

FCC Part 15C Measurement and Test Report

For

JACS Solutions, LLC

8808 Centre Park Drive, Suite 305, Columbia, MD21045, USA

FCC ID: 2AGCD-JACS800V

FCC Rule(s): FCC Part 15C

Product Description: Tablets

Tested Model: TT800V

Report No.: STR16018131I-2

Tested Date: 2016-04-10 to 2016-04-25

Issued Date: 2016-04-25

Tested By: Iven Guo / Engineer

Iven Guo

Reviewed By: Silin Chen / EMC Manager

Silin Chen

Approved & Authorized By: Jandy so / PSQ Manager

Jandy so

Prepared By:

Shenzhen SEM.Test Technology Co., Ltd.

1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,
Bao'an District, Shenzhen, P.R.C. (518101)

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

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.

TABLE OF CONTENTS

1. GENERAL INFORMATION	3
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
1.2 TEST STANDARDS	4
1.3 TEST METHODOLOGY	4
1.4 TEST FACILITY	4
1.5 EUT SETUP AND TEST MODE	5
1.6 MEASUREMENT UNCERTAINTY	5
1.7 TEST EQUIPMENT LIST AND DETAILS	6
2. SUMMARY OF TEST RESULTS	7
3. RF EXPOSURE	8
3.1 STANDARD APPLICABLE	8
3.2 TEST RESULT	8
4. ANTENNA REQUIREMENT	9
4.1 STANDARD APPLICABLE	9
4.2 EVALUATION INFORMATION	9
5. POWER SPECTRAL DENSITY	10
5.1 STANDARD APPLICABLE	10
5.2 TEST PROCEDURE	10
5.3 ENVIRONMENTAL CONDITIONS	10
5.4 SUMMARY OF TEST RESULTS/PLOTS	11
6. 6DB BANDWIDTH	17
6.1 STANDARD APPLICABLE	17
6.2 TEST PROCEDURE	17
6.3 ENVIRONMENTAL CONDITIONS	17
6.4 SUMMARY OF TEST RESULTS/PLOTS	17
7. RF OUTPUT POWER	23
7.1 STANDARD APPLICABLE	23
7.2 TEST PROCEDURE	23
7.3 ENVIRONMENTAL CONDITIONS	23
7.4 SUMMARY OF TEST RESULTS/PLOTS	24
8. FIELD STRENGTH OF SPURIOUS EMISSIONS	30
8.1 STANDARD APPLICABLE	30
8.2 TEST PROCEDURE	30
8.3 CORRECTED AMPLITUDE & MARGIN CALCULATION	31
8.4 ENVIRONMENTAL CONDITIONS	31
8.5 SUMMARY OF TEST RESULTS/PLOTS	32
9. OUT OF BAND EMISSIONS	53
9.1 STANDARD APPLICABLE	53
9.2 TEST PROCEDURE	53
9.3 ENVIRONMENTAL CONDITIONS	54
9.4 SUMMARY OF TEST RESULTS/PLOTS	54
10. CONDUCTED EMISSIONS	60
10.1 TEST PROCEDURE	60
10.2 BASIC TEST SETUP BLOCK DIAGRAM	60
10.3 ENVIRONMENTAL CONDITIONS	60
10.4 TEST RECEIVER SETUP	61
10.5 SUMMARY OF TEST RESULTS/PLOTS	61
10.6 CONDUCTED EMISSIONS TEST DATA	61

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: JACS Solutions, LLC
Address of applicant: 8808 Centre Park Drive, Suite 305, Columbia, MD21045, USA

Manufacturer: Xiamen Candour Co., Ltd
Address of manufacturer: 19F C&D International Building 1669 Huandao East Road, Xiamen, Fujian, China

General Description of EUT	
Product Name:	Tablets
Trade Name:	JACS SOLUTIONS
Model No.:	TT800V
Adding Model(s):	/
Hardware Version:	BS-M81FPG-V1.0
Software Version:	TT800VF1204USV01
IMEI:	354019060171495
Rated Voltage:	Battery: DC 3.7V(6200mAh)
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. All test data carry on SIM1 which is the worst case.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz
RF Output Power:	16.89dBm (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
Antenna Gain:	1.11dBi
Lowest frequency of EUT:	32.768kHz

1.2 Test Standards

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

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

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

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 558074 D01 v03r05 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

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Car charging Cable	4.0	Shielded	Without Core
Adapter #1 Cable	1.0	Shielded	Without Core
Adapter #2 Cable	1.0	Shielded	Without Core

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Earphone Cable	1.2	Unshielded	Without Core

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	LR-63C8R

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.42\text{dB}$
Occupied Bandwidth	Conducted	$\pm 1.5\%$
Power Spectral Density	Conducted	$\pm 1.8\text{dB}$
Conducted Emissions	Conducted	$\pm 2.88\text{dB}$
Transmitter Spurious Emissions	Radiated	$\pm 5.1\text{dB}$

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2015-06-17	2016-06-16
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2015-06-17	2016-06-16
Amplifier	Agilent	8447F	3113A06717	2015-06-17	2016-06-16
Amplifier	C&D	PAP-1G18	2002	2015-06-17	2016-06-16
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2015-06-17	2016-06-16
Horn Antenna	ETS	3117	00086197	2015-06-17	2016-06-16
Horn Antenna	ETS	3116B	00088203	2015-06-17	2016-06-16
Loop Antenna	Schwarz beck	FMZB 1516	9773	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2015-06-17	2016-06-16
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2015-06-17	2016-06-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2015-06-17	2016-06-16

2. SUMMARY OF TEST RESULTS

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

N/A: not applicable

3. RF Exposure

3.1 Standard Applicable

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the 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 an integral antenna, fulfill the requirement of this section.

5. Power Spectral Density

5.1 Standard Applicable

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

5.2 Test Procedure

According to the KDB 558074 D01 v03r05, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

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

5.3 Environmental Conditions

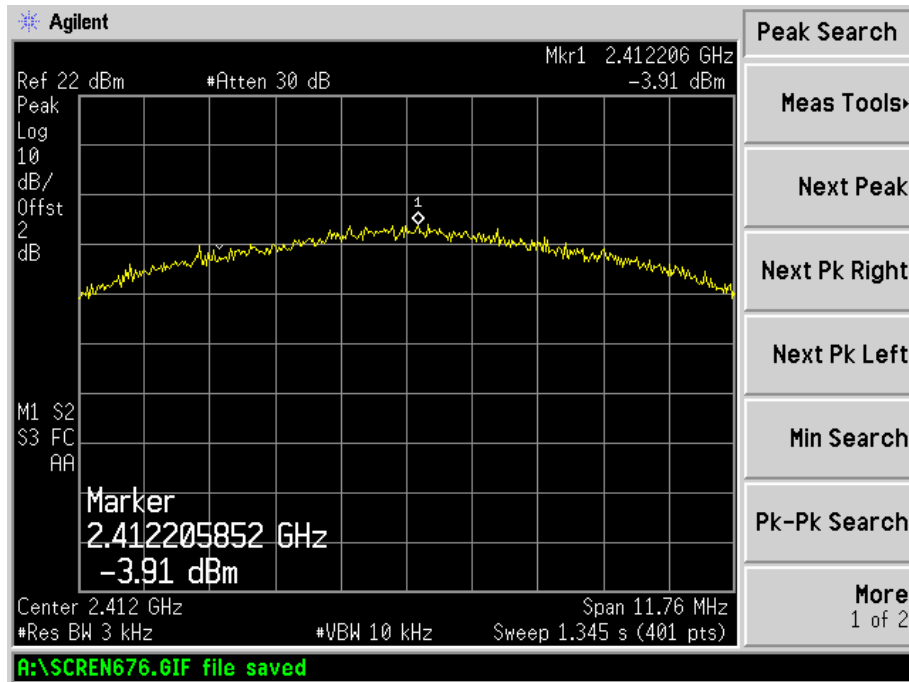
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

5.4 Summary of Test Results/Plots

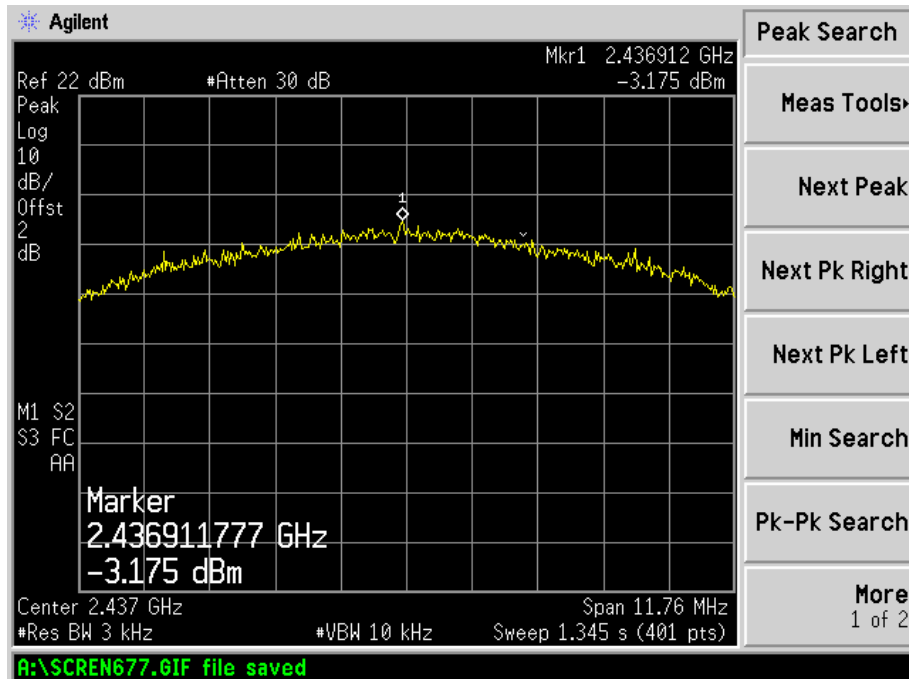
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-3.91	8
	2437	-3.175	8
	2462	-3.008	8
802.11g	2412	-5.871	8
	2437	-8.077	8
	2462	-7.543	8
802.11n HT20	2412	-7.935	8
	2437	-7.168	8
	2462	-8.265	8

Please refer to the following test plots:

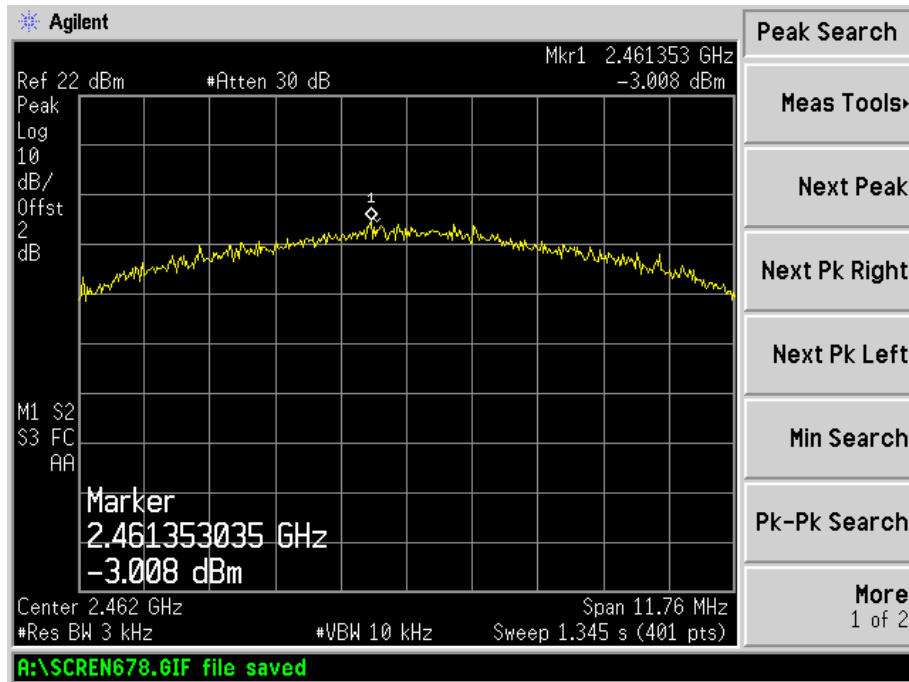
802.11b-Low Channel



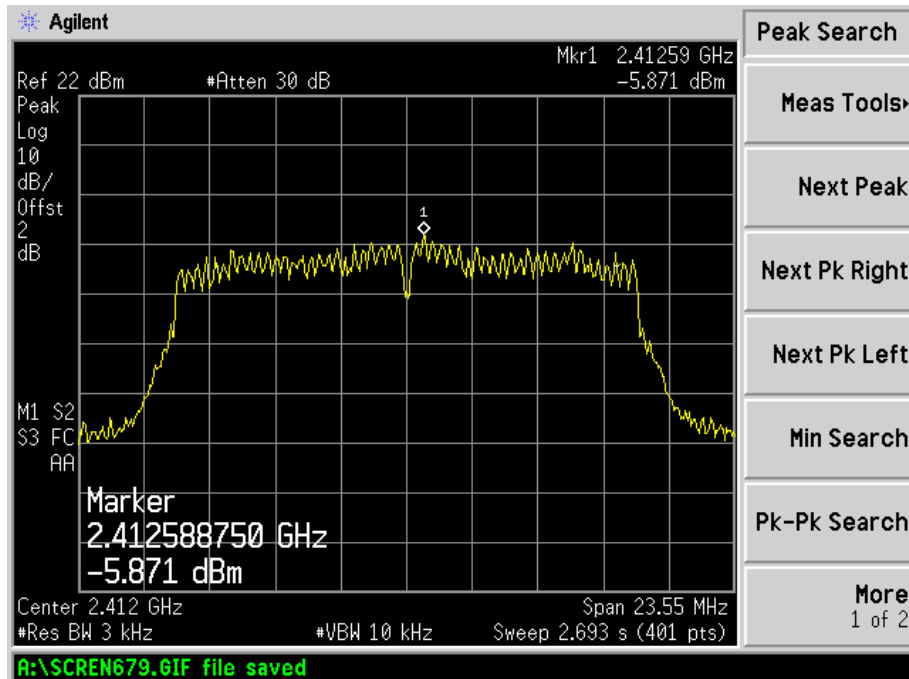
802.11b-Middle Channel



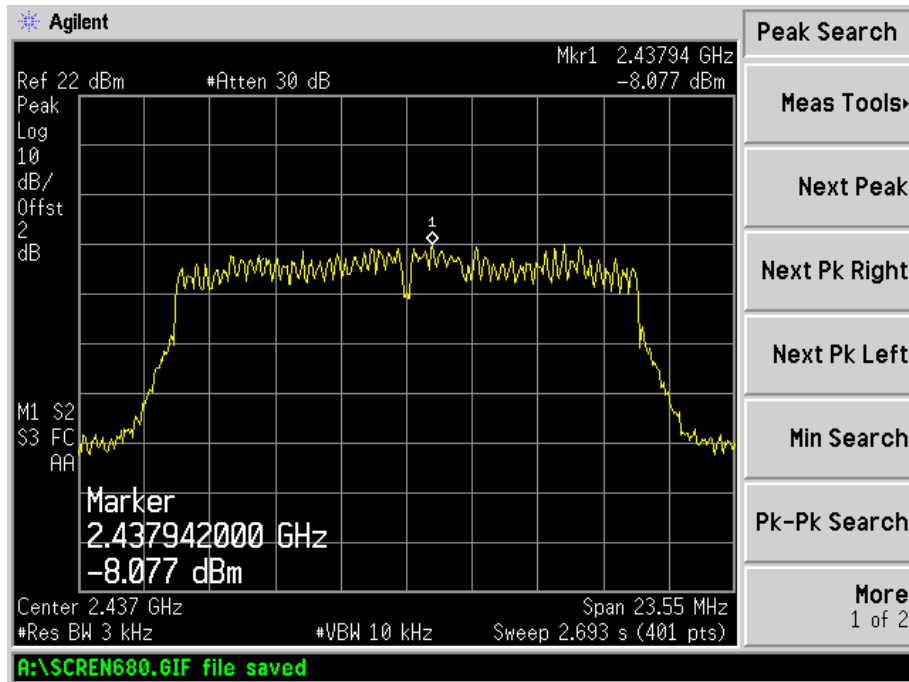
802.11b-High Channel



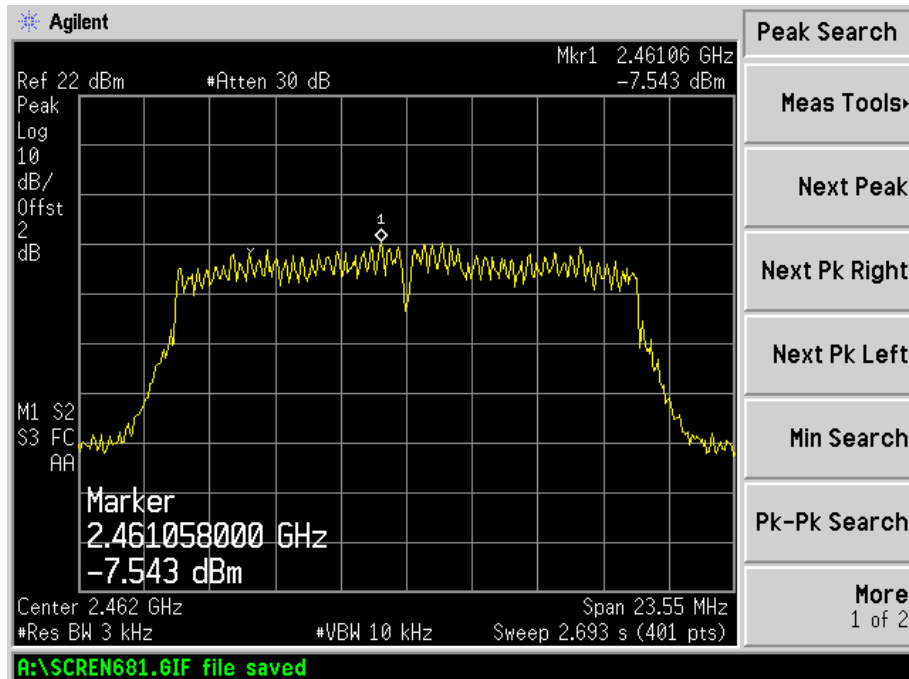
802.11g-Low Channel



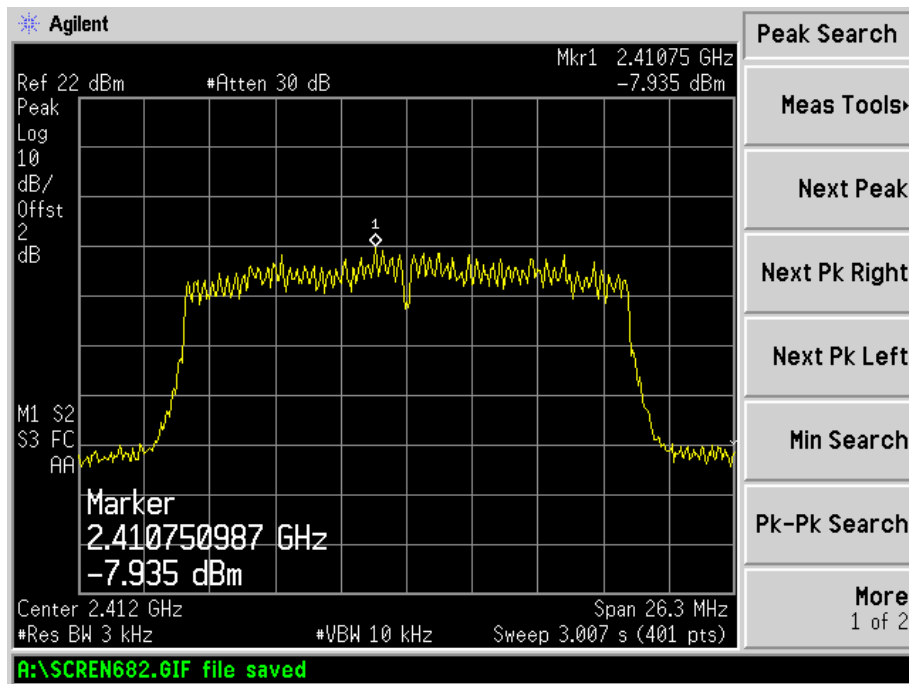
802.11g-Middle Channel



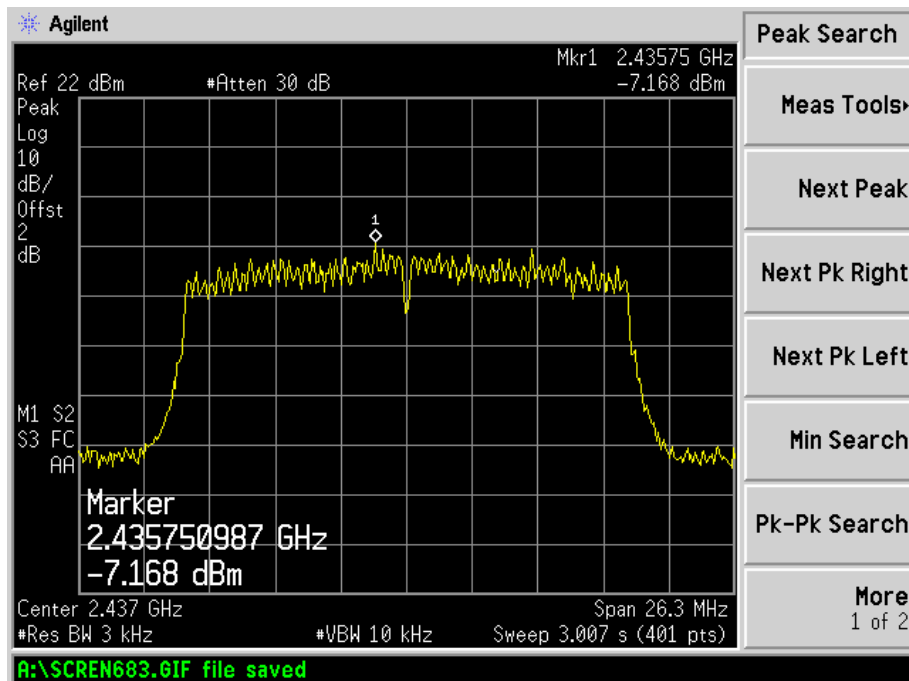
802.11g-High Channel



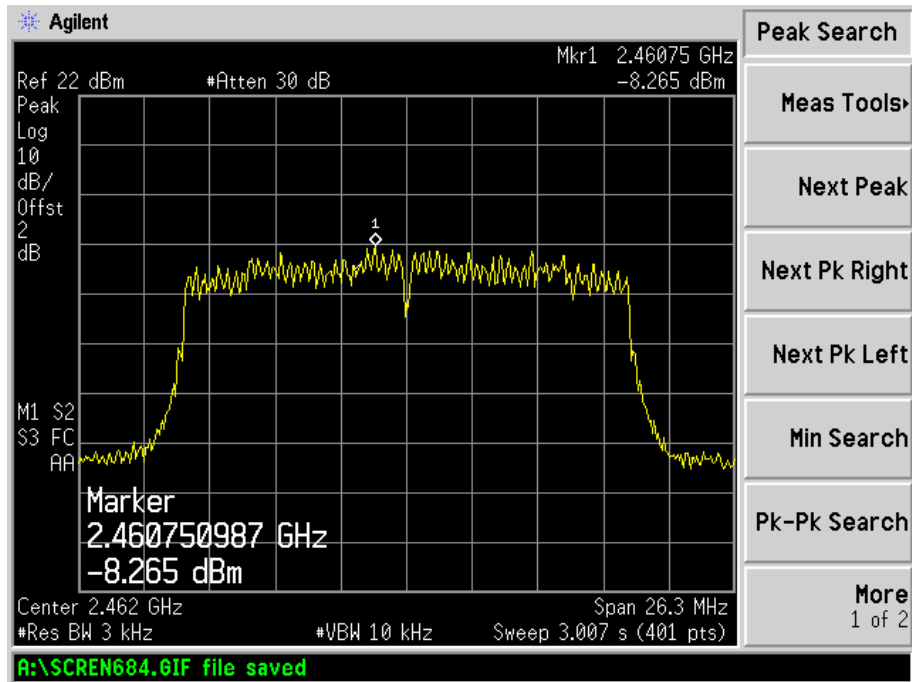
802.11n-HT20-Low Channel



802.11n-HT20-Middle Channel



802.11n-HT20-High Channel



6. 6dB Bandwidth

6.1 Standard Applicable

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

6.2 Test Procedure

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

6.3 Environmental Conditions

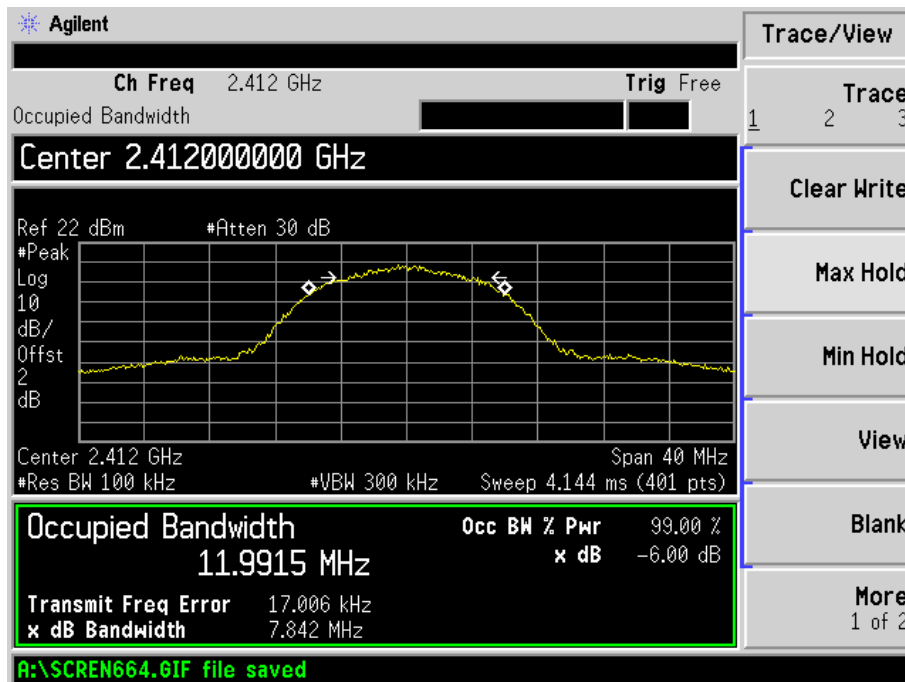
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.4 Summary of Test Results/Plots

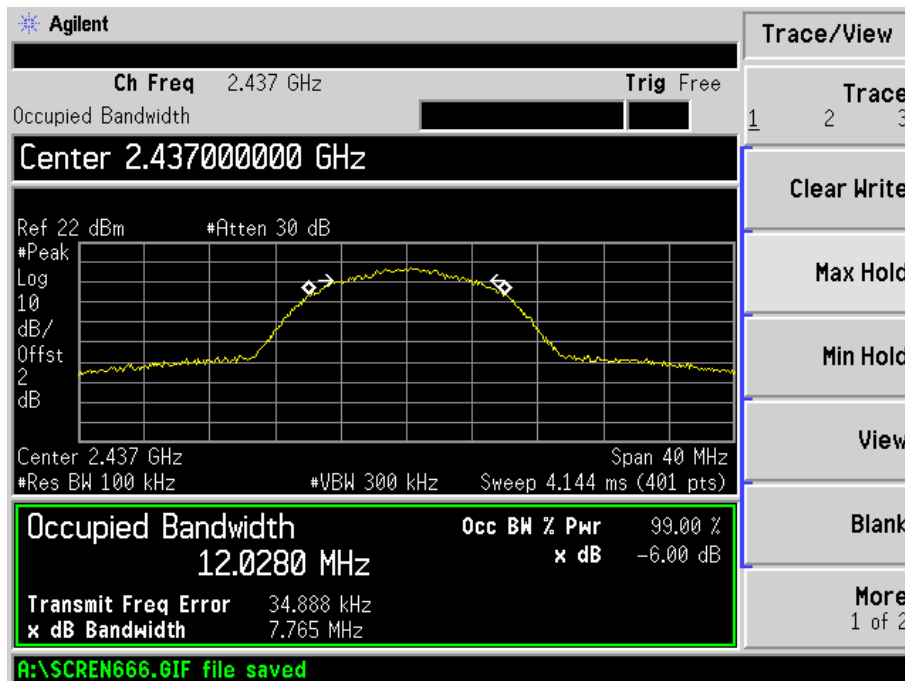
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit kHz
802.11b	2412	7.842	11.9915	≥ 500
	2437	7.765	12.0280	≥ 500
	2462	7.097	12.0278	≥ 500
802.11g	2412	15.706	16.2913	≥ 500
	2437	15.691	16.3111	≥ 500
	2462	15.327	16.3087	≥ 500
802.11n-HT20	2412	17.525	17.6242	≥ 500
	2437	17.014	17.5134	≥ 500
	2462	17.533	17.4886	≥ 500

Please refer to the following test plots:

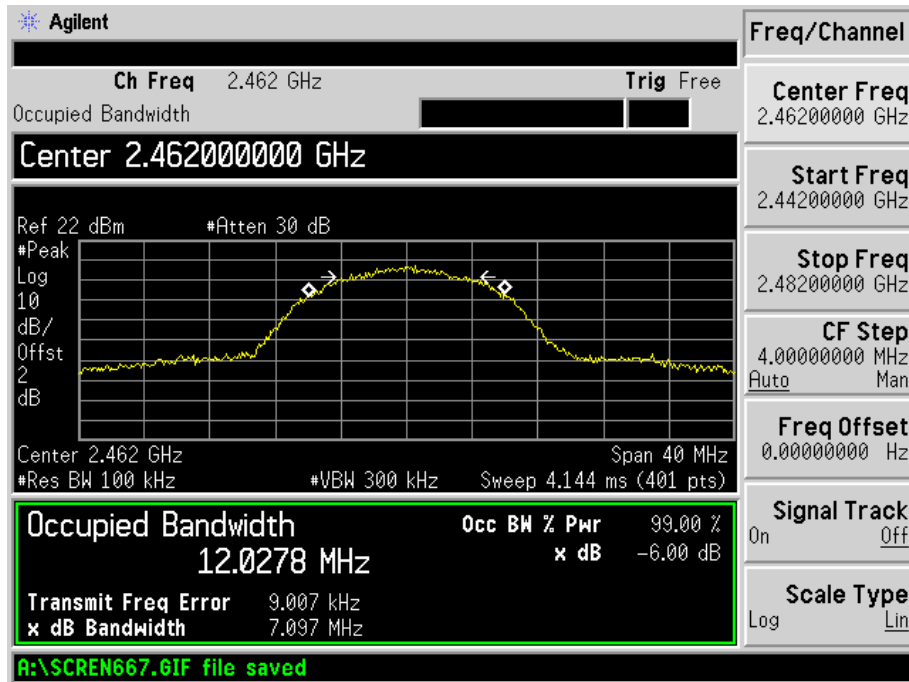
802.11b-Low Channel



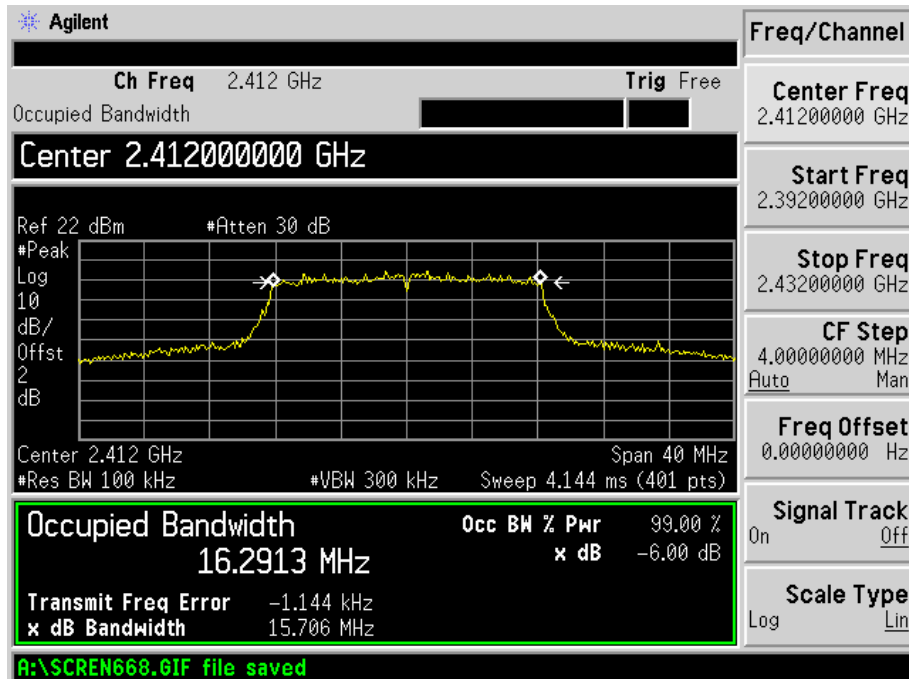
802.11b-Middle Channel



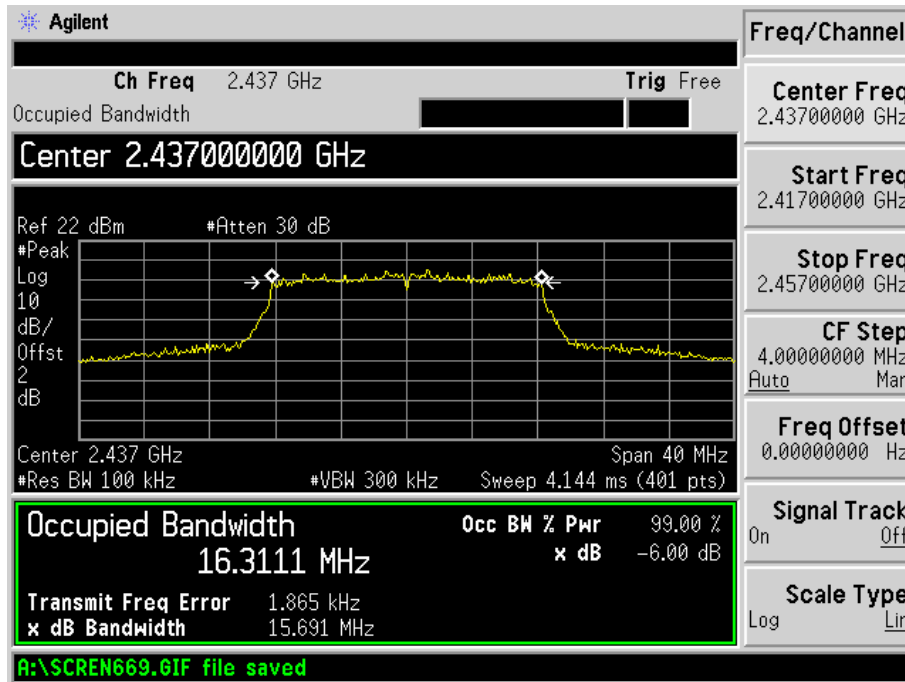
802.11b-High Channel



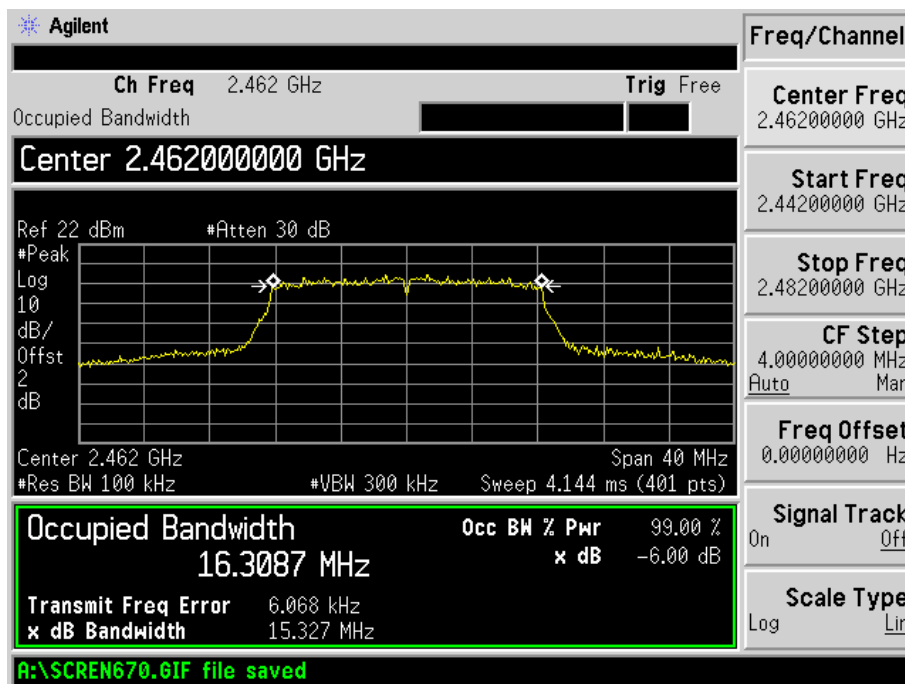
802.11g-Low Channel



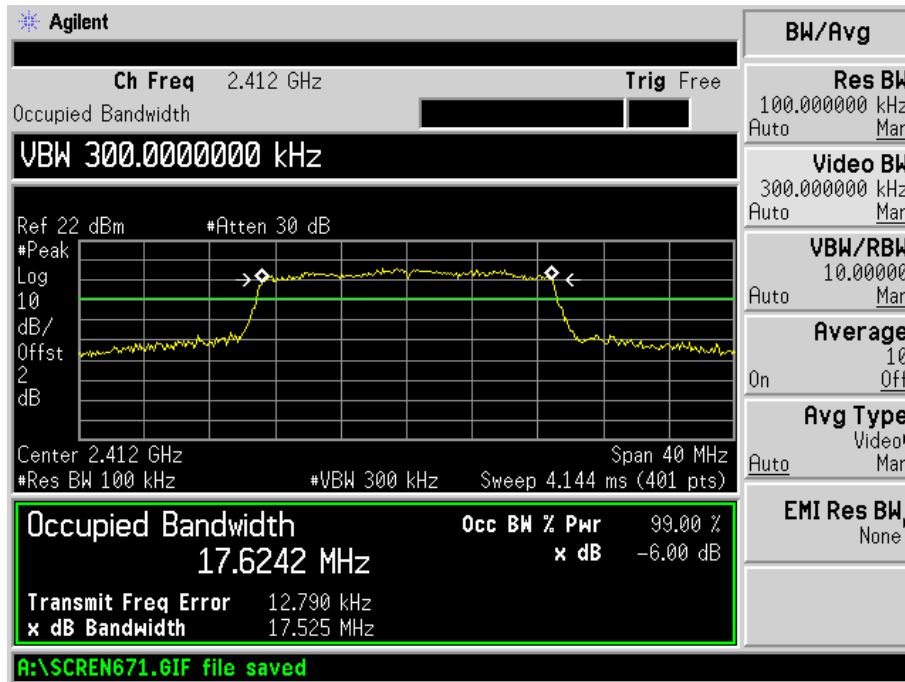
802.11g-Middle Channel



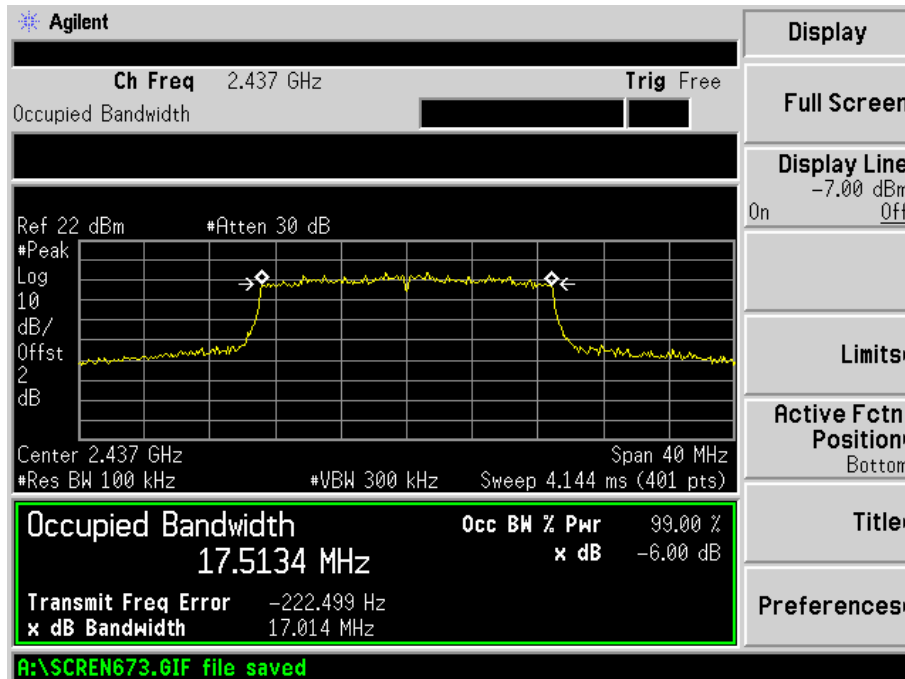
802.11g-High Channel



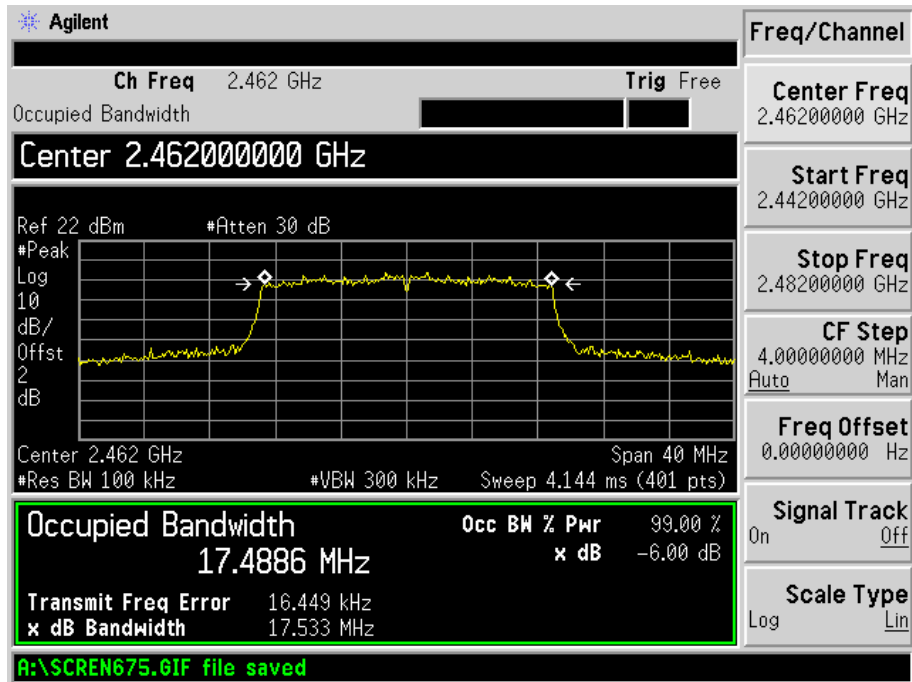
802.11n-HT20-Low Channel



802.11n-HT20-Middle Channel



802.11n-HT20-High Channel



7. RF Output Power

7.1 Standard Applicable

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

7.2 Test Procedure

According to the KDB-558074 D01 v03r05, 9.2.2.2, when this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth

- a) Set span to at least 1.5 times the OBW.
- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
- c) Set VBW $\geq 3 \times$ RBW.
- d) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This gives bin-to-bin spacing $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- e) Sweep time = auto.
- f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- g) If transmit duty cycle $< 98\%$, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\geq 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
- h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- i) Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

7.3 Environmental Conditions

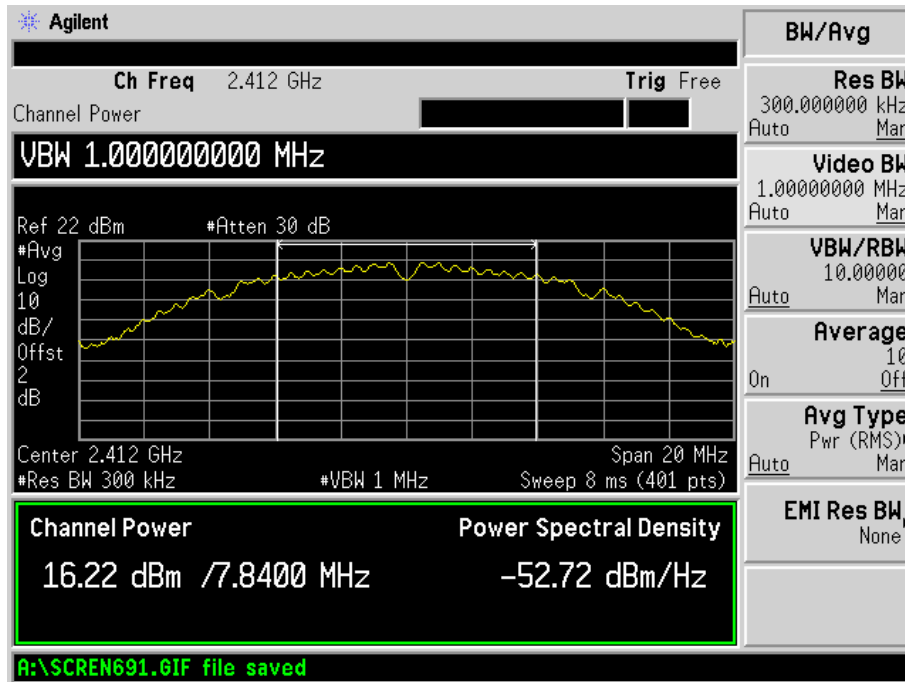
Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.4 Summary of Test Results/Plots

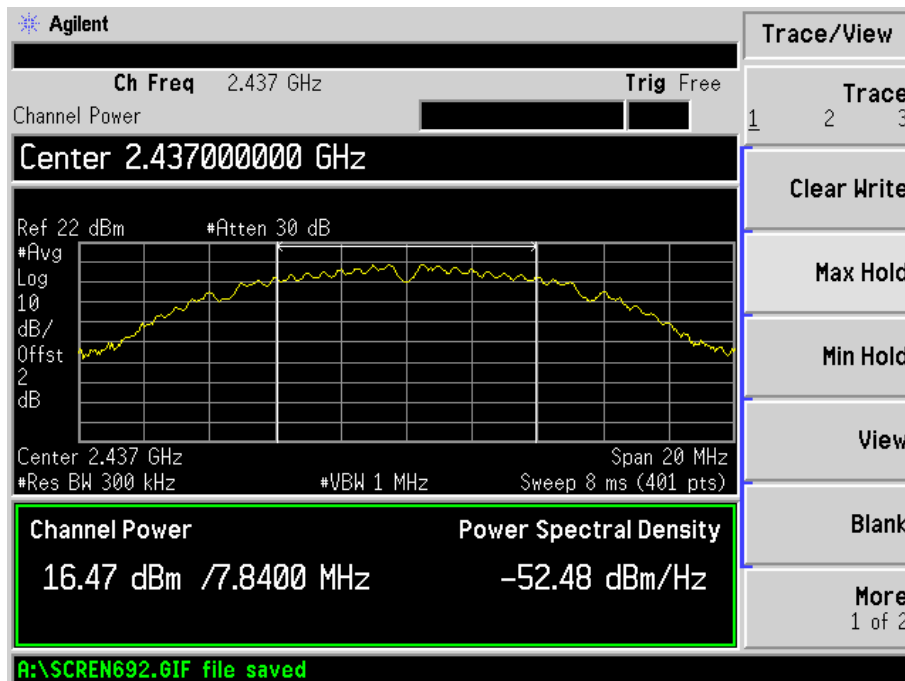
Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
802.11b_11Mbps	2412	16.22	41.879	1000
	2437	16.47	44.361	1000
	2462	16.89	48.865	1000
802.11g_54Mbps	2412	15.41	34.754	1000
	2437	15.63	36.559	1000
	2462	15.92	39.084	1000
802.11n HT20_MCS7	2412	15.21	33.189	1000
	2437	15.16	32.810	1000
	2462	15.39	34.594	1000

Please refer to the following test plots:

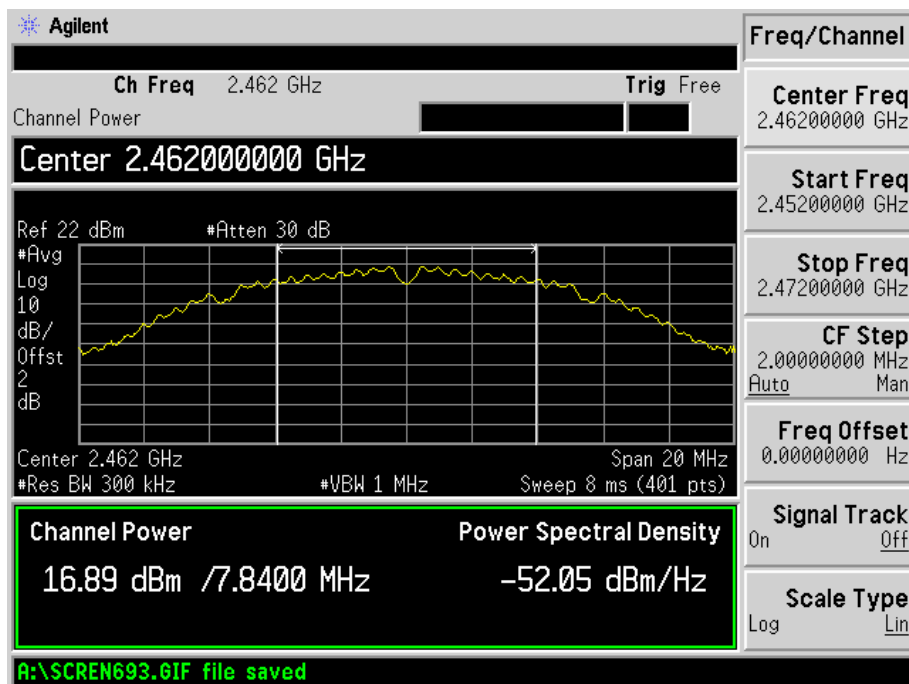
802.11-11Mbps-Low Channel



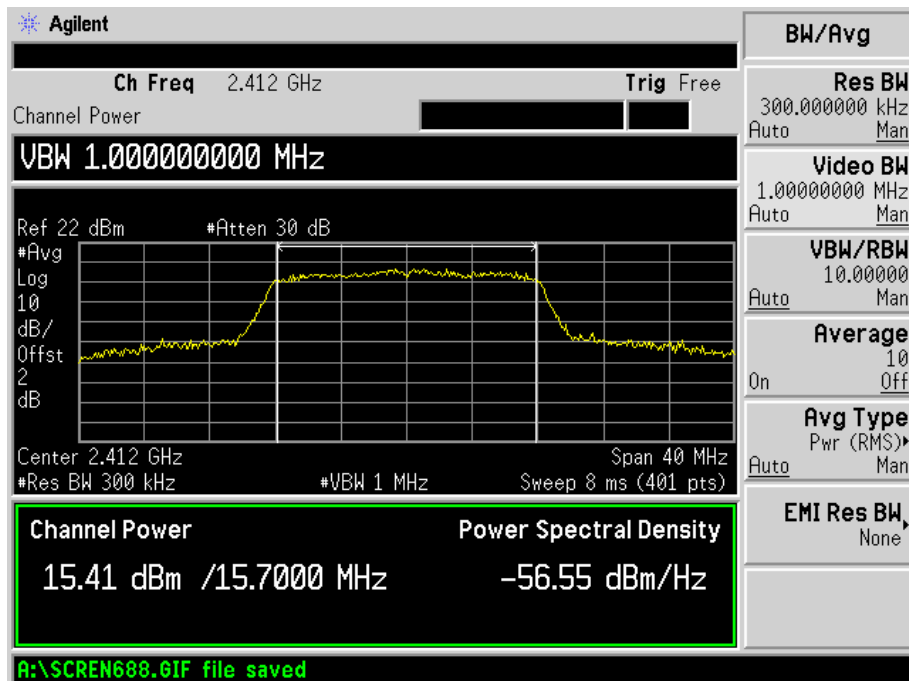
802.11b -11Mbps-Middle Channel



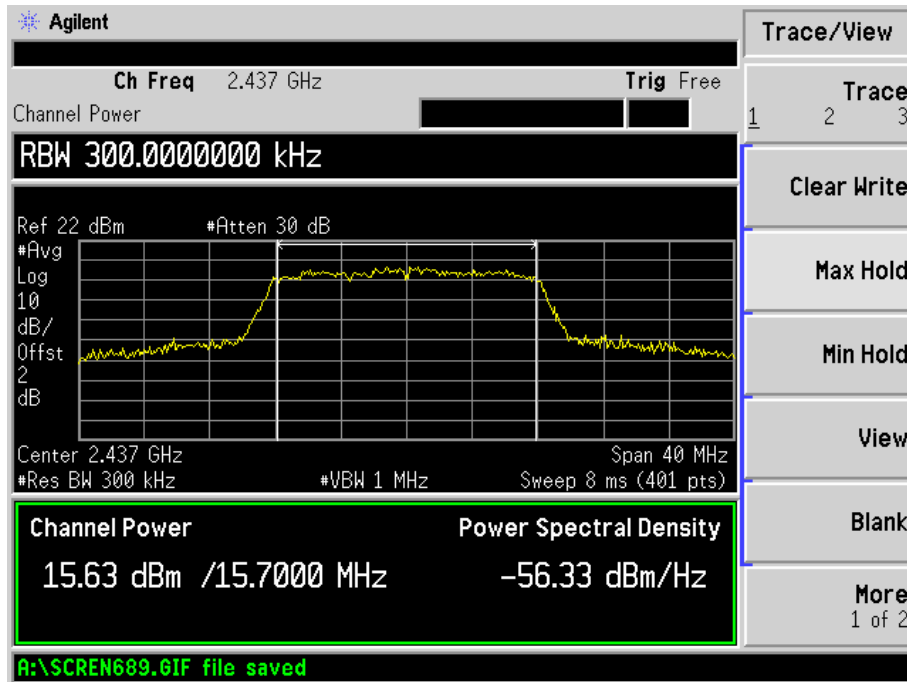
802.11b -11Mbps-High Channel



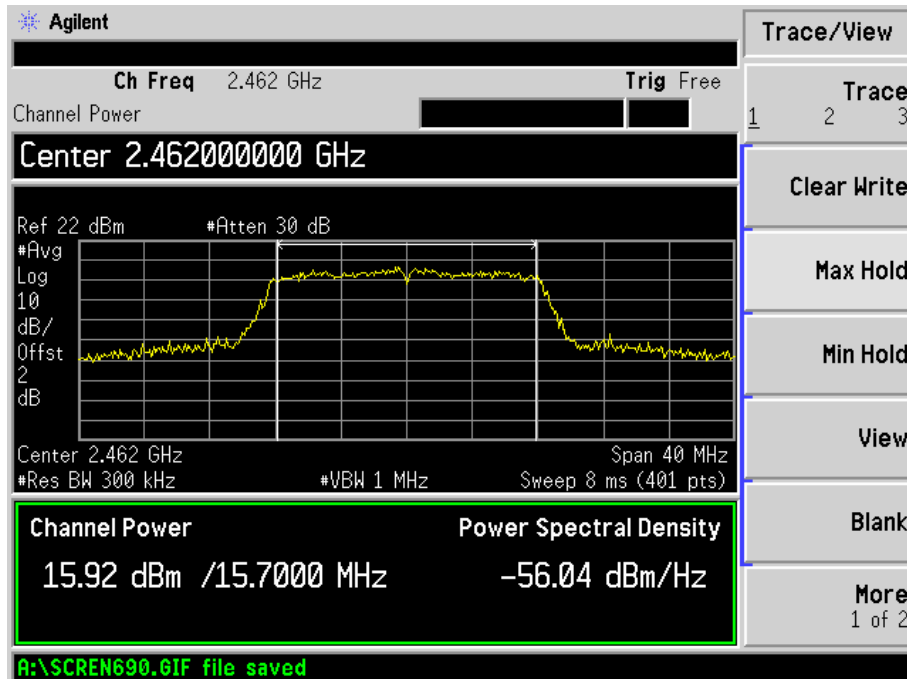
802.11g-54Mbps-Low Channel



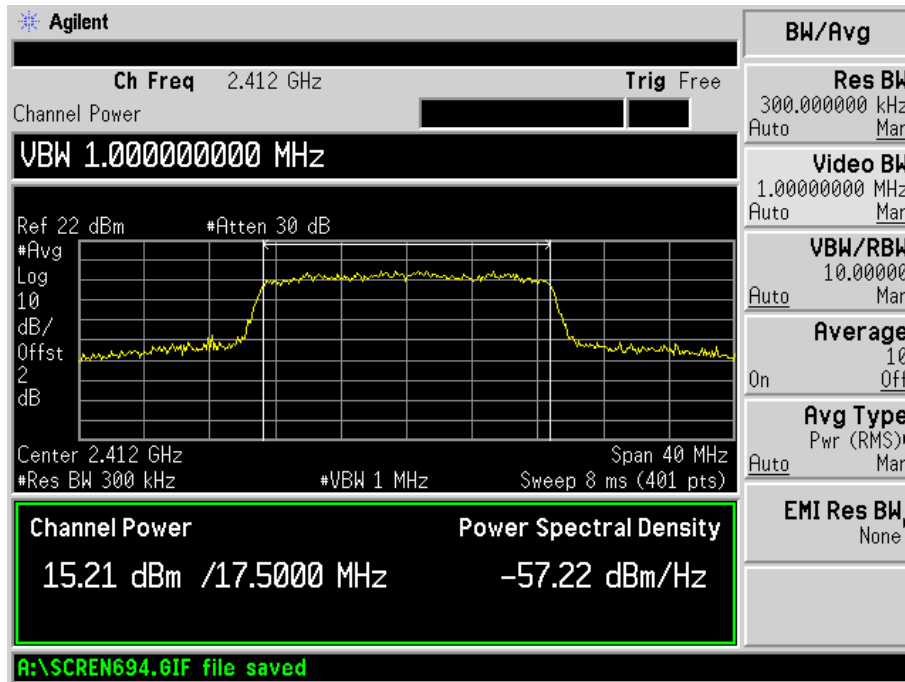
802.11g-54Mbps-Middle Channel



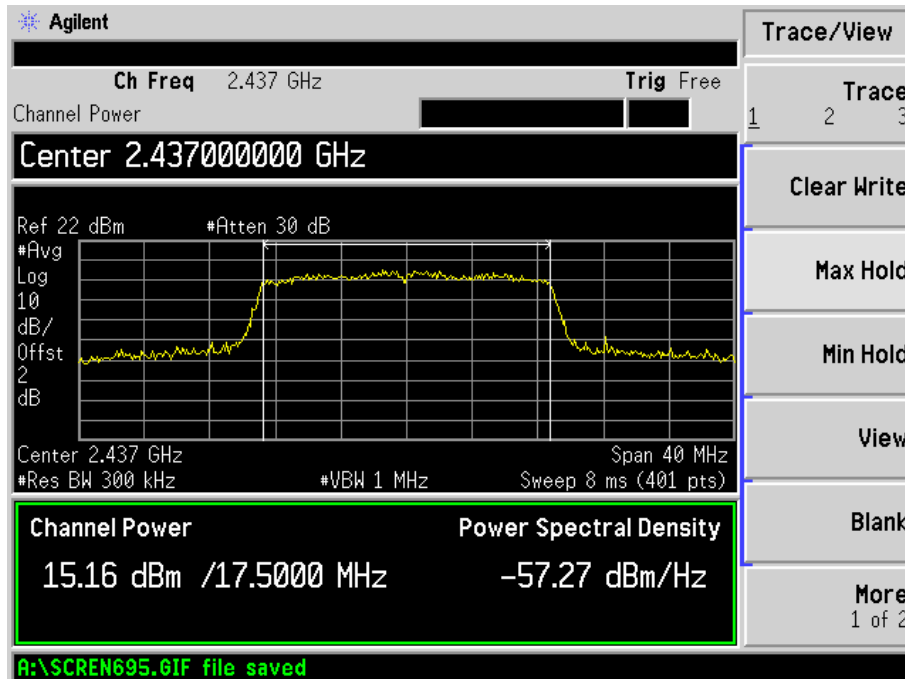
802.11g-54Mbps-High Channel



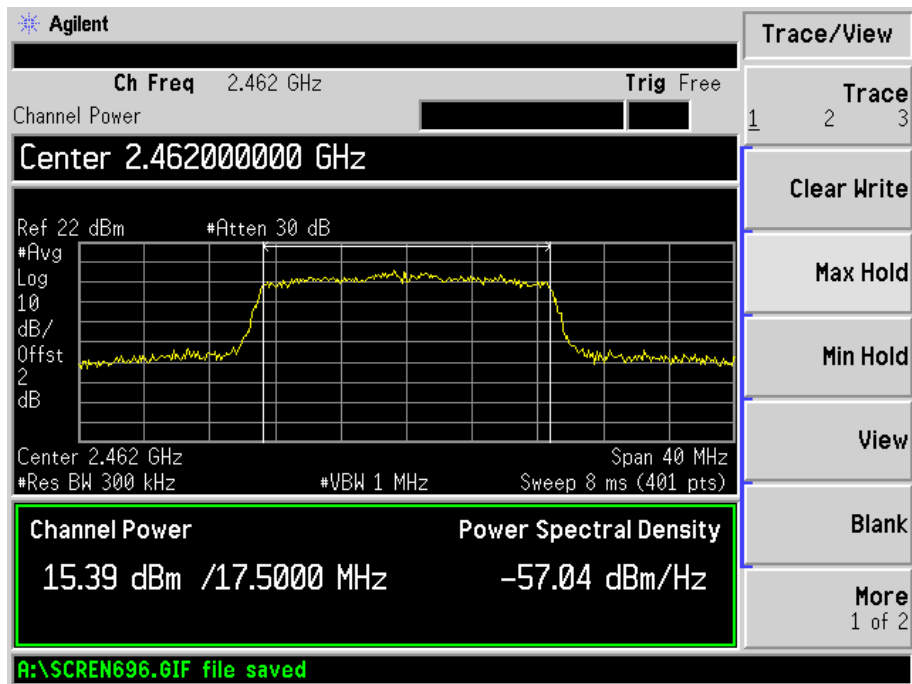
802.11n-HT20-MCS7-Low Channel



802.11n-HT20-MCS7-Middle Channel



802.11n-HT20-MCS7-High Channel



8. Field Strength of Spurious Emissions

8.1 Standard Applicable

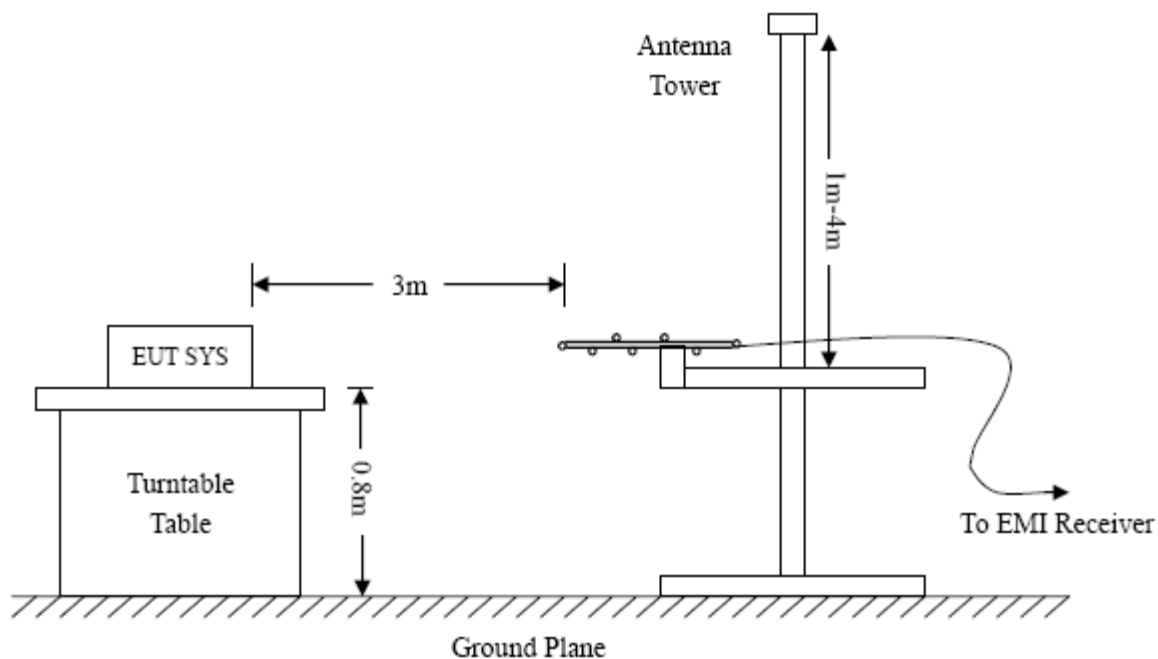
According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within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

