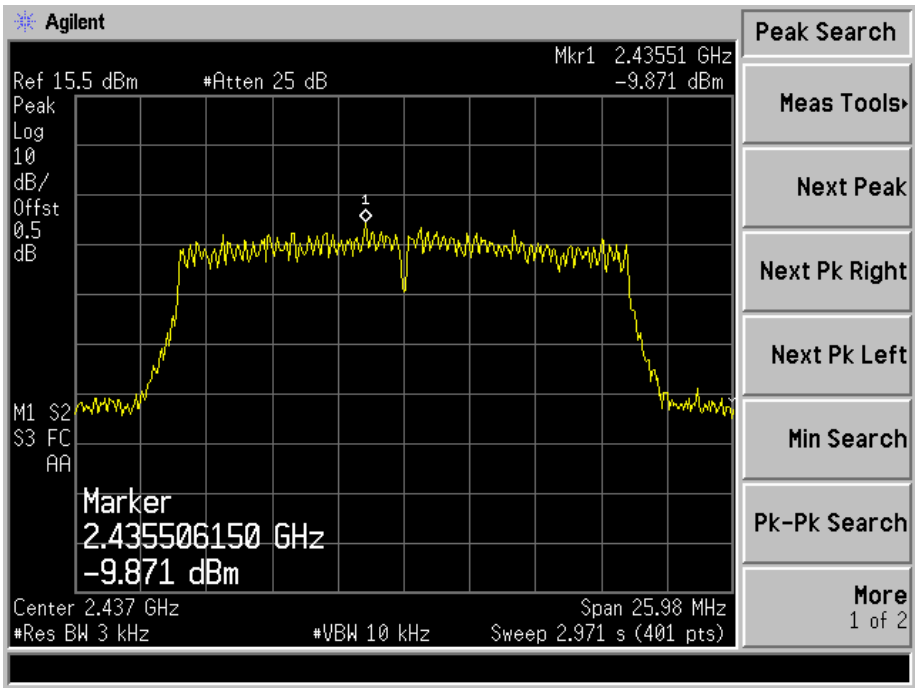
802.11g-High Channel



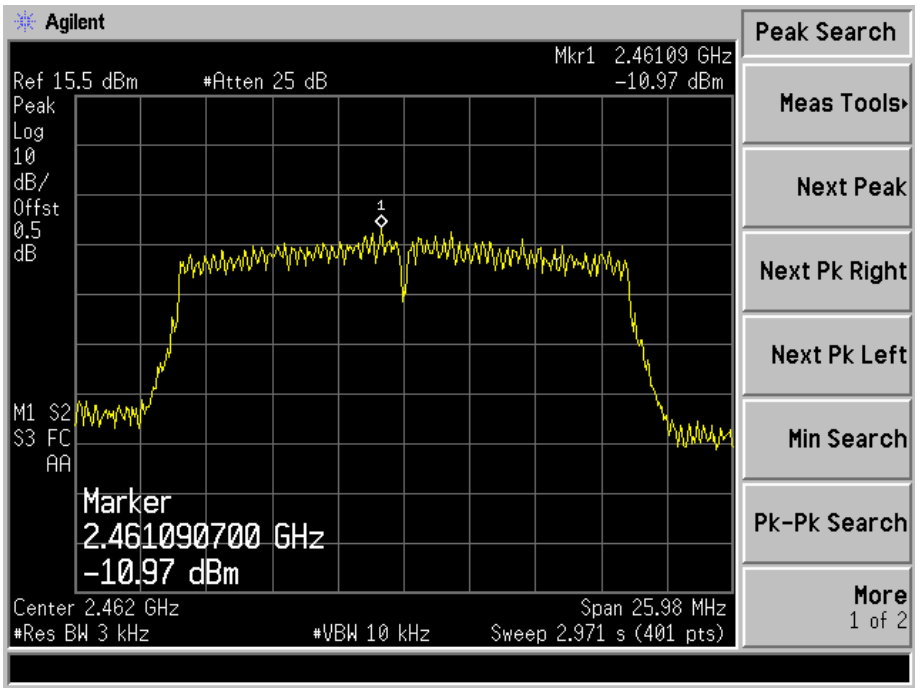
802.11n-HT20-Low Channel



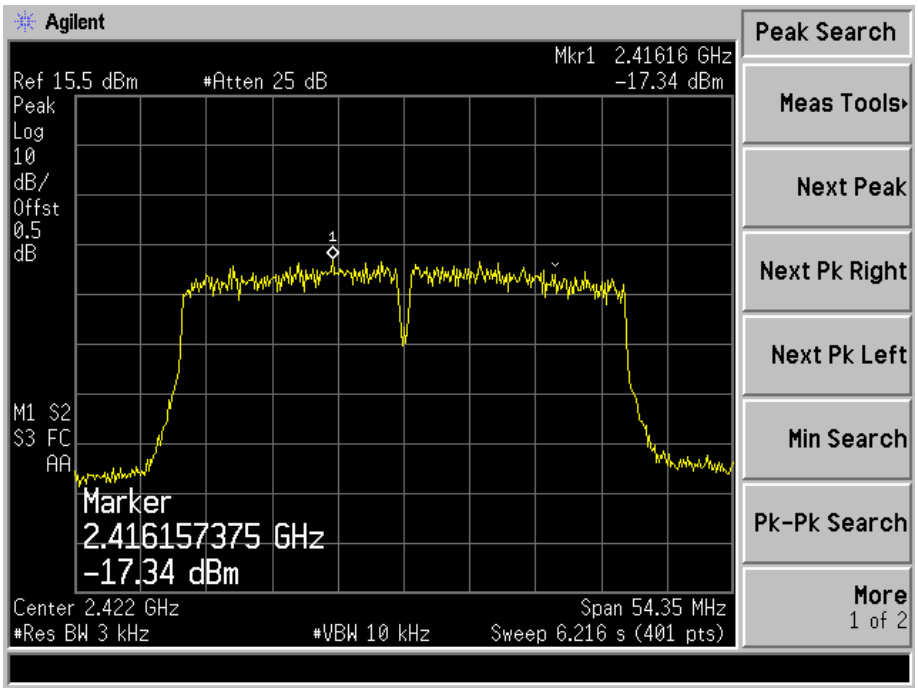
802.11n-HT20-Middle Channel



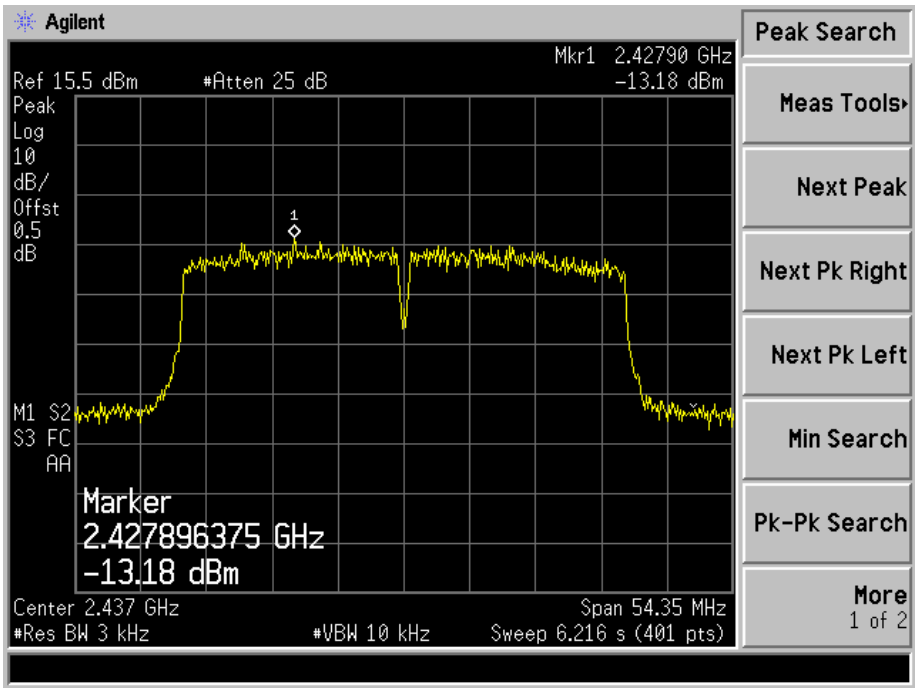
802.11n-HT20-High Channel



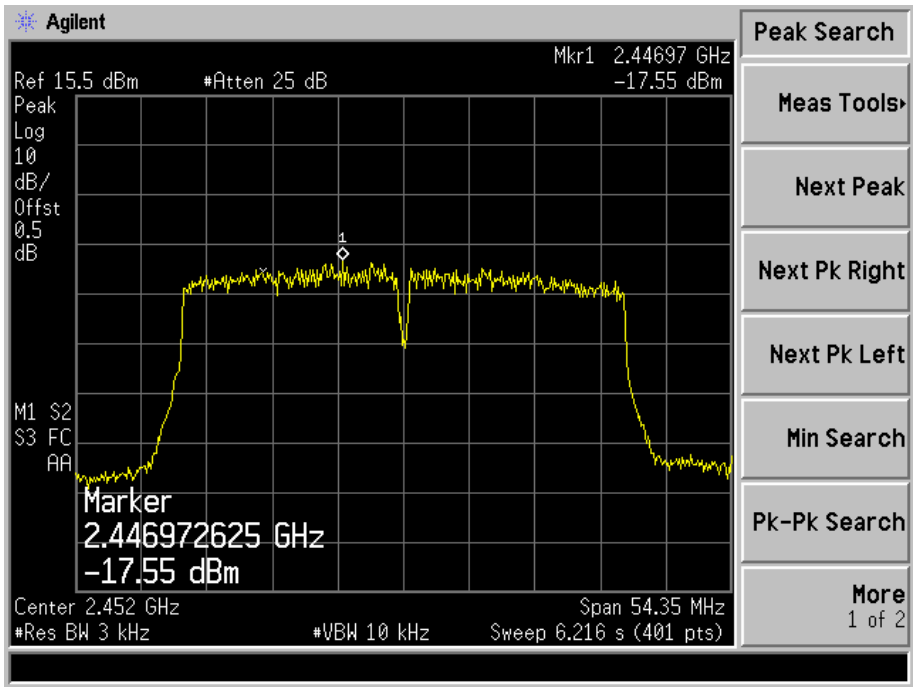
802.11n-HT40-Low Channel



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 Procedure

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3 Environmental Conditions

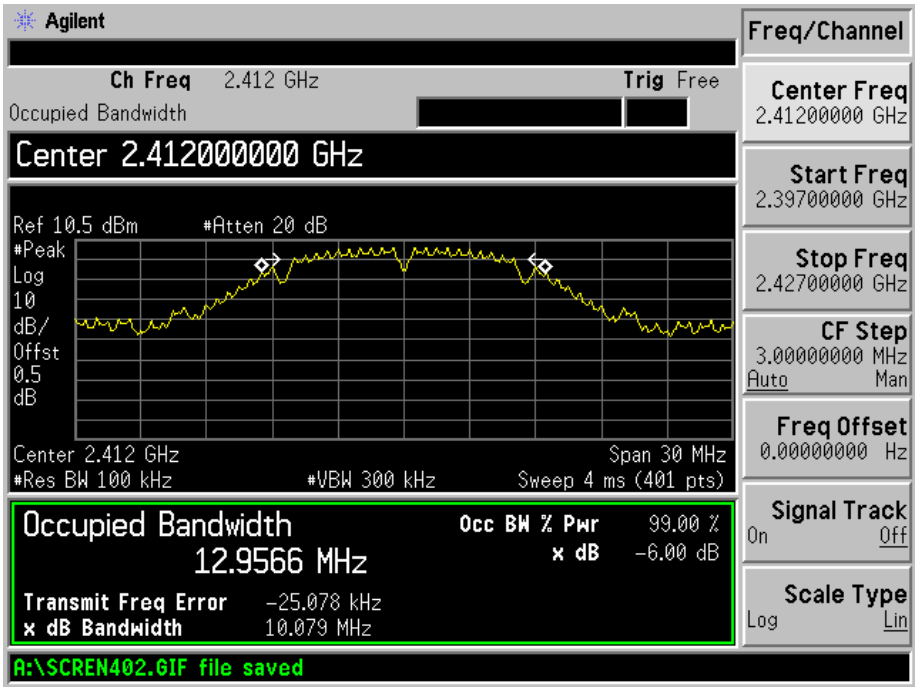
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.4 Summary of Test Results/Plots

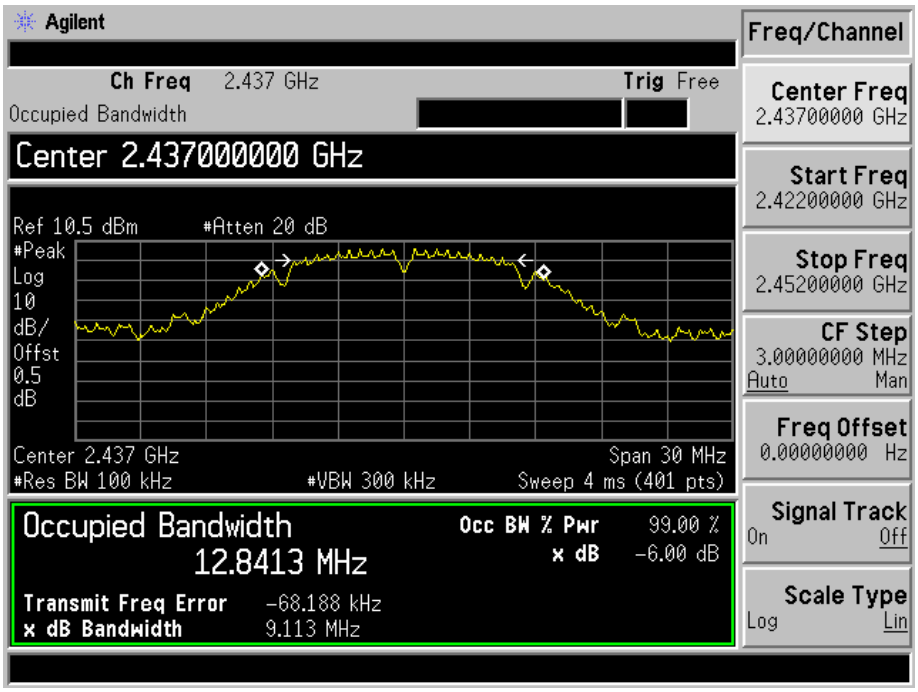
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit kHz
802.11b	2412	10.079	12.9566	≥500
	2437	9.113	12.8413	≥500
	2462	9.650	12.7652	≥500
802.11g	2412	16.365	16.3751	≥500
	2437	15.034	16.3940	≥500
	2462	16.320	16.3721	≥500
802.11n-HT20	2412	17.328	17.5139	≥500
	2437	16.732	17.5345	≥500
	2462	17.072	17.5308	≥500
802.11n-HT40	2422	35.553	36.0933	≥500
	2437	36.235	36.4046	≥500
	2452	36.030	36.2212	≥500

Please refer to the following test plots:

