

FCC Part 15C Measurement and Test Report

For

Spheris Digital Ltd

Flat Rm A21, Blk A, 4/F, Sheung Shui Plaza, 3 Ka Fu Close,

Sheung Shui, Hong Kong

FCC ID: YHO-PXT51014

FCC Rule(s):	<u>FCC Part 15C</u>
Product Description:	<u>Wireless Digital Display</u>
Tested Model:	<u>PXT510WR04D</u>
Report No.:	<u>STR13088051I-1</u>
Tested Date:	<u>2013-08-03 to 2013-08-19</u>
Issued Date:	<u>2013-08-19</u>
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Spheris Digital Ltd
Address of applicant: Flat Rm A21, Blk A, 4/F, Sheung Shui Plaza, 3 Ka Fu Close, Sheung Shui, Hong Kong

Manufacturer: Spheris Digital Ltd
Address of manufacturer: Flat Rm A21, Blk A, 4/F, Sheung Shui Plaza, 3 Ka Fu Close, Sheung Shui, Hong Kong

General Description of EUT	
Product Name:	Wireless Digital Display
Trade Name:	Pix-Star
Model No.:	PXT510WR04D
Adding Model(s):	PXT510VR02D, PXT510GR02D, PXT510WR02D, PXT510VR04D, PXT510GR04D
Rated Voltage:	DC 5V
Power Adapter:	Model: GFP151U-050250B-1
	Input: AC 100-240V 50/60Hz, Output: DC 5V
<i>Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model PXT510WR04D, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz
RF Output Power:	15.66 dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11
Channel Separation:	5MHz
Type of Antenna:	Integral
Antenna Gain:	1.0 dBi
Lowest Internal Frequency	32.768kHz

1.2 Test Standards

The following report is prepared on behalf of the Spheris Digital 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 public notice KDB 558074 D01 V02 for digital transmission systems shall be performed also.

1.4 Test Facility

- **FCC – Registration No.: 994117**

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

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

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

- **CNAS Registration No.: L4062**

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

1.5 EUT Setup and Test Mode

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

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

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
AC Power Cable	1.8	Unshielded	With Ferrite

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

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
SD Card	Kingston	SD/2GB	/
U-disk	Sandisk	1GB	/

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)(d)	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 RF Exposure 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 a integral antenna, fulfill the requirement of this section.

5. Power Spectral Density

5.1 Standard Applicable

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

5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2013-05-07	2014-05-06
Attenuator	ATTEN	ATS100-4-20	/	2013-05-07	2014-05-06

5.3 Test Procedure

According to the KDB 558074 D01 v03r01, the test method of power spectral density as below:

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

4.4 Environmental Conditions

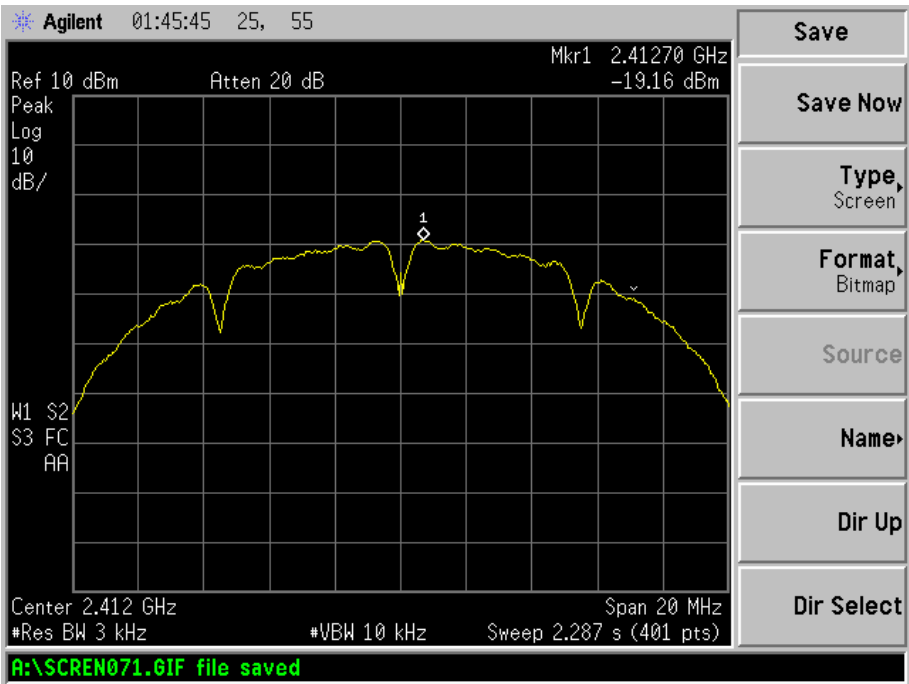
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

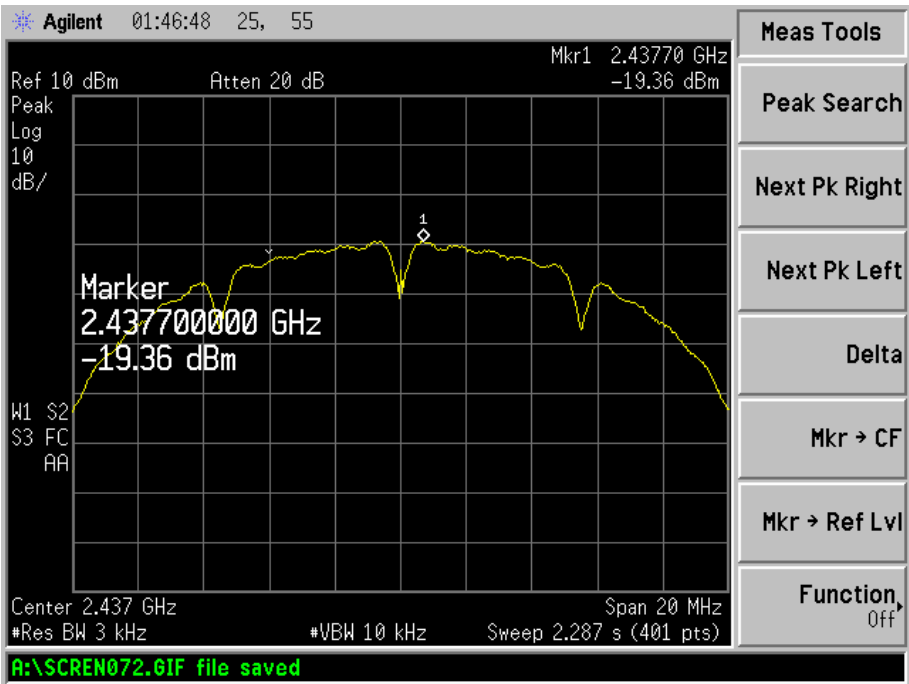
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-19.16	8
	2437	-19.36	8
	2462	-20.56	8
802.11g	2412	-19.36	8
	2437	-19.82	8
	2462	-20.83	8
802.11n HT20	2412	-14.16	8
	2437	-16.94	8
	2462	-17.38	8
802.11n HT40	2422	-20.34	8
	2437	-17.83	8
	2452	-18.46	8

Please refer to the following test plots:

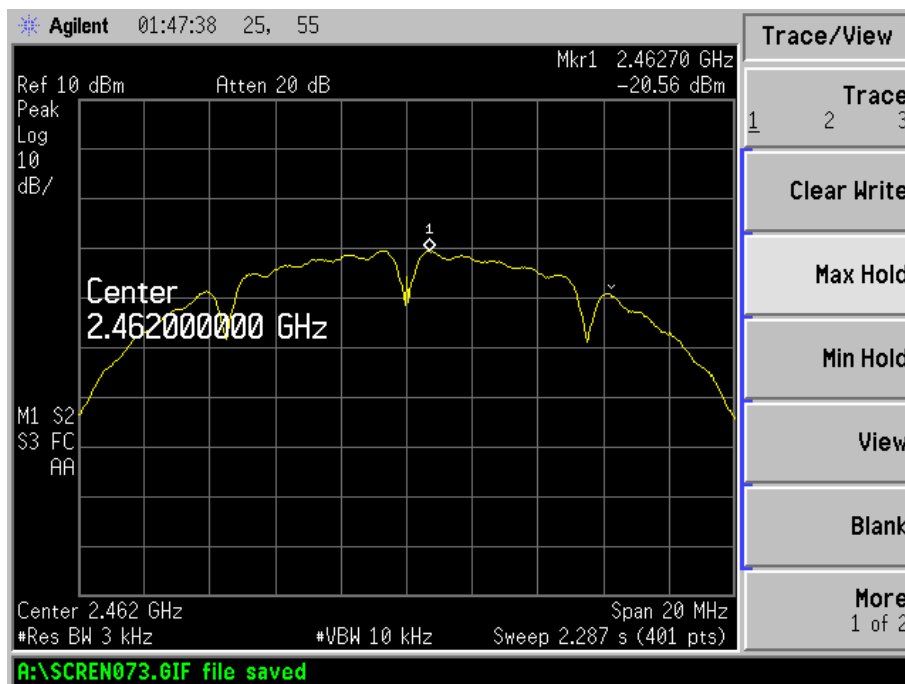
802.11b-Low Channel



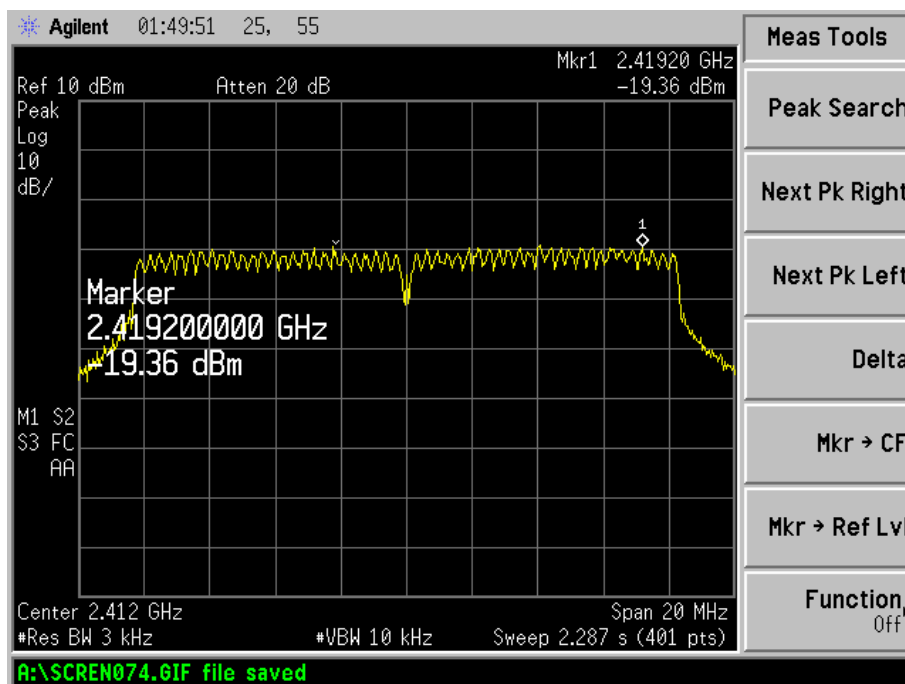
802.11b-Middle Channel



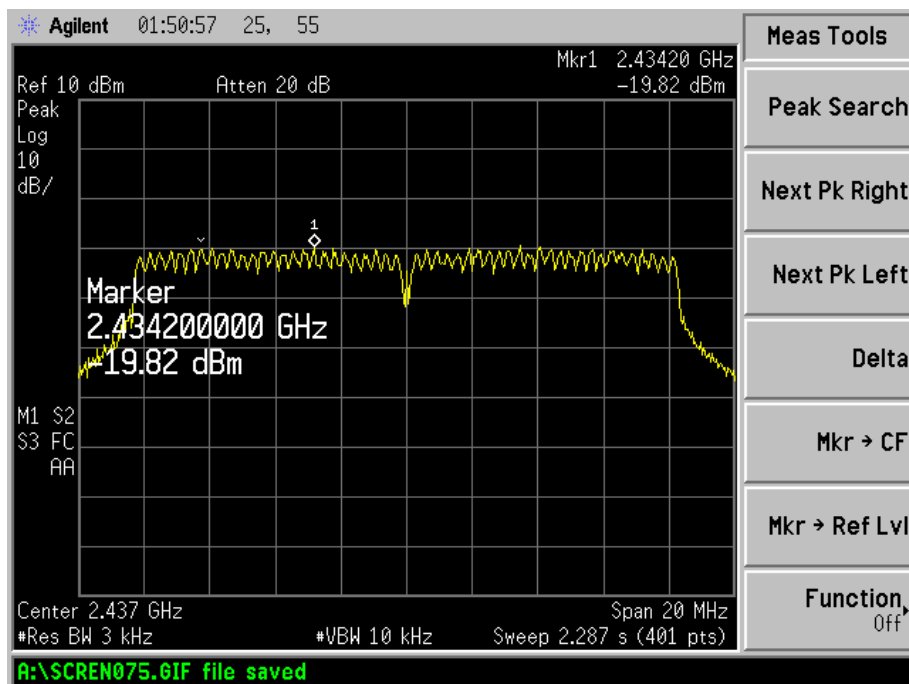
802.11b-High Channel



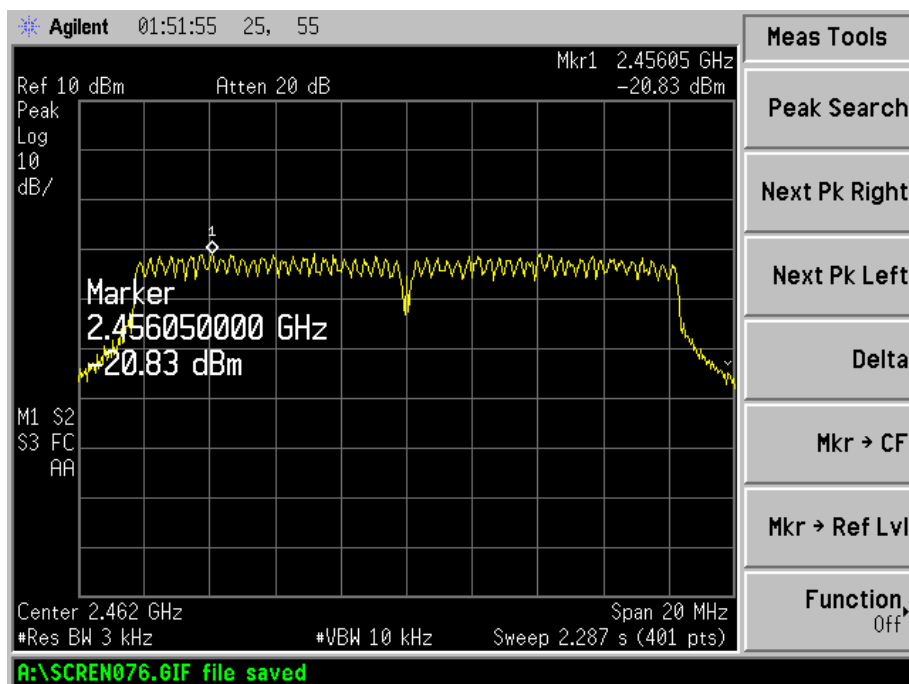
802.11g-Low Channel



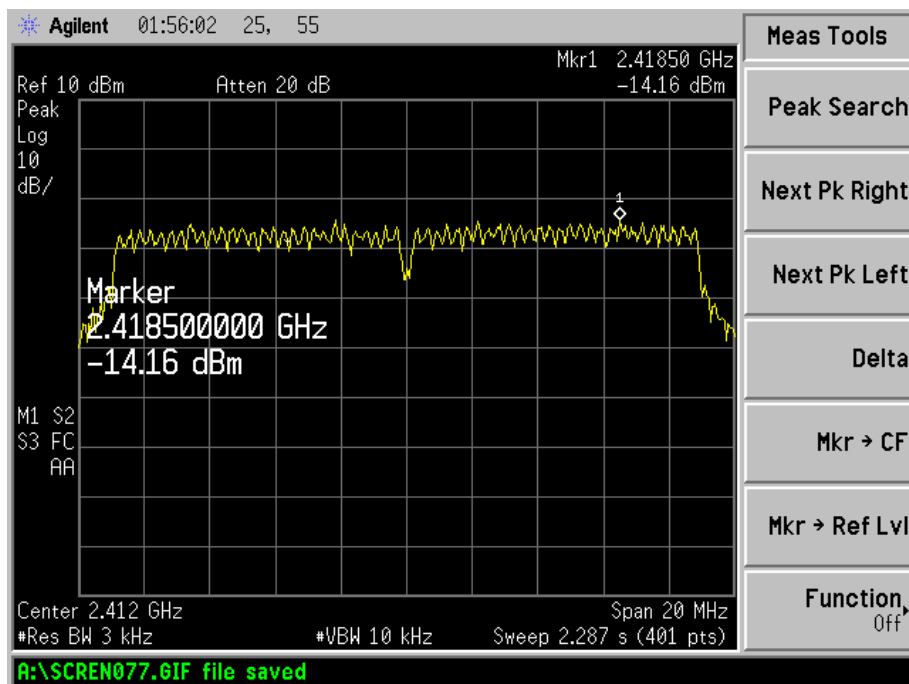
802.11g-Middle Channel



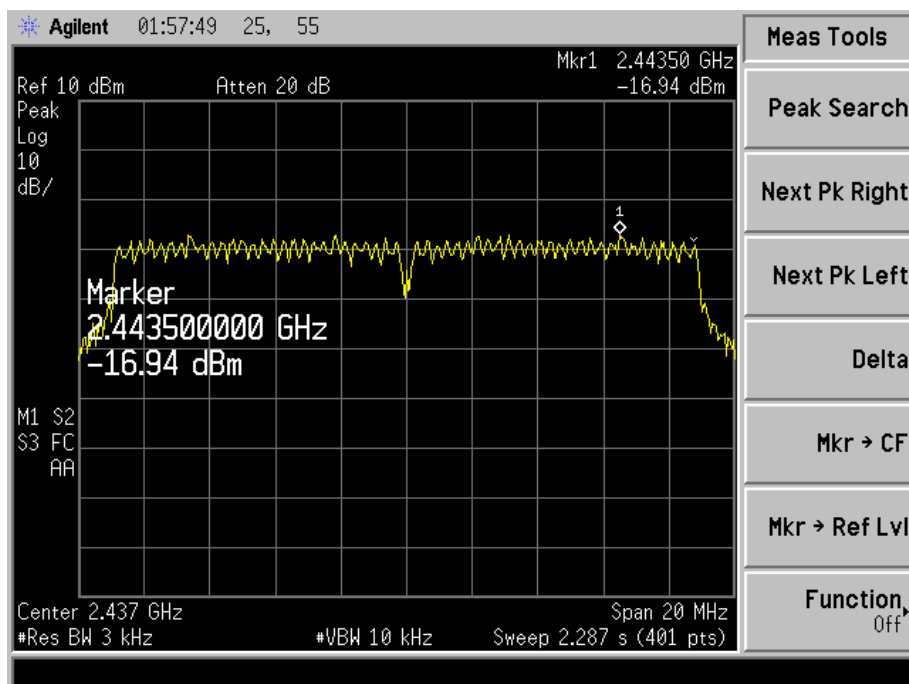
802.11g-High Channel



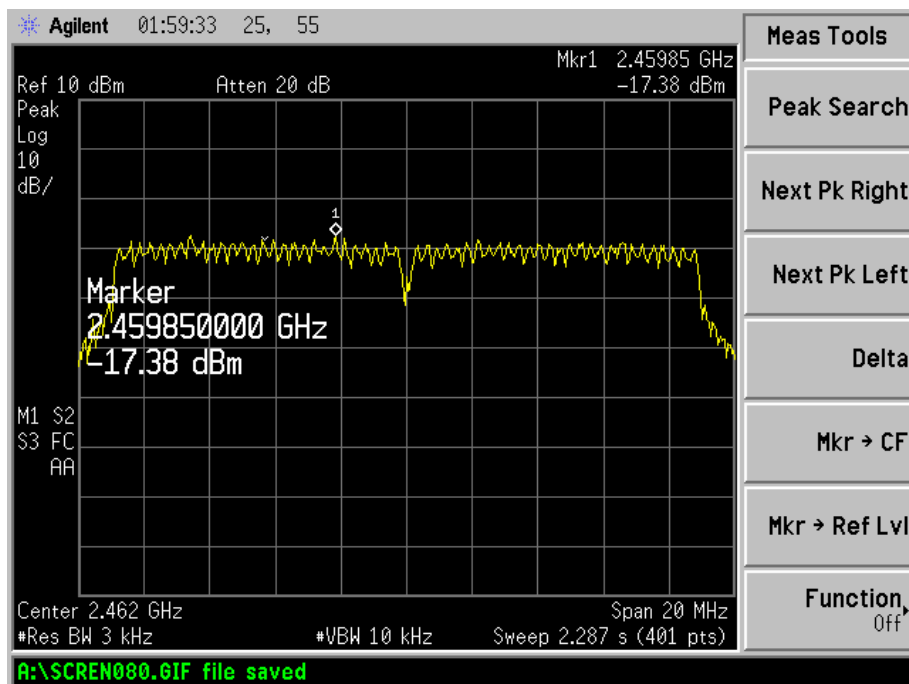
802.11n-HT20-Low Channel



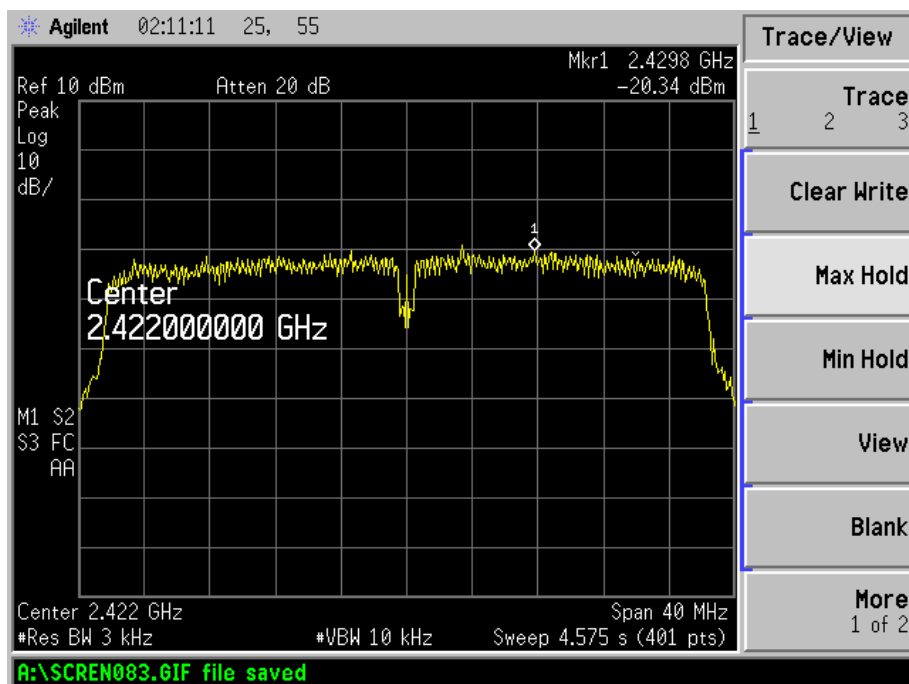
802.11n-HT20-Middle Channel



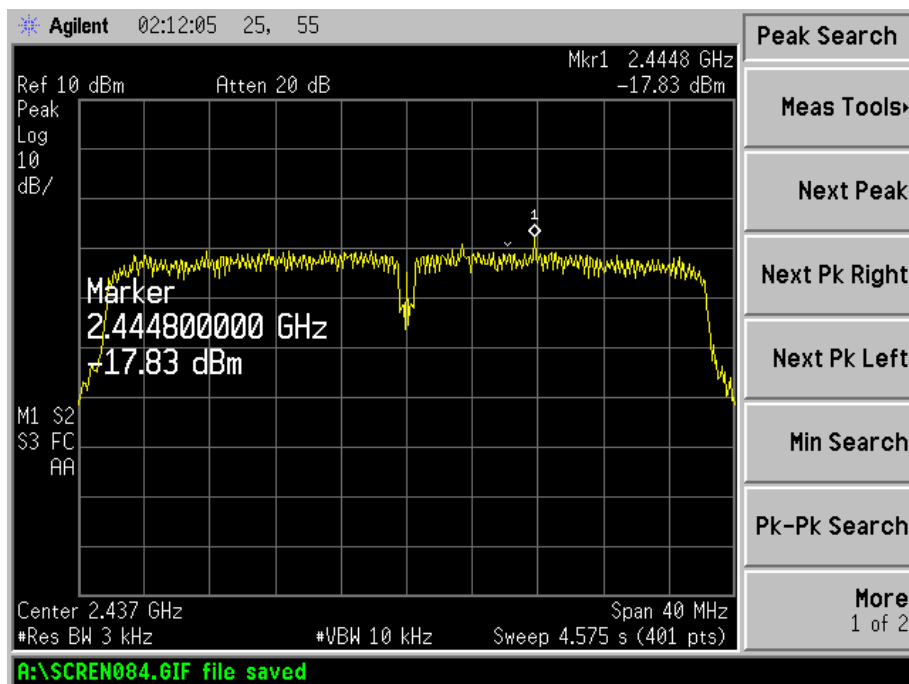
802.11n-HT20-High Channel



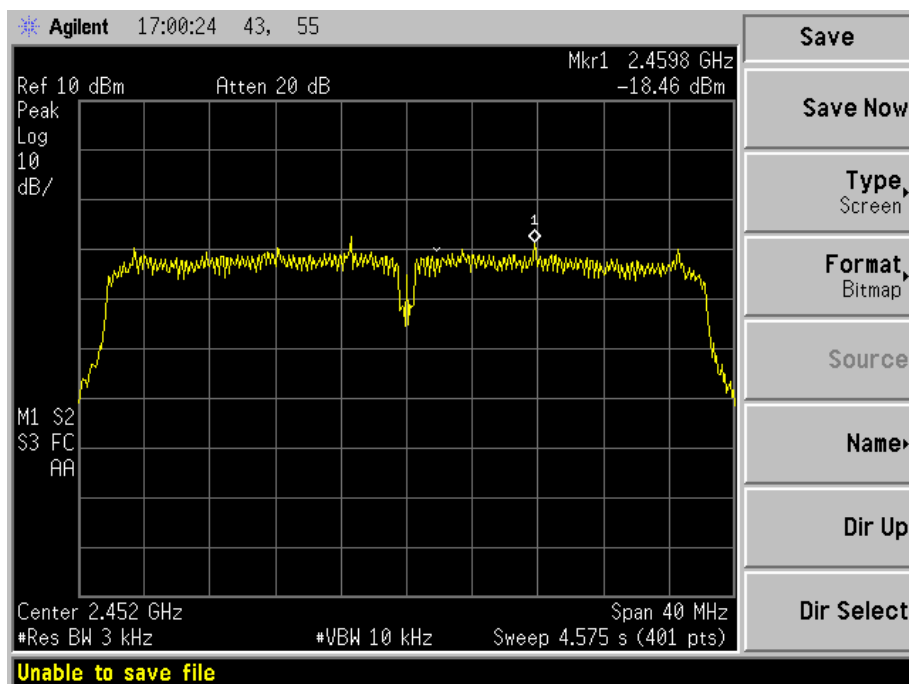
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



5. 6dB Bandwidth

5.1 Standard Applicable

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

5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2013-05-07	2014-05-06
Attenuator	ATTEN	ATS100-4-20	/	2013-05-07	2014-05-06

5.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW) $\geq 3 \times$ 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..