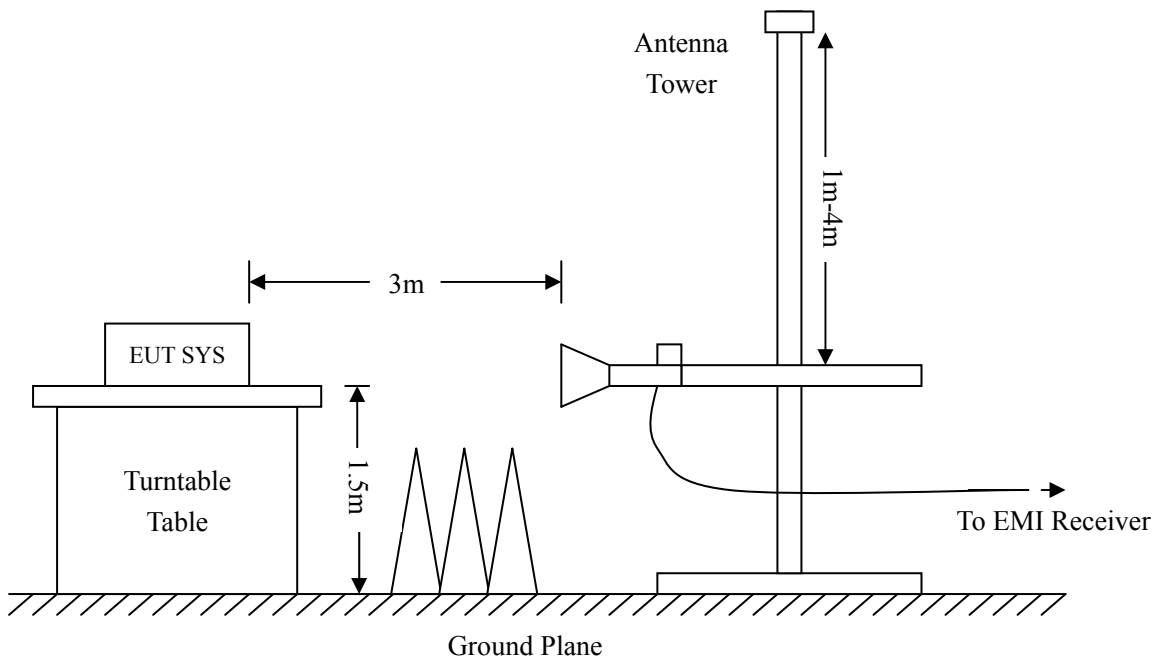
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

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





Frequency :9kHz-30MHz

RBW=10KHz,

VBW =30KHz

Sweep time= Auto

Trace = max hold

Detector function = peak

Frequency :30MHz-1GHz

RBW=120KHz,

VBW=300KHz

Sweep time= Auto

Trace = max hold

Detector function = peak, QP

Frequency :Above 1GHz

RBW=1MHz,

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

Sweep time= Auto

Trace = max hold

Detector function = peak, AV

8.3 Corrected Amplitude & Margin Calculation

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

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

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

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

8.4 Environmental Conditions

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

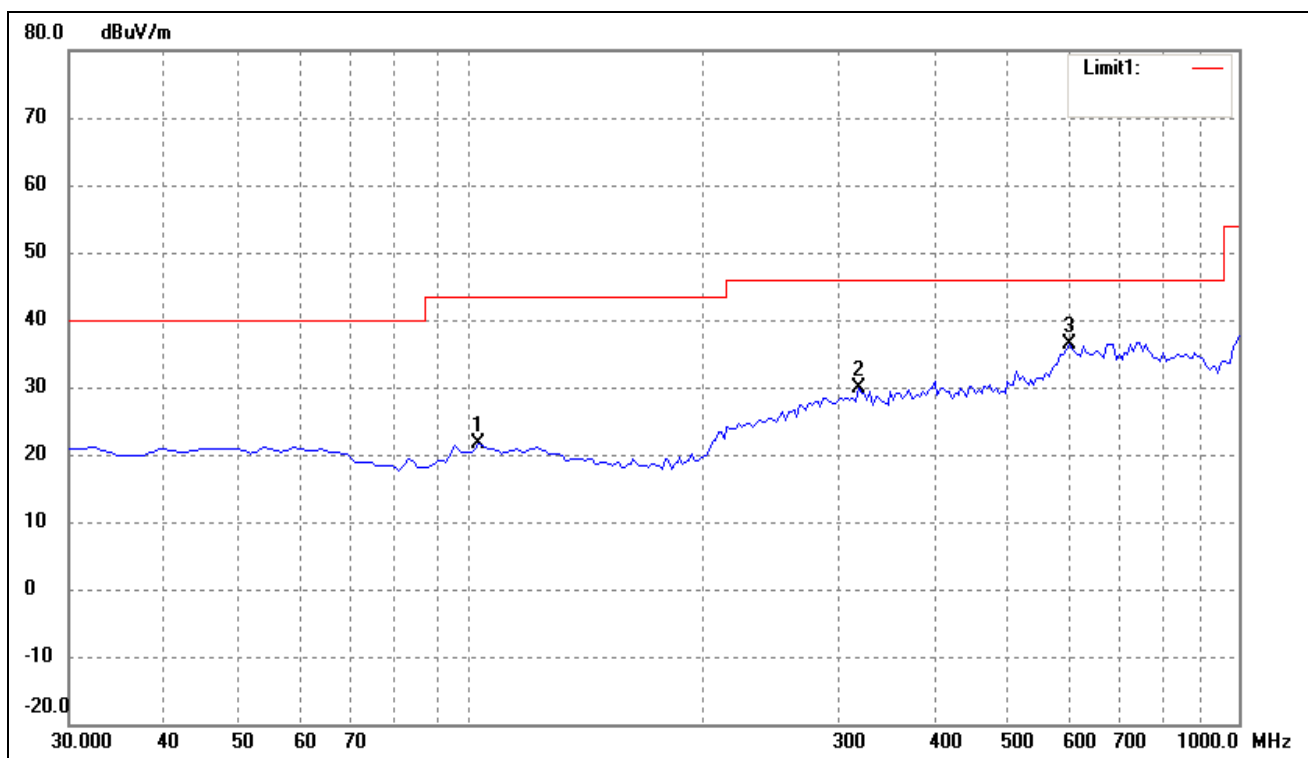
8.5 Summary of Test Results/Plots

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

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

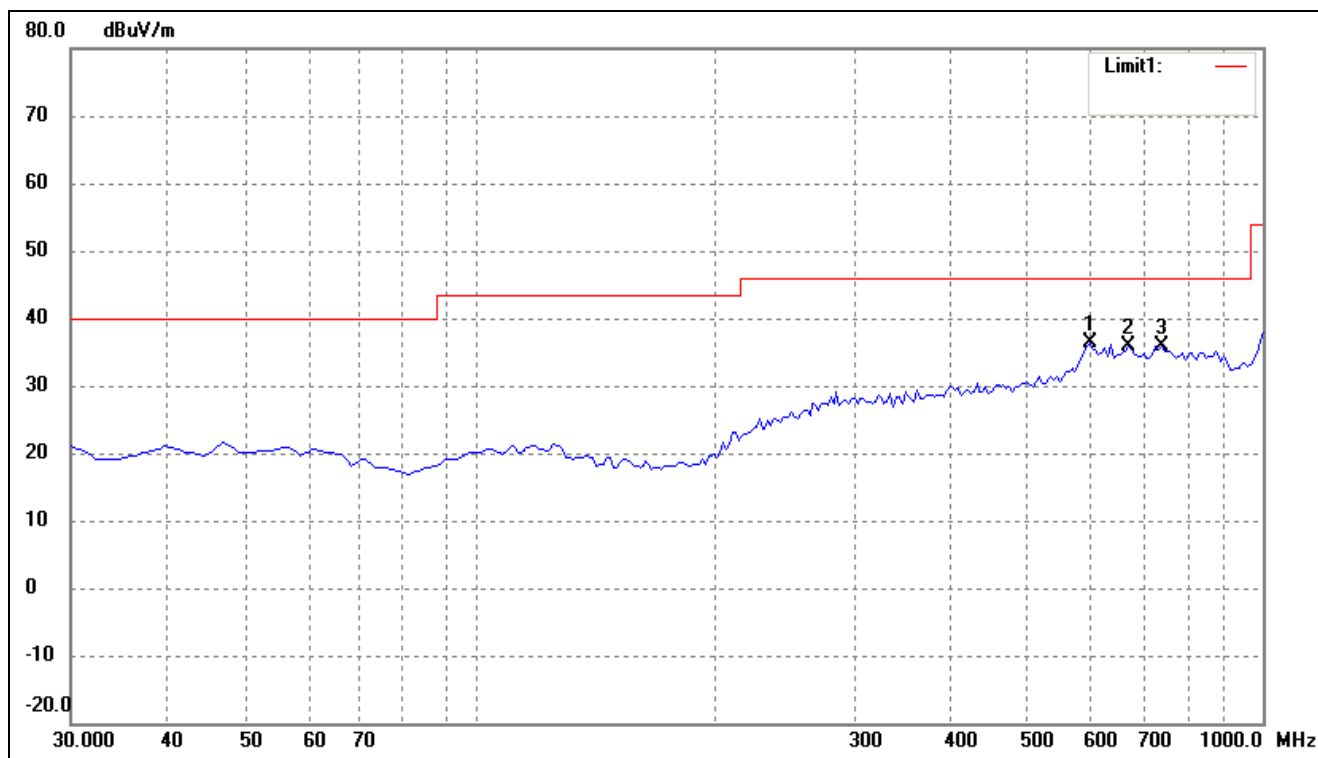
Plot of Radiated Emissions Test Data (30MHz to 1GHz)

EUT: Tablets
 Tested Model: TT800V
 Operating Condition: 802.11b Transmitting Low Channel-2412MHz
 Comment: Battery DC3.7V
 Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	102.7500	16.41	5.12	21.53	43.50	-21.97	165	100	QP
2	321.0000	17.73	12.26	29.99	46.00	-16.01	120	100	QP
3	602.3000	17.19	19.15	36.34	46.00	-9.66	298	100	QP

Test Specification: Vertical

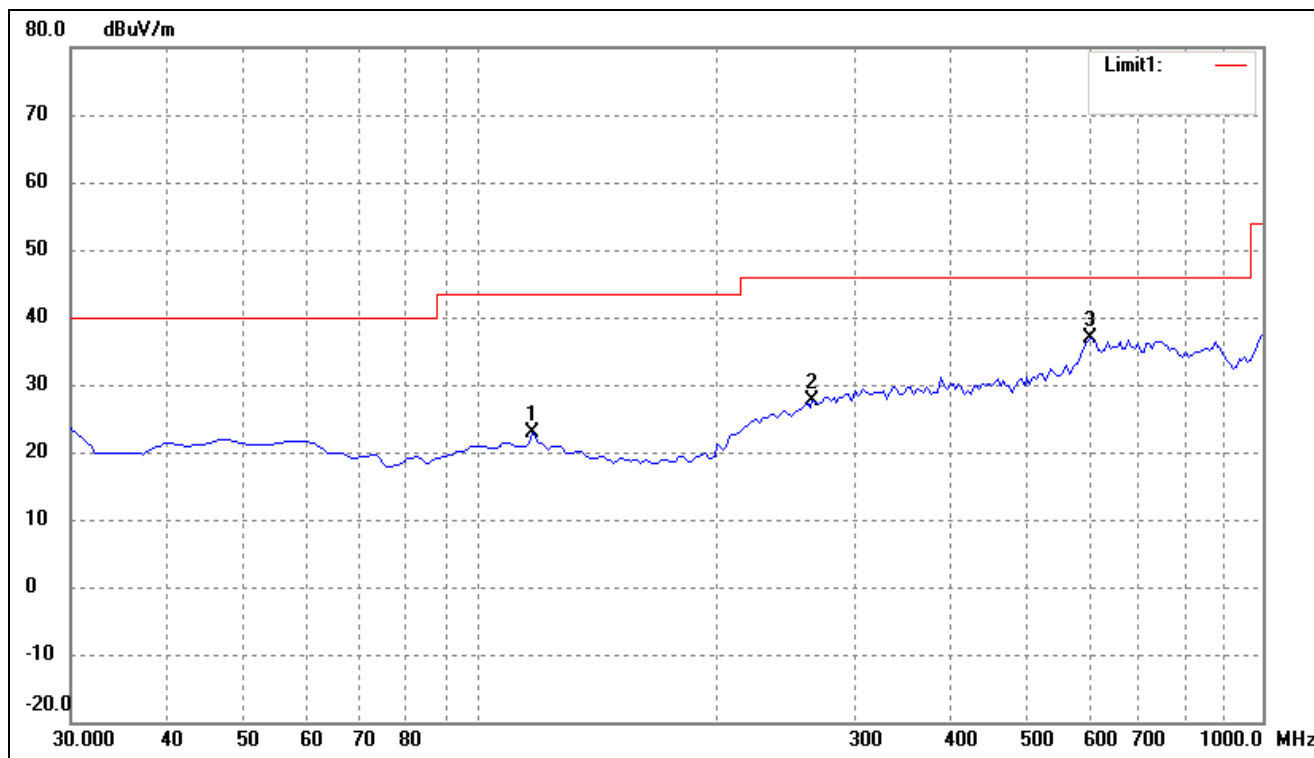


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	602.3000	17.16	19.15	36.31	46.00	-9.69	265	100	QP
2	675.0500	16.88	18.98	35.86	46.00	-10.14	15	100	QP
3	742.9500	16.42	19.42	35.84	46.00	-10.16	312	100	QP

Operating Condition: 802.11b Transmitting Middle Channel-2437MHz

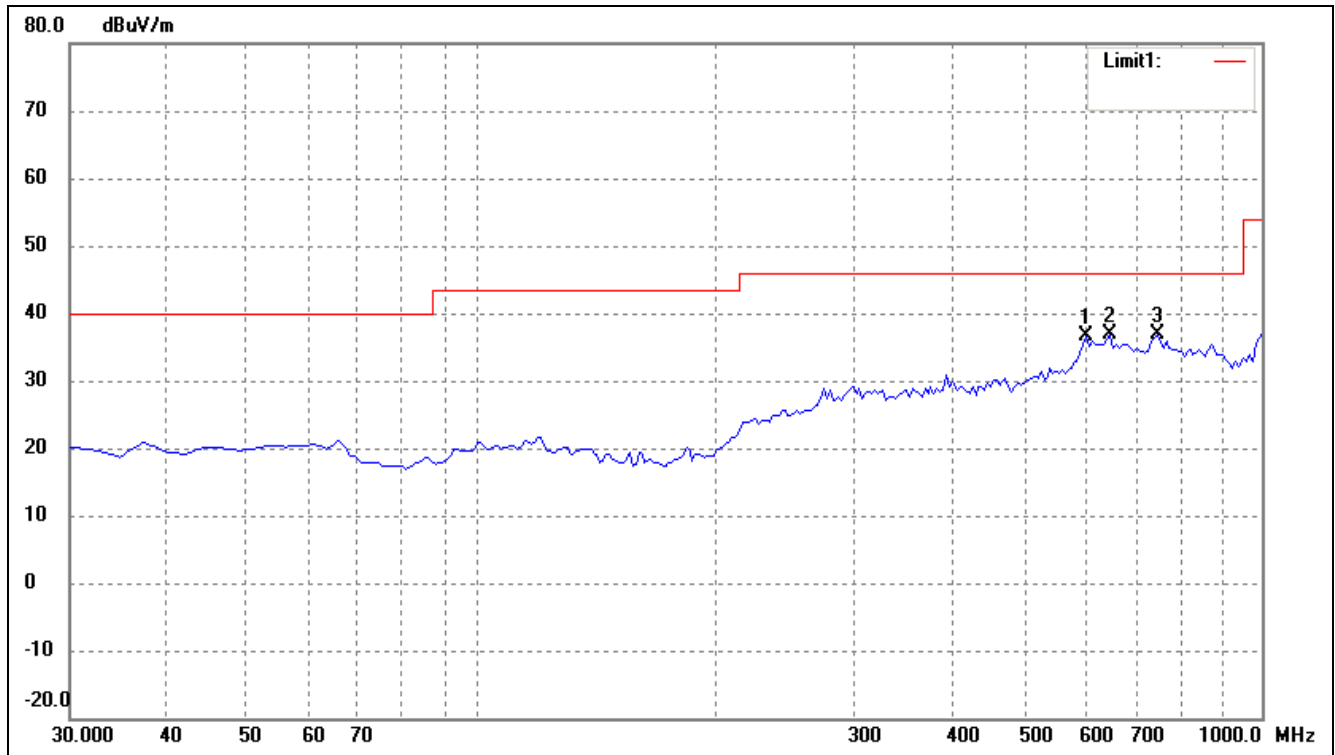
Comment: Battery DC3.7V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	117.3000	17.76	5.03	22.79	43.50	-20.71	21	100	QP
2	267.6500	17.03	10.56	27.59	46.00	-18.41	228	100	QP
3	602.3000	17.78	19.15	36.93	46.00	-9.07	116	100	QP

Test Specification: Vertical

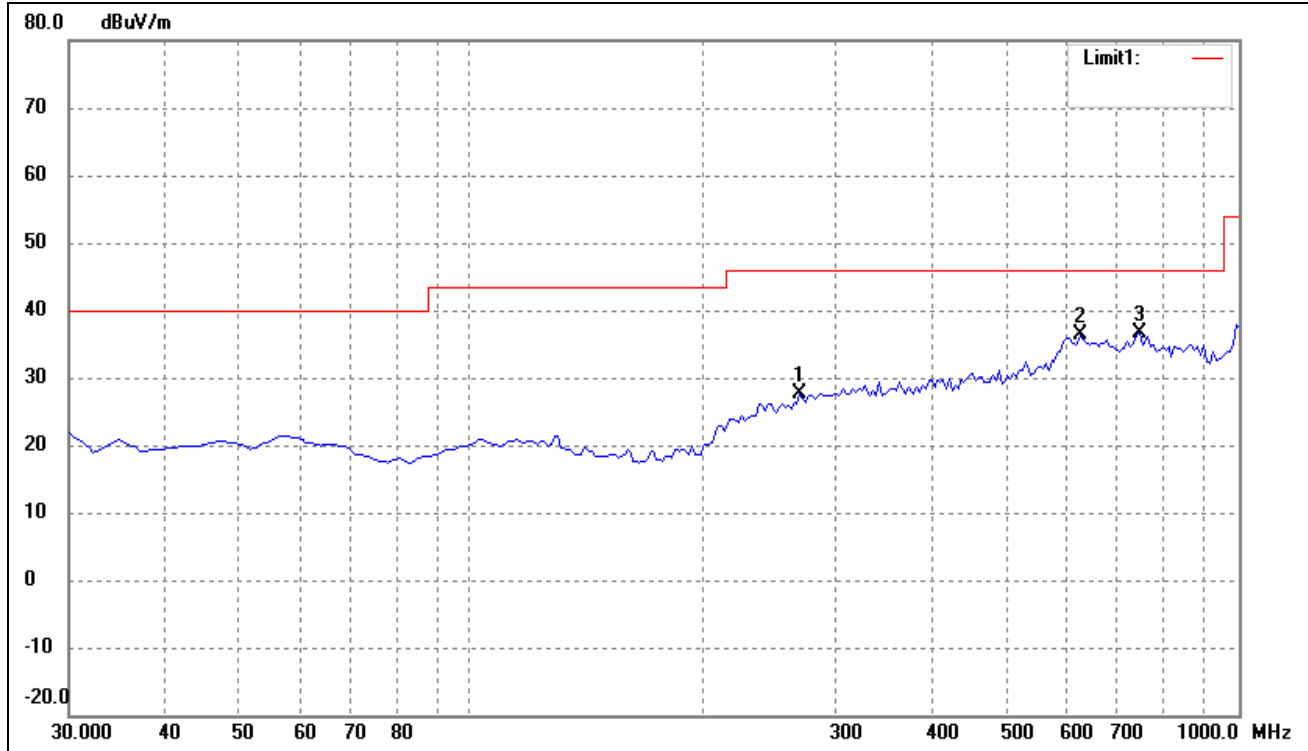


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	599.8750	17.42	19.30	36.72	46.00	-9.28	154	100	QP
2	641.1000	18.34	18.59	36.93	46.00	-9.07	201	100	QP
3	738.1000	17.44	19.44	36.88	46.00	-9.12	98	100	QP