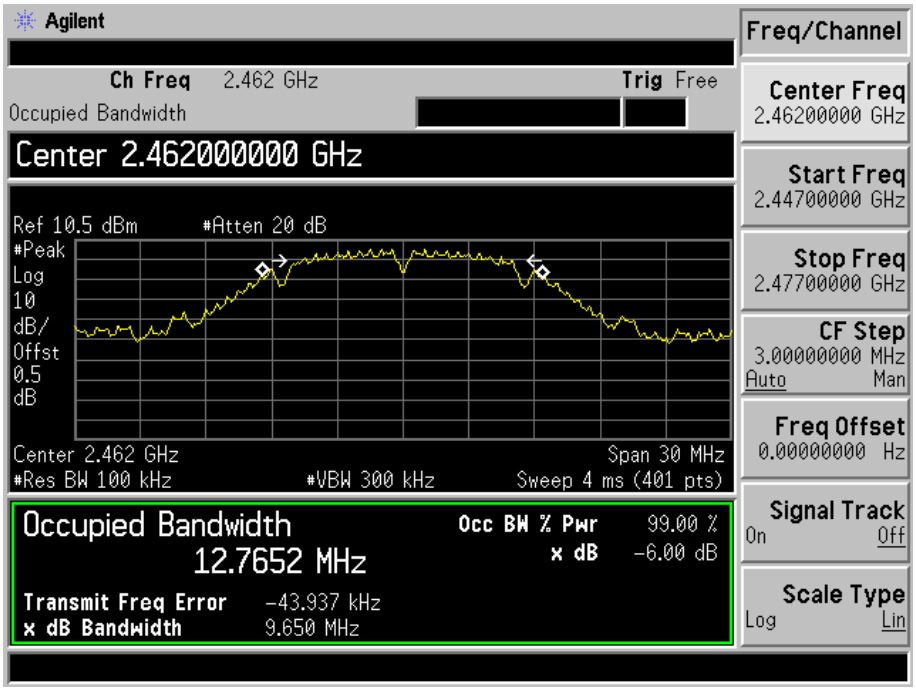
802.11b-Low Channel



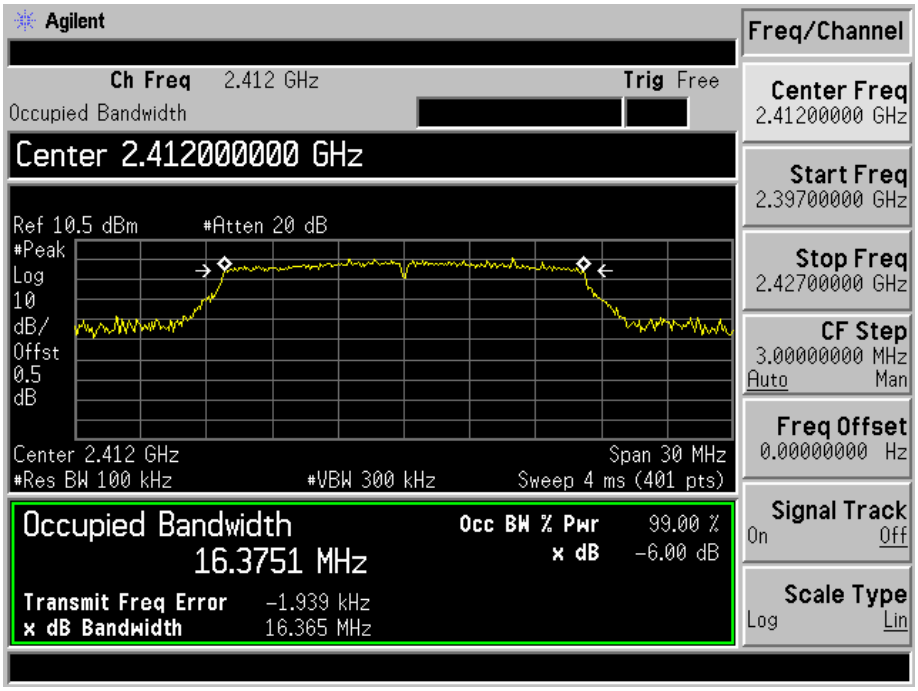
802.11b-Middle Channel



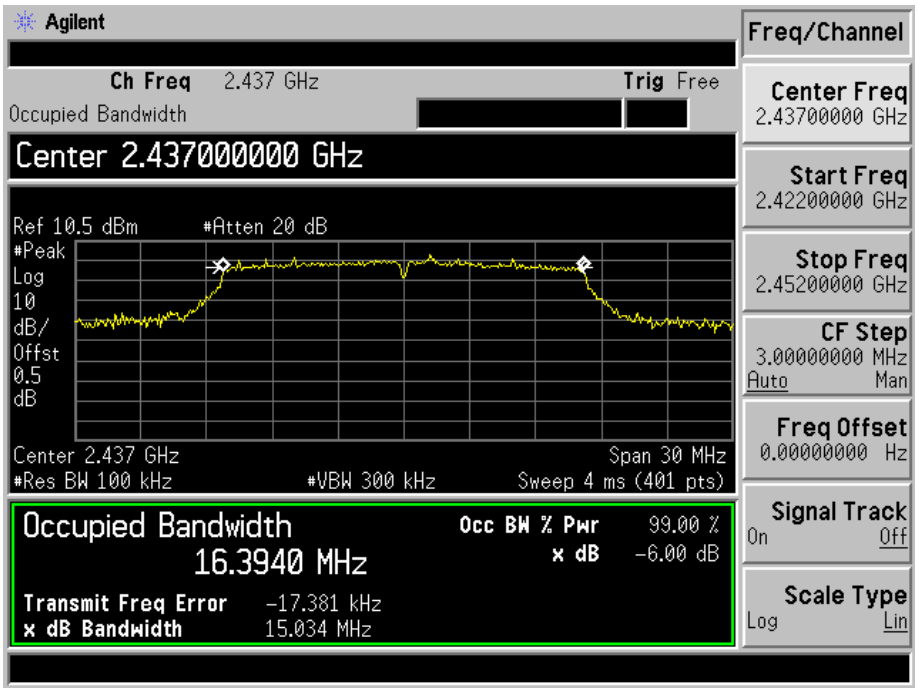
802.11b-High Channel



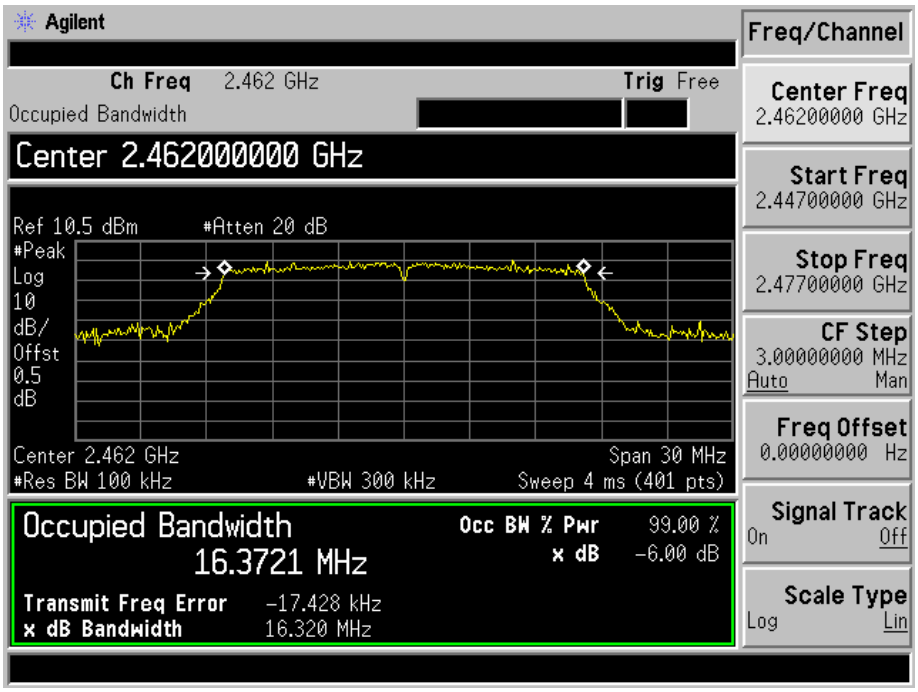
802.11g-Low Channel



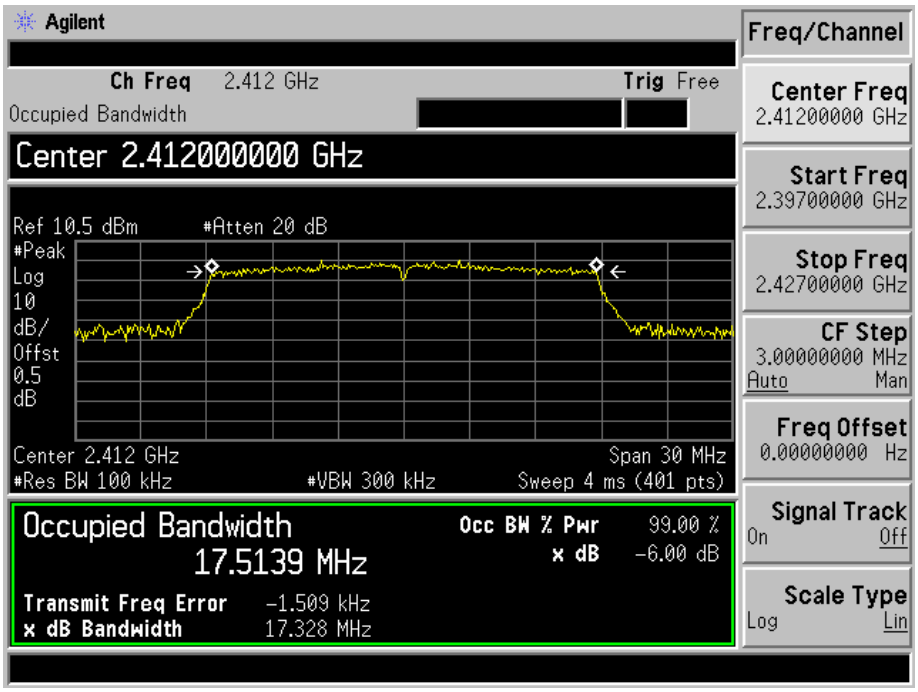
802.11g-Middle Channel



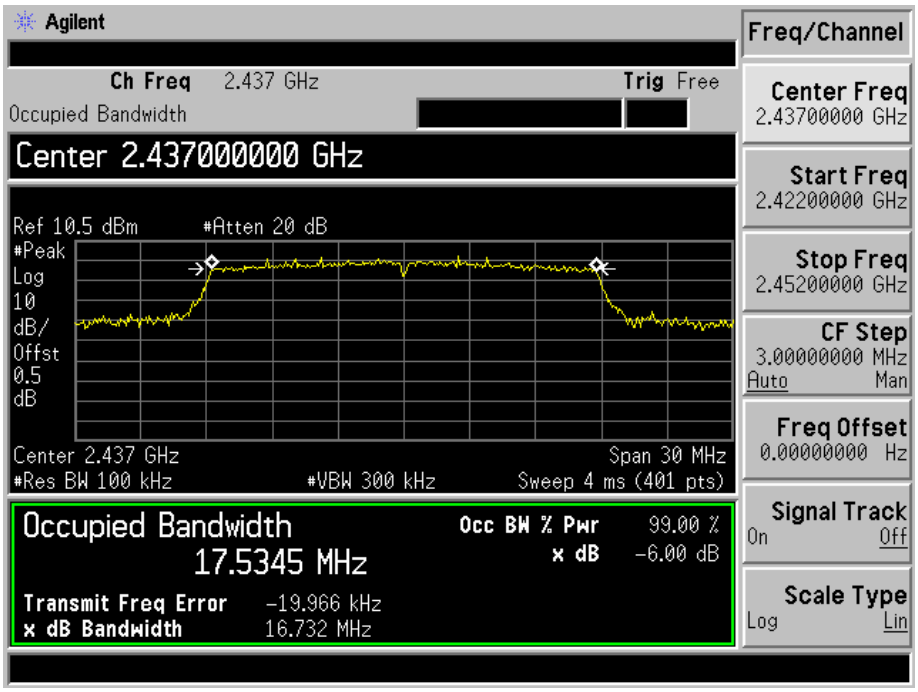
802.11g-High Channel



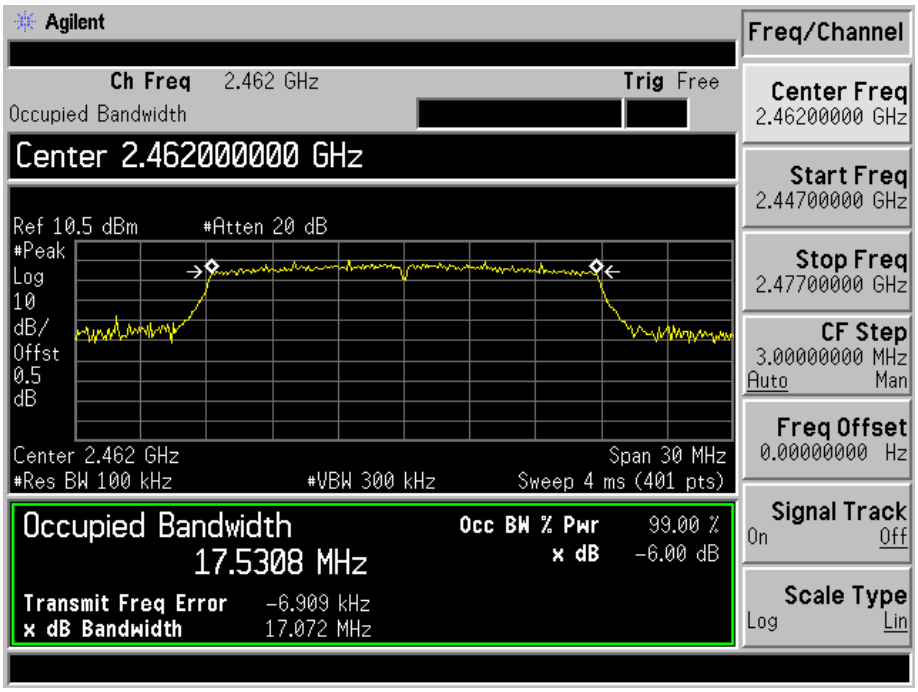
802.11n-HT20-Low Channel



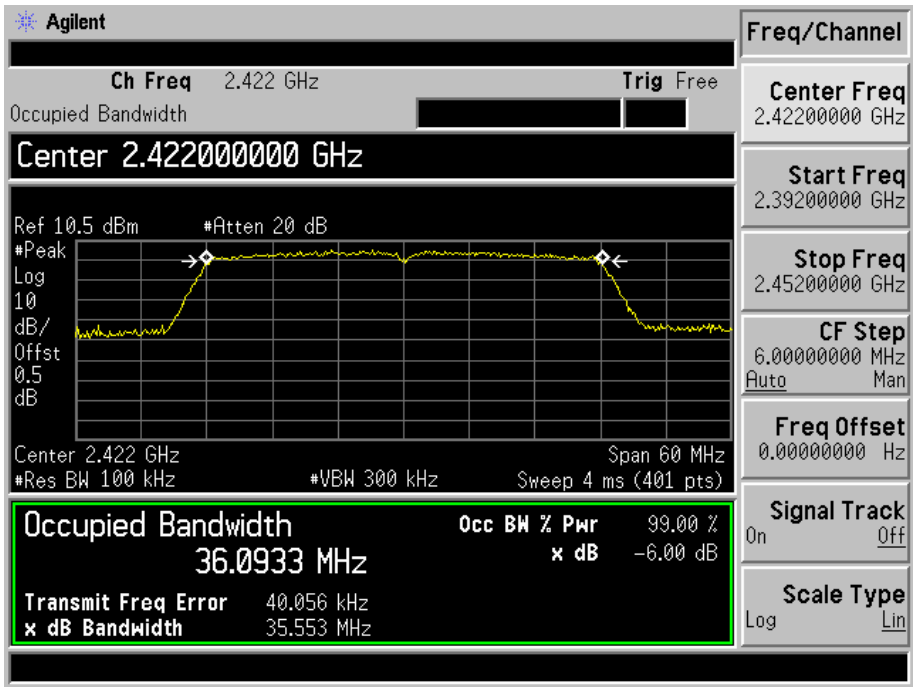
802.11n-HT20-Middle Channel



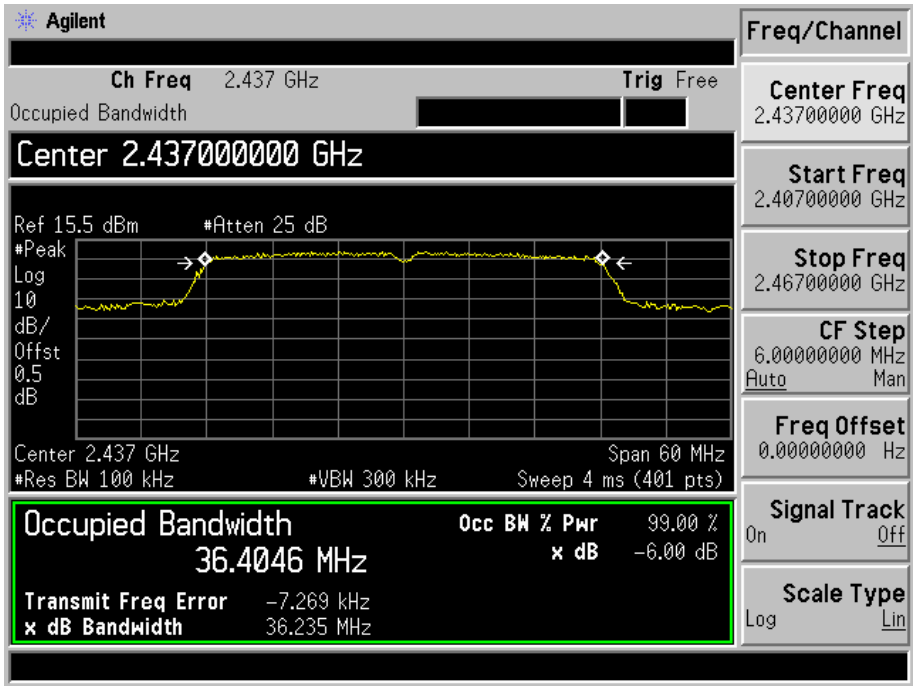
802.11n-HT20-High Channel



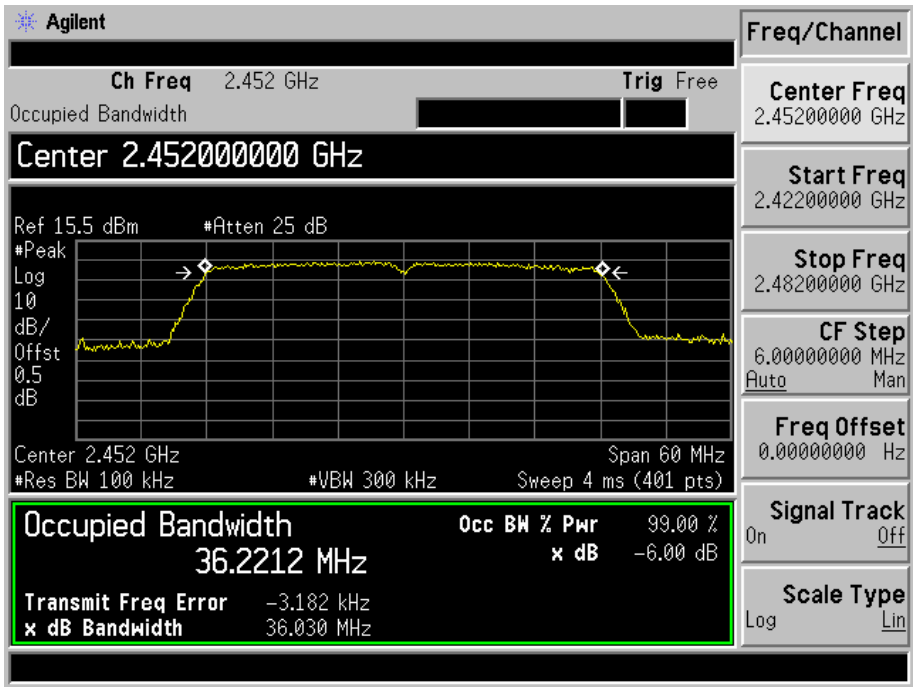
802.11n-HT40-Low Channel



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 Procedure

According to the KDB-558074 D01 v04, 9.2.2.2, when this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth

a) Set span to at least 1.5 times the OBW.
b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
c) Set VBW ≥ 3 x RBW.
d) Number of points in sweep ≥ 2 × span / RBW. (This gives bin-to-bin spacing ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
g) If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
i) 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.

7.3 Environmental Conditions

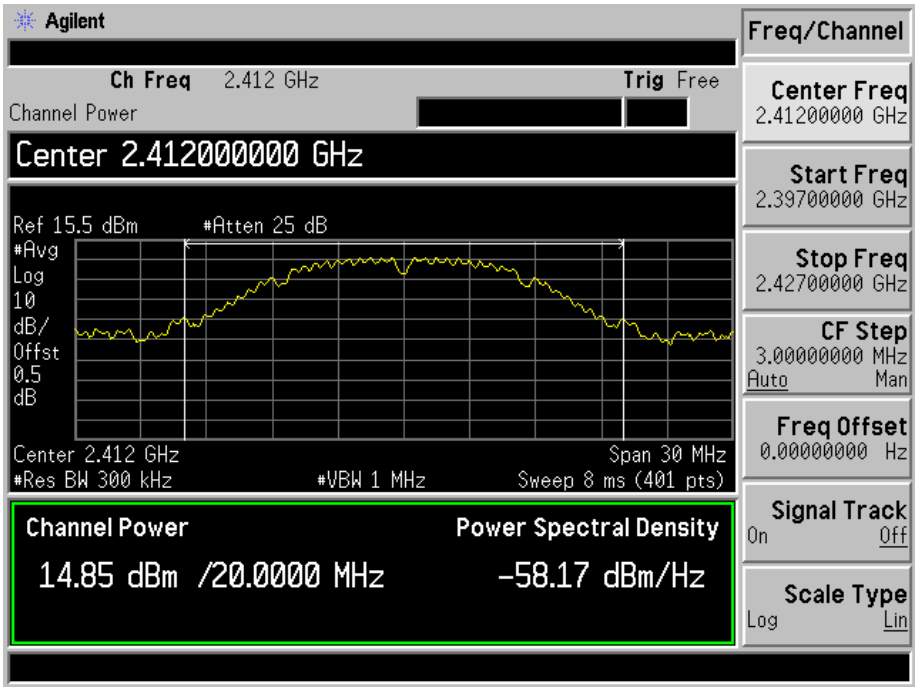
Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.4 Summary of Test Results/Plots

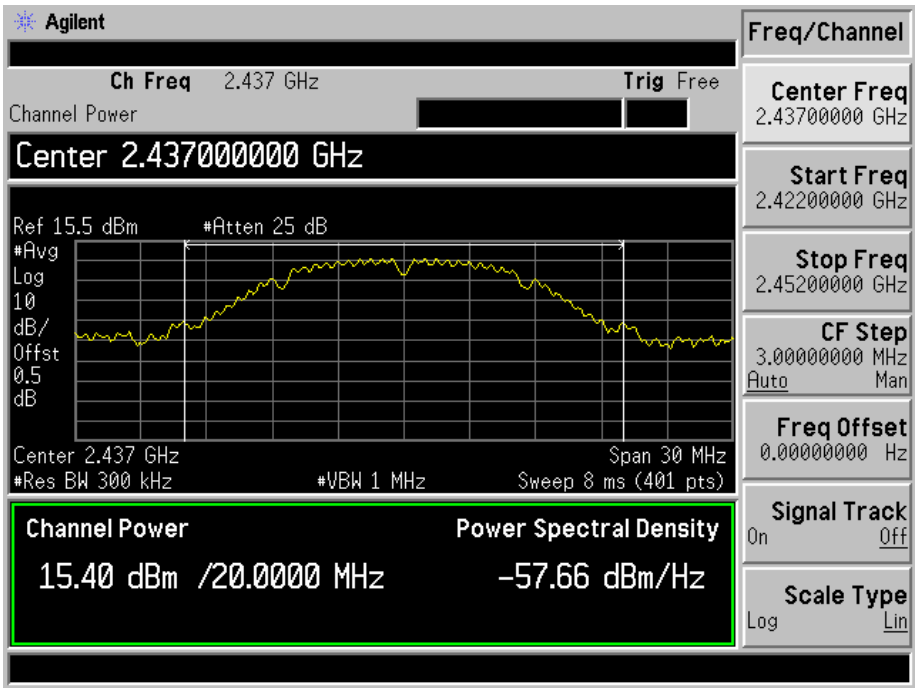
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b _ 11Mbps	2412	14.85	30.55	1000
	2437	15.40	34.67	1000
	2462	14.76	29.92	1000
802.11g_54Mbps	2412	11.86	15.35	1000
	2437	13.34	21.58	1000
	2462	11.66	14.66	1000
802.11n HT20_MCS7	2412	12.13	16.33	1000
	2437	13.32	21.48	1000
	2462	11.58	14.39	1000
802.11n HT40_MCS7	2422	9.05	8.04	1000
	2437	13.07	20.28	1000
	2452	8.73	7.46	1000

Please refer to the following test plots:

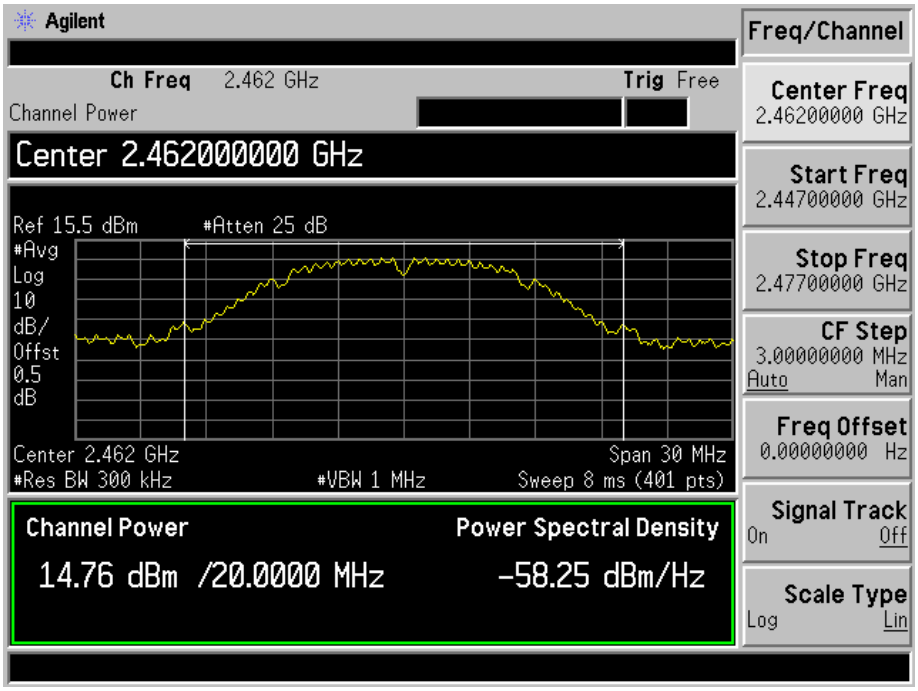
802.11b-11Mbps-Low Channel



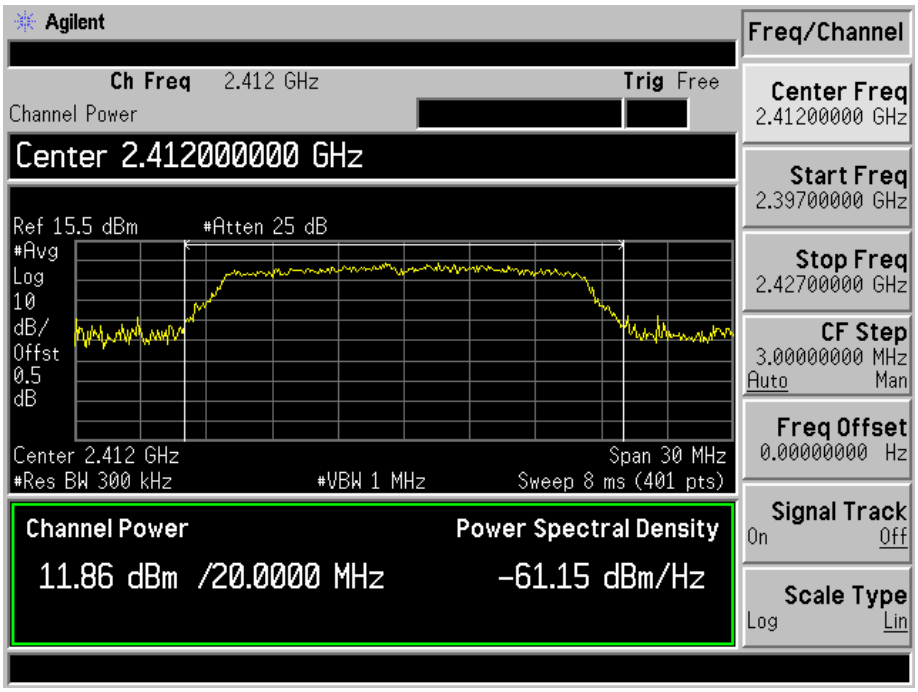
802.11b -11Mbps-Middle Channel



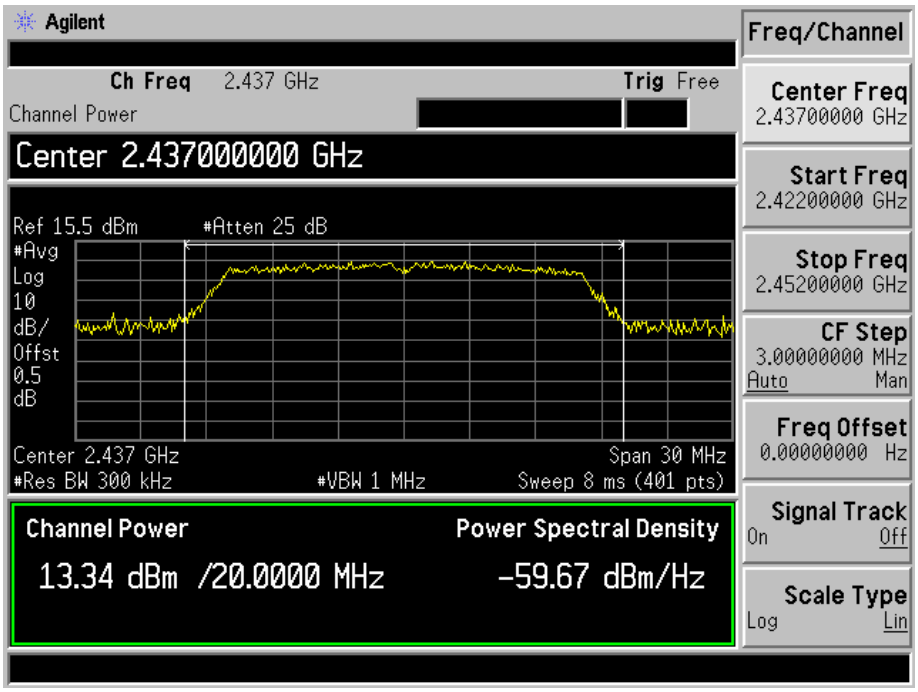
802.11b -11Mpbs-High Channel



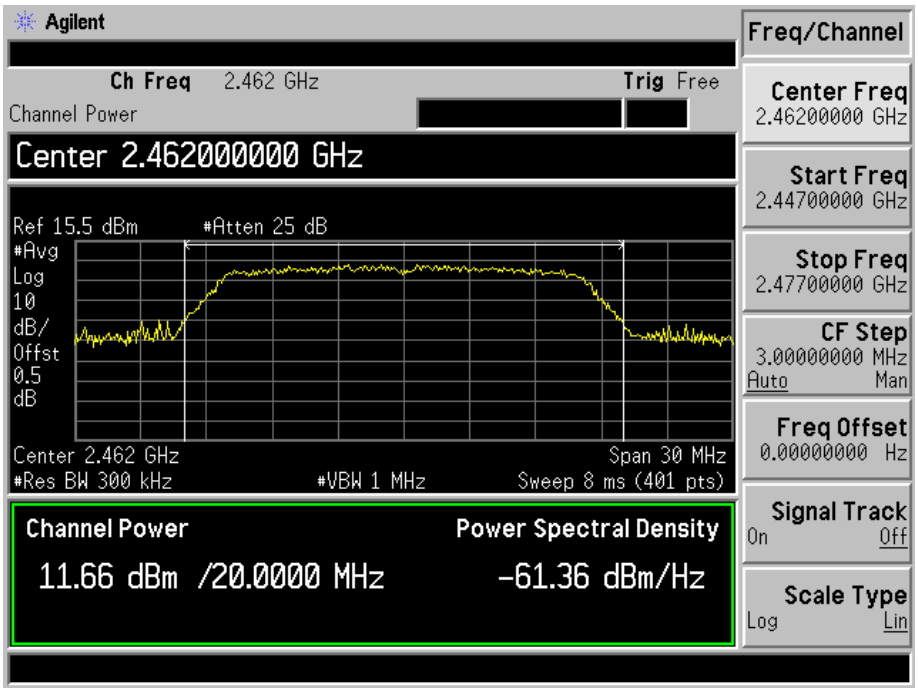
802.11g-54Mbps-Low Channel



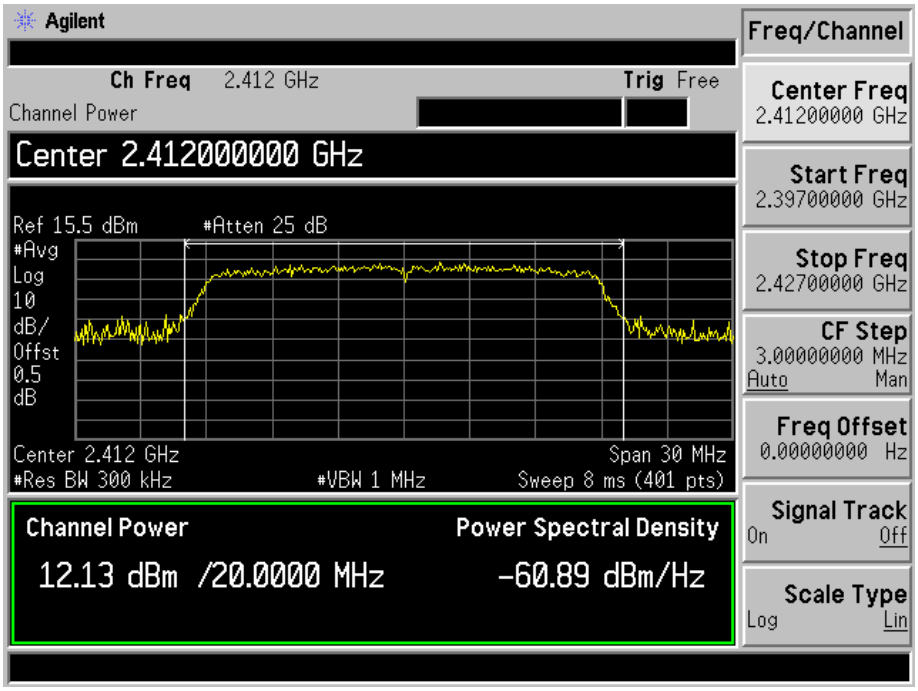
802.11g-54Mbps-Middle Channel



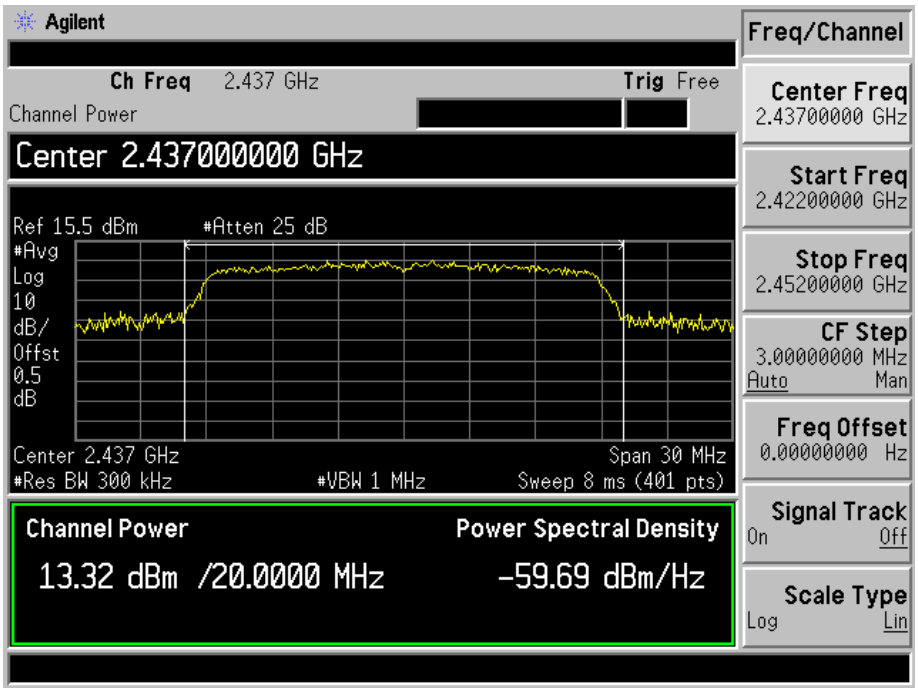
802.11g-54Mpbs-High Channel



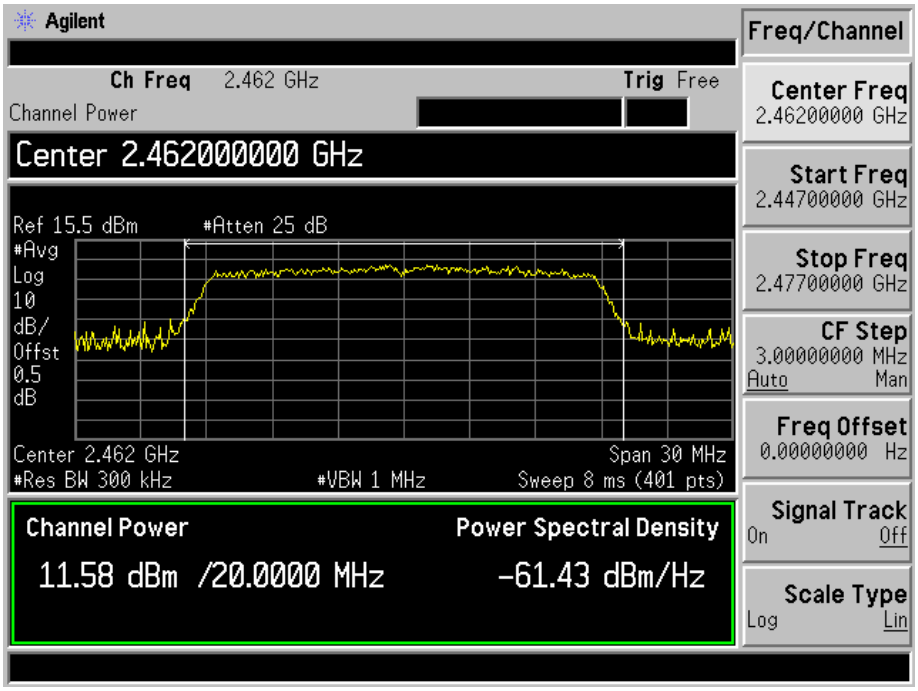
802.11n-HT20-MCS7-Low Channel



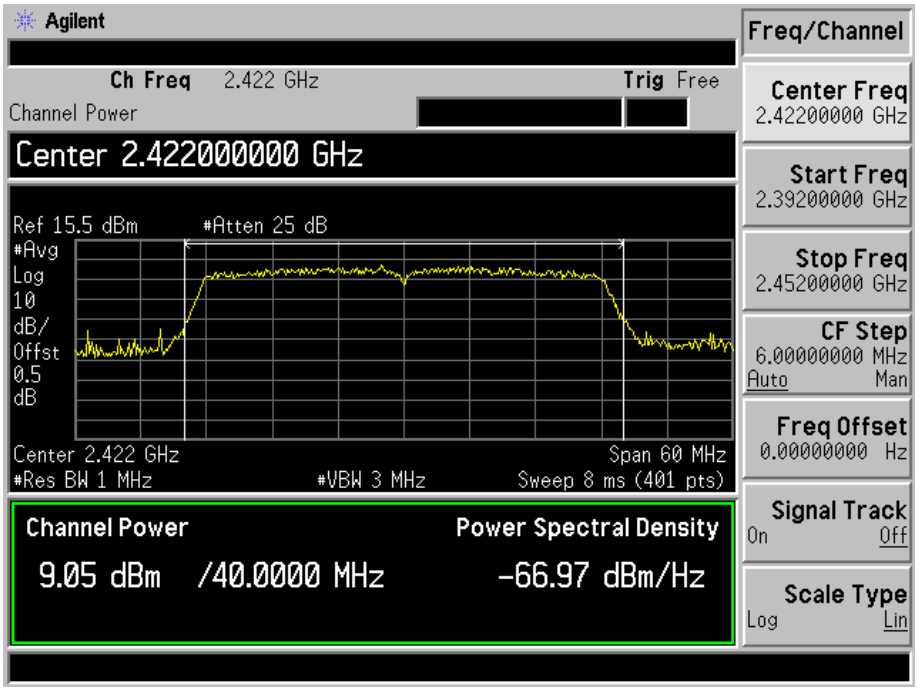