5.4 Environmental Conditions

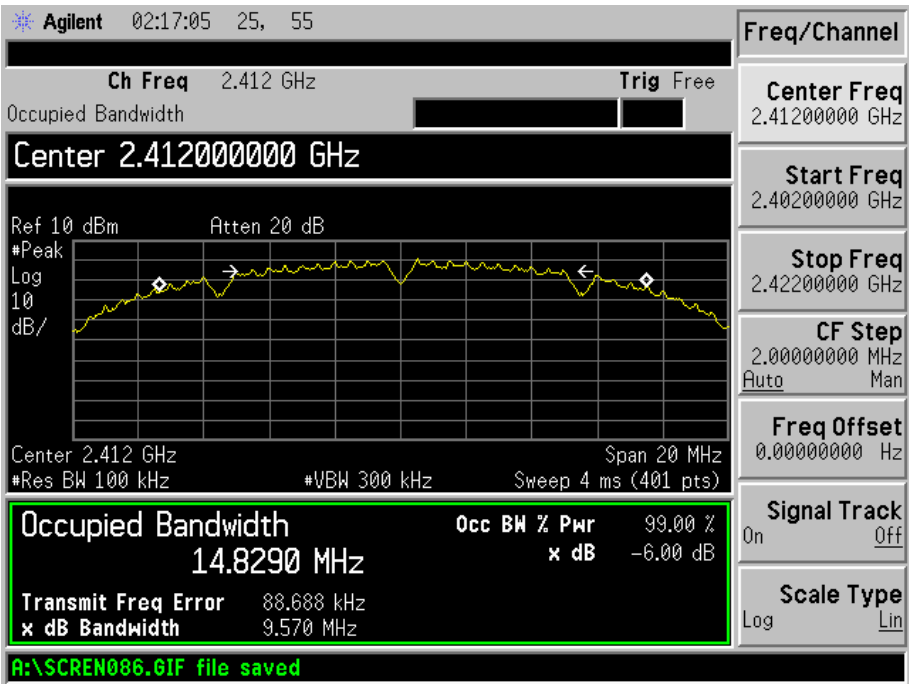
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

5.5 Summary of Test Results/Plots

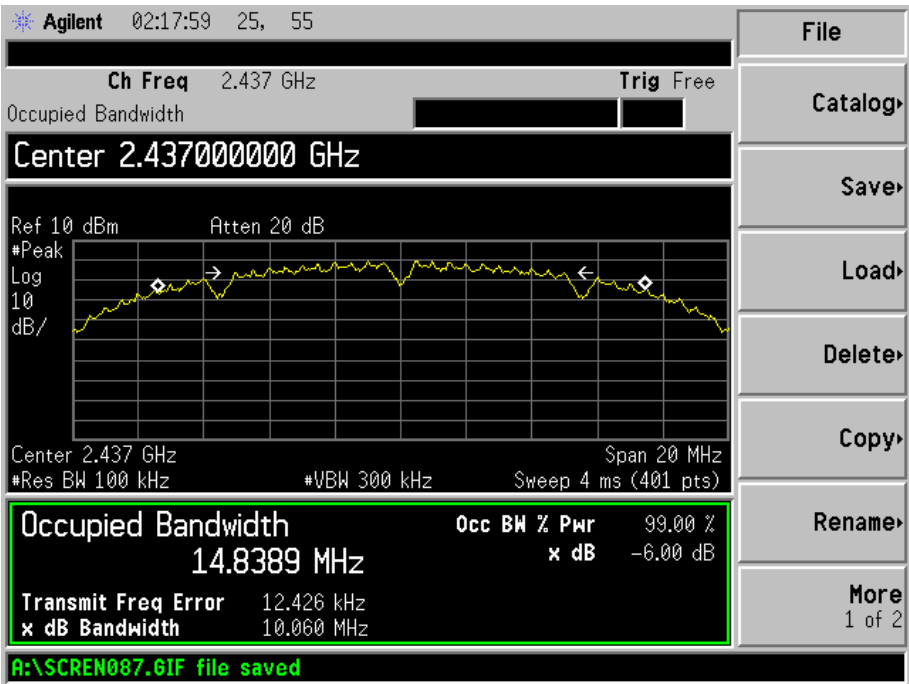
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	Limit kHz
802.11b	2412	9570.0	500
	2437	10060.0	500
	2462	10050.0	500
802.11g	2412	16541.0	500
	2437	16558.0	500
	2462	16530.0	500
802.11n-HT20	2412	17798.0	500
	2437	17804.0	500
	2462	17799.0	500
802.11n-HT40	2422	36932.0	500
	2437	37042.0	500
	2452	36958.0	500

Please refer to the following test plots:

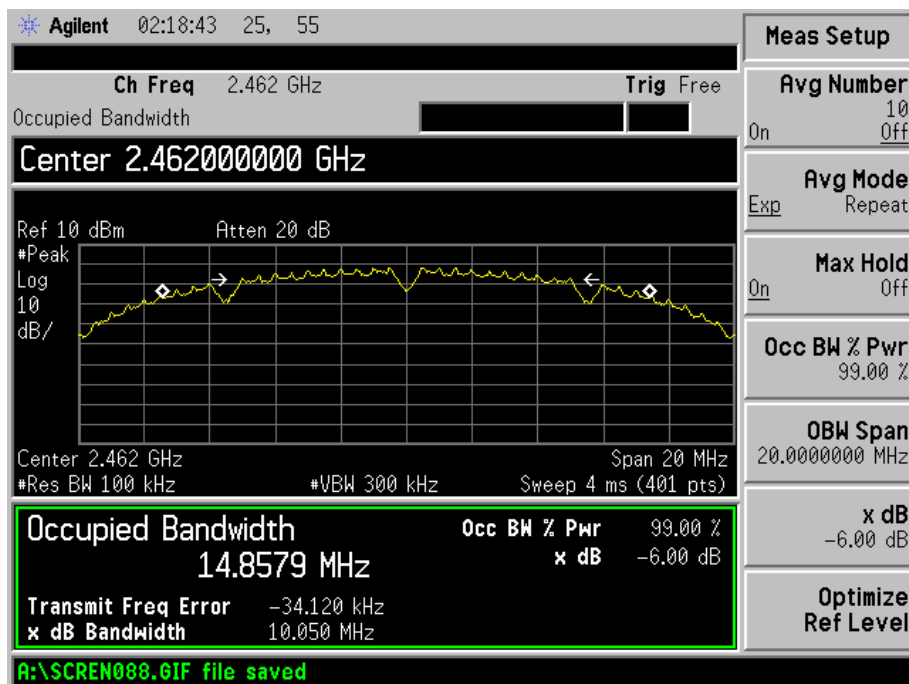
802.11b-Low Channel



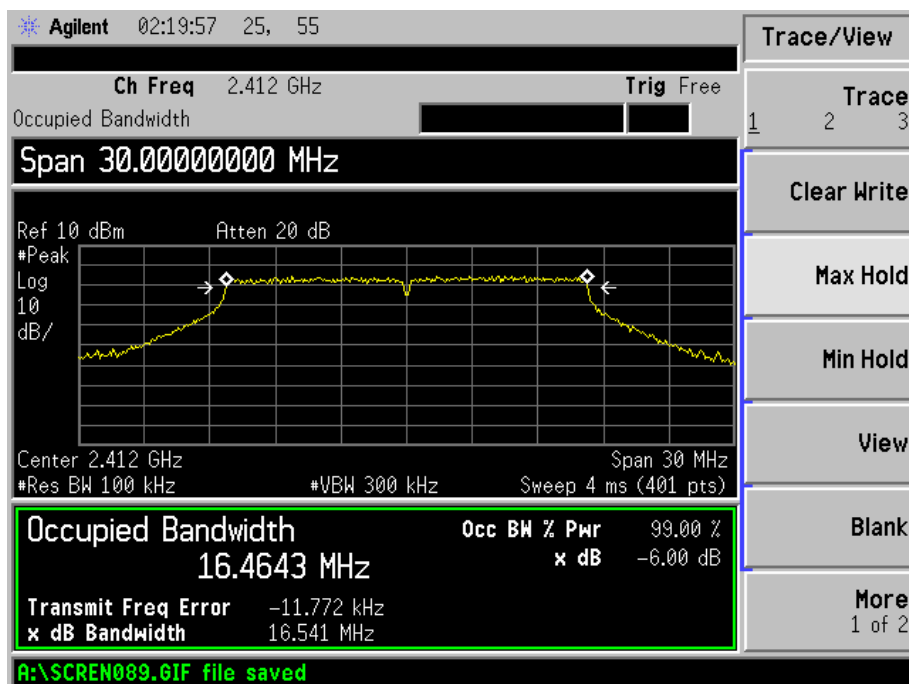
802.11b-Middle Channel



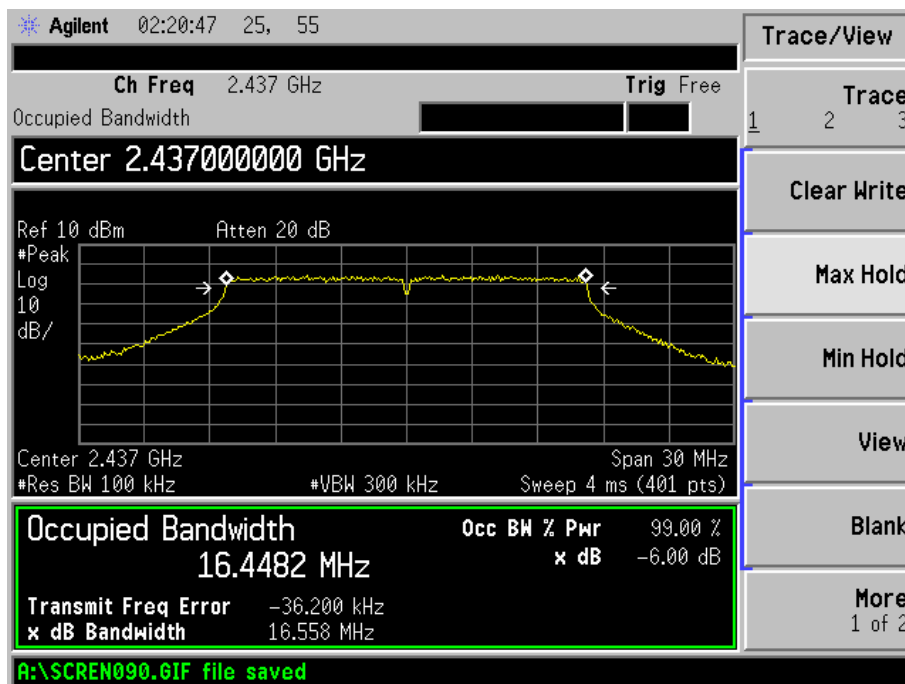
802.11b-High Channel



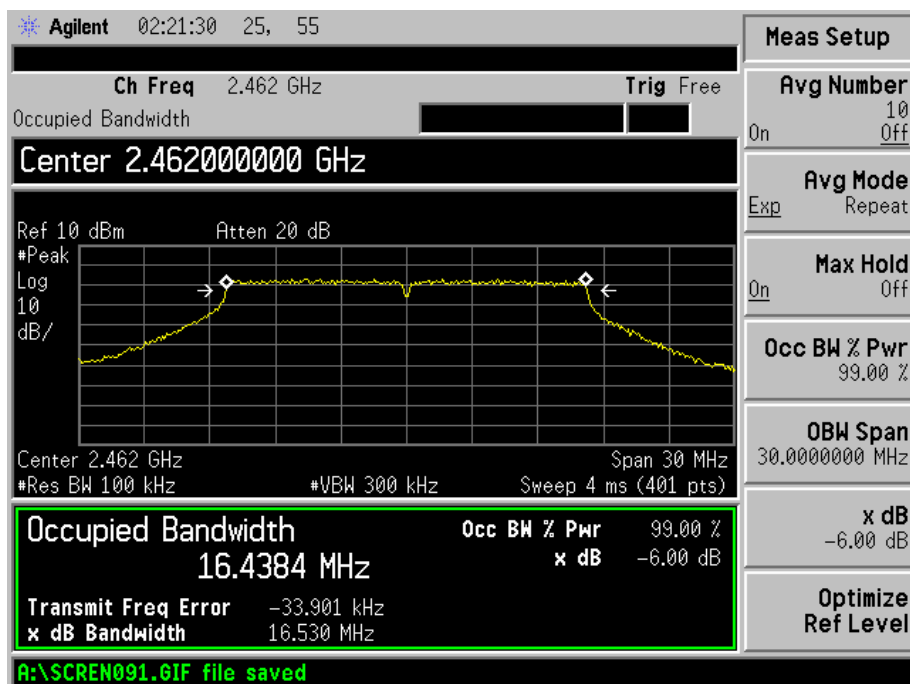
802.11g-Low Channel



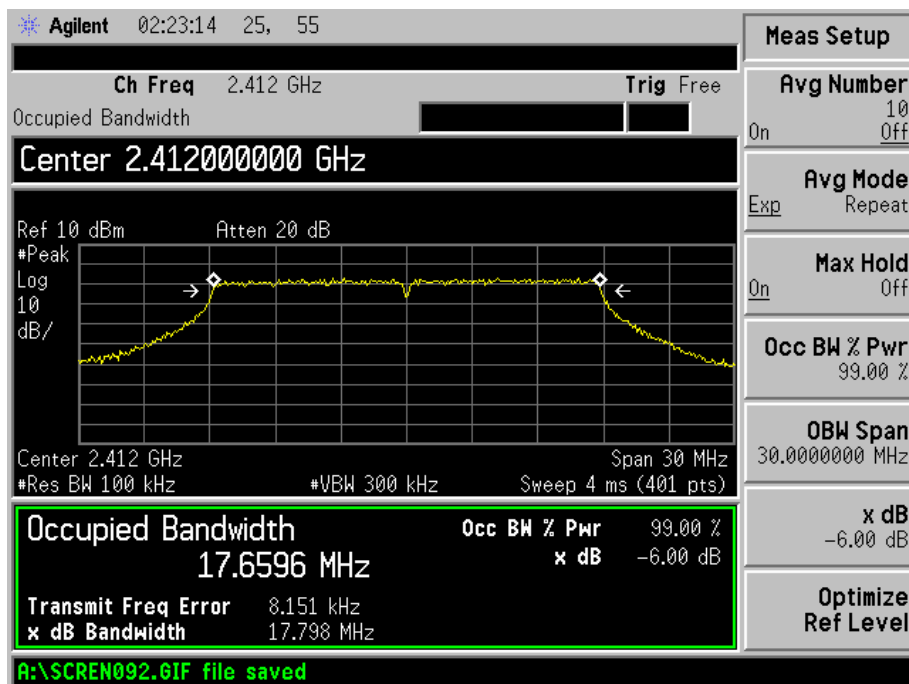
802.11g-Middle Channel



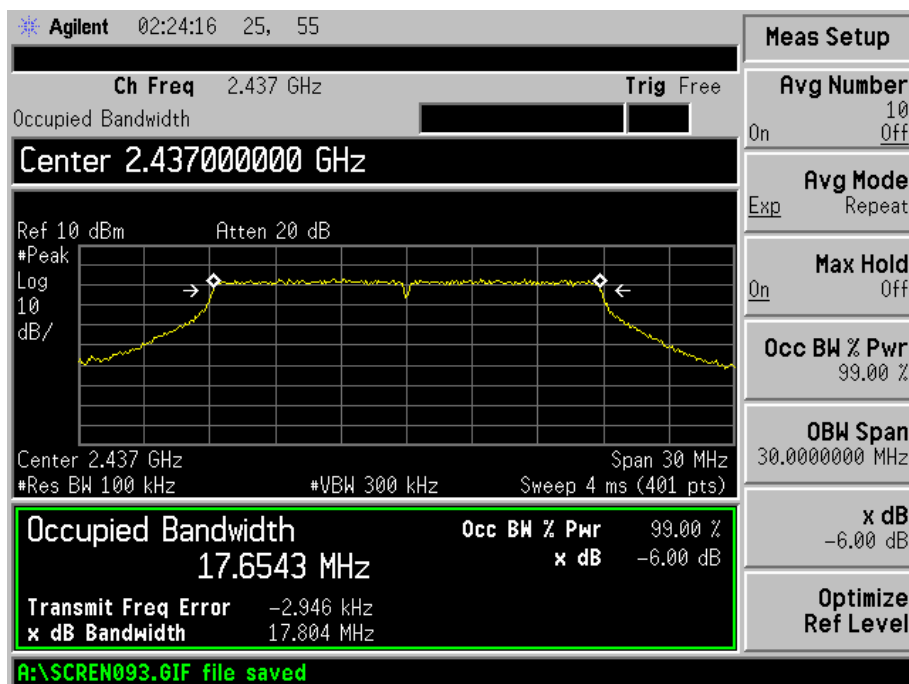
802.11g-High Channel



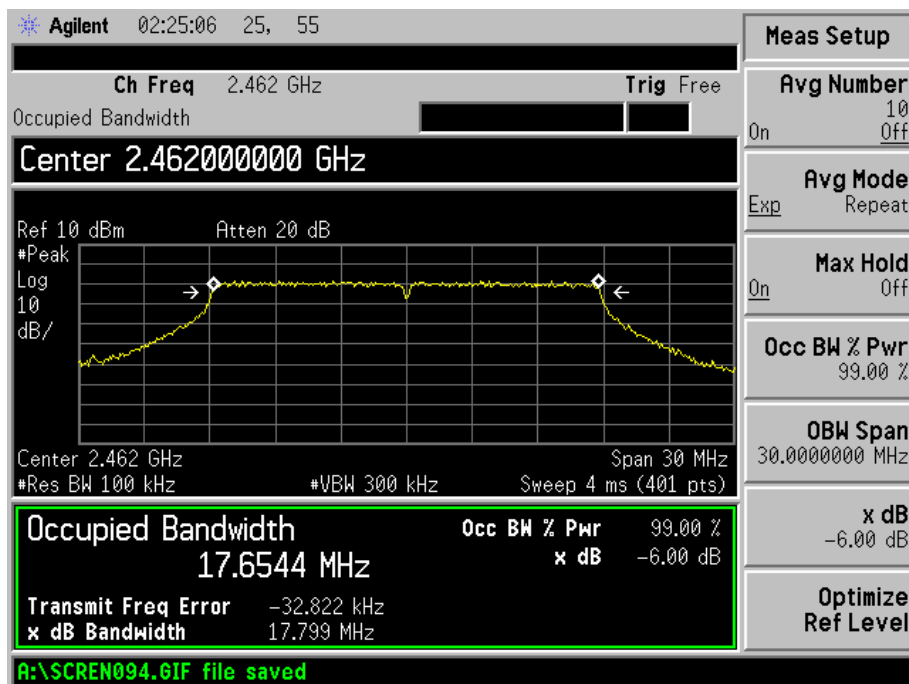
802.11n-HT20-Low Channel



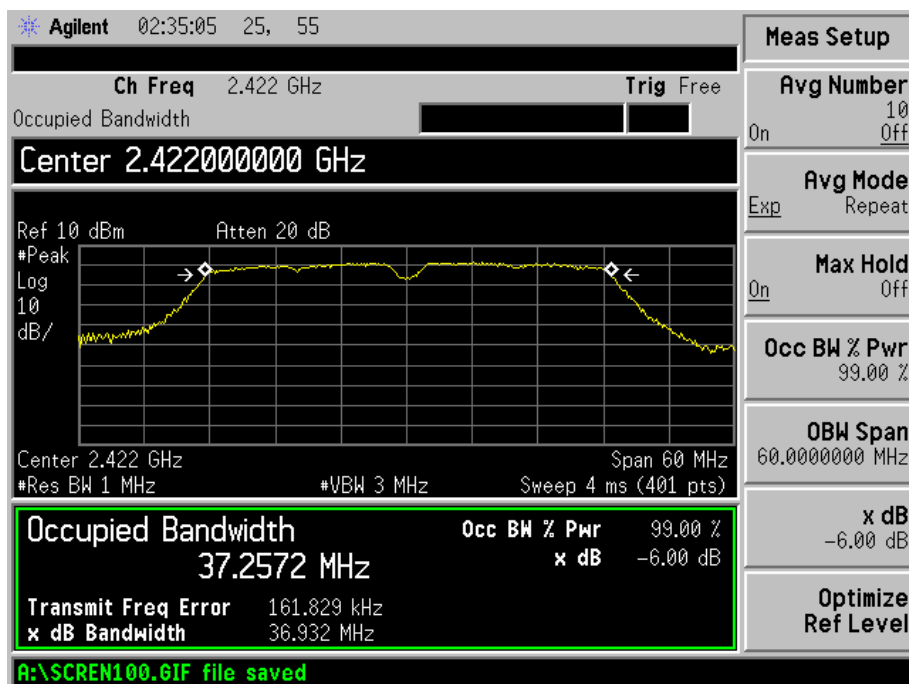
802.11n-HT20-Middle Channel



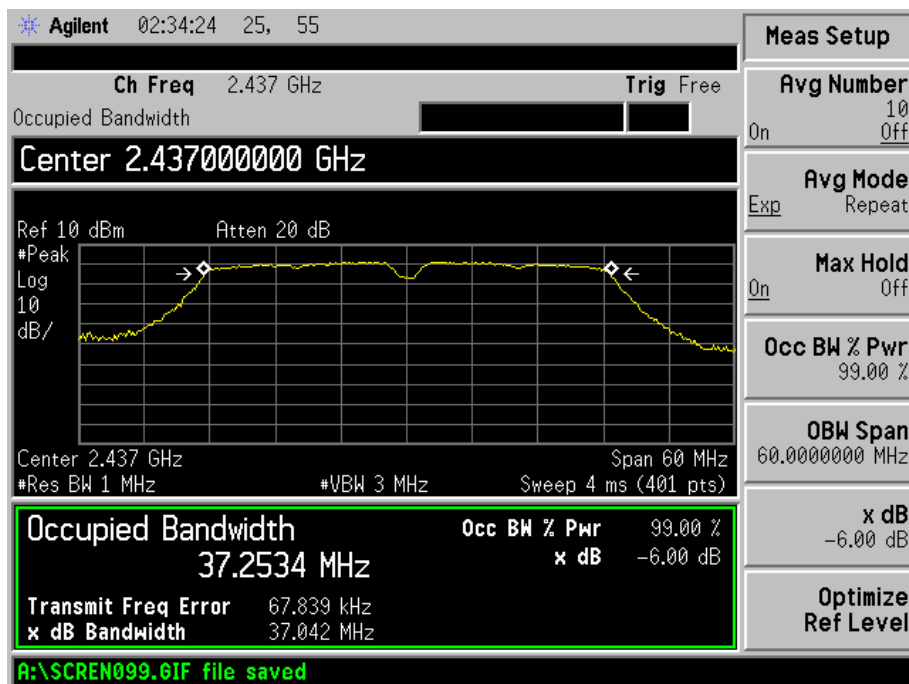
802.11n-HT20-High Channel



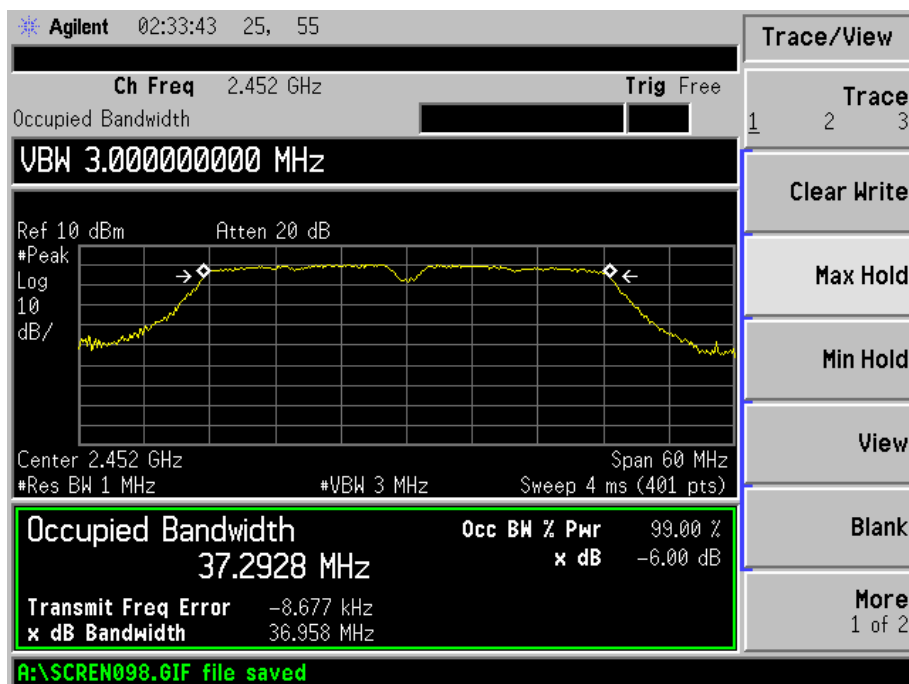
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



6. RF Output Power

6.1 Standard Applicable

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

6.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2013-05-07	2014-05-06
Attenuator	ATTEN	ATS100-4-20	/	2013-05-07	2014-05-06

6.3 Test Procedure

According to section 15.247(b)-power output of the KDB-558074 D01 v03r01, 9.1.2 this procedure should only be used when the maximum available RBW of the spectrum/signal analyzer is less than the DTS bandwidth.

1. Set the RBW = 1 MHz.
2. Set the VBW $\geq 3 \times$ RBW
3. Set the span $\geq 1.5 \times$ DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.

