FCC Part 15C
Measurement and Test Report

For

Shenzhen Huibaizhou Electronics Co., Ltd

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

Shenzhen City, Guangdong Province

FCC ID: 2AEBTS898T

FCC Rule(s):	FCC Part 15C
Product Description:	Mobile Phone
Tested Model:	S898t+
Report No.:	STR15038050I-3
Tested Date:	2015-02-26 to 2015-03-11
Issued Date:	2015-03-11
Tested By:	Silin Chen / Engineer
Reviewed By:	Lahm Peng / EMC Manager
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Prepared By:

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

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Huibaizhou Electronics Co., Ltd
Address of applicant:	Room 1011, Hualianfa building, Huaqiang North Road, Futian District, Shenzhen City, Guangdong Province
Manufacturer:	Lenovo Mobile Communication Co., Ltd(Wuhan).
Address of manufacturer:	Building No.5, Gaoxin Four Road, Dong Hu New Technology Development Zone, Wuhan Province

General Description of EUT	
Product Name:	Mobile Phone
Brand Name:	LENOVO
Model No.:	S898t+
Hardware Version:	H202
Software Version:	S898t+_S527_140414
IMEI:	863563022394137
Rated Voltage:	DC 3.7V Li-ion Battery
Battery:	2000mAh
Power Adaptor:	Input 100-260V, 50/60Hz, Output DC 5V/1000mA
Device Category:	Portable Device
The EUT is GSM 850/900/1800/1900, WCDMA 900/2100 Mobile Phone, the Mobile Phone is intended for speech and Multimedia Message Service (MMS) transmission. It is equipped with GPRS/EDGE class 12 for GSM850 and GSM1900 and Bluetooth WIFI camera functions. For more information see the following datasheet	
Note: The test data is gathered from a production sample provided by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n(HT20;HT40)
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20) 2422-2452MHz for 802.11n(HT40)
AV Output Power:	9.36dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11 for 802.11b/g/n(HT20); 7 for 802.11n(HT40)
Channel Separation:	5MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	0dBi

1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Huibaizhou Electronics Co., Ltd in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

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

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

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 558074 D01 V03r02 for digital transmission systems shall be performed also.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

Industry Canada (IC) Registration No.: 11464A

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

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 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

EUT Cable List and Details

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

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
Earphone	1.2	Unshielded	Without Ferrite

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 2.1093	RF Exposure	Compliant
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§ 15.207(a)	Conducted Emission	Compliant
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	RF Output Power	Compliant
§ 15.209(a)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable

3. RF Exposure

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 Equipment List and Details

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

5.3 Test Procedure

According to the KDB 558074 D01 v03r02, the test method of power spectral density as below:

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set analyzer center frequency to DTS channel center frequency.
3. Set the span to 1.5 times the DTS channel bandwidth.
4. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
5. Set the VBW ≥ 3 x RBW.
6. Detector = peak.
7. Sweep time = auto couple.
8. Trace mode = max hold.
9. Allow trace to fully stabilize.
10. Use the peak marker function to determine the maximum amplitude level.
11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.4 Environmental Conditions

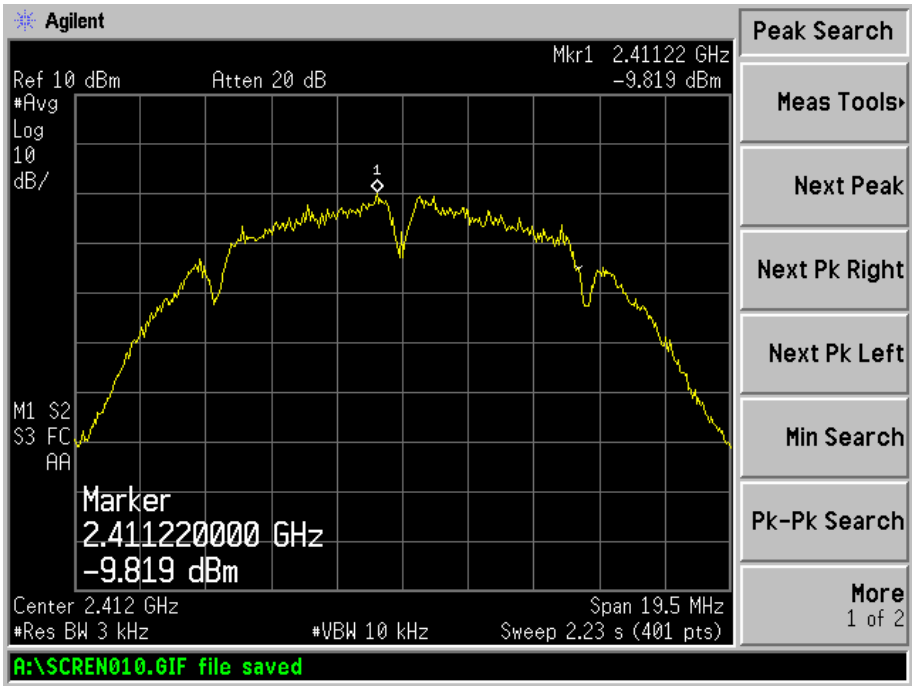
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

5.5 Summary of Test Results/Plots

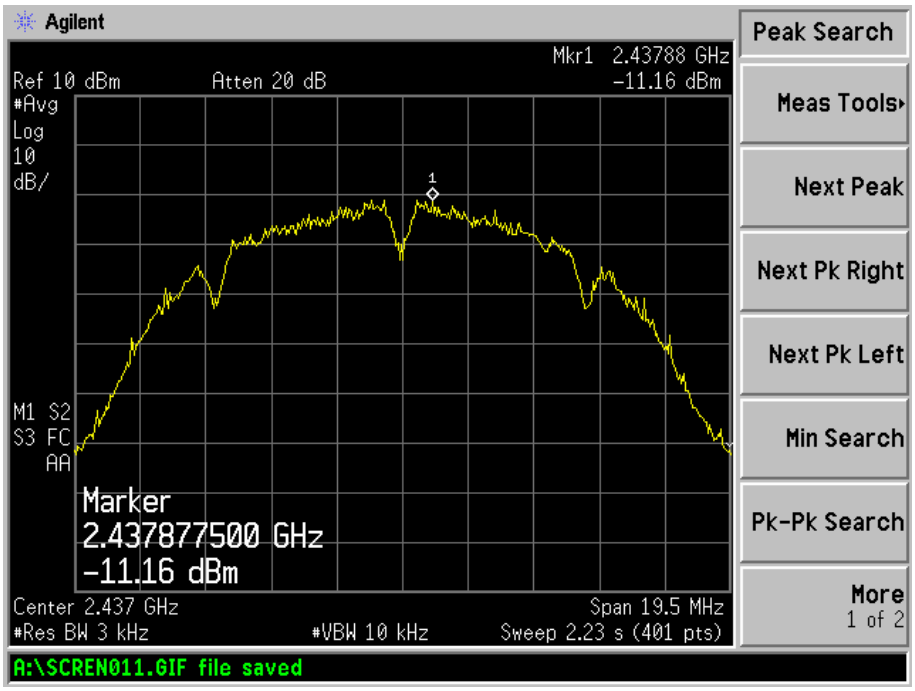
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-9.82	8
	2437	-11.16	8
	2462	-13.20	8
802.11g	2412	-14.85	8
	2437	-16.06	8
	2462	-16.41	8
802.11n HT20	2412	-16.01	8
	2437	-17.36	8
	2462	-17.33	8
802.11n HT40	2422	-16.35	8
	2437	-16.94	8
	2452	-18.30	8

Please refer to the following test plots:

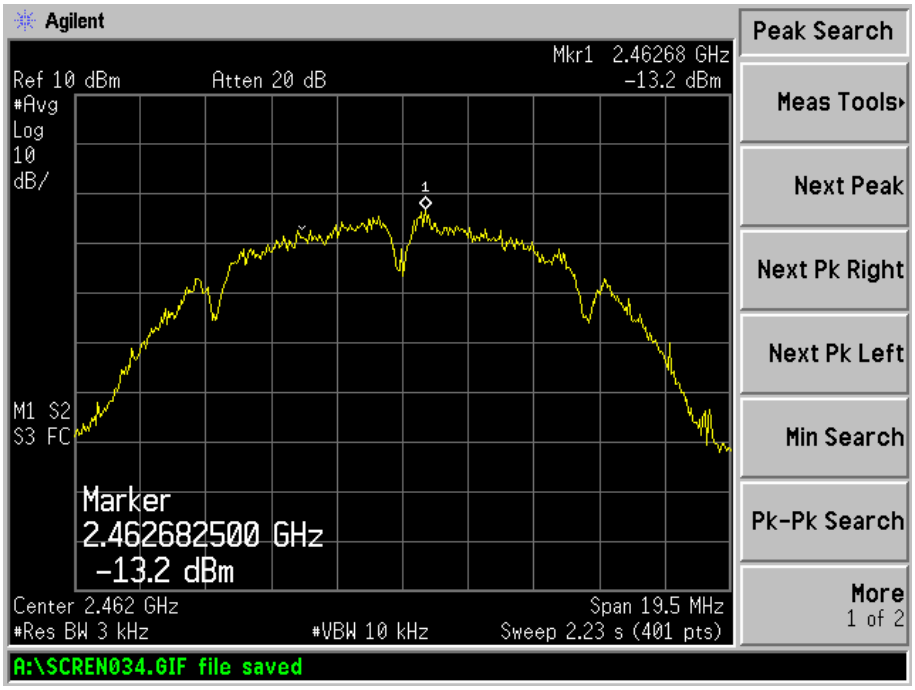
802.11b-Low Channel



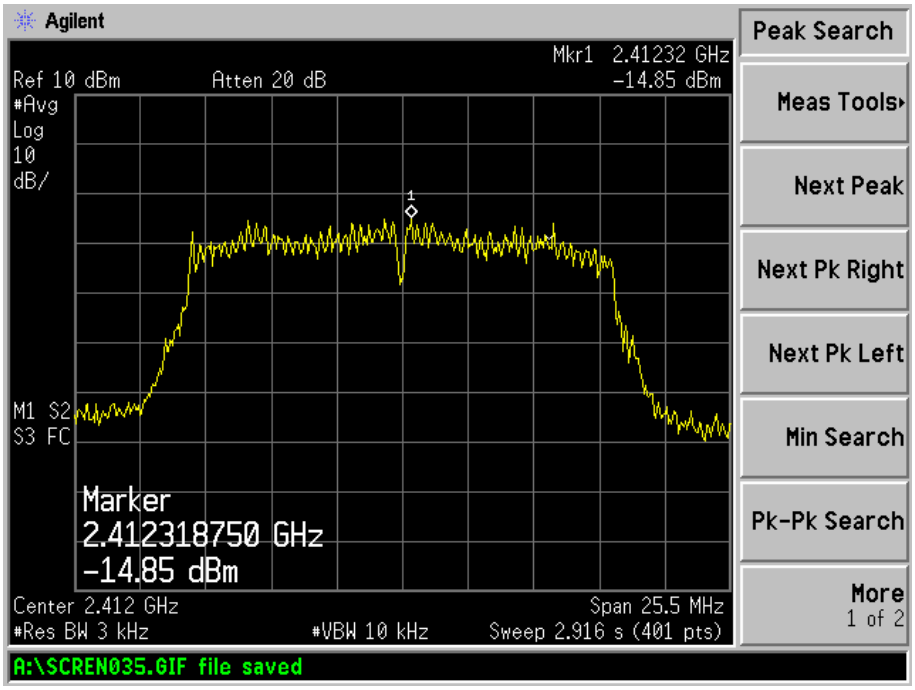
802.11b-Middle Channel



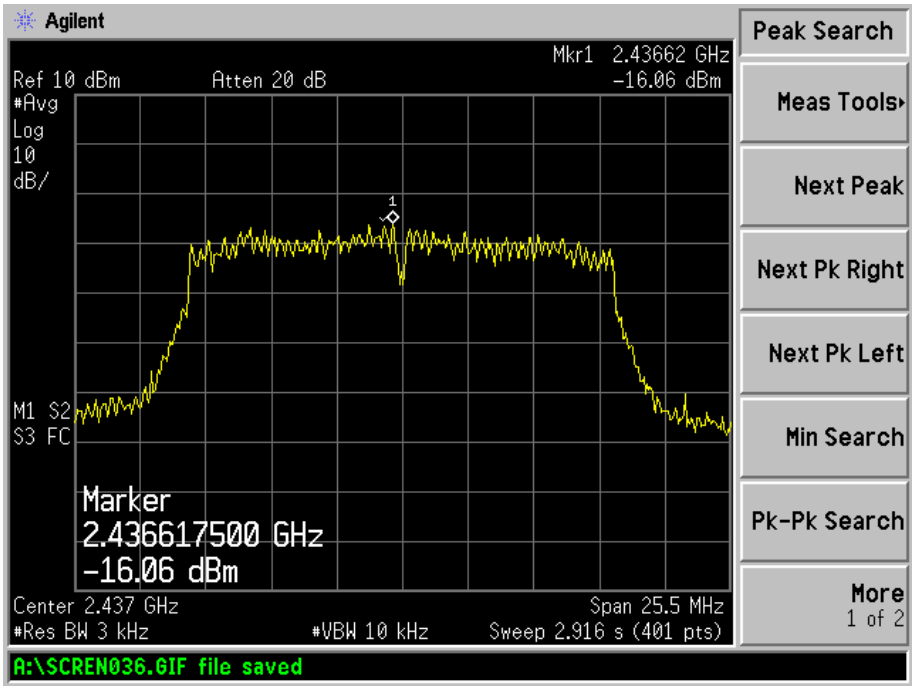
802.11b-High Channel



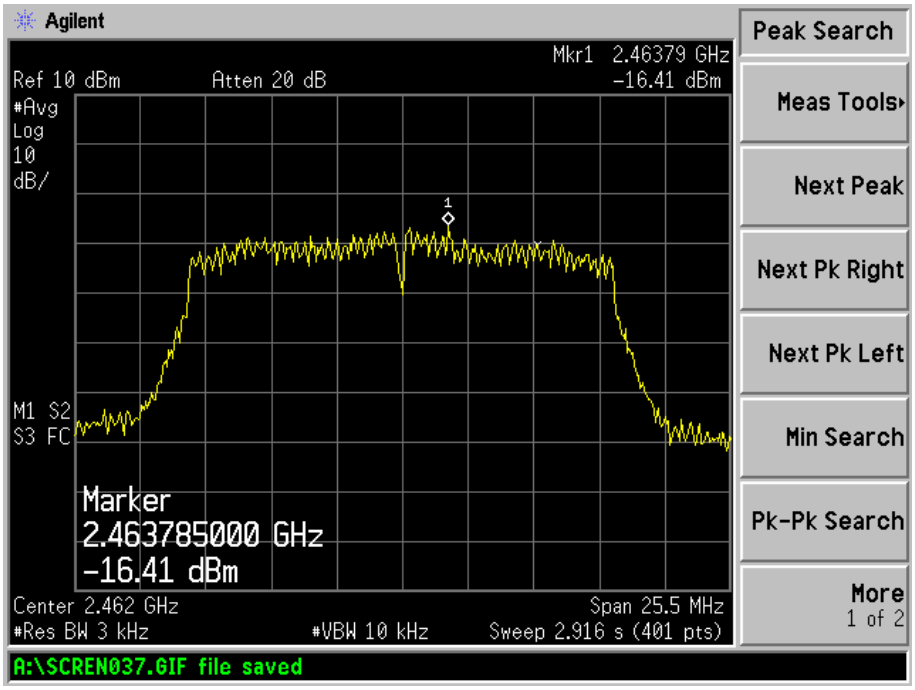
802.11g-Low Channel



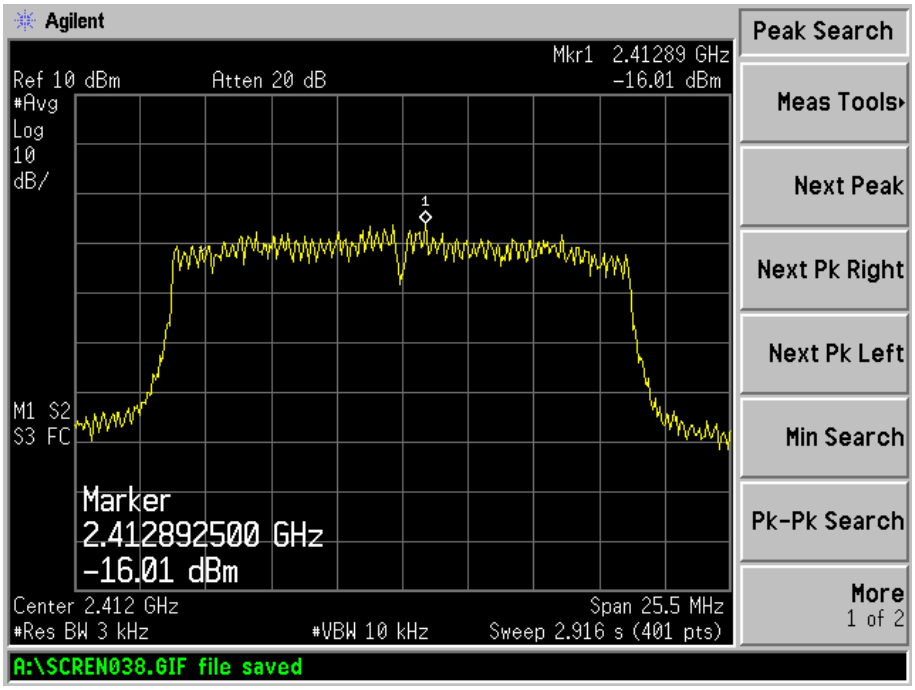
802.11g-Middle Channel



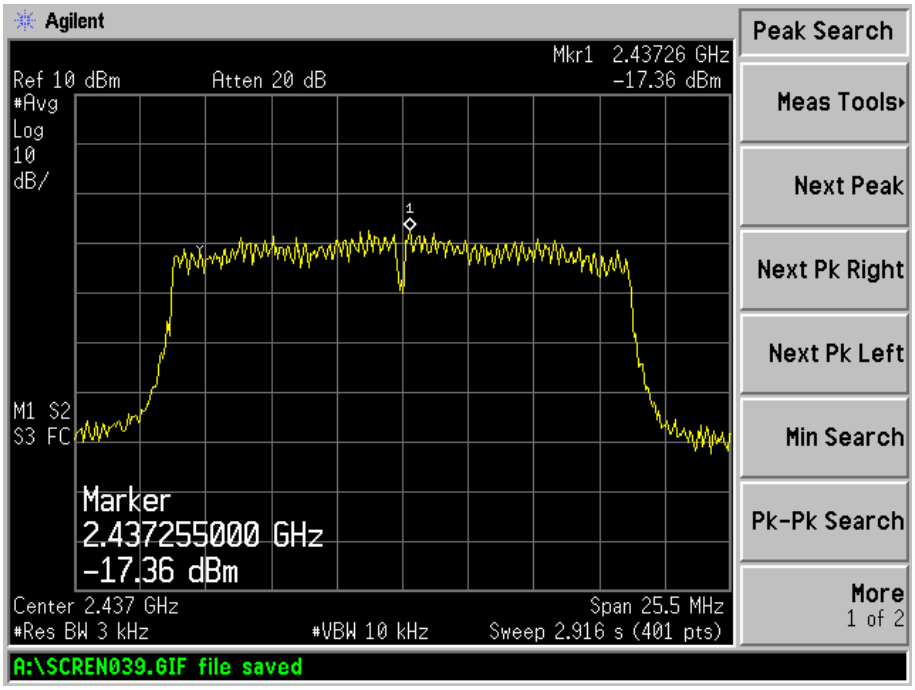
802.11g-High Channel



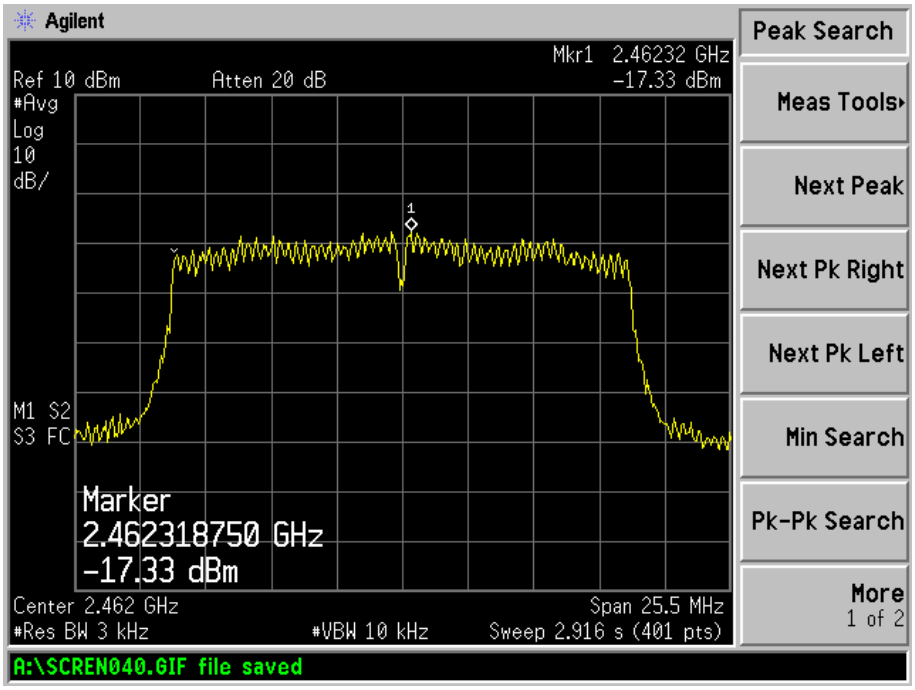
802.11n-HT20-Low Channel



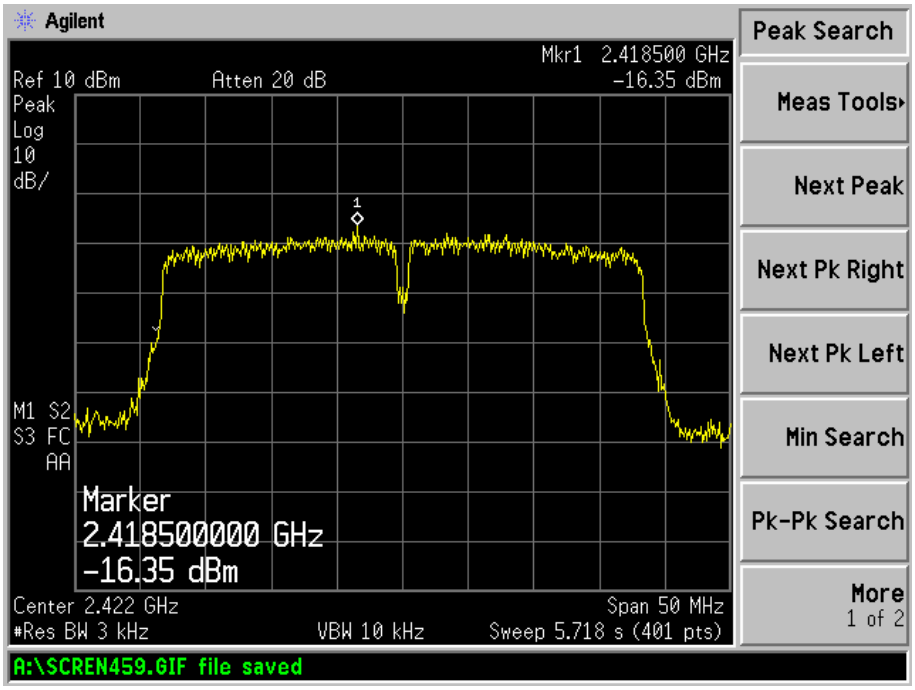
802.11n-HT20-Middle Channel



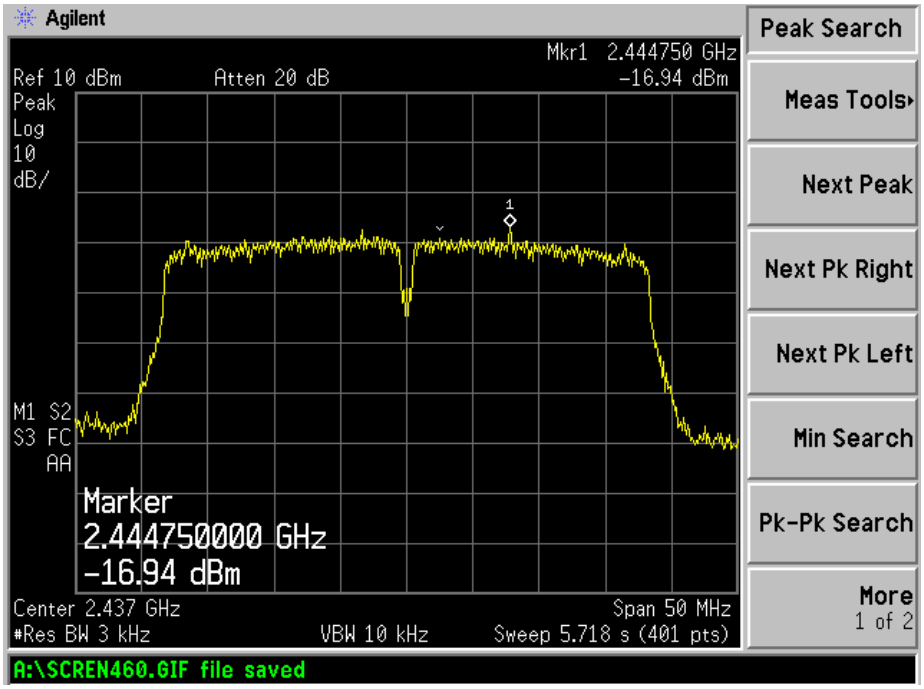
802.11n-HT20-High Channel



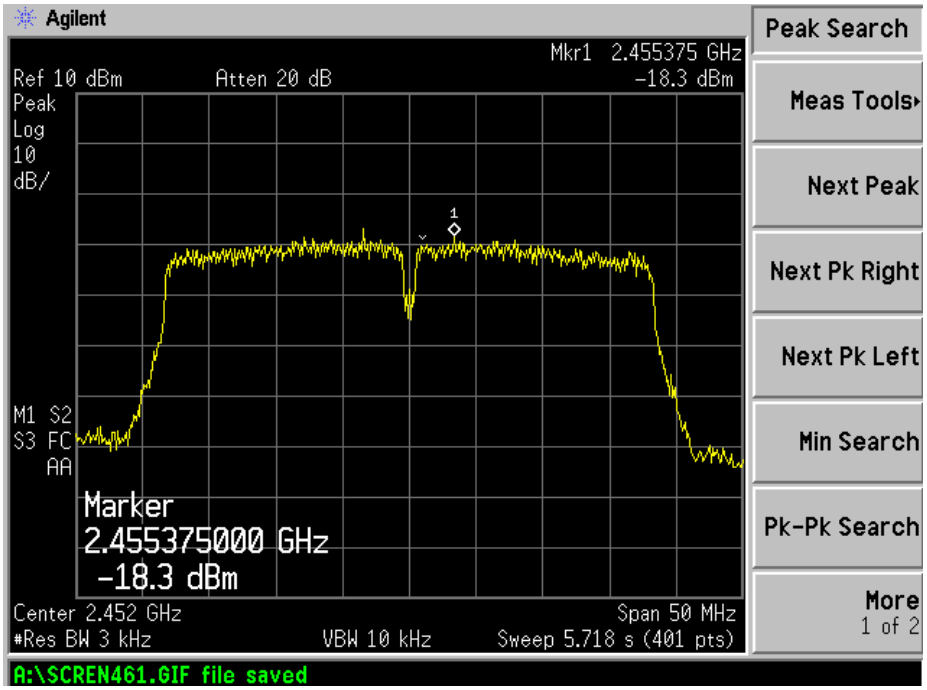
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