Operating Condition: 802.11b Transmitting High Channel-2462MHz

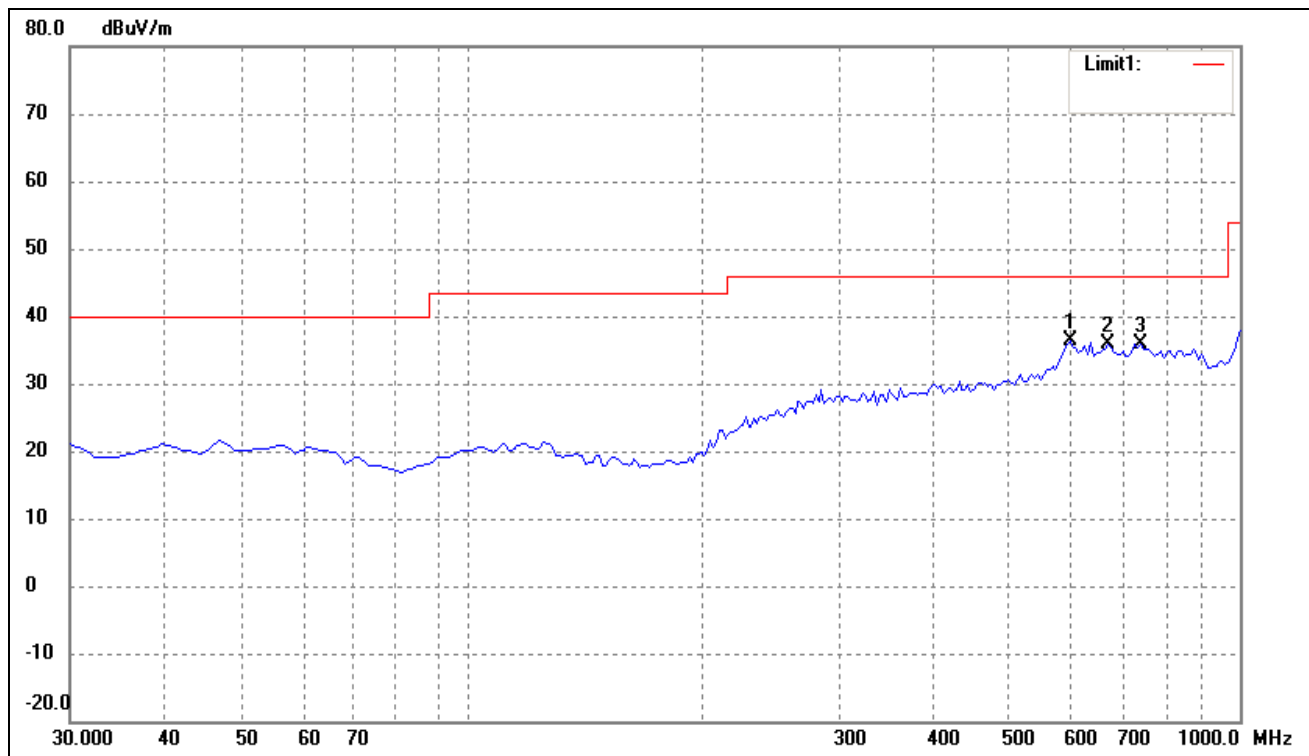
Comment: Battery DC 3.7V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	270.0750	16.88	10.72	27.60	46.00	-18.40	21	100	QP
2	624.1250	18.41	18.06	36.47	46.00	-9.53	241	100	QP
3	745.3750	17.41	19.31	36.72	46.00	-9.28	102	100	QP

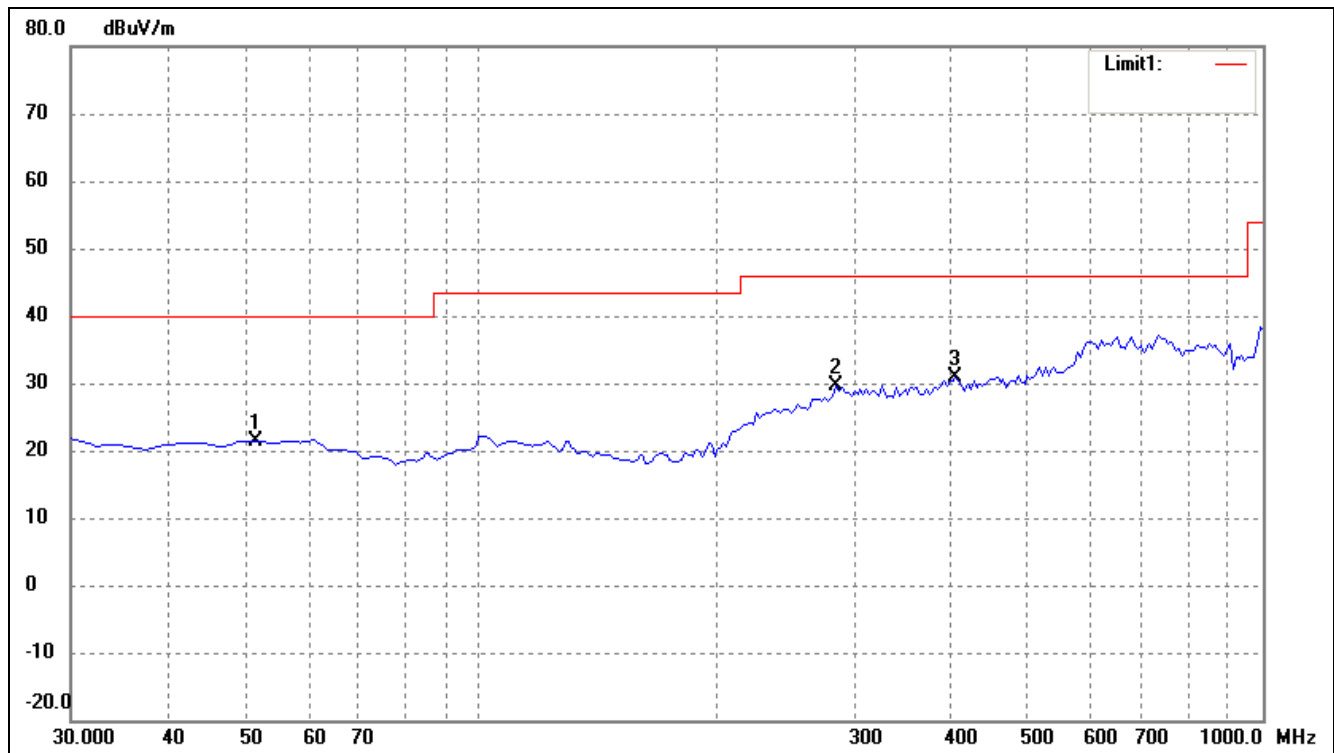
Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	602.3000	17.16	19.15	36.31	46.00	-9.69	15	100	QP
2	675.0500	16.88	18.98	35.86	46.00	-10.14	155	100	QP
3	742.9500	16.42	19.42	35.84	46.00	-10.16	201	100	QP

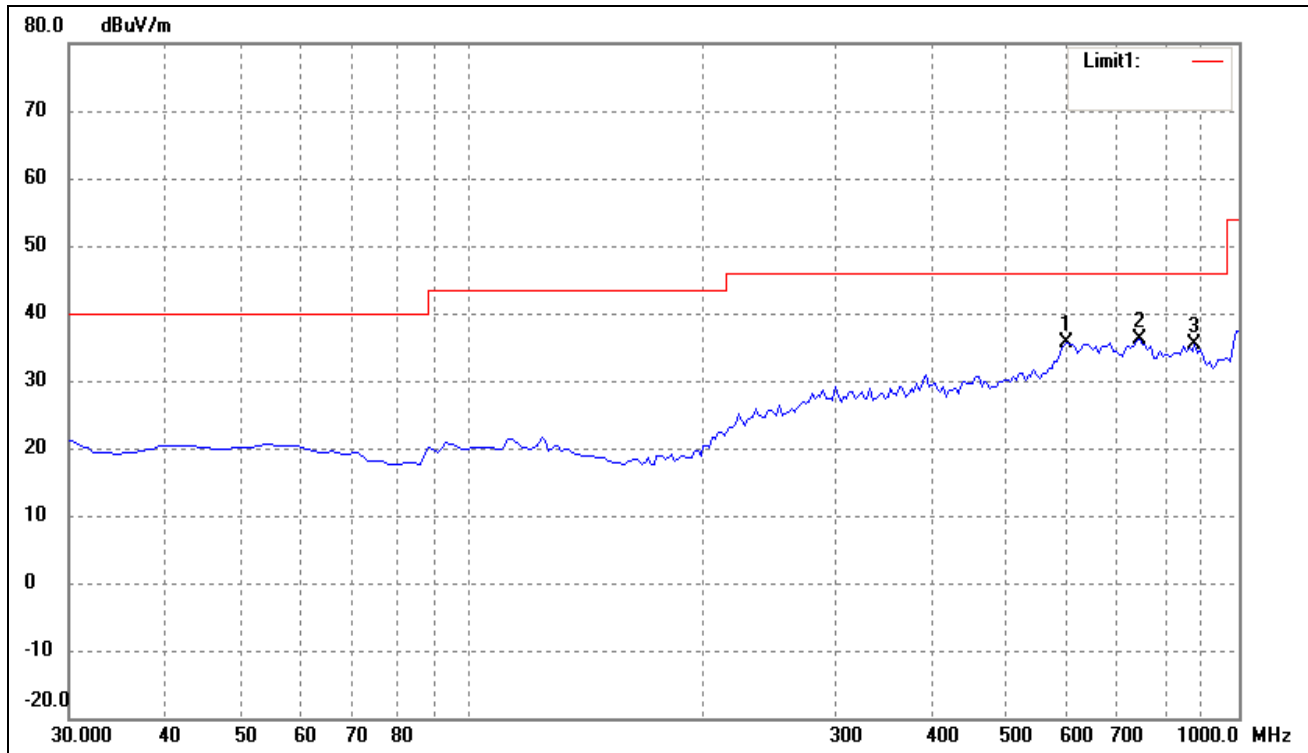
Plot of Radiated Emissions Test Data (30MHz to 1GHz)

EUT: Tablets
 Tested Model: TT800V
 Operating Condition: 802.11g Transmitting Low Channel-2412MHz
 Comment: Battery DC 3.7V
 Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	51.8250	16.21	5.29	21.50	40.00	-18.50	245	100	QP
2	287.0500	17.84	11.68	29.52	46.00	-16.48	98	100	QP
3	408.3000	18.09	12.82	30.91	46.00	-15.09	125	100	QP

Test Specification: Vertical

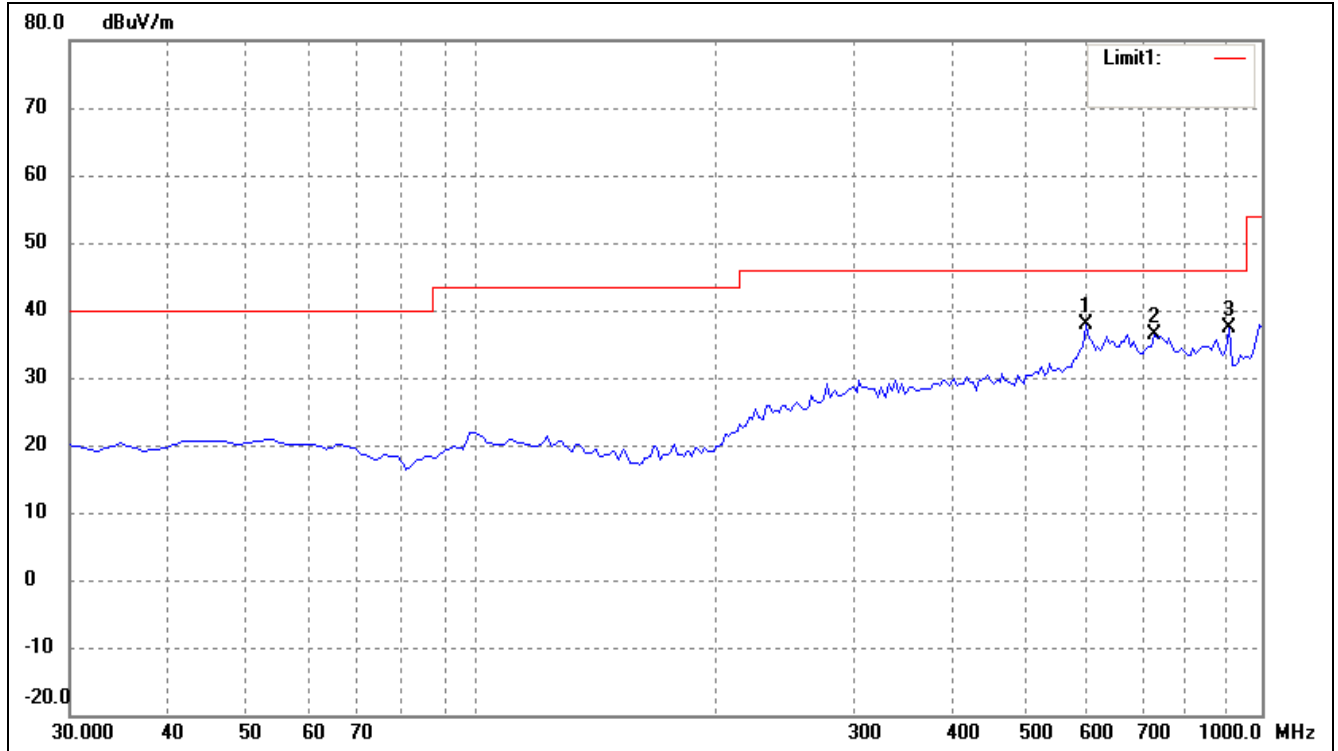


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	599.8750	16.21	19.30	35.51	46.00	-10.49	289	100	QP
2	742.9500	16.77	19.42	36.19	46.00	-9.81	124	100	QP
3	878.7500	17.67	17.79	35.46	46.00	-10.54	94	100	QP

Operating Condition: 802.11g Transmitting Middle Channel-2437MHz

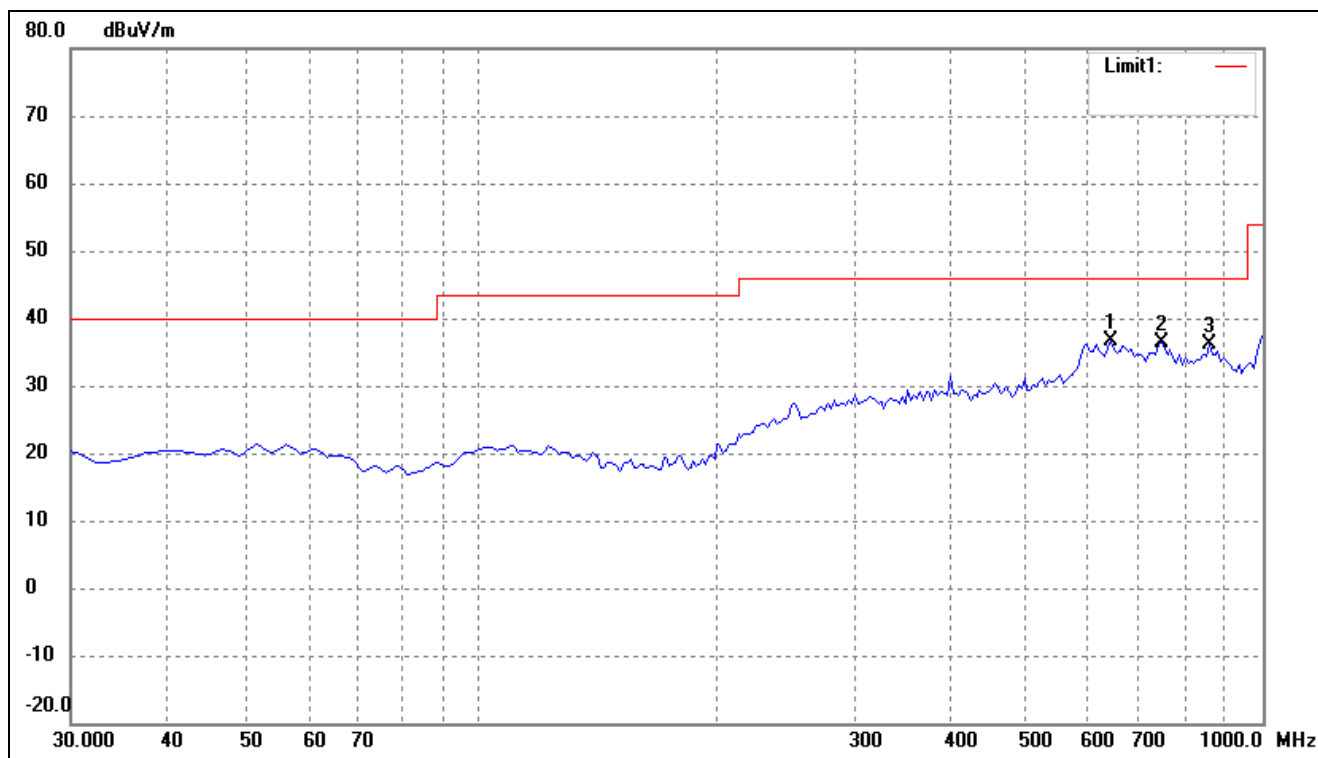
Comment: Battery DC 3.7V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	599.8750	18.55	19.30	37.85	46.00	-8.15	167	100	QP
2	735.6750	17.04	19.29	36.33	46.00	-9.67	120	100	QP
3	910.2750	21.26	16.15	37.41	46.00	-8.59	187	100	QP

Test Specification: Vertical

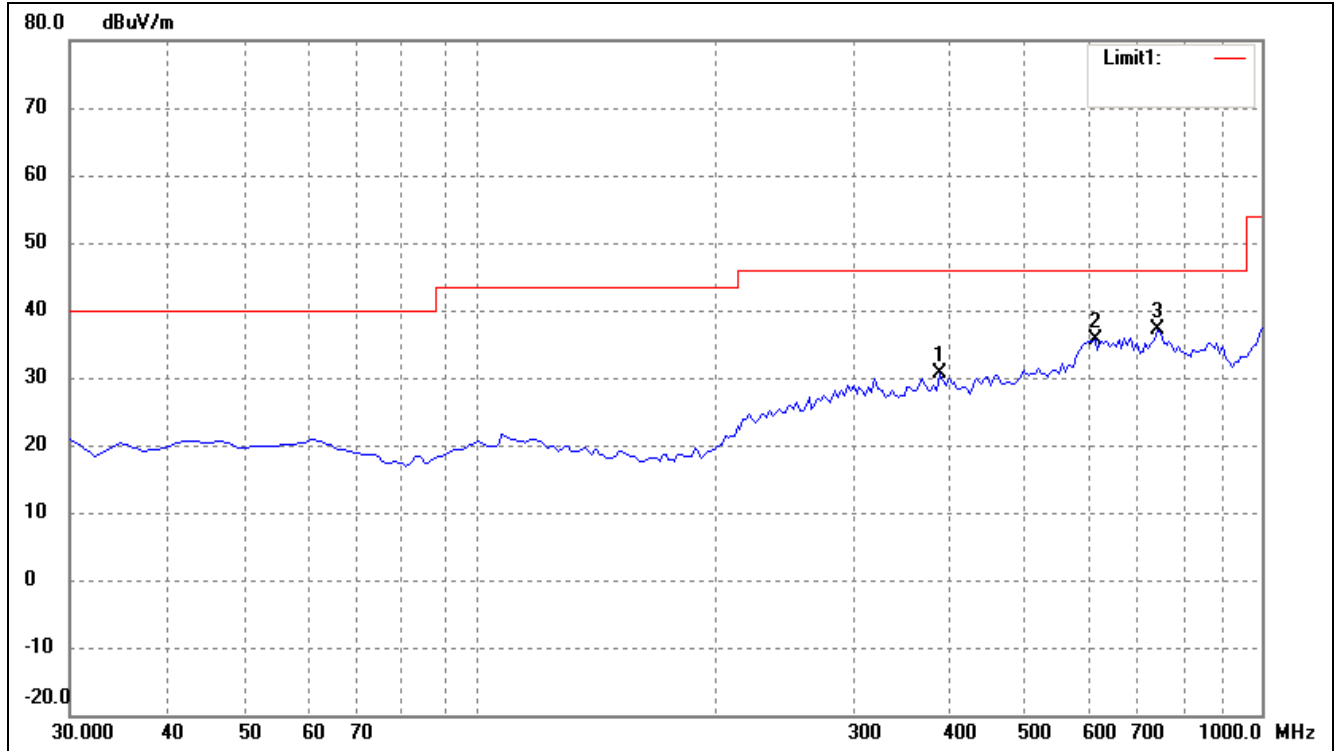


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	641.1000	18.04	18.59	36.63	46.00	-9.37	178	100	QP
2	745.3750	17.07	19.31	36.38	46.00	-9.62	268	100	QP
3	856.9250	18.76	17.33	36.09	46.00	-9.91	131	100	QP