802.11n-HT20-MCS7-Middle Channel



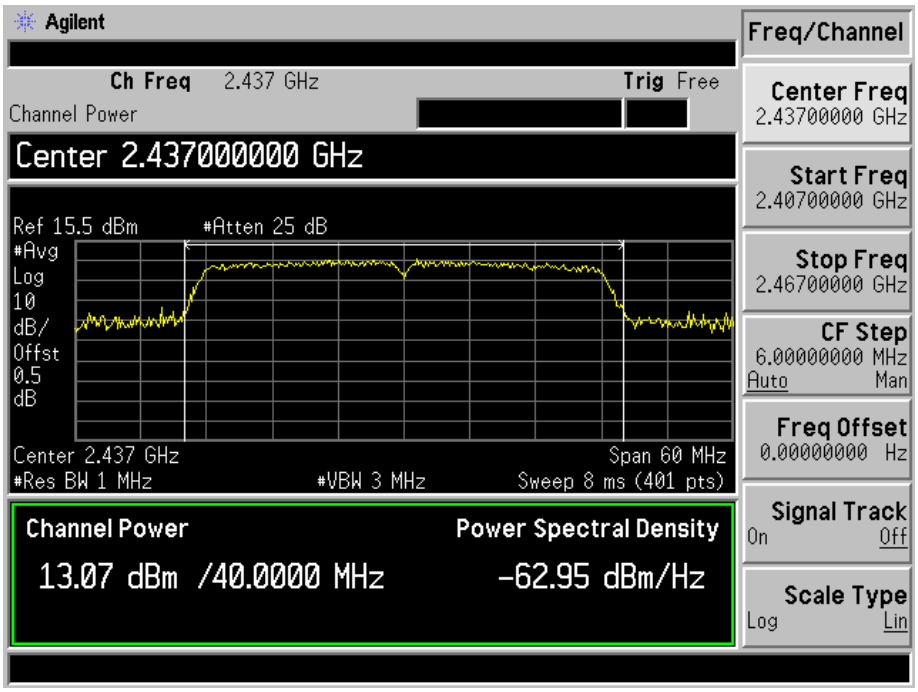
802.11n-HT20-MCS7-High Channel



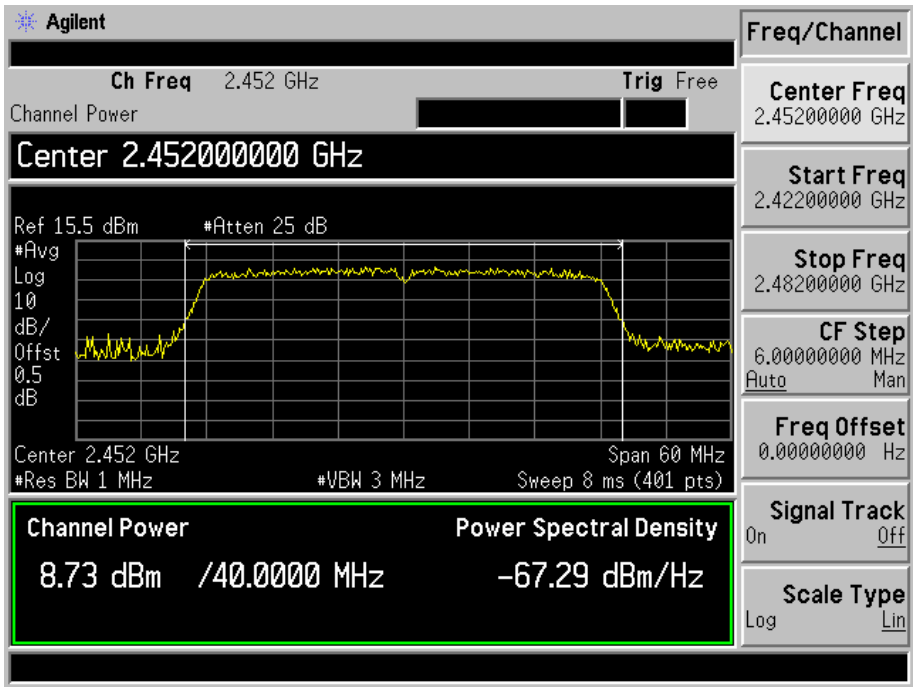
802.11n-HT40-MCS7-Low Channel



802.11n-HT40-MCS7-Middle Channel



802.11n-HT40-MCS7-High Channel



8. Field Strength of Spurious Emissions

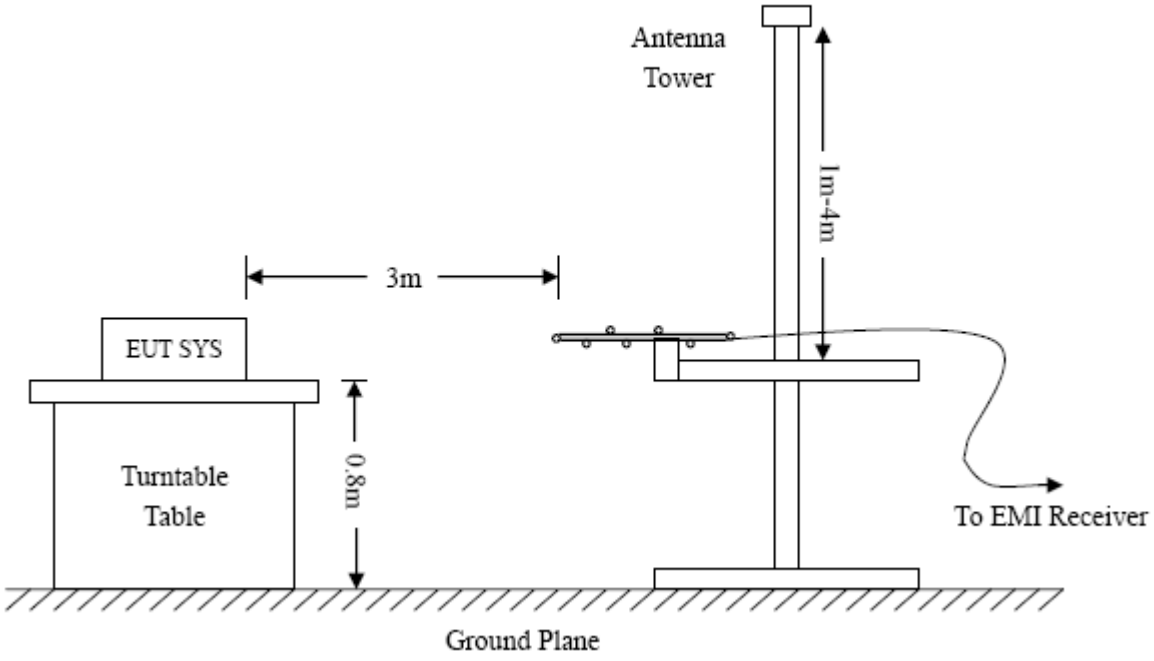
8.1 Standard Applicable

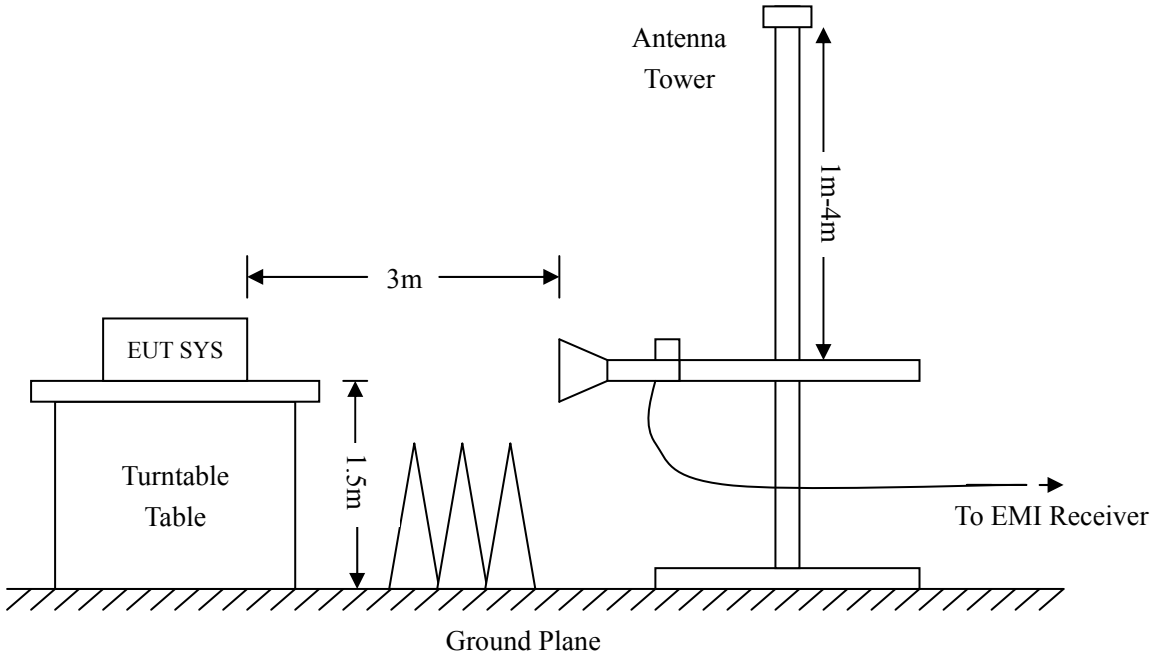
According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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).