6.4 Environmental Conditions

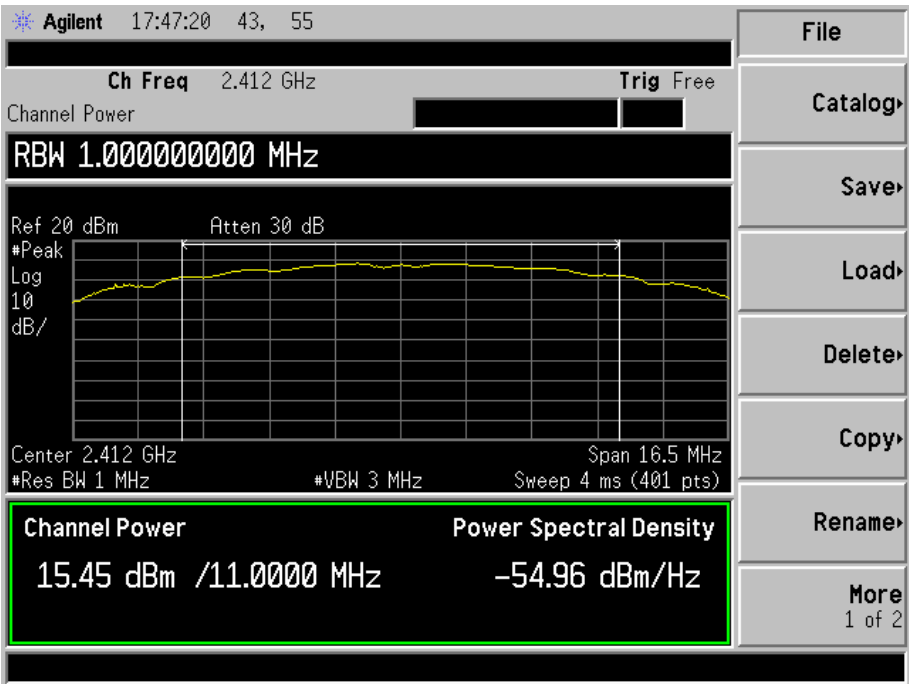
Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

6.5 Summary of Test Results/Plots

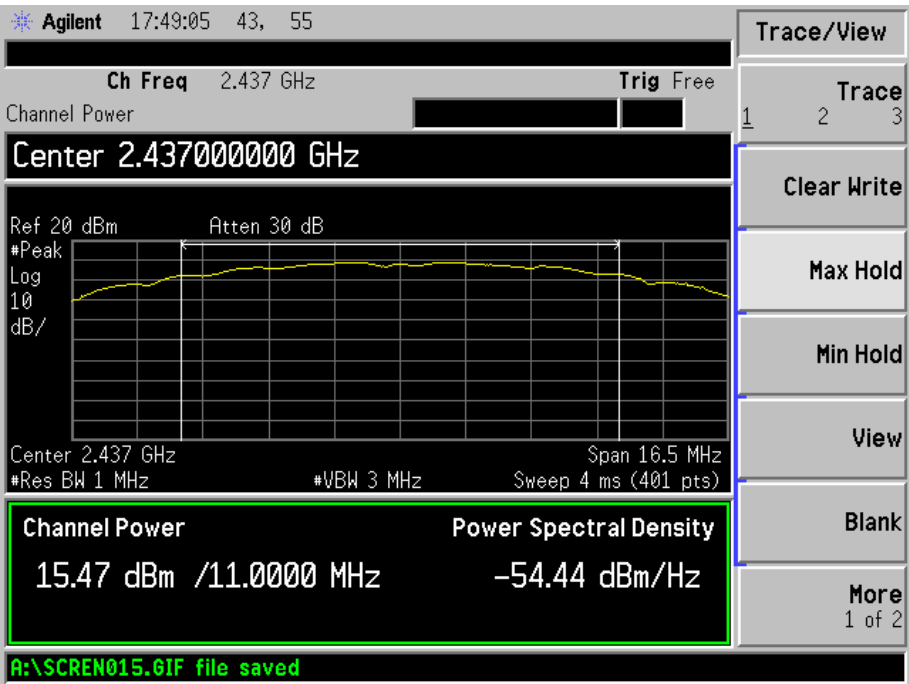
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b _ 11Mbps	2412	15.45	35.0752	1000
	2437	15.47	35.2371	1000
	2462	15.66	36.8129	1000
802.11g_54Mbps	2412	13.45	22.1309	1000
	2437	14.16	26.0615	1000
	2462	14.07	25.5270	1000
802.11n HT20_MCS7	2412	13.98	25.0035	1000
	2437	14.24	26.5461	1000
	2462	14.31	26.9774	1000
802.11n HT40_MCS7	2422	13.89	24.4906	1000
	2437	13.71	23.4963	1000
	2452	13.39	21.8273	1000

Please refer to the following test plots:

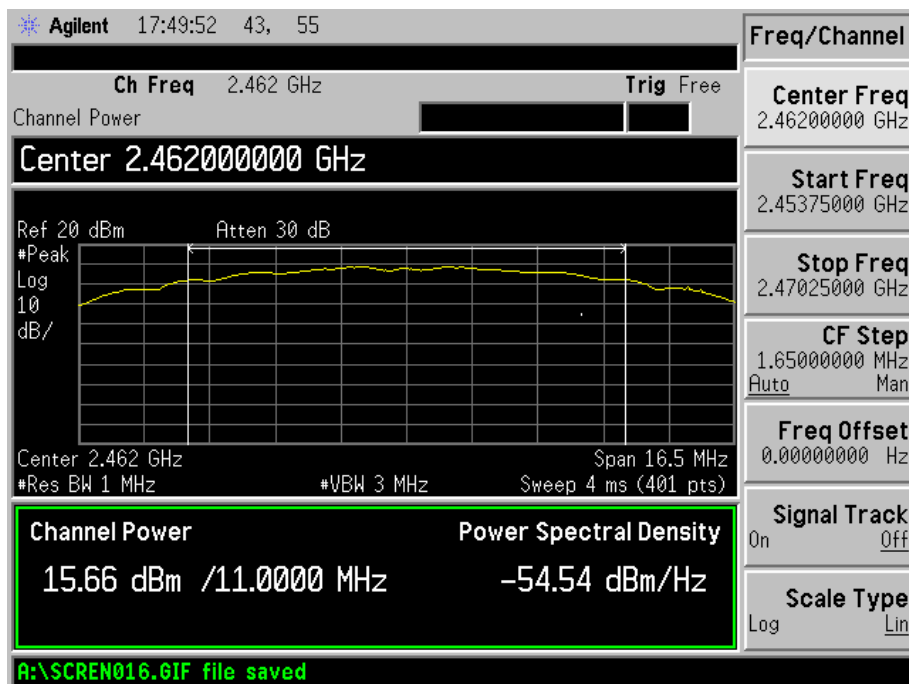
802.11b-11Mbps-Low Channel



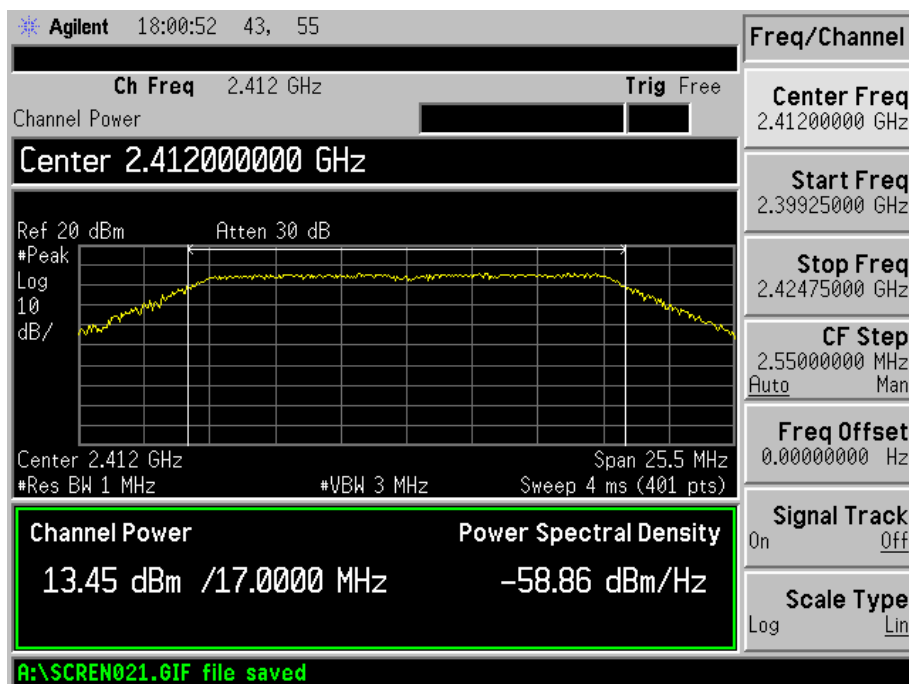
802.11b -11Mbps-Middle Channel



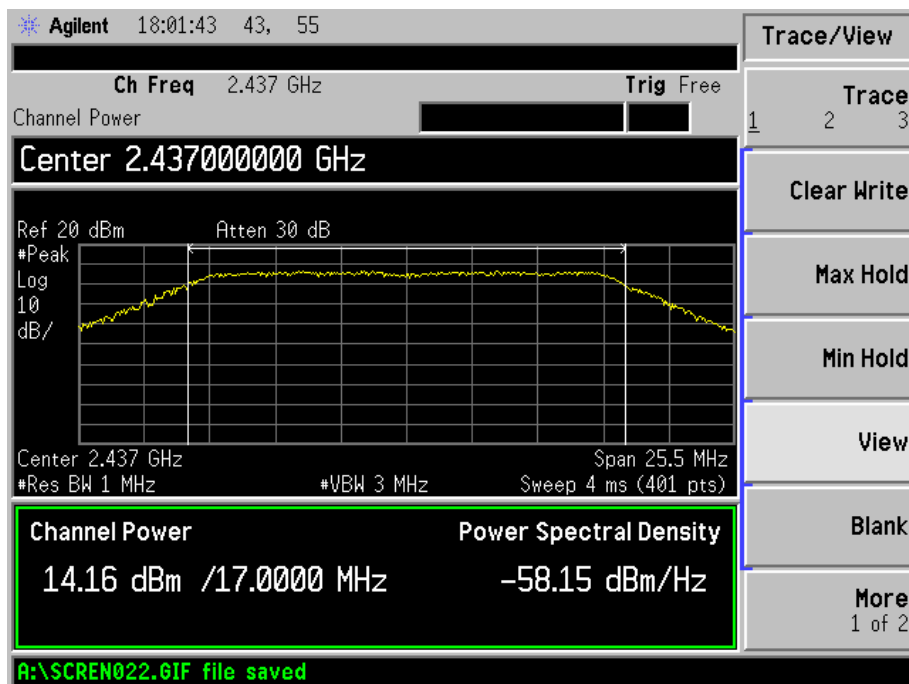
802.11b -11Mbps-High Channel



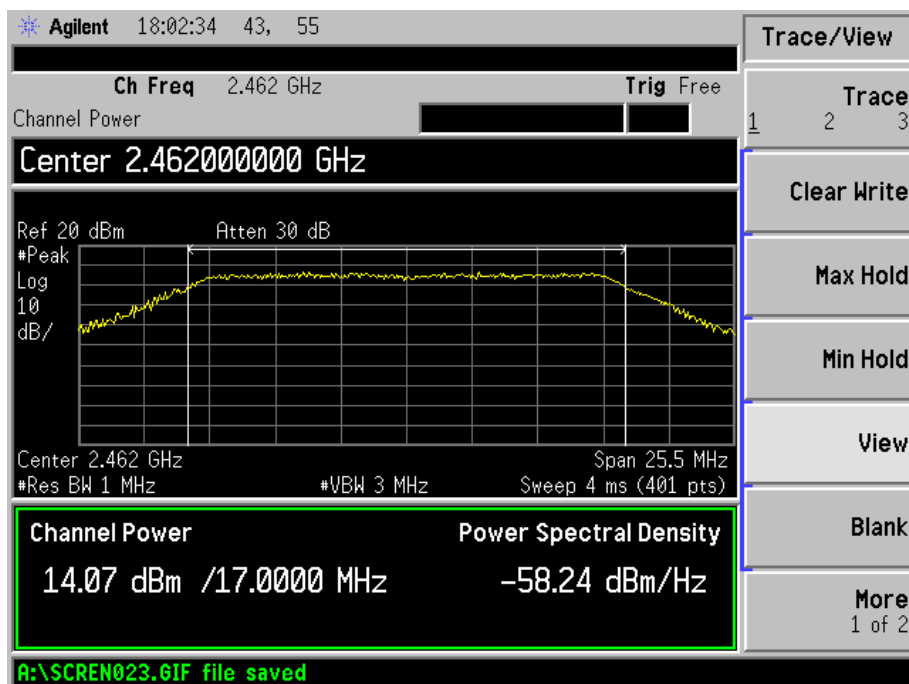
802.11g-54Mbps-Low Channel



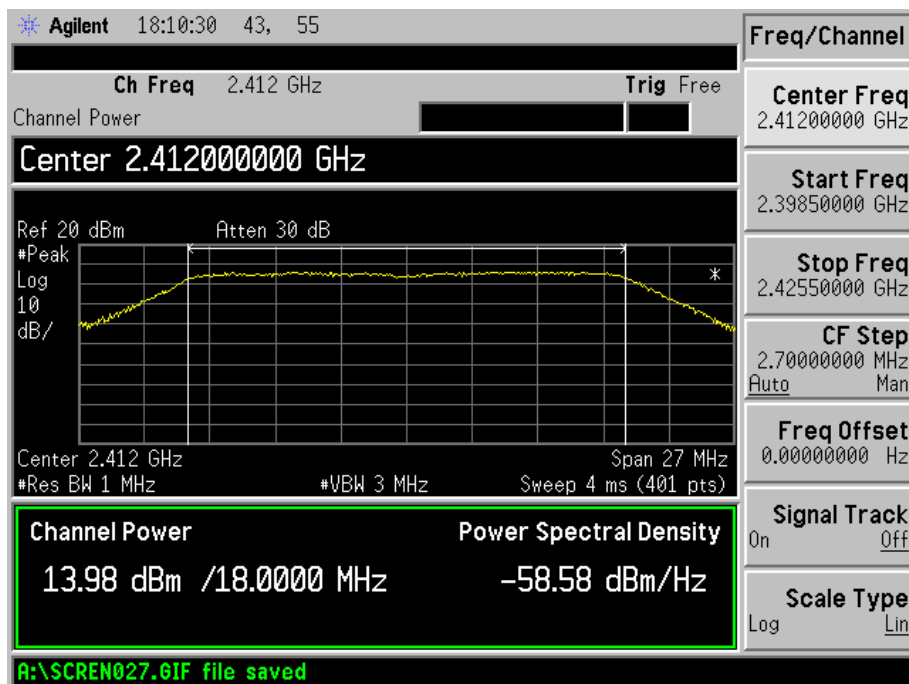
802.11g-54Mbps-Middle Channel



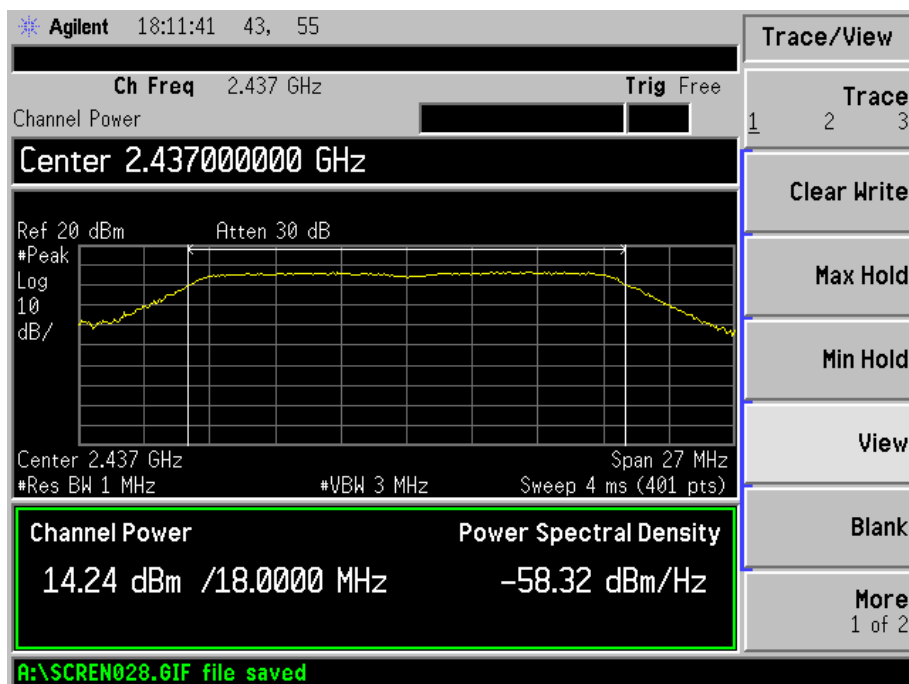
802.11g-54Mbps-High Channel



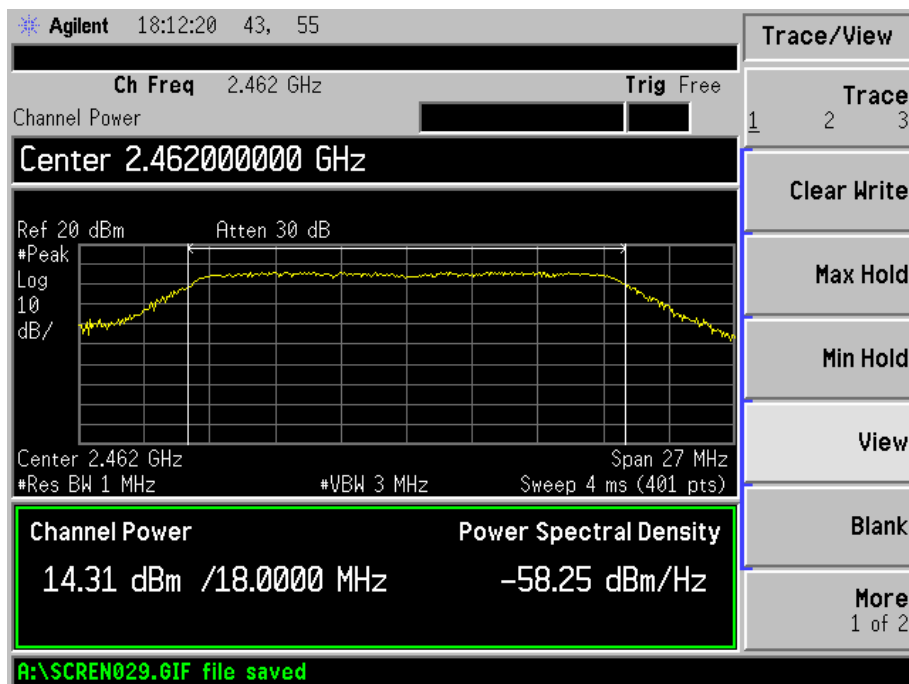
802.11n-HT20-MCS7-Low Channel



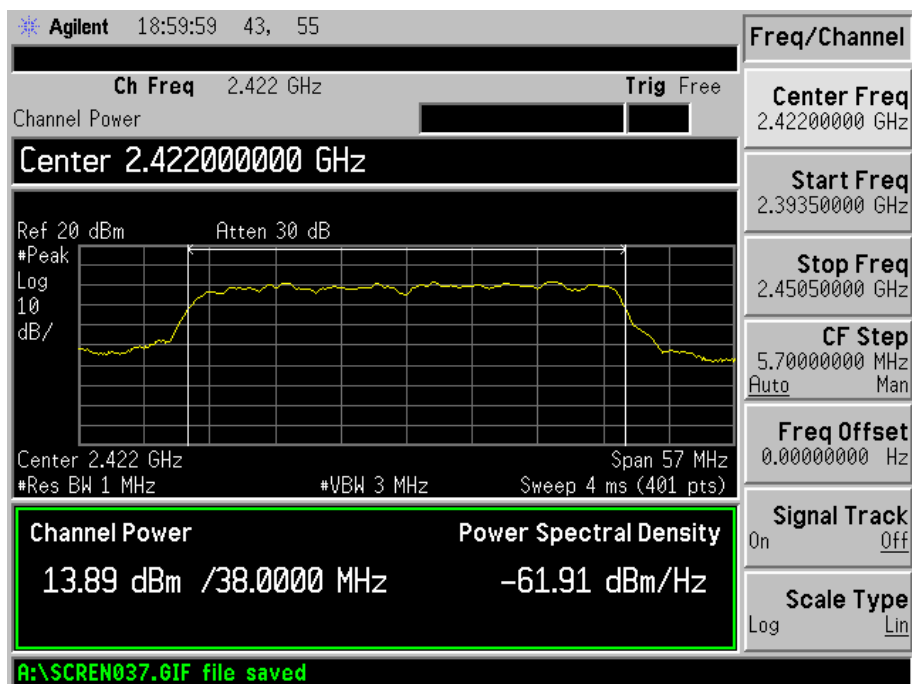
802.11n-HT20-MCS7-Middle Channel



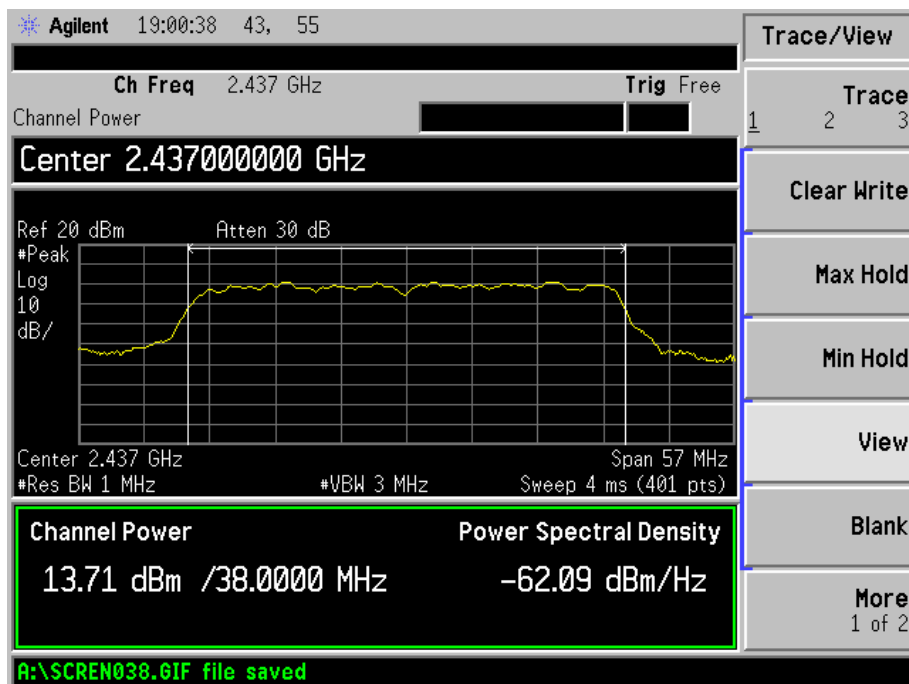
802.11n-HT20-MCS7-High Channel



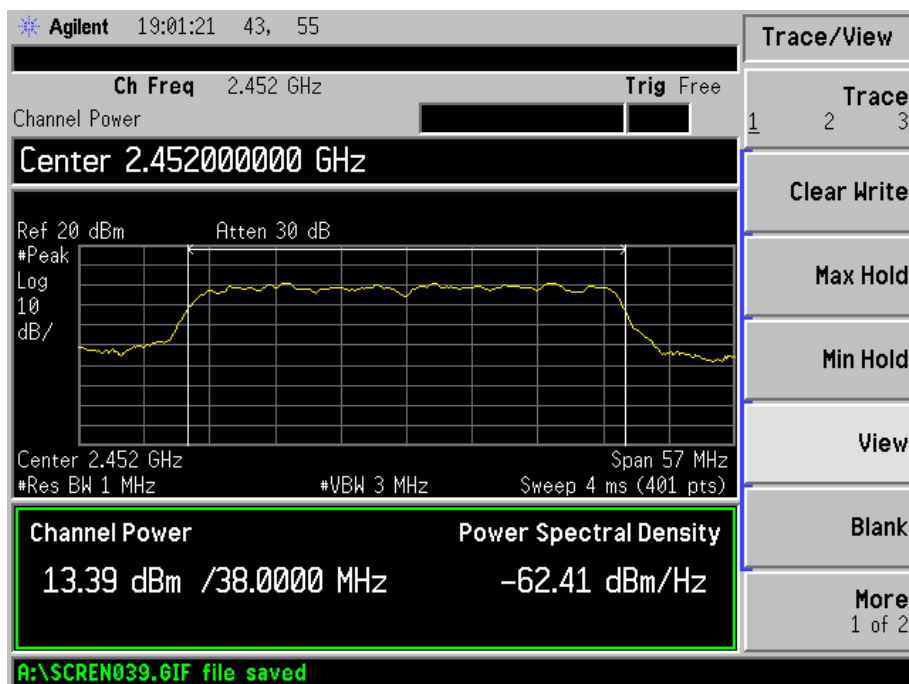
802.11n-HT40-MCS7-Low Channel



802.11n-HT40-MCS7-Middle Channel



802.11n-HT40-MCS7-High Channel



7. Field Strength of Spurious Emissions

7.1 Measurement Uncertainty

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

7.2 Standard Applicable

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

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

7.3 Test Equipment List and Details

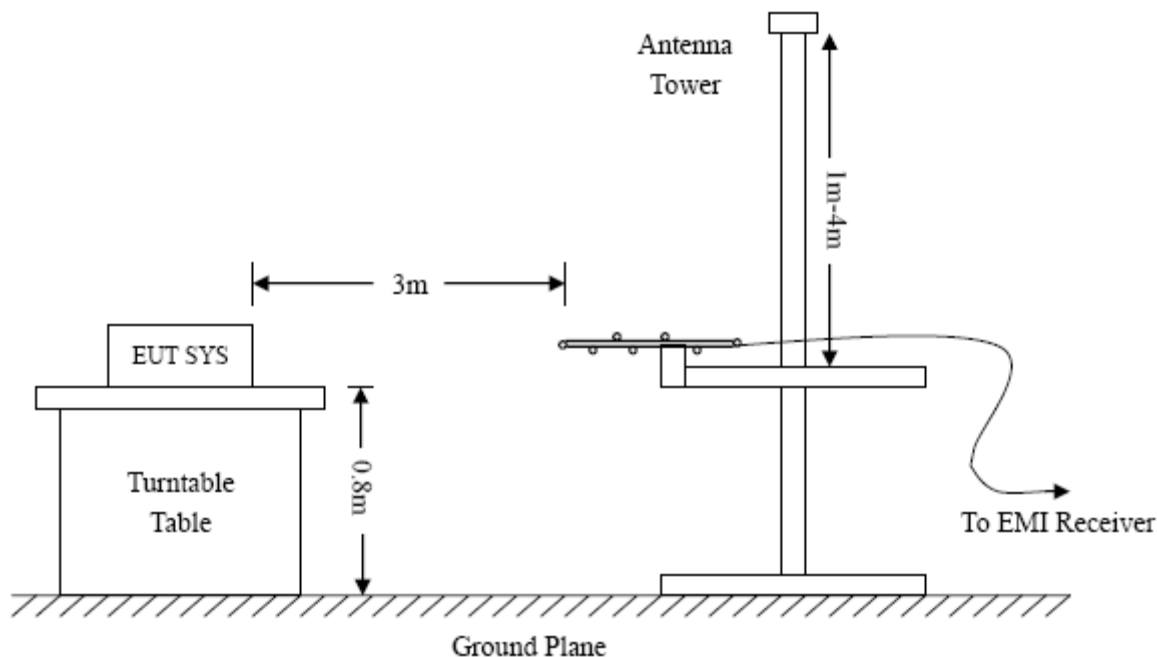
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2013-05-07	2014-05-06
EMI Test Receiver	R&S	ESVB	825471/005	2013-05-07	2014-05-06
Pre-amplifier	Agilent	8447F	3113A06717	2013-05-07	2014-05-06
Pre-amplifier	Compliance Direction	PAP-0118	24002	2013-05-07	2014-05-06
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2013-04-20	2014-04-19
Horn Antenna	ETS	3117	00086197	2013-04-20	2014-04-19
Horn Antenna	ETS	3116B	00088203	2013-04-20	2014-04-19
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2013-04-20	2014-04-19

7.4 Test Procedure

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

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

The spacing between the peripherals was 10 cm.