Operating Condition: 802.11g Transmitting High Channel-2462MHz

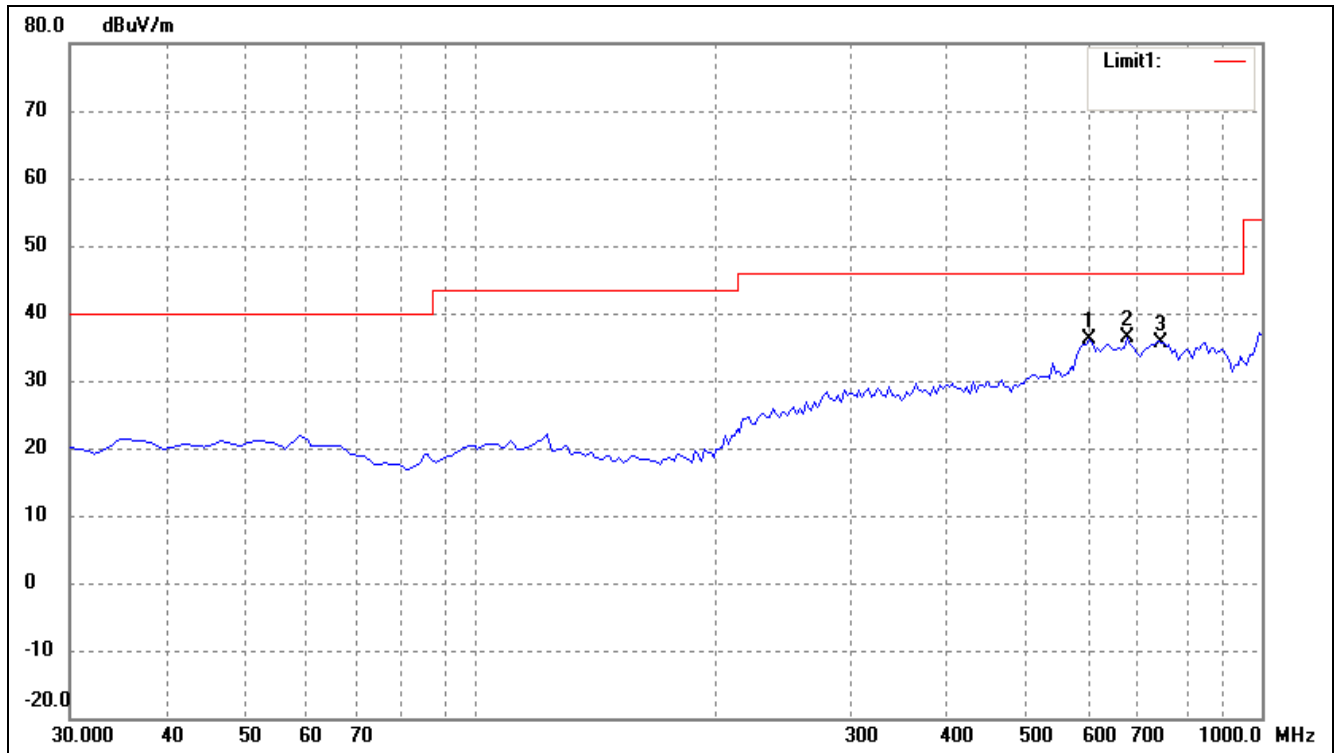
Comment: Battery DC 3.7V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	391.3250	17.93	12.72	30.65	46.00	-15.35	270	100	QP
2	616.8500	17.56	18.14	35.70	46.00	-10.30	51	200	QP
3	738.1000	17.57	19.44	37.01	46.00	-8.99	310	200	QP

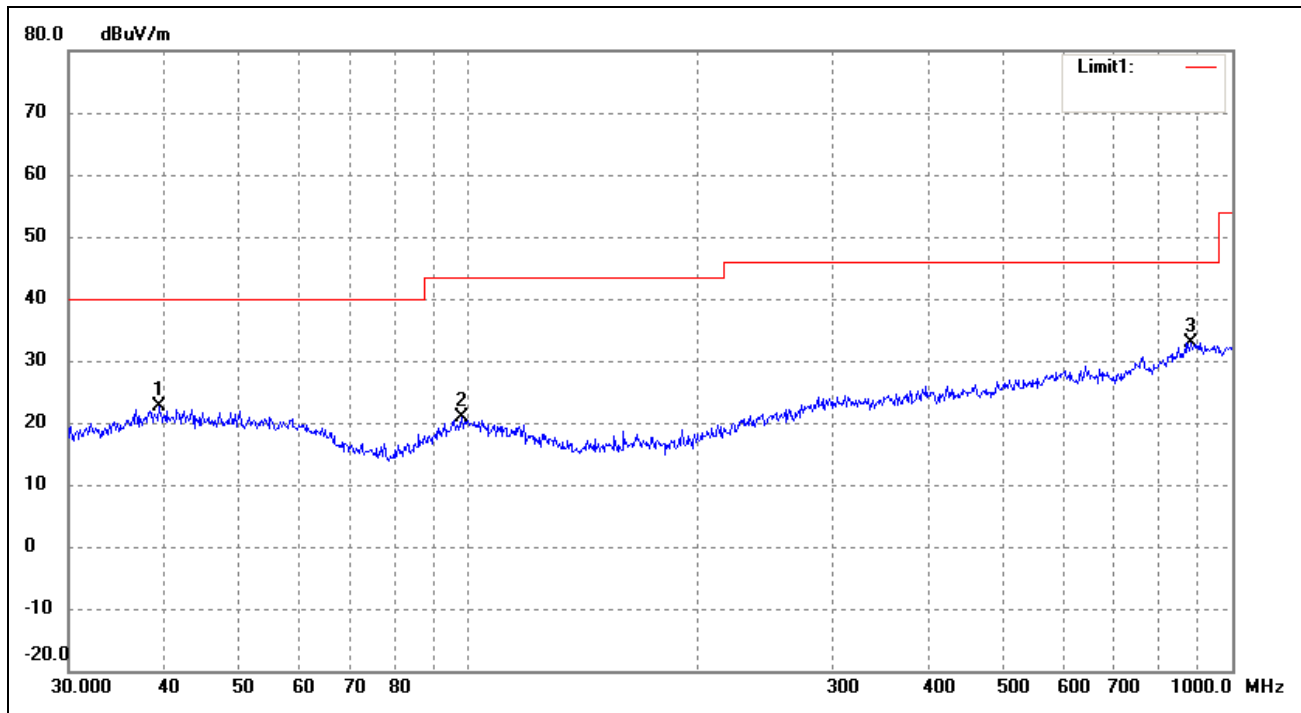
Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	602.3000	16.86	19.15	36.01	46.00	-9.99	174	100	QP
2	679.9000	17.11	19.25	36.36	46.00	-9.64	205	100	QP
3	745.3750	16.42	19.31	35.73	46.00	-10.27	98	100	QP

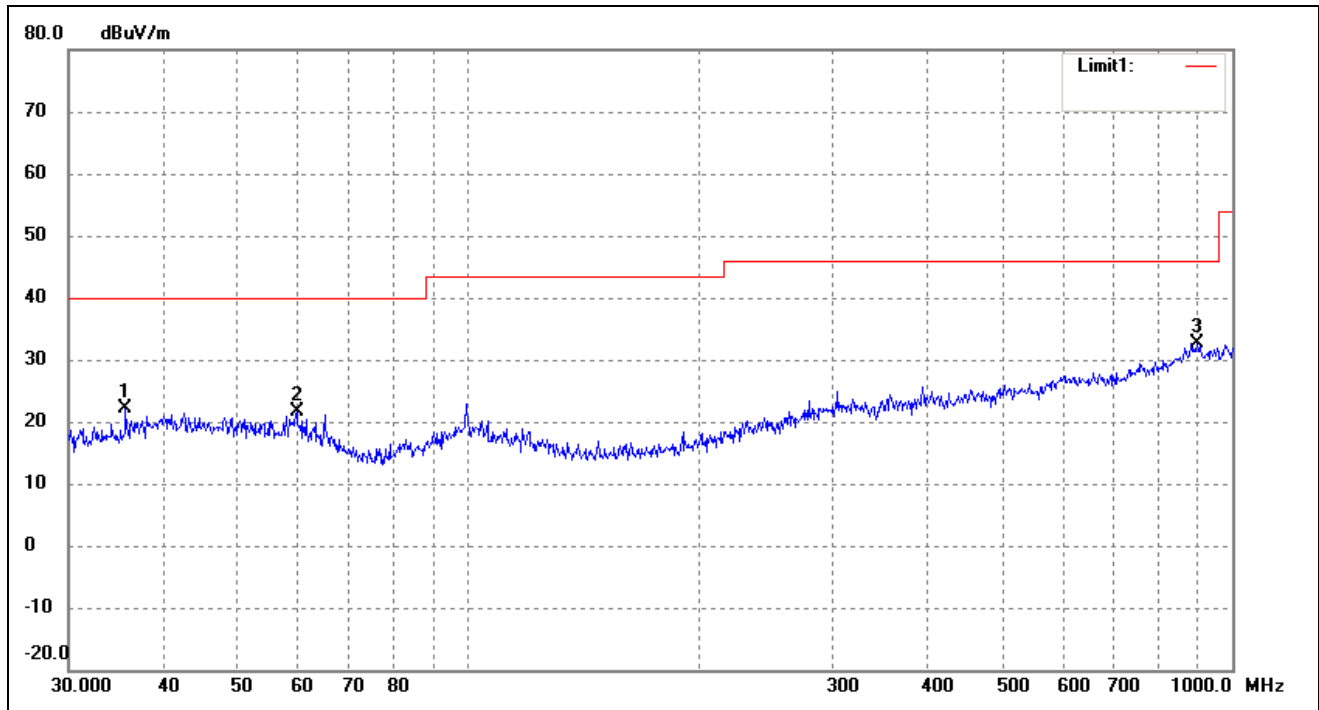
Plot of Radiated Emissions Test Data (30MHz to 1GHz)

EUT: Tablets
 Tested Model: TT800V
 Operating Condition: 802.11n-HT20 Transmitting Low Channel-2412MHz
 Comment: Battery: DC3.7V
 Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	39.4372	15.43	7.10	22.53	40.00	-17.47	260	100	QP
2	98.1419	15.26	5.67	20.93	43.50	-22.57	120	200	QP
3	884.5029	16.12	16.83	32.95	46.00	-13.05	289	200	QP

Test Specification: Vertical

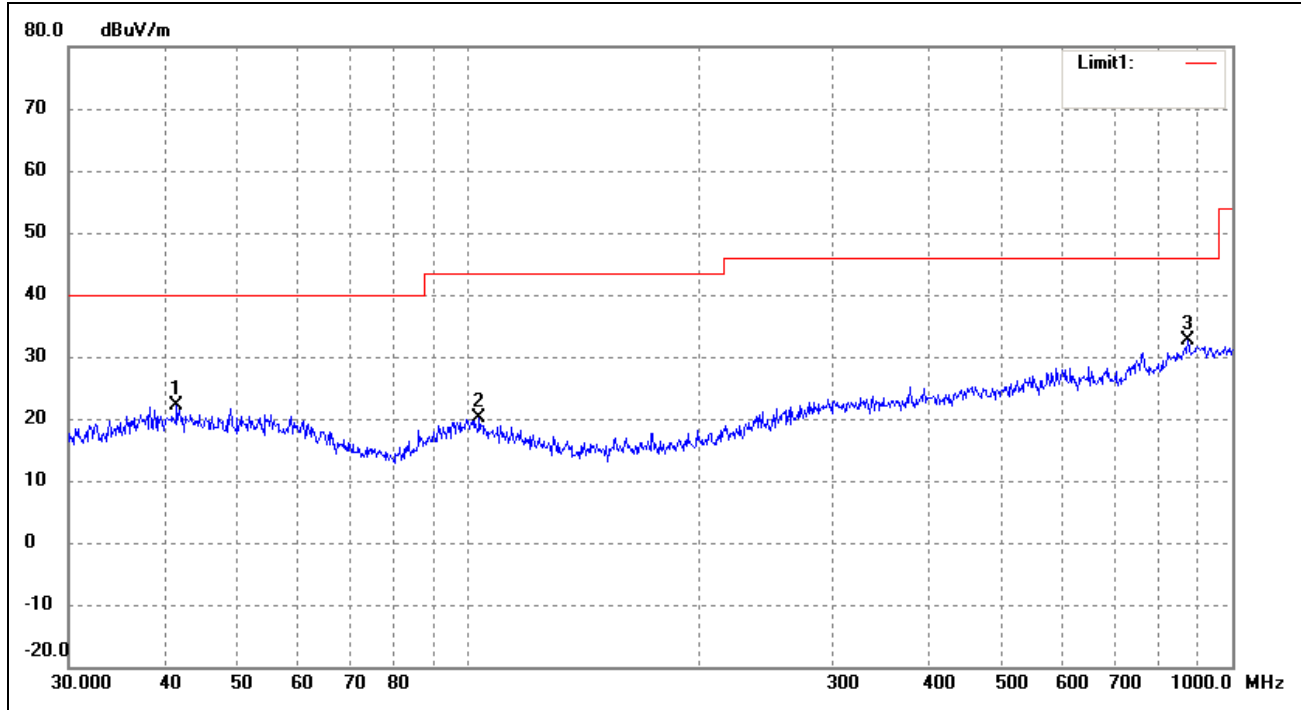


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	35.6240	13.62	8.49	22.11	40.00	-17.89	130	100	QP
2	59.6493	16.24	5.41	21.65	40.00	-18.35	120	100	QP
3	900.1474	15.73	16.85	32.58	46.00	-13.42	360	100	QP

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

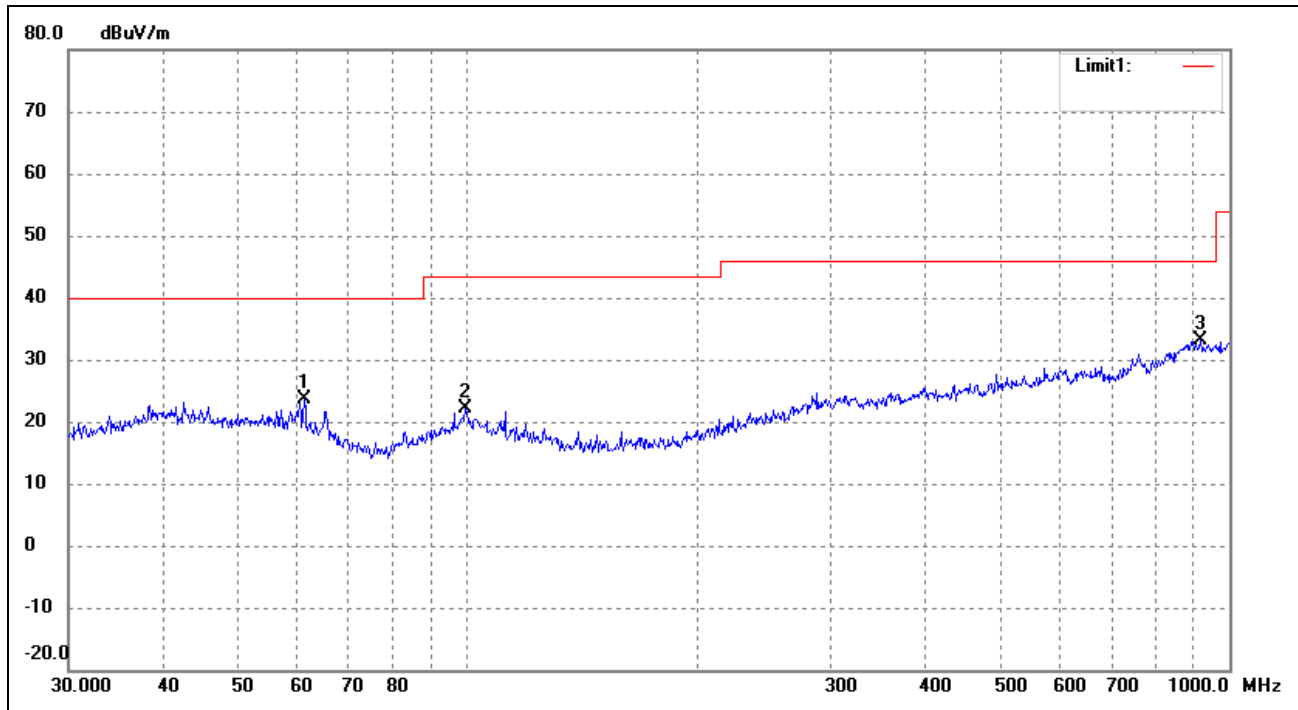
Comment: Battery: DC3.7V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	41.5670	14.94	7.09	22.03	40.00	-17.97	274	100	QP
2	103.4421	14.40	5.77	20.17	43.50	-23.33	130	100	QP
3	875.2470	15.96	16.70	32.66	46.00	-13.34	120	100	QP

Test Specification: Vertical

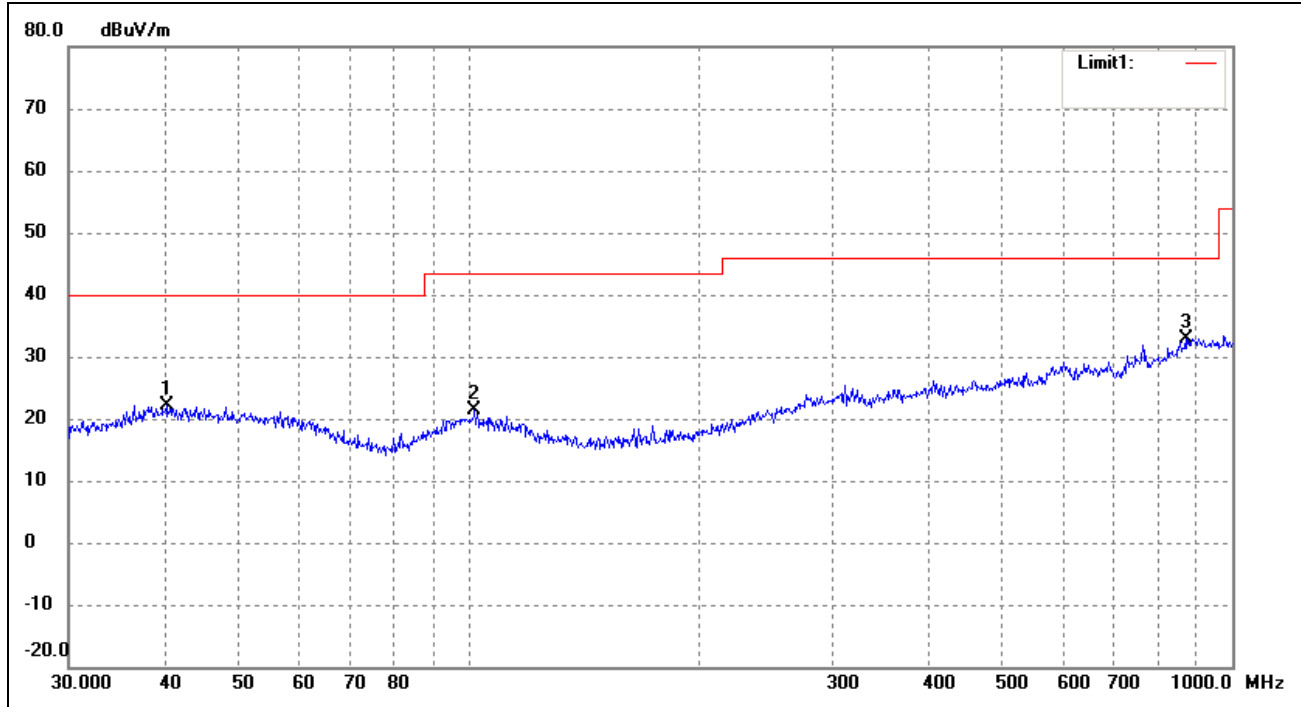


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	61.1316	18.53	5.02	23.55	40.00	-16.45	360	100	QP
2	99.5281	16.16	6.01	22.17	43.50	-21.33	110	100	QP
3	916.0687	16.62	16.56	33.18	46.00	-12.82	120	100	QP