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.

8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 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	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

8.3 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:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – 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. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15 Limit

8.4 Environmental Conditions

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

8.5 Summary of Test Results/Plots

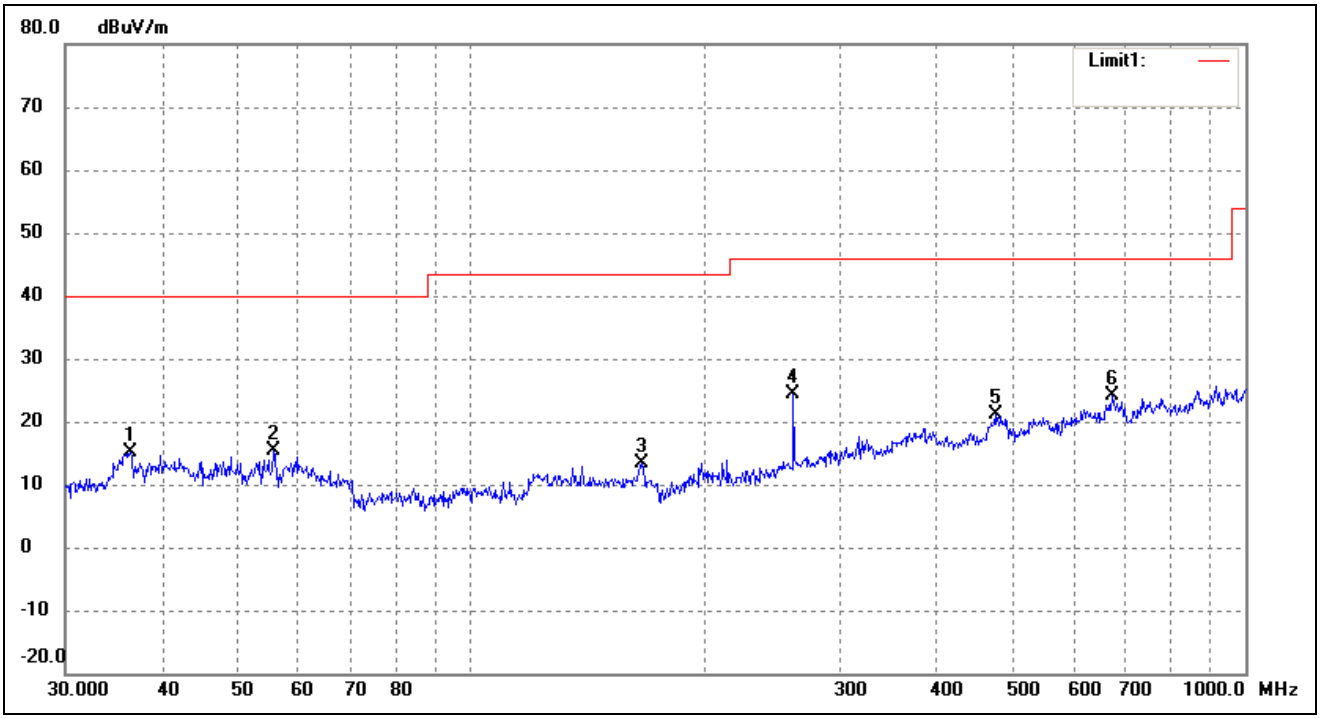
According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

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)

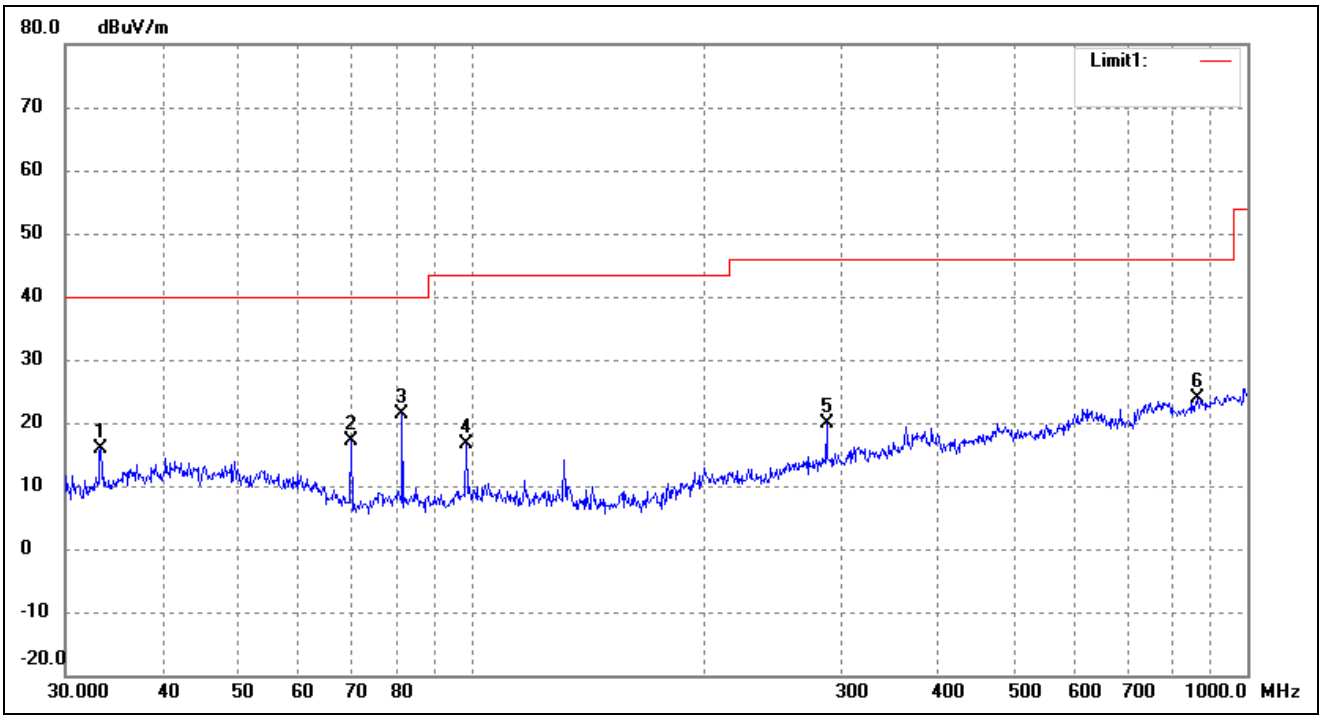
EUT: *3G camera*
Tested Model: *JH09*
Operating Condition: *802.11b Transmitting Low Channel-2412MHz (worse case)*
Comment: *DC 3.7V*

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	36.3814	23.83	-8.66	15.17	40.00	-24.83	62	100	peak
2	55.8047	24.47	-9.05	15.42	40.00	-24.58	145	100	peak
3	166.0680	25.41	-12.00	13.41	43.50	-30.09	90	100	peak
4	261.0583	31.38	-6.91	24.47	46.00	-21.53	232	100	peak
5	475.4991	22.47	-1.42	21.05	46.00	-24.95	84	100	peak
6	672.8445	23.93	0.18	24.11	46.00	-21.89	159	100	peak

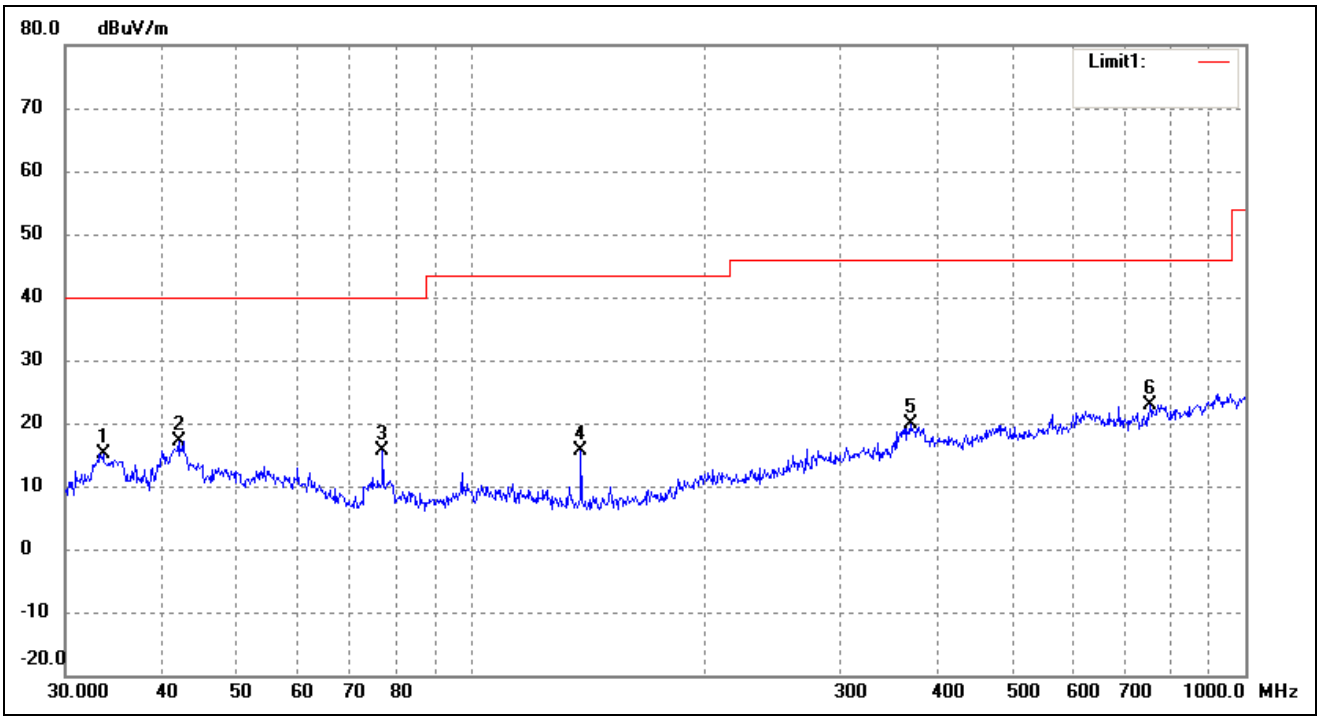
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	33.3279	25.22	-9.46	15.76	40.00	-24.24	173	100	peak
2	70.0903	29.85	-12.82	17.03	40.00	-22.97	331	100	peak
3	81.4970	33.58	-12.13	21.45	40.00	-18.55	78	100	peak
4	98.4866	27.83	-11.21	16.62	43.50	-26.88	235	100	peak
5	286.9823	25.80	-5.94	19.86	46.00	-26.14	78	100	peak
6	863.0562	20.96	2.97	23.93	46.00	-22.07	248	100	peak

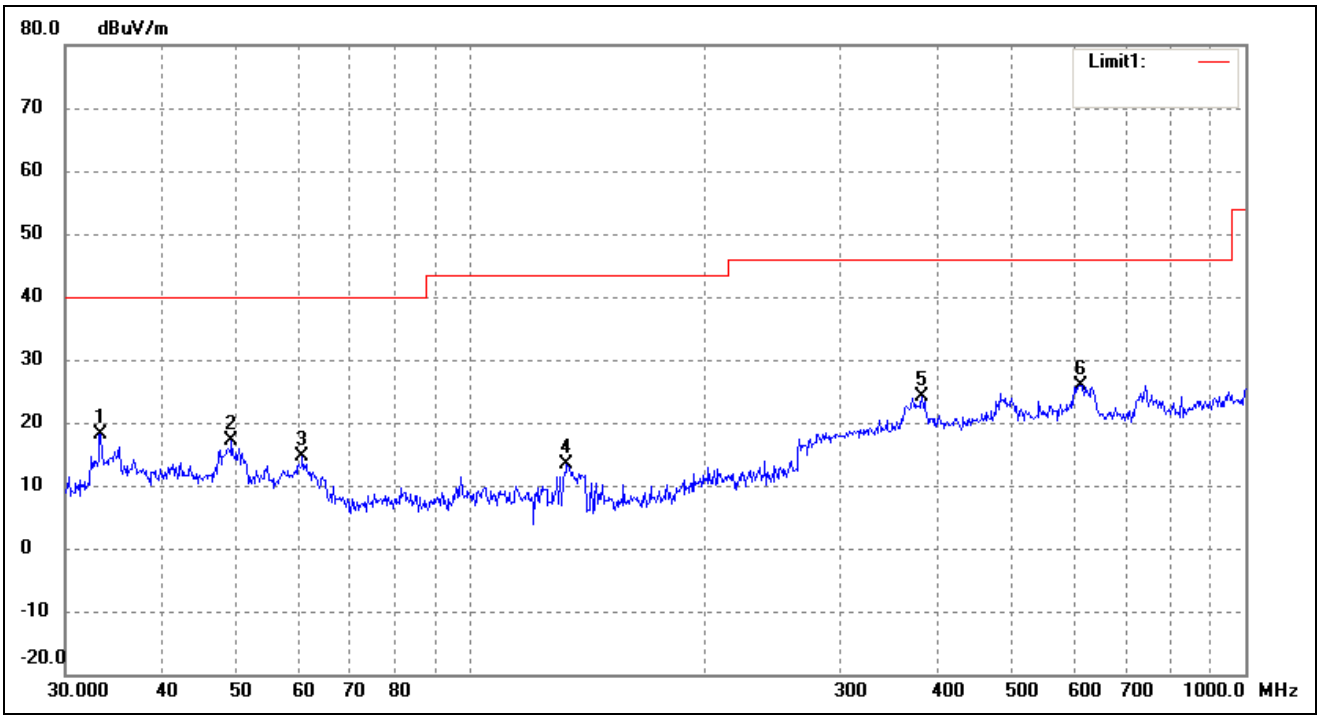
Operating Condition: *802.11b Transmitting Middle Channel-2437MHz (worse case)*
Comment: *DC 3.7V*

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	33.5624	24.47	-9.40	15.07	40.00	-24.93	149	100	peak
2	42.0066	24.92	-7.80	17.12	40.00	-22.88	139	100	peak
3	77.0505	27.86	-12.24	15.62	40.00	-24.38	100	100	peak
4	138.8735	28.13	-12.49	15.64	43.50	-27.86	147	100	peak
5	369.4047	22.69	-2.71	19.98	46.00	-26.02	145	100	peak
6	752.7432	20.86	1.92	22.78	46.00	-23.22	233	100	peak