Frequency :9kHz-30MHz

RBW=10KHz,

VBW =30KHz

Sweep time= Auto

Detector function = peak

Frequency :30MHz-1GHz

RBW=120KHz,

VBW=300KHz

Sweep time= Auto

Detector function = peak

Frequency :Above 1GHz

RBW=1MHz,

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

Sweep time= Auto

Detector function = peak, AV

7.5 Corrected Amplitude & Margin Calculation

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

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

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

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

7.6 Environmental Conditions

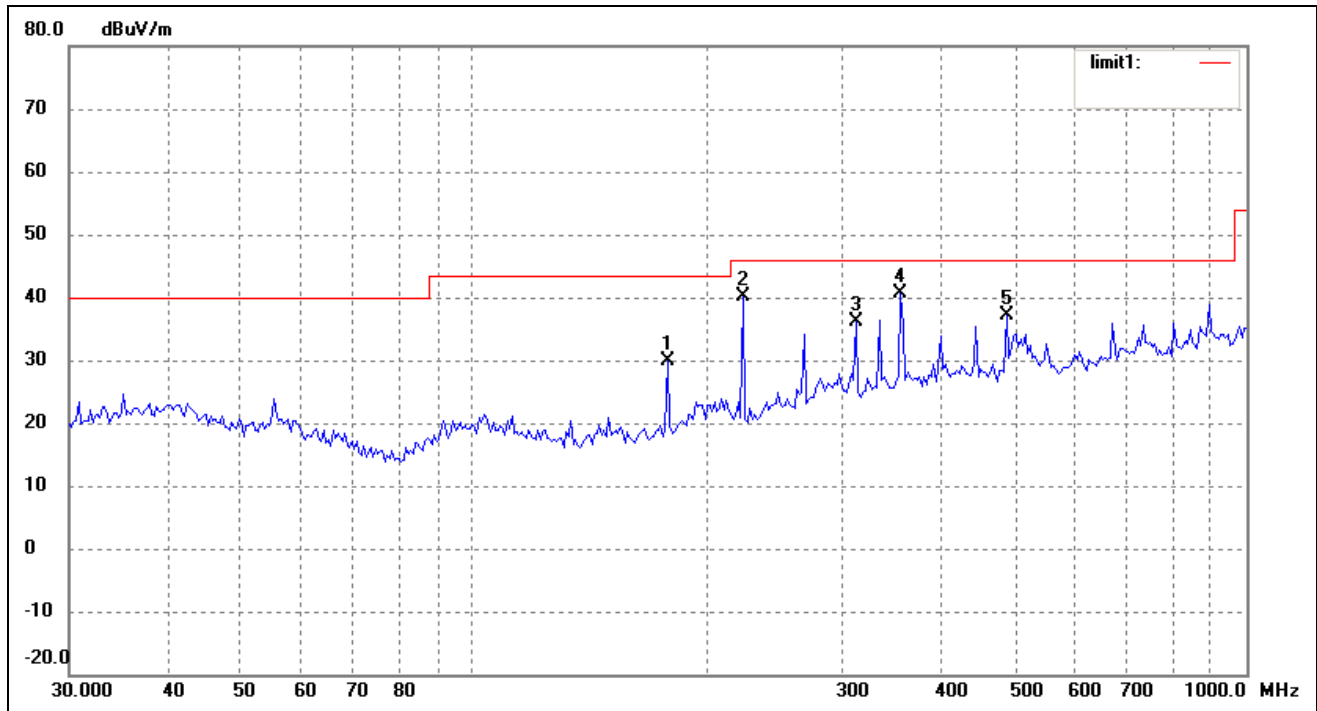
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

7.7 Summary of Test Results/Plots

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

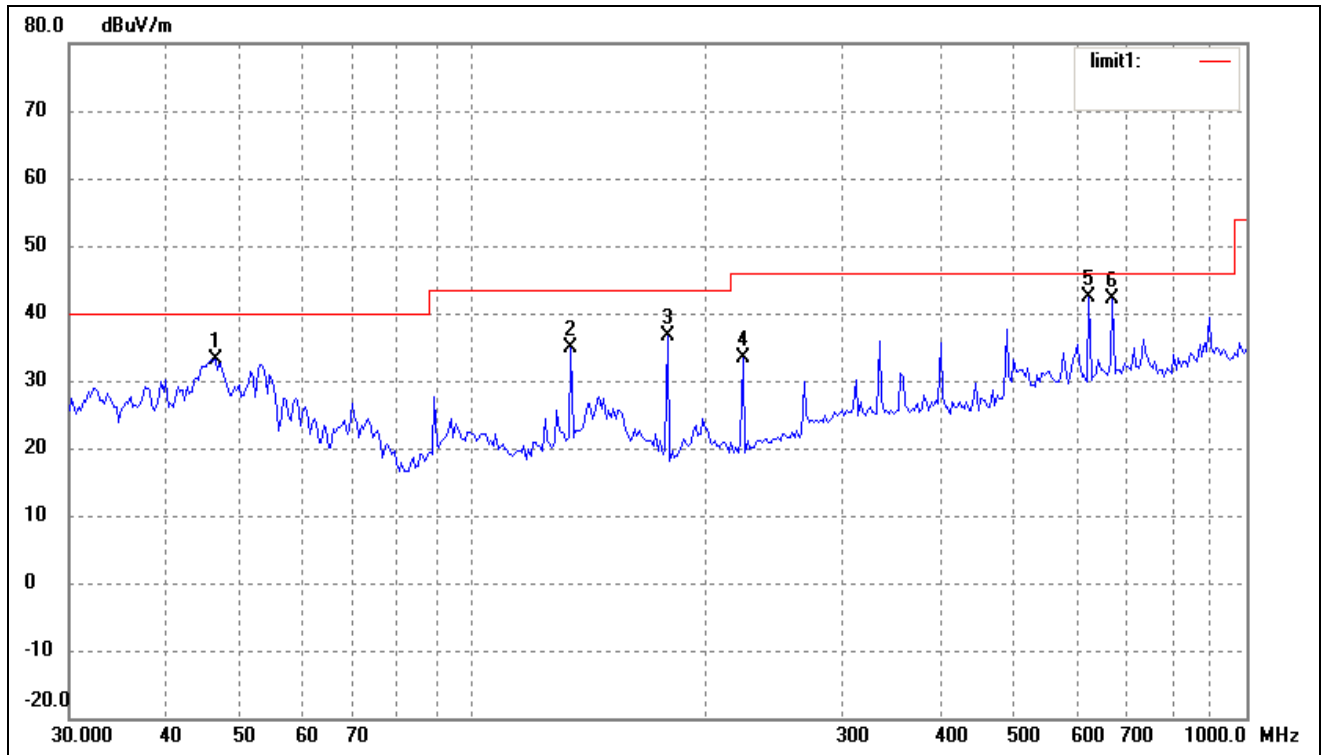
**-2.18 dB at 334.8589 MHz in the Horizontal polarization for 802.11g Transmitting High Channel Mode,
9kHz to 25 GHz, 3 Meters**

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

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* Wireless Digital Display*Tested Model:* PXT510WR04D*Operating Condition:* 802.11b Transmitting Low Channel-2412MHz*Comment:* AC120V/60Hz*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	26.23	3.74	29.97	43.50	-13.53	100	200	peak
2	222.9502	33.97	6.08	40.05	46.00	-5.95	102	200	peak
3	312.1794	25.78	10.36	36.14	46.00	-9.86	125	100	peak
4	356.6758	30.03	10.61	40.64	46.00	-5.36	180	100	peak
5	489.0269	25.31	11.77	37.08	46.00	-8.92	250	200	peak

Test Specification: Vertical

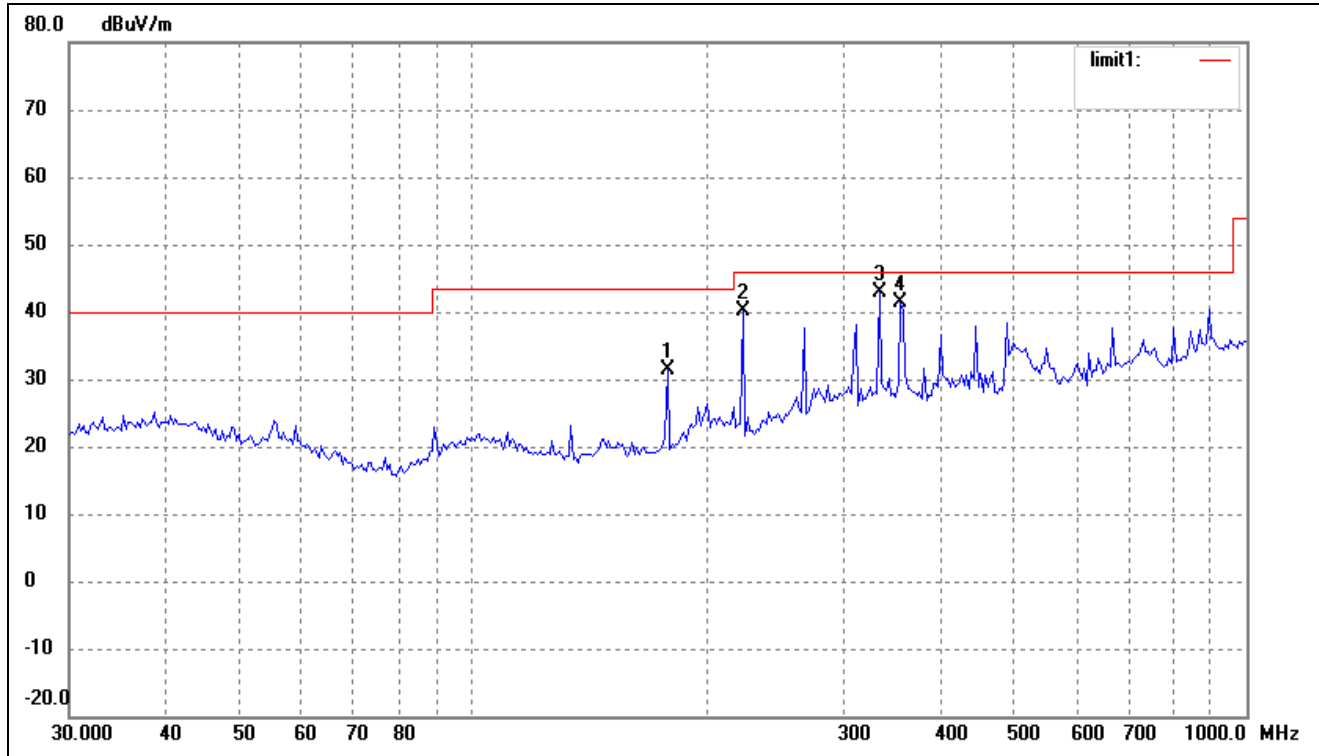


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	46.3402	25.50	7.75	33.25	40.00	-6.75	80	100	peak
2	133.6188	30.91	3.86	34.77	43.50	-8.73	100	200	peak
3	178.1327	32.83	3.74	36.57	43.50	-6.93	102	200	peak
4	222.9502	27.36	6.08	33.44	46.00	-12.56	125	100	peak
5	625.0780	28.26	14.23	42.49	46.00	-3.51	180	100	peak
6	670.4893	26.92	15.17	42.09	46.00	-3.91	250	200	peak

Operating Condition: 802.11b Transmitting Middle Channel-2437MHz

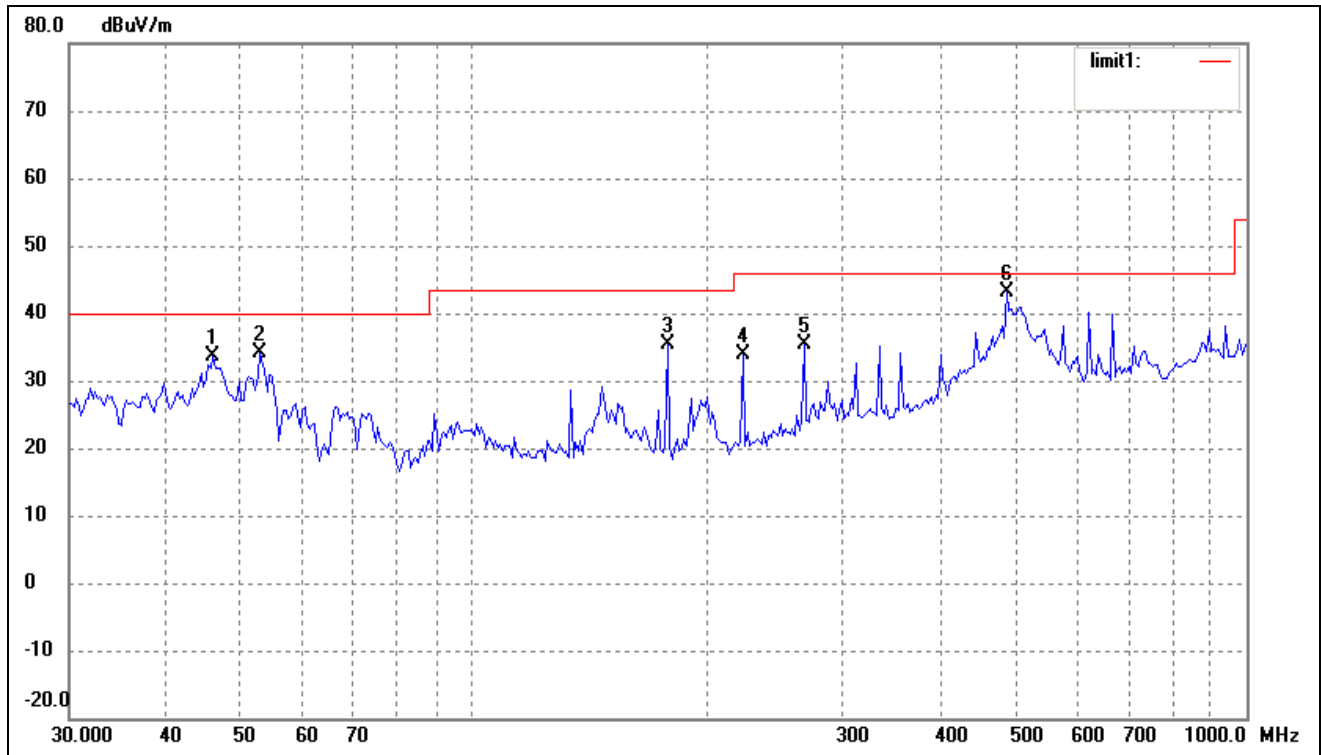
Comment: AC120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	27.53	3.74	31.27	43.50	-12.23	100	200	peak
2	222.9502	33.97	6.08	40.05	46.00	-5.95	150	200	peak
3	334.8589	32.64	10.19	42.83	46.00	-3.17	125	100	peak
4	356.6758	30.88	10.61	41.49	46.00	-4.51	180	100	peak

Test Specification: Vertical

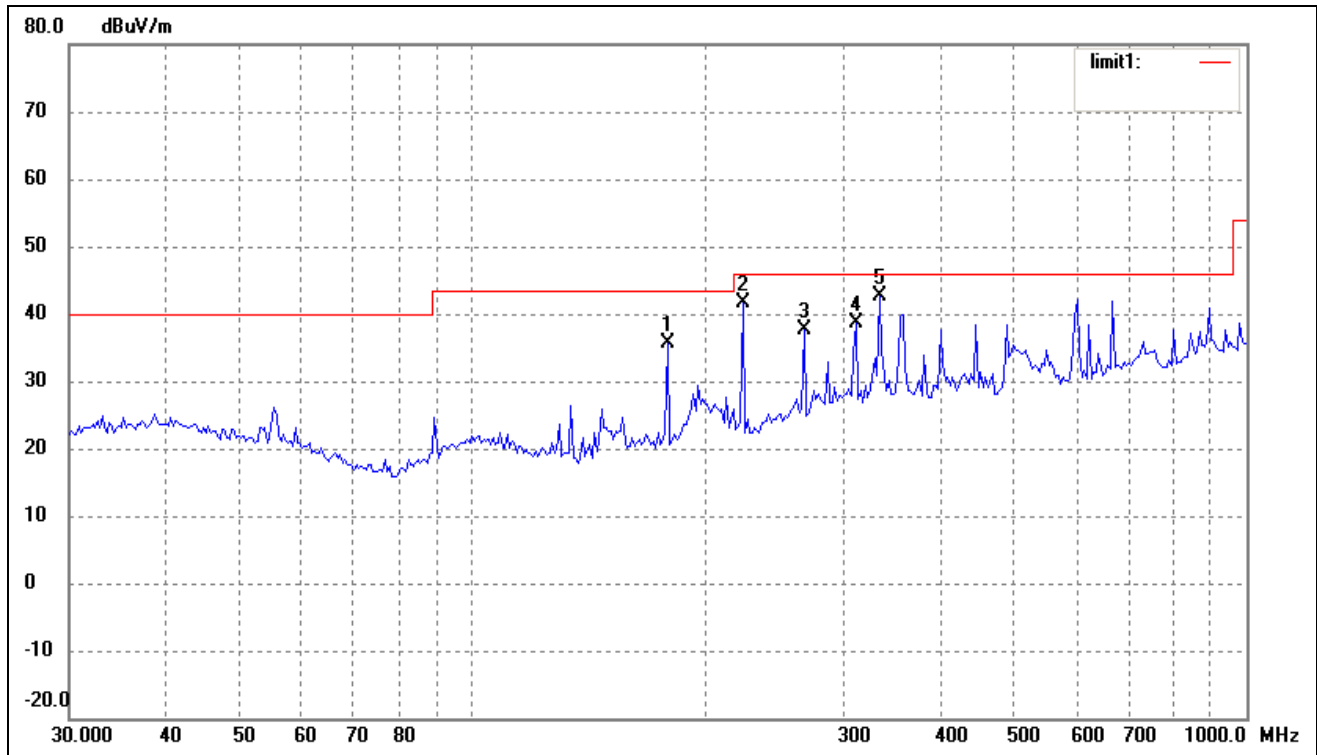


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	46.0164	25.80	7.85	33.65	40.00	-6.35	100	200	peak
2	52.9453	27.76	6.34	34.10	40.00	-5.90	150	150	peak
3	178.1327	31.71	3.74	35.45	43.50	-8.05	100	200	peak
4	222.9502	27.92	6.08	34.00	46.00	-12.00	102	200	peak
5	267.5455	27.17	8.28	35.45	46.00	-10.55	125	100	peak
6	489.0269	31.41	11.77	43.18	46.00	-2.82	180	100	peak

Operating Condition: 802.11b Transmitting High Channel-2462MHz

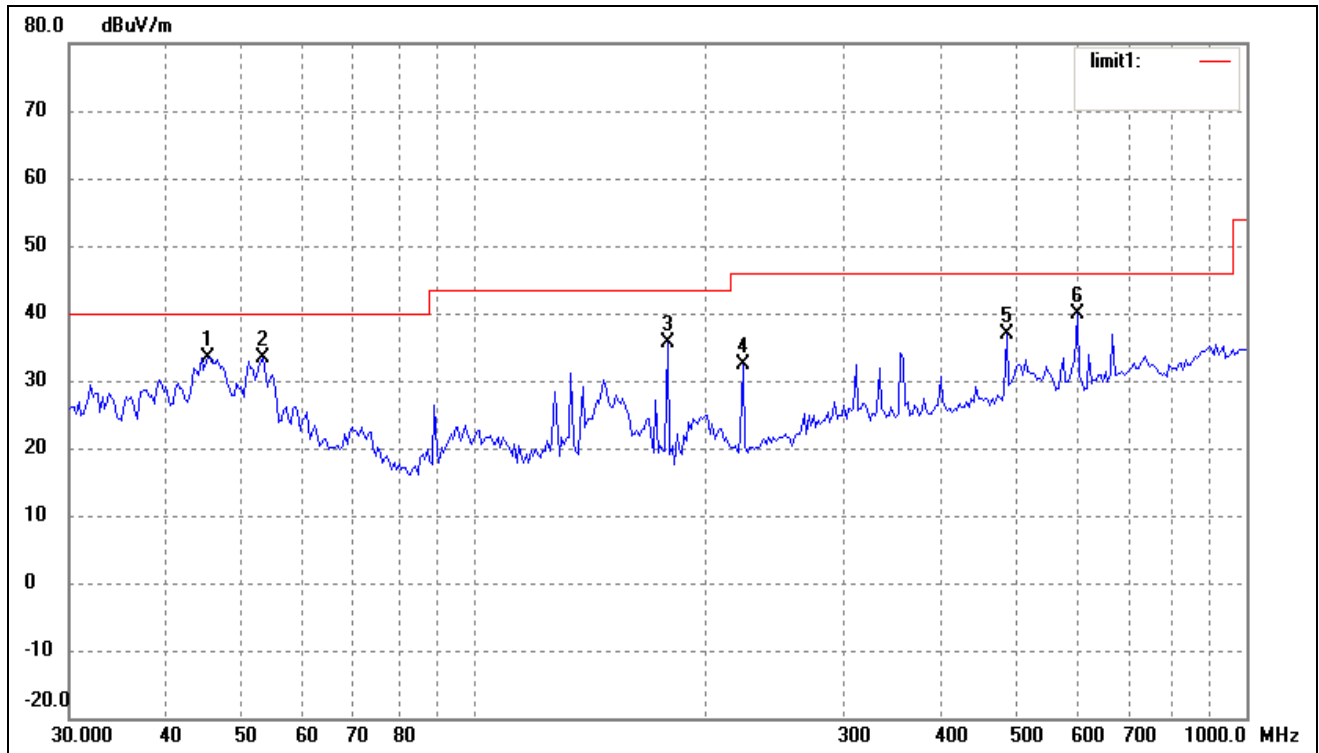
Comment: AC120V/60Hz

Test Specification: Horizontal

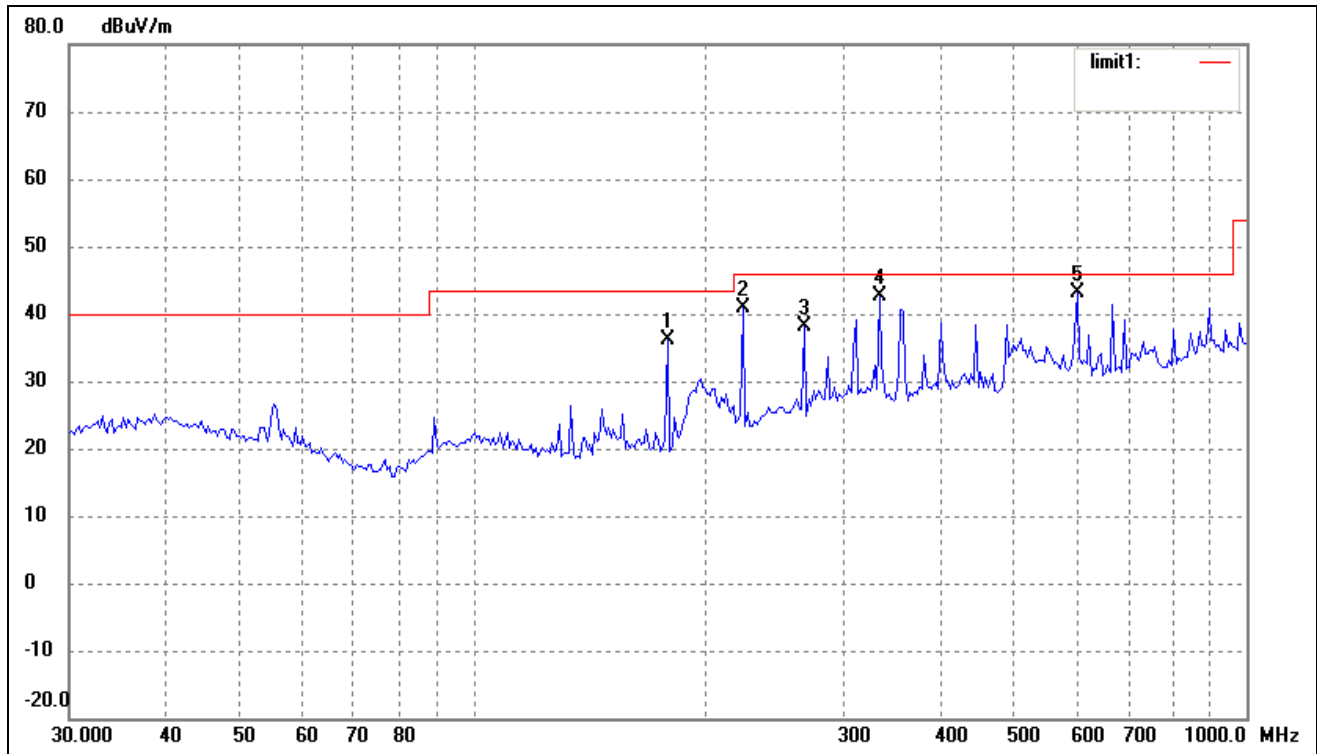


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	178.1327	31.96	3.74	35.70	43.50	-7.80	100	200	peak
2	222.9502	35.59	6.08	41.67	46.00	-4.33	150	150	peak
3	267.5455	29.41	8.28	37.69	46.00	-8.31	100	150	peak
4	312.1794	28.29	10.36	38.65	46.00	-7.35	150	100	peak
5	334.8589	32.52	10.19	42.71	46.00	-3.29	200	100	peak