6. 6dB Bandwidth

6.1 Standard Applicable

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

6.2 Test Equipment List and Details

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

6.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW) ≥ 3 × RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.4 Environmental Conditions

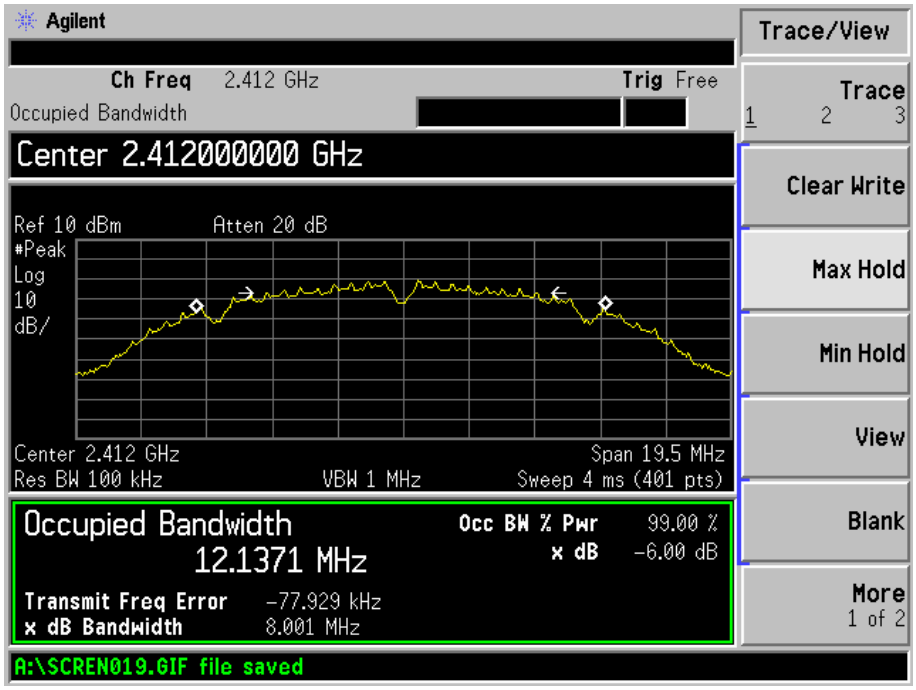
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.5 Summary of Test Results/Plots

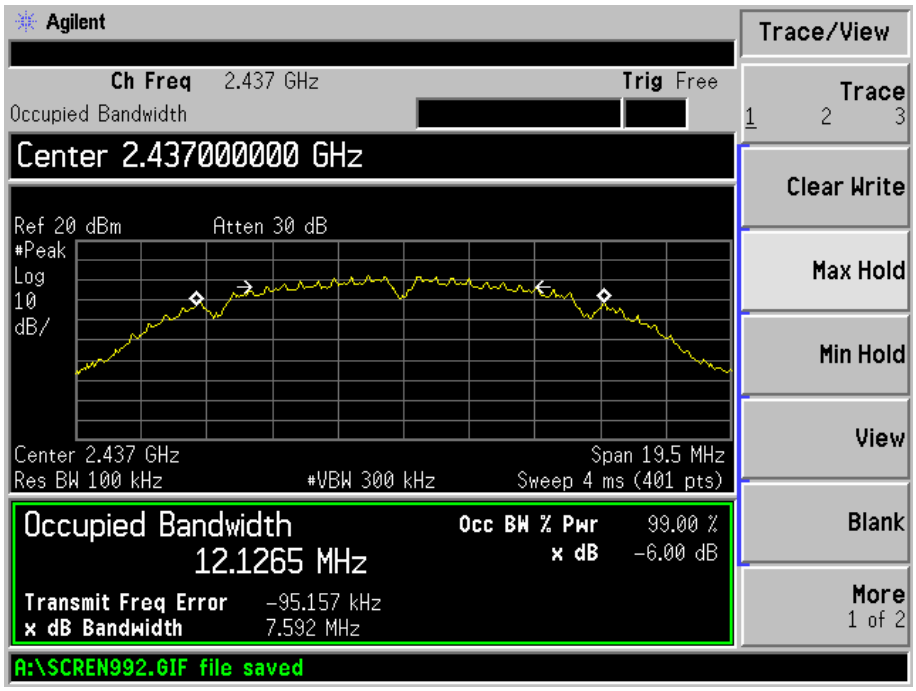
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	99% Bandwidth kHz	Limit kHz
802.11b	2412	8001	12137.1	500
	2437	7592	12126.5	500
	2462	8057	12183.5	500
802.11g	2412	15124	16266.0	500
	2437	15174	16262.4	500
	2462	15361	16273.7	500
802.11n-HT20	2412	15082	17421.2	500
	2437	16076	17428.2	500
	2462	14258	17427.1	500
802.11n-HT40	2422	35734	35954.0	500
	2437	35534	35800.0	500
	2452	35656	35794.4	500

Please refer to the following test plots:

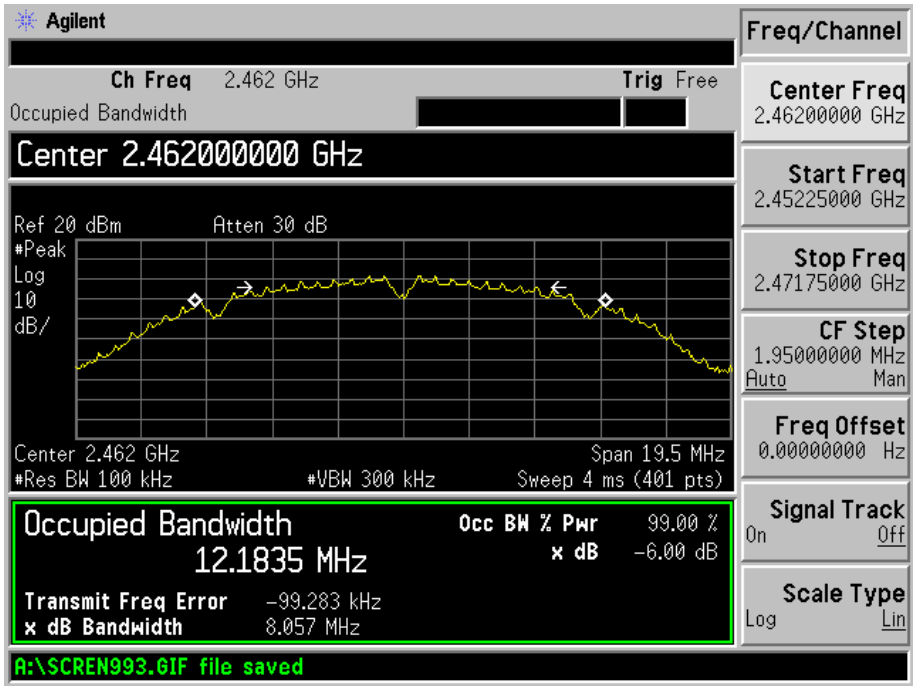
802.11b-Low Channel



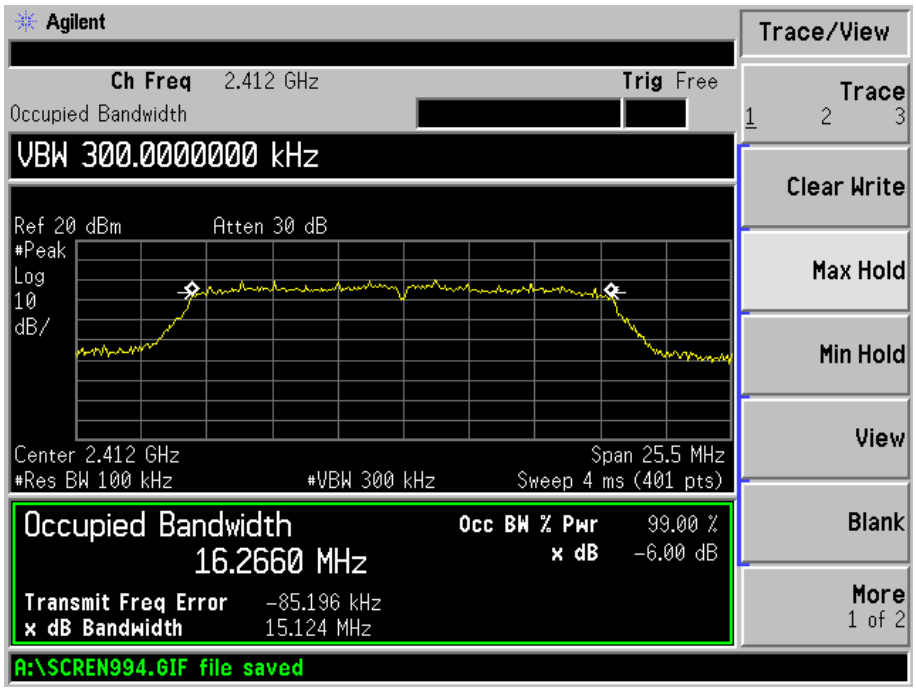
802.11b-Middle Channel



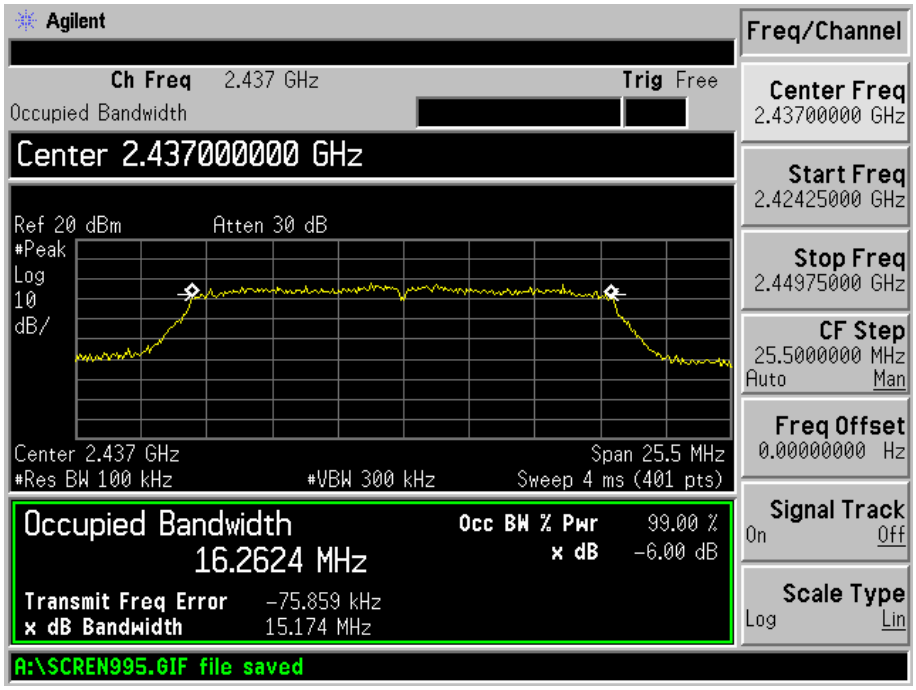
802.11b-High Channel



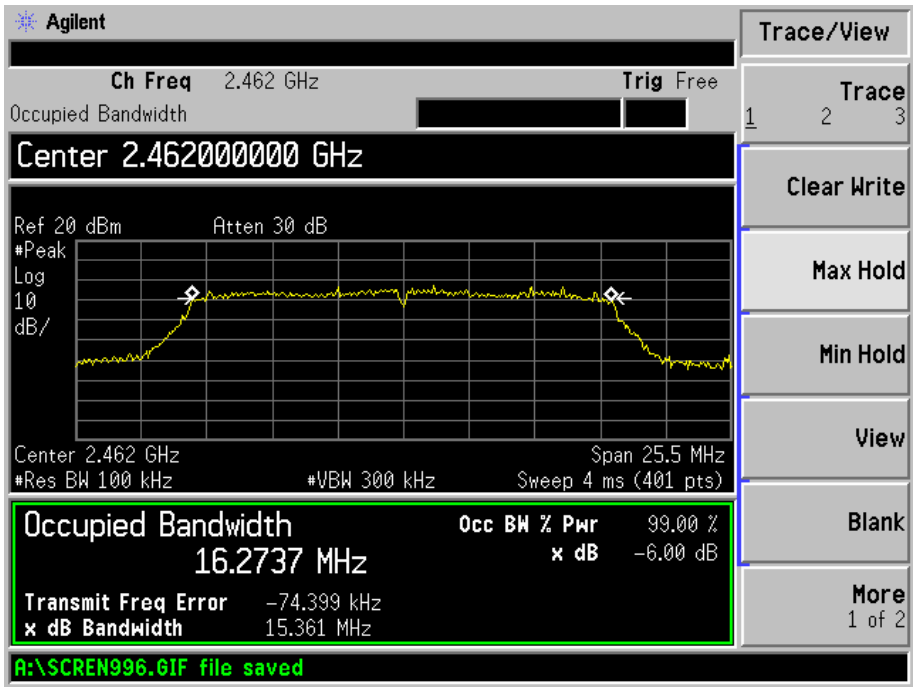
802.11g-Low Channel



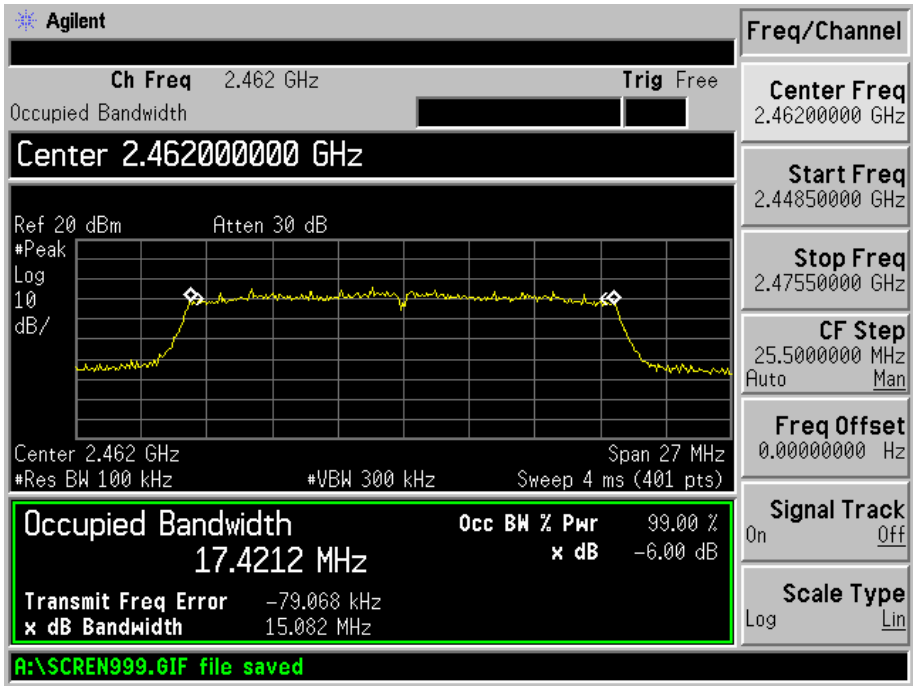
802.11g-Middle Channel



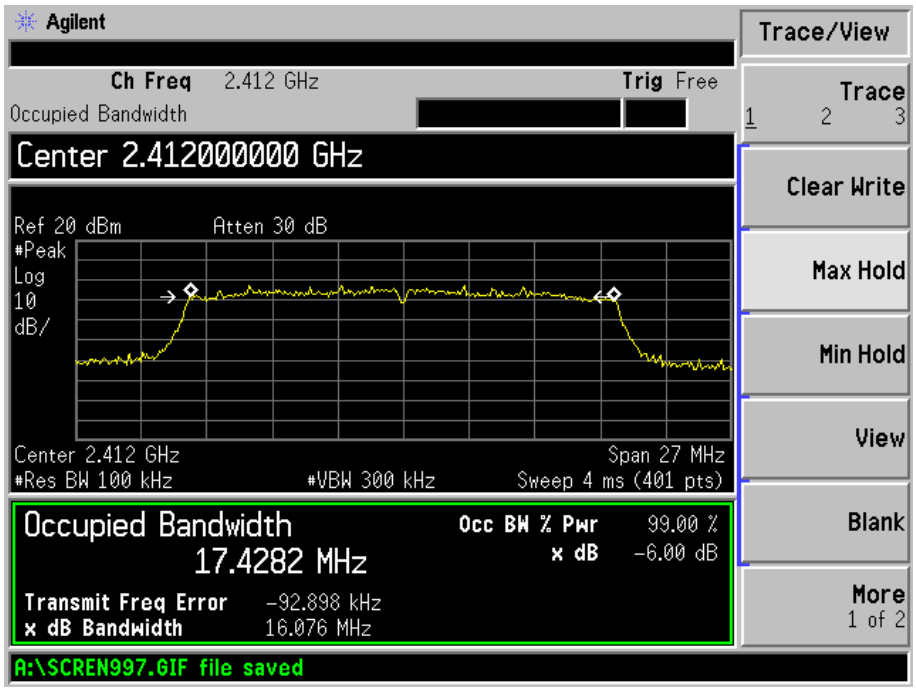
802.11g-High Channel



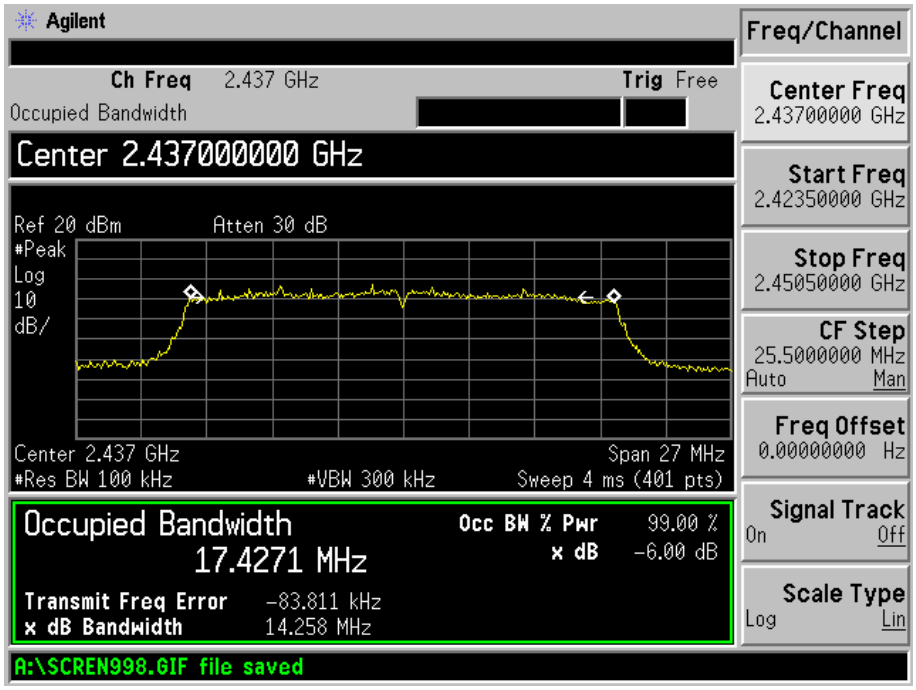
802.11n-HT20-Low Channel



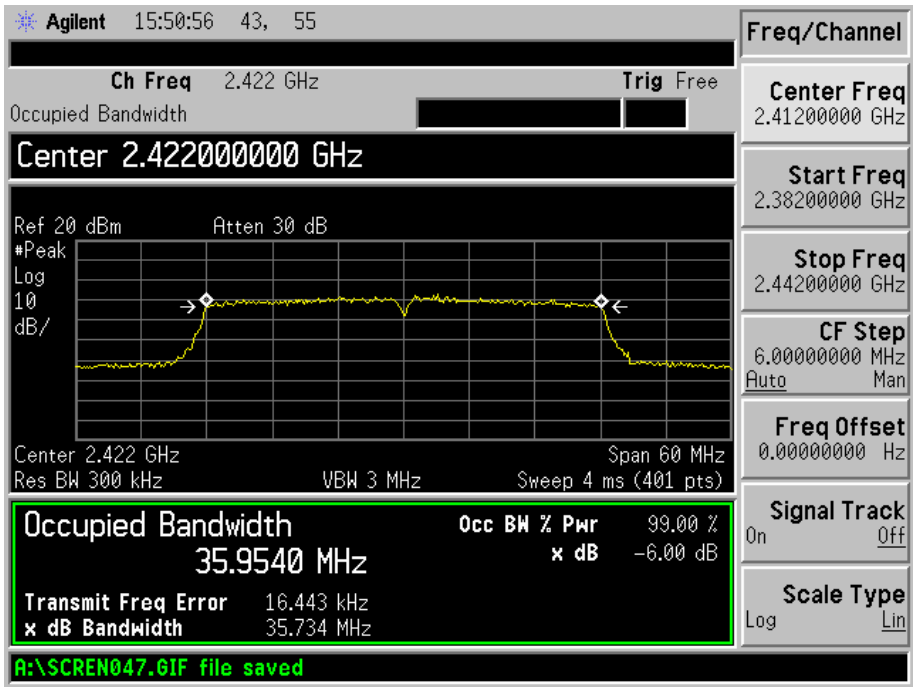
802.11n-HT20-Middle Channel



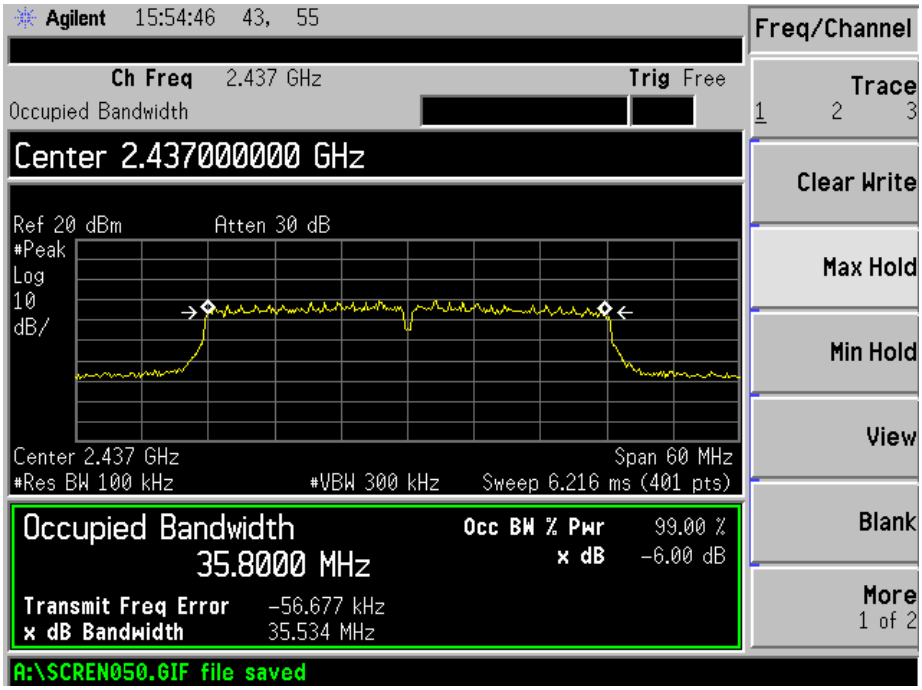
802.11n-HT20-High Channel



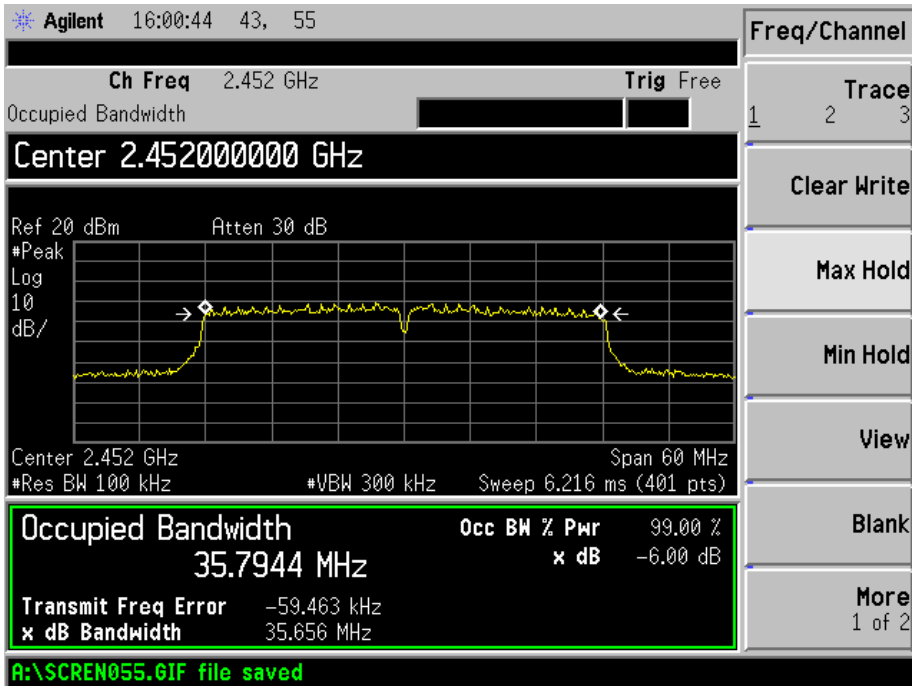
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



7. RF Output Power

7.1 Standard Applicable

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

7.2 Test Equipment List and Details

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

7.3 Test Procedure

According to section 15.247(b)-power output of the KDB 558074 D01 v03r02, 8.1.2 Option 2 (channel integration method) this procedure should only be used when the maximum available RBW of the spectrum/signal analyzer is less than the DTS bandwidth.