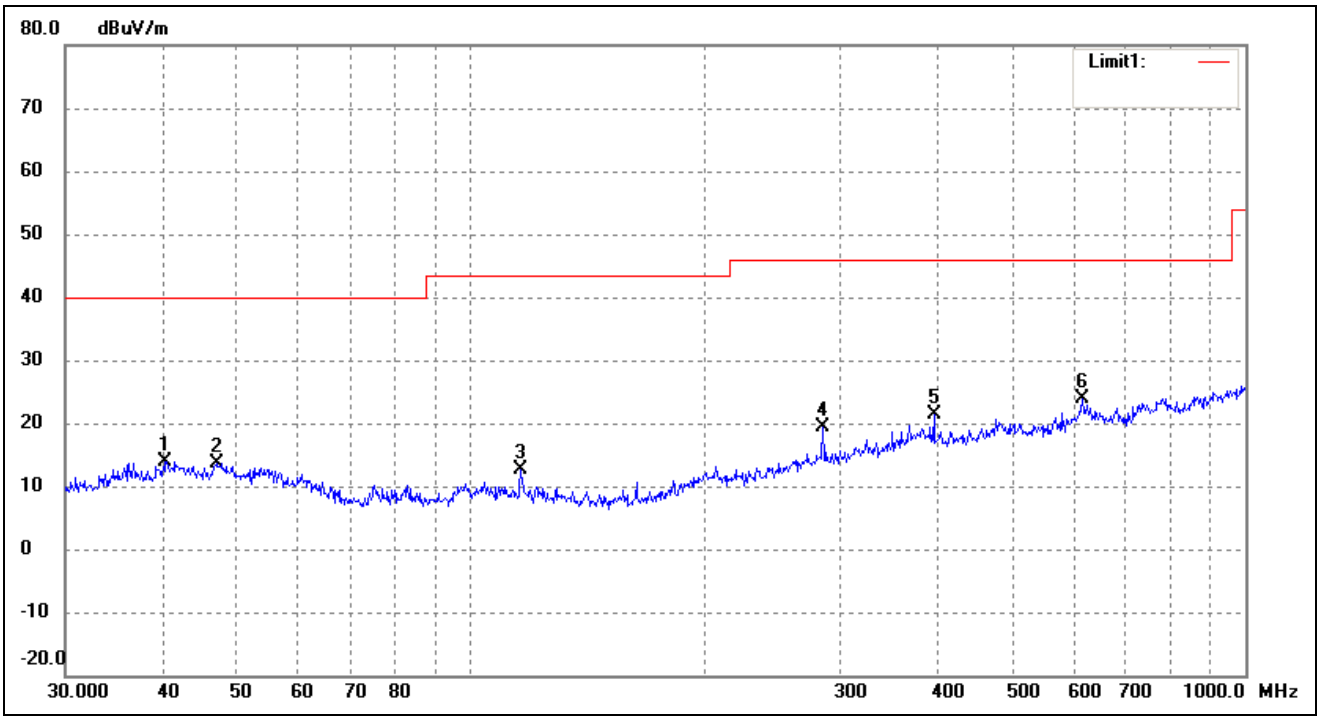
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	33.3279	27.64	-9.46	18.18	40.00	-21.82	69	100	peak
2	49.1866	25.33	-8.27	17.06	40.00	-22.94	174	100	peak
3	60.7044	24.49	-9.81	14.68	40.00	-25.32	65	100	peak
4	133.1511	25.43	-12.17	13.26	43.50	-30.24	115	100	peak
5	382.5879	26.32	-2.23	24.09	46.00	-21.91	356	100	peak
6	614.2142	25.00	0.83	25.83	46.00	-20.17	121	100	peak

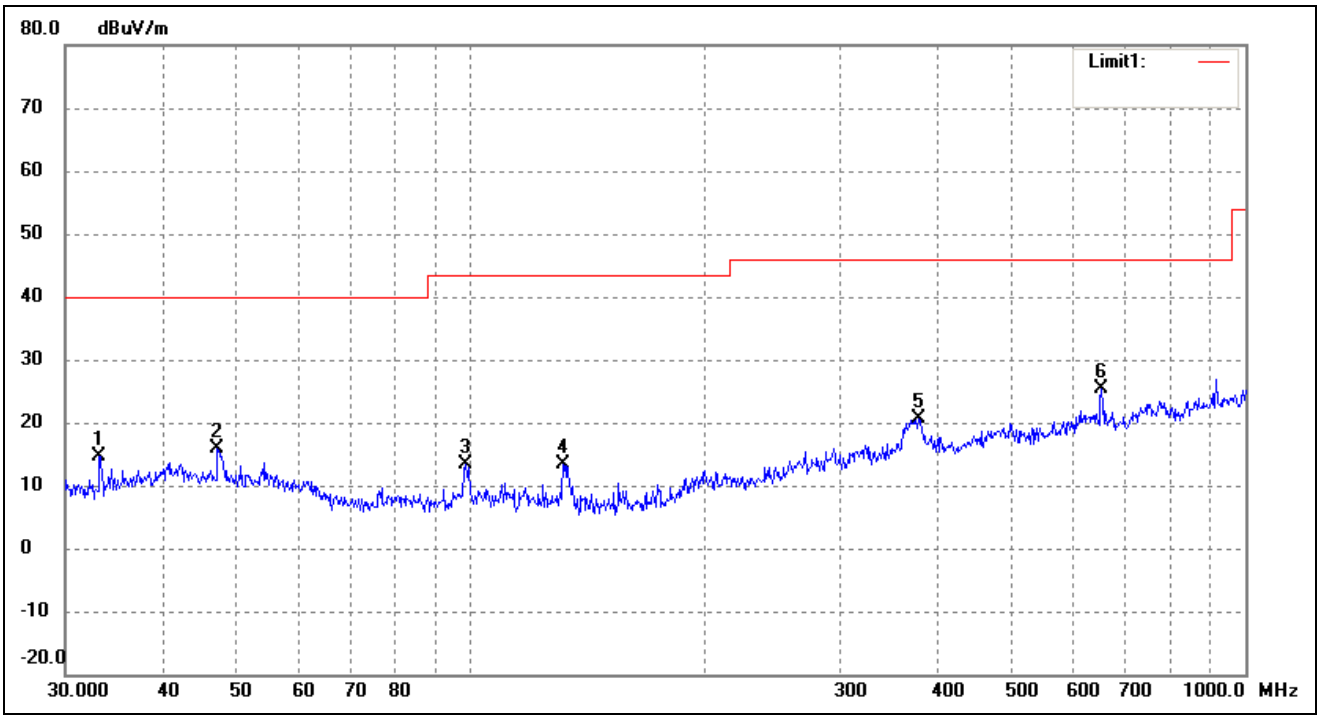
Operating Condition: *802.11b Transmitting High Channel-2462MHz (worse case)*
Comment: *DC 3.7V*

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	40.4172	21.59	-7.70	13.89	40.00	-26.11	141	100	peak
2	46.9948	21.85	-8.13	13.72	40.00	-26.28	133	100	peak
3	116.1321	24.05	-11.33	12.72	43.50	-30.78	60	100	peak
4	284.9767	25.49	-5.99	19.50	46.00	-26.50	330	100	peak
5	396.2415	24.30	-2.95	21.35	46.00	-24.65	139	100	peak
6	616.3718	22.92	0.99	23.91	46.00	-22.09	273	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	33.2112	24.18	-9.50	14.68	40.00	-25.32	20	100	peak
2	47.1599	24.04	-8.14	15.90	40.00	-24.10	113	100	peak
3	98.4866	24.61	-11.21	13.40	43.50	-30.10	100	100	peak
4	131.7577	25.51	-12.10	13.41	43.50	-30.09	266	100	peak
5	378.5843	22.92	-2.17	20.75	46.00	-25.25	217	100	peak
6	651.9417	24.82	0.46	25.28	46.00	-20.72	177	100	peak

Spurious Emissions Above 1GHz

Test Mode: 802.11b (worse case)

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824.000	68.82	-3.87	64.95	74	-9.05	H	PK
4824.000	50.95	-3.87	47.08	54	-6.92	H	AV
7236.000	55.36	1.14	56.5	74	-17.5	H	PK
7236.000	40.86	1.19	42.05	54	-11.95	H	AV
4824.000	67.08	-3.86	63.22	74	-10.78	V	PK
4824.000	52.14	-3.86	48.28	54	-5.72	V	AV
7236.000	58.29	1.1	59.39	74	-14.61	V	PK
7236.000	41.8	1.1	42.9	54	-11.1	V	AV
Middle Channel-2437MHz							
4874.000	67.31	-3.74	63.57	74	-10.43	H	PK
4874.000	52.1	-3.74	48.36	54	-5.64	H	AV
7311.000	57.02	1.47	58.49	74	-15.51	H	PK
7311.000	41.46	1.47	42.93	54	-11.07	H	AV
4874.000	65.4	-3.74	61.66	74	-12.34	V	PK
4874.000	51	-3.74	47.26	54	-6.74	V	AV
7311.000	58.34	1.47	59.81	74	-14.19	V	PK
7311.000	41.68	1.47	43.15	54	-10.85	V	AV
High Channel-2462MHz							
4924.000	67.98	-3.59	64.39	74	-9.61	H	PK
4924.000	50.13	-3.59	46.54	54	-7.46	H	AV
7386.000	57.47	1.79	59.26	74	-14.74	H	PK
7386.000	40.86	1.79	42.65	54	-11.35	H	AV
4924.000	68.9	-3.59	65.31	74	-8.69	V	PK
4924.000	51.93	-3.59	48.34	54	-5.66	V	AV
7386.000	55.54	1.79	57.33	74	-16.67	V	PK
7386.000	40.73	1.79	42.52	54	-11.48	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

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 Procedure

According to the KDB 558074D01 v04, 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 v04, 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 ≥ 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.

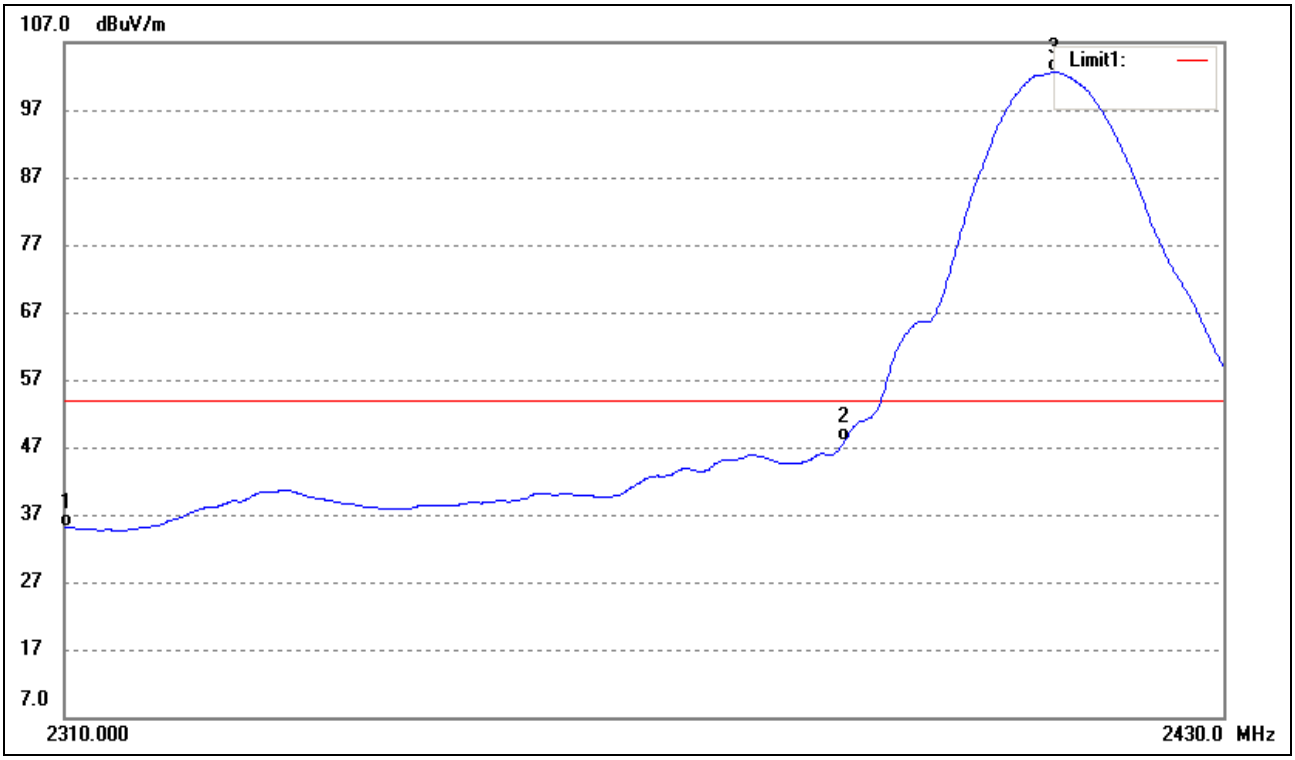
9.3 Environmental Conditions

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

9.4 Summary of Test Results/Plots

802.11b-Lowest Bandedge

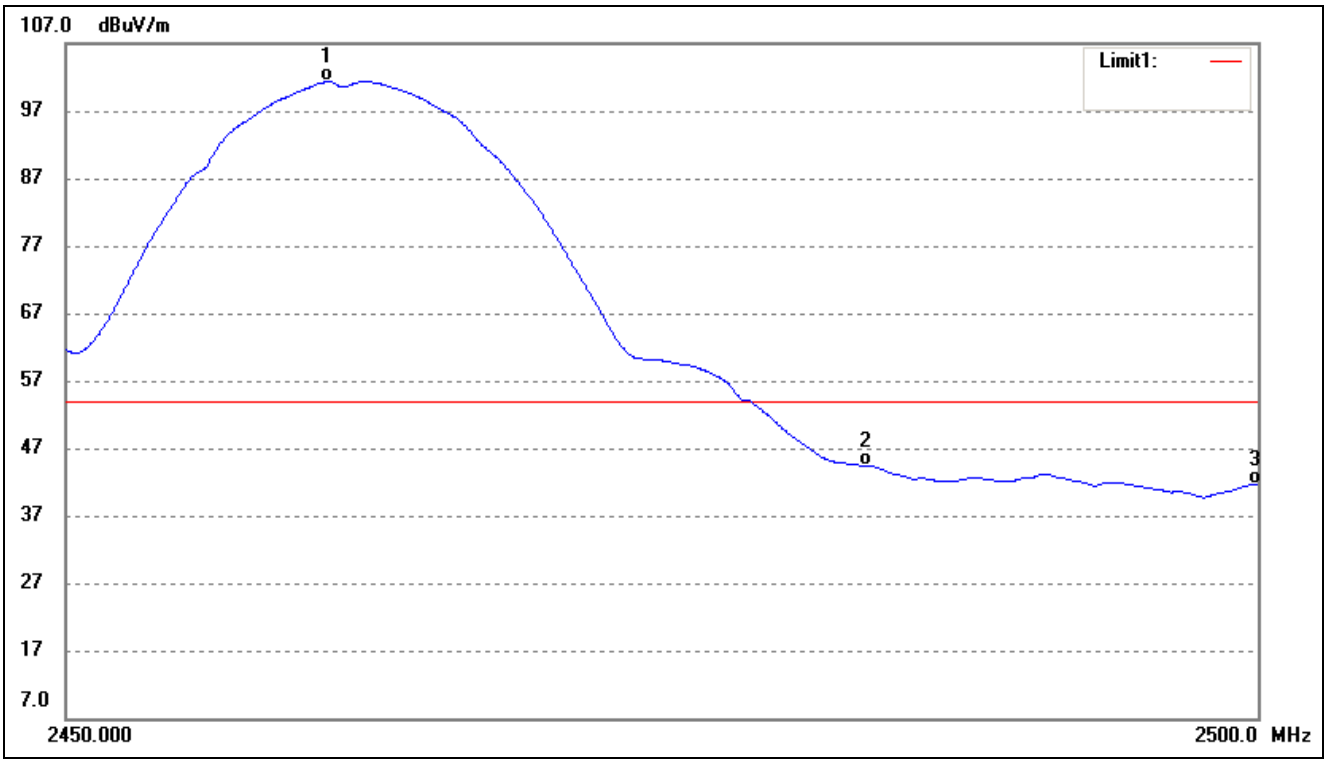
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	38.36	-3.35	35.01	54.00	-18.99	Average Detector
	2310.000	40.83	-3.35	37.48	74.00	-36.52	Peak Detector
2	2390.000	52.09	-4.29	47.80	54.00	-6.20	Average Detector
	2390.000	55.26	-4.29	50.97	74.00	-23.03	Peak Detector
3	2412.099	107.05	-4.44	102.61	/	/	Average Detector
	2412.099	109.95	-4.44	105.51	/	/	Peak Detector