Test Specification: Vertical

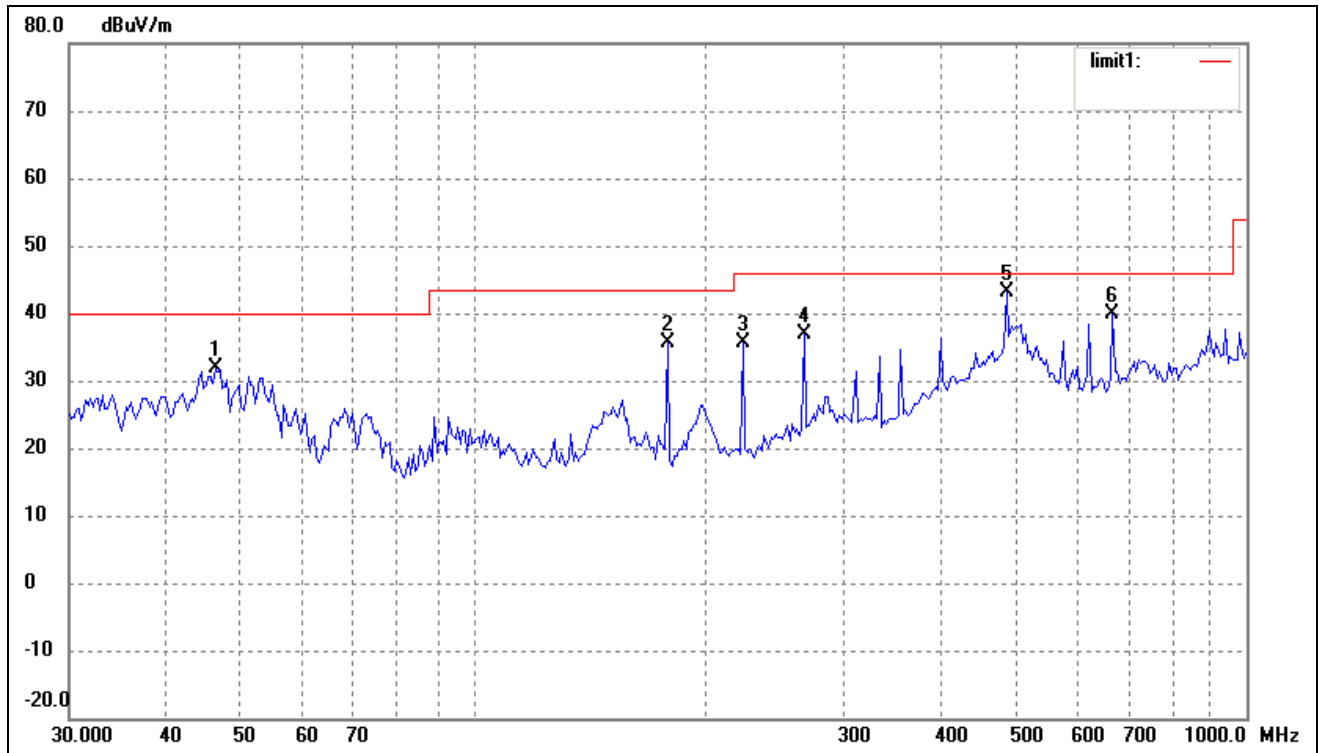


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	45.3755	25.41	8.05	33.46	40.00	-6.54	150	150	peak
2	53.3179	27.13	6.31	33.44	40.00	-6.56	100	150	peak
3	178.1327	31.93	3.74	35.67	43.50	-7.83	150	100	peak
4	222.9502	26.26	6.08	32.34	46.00	-13.66	200	100	peak
5	489.0269	25.04	11.77	36.81	46.00	-9.19	120	150	peak
6	603.5392	25.29	14.62	39.91	46.00	-6.09	100	150	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* Wireless Digital Display*Tested Model:* PXT510WR04D*Operating Condition:* 802.11g Transmitting Low Channel-2412MHz*Comment:* AC120V/60Hz*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	32.46	3.74	36.20	43.50	-7.30	150	150	peak
2	222.9502	34.84	6.08	40.92	46.00	-5.08	100	150	peak
3	267.5455	29.92	8.28	38.20	46.00	-7.80	150	100	peak
4	334.8589	32.52	10.19	42.71	46.00	-3.29	200	100	peak
5	603.5392	28.53	14.62	43.15	46.00	-2.85	0	150	peak

Test Specification: Vertical

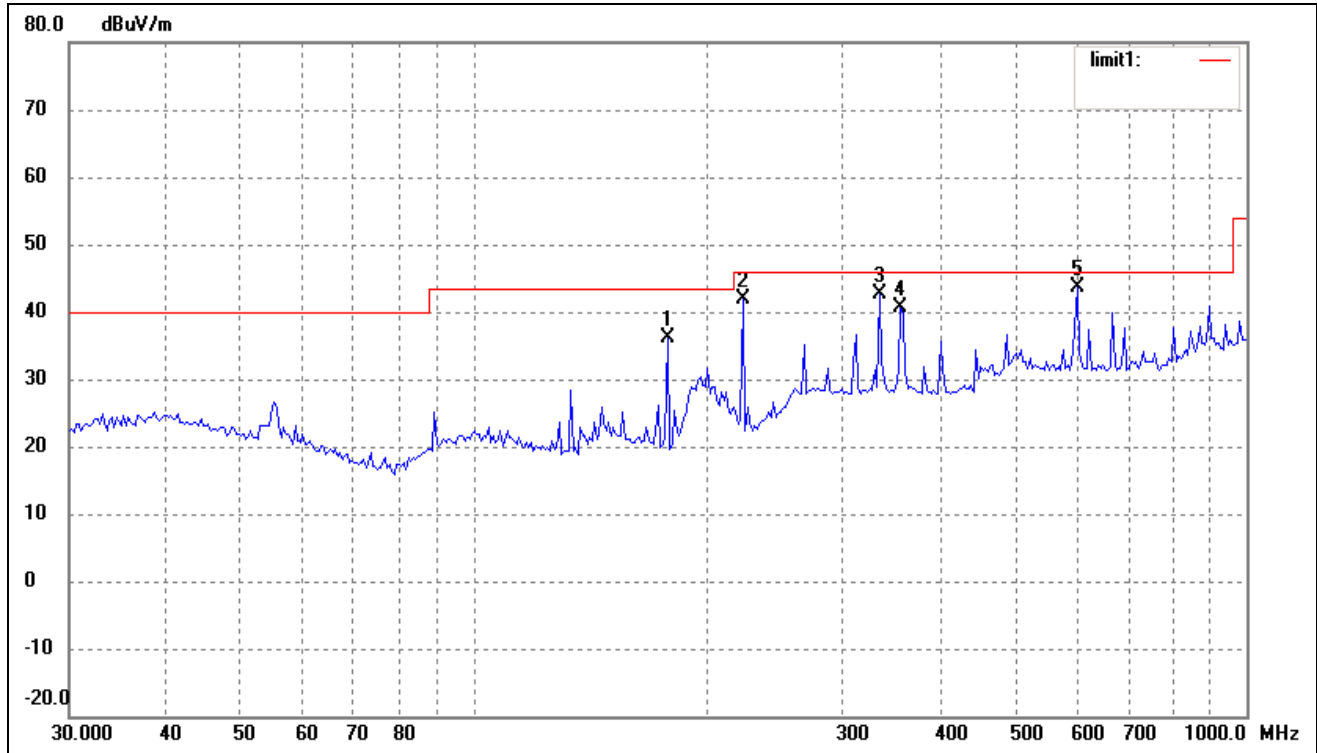


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	46.3402	24.22	7.75	31.97	40.00	-8.03	0	150	peak
2	178.1327	31.80	3.74	35.54	43.50	-7.96	150	150	peak
3	222.9502	29.55	6.08	35.63	46.00	-10.37	100	150	peak
4	267.5455	28.48	8.28	36.76	46.00	-9.24	150	100	peak
5	489.0269	31.32	11.77	43.09	46.00	-2.91	200	100	peak
6	670.4893	24.61	15.17	39.78	46.00	-6.22	180	150	peak

Operating Condition: 802.11g Transmitting Middle Channel-2437MHz

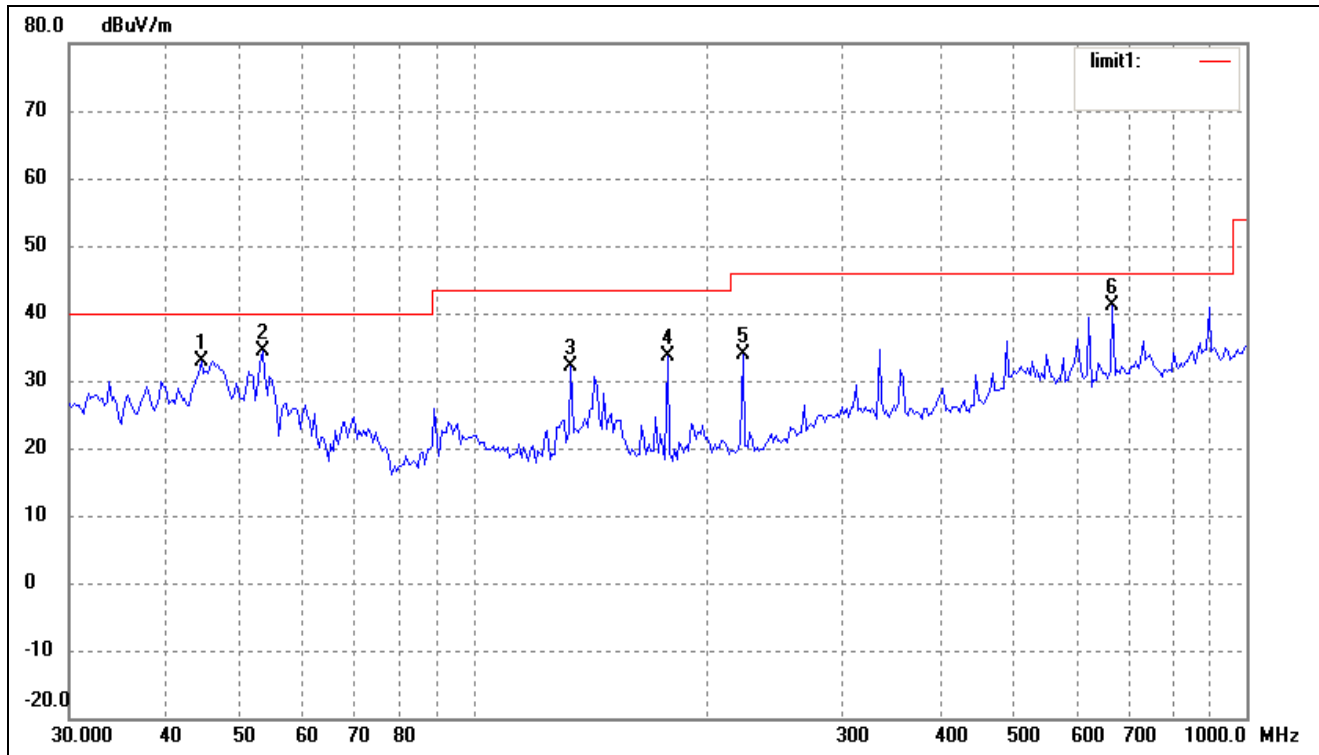
Comment: AC120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	32.46	3.74	36.20	43.50	-7.30	125	100	peak
2	222.9502	35.84	6.08	41.92	46.00	-4.08	150	150	peak
3	334.8589	32.52	10.19	42.71	46.00	-3.29	100	150	peak
4	356.6758	29.99	10.61	40.60	46.00	-5.40	150	100	peak
5	603.5392	29.03	14.62	43.65	46.00	-2.35	200	100	peak

Test Specification: Vertical

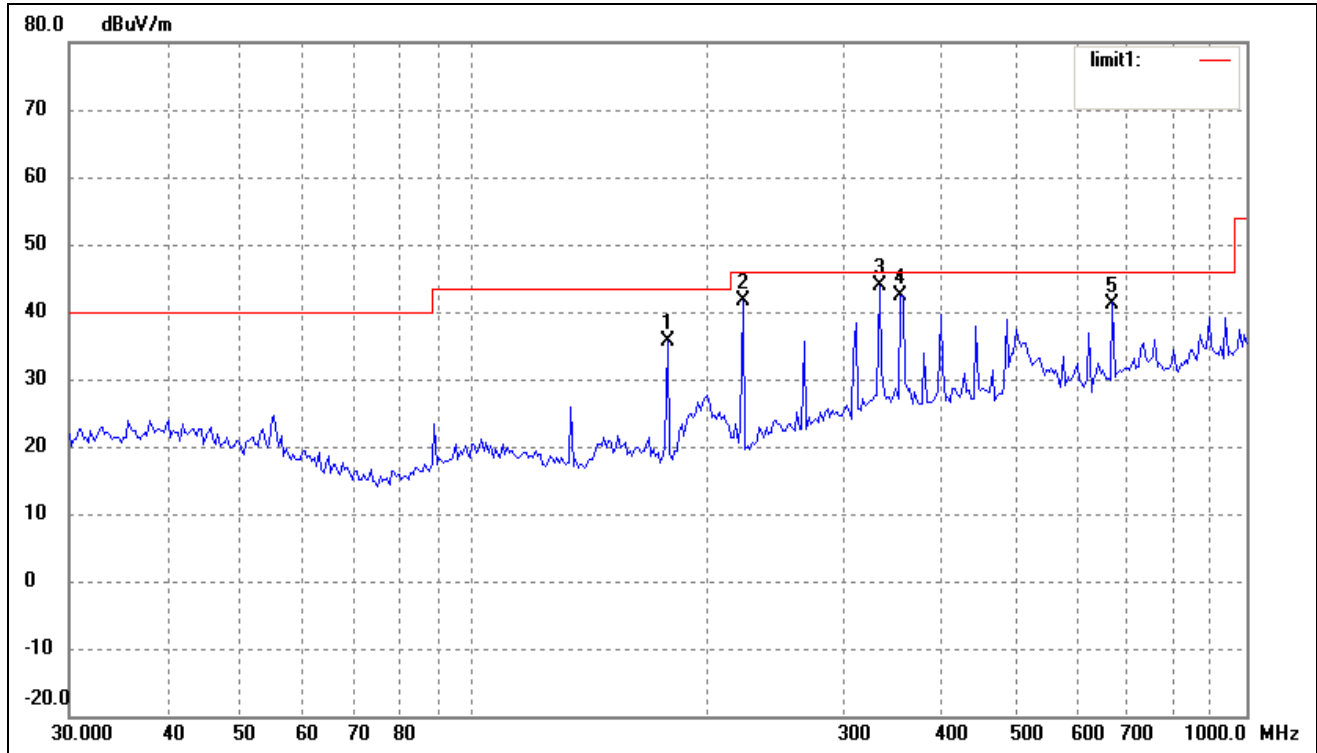


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	44.4308	24.55	8.33	32.88	40.00	-7.12	135	150	peak
2	53.3179	27.97	6.31	34.28	40.00	-5.72	150	150	peak
3	133.6188	28.24	3.86	32.10	43.50	-11.40	100	150	peak
4	178.1327	29.98	3.74	33.72	43.50	-9.78	150	100	peak
5	222.9502	27.72	6.08	33.80	46.00	-12.20	200	100	peak
6	670.4893	25.90	15.17	41.07	46.00	-4.93	150	200	peak

Operating Condition: 802.11g Transmitting High Channel-2462MHz

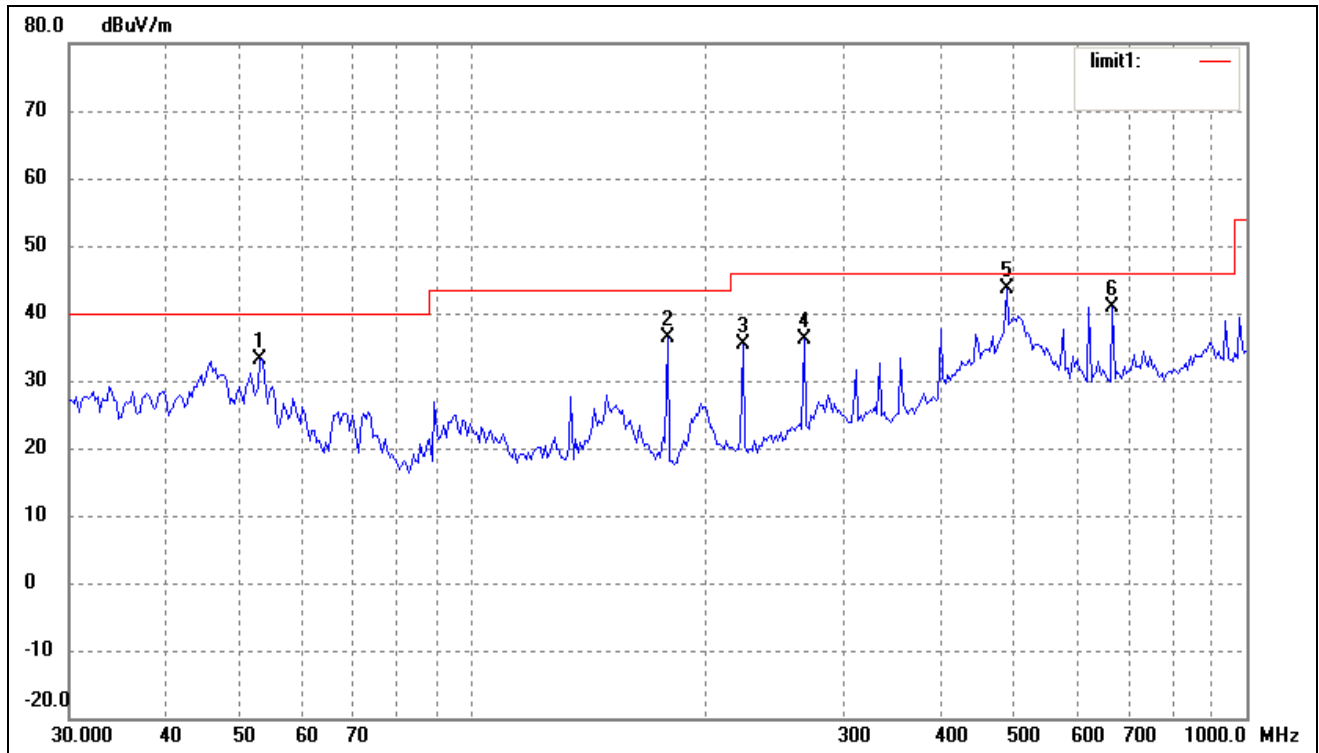
Comment: AC120V/60Hz

Test Specification: Horizontal

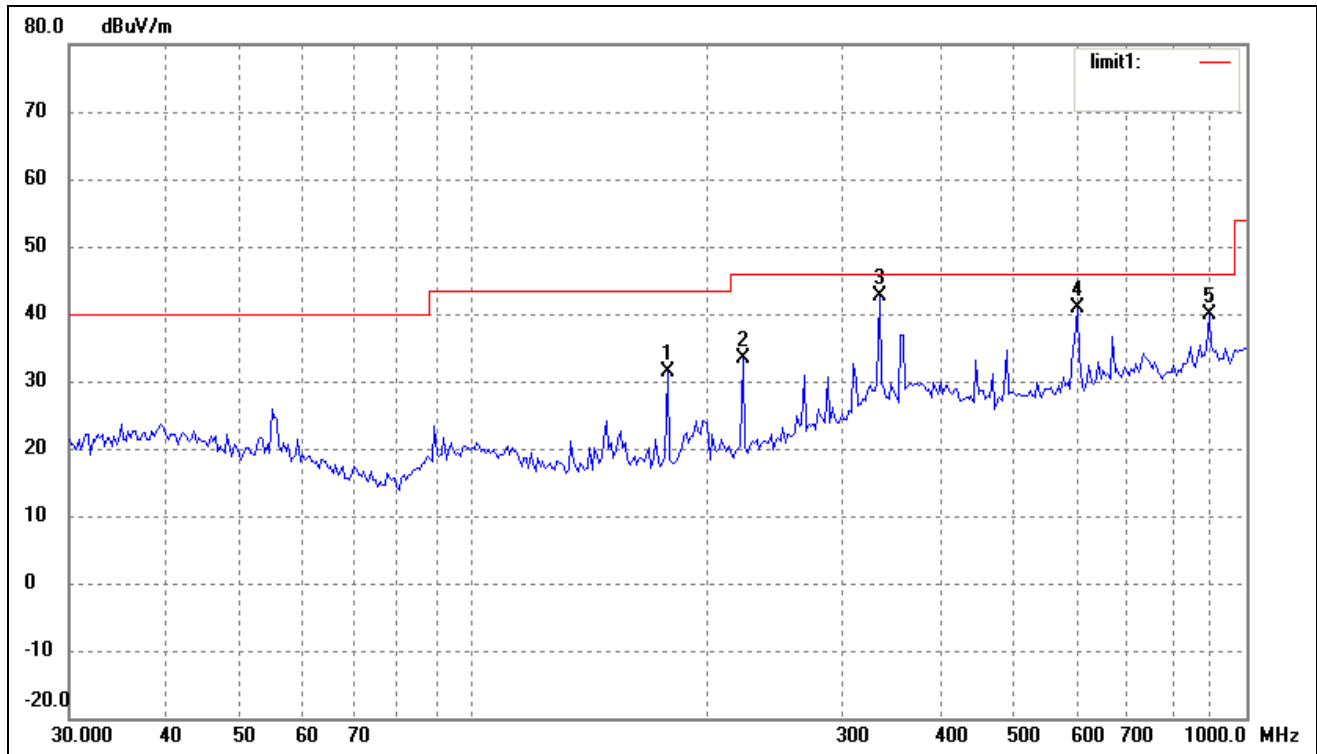


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	178.1327	31.94	3.74	35.68	43.50	-7.82	110	200	peak
2	222.9502	35.54	6.08	41.62	46.00	-4.38	150	100	peak
3	334.8589	33.63	10.19	43.82	46.00	-2.18	200	100	peak
4	356.6758	31.85	10.61	42.46	46.00	-3.54	180	150	peak
5	670.4893	26.08	15.17	41.25	46.00	-4.75	150	100	peak

Test Specification: Vertical

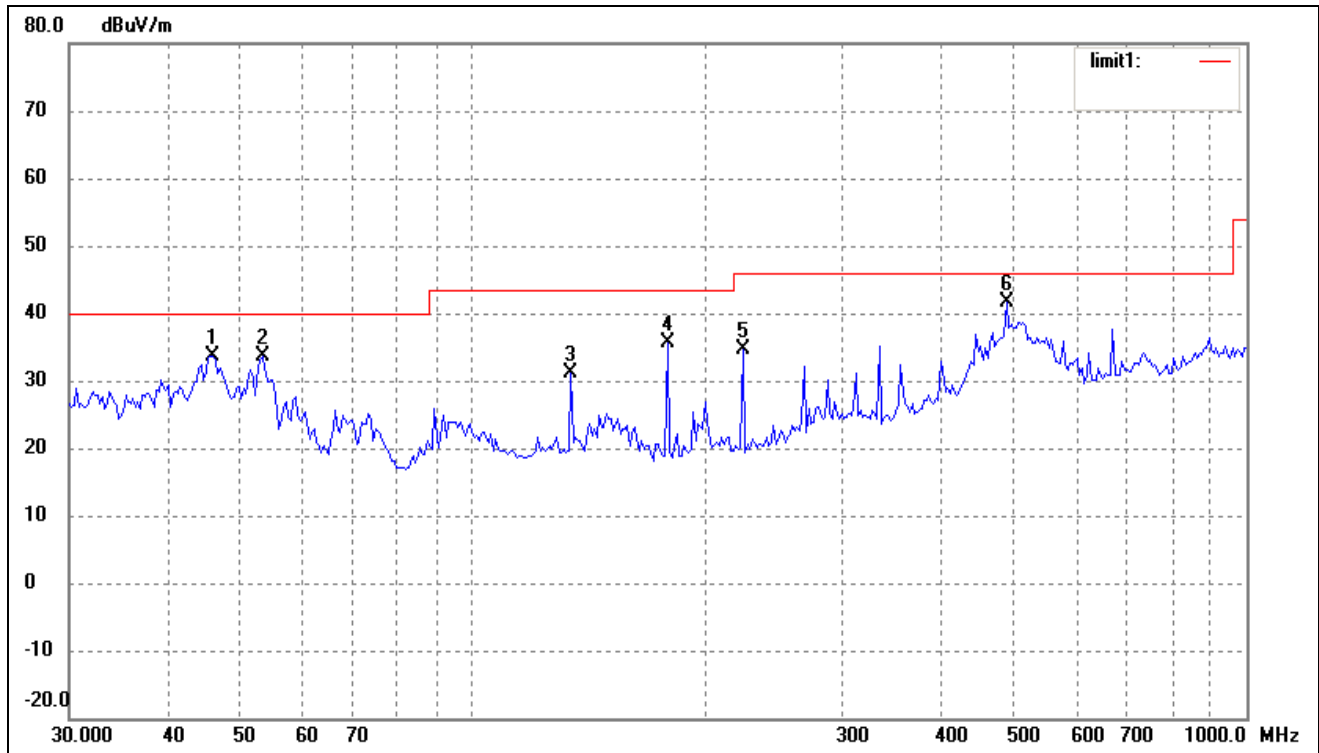


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	52.9453	26.75	6.34	33.09	40.00	-6.91	95	150	peak
2	178.1327	32.57	3.74	36.31	43.50	-7.19	150	100	peak
3	222.9502	29.34	6.08	35.42	46.00	-10.58	200	100	peak
4	267.5455	27.82	8.28	36.10	46.00	-9.90	150	100	peak
5	489.0269	31.78	11.77	43.55	46.00	-2.45	200	100	peak
6	670.4893	25.77	15.17	40.94	46.00	-5.06	180	150	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* Wireless Digital Display*Tested Model:* PXT510WR04D*Operating Condition:* 802.11n-HT20 Transmitting Low Channel-2412MHz*Comment:* AC120V/60Hz*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	178.1327	27.61	3.74	31.35	43.50	-12.15	68	100	peak
2	222.9502	27.40	6.08	33.48	46.00	-12.52	150	100	peak
3	334.8589	32.50	10.19	42.69	46.00	-3.31	200	100	peak
4	603.5392	26.31	14.62	40.93	46.00	-5.07	180	150	peak
5	893.8567	20.70	19.27	39.97	46.00	-6.03	150	100	peak

Test Specification: Vertical

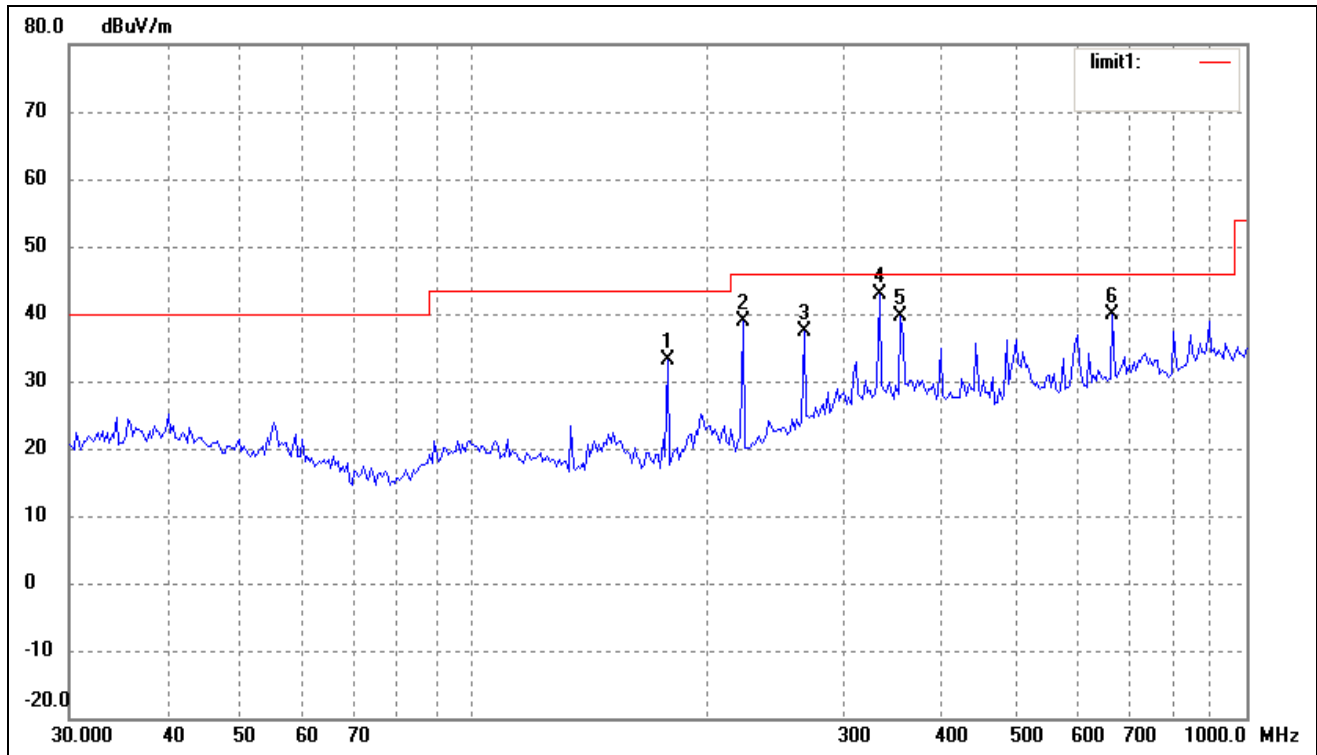


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	46.0164	25.89	7.85	33.74	40.00	-6.26	32	200	peak
2	53.3179	27.38	6.31	33.69	40.00	-6.31	150	100	peak
3	133.6188	27.19	3.86	31.05	43.50	-12.45	200	100	peak
4	178.1327	31.82	3.74	35.56	43.50	-7.94	180	150	peak
5	222.9502	28.57	6.08	34.65	46.00	-11.35	150	100	peak
6	489.0269	29.97	11.77	41.74	46.00	-4.26	200	100	peak