1. Set span to at least 1.5 times the OBW.
2. Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
3. Set VBW ≥ 3 x RBW.
4. 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.)
5. Sweep time = auto.
6. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
8. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

7.4 Environmental Conditions

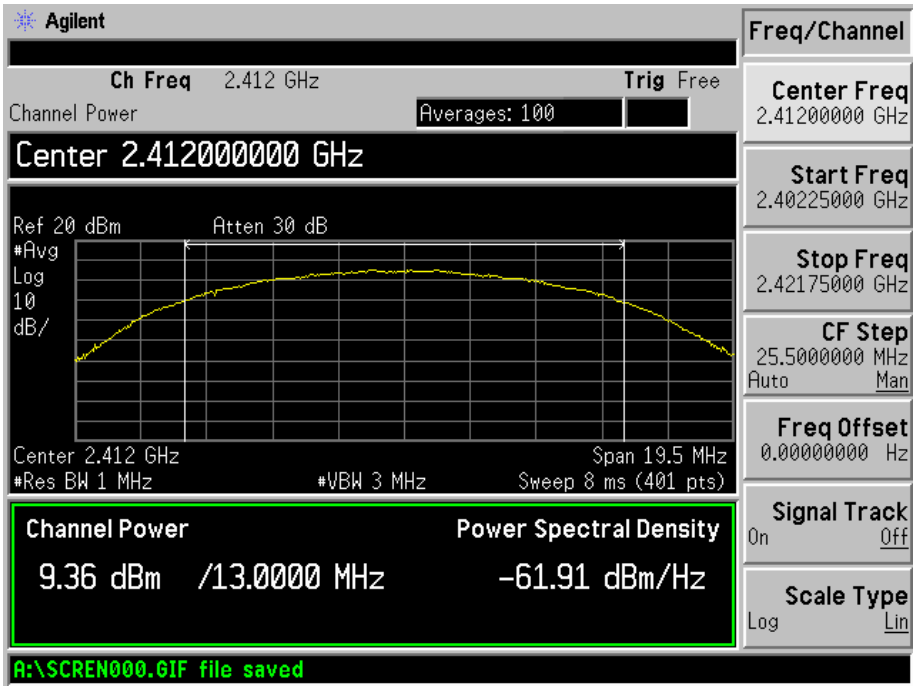
Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.5 Summary of Test Results/Plots

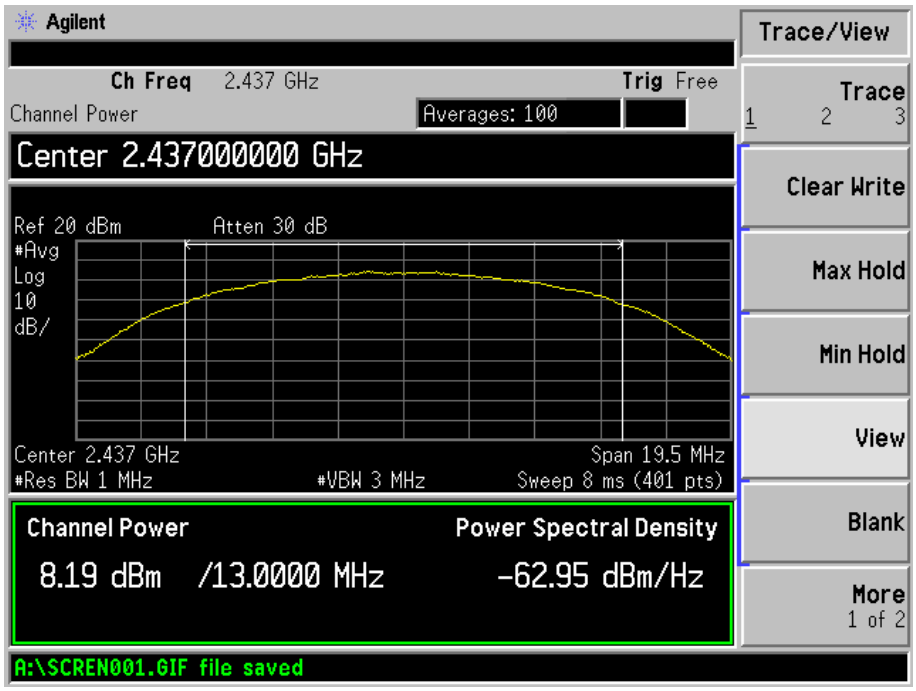
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b _ 11Mbps	2412	9.36	8.6298	1000
	2437	8.19	8.5507	1000
	2462	8.19	8.5310	1000
802.11g_54Mbps	2412	8.94	8.3560	1000
	2437	8.00	8.3946	1000
	2462	6.75	8.3176	1000
802.11n HT20_MCS7	2412	8.21	8.6099	1000
	2437	7.04	8.5507	1000
	2462	6.48	8.5114	1000
802.11n HT40_MCS7	2422	6.20	8.3176	1000
	2437	6.22	8.3560	1000
	2452	6.26	8.4333	1000

Please refer to the following test plots:

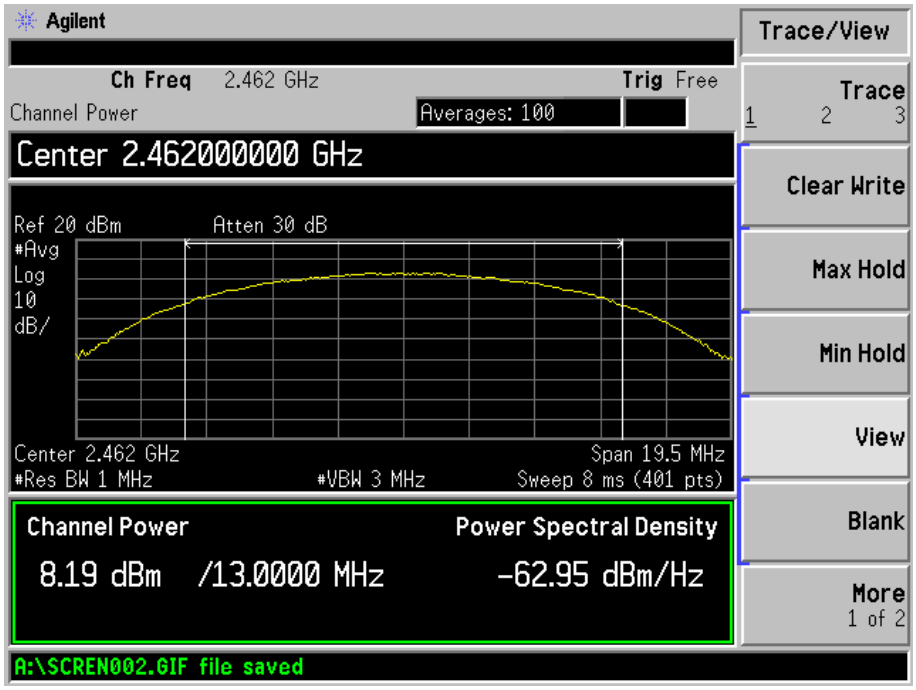
802.11b-1Mbps-Low Channel



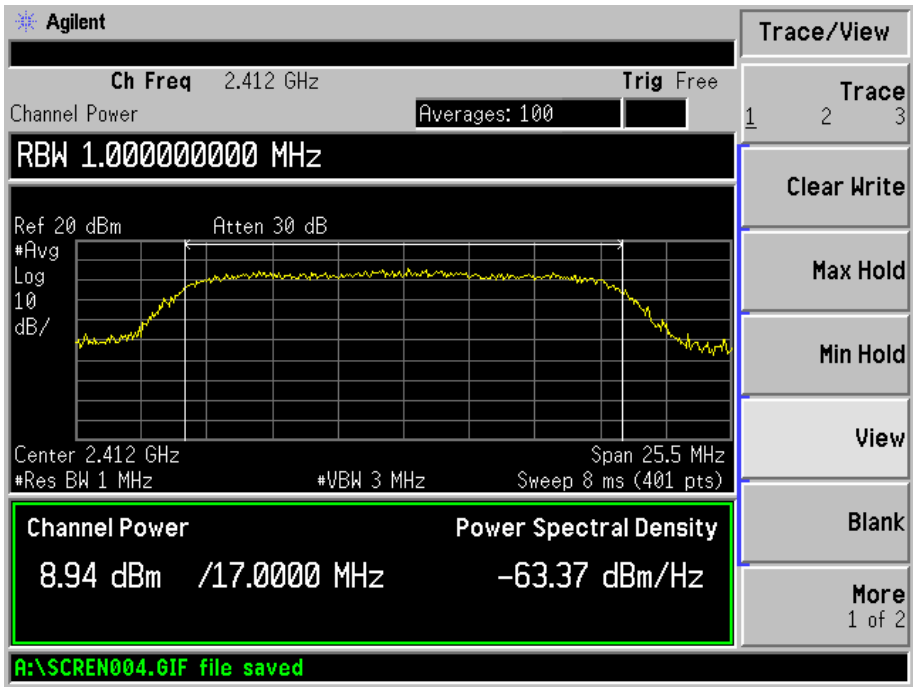
802.11b -1Mbps-Middle Channel



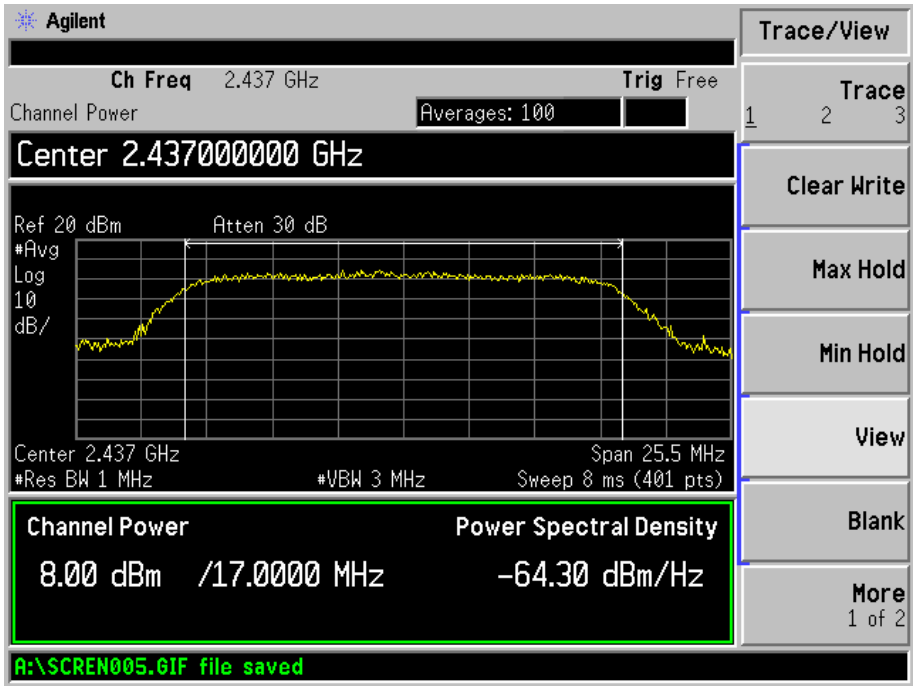
802.11b -1Mpbs-High Channel



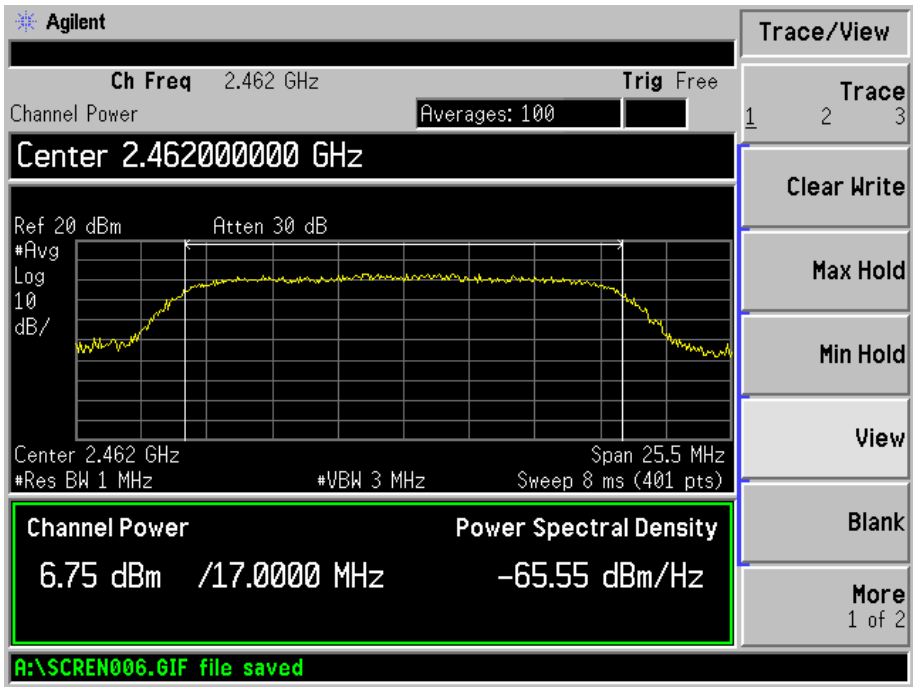
802.11g-54Mbps-Low Channel



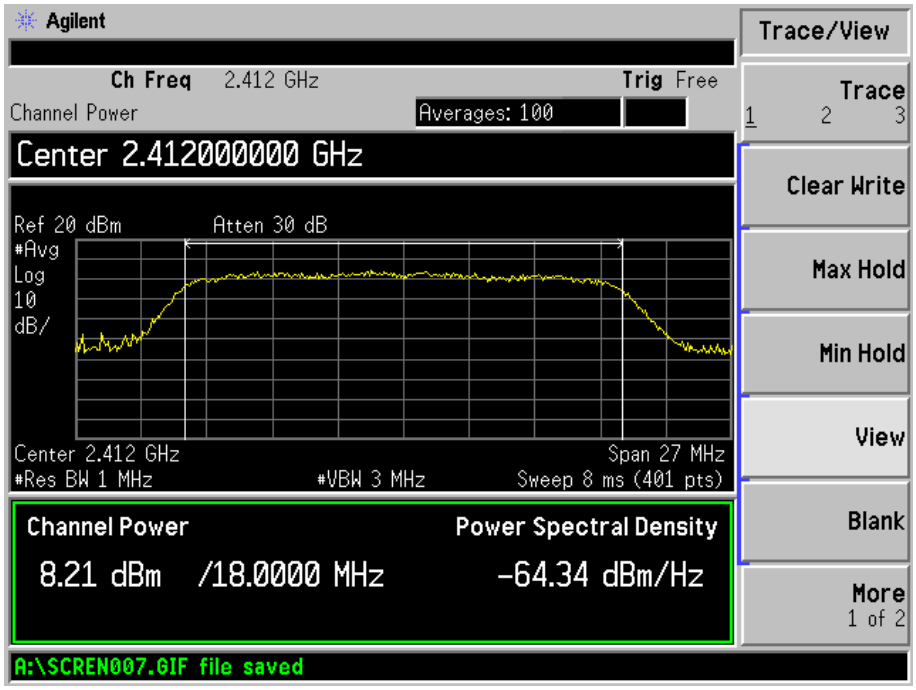
802.11g -54Mbps-Middle Channel



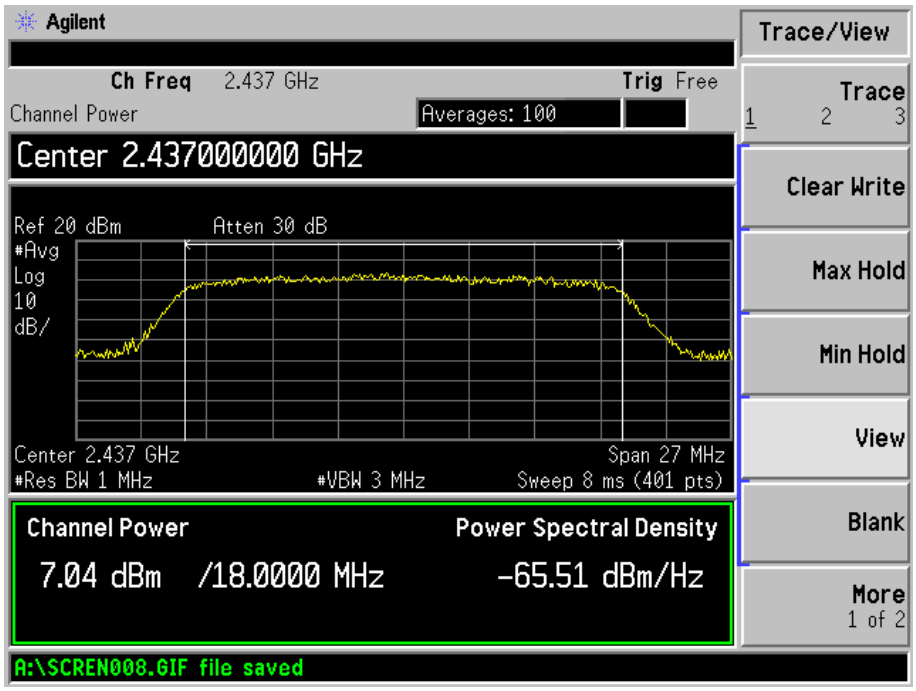
802.11g -54Mpbs-High Channel



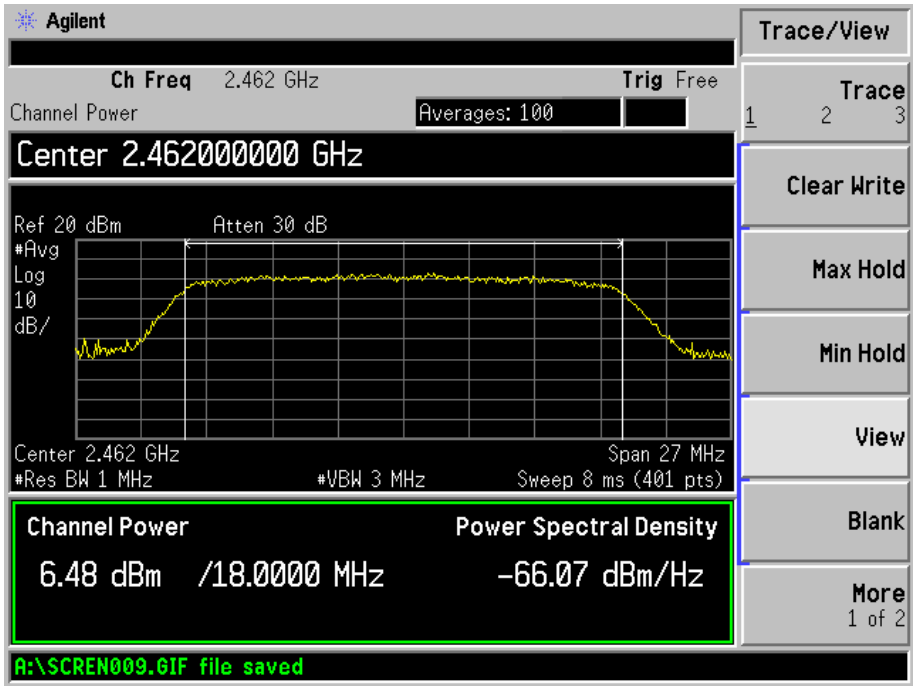
802.11n-HT20-MCS0-Low Channel



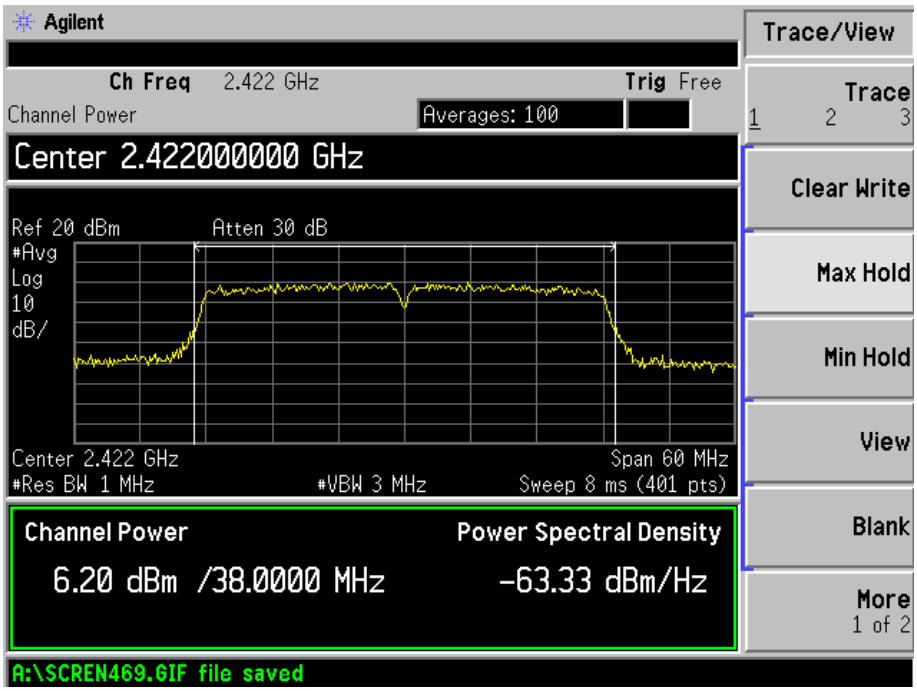
802.11n-HT20-MCS0-Middle Channel



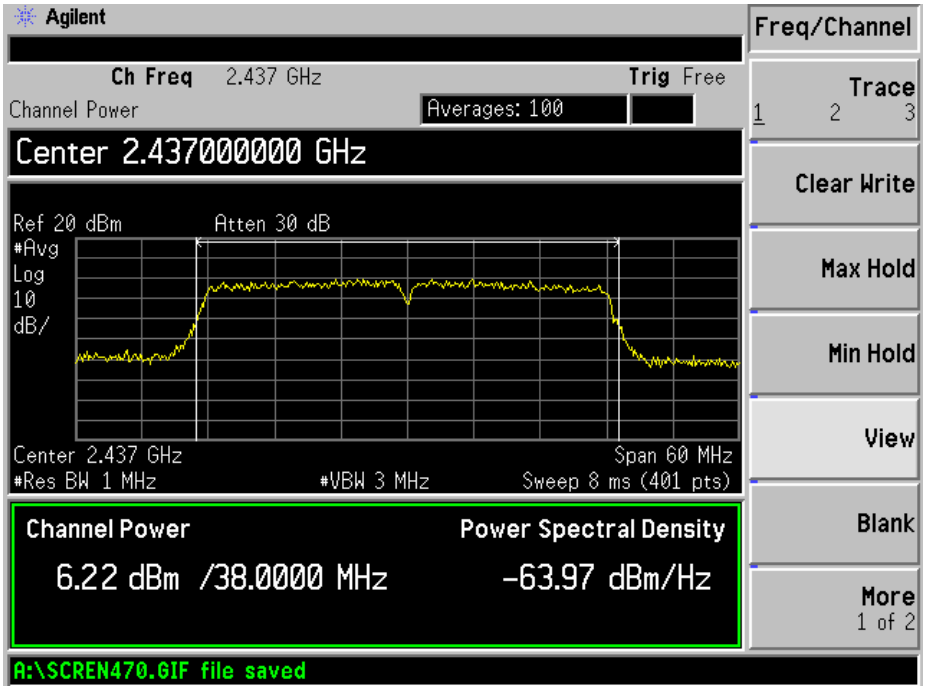
802.11n-HT20-MCS0-High Channel



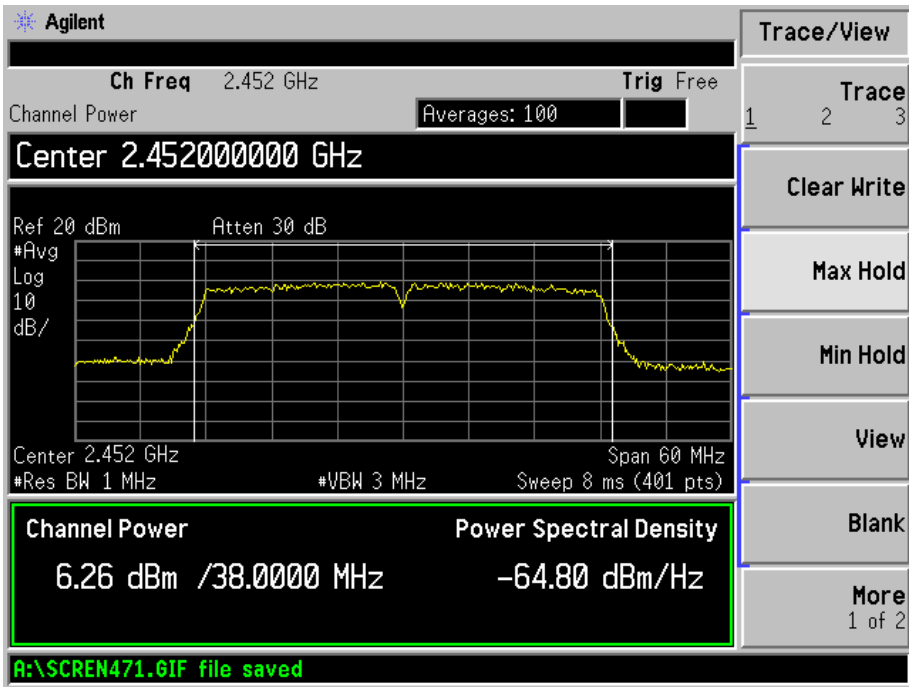
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



8. Field Strength of Spurious Emissions

8.1 Measurement Uncertainty

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

8.2 Standard Applicable

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

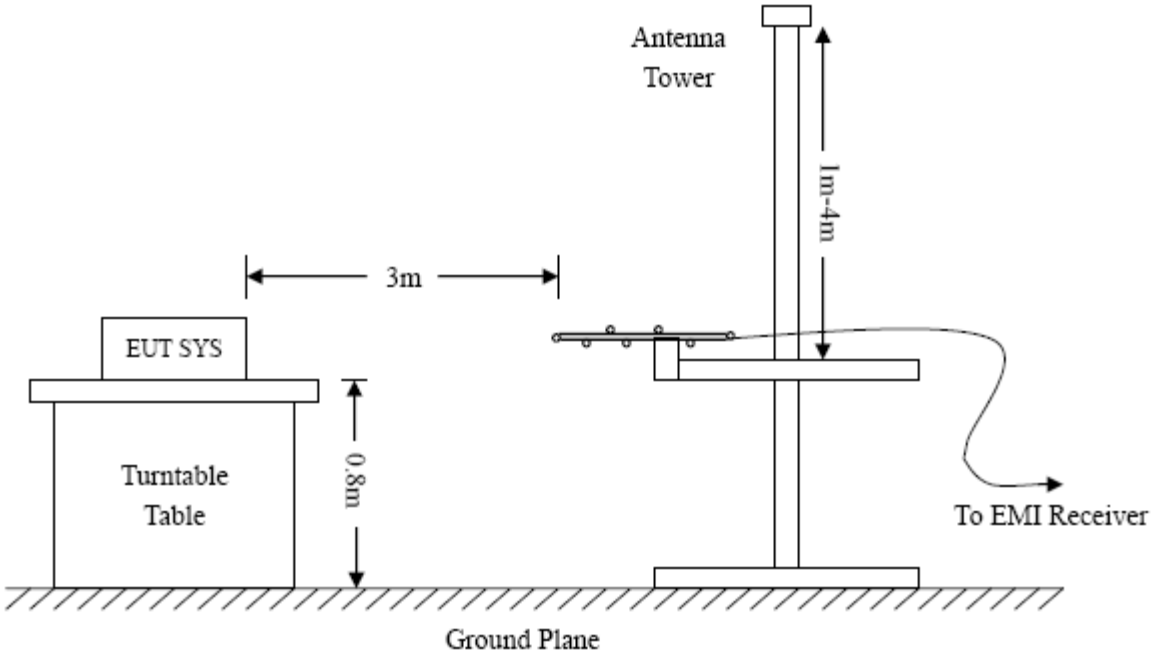
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

8.3 Test Equipment List and Details

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

8.4 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.