802.11b-Highest Bandedge

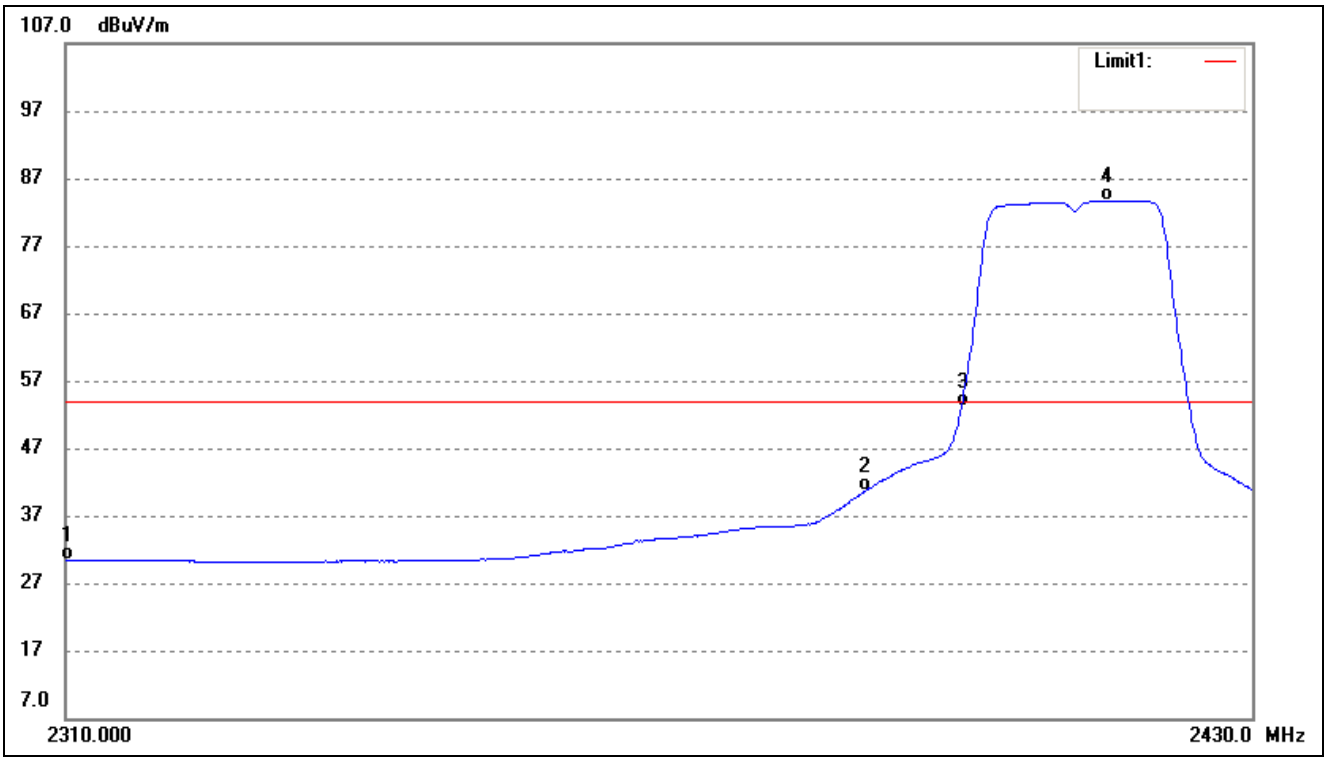
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2460.864	105.74	-4.38	101.36	/	/	Average Detector
	2460.864	109.85	-4.38	105.47	/	/	Peak Detector
2	2483.500	48.76	-4.36	44.40	54.00	-9.60	Average Detector
	2483.500	52.09	-4.36	47.73	74.00	-26.27	Peak Detector
3	2500.000	45.98	-4.34	41.64	54.00	-12.36	Average Detector
	2500.000	50.05	-4.34	45.71	74.00	-28.29	Peak Detector

802.11g-Lowest Bandedge

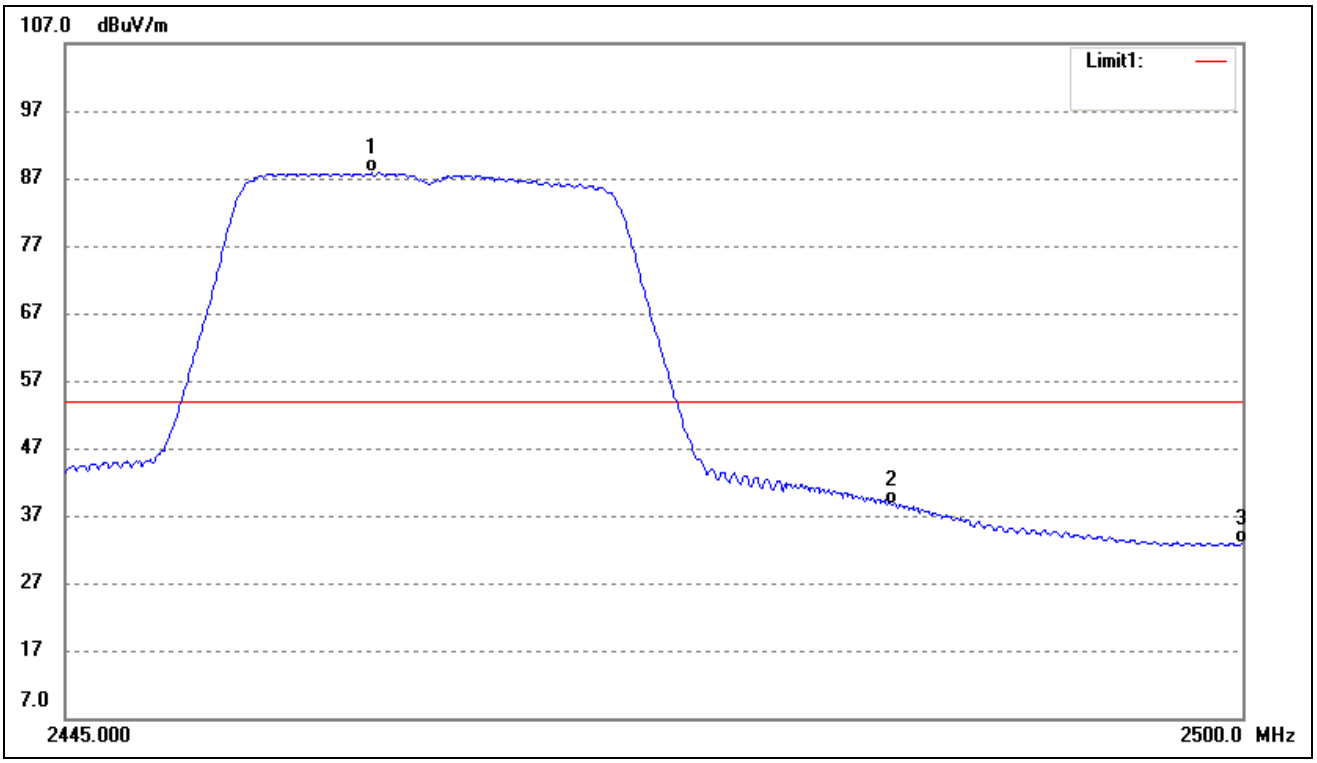
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	33.83	-3.35	30.48	54.00	-23.52	Average Detector
	2310.000	44.22	-3.35	40.87	74.00	-33.13	Peak Detector
2	2390.000	44.85	-4.29	40.56	54.00	-13.44	Average Detector
	2390.000	57.72	-4.29	53.43	74.00	-20.57	Peak Detector
3	2400.000	57.45	-4.40	53.05	54.00	-0.95	Average Detector
	2400.000	60.53	-4.40	56.13	74.00	-17.87	Peak Detector
4	2415.032	88.12	-4.44	83.68	/	/	Average Detector
	2415.032	92.37	-4.44	87.93	/	/	Peak Detector

802.11g-Highest Bandedge

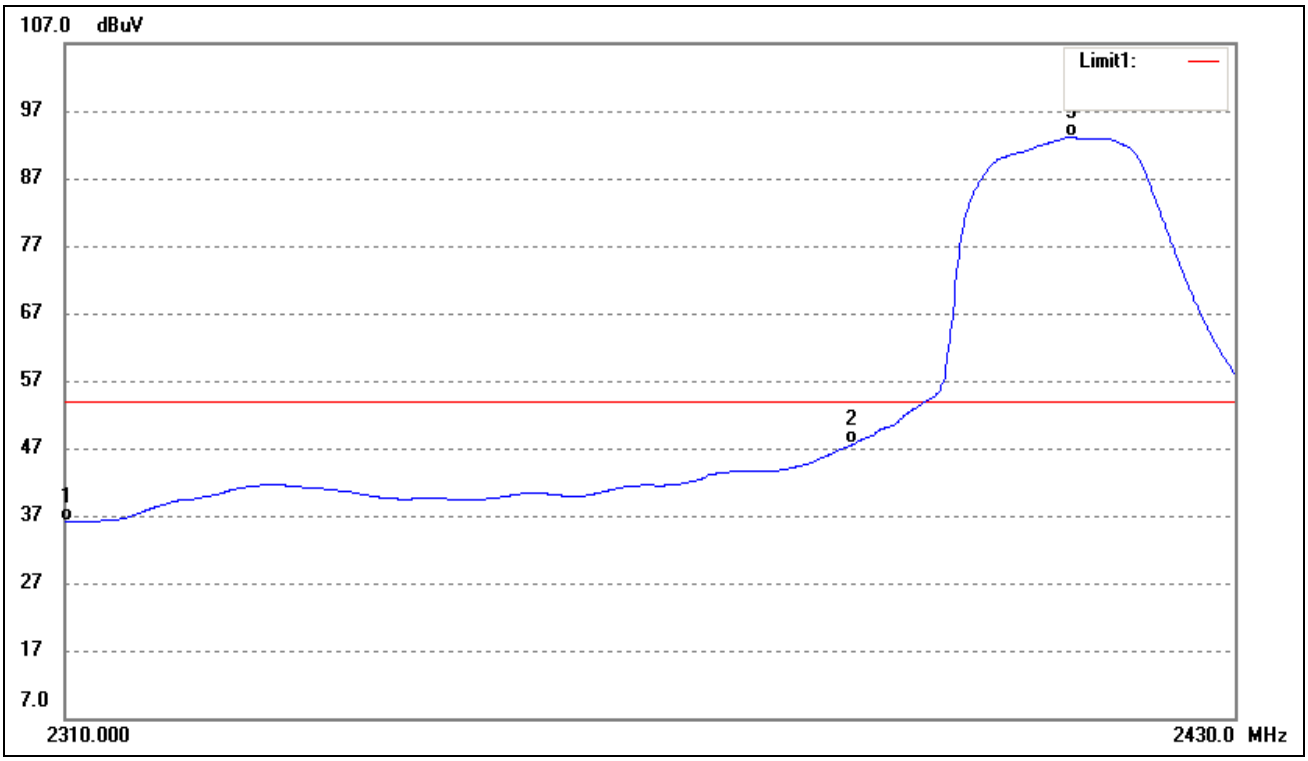
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2459.182	92.17	-4.39	87.78	/	/	Average Detector
	2459.182	108.15	-4.39	103.76	/	/	Peak Detector
2	2483.500	43.06	-4.36	38.70	54.00	-15.30	Average Detector
	2483.500	59.34	-4.36	54.98	74.00	-19.02	Peak Detector
3	2500.000	37.18	-4.34	32.84	54.00	-21.16	Average Detector
	2500.000	44.9	-4.34	40.56	74.00	-33.44	Peak Detector

802.11n-HT20-Lowest Bandedge

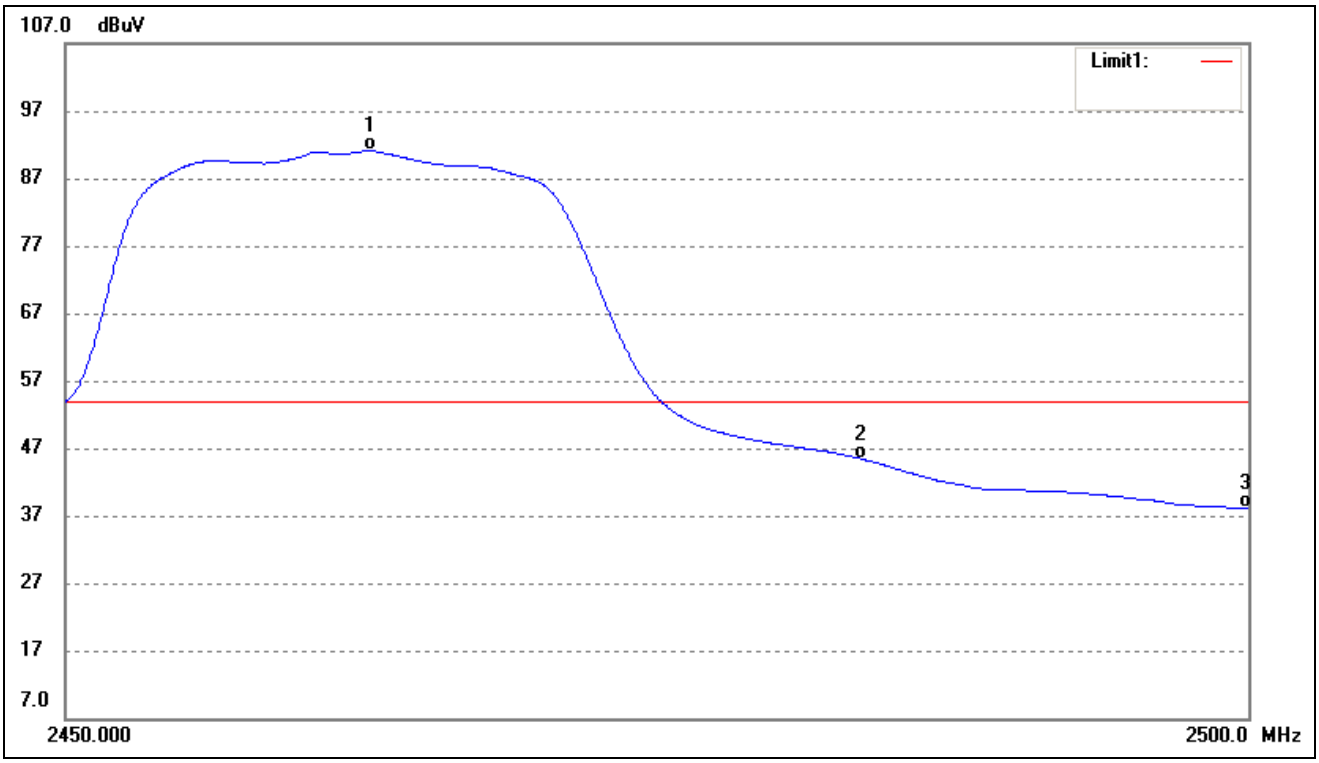
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	39.55	-3.35	36.20	54.00	-17.80	Average Detector
	2310.000	48.06	-3.35	44.71	74.00	-29.29	Peak Detector
2	2390.000	51.82	-4.29	47.53	54.00	-6.47	Average Detector
	2390.000	65.6	-4.29	61.31	74.00	-12.69	Peak Detector
3	2412.832	97.54	-4.44	93.10	/	/	Average Detector
	2412.832	106.34	-4.44	101.9	/	/	Peak Detector