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

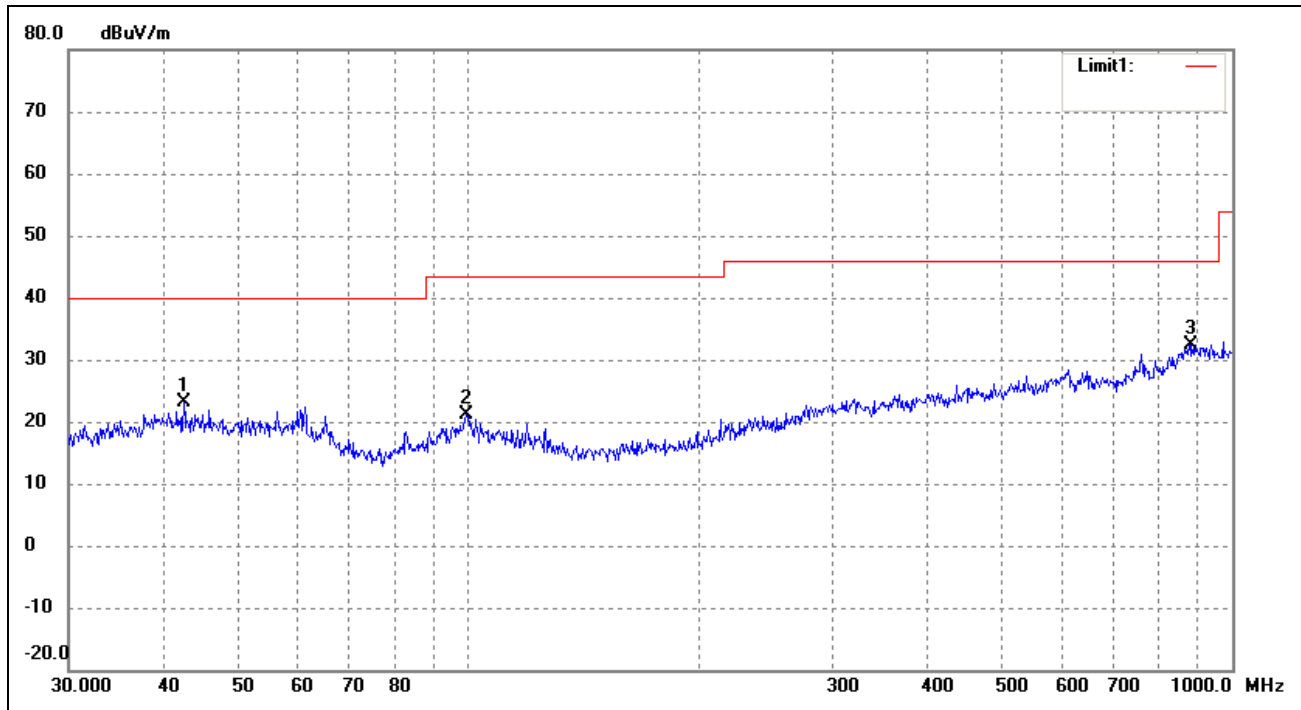
Comment: Battery: DC3.7V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	40.2757	14.89	7.22	22.11	40.00	-17.89	360	100	QP
2	102.0014	15.56	5.91	21.47	43.50	-22.03	138	100	QP
3	869.1302	16.36	16.54	32.90	46.00	-13.10	180	200	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	42.4508	14.66	8.51	23.17	40.00	-16.83	270	100	QP
2	99.5281	15.16	6.01	21.17	43.50	-22.33	120	100	QP
3	884.5029	15.57	16.83	32.40	46.00	-13.60	360	100	QP

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	61.95	-3.87	58.08	74.00	-15.92	H	Peak
4824.000	41.02	-3.87	37.15	54.00	-16.85	H	AV
7236.000	55.63	1.14	56.77	74.00	-17.23	H	Peak
7236.000	39.54	1.19	40.73	54.00	-13.27	H	AV
4824.000	60.28	-3.86	56.42	74.00	-17.58	V	Peak
4824.000	42.19	-3.86	38.33	54.00	-15.67	V	AV
7236.000	55.1	1.1	56.2	74.00	-17.8	V	Peak
7236.000	40.57	1.1	41.67	54.00	-12.33	V	AV
Middle Channel-2437MHz							
4874.000	61.01	-3.74	57.27	74.00	-16.73	H	Peak
4874.000	43.17	-3.74	39.43	54.00	-14.57	H	AV
7311.000	55.52	1.47	56.99	74.00	-17.01	H	Peak
7311.000	39.97	1.47	41.44	54.00	-12.56	H	AV
4874.000	58.57	-3.74	54.83	74.00	-19.17	V	Peak
4874.000	43.06	-3.74	39.32	54.00	-14.68	V	AV
7311.000	52.19	1.47	53.66	74.00	-20.34	V	Peak
7311.000	38.63	1.47	40.1	54.00	-13.9	V	AV
High Channel-2462MHz							
4924.000	59.41	-3.59	55.82	74.00	-18.18	H	Peak
4924.000	43.44	-3.59	39.85	54.00	-14.15	H	AV
7386.000	53.85	1.79	55.64	74.00	-18.36	H	Peak
7386.000	40.18	1.79	41.97	54.00	-12.03	H	AV
4924.000	61.38	-3.59	57.79	74.00	-16.21	V	Peak
4924.000	42.42	-3.59	38.83	54.00	-15.17	V	AV
7386.000	54.62	1.79	56.41	74.00	-17.59	V	Peak
7386.000	38.75	1.79	40.54	54.00	-13.46	V	AV

Test Mode: 802.11g

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824.000	60.75	-3.87	56.88	74.00	-17.12	H	Peak
4824.000	42.4	-3.87	38.53	54.00	-15.47	H	AV
7236.000	52.29	1.14	53.43	74.00	-20.57	H	Peak
7236.000	40.09	1.19	41.28	54.00	-12.72	H	AV
4824.000	59.54	-3.86	55.68	74.00	-18.32	V	Peak
4824.000	41.61	-3.86	37.75	54.00	-16.25	V	AV
7236.000	53.97	1.1	55.07	74.00	-18.93	V	Peak
7236.000	40.9	1.1	42	54.00	-12	V	AV
Middle Channel-2437MHz							
4874.000	60.11	-3.74	56.37	74.00	-17.63	H	Peak
4874.000	42.04	-3.74	38.3	54.00	-15.7	H	AV
7311.000	53.5	1.47	54.97	74.00	-19.03	H	Peak
7311.000	40.86	1.47	42.33	54.00	-11.67	H	AV
4874.000	59.4	-3.74	55.66	74.00	-18.34	V	Peak
4874.000	42.82	-3.74	39.08	54.00	-14.92	V	AV
7311.000	53.59	1.47	55.06	74.00	-18.94	V	Peak
7311.000	38.3	1.47	39.77	54.00	-14.23	V	AV
High Channel-2462MHz							
4924.000	58.9	-3.59	55.31	74.00	-18.69	H	Peak
4924.000	43.39	-3.59	39.8	54.00	-14.2	H	AV
7386.000	53.62	1.79	55.41	74.00	-18.59	H	Peak
7386.000	39.75	1.79	41.54	54.00	-12.46	H	AV
4924.000	61.91	-3.59	58.32	74.00	-15.68	V	Peak
4924.000	41.62	-3.59	38.03	54.00	-15.97	V	AV
7386.000	53.61	1.79	55.4	74.00	-18.6	V	Peak
7386.000	38.46	1.79	40.25	54.00	-13.75	V	AV

Test Mode: 802.11n-HT20

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824.000	60.82	-3.87	56.95	74.00	-17.05	H	Peak
4824.000	41.94	-3.87	38.07	54.00	-15.93	H	AV
7236.000	53.83	1.14	54.97	74.00	-19.03	H	Peak
7236.000	39.53	1.19	40.72	54.00	-13.28	H	AV
4824.000	58.28	-3.86	54.42	74.00	-19.58	V	Peak
4824.000	43.15	-3.86	39.29	54.00	-14.71	V	AV
7236.000	52.45	1.1	53.55	74.00	-20.45	V	Peak
7236.000	40.5	1.1	41.6	54.00	-12.4	V	AV
Middle Channel-2437MHz							
4874.000	61.99	-3.74	58.25	74.00	-15.75	H	Peak
4874.000	41.17	-3.74	37.43	54.00	-16.57	H	AV
7311.000	54.77	1.47	56.24	74.00	-17.76	H	Peak
7311.000	39.98	1.47	41.45	54.00	-12.55	H	AV
4874.000	60.15	-3.74	56.41	74.00	-17.59	V	Peak
4874.000	41.97	-3.74	38.23	54.00	-15.77	V	AV
7311.000	53.8	1.47	55.27	74.00	-18.73	V	Peak
7311.000	39.57	1.47	41.04	54.00	-12.96	V	AV
High Channel-2462MHz							
4924.000	58.98	-3.59	55.39	74.00	-18.61	H	Peak
4924.000	41.28	-3.59	37.69	54.00	-16.31	H	AV
7386.000	53.6	1.79	55.39	74.00	-18.61	H	Peak
7386.000	39.44	1.79	41.23	54.00	-12.77	H	AV
4924.000	60.92	-3.59	57.33	74.00	-16.67	V	Peak
4924.000	43.21	-3.59	39.62	54.00	-14.38	V	AV
7386.000	55.67	1.79	57.46	74.00	-16.54	V	Peak
7386.000	40.46	1.79	42.25	54.00	-11.75	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 Procedure

According to the KDB 558074D01 v03r05, 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 v03r05, the conducted spurious emissions test method as follows:

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

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

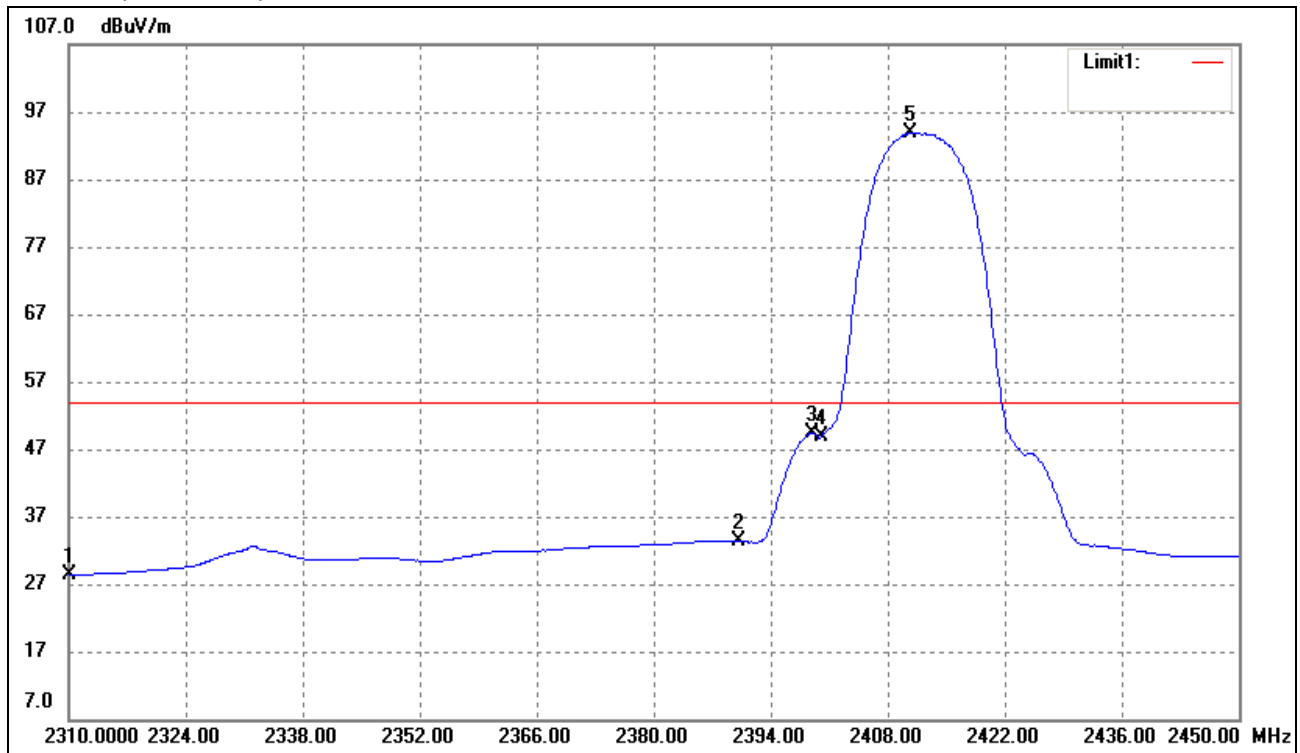
9.3 Environmental Conditions

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

9.4 Summary of Test Results/Plots

802.11b-Lowest Bandedge

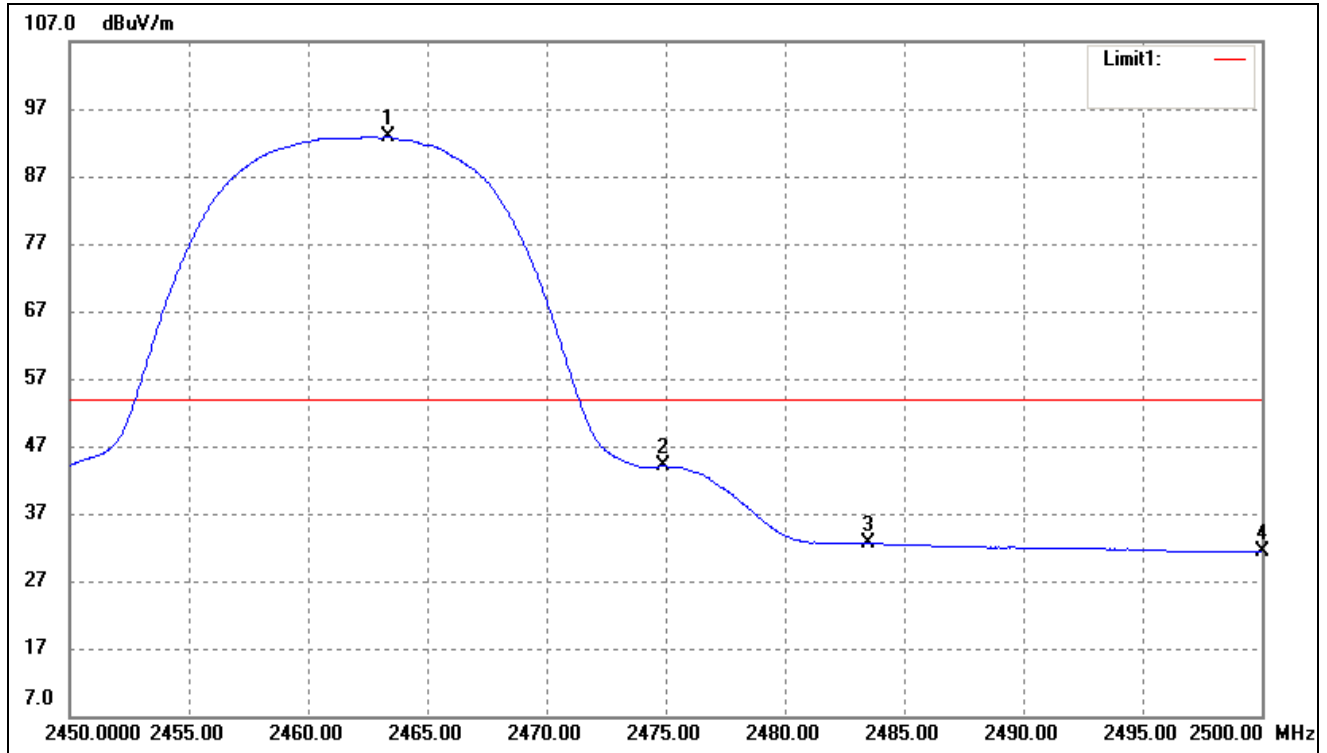
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	33.18	-3.71	29.47	54.00	-24.53	Average Detector
	2310.000	43.69	-3.71	39.98	74.00	-34.02	Peak Detector
2	2390.000	35.87	-3.54	32.33	54.00	-21.67	Average Detector
	2390.000	49.02	-3.54	45.48	74.00	-28.52	Peak Detector
3	2398.900	52.17	-3.51	48.66	54.00	-5.34	Average Detector
	2398.900	63.85	-3.51	60.34	74.00	-13.66	Peak Detector
4	2400.000	52.63	-3.51	49.12	Delta =43.09dBc		Average Detector
5	2410.660	95.69	-3.48	92.21			Average Detector

802.11b-Highest Bandedge

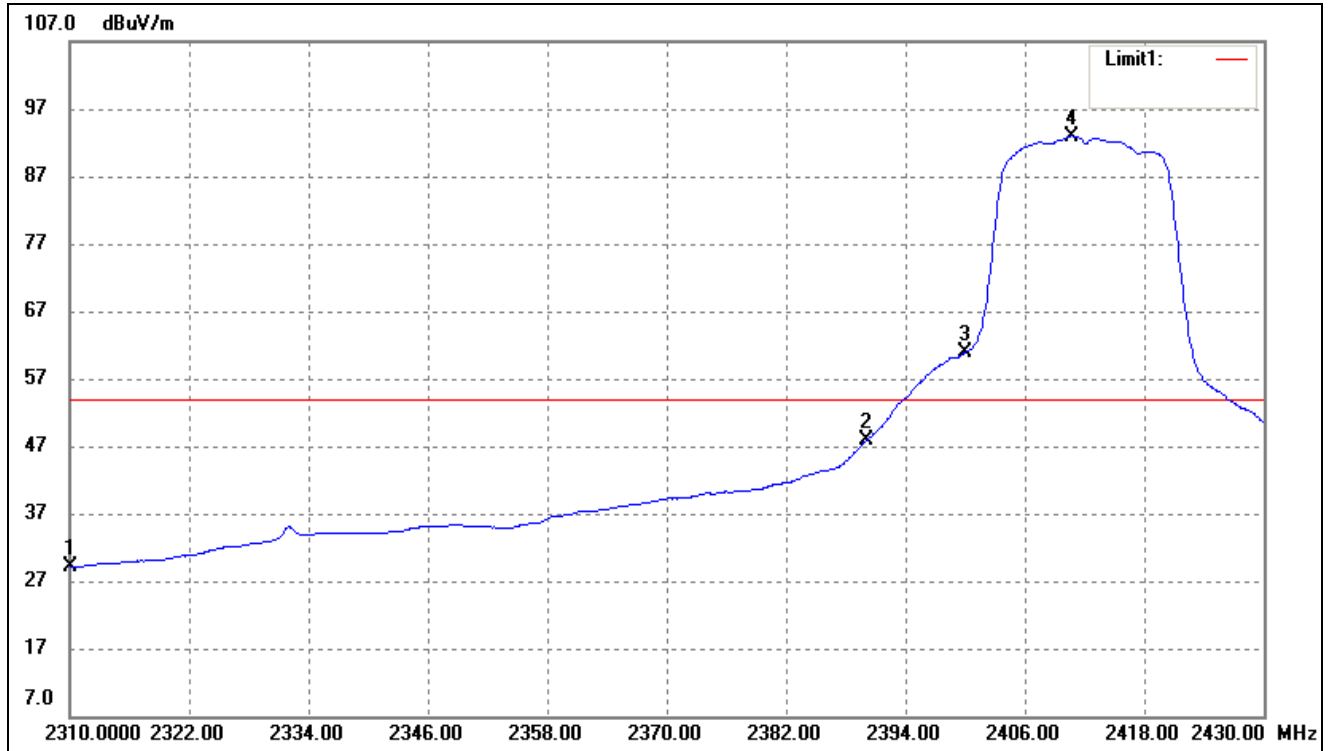
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.350	94.27	-3.36	90.91	/	/	Average Detector
	2463.300	98.65	-3.36	95.29	/	/	Peak Detector
2	2474.900	Delta =48.0dBc		42.91	54.00	-11.09	Average Detector
	2474.800			47.29	74.00	-26.71	Peak Detector
3	2483.500	33.76	-3.33	30.43	54.00	-23.57	Average Detector
	2483.500	48.58	-3.33	45.25	74.00	-28.75	Peak Detector
4	2500.000	35.02	-3.28	31.74	54.00	-22.26	Average Detector
	2500.000	48.92	-3.28	45.64	74.00	-28.36	Peak Detector