Frequency :9kHz-30MHz	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

8.5 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:

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 for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15 Limit

8.6 Environmental Conditions

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

8.7 Summary of Test Results/Plots

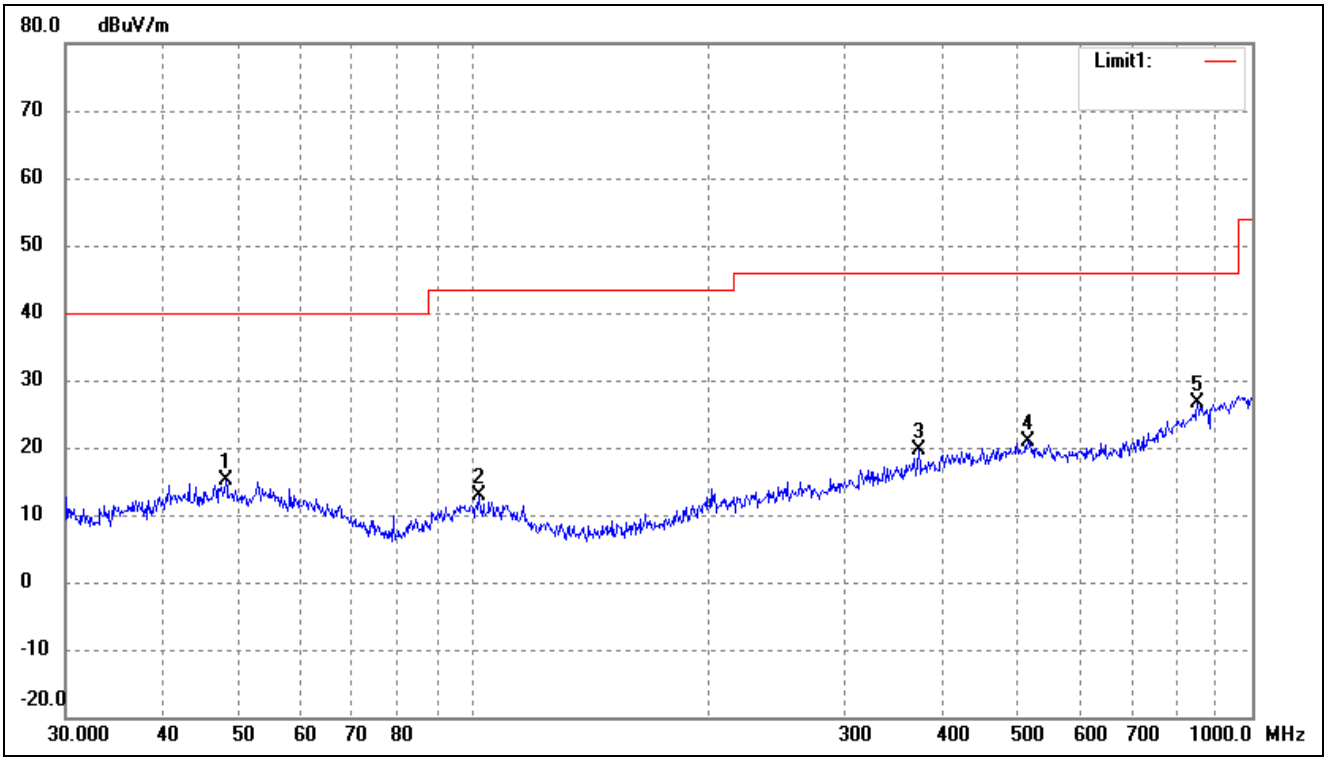
According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

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

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

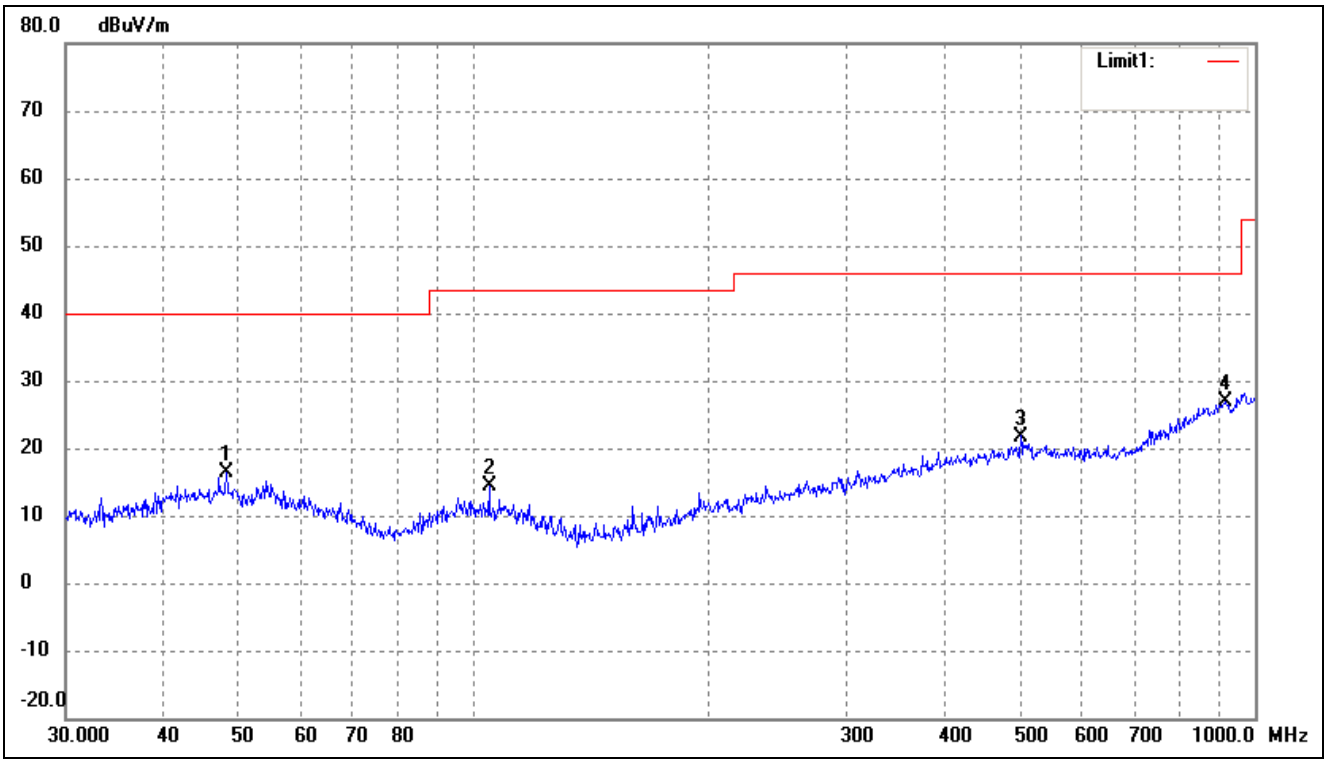
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *802.11b Transmitting Low Channel-2412MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	48.1625	22.60	-7.46	15.14	40.00	-24.86	360	100	peak
2	101.6443	22.32	-9.56	12.76	43.50	-30.74	360	100	peak
3	373.3111	23.32	-3.75	19.57	46.00	-26.43	360	100	peak
4	515.4374	22.12	-1.19	20.93	46.00	-25.07	360	100	peak
5*	851.0353	22.62	3.92	26.54	46.00	-19.46	360	100	peak

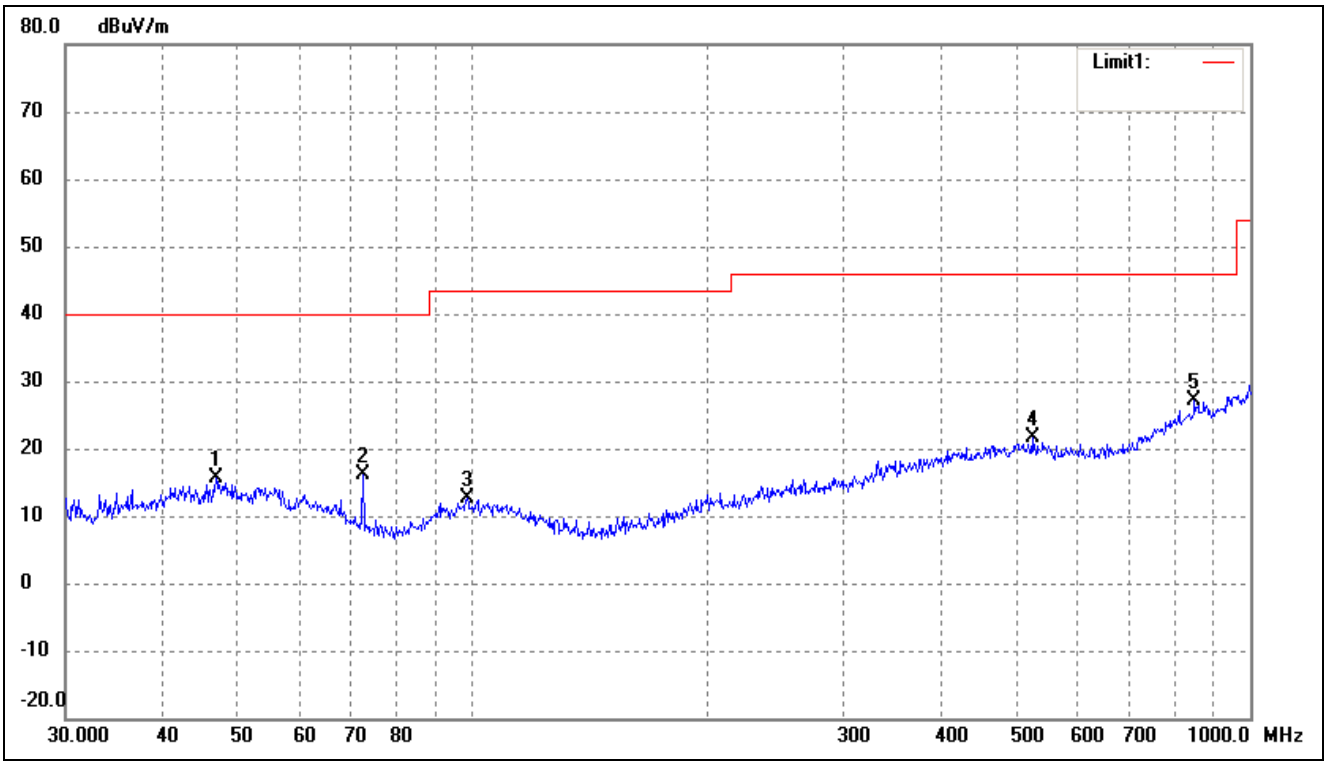
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	48.1626	23.79	-7.46	16.33	40.00	-23.67	360	100	peak
2	104.5361	23.99	-9.58	14.41	43.50	-29.09	360	100	peak
3	501.1790	22.85	-1.10	21.75	46.00	-24.25	360	100	peak
4*	916.0687	21.21	5.55	26.76	46.00	-19.24	360	100	peak

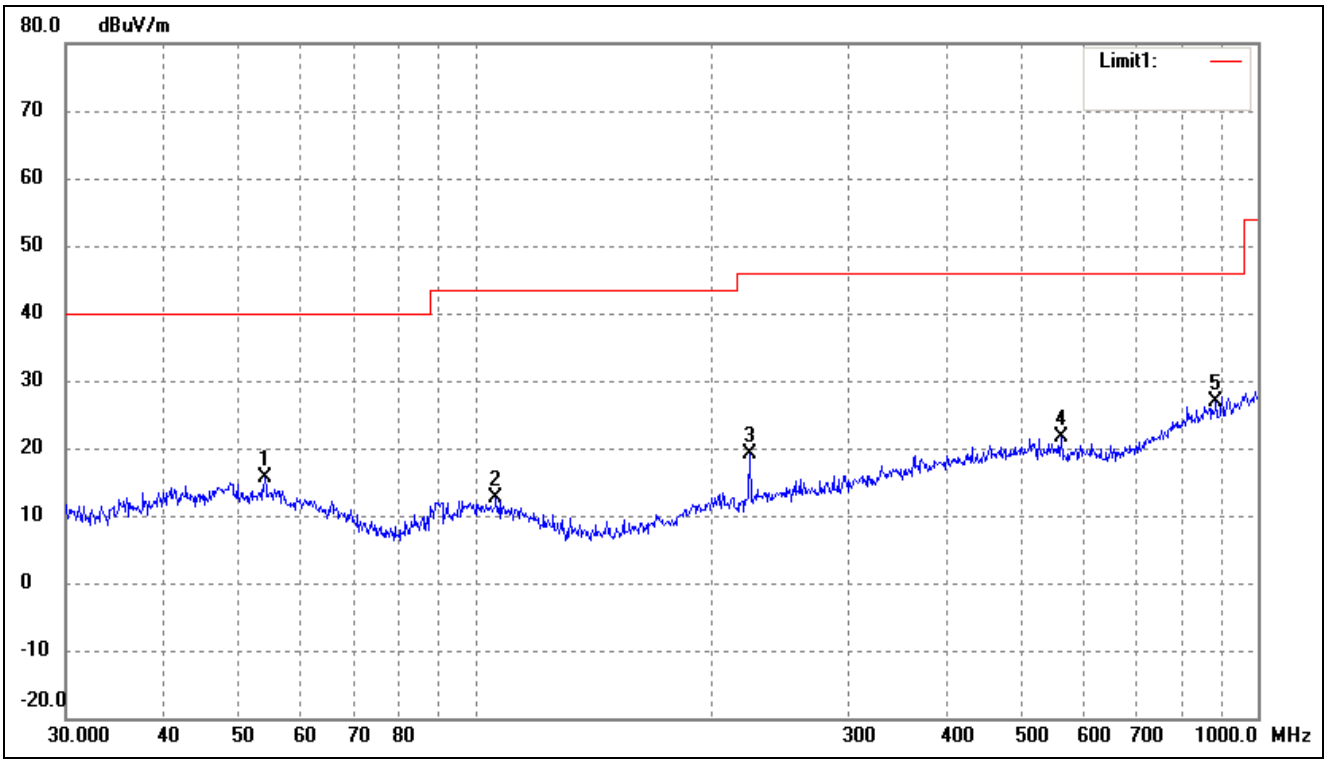
Operating Condition: *802.11b Transmitting Middle Channel-2437MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	46.8303	23.12	-7.45	15.67	40.00	-24.33	360	100	peak
2	72.3376	28.63	-12.41	16.22	40.00	-23.78	360	100	peak
3	98.4865	22.48	-9.75	12.73	43.50	-30.77	360	100	peak
4	524.5541	22.75	-1.24	21.51	46.00	-24.49	360	100	peak
5*	848.0563	23.22	3.84	27.06	46.00	-18.94	360	100	peak

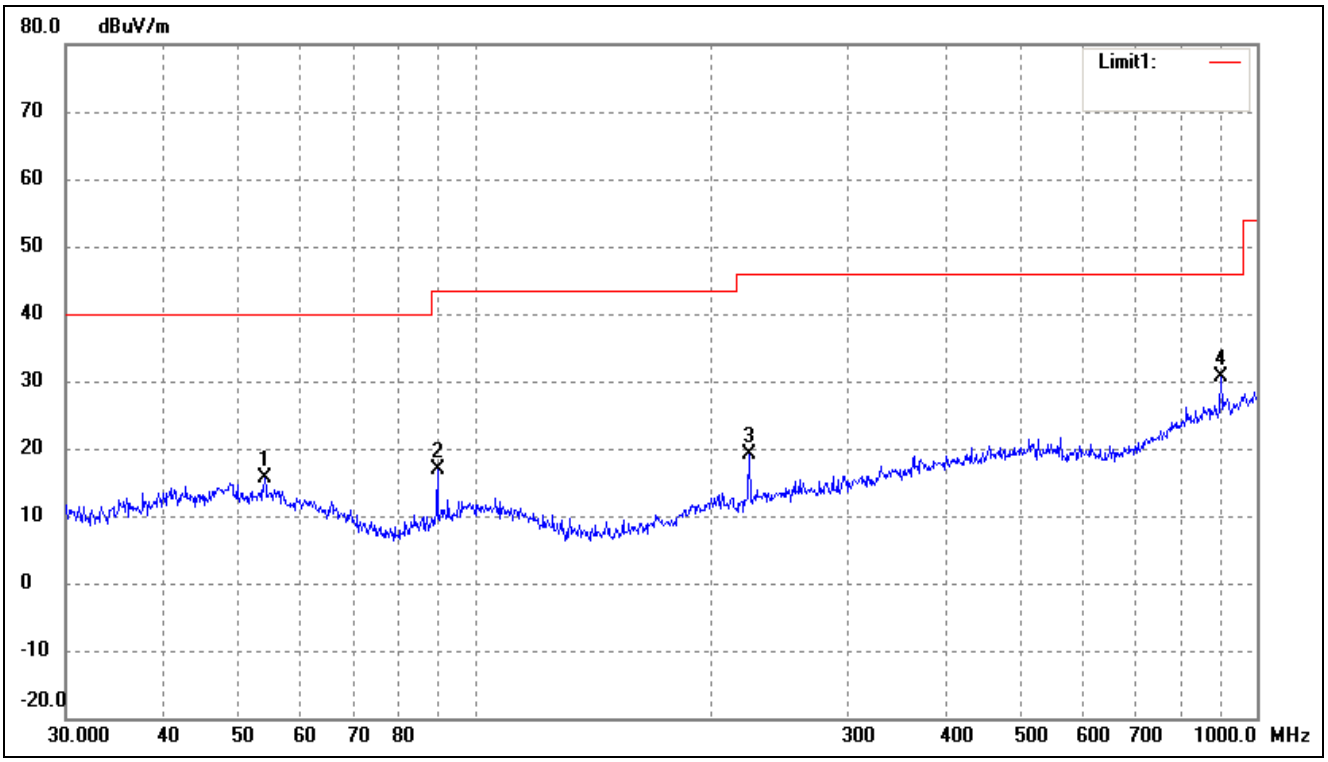
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	53.8817	23.40	-7.83	15.57	40.00	-24.43	360	100	peak
2	106.3850	22.23	-9.59	12.64	43.50	-30.86	360	100	peak
3	224.5192	27.85	-8.65	19.20	46.00	-26.80	360	100	peak
4	560.6928	23.20	-1.46	21.74	46.00	-24.26	360	100	peak
5*	884.5028	21.94	4.92	26.86	46.00	-19.14	360	100	peak

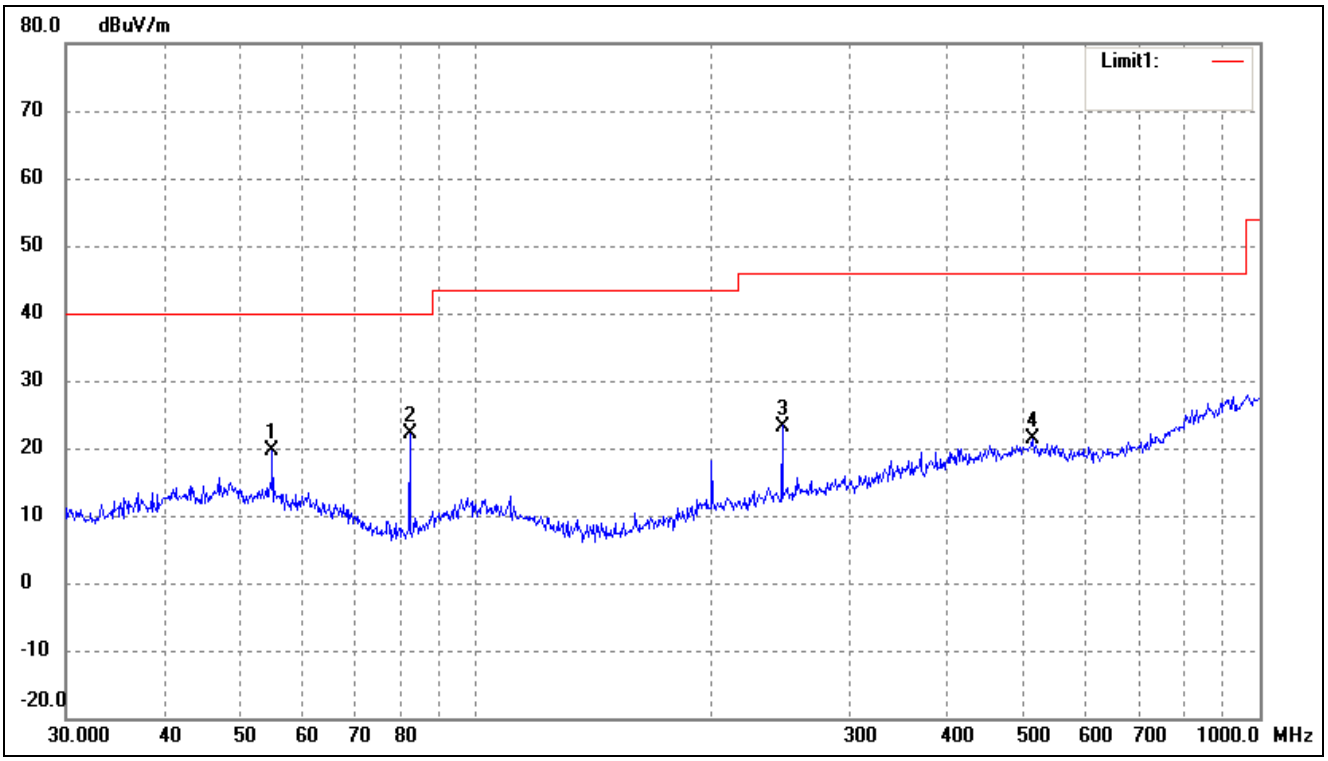
Operating Condition: *802.11b Transmitting High Channel-2472MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	53.8818	23.40	-7.83	15.57	40.00	-24.43	360	100	peak
2	89.5900	28.17	-11.28	16.89	43.50	-26.61	360	100	peak
3	224.5193	27.85	-8.65	19.20	46.00	-26.80	360	100	peak
4*	900.1474	25.27	5.38	30.65	46.00	-15.35	360	100	peak

Test Specification: *Vertical*

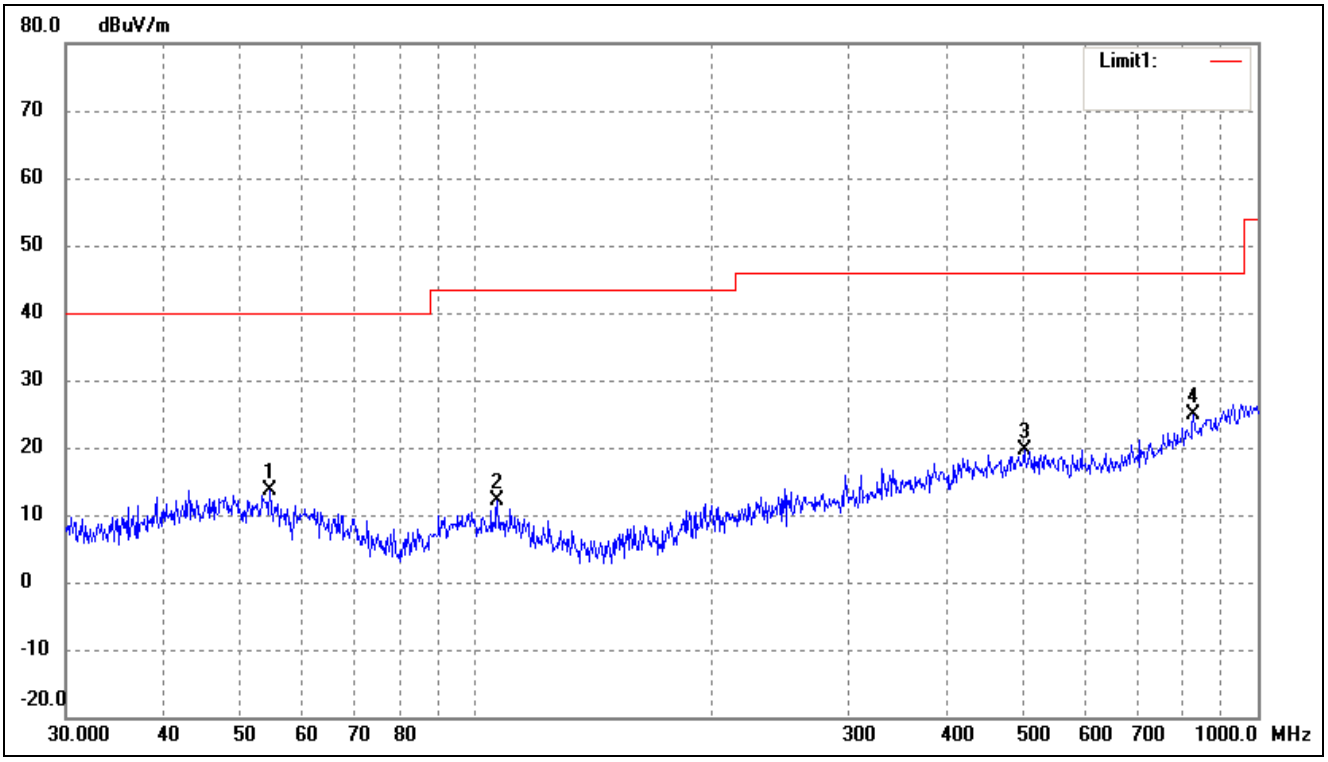


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	55.0274	27.47	-7.95	19.52	40.00	-20.48	360	100	peak
2*	82.3589	35.10	-13.03	22.07	40.00	-17.93	360	100	peak
3	245.9509	30.86	-7.61	23.25	46.00	-22.75	360	100	peak
4	513.6331	22.23	-0.79	21.44	46.00	-24.56	360	100	peak

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

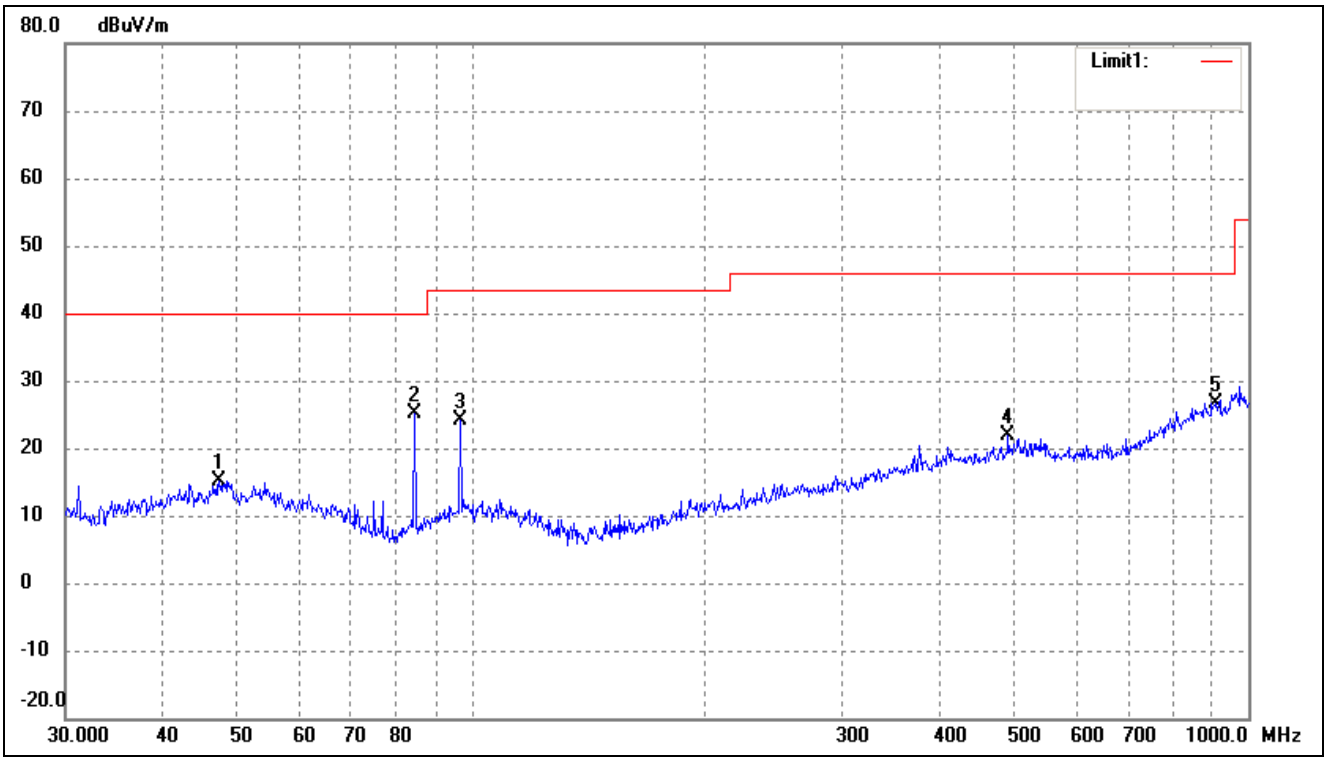
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *802.11g Transmitting Low Channel-2412MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	54.6429	21.48	-7.91	13.57	40.00	-26.43	360	100	peak
2	106.7587	21.76	-9.59	12.17	43.50	-31.33	360	100	peak
3	502.9395	20.67	-1.05	19.62	46.00	-26.38	360	100	peak
4*	827.4933	20.83	4.09	24.92	46.00	-21.08	360	100	peak