Operating Condition: 802.11n-HT20 Transmitting Middle Channel-2437MHz

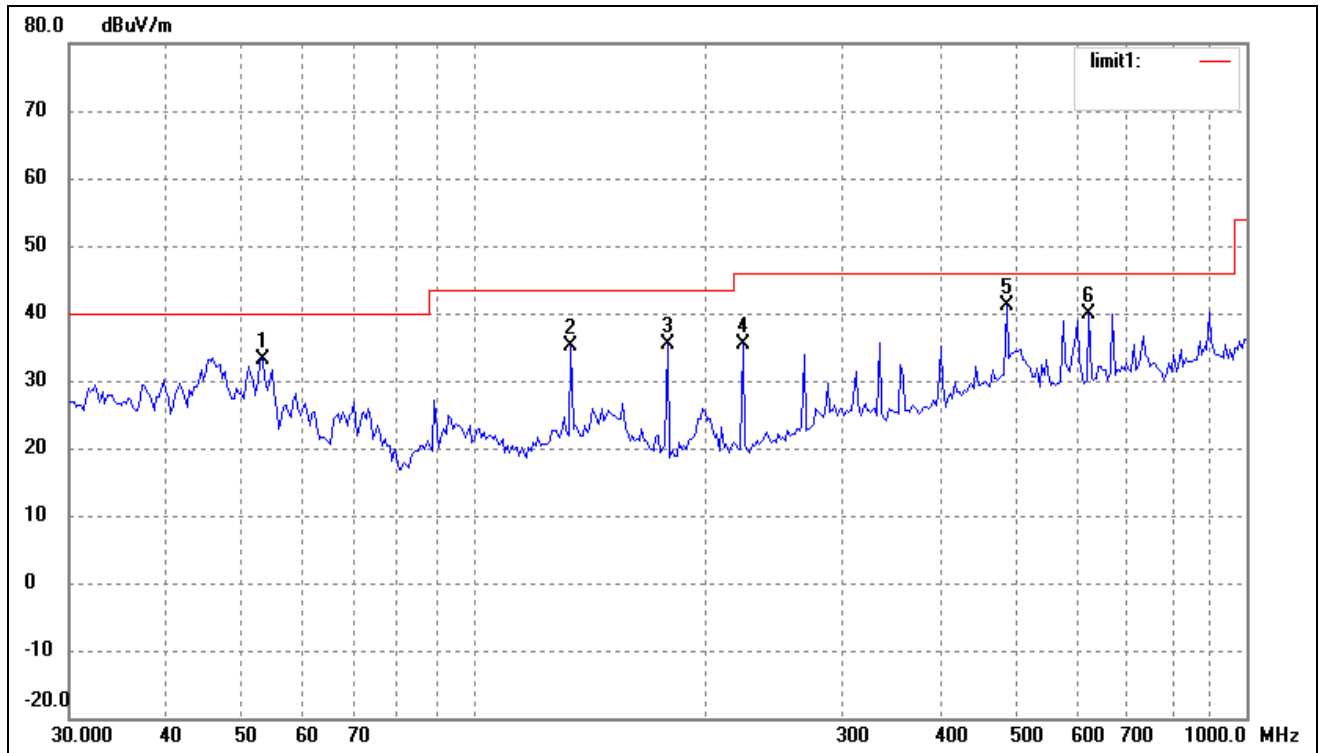
Comment: AC120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	29.46	3.74	33.20	43.50	-10.30	47	100	peak
2	222.9502	32.88	6.08	38.96	46.00	-7.04	150	100	peak
3	267.5455	29.18	8.28	37.46	46.00	-8.54	200	100	peak
4	334.8589	32.57	10.19	42.76	46.00	-3.24	180	150	peak
5	356.6758	28.93	10.61	39.54	46.00	-6.46	150	100	peak
6	670.4893	24.74	15.17	39.91	46.00	-6.09	200	100	peak

Test Specification: Vertical

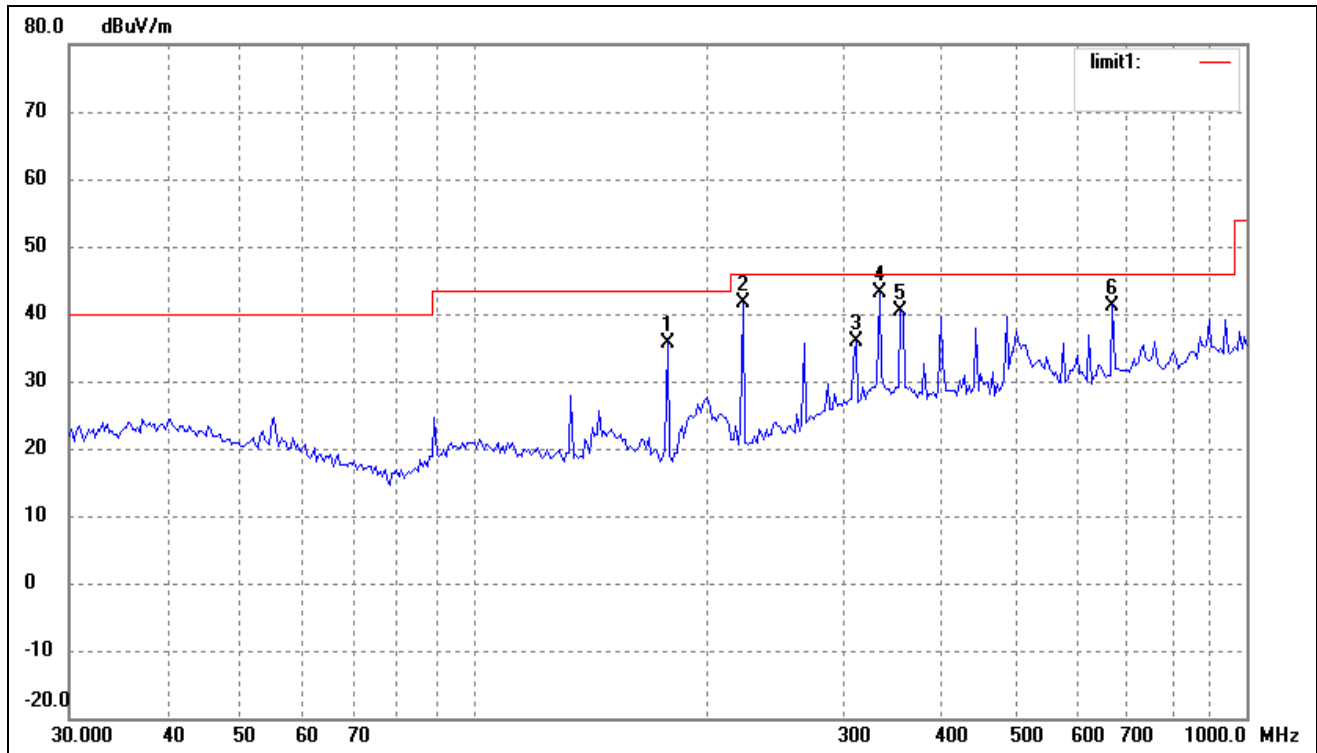


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	53.3179	26.91	6.31	33.22	40.00	-6.78	46	150	peak
2	133.6188	31.18	3.86	35.04	43.50	-8.46	150	100	peak
3	178.1327	31.74	3.74	35.48	43.50	-8.02	200	100	peak
4	222.9502	29.19	6.08	35.27	46.00	-10.73	150	100	peak
5	489.0269	29.24	11.77	41.01	46.00	-4.99	200	100	peak
6	625.0780	25.74	14.23	39.97	46.00	-6.03	180	150	peak

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

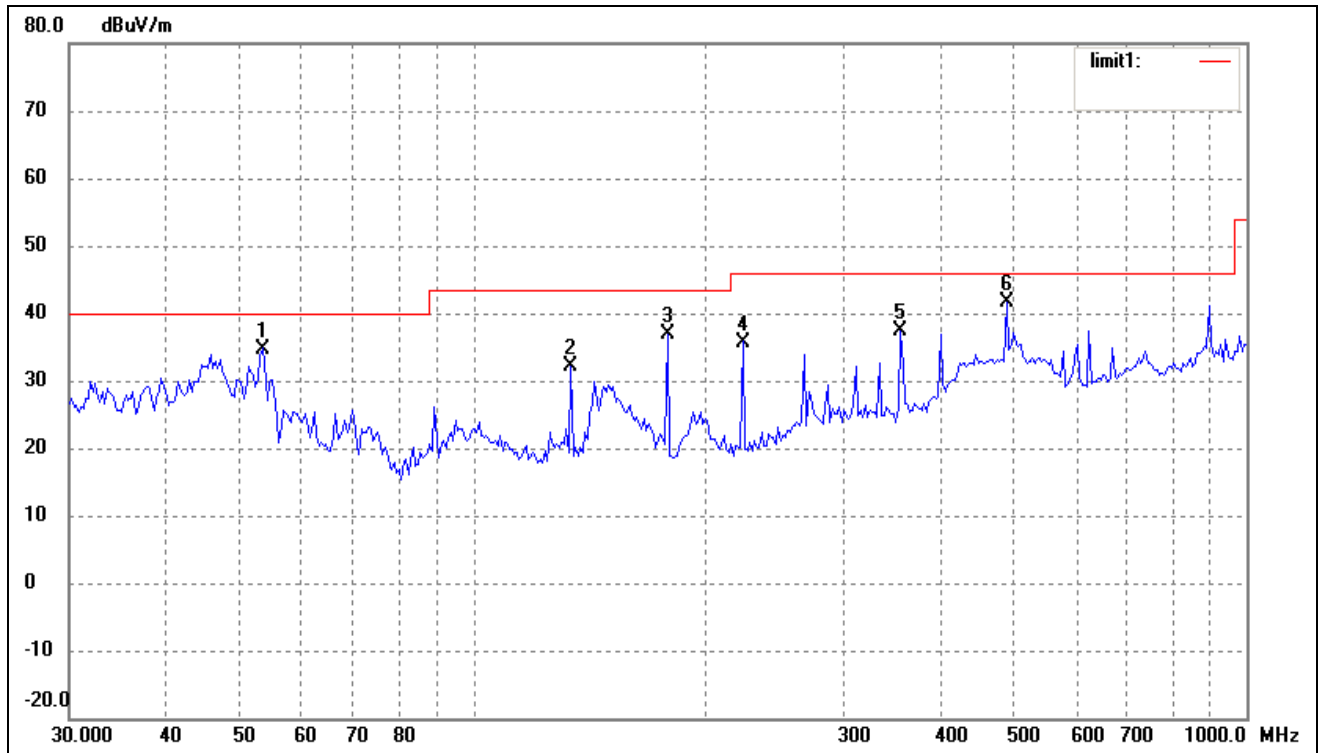
Comment: AC120V/60Hz

Test Specification: Horizontal

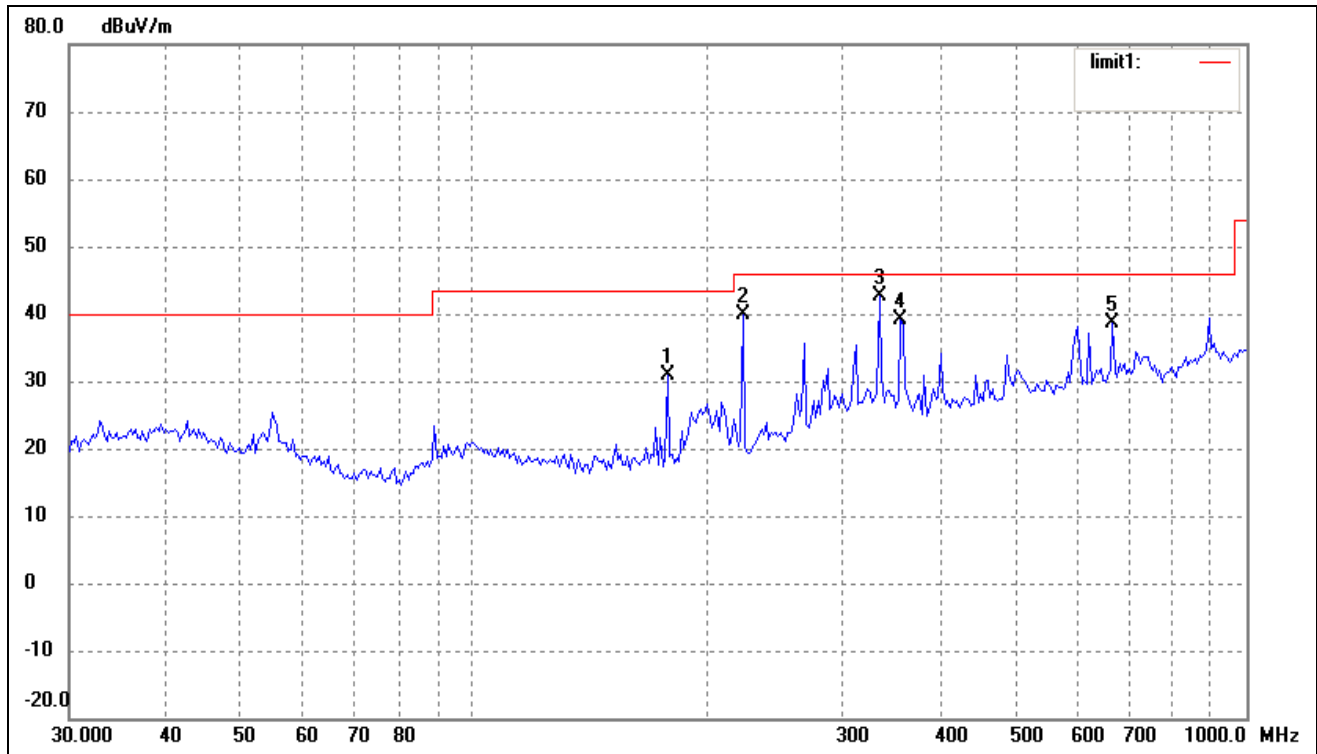


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	31.94	3.74	35.68	43.50	-7.82	147	100	peak
2	222.9502	35.54	6.08	41.62	46.00	-4.38	150	100	peak
3	312.1794	25.51	10.36	35.87	46.00	-10.13	150	100	peak
4	334.8589	32.83	10.19	43.02	46.00	-2.98	200	100	peak
5	356.6758	29.83	10.61	40.44	46.00	-5.56	150	100	peak
6	670.4893	26.08	15.17	41.25	46.00	-4.75	200	100	peak

Test Specification: Vertical

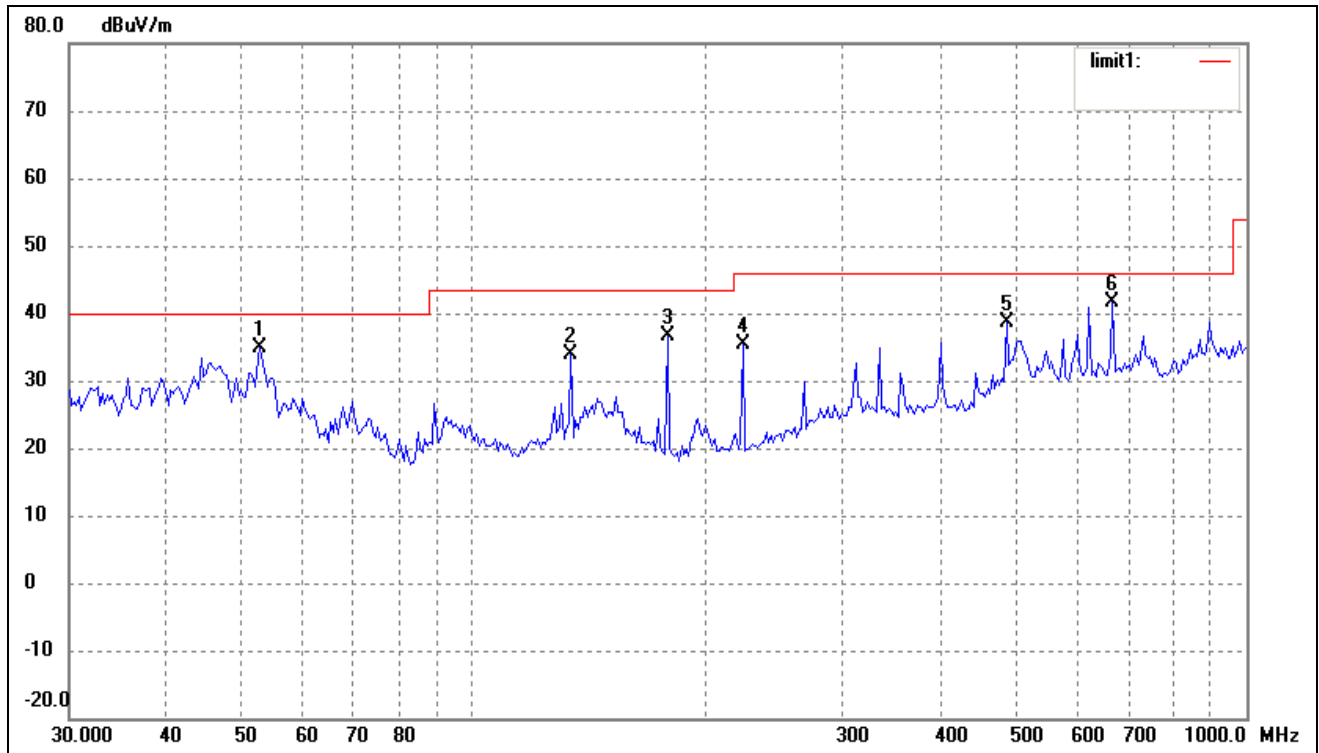


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	53.3179	28.44	6.31	34.75	40.00	-5.25	34	100	peak
2	133.6188	28.34	3.86	32.20	43.50	-11.30	150	100	peak
3	178.1327	33.12	3.74	36.86	43.50	-6.64	200	100	peak
4	222.9502	29.67	6.08	35.75	46.00	-10.25	180	150	peak
5	356.6758	26.68	10.61	37.29	46.00	-8.71	150	100	peak
6	489.0269	29.77	11.77	41.54	46.00	-4.46	150	100	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* Wireless Digital Display*Tested Model:* PXT510WR04D*Operating Condition:* 802.11n-HT40 Transmitting Low Channel-2422MHz*Comment:* AC120V/60Hz*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	27.12	3.74	30.86	43.50	-12.64	25	150	peak
2	222.9502	33.81	6.08	39.89	46.00	-6.11	150	100	peak
3	334.8589	32.48	10.19	42.67	46.00	-3.33	200	100	peak
4	356.6758	28.42	10.61	39.03	46.00	-6.97	180	150	peak
5	670.4893	23.39	15.17	38.56	46.00	-7.44	150	100	peak

Test Specification: Vertical

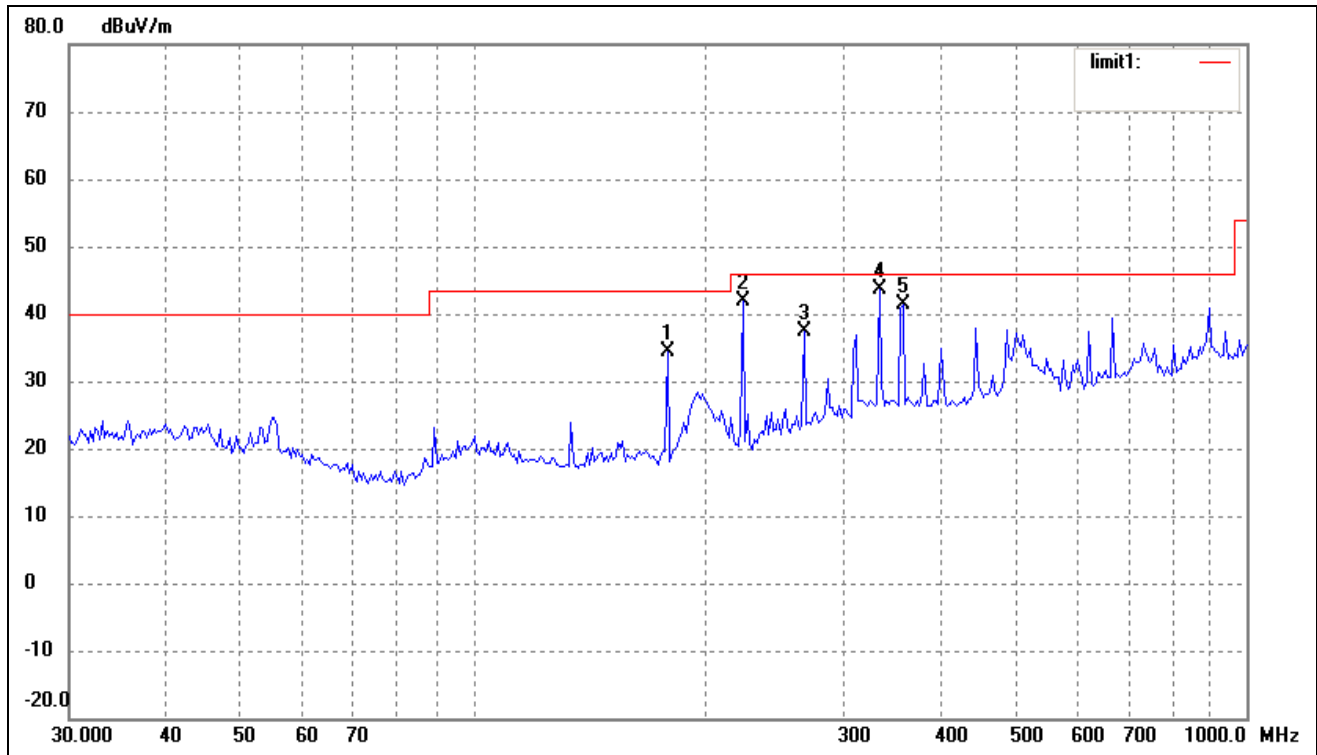


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	52.9453	28.51	6.34	34.85	40.00	-5.15	85	100	peak
2	133.6188	30.05	3.86	33.91	43.50	-9.59	150	100	peak
3	178.1327	32.92	3.74	36.66	43.50	-6.84	150	100	peak
4	222.9502	29.24	6.08	35.32	46.00	-10.68	200	100	peak
5	489.0269	26.96	11.77	38.73	46.00	-7.27	150	100	peak
6	670.4893	26.53	15.17	41.70	46.00	-4.30	200	100	peak

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

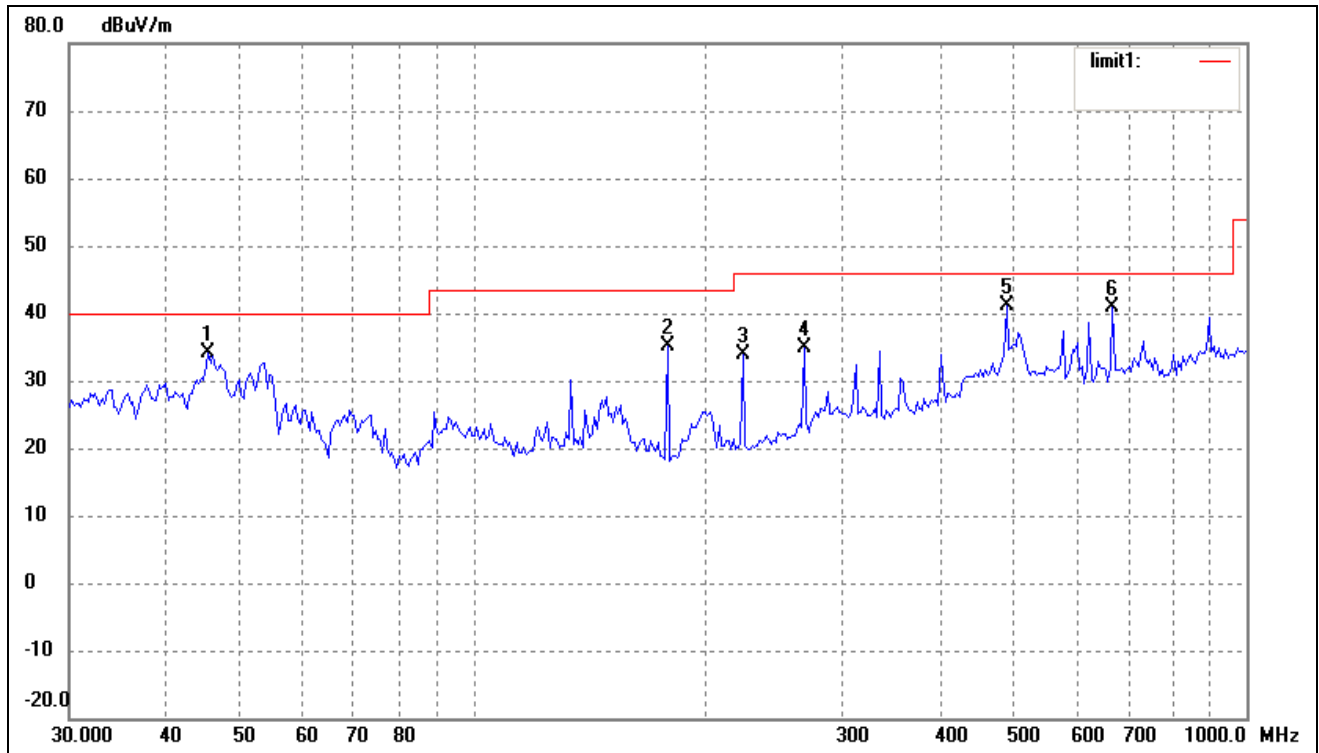
Comment: AC120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	30.75	3.74	34.49	43.50	-9.01	95	150	peak
2	222.9502	35.69	6.08	41.77	46.00	-4.23	150	100	peak
3	267.5455	29.06	8.28	37.34	46.00	-8.66	200	100	peak
4	334.8589	33.32	10.19	43.51	46.00	-2.49	180	150	peak
5	359.1860	30.80	10.68	41.48	46.00	-4.52	150	100	peak