802.11g-Lowest Bandedge

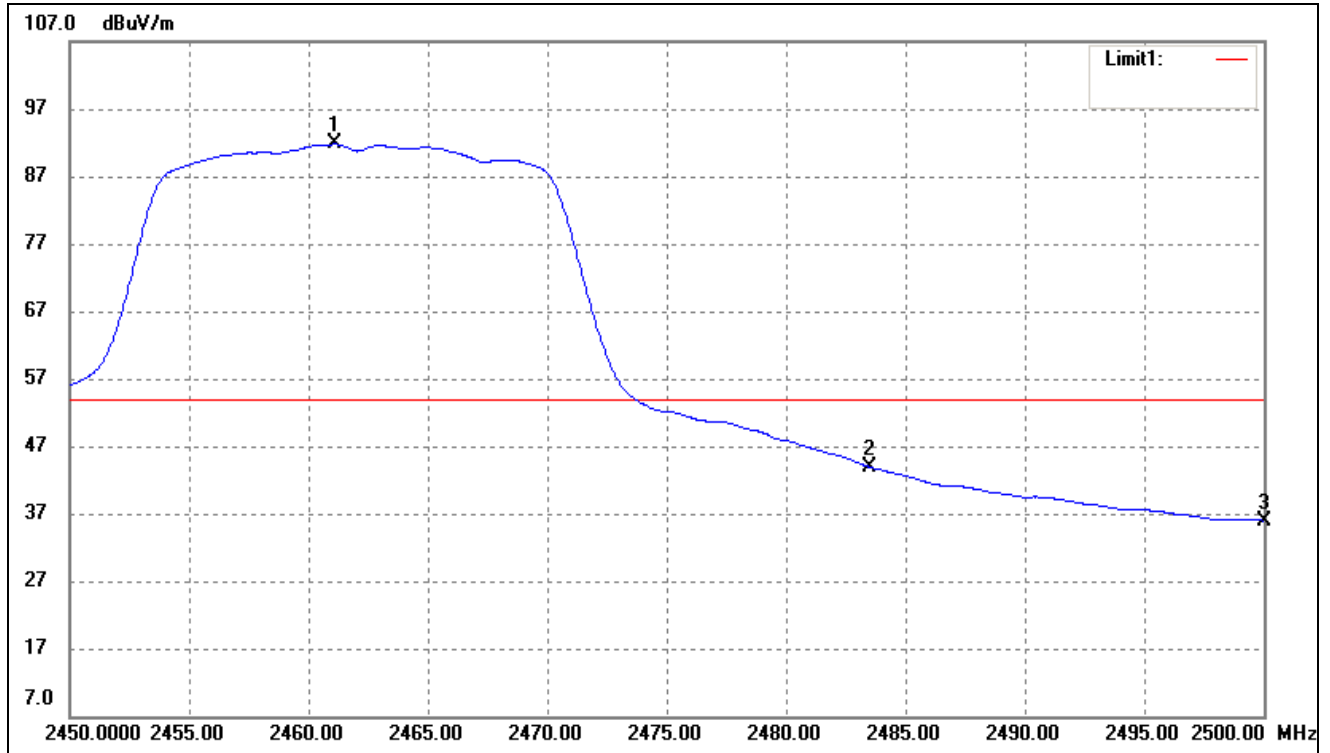
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	33.26	-3.71	29.55	54.00	-24.45	Average Detector
	2310.000	46.59	-3.71	42.88	74.00	-31.12	Peak Detector
2	2390.000	50.63	-3.54	47.09	54.00	-6.91	Average Detector
	2390.000	68.12	-3.54	64.58	74.00	-9.42	Peak Detector
3	2400.000	65.01	-3.51	61.5	Delta =31.23dBc		Average Detector
4	2410.680	96.21	-3.48	92.73			Average Detector

802.11g-Highest Bandedge

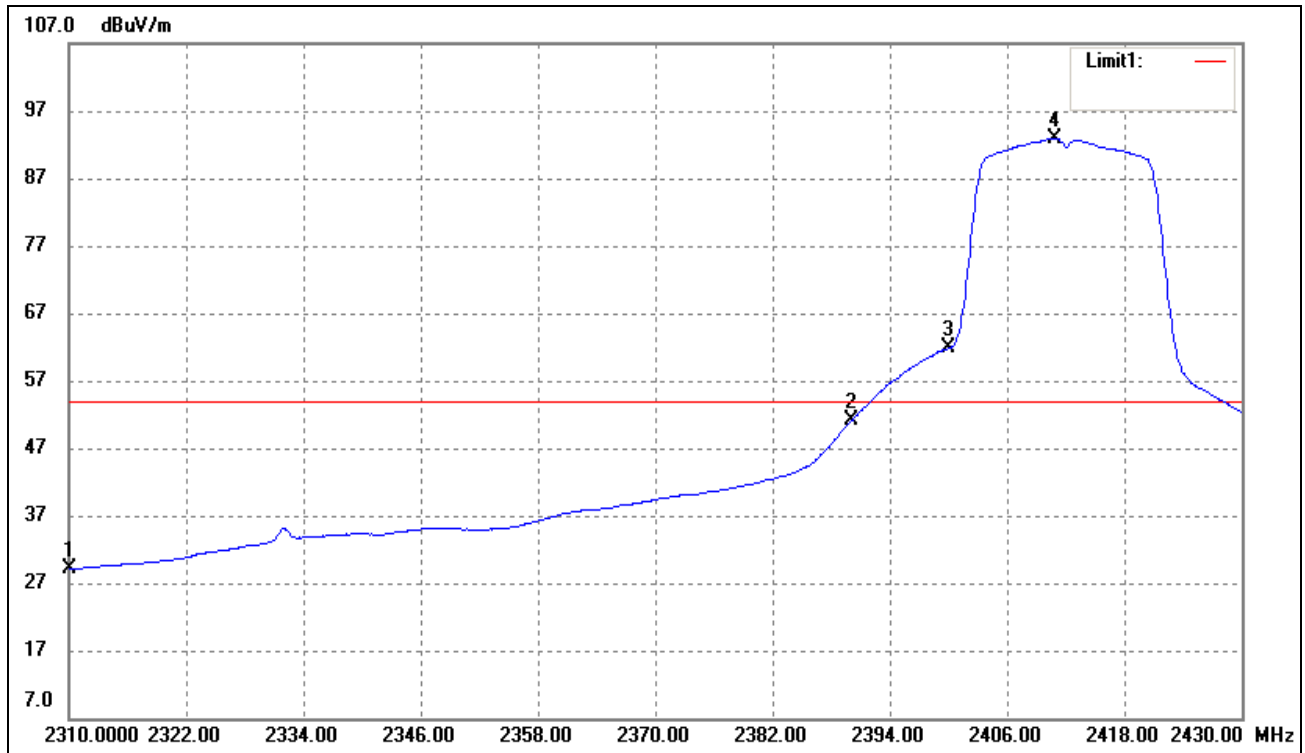
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.100	94.27	-3.37	90.90	/	/	Average Detector
	2463.750	98.65	-3.36	95.29	/	/	Peak Detector
2	2483.500	Delta =47.71dBc		43.19	54.00	-10.81	Average Detector
	2483.500			47.58	74.00	-26.42	Peak Detector
3	2500.000	38.16	-3.28	34.88	54.00	-19.12	Average Detector
	2500.000	52.79	-3.28	49.51	74.00	-24.49	Peak Detector

802.11n-HT20-Lowest Bandedge

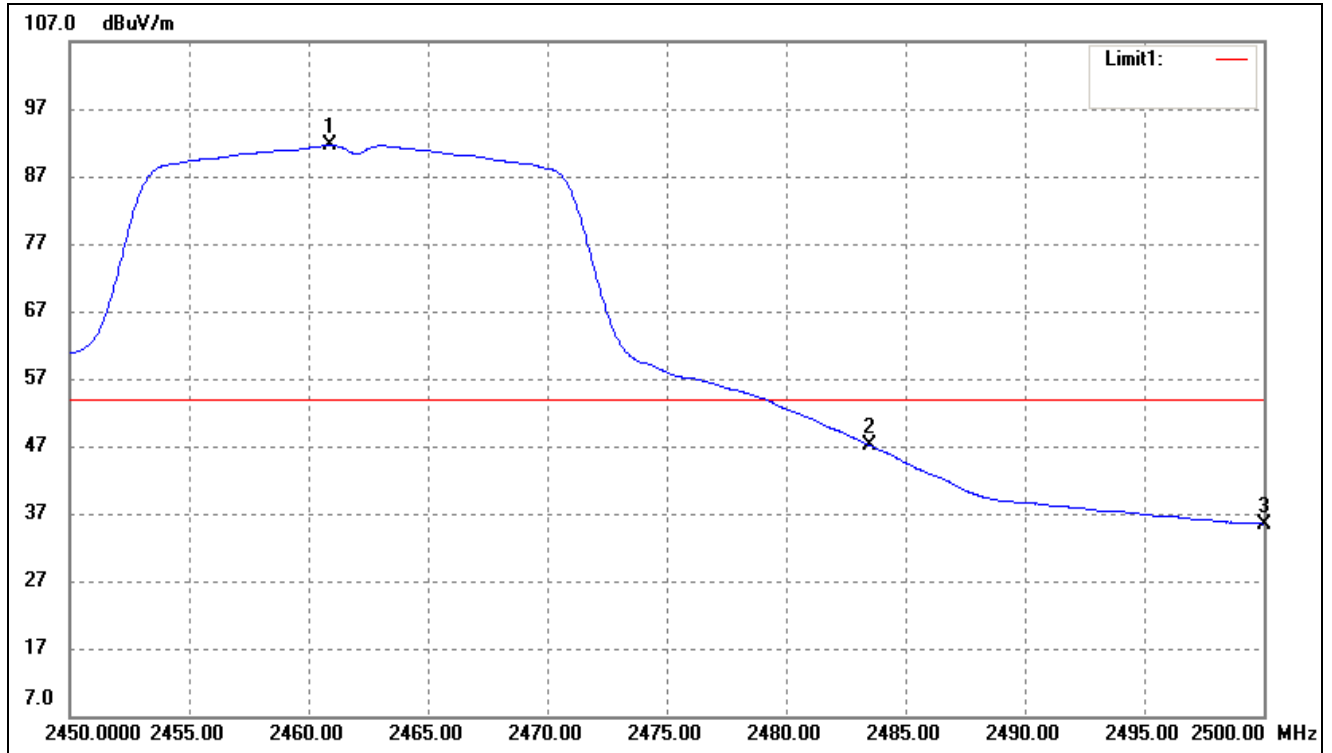
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	33.15	-3.71	29.44	54.00	-24.56	Average Detector
	2310.000	45.87	-3.71	42.16	74.00	-31.84	Peak Detector
2	2390.000	55.07	-3.54	51.53	54.00	-2.47	Average Detector
	2390.000	72.26	-3.54	68.72	74.00	-5.28	Peak Detector
3	2400.000	64.82	-3.51	61.31	Delta =30.37dBc		Average Detector
4	2410.800	95.16	-3.48	91.68			Average Detector

802.11n-HT20-Highest Bandedge

Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.900	95.22	-3.37	91.85	/	/	Average Detector
	2461.400	105.39	-3.37	102.02	/	/	Peak Detector
2	2483.500	Delta =44.19dBc		47.66	54.00	-6.34	Average Detector
	2483.500			57.83	74.00	-16.17	Peak Detector
3	2500.000	38.12	-3.28	34.84	54.00	-19.16	Average Detector
	2500.000	51.36	-3.28	48.08	74.00	-25.92	Peak Detector

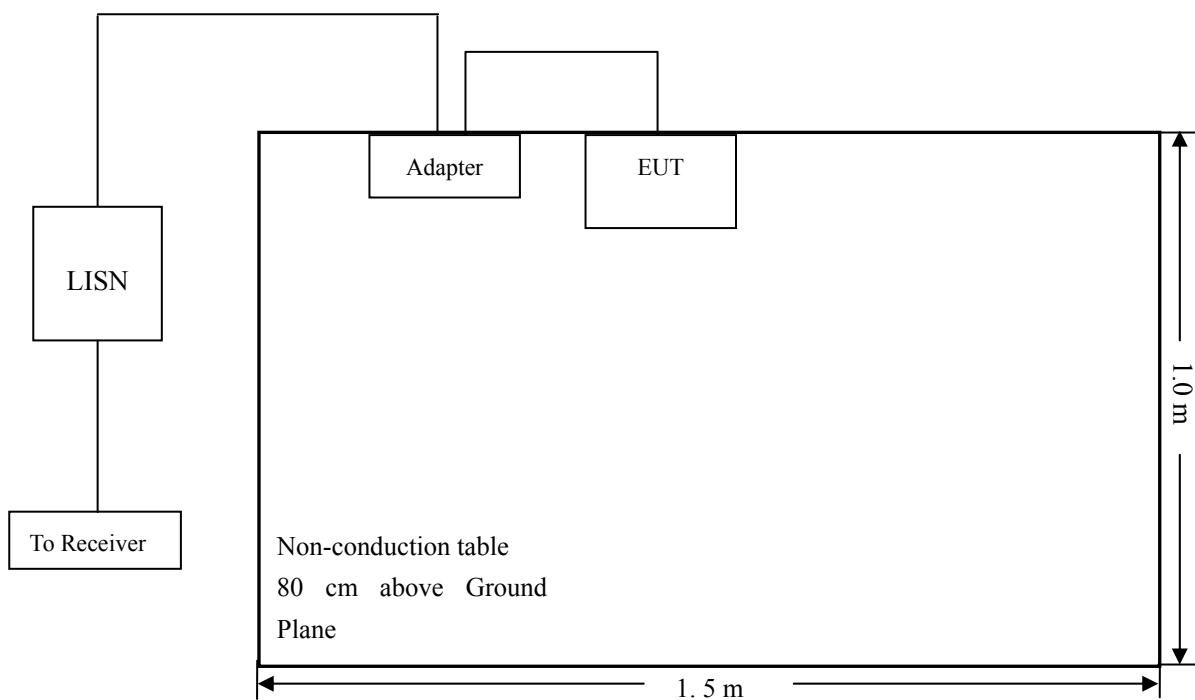
10. Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

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

10.2 Basic Test Setup Block Diagram



10.3 Environmental Conditions

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

10.4 Test Receiver Setup

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

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

10.5 Summary of Test Results/Plots

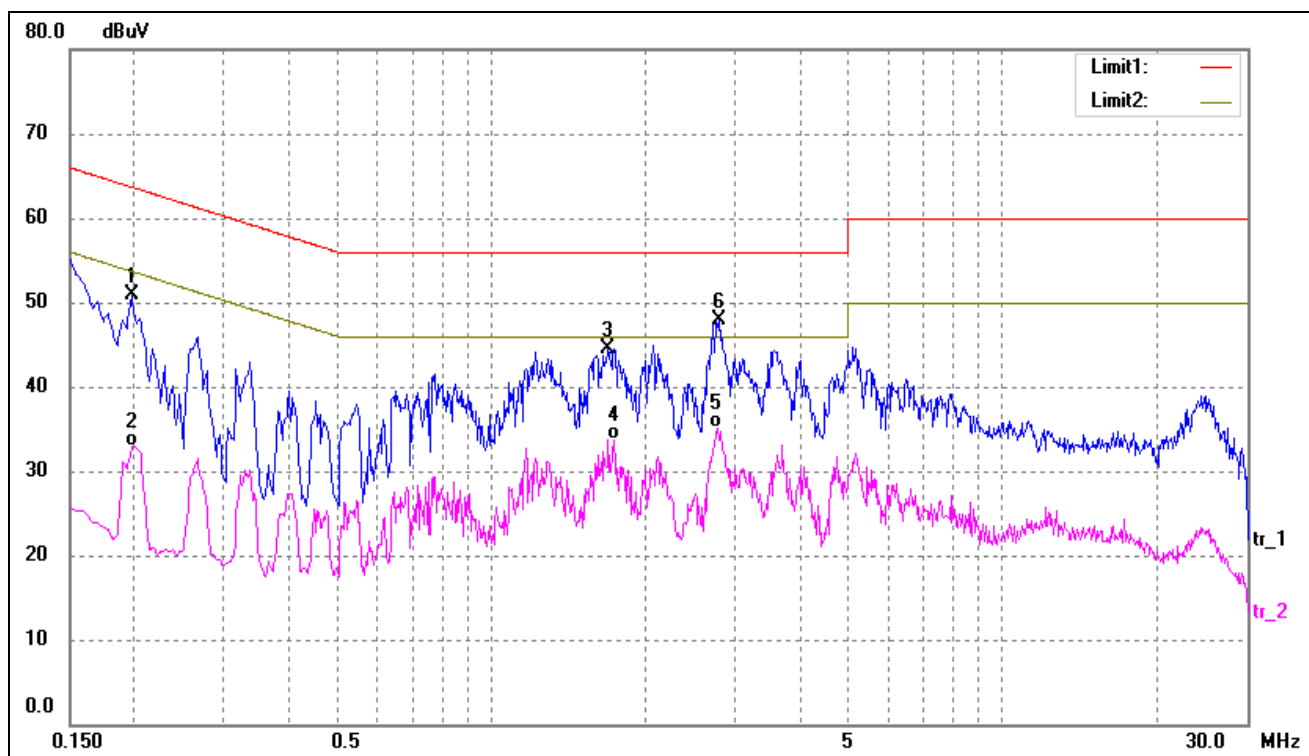
According to the data in section 10.6, the EUT complied with the FCC Part 15.207 Conducted margin for this device, with the *worst* margin reading of:

-8.06 at 2.7860 MHz in the **Neutral**, peak detector, **0.15-30MHz**

10.6 Conducted Emissions Test Data

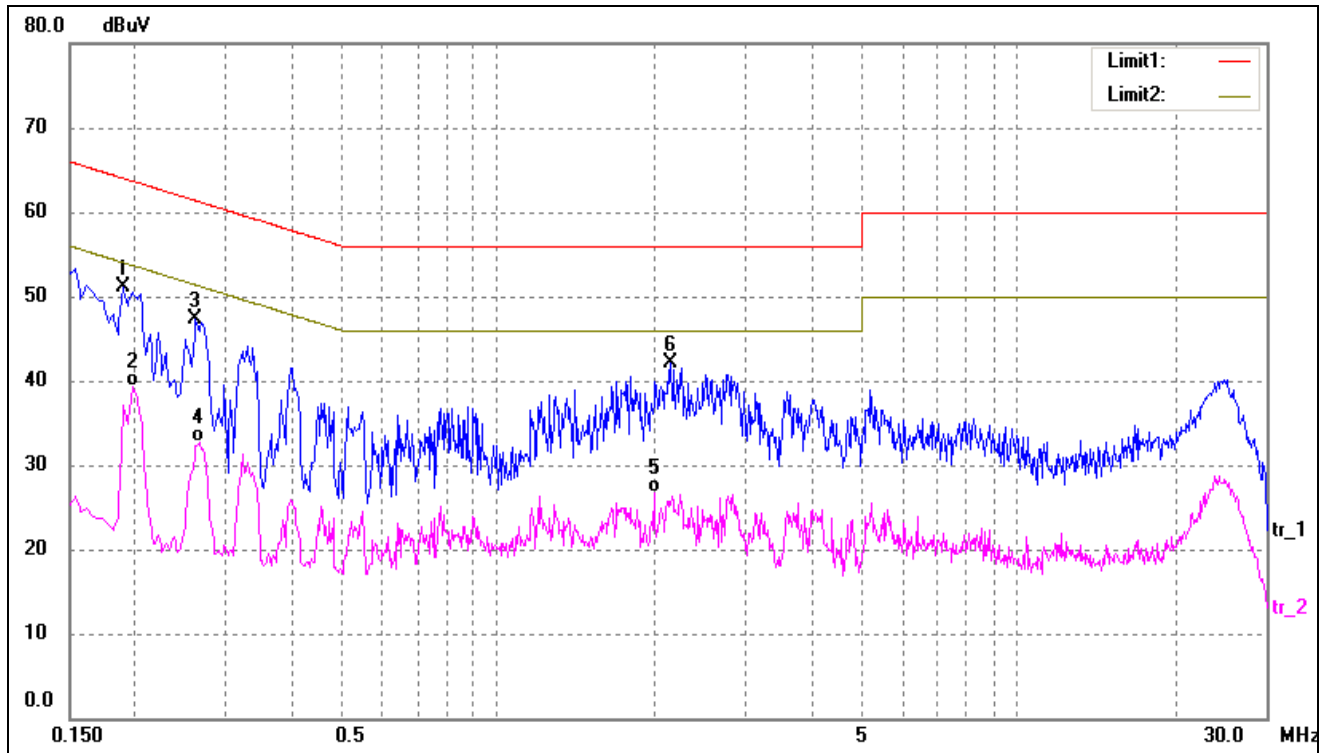
Plot of Conducted Emissions Test Data

EUT: Tablets
 Tested Model: TT800V
 Operating Condition: Transmitting
 Comment: AC 120V/60Hz; Adapter DC 5V
 Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1980	43.25	7.62	50.87	63.69	-12.82	peak
2	0.1980	25.26	7.62	32.88	53.69	-20.81	AVG
3	1.6980	33.43	11.00	44.43	56.00	-11.57	peak
4	1.7420	22.79	11.00	33.79	46.00	-12.21	AVG
5	2.7700	23.52	11.51	35.03	46.00	-10.97	AVG
6*	2.7860	36.42	11.52	47.94	56.00	-8.06	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1900	43.09	8.10	51.19	64.04	-12.85	peak
2	0.1980	31.73	7.62	39.35	53.69	-14.34	AVG
3	0.2620	39.90	7.50	47.40	61.37	-13.97	peak
4	0.2660	25.29	7.50	32.79	51.24	-18.45	AVG
5	1.9980	15.74	11.00	26.74	46.00	-19.26	AVG
6	2.1500	30.94	11.10	42.04	56.00	-13.96	peak

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