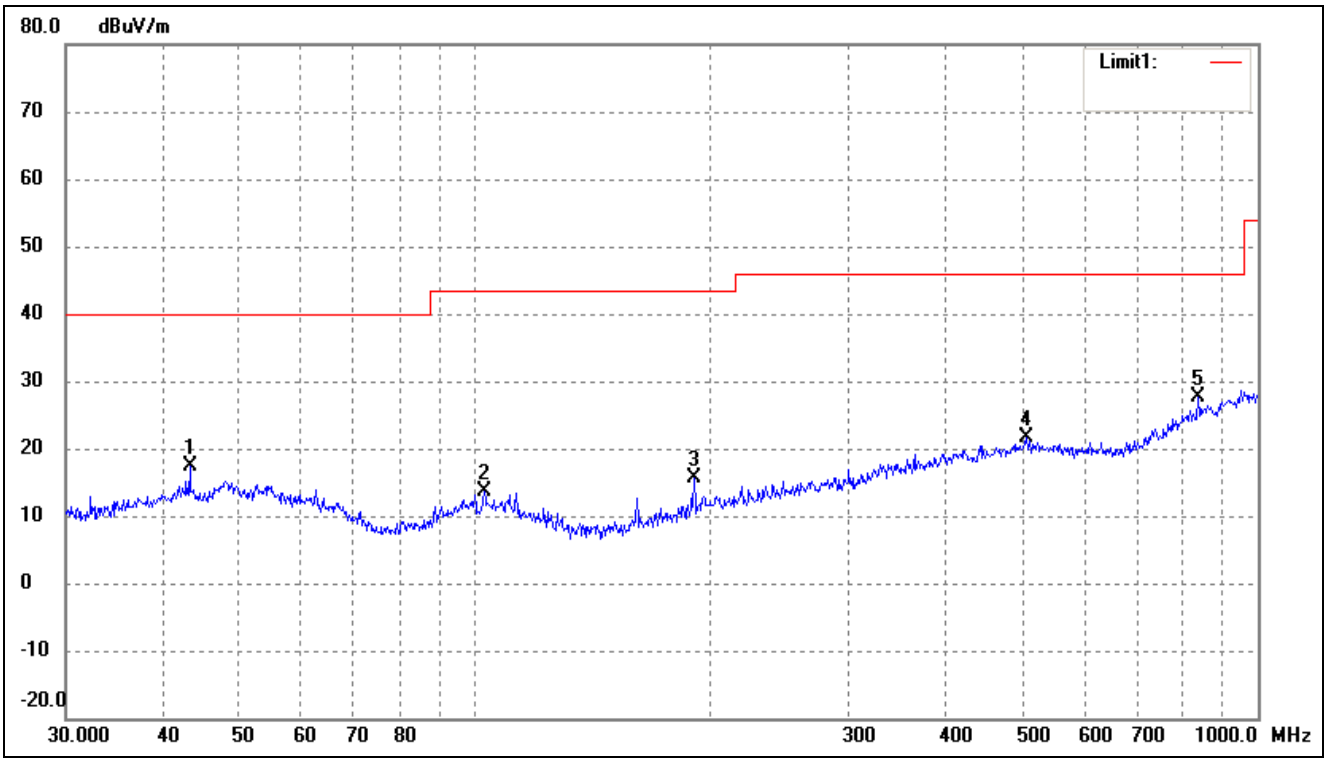
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	47.3255	22.65	-7.45	15.20	40.00	-24.80	360	100	peak
2*	84.4054	37.84	-12.62	25.22	40.00	-14.78	360	100	peak
3	96.7749	34.18	-9.95	24.23	43.50	-19.27	360	100	peak
4	490.7447	23.13	-1.33	21.80	46.00	-24.20	360	100	peak
5	906.4824	21.12	5.45	26.57	46.00	-19.43	360	100	peak

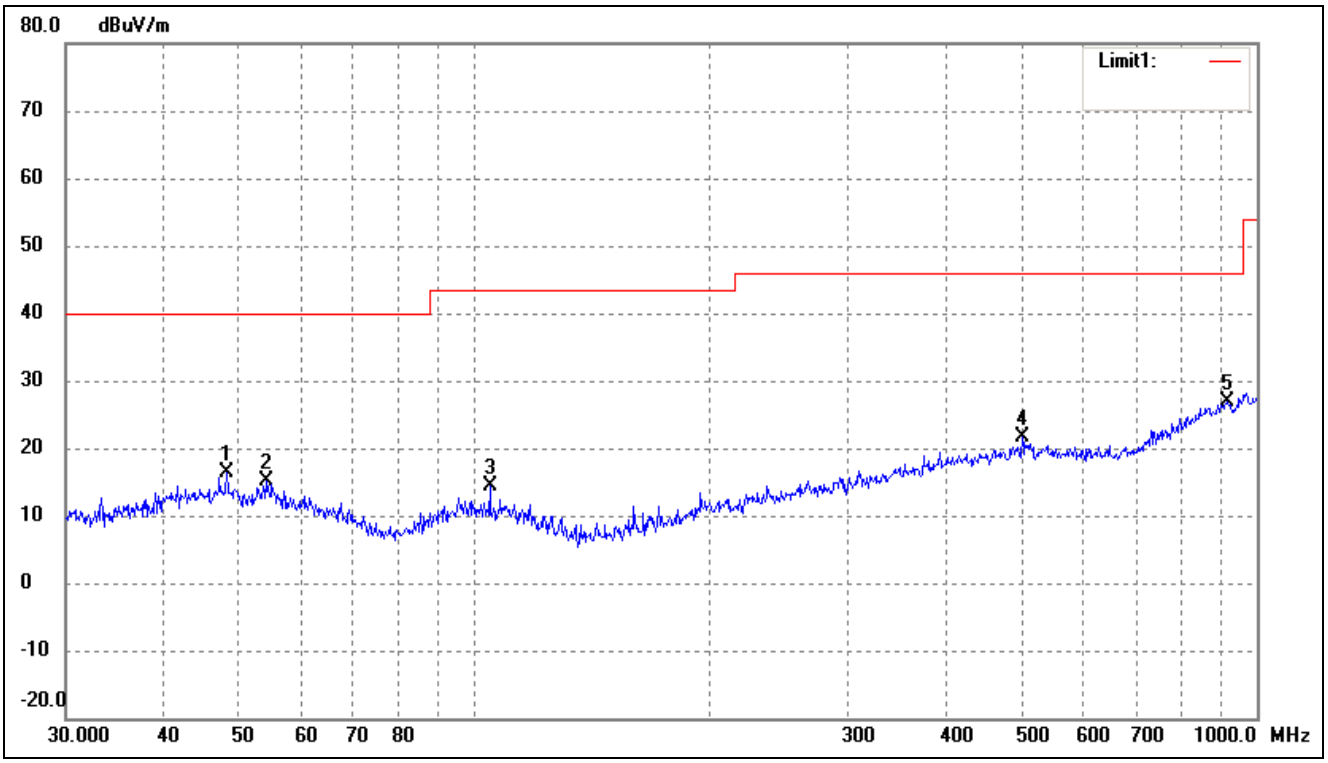
Operating Condition: *802.11g Transmitting Middle Channel-2437MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	43.2017	25.28	-7.82	17.46	40.00	-22.54	360	100	peak
2	102.7192	23.11	-9.57	13.54	43.50	-29.96	360	100	peak
3	190.4050	25.56	-10.01	15.55	43.50	-27.95	360	100	peak
4	506.4791	22.71	-1.16	21.55	46.00	-24.45	360	100	peak
5*	839.1817	23.87	3.64	27.51	46.00	-18.49	360	100	peak

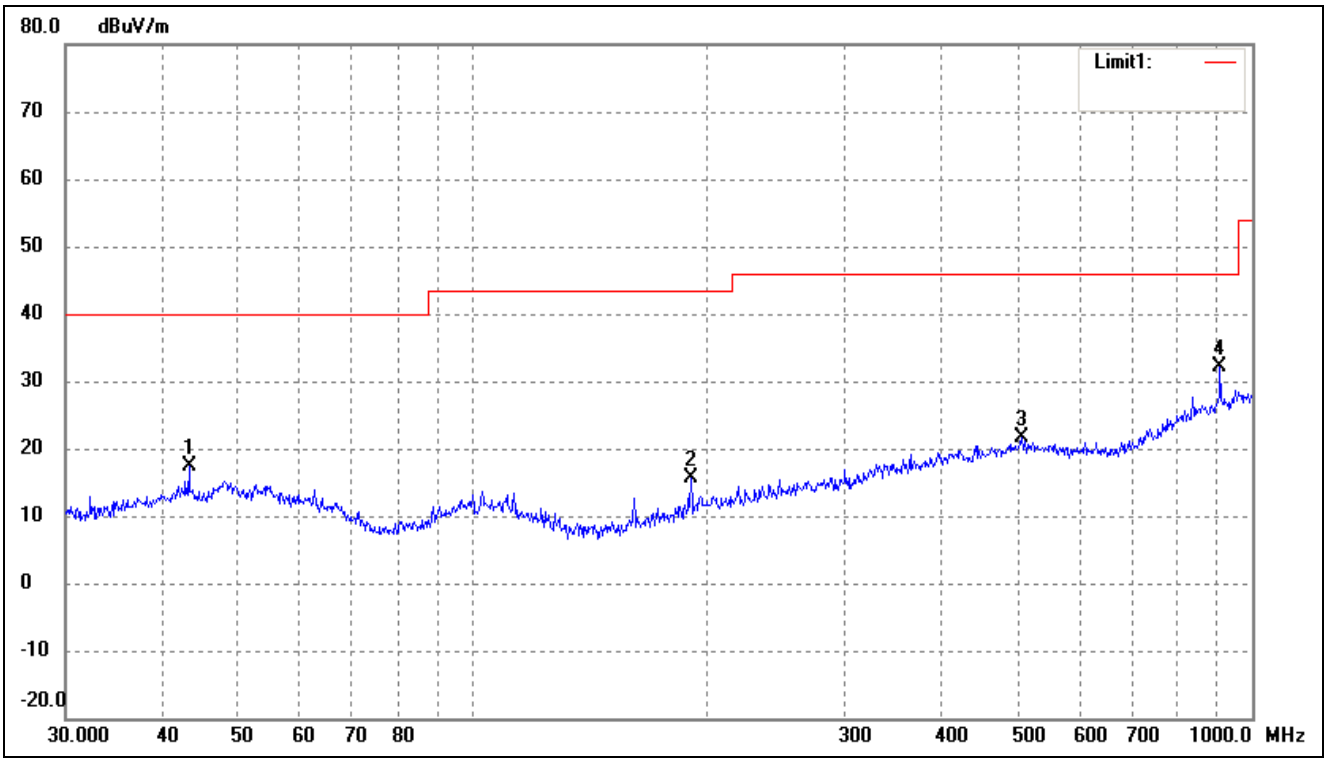
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	48.1626	23.79	-7.46	16.33	40.00	-23.67	360	100	peak
2	54.0711	22.96	-7.85	15.11	40.00	-24.89	360	100	peak
3	104.5361	23.99	-9.58	14.41	43.50	-29.09	360	100	peak
4	501.1790	22.85	-1.10	21.75	46.00	-24.25	360	100	peak
5*	916.0687	21.20	5.56	26.76	46.00	-19.24	360	100	peak

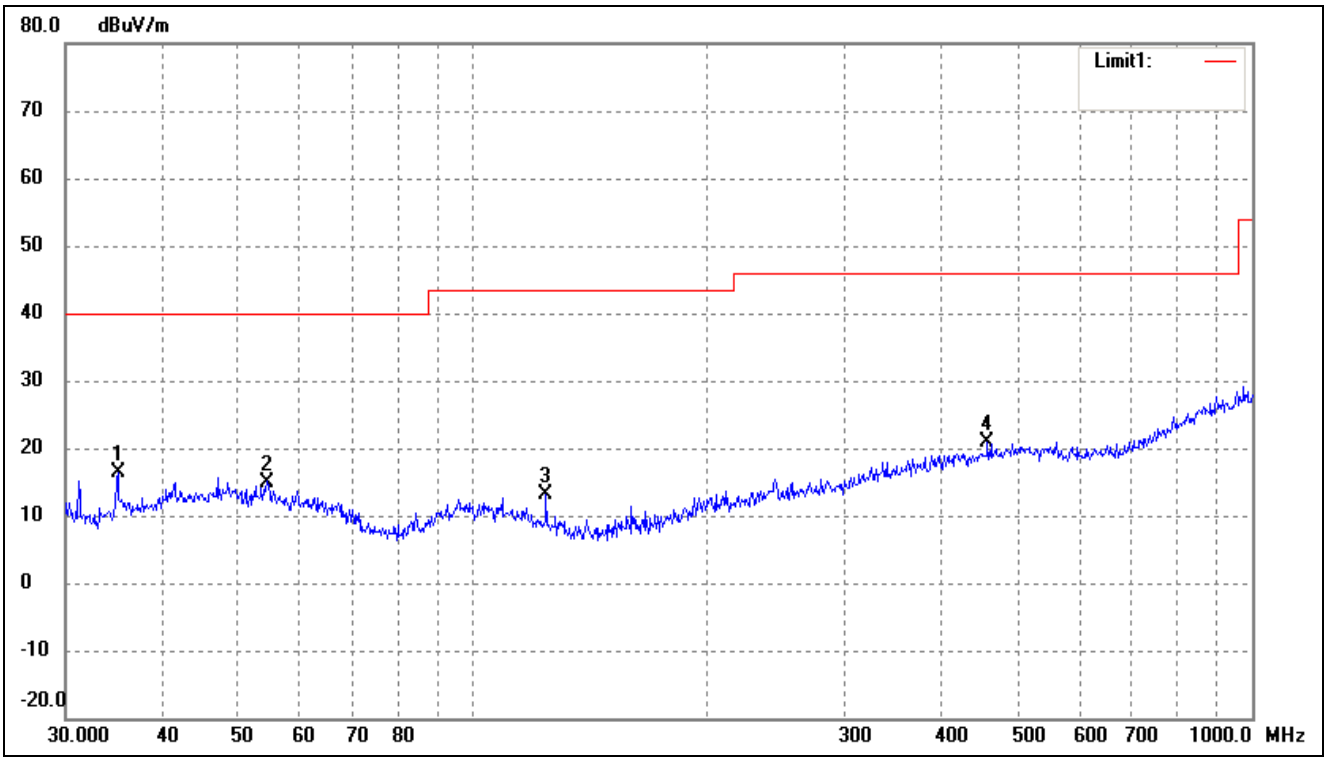
Operating Condition: *802.11g Transmitting High Channel-2462MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	43.2017	25.28	-7.82	17.46	40.00	-22.54	360	100	peak
2	190.4050	25.56	-10.01	15.55	43.50	-27.95	360	100	peak
3	506.4791	22.71	-1.16	21.55	46.00	-24.45	360	100	peak
4*	909.6667	26.75	5.49	32.24	46.00	-13.76	360	100	peak

Test Specification: *Vertical*

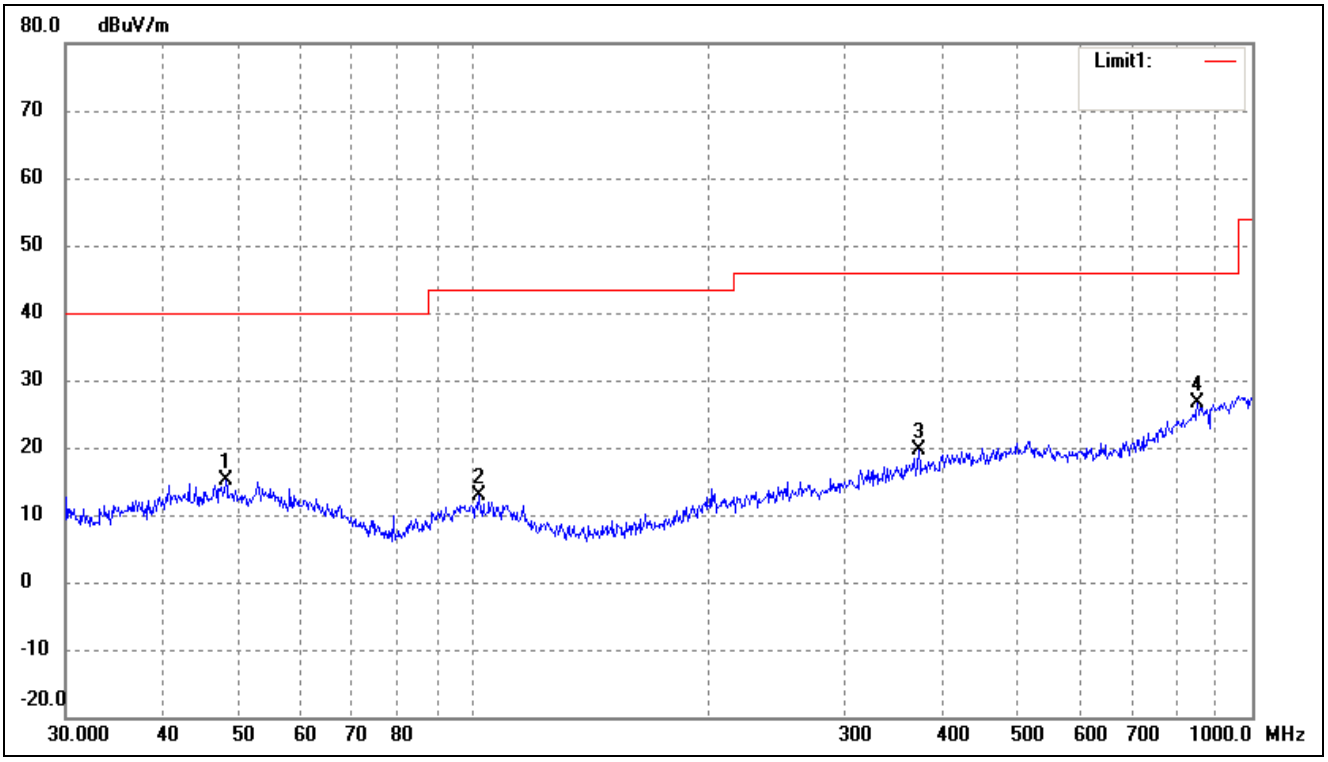


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1*	35.0048	26.42	-10.05	16.37	40.00	-23.63	360	100	peak
2	54.4516	22.90	-7.90	15.00	40.00	-25.00	360	100	peak
3	124.1330	25.07	-11.88	13.19	43.50	-30.31	360	100	peak
4	457.5073	23.03	-2.08	20.95	46.00	-25.05	360	100	peak

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

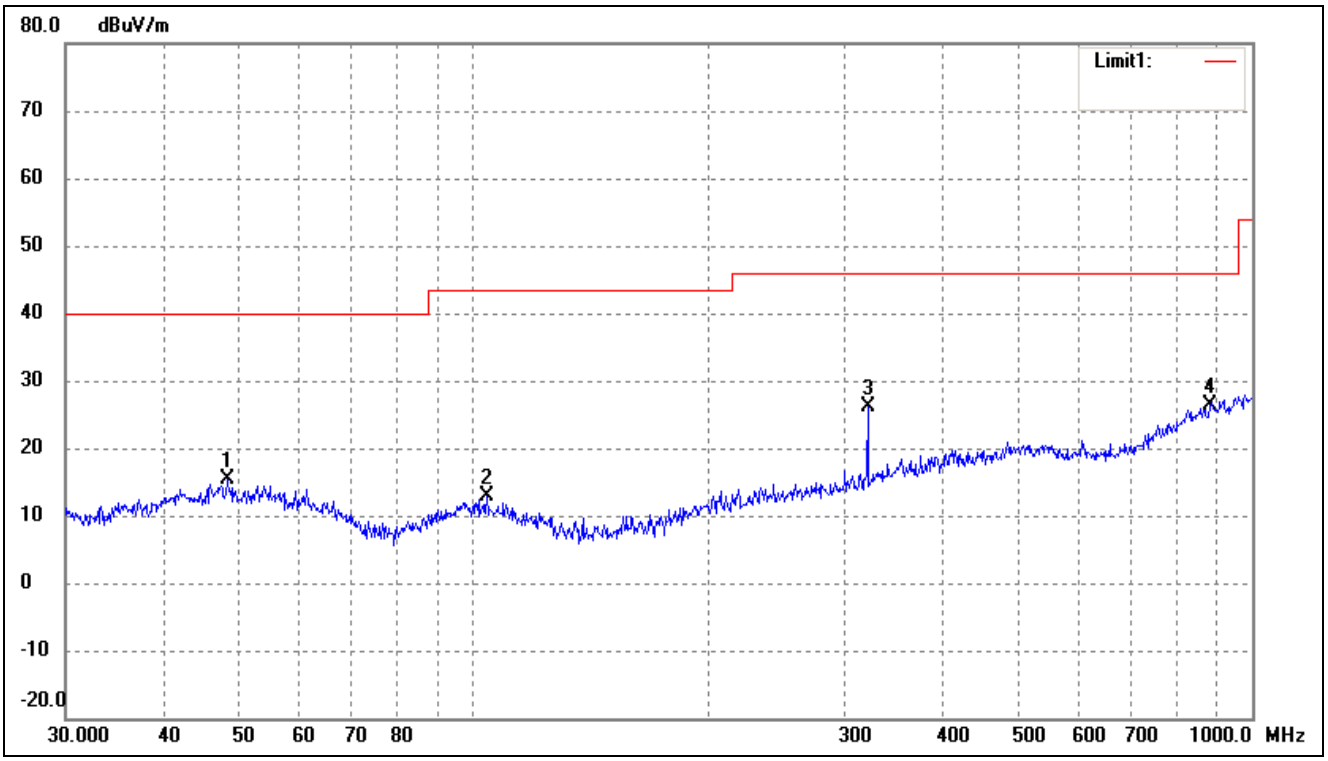
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *802.11n-HT20 Transmitting Low Channel-2412MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	48.1626	22.60	-7.46	15.14	40.00	-24.86	360	100	peak
2	101.6443	22.32	-9.56	12.76	43.50	-30.74	360	100	peak
3	373.3112	23.32	-3.75	19.57	46.00	-26.43	360	100	peak
4*	851.0353	22.62	3.92	26.54	46.00	-19.46	360	100	peak

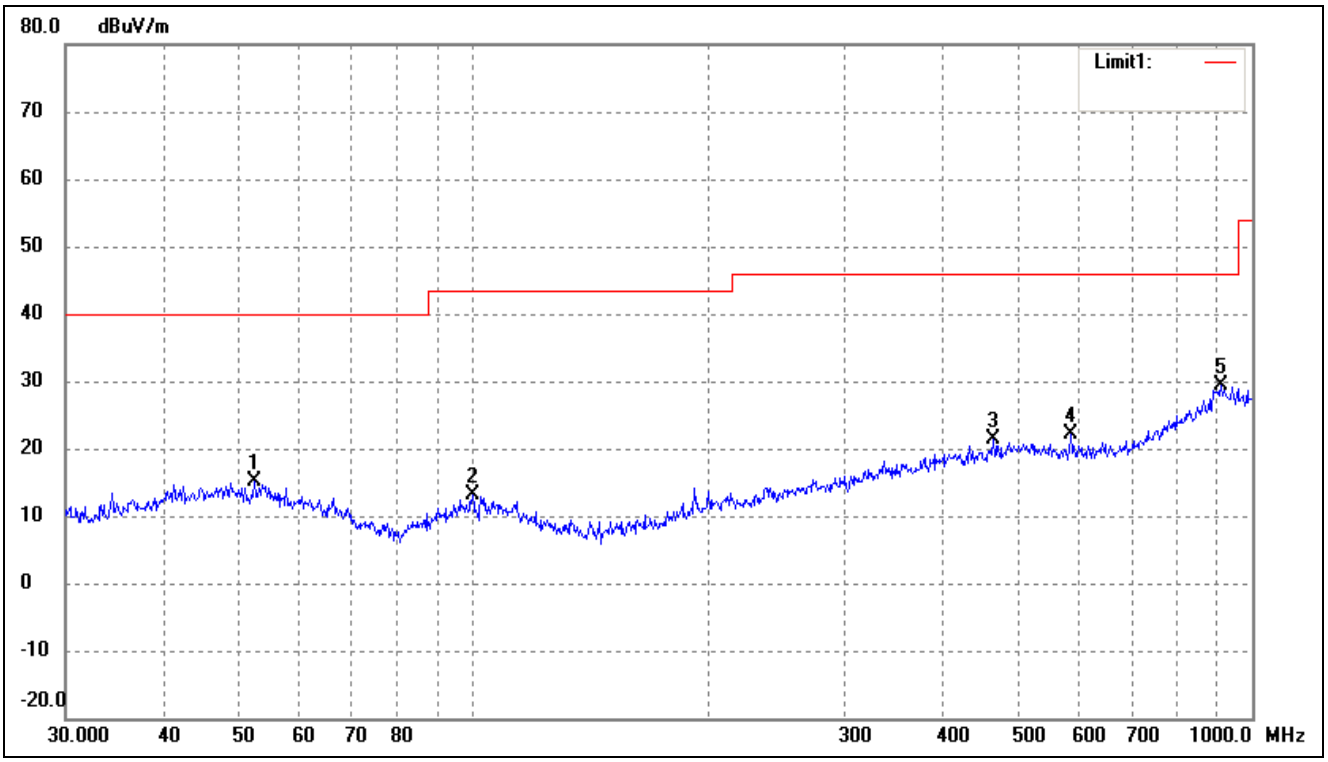
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	48.3318	22.76	-7.45	15.31	40.00	-24.69	360	100	peak
2	104.1701	22.36	-9.58	12.78	43.50	-30.72	360	100	peak
3	321.0608	31.61	-5.47	26.14	46.00	-19.86	360	100	peak
4*	881.4067	21.33	5.01	26.34	46.00	-19.66	360	100	peak