Test Specification: Vertical

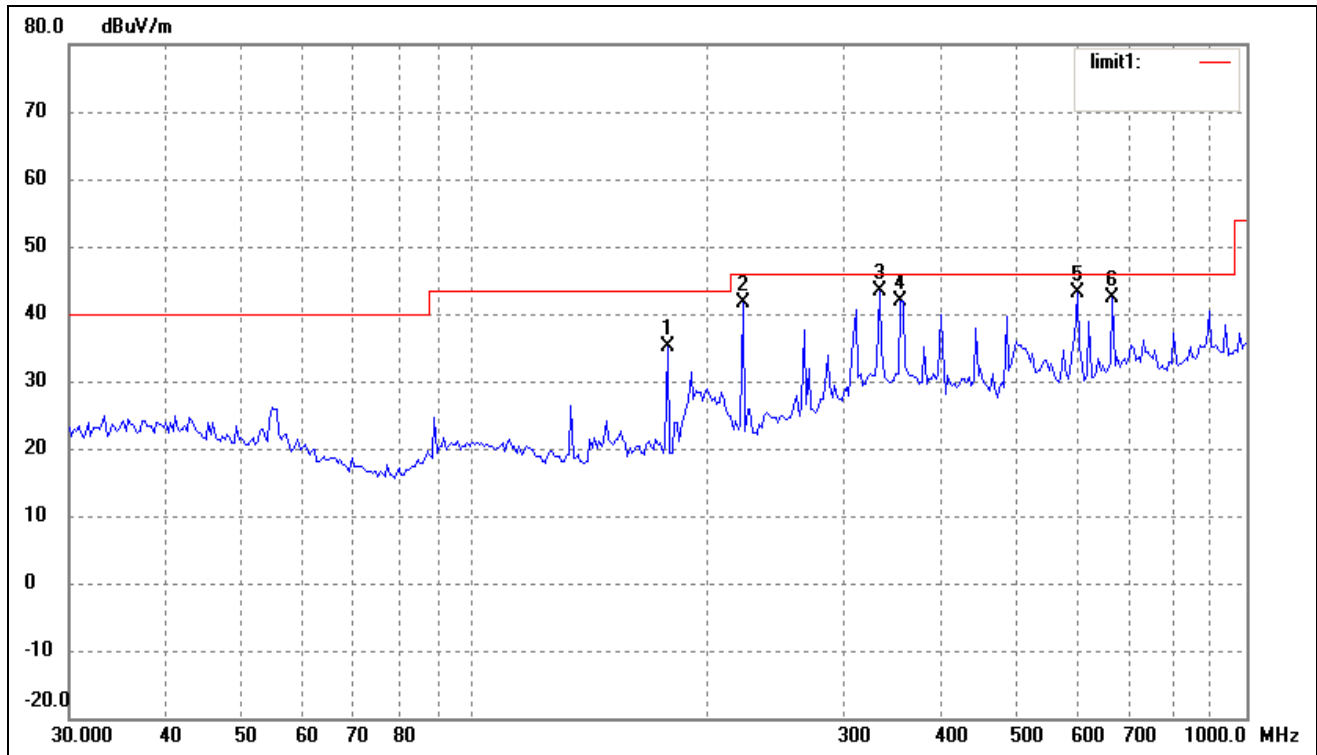


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	45.3755	26.15	8.05	34.20	40.00	-5.80	46	100	peak
2	178.1327	31.48	3.74	35.22	43.50	-8.28	150	100	peak
3	222.9502	27.73	6.08	33.81	46.00	-12.19	150	100	peak
4	267.5455	26.60	8.28	34.88	46.00	-11.12	200	100	peak
5	489.0269	29.24	11.77	41.01	46.00	-4.99	180	150	peak
6	670.4893	25.77	15.17	40.94	46.00	-5.06	150	100	peak

Operating Condition: 802.11n-HT40 Transmitting High Channel-2452MHz

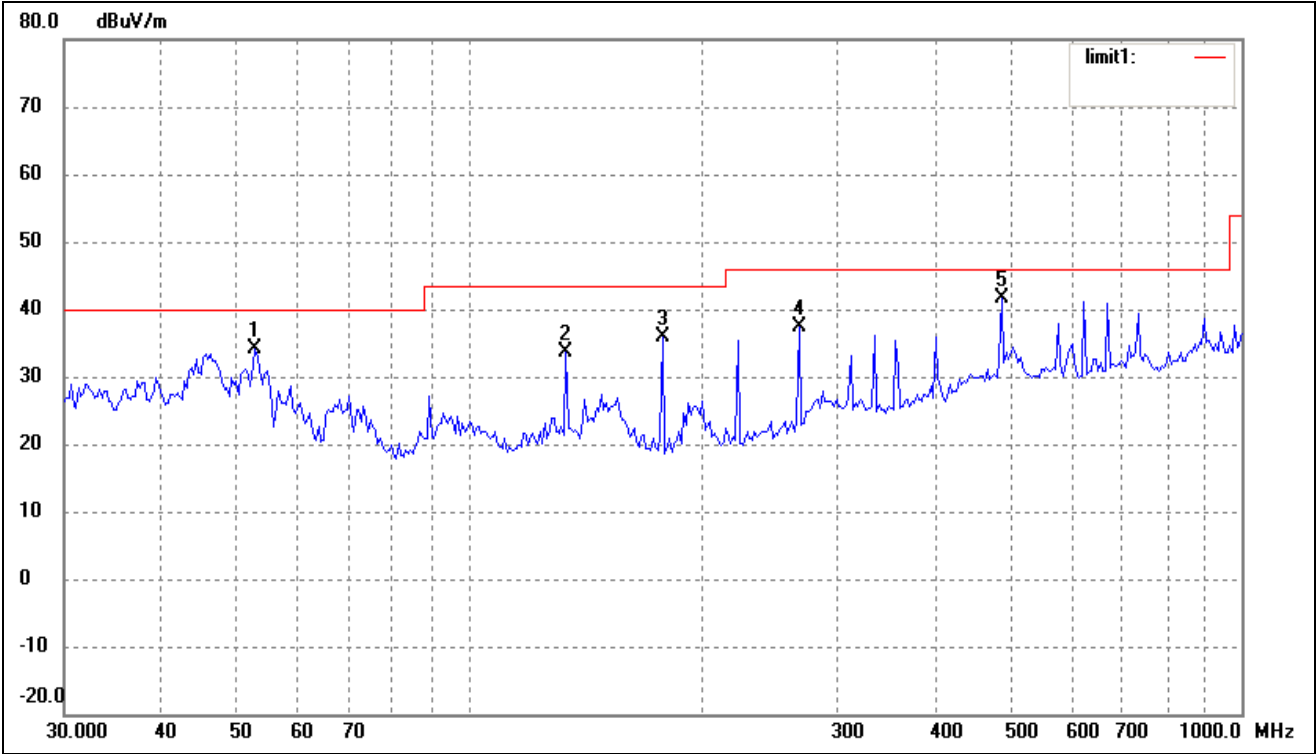
Comment: AC120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	178.1327	31.35	3.74	35.09	43.50	-8.41	98	150	peak
2	222.9502	35.55	6.08	41.63	46.00	-4.37	150	100	peak
3	334.8589	33.29	10.19	43.48	46.00	-2.52	200	100	peak
4	356.6758	31.21	10.61	41.82	46.00	-4.18	180	150	peak
5	603.5392	28.45	14.62	43.07	46.00	-2.93	150	100	peak
6	670.4893	27.32	15.17	42.49	46.00	-3.51	200	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	52.9453	27.70	6.34	34.04	40.00	-5.96	85	100	peak
2	133.6188	29.87	3.86	33.73	43.50	-9.77	150	100	peak
3	178.1327	32.17	3.74	35.91	43.50	-7.59	200	100	peak
4	267.5455	29.09	8.28	37.37	46.00	-8.63	180	150	peak
5	489.0269	29.83	11.77	41.60	46.00	-4.40	150	100	peak

*Spurious Emissions Above 1GHz**Test Mode: 802.11b*

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	44.12	0.57	44.69	74.00	-29.31	H	PK
4824	33.52	0.57	34.09	54.00	-19.91	H	AV
7236	46.84	1.14	47.98	74.00	-26.02	H	PK
7236	38.45	1.14	39.59	54.00	-14.41	H	AV
4824	43.20	0.57	43.77	74.00	-30.23	V	PK
4824	33.63	0.57	34.20	54.00	-19.80	V	AV
7236	48.5	1.14	49.64	74.00	-24.36	V	PK
7236	37.19	1.14	38.33	54.00	-15.67	V	AV
Middle Channel-2437MHz							
4874	44.90	0.64	45.54	74.00	-28.46	H	PK
4874	32.01	0.64	32.65	54.00	-21.35	H	AV
7311	47.95	1.59	49.54	74.00	-24.46	H	PK
7311	36.41	1.59	38.00	54.00	-16.00	H	AV
4874	44.41	0.64	45.05	74.00	-28.95	V	PK
4874	31.99	0.64	32.63	54.00	-21.37	V	AV
7311	48.51	1.59	50.10	74.00	-23.9	V	PK
7311	37.4	1.59	38.99	54.00	-15.01	V	AV
High Channel-2462MHz							
4924	43.17	0.72	43.89	74.00	-30.11	H	PK
4924	32.14	0.72	32.86	54.00	-21.14	H	AV
7386	47.74	1.91	49.65	74.00	-24.35	H	PK
7386	35.71	1.91	37.62	54.00	-16.38	H	AV
4924	43.52	0.72	44.24	74.00	-29.76	V	PK
4924	32.17	0.72	32.89	54.00	-21.11	V	AV
7386	49.58	1.91	51.49	74.00	-22.51	V	PK
7386	36.97	1.91	38.56	54.00	-15.44	V	AV

Test Mode: 802.11g

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	43.22	0.57	43.79	74.00	-30.21	H	PK
4824	33.44	0.57	34.01	54.00	-19.99	H	AV
7236	51.85	1.14	52.99	74.00	-21.01	H	PK
7236	38.08	1.14	39.22	54.00	-14.78	H	AV
4824	43.41	0.57	43.98	74.00	-30.02	V	PK
4824	33.42	0.57	33.99	54.00	-20.01	V	AV
7236	51.08	1.14	52.22	74.00	-21.78	V	PK
7236	37.86	1.14	39.00	54.00	-15.00	V	AV
Middle Channel-2437MHz							
4874	44.60	0.64	45.24	74.00	-28.76	H	PK
4874	32.02	0.64	32.66	54.00	-21.34	H	AV
7311	50.42	1.59	52.01	74.00	-21.99	H	PK
7311	36.66	1.59	38.25	54.00	-15.75	H	AV
4874	43.90	0.64	44.54	74.00	-29.46	V	PK
4874	31.96	0.64	32.60	54.00	-21.40	V	AV
7311	53.12	1.59	54.71	74.00	-19.29	V	PK
7311	38.75	1.59	40.34	54.00	-13.66	V	AV
High Channel-2462MHz							
4924	43.28	0.72	44.00	74.00	-30.00	H	PK
4924	31.87	0.72	32.59	54.00	-21.41	H	AV
7386	48.11	1.91	50.02	74.00	-23.98	H	PK
7386	37.07	1.91	38.98	54.00	-15.02	H	AV
4924	41.50	0.72	42.22	74.00	-31.78	V	PK
4924	32.04	0.72	32.76	54.00	-21.24	V	AV
7386	48.19	1.91	50.1	74.00	-23.90	V	PK
7386	36.98	1.91	38.89	54.00	-15.11	V	AV

Test Mode: 802.11n-HT20

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	42.52	0.57	43.09	74.00	-30.91	H	PK
4824	33.62	0.57	34.19	54.00	-19.81	H	AV
7236	36.52	1.14	37.66	54.00	-16.34	H	PK
7236	48.01	1.14	49.15	74.00	-24.85	H	AV
4824	43.82	0.57	44.39	74.00	-29.61	V	PK
4824	33.65	0.57	34.22	54.00	-19.78	V	AV
7236	54.17	1.14	55.31	74.00	-18.69	V	PK
7236	37.36	1.14	38.50	54.00	-15.50	V	AV
Middle Channel-2437MHz							
4874	45.17	0.64	45.81	74.00	-28.19	H	PK
4874	31.94	0.64	32.58	54.00	-21.42	H	AV
7311	48.62	1.59	50.21	74.00	-23.79	H	PK
7311	38.35	1.59	39.94	54.00	-14.06	H	AV
4874	44.60	0.64	45.24	74.00	-28.76	V	PK
4874	32.02	0.64	32.66	54.00	-21.34	V	AV
7311	53.52	1.59	55.11	74.00	-18.89	V	PK
7311	38.46	1.59	40.05	54.00	-13.95	V	AV
High Channel-2462MHz							
4924	42.76	0.72	43.48	74.00	-30.52	H	PK
4924	31.98	0.72	32.70	54.00	-21.30	H	AV
7386	50.45	1.91	52.36	74.00	-21.64	H	PK
7386	38.35	1.91	40.26	54.00	-13.74	H	AV
4924	42.40	0.72	43.12	74.00	-30.88	V	PK
4924	32.14	0.72	32.86	54.00	-21.14	V	AV
7386	54.24	1.91	56.15	74.00	-17.85	V	PK
7386	39.20	1.91	41.11	54.00	-12.89	V	AV

Test Mode: 802.11n-HT40

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2422MHz							
4844	42.52	0.60	43.12	74.00	-30.88	H	PK
4844	33.30	0.60	33.90	54.00	-20.10	H	AV
7266	46.53	3.72	50.25	74.00	-23.75	H	PK
7266	34.11	3.72	37.83	54.00	-16.17	H	AV
4844	43.25	0.60	43.85	74.00	-30.15	V	PK
4844	31.56	0.60	32.16	54.00	-21.84	V	AV
7266	44.36	3.72	48.08	74.00	-25.92	V	PK
7266.	43.32	3.72	37.04	54.00	-16.96	V	AV
Middle Channel-2437MHz							
4874	44.21	0.64	44.85	74.00	-29.15	H	PK
4874	32.01	0.64	32.65	54.00	-21.35	H	AV
7311	35.98	3.75	39.73	74.00	-34.27	H	PK
7311	24.30	3.75	28.05	54.00	-25.95	H	AV
4874	53.86	0.64	54.50	74.00	-19.50	V	PK
4874	41.84	0.64	42.48	54.00	-11.52	V	AV
7311	45.92	3.75	49.67	74.00	-24.33	V	PK
7311	34.31	3.75	38.06	54.00	-15.94	V	AV
High Channel-2452MHz							
4904	43.62	0.68	44.30	74.00	-29.70	H	PK
4904	32.04	0.68	32.72	54.00	-21.28	H	AV
7356	35.25	3.79	39.04	74.00	-34.96	H	PK
7356	24.11	3.79	27.90	54.00	-26.10	H	AV
4904	52.63	0.68	53.31	74.00	-20.69	V	PK
4904	43.24	0.68	43.92	54.00	-10.08	V	AV
7356	45.03	3.79	48.82	74.00	-25.18	V	PK
7356	43.31	3.79	47.10	54.00	-16.90	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 and the data is not report.

8. Out of Band Emissions

8.1 Standard Applicable

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

8.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2013-05-07	2014-05-06
EMI Test Receiver	R&S	ESVB	825471/005	2013-05-07	2014-05-06
Pre-amplifier	Agilent	8447F	3113A06717	2013-05-07	2014-05-06
Pre-amplifier	Compliance Direction	PAP-0118	24002	2013-05-07	2014-05-06
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2013-04-20	2014-04-19
Horn Antenna	ETS	3117	00086197	2013-04-20	2014-04-19

8.3 Test Procedure

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

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

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

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

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

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

According to the KDB 558074 D01 V02, the conducted spurious emissions test method as follows:

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

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

8.4 Environmental Conditions

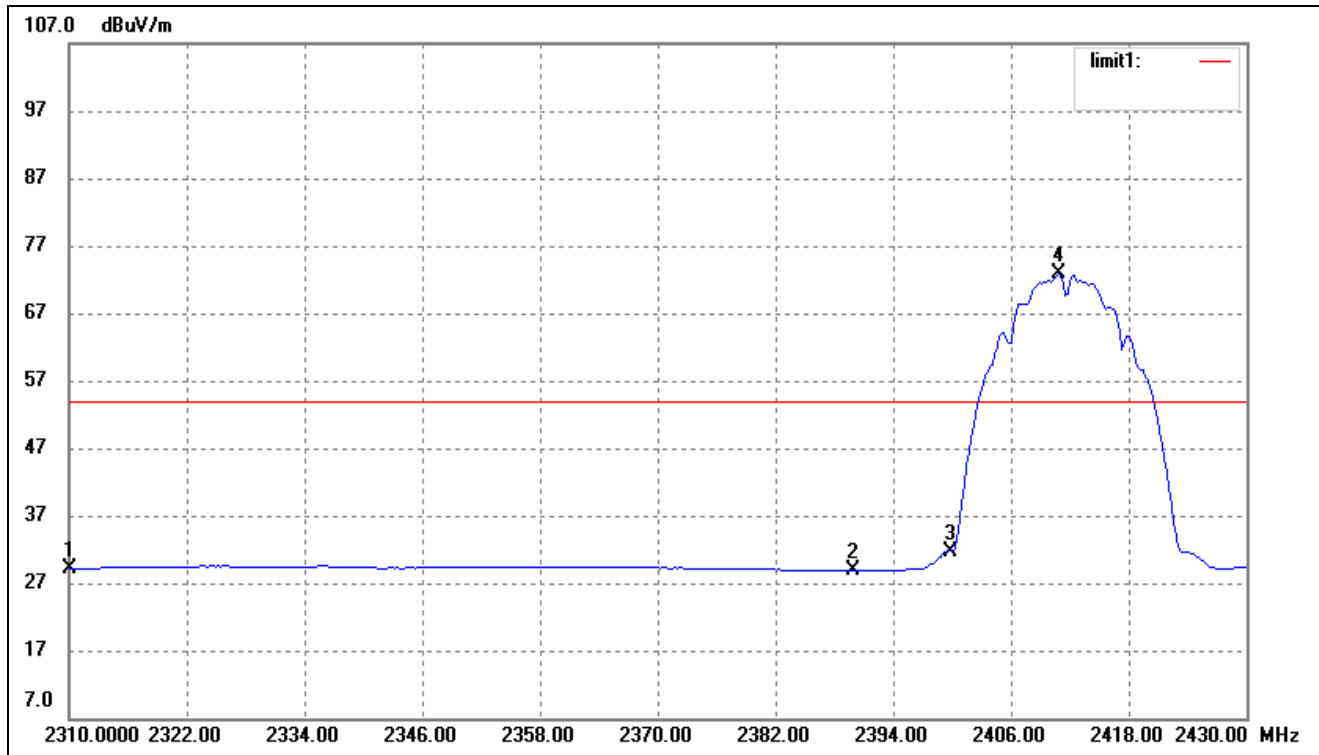
Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

8.5 Summary of Test Results/Plots

Please refer to the test plots as below.

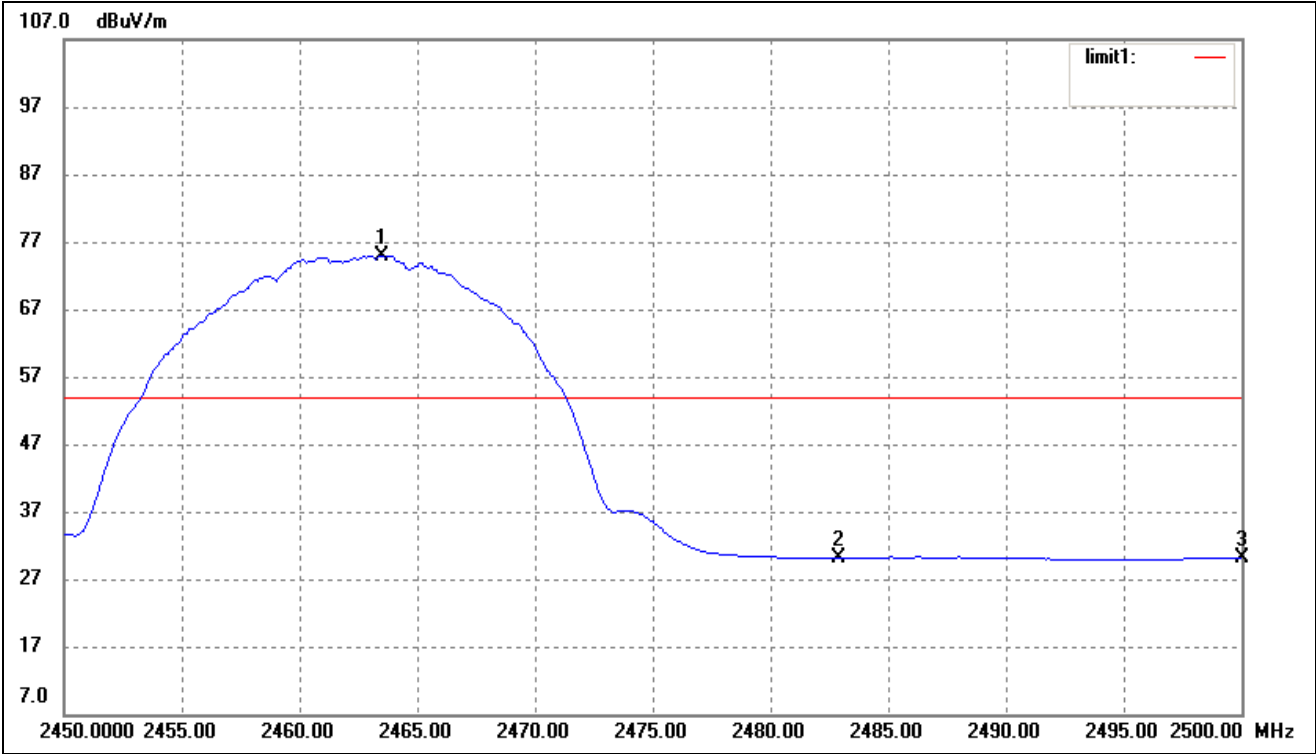
802.11b-Lowest Bandedge

Vertical (Worst case)



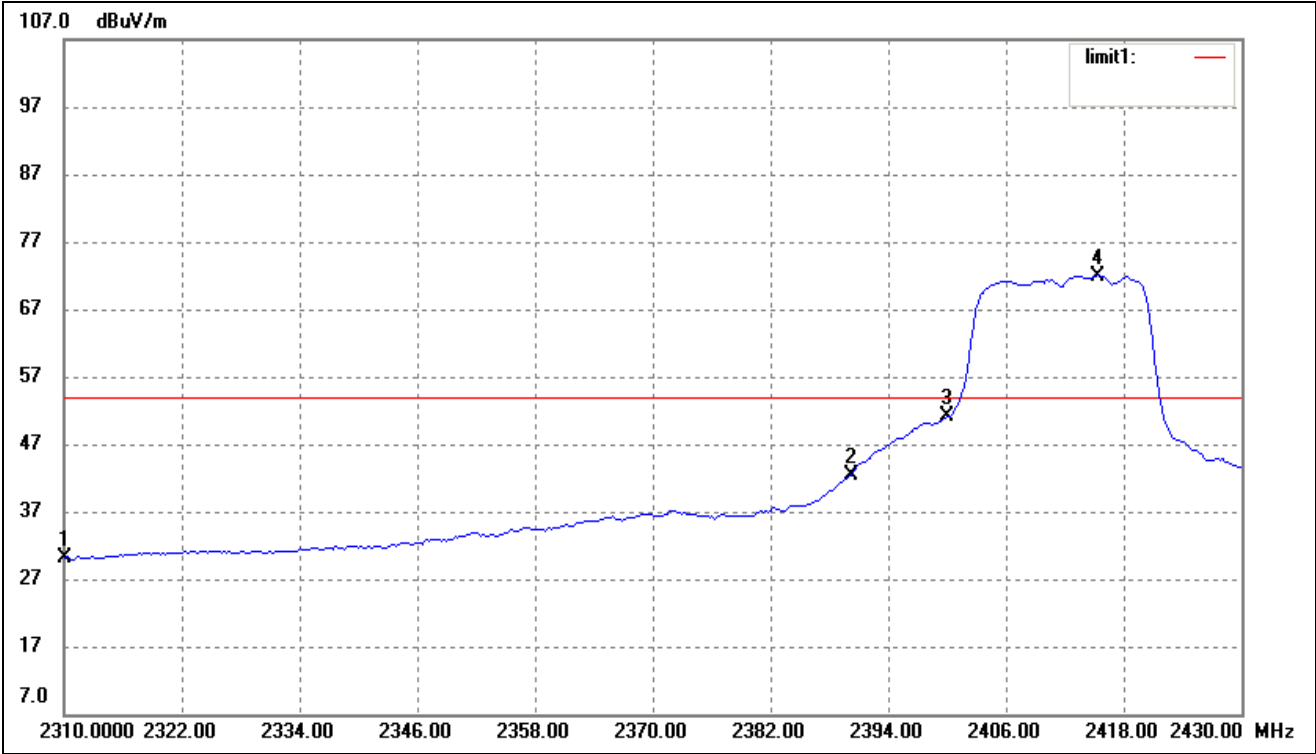
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	32.87	-3.71	29.16	54.00	-24.84	Average Detector
	2310.000	48.87	-3.71	45.16	74.00	-28.84	Peak Detector
2	2390.000	32.37	-3.54	28.83	54.00	-25.17	Average Detector
	2390.000	49.44	-3.54	45.90	74.00	-28.10	Peak Detector
3	2400.000	35.11	-3.51	31.60	Delta= 41.16 dBc		Average Detector
4	2410.633	76.24	-3.48	72.76			Average Detector

802.11b-Highest Bandedge
Vertical (Worst case)



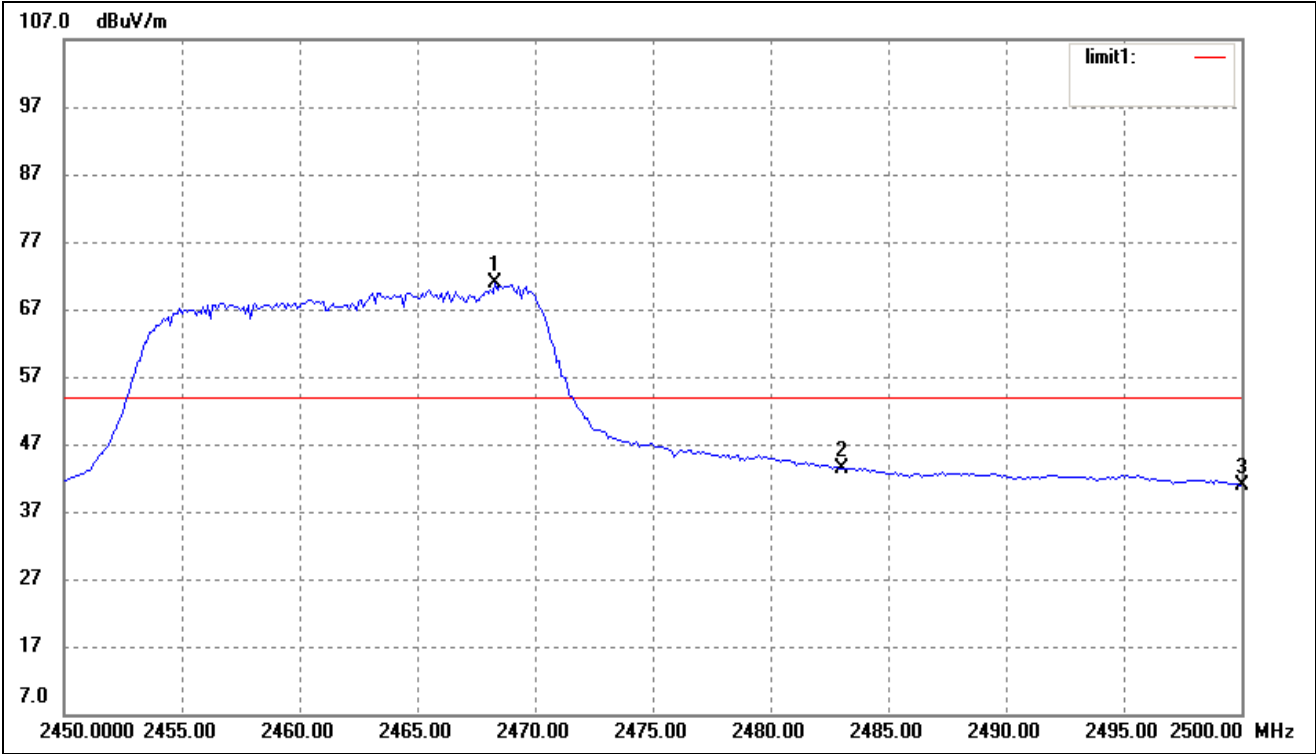
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2463.600	78.32	-3.36	74.96	/	/	Average Detector
	2463.600	88.12	-3.36	84.75	/	/	Peak Detector
2	2483.500	Delta = 43.62 dBc		31.34	54.00	-22.66	Average Detector
	2483.500			41.13	74.00	-32.87	Peak Detector
3	2500.000	33.31	-3.28	30.03	54.00	-23.97	Average Detector
	2500.000	47.96	-3.28	44.68	74.00	-29.32	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	33.77	-3.71	30.06	54.00	-23.94	Average Detector
	2310.000	46.64	-3.71	42.93	74.00	-31.07	Peak Detector
2	2390.000	45.99	-3.54	42.45	54.00	-11.55	Average Detector
	2390.000	64.47	-3.54	60.93	74.00	-13.07	Peak Detector
3	2400.000	54.66	-3.51	51.15	Delta= 20.85 dBc		Average Detector
4	2415.522	75.48	-3.48	72.00			Average Detector