802.11n-HT20-Highest Bandedge

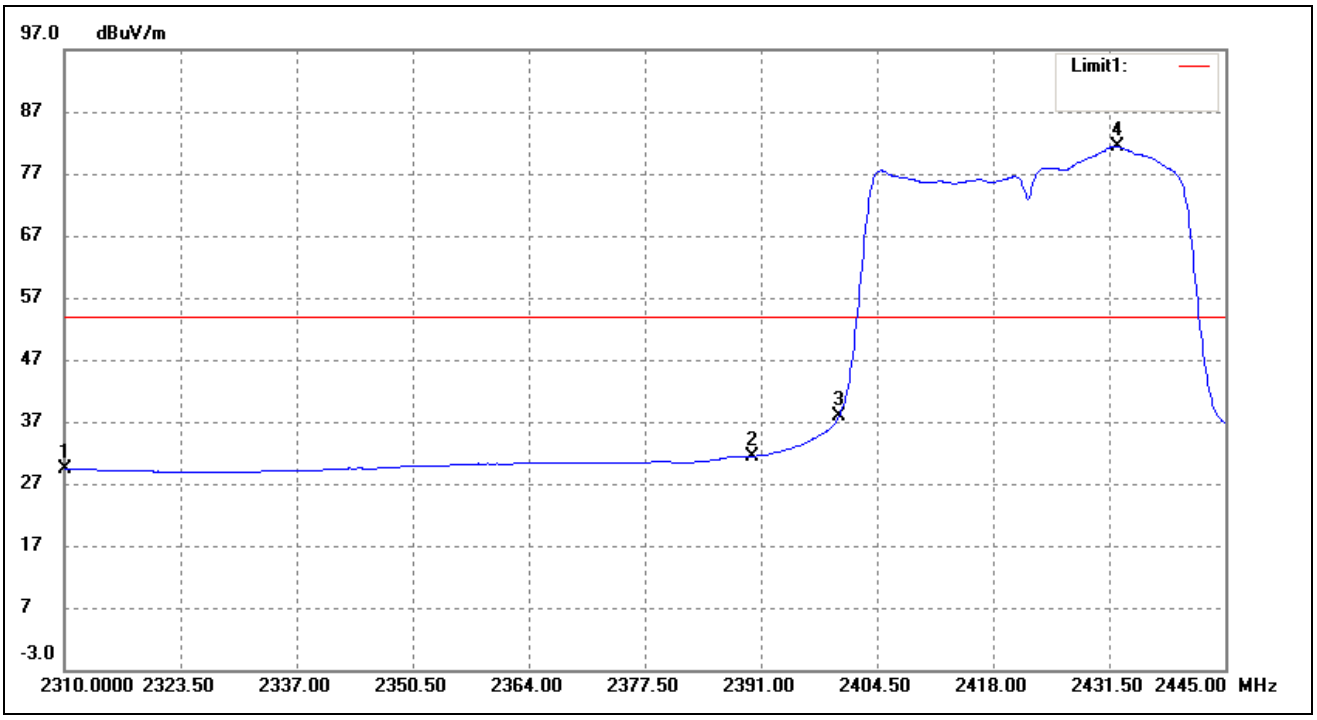
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2462.803	95.44	-4.38	91.06	/	/	Average Detector
	2462.803	109.36	-4.38	104.98	/	/	Peak Detector
2	2483.500	49.77	-4.36	45.41	54.00	-8.59	Average Detector
	2483.500	62.13	-4.36	57.77	74.00	-16.23	Peak Detector
3	2500.000	42.45	-4.34	38.11	54.00	-15.89	Average Detector
	2500.000	57.43	-4.34	53.09	74.00	-20.91	Peak Detector

802.11n-HT40-Lowest Bandedge

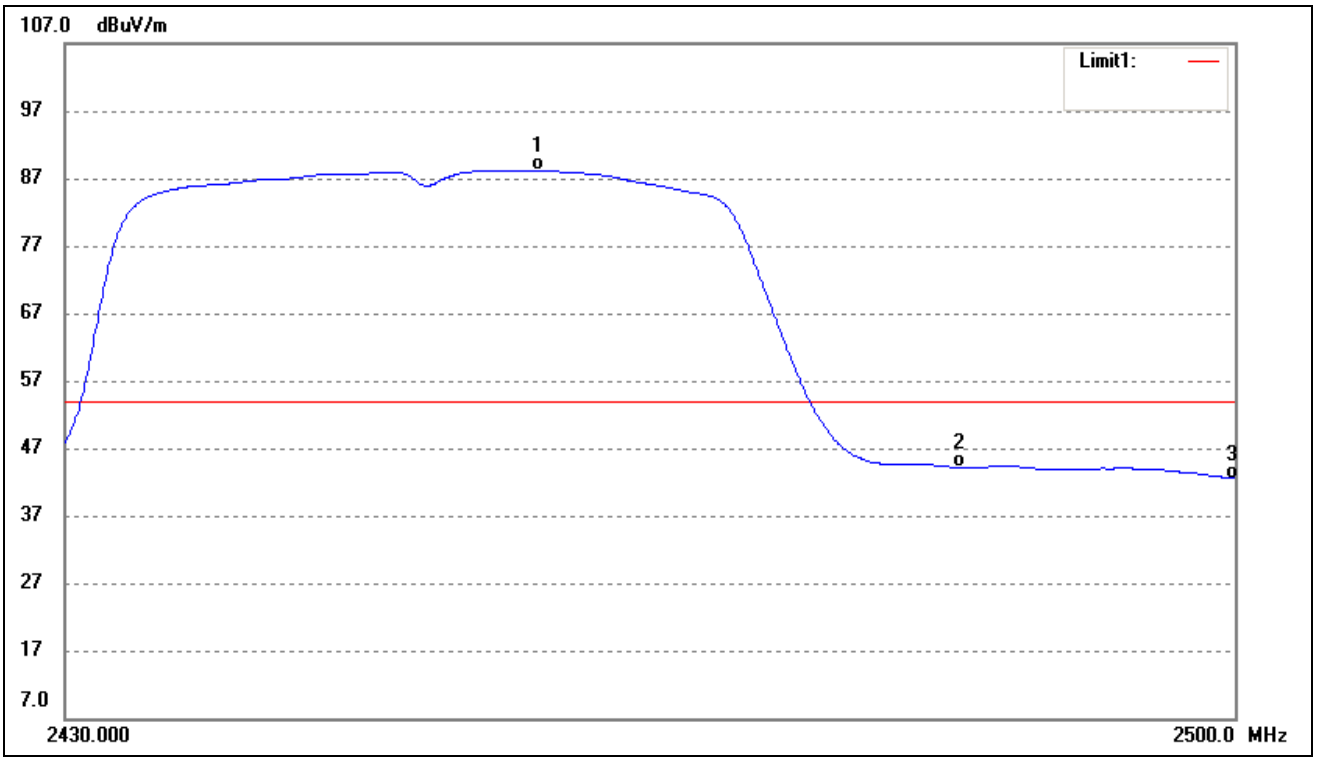
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	33.80	-4.42	29.38	54.00	-24.62	Average Detector
	2310.000	45.65	-4.42	41.23	74.00	-32.77	Peak Detector
2	2390.000	35.20	-3.72	31.48	54.00	-22.52	Average Detector
	2390.000	47.24	-3.72	43.52	74.00	-30.48	Peak Detector
3	2400.000	41.49	-3.64	37.85	Delta =43.46dBc		Average Detector
4	2432.445	84.71	-3.40	81.31			Average Detector

802.11n-HT40-Highest Bandedge

Vertical (Worst case)



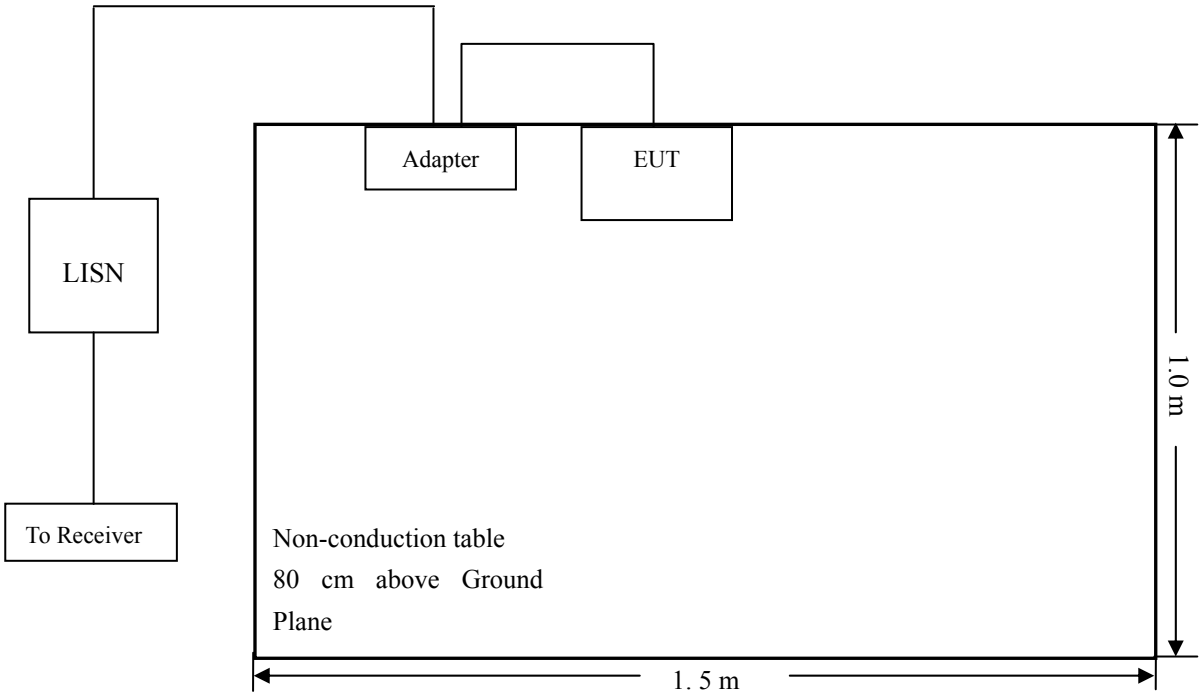
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2458.041	92.58	-4.39	88.19	/	/	Average Detector
	2458.041	101.45	-4.39	97.06	/	/	Peak Detector
2	2483.500	48.57	-4.36	44.21	54.00	-9.79	Average Detector
	2483.500	58.48	-4.36	54.12	74.00	-19.88	Peak Detector
3	2500.000	46.84	-4.34	42.50	54.00	-11.50	Average Detector
	2500.000	54.79	-4.34	50.45	74.00	-23.55	Peak Detector

10. Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 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.

10.2 Basic Test Setup Block Diagram



10.3 Environmental Conditions

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

10.4 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

10.5 Summary of Test Results/Plots

According to the data in section 10.6, the EUT complied with the FCC Part 15.207 Conducted margin for this device, with the *worst* margin reading of:

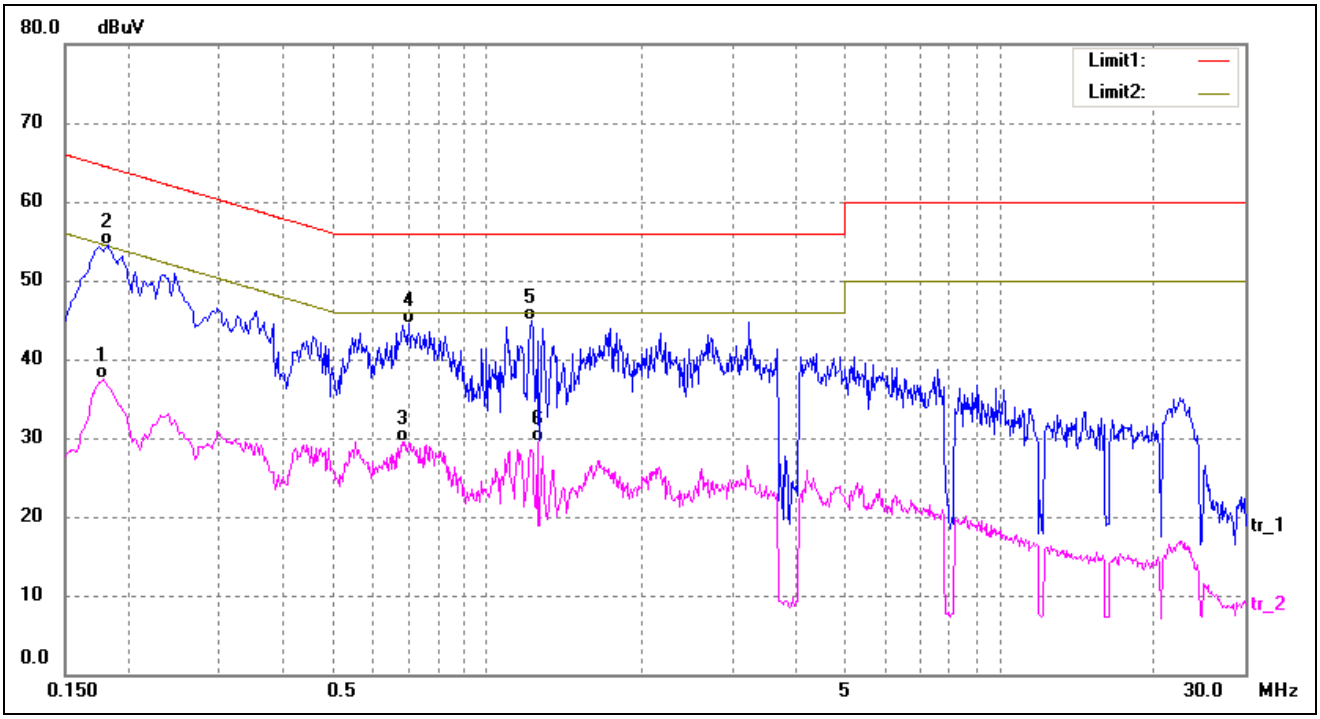
-2.18 dB at 0.4420 MHz in the **Line** mode**, Average** detector, **0.15-30MHz**

10.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

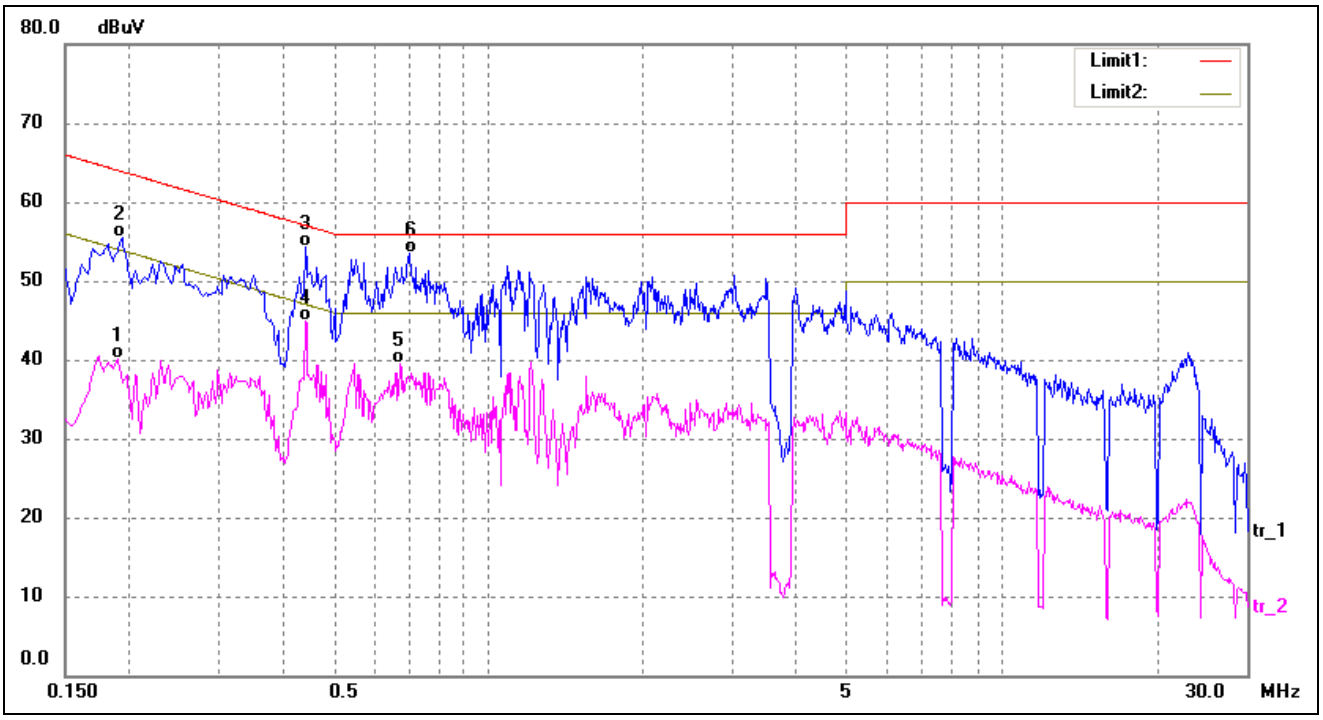
EUT: *3G camera*
Tested Model: *JH09*
Operating Condition: *Transmitting(Wi-Fi)*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1780	27.59	9.82	37.41	54.58	-17.17	AVG
2*	0.1820	44.60	9.82	54.42	64.39	-9.97	QP
3	0.6860	19.79	9.79	29.58	46.00	-16.42	AVG
4	0.7020	34.66	9.78	44.44	56.00	-11.56	QP
5	1.2180	35.08	9.75	44.83	56.00	-11.17	QP
6	1.2540	19.71	9.75	29.46	46.00	-16.54	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1900	30.36	9.81	40.17	54.04	-13.87	AVG
2	0.1940	45.73	9.81	55.54	63.86	-8.32	QP
3	0.4420	44.45	9.80	54.25	57.02	-2.77	QP
4*	0.4420	35.04	9.80	44.84	47.02	-2.18	AVG
5	0.6740	29.65	9.79	39.44	46.00	-6.56	AVG
6	0.7020	43.80	9.78	53.58	56.00	-2.42	QP

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