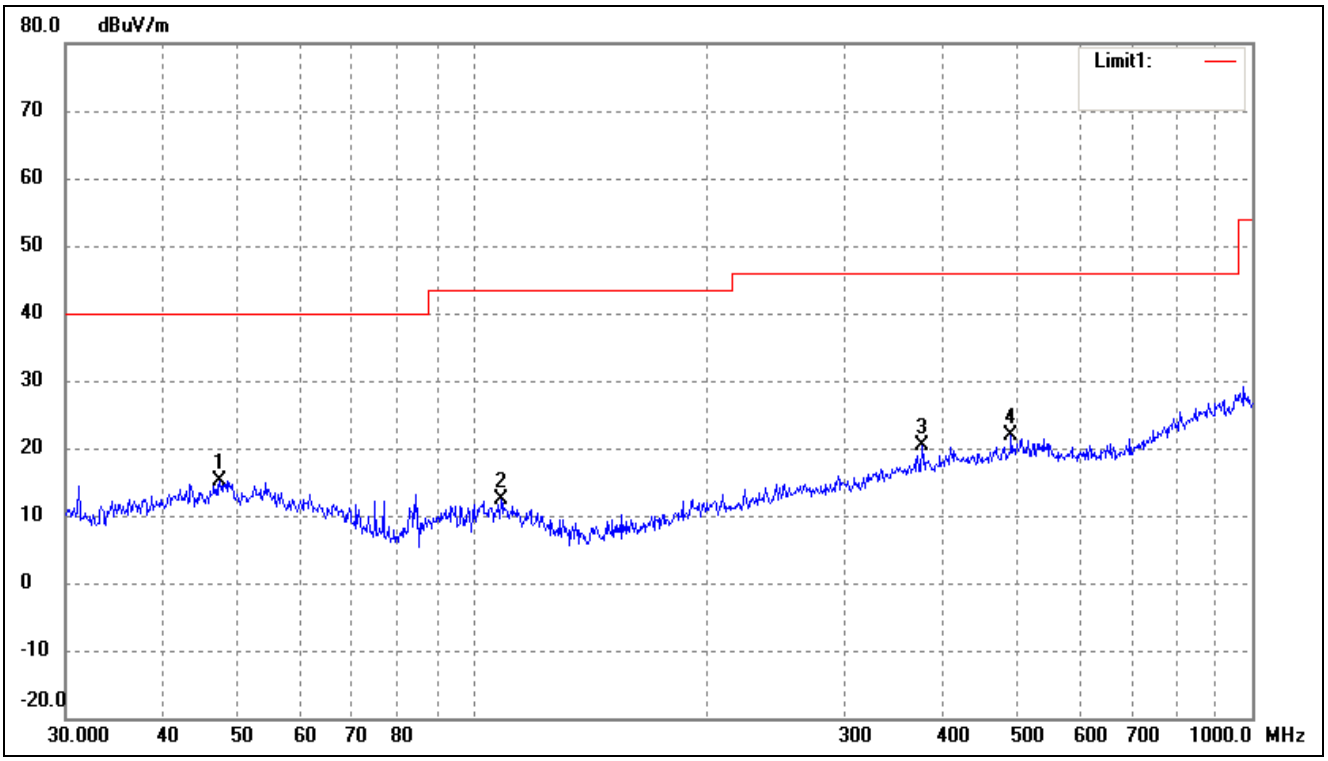
Operating Condition: *802.11n-HT20 Transmitting Middle Channel-2437MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	52.3912	22.71	-7.68	15.03	40.00	-24.97	360	100	peak
2	99.8777	22.76	-9.58	13.18	43.50	-30.32	360	100	peak
3	465.5994	23.31	-1.92	21.39	46.00	-24.61	360	100	peak
4	584.7895	23.76	-1.71	22.05	46.00	-23.95	360	100	peak
5*	912.8620	23.90	5.53	29.43	46.00	-16.57	360	100	peak

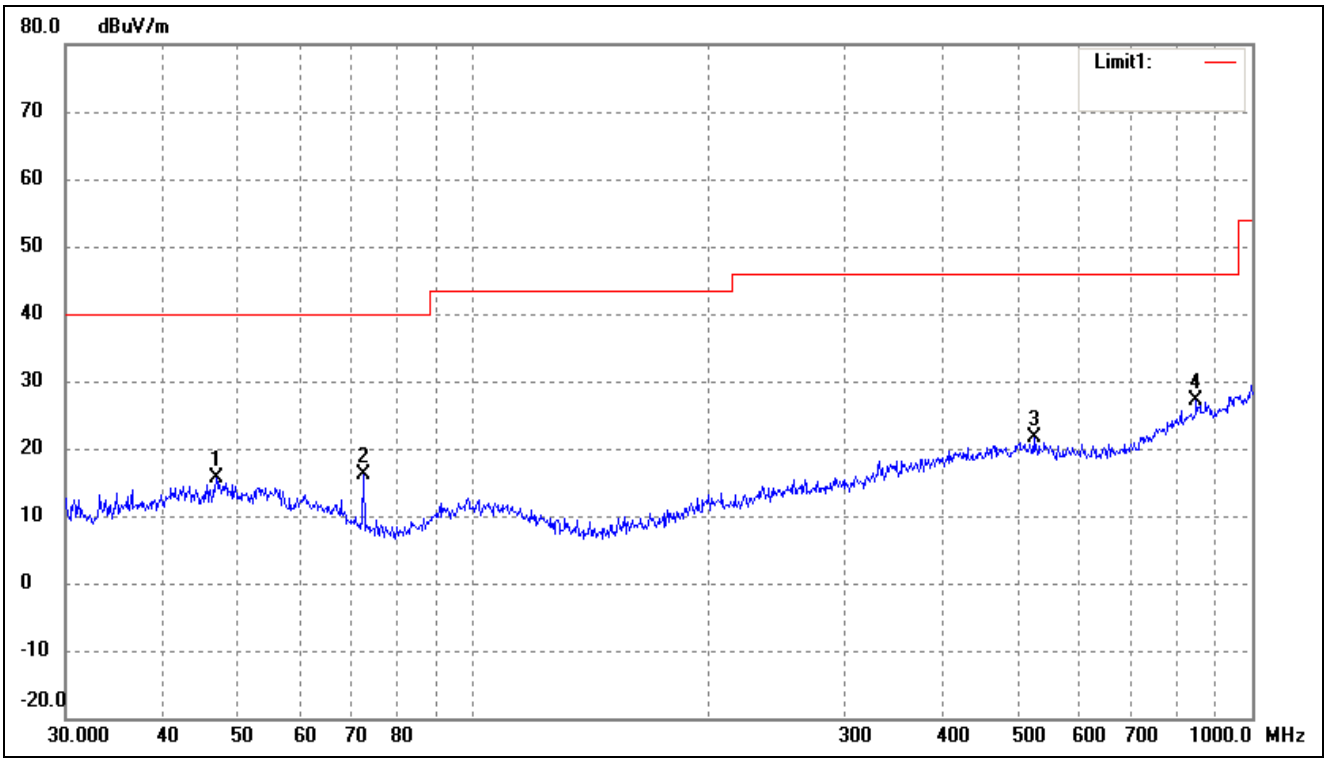
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	47.3254	22.65	-7.45	15.20	40.00	-24.80	360	100	peak
2	108.6470	22.00	-9.60	12.40	43.50	-31.10	360	100	peak
3	377.2590	23.94	-3.66	20.28	46.00	-25.72	360	100	peak
4*	490.7447	23.13	-1.33	21.80	46.00	-24.20	360	100	peak

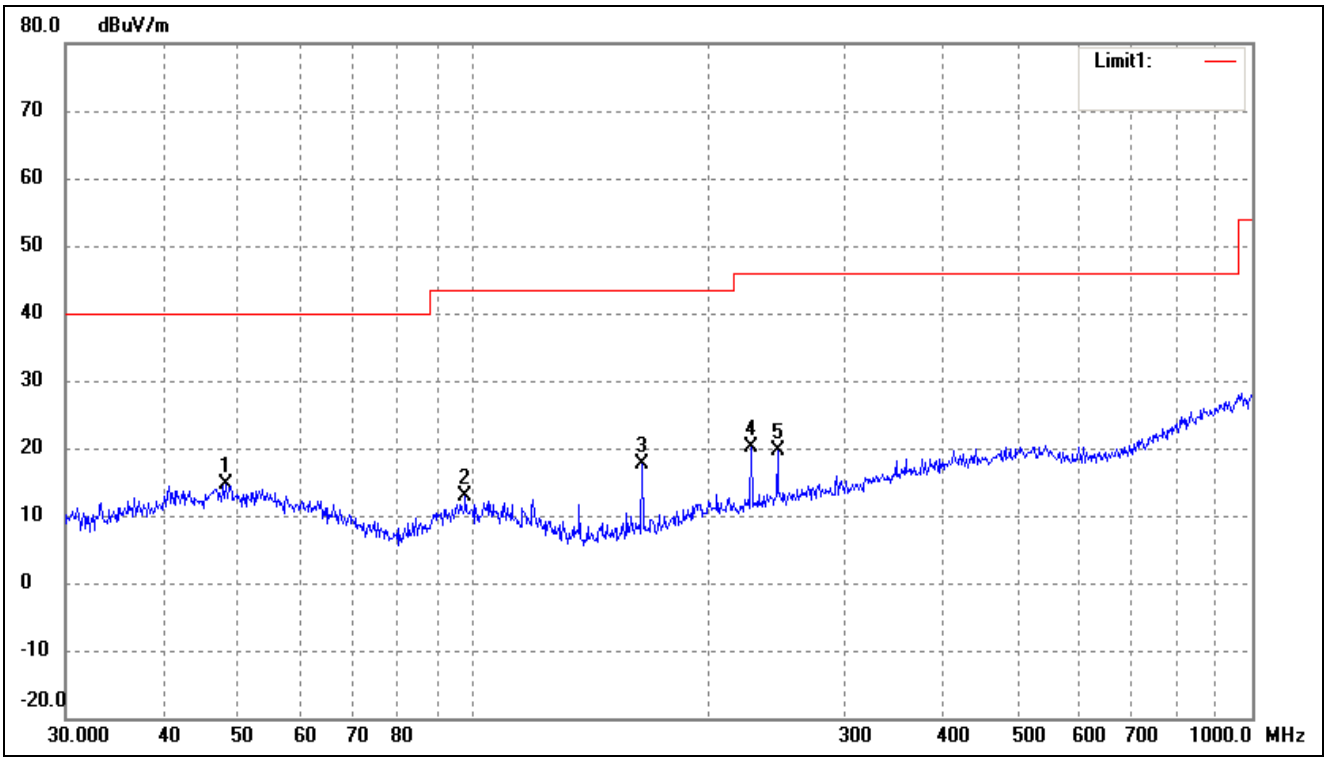
Operating Condition: *802.11n-HT20 Transmitting High Channel-2462MHz*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	46.8303	23.12	-7.45	15.67	40.00	-24.33	360	100	peak
2	72.3376	28.63	-12.41	16.22	40.00	-23.78	360	100	peak
3	524.5541	22.75	-1.24	21.51	46.00	-24.49	360	100	peak
4*	848.0563	23.22	3.84	27.06	46.00	-18.94	360	100	peak

Test Specification: *Vertical*

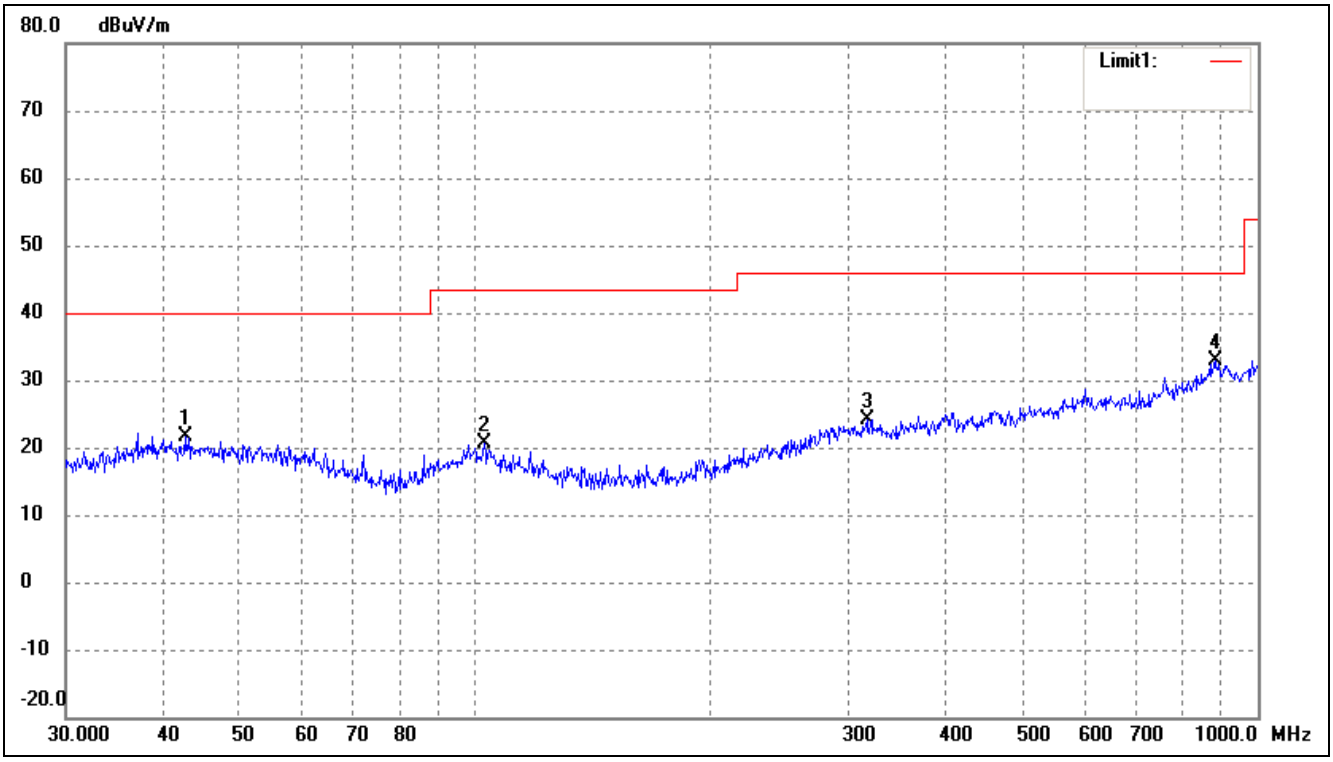


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1*	48.1626	22.10	-7.46	14.64	40.00	-25.36	360	100	peak
2	97.7983	22.59	-9.82	12.77	43.50	-30.73	360	100	peak
3	164.9075	29.81	-12.09	17.72	43.50	-25.78	360	100	peak
4	227.6906	28.71	-8.49	20.22	46.00	-25.78	360	100	peak
5	245.9509	27.34	-7.61	19.73	46.00	-26.27	360	100	peak

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

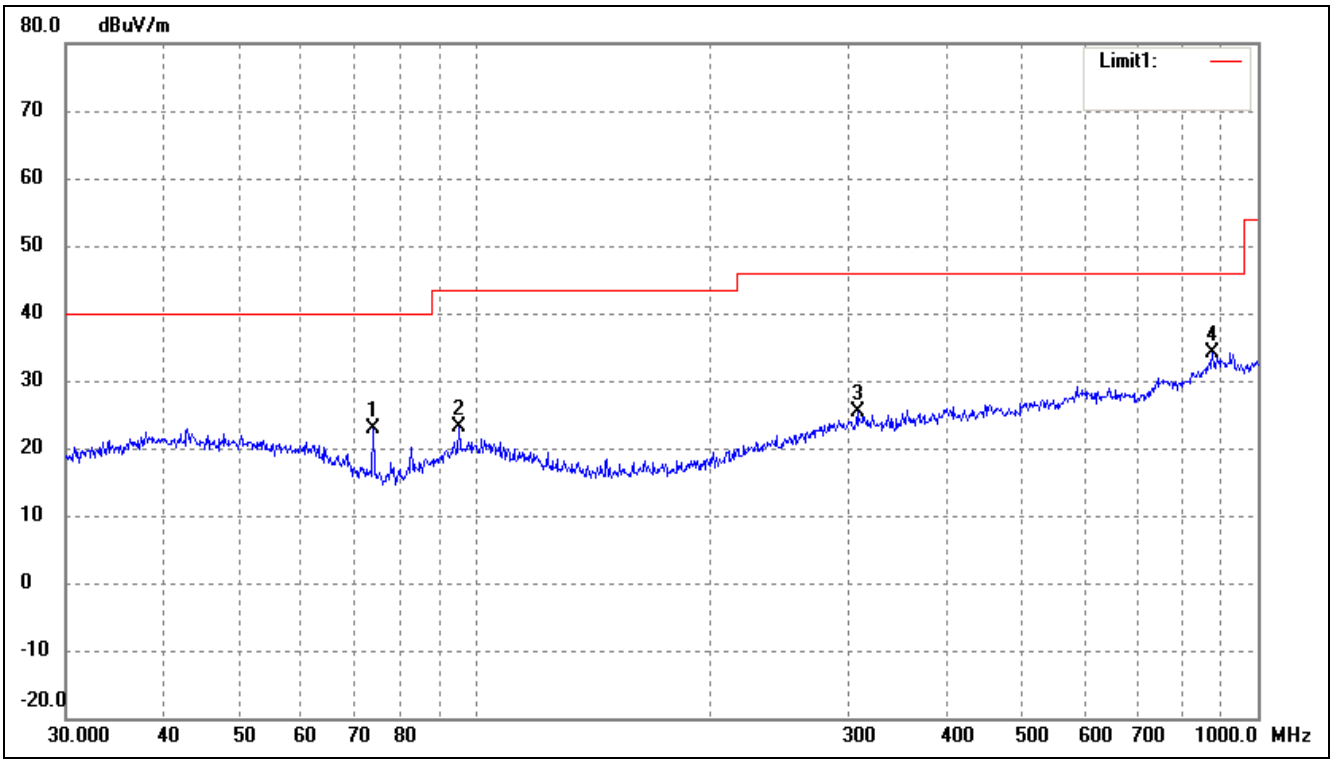
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *802.11n-HT40 Transmitting Low Channel-2422MHz*
Comment: *DC 3.7V*

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	42.6000	14.74	6.99	21.73	40.00	-18.27	145	100	peak
2	102.7192	14.74	5.85	20.59	43.50	-22.91	267	100	peak
3	316.5890	14.81	9.28	24.09	46.00	-21.91	168	100	peak
4	881.4067	16.01	16.82	32.83	46.00	-13.17	122	100	peak

Test Specification: *Vertical*

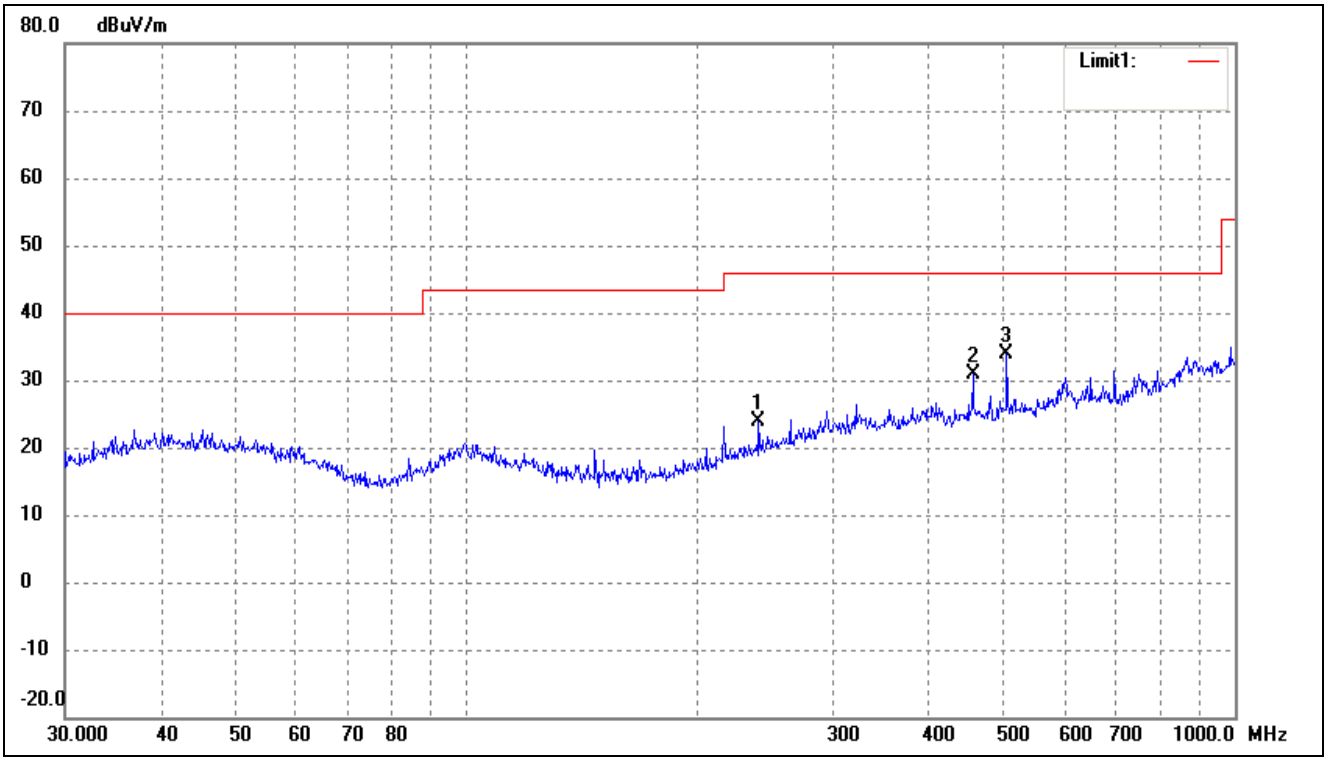


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	74.1351	21.25	1.70	22.95	40.00	-17.05	78	100	peak
2	95.4270	18.07	4.98	23.05	43.50	-20.45	214	100	peak
3	307.8313	16.06	9.22	25.28	46.00	-20.72	274	100	peak
4	875.2470	17.31	16.70	34.01	46.00	-11.99	60	100	peak

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

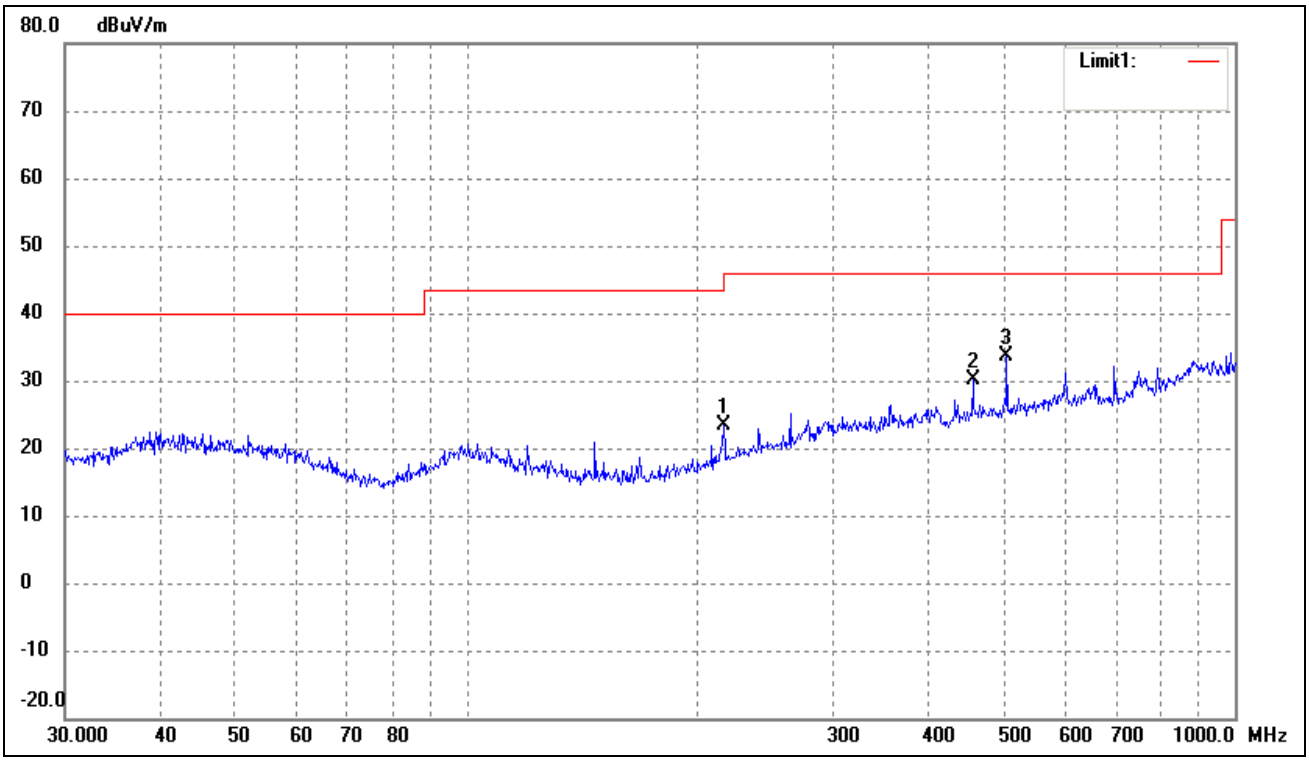
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *802.11n-HT40 Transmitting Middle Channel-2437MHz*
Comment: *DC 3.7V*

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	239.9874	17.49	6.33	23.82	46.00	-22.18	360	100	peak
2	455.9058	20.41	10.45	30.86	46.00	-15.14	225	100	peak
3	504.7062	23.00	10.98	33.98	46.00	-12.02	160	100	peak