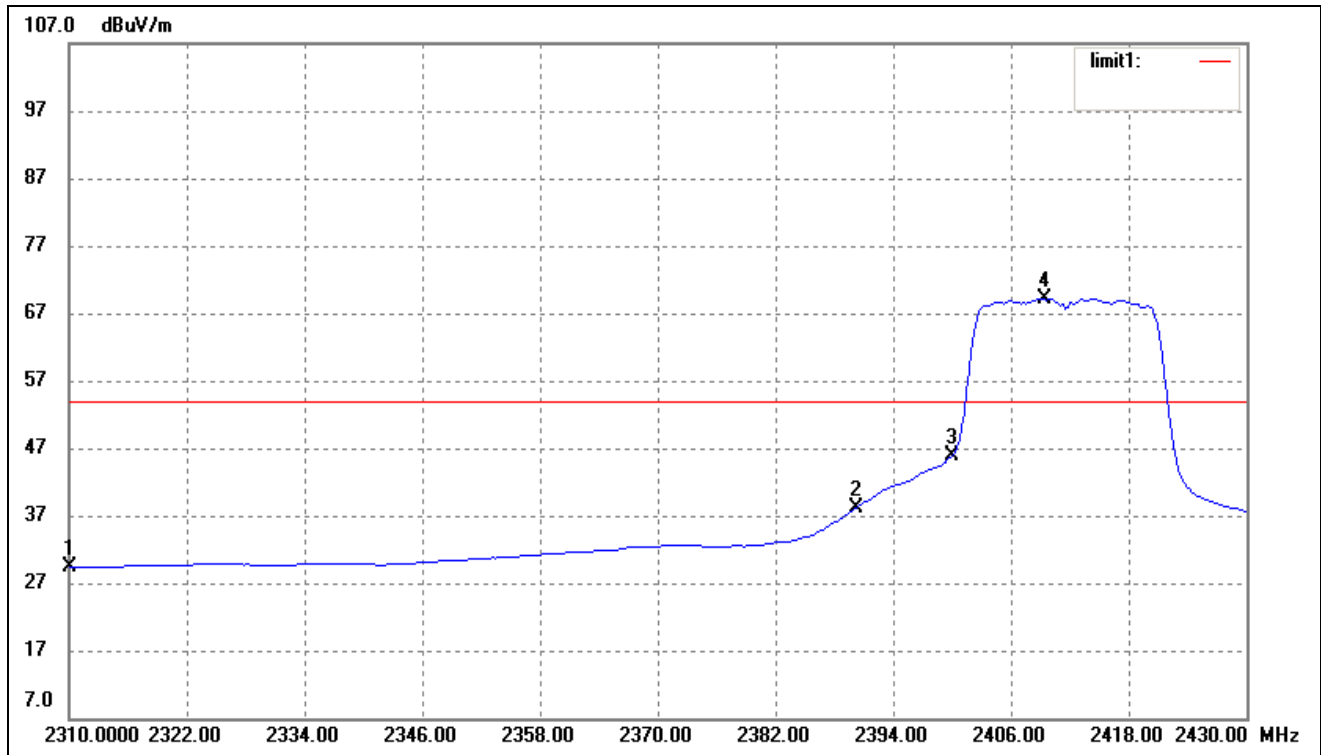
802.11g-Highest Bandedge
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2468.382	74.18	-3.35	70.83	/	/	Average Detector
	2468.382	87.60	-3.35	84.25	/	/	Peak Detector
2	2483.500	Delta = 39.61 dBc		31.22	54.00	-22.78	Average Detector
	2483.500			44.64	74.00	-29.36	Peak Detector
3	2500.000	44.13	-3.28	40.85	54.00	-13.15	Average Detector
	2500.000	55.10	-3.28	51.82	74.00	-22.18	Peak Detector

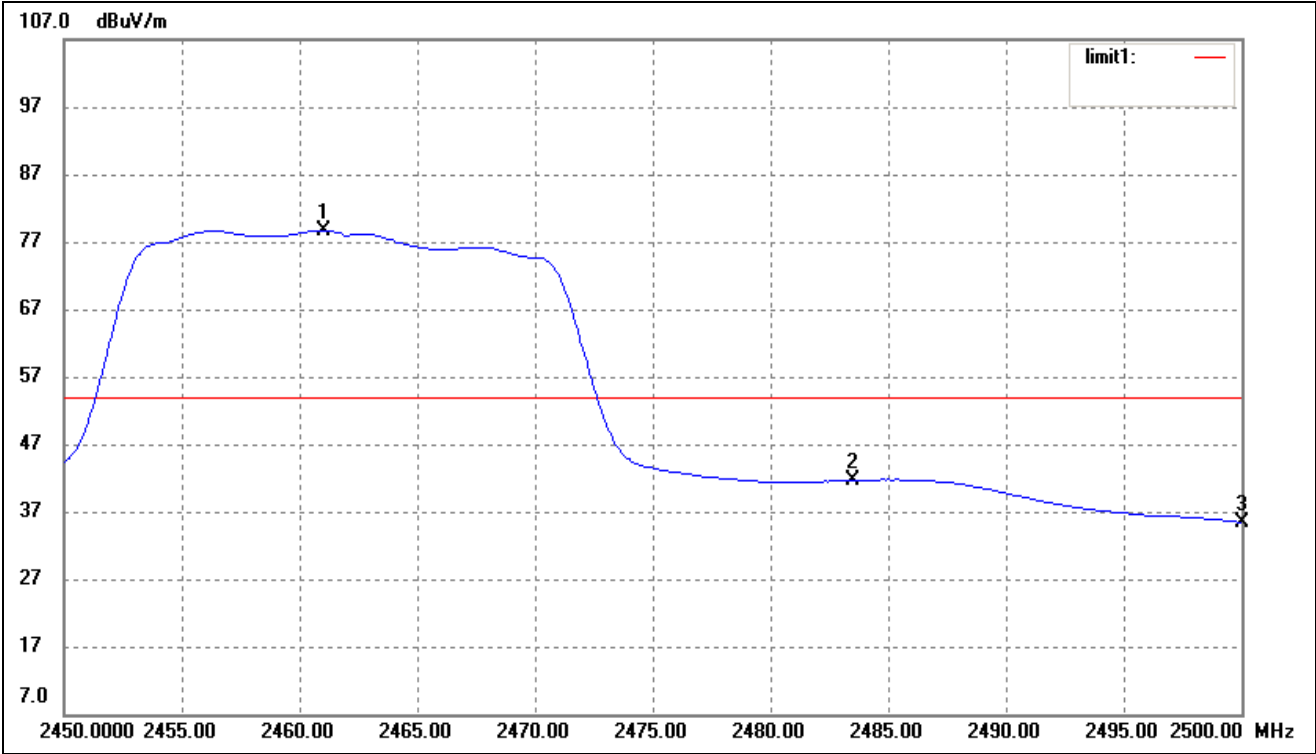
802.11n-HT20-Lowest Bandedge

Vertical (Worst case)



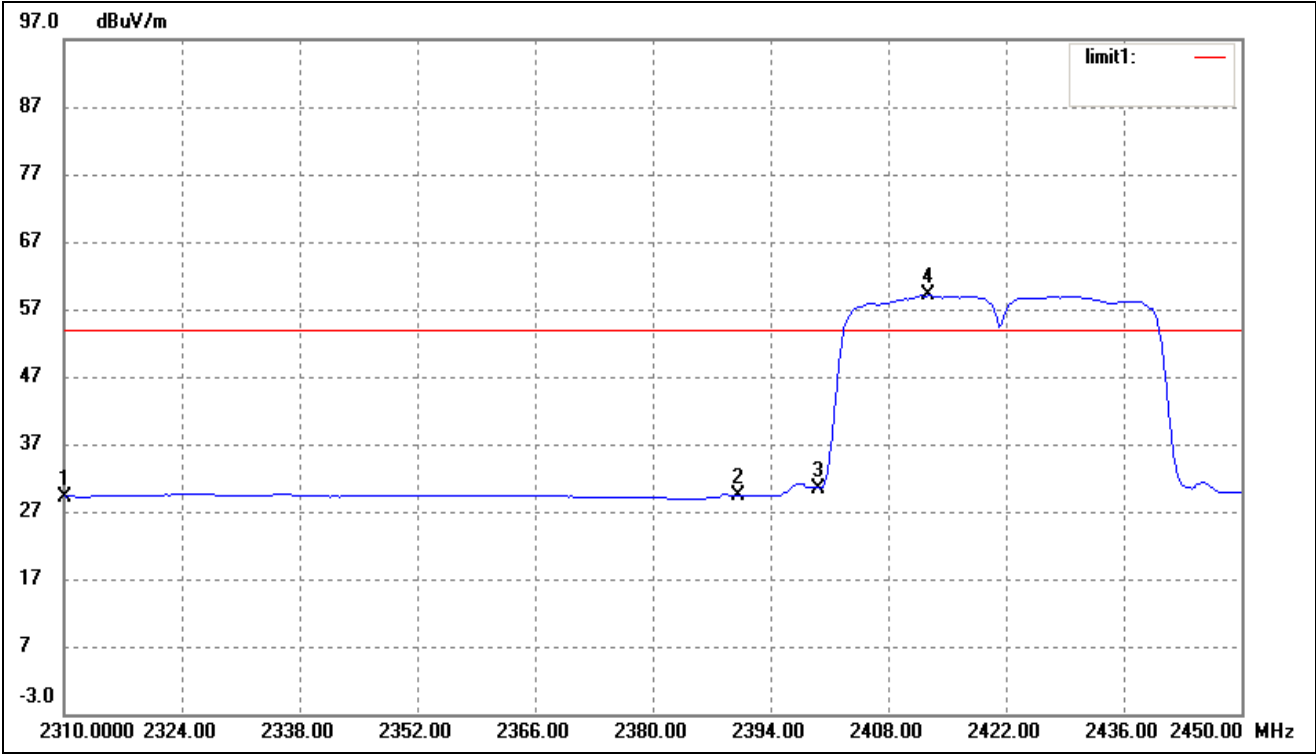
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	32.99	-3.71	29.28	54.00	-24.72	Average Detector
	2310.000	46.51	-3.71	42.80	74.00	-31.20	Peak Detector
2	2390.000	41.73	-3.54	38.19	54.00	-15.81	Average Detector
	2390.000	64.61	-3.54	61.07	74.00	-12.93	Peak Detector
3	2400.000	49.42	-3.51	45.91	Delta= 23.23 dBc		Average Detector
4	2409.413	72.62	-3.48	69.14			Average Detector

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



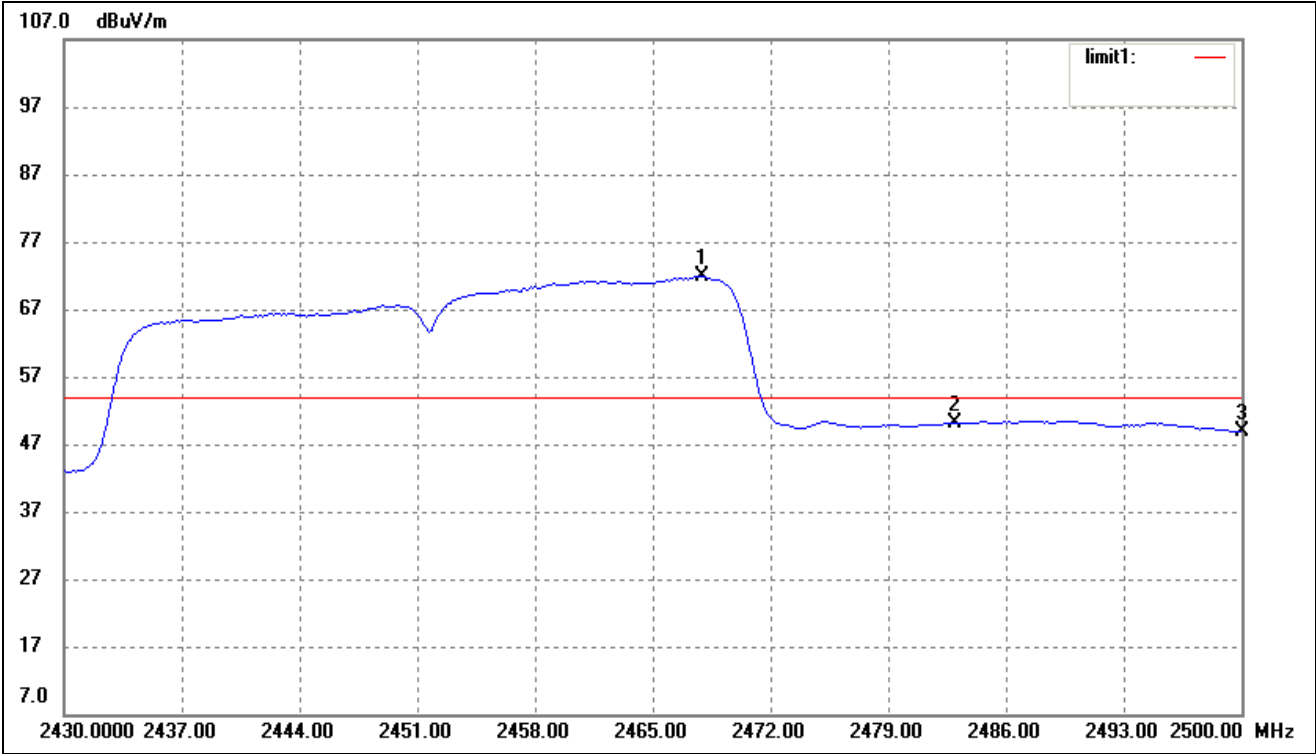
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2469.280	71.72	-3.35	68.37	/	/	Average Detector
	2469.280	85.77	-3.35	82.42	/	/	Peak Detector
2	2483.500	Delta =38.87 dBc		29.50	54.00	-24.50	Average Detector
	2483.500			43.55	74.00	-30.45	Peak Detector
3	2500.000	33.66	-3.28	30.38	54.00	-23.62	Average Detector
	2500.000	49.02	-3.28	45.74	74.00	-28.26	Peak Detector

802.11n-HT40-Lowest Bandedge
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	32.95	-3.71	29.24	54.00	-24.76	Average Detector
	2310.000	47.54	-3.71	43.83	74.00	-30.17	Peak Detector
2	2390.000	32.87	-3.54	29.33	54.00	-24.67	Average Detector
	2390.000	61.63	-3.54	58.09	74.00	-15.91	Peak Detector
3	2400.000	33.90	-3.51	30.39	Delta= 28.75 dBc		Average Detector
4	2412.804	62.62	-3.48	59.14			Average Detector

802.11n-HT40-Highest Bandedge
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2466.992	75.29	-3.35	71.94	/	/	Average Detector
	2466.992	89.82	-3.35	86.47	/	/	Peak Detector
2	2483.500	Delta =30.61 dBc		41.33	54.00	-12.67	Average Detector
	2483.500			55.86	74.00	-18.14	Peak Detector
3	2500.000	52.11	-3.28	48.83	54.00	-5.17	Average Detector
	2500.000	69.63	-3.28	66.35	74.00	-7.65	Peak Detector

9. Conducted Emissions

9.1 Measurement Uncertainty

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

9.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2013-05-07	2014-05-06
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2013-05-07	2014-05-06
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2013-05-07	2014-05-06

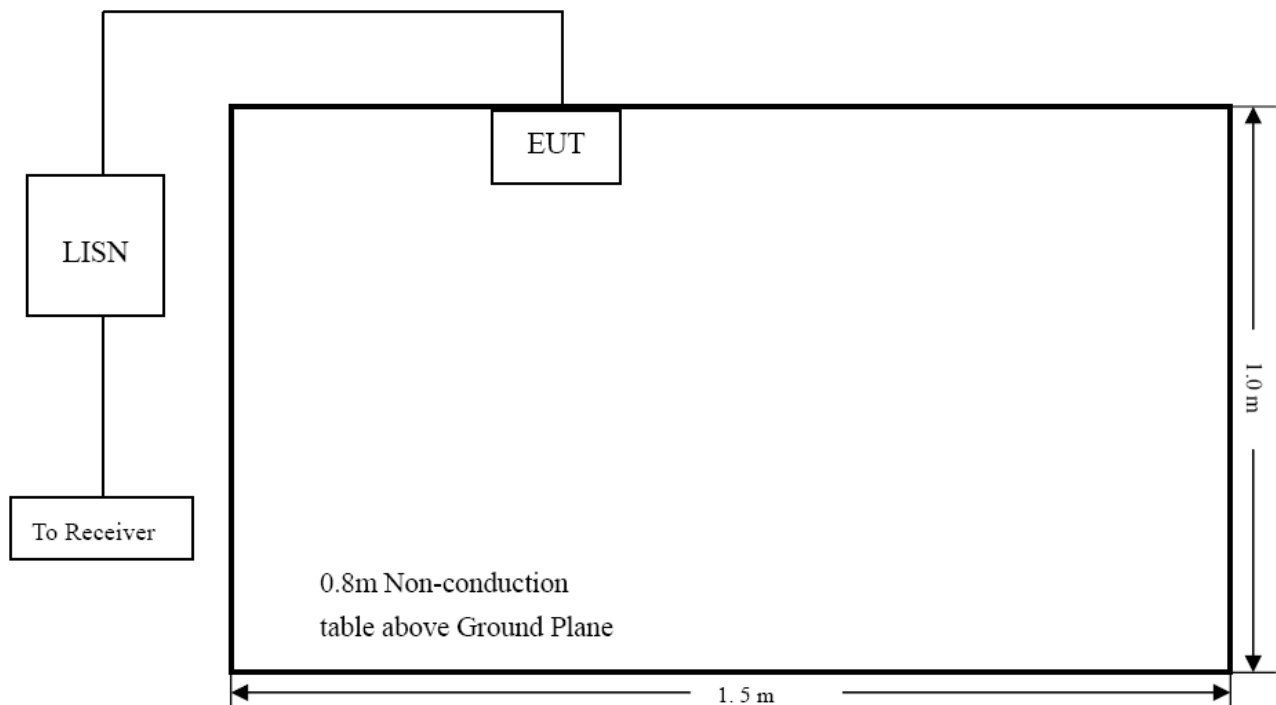
9.3 Test Procedure

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

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

The spacing between the peripherals was 10 cm.

9.4 Basic Test Setup Block Diagram



9.5 Environmental Conditions

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

9.6 Test Receiver Setup

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

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

9.7 Summary of Test Results/Plots

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

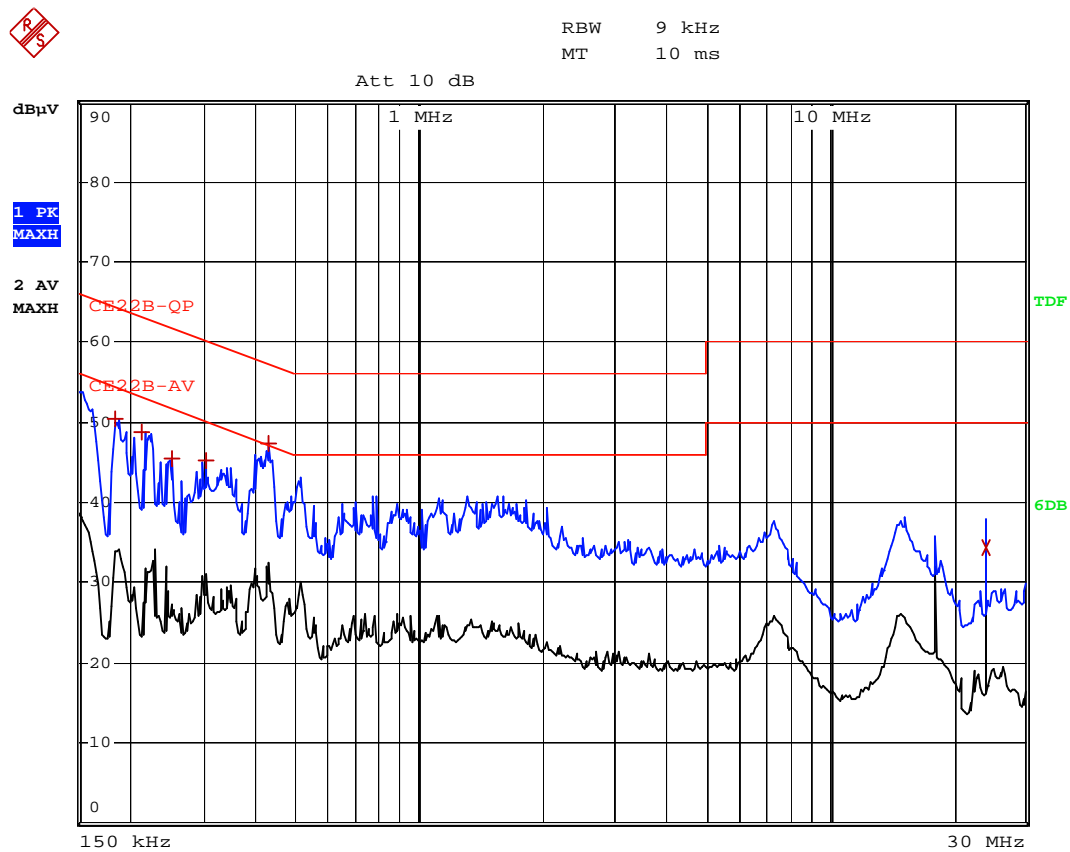
-9.87 dB at 0.43 MHz in the Line mode, Peak detector, 0.15-30MHz

9.8 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

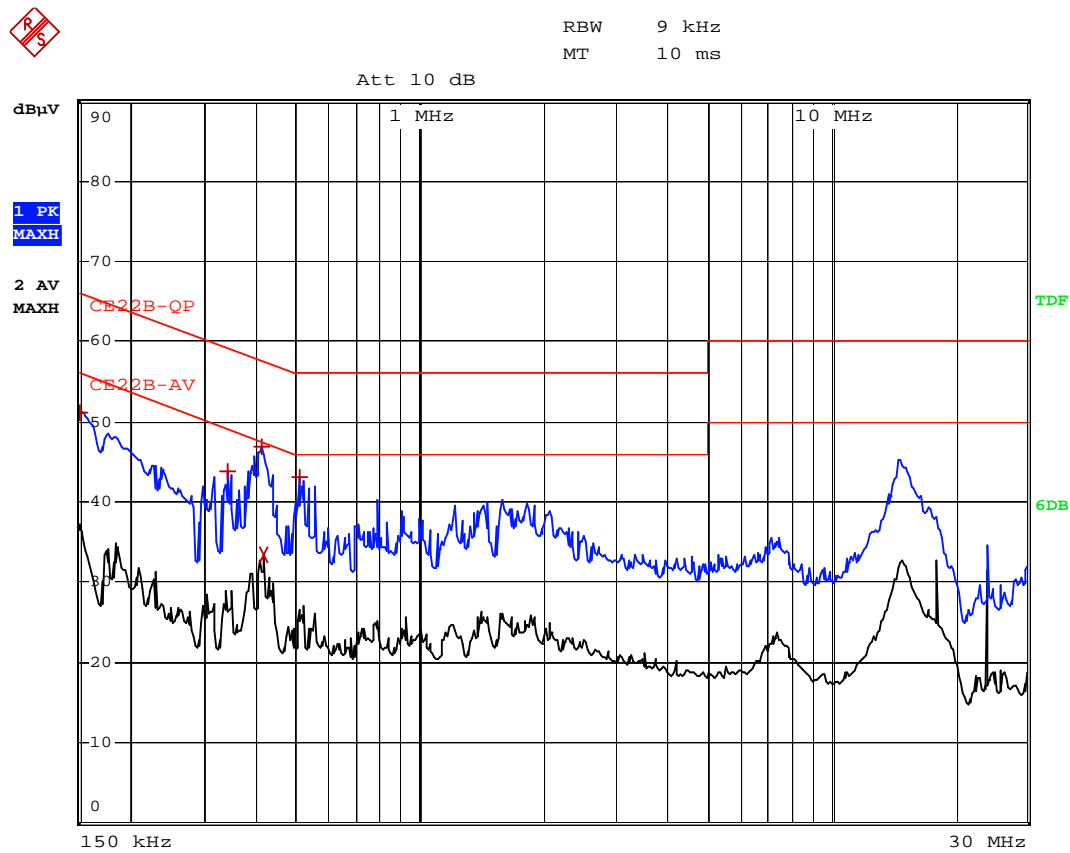
EUT: Wireless Digital Display
Tested Model: PXT510WR04D
Operating Condition: WIFI Transmitting
Comment: AC 120V/60Hz,

Test Specification: Line



EDIT PEAK LIST (Prescan Results)				
Trace1:		CE22B-QP		
Trace2:		CE22B-AV		
Trace3:		---		
TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Max Peak	186 kHz	50.52	-13.69
1	Max Peak	214 kHz	48.89	-14.15
1	Max Peak	250 kHz	45.56	-16.19
1	Max Peak	302 kHz	45.12	-15.06
1	Max Peak	430 kHz	47.37	-9.87
2	Average	23.974 MHz	34.43	-15.56

Test Specification: Neutral



EDIT PEAK LIST (Prescan Results)			
Trace1:	CE22B-QP		
Trace2:	CE22B-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Max Peak	150 kHz	51.21	-14.78
1 Max Peak	338 kHz	43.70	-15.54
1 Max Peak	410 kHz	46.94	-10.70
2 Average	414 kHz	33.36	-14.20
1 Max Peak	510 kHz	43.07	-12.92