Test Specification: *Vertical*

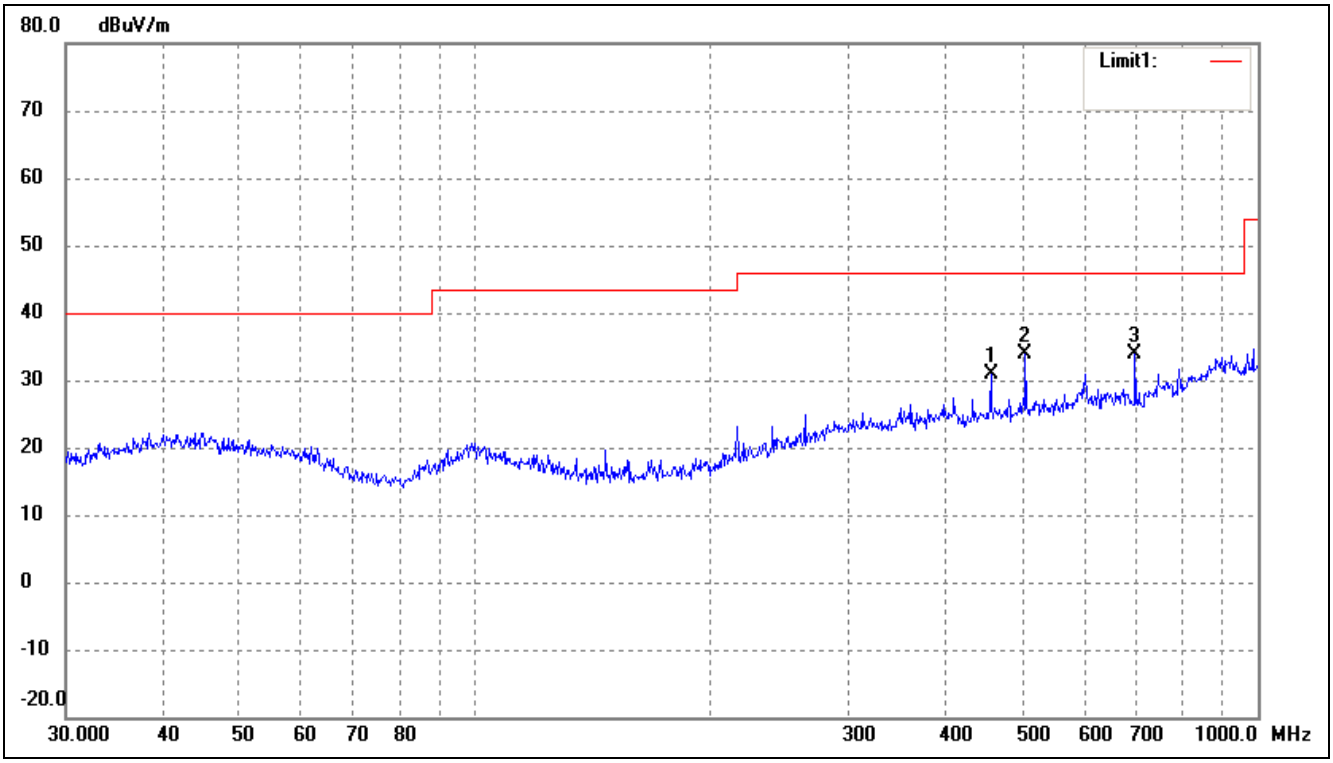


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	216.0240	18.65	4.81	23.46	46.00	-22.54	177	100	peak
2	455.9058	19.77	10.45	30.22	46.00	-15.78	90	100	peak
3	504.7062	22.58	10.98	33.56	46.00	-12.44	336	100	peak

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

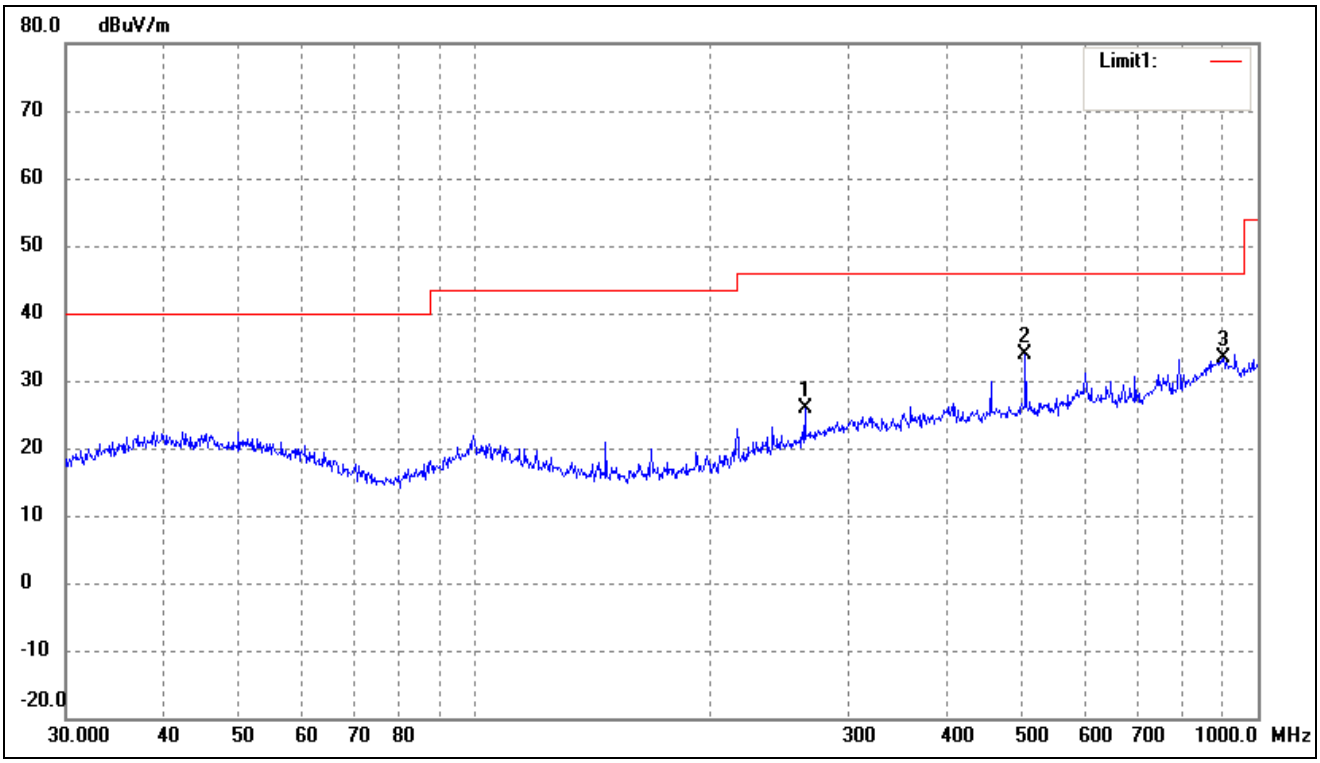
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *802.11n-HT40 Transmitting High Channel-2452MHz*
Comment: *DC 3.7V*

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	455.9058	20.47	10.45	30.92	46.00	-15.08	256	100	peak
2	504.7062	22.78	10.98	33.76	46.00	-12.24	360	100	peak
3	696.8567	20.06	13.70	33.76	46.00	-12.24	360	100	peak

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	263.8190	18.47	7.29	25.76	46.00	-20.24	114	100	peak
2	504.7062	22.79	10.98	33.77	46.00	-12.23	270	100	peak
3	903.3094	16.65	16.79	33.44	46.00	-12.56	360	100	peak

Spurious Emissions Above 1GHz

Test Mode: 802.11b

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824.000	42.70	0.57	43.27	74.00	-30.73	H	PK
4824.000	31.72	0.57	32.29	54.00	-21.71	H	AV
7236.000	33.79	3.69	37.48	74.00	-36.52	H	PK
7236.000	21.16	3.69	24.85	54.00	-29.15	H	AV
4824.000	42.92	0.57	43.49	74.00	-30.51	V	PK
4824.000	32.36	0.62	32.98	54.00	-21.02	V	AV
7236.000	36.21	3.76	39.97	74.00	-34.03	V	PK
7236.000	24.65	3.76	28.41	54.00	-25.59	V	AV
Middle Channel-2437MHz							
4884.000	43.15	0.66	43.81	74.00	-30.19	H	PK
4884.000	31.83	0.66	32.49	54.00	-21.51	H	AV
7326.000	37.03	3.76	40.79	74.00	-33.21	H	PK
7326.000	25.97	3.76	29.73	54.00	-24.27	H	AV
4884.000	43.23	0.60	43.83	74.00	-30.17	V	PK
4884.000	31.95	0.60	32.55	54.00	-21.45	V	AV
7326.000	36.44	3.76	40.20	74.00	-33.80	V	PK
7326.000	25.33	3.76	29.09	54.00	-24.91	V	AV
High Channel-2462MHz							
4924.000	55.82	-3.59	52.23	74.00	-21.77	H	PK
4924.000	41.76	-3.59	38.17	54.00	-15.83	H	AV
7386.000	46.38	1.79	48.17	74.00	-25.83	H	PK
7386.000	34.83	1.79	36.62	54.00	-17.38	H	AV
4924.000	54.94	-3.59	51.35	74.00	-22.65	V	PK
4924.000	42.04	-3.59	38.45	54.00	-15.55	V	AV
7386.000	47.99	1.79	49.78	74.00	-24.22	V	PK
7386.000	35.18	1.79	36.97	54.00	-17.03	V	AV

Test Mode: 802.11g

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2412MHz							
4824.000	42.16	0.57	42.73	74.00	-31.27	H	PK
4824.000	31.48	0.57	32.05	54.00	-21.95	H	AV
7236.000	33.13	3.69	36.82	74.00	-37.18	H	PK
7236.000	22.52	3.69	26.21	54.00	-27.79	H	AV
4824.000	42.92	0.57	43.49	74.00	-30.51	V	PK
4824.000	31.19	0.57	31.76	54.00	-22.24	V	AV
7236.000	33.81	3.69	37.50	74.00	-36.50	V	PK
7236.000	21.74	3.69	25.43	54.00	-28.57	V	AV
Middle Channel-2437MHz							
4884.000	42.66	0.66	43.32	74.00	-30.68	H	PK
4884.000	31.36	0.66	32.02	54.00	-21.98	H	AV
7326.000	35.92	3.76	39.68	74.00	-34.32	H	PK
7326.000	24.81	3.76	28.57	54.00	-25.43	H	AV
4884.000	42.88	0.66	43.54	74.00	-30.46	V	PK
4884.000	31.72	0.66	32.38	54.00	-21.62	V	AV
7326.000	36.62	3.76	40.38	74.00	-33.62	V	PK
7326.000	25.27	3.76	29.03	54.00	-24.97	V	AV
High Channel-2462MHz							
4924.000	54.00	-3.59	50.41	74.00	-23.59	H	PK
4924.000	40.75	-3.59	37.16	54.00	-16.84	H	AV
7386.000	47.18	1.79	48.97	74.00	-25.03	H	PK
7386.000	34.73	1.79	36.52	54.00	-17.48	H	AV
4924.000	56.11	-3.59	52.52	74.00	-21.48	V	PK
4924.000	42.69	-3.59	39.10	54.00	-14.90	V	AV
7386.000	48.58	1.79	50.37	74.00	-23.63	V	PK
7386.000	35.95	1.79	37.74	54.00	-16.26	V	AV

Test Mode: 802.11n-HT20

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2412MHz							
4824.000	42.53	0.57	43.10	74.00	-30.90	H	PK
4824.000	31.16	0.57	31.73	54.00	-22.27	H	AV
7236.000	33.42	3.69	37.11	74.00	-36.89	H	PK
7236.000	21.55	3.69	25.24	54.00	-28.76	H	AV
4824.000	41.63	0.57	42.20	74.00	-31.80	V	PK
4824.000	31.46	0.57	32.03	54.00	-21.97	V	AV
7236.000	32.59	3.69	36.28	74.00	-37.72	V	PK
7236.000	22.28	3.69	25.97	54.00	-28.03	V	AV
Middle Channel-2437MHz							
4884.000	43.49	0.66	44.15	74.00	-29.85	H	PK
4884.000	31.38	0.66	32.04	54.00	-21.96	H	AV
7326.000	35.65	3.76	39.41	74.00	-34.59	H	PK
7326.000	25.61	3.76	29.37	54.00	-24.63	H	AV
4884.000	42.11	0.66	42.77	74.00	-31.23	V	PK
4884.000	31.53	0.66	32.19	54.00	-21.81	V	AV
7326.000	36.08	3.76	39.84	74.00	-34.16	V	PK
7326.000	24.85	3.76	28.61	54.00	-25.39	V	AV
High Channel-2462MHz							
4924.000	53.90	-3.59	50.31	74.00	-23.69	H	PK
4924.000	43.23	-3.59	39.64	54.00	-14.36	H	AV
7386.000	48.31	1.79	50.10	74.00	-23.90	H	PK
7386.000	36.10	1.79	37.89	54.00	-16.11	H	AV
4924.000	55.70	-3.59	52.11	74.00	-21.89	V	PK
4924.000	41.48	-3.59	37.89	54.00	-16.11	V	AV
7386.000	48.55	1.79	50.34	74.00	-23.66	V	PK
7386.000	35.36	1.79	37.15	54.00	-16.85	V	AV

Test Mode: 802.11n-HT40

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2422MHz							
4844.000	43.14	0.60	43.74	74.00	-30.26	H	PK
4844.000	31.09	0.60	31.69	54.00	-22.31	H	AV
7266.000	33.78	3.72	37.50	74.00	-36.50	H	PK
7266.000	22.24	3.72	25.96	54.00	-28.04	H	AV
4844.000	42.77	0.60	43.37	74.00	-30.63	V	PK
4844.000	31.29	0.60	31.89	54.00	-22.11	V	AV
7266.000	34.00	3.72	37.72	74.00	-36.28	V	PK
7266.000	24.83	3.72	28.55	54.00	-25.45	V	AV
Middle Channel-2437MHz							
4884.000	42.42	0.66	43.08	74.00	-30.92	H	PK
4884.000	31.73	0.66	32.39	54.00	-21.61	H	AV
7326.000	36.10	3.76	39.86	74.00	-34.14	H	PK
7326.000	24.84	3.76	28.60	54.00	-25.40	H	AV
4884.000	4884.000	41.78	0.66	42.44	74.00	V	PK
4884.000	4884.000	31.66	0.66	32.32	54.00	V	AV
7326.000	7326.000	36.93	3.76	40.69	74.00	V	PK
7326.000	7326.000	25.66	3.76	29.42	54.00	V	AV
High Channel-2452MHz							
4904.000	53.90	-3.59	50.31	74.00	-23.69	H	PK
4904.000	43.23	-3.59	39.64	54.00	-14.36	H	AV
7356.000	48.31	1.79	50.10	74.00	-23.90	H	PK
7356.000	36.10	1.79	37.89	54.00	-16.11	H	AV
4904.000	55.70	-3.59	52.11	74.00	-21.89	V	PK
4904.000	41.48	-3.59	37.89	54.00	-16.11	V	AV
7356.000	48.55	1.79	50.34	74.00	-23.66	V	PK
7356.000	35.36	1.79	37.15	54.00	-16.85	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 3th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
The measurements greater than 20dB below the limit from 9kHz to 30MHz.

9. Out of Band Emissions

9.1 Standard Applicable

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

9.2 Test Equipment List and Details

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

9.3 Test Procedure

According to the KDB 558074D01 v03r02, the band-edge radiated test method as follows:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)
RBW = 1MHz, VBW = 1MHz for peak value measured
RBW = 1MHz, VBW = 10Hz for average value measured
Sweep = auto; Detector function = peak/average; Trace = max hold

All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.

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

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

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

9.4 Environmental Conditions

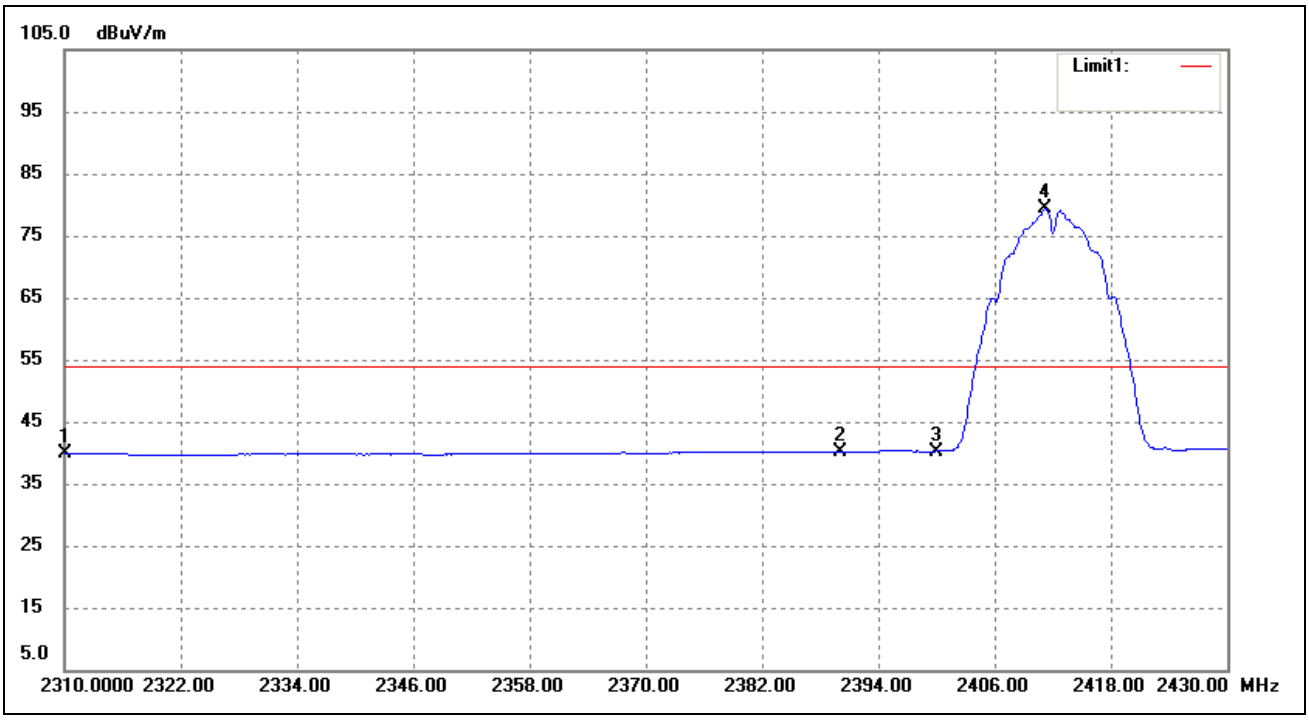
Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

9.5 Summary of Test Results/Plots

Please refer to the test plots as below.

802.11b-Lowest Bandedge

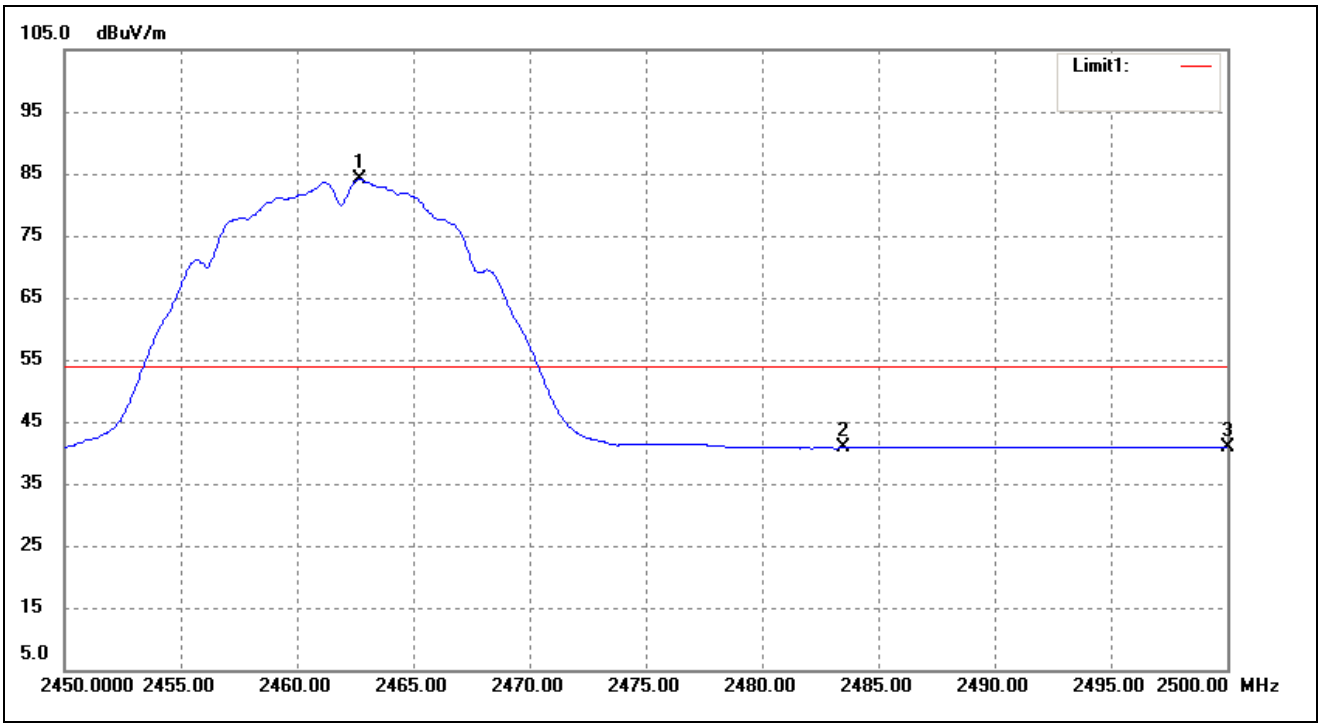
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	23.58	16.34	39.92	54.00	-14.08	Average Detector
	2310.000	35.89	16.34	52.23	74.00	-21.77	Peak Detector
2	2390.000	23.09	17.03	40.12	54.00	-13.88	Average Detector
	2390.000	35.52	17.03	52.55	74.00	-21.45	Peak Detector
3	2400.000	23.14	17.11	40.25	Delta=39.07dBc		Average Detector
4	2411.160	62.13	17.19	79.32			Average Detector

802.11b-Highest Bandedge

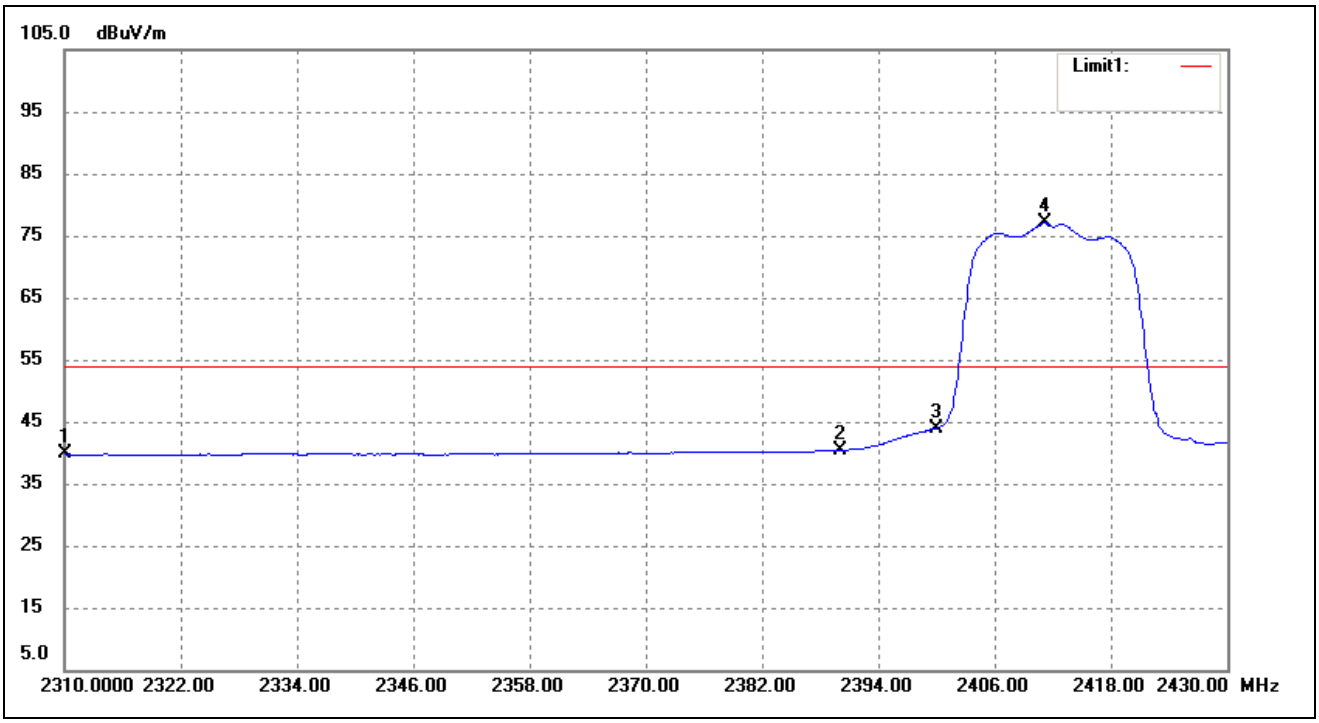
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2462.700	66.59	17.57	84.16	/	/	Average Detector
	2462.900	79.64	17.58	97.22	/	/	Peak Detector
2	2483.500	Delta = 43.38dBc		40.78	54.00	-13.22	Average Detector
	2483.500			53.84	74.00	-20.16	Peak Detector
3	2500.000	23.07	17.86	40.93	54.00	-13.07	Average Detector
	2500.000	35.21	17.86	53.07	74.00	-20.93	Peak Detector

802.11g-Lowest Bandedge

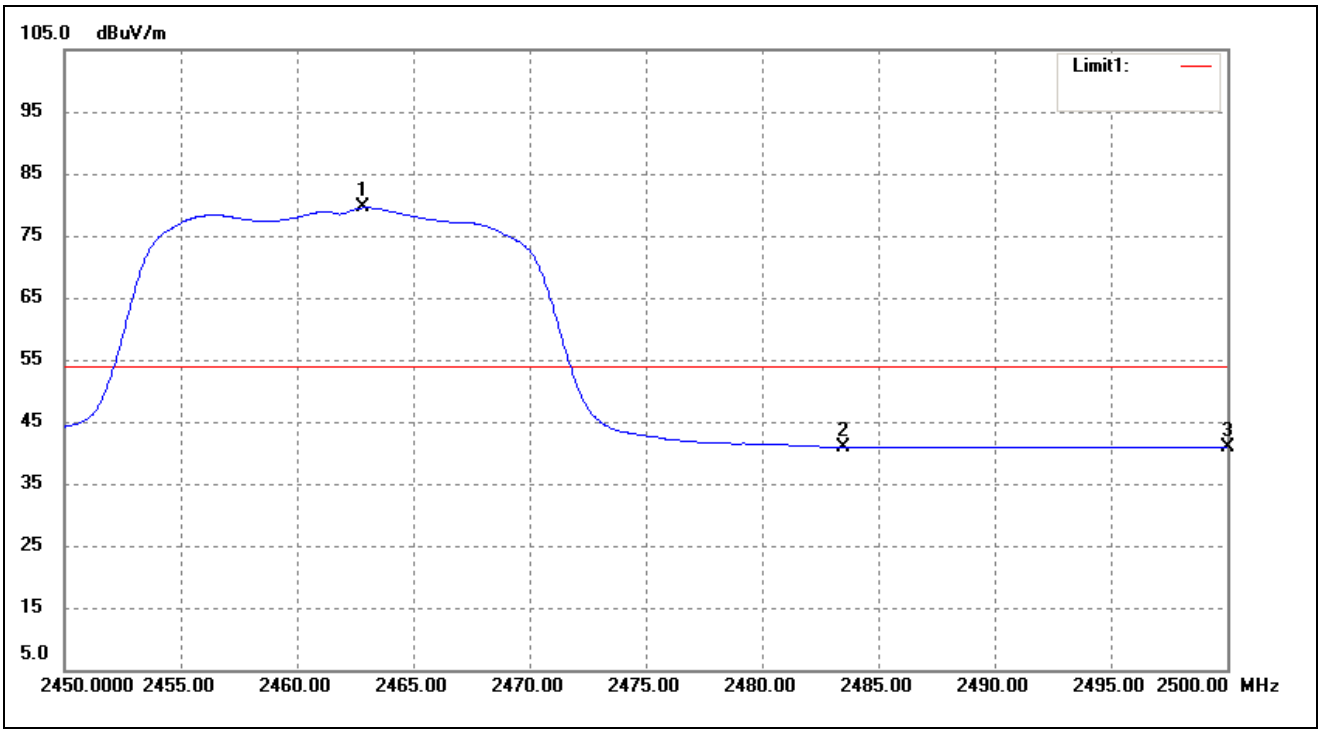
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	23.42	16.34	39.76	54.00	-14.24	Average Detector
	2310.000	36.13	16.34	52.47	74.00	-21.53	Peak Detector
2	2390.000	23.42	17.03	40.45	54.00	-13.55	Average Detector
	2390.000	36.71	17.03	53.74	74.00	-20.26	Peak Detector
3	2400.000	26.89	17.11	44.00	Delta=33.04dBc		Average Detector
	2411.160	59.85	17.19	77.04			Average Detector

802.11g-Highest Bandedge

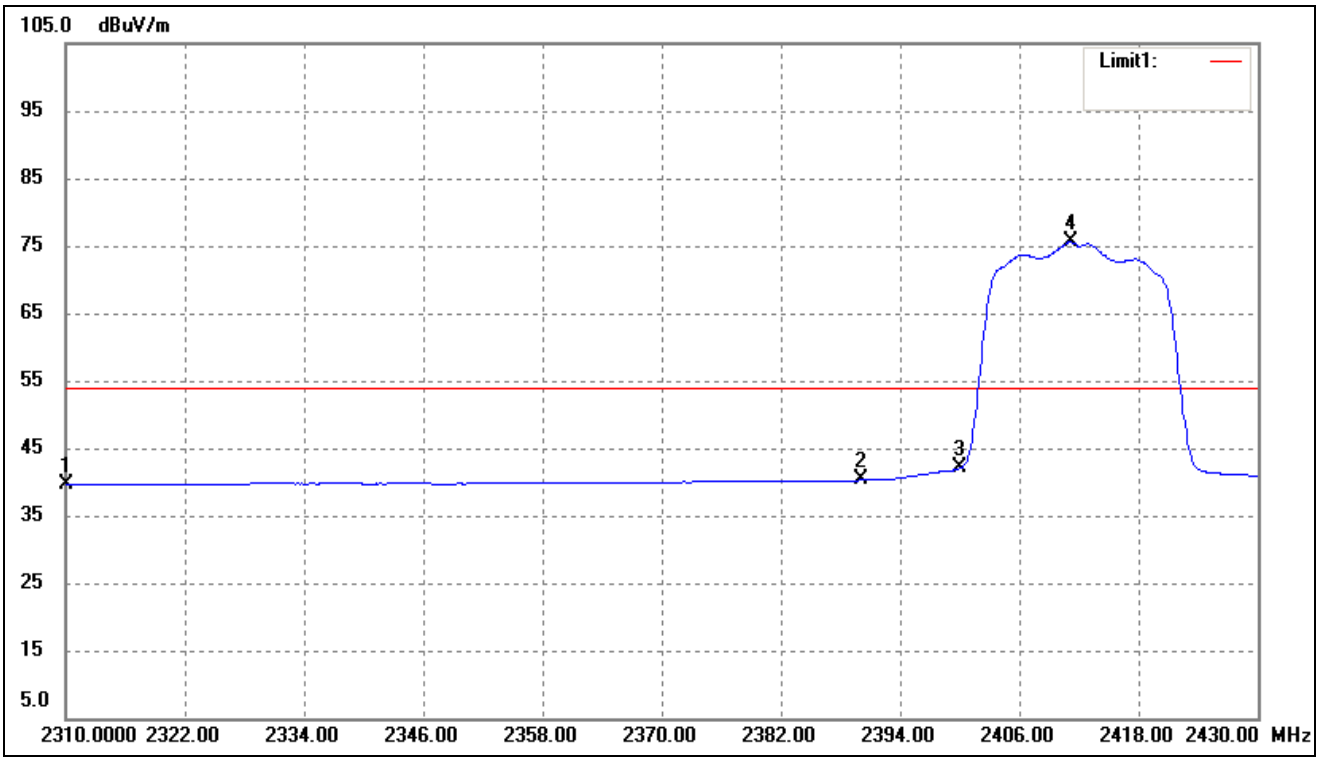
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2462.850	62.00	17.58	79.58	/	/	Average Detector
	2462.050	74.58	17.57	92.15	/	/	Peak Detector
2	2483.500	Delta = 38.68dBc		40.90	54.00	-13.10	Average Detector
	2483.500			53.47	74.00	-20.53	Peak Detector
3	2500.000	23.06	17.86	40.92	54.00	-13.08	Average Detector
	2500.000	35.50	17.86	53.36	74.00	-20.64	Peak Detector

802.11n-HT20-Lowest Bandedge

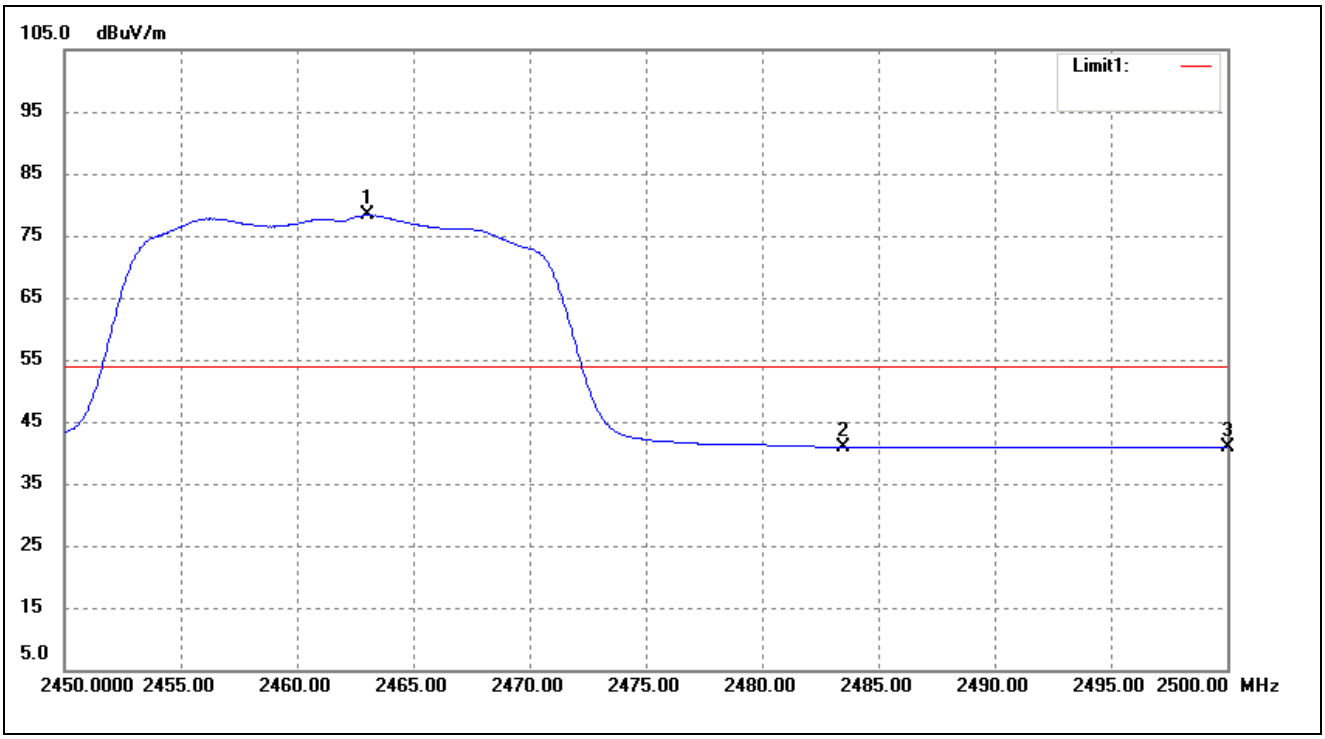
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	23.38	16.34	39.72	54.00	-14.28	Average Detector
	2310.000	36.22	16.34	52.56	74.00	-21.44	Peak Detector
2	2390.000	23.26	17.03	40.29	54.00	-13.71	Average Detector
	2390.000	35.77	17.03	52.80	74.00	-21.20	Peak Detector
3	2400.000	24.90	17.11	42.01	Delta=33.56dBc		Average Detector
	2411.160	58.38	17.19	75.57			Average Detector

802.11n-HT20-Highest Bandedge

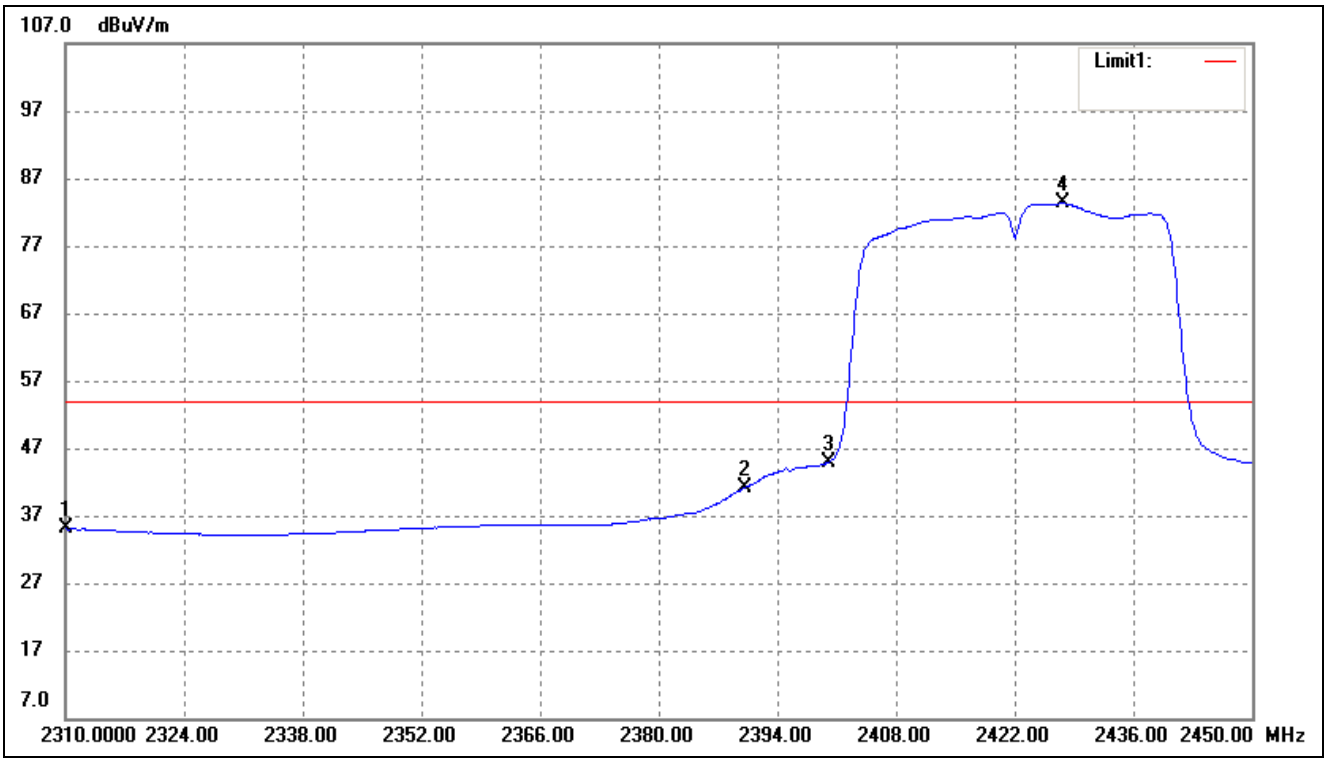
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2463.000	60.80	17.58	78.38	/	/	Average Detector
	2462.650	72.31	17.57	89.88	/	/	Peak Detector
2	2483.500	Delta = 37.48dBc		40.90	54.00	-13.10	Average Detector
	2483.500			52.40	74.00	-21.60	Peak Detector
3	2500.000	23.06	17.86	40.92	54.00	-13.08	Average Detector
	2500.000	35.38	17.86	53.24	74.00	-20.76	Peak Detector

802.11n-HT40-Lowest Bandedge

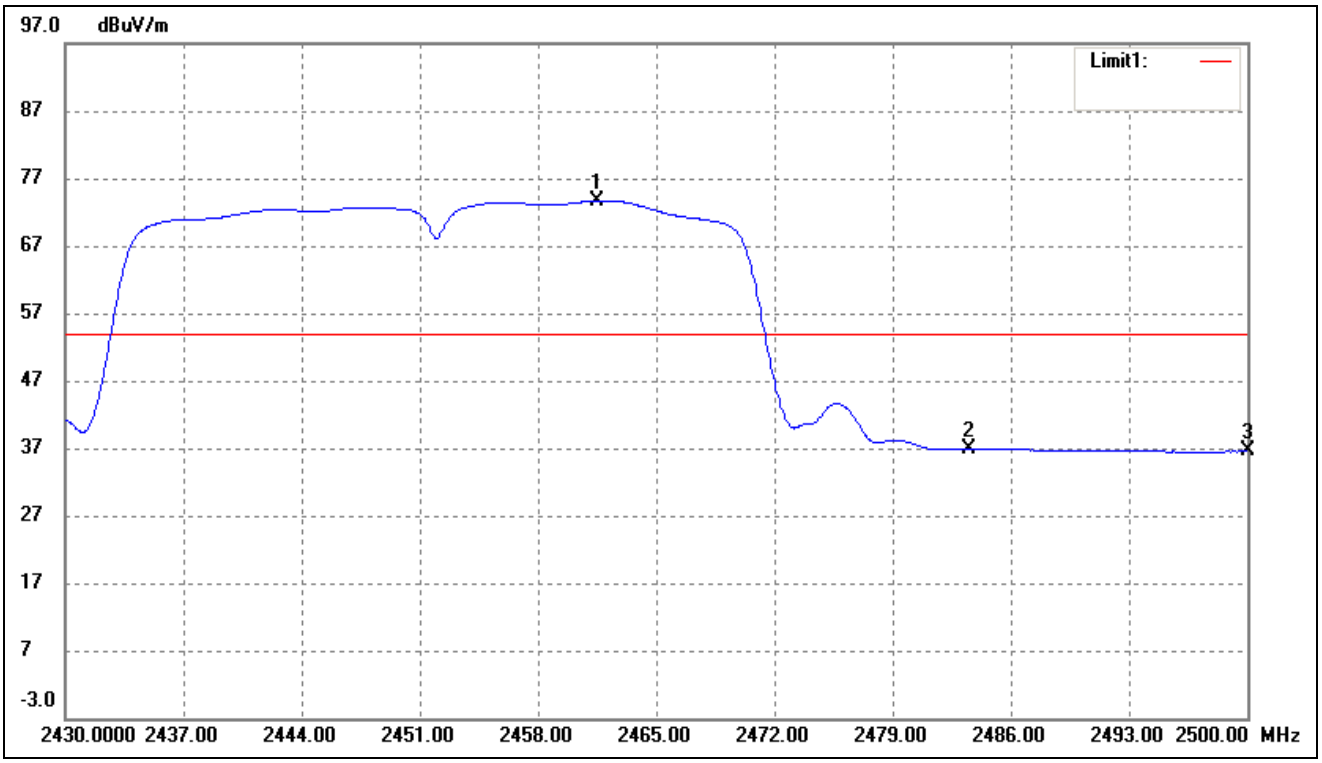
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	18.70	16.34	35.04	54.00	-18.96	Average Detector
	2310.000	32.02	16.34	48.36	74.00	-25.64	Peak Detector
2	2390.000	24.11	17.03	41.14	54.00	-12.86	Average Detector
	2390.000	33.22	17.03	50.25	74.00	-23.75	Peak Detector
3	2400.000	27.85	17.11	44.96	Delta=38.41dBc		Average Detector
4	2427.600	65.96	17.31	83.27			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	2461.500	56.65	17.57	74.22	/	/	Average Detector
	2461.500	68.06	17.56	85.62	/	/	Peak Detector
2	2483.500	Delta = 36.10dBc		38.12	54.00	-15.88	Average Detector
	2483.500			49.52	74.00	-24.48	Peak Detector
3	2500.000	18.69	17.85	36.54	54.00	-17.46	Average Detector
	2500.000	30.77	17.86	48.63	74.00	-25.37	Peak Detector

10. Conducted Emissions

10.1 Measurement Uncertainty

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

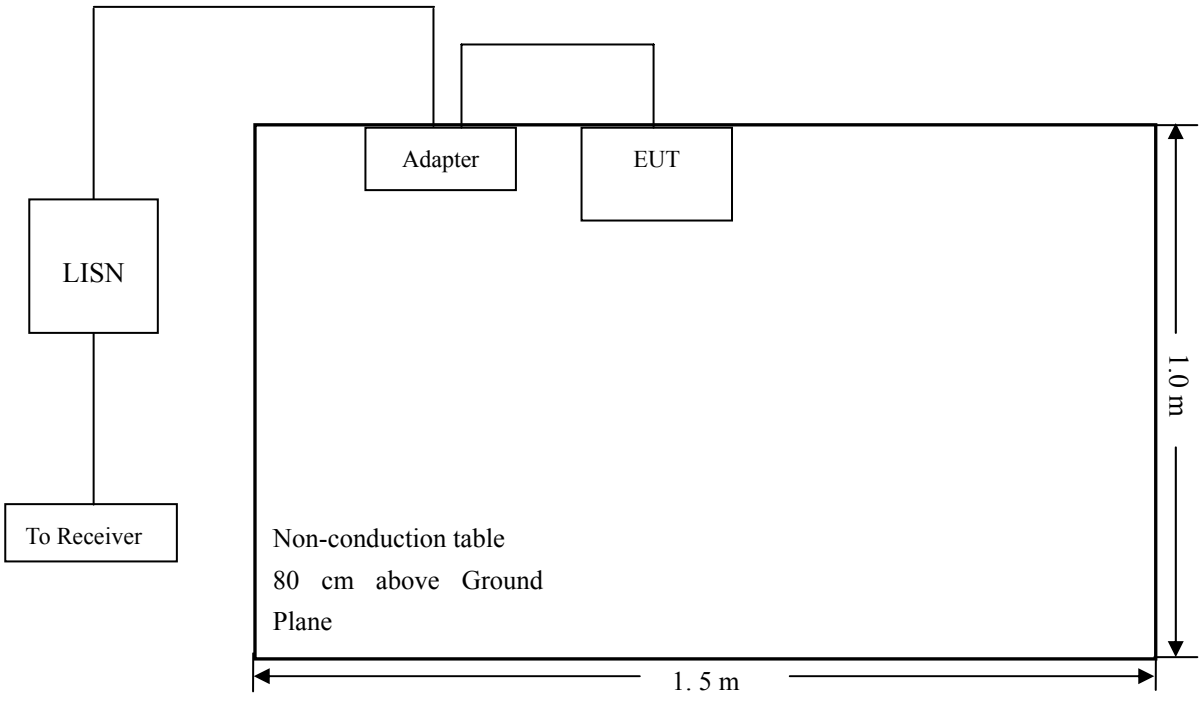
10.2 Test Equipment List and Details

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

10.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

10.4 Basic Test Setup Block Diagram



10.5 Environmental Conditions

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

10.6 Test Receiver Setup

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

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

10.7 Summary of Test Results/Plots

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

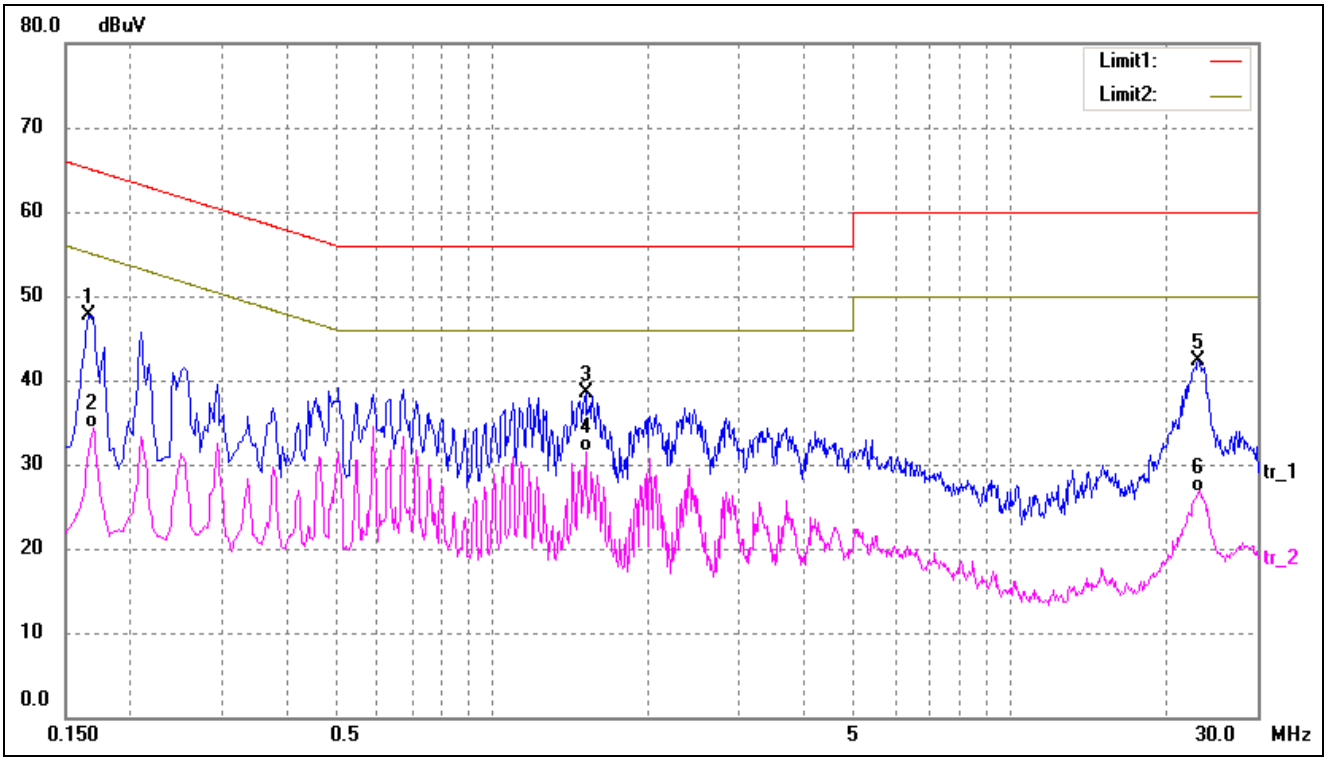
-11.69 dB at 2.1980 MHz in the ***Neutral*** mode**, Peak** detector, **0.15-30MHz**

10.8 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

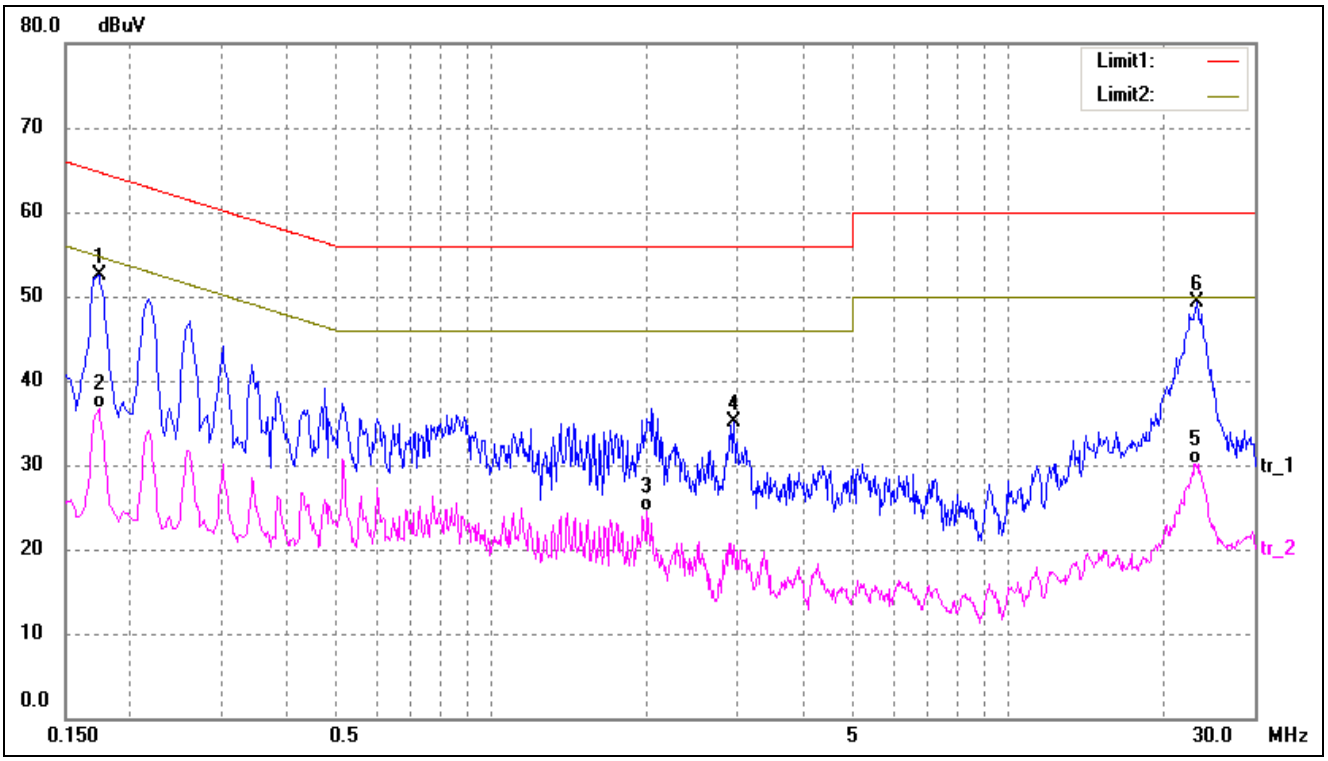
EUT: *Mobile Phone*
Tested Model: *S898t+*
Operating Condition: *Transmitting(Wi-Fi)*
Comment: *Adapter:DC5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1660	38.21	9.50	47.71	65.16	-17.45	peak
2	0.1700	24.77	9.50	34.27	54.96	-20.69	AVG
3	1.5180	28.47	10.00	38.47	56.00	-17.53	peak
4*	1.5180	21.42	10.00	31.42	46.00	-14.58	AVG
5	23.0260	29.87	12.34	42.21	60.00	-17.79	peak
6	23.1940	14.40	12.40	26.80	50.00	-23.20	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1740	42.97	9.50	52.47	64.77	-12.30	peak
2	0.1740	27.13	9.50	36.63	54.77	-18.14	AVG
3	2.0100	14.58	10.00	24.58	46.00	-21.42	AVG
4	2.9500	25.14	10.00	35.14	56.00	-20.86	peak
5	23.0340	17.85	12.34	30.19	50.00	-19.81	AVG
6*	23.2060	36.97	12.40	49.37	60.00	-10.63	peak

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